

LIST OF FLOW MEASUREMENT

ST.: 4-450 LUBUNGU

NO.	DATE	----[Feet - Second]----				++++[Meter - Second]++++			
		H (f)	Q (f3/s)	A (f2)	V (f/s)	H (m)	Q (m3/s)	A (m2)	V (m/s)
1	08-Oct-59	3.80	464	1570	0.30	1.16	13	146	0.09
2	15-Oct-59	3.70	457	1520	0.30	1.13	13	141	0.09
3	22-Oct-59	3.50	422	1440	0.29	1.07	12	134	0.09
4	29-Oct-59	3.40	357	1380	0.26	1.04	10	128	0.08
5	12-Nov-59	3.50	338	1410	0.24	1.07	10	131	0.07
6	24-Nov-59	3.70	461	1520	0.30	1.13	13	141	0.09
7	17-Dec-59	4.10	536	1740	0.31	1.25	15	162	0.09
8	07-Jan-60	7.30	4590	3210	1.43	2.23	130	298	0.44
9	14-Jan-60	7.80	3580	3100	1.15	2.38	101	288	0.35
10	21-Jan-60	7.50	3930	3230	1.22	2.29	111	300	0.37
11	28-Jan-60	6.70	3490	2860	1.22	2.04	99	266	0.37
12	04-Feb-60	6.60	3470	2810	1.24	2.01	98	261	0.38
13	11-Feb-60	7.50	3890	3220	1.21	2.29	110	299	0.37
14	18-Feb-60	9.50	6480	4310	1.50	2.90	183	400	0.46
15	25-Feb-60	11.30	8750	5220	1.68	3.44	248	485	0.51
16	17-Mar-60	12.80	11800	5360	2.20	3.90	334	498	0.67
17	29-Mar-60	13.00	12300	5520	2.22	3.96	348	513	0.68
18	07-Apr-60	12.90	12300	5450	2.26	3.93	348	506	0.69
19	13-Apr-60	12.90	13400	5450	2.47	3.93	379	506	0.75
20	05-May-60	10.70	7080	4850	0.02	3.26	200	451	0.01
21	12-May-60	9.40	5380	4260	1.26	2.87	152	396	0.38
22	19-May-60	8.10	4540	3620	1.25	2.47	129	336	0.38
23	26-May-60	7.20	3710	3190	1.16	2.19	105	296	0.35
24	09-Jun-60	6.20	1910	2700	0.71	1.89	54	251	0.22
25	15-Jun-60	5.90	1950	2560	0.76	1.80	55	238	0.23
26	23-Jun-60	5.80	1880	2520	0.74	1.77	53	234	0.23
27	07-Jul-60	5.40	1410	2330	0.61	1.65	40	216	0.19
28	14-Jul-60	5.30	1350	2280	0.59	1.62	38	212	0.18
29	21-Jul-60	5.20	1300	2250	0.59	1.58	37	209	0.18
30	05-Aug-60	5.00	1140	2130	0.53	1.52	32	198	0.16
31	11-Aug-60	4.90	1090	2090	0.52	1.49	31	194	0.16
32	18-Aug-60	4.80	1080	2050	0.52	1.46	31	190	0.16
33	25-Aug-60	4.60	1020	1960	0.52	1.40	29	182	0.16
34	08-Sep-60	4.40	768	1910	0.40	1.34	22	177	0.12
35	15-Sep-60	4.40	752	1910	0.39	1.34	21	177	0.12
36	22-Sep-60	4.10	645	1790	0.36	1.25	18	166	0.11
37	27-Sep-60	4.00	522	1530	0.34	1.22	15	142	0.10
38	10-Nov-60	3.47	229	1320	0.17	1.06	6	123	0.05
39	29-Nov-60	4.30	493	1550	0.32	1.31	14	144	0.10
40	22-Dec-60	4.10	458	1610	0.28	1.25	13	150	0.09
41	02-Feb-61	8.00	4200	3560	1.17	2.44	119	331	0.36
42	16-Feb-61	10.80	9240	4990	1.85	3.29	262	464	0.56
43	02-Mar-61	13.10	12400	6280	1.98	3.99	351	583	0.60
44	11-Apr-61	16.10	20600	7860	2.62	4.91	583	730	0.80
45	24-Apr-61	15.10	20300	7570	2.69	4.60	575	703	0.82
46	11-May-61	13.78	16300	6620	2.46	4.20	462	615	0.75
47	29-May-61	11.10	10300	5060	2.03	3.38	292	470	0.62
48	07-Jul-61	7.20	3340	3070	1.09	2.19	95	285	0.33
49	26-Jul-61	6.65	2520	2920	0.86	2.03	71	271	0.26
50	23-Aug-61	5.80	1710	2510	0.68	1.77	48	233	0.21

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		H (f)	Q (f3/s)	A (f2)	V (f/s)	H (m)	Q (m3/s)	A (m2)	V (m/s)
51	01-Sep-61	5.60	1440	2400	0.60	1.71	41	223	0.18
52	14-Sep-61	5.30	1070	2130	0.50	1.62	30	198	0.15
53	28-Sep-61	4.88	845	2100	0.40	1.49	24	195	0.12
54	11-Oct-61	4.60	757	1820	0.42	1.40	21	169	0.13
55	15-Dec-61	7.28	2920	3020	0.97	2.22	83	281	0.30
56	09-Jan-62	10.39	8330	4780	1.74	3.17	236	444	0.53
57	25-Jan-62	11.47	10900	5280	2.07	3.50	309	491	0.63
58	07-Feb-62	17.84	23100	9140	2.53	5.44	654	849	0.77
59	08-Feb-62	14.25	16000	6810	2.36	4.34	453	633	0.72
60	16-Feb-62	15.14	16800	7360	2.28	4.61	476	684	0.69
61	05-Mar-62	15.95	18880	7890	2.38	4.86	535	733	0.73
62	14-Mar-62	16.62	22100	8380	2.64	5.07	626	779	0.80
63	21-Mar-62	17.88	24600	9330	2.63	5.45	697	867	0.80
64	30-Mar-62	18.23	25900	9750	2.65	5.56	733	906	0.81
65	06-Apr-62	18.72	26000	10300	2.51	5.71	736	957	0.77
66	16-May-62	16.79	24500	8600	2.85	5.12	694	799	0.87
67	07-Jun-62	14.76	19200	7140	2.68	4.50	544	663	0.82
68	29-Jun-62	11.72	11400	5430	2.09	3.57	323	504	0.64
69	06-Jul-62	10.80	9510	4960	1.92	3.29	269	461	0.59
70	02-Aug-62	9.00	6150	4090	1.51	2.74	174	380	0.46
71	17-Aug-62	8.40	5200	3770	1.38	2.56	147	350	0.42
72	24-Aug-62	8.12	4520	3680	1.23	2.47	128	342	0.37
73	06-Sep-62	7.66	3980	3410	1.16	2.33	113	317	0.35
74	12-Oct-62	6.22	2080	2720	0.76	1.90	59	253	0.23
75	02-Nov-62	5.53	1500	2390	0.63	1.69	42	222	0.19
76	30-Nov-62	6.64	2550	2920	0.87	2.02	72	271	0.27
77	07-Dec-62	7.98	3730	3580	1.04	2.43	106	333	0.32
78	13-Dec-62	9.40	5730	4360	1.31	2.87	162	405	0.40
79	08-Jan-63	15.74	19000	7850	2.42	4.80	538	729	0.74
80	18-Jan-63	16.14	19700	8000	2.47	4.92	558	743	0.75
81	05-Sep-63	7.47	3720	3220	1.15	2.28	105	299	0.35
82	07-Jan-64	9.43	6840	4310	1.59	2.87	194	400	0.48
83	05-Mar-64	15.74	21100	7820	2.70	4.80	597	727	0.82
84	25-Mar-64	15.38	21400	7500	2.86	4.69	606	697	0.87
85	22-Apr-64	11.86	12200	5540	2.21	3.61	345	515	0.67
86	06-May-64	9.58	6900	4410	1.58	2.92	195	410	0.48
87	16-Jun-64	7.17	3290	3230	1.02	2.19	93	300	0.31
88	29-Jun-64	6.90	2950	3050	0.97	2.10	84	283	0.30
89	22-Jul-64	6.58	2890	2920	0.99	2.01	82	271	0.30
90	24-Aug-64	6.05	2360	2670	0.89	1.84	67	248	0.27
91	11-Sep-64	5.63	1880	2480	0.76	1.72	53	230	0.23
92	30-Sep-64	5.18	1370	2280	0.60	1.58	39	212	0.18
93	30-Oct-64	4.58	895	1980	0.45	1.40	25	184	0.14
94	13-Nov-64	4.68	980	2010	0.49	1.43	28	187	0.15
95	20-Nov-64	4.86	1220	2080	0.59	1.48	35	193	0.18
96	25-Nov-64	5.97	2310	2620	0.88	1.82	65	243	0.27
97	24-Dec-64	6.13	2460	2690	0.91	1.87	70	250	0.28
98	11-Jan-65	9.17	7450	4180	1.78	2.80	211	388	0.54
99	20-Jan-65	11.36	10700	5300	2.03	3.46	303	492	0.62
100	05-Feb-65	13.22	15900	6370	2.50	4.03	450	592	0.76

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101	09-Feb-65	13.99	16600	6700	2.47	4.26	470	622	0.75
102	25-Feb-65	13.60	15600	6470	2.41	4.15	442	601	0.73
103	16-Mar-65	13.39	15600	6090	2.57	4.08	442	566	0.78
104	23-Mar-65	13.07	14900	6000	2.48	3.98	422	557	0.76
105	08-Apr-65	11.91	12700	5570	2.28	3.63	360	517	0.69
106	15-Apr-65	11.30	11800	5380	2.20	3.44	334	500	0.67
107	22-Apr-65	10.53	9920	4990	1.99	3.21	281	464	0.61
108	29-Apr-65	9.66	8130	4520	1.80	2.94	230	420	0.55
109	13-May-65	8.00	5060	3640	1.39	2.44	143	338	0.42
110	20-May-65	7.46	4070	3400	1.20	2.27	115	316	0.37
111	27-May-65	7.10	3350	3230	1.04	2.16	95	300	0.32
112	03-Jun-65	6.84	3170	3070	1.03	2.08	90	285	0.31
113	09-Jun-65	6.61	2640	2930	0.90	2.01	75	272	0.27
114	10-Jun-65	6.56	2830	2930	0.96	2.00	80	272	0.29
115	17-Jun-65	6.45	2690	2890	0.93	1.97	76	268	0.28
116	24-Jun-65	6.33	2520	2760	0.91	1.93	71	256	0.28
117	15-Jul-65	5.96	1800	2630	0.68	1.82	51	244	0.21
118	20-Jul-65	5.91	2010	2590	0.78	1.80	57	241	0.24
119	27-Jul-65	5.84	1890	2530	0.75	1.78	54	235	0.23
120	03-Aug-65	5.75	1790	2540	0.70	1.75	51	236	0.21
121	10-Aug-65	5.66	1690	2460	0.69	1.73	48	229	0.21
122	17-Aug-65	5.54	1600	2420	0.66	1.69	45	225	0.20
123	24-Aug-65	5.40	1480	2350	0.63	1.65	42	218	0.19
124	07-Sep-65	5.19	1270	2310	0.55	1.58	36	215	0.17
125	16-Sep-65	4.99	1180	2180	0.54	1.52	33	203	0.16
126	28-Sep-65	4.80	1050	2120	0.50	1.46	30	197	0.15
127	19-Oct-65	4.41	726	1880	0.39	1.34	21	175	0.12
128	26-Oct-65	4.30	671	1880	0.36	1.31	19	175	0.11
129	11-Nov-65	4.22	635	1820	0.35	1.29	18	169	0.11
130	19-Nov-65	4.60	751	1970	0.38	1.40	21	183	0.12
131	09-Dec-65	5.31	1420	2390	0.59	1.62	40	222	0.18
132	16-Dec-65	6.15	2110	2770	0.76	1.87	60	257	0.23
133	21-Dec-65	6.25	2730	2810	0.79	1.91	77	261	0.24
134	02-Feb-66	7.59	4080	3470	1.18	2.31	116	322	0.36
135	02-Mar-66	11.75	10400	5710	1.95	3.5	330	530	0.59
136	16-Mar-66	13.01	12400	6270	1.94	3.97	351	583	0.59
137	29-Mar-66	12.58	13300	5960	2.24	3.83	377	554	0.68
138	16-Jun-66	6.34	2240	2720	0.82	1.93	63	253	0.25
139	30-Jun-66	6.01	1910	2540	0.75	1.83	54	236	0.23
140	02-Feb-67	7.71	3780	3400	1.11	2.35	107	316	0.34
141	24-Apr-67	12.95	13648	6026	2.26	3.95	386	560	0.69
142	19-Jun-67	6.90	2957	3012	0.98	2.10	84	280	0.30
143	26-Jun-67	6.66	2801	2952	0.95	2.03	79	274	0.29
144	02-Oct-67	4.67	913	2003	0.46	1.42	26	186	0.14
145	09-Jan-68	7.10	3420	3174	1.08	2.16	97	295	0.33
146	16-Jan-68	7.67	3936	3429	1.15	2.34	111	319	0.35
147	26-Jan-68	9.19	6125	4182	1.46	2.80	173	389	0.45
148	16-Feb-68	11.52	11564	5444	2.12	3.51	327	506	0.65
149	29-Mar-68	11.26	10186	5212	1.95	3.43	288	484	0.59
150	26-Apr-68	9.63	7284	4400	1.66	2.94	206	409	0.51

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		H (f)	Q (f3/s)	A (f2)	V (f/s)	H (m)	Q (m3/s)	A (m2)	V (m/s)
151	25-Jul-68	5.60	1614	2357	0.69	1.71	46	219	0.21
152	28-Aug-68	5.15	1080	2098	0.51	1.57	31	195	0.16
153	23-May-70	8.26	4630	3592	1.27	2.52	131	334	0.39
154	17-Jul-70	6.49	2533	2624	0.96	1.98	72	244	0.29
155	19-Aug-70	5.91	1875	2475	0.76	1.80	53	230	0.23
156	19-Jan-71	13.38	13256	6302	2.10	4.08	375	585	0.64
157	17-Feb-71	15.27	20380	7190	2.80	4.65	577	668	0.85
158	22-Mar-71	15.73	19097	6758	2.82	4.79	541	628	0.86
159	29-Apr-71	14.40	18977	6754	2.81	4.39	537	627	0.86
160	17-May-73	6.18	2133	2338	0.91	1.88	60	217	0.28
161	25-Jun-73	5.00	1086	1920	0.57	1.52	31	178	0.17
162	21-Jul-73	4.77	944	1930	0.50	1.45	27	179	0.15
163	18-Aug-73	4.52	752	1762	0.43	1.38	21	164	0.13
164	05-Oct-73	3.97	495	1523	0.58	1.21	14	141	0.18
165	22-Oct-73	3.75	426	1419	0.30	1.14	12	132	0.09
166	08-Nov-73	3.81	427	1472	0.29	1.16	12	137	0.09
167	27-Nov-73	4.68	938	1855	0.51	1.43	27	172	0.16
168	10-Dec-73	4.82	992	1852	0.54	1.47	28	172	0.16
169	11-Jan-74	8.10	4226	3416	1.24	2.47	120	317	0.38
170	08-Feb-74	12.78	11992	5558	2.16	3.90	340	516	0.66
171	17-Mar-74	14.47	18742	6700	2.80	4.41	531	622	0.85
172	28-Mar-74	14.21	18101	6333	2.29	4.33	513	588	0.70
173	18-Apr-74	13.46	16818	6076	2.77	4.10	476	564	0.84
174	13-May-74	10.41	9140	4511	2.03	3.17	259	419	0.62
175	06-Jun-74	8.58	5888	3697	1.59	2.62	167	343	0.48
176	12-Jun-74	8.00	4825	3318	1.45	2.44	137	308	0.44
177	08-Aug-74	6.12	2322	2507	0.93	1.87	66	233	0.28
178	12-Sep-74	5.33	1352	2046	0.66	1.62	38	190	0.20
179	14-Oct-74	4.50	845	1724	0.49	1.37	24	160	0.15
180	17-Feb-75	13.25	11458	5309	2.16	4.04	324	493	0.66
181	03-May-75	13.74	15326	5735	2.67	4.19	434	533	0.81
182	06-Jun-75	8.72	5766	3808	1.51	2.66	163	354	0.46
183	24-Aug-75	6.05	2152	2569	0.84	1.84	61	239	0.26
184	?	6.26	2310	2477	0.93	1.91	65	230	0.28
185	16-Mar-76	14.42	15156	6021	2.52	4.40	429	559	0.77
186	20-Aug-76	7.58	4178	3026	1.38	2.31	118	281	0.42
187	07-Sep-76	7.00	3109	2657	1.17	2.13	88	247	0.36
188	10-Oct-76	6.15	1939	2095	0.93	1.87	55	195	0.28
189	23-Nov-76	5.62	1141	1647	0.69	1.71	32	153	0.21
190	16-Feb-77	10.89	5508	3073	1.79	3.32	156	285	0.55
191	19-Feb-77	11.19	6049	3270	1.85	3.41	171	304	0.56
192	12-Apr-77	15.22	11057	4301	2.57	4.64	313	400	0.78
193	10-Jun-77	8.86	5877	3520	1.67	2.70	166	327	0.51
194	04-Sep-77	6.25	1677	2144	0.78	1.91	47	199	0.24
195	19-Oct-77	4.91	1278	2276	0.56	1.50	36	211	0.17
196	10-Nov-77	4.64	746	1874	0.40	1.41	21	174	0.12
197	14-Jan-78	12.70	17308	7310	2.37	3.87	490	679	0.72
198	08-Jan-79	12.80	12944	5880	2.20	3.90	367	546	0.67
199	15-Feb-79	14.01	17514	10801	2.55	4.27	496	1,003	0.78
200	19-Mar-79	16.40	23715	9126	2.60	5.00	672	848	0.79

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201	17-Sep-77	7.28	4202	3132	1.35	2.22	119	291	0.41
202	11-Feb-80	13.58	16071	6243	2.57	4.14	455	580	0.78
203	08-Mar-80	15.28	10307	3618	2.85	4.66	292	336	0.87
204	04-Jun-80	12.45	14931	6142	2.43	3.79	423	571	0.74
205	31-Jul-80	8.20	5904	3850	1.53	2.50	167	358	0.47
206	12-Sep-80	6.85	3316	2905	1.14	2.09	94	270	0.35
207	18-Dec-80	6.40	2550	2663	0.96	1.95	72	247	0.29
208	19-May-81	13.58	17236	6200	2.78	4.14	488	576	0.85
209	30-Nov-81	5.09	1483	2045	0.72	1.55	42	190	0.22
210	05-Dec-82	6.29	7611	8805	0.85	1.92	216	818	0.26
211	20-Dec-83	5.30	1244	1949	0.64	1.62	35	181	0.20
212	07-Jun-84	6.31	1705	1925	0.89	1.92	48	179	0.27
213	25-Jan-85	11.88	11721	5263	2.23	3.62	332	489	0.68
214	10-May-87	9.25	6640	3789	1.74	2.82	188	352	0.53
215	22-Mar-88	4.53	6428	5985	1.08	1.38	182	556	0.33
216	21-Jul-88	5.85	2049	2293	0.89	1.78	58	213	0.27
217	13-Jul-90	5.38	1351	1871	0.72	1.64	38	174	0.22
218	10-Aug-90	4.99	923	1481	0.62	1.52	26	138	0.19
219	13-Sep-90	4.40	645	1513	0.43	1.34	18	141	0.13
220	11-Oct-90	2.62	552	1293	0.43	0.80	16	120	0.13
221	27-Nov-90	3.74	415	1150	0.36	1.14	12	107	0.11
222	15-Dec-90	4.43	492	1364	0.36	1.35	14	127	0.11
223	20-Jan-91	7.81	4487	3256	1.38	2.38	127	303	0.42
224	07-Feb-91	10.47	8300	4865	1.71	3.19	235	452	0.52
225	10-Aug-91	5.28	1281	1860	0.69	1.61	36	173	0.21
226	20-Sep-91	4.56	647	1792	0.36	1.39	18	166	0.11
227	15-Oct-91	4.17	380	1653	0.23	1.27	11	154	0.07
228	16-Nov-91	4.20	414	1402	0.30	1.28	12	130	0.09

[Note] H:Water Level, Q:Discharge, A:Discharge Area, V:Velocity

FLOW MEASUREMENT ST. : 4-450 LUBUNGU

JUL./13/'90

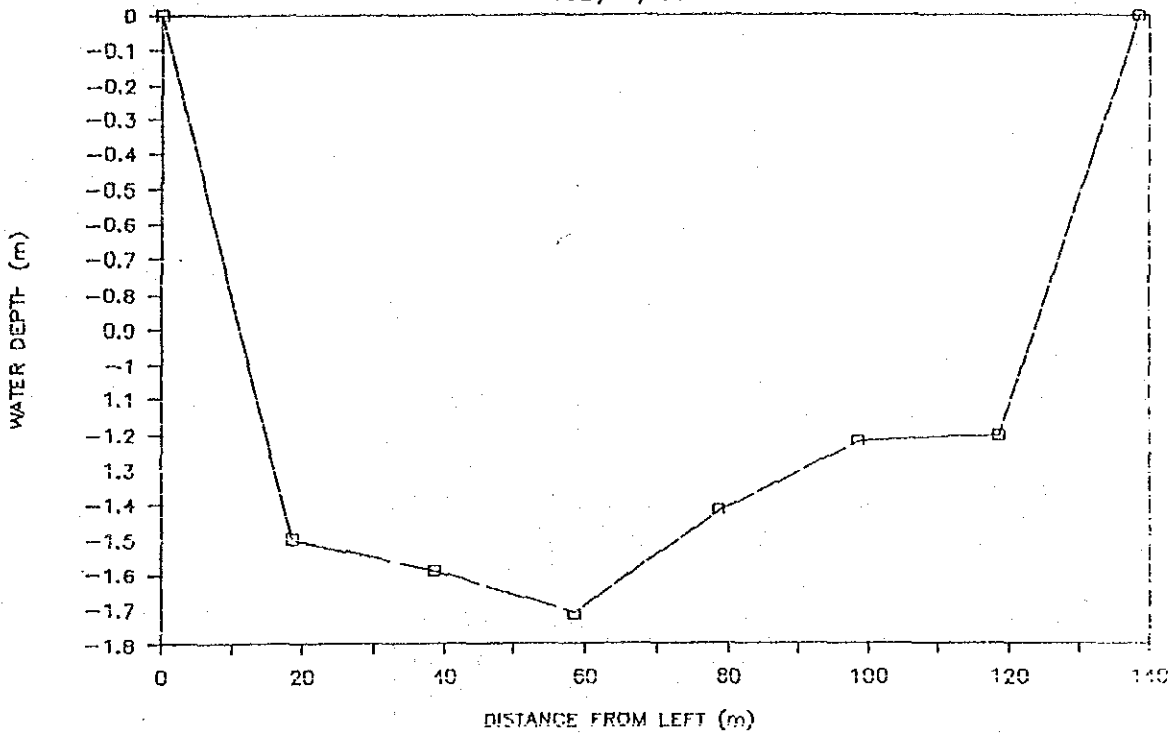
ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	1.50	1.59	1.71	1.42	1.22	1.20	0.00
SE/WIDTH (m)	0.00	19.50	20.00	20.00	20.00	20.00	20.00	20.00
TOTAL SE/WIDTH(m)	0.00	19.50	39.50	58.50	78.50	98.50	118.50	138.50
VELOCITY.2-1(f/s)	0.00	1.20	1.10	0.35	0.20	1.40	1.10	0.00
VELOCITY.2-2(f/s)	0.00	1.20	1.10	0.35	0.25	1.40	1.10	0.00
MEAN VEL.2 (f/s)	0.00	1.20	1.10	0.35	0.23	1.40	1.10	0.00
VELOCITY.9-1(f/s)	0.00	0.55	0.80	0.10	0.15	1.10	0.95	0.00
VELOCITY.9-2(f/s)	0.00	0.55	0.95	0.10	0.15	1.10	0.95	0.00
MEAN VEL.9 (f/s)	0.00	0.55	0.89	0.10	0.15	1.10	0.95	0.00
MEAN VEL (f/s)	0.000	0.975	0.989	0.225	0.189	1.250	1.025	0.000
MEAN VEL (m/s)	0.000	0.267	0.301	0.069	0.057	0.381	0.312	0.000
L/MEAN DEPTH (m)	0.000	0.750	1.568	1.680	1.493	1.270	1.205	--
L/MEAN WIDTH (m)	0.00	19.50	10.00	10.00	10.00	10.00	10.00	--
L/SEC. AREA (m2)	0.00	13.88	15.68	16.80	14.93	12.70	12.05	--
R/MEAN DEPTH (m)	0.000	1.523	1.620	1.638	1.370	1.215	0.600	--
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	20.00	--
R/SEC. AREA (m2)	0.00	15.23	16.20	16.38	13.70	12.15	12.00	--
S/AREA (m2)	0.00	29.10	31.88	33.18	28.63	24.85	24.05	--
TOTAL AREA (m2)	0.0	29.1	61.0	94.2	122.8	147.6	171.7	--
S/DISCHARGE(m3/s)	0.00	7.76	9.59	2.28	1.64	9.47	7.51	--
TOTAL DIS. (m3/s)	0.00	7.76	17.36	19.63	21.27	30.73	38.25	--

WATER LEVEL (f) : 5.38
 TOTAL DISCHARGE : 39.25

WATER LEVEL (m) : 1.64
 MEAN VELOCITY(m/s) : 0.22

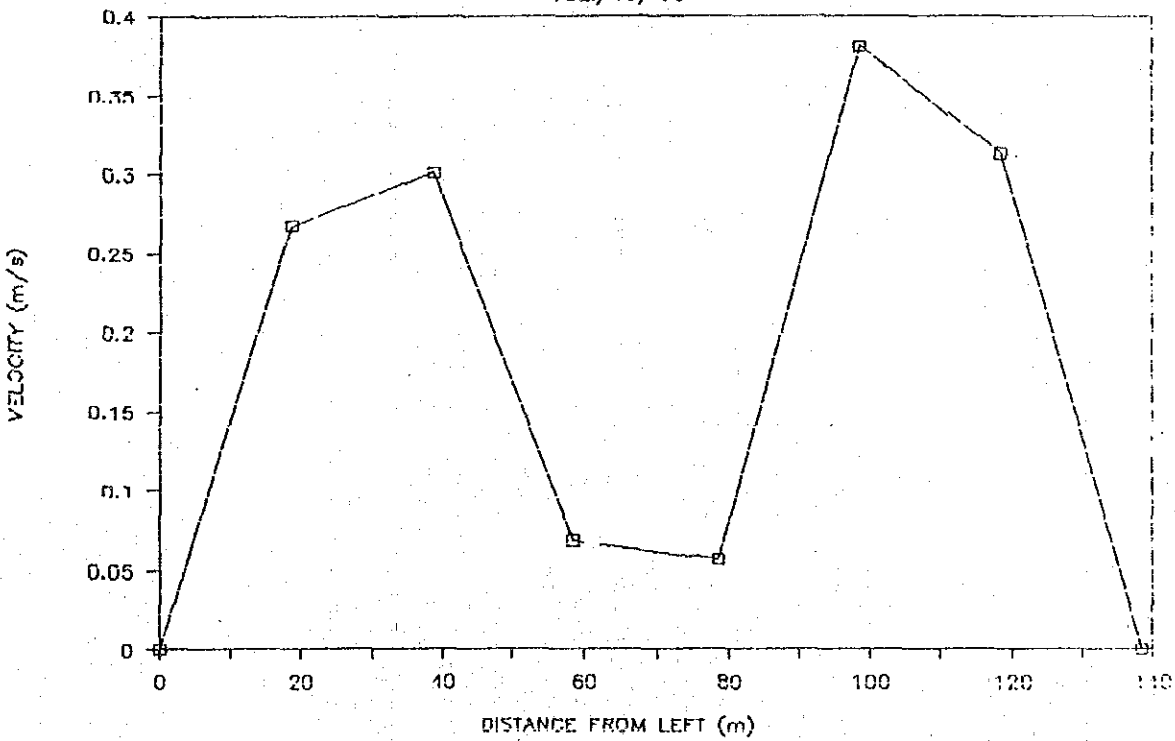
WATER DEPTH (4-450)

JUL./13/'90



VELOCITY (4-450)

JUL./13/'90



FLOW MEASUREMENT ST. : 4-450 LUBUNGU

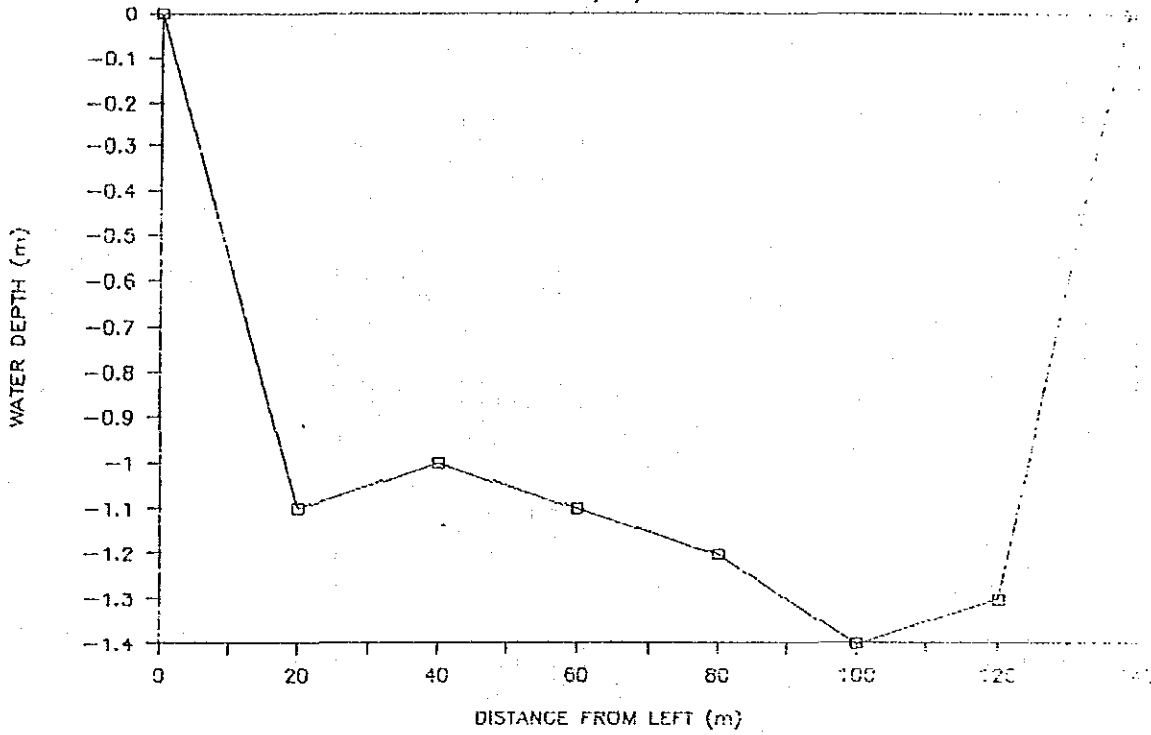
AUG./10/90

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	1.10	1.00	1.10	1.20	1.40	1.30	0.00
SE/WIDTH (m)	0.00	20.00	20.00	20.00	20.00	20.00	20.00	18.70
TOTAL SE/WIDTH(m)	0.00	20.00	40.00	60.00	80.00	100.00	120.00	138.70
VELOCITY.2-1(f/s)	0.00	0.70	1.10	0.50	0.20	0.90	0.80	0.00
VELOCITY.2-2(f/s)	0.00	0.70	1.10	0.40	0.20	0.90	0.80	0.00
MEAN VEL.2 (f/s)	0.00	0.70	1.10	0.45	0.20	0.90	0.80	0.00
VELOCITY.8-1(f/s)	0.00	0.50	0.80	0.40	0.10	0.80	0.50	0.00
VELOCITY.8-2(f/s)	0.00	0.50	0.80	0.40	0.20	0.80	0.50	0.00
MEAN VEL.8 (f/s)	0.00	0.50	0.80	0.40	0.15	0.80	0.50	0.00
MEAN VEL (f/s)	0.00	0.600	0.950	0.425	0.175	0.850	0.650	0.000
MEAN VEL (m/s)	0.000	0.183	0.290	0.130	0.053	0.259	0.198	0.000
L/MEAN DEPTH (m)	0.000	0.550	1.025	1.075	1.175	1.350	1.325	-
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	11.00	10.25	10.75	11.75	13.50	13.25	-
R/MEAN DEPTH (m)	0.000	1.075	1.025	1.125	1.250	1.375	0.650	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	18.70	-
R/SEC. AREA (m2)	0.00	10.75	10.25	11.25	12.50	13.75	12.16	-
S/AREA (m2)	0.00	21.75	20.50	22.00	24.25	27.25	25.41	-
TOTAL AREA (m2)	0.0	21.8	42.3	64.3	88.5	115.8	141.2	-
S/DISCHARGE(m3/s)	0.00	3.98	5.94	2.95	1.29	7.06	5.03	-
TOTAL DIS. (m3/s)	0.00	3.98	9.91	12.76	14.06	21.12	26.15	-

WATER LEVEL (f) : 4.99 WATER LEVEL (m) : 1.52
 TOTAL DISCHARGE : 26.15 MEAN VELOCITY(m/s) : 0.19

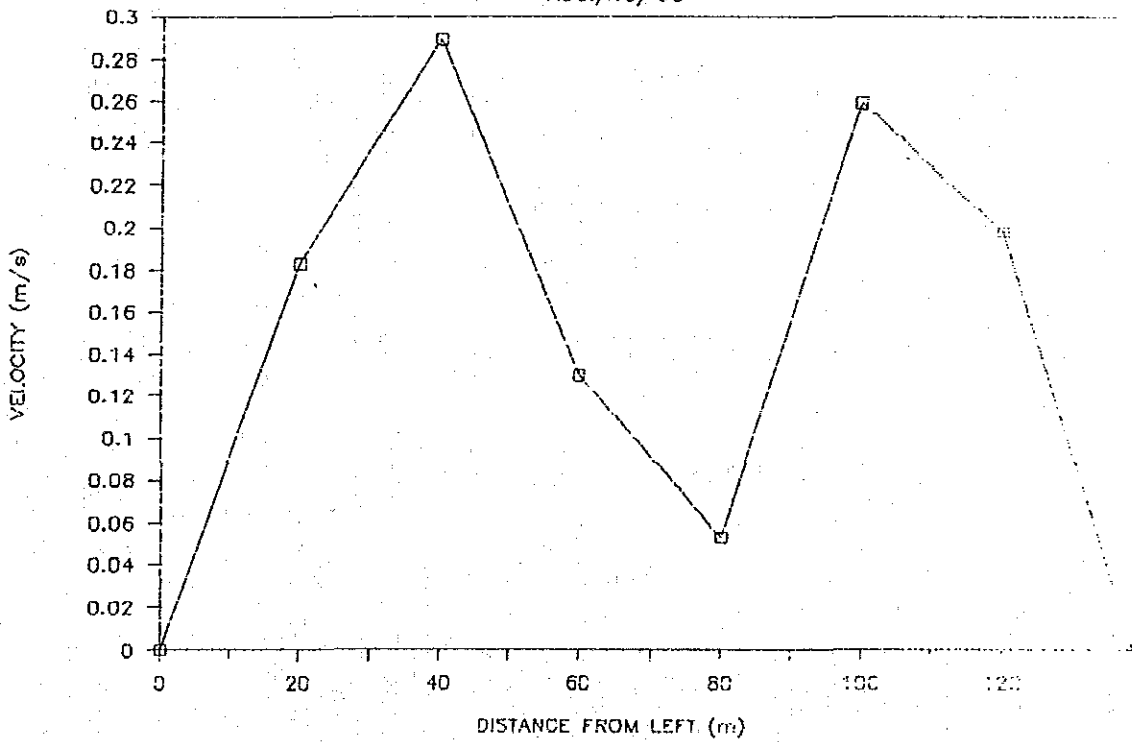
WATER DEPTH (4-450)

AUG./10/96



VELOCITY (4-450)

AUG./10/96



SEP./13/'90

FLOW MEASUREMENT ST. : 4-450 LUBUNGU

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-11
WATER DEPTH (m)	0.00	0.80	0.88	0.90	0.92	0.60	1.16	1.33	1.40	1.29	1.33	1.37
SE/WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
TOTAL SE/WIDTH(m)	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00
VELOCITY 2-1(f/s)	0.00	-	-	-	-	-	0.30	0.20	0.25	0.60	0.70	0.70
VELOCITY 2-2(f/s)	0.00	-	-	-	-	-	0.30	0.20	0.25	0.60	0.70	0.70
MEAN V. (f/s)	0.00	-	-	-	-	-	0.30	0.20	0.25	0.60	0.70	0.70
VELOCITY 3-1(f/s)	0.00	0.40	0.55	0.54	0.70	0.80	0.20	0.15	0.15	0.40	0.45	0.40
VELOCITY 3-2(f/s)	0.00	0.40	0.50	0.50	0.70	0.80	0.20	0.15	0.15	0.40	0.45	0.40
MEAN VEL. 3 (f/s)	0.00	0.40	0.53	0.52	0.70	0.80	0.20	0.15	0.15	0.40	0.45	0.40
MEAN VEL (f/s)	0.000	0.400	0.525	0.520	0.700	0.800	0.250	0.175	0.200	0.500	0.575	0.550
MEAN VEL (m/s)	0.000	0.122	0.160	0.158	0.213	0.244	0.078	0.053	0.061	0.152	0.175	0.168
L/MEAN DEPTH (m)	0.000	0.400	0.860	0.895	0.915	0.680	1.020	1.288	1.383	1.318	1.320	1.360
L/MEAN WIDTH (m)	0.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
L/SEC. AREA (m2)	0.00	4.00	4.30	4.48	4.58	3.40	5.10	6.44	6.91	6.59	6.60	6.80
R/MEAN DEPTH (m)	0.000	0.820	0.885	0.905	0.840	0.740	1.203	1.348	1.373	1.300	1.340	1.323
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
R/SEC. AREA (m2)	0.00	4.10	4.43	4.53	4.20	3.70	6.01	6.74	6.88	6.50	6.70	6.61
S/AREA (m2)	0.00	8.10	8.73	9.00	8.78	7.10	11.11	13.18	13.78	13.09	13.30	13.41
TOTAL AREA (m2)	0.0	8.1	16.8	25.8	34.6	41.7	52.8	66.0	79.8	92.8	106.2	119.8
S/DISCHARGE(m3/s)	0.00	0.99	1.40	1.43	1.87	1.73	0.95	0.70	0.84	1.99	2.33	2.25
TOTAL DIS. (m3/s)	0.00	0.99	2.38	3.81	5.68	7.41	8.26	8.96	9.80	11.80	14.13	15.38

WATER LEVEL (f) : - WATER LEVEL (m) : -
 TOTAL DISCHARGE : - MEAN VELOCITY(m/s) : -

* 0.6 method was done at No.1 - 5.

SEP./13/'90

FLOW MEASUREMENT ST. : 4-450 LUBUNGU

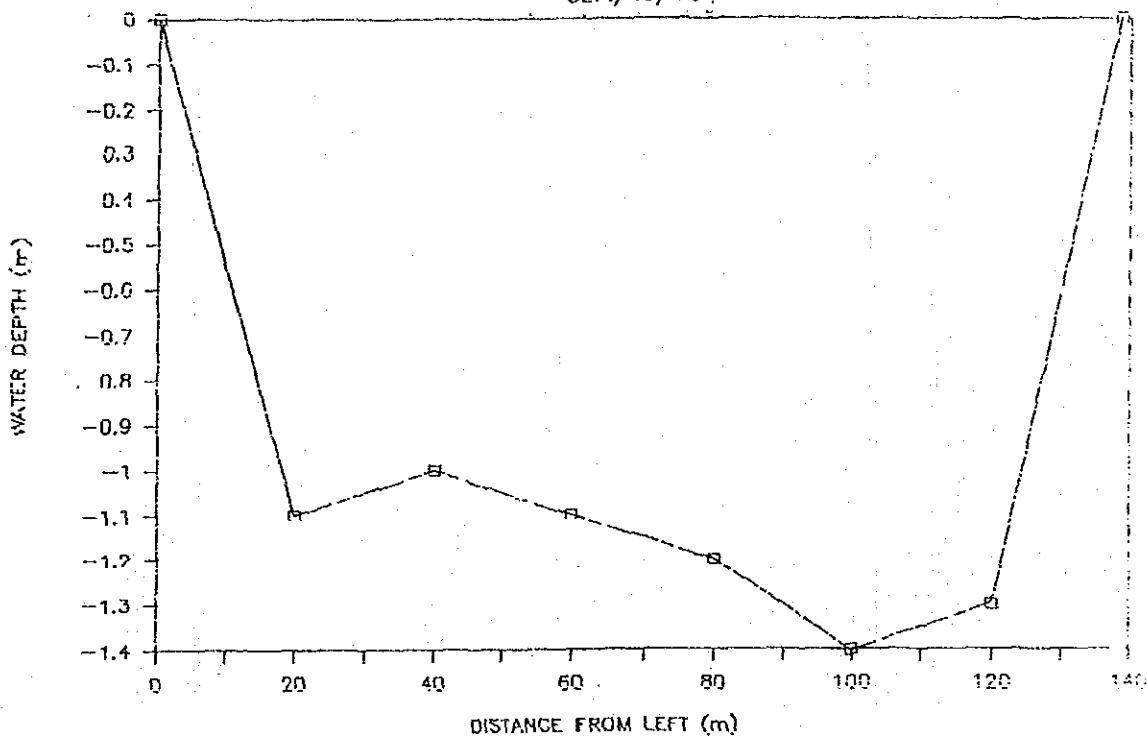
ITEMS NO-12 NO-13 NO-R

WATER DEPTH (m)	1.18	1.20	0.00
S1/WIDTH (m)	10.00	10.00	7.50
TOTAL SE/WIDTH(m)	120.00	130.00	137.50
VELOCITY.2-1(f/s)	0.60	0.10	0.00
VELOCITY.2-2(f/s)	0.60	0.10	0.00
MEAN VEL.2 (f/s)	0.60	0.10	0.00
VELOCITY.8-1(f/s)	0.30	0.05	0.00
VELOCITY.8-2(f/s)	0.30	0.05	0.00
MEAN VEL.8 (f/s)	0.30	0.05	0.00
MEAN VEL (f/s)	0.450	0.075	0.000
MEAN VEL (m/s)	0.137	0.023	0.000
L/MEAN DEPTH (m)	1.228	1.195	-
L/MEAN WIDTH (m)	5.00	5.00	-
L/SEC. AREA (m2)	6.14	5.98	-
R/MEAN DEPTH (m)	1.185	0.600	-
R/MEAN WIDTH (m)	5.00	7.50	-
R/SEC. AREA (m2)	5.93	4.50	-
S/AREA (m2)	12.06	10.48	-
TOTAL AREA (m2)	131.8	142.1	-
S/DISCHARGE(m3/s)	1.65	0.24	-
TOTAL DIS. (m3/s)	18.03	18.27	-

WATER LEVEL (f) : 4.41 WATER LEVEL (m) : 1.34
TOTAL DISCHARGE : 18.27 MEAN VELOCITY(m/s) : 0.13

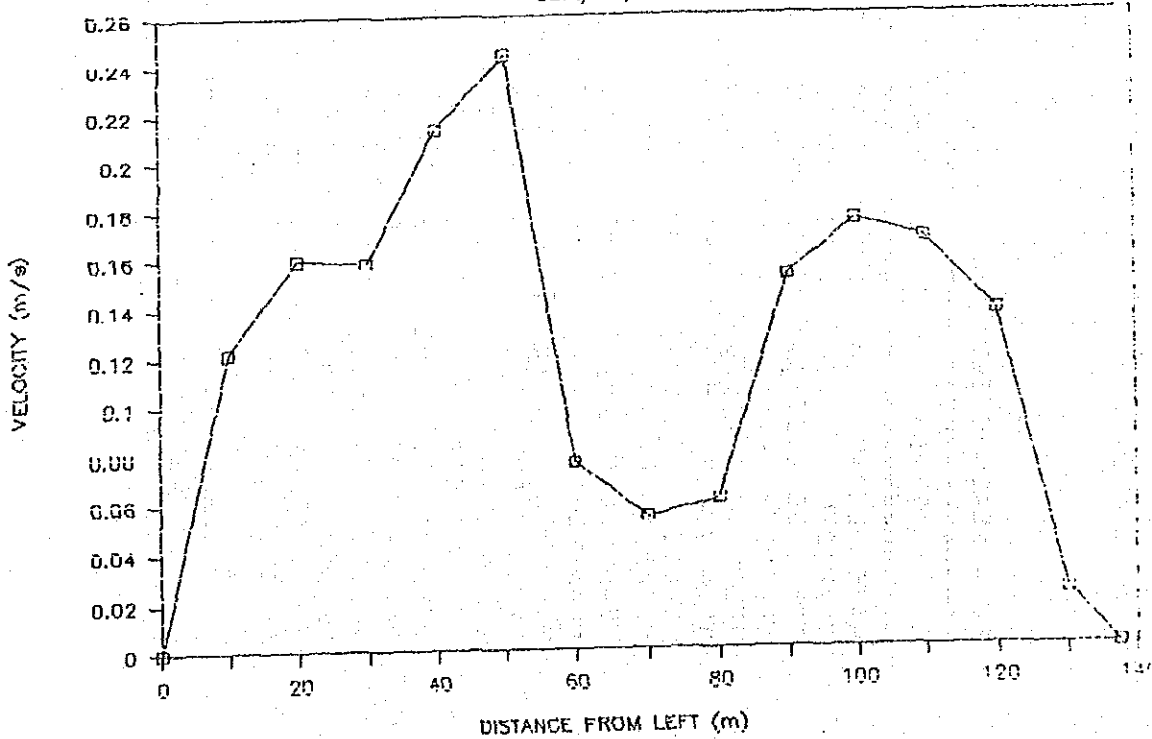
WATER DEPTH (4-450)

SEP./13/90



VELOCITY (4-450)

SEP./13/90



FLOW MEASUREMENT ST. : 4-450 LUBUNGU

OCT./11/'90

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-11
WATER DEPTH (m)	0.00	0.74	0.81	0.77	0.81	1.25	1.23	1.20	1.28	1.25	0.92
SE/WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
TOTAL SE/WIDTH(m)	0.00	10.00	20.00	30.00	40.00	50.00	70.00	80.00	90.00	100.00	110.00
VELOCITY.2-1(f/s)	0.00	-	-	-	-	0.40	0.35	0.40	0.50	0.45	-
VELOCITY.2-2(f/s)	0.00	-	-	-	-	0.40	0.35	0.40	0.50	0.45	-
MEAN VEL.2 (f/s)	0.00	-	-	-	-	0.40	0.35	0.40	0.50	0.45	-
VELOCITY.8-1(f/s)	0.00	0.30	0.40	0.55	0.60	0.65	0.20	0.30	0.45	0.25	0.50
VELOCITY.8-2(f/s)	0.00	0.30	0.40	0.55	0.60	0.65	0.20	0.30	0.45	0.25	0.50
MEAN VEL.8 (f/s)	0.00	0.30	0.40	0.55	0.60	0.65	0.20	0.30	0.45	0.25	0.50
MEAN VEL (f/s)	0.000	0.300	0.400	0.550	0.600	0.650	0.275	0.350	0.475	0.350	0.500
MEAN VEL (m/s)	0.000	0.091	0.122	0.168	0.183	0.198	0.084	0.107	0.145	0.107	0.152
L/MEAN DEPTH (m)	0.000	0.370	0.793	0.780	0.800	0.788	1.235	1.208	1.260	1.258	1.003
L/MEAN WIDTH (m)	0.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
L/SEC. AREA (m2)	0.00	3.70	3.96	3.90	4.00	3.94	6.18	5.04	6.30	6.29	5.01
R/MEAN DEPTH (m)	0.000	0.758	0.800	0.780	0.803	0.898	1.223	1.220	1.273	1.168	0.965
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
R/SEC. AREA (m2)	0.00	3.79	4.00	3.90	4.01	4.49	6.23	6.10	6.36	5.84	4.83
S/AREA (m2)	0.00	7.49	7.96	7.80	8.01	8.43	11.89	12.29	12.66	12.13	9.84
TOTAL AREA (m2)	0.0	7.5	15.5	23.3	31.3	39.7	51.6	63.9	76.0	100.8	110.6
S/DISCHARGE(m3/s)	0.00	0.68	0.97	1.31	1.47	1.67	1.36	1.29	1.83	1.29	1.50
TOTAL DIS. (m3/s)	0.00	0.68	1.66	2.96	4.43	6.10	7.46	9.78	11.61	12.91	14.41

WATER LEVEL (f) : - WATER LEVEL (m) : -
 TOTAL DISCHARGE : - MEAN VELOCITY(m/s) : -

* 0.6 method was done at No.1 - 5, 11.

FLOW MEASUREMENT ST. : 4-450 LUBUNGU

OCT./11/'90

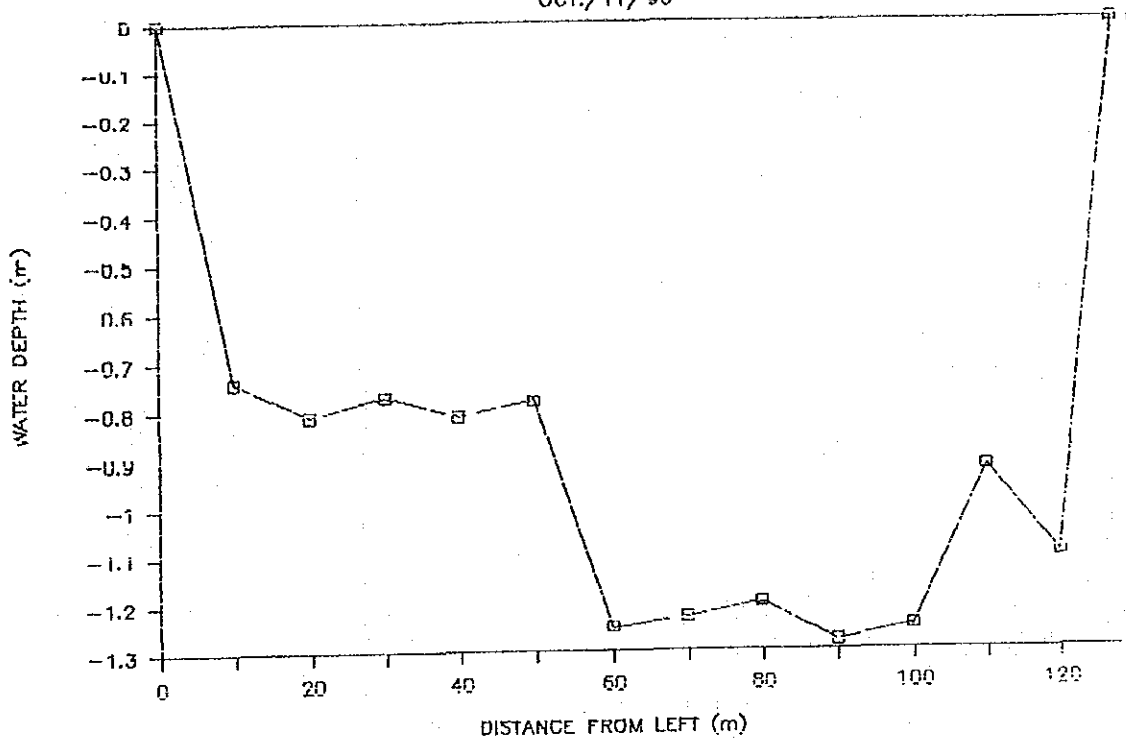
ITEMS NO-12 NO-R

WATER DEPTH (m)	1.10	0.00
SE/WIDTH (m)	10.00	7.50
TOTAL SE/WIDTH(m)	120.00	127.50
VELOCITY.2-1(f/s)	0.55	0.00
VELOCITY.2-2(f/s)	0.55	0.00
MEAN VEL.2 (f/s)	0.55	0.00
VELOCITY.8-1(f/s)	0.30	0.00
VELOCITY.8-2(f/s)	0.30	0.00
MEAN VEL.8 (f/s)	0.30	0.00
MEAN VEL (f/s)	0.425	0.000
MEAN VEL (m/s)	0.130	0.000
L/MEAN DEPTH (m)	1.055	-
L/MEAN WIDTH (m)	5.00	-
L/SEC. AREA (m2)	5.28	-
R/MEAN DEPTH (m)	0.550	-
R/MEAN WIDTH (m)	7.50	-
R/SEC. AREA (m2)	4.13	-
S/AREA (m2)	9.40	-
TOTAL AREA (m2)	120.0	-
S/DISCHARGE(m3/s)	1.22	-
TOTAL DIS. (m3/s)	15.62	-

WATER LEVEL (f) : 2.62 WATER LEVEL (m) : 0.80
 TOTAL DISCHARGE : 15.62 MEAN VELOCITY(m/s) : 0.13

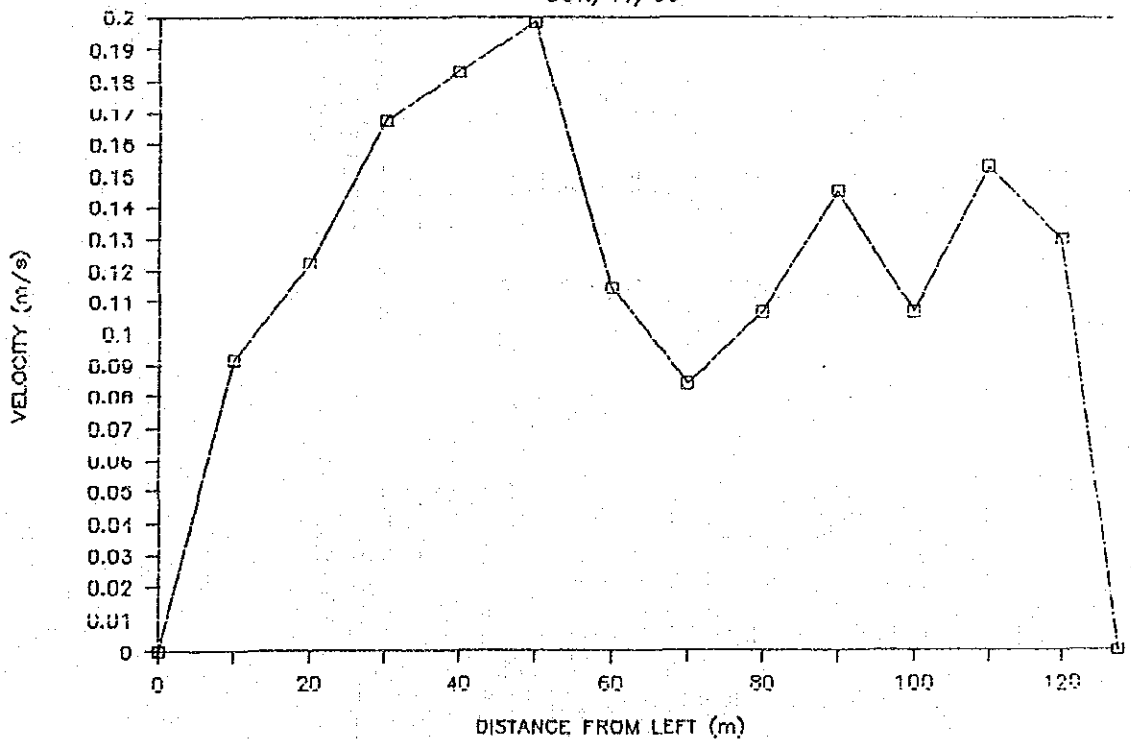
WATER DEPTH (4-450)

001./11/90



VELOCITY (4-450)

001./11/90



NOV./27/90

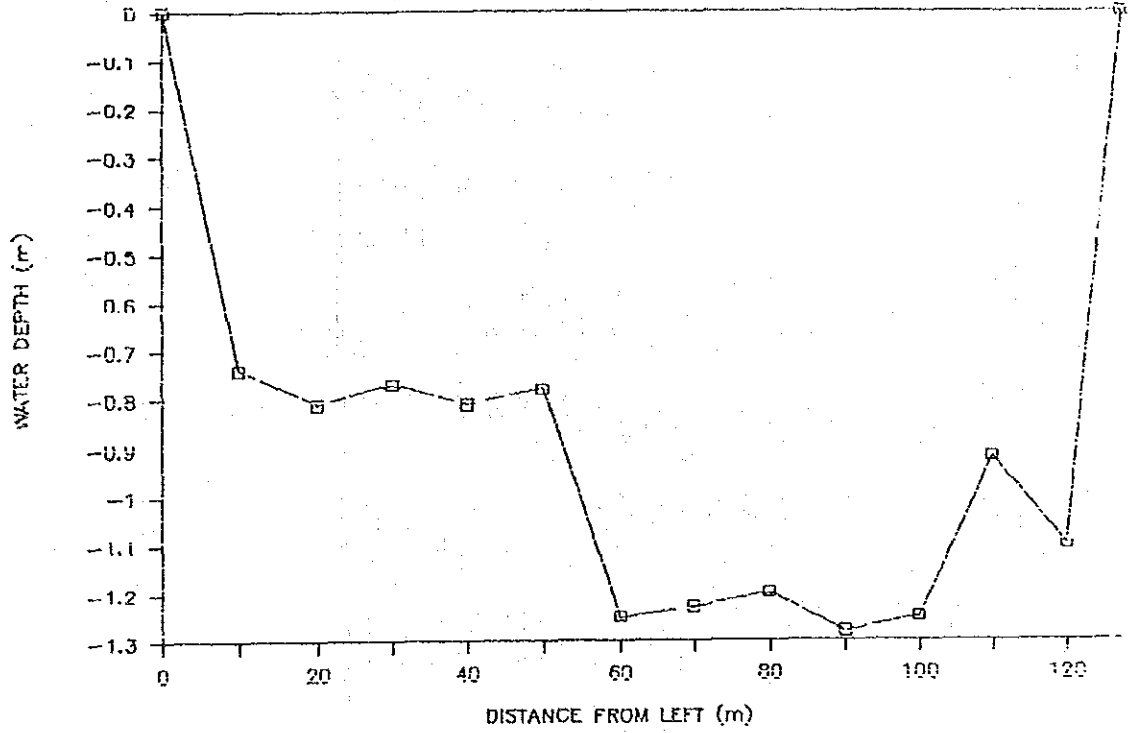
FLOW MEASUREMENT ST. : 4-450 LUBUNGU

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	0.70	0.52	0.99	1.11	1.12	0.96	0.00
S1/WIDTH (m)	0.00	20.00	20.00	20.00	20.00	20.00	20.00	15.00
TOTAL SE/WIDTH(m)	0.00	20.00	40.00	60.00	80.00	100.00	120.00	135.00
VELOCITY.2-1(f/s)	0.00	0.50	0.10	0.20	0.50	0.80	0.50	0.00
VELOCITY.2-2(f/s)	0.00	0.50	0.10	0.20	0.50	0.80	0.45	0.00
MEAN VEL.2 (f/s)	0.00	0.50	0.10	0.20	0.50	0.80	0.48	0.00
VELOCITY.8-1(f/s)	0.00	0.30	0.10	0.15	0.30	0.40	0.30	0.00
VELOCITY.8-2(f/s)	0.00	0.30	0.10	0.15	0.30	0.40	0.30	0.00
MEAN VEL.8 (f/s)	0.00	0.30	0.10	0.15	0.30	0.40	0.30	0.00
MEAN VEL (f/s)	0.000	0.400	0.100	0.175	0.400	0.500	0.388	0.000
MEAN VEL (m/s)	0.000	0.122	0.030	0.053	0.122	0.193	0.118	0.000
L/MEAN DEPTH (m)	0.000	0.350	0.565	0.973	1.090	1.118	1.000	-
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	7.00	5.65	8.73	10.80	11.18	10.00	-
R/MEAN DEPTH (m)	0.000	0.655	0.638	1.020	1.113	1.080	0.480	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	15.00	-
R/SEC. AREA (m2)	0.00	6.55	6.38	10.20	11.13	10.80	7.20	-
S/AREA (m2)	0.00	13.55	12.03	18.93	21.93	21.98	17.20	-
TOTAL AREA (m2)	0.0	13.6	25.6	44.5	66.4	88.4	105.6	-
S/1/1/SCHARGE(m3/s)	0.00	1.65	0.37	1.01	2.67	4.02	2.03	-
TOTAL DIS. (m3/s)	0.00	1.65	2.02	3.03	5.70	9.72	11.75	-

WATER LEVEL (f) : 3.74 WATER LEVEL (m) : 1.14
 TOTAL DISCHARGE : 11.75 MEAN VELOCITY(m/s) : 0.11

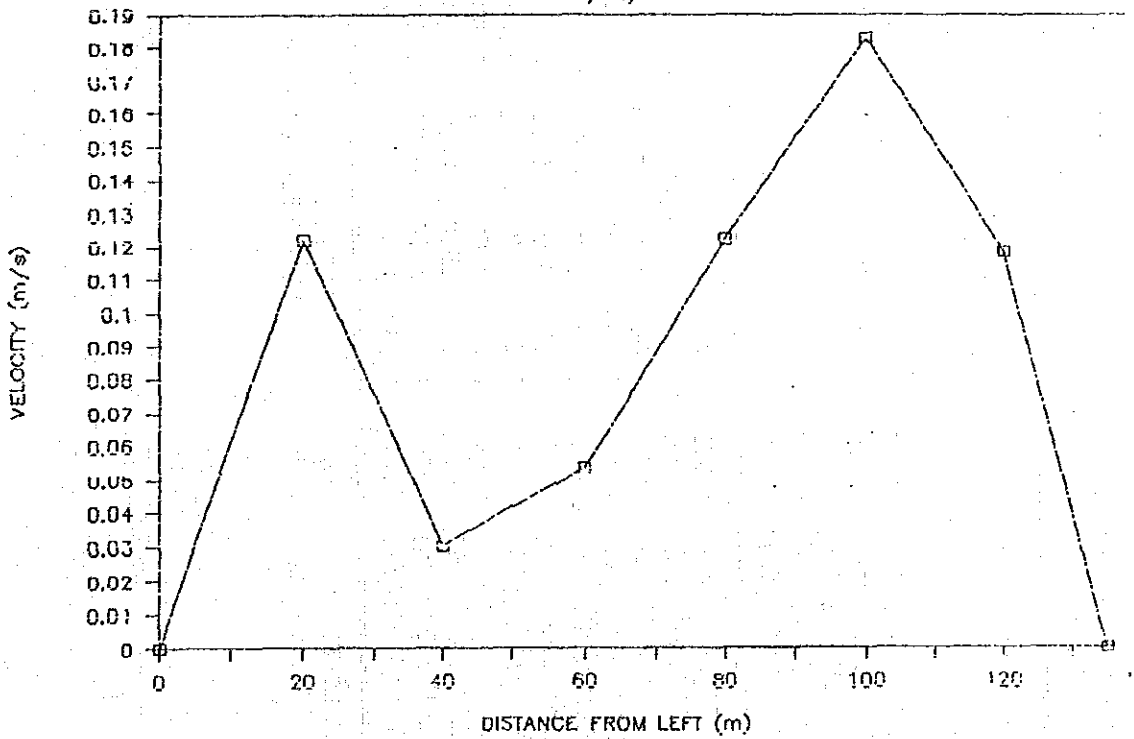
WATER DEPTH (4-450)

2/11/00



VELOCITY (4-450)

2/11/00



FLOW MEASUREMENT ST. : 4-450 LUBUNGU

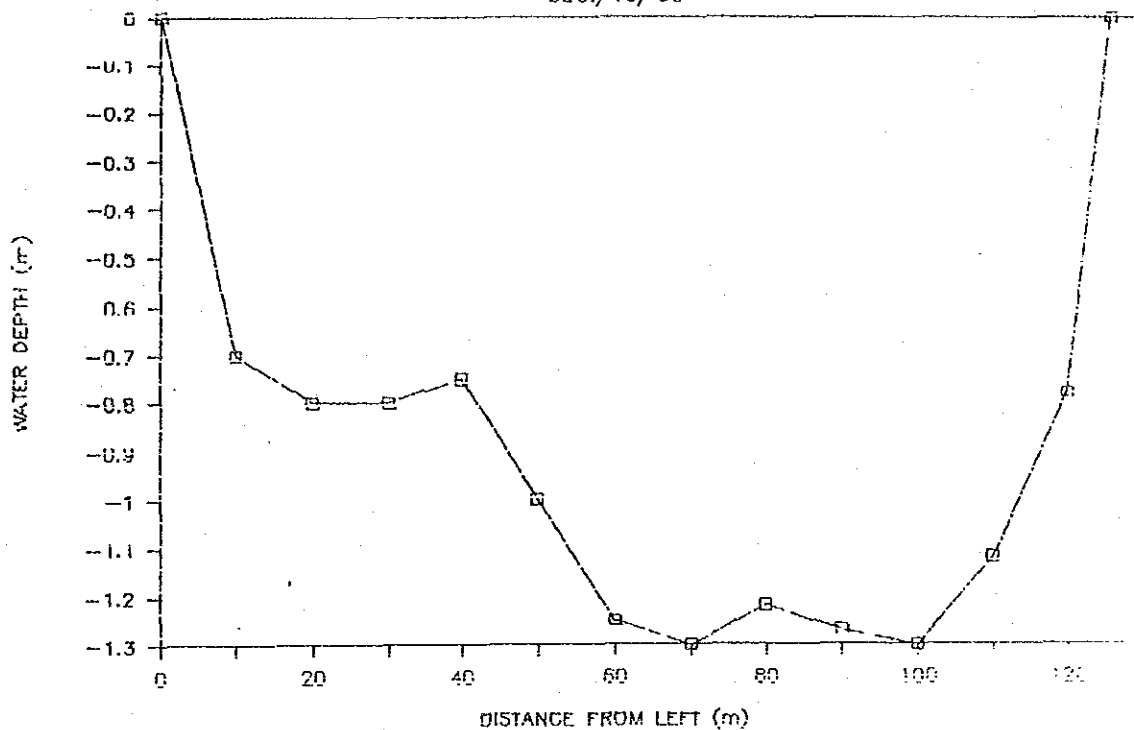
DEC./15/'90

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-11	NO-12	NO-R
WATER DEPTH (m)	0.70	0.80	0.80	0.75	1.00	1.25	1.30	1.22	1.27	1.30	1.12	0.78	0.00
SE/WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	5.80
TOTAL SE/WIDTH(m)	0.00	10.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	125.80
VELOCITY 2-1 (f/s)	0.00	0.45	0.25	0.30	0.45	0.30	0.40	0.50	0.75	0.65	0.60	0.20	0.00
VELOCITY 2-2 (f/s)	0.00	0.45	0.25	0.30	0.45	0.30	0.40	0.50	0.75	0.65	0.60	0.20	0.00
MEAN VEL. 2 (f/s)	0.00	0.45	0.25	0.30	0.45	0.30	0.40	0.50	0.75	0.65	0.60	0.20	0.00
VELOCITY 8-1 (f/s)	0.00	-	-	-	0.25	0.15	0.30	0.35	0.40	0.30	0.25	-	0.00
VELOCITY 8-2 (f/s)	0.00	-	-	-	0.25	0.15	0.30	0.35	0.40	0.30	0.25	-	0.00
MEAN VEL. 8 (f/s)	0.00	-	-	-	0.25	0.15	0.30	0.35	0.40	0.30	0.25	-	0.00
MEAN VEL (f/s)	0.000	0.450	0.250	0.300	0.350	0.225	0.350	0.425	0.575	0.475	0.425	0.200	0.000
MEAN VEL (m/s)	0.000	0.107	0.076	0.091	0.107	0.069	0.107	0.130	0.175	0.145	0.130	0.061	0.000
L/MEAN DEPTH (m)	0.000	0.350	0.800	0.763	0.938	1.188	1.288	1.240	1.258	1.293	1.165	0.865	-
L/MEAN WIDTH (m)	0.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	-
L/SEC. AREA (m2)	0.00	3.50	3.88	4.00	4.69	5.94	6.44	6.20	6.29	6.46	5.83	4.33	-
R/MEAN DEPTH (m)	0.000	0.725	0.800	0.788	1.063	1.263	1.280	1.233	1.278	1.255	1.035	0.390	-
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.80	-
R/SEC. AREA (m2)	0.00	3.63	4.00	4.06	5.31	6.31	6.40	6.16	6.39	6.28	5.18	2.26	-
S/AREA (m2)	0.00	7.13	7.88	7.94	7.88	12.25	12.84	12.36	12.68	12.74	11.00	6.59	-
TOTAL AREA (m2)	0.0	7.1	22.9	30.8	40.8	53.1	55.9	78.3	90.9	103.7	114.7	121.3	-
S/DISCHARGE (m3/s)	0.00	0.76	1.08	0.72	1.07	0.84	1.37	1.60	2.22	1.84	1.42	0.40	-
TOTAL DIS. (m3/s)	0.00	0.76	1.84	2.45	4.23	5.07	6.44	8.04	10.26	12.11	13.53	13.94	-

WATER LEVEL (f) : 4.43 WATER LEVEL (m) : 1.35
 TWTAL DISCHARGE : 13.94 MEAN VELOCITY(m/s) : 0.11

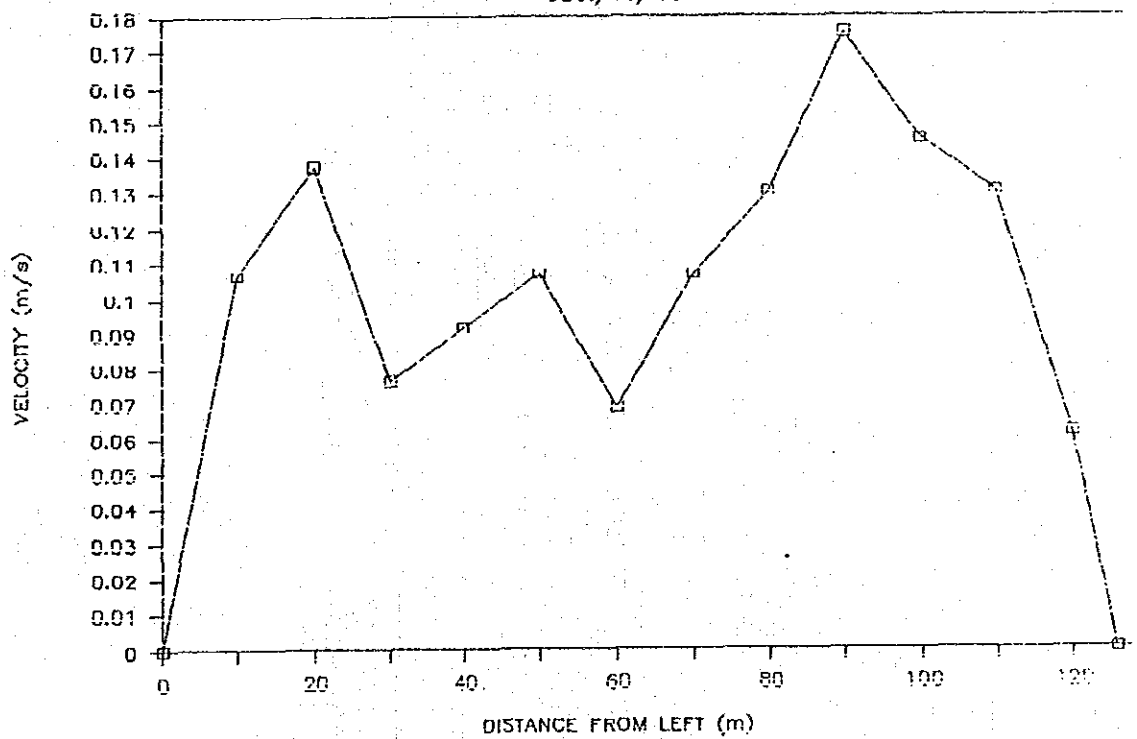
WATER DEPTH (4-450)

DEC./15/90



VELOCITY (4-450)

DEC./15/90

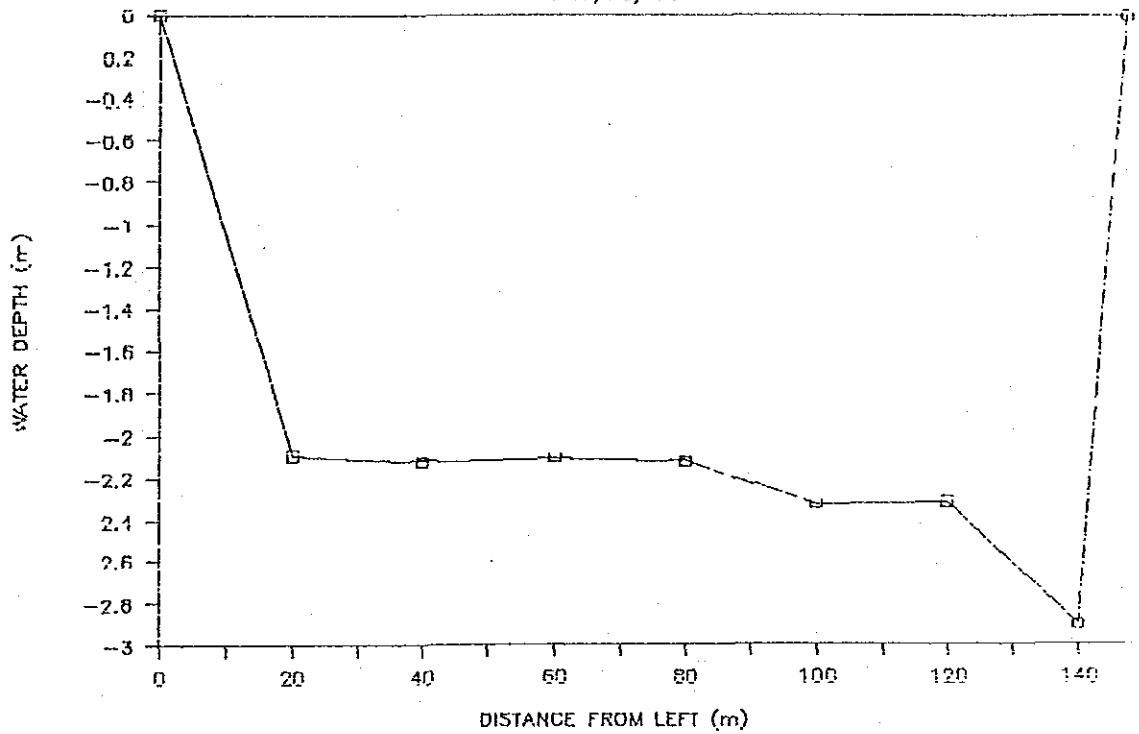


ITEMS	ND-1	ND-2	ND-3	ND-4	ND-5	ND-6	ND-7	ND-8
WATER DEPTH (m)	0.00	2.08	2.12	2.10	2.12	2.31	2.90	0.00
SE/WIDTH (m)	0.00	20.00	20.00	20.00	20.00	20.00	20.00	7.50
TOTAL SE/WIDTH(m)	0.00	20.00	40.00	60.00	80.00	100.00	140.00	147.50
VELOCITY.2-1(f/s)	0.00	1.80	2.00	0.80	1.40	2.10	1.60	0.00
VELOCITY.2-2(f/s)	0.00	1.85	2.00	0.80	1.45	2.00	1.60	0.00
MEAN VEL.2 (f/s)	0.00	1.83	2.00	0.80	1.43	2.05	1.60	0.00
VELOCITY.8-1(f/s)	0.00	1.30	1.50	0.40	1.00	1.80	1.10	0.00
VELOCITY.8-2(f/s)	0.00	1.30	1.50	0.45	1.00	1.75	1.00	0.00
MEAN VEL.8 (f/s)	0.00	1.30	1.50	0.43	1.00	1.78	1.00	0.00
MEAN VEL. (f/s)	0.00	1.563	1.750	0.613	1.213	1.913	1.300	0.000
MEAN VEL. (m/s)	0.000	0.476	0.533	0.187	0.370	0.583	0.396	0.000
L/MEAN DEPTH (m)	0.000	1.045	2.113	2.105	2.115	2.270	2.313	2.753
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	10.00	10.00	10.00	10.00
L/SEC. AREA (m2)	0.00	20.90	21.13	21.05	21.15	22.70	23.13	27.53
R/MEAN DEPTH (m)	0.000	2.098	2.115	2.105	2.170	2.318	2.458	1.450
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	7.50
R/SEC. AREA (m2)	0.00	20.98	21.15	21.05	21.70	23.18	24.58	10.88
S/AREA (m2)	0.00	41.88	42.28	42.10	42.85	45.88	47.70	38.40
TOTAL AREA (m2)	0.0	41.9	84.2	126.3	169.1	215.0	262.7	301.1
S/DISCHARGE(m3/s)	0.00	19.94	22.55	7.86	15.84	26.74	18.90	15.22
TOTAL DIS. (m3/s)	0.00	19.94	42.49	50.35	66.19	92.93	111.83	127.06

WATER LEVEL (f) : 7.80 WATER LEVEL (m) : 2.38
 TOTAL DISCHARGE : 127.06 MEAN VELOCITY(m/s) : 0.42

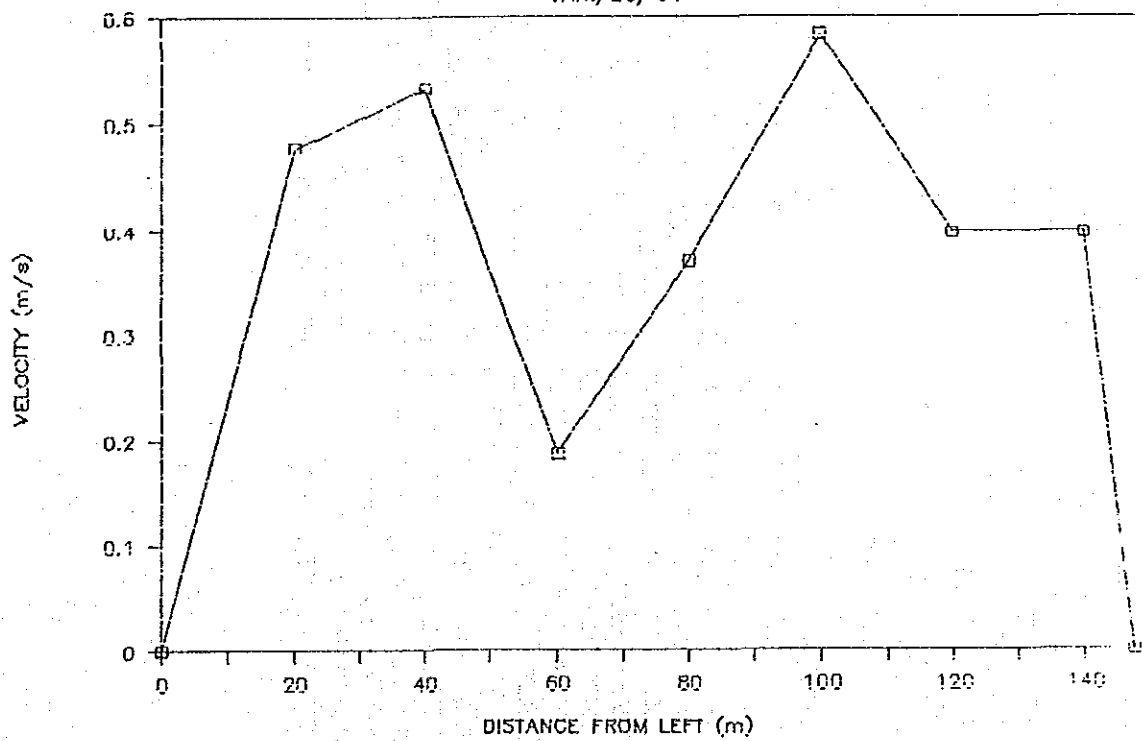
WATER DEPTH (4-450)

JAN./20/'91



VELOCITY (4-450)

JAN./20/'91

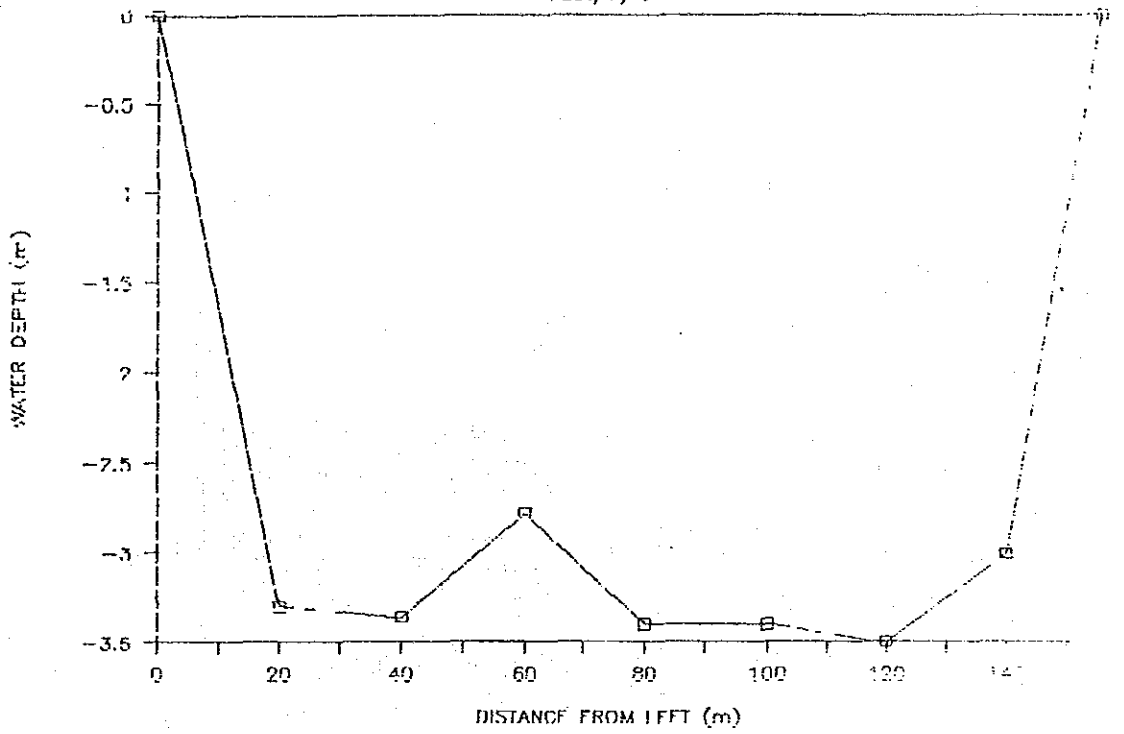


UNITS	ND-1	ND-2	ND-3	ND-4	ND-5	ND-6	ND-7	ND-R
WATER DEPTH (m)	3.30	3.36	2.78	3.40	3.40	3.50	3.00	0.00
SE/WIDTH (m)	20.00	20.00	20.00	20.00	20.00	20.00	20.00	16.00
TOTAL SE/WIDTH(m)	20.00	40.00	60.00	80.00	100.00	120.00	140.00	156.00
VELOCITY.2-1(f/s)	2.00	2.80	1.60	1.80	2.70	2.60	1.30	0.00
VELOCITY.2-2(f/s)	2.00	2.80	1.60	1.80	2.70	2.60	1.30	0.00
MEAN VEL.2 (f/s)	2.00	2.80	1.60	1.80	2.70	2.60	1.30	0.00
VELOCITY.6-1(f/s)	1.20	1.80	1.00	1.00	1.50	1.60	0.80	0.00
VELOCITY.8-2(f/s)	1.20	1.80	1.00	1.00	1.50	1.60	0.80	0.00
MEAN VEL.8 (f/s)	1.20	1.80	1.00	1.00	1.50	1.60	0.80	0.00
MEAN VEL. (f/s)	1.600	2.300	1.300	1.400	2.100	2.100	1.050	0.000
MEAN VEL. (m/s)	0.488	0.701	0.396	0.427	0.640	0.640	0.320	0.000
L/MEAN DEPTH (m)	1.650	3.345	2.925	3.245	3.400	3.475	3.125	-
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	33.00	33.45	32.45	34.00	34.75	31.25	-
R/MEAN DEPTH (m)	0.000	3.315	3.215	3.400	3.425	3.375	1.500	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	-
R/SEC. AREA (m2)	0.00	33.15	32.15	34.00	34.25	33.75	24.00	-
S/AREA (m2)	0.00	66.15	65.60	66.45	68.25	68.50	55.25	-
TOTAL AREA (m2)	0.0	66.2	131.8	256.8	325.1	393.6	448.8	-
S/DISCHARGE(m3/s)	0.00	32.26	45.99	28.22	28.36	43.85	17.68	-
TOTAL DIS. (m3/s)	0.00	32.26	78.25	101.47	129.82	173.51	235.04	-

WATER LEVEL (f) : 10.46 WATER LEVEL (m) : 3.19
TOTAL DISCHARGE : 235.04 MEAN VELOCITY(m/s) : 0.52

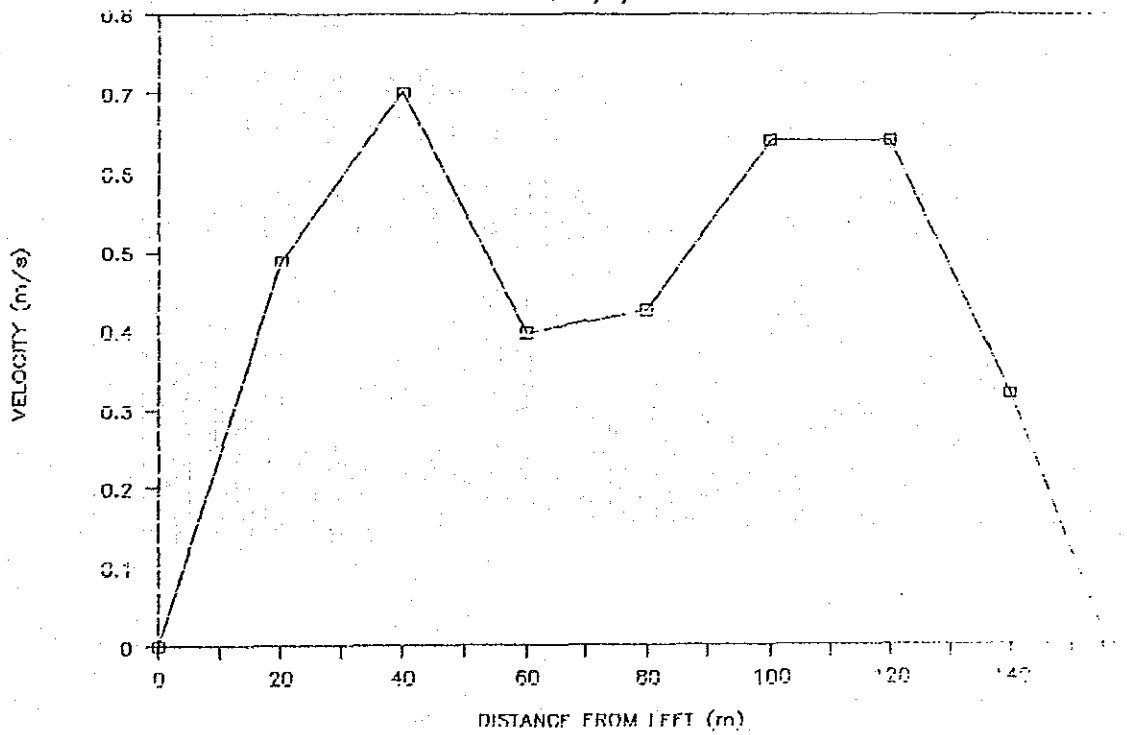
WATER DEPTH (4-450)

FEB./11/91



VELOCITY (4-450)

FEB./11/91



FLOW MEASUREMENT ST. : 4-450 LUBUNGU

10/AUG/91

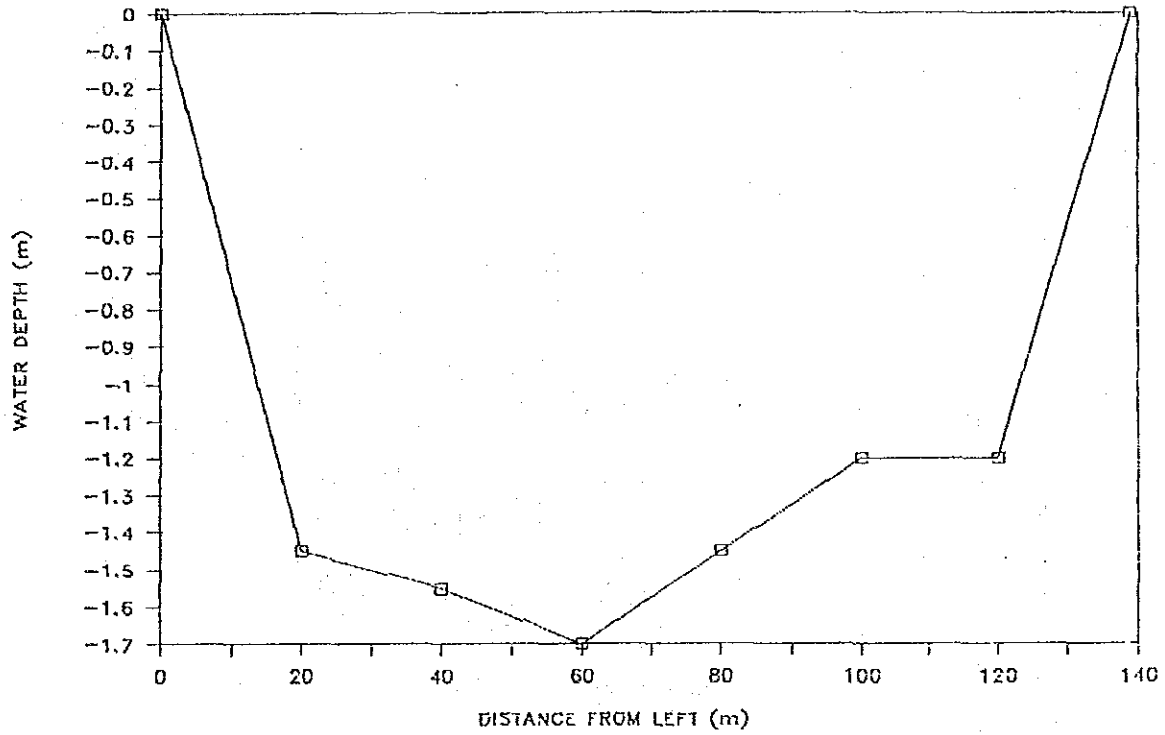
ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	1.45	1.55	1.70	1.45	1.20	1.20	0.00
SE/WIDTH (m)	0.00	20.00	20.00	20.00	20.00	20.00	20.00	19.00
TOTAL SE/WIDTH(m)	0.00	20.00	40.00	60.00	80.00	100.00	120.00	139.00
VELOCITY.2-1(f/s)	0.00	1.20	1.10	0.40	0.20	1.50	1.00	0.00
VELOCITY.2-2(f/s)	0.00	1.20	1.10	0.35	0.20	1.40	1.00	0.00
MEAN VEL.2 (f/s)	0.00	1.20	1.10	0.38	0.20	1.45	1.00	0.00
VELOCITY.8-1(f/s)	0.00	0.50	0.90	0.15	0.15	1.00	0.90	0.00
VELOCITY.8-2(f/s)	0.00	0.50	0.90	0.15	0.15	1.10	0.90	0.00
MEAN VEL.8 (f/s)	0.00	0.50	0.90	0.15	0.15	1.05	0.90	0.00
MEAN VEL (f/s)	0.000	0.850	1.000	0.150	0.175	1.250	0.950	0.000
MEAN VEL (m/s)	0.000	0.259	0.305	0.046	0.053	0.381	0.290	0.000
L/MEAN DEPTH (m)	0.000	0.725	1.525	1.663	1.513	1.263	1.200	-
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	14.50	15.25	16.63	15.13	12.63	12.00	-
R/MEAN DEPTH (m)	0.000	1.475	1.588	1.638	1.388	1.200	0.600	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	19.00	-
R/SEC. AREA (m2)	0.00	14.75	15.88	16.38	13.88	12.00	11.40	-
S/AREA (m2)	0.00	29.25	31.13	33.00	29.00	24.63	23.40	-
TOTAL AREA (m2)	0.0	29.3	60.4	93.4	122.4	147.0	170.4	-
S/DISCHARGE(m3/s)	0.00	7.58	9.49	1.51	1.55	9.38	6.78	-
TOTAL DIS. (m3/s)	0.00	7.58	17.06	18.57	20.12	29.50	36.28	-

WATER LEVEL (f) : 5.28
 TOTAL DISCHARGE : 36.28

WATER LEVEL (m) : 1.61
 MEAN VELOCITY(m/s) : 0.21

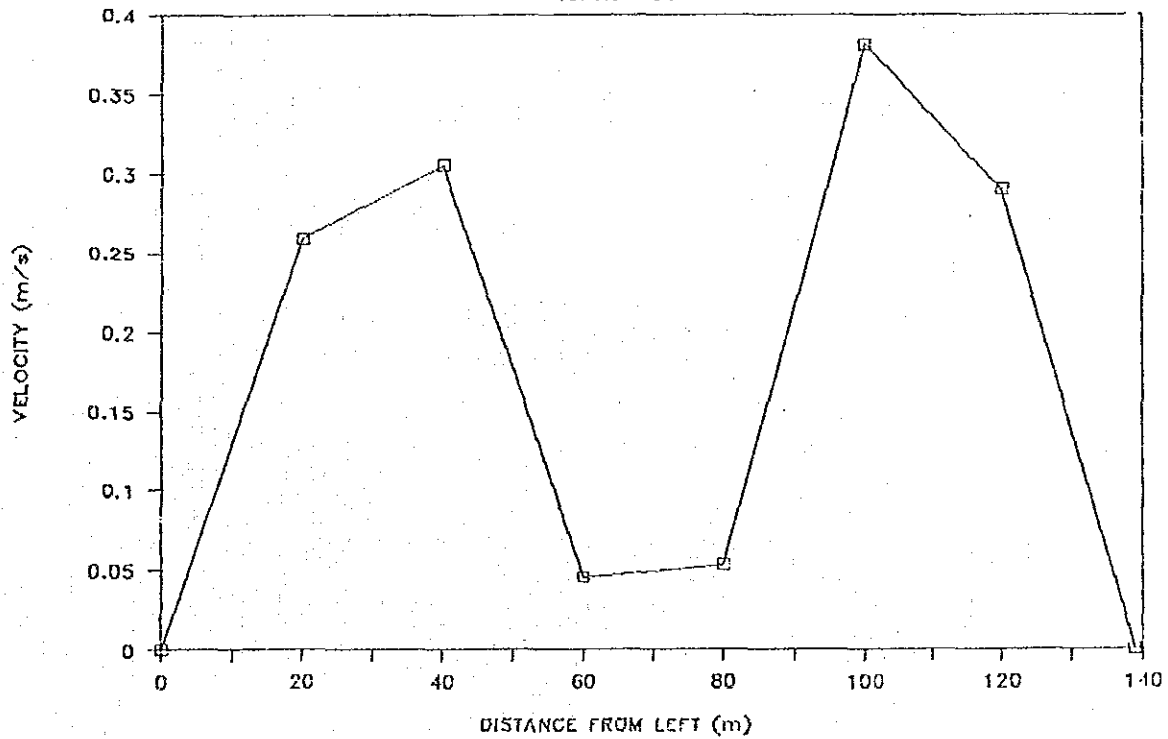
WATER DEPTH (4-450)

10/AUG/91



VELOCITY (4-450)

10/AUG/91



FLOW MEASUREMENT ST. : 4-450 LUBUNGU

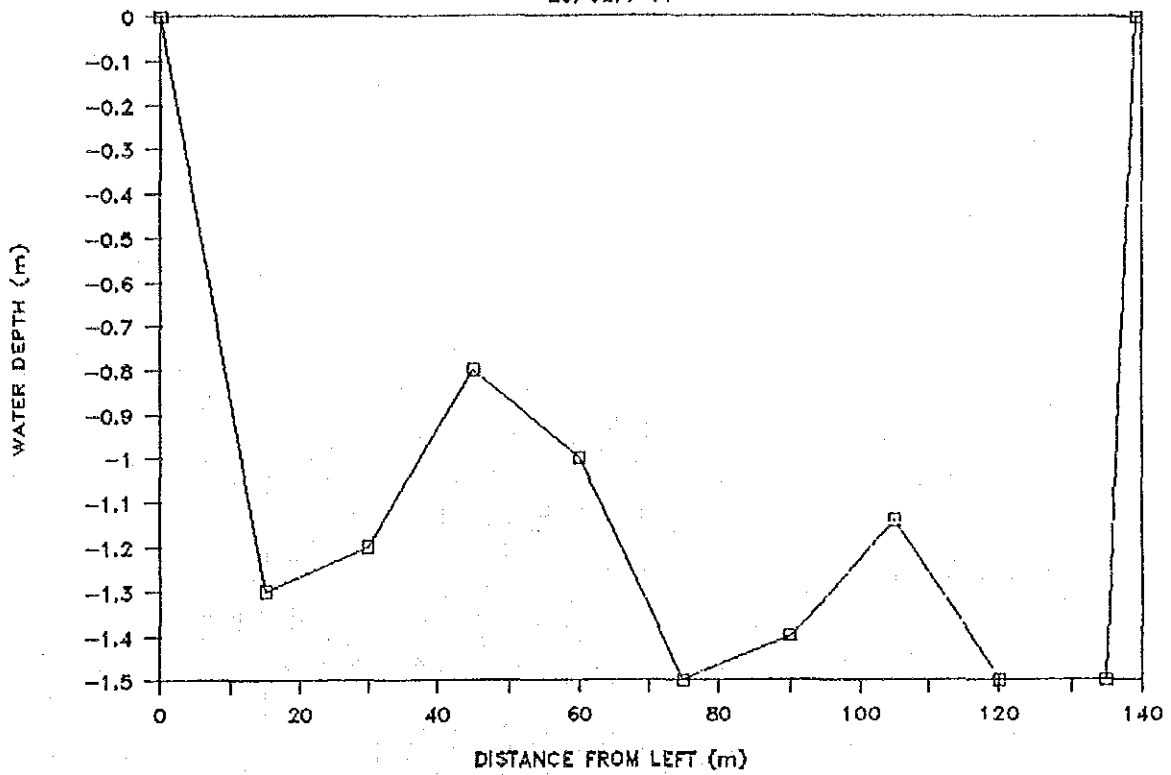
20/SEP/'91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-R
WATER DEPTH (m)	0.00	1.30	1.20	0.80	1.00	1.50	1.40	1.14	1.50	1.50	0.00
SE/WIDTH (m)	0.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	4.30
TOTAL SE/WIDTH(m)	0.00	15.00	30.00	45.00	60.00	75.00	90.00	105.00	120.00	135.00	139.30
VELOCITY.2-1(f/s)	0.00	0.50	0.50	-	0.50	0.10	0.50	0.60	0.80	0.30	0.00
VELOCITY.2-2(f/s)	0.00	0.50	0.50	-	0.50	0.10	0.50	0.60	0.80	0.30	0.00
MEAN VEL.2 (f/s)	0.00	0.50	0.50	-	0.50	0.10	0.50	0.60	0.80	0.30	0.00
VELOCITY.8-1(f/s)	0.00	0.20	0.30	0.40	0.20	0.05	0.10	0.30	0.60	0.30	0.00
VELOCITY.8-2(f/s)	0.00	0.20	0.30	0.40	0.20	0.05	0.10	0.30	0.60	0.30	0.00
MEAN VEL.8 (f/s)	0.00	0.20	0.30	0.40	0.20	0.05	0.10	0.30	0.60	0.30	0.00
MEAN VEL (f/s)	0.000	0.350	0.400	0.400	0.350	0.075	0.300	0.450	0.700	0.300	0.000
MEAN VEL (m/s)	0.000	0.107	0.122	0.122	0.107	0.023	0.091	0.137	0.213	0.091	0.000
L/MEAN DEPTH (m)	0.000	0.650	1.225	0.900	0.950	1.375	1.425	1.205	1.410	1.500	-
L/MEAN WIDTH (m)	0.00	15.00	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	-
L/SEC. AREA (m2)	0.00	9.75	9.19	6.75	7.13	10.31	10.59	9.04	10.58	11.25	-
R/MEAN DEPTH (m)	0.000	1.275	1.100	0.850	1.125	1.475	1.335	1.230	1.500	0.750	-
R/MEAN WIDTH (m)	0.00	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	4.30	-
R/SEC. AREA (m2)	0.00	9.56	8.25	6.38	8.44	11.06	10.01	9.23	11.25	3.23	-
S/AREA (m2)	0.00	19.31	17.44	13.13	15.56	21.38	20.70	18.26	21.83	14.48	-
TOTAL AREA (m2)	0.0	19.3	36.8	49.9	65.4	86.8	107.5	125.8	147.6	162.1	-
S/DISCHARGE(m3/s)	0.00	2.06	2.13	1.60	1.66	0.49	1.89	2.50	4.66	1.32	-
TOTAL DIS. (m3/s)	0.00	2.06	4.19	5.79	7.45	7.94	9.83	12.33	16.99	18.31	-

WATER LEVEL (f) : 4.57 WATER LEVEL (m) : 1.39
 TOTAL DISCHARGE : 18.31 MEAN VELOCITY(m/s) : 0.11
 NOTE : ONE OF SECTION IS APPLIED FOR 0.6 DEPTH METHOD.

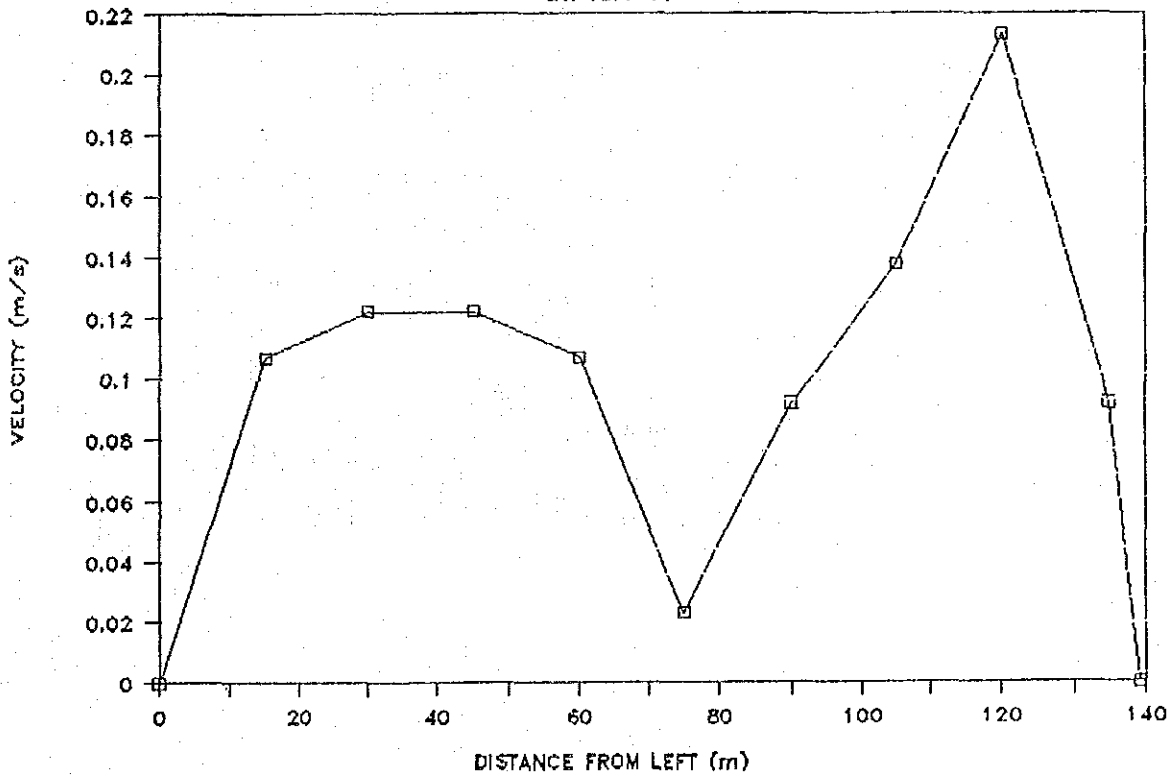
WATER DEPTH (4 450)

20/SEP/'91



VELOCITY (4-450)

20/SEP/'91



FLOW MEASUREMENT ST. : 4-450 LUBUNGU

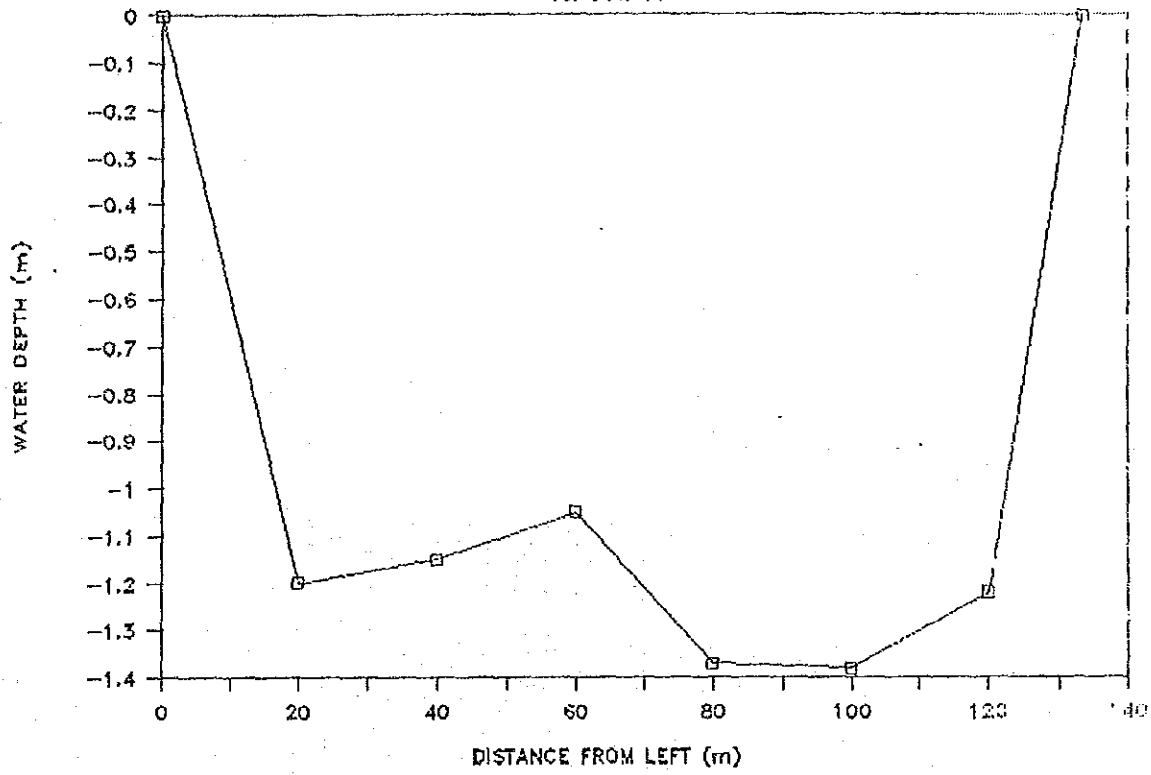
15/OCT/'91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	1.20	1.15	1.05	1.37	1.38	1.22	0.00
Sf/WIDTH (m)	0.00	20.00	20.00	20.00	20.00	20.00	20.00	13.50
TOTAL SE/WIDTH(m)	0.00	20.00	40.00	60.00	80.00	100.00	120.00	133.50
VELOCITY.2-1(f/s)	0.00	0.30	0.50	0.40	0.10	0.60	0.60	0.00
VELOCITY.2-2(f/s)	0.00	0.30	0.50	0.40	0.10	0.60	0.60	0.00
MEAN VEL.2 (f/s)	0.00	0.30	0.50	0.40	0.10	0.60	0.60	0.00
VELOCITY.8-1(f/s)	0.00	0.00	0.30	0.20	0.00	0.10	0.10	0.00
VELOCITY.8-2(f/s)	0.00	0.00	0.30	0.20	0.00	0.10	0.10	0.00
MEAN VEL.8 (f/s)	0.00	0.00	0.30	0.20	0.00	0.10	0.10	0.00
MEAN VEL (f/s)	0.000	0.150	0.400	0.200	0.050	0.350	0.350	0.000
MEAN VEL (m/s)	0.000	0.046	0.122	0.061	0.015	0.107	0.107	0.000
L/MEAN DEPTH (m)	0.000	0.600	1.163	1.075	1.290	1.378	1.260	-
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	10.00	10.00	10.00	-
L/Sf.C. AREA (m2)	0.00	12.00	11.63	10.75	12.90	13.78	12.60	-
R/MEAN DEPTH (m)	0.000	1.188	1.125	1.130	1.373	1.340	0.610	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	13.50	-
R/SEC. AREA (m2)	0.00	11.88	11.25	11.30	13.73	13.40	8.24	-
S/AREA (m2)	0.00	23.88	22.88	22.05	26.63	27.18	20.84	-
TOTAL AREA (m2)	0.0	23.9	46.8	68.8	95.4	122.6	143.4	-
S/DISCHARGE(m3/s)	0.00	1.09	2.79	1.34	0.41	2.90	2.22	-
TOTAL DIS. (m3/s)	0.00	1.09	3.88	5.22	5.63	8.53	10.75	-

WATER LEVEL (f) : 4.16 WATER LEVEL (m) : 1.27
 TOTAL DISCHARGE : 10.75 MEAN VELOCITY(m/s) : 0.07

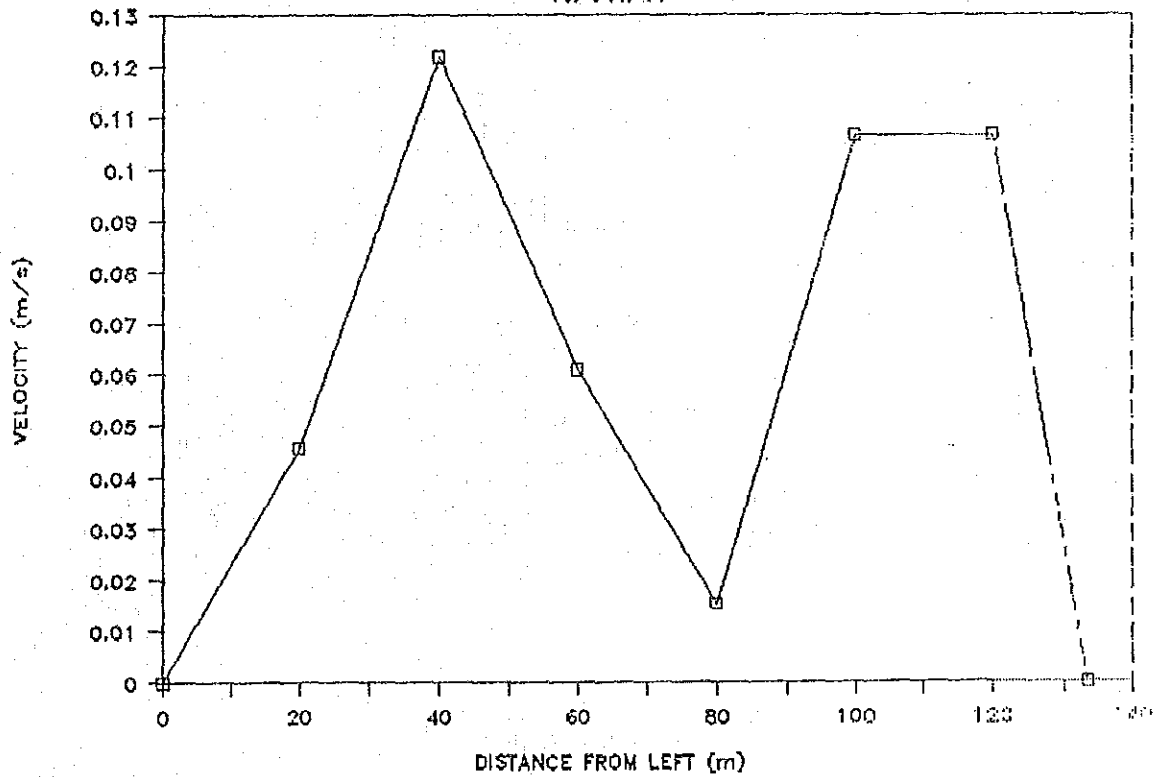
WATER DEPTH (4-450)

15/OCT/91



VELOCITY (4-450)

15/OCT/91

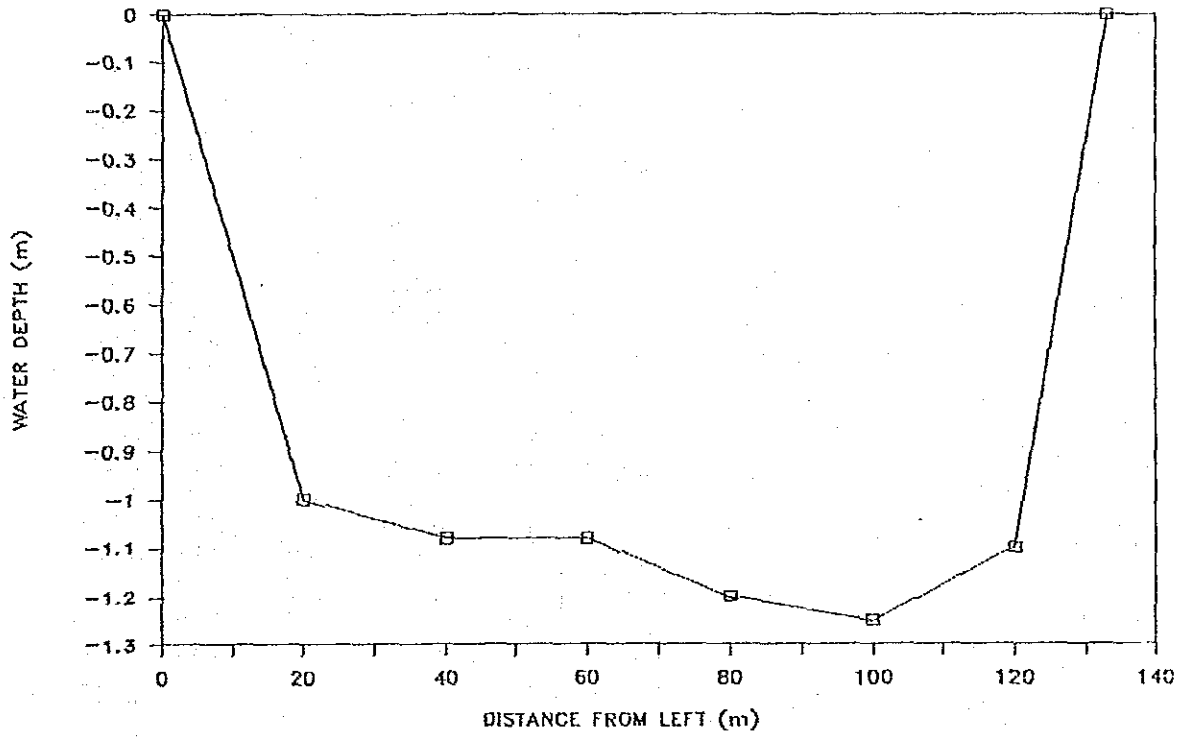


FLOW MEASUREMENT ST. : 4-450 LUBUNGU 16/NOV/91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R	
WATER DEPTH (m)	0.00	1.00	1.08	1.08	1.20	1.25	1.10	0.00	
SE/WIDTH (m)	0.00	20.00	20.00	20.00	20.00	20.00	20.00	13.00	
TOTAL SE/WIDTH(m)	0.00	20.00	40.00	60.00	80.00	100.00	120.00	133.00	
VELOCITY.2-1(f/s)	0.00	0.40	0.40	0.20	0.30	0.60	0.40	0.00	
VELOCITY.2-2(f/s)	0.00	0.40	0.40	0.20	0.30	0.60	0.40	0.00	
MEAN VEL.2 (f/s)	0.00	0.40	0.40	0.20	0.30	0.60	0.40	0.00	
VELOCITY.8-1(f/s)	0.00	0.20	0.30	0.20	0.20	0.10	0.30	0.00	
VELOCITY.8-2(f/s)	0.00	0.10	0.30	0.20	0.20	0.10	0.30	0.00	
MEAN VEL.8 (f/s)	0.00	0.15	0.30	0.20	0.20	0.10	0.30	0.00	
MEAN VEL (f/s)	0.000	0.275	0.350	0.200	0.250	0.350	0.350	0.000	
MEAN VEL (m/s)	0.000	0.084	0.107	0.061	0.076	0.107	0.107	0.000	
L/MEAN DEPTH (m)	0.000	0.500	1.060	1.080	1.170	1.238	1.138	-	
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	10.00	10.00	10.00	-	
L/SEC. AREA (m2)	0.00	10.00	10.60	10.80	11.70	12.38	11.38	-	
R/MEAN DEPTH (m)	0.000	1.020	1.080	1.110	1.213	1.213	0.550	-	
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	13.00	-	
R/SEC. AREA (m2)	0.00	10.20	10.80	11.10	12.13	12.13	7.15	-	
S/AREA (m2)	0.00	20.20	21.40	21.90	23.83	24.50	18.53	-	
TOTAL AREA (m2)	0.0	20.2	41.6	63.5	87.3	111.8	130.4	-	
S/DISCHARGE(m3/s)	0.00	1.69	2.28	1.34	1.82	2.61	1.98	-	
TOTAL DIS. (m3/s)	0.00	1.69	3.98	5.31	7.13	9.74	11.72	-	
=====									
WATER LEVEL (f) :	4.19	WATER LEVEL (m) :							1.28
TOTAL DISCHARGE :	11.72	MEAN VELOCITY(m/s) :							0.09
=====									

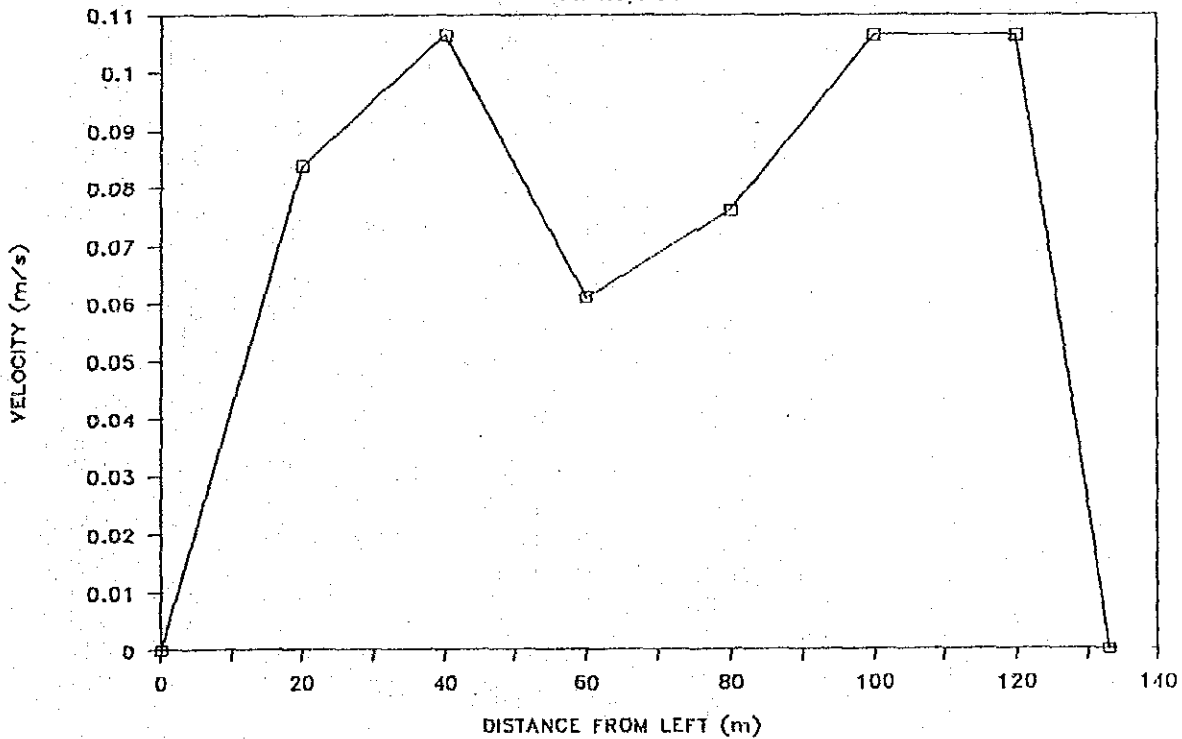
WATER DEPTH (4-450)

16/NOV/91



VELOCITY (4-450)

16/NOV/91



LIST OF FLOW MEASUREMENT

ST.: 4-560 CHIFUMPA PONTOON

NO.	DATE	-----[Feet - Second]-----				+++++[Meter - Second]++++			
		H (f)	Q (f3/s)	A (f2)	V (f/s)	H (m)	Q (m3/s)	A (m2)	V (m/s)
1	16-Oct-52	3.00	789	3900	0.21	0.91	22	362	0.06
2	21-Aug-59	1.45	974	3810	0.26	0.44	28	354	0.08
3	19-Sep-59	1.10	786	3880	0.20	0.34	22	360	0.06
4	29-Sep-59	1.10	814	3860	0.21	0.34	23	359	0.06
5	09-Oct-59	1.08	827	3830	0.22	0.33	23	356	0.07
6	16-Oct-59	1.05	931	3820	0.24	0.32	26	355	0.07
7	23-Oct-59	0.98	860	3800	0.23	0.30	24	353	0.07
8	30-Oct-59	0.90	695	3770	0.18	0.27	20	350	0.05
9	13-Nov-59	1.08	672	3880	0.17	0.33	19	360	0.05
10	25-Nov-59	1.10	695	3890	0.18	0.34	20	361	0.05
11	17-Dec-59	1.70	790	3970	0.20	0.52	22	369	0.06
12	08-Jan-60	2.60	2600	4280	0.61	0.79	74	398	0.19
13	15-Jan-60	3.80	2850	4570	0.62	1.16	81	425	0.19
14	29-Jan-60	2.10	1450	4140	0.35	0.64	41	385	0.11
15	05-Feb-60	2.70	1820	4290	0.42	0.82	52	399	0.13
16	12-Feb-60	4.20	2000	4670	0.43	1.28	57	434	0.13
17	19-Feb-60	5.50	7160	5030	1.42	1.68	203	467	0.43
18	26-Feb-60	8.25	7920	5790	1.37	2.51	224	538	0.42
19	18-Mar-60	8.05	8490	5720	1.48	2.45	240	531	0.45
20	30-Mar-60	8.85	8670	5930	1.46	2.70	246	551	0.45
21	08-Apr-60	5.50	6870	1800	1.43	1.68	195	167	0.44
22	14-Apr-60	4.00	2900	4630	0.63	1.22	82	430	0.19
23	06-May-60	2.90	1770	4360	0.41	0.88	50	405	0.12
24	13-May-60	2.80	1720	4300	0.40	0.85	49	399	0.12
25	20-May-60	2.50	1770	4240	0.42	0.76	50	394	0.13
26	27-May-60	2.40	1730	4210	0.42	0.73	49	391	0.13
27	16-Jun-60	2.10	1570	4150	0.38	0.64	44	386	0.12
28	24-Jun-60	2.10	1530	4150	0.37	0.64	43	386	0.11
29	08-Jul-60	2.00	1210	4130	0.29	0.61	34	384	0.09
30	15-Jul-60	1.90	1250	4100	0.31	0.58	35	381	0.09
31	22-Jul-60	1.90	1240	4090	0.30	0.58	35	380	0.09
32	06-Aug-60	1.80	1220	4070	0.30	0.55	35	378	0.09
33	12-Aug-60	1.70	1180	4040	0.29	0.52	33	375	0.09
34	19-Aug-60	1.60	1160	4010	0.29	0.49	33	373	0.09
35	26-Aug-60	1.60	1110	4010	0.28	0.49	31	373	0.09
36	09-Sep-60	1.50	1320	3960	0.33	0.46	37	368	0.10
37	16-Sep-60	1.40	1340	3930	0.34	0.43	38	365	0.10
38	23-Sep-60	1.40	1300	3910	0.33	0.43	37	363	0.10
39	27-Sep-60	1.30	756	3770	0.20	0.40	21	350	0.06
40	03-Nov-60	1.05	596	3690	0.16	0.32	17	343	0.05
41	30-Nov-60	1.70	349	3480	0.10	0.52	10	323	0.03
42	23-Dec-60	1.90	529	3730	0.14	0.58	15	347	0.04
43	03-Feb-61	4.65	3440	4690	0.73	1.42	97	436	0.22
44	17-Feb-61	6.55	6090	5270	1.16	2.00	172	490	0.35
45	08-Mar-61	12.00	13900	7070	1.97	3.66	394	657	0.60
46	11-Apr-61	10.40	12000	6530	1.83	3.17	340	607	0.56
47	24-Apr-61	6.70	9850	5360	1.46	2.04	279	498	0.45
48	10-May-61	4.55	4000	4720	0.85	1.39	113	439	0.26
49	29-May-61	3.60	2850	4250	0.67	1.10	81	395	0.20
50	17-Jul-61	2.65	1580	4200	0.38	0.81	45	390	0.12

LIST OF FLOW MEASUREMENT

ST.: 4-560 CHIFUMPA PONTOON

NO.	DATE	----[Feet - Second]----				++++[Meter - Second]++++			
		H (f)	Q (f3/s)	A (f2)	V (f/s)	H (m)	Q (m3/s)	A (m2)	V (m/s)
51	28-Jul-61	2.55	1630	4210	0.39	0.78	46	391	0.12
52	25-Aug-61	2.15	1090	4060	0.27	0.66	31	377	0.08
53	29-Sep-61	1.60	781	3960	0.20	0.49	22	368	0.06
54	10-Nov-61	1.55	476	3930	0.12	0.47	13	365	0.04
55	24-May-70	3.60	2765	4370	0.63	1.10	78	406	0.19
56	14-Jul-90	2.03	870	3789	0.23	0.62	25	352	0.07
57	11-Aug-90	2.00	625	3808	0.16	0.61	18	354	0.05
58	12-Sep-90	1.51	610	3720	0.16	0.46	17	346	0.05
59	10-Oct-90	1.48	667	3389	0.20	0.45	19	315	0.06
60	16-Dec-90	1.41	529	4034	0.13	0.43	15	375	0.04
61	07-Feb-91	7.71	5358	5631	0.95	2.35	152	523	0.29
62	10-Aug-91	1.80	64	388	0.16	0.55	2	36	0.05
63	20-Sep-91	1.41	393	3993	0.10	0.43	11	371	0.03
64	06-Oct-91	1.28	496	3778	0.13	0.39	14	351	0.04
65	16-Nov-91	1.41	405	4119	0.10	0.43	11	383	0.03

[Note] H:Water Level, Q:Discharge, A:Discharge Area, V:Velocity

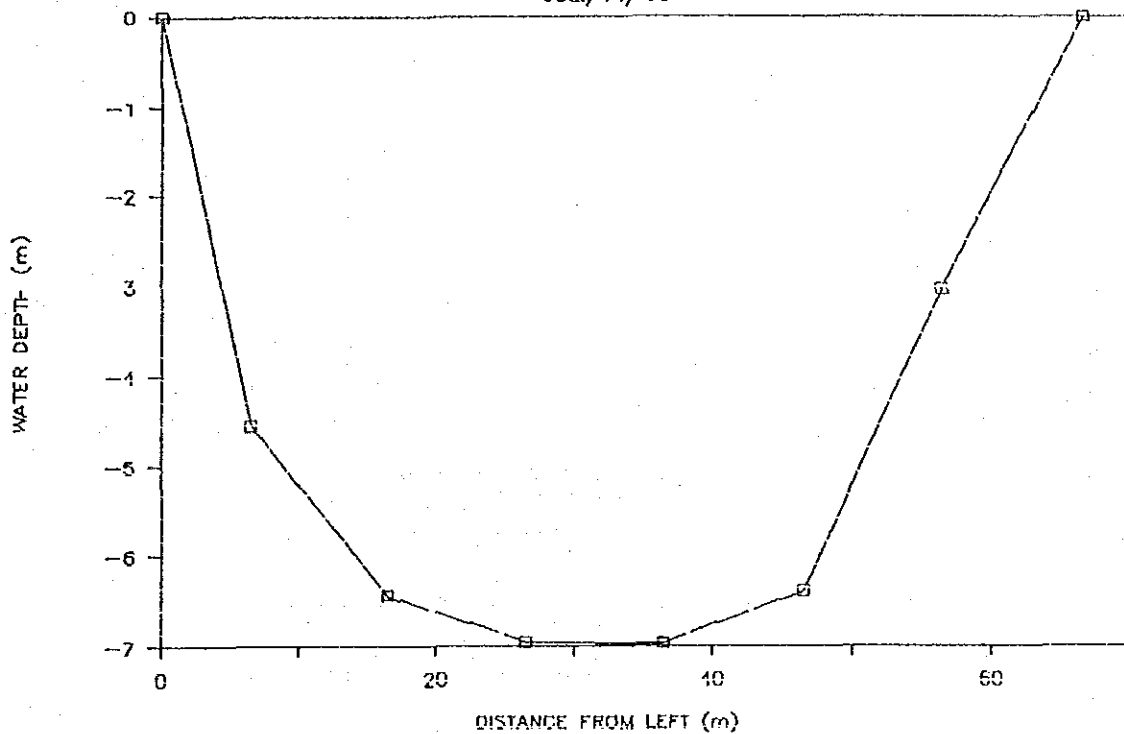
FLOW MEASUREMENT ST. : 4-560 CHIFUMPA PONTOON JUL./14/'90

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	4.55	5.43	6.95	6.96	6.38	3.02	0.00
SE/WIDTH (m)	0.00	6.50	10.00	10.00	10.00	10.00	10.00	10.00
TOTAL SE/WIDTH(m)	0.00	6.50	16.50	26.50	36.50	46.50	56.50	66.50
VELOCITY.2-1(f/s)	0.00	0.10	0.30	0.60	0.30	0.10	0.15	0.00
VELOCITY.2-2(f/s)	0.00	0.10	0.30	0.60	0.30	0.10	0.15	0.00
MEAN VEL.2 (f/s)	0.00	0.10	0.30	0.60	0.30	0.10	0.15	0.00
VELOCITY.8-1(f/s)	0.00	0.05	0.20	0.40	0.25	0.05	0.10	0.00
VELOCITY.8-2(f/s)	0.00	0.05	0.20	0.40	0.25	0.05	0.10	0.00
MEAN VEL.8 (f/s)	0.00	0.05	0.20	0.40	0.25	0.05	0.10	0.00
MEAN VEL (f/s)	0.000	0.075	0.250	0.500	0.275	0.075	0.125	0.000
MEAN VEL (m/s)	0.000	0.023	0.076	0.152	0.084	0.023	0.038	0.000
L/MEAN DEPTH (m)	0.000	2.275	5.960	6.820	6.958	6.525	3.860	-
L/MEAN WIDTH (m)	0.00	6.50	5.00	5.00	5.00	5.00	5.00	-
L/SEC. AREA (m2)	0.00	14.79	29.80	34.10	24.79	32.63	19.30	-
R/MEAN DEPTH (m)	0.000	5.020	6.560	6.953	6.815	5.540	1.510	-
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	5.00	10.00	-
R/SEC. AREA (m2)	0.00	25.10	32.80	34.76	34.08	27.70	15.10	-
S/AREA (m2)	0.00	39.89	52.60	68.86	68.86	60.33	34.40	-
TOTAL AREA (m2)	0.0	39.9	102.5	171.4	240.2	300.5	334.9	-
S/DISCHARGE(m3/s)	0.00	0.91	4.77	10.49	5.77	1.36	1.31	-
TOTAL DIS. (m3/s)	0.00	0.91	5.68	16.18	21.95	23.33	24.64	-

WATER LEVEL (f) : 2.03 WATER LEVEL (m) : 0.62
 TOTAL DISCHARGE : 24.64 MEAN VELOCITY(m/s) : 0.07

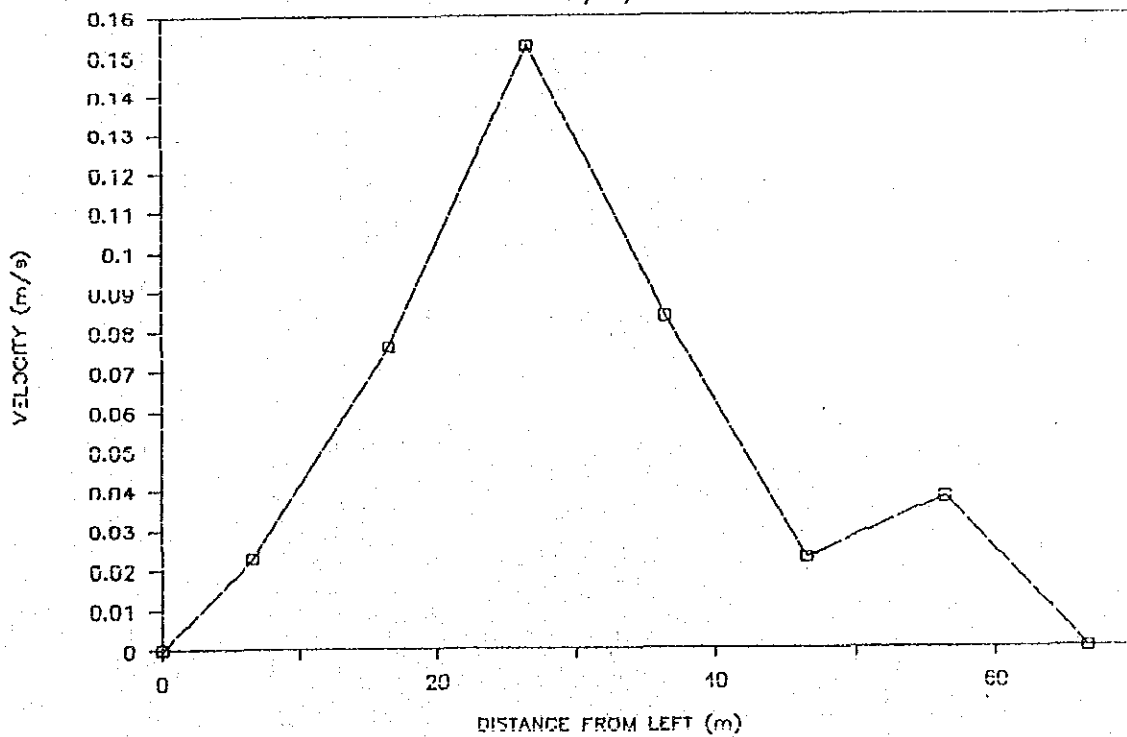
WATER DEPTH (4-560)

JUL./14/'90



VELOCITY (4-560)

JUL./14/'90



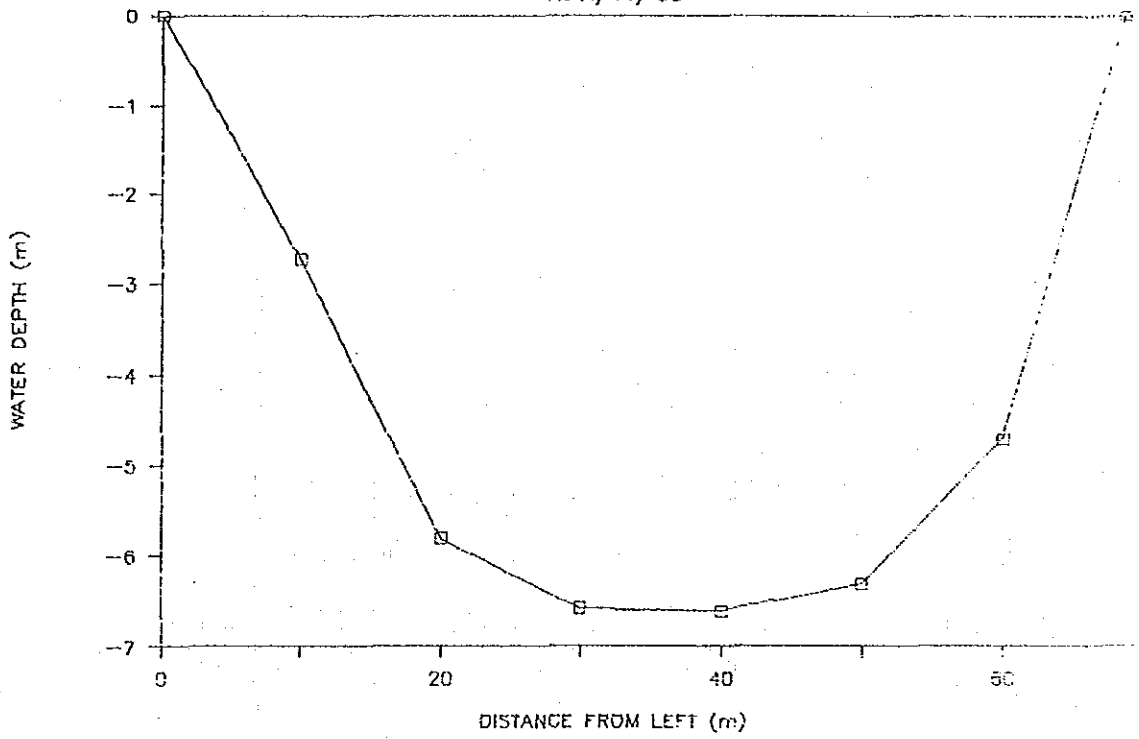
FLOW MEASUREMENT ST. : 4-560 CHIFUMPA PONTOON AUG./11/'90

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	2.72	5.80	6.57	6.60	6.30	4.70	0.00
SE/WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	8.80
TOTAL SE/WIDTH(m)	0.00	16.00	20.00	30.00	40.00	50.00	60.00	68.80
VELOCITY.2-1(f/s)	0.00	0.10	0.20	0.15	0.25	0.30	0.20	0.00
VELOCITY.2-2(f/s)	0.00	0.15	0.20	0.15	0.25	0.25	0.20	0.00
MEAN VEL.2 (f/s)	0.00	0.13	0.20	0.15	0.25	0.28	0.20	0.00
VELOCITY.8-1(f/s)	0.00	0.05	0.10	0.10	0.20	0.25	0.15	0.00
VELOCITY.8-2(f/s)	0.00	0.05	0.10	0.10	0.20	0.25	0.15	0.00
MEAN VEL.8 (f/s)	0.00	0.05	0.10	0.10	0.20	0.25	0.15	0.00
MEAN VEL (f/s)	0.000	0.088	0.150	0.125	0.225	0.263	0.175	0.000
MEAN VEL (m/s)	0.000	0.027	0.046	0.038	0.069	0.080	0.053	0.000
L/MEAN DEPTH (m)	0.000	1.360	5.030	6.378	6.593	6.375	5.100	-
L/MEAN WIDTH (m)	0.00	10.00	5.00	5.00	5.00	5.00	5.00	-
L/SEC. AREA (m2)	0.00	13.60	25.15	31.89	32.96	31.88	25.50	-
R/MEAN DEPTH (m)	0.000	3.490	5.993	6.578	6.525	5.900	2.350	-
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	5.00	8.80	-
R/SEC. AREA (m2)	0.00	17.45	29.96	32.89	32.63	29.50	20.68	-
S/AREA (m2)	0.00	31.05	55.11	64.78	65.59	61.38	46.18	-
TOTAL AREA (m2)	0.0	31.1	86.2	150.9	216.5	277.9	324.1	-
S/DISCHARGE(m3/s)	0.00	0.83	2.52	2.47	4.50	4.91	2.46	-
TOTAL DIS. (m3/s)	0.00	0.83	3.35	5.82	10.31	15.22	17.69	-

WATER LEVEL (f) : 2.00 WATER LEVEL (m) : 0.61
 TOTAL DISCHARGE : 17.69 MEAN VELOCITY(m/s) : 0.05

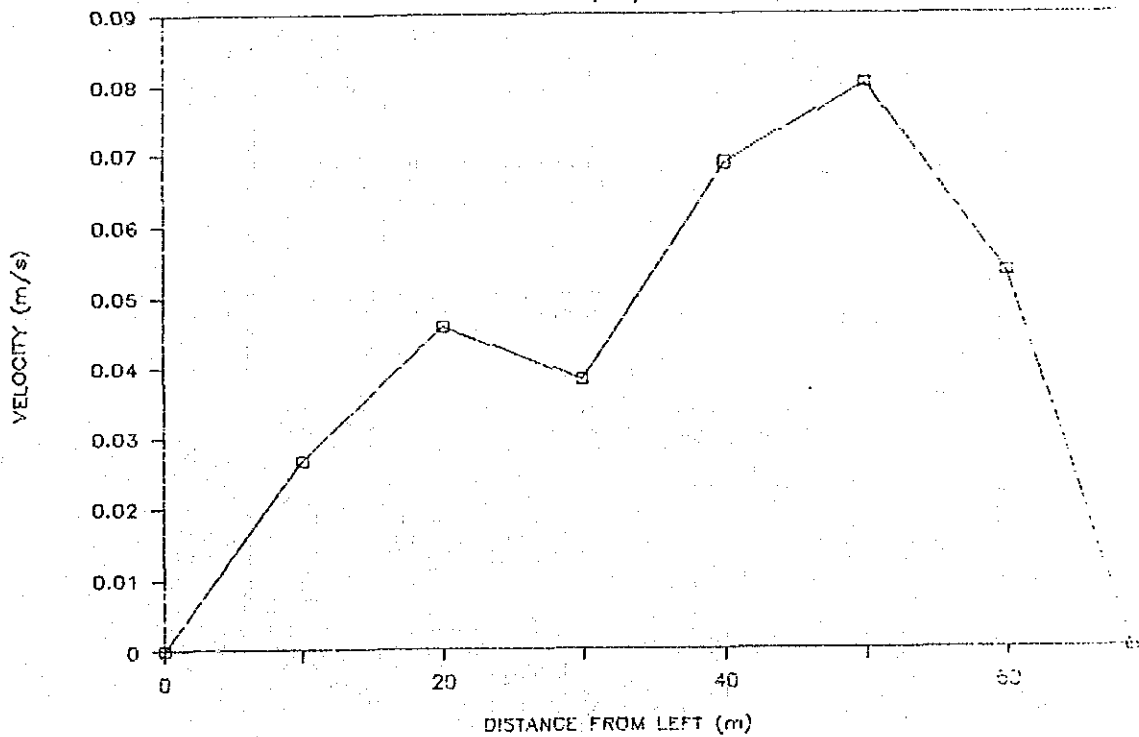
WATER DEPTH (4-560)

AUG./11/90



VELOCITY (4-560)

AUG./11/90



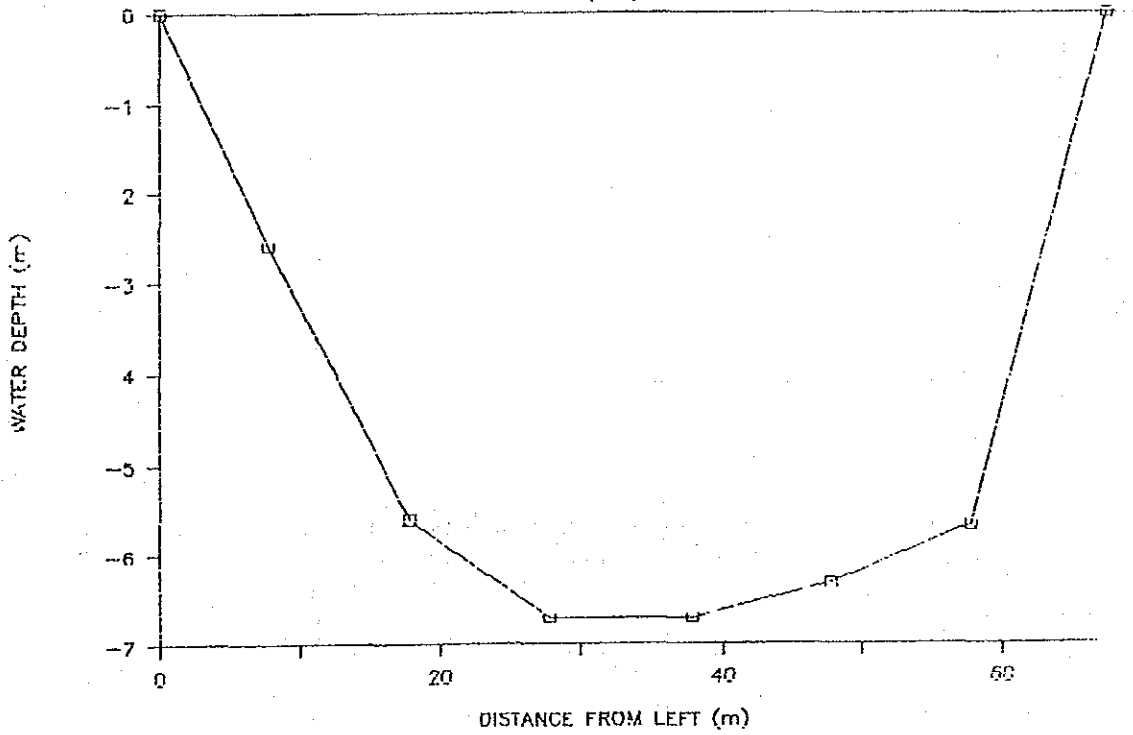
FLOW MEASUREMENT ST. : 4-560 CHIFUMPA PONTOON SEP./12/'90

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	2.60	5.60	6.70	6.70	6.32	5.68	0.00
SE/WIDTH (m)	0.00	7.80	10.00	10.00	10.00	10.00	10.00	10.00
TOTAL SE/WIDTH(m)	0.00	7.80	17.80	27.80	37.80	47.80	57.80	67.80
VELOCITY.2-1(f/s)	0.00	0.10	0.15	0.20	0.35	0.20	0.15	0.00
VELOCITY.2-2(f/s)	0.00	0.10	0.15	0.20	0.35	0.20	0.15	0.00
MEAN VEL.2 (f/s)	0.00	0.10	0.15	0.20	0.35	0.20	0.15	0.00
VELOCITY.8-1(f/s)	0.00	0.05	0.10	0.15	0.20	0.15	0.10	0.00
VELOCITY.8-2(f/s)	0.00	0.05	0.10	0.15	0.20	0.15	0.10	0.00
MEAN VEL.8 (f/s)	0.00	0.05	0.10	0.15	0.20	0.15	0.10	0.00
MEAN VEL (f/s)	0.000	0.075	0.125	0.175	0.275	0.175	0.125	0.000
MEAN VEL (m/s)	0.000	0.023	0.038	0.053	0.084	0.053	0.038	0.000
L/MEAN DEPTH (m)	0.000	1.300	4.850	6.425	6.700	6.415	5.840	-
L/MEAN WIDTH (m)	0.00	7.80	5.00	5.00	5.00	5.00	5.00	-
L/SEC. AREA (m2)	0.00	10.14	24.25	32.13	33.50	32.08	29.20	-
R/MEAN DEPTH (m)	0.000	3.350	5.875	6.700	6.805	6.160	2.840	-
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	5.00	10.00	-
R/SEC. AREA (m2)	0.00	16.75	29.38	33.50	33.03	30.80	28.40	-
S/AREA (m2)	0.00	26.89	53.63	65.63	66.53	62.88	57.60	-
TOTAL AREA (m2)	0.0	26.9	80.5	146.1	212.7	275.5	333.1	-
S/DISCHARGE(m3/s)	0.00	0.61	2.04	3.50	5.58	3.35	2.19	-
TOTAL DIS. (m3/s)	0.00	0.61	2.66	6.16	11.73	15.08	17.28	-

WATER LEVEL (f) : 1.50 WATER LEVEL (m) : 0.46
 TOTAL DISCHARGE : 17.28 MEAN VELOCITY(m/s) : 0.05

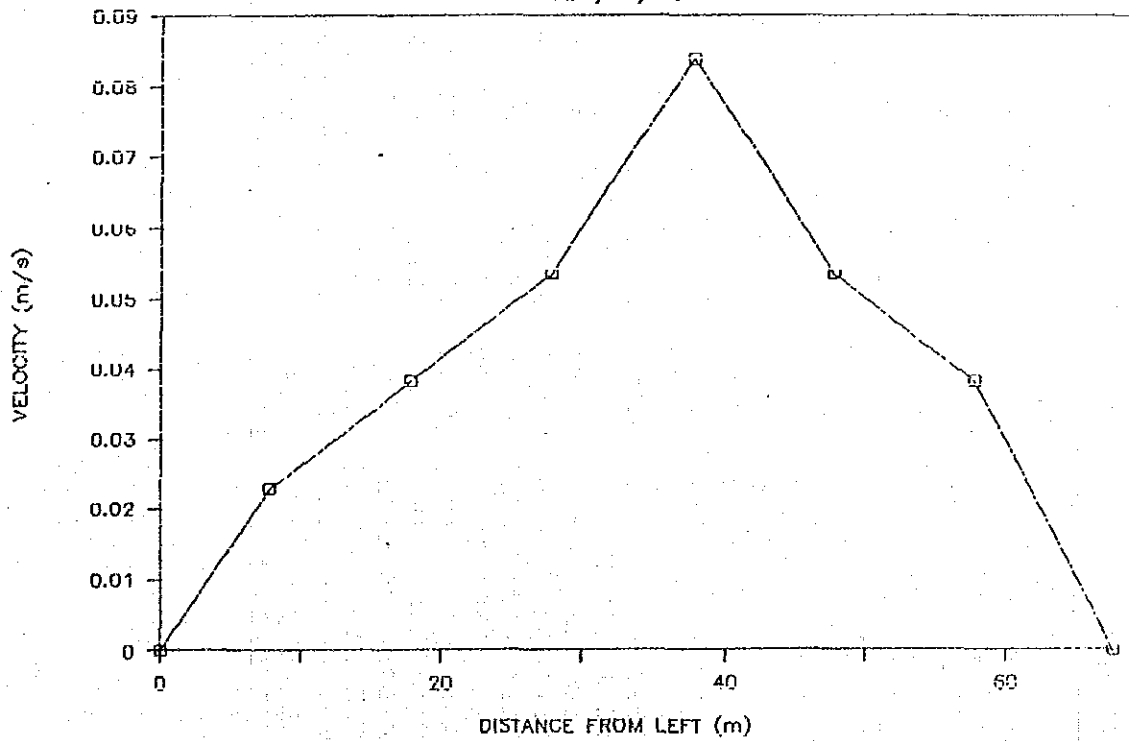
WATER DEPTH (4-560)

SEP./12/90



VELOCITY (4-560)

SEP./12/90



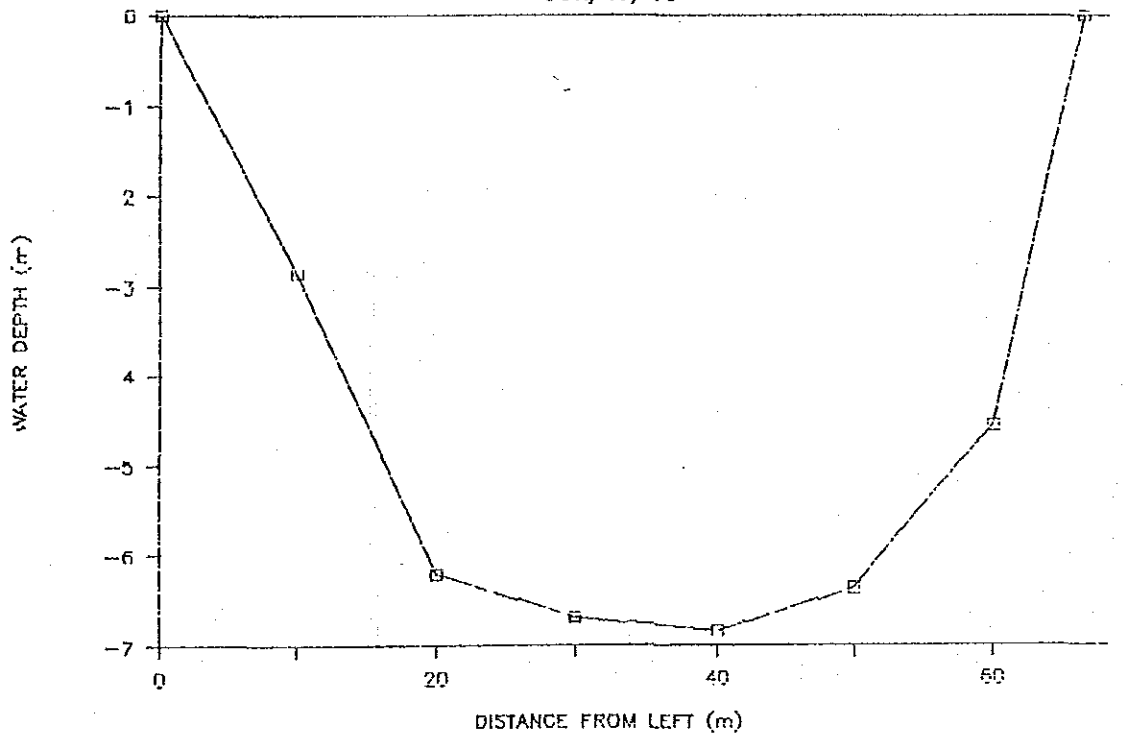
FLOW MEASUREMENT ST. : 4-560 CHIFUMPA PONTOON OCT./10/'90

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	2.85	6.20	6.68	6.84	6.35	4.55	0.00
SE/WIDTH (m)	10.00	10.00	10.00	10.00	10.00	10.00	6.50
TOTAL SE/WIDTH(m)	10.00	20.00	30.00	40.00	50.00	60.00	66.50
VELOCITY.2-1(f/s)	0.10	0.20	0.15	0.35	0.30	0.20	0.00
VELOCITY.2-2(f/s)	0.10	0.20	0.15	0.35	0.30	0.20	0.00
MEAN VEL.2 (f/s)	0.10	0.20	0.15	0.35	0.30	0.20	0.00
VELOCITY.8-1(f/s)	0.05	0.15	0.10	0.20	0.20	0.15	0.00
VELOCITY.8-2(f/s)	0.05	0.15	0.10	0.20	0.20	0.15	0.00
MEAN VEL.8 (f/s)	0.05	0.15	0.10	0.20	0.20	0.15	0.00
MEAN VEL (f/s)	0.075	0.175	0.125	0.275	0.250	0.175	0.000
MEAN VEL (m/s)	0.023	0.053	0.038	0.084	0.076	0.053	0.000
L/MEAN DEPTH (m)	1.425	5.363	6.560	6.800	6.473	5.000	-
L/MEAN WIDTH (m)	10.00	5.00	5.00	5.00	5.00	5.00	-
L/SEC. AREA (m2)	14.25	26.81	32.80	34.00	32.36	25.00	-
R/MEAN DEPTH (m)	3.688	6.320	6.720	6.718	5.900	2.275	-
R/MEAN WIDTH (m)	5.00	5.00	5.00	5.00	5.00	6.50	-
R/SEC. AREA (m2)	18.44	31.60	33.60	33.59	29.50	14.79	-
S/AREA (m2)	32.69	58.41	66.40	67.59	61.86	39.79	-
TOTAL AREA (m2)	32.7	91.1	157.5	225.1	287.0	326.7	-
S/DISCHARGE(m3/s)	0.75	3.12	2.53	5.67	4.71	2.12	-
TOTAL DIS. (m3/s)	0.75	3.86	6.39	12.06	16.77	18.89	-

WATER LEVEL (f) : 1.49 WATER LEVEL (m) : 0.45
 TOTAL DISCHARGE : 18.89 MEAN VELOCITY(m/s) : 0.06

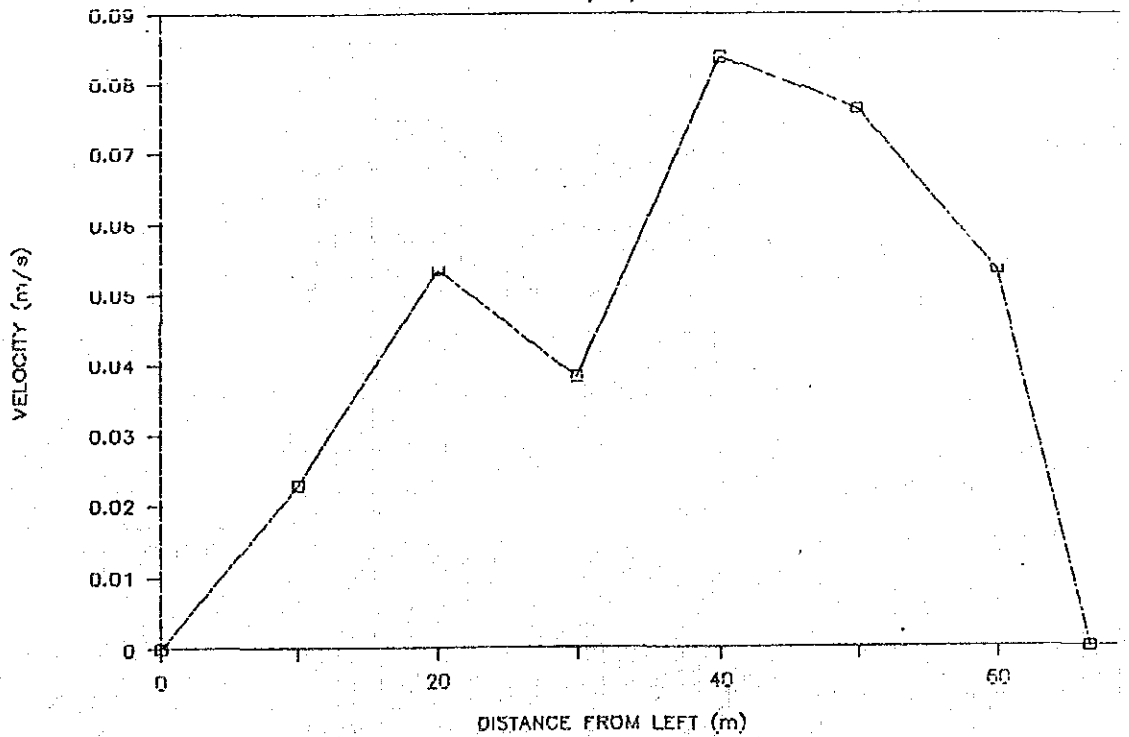
WATER DEPTH (4-560)

OCT./10/90



VELOCITY (4-560)

OCT./10/90

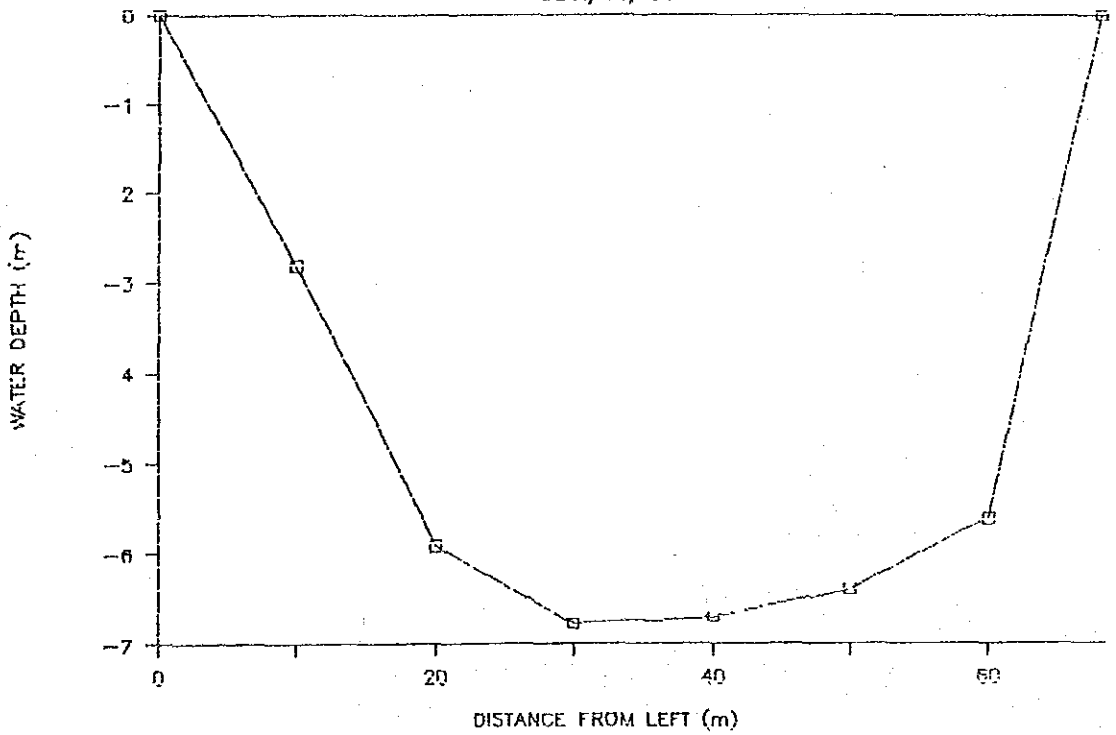


ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	2.80	5.90	6.77	6.70	6.39	5.60	0.00
SE/WIDTH (m)	10.00	10.00	10.00	10.00	10.00	10.00	8.40
TOTAL SE/WIDTH(m)	10.00	20.00	30.00	40.00	50.00	60.00	68.40
VELOCITY.2-1(f/s)	0.20	0.18	0.15	0.13	0.25	0.12	0.00
VELOCITY.2-2(f/s)	0.00	0.20	0.18	0.15	0.25	0.12	0.00
MEAN VEL.2 (f/s)	0.00	0.20	0.18	0.15	0.25	0.12	0.00
VELOCITY.8-1(f/s)	0.00	0.13	0.10	0.10	0.20	0.10	0.00
VELOCITY.8-2(f/s)	0.00	0.13	0.10	0.10	0.20	0.10	0.00
MEAN VEL.8 (f/s)	0.00	0.13	0.10	0.10	0.20	0.10	0.00
MEAN VEL (f/s)	0.000	0.165	0.140	0.125	0.225	0.111	0.000
MEAN VEL (m/s)	0.000	0.050	0.043	0.038	0.069	0.034	0.000
L/MEAN DEPTH (m)	0.000	1.400	5.125	6.553	6.718	6.468	5.798
L/MEAN WIDTH (m)	0.00	10.00	5.00	5.00	5.00	5.00	5.00
L/SEC. AREA (m2)	0.00	14.00	25.63	32.76	32.34	28.99	-
R/MEAN DEPTH (m)	0.000	3.575	6.118	6.753	6.193	2.800	-
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	8.40	-
R/SEC. AREA (m2)	0.00	17.88	30.59	33.76	33.11	30.96	23.52
S/AREA (m2)	0.00	31.88	56.21	66.53	66.70	63.30	52.51
TOTAL AREA (m2)	0.0	31.9	88.1	154.6	221.3	284.6	337.1
S/DISCHARGE(ms/s)	0.00	1.60	2.40	2.53	2.34	4.34	1.78
TOTAL DIS. (m3/s)	0.00	1.60	4.00	5.54	8.87	13.22	14.99

WATER LEVEL (f) : 1.41 WATER LEVEL (m) : 0.43
 TOTAL DISCHARGE : 14.99 MEAN VELOCITY(m/s) : 0.04

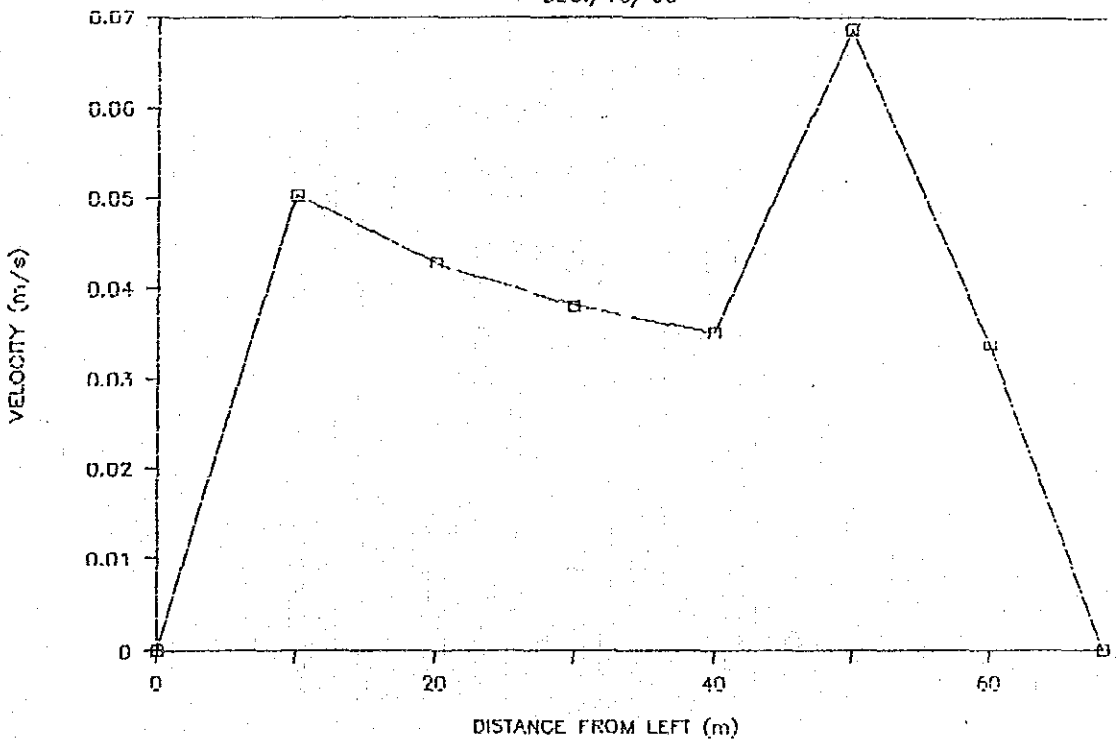
WATER DEPTH (4-560)

DEC./16/90



VELOCITY (4-560)

DEC./16/90



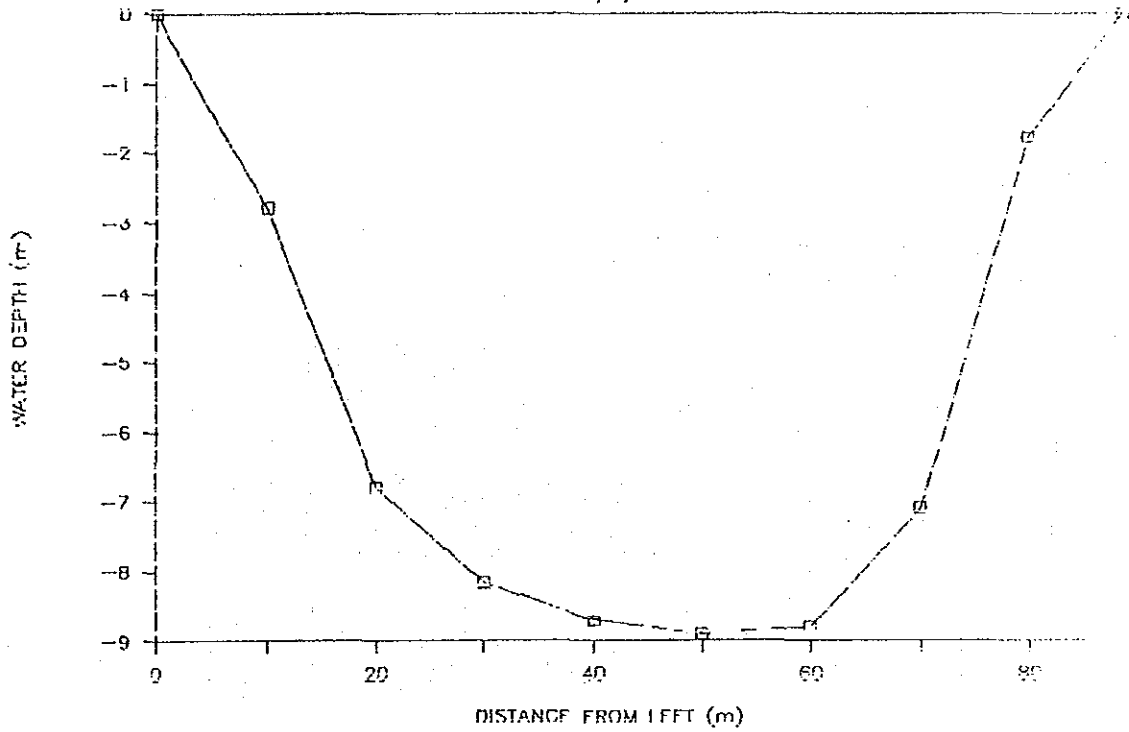
FLCM MEASUREMENT ST. : 4-560 CHUMBEA FORTION FEB. 7/1991

ITEMS	ND-1	ND-2	ND-3	ND-4	ND-5	ND-6	ND-7	ND-8	ND-R
WATER DEPTH (m)	2.80	6.80	8.15	8.70	8.90	8.80	7.10	1.80	0.00
S/WIDTH (m)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	8.40
TOTAL S/WIDTH(m)	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	88.40
VELOCITY.2-1(f/s)	0.00	0.50	1.90	1.90	2.10	1.50	0.40	0.05	0.00
VELOCITY.2-2(f/s)	0.00	0.15	1.90	1.90	2.10	1.50	0.40	0.05	0.00
MEAN VEL.2 (f/s)	0.00	0.15	1.90	1.90	2.10	1.50	0.40	0.05	0.00
VELOCITY.8-1(f/s)	0.00	0.10	0.80	0.20	1.80	0.80	0.30	0.00	0.00
VELOCITY.8-2(f/s)	0.00	0.10	0.80	0.20	1.80	0.80	0.30	0.00	0.00
MEAN VEL.8 (f/s)	0.00	0.10	0.80	0.20	1.80	0.80	0.30	0.00	0.00
MEAN VEL (f/s)	0.00	0.125	1.050	1.050	1.950	1.150	0.350	0.025	0.000
MEAN VEL (m/s)	0.000	0.088	0.107	0.320	0.594	0.351	0.107	0.008	0.000
L/MEAN DEPTH (m)	0.000	1.400	5.800	7.813	8.553	8.825	7.525	3.125	-
L/MEAN WIDTH (m)	0.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00	-
L/SEC. AREA (m2)	0.00	14.00	29.00	42.81	44.25	44.13	37.63	15.63	-
R/MEAN DEPTH (m)	0.000	3.800	7.138	8.288	8.750	8.375	5.775	0.900	-
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	-
R/SEC. AREA (m2)	0.00	19.00	35.69	41.44	43.75	41.88	28.88	7.56	-
S/AREA (m2)	0.00	33.00	64.69	80.50	86.56	86.00	66.50	23.19	-
TOTAL AREA (m2)	0.0	33.0	97.7	178.2	264.8	353.4	506.9	529.1	-
S/DISORDER(m3/s)	0.00	1.26	6.90	25.76	27.70	52.63	30.14	7.09	0.18
TOTAL DIS. (m3/s)	0.00	1.26	8.16	33.92	114.30	144.44	151.54	151.72	-

WATER LEVEL (f) : 7.70 WATER LEVEL (m) : 2.35
 TOTAL DISORDER : 151.72 MEAN VELOCITY(m/s) : 0.29

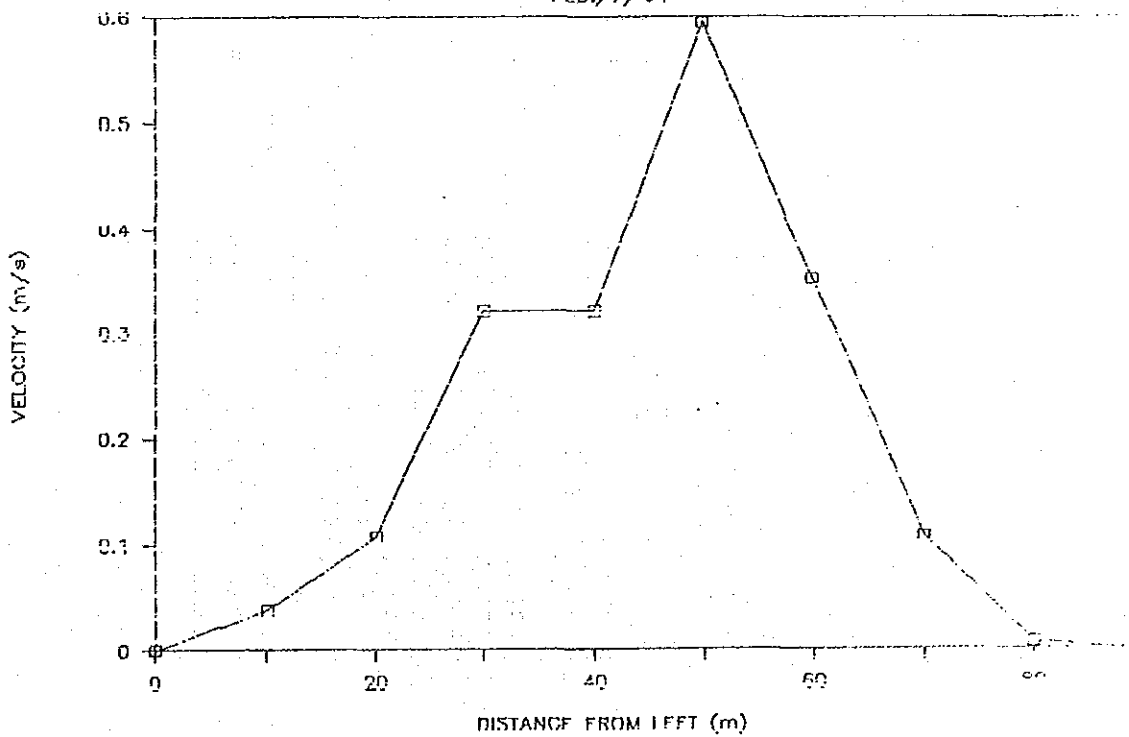
WATER DEPTH (4-560)

FEB././91



VELOCITY (4-560)

FEB././91



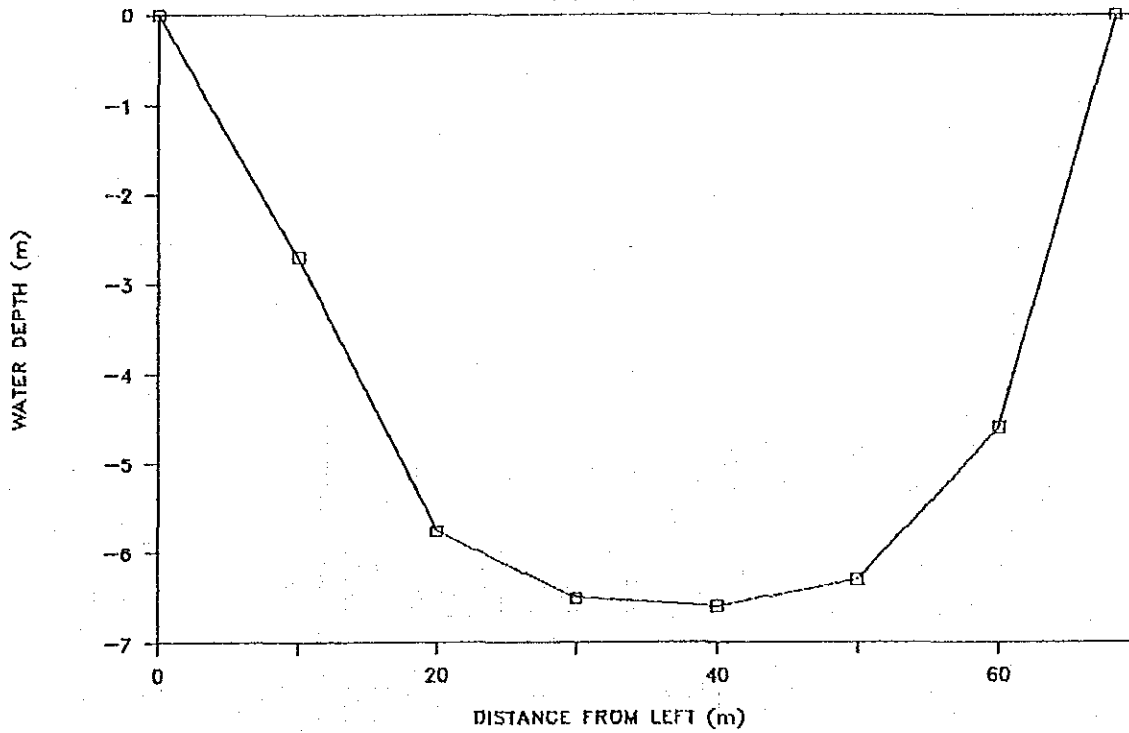
FLOW MEASUREMENT ST. : 4-560 CHIFUMPA PONTOON 10/AUG/91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	2.70	5.75	6.50	6.59	6.30	4.60	0.00
SE/WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	8.50
TOTAL SE/WIDTH(m)	0.00	10.00	20.00	30.00	40.00	50.00	60.00	68.50
VELOCITY.2-1(f/s)	0.00	0.10	0.20	0.15	0.23	0.25	0.18	0.00
VELOCITY.2-2(f/s)	0.00	0.10	0.20	0.15	0.23	0.25	0.18	0.00
MEAN VEL.2 (f/s)	0.00	0.10	0.20	0.15	0.23	0.25	0.18	0.00
VELOCITY.8-1(f/s)	0.00	0.05	0.08	0.10	0.20	0.20	0.11	0.00
VELOCITY.8-2(f/s)	0.00	0.05	0.08	0.10	0.20	0.20	0.11	0.00
MEAN VEL.8 (f/s)	0.00	0.05	0.08	0.10	0.20	0.20	0.11	0.00
MEAN VEL (f/s)	0.000	0.075	0.140	0.125	0.215	0.225	0.145	0.000
MEAN VEL (m/s)	0.000	0.023	0.043	0.038	0.066	0.069	0.044	0.000
L/MEAN DEPTH (m)	0.000	1.350	4.988	6.313	6.568	6.373	5.025	-
L/MEAN WIDTH (m)	0.00	10.00	5.00	5.00	5.00	5.00	5.00	-
L/SEC. AREA (m2)	0.00	13.50	24.94	31.56	32.84	31.86	25.13	-
R/MEAN DEPTH (m)	0.000	3.463	5.938	6.523	6.518	5.875	2.300	-
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	5.00	8.50	-
R/SEC. AREA (m2)	0.00	17.31	29.69	32.61	32.59	29.38	19.55	-
S/AREA (m2)	0.00	30.81	54.63	64.18	65.43	61.24	44.68	-
TOTAL AREA (m2)	0.0	30.8	85.4	149.6	215.0	276.3	321.0	-
S/DISCHARGE(m3/s)	0.00	0.70	2.33	2.45	4.29	4.20	1.97	-
TOTAL DIS. (m3/s)	0.00	0.70	3.04	5.48	9.77	13.97	15.94	-

WATER LEVEL (f) : 1.80 WATER LEVEL (m) : 0.55
 TOTAL DISCHARGE : 15.94 MEAN VELOCITY(m/s) : 0.05

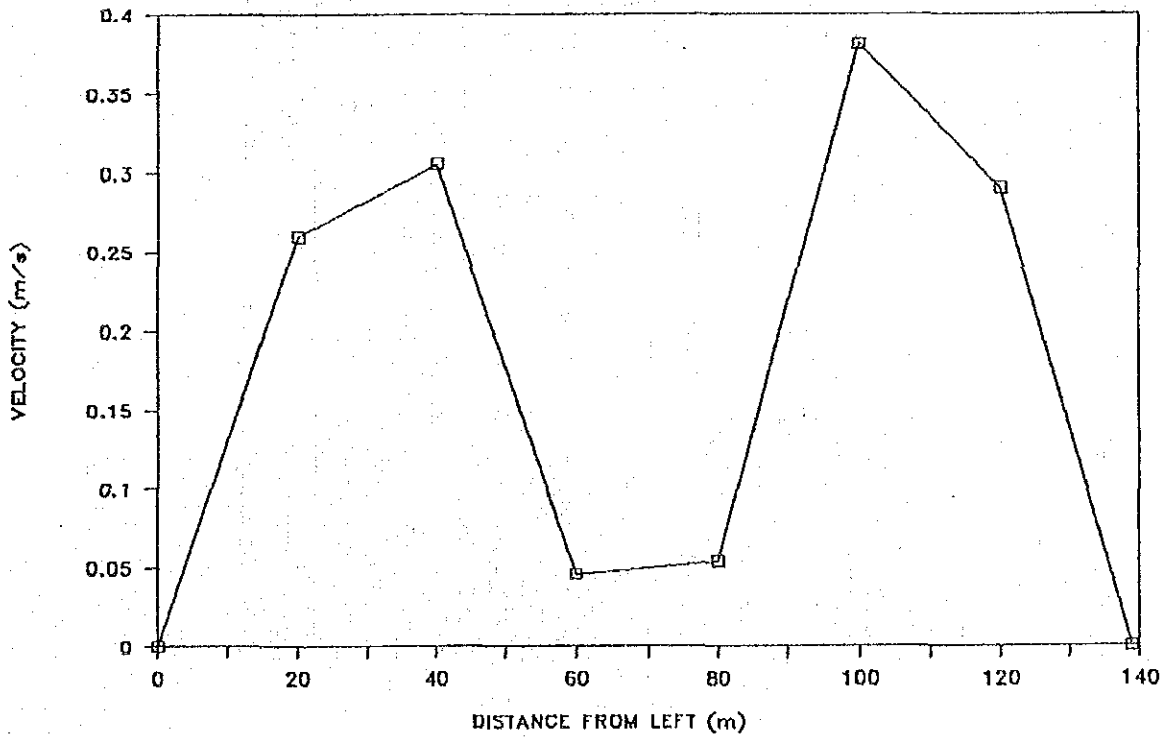
WATER DEPTH (4-560)

10/AUG/91



VELOCITY (4-450)

10/AUG/91



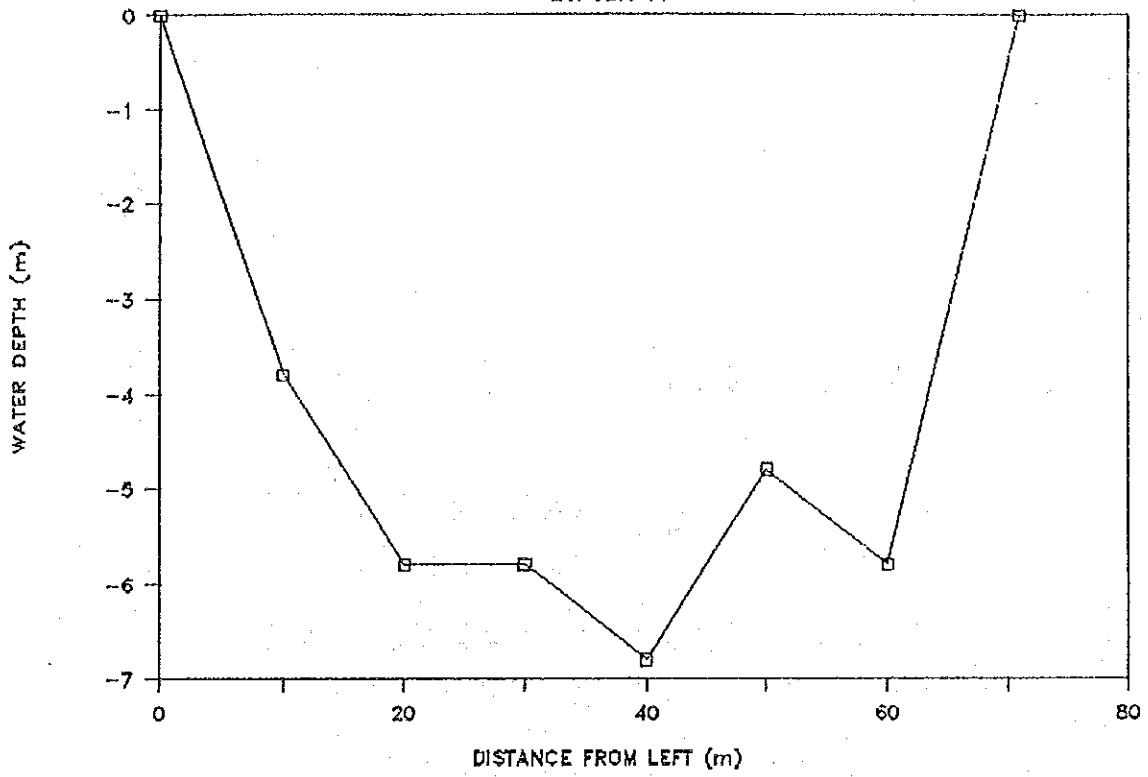
FLOW MEASUREMENT ST. : 4-560 CHIFUMPA PONTOON 20/SEP./91

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	3.80	5.80	5.80	6.80	4.80	5.80	0.00
SE/WIDTH (m)	10.00	10.00	10.00	10.00	10.00	10.00	10.90
TOTAL SE/WIDTH(m)	10.00	20.00	30.00	40.00	50.00	60.00	70.90
VELOCITY.2-1(f/s)	0.10	0.20	0.10	0.05	0.30	0.10	0.00
VELOCITY.2-2(f/s)	0.00	0.10	0.20	0.05	0.30	0.10	0.00
MEAN VEL.2 (f/s)	0.10	0.20	0.10	0.05	0.30	0.10	0.00
VELOCITY.8-1(f/s)	0.00	0.05	0.05	0.10	0.20	0.05	0.00
VELOCITY.8-2(f/s)	0.00	0.05	0.10	0.05	0.20	0.05	0.00
MEAN VEL.8 (f/s)	0.00	0.05	0.10	0.05	0.20	0.05	0.00
MEAN VEL (f/s)	0.000	0.075	0.125	0.100	0.250	0.075	0.000
MEAN VEL (m/s)	0.000	0.023	0.038	0.030	0.076	0.023	0.000
L/MEAN DEPTH (m)	0.000	1.900	5.300	5.800	5.300	5.550	-
L/MEAN WIDTH (m)	0.00	10.00	5.00	5.00	5.00	5.00	-
L/SEC. AREA (m2)	0.00	19.00	26.50	32.75	26.50	27.75	-
R/MEAN DEPTH (m)	0.000	4.300	5.800	6.050	5.050	2.900	-
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	10.90	-
R/SEC. AREA (m2)	0.00	21.50	29.00	31.50	25.25	31.61	-
S/AREA (m2)	0.00	40.50	55.50	64.25	51.75	59.36	-
TOTAL AREA (m2)	0.0	40.5	96.0	155.3	271.3	330.6	-
S/DISCHARGE(m3/s)	0.00	0.93	2.11	1.81	3.94	1.36	-
TOTAL DIS. (m3/s)	0.00	0.93	3.04	4.85	9.77	11.13	-

WATER LEVEL (f) : 1.41 WATER LEVEL (m) : 0.43
 TOTAL DISCHARGE : 11.13 MEAN VELOCITY(m/s) : 0.03

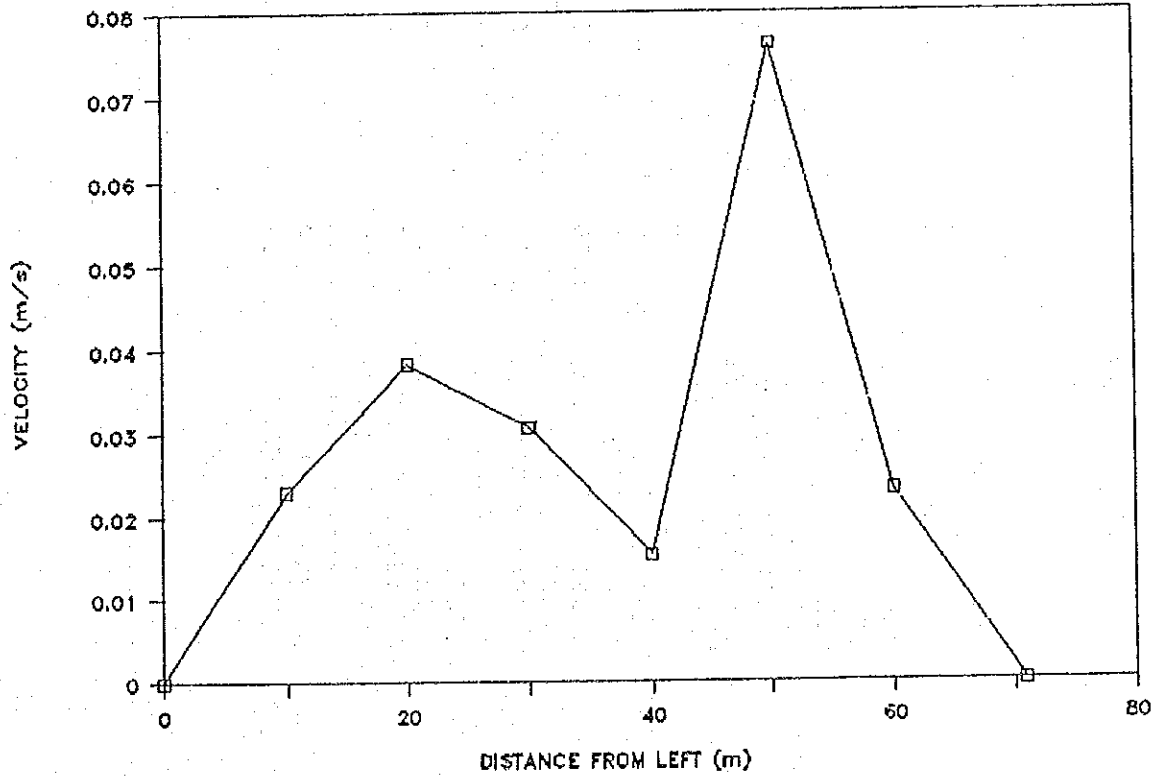
WATER DEPTH (4-560)

20/SEP/91



VELOCITY (4-560)

20/SEP/91



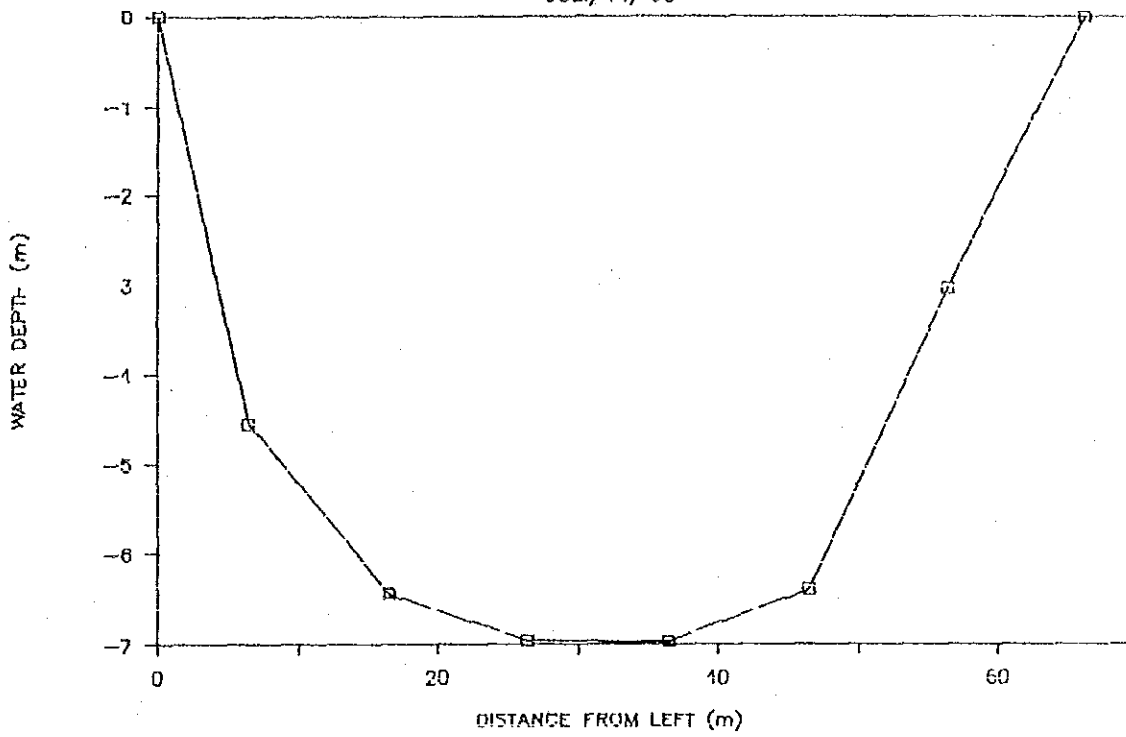
FLOW MEASUREMENT ST. : 4-560 CHIFUMPA PONTOON 06/OCT/91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	2.80	5.80	6.70	6.70	6.40	5.50	0.00
SE/WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	8.50
TOTAL SE/WIDTH(m)	0.00	10.00	20.00	30.00	40.00	50.00	60.00	68.50
VELOCITY.2-1(f/s)	0.00	0.15	0.20	0.16	0.11	0.25	0.10	0.00
VELOCITY.2-2(f/s)	0.00	0.15	0.20	0.18	0.10	0.25	0.10	0.00
MEAN VEL.2 (f/s)	0.00	0.15	0.20	0.17	0.11	0.25	0.10	0.00
VELOCITY.8-1(f/s)	0.00	0.10	0.10	0.10	0.08	0.20	0.08	0.00
VELOCITY.8-2(f/s)	0.00	0.10	0.10	0.10	0.07	0.20	0.08	0.00
MEAN VEL.8 (f/s)	0.00	0.10	0.10	0.10	0.08	0.20	0.08	0.00
MEAN VEL (f/s)	0.000	0.125	0.150	0.135	0.090	0.225	0.090	0.000
MEAN VEL (m/s)	0.000	0.038	0.046	0.041	0.027	0.069	0.027	0.000
L/MEAN DEPTH (m)	0.000	1.400	5.050	6.475	6.700	6.475	5.725	-
L/MEAN WIDTH (m)	0.00	10.00	5.00	5.00	5.00	5.00	5.00	-
L/SEC. AREA (m2)	0.00	14.00	25.25	32.38	33.50	32.38	28.63	-
R/MEAN DEPTH (m)	0.000	3.550	6.025	6.700	6.625	6.175	2.750	-
R/MEAN WIDTH (m)	0.00	5.00	5.00	5.00	5.00	5.00	8.50	-
R/SEC. AREA (m2)	0.00	17.75	30.13	33.50	33.13	30.88	23.38	-
S/AREA (m2)	0.00	31.75	55.38	65.88	66.63	63.25	52.00	-
TOTAL AREA (m2)	0.0	31.8	87.1	153.0	219.6	282.9	334.9	-
S/DISCHARGE(m3/s)	0.00	1.21	2.53	2.71	1.83	4.34	1.43	-
TOTAL DIS. (m3/s)	0.00	1.21	3.74	6.45	8.28	12.62	14.04	-

WATER LEVEL (f) : 1.28 WATER LEVEL (m) : 0.39
 TOTAL DISCHARGE : 14.04 MEAN VELOCITY(m/s) : 0.04

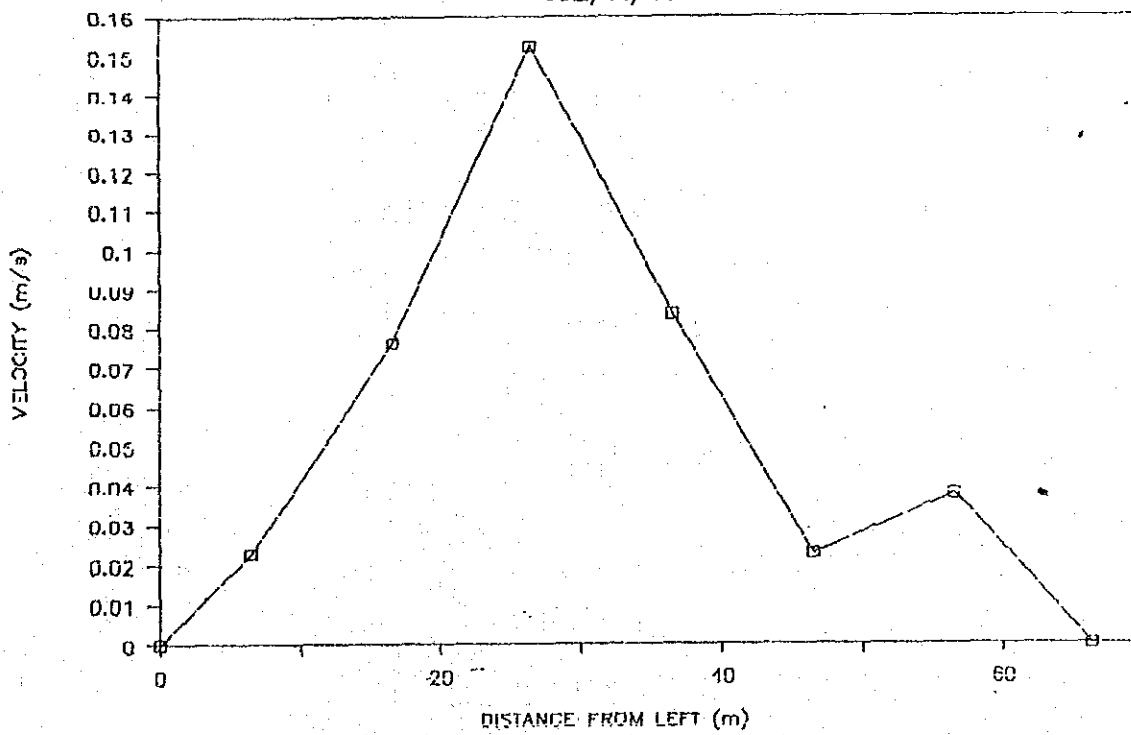
WATER DEPTH (4-560)

JUL./14/'90



VELOCITY (4-560)

JUL./14/'90



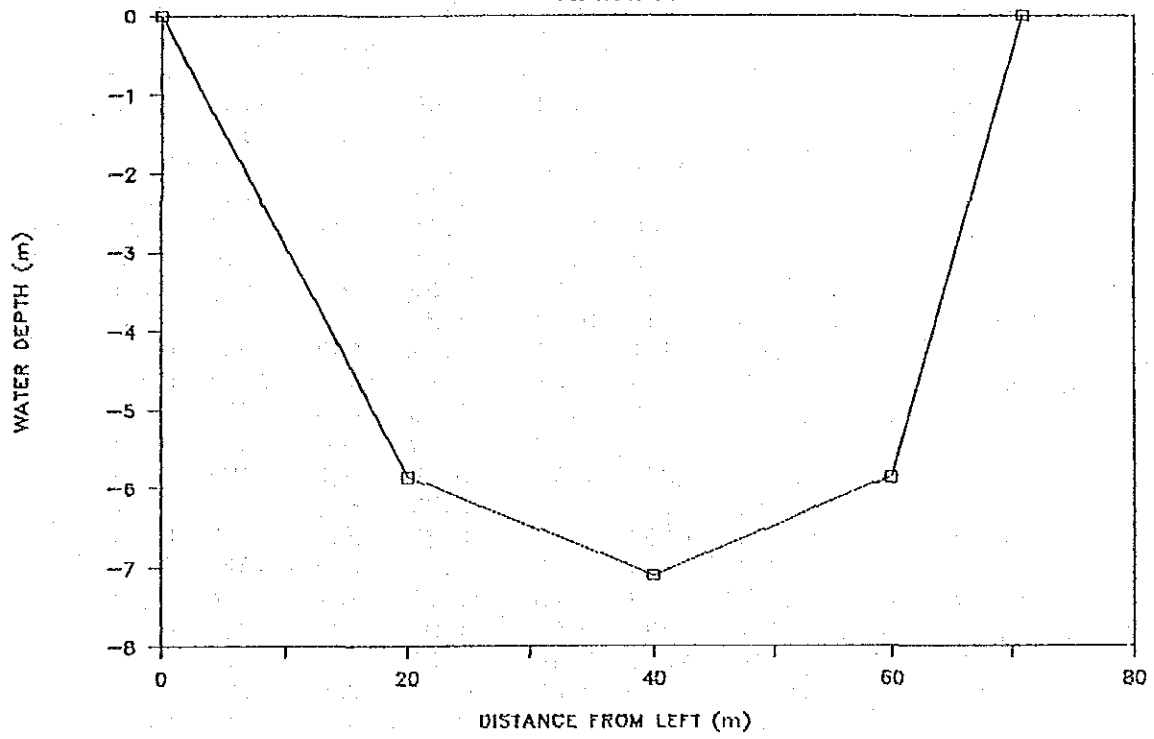
FLOW MEASUREMENT ST. : 4-560 CHIFUMPA PONTOON 16/NOV/91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-R
WATER DEPTH (m)	0.00	5.85	7.10	5.85	0.00
SE/WIDTH (m)	0.00	20.00	20.00	20.00	10.90
TOTAL SE/WIDTH(m)	0.00	20.00	40.00	60.00	70.90
VELOCITY.2-1(f/s)	0.00	0.10	0.20	0.20	0.00
VELOCITY.2-2(f/s)	0.00	0.10	0.20	0.20	0.00
MEAN VEL.2 (f/s)	0.00	0.10	0.20	0.20	0.00
VELOCITY.8-1(f/s)	0.00	0.05	0.05	0.05	0.00
VELOCITY.8-2(f/s)	0.00	0.05	0.05	0.05	0.00
MEAN VEL.8 (f/s)	0.00	0.05	0.05	0.05	0.00
MEAN VEL (f/s)	0.000	0.075	0.125	0.125	0.000
MEAN VEL (m/s)	0.000	0.023	0.038	0.038	0.000
L/MEAN DEPTH (m)	0.000	2.925	6.788	6.163	-
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	-
I/SEC. AREA (m2)	0.00	58.50	67.88	61.63	-
R/MEAN DEPTH (m)	0.000	6.163	6.788	2.925	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.90	-
R/SEC. AREA (m2)	0.00	61.63	67.88	31.88	-
S/AREA (m2)	0.00	120.13	135.75	93.51	-
TOTAL AREA (m2)	0.0	120.1	255.9	349.4	-
S/DISCHARGE(m3/s)	0.00	2.75	5.17	3.56	-
TOTAL DIS. (m3/s)	0.00	2.75	7.92	11.48	-

WATER LEVEL (f) : 1.42 WATER LEVEL (m) : 0.43
 TOTAL DISCHARGE : 11.48 MEAN VELOCITY(m/s) : 0.03

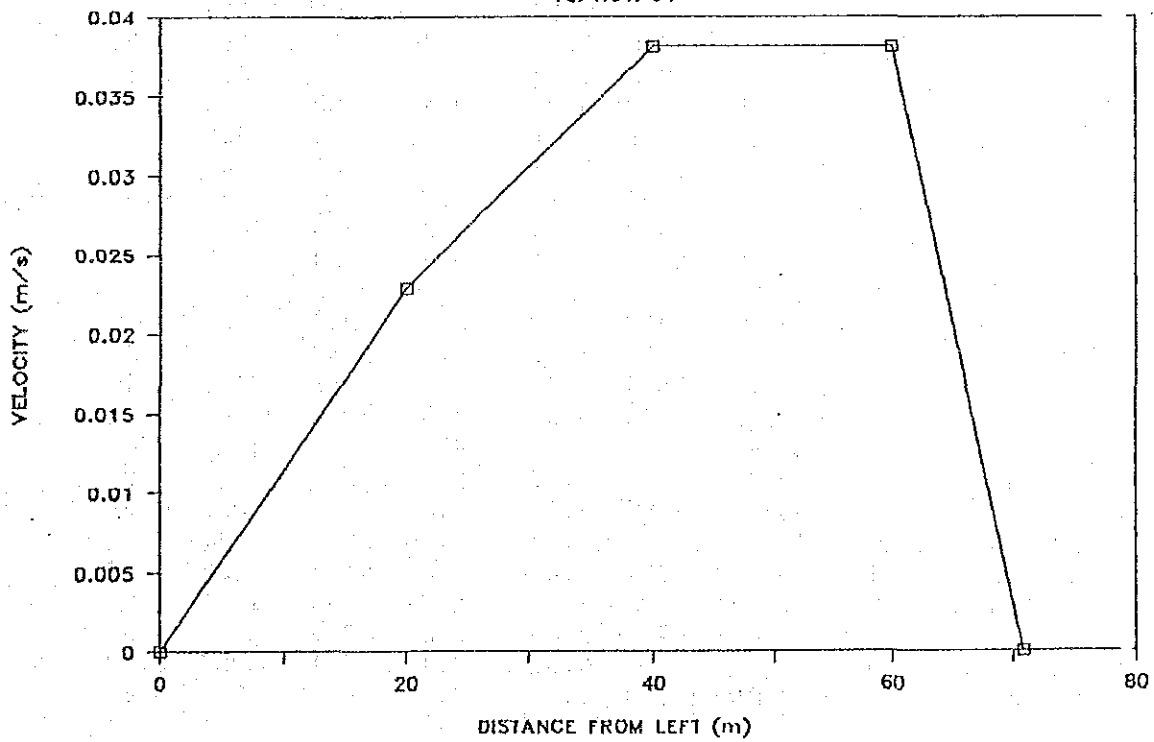
WATER DEPTH (4-560)

16/NOV/91



VELOCITY (4-560)

16/NOV/91



LIST OF FLOW MEASUREMENT

ST.: 4-669 KAFUE HOOK BRIDGE

NO.	DATE	-----[Feet - Second]-----				+++++[Meter - Second]++++			
		H (f)	Q (f3/s)	A (f2)	V (f/s)	H (m)	Q (m3/s)	A (m2)	V (m/s)
1	13-Mar-73	8.08	9848	10610	0.93	2.46	279	986	0.28
2	21-Jun-73	5.78	2153	8723	0.25	1.76	61	810	0.08
3	18-Jul-73	5.56	1582	8679	0.18	1.69	45	806	0.05
4	18-Oct-73	5.09	1363	8523	0.16	1.55	39	792	0.05
5	14-Nov-73	5.39	1188	8746	0.14	1.64	34	813	0.04
6	28-Nov-73	5.50	2326	8699	0.27	1.68	66	808	0.08
7	07-Dec-73	5.55	1579	8740	0.18	1.69	45	812	0.05
8	28-Dec-73	7.44	6245	10130	0.62	2.27	177	941	0.19
9	10-Jan-74	8.00	8201	10091	0.81	2.44	232	937	0.25
10	07-Feb-74	13.00	36395	14358	2.53	3.96	1031	1334	0.77
11	14-Mar-74	12.08	28723	13151	2.18	3.68	813	1222	0.66
12	26-Mar-74	11.12	23997	12430	1.93	3.39	680	1155	0.59
13	17-Apr-74	10.46	21327	11879	1.79	3.19	604	1104	0.55
14	08-May-74	8.95	12851	10700	1.20	2.73	364	994	0.37
15	04-Jun-74	7.66	7750	10192	0.18	2.33	219	947	0.05
16	13-Jun-74	7.22	5989	9913	0.60	2.20	170	921	0.18
17	18-Jul-74	6.54	3763	9948	0.40	1.99	107	924	0.12
18	13-Aug-74	6.24	2881	9331	0.31	1.90	82	867	0.09
19	03-Sep-74	5.95	2346	9034	0.26	1.81	66	830	0.08
20	02-Apr-75	12.20	32712	13597	2.41	3.72	926	1263	0.73
21	04-May-75	10.45	20534	11286	1.82	3.19	581	1049	0.55
22	23-Jun-75	7.17	5985	9805	0.61	2.19	169	911	0.19
23	17-Jul-75	6.69	4685	9638	0.49	2.04	133	895	0.15
24	20-Dec-75	6.43	3479	8628	0.40	1.96	99	802	0.12
25	01-Aug-76	7.40	7385	9936	0.75	2.26	209	923	0.23
26	20-Aug-76	9.44	16281	11377	1.44	2.88	461	1057	0.44
27	17-Feb-76	11.00	24072	12478	1.94	3.35	682	1159	0.59
28	11-Mar-76	13.81	41853	14931	2.80	4.21	1185	1387	0.85
29	21-Apr-76	13.91	41700	14550	2.87	4.24	1181	1352	0.87
30	12-May-76	12.52	31376	13265	2.37	3.82	888	1232	0.72
31	13-Jul-76	8.05	7758	8322	0.99	2.45	220	773	0.30
32	16-Nov-76	6.04	2141	6831	0.31	1.84	61	635	0.09
33	14-Jun-77	7.60	7779	10144	1.03	2.32	220	942	0.31
34	17-Oct-77	5.71	911	3866	0.24	1.74	26	359	0.07
35	08-Mar-78	16.24	58141	17318	3.35	4.95	1646	1609	1.02
36	22-Mar-78	18.08	71442	8988	7.94	5.51	2023	835	2.42
37	30-Mar-78	17.03	72501	6340	11.4	5.19	2053	589	3.48
38	05-Apr-78	19.42	75079	19364	3.87	5.92	2126	1799	1.18
39	12-Apr-78	18.31	78752	18880	4.17	5.58	2230	1754	1.27
40	17-May-78	14.44	50076	15479	3.25	4.40	1418	1438	0.99
41	24-May-78	13.85	41742	13595	3.08	4.22	1182	1263	0.94
42	31-May-78	13.52	42484	14940	2.89	4.12	1203	1388	0.88
43	15-Jun-78	12.30	33372	12174	2.76	3.75	945	1131	0.84
44	22-Jun-78	11.09	24791	11184	2.23	3.38	702	1039	0.68
45	30-Jun-78	10.99	22955	12239	1.87	3.35	650	1137	0.57
46	21-Jul-78	9.35	16351	11001	1.48	2.85	463	1022	0.45
47	10-Aug-78	8.76	12290	10775	1.15	2.67	348	1001	0.35
48	24-Aug-78	7.55	10948	10226	1.08	2.30	310	950	0.33
49	31-Aug-78	8.14	10029	10301	0.98	2.48	284	957	0.30
50	02-Sep-78	8.96	14161	10473	1.35	2.73	401	973	0.41

LIST OF FLOW MEASUREMENT

ST.: 4-669 KAFUE HOOK BRIDGE

NO.	DATE	-----[Feet - Second]-----				+++++[Meter - Second]++++			
		H (f)	Q (f3/s)	A (f2)	V (f/s)	H (m)	Q (m3/s)	A (m2)	V (m/s)
51	13-Sep-78	7.78	8511	9989	0.85	2.37	241	928	0.26
52	27-Sep-78	7.41	7628	10323	0.75	2.26	216	959	0.23
53	01-Nov-78	6.89	6180	9591	0.66	2.10	175	891	0.20
54	15-Dec-78	8.76	12148	10183	1.18	2.67	344	946	0.36
55	19-Jan-79	10.33	22460	12185	1.84	3.15	636	1132	0.56
56	08-Feb-79	11.45	29806	12045	2.46	3.49	844	1119	0.75
57	06-Mar-79	12.86	36409	14058	2.59	3.92	1031	1306	0.79
58	23-Mar-79	13.88	44391	15048	2.92	4.23	1257	1398	0.89
59	03-Apr-79	16.77	62295	16501	3.77	5.11	1764	1533	1.15
60	30-May-79	11.55	30088	13724	2.17	3.52	852	1275	0.66
61	31-May-79	11.48	27051	12400	2.10	3.50	766	1152	0.64
62	01-Jun-79	11.42	25568	12271	2.10	3.48	724	1140	0.64
63	06-Jul-79	8.92	13914	10775	1.28	2.72	394	1001	0.39
64	06-Mar-80	12.66	38564	13627	2.82	3.86	1092	1266	0.86
65	18-Mar-80	12.53	36056	14284	2.53	3.82	1021	1327	0.77
66	11-Jun-80	9.22	17234	11302	1.54	2.81	488	1050	0.47
67	23-Feb-81	13.06	39199	14294	2.76	3.98	1110	1328	0.84
68	29-Jul-81	7.48	7451	10204	0.72	2.28	211	948	0.22
69	16-May-84	7.22	6215	10118	0.62	2.20	176	940	0.19
70	21-Jun-84	6.17	2755	3563	0.79	1.88	78	331	0.24
71	28-Jun-84	6.10	2719	8374	0.33	1.86	77	778	0.10
72	11-Dec-84	5.68	1836	8073	0.23	1.73	52	750	0.07
73	21-May-85	8.92	14514	11431	1.28	2.72	411	1062	0.39
74	22-May-88	7.74	15786	17513	0.92	2.36	447	1627	0.28
75	12-Dec-88	5.77	1911	8697	0.23	1.76	54	808	0.07
76	12-Jul-90	6.00	1698	8627	0.20	1.83	48	802	0.06
77	09-Aug-90	5.61	1212	9233	0.13	1.71	34	858	0.04
78	11-Sep-90	5.38	2439	9293	0.26	1.64	69	863	0.08
79	09-Oct-90	5.12	2122	9242	0.23	1.56	60	859	0.07
80	26-Nov-90	5.09	870	8841	0.10	1.55	25	821	0.03
81	14-Dec-90	5.18	1238	9432	0.13	1.58	35	876	0.04
82	19-Jan-91	7.68	8192	11350	0.72	2.34	232	1054	0.22
83	08-Feb-91	9.32	14368	12165	1.18	2.84	407	1130	0.36
84	11-Aug-91	5.84	2721	9214	0.30	1.78	77	856	0.09
85	19-Sep-91	5.41	1000	10158	0.10	1.65	28	944	0.03
86	06-Oct-91	2.07	1196	9112	0.13	0.63	34	847	0.04
87	15-Nov-91	5.35	872	8862	0.10	1.63	25	823	0.03

[Note] H:Water Level, Q:Discharge, A:Discharge Area, V:Velocity

JUL./12/'90

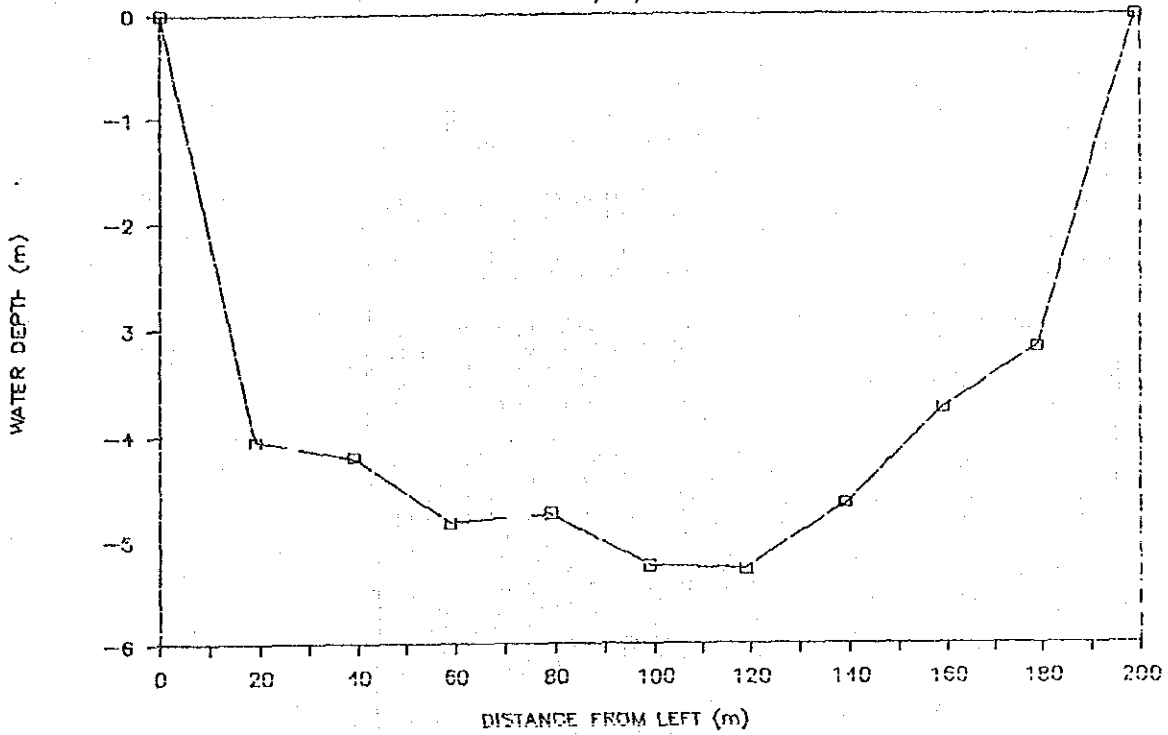
FLOW MEASUREMENT ST. : 4-669 HOOK BRIDGE

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-R
WATER DEPTH (m)	4.06	4.21	4.83	4.75	5.24	5.27	4.65	3.73	3.16	0.00
SE/WIDTH (m)	19.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
TOTAL SE/WIDTH(m)	19.00	39.00	59.00	79.00	99.00	119.00	139.00	159.00	179.00	199.00
VELOCITY.2-1(f/s)	0.25	0.25	0.25	0.15	0.15	0.15	0.30	0.40	0.40	0.00
VELOCITY.2-2(f/s)	0.25	0.25	0.25	0.15	0.15	0.15	0.35	0.40	0.45	0.00
MEAN VEL.2 (f/s)	0.25	0.25	0.25	0.15	0.15	0.15	0.33	0.40	0.43	0.00
VELOCITY.8-1(f/s)	0.20	0.10	0.15	0.10	0.10	0.10	0.20	0.20	0.20	0.00
VELOCITY.8-2(f/s)	0.20	0.10	0.15	0.10	0.10	0.10	0.20	0.25	0.20	0.00
MEAN VEL.8 (f/s)	0.20	0.10	0.15	0.10	0.10	0.10	0.20	0.23	0.20	0.00
MEAN VEL (f/s)	0.225	0.175	0.200	0.125	0.125	0.125	0.263	0.313	0.213	0.000
MEAN VEL (m/s)	0.069	0.053	0.061	0.038	0.038	0.038	0.080	0.095	0.095	0.000
L/MEAN DEPTH (m)	2.030	4.173	4.675	4.770	5.119	5.263	4.905	3.960	3.303	-
L/MEAN WIDTH (m)	19.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	39.57	41.73	46.75	47.70	51.19	52.63	48.05	39.60	33.03	-
R/MEAN DEPTH (m)	4.099	4.365	4.810	4.873	5.249	5.115	4.420	3.599	1.590	-
R/MEAN WIDTH (m)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	20.00	-
R/SEC. AREA (m2)	40.98	43.65	48.10	48.73	52.49	51.15	44.20	35.99	31.60	-
S/AREA (m2)	79.55	85.39	94.95	96.43	103.65	103.78	92.25	75.49	64.63	-
TOTAL AREA (m2)	79.5	164.9	259.8	356.2	459.8	563.6	655.9	731.3	796.0	-
S/DISCHARGE(m3/s)	5.46	4.55	5.78	3.67	3.95	3.95	7.38	7.19	6.16	-
TOTAL DIS. (m3/s)	5.46	10.01	15.79	19.46	23.41	27.37	34.75	41.94	48.09	-

WATER LEVEL (f) : 6.00 WATER LEVEL (m) : 1.83
 TOTAL DISCHARGE : 48.09 MEAN VELOCITY(m/s) : 0.06

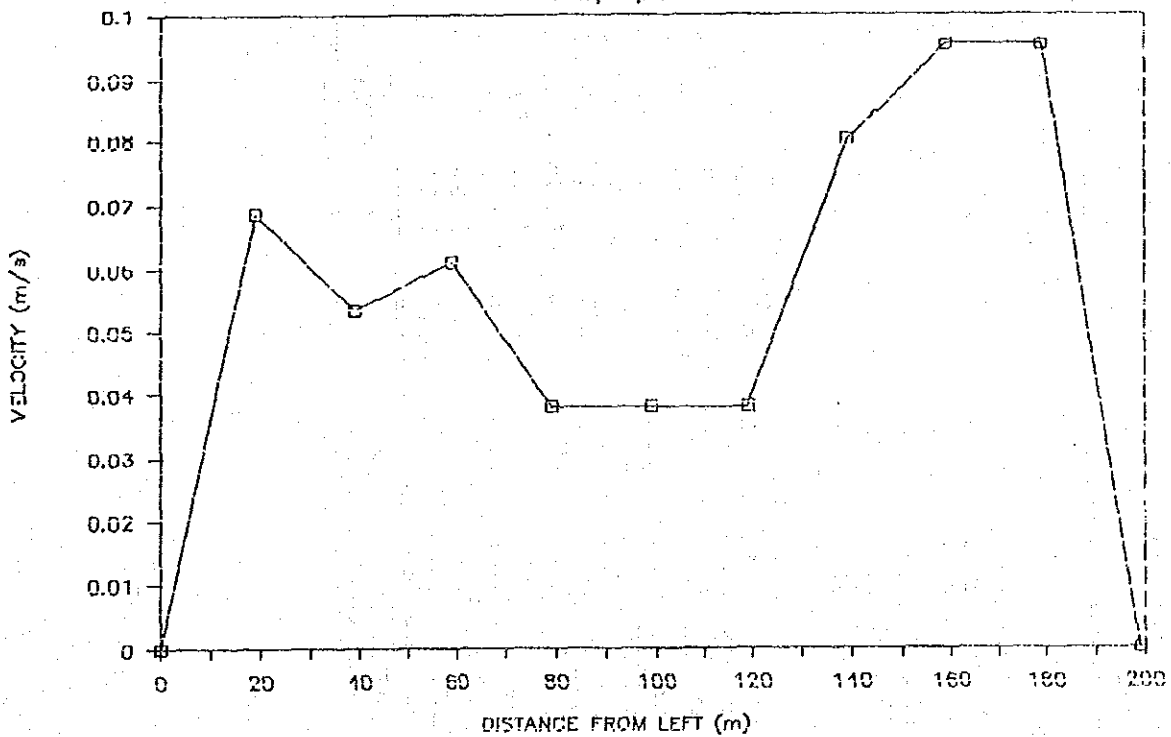
WATER DEPTH (4-669)

JUL./12/90



VELOCITY (4-669)

JUL./12/90



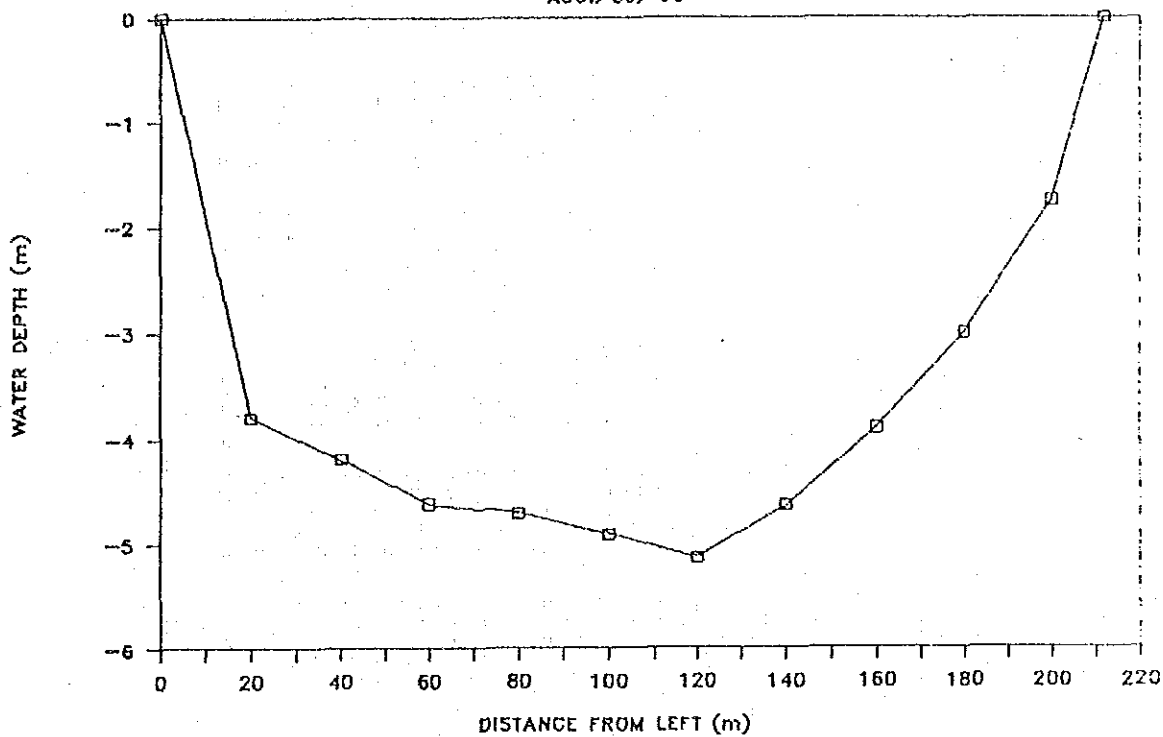
FLOW MEASUREMENT ST. : 4-669 HOOK BRIDGE AUG./09/'90

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-R
WATER DEPTH (m)	0.00	3.80	4.20	4.62	4.71	4.91	5.13	4.64	3.90	3.00	1.75	0.00
SE/WIDTH (m)	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	12.00
TOTAL SE/WIDTH(m)	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	212.00
VELOCITY.2-1(f/s)	0.00	0.20	0.20	0.10	0.30	0.20	0.15	0.25	0.20	0.10	0.10	0.00
VELOCITY.2-2(f/s)	0.00	0.20	0.20	0.10	0.25	0.20	0.15	0.25	0.20	0.10	0.10	0.00
MEAN VEL.2 (f/s)	0.00	0.20	0.20	0.10	0.28	0.20	0.15	0.25	0.20	0.10	0.10	0.00
VELOCITY.8-1(f/s)	0.00	0.10	0.10	0.05	0.10	0.10	0.10	0.10	0.15	0.05	0.05	0.00
VELOCITY.8-2(f/s)	0.00	0.10	0.10	0.05	0.10	0.10	0.10	0.10	0.15	0.05	0.05	0.00
MEAN VEL.8 (f/s)	0.00	0.10	0.10	0.05	0.10	0.10	0.10	0.10	0.15	0.05	0.05	0.00
MEAN VEL (f/s)	0.000	0.150	0.150	0.075	0.188	0.150	0.125	0.175	0.175	0.075	0.075	0.000
MEAN VEL (m/s)	0.000	0.046	0.046	0.023	0.057	0.046	0.038	0.053	0.053	0.023	0.023	0.000
L/MEAN DEPTH (m)	0.000	1.900	4.100	4.515	4.688	4.860	5.075	4.763	4.085	3.225	2.063	-
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	38.00	41.00	45.15	46.88	48.60	50.75	47.63	40.85	32.25	20.63	-
R/MEAN DEPTH (m)	0.000	3.900	4.305	4.643	4.760	4.965	5.008	4.455	3.675	2.688	0.875	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	12.00	-
R/SEC. AREA (m2)	0.00	39.00	43.05	46.43	47.60	49.65	50.08	44.55	36.75	26.88	10.50	-
S/AREA (m2)	0.00	77.00	84.05	91.58	94.48	98.25	100.83	92.18	77.60	59.13	31.13	-
TOTAL AREA (m2)	0.0	77.0	161.1	252.6	347.1	445.4	546.2	638.4	716.0	775.1	806.2	-
S/DISCHARGE (m3/s)	0.00	3.52	3.84	2.09	5.40	4.49	3.84	4.92	4.14	1.35	0.71	-
TOTAL DIS. (m3/s)	0.00	3.52	7.36	9.46	14.86	19.35	23.19	28.11	32.25	33.60	34.31	-

WATER LEVEL (f) : 5.61 WATER LEVEL (m) : 1.71
 TOTAL DISCHARGE : 34.31 MEAN VELOCITY(m/s) : 0.04

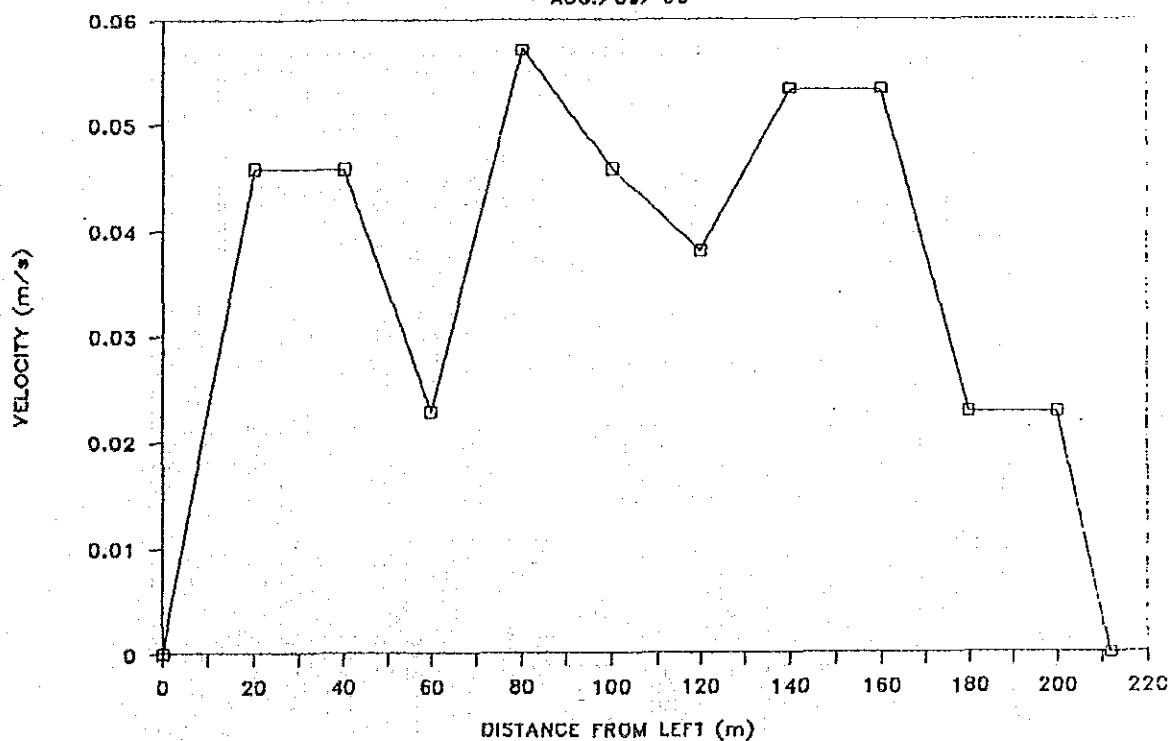
WATER DEPTH (4-669)

AUG./09/'90



VELOCITY (4-669)

AUG./09/'90



SEP./11/'90

ST. : 4-669 HOOK BRIDGE

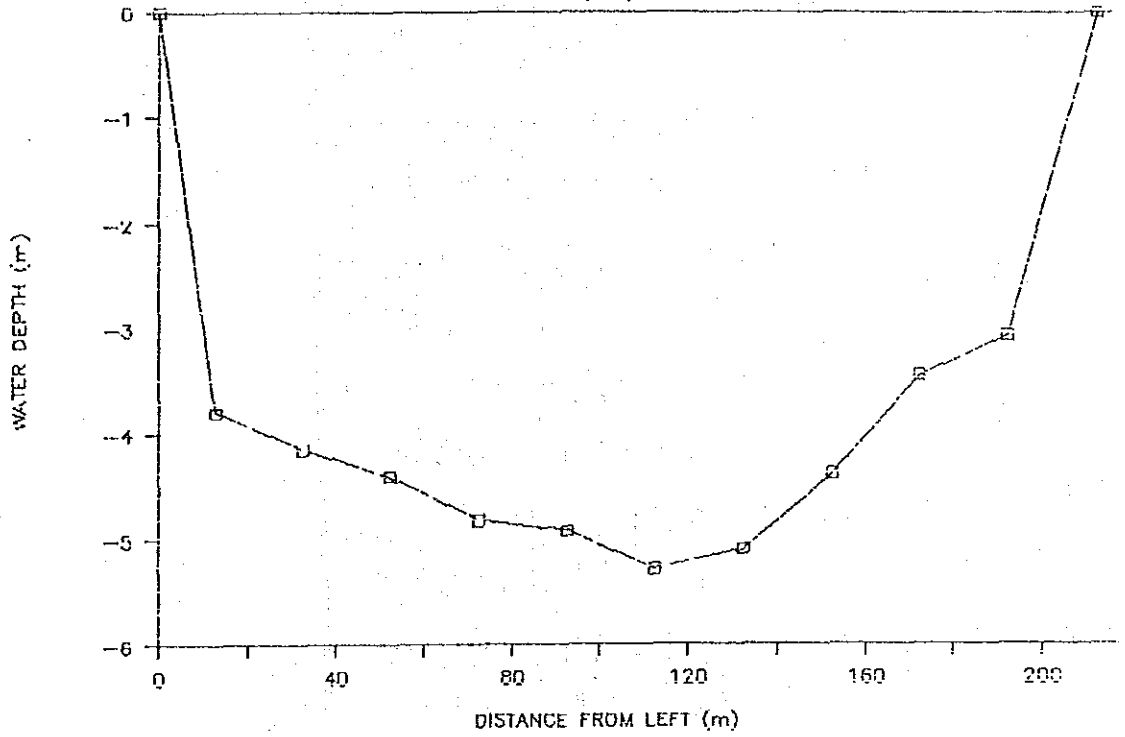
FLOW MEASUREMENT

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-R
WATER DEPTH (m)	3.80	4.15	4.41	4.82	4.92	5.28	5.10	4.38	3.46	3.07	0.00
SE/WIDTH (m)	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
TOTAL SE/WIDTH(m)	0.00	12.50	12.50	72.50	92.50	112.50	132.50	152.50	172.50	192.50	212.50
VELOCITY.2-1(f/s)	0.00	0.20	0.35	0.40	0.35	0.40	0.25	0.35	0.35	0.30	0.00
VELOCITY.2-2(f/s)	0.00	0.20	0.35	0.35	0.35	0.40	0.25	0.30	0.35	0.30	0.00
MEAN VEL.2 (f/s)	0.00	0.20	0.40	0.38	0.35	0.40	0.25	0.33	0.35	0.30	0.00
VELOCITY.8-1(f/s)	0.00	0.15	0.20	0.25	0.20	0.20	0.15	0.20	0.20	0.20	0.00
VELOCITY.8-2(f/s)	0.00	0.15	0.20	0.20	0.20	0.20	0.15	0.15	0.20	0.20	0.00
MEAN VEL.8 (f/s)	0.00	0.15	0.20	0.23	0.20	0.20	0.15	0.18	0.20	0.20	0.00
MEAN VEL (f/s)	0.000	0.175	0.275	0.300	0.275	0.300	0.200	0.250	0.275	0.250	0.000
MEAN VEL (m/s)	0.000	0.053	0.084	0.091	0.084	0.091	0.061	0.076	0.084	0.076	0.000
L/MEAN DEPTH (m)	0.000	1.900	4.063	4.718	4.895	5.190	5.145	4.560	3.690	3.168	-
L/MEAN WIDTH (m)	0.00	12.50	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	23.75	40.63	47.18	48.95	51.90	51.45	45.60	36.90	31.68	-
R/MEAN DEPTH (m)	0.000	3.898	4.215	4.845	5.010	5.235	4.920	4.150	3.353	1.535	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	20.00	-
R/SEC. AREA (m2)	0.00	38.88	42.15	48.45	50.10	52.35	49.20	41.50	33.63	30.70	-
S/AREA (m2)	0.00	62.63	82.78	95.63	99.05	104.25	100.65	87.10	70.53	62.38	-
TOTAL AREA (m2)	0.0	62.6	145.4	329.6	428.7	532.9	633.6	720.7	791.2	853.6	-
S/DISCHARGE(m3/s)	0.00	3.34	6.94	8.74	8.30	9.53	6.14	6.64	5.91	4.75	-
TOTAL DIS. (m3/s)	0.00	3.34	10.28	19.05	27.80	36.10	45.63	51.77	58.40	64.32	69.07

WATER LEVEL (f) : 5.39
 TOTAL DISCHARGE : 69.07
 WATER LEVEL (m) : 1.64
 MEAN VELOCITY(m/s) : 0.08

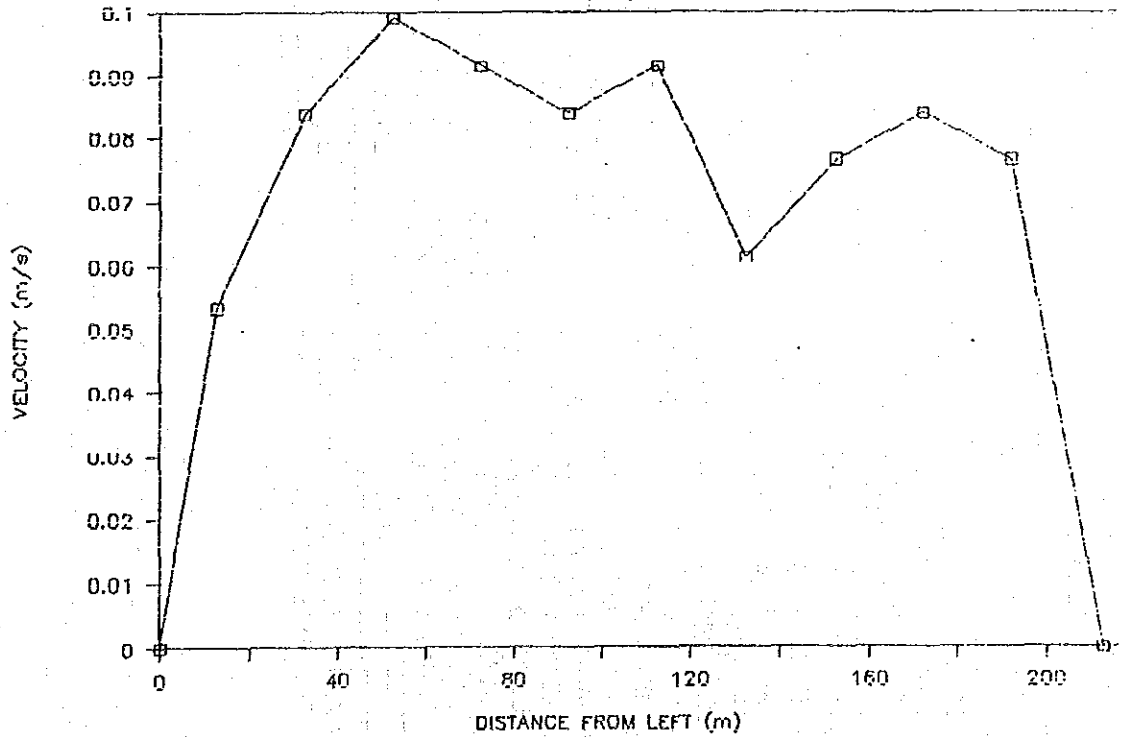
WATER DEPTH (4-669)

SEP./11/80



VELOCITY (4-669)

SEP./11/80



FLOW MEASUREMENT ST. : 4-669 HOOK BRIDGE

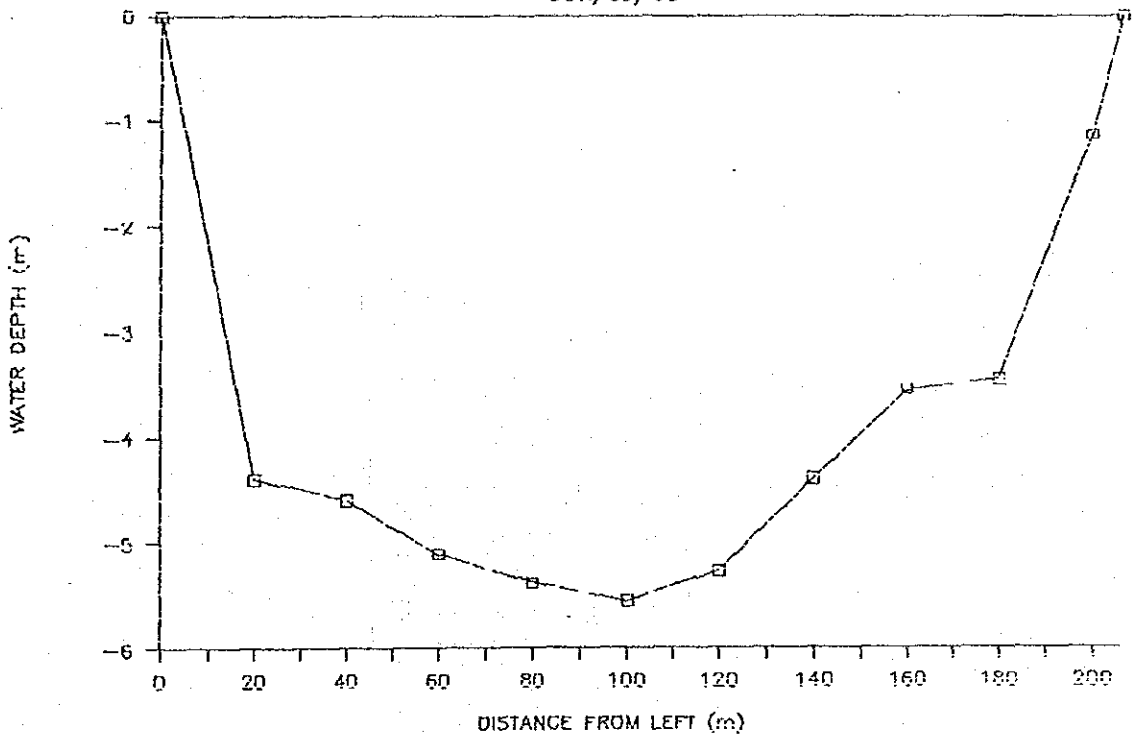
OCT./09/'90

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-R
WATER DEPTH (m)	4.40	4.60	5.11	5.38	5.55	5.27	4.40	3.55	3.45	1.15	0.00
SE/WIDTH (m)	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	6.50
TOTAL SE/WIDTH(m)	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	206.50
VELOCITY.2-1(f/s)	0.20	0.25	0.30	0.20	0.25	0.35	0.40	0.45	0.20	0.15	0.00
VELOCITY.2-2(f/s)	0.20	0.25	0.30	0.20	0.25	0.35	0.40	0.45	0.20	0.15	0.00
MEAN VEL.2 (f/s)	0.20	0.25	0.30	0.20	0.25	0.35	0.40	0.45	0.20	0.15	0.00
VELOCITY.8-1(f/s)	0.00	0.15	0.20	0.15	0.20	0.20	0.20	0.25	0.15	0.10	0.00
VELOCITY.8-2(f/s)	0.00	0.15	0.20	0.15	0.20	0.20	0.20	0.25	0.15	0.10	0.00
MEAN VEL.8 (f/s)	0.00	0.15	0.20	0.15	0.20	0.20	0.20	0.25	0.15	0.10	0.00
MEAN VEL (f/s)	0.000	0.175	0.250	0.175	0.225	0.275	0.300	0.350	0.175	0.125	0.000
MEAN VEL (m/s)	0.000	0.053	0.076	0.053	0.069	0.084	0.091	0.107	0.053	0.038	0.000
L/MEAN DEPTH (m)	0.000	2.200	4.983	5.313	5.508	5.340	4.618	3.763	3.475	1.725	-
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	44.00	49.83	53.13	55.08	53.40	46.18	37.63	34.75	17.25	-
R/MEAN DEPTH (m)	0.000	4.450	4.728	5.178	5.423	5.053	4.188	3.525	2.875	0.575	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	6.50	-
R/SEC. AREA (m2)	0.00	44.50	47.28	51.78	54.23	50.53	41.88	35.25	28.75	3.74	-
S/AREA (m2)	0.00	88.50	92.78	101.60	107.35	103.93	88.05	72.88	63.50	20.99	-
TOTAL AREA (m2)	0.0	88.5	181.3	282.9	390.2	604.0	692.1	765.0	828.5	849.4	-
S/DISCHARGE(m3/s)	0.00	4.72	5.66	7.74	7.54	8.71	8.05	7.77	3.39	0.80	-
TOTAL DIS. (m3/s)	0.00	4.72	10.38	18.12	23.84	40.09	48.14	55.92	59.30	60.10	-

WATER LEVEL (f) : 5.12 WATER LEVEL (m) : 1.56
 TOTAL DISCHARGE : 60.10 MEAN VELOCITY(m/s) : 0.07

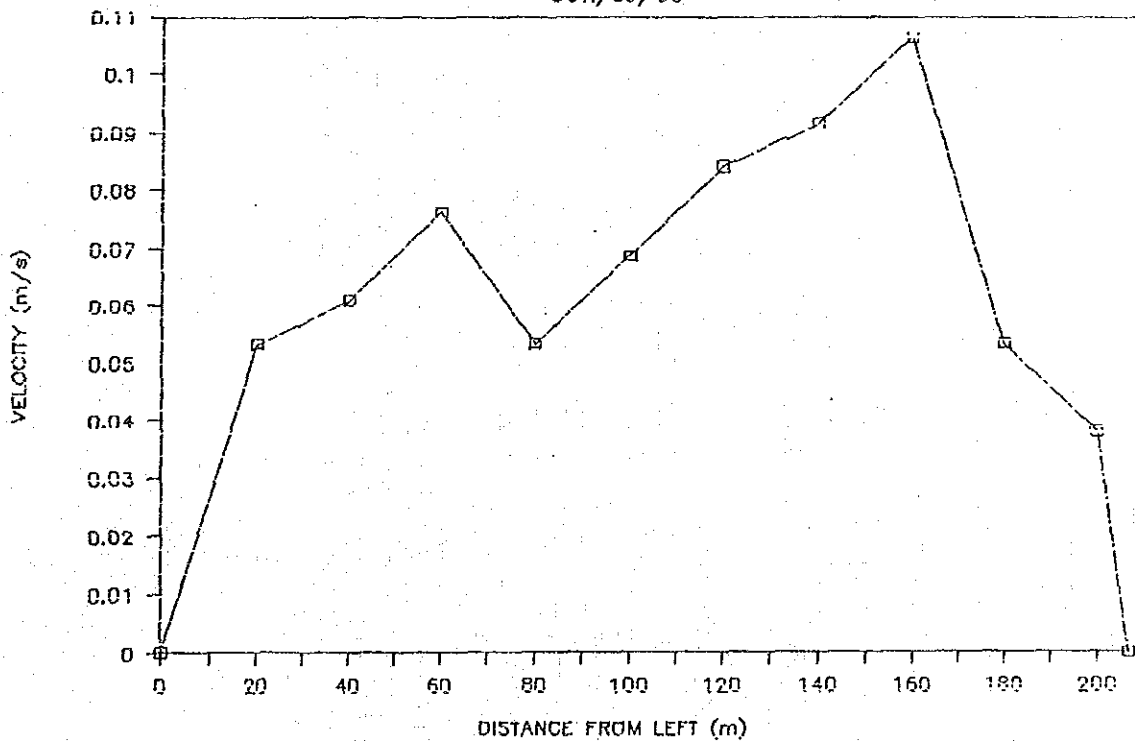
WATER DEPTH (4-669)

OCT./09/90



VELOCITY (4-669)

OCT./09/90



FLOW MEASUREMENT ST. : 4-569 HOOK BRIDGE

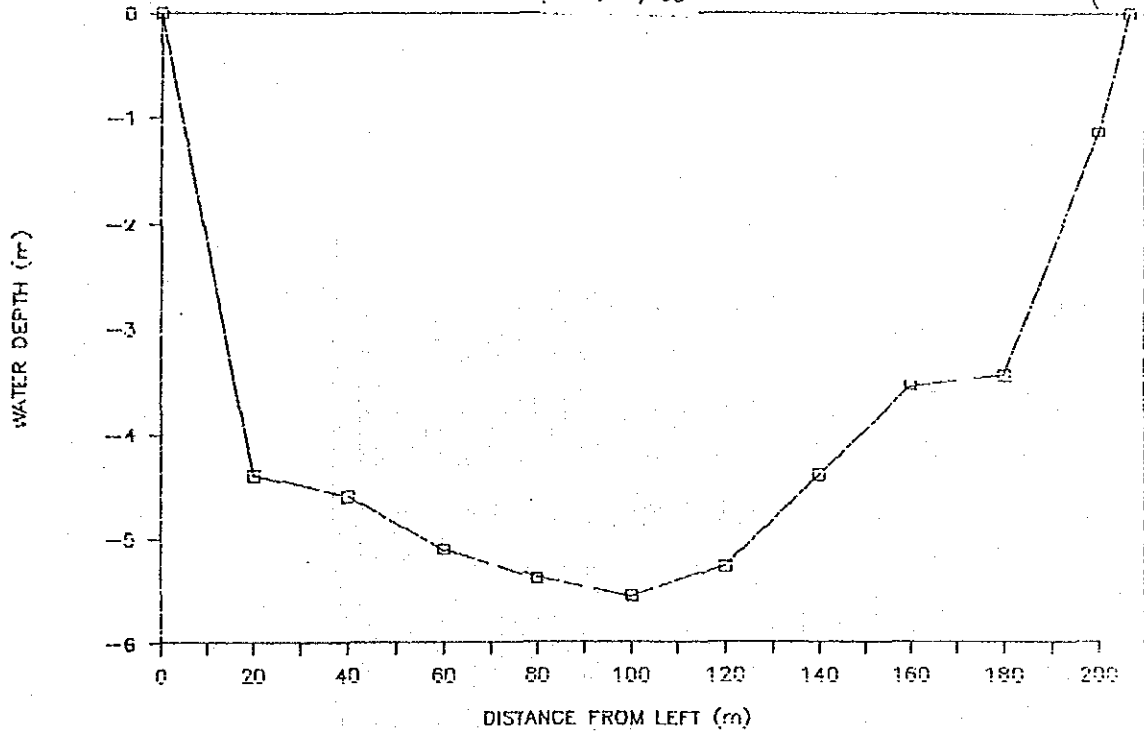
NOV./26/'90

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-R
WATER DEPTH (m)	0.00	4.00	4.12	4.50	4.73	4.95	5.20	4.73	3.90	3.12	2.27	0.00
S/WIDTH (m)	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	11.80
TOTAL SE/WIDTH(m)	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	211.80
VELOCITY.1-1 (f/s)	0.00	0.10	0.10	0.15	0.15	0.15	0.15	0.10	0.10	0.10	0.10	0.00
VELOCITY.2-2(f/s)	0.00	0.10	0.10	0.15	0.15	0.15	0.15	0.10	0.10	0.10	0.10	0.00
MEAN VEL.2 (f/s)	0.00	0.10	0.10	0.15	0.15	0.15	0.15	0.10	0.10	0.10	0.10	0.00
VELOCITY.8-1(f/s)	0.00	0.05	0.05	0.10	0.10	0.10	0.10	0.05	0.05	0.05	0.05	0.00
VELOCITY.9-2(f/s)	0.00	0.05	0.05	0.10	0.10	0.10	0.10	0.05	0.05	0.05	0.05	0.00
MEAN VEL.8 (f/s)	0.00	0.05	0.05	0.10	0.10	0.10	0.10	0.05	0.05	0.05	0.05	0.00
MEAN VEL (f/s)	0.000	0.075	0.075	0.125	0.125	0.125	0.125	0.075	0.075	0.075	0.075	0.000
MEAN VEL (m/s)	0.000	0.023	0.023	0.038	0.038	0.038	0.038	0.023	0.023	0.023	0.023	0.000
L/MEAN DEPTH (m)	0.000	2.000	4.090	4.405	4.873	4.895	5.138	4.848	4.108	3.315	2.483	-
L/MEAN WIDTH (m)	0.00	20.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
L/S/C. AREA (m2)	0.00	40.00	40.90	44.05	46.73	48.95	51.38	48.48	41.08	33.15	24.83	-
R/MEAN DEPTH (m)	0.000	4.030	4.215	4.558	4.785	5.013	5.083	4.523	3.705	2.908	1.135	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.80	-
R/SEC. AREA (m2)	0.00	40.30	42.15	45.58	47.85	50.13	50.83	45.23	37.05	29.08	13.39	-
S/AREA (m2)	0.00	80.30	83.05	89.63	94.58	99.08	102.20	93.70	78.13	62.23	38.22	-
TOTAL AREA (m2)	0.0	80.3	163.4	253.0	347.6	446.6	548.8	642.5	720.7	782.9	821.1	-
S/DISCHARGE(m3/s)	0.00	1.84	1.90	3.41	3.50	3.77	3.89	2.14	1.79	1.42	0.87	-
TOTAL DIS. (m3/s)	0.00	1.84	3.73	7.15	10.75	14.53	18.42	20.56	22.35	23.77	24.64	-

WATER LEVEL (f) : 5.10 WATER LEVEL (m) : 1.55
 TOTAL DISCHARGE : 24.64 MEAN VELOCITY(m/s) : 0.03

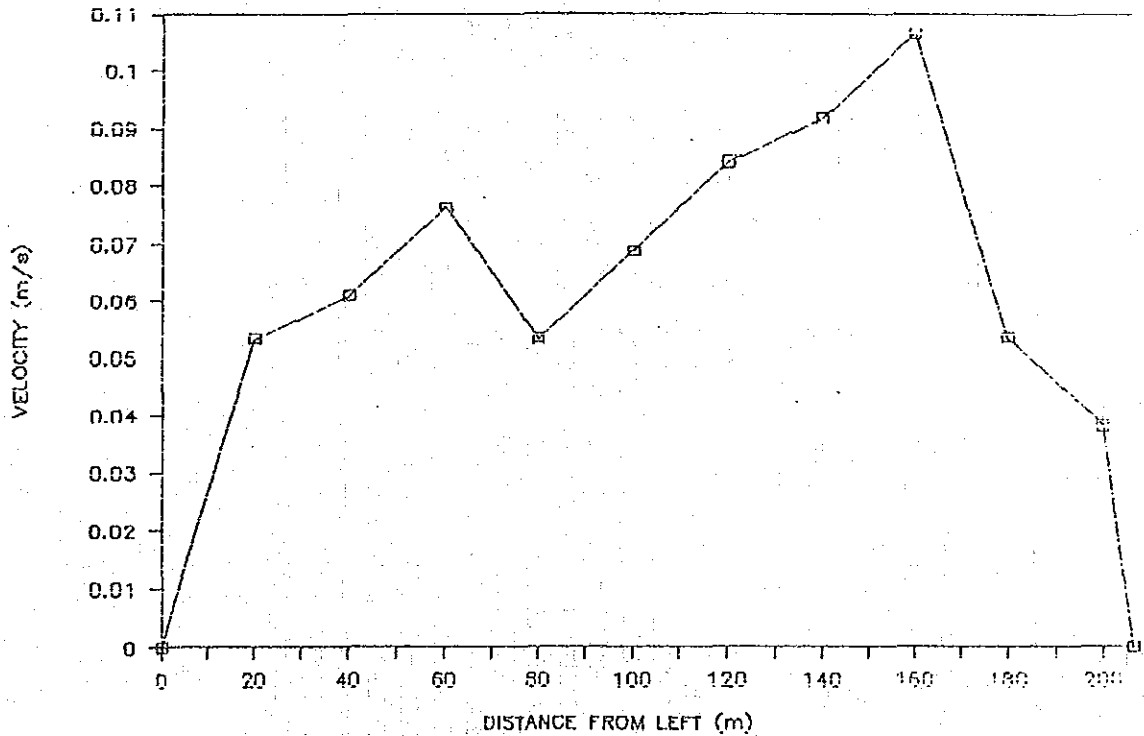
WATER DEPTH (4-669)

26/11/00



VELOCITY (4-669)

26/11/00



DEC./14/'90

ST. : 4-669 HOOK BRIDGE

FLOW MEASUREMENT

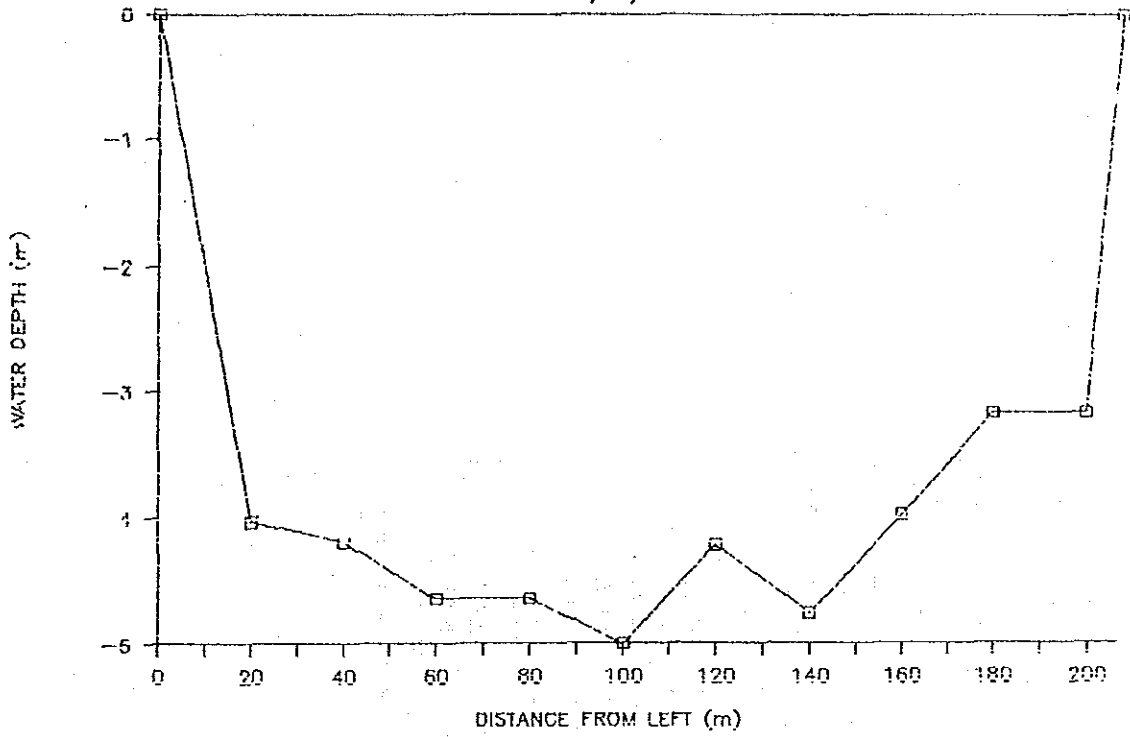
ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-R
WATER DEPTH (m)	4.03	4.19	4.65	4.65	5.00	4.22	4.76	3.98	3.17	3.17	0.00
SE/WIDTH (m)	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	8.00
TOTAL SE/WIDTH (m)	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	208.00
VELOCITY.2-1 (f/s)	0.15	0.18	0.12	0.12	0.13	0.21	0.20	0.22	0.32	0.32	0.00
VELOCITY.2-2 (f/s)	0.15	0.18	0.12	0.12	0.13	0.21	0.20	0.22	0.32	0.32	0.00
MEAN VEL.2 (f/s)	0.15	0.18	0.12	0.12	0.13	0.21	0.20	0.22	0.32	0.32	0.00
VELOCITY.8-1 (f/s)	0.10	0.13	0.10	0.10	0.11	0.15	0.12	0.13	0.15	0.15	0.00
VELOCITY.8-2 (f/s)	0.10	0.13	0.10	0.10	0.11	0.15	0.12	0.13	0.15	0.15	0.00
MEAN VEL.8 (f/s)	0.10	0.13	0.10	0.10	0.11	0.15	0.12	0.13	0.15	0.15	0.00
MEAN VEL. (f/s)	0.000	0.125	0.155	0.110	0.120	0.180	0.160	0.175	0.235	0.235	0.000
MEAN VEL. (m/s)	0.000	0.038	0.047	0.034	0.037	0.055	0.049	0.053	0.072	0.072	0.000
L/MEAN DEPTH (m)	2.015	4.150	4.535	4.650	4.913	4.415	4.625	4.175	3.373	3.170	-
L/MEAN WIDTH (m)	20.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	40.30	41.50	45.35	46.50	49.13	44.15	46.25	41.75	33.73	31.70	-
R/MEAN DEPTH (m)	4.070	4.305	4.650	4.738	4.805	4.355	4.565	3.778	3.170	1.585	-
R/MEAN WIDTH (m)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
R/SEC. AREA (m2)	40.70	43.05	46.50	47.38	48.05	43.55	45.65	37.78	31.70	12.68	-
S/AREA (m2)	81.00	84.55	91.85	93.88	97.18	87.70	91.90	79.53	65.43	44.38	-
TOTAL AREA (m2)	81.0	165.6	257.4	351.3	448.5	536.2	628.1	707.6	773.0	817.4	-
S/DISCHARGE (m3/s)	3.09	3.99	3.08	3.15	3.55	4.81	4.48	4.24	4.69	0.00	-
TOTAL DIS. (m3/s)	3.09	7.08	10.16	13.31	16.86	21.67	26.16	30.40	35.08	35.08	-

WATER LEVEL (f) : 5.20
 WATER LEVEL (m) : 1.58
 TOTAL DISCHARGE : 35.08
 MEAN VELOCITY (m/s) : 0.04

1
4
5
2

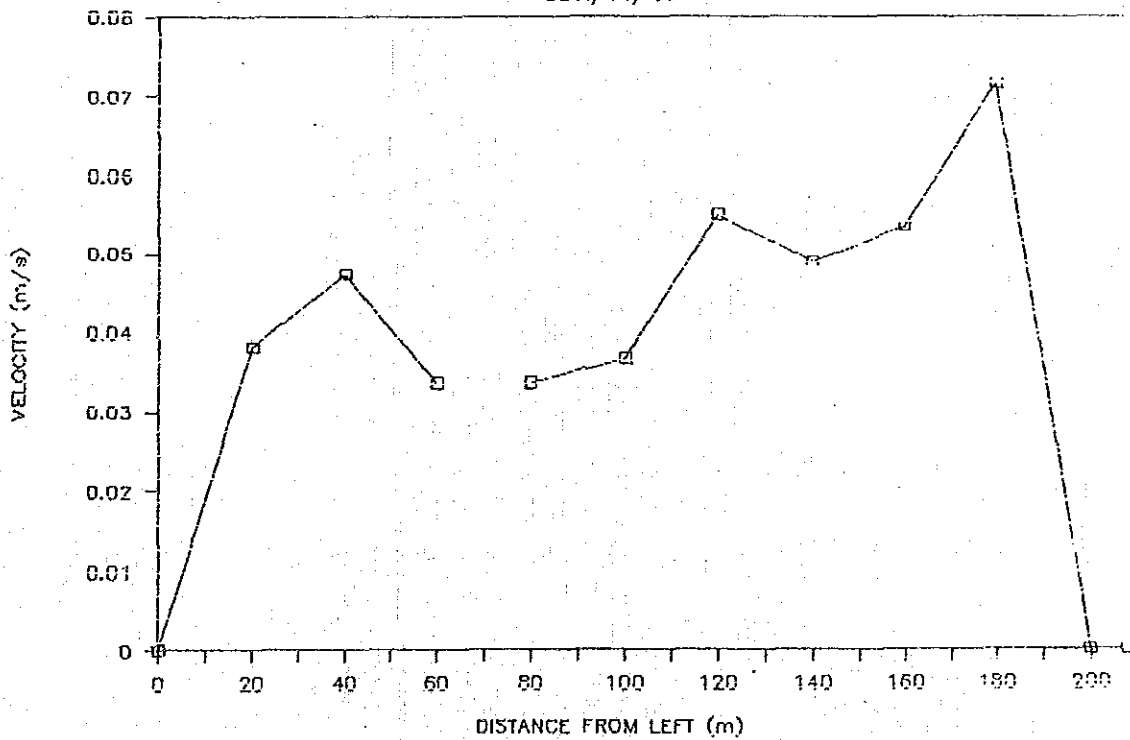
WATER DEPTH (4-669)

DEC./14/90



VELOCITY (4-669)

DEC./14/90



FLOW MEASUREMENT ST. : 4-669 HICK BRIDGE

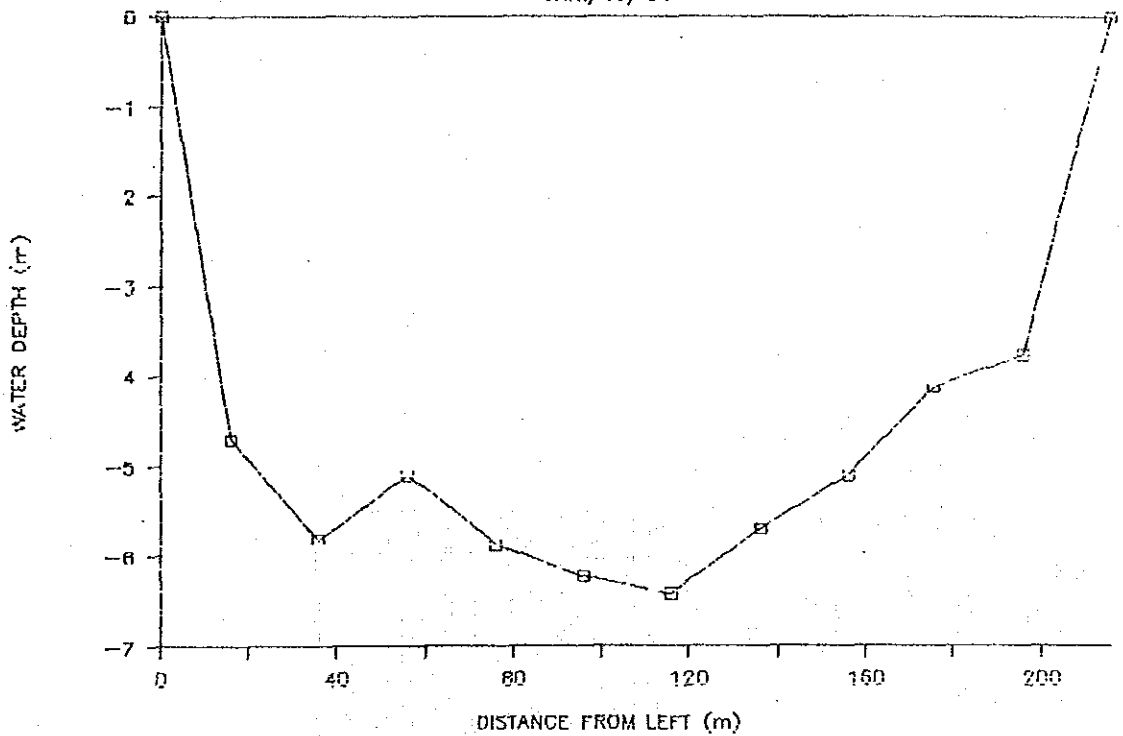
JAN./19/91

ITEMS	ND-1	ND-2	ND-3	ND-4	ND-5	ND-6	ND-7	ND-8	ND-9	ND-10	ND-R	
WATER DEPTH (m)	0.00	4.70	5.82	5.10	5.87	6.23	6.42	5.70	5.10	4.12	3.77	0.00
SEA WIDTH (m)	0.00	16.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
TOTAL SEA WIDTH(m)	0.00	16.00	36.00	56.00	76.00	96.00	116.00	136.00	156.00	176.00	196.00	216.00
VELOCITY 2-1(f/s)	0.00	0.50	0.80	0.85	0.96	1.20	1.25	1.00	0.75	0.40	0.25	0.00
VELOCITY 2-2(f/s)	0.00	0.50	0.80	0.80	0.95	1.20	1.20	1.10	0.70	0.45	0.25	0.00
MEAN VEL. 2 (f/s)	0.00	0.50	0.80	0.83	0.95	1.20	1.23	1.05	0.73	0.43	0.25	0.00
VELOCITY 8-1(f/s)	0.00	0.30	0.50	0.55	0.65	0.96	0.90	0.85	0.60	0.30	0.20	0.00
VELOCITY 8-2(f/s)	0.00	0.30	0.50	0.55	0.65	0.90	0.90	0.90	0.60	0.30	0.20	0.00
MEAN VEL. 8 (f/s)	0.00	0.30	0.50	0.55	0.65	0.93	0.90	0.83	0.60	0.30	0.20	0.00
MEAN VEL. (f/s)	0.00	0.400	0.650	0.688	0.800	1.063	1.063	0.938	0.663	0.363	0.225	0.000
MEAN VEL. (m/s)	0.00	0.122	0.198	0.210	0.244	0.324	0.324	0.296	0.202	0.110	0.059	0.000
L/MEAN DEPTH (m)	0.00	2.350	5.540	5.280	5.678	6.140	6.373	5.880	5.250	4.365	3.858	-
L/MEAN WIDTH (m)	0.00	15.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	37.60	55.40	52.80	56.78	61.40	63.73	58.80	52.50	43.65	38.58	-
R/MEAN DEPTH (m)	0.00	4.980	5.640	5.293	5.960	6.278	6.240	5.590	4.855	4.033	1.885	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
R/SEC. AREA (m2)	0.00	49.80	56.40	52.93	59.60	62.78	62.40	55.50	48.55	40.33	37.70	-
S/AREA (m2)	0.00	87.40	111.80	105.73	116.38	124.18	126.13	114.30	101.05	83.98	76.28	-
TOTAL AREA (m2)	0.0	87.4	199.2	304.9	421.3	545.5	671.5	785.9	887.0	970.9	1047.2	-
S/DISCHARGE(m3/s)	0.00	10.66	22.15	22.15	28.38	40.21	40.85	32.66	23.41	9.28	5.23	-
TOTAL DIS. (m3/s)	0.00	10.66	32.81	54.95	83.34	123.55	164.40	197.06	217.46	226.74	231.97	-

WATER LEVEL (f) : 7.67 WATER LEVEL (m) : 2.34
 TOTAL DISCHARGE : 231.97 MEAN VELOCITY(m/s) : 0.22

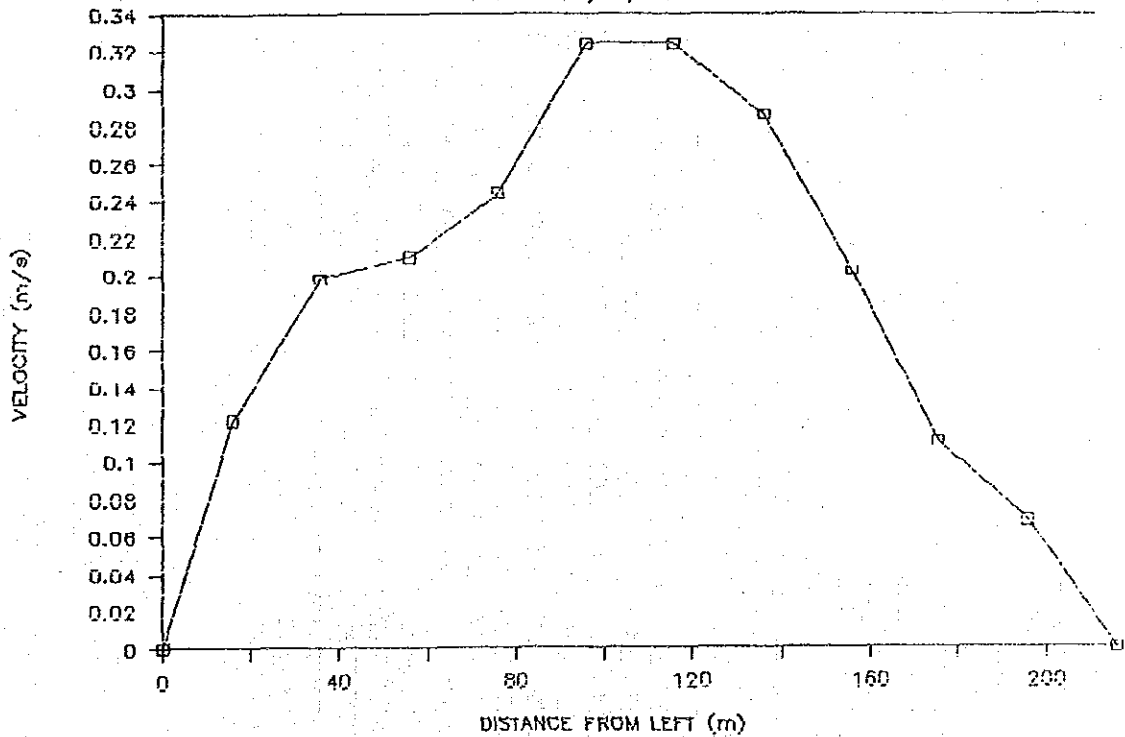
WATER DEPTH (4-669)

JAN./19/87



VELOCITY (4-669)

JAN./19/87



FLOW MEASUREMENT ST. : 4-669 HOOK BRIDGE

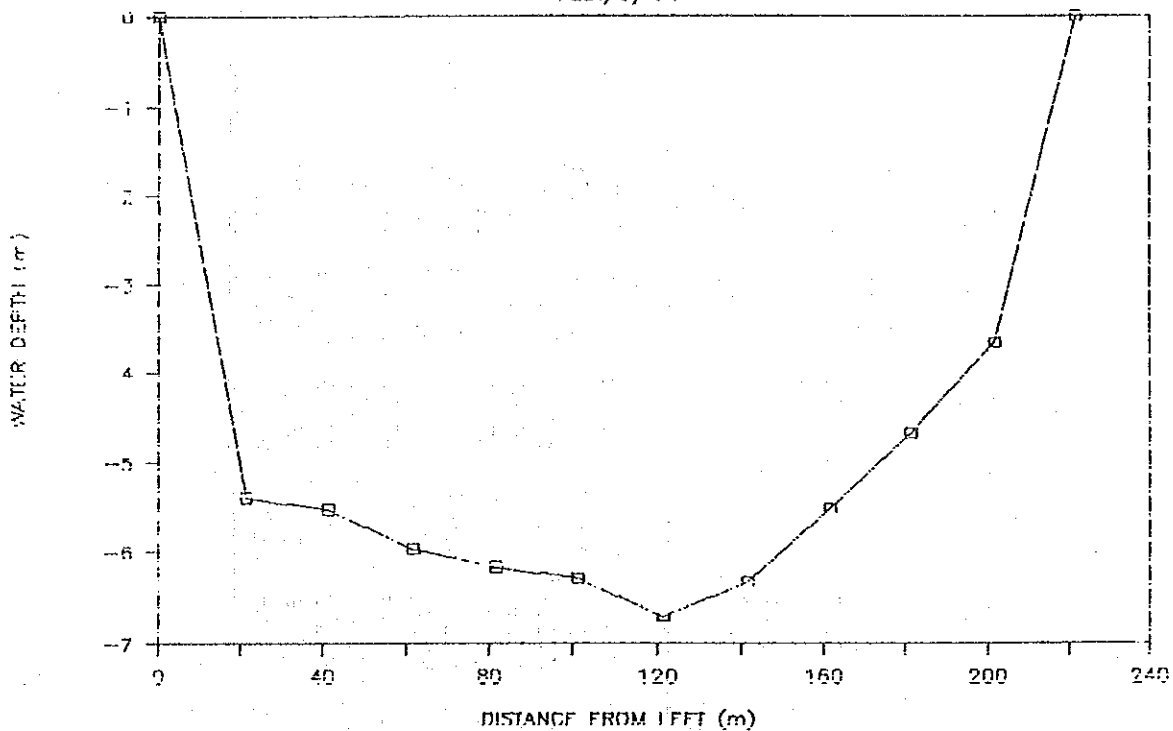
FEB./8/'91

TERMS	ND-1	ND-2	ND-3	ND-4	ND-5	ND-6	ND-7	ND-8	ND-9	ND-10	ND-R	
WATER DEPTH (m)	0.00	5.38	5.52	5.96	6.15	6.28	6.70	6.83	5.50	4.66	3.64	0.00
SE/WIDTH (m)	0.00	21.50	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
TOTAL SE/WIDTH(m)	0.00	21.50	41.50	61.50	81.50	101.50	121.50	141.50	161.50	181.50	201.50	221.50
VELOCITY 2-1(f/s)	0.00	0.80	1.80	1.50	1.70	1.80	1.90	1.70	1.40	1.20	0.50	0.00
VELOCITY 2-2(f/s)	0.00	0.80	1.80	1.50	1.70	1.80	1.90	1.70	1.40	1.20	0.50	0.00
MEAN VEL. 2 (f/s)	0.00	0.80	1.80	1.50	1.70	1.80	1.90	1.70	1.40	1.20	0.50	0.00
VELOCITY 8-1(f/s)	0.00	0.30	1.10	1.00	1.30	1.20	1.20	0.90	0.80	0.50	0.10	0.00
VELOCITY 8-2(f/s)	0.00	0.30	1.10	1.00	1.30	1.20	1.20	0.90	0.80	0.50	0.10	0.00
MEAN VEL. 8 (f/s)	0.00	0.30	1.10	1.00	1.30	1.20	1.20	0.90	0.80	0.50	0.10	0.00
MEAN VEL. (f/s)	0.000	0.550	1.450	1.250	1.500	1.500	1.550	1.300	1.100	0.850	0.300	0.000
MEAN VEL. (m/s)	0.000	0.168	0.442	0.381	0.457	0.457	0.472	0.396	0.336	0.259	0.091	0.000
L/MEAN DEPTH (m)	0.000	2.690	5.486	5.850	6.103	6.248	6.596	6.423	5.708	4.870	3.896	-
L/MEAN WIDTH (m)	0.00	21.50	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	57.84	54.85	58.50	61.03	62.48	65.95	64.23	57.08	48.70	38.95	-
R/MEAN DEPTH (m)	0.000	5.415	5.630	6.008	6.183	6.385	6.608	6.123	5.290	4.405	1.820	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	20.00	-
R/SEC. AREA (m2)	0.00	54.15	56.30	60.08	61.83	63.85	66.08	61.23	52.90	44.05	36.40	-
S/AREA (m2)	0.00	111.99	111.15	118.58	122.85	126.33	132.03	125.45	109.98	92.75	75.35	-
TOTAL AREA (m2)	0.0	112.0	223.1	341.7	464.6	590.9	722.9	848.4	968.3	1051.1	1126.4	-
S/TDISCHARGE(m3/s)	0.00	18.77	49.12	45.18	56.17	57.76	62.37	49.71	36.87	24.03	6.89	-
TOTAL DIS. (m3/s)	0.00	18.77	67.90	113.07	169.24	227.00	289.37	339.08	375.95	399.96	406.87	-

WATER LEVEL (f) : 9.32 WATER LEVEL (m) : 2.84
 TOTAL DISCHARGE : 406.87 MEAN VELOCITY(m/s) : 0.36

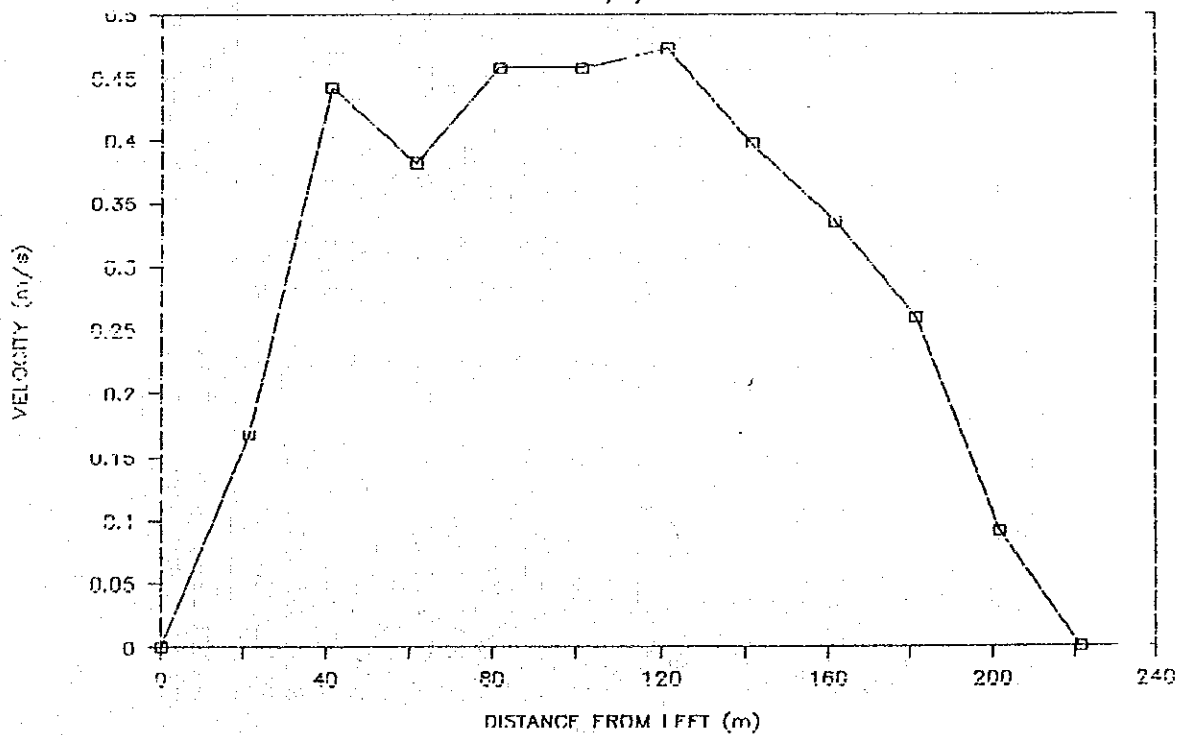
WATER DEPTH (4-669)

FEB./8/91



VELOCITY (4-669)

FEB./8/91



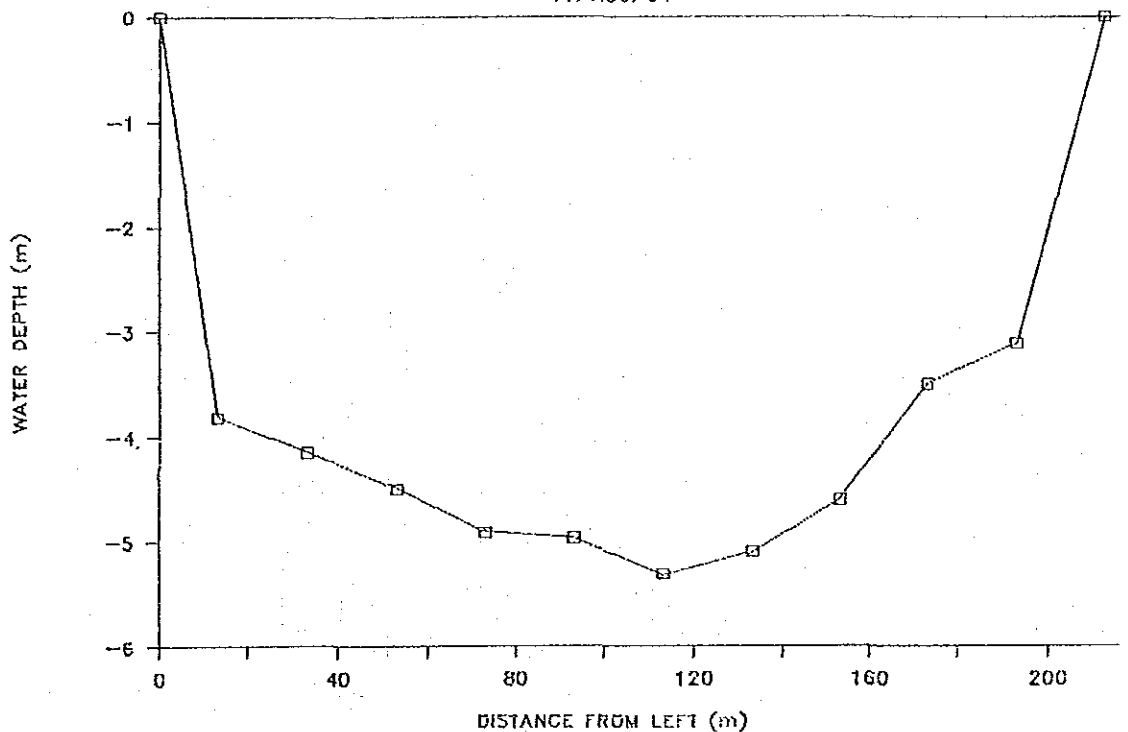
FLOW MEASUREMENT ST. : 4-669 KAFUE HOOK BRIDGE 11/AUG/91

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-R
WATER DEPTH (m)	3.82	4.15	4.50	4.91	4.97	5.31	5.10	4.60	3.50	3.11	0.00
SE/WIDTH (m)	13.20	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
TOTAL SE/WIDTH (m)	13.20	33.20	53.20	73.20	93.20	113.20	133.20	153.20	173.20	193.20	213.20
VELOCITY.2-1 (f/s)	0.20	0.35	0.40	0.40	0.38	0.42	0.30	0.38	0.35	0.30	0.00
VELOCITY.2-2 (f/s)	0.00	0.20	0.40	0.40	0.38	0.42	0.30	0.38	0.35	0.30	0.00
MEAN VEL.2 (f/s)	0.00	0.20	0.35	0.40	0.38	0.42	0.30	0.38	0.35	0.30	0.00
VELOCITY.8-1 (f/s)	0.00	0.15	0.25	0.30	0.25	0.22	0.20	0.20	0.20	0.20	0.00
VELOCITY.8-2 (f/s)	0.00	0.15	0.30	0.25	0.25	0.25	0.20	0.22	0.20	0.20	0.00
MEAN VEL.8 (f/s)	0.00	0.15	0.30	0.25	0.25	0.24	0.20	0.21	0.20	0.20	0.00
MEAN VEL (f/s)	0.000	0.175	0.300	0.325	0.315	0.328	0.250	0.295	0.275	0.250	0.000
MEAN VEL (m/s)	0.000	0.053	0.107	0.099	0.096	0.100	0.076	0.090	0.084	0.076	0.000
L/MEAN DEPTH (m)	0.000	1.910	4.068	4.413	4.955	5.225	5.153	4.725	3.775	3.208	-
L/MEAN WIDTH (m)	0.00	13.20	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	25.21	40.68	44.13	48.08	49.55	51.53	47.25	37.75	32.08	-
R/MEAN DEPTH (m)	0.000	3.903	4.238	4.603	4.925	5.258	4.975	4.325	3.403	1.555	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	20.00	-
R/SEC. AREA (m2)	0.00	39.03	42.38	46.03	49.25	52.58	49.75	43.25	34.03	31.10	-
S/AREA (m2)	0.00	64.24	83.05	90.15	97.33	100.10	104.83	101.28	90.50	71.78	-
TOTAL AREA (m2)	0.0	64.2	147.3	237.4	334.8	434.9	539.7	641.0	731.5	803.2	-
S/DISCHARGE (m3/s)	0.00	3.43	7.59	9.62	9.64	10.46	7.72	8.14	6.02	4.81	-
TOTAL DIS. (m3/s)	0.00	3.43	11.02	20.64	30.28	39.89	50.35	66.21	72.22	77.04	-

WATER LEVEL (f) : 5.84 WATER LEVEL (m) : 1.78
 TOTAL DISCHARGE : 77.04 MEAN VELOCITY (m/s) : 0.09

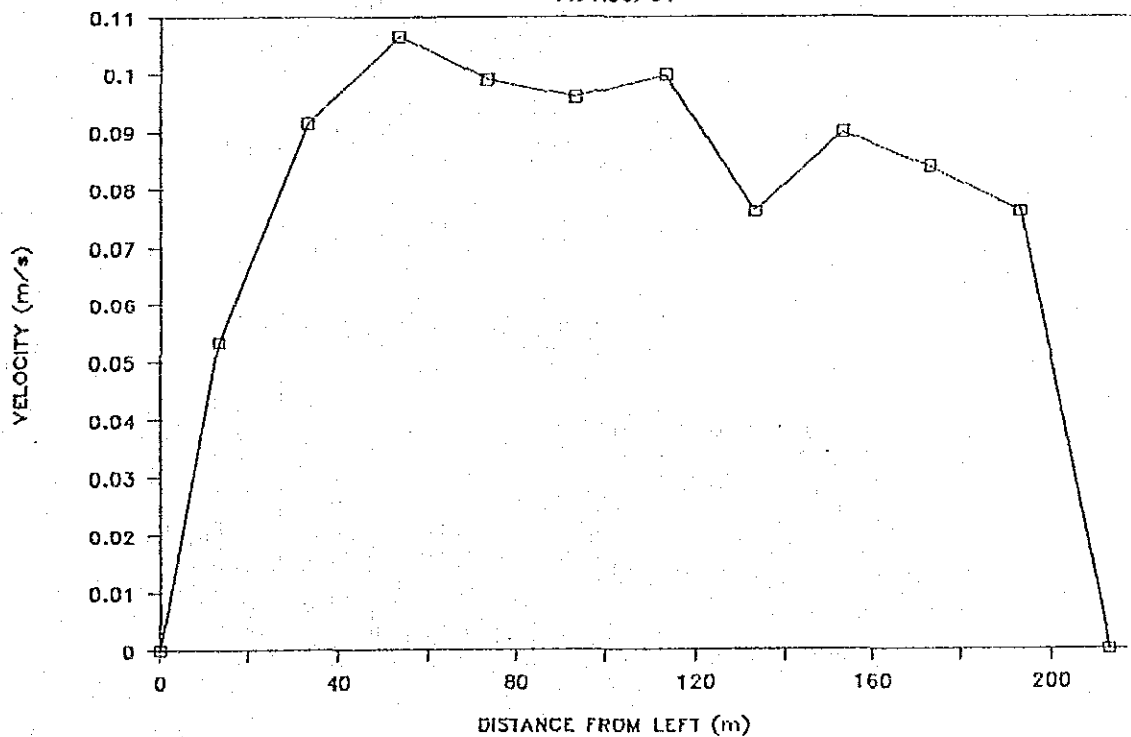
WATER DEPTH (4-669)

11/AUG/91



VELOCITY (4-669)

11/AUG/91



FLOW MEASUREMENT ST. : 4-669 HOOK BRIDGE

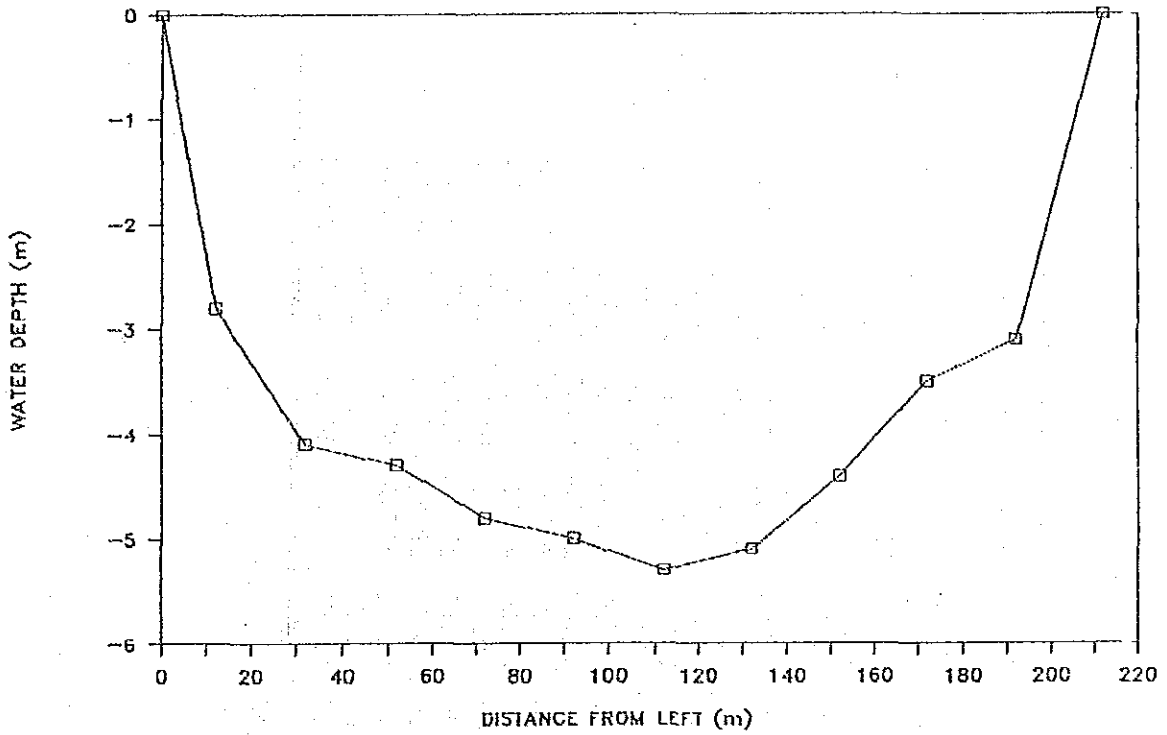
19/SEP/'91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-R
WATER DEPTH (m)	0.00	2.80	4.10	4.30	4.80	5.00	5.30	5.10	4.40	3.50	3.10	0.00
SE/WIDTH (m)	0.00	12.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
TOTAL SE/WIDTH(m)	0.00	12.00	32.00	52.00	72.00	92.00	112.00	132.00	152.00	172.00	192.00	212.00
VELOCITY.2-1(f/s)	0.00	0.15	0.30	0.20	0.20	0.20	0.10	0.15	0.10	0.20	0.10	0.00
VELOCITY.2-2(f/s)	0.00	0.15	0.30	0.20	0.20	0.20	0.10	0.15	0.10	0.20	0.10	0.00
MEAN VEL.2 (f/s)	0.00	0.15	0.30	0.20	0.20	0.20	0.10	0.15	0.10	0.20	0.10	0.00
VELOCITY.8-1(f/s)	0.00	0.05	0.10	0.05	0.10	0.05	0.00	0.05	0.00	0.10	0.10	0.00
VELOCITY.8-2(f/s)	0.00	0.05	0.10	0.05	0.10	0.05	0.00	0.05	0.00	0.08	0.05	0.00
MEAN VEL.8 (f/s)	0.00	0.05	0.10	0.05	0.10	0.05	0.00	0.05	0.00	0.09	0.08	0.00
MEAN VEL (f/s)	0.000	0.100	0.200	0.125	0.150	0.125	0.050	0.100	0.050	0.145	0.088	0.000
MEAN VEL (m/s)	0.000	0.030	0.061	0.038	0.046	0.038	0.015	0.030	0.015	0.044	0.027	0.000
L/MEAN DEPTH (m)	0.000	1.400	3.775	4.250	4.675	4.950	5.225	5.150	4.575	3.725	3.200	-
L/MEAN WIDTH (m)	0.00	12.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
L/SEC. AREA (m2)	0.00	16.80	37.75	42.50	46.75	49.50	52.25	51.50	45.75	37.25	32.00	-
R/MEAN DEPTH (m)	0.000	3.125	4.150	4.425	4.850	5.075	5.250	4.925	4.175	3.400	1.550	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	20.00	-
R/SEC. AREA (m2)	0.00	31.25	41.50	44.25	48.50	50.75	52.50	49.25	41.75	34.00	31.00	-
S/AREA (m2)	0.00	48.05	79.25	86.75	95.25	100.25	104.75	100.75	87.50	71.25	63.00	-
TOTAL AREA (m2)	0.0	48.1	127.3	214.1	309.3	409.6	514.3	615.1	702.6	773.8	836.8	-
S/DISCHARGE(m3/s)	0.00	1.46	4.83	3.31	4.35	3.82	1.60	3.07	1.33	3.15	1.68	-
TOTAL DIS. (m3/s)	0.00	1.46	6.30	9.60	13.96	17.78	19.37	22.44	23.78	26.92	28.61	-

WATER LEVEL (f) : 5.42 WATER LEVEL (m) : 1.65
 TOTAL DISCHARGE : 28.61 MEAN VELOCITY(m/s) : 0.03

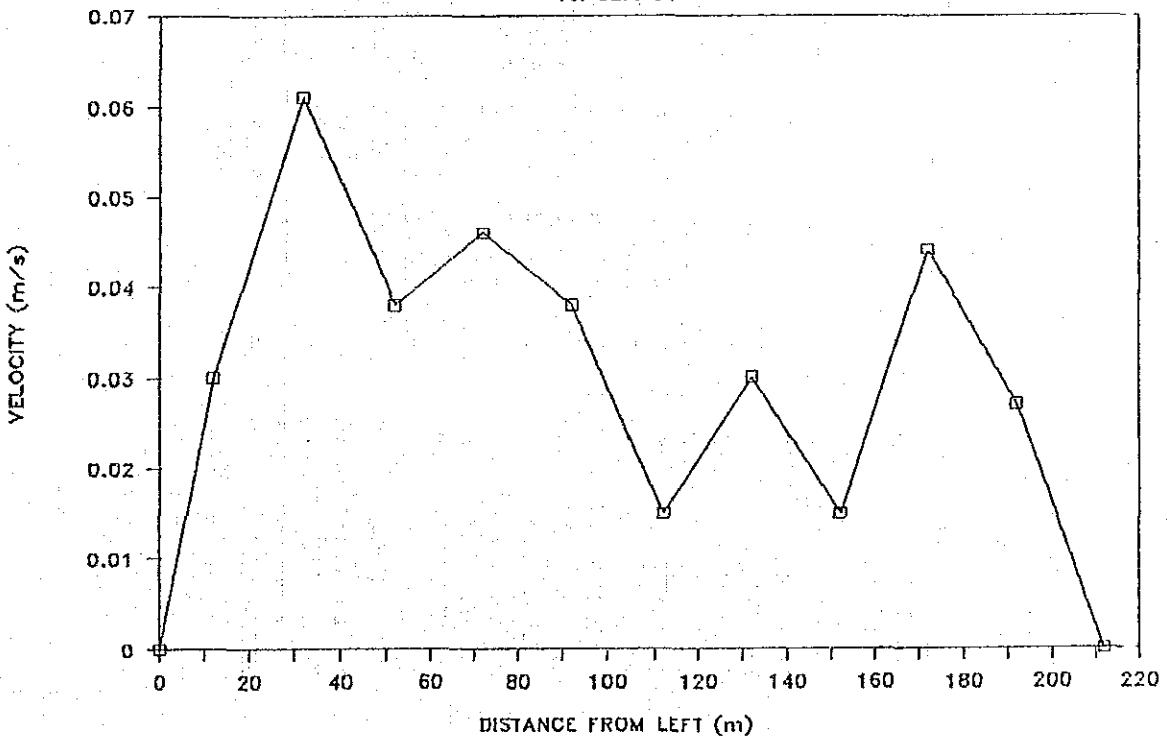
WATER DEPTH (4-669)

19/SEP/91



VELOCITY (4-669)

19/SEP/91



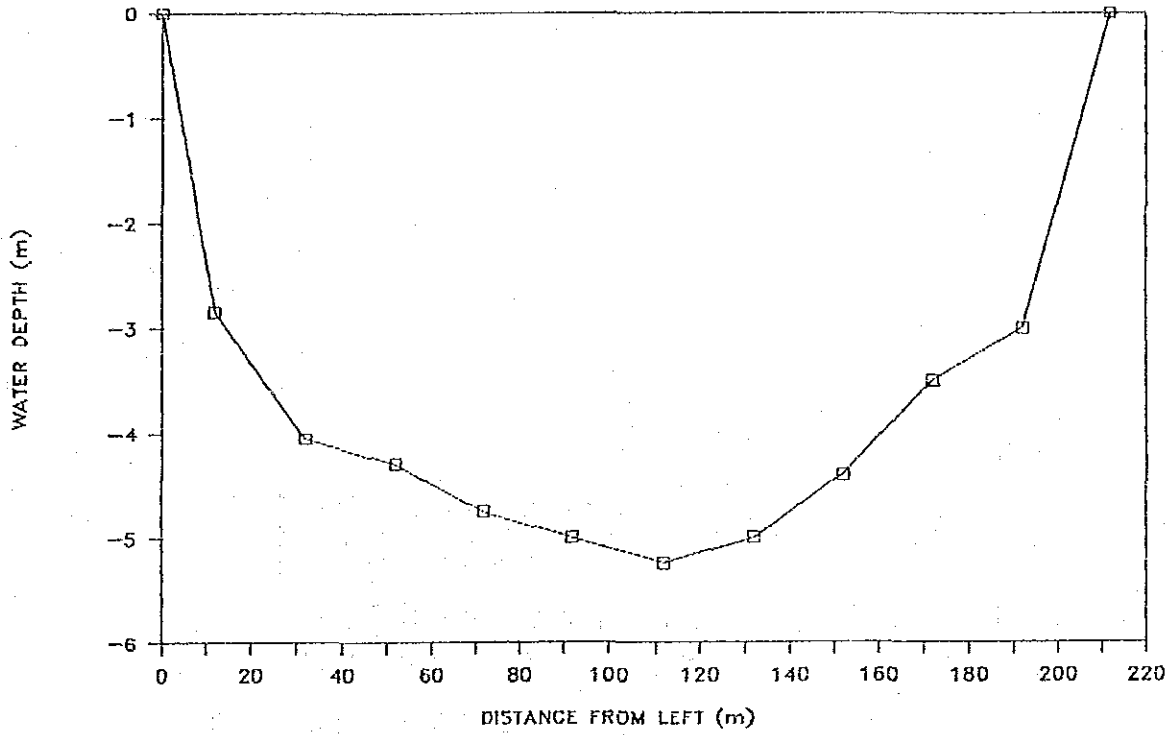
FLOW MEASUREMENT ST. : 4-669 KAFUE HOOK BRIDGE 06/OCT/91

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-10	NO-R	
WATER DEPTH (m)	0.00	2.85	4.05	4.30	4.75	5.00	5.24	5.00	4.40	3.50	3.00	0.00
SE/WIDTH (m)	0.00	11.90	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
TOTAL SE/WIDTH(m)	0.00	11.90	31.90	51.90	71.90	91.90	111.90	131.90	151.90	171.90	191.90	211.90
VELOCITY.2-1(f/s)	0.00	0.15	0.30	0.25	0.20	0.20	0.12	0.15	0.12	0.20	0.12	0.00
VELOCITY.2-2(f/s)	0.00	0.15	0.30	0.25	0.20	0.20	0.12	0.15	0.12	0.20	0.12	0.00
MEAN VEL.2 (f/s)	0.00	0.15	0.30	0.25	0.20	0.20	0.12	0.15	0.12	0.20	0.12	0.00
VELOCITY.8-1(f/s)	0.00	0.05	0.15	0.08	0.15	0.05	0.05	0.05	0.10	0.10	0.10	0.00
VELOCITY.8-2(f/s)	0.00	0.07	0.15	0.08	0.12	0.05	0.05	0.05	0.10	0.10	0.10	0.00
MEAN VEL.8 (f/s)	0.00	0.06	0.15	0.08	0.14	0.05	0.05	0.05	0.10	0.10	0.10	0.00
MEAN VEL (f/s)	0.000	0.105	0.225	0.165	0.168	0.125	0.085	0.100	0.110	0.150	0.110	0.000
MEAN VEL (m/s)	0.000	0.032	0.069	0.050	0.051	0.038	0.026	0.030	0.034	0.046	0.034	0.000
L/MEAN DEPTH (m)	0.000	1.425	3.750	4.238	4.638	4.938	5.180	5.060	4.550	3.725	3.125	-
L/MEAN WIDTH (m)	0.00	11.90	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-
I/SEC. AREA (m2)	0.00	16.96	37.50	42.38	46.38	49.38	51.80	50.60	45.50	37.25	31.25	-
R/MEAN DEPTH (m)	0.000	3.150	4.113	4.413	4.813	5.060	5.180	4.850	4.175	3.375	1.500	-
R/MEAN WIDTH (m)	0.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	20.00	-
R/SEC. AREA (m2)	0.00	31.50	41.13	44.13	48.13	50.60	51.80	48.50	41.75	33.75	30.00	-
S/AREA (m2)	0.00	48.46	78.63	86.50	94.50	99.98	103.60	99.10	87.25	71.00	61.25	-
TOTAL AREA (m2)	0.0	48.5	127.1	213.6	308.1	408.1	511.7	610.8	698.0	769.0	830.3	-
S/DISCHARGE(m3/s)	0.00	1.55	5.39	4.35	4.82	3.81	2.68	3.02	2.93	3.25	2.05	-
TOTAL DIS. (m3/s)	0.00	1.55	6.94	11.29	16.12	19.93	22.61	25.63	28.56	31.80	33.86	-

WATER LEVEL (f) : 5.31 WATER LEVEL (m) : 1.62
 TOTAL DISCHARGE : 33.86 MEAN VELOCITY(m/s) : 0.04

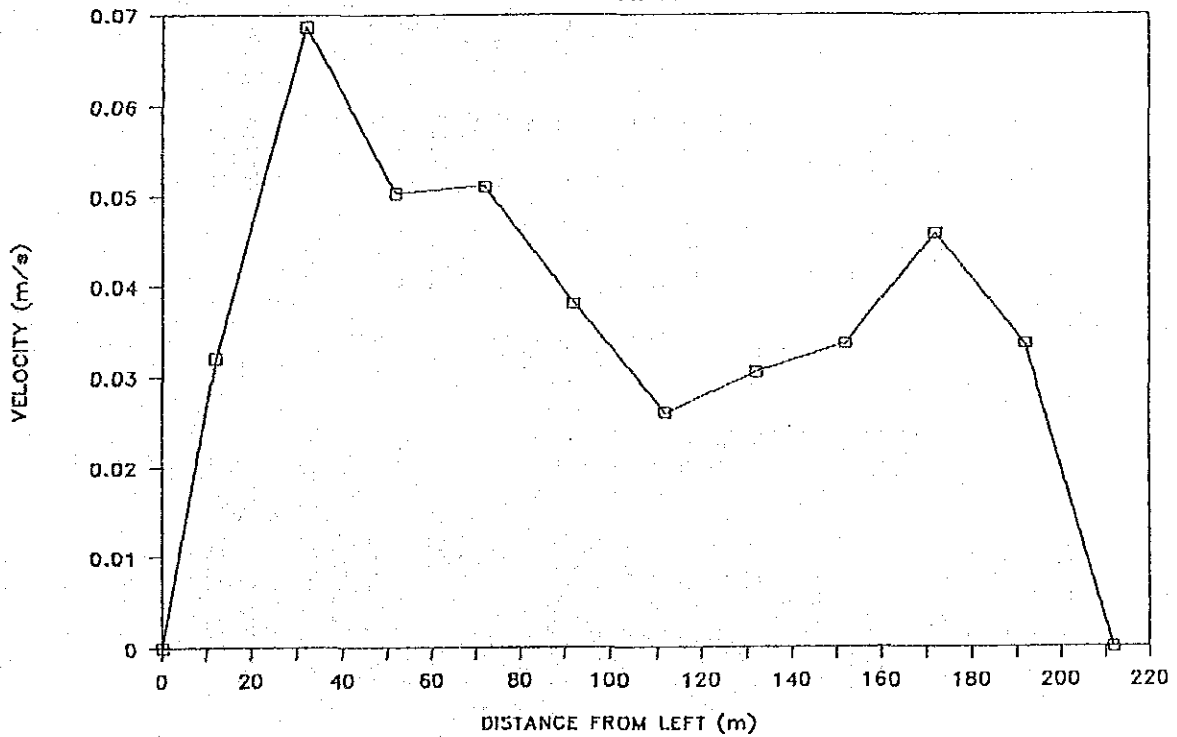
WATER DEPTH (4-669)

06/OCT/91



VELOCITY (4-669)

06/OCT/91



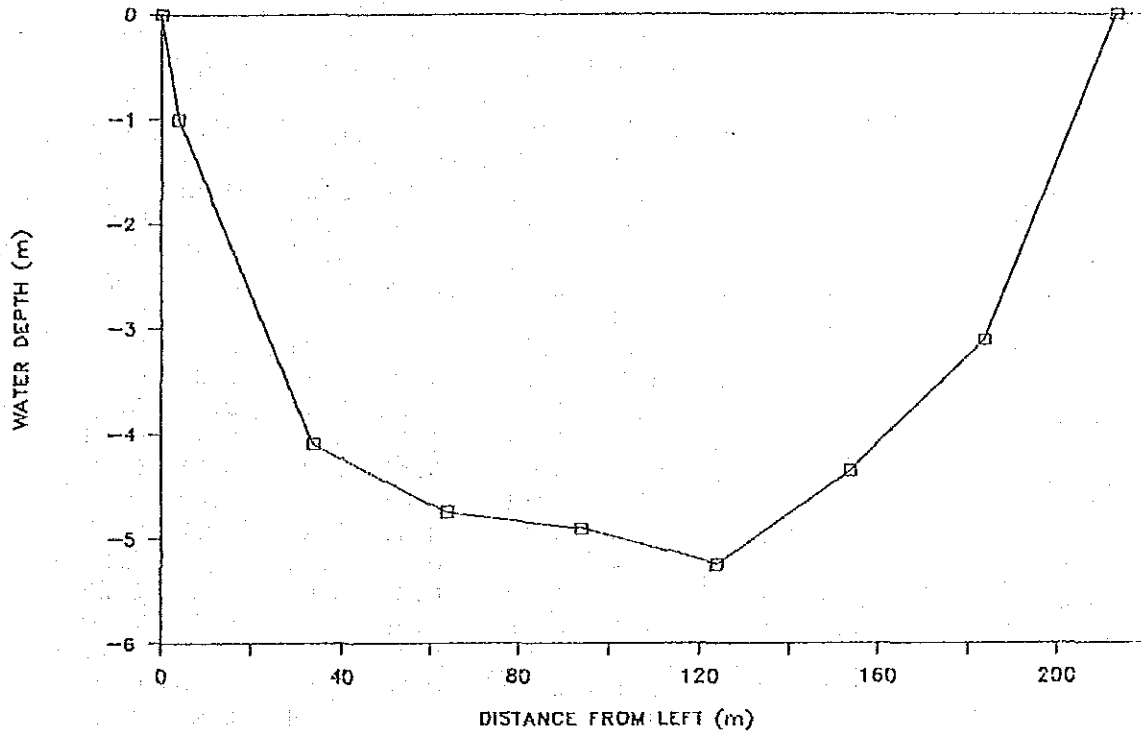
FLOW MEASUREMENT ST. : 4-669 KAFUE HOOK BRIDGE 15/NOV/91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-R
WATER DEPTH (m)	0.00	1.00	4.10	4.75	4.90	5.24	4.35	3.10	0.00
SE/WIDTH (m)	0.00	3.80	30.00	30.00	30.00	30.00	30.00	30.00	30.00
TOTAL SE/WIDTH(m)	0.00	3.80	33.80	63.80	93.80	123.80	153.80	183.80	213.80
VELOCITY.2-1(f/s)	0.00	0.00	0.10	0.20	0.20	0.20	0.10	0.15	0.00
VELOCITY.2-2(f/s)	0.00	0.00	0.10	0.20	0.20	0.20	0.10	0.15	0.00
MEAN VEL.2 (f/s)	0.00	0.00	0.10	0.20	0.20	0.20	0.10	0.15	0.00
VELOCITY.8-1(f/s)	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.05	0.00
VELOCITY.8-2(f/s)	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.05	0.00
MEAN VEL.8 (f/s)	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.05	0.00
MEAN VEL (f/s)	0.000	0.000	0.050	0.100	0.150	0.150	0.050	0.100	0.000
MEAN VEL (m/s)	0.000	0.000	0.015	0.030	0.046	0.046	0.015	0.030	0.000
L/MEAN DEPTH (m)	0.000	0.500	3.325	4.588	4.863	5.155	4.573	3.413	-
L/MEAN WIDTH (m)	0.00	3.80	15.00	15.00	15.00	15.00	15.00	15.00	-
L/SEC. AREA (m2)	0.00	1.90	49.88	68.81	72.94	77.33	68.59	51.19	-
R/MEAN DEPTH (m)	0.000	1.775	4.263	4.788	4.985	5.018	4.038	1.550	-
R/MEAN WIDTH (m)	0.00	15.00	15.00	15.00	15.00	15.00	15.00	30.00	-
R/SEC. AREA (m2)	0.00	26.63	63.94	71.81	74.78	75.26	60.56	46.50	-
S/AREA (m2)	0.00	28.53	113.81	140.63	147.71	152.59	129.15	97.69	-
TOTAL AREA (m2)	0.0	28.5	142.3	283.0	430.7	583.3	712.4	810.1	-
S/DISCHARGE(m3/s)	0.00	0.00	1.73	4.29	6.75	6.98	1.97	2.98	-
TOTAL DIS. (m3/s)	0.00	0.00	1.73	6.02	12.77	19.75	21.72	24.70	-

WATER LEVEL (f) : 5.36 WATER LEVEL (m) : 1.63
 TOTAL DISCHARGE : 24.70 MEAN VELOCITY(m/s) : 0.03

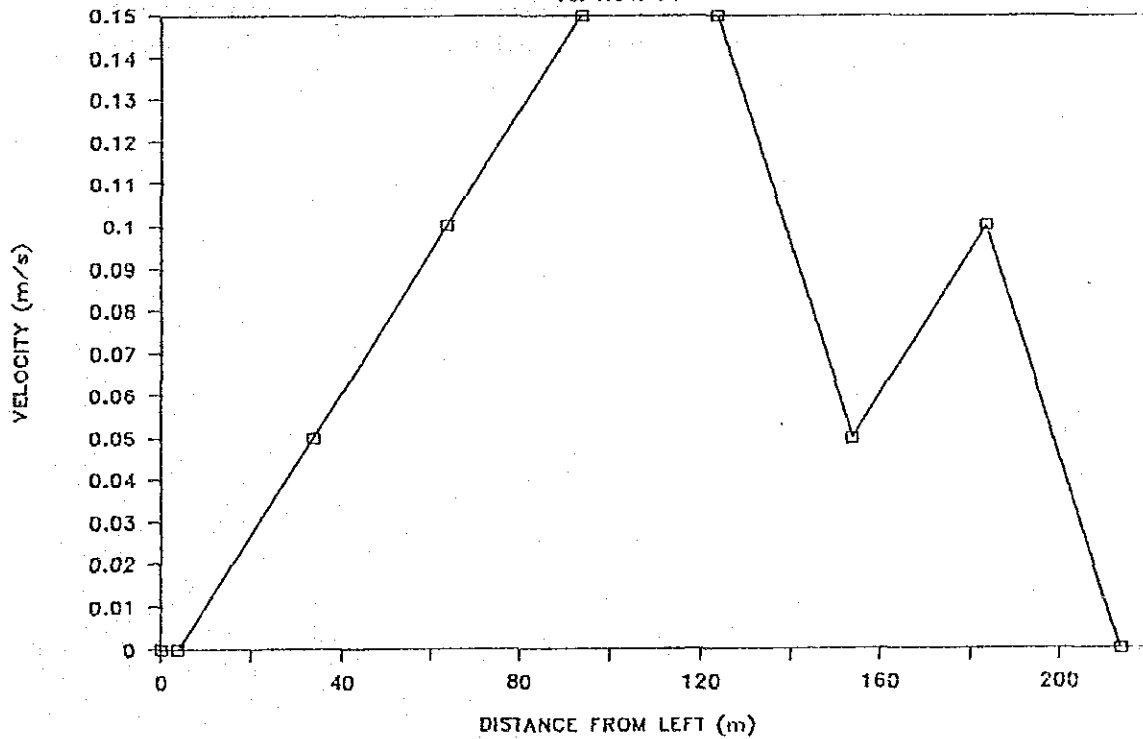
WATER DEPTH (4-669)

15/NOV/91



VELOCITY (4-669)

15/NOV/91



LIST OF FLOW MEASUREMENT

ST.: 4-941 KALEYA DAM SITE

NO.	DATE	----[Feet - Second]----				++++[Meter - Second]++++			
		H (f)	Q (f3/s)	A (f2)	V (f/s)	H (m)	Q (m3/s)	A (m2)	V (m/s)
1	12-Mar-70	1.20	2.27	3.40	0.67	0.37	0.06	0.32	0.20
2	01-Jan-71	1.00	0.57	2.90	0.20	0.30	0.02	0.27	0.06
3	19-Feb-71	1.63	10.08	9.56	1.05	0.50	0.29	0.89	0.32
4	21-Apr-71	1.13	1.45	1.90	0.76	0.34	0.04	0.18	0.23
5	05-Jan-72	1.27	2.98	3.03	0.98	0.39	0.08	0.28	0.30
6	19-Jan-72	1.20	2.59	2.80	0.93	0.37	0.07	0.26	0.28
7	17-Feb-72	1.30	3.63	3.40	1.07	0.40	0.10	0.32	0.33
8	21-Mar-72	1.41	5.09	4.25	1.20	0.43	0.14	0.39	0.37
9	19-Jun-73	1.02	0.60	1.10	0.53	0.31	0.02	0.10	0.16
10	26-Mar-79	1.55	9.65	9.80	0.96	0.47	0.27	0.91	0.29
11	09-Jun-79	1.34	4.22	9.20	0.52	0.41	0.12	0.85	0.16
12	05-Feb-80	1.32	3.82	7.80	0.49	0.40	0.11	0.72	0.15
13	17-Apr-80	1.26	3.16	8.50	0.37	0.38	0.09	0.79	0.11
14	81/ ?/ ?	1.29	3.00	4.10	0.73	0.39	0.08	0.38	0.22
15	23-Mar-85	1.26	5.24	5.35	0.98	0.38	0.15	0.50	0.30
16	29-Mar-90	1.57	4.24	38.53	0.36	0.48	0.12	1.09	0.11
17	18-Jul-90	1.18	2.47	27.47	0.30	0.36	0.07	0.78	0.09
18	31-Dec-90	1.18	29.66	78.06	1.25	0.36	0.84	2.21	0.38
19	21-Jan-91	2.10	42.02	71.23	1.94	0.64	1.19	2.02	0.59
20	20-Feb-91	1.21	6.36	28.89	0.72	0.37	0.18	0.82	0.22
21	12-Aug-91	1.12	3.18	14.45	0.72	0.34	0.09	0.41	0.22
22	04-Sep-91	1.12	2.83	12.84	0.72	0.34	0.08	0.36	0.22
23	08-Oct-91	1.09	2.83	12.84	0.72	0.33	0.08	0.36	0.22
24	25-Nov-91	1.15	2.12	26.49	0.26	0.35	0.06	0.75	0.08

[Note] H:Water Level, Q:Discharge, A:Discharge Area, V:Velocity

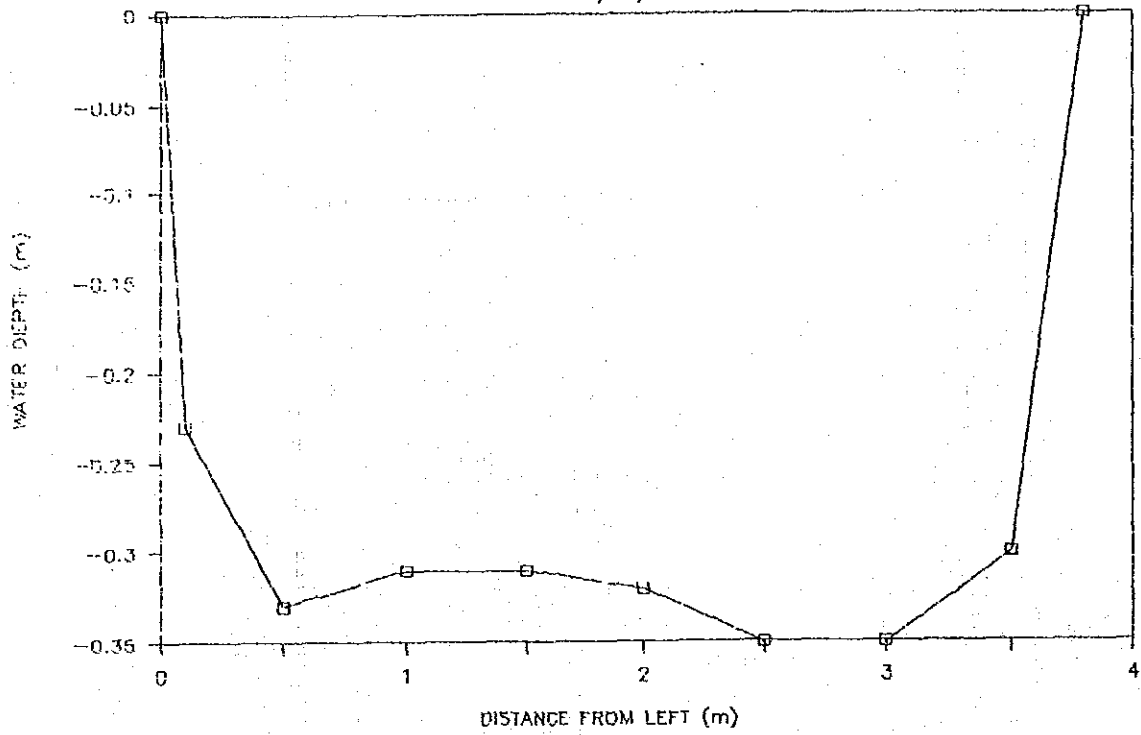
FLOW MEASUREMENT ST. : 4-941 KALEYA DAM SITE MAR./29/90

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-R
WATER DEPTH (m)	0.00	0.23	0.33	0.31	0.31	0.32	0.35	0.35	0.30	0.00
SE/WIDTH (m)	0.00	0.10	0.40	0.50	0.50	0.50	0.50	0.50	0.50	0.30
TOTAL SE/WIDTH(m)	0.00	0.10	0.50	1.00	1.50	2.00	2.50	3.00	3.50	3.80
VELOCITY.2-1(f/s)	---	---	---	---	---	---	---	---	---	---
VELOCITY.2-2(f/s)	---	---	---	---	---	---	---	---	---	---
MEAN VEL.2 (f/s)	---	---	---	---	---	---	---	---	---	---
VELOCITY.8-1(f/s)	---	---	---	---	---	---	---	---	---	---
VELOCITY.8-2(f/s)	---	---	---	---	---	---	---	---	---	---
MEAN VEL.8 (f/s)	---	---	---	---	---	---	---	---	---	---
MEAN VEL (f/s)	---	---	---	---	---	---	---	---	---	---
MEAN VEL (m/s)	0.000	0.000	0.100	0.084	0.150	0.151	0.140	0.147	0.000	---
L/MEAN DEPTH (m)	0.000	0.115	0.305	0.315	0.310	0.318	0.343	0.350	0.313	---
L/MEAN WIDTH (m)	0.00	0.10	0.20	0.25	0.25	0.25	0.25	0.25	0.25	---
L/SEC. AREA (m2)	0.00	0.01	0.06	0.08	0.08	0.08	0.09	0.09	0.08	---
R/MEAN DEPTH (m)	0.000	0.255	0.325	0.310	0.313	0.328	0.350	0.338	0.150	---
R/MEAN WIDTH (m)	0.00	0.20	0.25	0.25	0.25	0.25	0.25	0.25	0.30	---
R/SEC. AREA (m2)	0.00	0.05	0.08	0.08	0.08	0.08	0.09	0.08	0.05	---
S/AREA (m2)	0.00	0.06	0.14	0.16	0.16	0.16	0.17	0.17	0.12	---
TOTAL AREA (m2)	0.0	0.1	0.2	0.4	0.5	0.7	0.9	1.0	1.1	---
S/DISCHARGE(m3/s)	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.00	---
TOTAL DIS. (m3/s)	0.00	0.00	0.01	0.03	0.05	0.08	0.10	0.12	0.12	---

WATER LEVEL (f) : 1.59 WATER LEVEL (m) : 0.49
 TOTAL DISCHARGE : 0.12 MEAN VELOCITY(m/s) : 0.11

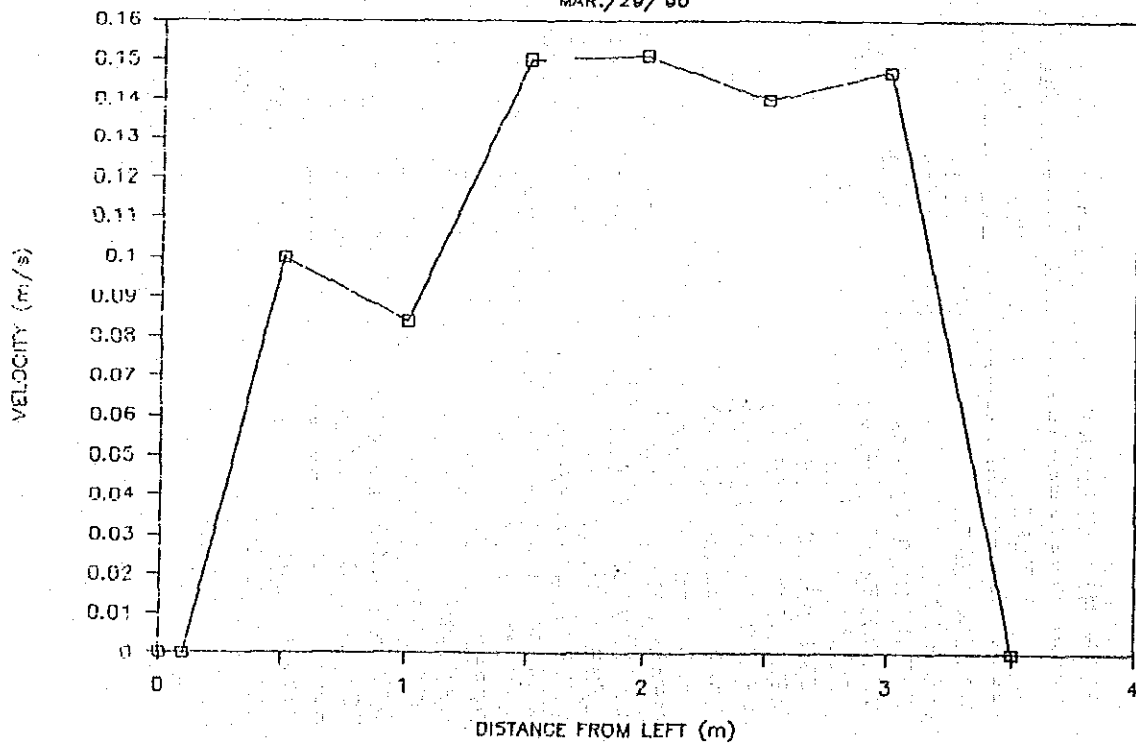
WATER DEPTH (4-941)

MAR./29/'90



VELOCITY (4-941)

MAR./29/'90



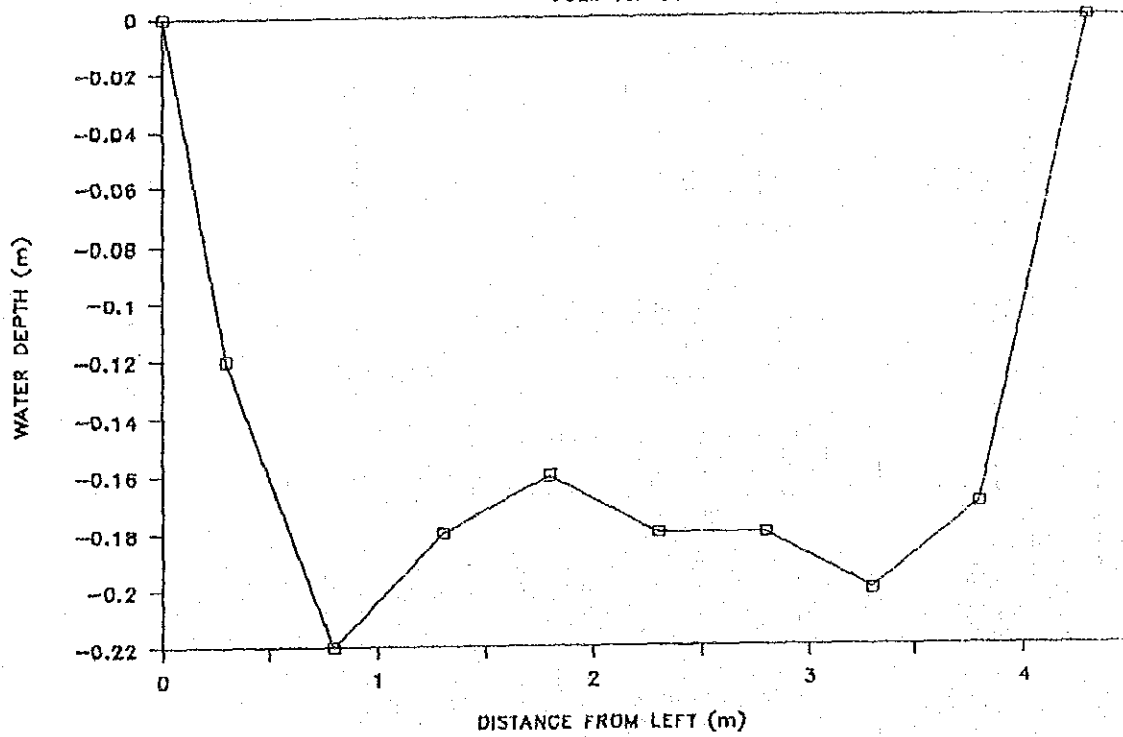
FLOW MEASUREMENT ST. : 4-941 KALEYA DAM SITE JUL./18/'90

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-R
WATER DEPTH (m)	0.00	0.12	0.22	0.18	0.16	0.18	0.18	0.20	0.17	0.00
SE/WIDTH (m)	0.00	0.30	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
TOTAL SE/WIDTH(m)	0.00	0.30	0.80	1.30	1.80	2.30	2.80	3.30	3.80	4.30
VELOCITY.2-1(f/s)	-	-	-	-	-	-	-	-	-	-
VELOCITY.2-2(f/s)	-	-	-	-	-	-	-	-	-	-
MEAN VEL.2 (f/s)	-	-	-	-	-	-	-	-	-	-
VELOCITY.8-1(f/s)	0.00	0.20	0.35	0.10	0.40	0.60	0.55	0.20	0.00	0.00
VELOCITY.8-2(f/s)	0.00	0.20	0.35	0.10	0.45	0.60	0.55	0.20	0.00	0.00
MEAN VEL.8 (f/s)	0.00	0.20	0.35	0.10	0.43	0.60	0.55	0.20	0.00	0.00
MEAN VEL (f/s)	0.00	0.20	0.35	0.10	0.43	0.60	0.55	0.20	0.00	0.00
MEAN VEL (m/s)	0.000	0.061	0.107	0.030	0.130	0.183	0.168	0.061	0.000	0.000
L/MEAN DEPTH (m)	0.000	0.060	0.195	0.190	0.165	0.175	0.180	0.195	0.178	-
L/MEAN WIDTH (m)	0.00	0.30	0.25	0.25	0.25	0.25	0.25	0.25	0.25	-
L/SEC. AREA (m2)	0.00	0.02	0.05	0.05	0.04	0.04	0.05	0.05	0.04	-
R/MEAN DEPTH (m)	0.000	0.145	0.210	0.175	0.165	0.180	0.185	0.193	0.085	-
R/MEAN WIDTH (m)	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	-
R/SEC. AREA (m2)	0.00	0.04	0.05	0.04	0.04	0.05	0.05	0.05	0.04	-
S/AREA (m2)	0.00	0.05	0.10	0.09	0.08	0.09	0.09	0.10	0.09	-
TOTAL AREA (m2)	0.0	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	-
S/DISCHARGE(m3/s)	0.00	0.00	0.01	0.00	0.01	0.02	0.02	0.01	0.00	-
TOTAL DIS. (m3/s)	0.00	0.00	0.01	0.02	0.03	0.04	0.06	0.07	0.07	-

WATER LEVEL (f) : 1.19 WATER LEVEL (m) : 0.36
 TOTAL DISCHARGE : 0.07 MEAN VELOCITY(m/s) : 0.09

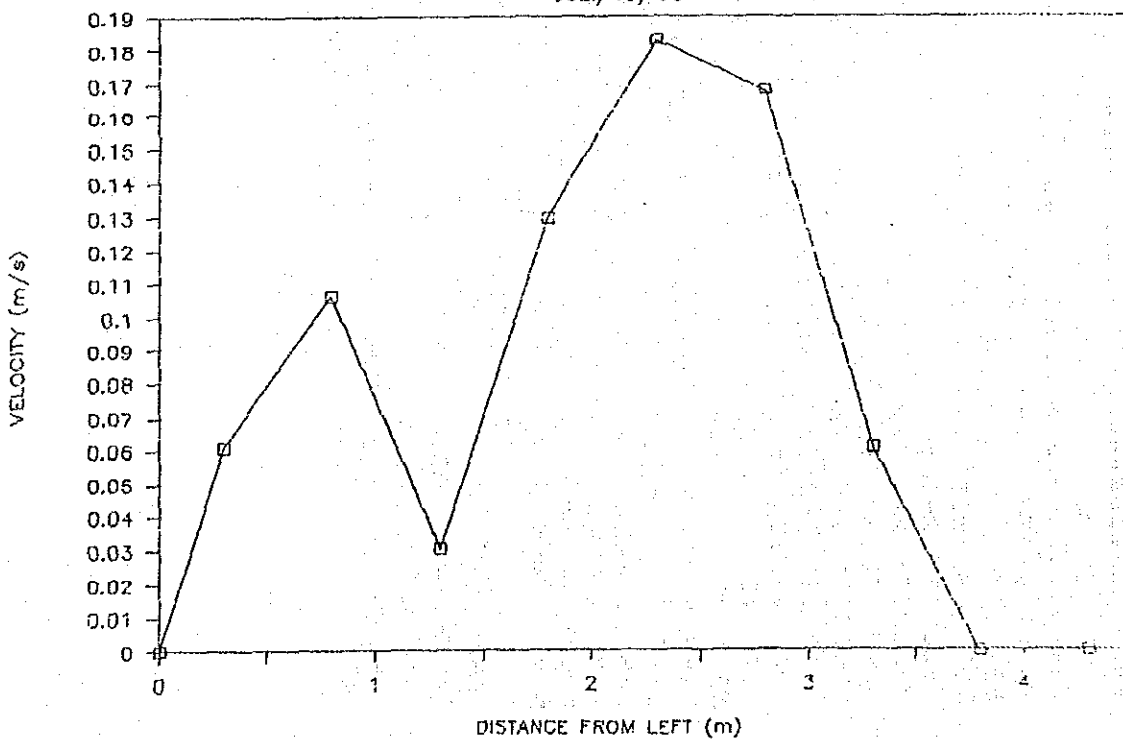
WATER DEPTH (4-941)

JUL./18/90



VELOCITY (4-941)

JUL./18/90

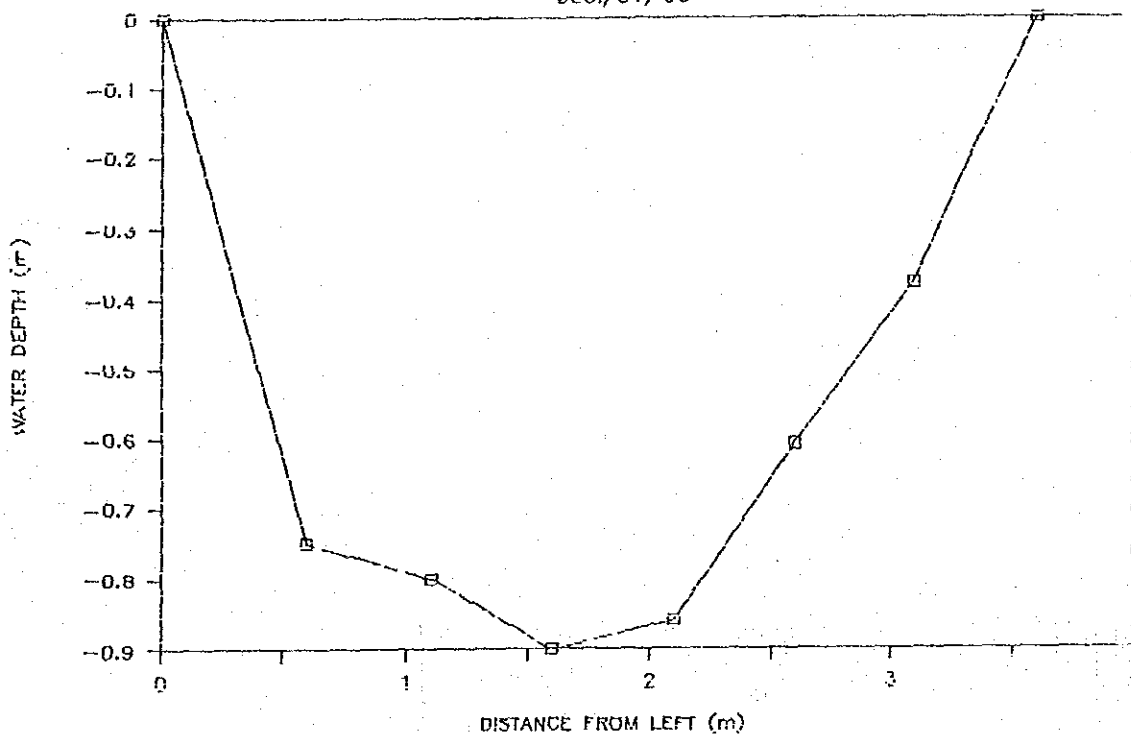


ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.75	0.80	0.90	0.86	0.61	0.38	0.00
SE/WIDTH (m)	0.60	0.50	0.50	0.50	0.50	0.50	0.50
TOTAL SE/WIDTH(m)	0.60	1.10	1.60	2.10	2.60	3.10	3.60
VELOCITY.2-1(f/s)	1.30	1.80	2.00	1.60	0.50	-	-
VELOCITY.2-2(f/s)	1.30	1.80	2.00	1.60	0.50	-	-
MEAN VEL.2 (f/s)	1.30	1.80	2.00	1.60	0.50	-	-
VELOCITY.8-1(f/s)	1.10	1.20	1.80	1.30	0.40	0.30	0.00
VELOCITY.8-2(f/s)	1.10	1.20	1.80	1.30	0.40	0.30	0.00
MEAN VEL.8 (f/s)	1.10	1.20	1.80	1.30	0.40	0.30	0.00
MEAN VEL (f/s)	1.20	1.50	1.90	1.45	0.45	0.30	0.00
MEAN VEL (m/s)	0.366	0.457	0.579	0.442	0.137	0.091	0.000
L/MEAN DEPTH (m)	0.000	0.375	0.875	0.870	0.673	0.438	-
L/MEAN WIDTH (m)	0.00	0.60	0.25	0.25	0.25	0.25	-
L/SEC. AREA (m2)	0.00	0.23	0.20	0.22	0.17	0.11	-
R/MEAN DEPTH (m)	0.000	0.763	0.825	0.798	0.553	0.190	-
R/MEAN WIDTH (m)	0.00	0.25	0.25	0.25	0.25	0.50	-
R/SEC. AREA (m2)	0.00	0.19	0.21	0.20	0.14	0.10	-
S/AREA (m2)	0.00	0.42	0.40	0.42	0.31	0.20	-
TOTAL AREA (m2)	0.0	0.4	1.3	1.7	2.0	2.2	-
S/DISCHARGE(m3/s)	0.00	0.15	0.18	0.18	0.04	0.02	-
TOTAL DIS. (m3/s)	0.00	0.15	0.34	0.78	0.82	0.84	-

WATER LEVEL (f) : 1.18 WATER LEVEL (m) : 0.36
 TOTAL DISCHARGE : 0.84 MEAN VELOCITY(m/s) : 0.38

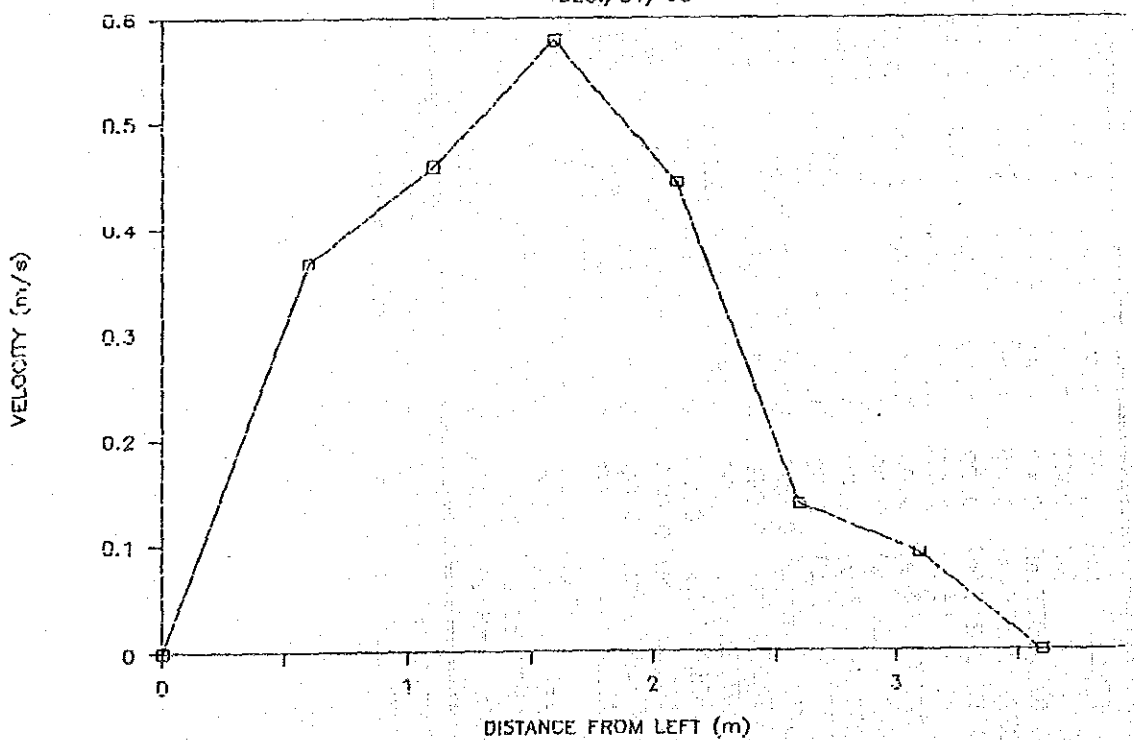
WATER DEPTH (4-941)

DEC./31/80



VELOCITY (4-941)

DEC./31/80



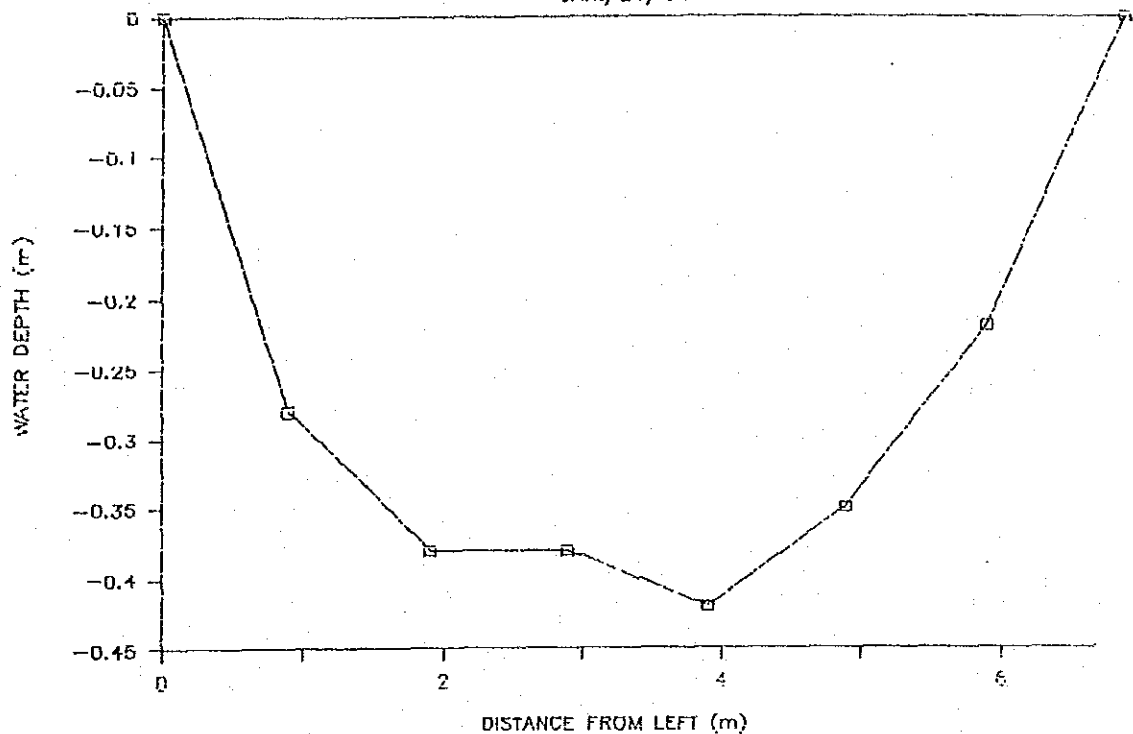
FLOW MEASUREMENT ST. : 4-941 KALEVA DAM SITE JAN. /21/91

TIME	ND-1	ND-2	ND-3	ND-4	ND-5	ND-6	ND-R
WATER DEPTH (m)	0.00	0.28	0.38	0.38	0.42	0.35	0.22
S/WIDTH (m)	0.00	0.90	1.00	1.00	1.00	1.00	1.00
TOTAL SE/WIDTH(m)	0.00	0.90	1.90	2.90	3.90	4.90	5.90
VELOCITY 2-1(f/s)	0.00	1.50	2.90	2.00	2.60	1.00	1.20
VELOCITY 2-2(f/s)	0.00	1.50	2.90	2.00	2.55	1.00	1.10
MEAN VEL. 2 (f/s)	0.00	1.50	2.90	2.00	2.58	1.00	1.15
VELOCITY 8-1(f/s)	0.00	-	-	-	-	-	-
VELOCITY 8-2(f/s)	0.00	-	-	-	-	-	-
MEAN VEL. 8 (f/s)	0.00	-	-	-	-	-	-
MEAN VEL. (f/s)	0.00	1.50	2.90	2.00	2.58	1.00	1.15
MEAN VEL. (m/s)	0.000	0.457	0.884	0.610	0.786	0.305	0.351
L/MEAN DEPTH (m)	0.000	0.140	0.355	0.380	0.410	0.368	0.253
L/MEAN WIDTH (m)	0.00	0.90	0.50	0.50	0.50	0.50	0.50
L/SEC. AREA (m ²)	0.00	0.13	0.18	0.19	0.21	0.18	0.13
R/MEAN DEPTH (m)	0.000	0.305	0.380	0.380	0.403	0.318	0.110
R/MEAN WIDTH (m)	0.00	0.50	0.50	0.50	0.50	0.50	1.00
R/SEC. AREA (m ²)	0.00	0.15	0.19	0.20	0.20	0.16	0.11
S/AREA (m ²)	0.00	0.28	0.37	0.39	0.41	0.34	0.24
TOTAL AREA (m ²)	0.0	0.3	0.6	1.0	1.4	1.8	2.0
S/DISCHARGE(m ³ /s)	0.00	0.13	0.32	0.23	0.32	0.10	0.08
TOTAL DIS. (m ³ /s)	0.00	0.13	0.45	0.69	1.01	1.11	1.19

WATER LEVEL (f) : 2.10 WATER LEVEL (m) : 0.64
 TOTAL DISCHARGE : 1.19 MEAN VELOCITY(m/s) : 0.59

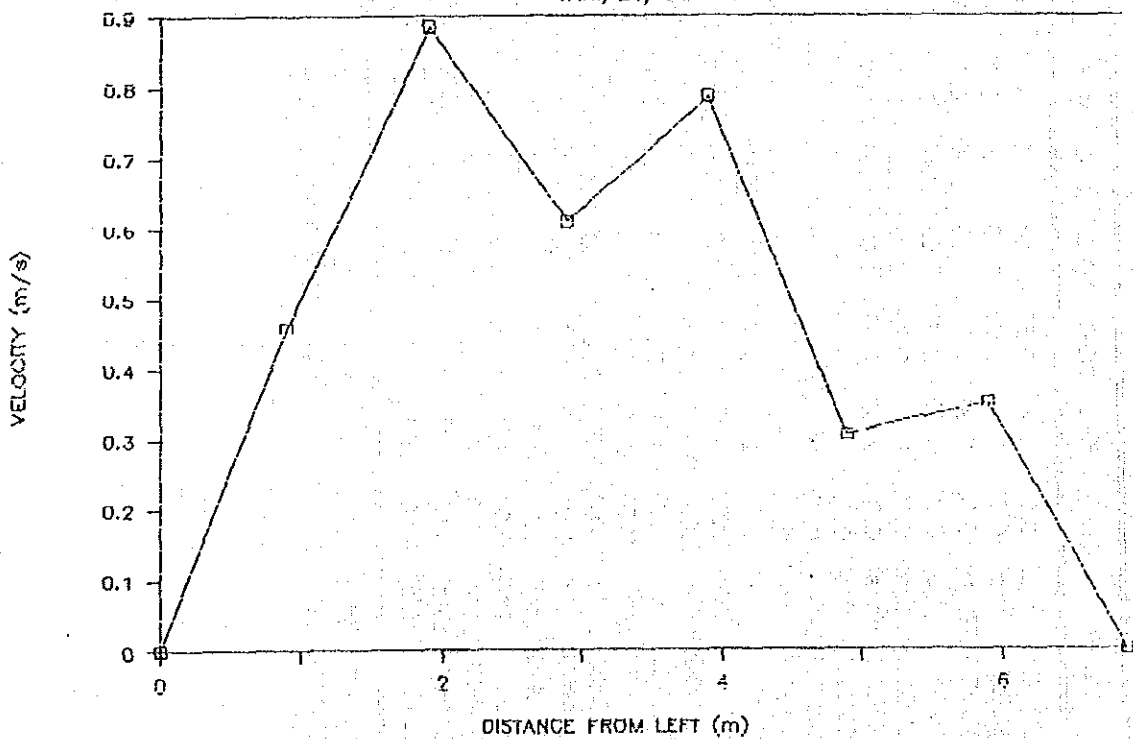
WATER DEPTH (4-941)

JAN./21/91



VELOCITY (4-941)

JAN./21/91



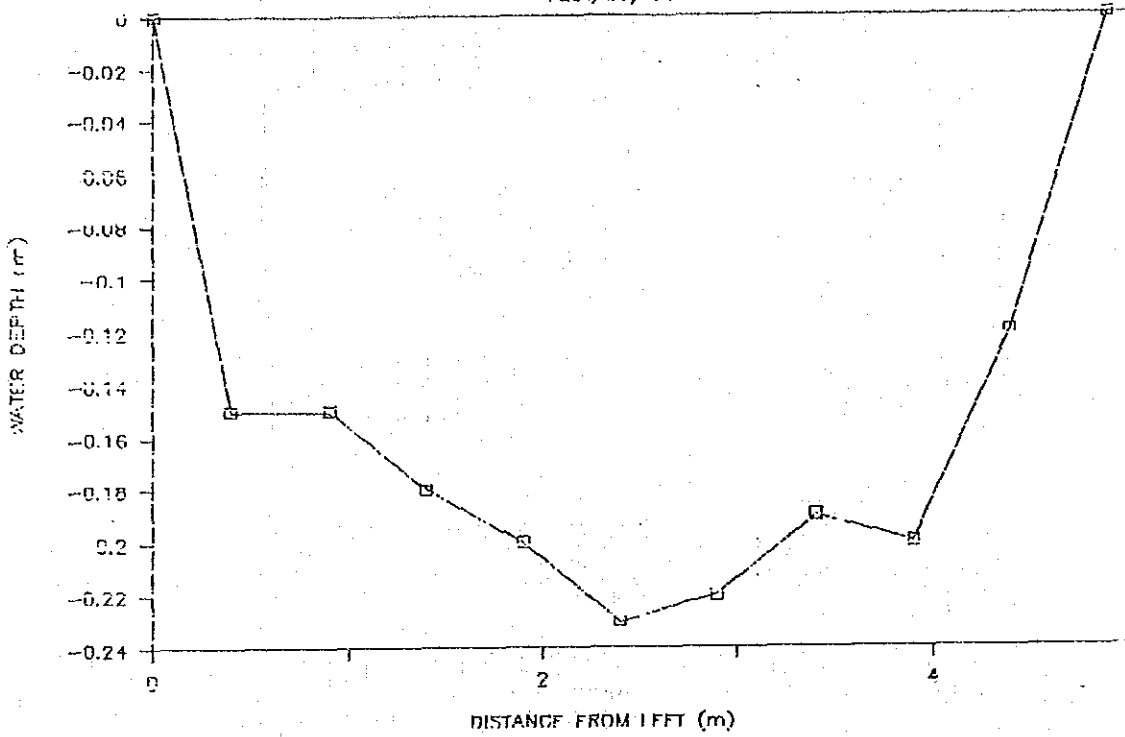
FLOW MEASUREMENT ST. : 4-941 KALEYA DAM SITE FEB/20/'91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-9	NO-R
WATER DEPTH (m)	0.00	0.15	0.15	0.18	0.20	0.23	0.22	0.19	0.20	0.12	0.00
S/WIDTH (m)	0.00	0.40	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
TOTAL SE/WIDTH(m)	0.00	0.40	0.90	1.40	1.90	2.40	2.90	3.40	3.90	4.40	4.90
VELOCITY.2-1(f/s)	0.00	0.65	0.90	0.85	1.10	1.00	0.75	0.55	0.50	0.20	0.00
VELOCITY.2-2(f/s)	0.00	0.60	0.90	0.85	1.00	1.00	0.70	0.55	0.50	0.15	0.00
MEAN VEL.2 (f/s)	0.00	0.63	0.90	0.85	1.05	1.00	0.73	0.55	0.50	0.18	0.00
VELOCITY.6-1(f/s)	0.00	-	-	-	-	-	-	-	-	-	0.00
VELOCITY.6-2(f/s)	0.00	-	-	-	-	-	-	-	-	-	0.00
MEAN VEL.6 (f/s)	0.00	-	-	-	-	-	-	-	-	-	0.00
MEAN VEL (f/s)	0.00	0.63	0.90	0.85	1.05	1.00	0.73	0.55	0.50	0.18	0.00
MEAN VEL (m/s)	0.000	0.191	0.274	0.259	0.320	0.305	0.221	0.168	0.152	0.053	0.000
L/MEAN DEPTH (m)	0.000	0.075	0.150	0.173	0.195	0.223	0.223	0.198	0.198	0.140	-
L/MEAN WIDTH (m)	0.00	0.40	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	-
L/SEC. AREA (m2)	0.00	0.03	0.04	0.04	0.05	0.06	0.06	0.05	0.05	0.04	-
R/MEAN DEPTH (m)	0.000	0.150	0.158	0.185	0.208	0.228	0.213	0.193	0.180	0.080	-
R/MEAN WIDTH (m)	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	-
R/SEC. AREA (m2)	0.00	0.04	0.04	0.05	0.05	0.06	0.05	0.05	0.05	0.03	-
S/AREA (m2)	0.00	0.07	0.08	0.09	0.10	0.11	0.11	0.10	0.09	0.07	-
TOTAL AREA (m2)	0.00	0.07	0.14	0.23	0.33	0.45	0.56	0.65	0.75	0.81	-
S/DISCHARGE(m3/s)	0.00	0.01	0.02	0.02	0.03	0.03	0.02	0.02	0.01	0.00	-
TOTAL DIS. (m3/s)	0.00	0.01	0.03	0.06	0.09	0.12	0.15	0.16	0.18	0.18	-

WATER LEVEL (f) : 1.20 WATER LEVEL (m) : 0.37
 TOTAL DISCHARGE : 0.18 MEAN VELOCITY(m/s) : 0.22

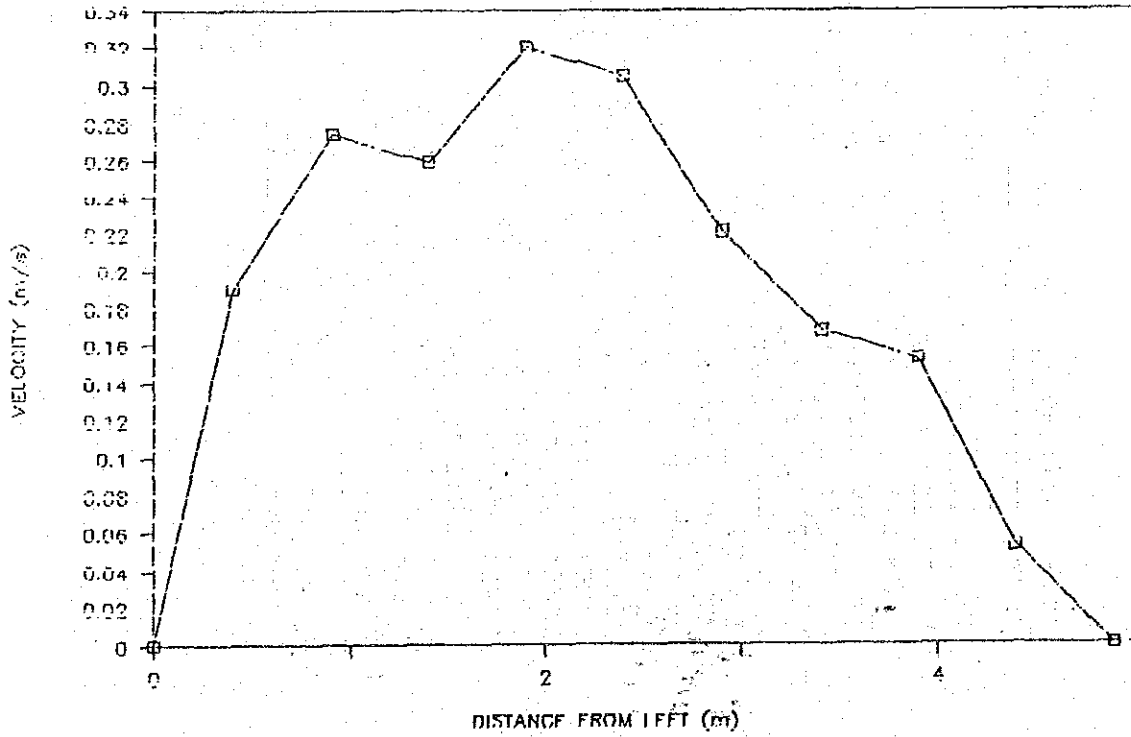
WATER DEPTH (4-941)

FEB./20/81



VELOCITY (4-941)

FEB./20/81



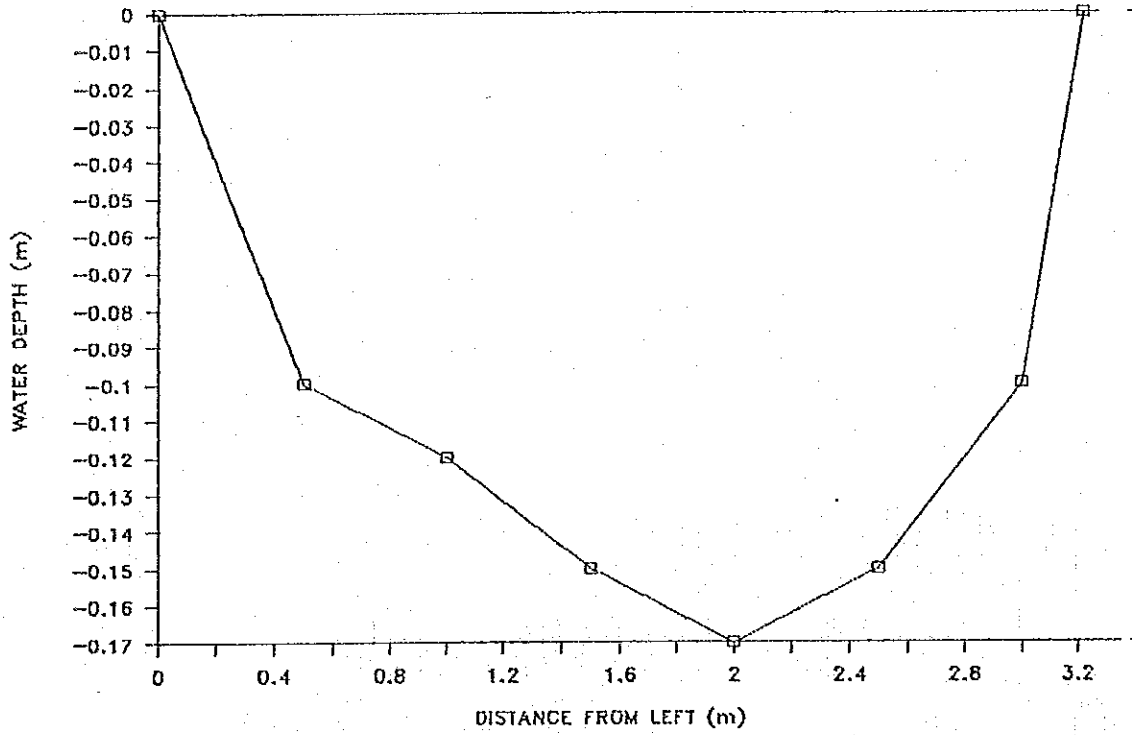
FLOW MEASUREMENT ST. : 4-941 KALEYA DAM SITE 12/AUG/91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	0.10	0.12	0.15	0.17	0.15	0.10	0.00
SE/WIDTH (m)	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.22
TOTAL SE/WIDTH(m)	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.22
VELOCITY.2-1(m/s)	0.00	0.25	0.19	0.19	0.20	0.30	0.22	0.00
VELOCITY.2-2(m/s)	0.00	0.25	0.19	0.19	0.20	0.30	0.22	0.00
MEAN VEL.2 (m/s)	0.00	0.25	0.19	0.19	0.20	0.30	0.22	0.00
VELOCITY.8-1(f/s)	0.00	-	-	-	-	-	-	0.00
VELOCITY.8-2(f/s)	0.00	-	-	-	-	-	-	0.00
MEAN VEL.8 (f/s)	0.00	-	-	-	-	-	-	0.00
MEAN VEL (m/s)	0.00	0.25	0.19	0.19	0.20	0.30	0.22	0.00
MEAN VEL (m/s)	0.000	0.250	0.185	0.192	0.200	0.300	0.224	0.000
L/MEAN DEPTH (m)	0.000	0.050	0.115	0.143	0.165	0.155	0.113	-
L/MEAN WIDTH (m)	0.00	0.50	0.25	0.25	0.25	0.25	0.25	-
L/SEC. AREA (m2)	0.00	0.03	0.03	0.04	0.04	0.04	0.03	-
R/MEAN DEPTH (m)	0.000	0.105	0.128	0.155	0.165	0.138	0.050	-
R/MEAN WIDTH (m)	0.00	0.25	0.25	0.25	0.25	0.25	0.22	-
R/SEC. AREA (m2)	0.00	0.03	0.03	0.04	0.04	0.03	0.01	-
S/AREA (m2)	0.00	0.05	0.06	0.07	0.08	0.07	0.04	-
TOTAL AREA (m2)	0.00	0.05	0.11	0.19	0.27	0.34	0.38	-
S/DISCHARGE(m3/s)	0.00	0.01	0.01	0.01	0.02	0.02	0.01	-
TOTAL DIS. (m3/s)	0.00	0.01	0.02	0.04	0.05	0.08	0.09	-

WATER LEVEL (f) : 1.10 WATER LEVEL (m) : 0.34
 TOTAL DISCHARGE : 0.09 MEAN VELOCITY(m/s) : 0.22
 NOTE: ALL OF SECTION WERE APPLIED BY USE OF 0.6 DEPTH METHOD

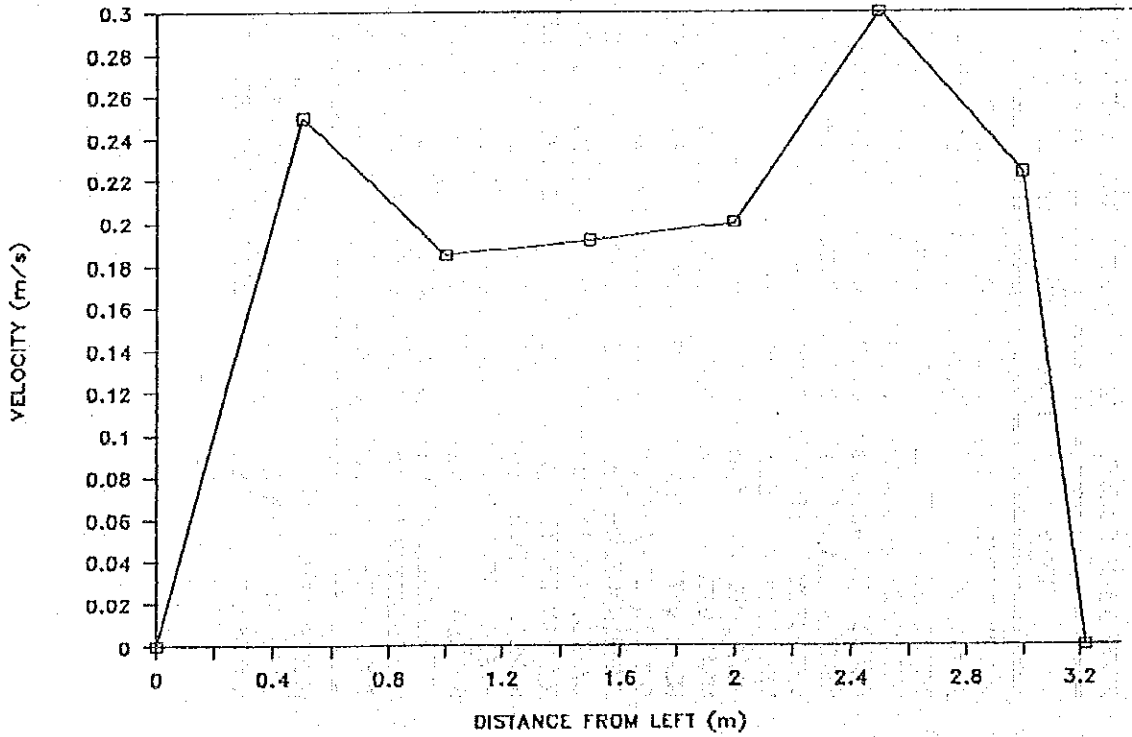
WATER DEPTH (4-941)

12/AUG/91



VELOCITY (4-941)

12/AUG/91



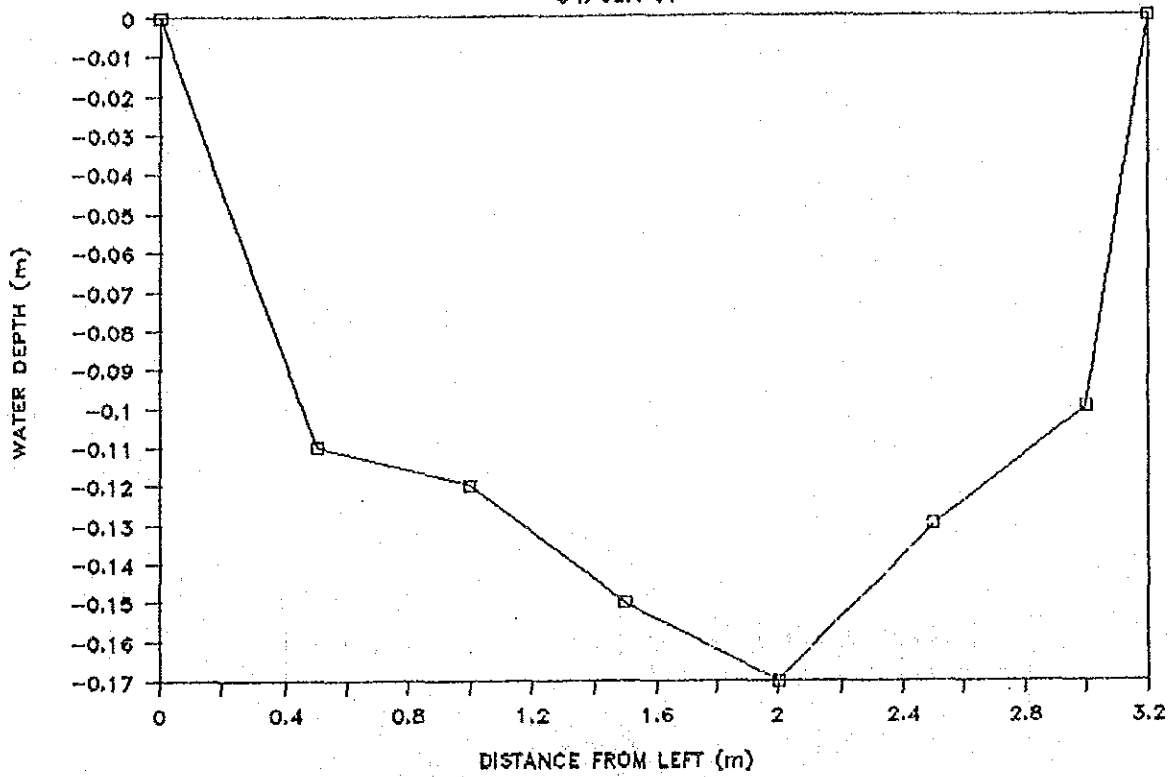
FLOW MEASUREMENT ST. : 4-941 KALEYA DAM SITE 04/SEP/'91

ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	0.11	0.12	0.15	0.17	0.13	0.10	0.00
SE/WIDTH (m)	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.20
TOTAL SE/WIDTH(m)	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.20
VELOCITY.2-1(m/s)	0.00	0.24	0.19	0.19	0.19	0.29	0.22	0.00
VELOCITY.2-2(m/s)	0.00	0.24	0.19	0.19	0.19	0.29	0.22	0.00
MEAN VEL.2 (m/s)	0.00	0.24	0.19	0.19	0.19	0.29	0.22	0.00
VELOCITY.8-1(f/s)	0.00	-	-	-	-	-	-	0.00
VELOCITY.8-2(f/s)	0.00	-	-	-	-	-	-	0.00
MEAN VEL.8 (f/s)	0.00	-	-	-	-	-	-	0.00
MEAN VEL (m/s)	0.00	0.24	0.19	0.19	0.19	0.29	0.22	0.00
MEAN VEL (m/s)	0.000	0.240	0.185	0.192	0.192	0.294	0.224	0.000
L/MEAN DEPTH (m)	0.000	0.055	0.118	0.143	0.165	0.140	0.108	-
L/MEAN WIDTH (m)	0.00	0.50	0.25	0.25	0.25	0.25	0.25	-
L/SEC. AREA (m2)	0.00	0.03	0.03	0.04	0.04	0.04	0.03	-
R/MEAN DEPTH (m)	0.000	0.113	0.128	0.155	0.160	0.123	0.050	-
R/MEAN WIDTH (m)	0.00	0.25	0.25	0.25	0.25	0.25	0.20	-
R/SEC. AREA (m2)	0.00	0.03	0.03	0.04	0.04	0.03	0.01	-
S/AREA (m2)	0.00	0.06	0.06	0.07	0.08	0.07	0.04	-
TOTAL AREA (m2)	0.00	0.06	0.12	0.19	0.27	0.34	0.38	-
S/DISCHARGE(m3/s)	0.00	0.01	0.01	0.01	0.02	0.02	0.01	-
TOTAL DIS. (m3/s)	0.00	0.01	0.02	0.04	0.05	0.07	0.08	-

WATER LEVEL (f) : 1.13 WATER LEVEL (m) : 0.34
 TOTAL DISCHARGE : 0.08 MEAN VELOCITY(m/s) : 0.22
 NOTE: ALL OF SECTION WERE APPLIED BY USE OF 0.6 DEPTH METHOD

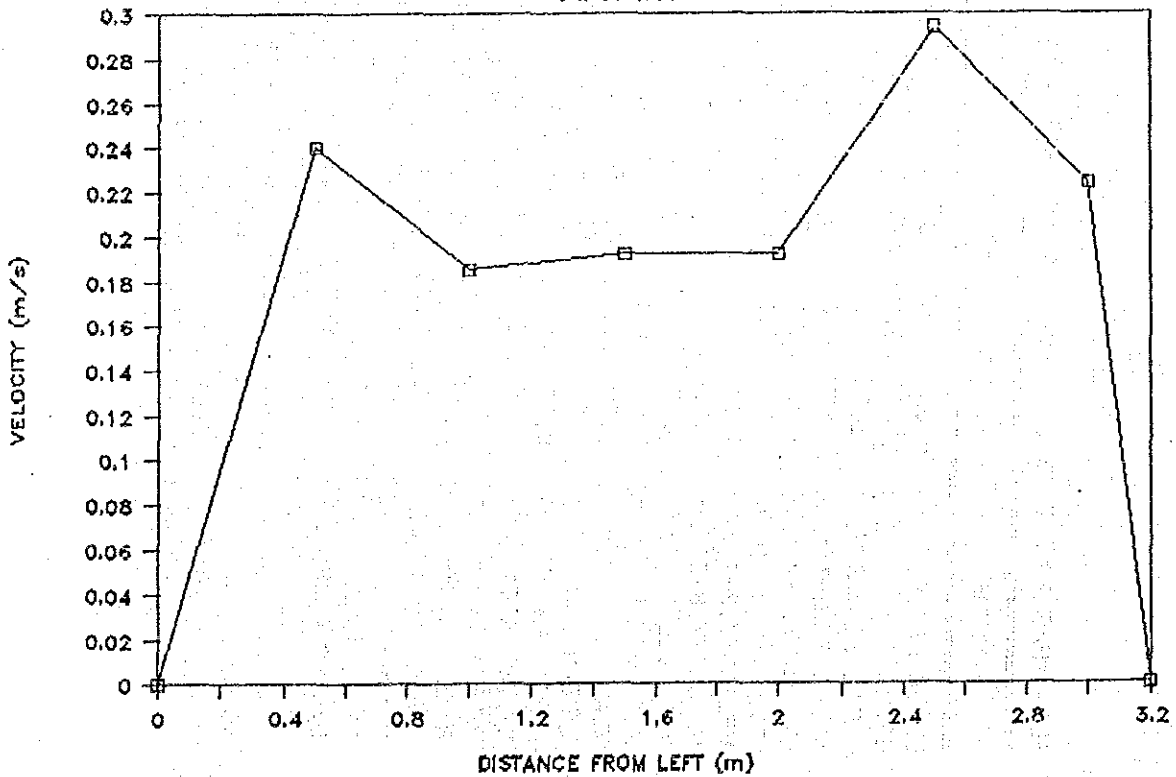
WATER DEPTH (4 941)

04/SEP/91



VELOCITY (4 941)

04/SEP/91



ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-R
WATER DEPTH (m)	0.00	0.10	0.10	0.14	0.16	0.15	0.09	0.00
SE/WIDTH (m)	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.22
TOTAL SE/WIDTH(m)	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.22
VELOCITY.2-1(m/s)	0.00	0.22	0.19	0.18	0.20	0.30	0.20	0.00
VELOCITY.2-2(m/s)	0.00	0.22	0.19	0.18	0.20	0.30	0.21	0.00
MEAN VEL.2 (m/s)	0.00	0.22	0.19	0.18	0.20	0.30	0.21	0.00
VELOCITY.8-1(f/s)	0.00	-	-	-	-	-	-	0.00
VELOCITY.8-2(f/s)	0.00	-	-	-	-	-	-	0.00
MEAN VEL.8 (f/s)	0.00	-	-	-	-	-	-	0.00
MEAN VEL (m/s)	0.00	0.22	0.19	0.18	0.20	0.30	0.21	0.00
MEAN VEL (m/s)	0.000	0.220	0.185	0.180	0.200	0.300	0.205	0.000
I./MEAN DEPTH (m)	0.000	0.050	0.100	0.130	0.155	0.153	0.105	-
L/MEAN WIDTH (m)	0.00	0.50	0.25	0.25	0.25	0.25	0.25	-
L/SEC. AREA (m2)	0.00	0.03	0.03	0.03	0.04	0.04	0.03	-
R/MEAN DEPTH (m)	0.000	0.100	0.110	0.145	0.158	0.135	0.045	-
R/MEAN WIDTH (m)	0.00	0.25	0.25	0.25	0.25	0.25	0.22	-
R/SEC. AREA (m2)	0.00	0.03	0.03	0.04	0.04	0.03	0.01	-
S/AREA (m2)	0.00	0.05	0.05	0.07	0.08	0.07	0.04	-
TOTAL AREA (m2)	0.00	0.05	0.10	0.17	0.25	0.32	0.36	-
S/DISCHARGE(m3/s)	0.00	0.01	0.01	0.01	0.02	0.02	0.01	-
TOTAL DIS. (m3/s)	0.00	0.01	0.02	0.03	0.05	0.07	0.08	-

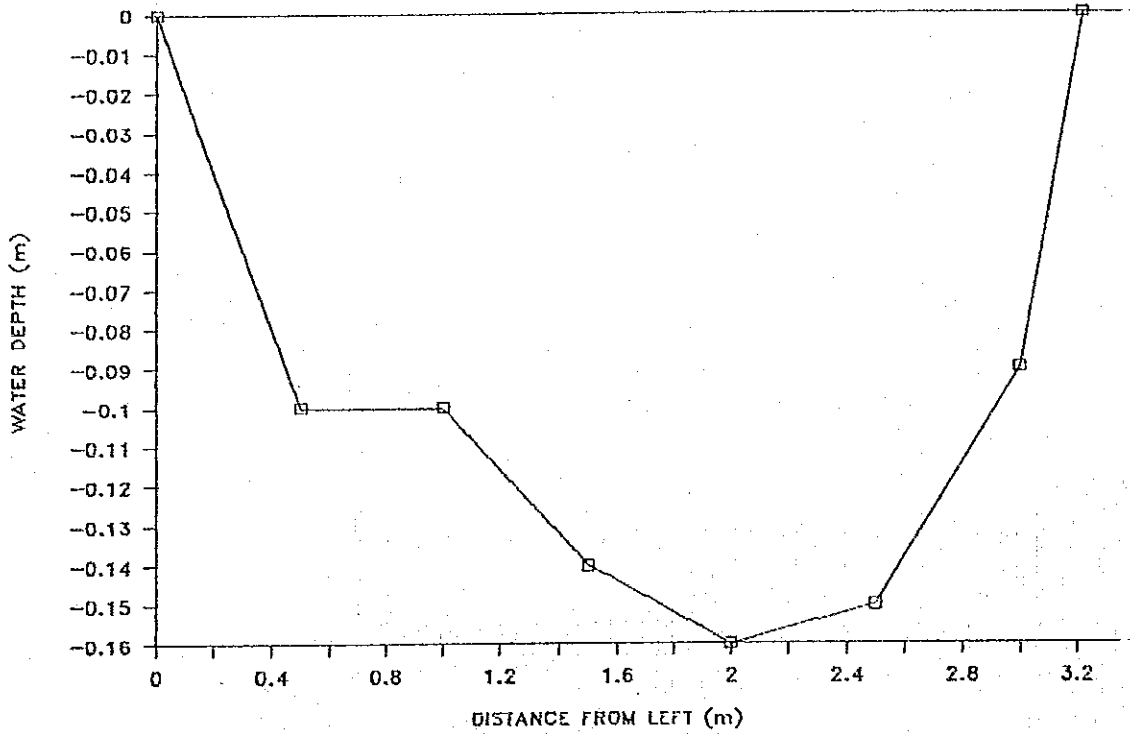
WATER LEVEL (f) : 1.10 WATER LEVEL (m) : 0.34

TOTAL DISCHARGE : 0.08 MEAN VELOCITY(m/s) : 0.22

NOTE: ALL OF SECTION WERE APPLIED BY USE OF 0.6 DEPTH METHOD

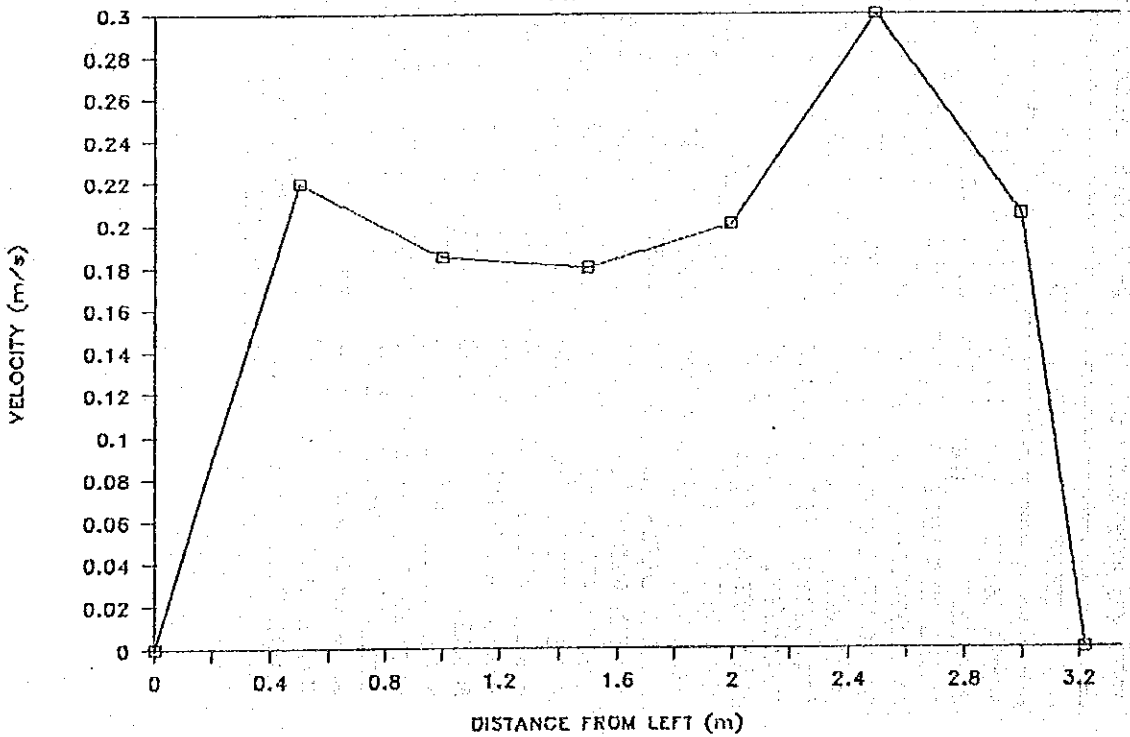
WATER DEPTH (4-941)

08/OCT/91



VELOCITY (4-941)

08/OCT/91

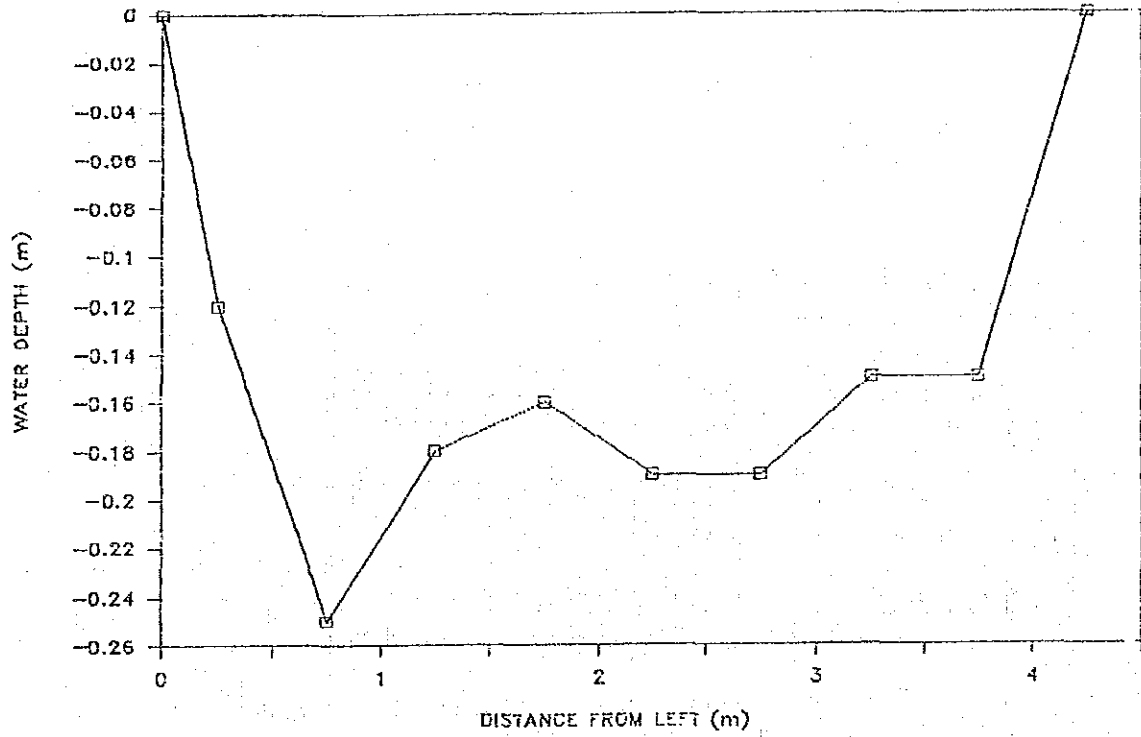


ITEMS	NO-L	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-R
WATER DEPTH (m)	0.00	0.12	0.25	0.18	0.16	0.19	0.19	0.15	0.15	0.00
SE/WIDTH (m)	0.00	0.25	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
TOTAL SE/WIDTH(m)	0.00	0.25	0.75	1.25	1.75	2.25	2.75	3.25	3.75	4.25
VELOCITY.2-1(f/s)	0.00	0.18	0.35	0.15	0.37	0.44	0.43	0.15	0.00	0.00
VELOCITY.2-2(f/s)	0.00	0.18	0.35	0.15	0.37	0.44	0.43	0.15	0.00	0.00
MEAN VEL.2 (f/s)	0.00	0.18	0.35	0.15	0.37	0.44	0.43	0.15	0.00	0.00
VELOCITY.8-1(f/s)	0.00	-	-	-	-	-	-	-	-	0.00
VELOCITY.8-2(f/s)	0.00	-	-	-	-	-	-	-	-	0.00
MEAN VEL.8 (f/s)	0.00	0.18	0.35	0.15	0.37	0.44	0.43	0.15	0.00	0.00
MEAN VEL (m/s)	0.00	0.05	0.11	0.05	0.11	0.13	0.13	0.05	0.00	0.00
MEAN VEL (m/s)	0.000	0.055	0.107	0.046	0.113	0.134	0.131	0.046	0.000	0.000
L/MEAN DEPTH (m)	0.000	0.060	0.218	0.198	0.165	0.183	0.190	0.160	0.150	-
L/MEAN WIDTH (m)	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	-
L/SEC. AREA (m2)	0.00	0.02	0.05	0.05	0.04	0.05	0.05	0.04	0.04	-
R/MEAN DEPTH (m)	0.000	0.153	0.233	0.175	0.168	0.190	0.180	0.150	0.075	-
R/MEAN WIDTH (m)	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	-
R/SEC. AREA (m2)	0.00	0.04	0.06	0.04	0.04	0.05	0.05	0.04	0.04	-
S/AREA (m2)	0.00	0.05	0.11	0.09	0.08	0.09	0.09	0.08	0.08	-
TOTAL AREA (m2)	0.00	0.05	0.17	0.26	0.34	0.44	0.53	0.61	0.68	-
S/DISCHARGE (m3/s)	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00	-
TOTAL DIS. (m3/s)	0.00	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.06	-

WATER LEVEL (f) : 1.15 WATER LEVEL (m) : 0.35
 TOTAL DISCHARGE : 0.06 MEAN VELOCITY(m/s) : 0.08
 NOTE: ALL OF SECTION WERE APPLIED BY USE OF 0.6 DEPTH METHOD

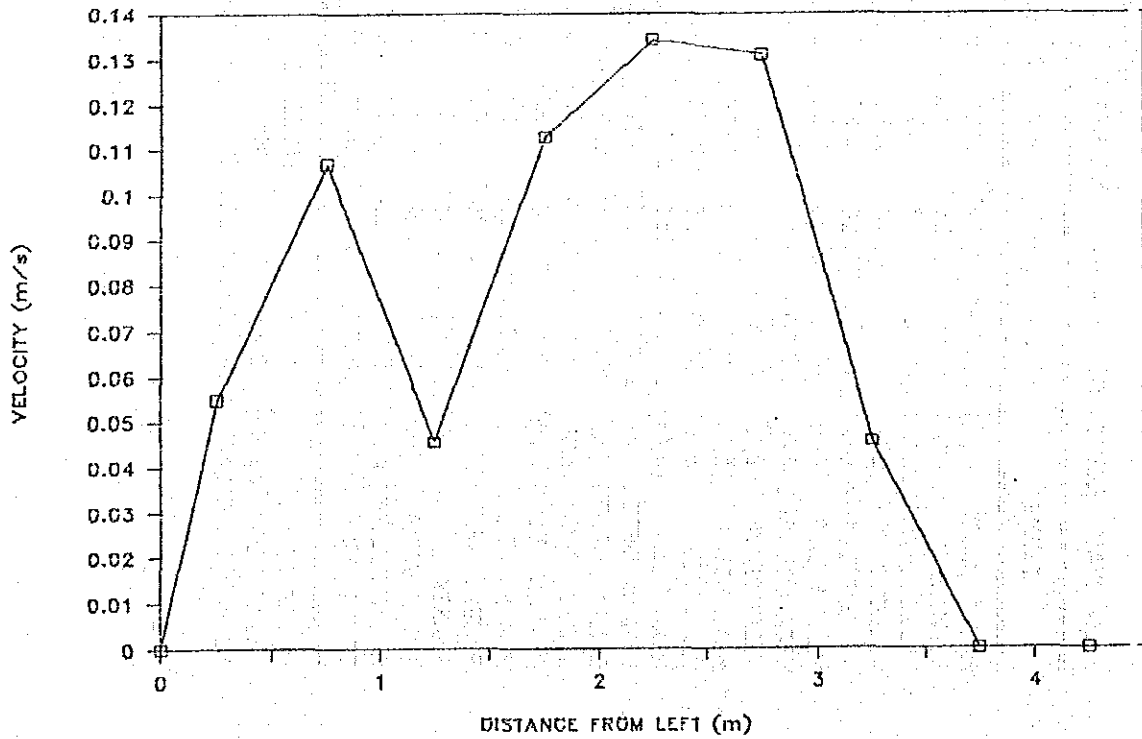
WATER DEPTH (4-941)

25/NOV/91



VELOCITY (4-941)

25/NOV/91



LIST OF FLOW MEASUREMENT

ST.: 4-958 URUAFF FARM

NO.	DATE	-----[Feet - Second]-----				+++++[Meter - Second]++++			
		H (f)	Q (f3/s)	A (f2)	V (f/s)	H (m)	Q (m3/s)	A (m2)	V (m/s)
1	11-Dec-70	0.27	1.7	3.2	0.55	0.08	0.05	0.3	0.17
2	11-Dec-70	0.27	1.8	3.2	0.56	0.08	0.05	0.3	0.17
3	16-Jan-71	0.16	1.4	3.6	0.39	0.05	0.04	0.3	0.12
4	09-Feb-75	0.19	2.0	3.0	0.64	0.06	0.06	0.3	0.20
5	07-Mar-75	0.20	1.0	4.0	0.25	0.06	0.03	0.4	0.08
6	18-Mar-75	0.16	1.0	3.0	0.44	0.05	0.03	0.3	0.13
7	23-Feb-76	2.37	131.0	37.0	3.58	0.72	3.71	3.4	1.09
8	26-Mar-76	2.24	83.3	27.0	3.09	0.68	2.36	2.5	0.94
9	13-Apr-76	0.57	10.1	7.5	1.35	0.17	0.28	0.7	0.41
10	02-Apr-78	0.48	10.1	4.7	2.14	0.15	0.28	0.4	0.65
11	17-Feb-81	0.86	17.0	7.5	2.27	0.26	0.48	0.7	0.69
12	18-Jul-90	0.07	0.7	10.8	0.07	0.02	0.02	1.0	0.02
13	31-Dec-90	0.10	0.7	10.8	0.07	0.03	0.02	1.0	0.02
14	15-Aug-90	0.00	0.0	0.0	0.00	0.00	0.00	0.0	0.00
15	04-Sep-91	0.00	0.0	0.0	0.00	0.00	0.00	0.0	0.00
16	03-Oct-91	0.00	0.0	0.0	0.00	0.00	0.00	0.0	0.00
17	08-Oct-91	0.06	0.7	10.8	0.07	0.02	0.02	1.0	0.02
18	25-Nov-91	0.10	0.7	10.8	0.07	0.03	0.02	1.0	0.02

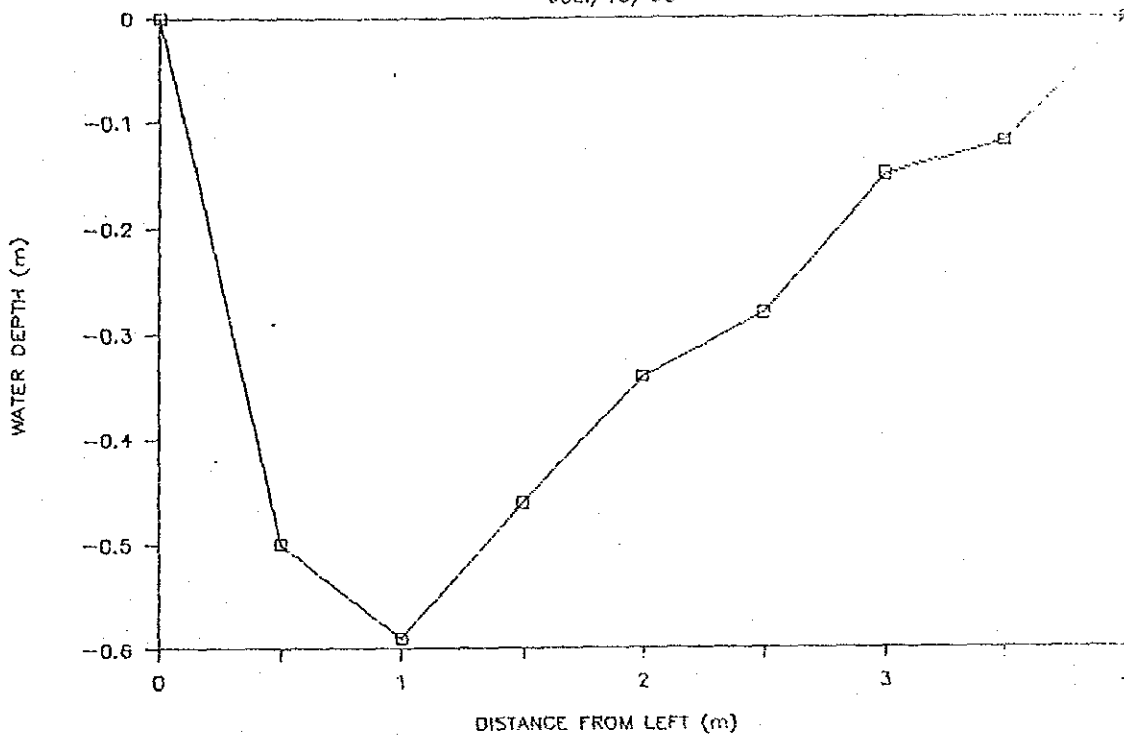
[Note] H:Water Level, Q:Discharge, A:Discharge Area, V:Velocity

FLOW MEASUREMENT ST. : 4-958 URUAFF FARM JUL./18/'90

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-R	
WATER DEPTH (m)	0.50	0.59	0.46	0.34	0.28	0.15	0.12	0.00	
SE/WIDTH (m)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	
TOTAL SE/WIDTH(m)	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	
VELOCITY.2-1(f/s)	-	-	-	-	-	-	-	-	
VELOCITY.2-2(f/s)	-	-	-	-	-	-	-	-	
MEAN VEL.2 (f/s)	-	-	-	-	-	-	-	-	
VELOCITY.8-1(f/s)	0.10	0.05	0.05	0.10	0.00	0.00	0.00	0.00	
VELOCITY.8-2(f/s)	0.10	0.05	0.05	0.10	0.00	0.00	0.00	0.00	
MEAN VEL.8 (f/s)	0.10	0.05	0.05	0.10	0.00	0.00	0.00	0.00	
MEAN VEL (f/s)	0.10	0.05	0.05	0.10	0.00	0.00	0.00	0.00	
MEAN VEL (m/s)	0.030	0.015	0.015	0.030	0.000	0.000	0.000	0.000	
L/MEAN DEPTH (m)	0.000	0.250	0.493	0.370	0.295	0.183	0.128	-	
L/MEAN WIDTH (m)	0.50	0.25	0.25	0.25	0.25	0.25	0.25	-	
L/SEC. AREA (m2)	0.00	0.13	0.12	0.09	0.07	0.05	0.03	-	
R/MEAN DEPTH (m)	0.000	0.523	0.430	0.325	0.248	0.143	0.060	-	
R/MEAN WIDTH (m)	0.00	0.25	0.25	0.25	0.25	0.25	0.50	-	
R/SEC. AREA (m2)	0.00	0.13	0.11	0.08	0.06	0.04	0.03	-	
S/AREA (m2)	0.00	0.26	0.23	0.17	0.14	0.09	0.06	-	
TOTAL AREA (m2)	0.0	0.3	0.5	0.9	1.1	1.2	1.2	-	
S/DISCHARGE(m3/s)	0.00	0.01	0.00	0.01	0.00	0.00	0.00	-	
TOTAL DIS. (m3/s)	0.00	0.01	0.02	0.02	0.02	0.02	0.02	-	
WATER LEVEL (f) :	0.07	WATER LEVEL (m) :							0.02
TOTAL DISCHARGE :	0.02	MEAN VELOCITY(m/s) :							0.02

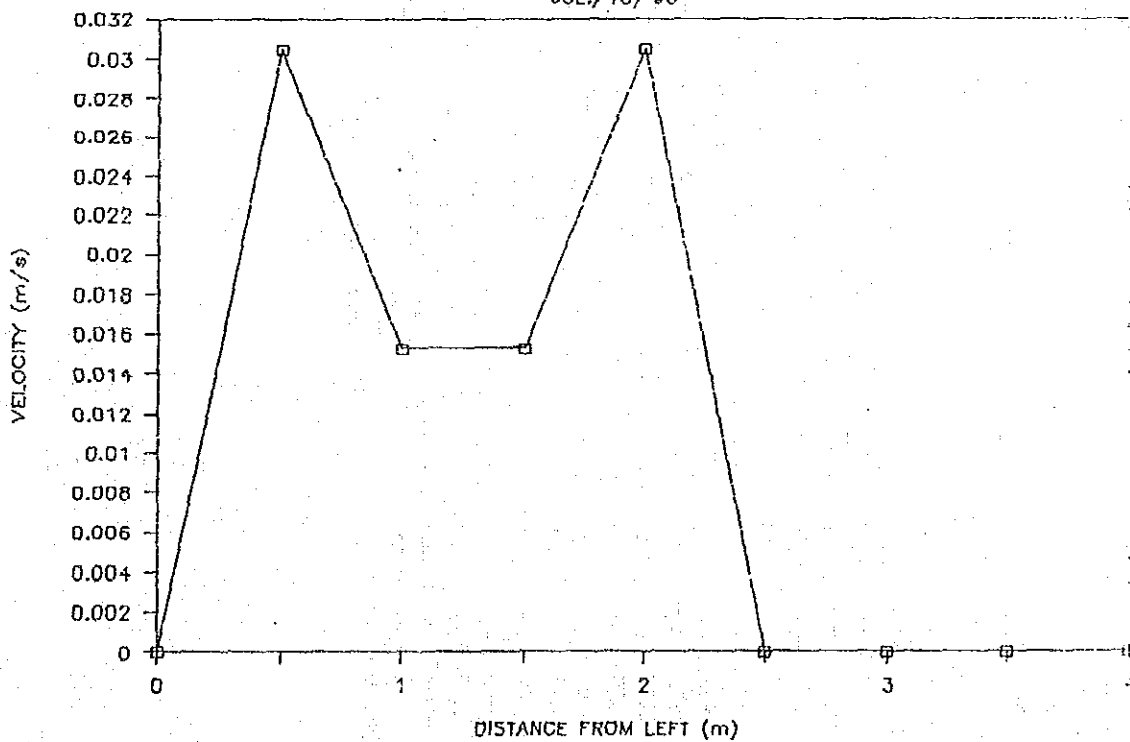
WATER DEPTH (4-958)

JUL./18/90



VELOCITY (4-958)

JUL./18/90

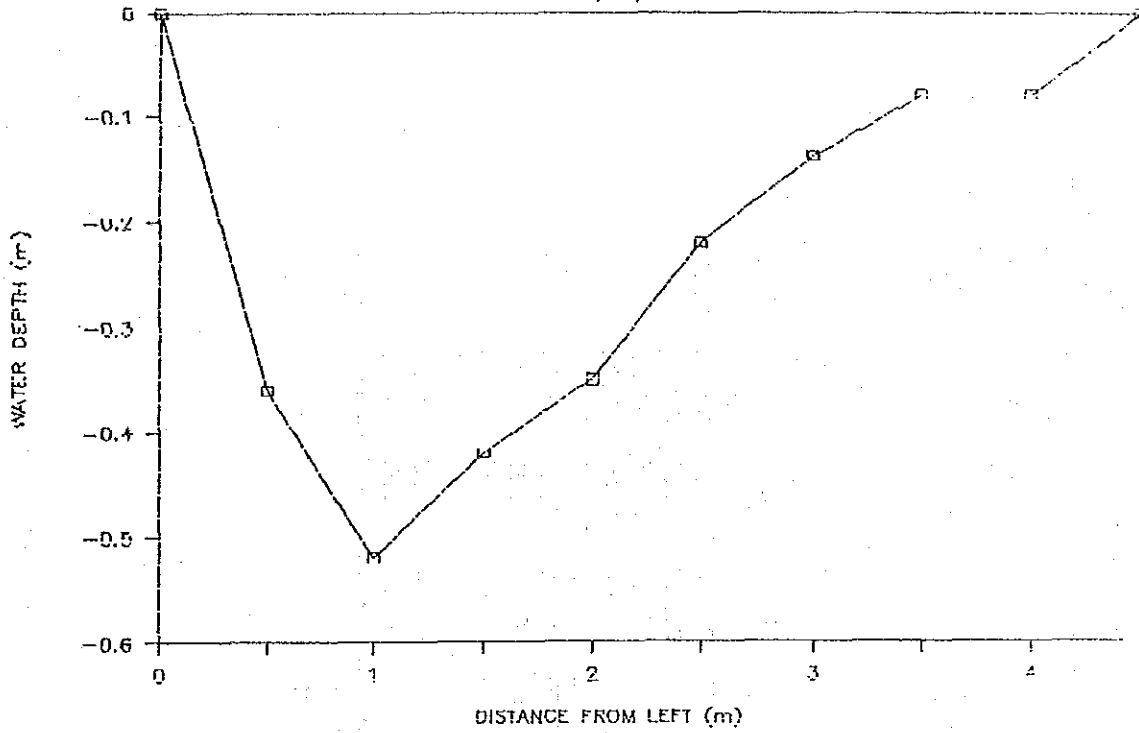


ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-R
WATER DEPTH (m)	0.36	0.52	0.42	0.35	0.22	0.14	0.09	0.08	0.00
S.WIDTH (m)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
TOTAL SE.WIDTH(m)	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
VELOCITY.2-1(f/s)	-	-	-	-	-	-	-	-	-
VELOCITY.2-2(f/s)	0.00	-	-	-	-	-	-	-	-
MEAN VEL.2 (f/s)	0.00	-	-	-	-	-	-	-	-
VELOCITY.8-1(f/s)	0.05	0.10	0.10	0.05	0.00	0.00	0.00	0.00	0.00
VELOCITY.8-2(f/s)	0.05	0.10	0.10	0.05	0.00	0.00	0.00	0.00	0.00
MEAN VEL.8 (f/s)	0.05	0.10	0.10	0.05	0.00	0.00	0.00	0.00	0.00
MEAN VEL (f/s)	0.05	0.10	0.10	0.05	0.00	0.00	0.00	0.00	0.00
MEAN VEL (m/s)	0.015	0.030	0.030	0.015	0.000	0.000	0.000	0.000	0.000
L.MEAN DEPTH (m)	0.180	0.480	0.445	0.360	0.253	0.160	0.095	0.080	-
L.MEAN WIDTH (m)	0.50	0.25	0.25	0.25	0.25	0.25	0.25	0.25	-
L.SEC. AREA (m2)	0.09	0.12	0.11	0.09	0.06	0.04	0.02	0.02	-
R.MEAN DEPTH (m)	0.400	0.455	0.403	0.318	0.200	0.125	0.090	0.040	-
R.MEAN WIDTH (m)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	-
R.SEC. AREA (m2)	0.10	0.12	0.10	0.08	0.06	0.03	0.02	0.02	-
S.W.A	0.16	0.24	0.21	0.17	0.11	0.07	0.04	0.04	-
TOTAL AREA (m2)	0.2	0.4	0.6	0.9	0.9	1.0	1.0	1.1	-
S.DISCHARGE(m3/s)	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	-
TOTAL DIS. (m3/s)	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.02	-

WATER LEVEL (f) : 0.10 WATER LEVEL (m) : 0.03
 TOTAL DISCHARGE : 0.02 MEAN VELOCITY(m/s) : 0.02

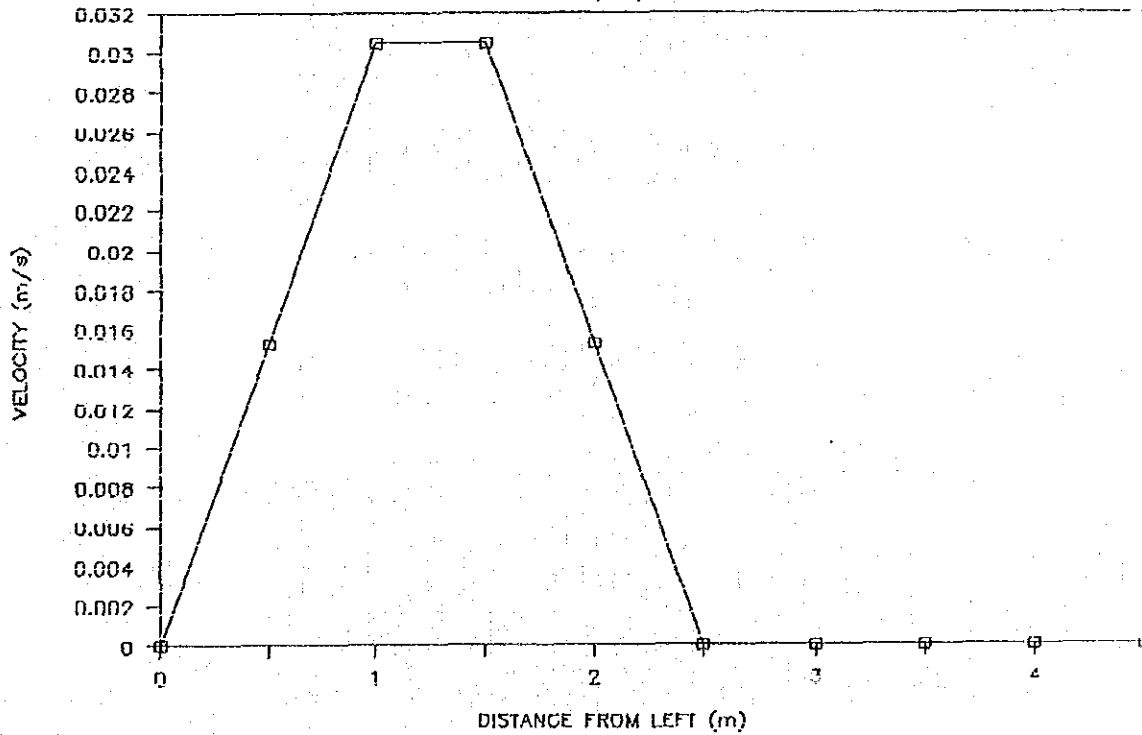
WATER DEPTH (4-958)

DEC./31/70



VELOCITY (4-958)

DEC./31/70



FLOW MEASUREMENT ST. : 4-958 URUAFF FARM

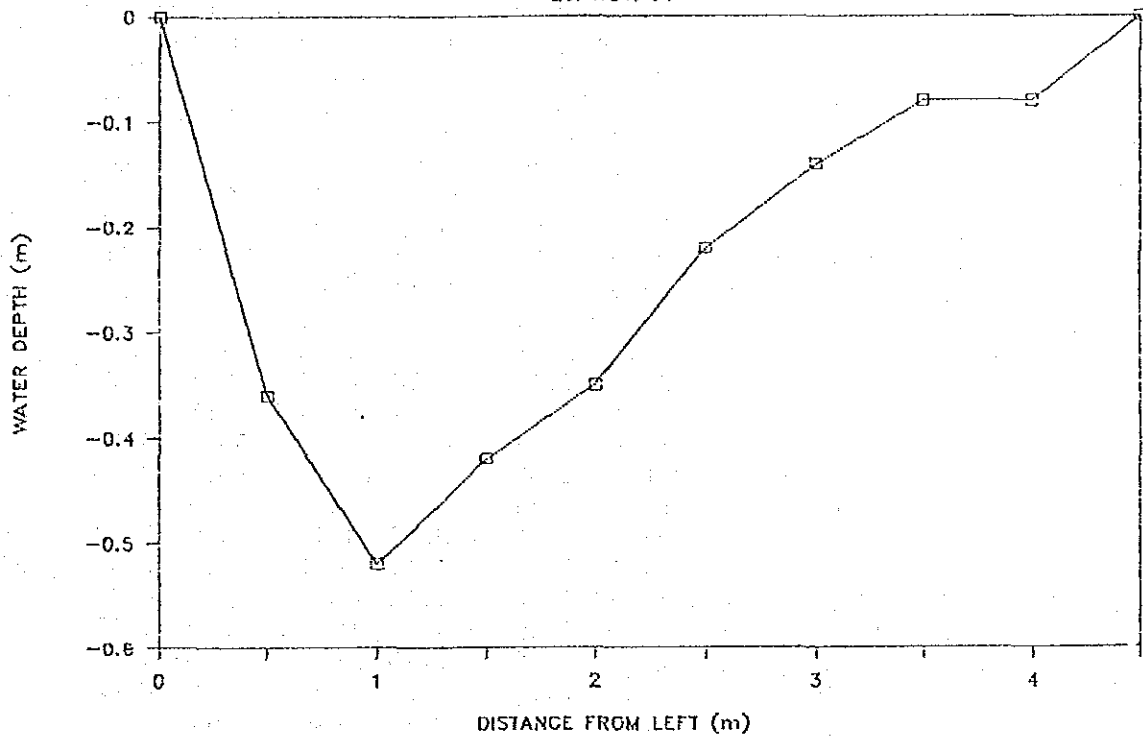
25/NOV/91

ITEMS	NO-1	NO-2	NO-3	NO-4	NO-5	NO-6	NO-7	NO-8	NO-R
WATER DEPTH (m)	0.30	0.50	0.40	0.42	0.24	0.15	0.04	0.06	0.00
SE/WIDTH (m)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
TOTAL SE/WIDTH(m)	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50
VELOCITY.2-1(f/s)	-	-	-	-	-	-	-	-	-
VELOCITY.2-2(f/s)	-	-	-	-	-	-	-	-	-
MEAN VEL.2 (f/s)	-	-	-	-	-	-	-	-	-
VELOCITY.8-1(f/s)	0.04	0.11	0.10	0.05	0.01	0.01	0.00	0.00	0.00
VELOCITY.8-2(f/s)	0.04	0.11	0.10	0.05	0.01	0.01	0.00	0.00	0.00
MEAN VEL.8 (f/s)	0.04	0.11	0.10	0.05	0.01	0.01	0.00	0.00	0.00
MEAN VEL (f/s)	0.04	0.11	0.10	0.05	0.01	0.01	0.00	0.00	0.00
MEAN VEL (m/s)	0.012	0.034	0.030	0.015	0.003	0.003	0.000	0.000	0.000
L/MEAN DEPTH (m)	0.150	0.450	0.425	0.415	0.285	0.173	0.068	0.055	-
L/MEAN WIDTH (m)	0.50	0.25	0.25	0.25	0.25	0.25	0.25	0.25	-
L/SEC. AREA (m2)	0.08	0.11	0.11	0.10	0.07	0.04	0.02	0.01	-
R/MEAN DEPTH (m)	0.350	0.475	0.405	0.375	0.218	0.123	0.045	0.030	-
R/MEAN WIDTH (m)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	-
R/SEC. AREA (m2)	0.09	0.12	0.10	0.09	0.05	0.03	0.01	0.02	-
S/AREA (m2)	0.16	0.23	0.21	0.20	0.13	0.07	0.03	0.03	-
TOTAL AREA (m2)	0.2	0.4	0.6	0.8	0.9	1.0	1.0	1.1	-
S/DISCHARGE (m3/s)	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	-
TOTAL DIS. (m3/s)	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.02	-

WATER LEVEL (f) : 0.10 WATER LEVEL (m) : 0.03
 TOTAL DISCHARGE : 0.02 MEAN VELOCITY(m/s) : 0.02

WATER DEPTH (4-958)

25/NOV/91



VELOCITY (4-958)

25/NOV/91

