





Table F. 20.3 Mesh Modeling Base Data (the Plan for Bahr Biyala)

No. Canal	Section	Topo Map		Canal Section Distance													Z0	AR1	AR2	AR3	SH	AR4	AR5	RNS1	RNS2	SA
		Lng.	Sec.	X1	X2	X3	X4	X5	Y1	Y2	Y3	Y4	Y5	Type	EL.m	m										
139	BAB EL FASHOOL	No. 64	58	256	-2.45	-1.97	0.00	1.07	2.45	2.33	0.60	0.40	0.55	2.32	I	0.40	0.00	0.00	0.18	2.32	6.24	0.70	0.03	22.15		
140	BAB EL FASHOOL	No. 56	58	255	-1.25	-0.31	0.00	0.81	1.25	2.36	1.92	1.81	1.94	2.65	I	1.81	0.00	0.00	0.12	2.36	6.80	0.81	0.03	22.15		
141	BAB EL FASHOOL	No. 48	58	254	-2.15	-0.89	0.00	0.89	2.15	2.52	0.84	0.72	0.85	2.77	I	0.72	0.00	0.00	0.13	2.52	7.13	0.70	0.03	22.15		
142	BAB EL FASHOOL	No. 40	57	253	-2.00	-0.92	0.00	0.92	2.00	2.47	0.87	0.52	0.82	2.78	I	0.52	0.00	0.00	0.33	2.42	2.85	0.62	0.03	22.15		
143	BAB EL FASHOOL	No. 32	57	253	-2.30	-0.95	0.00	0.95	2.30	2.73	0.66	0.37	0.87	3.04	I	0.37	0.00	0.00	0.40	2.73	2.59	0.64	0.03	22.15		
144	BAB EL FASHOOL	No. 24	57	252	-3.10	-1.35	0.00	1.35	3.10	2.82	1.07	0.57	0.67	3.29	I	0.57	0.00	0.00	0.35	2.82	5.73	0.83	0.03	22.15		
145	BAB EL FASHOOL	No. 16	57	251	-2.80	-1.15	0.00	1.15	2.80	2.68	1.03	0.78	0.88	3.09	I	0.78	0.00	0.00	0.18	2.68	8.05	0.87	0.03	22.15		
146	BAB EL FASHOOL	No. 8	57	250	-2.75	-1.15	0.00	1.15	2.75	2.71	0.83	0.58	0.73	2.71	I	0.58	0.00	0.00	0.20	2.71	6.13	0.83	0.03	22.15		
147	BAB EL FASHOOL													26 Dummy												
152	EL SHRFA	No. 80	40	205	-3.50	-1.65	0.00	1.65	3.50	2.54	0.62	0.31	0.71	2.61	I	0.31	0.00	0.00	0.36	2.54	4.72	0.97	0.03	22.02		
153	EL SHRFA	No. 72	40	205	-4.60	-2.35	0.00	2.35	4.60	3.01	0.56	0.31	0.84	2.81	I	0.31	0.00	0.00	0.29	2.81	8.78	0.98	0.03	34.62		
154	EL SHRFA	No. 64	40	204	-3.50	-2.37	0.00	2.37	3.50	3.23	0.84	0.61	0.77	3.10	I	0.61	0.00	0.00	0.20	3.10	11.50	0.56	0.03	47.22		
155	EL SHRFA	No. 56	40	203	-5.90	-1.94	0.00	1.94	5.90	3.03	0.40	-0.11	0.25	2.69	I	-0.11	0.00	0.00	0.44	2.69	4.60	1.45	0.03	22.02		
155	EL SHRFA	No. 48	40	202	-4.90	-2.22	0.00	2.22	4.90	2.47	0.76	0.24	0.72	2.51	I	0.24	0.00	0.00	0.50	2.47	4.45	1.53	0.03	41.18		
157	EL SHRFA	No. 40	39	201	-4.60	-1.84	0.00	1.84	4.60	2.35	0.76	0.37	0.73	2.57	I	0.37	0.00	0.00	0.38	2.57	4.91	1.41	0.03	22.02		
158	EL SHRFA	No. 32	39	201	-4.75	-1.75	0.00	1.75	4.75	2.45	0.82	0.40	0.64	2.64	I	0.40	0.00	0.00	0.23	2.45	7.62	1.57	0.03	91.74		
159	EL SHRFA	No. 24	39	200	-3.75	-1.46	0.00	1.46	3.75	3.29	0.68	0.48	0.70	2.89	I	0.48	0.00	0.00	0.21	2.89	6.97	0.95	0.03	30.38		
160	EL SHRFA	No. 16	39	199	-4.65	-1.82	0.00	1.82	4.65	2.70	0.92	0.82	0.77	2.66	I	0.84	3.64	0.00	0.00	2.66	0.00	1.54	0.03	30.38		
161	EL SHRFA	No. 8	39	198	-4.50	-2.22	0.00	2.22	4.50	2.81	0.70	0.69	0.81	3.00	I	0.69	0.00	0.00	0.07	2.81	120.25	1.05	0.03	30.38		
162	EL SHRFA													27 Dummy												
178	MESKA EL BAHARIA (A)	No. 61	37	193	-2.15	-0.82	0.00	0.82	2.15	2.72	0.54	0.50	0.52	2.37	I	0.50	0.00	0.00	0.03	2.37	30.75	0.66	0.03	19.16		
179	MESKA EL BAHARIA (A)	No. 53	37	192	-2.30	-1.04	0.00	1.04	2.30	2.04	0.59	0.54	0.62	2.33	I	0.54	0.00	0.00	0.06	2.04	16.90	0.80	0.03	19.16		
180	MESKA EL BAHARIA (A)	No. 45	37	191	-3.00	-1.28	0.00	1.28	3.00	2.12	0.43	0.40	0.42	2.12	I	0.40	0.00	0.00	0.03	2.12	53.33	1.01	0.03	19.16		
181	MESKA EL BAHARIA (A)	No. 37	36	190	-3.00	-1.08	0.00	1.08	3.00	2.27	0.35	0.35	0.35	1.92	I	0.35	2.16	0.00	0.00	1.92	0.00	1.11	0.03	19.16		
182	MESKA EL BAHARIA (A)	No. 29	36	189	-2.00	-0.84	0.00	0.84	2.00	2.56	0.54	0.52	0.53	2.42	I	0.52	0.00	0.00	0.02	2.42	48.00	0.70	0.03	19.16		
183	MESKA EL BAHARIA (A)	No. 21	36	189	-3.00	-0.66	0.00	0.66	3.00	2.85	0.53	0.51	0.52	2.54	I	0.51	0.00	0.00	0.02	2.54	49.50	1.08	0.03	19.16		
184	MESKA EL BAHARIA (A)	No. 13	36	188	-2.45	-0.33	0.00	0.33	2.45	2.80	0.50	0.48	0.49	2.41	I	0.48	0.00	0.00	0.02	2.41	62.75	0.77	0.03	19.16		
185	MESKA EL BAHARIA (A)	No. 5	36	187	-4.95	-1.80	0.00	1.80	4.95	3.04	0.96	0.94	0.95	2.55	I	0.94	0.00	0.00	0.02	2.55	135.00	1.74	0.03	31.74		
186	MESKA EL BAHARIA (B)	No. 7	38	194	-3.80	-0.97	0.00	0.97	3.80	3.66	0.83	0.64	0.87	3.37	I	0.64	0.00	0.00	0.21	3.37	4.66	1.07	0.03	95.22		
187	MESKA EL BAHARIA (A)													28 Dummy												
194	MESKA ZANKURA	No. 23	33	180	-2.00	-0.31	0.00	0.31	2.00	2.11	0.68	0.43	0.73	2.38	I	0.43	0.00	0.00	0.28	2.11	3.41	0.70	0.03	54.49		
195	MESKA ZANKURA	No. 15	33	179	-2.10	-0.98	0.00	0.98	2.10	2.47	0.98	0.53	0.88	2.67	I	0.53	0.00	0.00	0.40	2.47	2.49	0.69	0.03	24.47		
196	MESKA ZANKURA	No. 7	33	178	-2.15	-1.10	0.00	1.10	2.15	2.53	1.13	0.88	1.13	2.90	I	0.94	0.00	0.00	0.25	2.53	4.40	0.67	0.03	0.00		
204	MESKA EL BAHARIA (B)	No. 31	38	197	-2.35	-0.73	0.00	0.73	2.35	2.90	1.55	1.48	1.60	2.90	I	1.48	0.00	0.00	0.10	2.90	8.28	1.22	0.03	31.74		
205	MESKA EL BAHARIA (B)	No. 23	38	196	-3.60	-0.31	0.00	0.31	3.60	3.08	1.22	1.07	1.17	3.18	I	1.07	0.00	0.00	0.13	3.08	6.75	1.44	0.03	31.74		
206	MESKA EL BAHARIA (B)	No. 15	38	195	-4.05	-1.20	0.00	1.20	4.05	2.87	0.97	0.72	0.97	3.26	I	0.72	0.00	0.00	0.25	2.87	4.80	1.37	0.03	31.74		
207	MESKA EL BAHARIA (B)													179 Dummy												
																				TOTAL AREA		6039				

Figure F.20.5 Water Levels at Major Points (Case 1, Present Condition,  $Q=8.69\text{cu.m/s}$ , Rotation)

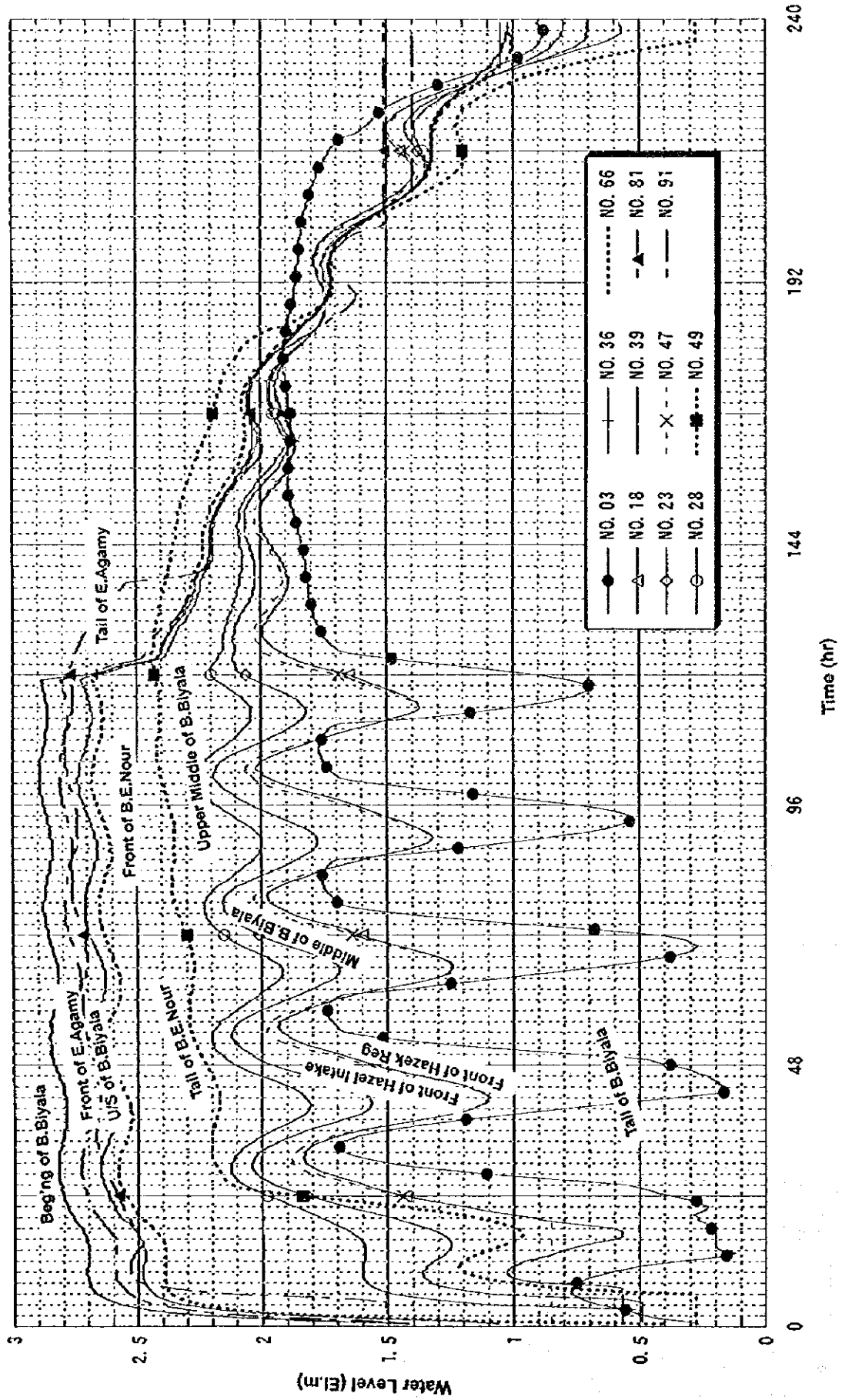


Figure F.20.6 Water Levels at Major Points (Case 1, Present Condition,  $Q=8.69\text{cu.m/s}$ , Rotation)

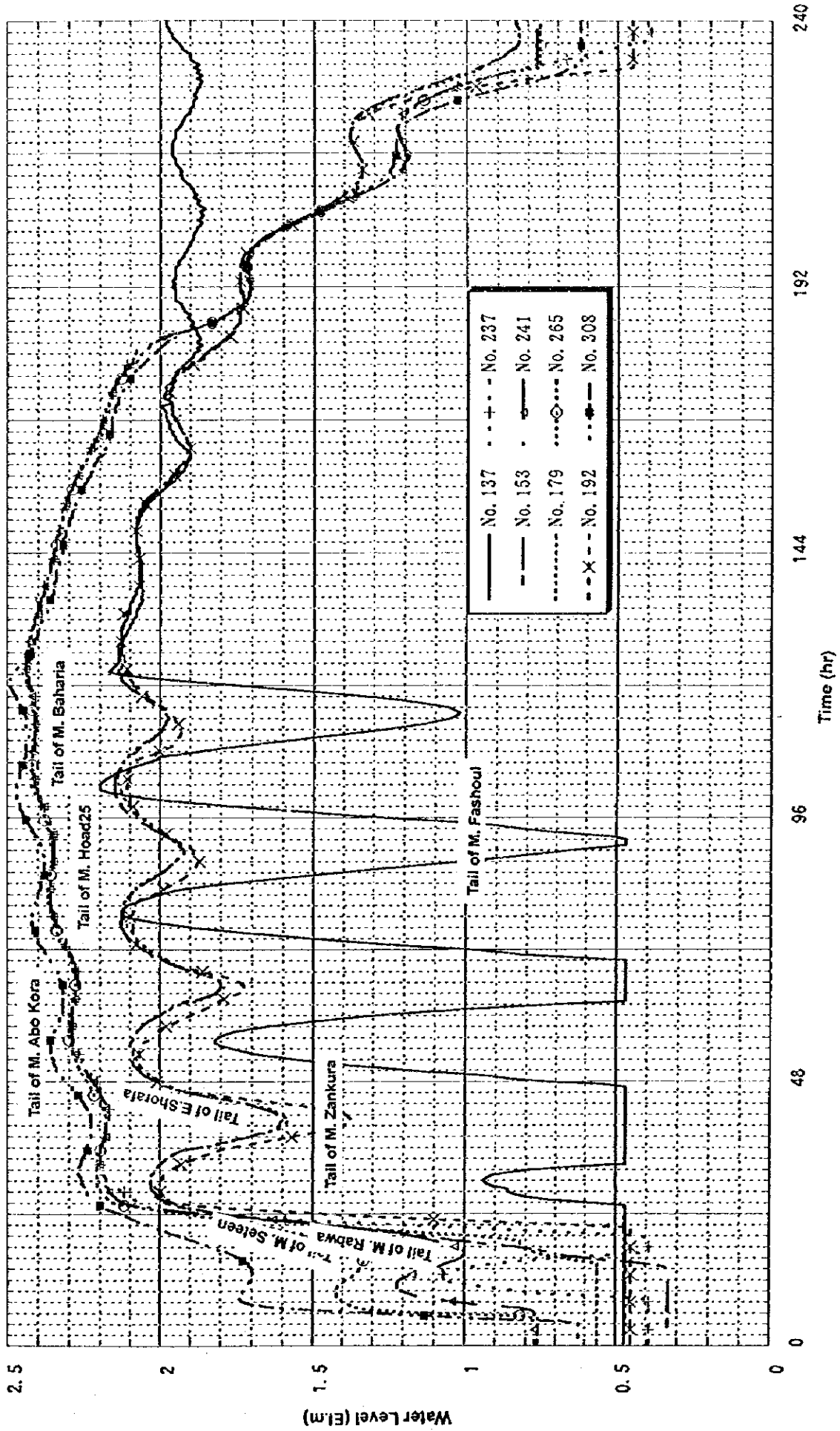


Figure F.20.7 Hydrographs at Major Points (Case 1, Present Condition,  $Q=2.69\text{cu.m/s}$ , Rotation)

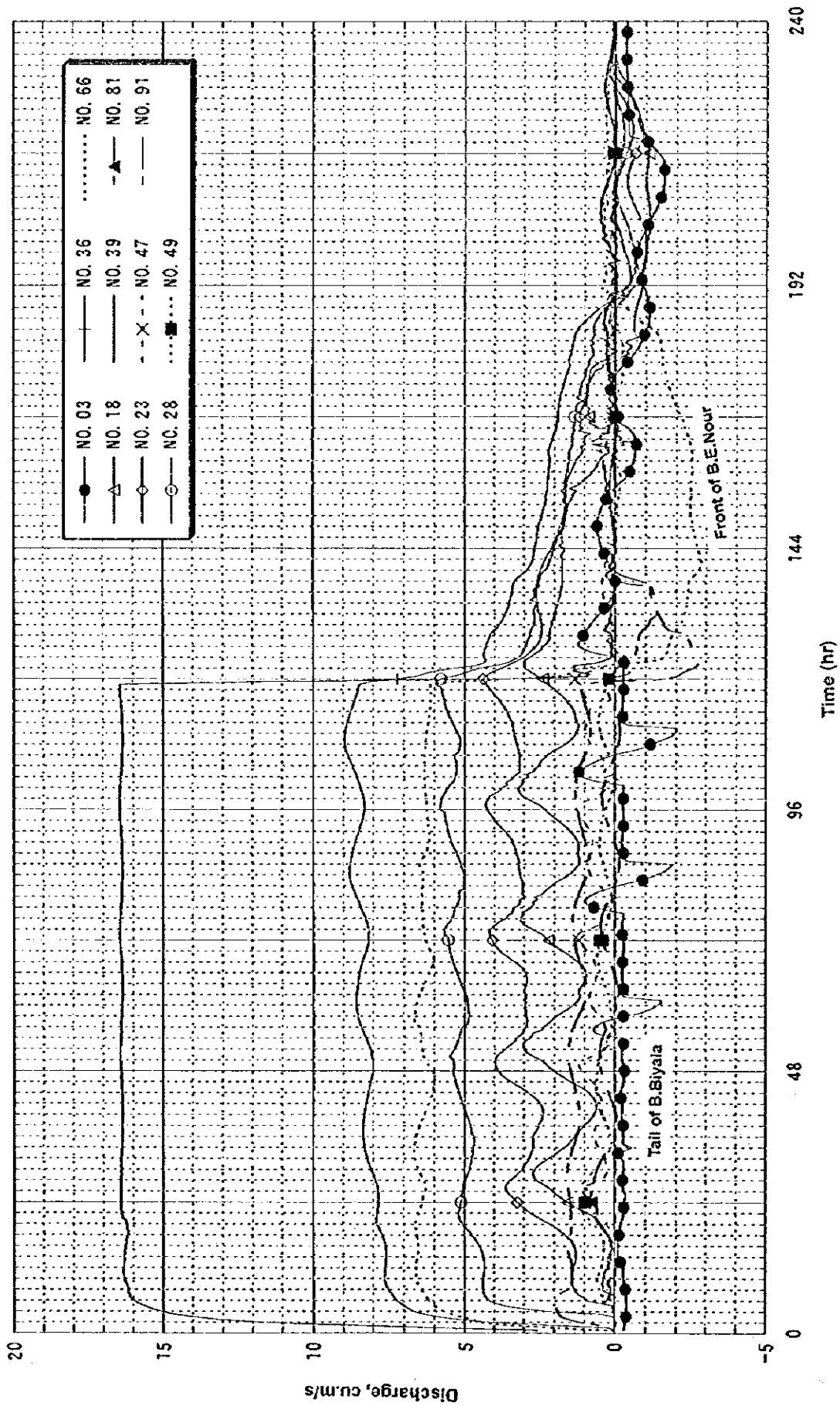


Figure F.20.8 Hydrographs at Major Points (Case 1, Present Condition,  $Q=8.69\text{cu.m/s}$ , Rotation)

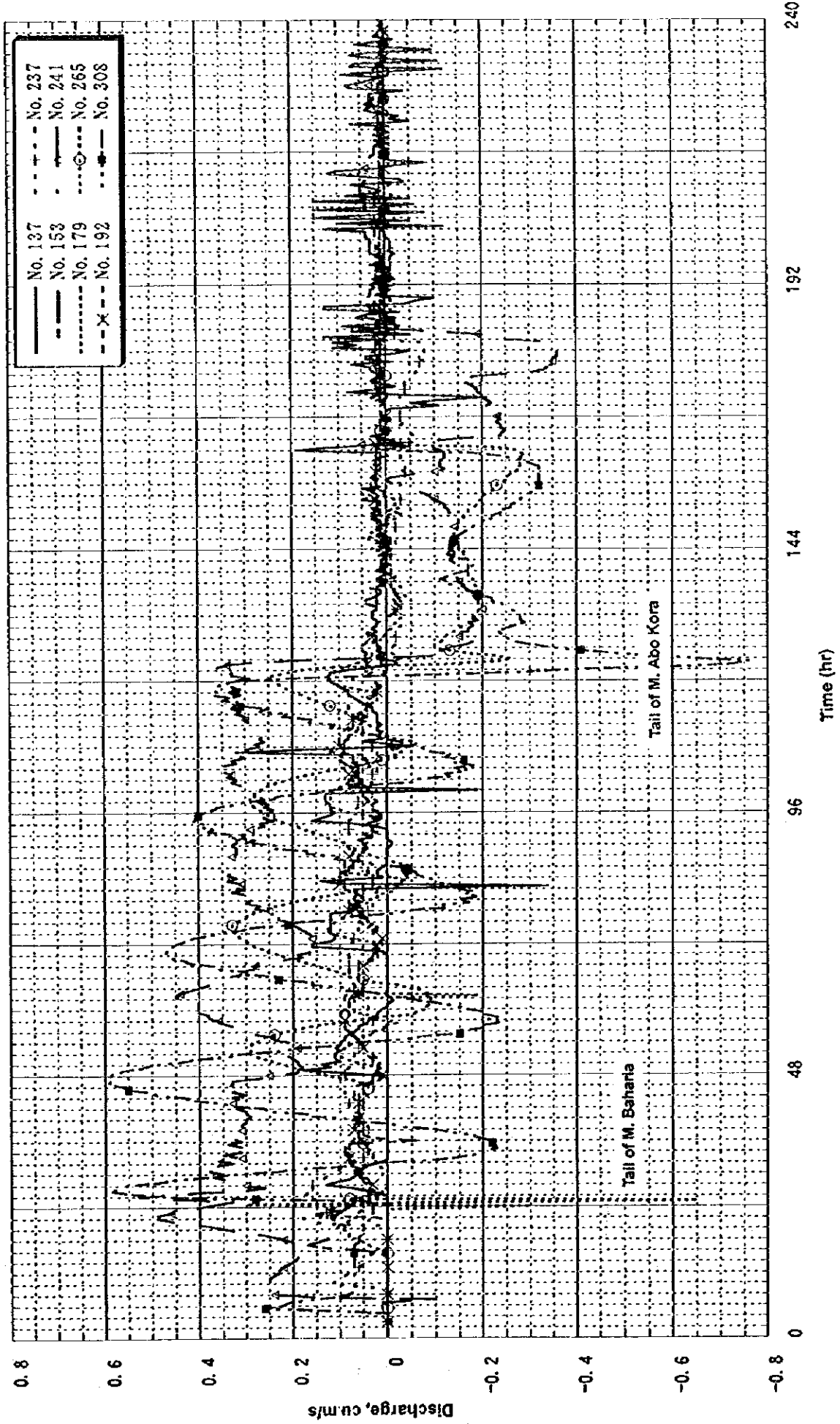


Figure F.20.9 Hydraulic Profile along Bahr Biyala (Case 1, Present Condition,  $Q=8.69\text{cu.m/s}$ , Rotation)

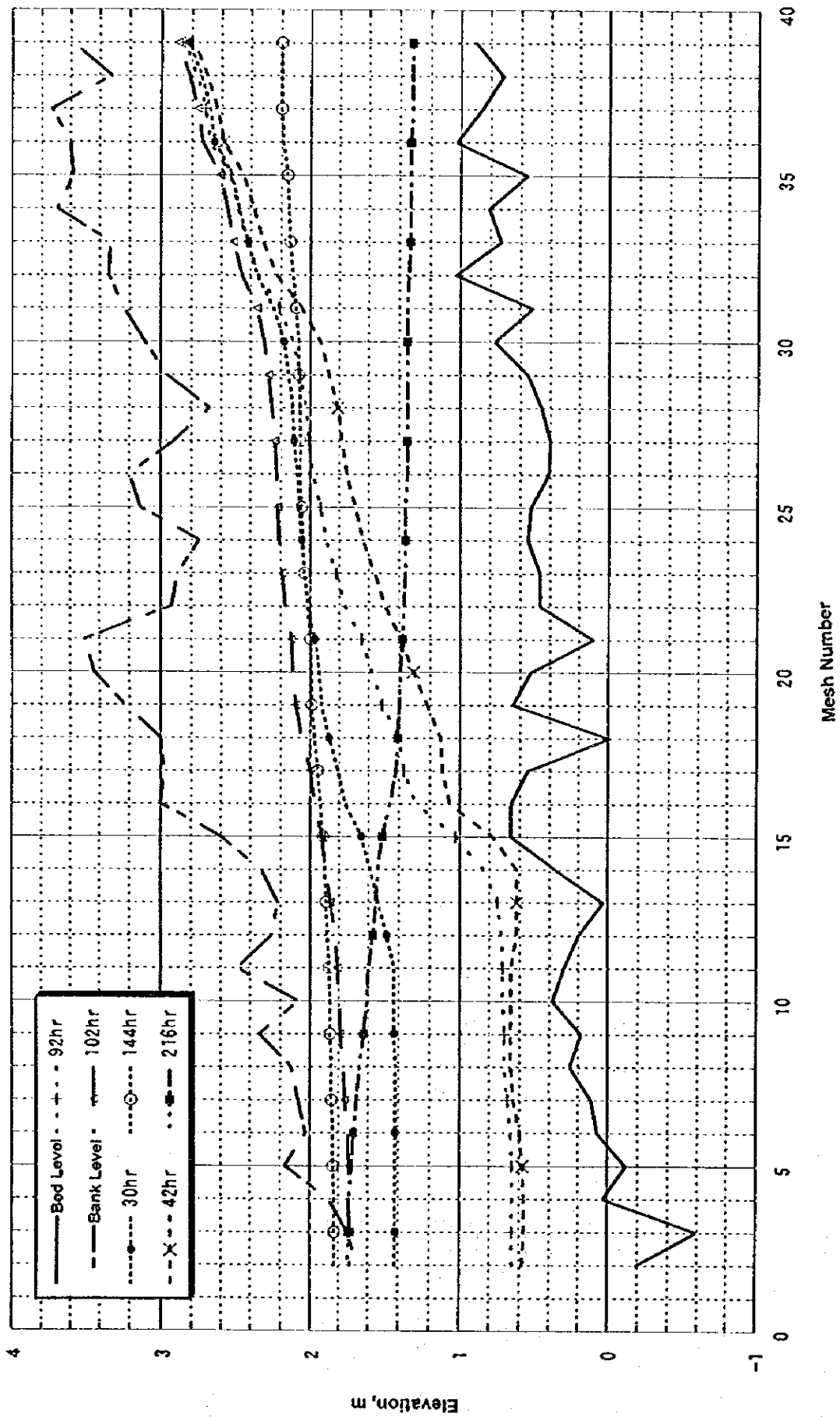




Figure F.20.10 Hydraulic Profile along Bahr El Nour (Case 1, Present Condition,  $Q=8.69\text{cu.m/s}$ , Rotation)

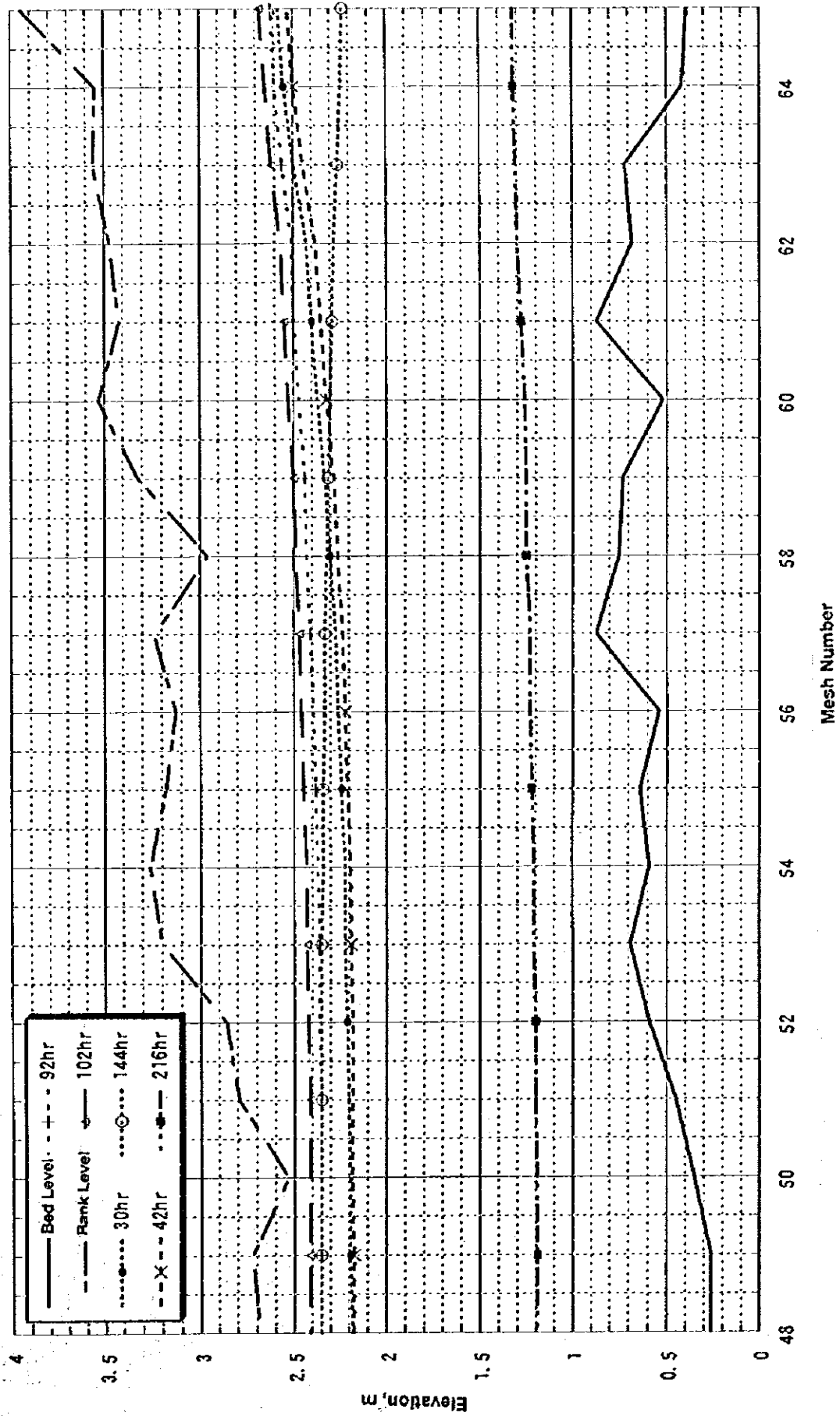


Figure F.20.11 Reserved Volume in Canals and Meskas (Case 1, Present Condition,  $Q=8.69\text{cu.m/s}$ , Rotation)

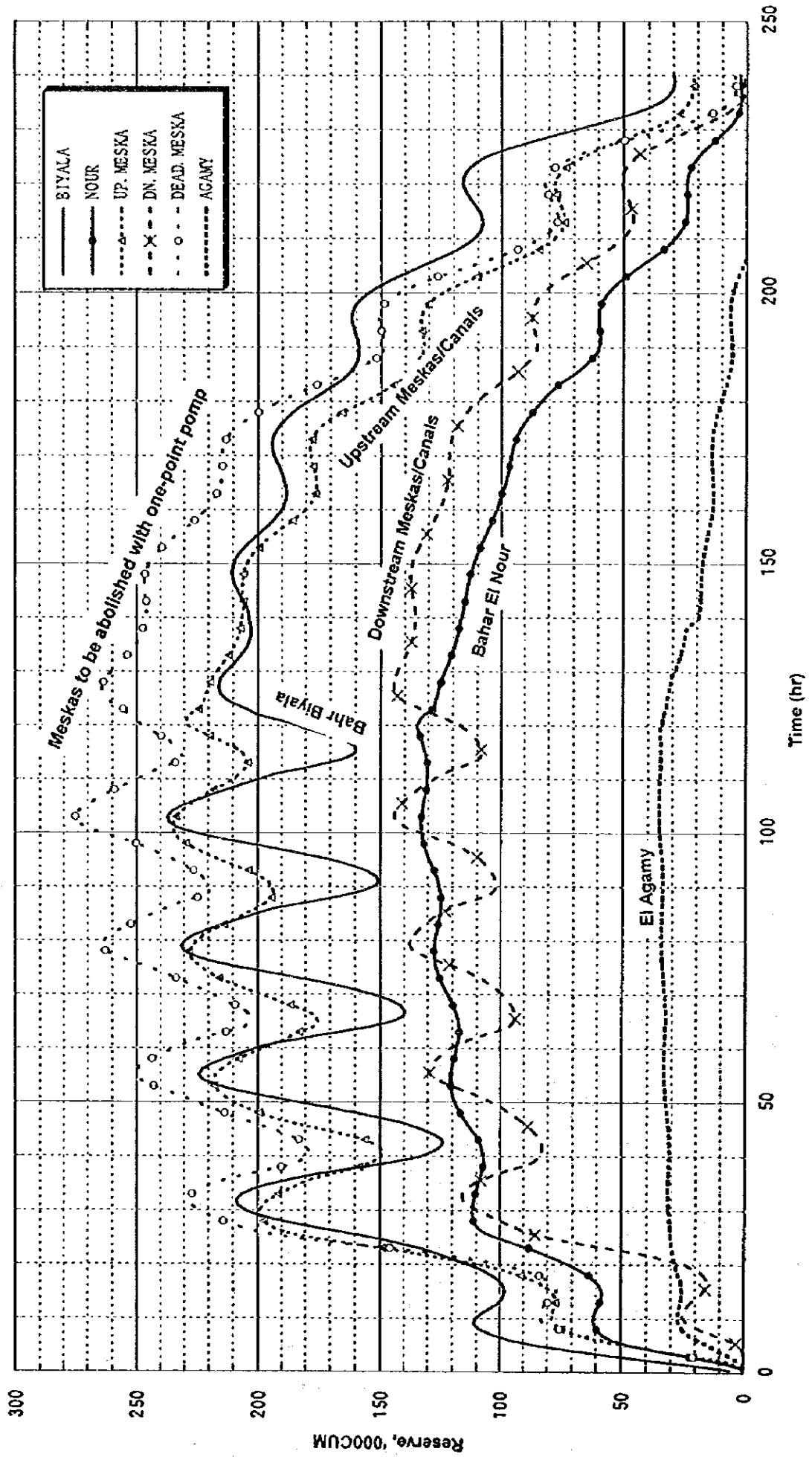


Figure F.20.12 Water Levels at Major Points (Case 2, Continuous,  $Q=6.16\text{cu.m/s}$ , Existing Gates Fully Opened)

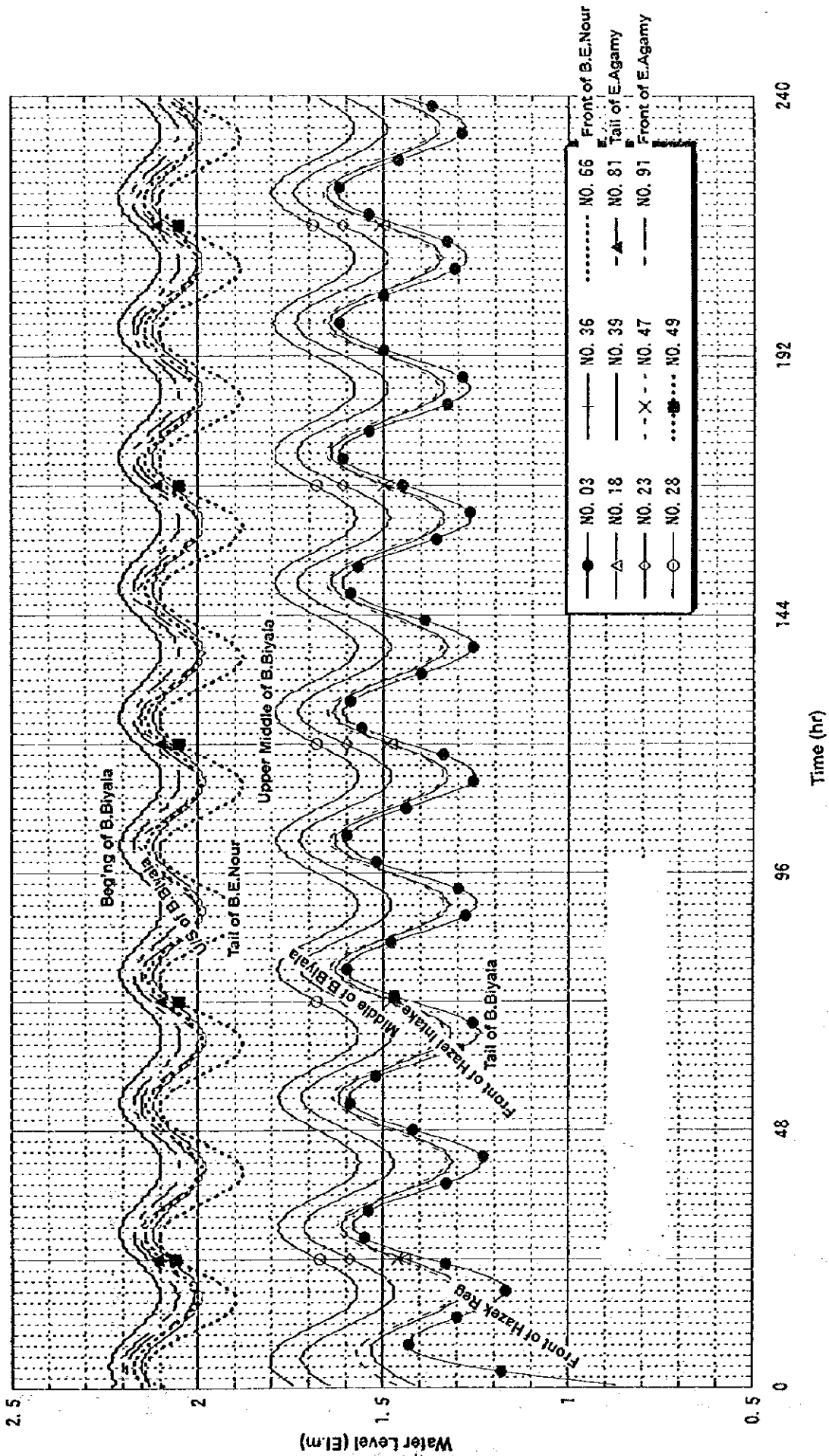


Figure F.20.13 Hydrographs at Major Points (Case 2, Continuous,  $Q=6.16 \text{ cu.m/s}$ , Existing Gates Fully Opened)

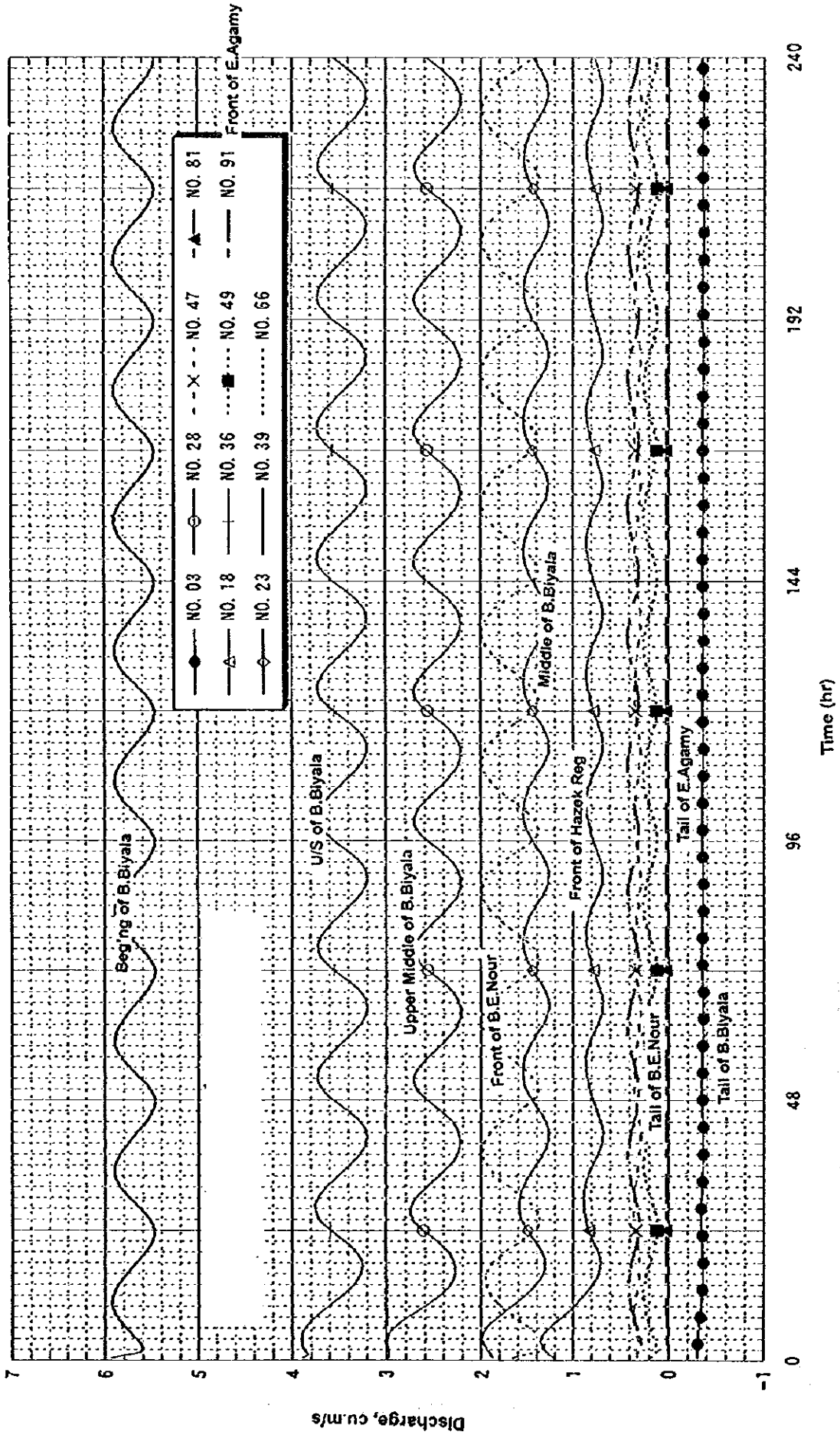


Figure F.20.14 Hydraulic Profile along Bahr Biyala (Case 2, Continuous,  $Q=6.16\text{cu.m/s}$ , Existing Gates Fully Opened)

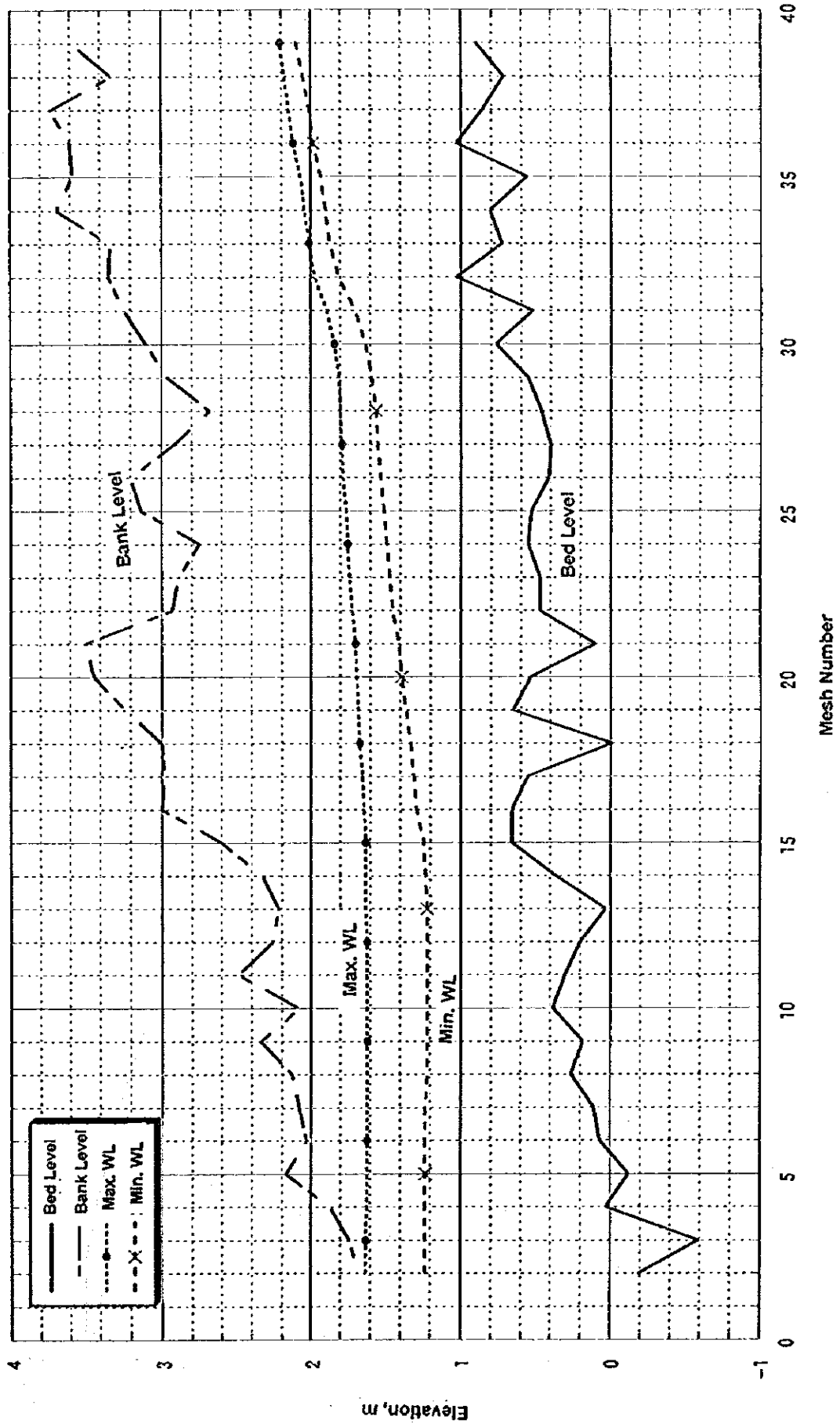


Figure F.20.15 Hydraulic Profile along Bahr El Nour (Case 2, Continuous,  $Q=6.16 \text{ cu.m/s}$ , Existing Gates Fully Opened)

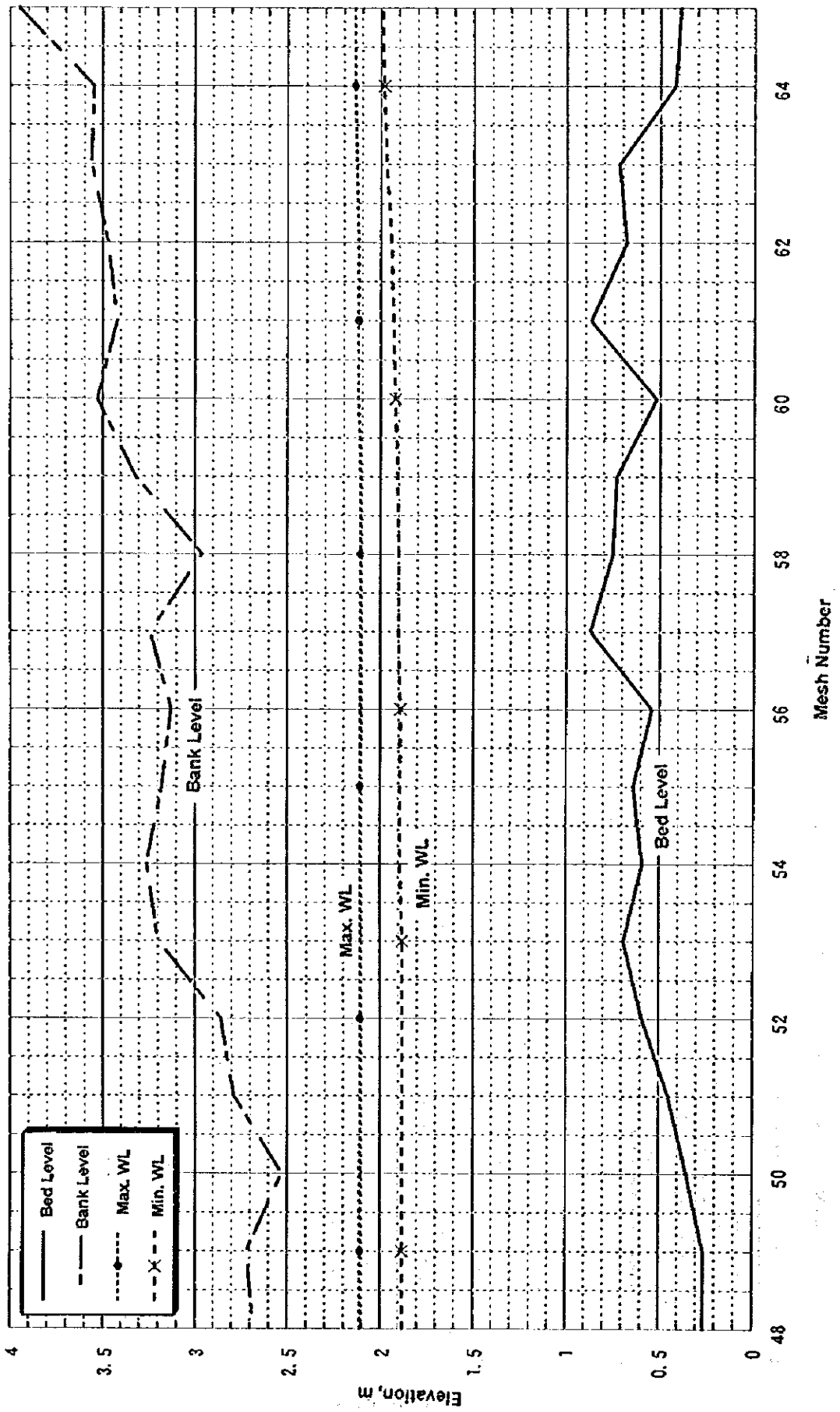


Figure F.20.16 Water Levels at Major Points (Case 2; Continuous,  $Q=1.02\text{cu.m/s}$ , Existing Gates Operated)

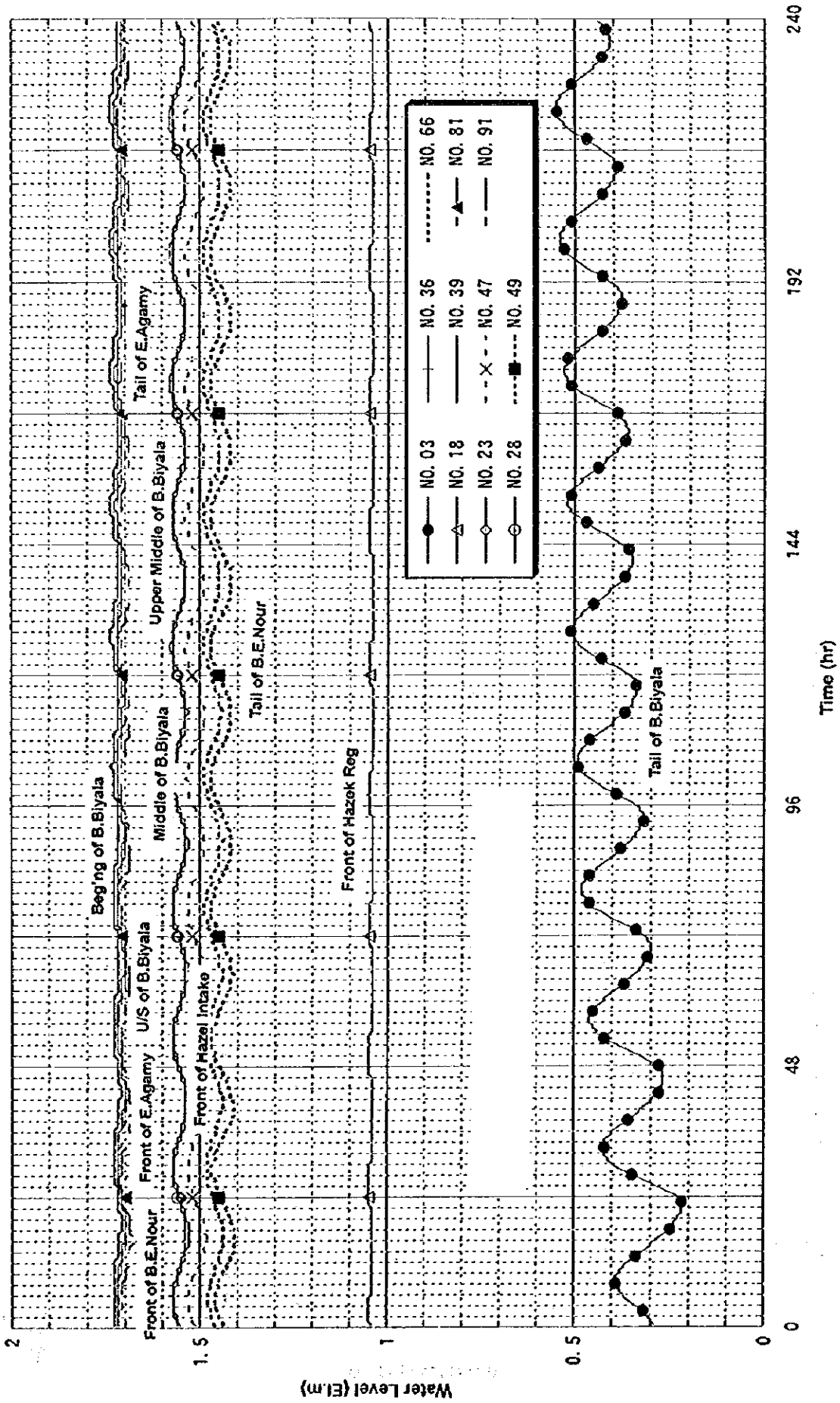


Figure F.20.17 Hydrographs at Major Points (Case 2', Continuous, Q=1.02cu.m/s, Existing Gates Operated)

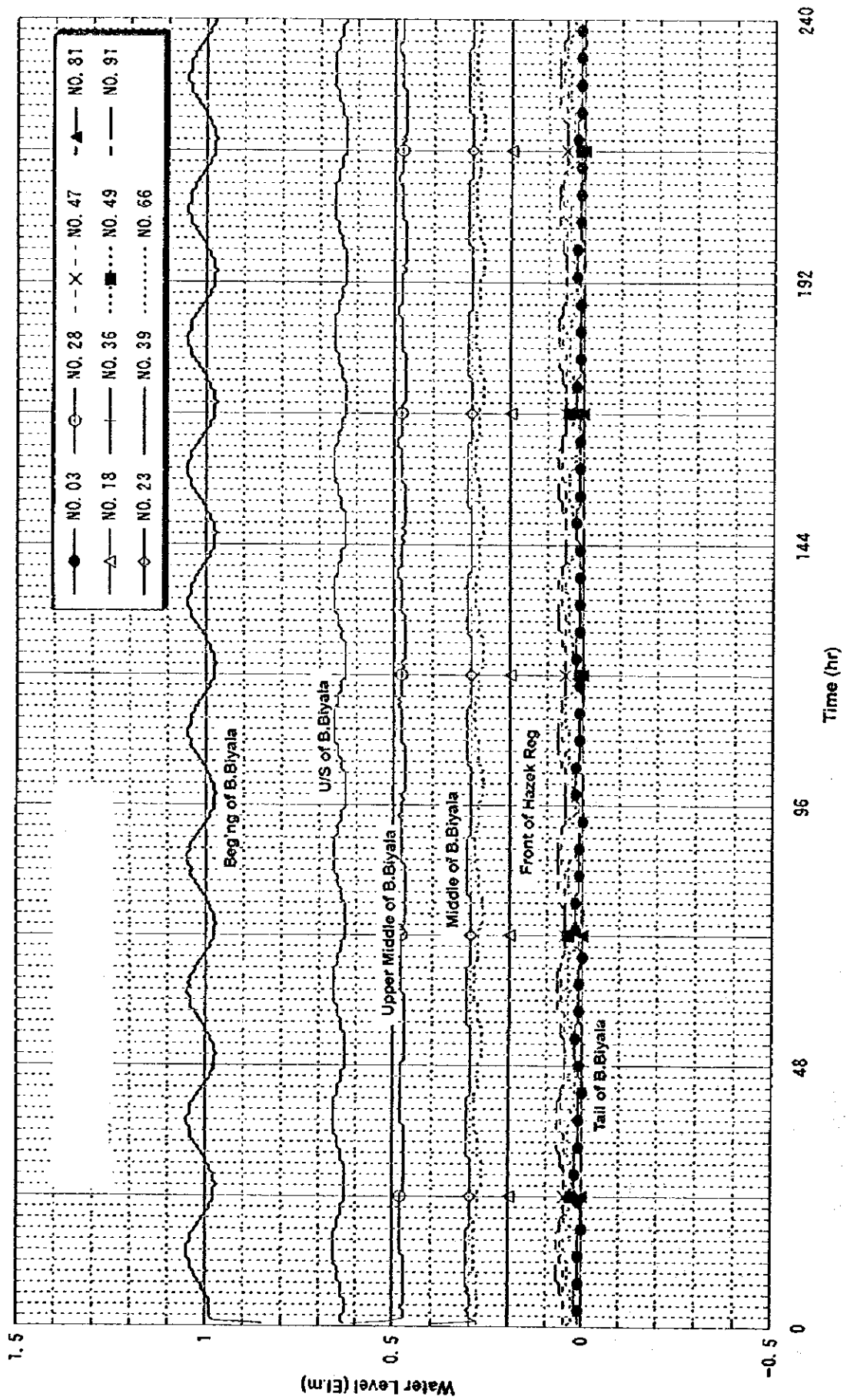




Figure F.20.18 Hydraulic Profile along Bahr Biyala (Case 2', Continuous, Q=1.02cu.m/s, Existing Gates Operated)

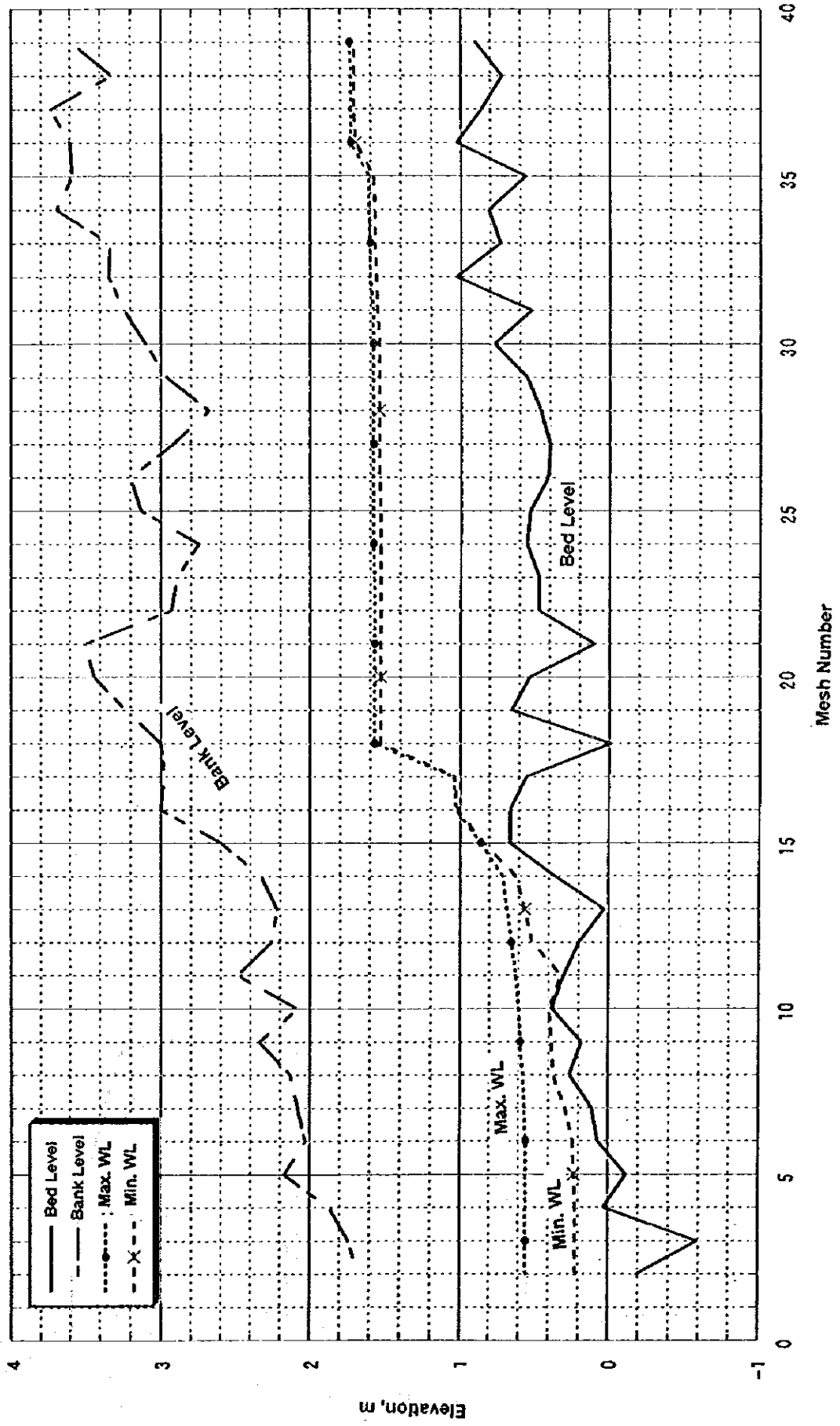


Figure F.20.19 Hydraulic Profile along Bahr El Nour (Case 2: Continuous,  $Q=1.02\text{cu.m/s}$ , Existing Gates Operated)

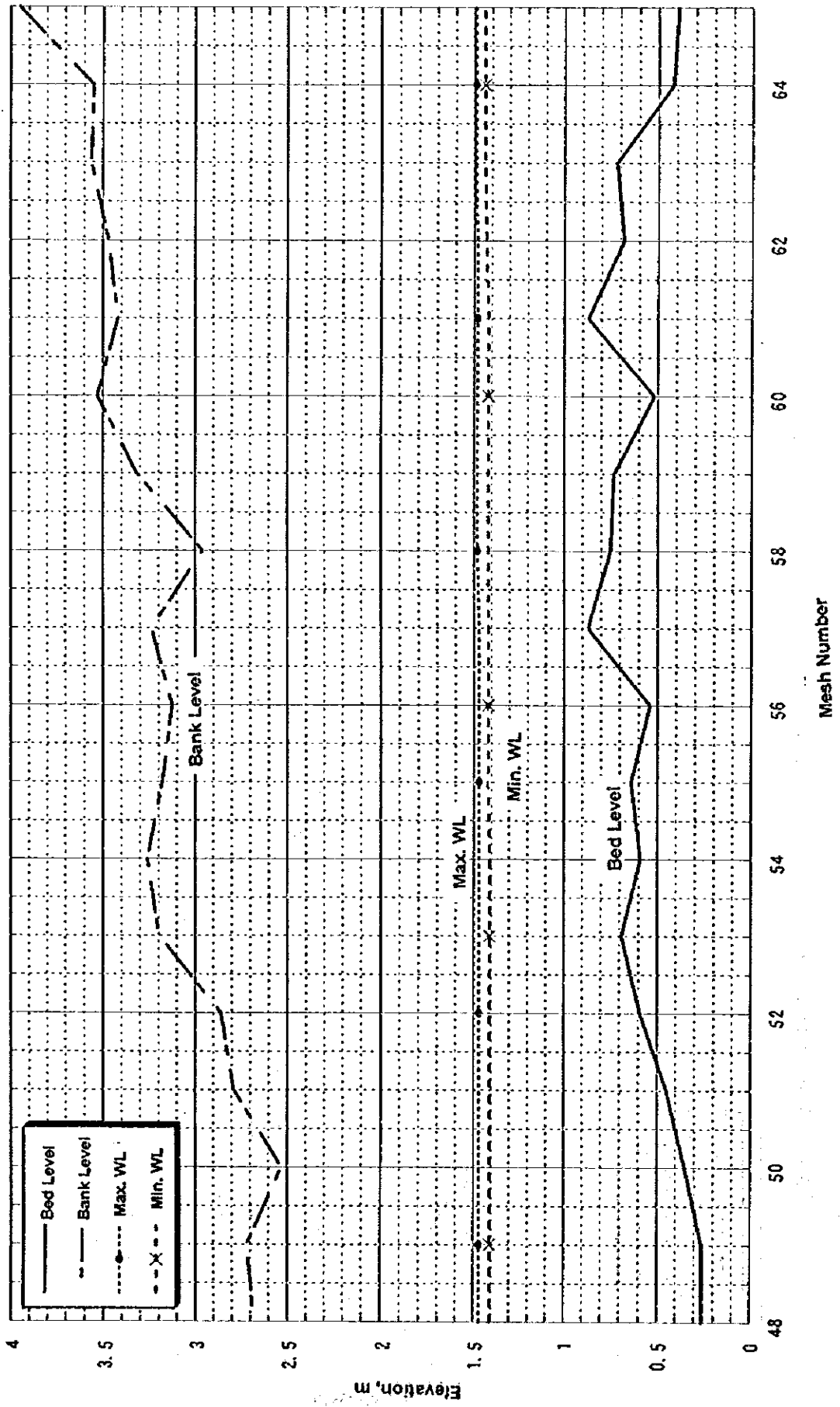


Figure F.20.20 Bahr Biyala Bank and Bed Level Profiles

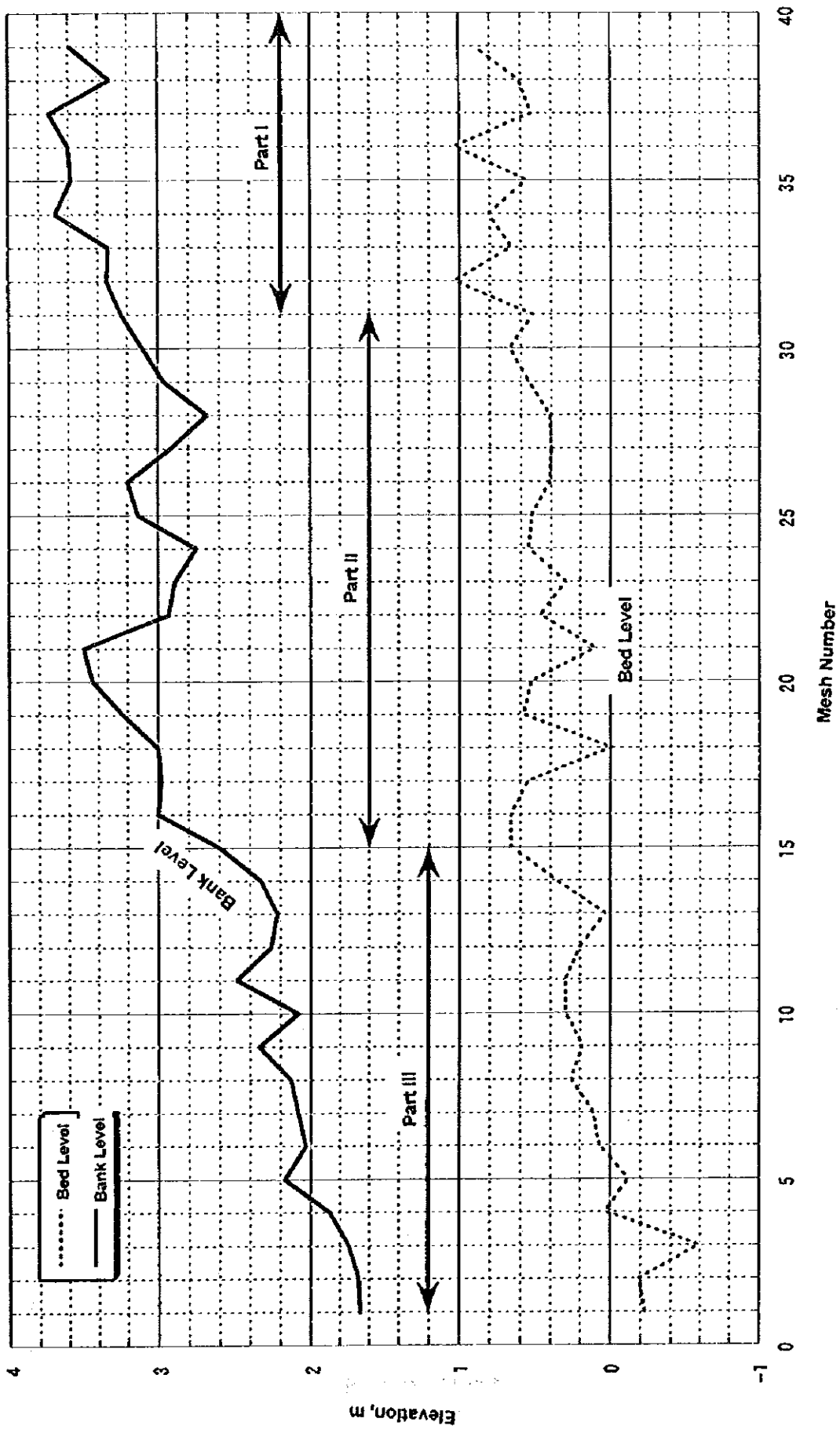


Figure F.20.21 Bahr Biyala Discharge Accumulation Profile



Figure F.20.22 Bahr El Nour and Bed Level Profiles

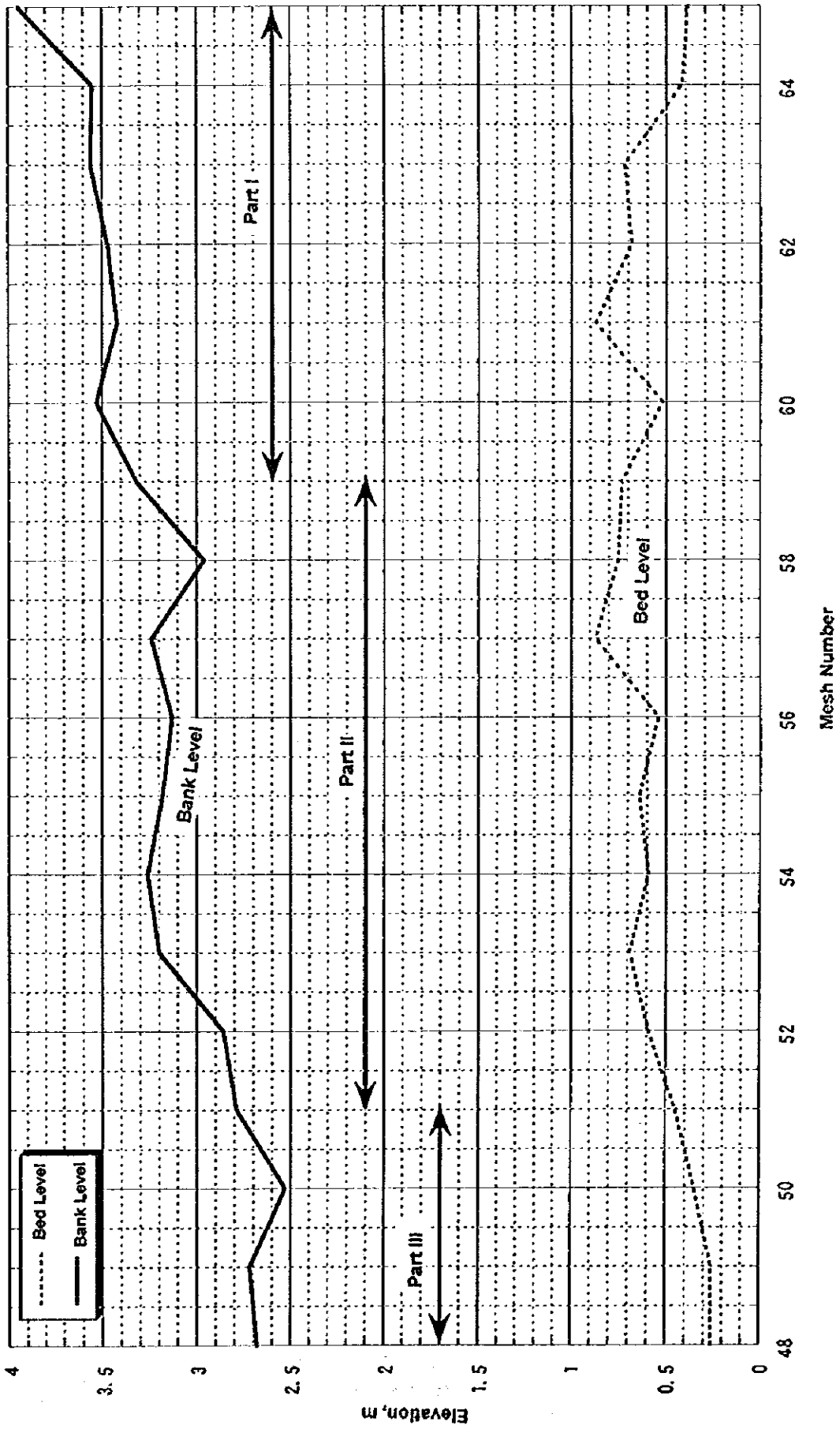
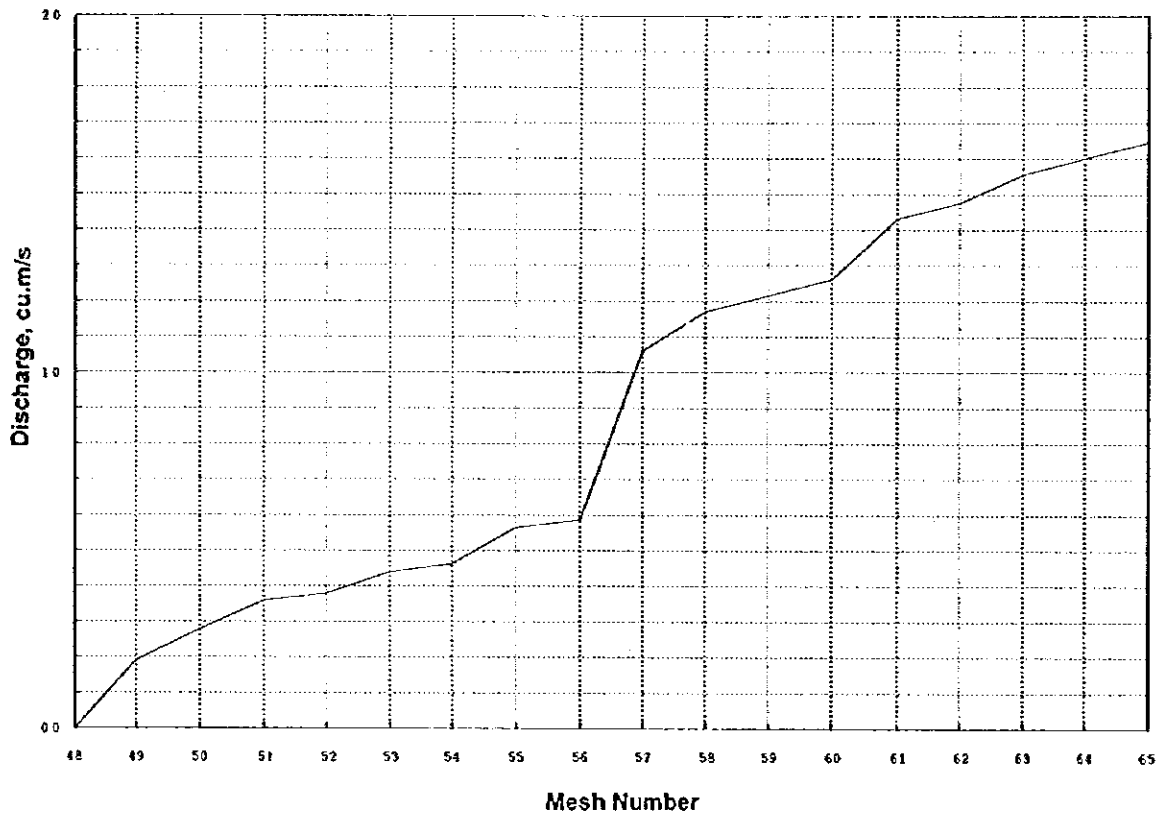


Figure F.20.23 Bahr El Nour Discharge Accumulation Profile



El Agamy Discharge Accumulation Profile

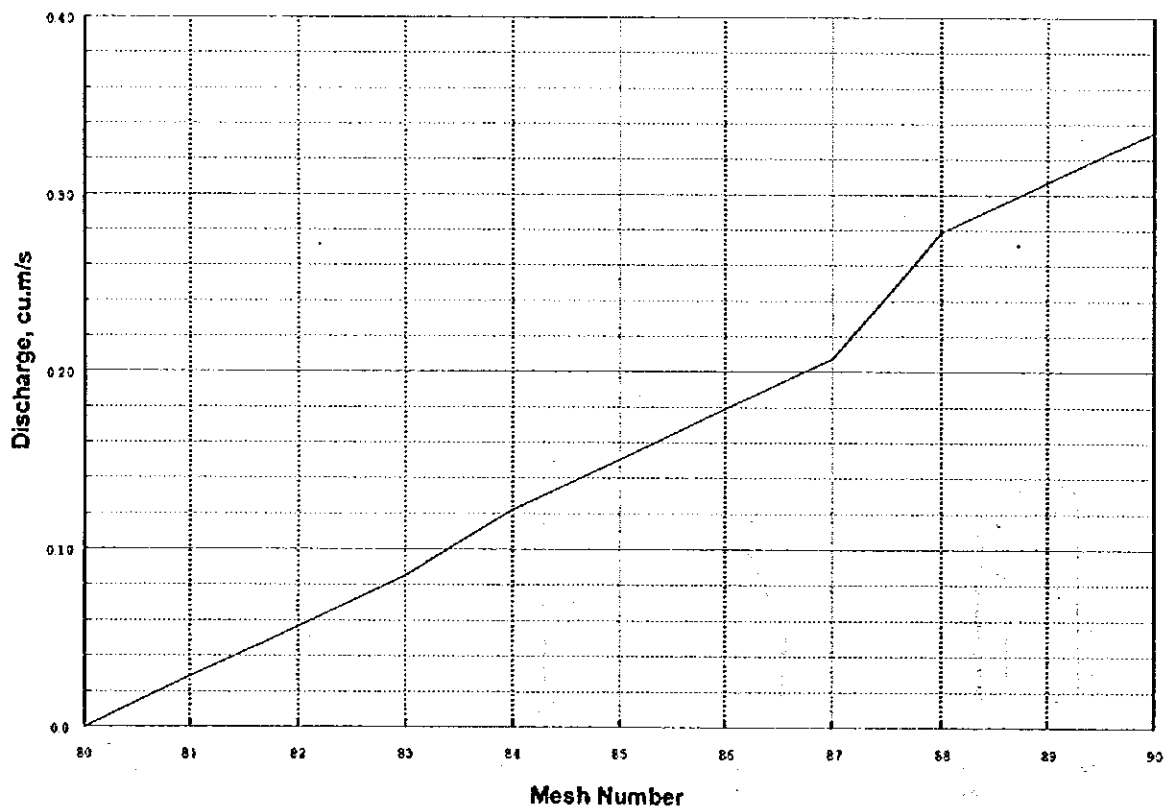


Figure F.20.24 Water Levels at Major Points (Case 2A, Continuous, Q=6.16cu.m/s, Automatic Gate Installed)

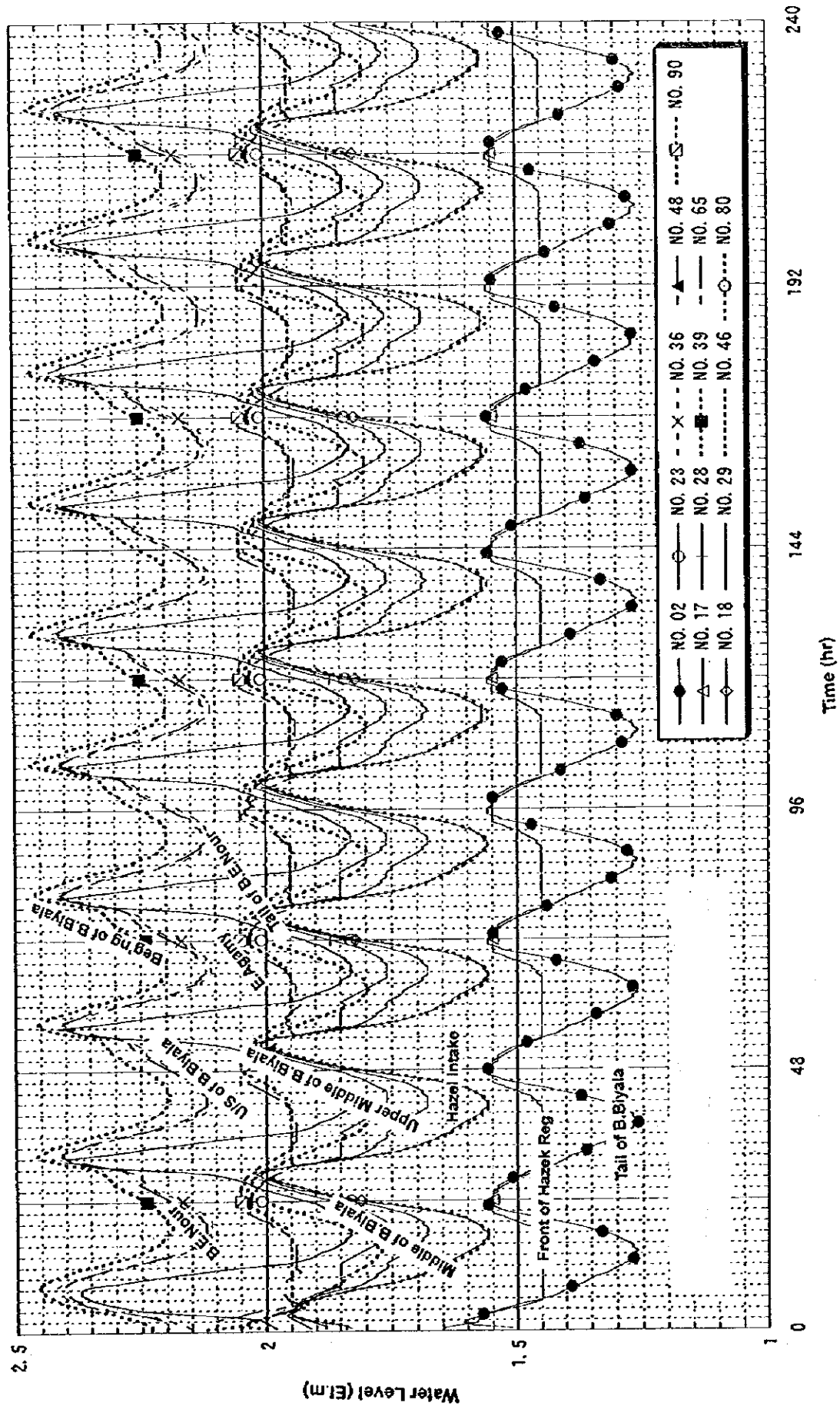


Figure F.20.25 Hydrographs at Major Points (Case 2A, Continuous,  $Q=6.16\text{cu.m/s}$ , Automatic Gate Installed)

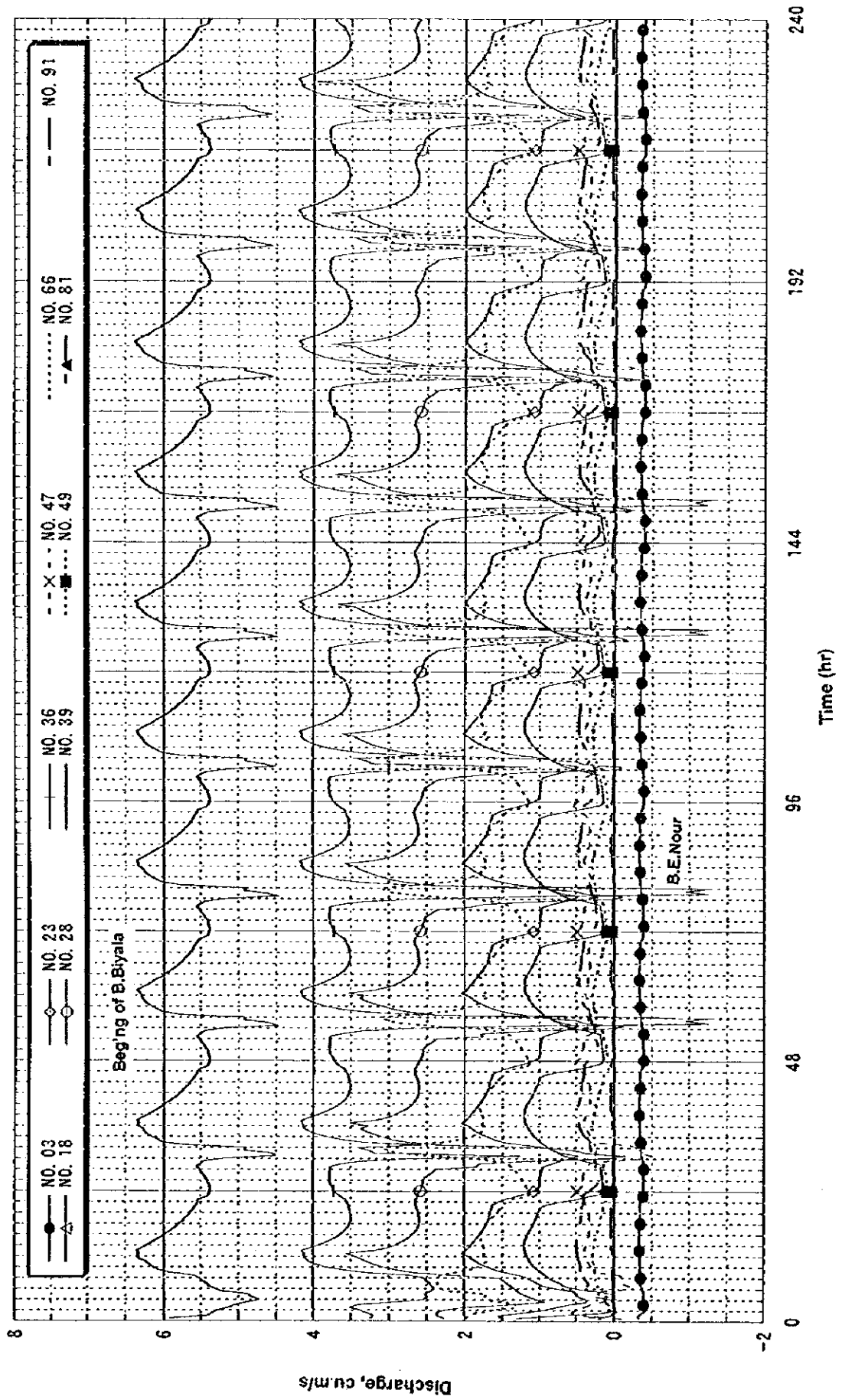




Figure F.20.26 Hydraulic Profile along Bahr Biyala (Case 2A, Continuous,  $Q=6.16\text{cu.m/s}$ , Automatic Gate Installed)

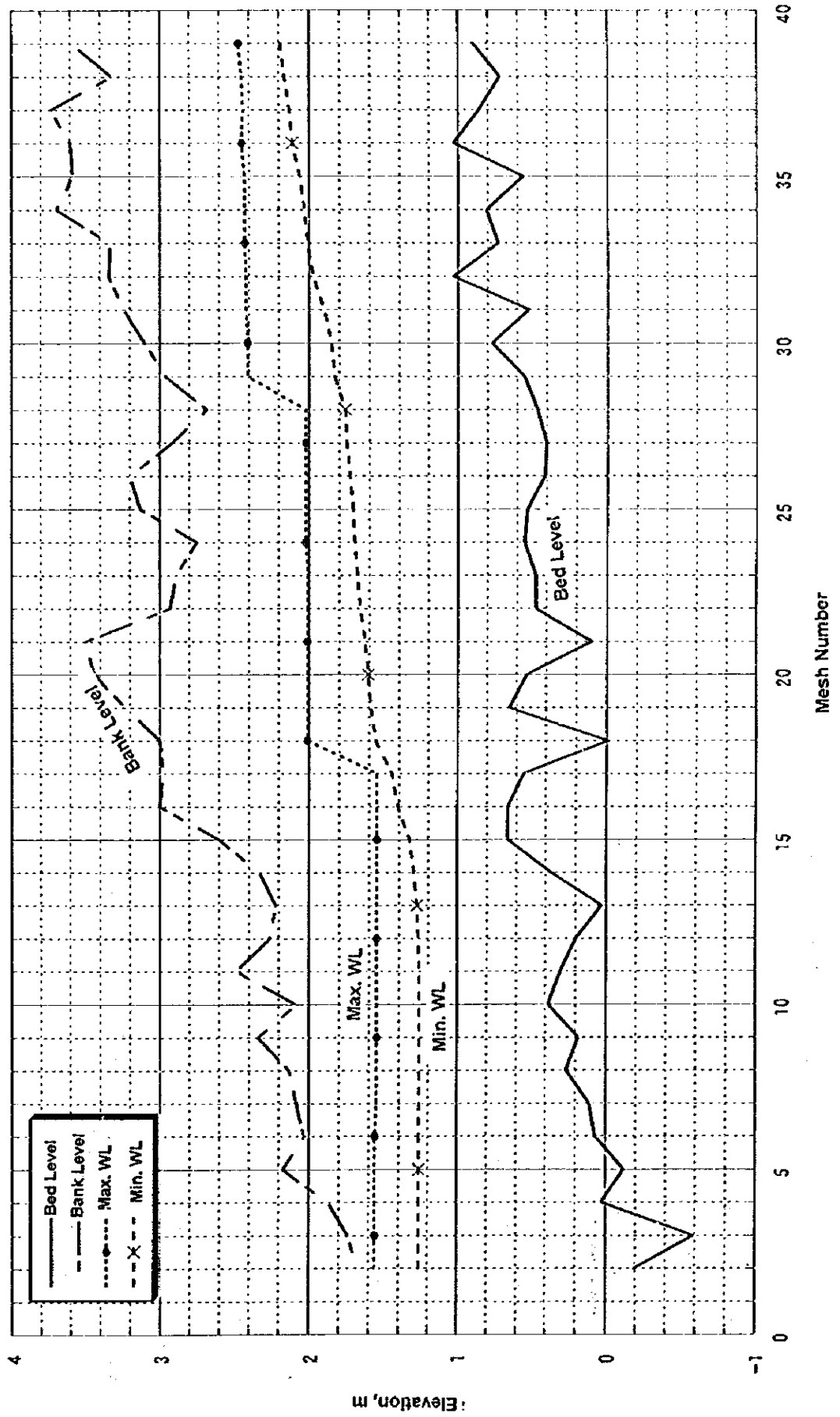


Figure F.20.27 Hydraulic Profile along Bahr El Nour (Case 2A, Continuous,  $Q=6.16\text{cu.m/s}$ , Automatic Gate Installed)

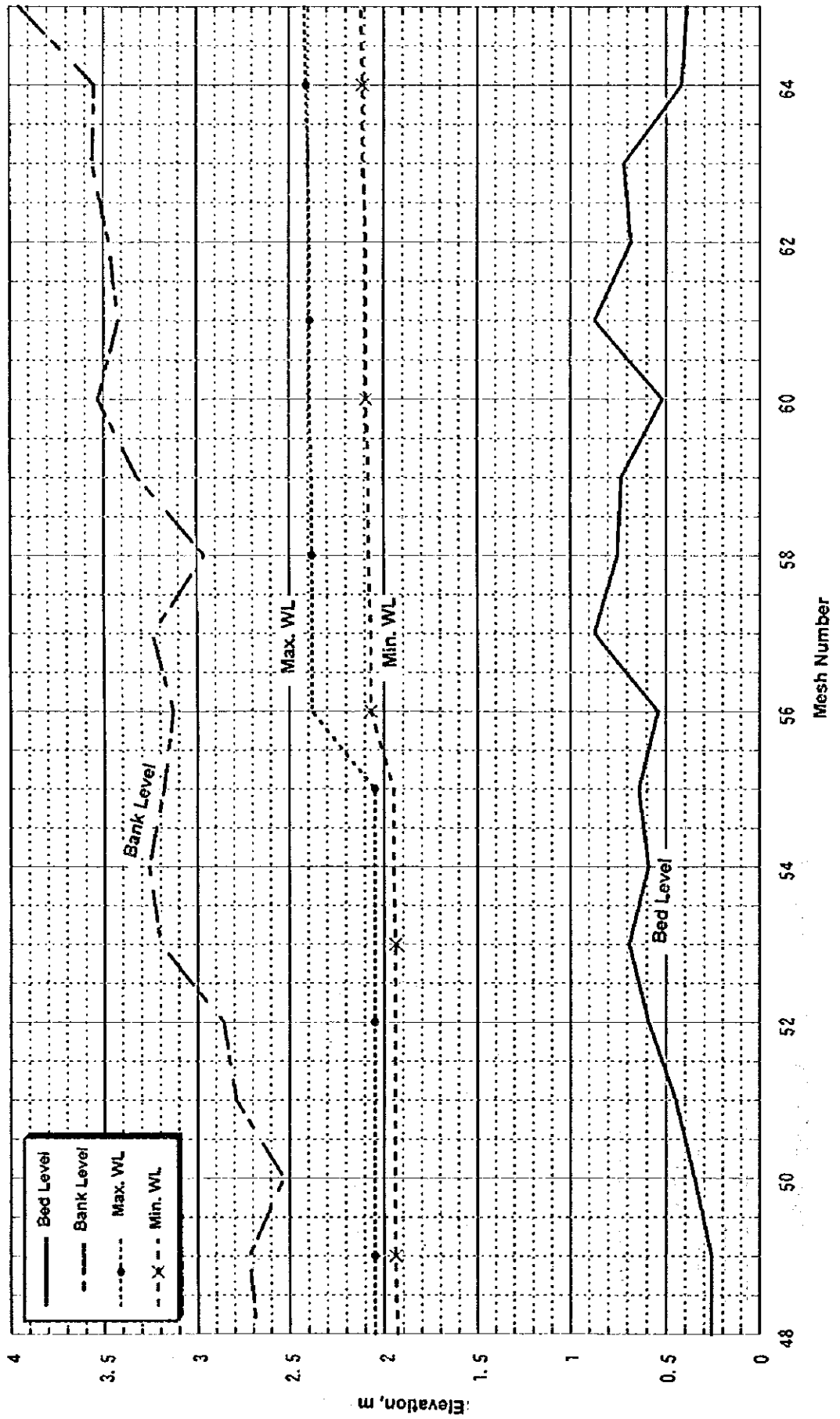


Figure F.20.28 Water Levels at Major Points (Case 2B, Continuous,  $Q=6.16\text{cu.m/s}$ , Automatic Gate Installed)

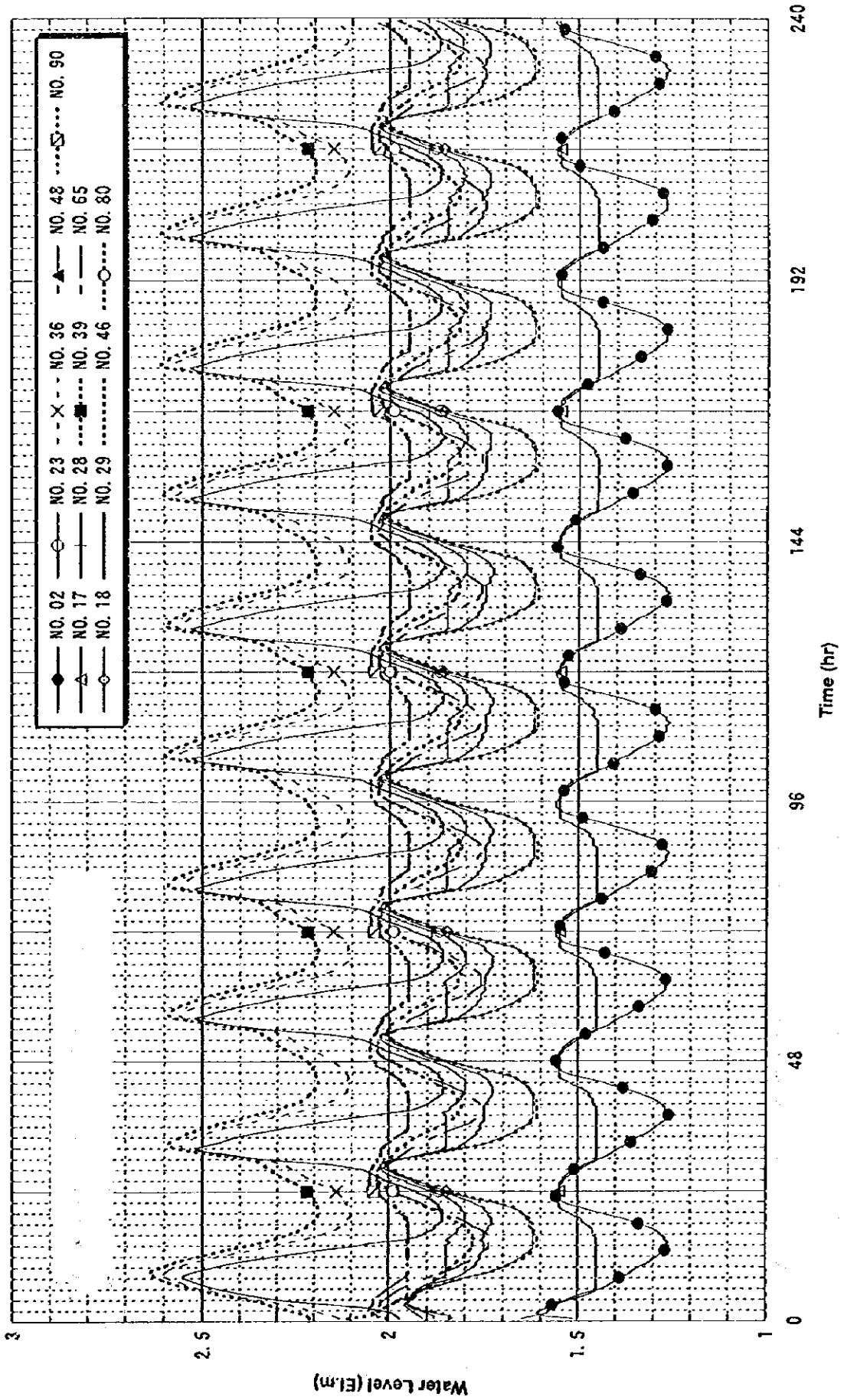


Figure F.20.29 Hydrographs at Major Points (Case 2B, Continuous,  $Q=6.16\text{cu.m/s}$ , Automatic Gate Installed)

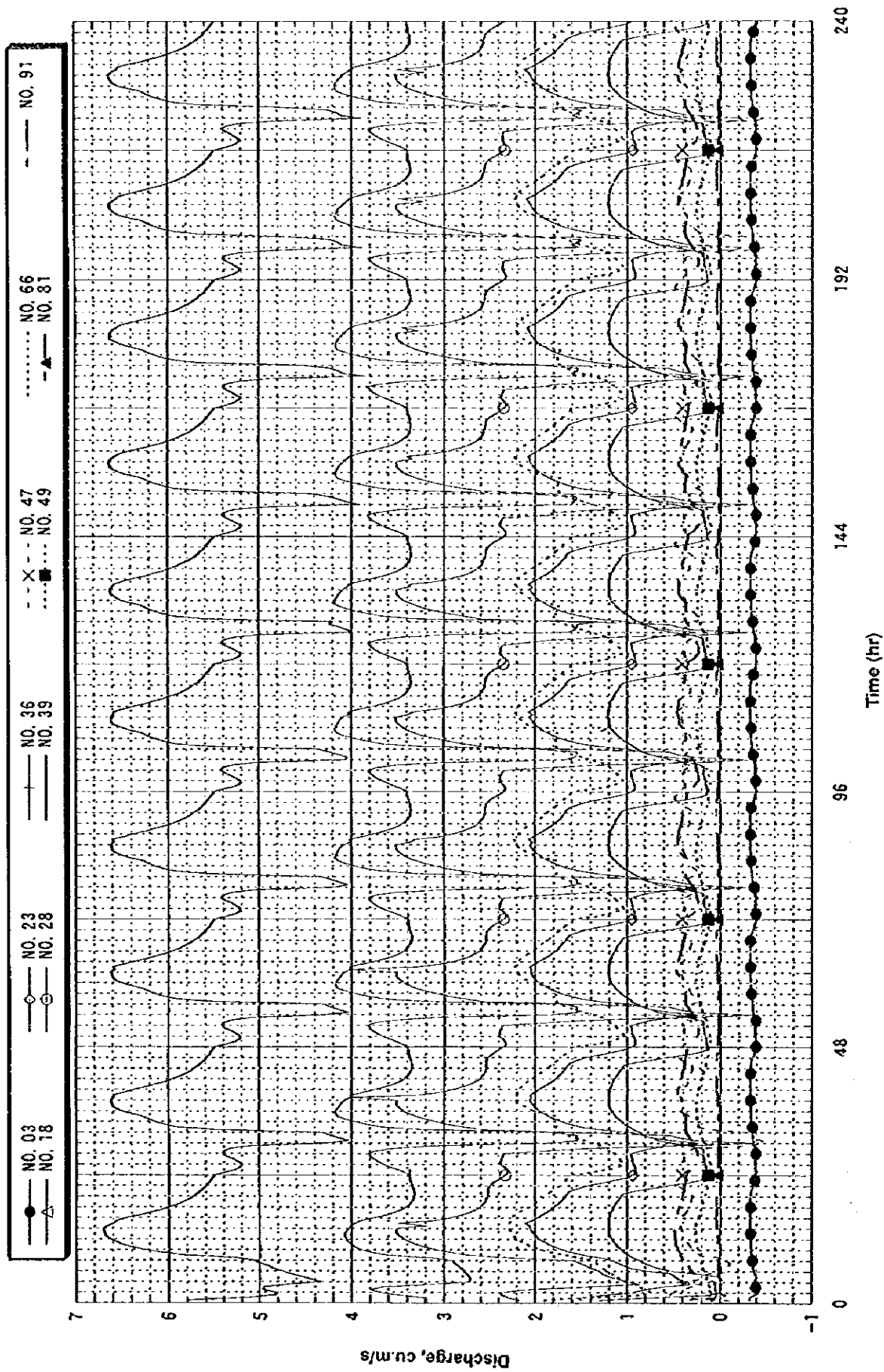


Figure F.20.30 Hydraulic Profile along Bahr Biyala (Case 2B, Continuous,  $Q=6.16\text{cu.m/s}$ , Automatic Gate Installed)

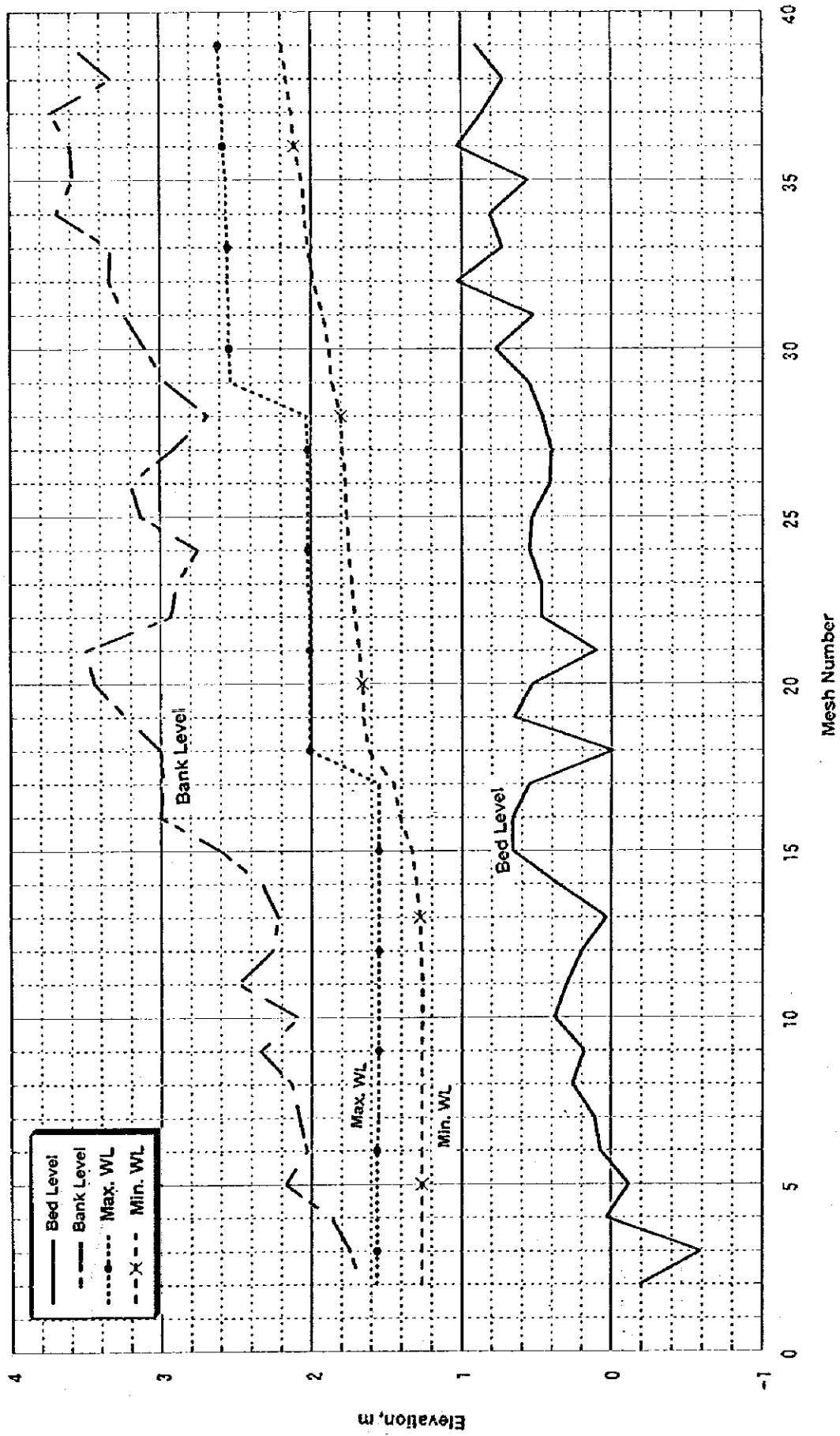
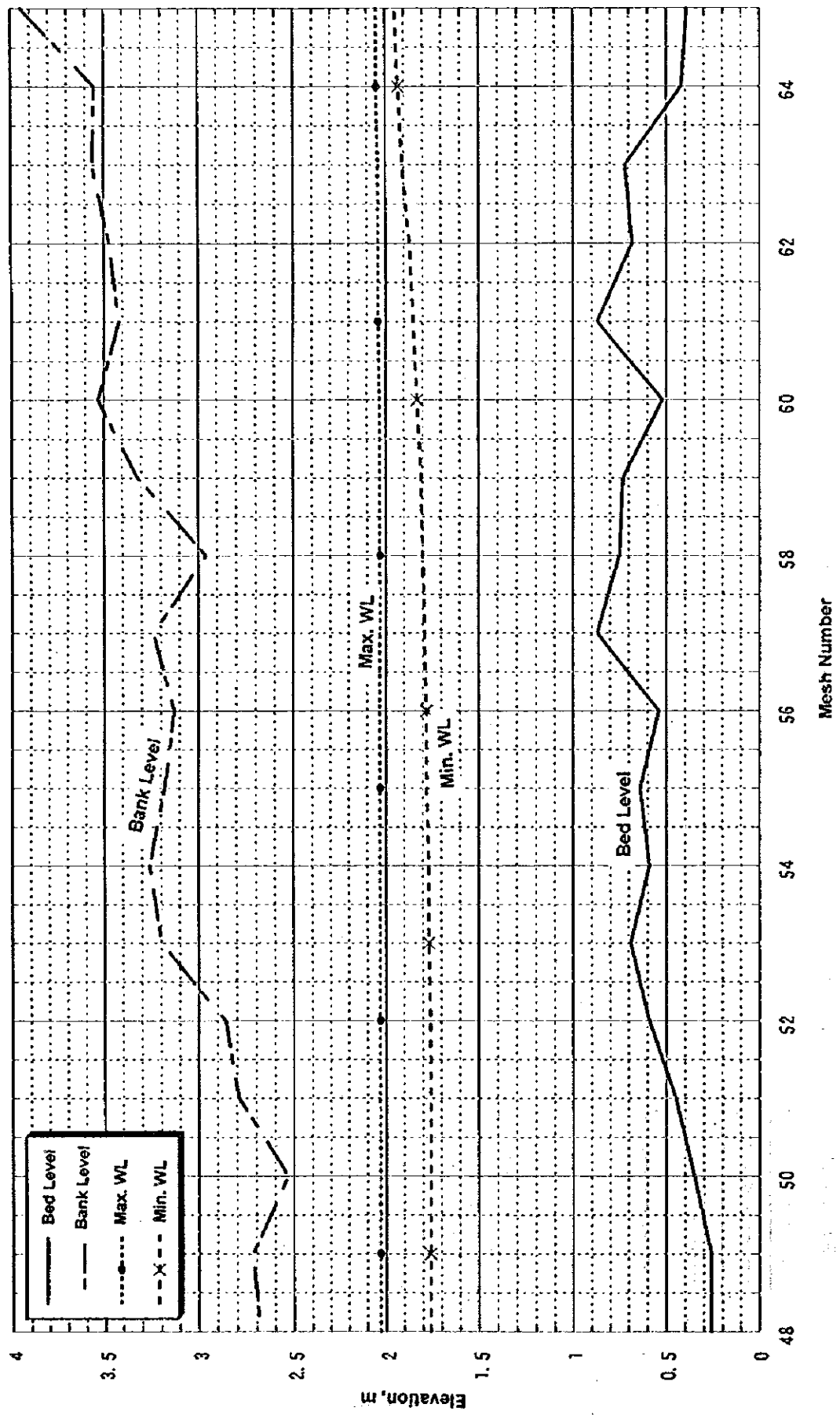


Figure F.20.31 Hydraulic Profile along Bahr El Nour (Case 2B, Continuous, Q=6.16cu.m/s, Automatic Gate Installed)





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