

BACKWATER AT BRIDGES AND DENSELY WOODED
FLOOD PLAINS, POLEY CREEK
NEAR SANFORD, ALABAMA

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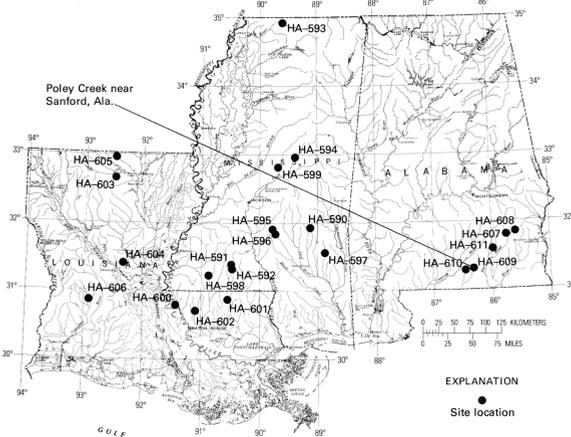


FIGURE 1.—INDEX MAP OF STUDY SITES IN THE BRIDGE BACKWATER INVESTIGATION PROJECT, ALABAMA, LOUISIANA, AND MISSISSIPPI.

TABLE 1.—VALLEY CROSS SECTION DATA FOR POLEY CREEK NEAR SANFORD, ALABAMA. ZERO STATION IS AT THE LEFT EDGE OF THE VALLEY (FACING DOWNSTREAM).

CROSS SECTION 1			CROSS SECTION 5			CROSS SECTION 6		
STATION (METERS)	GROUND SURFACE ELEVATION (METERS)	VELOCITY (METERS PER SECOND)	STATION (METERS)	GROUND SURFACE ELEVATION (METERS)	VELOCITY (METERS PER SECOND)	STATION (METERS)	GROUND SURFACE ELEVATION (METERS)	VELOCITY (METERS PER SECOND)
0	73.12	0	0	72.45	0	0	73.67	0
18	71.59	6	6	71.84	34	6	71.84	34
40	70.31	9	9	71.56	49	9	72.45	49
55	70.25	9	9	71.08	53	9	72.45	53
59	70.04	23	23	70.86	70	23	71.87	70
64	69.83	37	37	70.65	86	37	71.87	86
66	69.58	50	50	70.71	105	50	71.02	105
94	69.22	64	64	70.59	130	64	70.92	130
107	69.03	79	79	70.53	146	79	70.95	146
110	69.03	96	96	70.44	165	96	70.92	165
125	69.16	108	108	70.59	183	108	70.98	183
137	69.31	111	111	70.31	197	111	70.89	197
140	69.13	113	113	69.96	226	113	71.05	226
155	69.22	116	116	69.77	256	116	71.02	256
168	69.25	117	117	70.01	277	117	71.08	277
186	69.40	122	122	70.47	280	122	71.02	280
198	69.10	131	131	70.47	312	131	71.02	312
216	68.94	140	140	70.44	328	140	71.20	328
244	68.76	149	149	70.41	334	149	71.26	334
250	68.91	160	160	70.56	335	160	71.87	335
261	69.06	171	171	70.62	338	171	72.23	338
266	69.22	181	181	70.53	343	181	72.75	343
283	69.40	189	189	70.68	387	189	73.58	387
305	69.46	190	190	69.70	394	190	71.47	394
311	69.55	194	194	69.61	411	194	71.47	411
314	69.43	195	195	69.43	427	195	71.59	427
332	69.67	198	198	69.89	433	198	71.69	433
341	69.49	200	200	70.44	439	200	71.99	439
343	68.79	209	209	70.71	442	209	72.05	442
344	68.87	219	219	70.59	460	219	73.06	460
344	68.70	244	244	70.59	474	244	73.06	474
346	69.13	259	259	70.77	0	122	73.06	0
347	69.55	274	274	70.86	0	131	72.57	0
347	70.07	280	280	70.74	0	152	72.05	0
357	69.83	280	280	70.47	0	165	71.72	0
360	69.34	288	288	70.86	0	178	71.59	0
363	68.58	300	300	70.95	0	198	71.44	0
364	68.18	319	319	71.08	0	280	71.41	0
366	68.46	347	347	71.38	0	384	71.47	0
367	68.30	354	354	71.56	0	394	71.47	0
369	68.58	378	378	72.20	0	411	71.53	0
372	69.34	372	372	70.53	0	427	71.59	0
375	69.58	390	390	73.36	0	433	71.69	0
376	70.04					439	71.99	
384	72.23					442	72.05	
						460	73.06	
						491	74.52	

CROSS SECTION 2		
STATION (METERS)	GROUND SURFACE ELEVATION (METERS)	VELOCITY (METERS PER SECOND)
0	73.88	0
15	71.66	0
30	70.47	0
37	70.04	0
58	69.77	0
73	69.83	0
94	69.92	0
125	69.64	0
149	69.77	0
171	69.83	0
183	69.77	0
204	69.86	0
223	69.89	0
271	69.74	0
309	69.61	0
314	69.67	0
315	69.49	0
320	69.80	0
320	69.80	0
340	69.89	0
347	70.07	0
355	70.47	0
360	71.17	0
367	71.87	0
390	72.75	0

CROSS SECTION 3		
STATION (METERS)	GROUND SURFACE ELEVATION (METERS)	VELOCITY (METERS PER SECOND)
24	72.84	0
27	71.41	0
37	71.02	0
40	70.53	0
52	70.34	0
61	70.41	0
76	70.41	0
91	70.31	0
113	70.47	0
128	70.34	0
130	69.81	0
131	69.00	0
134	69.34	0
137	70.04	0
146	70.38	0
148	69.27	0
149	69.31	0
151	70.07	0
155	70.31	0
186	70.19	0
187	69.77	0
189	70.22	0
200	70.16	0
226	70.16	0
235	69.80	0
247	70.01	0
277	70.13	0
293	70.47	0
311	70.53	0
338	70.62	0
354	70.59	0
358	70.68	0
361	70.80	0
366	71.02	0
381	71.81	0
390	73.00	0

CROSS SECTION 4		
STATION (METERS)	GROUND SURFACE ELEVATION (METERS)	VELOCITY (METERS PER SECOND)
0	72.02	0
15	71.38	0
27	71.05	0
41	71.08	0
46	70.98	0
52	70.83	0
53	70.13	0
55	69.55	0
56	69.28	0
58	68.88	0
59	69.37	0
61	70.13	0
64	70.44	0
91	70.41	0
99	69.98	0
110	70.62	0
127	70.47	0
133	70.41	0
134	70.41	0
139	70.28	0
142	69.70	0
145	70.41	0
157	70.59	0
168	70.31	0
175	70.62	0
186	70.01	0
192	70.56	0
203	70.47	0
215	70.47	0
232	70.74	0
247	70.80	0
259	70.89	0
271	71.08	0
285	71.14	0
296	71.17	0
319	70.89	0
320	70.98	0
331	71.69	0
340	71.62	0
357	71.78	0
366	73.09	0

BRIDGE SECTION		
STATION (METERS)	GROUND SURFACE ELEVATION (METERS)	VELOCITY (METERS PER SECOND)
0	71.26	0
0	71.20	0
3	70.59	0
5	70.18	0
6	69.34	0
8	70.13	0
9	70.22	0
12	70.53	0
18	70.74	0
21	70.56	0
24	70.38	0
27	70.47	0
30	70.44	0
34	70.50	0
37	70.62	0
39	70.56	0
40	70.25	0
41	69.49	0
44	68.70	0
46	69.16	0
47	69.40	0
49	70.10	0
50	70.56	0
52	70.56	0
55	70.62	0
58	70.44	0
62	70.62	0
62	71.26	0
62	73.06	0

TABLE 2.—DISCHARGE MEASUREMENTS OF DECEMBER 21, 1972, AND MARCH 12, 1973, ON POLEY CREEK NEAR SANFORD, ALABAMA. ZERO STATION IS AT THE EDGE OF THE LEFT ABUTMENT (FACING DOWNSTREAM).

DISCHARGE MEASUREMENT OF DECEMBER 21, 1972, OF POLEY CREEK NEAR SANFORD, ALABAMA (WATER-SURFACE ELEVATION=71.235 METERS) TOTAL DISCHARGE=40.5 CUBIC METERS PER SECOND					
STATION (METERS)	DEPTH (METERS)	ANGLE (DEGREES)	OBSERVATION DEPTH ¹	VELOCITY (METERS PER SECOND)	
0.0	0.61	0	0.0	0.451	
1.5	0.76	0	0.2	0.704	
			0.8	0.198	
3.7	0.70	0	0.6	0.844	
6.1	1.92	0	0.6	1.253	
			0.8	0.588	
9.1	0.91	0	0.2	0.646	
			0.8	0.189	
12.2	0.91	0	0.8	0.259	
			0.8	0.335	
15.2	0.76	0	0.6	0.427	
18.3	0.49	0	0.6	0.305	
21.3	0.70	0	0.6	0.616	
24.4	0.82	0	0.6	0.320	
27.4	0.76	0	0.6	0.555	
30.5	0.67	0	0.6	0.259	
33.5	0.64	0	0.6	0.341	
36.6	0.52	0	0.6	0.207	
39.6	1.74	0	0.2	0.719	
			0.8	0.735	
			0.8	1.344	
			0.8	0.920	
			0.2	0.942	
			0.8	1.079	
			0.2	0.861	
			0.8	1.100	
			0.2	0.533	
			0.8	0.427	
			0.8	0.265	
			0.8	0.988	
			0.2	0.436	
			0.6	0.771	
			0.6	0.415	
			0.6	0.567	
			0.6	0.583	
			0.0	0.283	

DISCHARGE MEASUREMENT OF MARCH 12, 1973, OF POLEY CREEK NEAR SANFORD, ALABAMA (WATER-SURFACE ELEVATION=71.451 METERS) TOTAL DISCHARGE=73.6 CUBIC METERS PER SECOND					
STATION (METERS)	DEPTH (METERS)	ANGLE (DEGREES)	OBSERVATION DEPTH ¹	VELOCITY (METERS PER SECOND)	
0.0	0.0	0	0.0	0.0	
3.0	0.91	0	0.6	1.015	
9.1	1.16	0	0.6	0.756	
15.2	0.91	11	0.6	1.082	
21.3	0.91	0	0.6	0.991	
27.4	0.88	0	0.6	1.289	
33.5	0.98	0	0.6	0.634	
39.6	2.10	0	0.2	0.877	
			0.8	0.847	
			0.2	0.945	
			0.8	1.204	
			0.2	1.042	
42.7	3.05	14	0.8	1.408	
			0.2	0.664	
			0.6	0.771	
48.8	1.89	16	0.2	0.629	
			0.6	0.905	
51.8	0.85	19	0.6	0.905	
57.9	1.01	31	0.6	0.408	
61.6	0.0	0	0.0	0.0	

DISCHARGE MEASUREMENT OF MARCH 12, 1973, OF POLEY CREEK NEAR SANFORD, ALABAMA (WATER-SURFACE ELEVATION=71.018 METERS) TOTAL DISCHARGE=34.3 CUBIC METERS PER SECOND					
STATION (METERS)	DEPTH (METERS)	ANGLE (DEGREES)	OBSERVATION DEPTH ¹	VELOCITY (METERS PER SECOND)	
0.0	0.0	0	0.0	0.0	
3.0	0.91	0	0.6	1.015	
9.1	1.16	0	0.6	0.756	
15.2	0.91	11	0.6	1.082	
21.3	0.91	0			