APPENDIX 11-PP

HEC-RAS Results for Area II Pre-Mine Channels

(10/99; 10/04)

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HOSTEEN BRANCH 1 PRE-MINE HEC-RAS RESULTS

September-04

Profile Output Table - Hosteen Branch 1 Pre-mine 2 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
104.00	62.0	5,412.10	5,413.44	5,413.44	5,413.54	0.006497	3.83	41.28	150.11	0.65	0.64	1.11	1.50	1.34
103.603*	62.0	5,411.40	5,412.62	5,412.74	5,412.99	0.019733	6.20	25.19	136.38	1.11	0.73	1.36	2.46	1.22
103.206*	62.0	5,410.70	5,411.92	5,412.04	5,412.31	0.021084	6.38	24.37	135.66	1.14	0.73	1.37	2.54	1.22
102.81	62.0	5,410.00	5,411.22	5,411.34	5,411.62	0.021614	6.46	24.06	135.37	1.16	0.73	1.37	2.58	1.22
102.405*	62.0	5,409.35	5,410.58	5,410.69	5,410.91	0.018324	6.01	26.13	137.22	1.07	0.73	1.35	2.37	1.23
102.00	62.0	5,408.70	5,409.94	5,410.04	5,410.25	0.017514	5.89	26.71	137.75	1.05	0.73	1.34	2.32	1.23
101.5*	62.0	5,407.93	5,409.16	5,409.26	5,409.48	0.018133	5.96	26.38	137.69	1.06	0.74	1.35	2.35	1.23
101.*	62.0	5,407.15	5,408.38	5,408.49	5,408.73	0.019115	6.12	25.59	136.74	1.09	0.73	1.35	2.42	1.23
100.5*	62.0	5,406.38	5,407.61	5,407.72	5,407.96	0.019252	6.14	25.48	136.57	1.10	0.72	1.35	2.43	1.23
100.00	62.0	5,405.60	5,406.84	5,406.94	5,407.15	0.017479	5.88	26.73	137.75	1.04	0.72	1.34	2.32	1.24
99.75*	62.0	5,405.21	5,406.47	5,406.55	5,406.70	0.013264	5.22	30.40	140.98	0.91	0.71	1.28	2.04	1.26
99.5*	62.0	5,404.83	5,406.09	5,406.17	5,406.33	0.013806	5.31	29.86	140.51	0.93	0.71	1.29	2.08	1.26
99.25*	62.0	5,404.44	5,405.70	5,405.78	5,405.93	0.013198	5.20	30.47	141.04	0.91	0.71	1.28	2.03	1.26
99.*	62.0	5,404.05	5,405.31	5,405.39	5,405.54	0.013335	5.23	30.33	140.92	0.92	0.71	1.28	2.04	1.26
98.75*	62.0	5,403.66	5,404.92	5,405.00	5,405.15	0.013557	5.27	30.11	140.73	0.92	0.71	1.29	2.06	1.26
98.5*	62.0	5,403.27	5,404.55	5,404.61	5,404.75	0.012109	5.03	31.56	141.74	0.87	0.69	1.26	1.96	1.28
98.25*	62.0	5,402.89	5,404.17	5,404.23	5,404.36	0.011275	4.86	32.69	142.95	0.84	0.70	1.24	1.90	1.28
98.00	62.0	5,402.50	5,403.77	5,403.84	5,403.98	0.012496	5.08	31.23	141.69	0.89	0.71	1.27	1.99	1.27
97.595*	62.0	5,401.88	5,403.12	5,403.22	5,403.41	0.016285	5.71	27.62	138.47	1.01	0.72	1.32	2.24	1.24
97.19*	62.0	5,401.25	5,402.48	5,402.59	5,402.80	0.017849	5.94	26.46	137.52	1.06	0.73	1.34	2.34	1.23
96.785*	62.0	5,400.63	5,401.86	5,401.97	5,402.18	0.017513	5.89	26.68	137.63	1.05	0.72	1.34	2.32	1.23
96.38	62.0	5,400.00	5,401.23	5,401.34	5,401.57	0.018914	6.09	25.72	136.86	1.09	0.73	1.35	2.41	1.23
96.00	62.0	5,399.40	5,400.62	5,400.74	5,401.00	0.020375	6.29	24.79	136.02	1.12	0.73	1.36	2.50	1.22
95.75*	62.0	5,399.04	5,400.32	5,400.38	5,400.50	0.010848	4.78	33.25	143.42	0.83	0.69	1.23	1.86	1.28
95.5*	62.0	5,398.67	5,399.96	5,400.01	5,400.13	0.010490	4.71	33.74	143.83	0.82	0.69	1.23	1.84	1.29
95.25*	62.0	5,398.31	5,399.59	5,399.65	5,399.78	0.011441	4.89	32.48	142.77	0.85	0.70	1.25	1.91	1.28
95.*	62.0	5,397.95	5,399.23	5,399.29	5,399.42	0.011186	4.84	32.81	143.06	0.84	0.70	1.24	1.89	1.28
94.75*	62.0	5,397.59	5,398.88	5,398.93	5,399.05	0.010493	4.71	33.74	143.84	0.82	0.69	1.23	1.84	1.29
94.5*	62.0	5,397.23	5,398.52	5,398.57	5,398.69	0.010193	4.65	34.16	144.20	0.80	0.69	1.22	1.81	1.29
94.25*	62.0	5,396.86	5,398.14	5,398.20	5,398.33	0.011113	4.83	32.90	143.13	0.84	0.70	1.24	1.88	1.28
94.00	62.0	5,396.50	5,397.77	5,397.84	5,397.98	0.012252	5.04	31.51	141.93	0.88	0.70	1.26	1.97	1.27
93.5*	62.0	5,395.75	5,397.00	5,397.09	5,397.27	0.015597	5.60	28.22	139.07	0.99	0.72	1.31	2.20	1.25
93.*	62.0	5,395.00	5,396.24	5,396.34	5,396.53	0.016507	5.74	27.47	138.41	1.02	0.72	1.33	2.26	1.24
92.5*	62.0	5,394.25	5,395.50	5,395.59	5,395.75	0.014375	5.40	29.31	140.02	0.95	0.72	1.30	2.12	1.25
92.00	62.0	5,393.50	5,394.76	5,394.84	5,395.00	0.013946	5.33	29.72	140.38	0.94	0.71	1.29	2.09	1.26
91.5*	62.0	5,392.77	5,394.01	5,394.11	5,394.35	0.018551	6.05	25.85	136.73	1.08	0.71	1.34	2.40	1.24
91.*	62.0	5,392.05	5,393.29	5,393.39	5,393.60	0.017487	5.88	26.73	137.75	1.04	0.72	1.34	2.32	1.24
90.5*	62.0	5,391.33	5,392.56	5,392.67	5,392.89	0.018227	5.99	26.19	137.29	1.07	0.73	1.34	2.37	1.23
90.00	62.0	5,390.60	5,391.82	5,391.94	5,392.20	0.020484	6.31	24.72	135.96	1.13	0.73	1.36	2.51	1.22
89.81*	62.0	5,390.30	5,391.54	5,391.64	5,391.84	0.016860	5.79	27.20	138.17	1.03	0.72	1.33	2.28	1.24
89.62	62.0	5,390.00	5,391.23	5,391.34	5,391.55	0.017571	5.90	26.66	137.69	1.05	0.72	1.34	2.33	1.23
89.215*	62.0	5,389.25	5,390.49	5,390.59	5,390.78	0.016507	5.74	27.47	138.41	1.02	0.72	1.33	2.26	1.24
88.81*	62.0	5,388.50	5,389.74	5,389.84	5,390.05	0.017479	5.88	26.73	137.75	1.04	0.72	1.34	2.32	1.24
88.405*	62.0	5,387.75	5,388.98	5,389.09	5,389.32	0.018914	6.09	25.72	136.86	1.09	0.73	1.35	2.41	1.23
88.00	62.0	5,387.00	5,388.23	5,388.34	5,388.58	0.019319	6.15	25.46	136.62	1.10	0.73	1.35	2.44	1.23
87.5*	62.0	5,386.08	5,387.30	5,387.42	5,387.67	0.019839	6.22	25.12	136.32	1.11	0.73	1.36	2.47	1.22
87.*	62.0	5,385.15	5,386.38	5,386.49	5,386.71	0.018324	6.01	26.13	137.22	1.07	0.73	1.35	2.37	1.23
86.5*	62.0	5,384.23	5,385.46	5,385.57	5,385.78	0.017571	5.90	26.66	137.69	1.05	0.72	1.34	2.33	1.23
86.00	62.0	5,383.30	5,384.53	5,384.64	5,384.86	0.018332	6.01	26.12	137.22	1.07	0.73	1.35	2.37	1.23
85.7737*	62.0	5,382.89	5,384.14	5,384.23	5,384.41	0.015202	5.54	28.56	139.37	0.98	0.72	1.31	2.17	1.25
85.5475*	62.0	5,382.47	5,383.71	5,383.82	5,384.02	0.017572	5.89	26.69	137.81	1.05	0.73	1.34	2.32	1.24
85.3212*	62.0	5,382.06	5,383.31	5,383.40	5,383.58	0.015202	5.54	28.56	139.37	0.98	0.72	1.31	2.17	1.25
85.095*	62.0	5,381.65	5,382.91	5,382.99	5,383.15	0.014087	5.35	29.58	140.26	0.94	0.71	1.29	2.10	1.26
84.8687*	62.0	5,381.24	5,382.49	5,382.58	5,382.75	0.015077	5.51	28.67	139.48	0.97	0.72	1.31	2.16	1.25
84.6425*	62.0	5,380.82	5,382.06	5,382.17	5,382.37	0.017636	5.90	26.64	137.75	1.05	0.73	1.34	2.33	1.24
84.4162*	62.0	5,380.41	5,381.66	5,381.75	5,381.93	0.015310	5.55	28.47	139.30	0.98	0.72	1.31	2.18	1.25
84.19	62.0	5,380.00	5,381.25	5,381.34	5,381.51	0.014895	5.49	28.83	139.60	0.97	0.72	1.31	2.15	1.25
84.00	62.0	5,379.70	5,380.95	5,381.04	5,381.21	0.015154	5.53	28.60	139.42	0.97	0.72	1.31	2.17	1.25
83.75*	62.0	5,379.34	5,380.58	5,380.68	5,380.86	0.015764	5.62	28.08	138.95	0.99	0.72	1.32	2.21	1.25
83.5*	62.0	5,378.98	5,380.22	5,380.31	5,380.49	0.015429	5.56	28.48	139.55	0.98	0.73	1.32	2.18	1.24
83.25*	62.0	5,378.61	5,379.87	5,379.95	5,380.11	0.014159	5.37	29.51	140.20	0.94	0.72	1.29	2.10	1.26

(9/04)

Profile Output Table - Hosteen Branch 1 Pre-mine 2 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
83.*	62.0	5,378.25	5,379.51	5,379.59	5,379.74	0.013330	5.23	30.34	140.92	0.92	0.71	1.28	2.04	1.26
82.75*	62.0	5,377.89	5,379.16	5,379.23	5,379.37	0.012620	5.10	31.09	141.57	0.89	0.71	1.27	1.99	1.27
82.5*	62.0	5,377.52	5,378.77	5,378.87	5,379.06	0.016014	5.67	27.78	138.52	1.00	0.71	1.32	2.23	1.25
82.25*	62.0	5,377.16	5,378.40	5,378.50	5,378.69	0.016034	5.66	27.86	138.76	1.00	0.72	1.32	2.23	1.24
82.00	62.0	5,376.80	5,378.04	5,378.14	5,378.32	0.015764	5.62	28.08	138.95	0.99	0.72	1.32	2.21	1.25
81.75*	62.0	5,376.42	5,377.68	5,377.76	5,377.91	0.013309	5.22	30.38	141.02	0.91	0.71	1.28	2.04	1.26
81.5*	62.0	5,376.05	5,377.32	5,377.39	5,377.53	0.012378	5.06	31.37	141.81	0.88	0.71	1.26	1.98	1.27
81.25*	62.0	5,375.67	5,376.93	5,377.01	5,377.16	0.013443	5.24	30.24	140.91	0.92	0.71	1.28	2.05	1.26
81.*	62.0	5,375.30	5,376.56	5,376.64	5,376.79	0.013007	5.17	30.68	141.22	0.91	0.71	1.28	2.02	1.26
80.75*	62.0	5,374.92	5,376.18	5,376.26	5,376.41	0.013177	5.20	30.52	141.14	0.91	0.71	1.28	2.03	1.26
80.5*	62.0	5,374.55	5,375.82	5,375.89	5,376.02	0.011843	4.96	31.99	142.35	0.87	0.70	1.25	1.94	1.27
80.25*	62.0	5,374.17	5,375.43	5,375.51	5,375.66	0.013177	5.20	30.52	141.14	0.91	0.71	1.28	2.03	1.26
80.00	62.0	5,373.80	5,375.07	5,375.14	5,375.27	0.011843	4.96	31.99	142.35	0.87	0.70	1.25	1.94	1.27
79.5*	62.0	5,373.07	5,374.32	5,374.42	5,374.59	0.015334	5.55	28.47	139.37	0.98	0.72	1.31	2.18	1.25
79.*	62.0	5,372.35	5,373.60	5,373.69	5,373.86	0.014895	5.49	28.83	139.60	0.97	0.72	1.31	2.15	1.25
78.5*	62.0	5,371.63	5,372.88	5,372.97	5,373.15	0.015233	5.54	28.51	139.25	0.98	0.72	1.31	2.17	1.25
78.00	62.0	5,370.90	5,372.15	5,372.24	5,372.41	0.014895	5.49	28.83	139.60	0.97	0.72	1.31	2.15	1.25
77.695*	62.0	5,370.45	5,371.70	5,371.79	5,371.97	0.015388	5.56	28.40	139.24	0.98	0.72	1.31	2.18	1.25
77.39	62.0	5,370.00	5,371.24	5,371.34	5,371.52	0.015839	5.64	28.01	138.89	1.00	0.72	1.32	2.21	1.24
76.9266*	62.0	5,369.13	5,370.36	5,370.47	5,370.70	0.018518	6.03	25.99	137.10	1.07	0.73	1.35	2.39	1.23
76.4633*	62.0	5,368.27	5,369.50	5,369.61	5,369.83	0.018133	5.98	26.26	137.34	1.06	0.73	1.34	2.36	1.23
76.00	62.0	5,367.40	5,368.63	5,368.74	5,368.95	0.017571	5.90	26.66	137.69	1.05	0.72	1.34	2.33	1.23
75.75*	62.0	5,366.94	5,368.18	5,368.28	5,368.49	0.017388	5.87	26.80	137.81	1.04	0.72	1.34	2.31	1.24
75.5*	62.0	5,366.48	5,367.72	5,367.82	5,368.01	0.016422	5.73	27.54	138.47	1.01	0.72	1.33	2.25	1.24
75.25*	62.0	5,366.01	5,367.25	5,367.35	5,367.55	0.017215	5.84	26.93	137.93	1.04	0.72	1.33	2.30	1.24
75.*	62.0	5,365.55	5,366.78	5,366.89	5,367.12	0.018526	6.03	25.99	137.10	1.07	0.73	1.35	2.39	1.23
74.75*	62.0	5,365.09	5,366.32	5,366.43	5,366.67	0.019225	6.13	25.52	136.68	1.09	0.73	1.35	2.43	1.23
74.5*	62.0	5,364.63	5,365.85	5,365.97	5,366.21	0.019666	6.20	25.21	136.32	1.11	0.72	1.36	2.46	1.22
74.25*	62.0	5,364.16	5,365.38	5,365.50	5,365.77	0.021312	6.41	24.24	135.54	1.15	0.73	1.37	2.56	1.22
74.00	135.0	5,363.70	5,365.17	5,365.18	5,365.33	0.010623	5.29	62.60	166.57	0.84	1.11	1.84	2.16	1.47
73.75*	135.0	5,363.24	5,364.64	5,364.72	5,364.92	0.018304	6.67	50.80	157.68	1.10	1.26	2.13	2.66	1.40
73.5*	135.0	5,362.78	5,364.19	5,364.26	5,364.45	0.017256	6.50	51.97	158.58	1.07	1.24	2.09	2.60	1.41
73.25*	135.0	5,362.31	5,363.72	5,363.79	5,363.97	0.016480	6.37	52.91	159.30	1.04	1.23	2.07	2.55	1.41
73.*	135.0	5,361.85	5,363.26	5,363.33	5,363.51	0.016606	6.40	52.75	159.18	1.05	1.23	2.07	2.56	1.41
72.75*	135.0	5,361.39	5,362.79	5,362.87	5,363.07	0.018566	6.71	50.51	157.45	1.10	1.26	2.13	2.67	1.40
72.5*	135.0	5,360.93	5,362.33	5,362.40	5,362.59	0.017125	6.46	52.24	158.99	1.06	1.25	2.09	2.58	1.40
72.25*	135.0	5,360.46	5,361.86	5,361.94	5,362.13	0.017586	6.55	51.59	158.28	1.08	1.25	2.10	2.62	1.40
72.00	135.0	5,360.00	5,361.40	5,361.48	5,361.67	0.017519	6.54	51.67	158.34	1.07	1.24	2.10	2.61	1.40
71.75*	135.0	5,359.71	5,361.16	5,361.19	5,361.35	0.012287	5.63	59.23	164.07	0.91	1.15	1.92	2.28	1.45
71.5*	135.0	5,359.43	5,360.89	5,360.90	5,361.05	0.010940	5.34	62.01	166.34	0.86	1.12	1.86	2.18	1.46
71.25*	135.0	5,359.14	5,360.60	5,360.62	5,360.77	0.011572	5.49	60.59	165.09	0.88	1.13	1.89	2.23	1.46
71.*	135.0	5,358.85	5,360.31	5,360.33	5,360.48	0.011491	5.47	60.75	165.21	0.88	1.13	1.88	2.22	1.46
70.75*	135.0	5,358.56	5,360.02	5,360.04	5,360.19	0.011253	5.42	61.24	165.57	0.87	1.12	1.87	2.20	1.46
70.5*	135.0	5,358.28	5,359.74	5,359.76	5,359.91	0.011334	5.44	61.07	165.45	0.87	1.12	1.87	2.21	1.46
70.25*	135.0	5,357.99	5,359.46	5,359.47	5,359.62	0.010770	5.32	62.27	166.34	0.85	1.11	1.85	2.17	1.47
70.00	135.0	5,357.70	5,359.16	5,359.18	5,359.33	0.011188	5.41	61.38	165.68	0.87	1.12	1.87	2.20	1.46
69.5*	135.0	5,357.13	5,358.59	5,358.62	5,358.76	0.011316	5.44	61.08	165.39	0.87	1.12	1.87	2.21	1.46
69.*	135.0	5,356.55	5,358.01	5,358.03	5,358.18	0.011697	5.51	60.35	164.91	0.88	1.13	1.89	2.24	1.46
68.5*	135.0	5,355.98	5,357.45	5,357.46	5,357.61	0.010983	5.37	61.80	165.98	0.86	1.12	1.86	2.18	1.47
68.00	135.0	5,355.40	5,356.85	5,356.88	5,357.04	0.012687	5.70	58.51	163.54	0.92	1.16	1.93	2.31	1.45
67.5*	135.0	5,354.83	5,356.31	5,356.31	5,356.46	0.010184	5.20	63.60	167.32	0.83	1.10	1.82	2.12	1.48
67.*	135.0	5,354.25	5,355.70	5,355.73	5,355.89	0.012374	5.64	59.07	163.95	0.91	1.15	1.92	2.29	1.45
66.5*	135.0	5,353.68	5,355.14	5,355.16	5,355.31	0.011188	5.41	61.38	165.68	0.87	1.12	1.87	2.20	1.46
66.00	135.0	5,353.10	5,354.54	5,354.58	5,354.74	0.012916	5.75	58.11	163.24	0.93	1.16	1.94	2.32	1.44
65.75*	135.0	5,352.83	5,354.30	5,354.31	5,354.46	0.010944	5.36	61.89	166.06	0.86	1.11	1.86	2.18	1.47
65.5*	135.0	5,352.55	5,354.02	5,354.03	5,354.18	0.010433	5.25	63.02	166.88	0.84	1.10	1.83	2.14	1.47
65.25*	135.0	5,352.27	5,353.75	5,353.76	5,353.91	0.010701	5.32	62.31	166.14	0.85	1.10	1.84	2.17	1.48
65.*	135.0	5,352.00	5,353.47	5,353.48	5,353.63	0.010758	5.32	62.29	166.34	0.85	1.11	1.85	2.17	1.47
64.75*	135.0	5,351.73	5,353.20	5,353.21	5,353.36	0.010683	5.30	62.46	166.48	0.85	1.11	1.84	2.16	1.47
64.5*	135.0	5,351.45	5,352.91	5,352.93	5,353.08	0.011149	5.40	61.46	165.74	0.86	1.12	1.87	2.20	1.46
64.25*	135.0	5,351.17	5,352.63	5,352.65	5,352.80	0.011137	5.40	61.48	165.72	0.86	1.12	1.87	2.20	1.46

Profile Output Table - Hosteen Branch 1 Pre-mine 2 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
64.00	135.0	5,350.90	5,352.43	5,352.38	5,352.54	0.007340	4.53	71.91	173.26	0.71	1.01	1.66	1.88	1.53
63.61*	135.0	5,350.45	5,352.13	5,352.11	5,352.26	0.006952	4.58	71.97	173.71	0.70	1.04	1.58	1.88	1.68
63.22	135.0	5,349.99	5,351.80	5,351.80	5,351.98	0.007272	4.93	67.29	170.21	0.72	1.05	1.50	2.01	1.81
62.8133*	135.0	5,348.99	5,350.74	5,350.92	5,351.37	0.020004	7.81	40.20	153.14	1.18	1.31	1.66	3.36	1.75
62.4066*	135.0	5,347.99	5,349.81	5,350.04	5,350.55	0.020168	7.97	36.80	151.92	1.20	1.27	1.48	3.67	1.82
62.00	135.0	5,346.99	5,348.89	5,349.12	5,349.70	0.019303	7.98	33.70	150.37	1.18	1.21	1.25	4.01	1.90
61.5*	135.0	5,345.76	5,347.76	5,348.05	5,348.73	0.019655	8.18	24.82	120.63	1.20	1.07	0.87	5.44	2.00
61.*	135.0	5,344.54	5,346.49	5,346.96	5,347.63	0.023439	8.58	16.02	21.50	1.29	0.32	0.55	8.42	1.95
60.5*	135.0	5,343.31	5,345.19	5,345.85	5,346.38	0.025886	8.76	15.42	11.83	1.35			8.76	1.88
60.00	135.0	5,342.08	5,343.93	5,344.26	5,345.10	0.025477	8.67	15.58	12.02	1.34			8.67	1.85
59.575*	135.0	5,341.03	5,342.85	5,343.17	5,344.00	0.025309	8.59	15.71	12.27	1.34			8.59	1.82
59.15	135.0	5,339.97	5,341.75	5,342.08	5,342.91	0.025959	8.63	15.64	12.39	1.35			8.63	1.78
58.7666*	135.0	5,339.60	5,341.83	5,341.68	5,342.41	0.010080	6.11	22.09	14.39	0.87			6.11	2.23
58.3833*	135.0	5,339.24	5,341.44	5,341.29	5,342.02	0.010190	6.12	22.05	14.46	0.87			6.12	2.20
58.00	135.0	5,338.87	5,341.03	5,340.91	5,341.62	0.010607	6.20	21.78	14.48	0.89			6.20	2.16
57.5*	135.0	5,338.37	5,340.48	5,340.37	5,341.08	0.010917	6.24	21.63	14.57	0.90			6.24	2.11
57.*	135.0	5,337.87	5,339.96	5,339.83	5,340.54	0.010488	6.13	22.02	14.81	0.89			6.13	2.09
56.5*	135.0	5,337.36	5,339.42	5,339.31	5,340.01	0.010731	6.16	21.91	14.91	0.90			6.16	2.06
56.00	135.0	5,336.86	5,338.90	5,338.77	5,339.47	0.010631	6.11	22.10	15.15	0.89			6.11	2.04
55.5*	135.0	5,336.36	5,338.36	5,338.25	5,338.94	0.010728	6.11	22.10	15.28	0.90			6.11	2.00
55.*	135.0	5,335.85	5,337.84	5,337.73	5,338.40	0.010589	6.05	22.30	15.51	0.89			6.05	1.99
54.5*	135.0	5,335.35	5,337.31	5,337.20	5,337.87	0.010558	6.03	22.40	15.67	0.89			6.03	1.96
54.00	135.0	5,334.85	5,336.81	5,336.67	5,337.35	0.010028	5.90	22.90	15.94	0.87			5.90	1.96
53.5*	135.0	5,334.37	5,336.31	5,336.16	5,336.85	0.010110	5.89	22.91	16.09	0.87			5.89	1.94
53.*	135.0	5,333.90	5,335.81	5,335.67	5,336.34	0.010090	5.87	23.01	16.26	0.87			5.87	1.91
52.5*	135.0	5,333.42	5,335.32	5,335.18	5,335.84	0.009766	5.77	23.38	16.54	0.86			5.77	1.90
52.00	135.0	5,332.94	5,334.79	5,334.68	5,335.33	0.010506	5.91	22.86	16.53	0.89			5.91	1.85
51.5*	135.0	5,332.44	5,334.27	5,334.15	5,334.81	0.010537	5.89	22.91	16.69	0.89			5.89	1.83
51.*	135.0	5,331.94	5,333.74	5,333.63	5,334.28	0.010552	5.87	22.99	16.86	0.89			5.87	1.80
50.5*	135.0	5,331.43	5,333.23	5,333.10	5,333.75	0.010397	5.82	23.21	17.10	0.88			5.82	1.79
50.00	135.0	5,330.93	5,332.72	5,332.60	5,333.23	0.010072	5.73	23.54	17.32	0.87			5.73	1.79
49.75*	135.0	5,330.69	5,332.49	5,332.34	5,332.98	0.009597	5.63	23.99	17.50	0.85			5.63	1.80
49.5*	135.0	5,330.45	5,332.24	5,332.10	5,332.74	0.009865	5.67	23.82	17.57	0.86			5.67	1.79
49.25*	135.0	5,330.21	5,331.99	5,331.83	5,332.49	0.009915	5.67	23.80	17.62	0.86			5.67	1.78
49.*	135.0	5,329.98	5,331.75	5,331.60	5,332.24	0.009658	5.61	24.08	17.78	0.85			5.61	1.77
48.75*	135.0	5,329.74	5,331.50	5,331.35	5,331.99	0.009831	5.64	23.96	17.81	0.86			5.64	1.76
48.5*	135.0	5,329.50	5,331.26	5,331.11	5,331.74	0.009524	5.56	24.28	17.98	0.84			5.56	1.76
48.25*	135.0	5,329.26	5,331.00	5,330.87	5,331.50	0.010106	5.67	23.81	17.93	0.87			5.67	1.74
48.00	135.0	5,329.02	5,330.73	5,330.62	5,331.24	0.010459	5.72	23.58	17.96	0.88			5.72	1.71
47.75*	135.0	5,328.77	5,330.47	5,330.36	5,330.98	0.010373	5.70	23.70	18.08	0.88			5.70	1.70
47.5*	135.0	5,328.52	5,330.22	5,330.10	5,330.72	0.010237	5.66	23.85	18.19	0.87			5.66	1.70
47.25*	135.0	5,328.27	5,329.98	5,329.84	5,330.46	0.009933	5.59	24.14	18.34	0.86			5.59	1.71
47.*	135.0	5,328.02	5,329.77	5,329.54	5,330.22	0.008780	5.35	25.24	18.67	0.81			5.35	1.75
46.75*	135.0	5,327.76	5,329.62	5,329.29	5,330.00	0.007068	4.95	27.25	19.21	0.73			4.95	1.86
46.5*	135.0	5,327.51	5,329.52	5,329.07	5,329.82	0.005103	4.42	30.57	20.02	0.63			4.42	2.01
46.25*	135.0	5,327.26	5,329.45	5,328.80	5,329.69	0.003648	3.92	34.42	20.90	0.54			3.92	2.19
46.00	180.0	5,327.01	5,328.93	5,328.82	5,329.52	0.010411	6.16	29.24	19.89	0.89			6.16	1.92
45.75*	180.0	5,326.76	5,328.69	5,328.57	5,329.26	0.010002	6.06	29.70	20.08	0.88			6.06	1.93
45.5*	180.0	5,326.51	5,328.41	5,328.30	5,329.00	0.010549	6.17	29.18	20.00	0.90			6.17	1.90
45.25*	180.0	5,326.26	5,328.15	5,328.06	5,328.74	0.010606	6.17	29.19	20.12	0.90			6.17	1.89
45.*	180.0	5,326.00	5,327.90	5,327.77	5,328.47	0.010232	6.08	29.62	20.31	0.89			6.08	1.90
44.75*	180.0	5,325.75	5,327.64	5,327.51	5,328.22	0.010282	6.08	29.61	20.37	0.89			6.08	1.89
44.5*	180.0	5,325.50	5,327.39	5,327.28	5,327.96	0.010264	6.06	29.68	20.46	0.89			6.06	1.89
44.25*	180.0	5,325.25	5,327.13	5,327.02	5,327.70	0.010244	6.05	29.73	20.54	0.89			6.05	1.88
44.00	180.0	5,325.00	5,326.91	5,326.71	5,327.45	0.009401	5.87	30.68	20.84	0.85			5.87	1.91
43.75*	180.0	5,324.76	5,326.69	5,326.52	5,327.21	0.009161	5.81	30.96	20.89	0.84			5.81	1.93
43.5*	180.0	5,324.52	5,326.44	5,326.27	5,326.97	0.009423	5.87	30.66	20.84	0.85			5.87	1.92
43.25*	180.0	5,324.29	5,326.20	5,326.00	5,326.74	0.009483	5.88	30.59	20.82	0.86			5.88	1.91
43.*	180.0	5,324.05	5,325.96	5,325.81	5,326.50	0.009374	5.86	30.72	20.84	0.85			5.86	1.92
42.75*	180.0	5,323.81	5,325.73	5,325.52	5,326.26	0.009344	5.85	30.75	20.85	0.85			5.85	1.92
42.5*	180.0	5,323.58	5,325.49	5,325.33	5,326.03	0.009334	5.85	30.76	20.86	0.85			5.85	1.91

(9/04)

Profile Output Table - Hosteen Branch 1 Pre-mine 2 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
42.25*	180.0	5,323.34	5,325.26	5,325.10	5,325.79	0.009347	5.85	30.75	20.85	0.85			5.85	1.92
42.00	180.0	5,323.10	5,324.98	5,324.81	5,325.54	0.009990	5.99	30.05	20.70	0.88			5.99	1.88
41.75*	180.0	5,322.85	5,324.73	5,324.56	5,325.29	0.010000	5.99	30.04	20.70	0.88			5.99	1.88
41.5*	180.0	5,322.60	5,324.48	5,324.31	5,325.04	0.009990	5.99	30.05	20.70	0.88			5.99	1.88
41.25*	180.0	5,322.35	5,324.23	5,324.06	5,324.79	0.010000	5.99	30.04	20.70	0.88			5.99	1.88
41.*	180.0	5,322.10	5,323.98	5,323.81	5,324.54	0.009990	5.99	30.05	20.70	0.88			5.99	1.88
40.75*	180.0	5,321.85	5,323.73	5,323.56	5,324.29	0.009980	5.99	30.06	20.71	0.88			5.99	1.88
40.5*	180.0	5,321.60	5,323.48	5,323.31	5,324.04	0.009951	5.98	30.09	20.71	0.87			5.98	1.88
40.25*	180.0	5,321.35	5,323.24	5,323.06	5,323.79	0.009902	5.97	30.14	20.72	0.87			5.97	1.89
40.00	180.0	5,321.10	5,322.99	5,322.81	5,323.54	0.009807	5.95	30.24	20.74	0.87			5.95	1.89
39.756*	180.0	5,320.86	5,322.75	5,322.62	5,323.30	0.009781	5.95	30.27	20.75	0.87			5.95	1.89
39.512*	180.0	5,320.62	5,322.52	5,322.33	5,323.06	0.009637	5.92	30.42	20.78	0.86			5.92	1.90
39.268*	180.0	5,320.38	5,322.29	5,322.14	5,322.83	0.009455	5.88	30.62	20.82	0.85			5.88	1.91
39.024*	180.0	5,320.14	5,322.08	5,321.85	5,322.60	0.008883	5.75	31.29	20.96	0.83			5.75	1.94
38.78	180.0	5,319.90	5,321.66	5,321.66	5,322.32	0.012928	6.55	27.50	20.16	0.99			6.55	1.76
38.585*	180.0	5,319.58	5,321.19	5,321.33	5,322.02	0.017966	7.32	24.58	19.53	1.15			7.32	1.61
38.39*	180.0	5,319.25	5,320.91	5,320.96	5,321.68	0.016224	7.07	25.45	19.72	1.10			7.07	1.66
38.195*	180.0	5,318.93	5,320.59	5,320.68	5,321.36	0.016068	7.05	25.53	19.74	1.09			7.05	1.66
38.00	180.0	5,318.60	5,320.26	5,320.31	5,321.03	0.016164	7.06	25.48	19.72	1.10			7.06	1.66
37.5*	180.0	5,317.75	5,319.38	5,319.46	5,320.19	0.017330	7.23	24.88	19.59	1.13			7.23	1.63
37.*	180.0	5,316.90	5,318.53	5,318.66	5,319.34	0.017117	7.20	24.99	19.62	1.12			7.20	1.63
36.5*	180.0	5,316.05	5,317.68	5,317.81	5,318.49	0.017350	7.24	24.87	19.59	1.13			7.24	1.63
36.00	180.0	5,315.20	5,316.83	5,316.95	5,317.64	0.017123	7.20	24.98	19.62	1.13			7.20	1.63
35.5*	180.0	5,314.38	5,316.02	5,316.09	5,316.81	0.016406	7.10	25.35	19.69	1.10			7.10	1.64
35.*	180.0	5,313.55	5,315.19	5,315.31	5,315.99	0.016888	7.17	25.10	19.64	1.12			7.17	1.64
34.5*	180.0	5,312.73	5,314.38	5,314.48	5,315.15	0.016146	7.06	25.48	19.72	1.09			7.06	1.65
34.00	180.0	5,311.90	5,313.56	5,313.66	5,314.33	0.016134	7.06	25.50	19.73	1.09			7.06	1.66
33.5*	180.0	5,311.07	5,312.72	5,312.79	5,313.50	0.016552	7.12	25.27	19.68	1.11			7.12	1.65
33.*	180.0	5,310.25	5,311.89	5,311.96	5,312.69	0.016850	7.17	25.12	19.65	1.12			7.17	1.64
32.5*	180.0	5,309.42	5,311.07	5,311.17	5,311.86	0.016662	7.14	25.21	19.66	1.11			7.14	1.65
32.00	180.0	5,308.60	5,310.24	5,310.31	5,311.04	0.016845	7.16	25.12	19.65	1.12			7.16	1.64
31.5*	180.0	5,307.75	5,309.40	5,309.46	5,310.18	0.016552	7.12	25.27	19.68	1.11			7.12	1.65
31.*	180.0	5,306.90	5,308.54	5,308.66	5,309.34	0.016945	7.18	25.07	19.64	1.12			7.18	1.64
30.5*	180.0	5,306.05	5,307.69	5,307.81	5,308.49	0.016831	7.16	25.13	19.65	1.12			7.16	1.64
30.00	180.0	5,305.20	5,306.85	5,306.95	5,307.63	0.016484	7.11	25.31	19.69	1.11			7.11	1.65
29.5*	180.0	5,304.38	5,306.04	5,306.09	5,306.80	0.015958	7.03	25.59	19.74	1.09			7.03	1.66
29.*	180.0	5,303.55	5,305.18	5,305.31	5,305.99	0.017079	7.20	25.01	19.62	1.12			7.20	1.63
28.5*	180.0	5,302.73	5,304.38	5,304.48	5,305.16	0.016344	7.09	25.38	19.70	1.10			7.09	1.65
28.00	180.0	5,301.90	5,303.54	5,303.66	5,304.33	0.016719	7.15	25.19	19.66	1.11			7.15	1.64
27.61*	180.0	5,301.23	5,302.86	5,302.94	5,303.67	0.017021	7.19	25.03	19.63	1.12			7.19	1.63
27.22*	180.0	5,300.57	5,302.20	5,302.33	5,303.01	0.017175	7.21	24.96	19.61	1.13			7.21	1.63
26.83	180.0	5,299.90	5,301.53	5,301.66	5,302.34	0.017175	7.21	24.96	19.61	1.13			7.21	1.63
26.415*	180.0	5,299.25	5,300.95	5,300.96	5,301.68	0.014654	6.83	26.35	19.91	1.05			6.83	1.70
26.00	180.0	5,298.60	5,300.26	5,300.31	5,301.03	0.016022	7.04	25.56	19.74	1.09			7.04	1.66
25.5*	180.0	5,297.75	5,299.38	5,299.50	5,300.19	0.017365	7.24	24.84	19.55	1.13			7.24	1.63
25.*	180.0	5,296.90	5,298.53	5,298.67	5,299.34	0.017128	7.22	24.94	19.53	1.13			7.22	1.63
24.5*	180.0	5,296.05	5,297.67	5,297.82	5,298.50	0.017552	7.28	24.72	19.44	1.14			7.28	1.62
24.00	180.0	5,295.20	5,296.85	5,296.96	5,297.64	0.016523	7.14	25.21	19.51	1.11			7.14	1.65
23.5*	180.0	5,294.40	5,296.08	5,296.16	5,296.84	0.015548	6.99	25.74	19.62	1.08			6.99	1.68
23.*	180.0	5,293.60	5,295.27	5,295.35	5,296.04	0.015974	7.06	25.50	19.57	1.09			7.06	1.67
22.5*	180.0	5,292.80	5,294.47	5,294.56	5,295.24	0.015927	7.05	25.53	19.58	1.09			7.05	1.67
22.00	180.0	5,292.00	5,293.67	5,293.76	5,294.44	0.015805	7.03	25.60	19.59	1.08			7.03	1.67
21.5*	180.0	5,291.20	5,292.85	5,292.96	5,293.64	0.016652	7.16	25.15	19.50	1.11			7.16	1.65
21.*	180.0	5,290.40	5,292.08	5,292.16	5,292.84	0.015463	6.98	25.79	19.63	1.07			6.98	1.68
20.5*	180.0	5,289.60	5,291.27	5,291.35	5,292.04	0.015886	7.04	25.55	19.58	1.09			7.04	1.67
20.00	180.0	5,288.80	5,290.47	5,290.56	5,291.24	0.015684	7.01	25.66	19.61	1.08			7.01	1.67
19.5*	180.0	5,288.00	5,289.67	5,289.76	5,290.44	0.015962	7.06	25.51	19.57	1.09			7.06	1.67
19.*	180.0	5,287.20	5,288.87	5,288.96	5,289.64	0.015862	7.04	25.56	19.59	1.09			7.04	1.67
18.5*	180.0	5,286.40	5,288.07	5,288.16	5,288.84	0.015650	7.01	25.68	19.61	1.08			7.01	1.67
18.00	180.0	5,285.60	5,287.27	5,287.35	5,288.04	0.015956	7.05	25.51	19.58	1.09			7.05	1.67
17.5*	180.0	5,284.80	5,286.47	5,286.56	5,287.24	0.015875	7.04	25.56	19.58	1.09			7.04	1.67

Profile Output Table - Hosteen Branch 1 Pre-mine 2 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
17.*	180.0	5,284.00	5,285.67	5,285.76	5,286.44	0.015667	7.01	25.67	19.61	1.08			7.01	1.67
16.5*	180.0	5,283.20	5,284.87	5,284.96	5,285.64	0.015967	7.06	25.51	19.57	1.09			7.06	1.67
16.00	180.0	5,282.40	5,284.07	5,284.16	5,284.84	0.015944	7.05	25.52	19.58	1.09			7.05	1.67
15.6075*	180.0	5,281.77	5,283.43	5,283.53	5,284.22	0.016533	7.14	25.21	19.51	1.11			7.14	1.66
15.215*	180.0	5,281.15	5,282.82	5,282.91	5,283.59	0.015736	7.02	25.64	19.60	1.08			7.02	1.67
14.8225*	180.0	5,280.52	5,282.19	5,282.28	5,282.97	0.016012	7.06	25.49	19.57	1.09			7.06	1.67
14.43	180.0	5,279.90	5,281.57	5,281.66	5,282.34	0.015701	7.02	25.65	19.60	1.08			7.02	1.67
14.00	180.0	5,278.70	5,280.10	5,280.46	5,281.30	0.030513	8.79	20.48	18.46	1.47			8.79	1.40
13.5*	180.0	5,277.35	5,278.86	5,279.10	5,279.89	0.024849	8.18	22.01	18.97	1.34			8.18	1.51
13.*	180.0	5,276.00	5,277.48	5,277.79	5,278.58	0.027261	8.44	21.32	18.81	1.40			8.44	1.48
12.5*	180.0	5,274.65	5,276.11	5,276.41	5,277.20	0.026701	8.39	21.45	18.81	1.38			8.39	1.46
12.00	180.0	5,273.30	5,274.70	5,275.03	5,275.83	0.027645	8.52	21.12	18.53	1.41			8.52	1.40
11.5*	180.0	5,271.92	5,273.32	5,273.63	5,274.45	0.027607	8.52	21.13	18.52	1.41			8.52	1.40
11.*	180.0	5,270.55	5,271.95	5,272.28	5,273.07	0.027436	8.50	21.18	18.54	1.40			8.50	1.40
10.5*	180.0	5,269.17	5,270.57	5,270.88	5,271.70	0.027924	8.55	21.05	18.50	1.41			8.55	1.40
10.00	180.0	5,267.80	5,269.20	5,269.53	5,270.32	0.027575	8.51	21.14	18.53	1.40			8.51	1.40
9.5*	180.0	5,266.42	5,267.88	5,268.19	5,268.97	0.026438	8.36	21.52	18.82	1.38			8.36	1.46
9.*	180.0	5,265.05	5,266.52	5,266.84	5,267.63	0.027498	8.46	21.27	18.83	1.40			8.46	1.47
8.5*	180.0	5,263.67	5,265.13	5,265.46	5,266.26	0.027974	8.50	21.17	18.83	1.41			8.50	1.46
8.00	180.0	5,262.30	5,263.74	5,264.05	5,264.85	0.027314	8.45	21.29	18.71	1.40			8.45	1.44
7.57*	180.0	5,261.10	5,262.54	5,262.86	5,263.66	0.027689	8.49	21.19	18.69	1.41			8.49	1.44
7.14	180.0	5,259.90	5,261.35	5,261.67	5,262.45	0.027072	8.43	21.36	18.73	1.39			8.43	1.45
6.76*	180.0	5,258.80	5,260.22	5,260.55	5,261.38	0.029047	8.63	20.85	18.61	1.44			8.63	1.42
6.38*	180.0	5,257.70	5,259.12	5,259.46	5,260.28	0.029285	8.65	20.80	18.60	1.44			8.65	1.42
6.00	226.0	5,256.60	5,258.46	5,258.61	5,259.37	0.016568	7.67	29.48	20.50	1.13			7.67	1.86
5.5*	226.0	5,255.13	5,256.69	5,257.13	5,258.11	0.031651	9.56	23.64	19.25	1.52			9.56	1.56
5.*	226.0	5,253.65	5,255.26	5,255.66	5,256.58	0.028473	9.23	24.50	19.43	1.45			9.23	1.61
4.5*	226.0	5,252.18	5,253.77	5,254.19	5,255.13	0.029620	9.35	24.16	19.35	1.47			9.35	1.59
4.00	226.0	5,250.70	5,252.29	5,252.70	5,253.65	0.029682	9.36	24.15	19.35	1.48			9.36	1.59
3.5*	226.0	5,249.23	5,250.83	5,251.23	5,252.16	0.028651	9.25	24.44	19.42	1.45			9.25	1.60
3.*	226.0	5,247.75	5,249.34	5,249.76	5,250.71	0.030050	9.40	24.05	19.33	1.48			9.40	1.59
2.5*	226.0	5,246.27	5,247.87	5,248.29	5,249.23	0.029496	9.34	24.21	19.37	1.47			9.34	1.60
2.00	226.0	5,244.80	5,246.39	5,246.81	5,247.75	0.029671	9.36	24.15	19.35	1.48			9.36	1.59
1.58*	226.0	5,243.57	5,245.29	5,245.57	5,246.41	0.022390	8.50	26.59	19.88	1.30			8.50	1.72
1.16*	226.0	5,242.35	5,244.02	5,244.36	5,245.22	0.024618	8.78	25.74	19.70	1.35			8.78	1.67
.74*	226.0	5,241.13	5,242.80	5,243.13	5,244.00	0.024599	8.78	25.75	19.70	1.35			8.78	1.67
0.32	226.0	5,239.90	5,241.57	5,241.91	5,242.77	0.024599	8.78	25.75	19.70	1.35			8.78	1.67
0.00	226.0	5,239.30	5,241.22	5,241.31	5,242.06	0.014734	7.36	30.69	20.75	1.07			7.36	1.92
						Max	9.56					**Avg**	4.81	
						Min	3.83							
						Avg	6.36							

Profile Output Table - Hosteen Branch 1 Pre-mine 10 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
104.00	192.0	5,412.10	5,413.60	5,413.66	5,413.87	0.017781	6.95	67.22	169.92	1.10	1.50	2.49	2.86	1.50
103.603*	192.0	5,411.40	5,412.85	5,412.97	5,413.22	0.024159	7.91	59.87	164.55	1.27	1.62	2.70	3.21	1.45
103.206*	192.0	5,410.70	5,412.18	5,412.27	5,412.49	0.020483	7.37	63.74	167.41	1.17	1.56	2.59	3.01	1.48
102.81	192.0	5,410.00	5,411.48	5,411.56	5,411.79	0.020670	7.40	63.51	167.24	1.18	1.56	2.59	3.02	1.48
102.405*	192.0	5,409.35	5,410.83	5,410.91	5,411.13	0.019581	7.24	64.82	168.19	1.15	1.54	2.55	2.96	1.48
102.00	192.0	5,408.70	5,410.19	5,410.27	5,410.48	0.019084	7.16	65.46	168.66	1.13	1.53	2.54	2.93	1.49
101.5*	192.0	5,407.93	5,409.40	5,409.49	5,409.71	0.020730	7.39	63.56	167.47	1.18	1.57	2.60	3.02	1.47
101.*	192.0	5,407.15	5,408.65	5,408.72	5,408.92	0.018136	7.01	66.72	169.56	1.11	1.51	2.50	2.88	1.50
100.5*	192.0	5,406.38	5,407.88	5,407.95	5,408.15	0.018053	7.00	66.81	169.59	1.10	1.51	2.50	2.87	1.50
100.00	192.0	5,405.60	5,407.08	5,407.16	5,407.38	0.019914	7.29	64.41	167.89	1.16	1.54	2.57	2.98	1.48
99.75*	192.0	5,405.21	5,406.77	5,406.77	5,406.95	0.011724	5.84	78.51	177.86	0.90	1.35	2.21	2.45	1.56
99.5*	192.0	5,404.83	5,406.39	5,406.39	5,406.57	0.011758	5.84	78.43	177.82	0.90	1.35	2.21	2.45	1.56
99.25*	192.0	5,404.44	5,406.01	5,406.01	5,406.18	0.011280	5.74	79.64	178.63	0.88	1.33	2.19	2.41	1.57
99.*	192.0	5,404.05	5,405.62	5,405.62	5,405.79	0.011484	5.79	79.11	178.28	0.89	1.34	2.20	2.43	1.57
98.75*	192.0	5,403.66	5,405.22	5,405.23	5,405.40	0.012165	5.93	77.45	177.14	0.91	1.36	2.24	2.48	1.56
98.5*	192.0	5,403.27	5,404.83	5,404.85	5,405.02	0.012106	5.93	77.47	176.94	0.91	1.35	2.23	2.48	1.56
98.25*	192.0	5,402.89	5,404.44	5,404.45	5,404.63	0.012526	6.00	76.61	176.55	0.93	1.37	2.25	2.51	1.55
98.00	192.0	5,402.50	5,404.06	5,404.06	5,404.24	0.012264	5.95	77.21	176.96	0.92	1.36	2.24	2.49	1.56
97.595*	192.0	5,401.88	5,403.36	5,403.45	5,403.67	0.020572	7.39	63.60	167.24	1.18	1.56	2.59	3.02	1.48
97.19*	192.0	5,401.25	5,402.73	5,402.81	5,403.03	0.019515	7.23	64.91	168.25	1.15	1.54	2.55	2.96	1.48
96.785*	192.0	5,400.63	5,402.12	5,402.20	5,402.41	0.019295	7.20	65.16	168.37	1.14	1.53	2.54	2.95	1.49
96.38	192.0	5,400.00	5,401.49	5,401.56	5,401.78	0.019385	7.21	65.07	168.37	1.14	1.53	2.55	2.95	1.49
96.00	192.0	5,399.40	5,400.98	5,400.97	5,401.14	0.010422	5.56	82.01	180.25	0.85	1.31	2.14	2.34	1.58
95.75*	192.0	5,399.04	5,400.61	5,400.60	5,400.78	0.011313	5.75	79.55	178.57	0.88	1.34	2.19	2.41	1.57
95.5*	192.0	5,398.67	5,400.24	5,400.24	5,400.41	0.011018	5.69	80.33	179.09	0.87	1.33	2.17	2.39	1.57
95.25*	192.0	5,398.31	5,399.89	5,399.87	5,400.05	0.010667	5.61	81.30	179.77	0.86	1.32	2.15	2.36	1.58
95.*	192.0	5,397.95	5,399.52	5,399.52	5,399.69	0.011092	5.70	80.14	178.99	0.87	1.33	2.18	2.40	1.57
94.75*	192.0	5,397.59	5,399.17	5,399.16	5,399.33	0.010454	5.56	81.91	180.19	0.85	1.31	2.14	2.34	1.58
94.5*	192.0	5,397.23	5,398.80	5,398.80	5,398.97	0.011280	5.74	79.64	178.63	0.91	1.33	2.19	2.41	1.57
94.25*	192.0	5,396.86	5,398.45	5,398.43	5,398.60	0.010095	5.48	82.98	180.90	0.84	1.30	2.12	2.31	1.59
94.00	192.0	5,396.50	5,398.06	5,398.06	5,398.24	0.011794	5.85	78.34	177.74	0.90	1.35	2.22	2.45	1.56
93.5*	192.0	5,395.75	5,397.26	5,397.31	5,397.51	0.016766	6.78	68.72	171.00	1.07	1.48	2.45	2.79	1.51
93.*	192.0	5,395.00	5,396.54	5,396.56	5,396.75	0.013480	6.19	74.55	175.11	0.96	1.40	2.30	2.58	1.54
92.5*	192.0	5,394.25	5,395.77	5,395.81	5,396.01	0.015771	6.61	70.31	172.13	1.03	1.46	2.41	2.73	1.52
92.00	192.0	5,393.50	5,395.03	5,395.06	5,395.25	0.014848	6.44	71.91	173.26	1.00	1.43	2.37	2.67	1.53
91.5*	192.0	5,392.77	5,394.24	5,394.35	5,394.58	0.022173	7.64	61.74	165.72	1.22	1.58	2.64	3.11	1.47
91.*	192.0	5,392.05	5,393.51	5,393.62	5,393.86	0.022688	7.70	61.31	165.62	1.23	1.60	2.66	3.13	1.46
90.5*	192.0	5,391.33	5,392.81	5,392.89	5,393.11	0.019912	7.29	64.42	167.91	1.16	1.54	2.57	2.98	1.48
90.00	192.0	5,390.60	5,392.07	5,392.16	5,392.40	0.021610	7.54	62.45	166.46	1.20	1.58	2.62	3.07	1.47
89.81*	192.0	5,390.30	5,391.85	5,391.87	5,392.05	0.012876	6.07	75.83	176.01	0.94	1.38	2.27	2.53	1.55
89.62	192.0	5,390.00	5,391.51	5,391.56	5,391.76	0.016986	6.82	68.38	170.76	1.07	1.48	2.46	2.81	1.51
89.215*	192.0	5,389.25	5,390.74	5,390.81	5,391.03	0.018936	7.13	65.65	168.79	1.13	1.53	2.53	2.92	1.49
88.81*	192.0	5,388.50	5,389.99	5,390.06	5,390.27	0.018873	7.12	65.73	168.85	1.13	1.52	2.53	2.92	1.49
88.405*	192.0	5,387.75	5,389.24	5,389.31	5,389.53	0.019000	7.14	65.56	168.73	1.13	1.53	2.53	2.93	1.49
88.00	192.0	5,387.00	5,388.49	5,388.56	5,388.78	0.019063	7.15	65.48	168.67	1.13	1.53	2.54	2.93	1.49
87.5*	192.0	5,386.08	5,387.57	5,387.64	5,387.86	0.019385	7.21	65.07	168.37	1.14	1.53	2.55	2.95	1.49
87.*	192.0	5,385.15	5,386.64	5,386.72	5,386.92	0.018624	7.08	66.06	169.09	1.12	1.52	2.52	2.91	1.49
86.5*	192.0	5,384.23	5,385.72	5,385.80	5,386.00	0.018686	7.09	65.98	169.03	1.12	1.52	2.52	2.91	1.49
86.00	192.0	5,383.30	5,384.79	5,384.87	5,385.08	0.019260	7.19	65.23	168.49	1.14	1.53	2.54	2.94	1.49
85.7737*	192.0	5,382.89	5,384.43	5,384.45	5,384.64	0.013480	6.19	74.55	175.11	0.96	1.40	2.30	2.58	1.54
85.5475*	192.0	5,382.47	5,383.99	5,384.04	5,384.22	0.015310	6.52	71.13	172.78	1.02	1.45	2.39	2.70	1.52
85.3212*	192.0	5,382.06	5,383.58	5,383.62	5,383.81	0.015228	6.51	71.23	172.79	1.02	1.44	2.38	2.70	1.52
85.095*	192.0	5,381.65	5,383.17	5,383.22	5,383.40	0.014989	6.47	71.66	173.08	1.01	1.44	2.37	2.68	1.52
84.8687*	192.0	5,381.24	5,382.77	5,382.81	5,382.99	0.014135	6.31	73.25	174.21	0.98	1.42	2.33	2.62	1.53
84.6425*	192.0	5,380.82	5,382.34	5,382.38	5,382.58	0.015945	6.63	70.05	172.01	1.04	1.46	2.41	2.74	1.52
84.4162*	192.0	5,380.41	5,381.93	5,381.98	5,382.17	0.015587	6.57	70.62	172.36	1.03	1.45	2.40	2.72	1.52
84.19	192.0	5,380.00	5,381.51	5,381.56	5,381.76	0.016497	6.73	69.13	171.29	1.06	1.47	2.44	2.78	1.51
84.00	192.0	5,379.70	5,381.27	5,381.27	5,381.44	0.011561	5.80	78.92	178.15	0.89	1.34	2.20	2.43	1.57
83.75*	192.0	5,379.34	5,380.85	5,380.91	5,381.10	0.016081	6.66	69.80	171.77	1.04	1.46	2.42	2.75	1.51
83.5*	192.0	5,378.98	5,380.50	5,380.54	5,380.72	0.014786	6.42	72.14	173.64	1.00	1.44	2.36	2.66	1.52
83.25*	192.0	5,378.61	5,380.14	5,380.18	5,380.36	0.014848	6.44	71.91	173.26	1.00	1.43	2.37	2.67	1.53

Profile Output Table - Hosteen Branch 1 Pre-mine 10 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
83.*	192.0	5,378.25	5,379.78	5,379.81	5,380.00	0.014616	6.40	72.33	173.56	1.00	1.43	2.35	2.65	1.53
82.75*	192.0	5,377.89	5,379.41	5,379.45	5,379.64	0.015132	6.49	71.40	172.91	1.01	1.44	2.38	2.69	1.52
82.5*	192.0	5,377.52	5,379.05	5,379.10	5,379.28	0.015376	6.55	70.89	172.40	1.02	1.44	2.39	2.71	1.53
82.25*	192.0	5,377.16	5,378.68	5,378.73	5,378.91	0.015243	6.51	71.21	172.78	1.02	1.44	2.38	2.70	1.52
82.00	192.0	5,376.80	5,378.32	5,378.37	5,378.55	0.015135	6.49	71.40	172.90	1.01	1.44	2.38	2.69	1.52
81.75*	192.0	5,376.42	5,377.98	5,377.98	5,378.16	0.011988	5.89	77.89	177.48	0.91	1.36	2.23	2.46	1.56
81.5*	192.0	5,376.05	5,377.60	5,377.62	5,377.79	0.012567	6.01	76.52	176.49	0.93	1.37	2.26	2.51	1.55
81.25*	192.0	5,375.67	5,377.22	5,377.23	5,377.42	0.013089	6.11	75.39	175.75	0.95	1.39	2.28	2.55	1.55
81.*	192.0	5,375.30	5,376.85	5,376.87	5,377.05	0.012955	6.08	75.66	175.89	0.94	1.38	2.28	2.54	1.55
80.75*	192.0	5,374.92	5,376.44	5,376.48	5,376.67	0.015010	6.47	71.64	173.12	1.01	1.44	2.37	2.68	1.52
80.5*	192.0	5,374.55	5,376.11	5,376.12	5,376.29	0.011657	5.82	78.68	177.98	0.89	1.35	2.21	2.44	1.56
80.25*	192.0	5,374.17	5,375.70	5,375.73	5,375.92	0.014729	6.41	72.15	173.48	1.00	1.43	2.36	2.66	1.53
80.00	192.0	5,373.80	5,375.37	5,375.37	5,375.54	0.011416	5.77	79.29	178.40	0.89	1.34	2.19	2.42	1.57
79.5*	192.0	5,373.07	5,374.57	5,374.63	5,374.84	0.018224	7.01	66.63	169.56	1.11	1.51	2.50	2.88	1.50
79.*	192.0	5,372.35	5,373.90	5,373.91	5,374.10	0.012913	6.08	75.75	175.95	0.94	1.38	2.27	2.53	1.55
78.5*	192.0	5,371.63	5,373.15	5,373.20	5,373.38	0.015211	6.51	71.23	172.73	1.02	1.44	2.38	2.70	1.52
78.00	192.0	5,370.90	5,372.43	5,372.47	5,372.65	0.014299	6.34	72.93	173.98	0.99	1.42	2.34	2.63	1.53
77.695*	192.0	5,370.45	5,371.96	5,372.02	5,372.21	0.015991	6.64	69.95	171.89	1.04	1.46	2.41	2.74	1.51
77.39	192.0	5,370.00	5,371.53	5,371.56	5,371.75	0.014570	6.39	72.42	173.62	1.00	1.43	2.35	2.65	1.53
76.9266*	192.0	5,369.13	5,370.60	5,370.69	5,370.93	0.021760	7.57	62.29	166.34	1.21	1.58	2.63	3.08	1.47
76.4633*	192.0	5,368.27	5,369.77	5,369.84	5,370.03	0.017096	6.83	68.21	170.64	1.08	1.49	2.46	2.81	1.50
76.00	192.0	5,367.40	5,368.89	5,368.97	5,369.18	0.019191	7.18	65.32	168.55	1.14	1.53	2.54	2.94	1.49
75.75*	192.0	5,366.94	5,368.43	5,368.51	5,368.72	0.019127	7.16	65.40	168.61	1.13	1.53	2.54	2.94	1.49
75.5*	192.0	5,366.48	5,367.97	5,368.05	5,368.26	0.019255	7.19	65.23	168.49	1.14	1.53	2.54	2.94	1.49
75.25*	192.0	5,366.01	5,367.50	5,367.58	5,367.79	0.019260	7.19	65.23	168.49	1.14	1.53	2.54	2.94	1.49
75.*	192.0	5,365.55	5,367.04	5,367.12	5,367.33	0.019389	7.21	65.07	168.37	1.14	1.53	2.55	2.95	1.49
74.75*	192.0	5,365.09	5,366.57	5,366.66	5,366.87	0.019586	7.24	64.82	168.19	1.15	1.54	2.55	2.96	1.48
74.5*	192.0	5,364.63	5,366.12	5,366.20	5,366.40	0.018234	7.03	66.56	169.38	1.11	1.51	2.50	2.88	1.49
74.25*	192.0	5,364.16	5,365.86	5,365.73	5,365.95	0.005694	4.34	105.60	233.79	0.64	0.87	1.80	1.82	1.70
74.00	395.0	5,363.70	5,365.51	5,365.51	5,365.74	0.013193	6.95	132.11	237.57	0.98	1.75	3.04	2.99	1.81
73.75*	395.0	5,363.24	5,364.98	5,365.05	5,365.30	0.018655	8.02	116.40	235.76	1.16	1.78	3.41	3.39	1.74
73.5*	395.0	5,362.78	5,364.54	5,364.59	5,364.83	0.016963	7.71	120.56	236.25	1.11	1.78	3.30	3.28	1.76
73.25*	395.0	5,362.31	5,364.05	5,364.13	5,364.37	0.018938	8.07	115.74	235.70	1.16	1.78	3.43	3.41	1.74
73.*	395.0	5,361.85	5,363.63	5,363.67	5,363.89	0.015421	7.41	124.85	236.75	1.06	1.77	3.20	3.16	1.78
72.75*	395.0	5,361.39	5,363.15	5,363.21	5,363.44	0.017269	7.77	119.77	236.16	1.11	1.78	3.32	3.30	1.76
72.5*	395.0	5,360.93	5,362.68	5,362.74	5,362.98	0.017913	7.87	118.22	235.79	1.13	1.79	3.37	3.34	1.75
72.25*	395.0	5,360.46	5,362.21	5,362.28	5,362.52	0.018107	7.92	117.69	235.91	1.14	1.78	3.38	3.36	1.75
72.00	395.0	5,360.00	5,361.84	5,361.82	5,362.04	0.011472	6.56	138.87	238.35	0.92	1.72	2.91	2.84	1.84
71.75*	395.0	5,359.71	5,361.55	5,361.53	5,361.75	0.011608	6.59	138.29	238.28	0.92	1.72	2.92	2.86	1.84
71.5*	395.0	5,359.43	5,361.27	5,361.24	5,361.47	0.011149	6.47	140.32	238.33	0.90	1.72	2.88	2.81	1.84
71.25*	395.0	5,359.14	5,360.98	5,360.96	5,361.18	0.011335	6.52	139.47	238.42	0.91	1.72	2.90	2.83	1.84
71.*	395.0	5,358.85	5,360.68	5,360.67	5,360.89	0.011772	6.63	137.61	238.21	0.93	1.73	2.93	2.87	1.83
70.75*	395.0	5,358.56	5,360.41	5,360.38	5,360.60	0.010995	6.44	140.98	238.59	0.90	1.71	2.87	2.80	1.85
70.5*	395.0	5,358.28	5,360.12	5,360.09	5,360.32	0.011339	6.52	139.45	238.41	0.91	1.72	2.90	2.83	1.84
70.25*	395.0	5,357.99	5,359.82	5,359.80	5,360.03	0.011781	6.63	137.57	238.20	0.93	1.73	2.93	2.87	1.83
70.00	395.0	5,357.70	5,359.55	5,359.51	5,359.74	0.011055	6.46	140.71	238.55	0.90	1.71	2.87	2.81	1.85
69.5*	395.0	5,357.13	5,358.95	5,358.94	5,359.17	0.012711	6.84	133.85	237.76	0.96	1.74	3.01	2.95	1.82
69.*	395.0	5,356.55	5,358.40	5,358.37	5,358.59	0.011024	6.45	140.85	238.57	0.90	1.71	2.87	2.80	1.85
68.5*	395.0	5,355.98	5,357.80	5,357.79	5,358.02	0.012744	6.85	133.76	237.76	0.96	1.74	3.01	2.95	1.82
68.00	395.0	5,355.40	5,357.25	5,357.21	5,357.44	0.010921	6.42	141.32	238.62	0.89	1.71	2.86	2.80	1.85
67.5*	395.0	5,354.83	5,356.66	5,356.65	5,356.87	0.011982	6.67	136.85	238.26	0.94	1.73	2.95	2.89	1.83
67.*	395.0	5,354.25	5,356.11	5,356.07	5,356.29	0.010596	6.34	142.84	238.80	0.88	1.71	2.83	2.77	1.86
66.5*	395.0	5,353.68	5,355.50	5,355.49	5,355.72	0.012358	6.76	135.25	237.93	0.95	1.74	2.98	2.92	1.82
66.00	395.0	5,353.10	5,354.96	5,354.92	5,355.15	0.010472	6.31	143.43	238.87	0.88	1.70	2.82	2.75	1.86
65.75*	395.0	5,352.83	5,354.67	5,354.65	5,354.87	0.011319	6.52	139.64	238.58	0.91	1.72	2.89	2.83	1.84
65.5*	395.0	5,352.55	5,354.41	5,354.37	5,354.59	0.010548	6.33	143.06	238.82	0.88	1.70	2.83	2.76	1.86
65.25*	395.0	5,352.27	5,354.12	5,354.11	5,354.32	0.011230	6.51	139.79	238.48	0.91	1.71	2.89	2.83	1.85
65.*	395.0	5,352.00	5,353.85	5,353.82	5,354.04	0.010719	6.37	142.25	238.73	0.89	1.71	2.84	2.78	1.85
64.75*	395.0	5,351.73	5,353.58	5,353.55	5,353.77	0.010929	6.42	141.39	238.79	0.90	1.72	2.86	2.79	1.85
64.5*	395.0	5,351.45	5,353.29	5,353.26	5,353.49	0.011317	6.52	139.55	238.42	0.91	1.72	2.89	2.83	1.84
64.25*	395.0	5,351.17	5,353.03	5,352.98	5,353.22	0.010586	6.34	142.78	238.64	0.88	1.70	2.83	2.77	1.86

Profile Output Table - Hosteen Branch 1 Pre-mine 10 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
64.00	395.0	5,350.90	5,352.84	5,352.71	5,352.98	0.007226	5.42	163.22	241.11	0.73	1.61	2.50	2.42	1.94
63.61*	395.0	5,350.45	5,352.58	5,352.44	5,352.71	0.006369	5.31	168.85	241.34	0.70	1.57	2.36	2.34	2.13
63.22	395.0	5,349.99	5,352.17	5,352.17	5,352.41	0.009557	6.58	143.17	237.71	0.86	1.62	2.64	2.76	2.18
62.8133*	395.0	5,348.99	5,351.07	5,351.29	5,351.70	0.023424	9.80	97.34	192.44	1.33	2.25	3.33	4.06	2.08
62.4066*	395.0	5,347.99	5,350.18	5,350.40	5,350.81	0.021226	9.57	99.05	192.48	1.28	2.22	3.14	3.99	2.19
62.00	395.0	5,346.99	5,349.27	5,349.52	5,349.96	0.020545	9.64	97.58	188.62	1.26	2.25	3.01	4.05	2.28
61.5*	395.0	5,345.76	5,348.18	5,348.42	5,348.96	0.019544	9.69	95.23	183.66	1.24	2.29	2.81	4.15	2.42
61.*	395.0	5,344.54	5,347.08	5,347.37	5,347.98	0.019256	9.88	91.02	180.65	1.24	2.27	2.61	4.34	2.54
60.5*	395.0	5,343.31	5,345.97	5,346.29	5,347.03	0.019608	10.14	84.79	176.98	1.26	2.26	2.39	4.66	2.66
60.00	395.0	5,342.08	5,344.85	5,345.23	5,346.06	0.019397	10.29	78.87	173.37	1.26	2.22	2.12	5.01	2.77
59.575*	395.0	5,341.03	5,343.91	5,344.32	5,345.22	0.018704	10.27	73.21	170.02	1.25	2.14	1.82	5.40	2.88
59.15	395.0	5,339.97	5,342.94	5,343.40	5,344.40	0.018716	10.39	63.69	149.22	1.25	2.03	1.57	6.20	2.97
58.7666*	395.0	5,339.60	5,342.82	5,343.12	5,343.69	0.010752	8.37	88.04	174.43	0.96	1.82	1.50	4.49	3.22
58.3833*	395.0	5,339.24	5,342.60	5,342.83	5,343.30	0.008285	7.57	98.01	177.34	0.85	1.69	1.43	4.03	3.36
58.00	395.0	5,338.87	5,342.31	5,342.56	5,343.02	0.007860	7.46	95.44	175.62	0.83	1.64	1.30	4.14	3.44
57.5*	395.0	5,338.37	5,341.89	5,342.16	5,342.64	0.007709	7.45	86.64	151.38	0.82	1.56	1.20	4.56	3.52
57.*	395.0	5,337.87	5,341.44	5,341.75	5,342.25	0.007968	7.56	75.04	124.96	0.84	1.45	1.03	5.26	3.57
56.5*	395.0	5,337.36	5,340.95	5,341.28	5,341.83	0.008425	7.69	64.43	99.36	0.86	1.30	0.77	6.13	3.59
56.00	395.0	5,336.86	5,340.37	5,340.76	5,341.37	0.009886	8.04	51.93	43.86	0.92	0.86		7.61	3.51
55.5*	395.0	5,336.36	5,339.78	5,339.74	5,340.84	0.010959	8.26	47.81	21.07	0.97			8.26	3.42
55.*	395.0	5,335.85	5,339.24	5,339.19	5,340.29	0.010789	8.19	48.23	21.33	0.96			8.19	3.39
54.5*	395.0	5,335.35	5,338.72	5,338.66	5,339.75	0.010678	8.14	48.50	21.49	0.96			8.14	3.37
54.00	395.0	5,334.85	5,338.23	5,338.10	5,339.21	0.010063	7.95	49.67	21.84	0.93			7.95	3.38
53.5*	395.0	5,334.37	5,337.70	5,337.59	5,338.70	0.010312	8.01	49.32	21.88	0.94			8.01	3.33
53.*	395.0	5,333.90	5,337.19	5,337.11	5,338.18	0.010285	7.98	49.47	22.03	0.94			7.98	3.29
52.5*	395.0	5,333.42	5,336.73	5,336.59	5,337.67	0.009672	7.79	50.73	22.43	0.91			7.79	3.31
52.00	395.0	5,332.94	5,336.14	5,336.08	5,337.15	0.010690	8.06	49.01	22.21	0.96			8.06	3.20
51.5*	395.0	5,332.44	5,335.61	5,335.56	5,336.61	0.010653	8.03	49.16	22.35	0.95			8.03	3.17
51.*	395.0	5,331.94	5,335.06	5,335.01	5,336.07	0.010825	8.06	48.98	22.44	0.96			8.06	3.12
50.5*	395.0	5,331.43	5,334.55	5,334.47	5,335.54	0.010522	7.96	49.62	22.72	0.95			7.96	3.12
50.00	395.0	5,330.93	5,334.06	5,333.95	5,335.01	0.010073	7.82	50.51	23.00	0.93			7.82	3.13
49.75*	395.0	5,330.69	5,333.82	5,333.68	5,334.75	0.009875	7.76	50.91	23.11	0.92			7.76	3.13
49.5*	395.0	5,330.45	5,333.58	5,333.45	5,334.50	0.009695	7.69	51.36	23.32	0.91			7.69	3.13
49.25*	395.0	5,330.21	5,333.31	5,333.21	5,334.25	0.009981	7.77	50.85	23.27	0.93			7.77	3.10
49.*	395.0	5,329.98	5,333.08	5,332.93	5,333.99	0.009692	7.68	51.46	23.45	0.91			7.68	3.10
48.75*	395.0	5,329.74	5,332.82	5,332.70	5,333.74	0.009889	7.73	51.12	23.43	0.92			7.73	3.08
48.5*	395.0	5,329.50	5,332.60	5,332.45	5,333.49	0.009391	7.58	52.13	23.67	0.90			7.58	3.10
48.25*	395.0	5,329.26	5,332.29	5,332.21	5,333.24	0.010295	7.82	50.52	23.48	0.94			7.82	3.03
48.00	395.0	5,329.02	5,332.03	5,331.95	5,332.98	0.010270	7.81	50.61	23.54	0.94			7.81	3.01
47.75*	395.0	5,328.77	5,331.81	5,331.66	5,332.72	0.009698	7.64	51.70	23.79	0.91			7.64	3.04
47.5*	395.0	5,328.52	5,331.62	5,331.41	5,332.47	0.008819	7.38	53.55	24.19	0.87			7.38	3.10
47.25*	395.0	5,328.27	5,331.47	5,331.14	5,332.23	0.007679	7.01	56.36	24.77	0.82			7.01	3.20
47.*	395.0	5,328.02	5,331.37	5,330.88	5,332.03	0.006323	6.53	60.48	25.51	0.75			6.53	3.35
46.75*	395.0	5,327.76	5,331.29	5,330.63	5,331.86	0.005109	6.04	65.38	26.39	0.68			6.04	3.53
46.5*	395.0	5,327.51	5,331.24	5,330.36	5,331.71	0.004025	5.54	71.29	27.37	0.60			5.54	3.73
46.25*	395.0	5,327.26	5,331.20	5,330.10	5,331.60	0.003219	5.10	77.43	28.45	0.54			5.10	3.94
46.00	511.0	5,327.01	5,330.34	5,330.25	5,331.41	0.010178	8.30	61.59	25.97	0.95			8.30	3.33
45.75*	511.0	5,326.76	5,330.14	5,329.99	5,331.15	0.009512	8.09	63.15	26.28	0.92			8.09	3.38
45.5*	511.0	5,326.51	5,329.78	5,329.72	5,330.89	0.010764	8.45	60.47	25.89	0.97			8.45	3.27
45.25*	511.0	5,326.26	5,329.52	5,329.48	5,330.61	0.010648	8.41	60.79	26.04	0.97			8.41	3.26
45.*	511.0	5,326.00	5,329.28	5,329.21	5,330.34	0.010225	8.28	61.75	26.27	0.95			8.28	3.28
44.75*	511.0	5,325.75	5,329.01	5,328.95	5,330.08	0.010331	8.30	61.56	26.28	0.96			8.30	3.26
44.5*	511.0	5,325.50	5,328.75	5,328.68	5,329.82	0.010388	8.30	61.54	26.35	0.96			8.30	3.25
44.25*	511.0	5,325.25	5,328.52	5,328.41	5,329.56	0.010064	8.20	62.28	26.55	0.94			8.20	3.27
44.00	511.0	5,325.00	5,328.31	5,328.15	5,329.30	0.009356	7.99	63.98	26.88	0.91			7.99	3.31
43.75*	511.0	5,324.76	5,328.09	5,327.91	5,329.06	0.009160	7.93	64.47	26.96	0.90			7.93	3.33
43.5*	511.0	5,324.52	5,327.85	5,327.68	5,328.83	0.009196	7.94	64.38	26.95	0.90			7.94	3.33
43.25*	511.0	5,324.29	5,327.60	5,327.44	5,328.59	0.009399	8.00	63.88	26.87	0.91			8.00	3.31
43.*	511.0	5,324.05	5,327.36	5,327.20	5,328.35	0.009308	7.97	64.10	26.90	0.91			7.97	3.31
42.75*	511.0	5,323.81	5,327.14	5,326.97	5,328.11	0.009127	7.92	64.55	26.97	0.90			7.92	3.33
42.5*	511.0	5,323.58	5,326.90	5,326.75	5,327.88	0.009229	7.95	64.29	26.93	0.91			7.95	3.32

Profile Output Table - Hosteen Branch 1 Pre-mine 10 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
42.25*	511.0	5,323.34	5,326.66	5,326.49	5,327.64	0.009249	7.95	64.24	26.92	0.91			7.95	3.32
42.00	511.0	5,323.10	5,326.36	5,326.26	5,327.39	0.009905	8.15	62.69	26.67	0.94			8.15	3.26
41.75*	511.0	5,322.85	5,326.14	5,326.01	5,327.15	0.009611	8.06	63.37	26.78	0.92			8.06	3.29
41.5*	511.0	5,322.60	5,325.86	5,325.76	5,326.89	0.009905	8.15	62.69	26.67	0.94			8.15	3.26
41.25*	511.0	5,322.35	5,325.64	5,325.51	5,326.65	0.009611	8.06	63.37	26.78	0.92			8.06	3.29
41.*	511.0	5,322.10	5,325.36	5,325.26	5,326.39	0.009905	8.15	62.69	26.67	0.94			8.15	3.26
40.75*	511.0	5,321.85	5,325.14	5,325.01	5,326.15	0.009611	8.06	63.37	26.78	0.92			8.06	3.29
40.5*	511.0	5,321.60	5,324.86	5,324.76	5,325.89	0.009916	8.15	62.66	26.67	0.94			8.15	3.26
40.25*	511.0	5,321.35	5,324.63	5,324.51	5,325.65	0.009667	8.08	63.24	26.76	0.93			8.08	3.28
40.00	511.0	5,321.10	5,324.40	5,324.26	5,325.40	0.009457	8.02	63.74	26.84	0.92			8.02	3.30
39.756*	511.0	5,320.86	5,324.13	5,324.03	5,325.15	0.009747	8.10	63.05	26.73	0.93			8.10	3.27
39.512*	511.0	5,320.62	5,323.91	5,323.78	5,324.92	0.009567	8.05	63.47	26.80	0.92			8.05	3.29
39.268*	511.0	5,320.38	5,323.68	5,323.53	5,324.68	0.009442	8.01	63.77	26.85	0.92			8.01	3.30
39.024*	511.0	5,320.14	5,323.48	5,323.30	5,324.45	0.009003	7.88	64.87	27.02	0.90			7.88	3.34
38.78	511.0	5,319.90	5,323.07	5,323.07	5,324.19	0.011015	8.47	60.36	26.29	0.98			8.47	3.17
38.585*	511.0	5,319.58	5,322.47	5,322.75	5,323.90	0.015666	9.60	53.25	25.09	1.16			9.60	2.89
38.39*	511.0	5,319.25	5,322.13	5,322.40	5,323.58	0.016024	9.67	52.83	25.02	1.17			9.67	2.88
38.195*	511.0	5,318.93	5,321.82	5,322.10	5,323.26	0.015851	9.64	53.03	25.06	1.17			9.64	2.89
38.00	511.0	5,318.60	5,321.46	5,321.76	5,322.94	0.016349	9.74	52.46	24.96	1.18			9.74	2.86
37.5*	511.0	5,317.75	5,320.60	5,320.90	5,322.09	0.016623	9.80	52.15	24.90	1.19			9.80	2.85
37.*	511.0	5,316.90	5,319.74	5,320.07	5,321.25	0.016810	9.84	51.94	24.87	1.20			9.84	2.84
36.5*	511.0	5,316.05	5,318.90	5,319.20	5,320.39	0.016590	9.79	52.18	24.91	1.19			9.79	2.85
36.00	511.0	5,315.20	5,318.04	5,318.37	5,319.55	0.016803	9.84	51.95	24.87	1.20			9.84	2.84
35.5*	511.0	5,314.38	5,317.24	5,317.54	5,318.71	0.016348	9.74	52.45	24.95	1.18			9.74	2.86
35.*	511.0	5,313.55	5,316.41	5,316.70	5,317.89	0.016503	9.77	52.28	24.93	1.19			9.77	2.86
34.5*	511.0	5,312.73	5,315.59	5,315.87	5,317.06	0.016248	9.72	52.56	24.97	1.18			9.72	2.86
34.00	511.0	5,311.90	5,314.77	5,315.07	5,316.24	0.016309	9.73	52.50	24.96	1.18			9.73	2.87
33.5*	511.0	5,311.07	5,313.93	5,314.24	5,315.41	0.016481	9.77	52.31	24.93	1.19			9.77	2.86
33.*	511.0	5,310.25	5,313.10	5,313.40	5,314.59	0.016579	9.79	52.20	24.91	1.19			9.79	2.85
32.5*	511.0	5,309.42	5,312.27	5,312.59	5,313.77	0.016770	9.83	51.98	24.87	1.20			9.83	2.85
32.00	511.0	5,308.60	5,311.46	5,311.76	5,312.94	0.016543	9.78	52.24	24.92	1.19			9.78	2.86
31.5*	511.0	5,307.75	5,310.60	5,310.90	5,312.10	0.016733	9.82	52.03	24.88	1.20			9.82	2.85
31.*	511.0	5,306.90	5,309.74	5,310.07	5,311.25	0.016855	9.85	51.89	24.86	1.20			9.85	2.84
30.5*	511.0	5,306.05	5,308.90	5,309.20	5,310.39	0.016689	9.81	52.07	24.89	1.20			9.81	2.85
30.00	511.0	5,305.20	5,308.04	5,308.37	5,309.55	0.016847	9.85	51.90	24.86	1.20			9.85	2.84
29.5*	511.0	5,304.38	5,307.23	5,307.54	5,308.71	0.016434	9.76	52.35	24.93	1.19			9.76	2.85
29.*	511.0	5,303.55	5,306.40	5,306.70	5,307.89	0.016689	9.81	52.07	24.89	1.20			9.81	2.85
28.5*	511.0	5,302.73	5,305.57	5,305.87	5,307.07	0.016637	9.80	52.13	24.89	1.19			9.80	2.84
28.00	511.0	5,301.90	5,304.75	5,305.07	5,306.24	0.016601	9.79	52.17	24.91	1.19			9.79	2.85
27.61*	511.0	5,301.23	5,304.07	5,304.38	5,305.58	0.016810	9.84	51.94	24.87	1.20			9.84	2.84
27.22*	511.0	5,300.57	5,303.42	5,303.74	5,304.91	0.016711	9.82	52.05	24.89	1.20			9.82	2.85
26.83	511.0	5,299.90	5,302.74	5,303.07	5,304.25	0.016921	9.86	51.82	24.85	1.20			9.86	2.84
26.415*	511.0	5,299.25	5,302.22	5,302.40	5,303.56	0.014271	9.28	55.05	25.40	1.11			9.28	2.97
26.00	511.0	5,298.60	5,301.52	5,301.76	5,302.92	0.015240	9.50	53.78	25.18	1.15			9.50	2.92
25.5*	511.0	5,297.75	5,300.60	5,300.92	5,302.10	0.016725	9.83	51.98	24.81	1.20			9.83	2.85
25.*	511.0	5,296.90	5,299.75	5,300.07	5,301.26	0.016674	9.83	51.99	24.74	1.20			9.83	2.85
24.5*	511.0	5,296.05	5,298.91	5,299.22	5,300.41	0.016569	9.82	52.05	24.69	1.19			9.82	2.86
24.00	511.0	5,295.20	5,298.04	5,298.37	5,299.58	0.017207	9.96	51.31	24.50	1.21			9.96	2.84
23.5*	511.0	5,294.40	5,297.35	5,297.57	5,298.73	0.014832	9.45	54.08	24.97	1.13			9.45	2.95
23.*	511.0	5,293.60	5,296.50	5,296.78	5,297.95	0.015872	9.68	52.80	24.76	1.17			9.68	2.90
22.5*	511.0	5,292.80	5,295.70	5,295.97	5,297.15	0.015753	9.65	52.94	24.78	1.16			9.65	2.90
22.00	511.0	5,292.00	5,294.90	5,295.17	5,296.35	0.015896	9.68	52.77	24.75	1.17			9.68	2.90
21.5*	511.0	5,291.20	5,294.10	5,294.37	5,295.55	0.015777	9.66	52.91	24.78	1.16			9.66	2.90
21.*	511.0	5,290.40	5,293.30	5,293.57	5,294.75	0.015907	9.69	52.76	24.75	1.17			9.69	2.90
20.5*	511.0	5,289.60	5,292.50	5,292.78	5,293.95	0.015800	9.66	52.88	24.77	1.17			9.66	2.90
20.00	511.0	5,288.80	5,291.71	5,291.97	5,293.15	0.015602	9.62	53.12	24.81	1.16			9.62	2.91
19.5*	511.0	5,288.00	5,290.90	5,291.17	5,292.35	0.015824	9.67	52.86	24.77	1.17			9.67	2.90
19.*	511.0	5,287.20	5,290.11	5,290.37	5,291.55	0.015625	9.62	53.09	24.81	1.16			9.62	2.91
18.5*	511.0	5,286.40	5,289.30	5,289.57	5,290.75	0.015825	9.67	52.86	24.77	1.17			9.67	2.90
18.00	511.0	5,285.60	5,288.51	5,288.78	5,289.95	0.015628	9.63	53.09	24.81	1.16			9.63	2.91
17.5*	511.0	5,284.80	5,287.70	5,287.97	5,289.15	0.015855	9.67	52.82	24.76	1.17			9.67	2.90

Profile Output Table - Hosteen Branch 1 Pre-mine 10 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
17.*	511.0	5,284.00	5,286.90	5,287.17	5,288.35	0.015712	9.64	52.99	24.79	1.16			9.64	2.90
16.5*	511.0	5,283.20	5,286.10	5,286.37	5,287.55	0.015869	9.68	52.80	24.76	1.17			9.68	2.90
16.00	511.0	5,282.40	5,285.30	5,285.57	5,286.75	0.015743	9.65	52.95	24.78	1.16			9.65	2.90
15.6075*	511.0	5,281.77	5,284.67	5,284.96	5,286.13	0.015892	9.68	52.78	24.75	1.17			9.68	2.90
15.215*	511.0	5,281.15	5,284.06	5,284.32	5,285.50	0.015642	9.63	53.07	24.80	1.16			9.63	2.91
14.8225*	511.0	5,280.52	5,283.43	5,283.71	5,284.88	0.015709	9.64	52.99	24.79	1.16			9.64	2.91
14.43	511.0	5,279.90	5,282.80	5,283.07	5,284.25	0.015733	9.65	52.96	24.78	1.16			9.65	2.90
14.00	511.0	5,278.70	5,281.26	5,281.87	5,283.29	0.025374	11.42	44.75	23.35	1.45			11.42	2.56
13.5*	511.0	5,277.35	5,279.89	5,280.55	5,281.99	0.026798	11.62	43.97	23.35	1.49			11.62	2.54
13.*	511.0	5,276.00	5,278.55	5,279.20	5,280.65	0.026877	11.64	43.92	23.36	1.50			11.64	2.55
12.5*	511.0	5,274.65	5,277.16	5,277.81	5,279.29	0.027319	11.71	43.65	23.28	1.51			11.71	2.51
12.00	511.0	5,273.30	5,275.77	5,276.44	5,277.92	0.027528	11.76	43.45	23.11	1.51			11.76	2.47
11.5*	511.0	5,271.92	5,274.38	5,275.06	5,276.56	0.028014	11.83	43.18	23.05	1.52			11.83	2.46
11.*	511.0	5,270.55	5,273.01	5,273.69	5,275.18	0.027794	11.80	43.31	23.08	1.52			11.80	2.46
10.5*	511.0	5,269.17	5,271.64	5,272.31	5,273.80	0.027787	11.80	43.31	23.07	1.52			11.80	2.47
10.00	511.0	5,267.80	5,270.26	5,270.94	5,272.43	0.028063	11.84	43.16	23.05	1.52			11.84	2.46
9.5*	511.0	5,266.42	5,268.95	5,269.59	5,271.04	0.026673	11.61	44.03	23.37	1.49			11.61	2.53
9.*	511.0	5,265.05	5,267.59	5,268.24	5,269.70	0.027092	11.66	43.83	23.39	1.50			11.66	2.54
8.5*	511.0	5,263.67	5,266.20	5,266.85	5,268.32	0.027263	11.68	43.76	23.39	1.50			11.68	2.53
8.00	511.0	5,262.30	5,264.80	5,265.47	5,266.94	0.027655	11.75	43.49	23.23	1.51			11.75	2.50
7.57*	511.0	5,261.10	5,263.59	5,264.28	5,265.76	0.028316	11.85	43.14	23.17	1.53			11.85	2.49
7.14	511.0	5,259.90	5,262.39	5,263.07	5,264.56	0.028281	11.84	43.15	23.17	1.53			11.84	2.49
6.76*	511.0	5,258.80	5,261.28	5,261.97	5,263.47	0.028408	11.86	43.09	23.16	1.53			11.86	2.48
6.38*	511.0	5,257.70	5,260.18	5,260.86	5,262.37	0.028478	11.87	43.05	23.15	1.53			11.87	2.48
6.00	640.0	5,256.60	5,260.17	5,260.19	5,261.44	0.010955	9.03	70.89	27.82	1.00			9.03	3.57
5.5*	640.0	5,255.13	5,257.95	5,258.71	5,260.37	0.027244	12.49	51.25	24.62	1.53			12.49	2.82
5.*	640.0	5,253.65	5,256.43	5,257.24	5,258.96	0.028897	12.75	50.19	24.43	1.57			12.75	2.78
4.5*	640.0	5,252.18	5,254.96	5,255.77	5,257.49	0.028986	12.77	50.12	24.42	1.57			12.77	2.78
4.00	640.0	5,250.70	5,253.46	5,254.27	5,256.04	0.029917	12.91	49.57	24.33	1.59			12.91	2.76
3.5*	640.0	5,249.23	5,251.98	5,252.82	5,254.57	0.029945	12.91	49.56	24.32	1.59			12.91	2.75
3.*	640.0	5,247.75	5,250.51	5,251.34	5,253.08	0.029608	12.86	49.76	24.36	1.59			12.86	2.76
2.5*	640.0	5,246.27	5,249.04	5,249.86	5,251.61	0.029660	12.87	49.73	24.35	1.59			12.87	2.77
2.00	640.0	5,244.80	5,247.58	5,248.39	5,250.12	0.029151	12.79	50.03	24.40	1.57			12.79	2.78
1.58*	640.0	5,243.57	5,246.49	5,247.15	5,248.70	0.023975	11.94	53.61	25.02	1.44			11.94	2.92
1.16*	640.0	5,242.35	5,245.27	5,245.94	5,247.49	0.024109	11.96	53.51	25.01	1.44			11.96	2.92
.74*	640.0	5,241.13	5,244.03	5,244.71	5,246.29	0.024730	12.07	53.03	24.92	1.46			12.07	2.90
0.32	640.0	5,239.90	5,242.79	5,243.49	5,245.07	0.024939	12.10	52.87	24.90	1.46			12.10	2.89
0.00	640.0	5,239.30	5,242.45	5,242.89	5,244.25	0.017942	10.77	59.43	26.00	1.26			10.77	3.15
						Max	12.91					**Avg**	6.23	
						Min	4.34							
						Avg	8.17							

Profile Output Table - Hosteen Branch 1 Pre-mine 25 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
104.00	286.0	5,412.10	5,413.73	5,413.83	5,414.02	0.017823	7.44	91.16	198.97	1.12	1.61	2.96	3.14	1.63
103.603*	286.0	5,411.40	5,412.98	5,413.13	5,413.34	0.022924	8.25	82.27	180.42	1.26	1.94	3.18	3.48	1.58
103.206*	286.0	5,410.70	5,412.30	5,412.42	5,412.63	0.021476	8.03	84.28	181.79	1.22	1.91	3.12	3.39	1.60
102.81	286.0	5,410.00	5,411.60	5,411.73	5,411.93	0.021034	7.96	84.93	182.21	1.21	1.90	3.10	3.37	1.60
102.405*	286.0	5,409.35	5,410.96	5,411.08	5,411.27	0.019924	7.79	86.91	187.45	1.18	1.79	3.05	3.29	1.61
102.00	286.0	5,408.70	5,410.30	5,410.42	5,410.63	0.020532	7.88	85.80	184.37	1.19	1.85	3.08	3.33	1.60
101.5*	286.0	5,407.93	5,409.54	5,409.62	5,409.84	0.019674	7.73	87.55	189.65	1.17	1.77	3.05	3.27	1.61
101.*	286.0	5,407.15	5,408.76	5,408.88	5,409.07	0.020267	7.84	86.27	185.65	1.19	1.83	3.07	3.32	1.61
100.5*	286.0	5,406.38	5,408.00	5,408.09	5,408.30	0.019162	7.67	88.40	192.27	1.16	1.71	3.02	3.24	1.62
100.00	286.0	5,405.60	5,407.21	5,407.33	5,407.52	0.020022	7.80	86.73	186.94	1.18	1.80	3.06	3.30	1.61
99.75*	286.0	5,405.21	5,406.83	5,406.94	5,407.13	0.019202	7.67	88.30	191.25	1.16	1.73	3.02	3.24	1.62
99.5*	286.0	5,404.83	5,406.45	5,406.56	5,406.75	0.019092	7.65	88.60	193.12	1.15	1.70	3.02	3.23	1.62
99.25*	286.0	5,404.44	5,406.07	5,406.17	5,406.36	0.018409	7.54	89.90	195.58	1.13	1.66	2.99	3.18	1.63
99.*	286.0	5,404.05	5,405.67	5,405.77	5,405.97	0.018504	7.56	89.71	195.07	1.14	1.67	2.99	3.19	1.62
98.75*	286.0	5,403.66	5,405.39	5,405.38	5,405.57	0.010860	6.07	111.91	235.24	0.88	1.29	2.55	2.56	1.73
98.5*	286.0	5,403.27	5,404.98	5,404.98	5,405.19	0.012560	6.46	105.61	232.86	0.94	1.29	2.68	2.71	1.71
98.25*	286.0	5,402.89	5,404.62	5,404.62	5,404.80	0.010880	6.07	111.83	235.24	0.88	1.29	2.55	2.56	1.73
98.00	286.0	5,402.50	5,404.20	5,404.23	5,404.41	0.012752	6.49	105.17	232.77	0.95	1.30	2.69	2.72	1.70
97.595*	286.0	5,401.88	5,403.47	5,403.60	5,403.81	0.022123	8.13	83.33	181.08	1.24	1.92	3.14	3.43	1.59
97.19*	286.0	5,401.25	5,402.89	5,402.98	5,403.16	0.017294	7.35	92.33	201.95	1.10	1.57	2.94	3.10	1.64
96.785*	286.0	5,400.63	5,402.25	5,402.35	5,402.55	0.019274	7.69	88.10	190.49	1.16	1.74	3.03	3.25	1.62
96.38	286.0	5,400.00	5,401.62	5,401.73	5,401.92	0.018966	7.63	88.77	192.52	1.15	1.71	3.01	3.22	1.62
96.00	286.0	5,399.40	5,401.01	5,401.13	5,401.32	0.019681	7.75	87.37	188.70	1.17	1.77	3.04	3.27	1.61
95.75*	286.0	5,399.04	5,400.62	5,400.77	5,400.99	0.023669	8.36	81.30	179.77	1.28	1.96	3.21	3.52	1.58
95.5*	286.0	5,398.67	5,400.15	5,400.37	5,400.83	0.045095	10.95	63.92	167.51	1.74	2.31	3.84	4.47	1.48
95.25*	286.0	5,398.31	5,399.77	5,400.04	5,400.57	0.053228	11.74	60.03	164.67	1.88	2.41	4.02	4.76	1.46
95.*	286.0	5,397.95	5,399.38	5,399.67	5,400.38	0.066427	12.90	55.16	161.02	2.10	2.54	4.26	5.19	1.43
94.75*	286.0	5,397.59	5,399.05	5,399.31	5,399.83	0.051948	11.62	60.59	165.09	1.86	2.39	3.99	4.72	1.46
94.5*	286.0	5,397.23	5,398.68	5,398.96	5,399.49	0.053604	11.78	59.87	164.55	1.89	2.41	4.03	4.78	1.45
94.25*	286.0	5,396.86	5,398.33	5,398.58	5,399.07	0.049635	11.40	61.64	165.86	1.82	2.37	3.95	4.64	1.47
94.00	286.0	5,396.50	5,397.96	5,398.23	5,398.75	0.052300	11.66	60.43	164.97	1.87	2.40	4.00	4.73	1.46
93.5*	286.0	5,395.75	5,397.20	5,397.48	5,398.06	0.056941	12.08	58.51	163.54	1.95	2.45	4.09	4.89	1.45
93.*	286.0	5,395.00	5,396.43	5,396.73	5,397.39	0.063244	12.64	56.20	161.80	2.05	2.51	4.21	5.09	1.43
92.5*	286.0	5,394.25	5,395.98	5,395.98	5,396.16	0.010794	6.05	112.16	235.28	0.88	1.29	2.55	2.55	1.73
92.00	286.0	5,393.50	5,395.13	5,395.23	5,395.42	0.018272	7.52	90.19	196.35	1.13	1.65	2.98	3.17	1.63
91.5*	286.0	5,392.77	5,394.38	5,394.48	5,394.71	0.020963	7.96	84.91	182.01	1.21	1.89	3.09	3.37	1.61
91.*	286.0	5,392.05	5,393.64	5,393.77	5,393.99	0.022664	8.21	82.62	180.66	1.25	1.94	3.17	3.46	1.59
90.5*	286.0	5,391.33	5,392.94	5,393.06	5,393.25	0.019752	7.76	87.29	189.16	1.17	1.76	3.05	3.28	1.61
90.00	286.0	5,390.60	5,392.19	5,392.33	5,392.53	0.021766	8.07	83.86	181.50	1.23	1.92	3.13	3.41	1.59
89.81*	286.0	5,390.30	5,392.00	5,392.02	5,392.21	0.012254	6.38	106.88	234.66	0.93	1.29	2.66	2.68	1.70
89.62	286.0	5,390.00	5,391.62	5,391.73	5,391.92	0.019154	7.66	88.39	191.50	1.15	1.72	3.02	3.24	1.62
89.215*	286.0	5,389.25	5,390.87	5,390.98	5,391.17	0.018779	7.60	89.14	193.54	1.14	1.69	3.01	3.21	1.62
88.81*	286.0	5,388.50	5,390.12	5,390.23	5,390.42	0.018593	7.57	89.52	194.56	1.14	1.67	3.00	3.19	1.62
88.405*	286.0	5,387.75	5,389.37	5,389.48	5,389.67	0.018872	7.62	88.95	193.03	1.15	1.70	3.01	3.22	1.62
88.00	286.0	5,387.00	5,388.62	5,388.73	5,388.92	0.018639	7.58	89.43	194.31	1.14	1.68	3.00	3.20	1.62
87.5*	286.0	5,386.08	5,387.71	5,387.79	5,388.00	0.018410	7.54	89.90	195.65	1.13	1.66	2.99	3.18	1.63
87.*	286.0	5,385.15	5,386.79	5,386.88	5,387.06	0.017512	7.39	91.84	200.68	1.11	1.59	2.95	3.11	1.64
86.5*	286.0	5,384.23	5,385.86	5,385.96	5,386.15	0.018317	7.53	90.09	196.09	1.13	1.65	2.99	3.17	1.63
86.00	286.0	5,383.30	5,384.92	5,385.02	5,385.22	0.019253	7.68	88.20	191.00	1.16	1.73	3.03	3.24	1.62
85.7737*	286.0	5,382.89	5,384.61	5,384.62	5,384.80	0.011492	6.22	109.54	234.98	0.90	1.29	2.60	2.61	1.72
85.5475*	286.0	5,382.47	5,384.08	5,384.18	5,384.39	0.019721	7.75	87.35	188.95	1.17	1.77	3.05	3.27	1.61
85.3212*	286.0	5,382.06	5,383.77	5,383.79	5,383.97	0.011556	6.23	109.31	234.95	0.91	1.29	2.61	2.62	1.71
85.095*	286.0	5,381.65	5,383.27	5,383.38	5,383.57	0.018732	7.59	89.24	193.80	1.14	1.69	3.00	3.20	1.62
84.8687*	286.0	5,381.24	5,382.95	5,382.96	5,383.15	0.011825	6.29	108.35	234.83	0.92	1.29	2.63	2.64	1.71
84.6425*	286.0	5,380.82	5,382.44	5,382.54	5,382.74	0.018617	7.57	89.53	194.82	1.14	1.67	3.00	3.19	1.62
84.4162*	286.0	5,380.41	5,382.12	5,382.13	5,382.32	0.011924	6.31	108.01	234.79	0.92	1.29	2.63	2.65	1.71
84.19	286.0	5,380.00	5,381.63	5,381.73	5,381.92	0.017955	7.47	90.86	198.13	1.12	1.62	2.97	3.15	1.63
84.00	286.0	5,379.70	5,381.38	5,381.42	5,381.61	0.013866	6.72	101.47	224.36	0.99	1.36	2.76	2.82	1.68
83.75*	286.0	5,379.34	5,380.99	5,381.06	5,381.25	0.016080	7.14	95.24	209.34	1.06	1.49	2.88	3.00	1.65
83.5*	286.0	5,378.98	5,380.65	5,380.69	5,380.88	0.014336	6.80	100.26	222.49	1.01	1.38	2.78	2.85	1.67
83.25*	286.0	5,378.61	5,380.27	5,380.33	5,380.52	0.015287	6.99	97.31	214.43	1.04	1.44	2.84	2.94	1.66

Profile Output Table - Hosteen Branch 1 Pre-mine 25 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
83.*	286.0	5,378.25	5,379.92	5,379.98	5,380.16	0.014682	6.88	99.00	218.51	1.02	1.40	2.80	2.89	1.67
82.75*	286.0	5,377.89	5,379.55	5,379.62	5,379.80	0.015250	6.99	97.42	214.84	1.04	1.44	2.84	2.94	1.66
82.5*	286.0	5,377.52	5,379.19	5,379.25	5,379.44	0.015022	6.95	97.87	215.03	1.03	1.43	2.82	2.92	1.67
82.25*	286.0	5,377.16	5,378.83	5,378.88	5,379.07	0.014547	6.85	99.41	219.52	1.01	1.40	2.80	2.88	1.67
82.00	286.0	5,376.80	5,378.47	5,378.52	5,378.71	0.014909	6.92	98.36	216.98	1.02	1.42	2.82	2.91	1.67
81.75*	286.0	5,376.42	5,378.10	5,378.12	5,378.33	0.013696	6.68	101.78	221.85	0.98	1.38	2.75	2.81	1.68
81.5*	286.0	5,376.05	5,377.74	5,377.77	5,377.96	0.013144	6.57	103.81	229.72	0.96	1.32	2.71	2.75	1.69
81.25*	286.0	5,375.67	5,377.37	5,377.37	5,377.58	0.012670	6.47	105.19	229.06	0.95	1.32	2.68	2.72	1.70
81.*	286.0	5,375.30	5,376.98	5,377.02	5,377.21	0.013719	6.69	101.92	225.39	0.98	1.35	2.75	2.81	1.68
80.75*	286.0	5,374.92	5,376.59	5,376.62	5,376.83	0.014404	6.82	99.64	217.20	1.01	1.42	2.79	2.87	1.67
80.5*	286.0	5,374.55	5,376.26	5,376.27	5,376.46	0.011592	6.24	109.18	234.93	0.91	1.29	2.61	2.62	1.71
80.25*	286.0	5,374.17	5,375.83	5,375.87	5,376.08	0.015577	7.04	96.40	209.99	1.05	1.48	2.85	2.97	1.66
80.00	286.0	5,373.80	5,375.50	5,375.52	5,375.71	0.012563	6.45	105.85	234.30	0.94	1.29	2.68	2.70	1.70
79.5*	286.0	5,373.07	5,374.72	5,374.79	5,374.98	0.016095	7.13	95.25	209.59	1.06	1.49	2.88	3.00	1.65
79.*	286.0	5,372.35	5,374.05	5,374.08	5,374.26	0.012457	6.43	106.21	234.59	0.94	1.29	2.67	2.69	1.70
78.5*	286.0	5,371.63	5,373.29	5,373.35	5,373.54	0.015007	6.94	98.03	215.96	1.03	1.42	2.82	2.92	1.66
78.00	286.0	5,370.90	5,372.57	5,372.63	5,372.81	0.014831	6.91	98.58	217.49	1.02	1.41	2.81	2.90	1.67
77.695*	286.0	5,370.45	5,372.12	5,372.17	5,372.36	0.014956	6.93	98.24	216.72	1.03	1.42	2.82	2.91	1.67
77.39	286.0	5,370.00	5,371.66	5,371.73	5,371.91	0.015520	7.04	96.68	212.90	1.04	1.45	2.85	2.96	1.66
76.9266*	286.0	5,369.13	5,370.73	5,370.86	5,371.06	0.021274	8.00	84.57	181.98	1.21	1.90	3.11	3.38	1.60
76.4633*	286.0	5,368.27	5,369.92	5,370.00	5,370.18	0.016363	7.19	94.53	207.55	1.07	1.51	2.89	3.03	1.65
76.00	286.0	5,367.40	5,369.00	5,369.13	5,369.33	0.020514	7.88	85.82	184.37	1.19	1.85	3.08	3.33	1.60
75.75*	286.0	5,366.94	5,368.59	5,368.67	5,368.85	0.016446	7.20	94.33	207.04	1.07	1.51	2.90	3.03	1.65
75.5*	286.0	5,366.48	5,368.10	5,368.21	5,368.40	0.018593	7.57	89.52	194.56	1.14	1.67	3.00	3.19	1.62
75.25*	286.0	5,366.01	5,367.64	5,367.73	5,367.93	0.018094	7.49	90.57	197.36	1.12	1.63	2.98	3.16	1.63
75.*	286.0	5,365.55	5,367.19	5,367.27	5,367.46	0.017384	7.37	92.13	201.44	1.10	1.58	2.94	3.10	1.64
74.75*	286.0	5,365.09	5,366.72	5,366.81	5,367.01	0.018184	7.50	90.38	196.85	1.13	1.64	2.98	3.16	1.63
74.5*	286.0	5,364.63	5,366.26	5,366.35	5,366.54	0.017538	7.40	91.73	200.17	1.11	1.59	2.95	3.12	1.63
74.25*	286.0	5,364.16	5,366.05	5,365.88	5,366.14	0.004743	4.30	150.99	239.72	0.59	1.21	1.95	1.89	1.89
74.00	583.0	5,363.70	5,365.65	5,365.65	5,365.94	0.014982	7.84	166.03	241.43	1.06	2.36	3.63	3.51	1.95
73.75*	583.0	5,363.24	5,365.15	5,365.19	5,365.48	0.018130	8.48	155.44	240.23	1.16	2.44	3.86	3.75	1.91
73.5*	583.0	5,362.78	5,364.69	5,364.73	5,365.02	0.017849	8.42	156.28	240.33	1.15	2.43	3.84	3.73	1.91
73.25*	583.0	5,362.31	5,364.22	5,364.26	5,364.55	0.018236	8.50	155.13	240.20	1.16	2.44	3.87	3.76	1.91
73.*	583.0	5,361.85	5,363.78	5,363.80	5,364.09	0.016661	8.19	160.06	240.76	1.11	2.40	3.75	3.64	1.93
72.75*	583.0	5,361.39	5,363.31	5,363.34	5,363.63	0.017129	8.28	158.53	240.59	1.13	2.41	3.79	3.68	1.92
72.5*	583.0	5,360.93	5,362.84	5,362.88	5,363.16	0.017275	8.30	158.09	240.35	1.13	2.42	3.80	3.69	1.91
72.25*	583.0	5,360.46	5,362.37	5,362.42	5,362.70	0.018319	8.51	154.88	240.17	1.17	2.44	3.87	3.76	1.91
72.00	583.0	5,360.00	5,362.02	5,361.96	5,362.24	0.011574	7.06	181.31	243.14	0.94	2.25	3.33	3.22	2.02
71.75*	583.0	5,359.71	5,361.73	5,361.67	5,361.96	0.011507	7.05	181.67	243.18	0.93	2.25	3.32	3.21	2.02
71.5*	583.0	5,359.43	5,361.45	5,361.38	5,361.67	0.011157	6.95	183.59	243.22	0.92	2.24	3.29	3.18	2.02
71.25*	583.0	5,359.14	5,361.16	5,361.09	5,361.39	0.011505	7.05	181.68	243.19	0.93	2.25	3.32	3.21	2.02
71.*	583.0	5,358.85	5,360.86	5,360.80	5,361.09	0.011662	7.08	180.85	243.10	0.94	2.26	3.34	3.22	2.01
70.75*	583.0	5,358.56	5,360.59	5,360.51	5,360.81	0.011030	6.93	184.30	243.49	0.92	2.23	3.28	3.16	2.03
70.5*	583.0	5,358.28	5,360.30	5,360.23	5,360.52	0.011508	7.05	181.66	243.18	0.93	2.25	3.32	3.21	2.02
70.25*	583.0	5,357.99	5,360.00	5,359.94	5,360.23	0.011624	7.07	181.05	243.11	0.94	2.26	3.33	3.22	2.01
70.00	583.0	5,357.70	5,359.72	5,359.65	5,359.95	0.011359	7.01	182.47	243.27	0.93	2.25	3.31	3.19	2.02
69.5*	583.0	5,357.13	5,359.13	5,359.08	5,359.37	0.012293	7.24	177.60	242.72	0.96	2.28	3.40	3.28	2.00
69.*	583.0	5,356.55	5,358.57	5,358.50	5,358.80	0.011289	6.99	182.85	243.32	0.93	2.24	3.30	3.19	2.02
68.5*	583.0	5,355.98	5,357.98	5,357.93	5,358.22	0.012390	7.26	177.16	242.68	0.97	2.28	3.41	3.29	2.00
68.00	583.0	5,355.40	5,357.43	5,357.35	5,357.65	0.011117	6.95	183.81	243.42	0.92	2.24	3.29	3.17	2.03
67.5*	583.0	5,354.83	5,356.84	5,356.79	5,357.07	0.011847	7.13	179.98	243.13	0.95	2.27	3.35	3.24	2.01
67.*	583.0	5,354.25	5,356.28	5,356.21	5,356.50	0.010990	6.92	184.52	243.50	0.91	2.23	3.27	3.16	2.03
66.5*	583.0	5,353.68	5,355.69	5,355.63	5,355.92	0.011967	7.16	179.27	242.91	0.95	2.27	3.37	3.25	2.01
66.00	583.0	5,353.10	5,355.14	5,355.05	5,355.35	0.010701	6.84	186.20	243.70	0.90	2.22	3.24	3.13	2.04
65.75*	583.0	5,352.83	5,354.85	5,354.79	5,355.08	0.011182	6.96	183.54	243.53	0.92	2.24	3.29	3.18	2.02
65.5*	583.0	5,352.55	5,354.58	5,354.50	5,354.80	0.010724	6.85	186.06	243.68	0.90	2.22	3.25	3.13	2.04
65.25*	583.0	5,352.27	5,354.30	5,354.24	5,354.53	0.011142	6.97	183.56	243.42	0.92	2.23	3.29	3.18	2.03
65.*	583.0	5,352.00	5,354.04	5,353.96	5,354.25	0.010723	6.85	186.06	243.68	0.90	2.22	3.25	3.13	2.04
64.75*	583.0	5,351.73	5,353.75	5,353.68	5,353.98	0.011118	6.95	183.90	243.60	0.92	2.24	3.28	3.17	2.02
64.5*	583.0	5,351.45	5,353.48	5,353.40	5,353.70	0.011101	6.94	183.90	243.43	0.92	2.24	3.28	3.17	2.03
64.25*	583.0	5,351.17	5,353.23	5,353.13	5,353.43	0.009874	6.63	191.22	244.09	0.87	2.18	3.16	3.05	2.06

Profile Output Table - Hosteen Branch 1 Pre-mine 25 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
64.00	583.0	5,350.90	5,353.05	5,352.85	5,353.20	0.007097	5.80	213.72	246.75	0.74	2.04	2.83	2.73	2.15
63.61*	583.0	5,350.45	5,352.79	5,352.59	5,352.94	0.006340	5.71	220.38	247.18	0.71	1.98	2.70	2.65	2.34
63.22	583.0	5,349.99	5,352.31	5,352.31	5,352.61	0.011630	7.63	176.41	241.63	0.96	2.20	3.23	3.30	2.32
62.8133*	583.0	5,348.99	5,351.24	5,351.45	5,351.89	0.023880	10.55	133.86	236.28	1.37	2.37	4.00	4.36	2.25
62.4066*	583.0	5,347.99	5,350.36	5,350.57	5,351.00	0.021394	10.26	136.96	232.73	1.30	2.35	3.79	4.26	2.37
62.00	583.0	5,346.99	5,349.46	5,349.69	5,350.14	0.020645	10.31	135.41	223.19	1.29	2.42	3.67	4.31	2.47
61.5*	583.0	5,345.76	5,348.37	5,348.62	5,349.14	0.019899	10.42	132.62	214.10	1.28	2.48	3.49	4.40	2.61
61.*	583.0	5,344.54	5,347.28	5,347.58	5,348.15	0.019586	10.60	128.24	205.63	1.27	2.54	3.33	4.55	2.74
60.5*	583.0	5,343.31	5,346.17	5,346.53	5,347.17	0.019554	10.80	122.94	198.78	1.28	2.59	3.15	4.74	2.86
60.00	583.0	5,342.08	5,345.07	5,345.46	5,346.19	0.019211	10.94	118.02	192.98	1.28	2.61	2.95	4.94	2.99
59.575*	583.0	5,341.03	5,344.14	5,344.52	5,345.36	0.018583	10.96	113.48	188.18	1.26	2.60	2.72	5.14	3.11
59.15	583.0	5,339.97	5,343.20	5,343.63	5,344.53	0.018091	11.00	107.88	182.96	1.25	2.58	2.47	5.40	3.23
58.7666*	583.0	5,339.60	5,343.09	5,343.32	5,343.88	0.010334	8.83	138.62	197.14	0.96	2.14	2.25	4.21	3.49
58.3833*	583.0	5,339.24	5,342.90	5,343.08	5,343.53	0.007821	7.93	154.07	202.18	0.84	1.96	2.09	3.78	3.66
58.00	583.0	5,338.87	5,342.62	5,342.81	5,343.26	0.007410	7.83	153.14	200.25	0.82	1.93	1.98	3.81	3.75
57.5*	583.0	5,338.37	5,342.24	5,342.44	5,342.90	0.007074	7.77	148.96	195.75	0.81	1.89	1.84	3.91	3.87
57.*	583.0	5,337.87	5,341.85	5,342.05	5,342.55	0.006879	7.76	142.54	191.01	0.80	1.86	1.67	4.09	3.98
56.5*	583.0	5,337.36	5,341.43	5,341.66	5,342.20	0.007044	7.90	131.96	185.03	0.81	1.86	1.48	4.42	4.07
56.00	583.0	5,336.86	5,340.97	5,341.29	5,341.85	0.007476	8.11	115.93	159.52	0.83	1.81	1.37	5.03	4.11
55.5*	583.0	5,336.36	5,340.50	5,340.87	5,341.46	0.007828	8.27	102.86	136.53	0.85	1.72	1.24	5.67	4.14
55.*	583.0	5,335.85	5,340.01	5,340.39	5,341.05	0.008249	8.40	90.15	113.91	0.87	1.59	0.99	6.47	4.16
54.5*	583.0	5,335.35	5,339.52	5,339.89	5,340.61	0.008545	8.47	80.46	94.07	0.89	1.40	0.62	7.25	4.17
54.00	583.0	5,334.85	5,338.92	5,339.32	5,340.12	0.009892	8.83	69.00	47.22	0.95	0.91		8.45	4.07
53.5*	583.0	5,334.37	5,338.39	5,338.35	5,339.62	0.010323	8.90	65.54	29.73	0.96	0.19		8.90	4.02
53.*	583.0	5,333.90	5,337.88	5,337.82	5,339.10	0.010281	8.86	65.79	24.93	0.96			8.86	3.98
52.5*	583.0	5,333.42	5,337.42	5,337.30	5,338.59	0.009703	8.66	67.35	25.35	0.94			8.66	4.00
52.00	583.0	5,332.94	5,336.82	5,336.76	5,338.07	0.010734	8.97	65.01	25.06	0.98			8.97	3.88
51.5*	583.0	5,332.44	5,336.29	5,336.23	5,337.53	0.010664	8.93	65.25	25.20	0.98			8.93	3.85
51.*	583.0	5,331.94	5,335.73	5,335.69	5,336.99	0.010841	8.97	64.97	25.26	0.99			8.97	3.79
50.5*	583.0	5,331.43	5,335.22	5,335.19	5,336.44	0.010572	8.87	65.71	25.54	0.97			8.87	3.79
50.00	583.0	5,330.93	5,334.72	5,334.63	5,335.91	0.010284	8.77	66.50	25.79	0.96			8.77	3.79
49.75*	583.0	5,330.69	5,334.47	5,334.38	5,335.65	0.010118	8.71	66.92	25.88	0.95			8.71	3.78
49.5*	583.0	5,330.45	5,334.25	5,334.14	5,335.40	0.009838	8.61	67.73	26.15	0.94			8.61	3.80
49.25*	583.0	5,330.21	5,333.97	5,333.90	5,335.14	0.010066	8.67	67.21	26.09	0.95			8.67	3.76
49.*	583.0	5,329.98	5,333.75	5,333.65	5,334.89	0.009691	8.55	68.20	26.32	0.94			8.55	3.77
48.75*	583.0	5,329.74	5,333.46	5,333.35	5,334.63	0.010110	8.68	67.20	26.20	0.95			8.68	3.72
48.5*	583.0	5,329.50	5,333.25	5,333.14	5,334.38	0.009676	8.53	68.31	26.41	0.94			8.53	3.75
48.25*	583.0	5,329.26	5,332.96	5,332.88	5,334.13	0.010096	8.65	67.39	26.39	0.95			8.65	3.70
48.00	583.0	5,329.02	5,332.74	5,332.63	5,333.87	0.009735	8.53	68.32	26.57	0.94			8.53	3.72
47.75*	583.0	5,328.77	5,332.55	5,332.37	5,333.61	0.008923	8.26	70.55	26.96	0.90			8.26	3.78
47.5*	583.0	5,328.52	5,332.41	5,332.10	5,333.37	0.007842	7.88	74.00	27.57	0.85			7.88	3.89
47.25*	583.0	5,328.27	5,332.30	5,331.83	5,333.16	0.006709	7.43	78.42	28.34	0.79			7.43	4.03
47.*	583.0	5,328.02	5,332.22	5,331.56	5,332.97	0.005568	6.95	83.94	29.18	0.72			6.95	4.20
46.75*	583.0	5,327.76	5,332.17	5,331.31	5,332.82	0.004585	6.47	90.17	30.16	0.66			6.47	4.41
46.5*	583.0	5,327.51	5,332.13	5,331.04	5,332.68	0.003725	5.99	97.29	31.17	0.60			5.99	4.62
46.25*	583.0	5,327.26	5,332.09	5,330.78	5,332.58	0.003066	5.57	104.66	32.32	0.55			5.57	4.83
46.00	748.0	5,327.01	5,331.05	5,331.02	5,332.38	0.010218	9.24	80.97	29.01	0.97			9.24	4.04
45.75*	748.0	5,326.76	5,330.84	5,330.74	5,332.11	0.009650	9.04	82.71	29.30	0.95			9.04	4.08
45.5*	748.0	5,326.51	5,330.50	5,330.50	5,331.85	0.010514	9.32	80.26	29.01	0.99			9.32	3.99
45.25*	748.0	5,326.26	5,330.15	5,330.22	5,331.57	0.011385	9.58	78.06	28.77	1.03			9.58	3.89
45.*	748.0	5,326.00	5,330.00	5,329.95	5,331.30	0.010017	9.14	81.83	29.39	0.97			9.14	4.00
44.75*	748.0	5,325.75	5,329.72	5,329.66	5,331.04	0.010239	9.21	81.22	29.34	0.98			9.21	3.97
44.5*	748.0	5,325.50	5,329.45	5,329.43	5,330.77	0.010315	9.22	81.12	29.40	0.98			9.22	3.95
44.25*	748.0	5,325.25	5,329.22	5,329.16	5,330.51	0.010026	9.12	82.01	29.61	0.97			9.12	3.97
44.00	748.0	5,325.00	5,329.01	5,328.89	5,330.24	0.009447	8.92	83.84	29.91	0.94			8.92	4.01
43.75*	748.0	5,324.76	5,328.80	5,328.65	5,330.01	0.009196	8.84	84.66	30.03	0.93			8.84	4.04
43.5*	748.0	5,324.52	5,328.58	5,328.40	5,329.78	0.009016	8.77	85.27	30.12	0.92			8.77	4.06
43.25*	748.0	5,324.29	5,328.30	5,328.18	5,329.53	0.009470	8.93	83.76	29.90	0.94			8.93	4.01
43.*	748.0	5,324.05	5,328.06	5,327.94	5,329.29	0.009443	8.92	83.85	29.91	0.94			8.92	4.01
42.75*	748.0	5,323.81	5,327.85	5,327.71	5,329.06	0.009151	8.82	84.81	30.05	0.93			8.82	4.04
42.5*	748.0	5,323.58	5,327.59	5,327.46	5,328.82	0.009376	8.90	84.06	29.94	0.94			8.90	4.01

Profile Output Table - Hosteen Branch 1 Pre-mine 25 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
42.25*	748.0	5,323.34	5,327.36	5,327.23	5,328.59	0.009299	8.87	84.32	29.98	0.93			8.87	4.02
42.00	748.0	5,323.10	5,327.07	5,327.00	5,328.34	0.009777	9.03	82.81	29.76	0.95			9.03	3.97
41.75*	748.0	5,322.85	5,326.82	5,326.75	5,328.09	0.009772	9.03	82.82	29.76	0.95			9.03	3.97
41.5*	748.0	5,322.60	5,326.57	5,326.50	5,327.84	0.009786	9.04	82.78	29.76	0.95			9.04	3.97
41.25*	748.0	5,322.35	5,326.33	5,326.25	5,327.59	0.009748	9.02	82.89	29.77	0.95			9.02	3.98
41.*	748.0	5,322.10	5,326.07	5,326.00	5,327.34	0.009800	9.04	82.73	29.75	0.96			9.04	3.97
40.75*	748.0	5,321.85	5,325.82	5,325.75	5,327.09	0.009767	9.03	82.84	29.77	0.95			9.03	3.97
40.5*	748.0	5,321.60	5,325.58	5,325.50	5,326.84	0.009753	9.03	82.88	29.77	0.95			9.03	3.98
40.25*	748.0	5,321.35	5,325.32	5,325.25	5,326.59	0.009805	9.04	82.72	29.75	0.96			9.04	3.97
40.00	748.0	5,321.10	5,325.09	5,325.00	5,326.34	0.009654	8.99	83.18	29.82	0.95			8.99	3.99
39.756*	748.0	5,320.86	5,324.85	5,324.75	5,326.10	0.009613	8.98	83.31	29.84	0.95			8.98	3.99
39.512*	748.0	5,320.62	5,324.61	5,324.52	5,325.86	0.009659	8.99	83.17	29.81	0.95			8.99	3.99
39.268*	748.0	5,320.38	5,324.40	5,324.27	5,325.63	0.009375	8.90	84.07	29.95	0.94			8.90	4.02
39.024*	748.0	5,320.14	5,324.19	5,324.04	5,325.39	0.009029	8.78	85.22	30.11	0.92			8.78	4.05
38.78	748.0	5,319.90	5,323.79	5,323.79	5,325.14	0.010582	9.29	80.48	29.42	0.99			9.29	3.90
38.585*	748.0	5,319.58	5,323.16	5,323.46	5,324.86	0.014635	10.45	71.61	28.08	1.15			10.45	3.58
38.39*	748.0	5,319.25	5,322.79	5,323.14	5,324.55	0.015357	10.63	70.39	27.90	1.18			10.63	3.54
38.195*	748.0	5,318.93	5,322.45	5,322.81	5,324.24	0.015739	10.72	69.77	27.80	1.19			10.72	3.52
38.00	748.0	5,318.60	5,322.09	5,322.50	5,323.92	0.016220	10.84	69.02	27.68	1.21			10.84	3.49
37.5*	748.0	5,317.75	5,321.21	5,321.64	5,323.08	0.016858	10.99	68.07	27.53	1.23			10.99	3.46
37.*	748.0	5,316.90	5,320.37	5,320.79	5,322.23	0.016719	10.96	68.27	27.57	1.23			10.96	3.47
36.5*	748.0	5,316.05	5,319.51	5,319.94	5,321.38	0.016830	10.98	68.11	27.54	1.23			10.98	3.46
36.00	748.0	5,315.20	5,318.67	5,319.09	5,320.53	0.016658	10.94	68.36	27.58	1.22			10.94	3.47
35.5*	748.0	5,314.38	5,317.85	5,318.25	5,319.70	0.016608	10.93	68.43	27.59	1.22			10.93	3.47
35.*	748.0	5,313.55	5,317.02	5,317.44	5,318.88	0.016573	10.92	68.49	27.60	1.22			10.92	3.47
34.5*	748.0	5,312.73	5,316.21	5,316.61	5,318.05	0.016442	10.89	68.68	27.62	1.22			10.89	3.48
34.00	748.0	5,311.90	5,315.37	5,315.79	5,317.23	0.016664	10.94	68.36	27.58	1.22			10.94	3.47
33.5*	748.0	5,311.07	5,314.54	5,314.96	5,316.40	0.016719	10.96	68.27	27.57	1.23			10.96	3.47
33.*	748.0	5,310.25	5,313.72	5,314.14	5,315.58	0.016619	10.93	68.42	27.59	1.22			10.93	3.47
32.5*	748.0	5,309.42	5,312.88	5,313.31	5,314.76	0.016825	10.98	68.12	27.54	1.23			10.98	3.46
32.00	748.0	5,308.60	5,312.07	5,312.50	5,313.93	0.016588	10.92	68.47	27.60	1.22			10.92	3.47
31.5*	748.0	5,307.75	5,311.21	5,311.64	5,313.08	0.016775	10.97	68.19	27.55	1.23			10.97	3.46
31.*	748.0	5,306.90	5,310.36	5,310.79	5,312.23	0.016877	10.99	68.05	27.53	1.23			10.99	3.46
30.5*	748.0	5,306.05	5,309.51	5,309.94	5,311.38	0.016756	10.96	68.22	27.56	1.23			10.96	3.46
30.00	748.0	5,305.20	5,308.66	5,309.09	5,310.53	0.016871	10.99	68.05	27.53	1.23			10.99	3.46
29.5*	748.0	5,304.38	5,307.85	5,308.25	5,309.70	0.016472	10.90	68.64	27.62	1.22			10.90	3.47
29.*	748.0	5,303.55	5,307.02	5,307.44	5,308.88	0.016719	10.96	68.27	27.57	1.23			10.96	3.47
28.5*	748.0	5,302.73	5,306.19	5,306.61	5,308.05	0.016715	10.96	68.28	27.56	1.23			10.96	3.46
28.00	748.0	5,301.90	5,305.37	5,305.79	5,307.23	0.016637	10.94	68.40	27.58	1.22			10.94	3.47
27.61*	748.0	5,301.23	5,304.69	5,305.13	5,306.56	0.016821	10.98	68.13	27.54	1.23			10.98	3.46
27.22*	748.0	5,300.57	5,304.04	5,304.46	5,305.90	0.016747	10.96	68.23	27.56	1.23			10.96	3.47
26.83	748.0	5,299.90	5,303.36	5,303.79	5,305.23	0.016877	10.99	68.05	27.53	1.23			10.99	3.46
26.415*	748.0	5,299.25	5,302.84	5,303.14	5,304.53	0.014649	10.45	71.59	28.08	1.15			10.45	3.59
26.00	748.0	5,298.60	5,302.14	5,302.50	5,303.90	0.015388	10.63	70.34	27.89	1.18			10.63	3.54
25.5*	748.0	5,297.75	5,301.23	5,301.61	5,303.08	0.016561	10.93	68.43	27.51	1.22			10.93	3.48
25.*	748.0	5,296.90	5,300.39	5,300.81	5,302.24	0.016450	10.92	68.53	27.45	1.22			10.92	3.49
24.5*	748.0	5,296.05	5,299.51	5,299.96	5,301.41	0.016986	11.05	67.67	27.24	1.24			11.05	3.46
24.00	748.0	5,295.20	5,298.67	5,299.12	5,300.57	0.016938	11.05	67.67	27.17	1.23			11.05	3.47
23.5*	748.0	5,294.40	5,297.97	5,298.31	5,299.72	0.015240	10.64	70.28	27.57	1.17			10.64	3.57
23.*	748.0	5,293.60	5,297.13	5,297.52	5,298.94	0.015888	10.80	69.24	27.41	1.20			10.80	3.53
22.5*	748.0	5,292.80	5,296.33	5,296.71	5,298.14	0.015797	10.78	69.38	27.43	1.19			10.78	3.53
22.00	748.0	5,292.00	5,295.54	5,295.91	5,297.33	0.015628	10.74	69.65	27.47	1.19			10.74	3.54
21.5*	748.0	5,291.20	5,294.73	5,295.12	5,296.54	0.015783	10.78	69.41	27.44	1.19			10.78	3.53
21.*	748.0	5,290.40	5,293.93	5,294.31	5,295.74	0.015891	10.80	69.24	27.41	1.20			10.80	3.53
20.5*	748.0	5,289.60	5,293.13	5,293.52	5,294.94	0.015786	10.78	69.40	27.44	1.19			10.78	3.53
20.00	748.0	5,288.80	5,292.30	5,292.71	5,294.15	0.016292	10.90	68.62	27.32	1.21			10.90	3.50
19.5*	748.0	5,288.00	5,291.51	5,291.91	5,293.35	0.016212	10.88	68.74	27.33	1.21			10.88	3.51
19.*	748.0	5,287.20	5,290.71	5,291.12	5,292.55	0.016137	10.86	68.86	27.35	1.21			10.86	3.51
18.5*	748.0	5,286.40	5,289.91	5,290.31	5,291.75	0.016274	10.90	68.65	27.32	1.21			10.90	3.51
18.00	748.0	5,285.60	5,289.11	5,289.52	5,290.95	0.016165	10.87	68.81	27.35	1.21			10.87	3.51
17.5*	748.0	5,284.80	5,288.30	5,288.71	5,290.15	0.016327	10.91	68.57	27.31	1.21			10.91	3.50

Profile Output Table - Hosteen Branch 1 Pre-mine 25 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
17.*	748.0	5,284.00	5,287.51	5,287.91	5,289.35	0.016204	10.88	68.76	27.34	1.21			10.88	3.51
16.5*	748.0	5,283.20	5,286.70	5,287.12	5,288.55	0.016375	10.92	68.50	27.30	1.21			10.92	3.50
16.00	748.0	5,282.40	5,285.93	5,286.31	5,287.74	0.015900	10.81	69.22	27.41	1.20			10.81	3.53
15.6075*	748.0	5,281.77	5,285.29	5,285.69	5,287.12	0.016148	10.87	68.84	27.35	1.21			10.87	3.52
15.215*	748.0	5,281.15	5,284.67	5,285.06	5,286.50	0.016108	10.86	68.90	27.36	1.21			10.86	3.52
14.8225*	748.0	5,280.52	5,284.05	5,284.44	5,285.87	0.016034	10.84	69.01	27.37	1.20			10.84	3.53
14.43	748.0	5,279.90	5,283.43	5,283.81	5,285.24	0.015917	10.81	69.20	27.40	1.20			10.81	3.53
14.00	748.0	5,278.70	5,281.87	5,282.62	5,284.31	0.024187	12.55	59.59	25.89	1.46			12.55	3.17
13.5*	748.0	5,277.35	5,280.47	5,281.26	5,283.04	0.026025	12.87	58.13	25.78	1.51			12.87	3.12
13.*	748.0	5,276.00	5,279.11	5,279.90	5,281.71	0.026468	12.94	57.79	25.75	1.52			12.94	3.11
12.5*	748.0	5,274.65	5,277.72	5,278.54	5,280.37	0.027147	13.06	57.26	25.65	1.54			13.06	3.07
12.00	748.0	5,273.30	5,276.33	5,277.18	5,279.00	0.027429	13.13	56.98	25.48	1.55			13.13	3.03
11.5*	748.0	5,271.92	5,274.94	5,275.80	5,277.64	0.027700	13.18	56.77	25.44	1.55			13.18	3.02
11.*	748.0	5,270.55	5,273.57	5,274.43	5,276.27	0.027785	13.19	56.72	25.44	1.56			13.19	3.02
10.5*	748.0	5,269.17	5,272.19	5,273.05	5,274.89	0.027802	13.19	56.70	25.43	1.56			13.19	3.02
10.00	748.0	5,267.80	5,270.82	5,271.68	5,273.51	0.027581	13.15	56.87	25.46	1.55			13.15	3.02
9.5*	748.0	5,266.42	5,269.48	5,270.33	5,272.15	0.027441	13.11	57.06	25.64	1.55			13.11	3.06
9.*	748.0	5,265.05	5,268.14	5,268.98	5,270.79	0.027263	13.07	57.24	25.73	1.54			13.07	3.09
8.5*	748.0	5,263.67	5,266.75	5,267.60	5,269.41	0.027312	13.07	57.23	25.73	1.54			13.07	3.08
8.00	748.0	5,262.30	5,265.35	5,266.18	5,268.03	0.027611	13.13	56.96	25.59	1.55			13.13	3.05
7.57*	748.0	5,261.10	5,264.14	5,264.98	5,266.85	0.028210	13.23	56.53	25.52	1.57			13.23	3.04
7.14	748.0	5,259.90	5,262.94	5,263.81	5,265.65	0.028216	13.23	56.53	25.52	1.57			13.23	3.04
6.76*	748.0	5,258.80	5,261.83	5,262.68	5,264.56	0.028356	13.26	56.43	25.50	1.57			13.26	3.03
6.38*	748.0	5,257.70	5,260.73	5,261.58	5,263.46	0.028468	13.27	56.35	25.49	1.57			13.27	3.03
6.00	937.0	5,256.60	5,260.95	5,261.01	5,262.50	0.010814	9.99	93.76	31.13	1.01			9.99	4.35
5.5*	937.0	5,255.13	5,258.64	5,259.54	5,261.48	0.025058	13.53	69.27	27.57	1.50			13.53	3.51
5.*	937.0	5,253.65	5,257.08	5,258.04	5,260.12	0.027560	14.00	66.94	27.20	1.57			14.00	3.43
4.5*	937.0	5,252.18	5,255.57	5,256.58	5,258.71	0.028718	14.21	65.95	27.04	1.60			14.21	3.39
4.00	937.0	5,250.70	5,254.08	5,255.11	5,257.24	0.029033	14.26	65.70	27.01	1.61			14.26	3.38
3.5*	937.0	5,249.23	5,252.61	5,253.63	5,255.76	0.029007	14.26	65.73	27.01	1.61			14.26	3.38
3.*	937.0	5,247.75	5,251.13	5,252.14	5,254.30	0.029109	14.27	65.64	27.00	1.61			14.27	3.38
2.5*	937.0	5,246.27	5,249.65	5,250.67	5,252.83	0.029349	14.32	65.45	26.97	1.62			14.32	3.38
2.00	937.0	5,244.80	5,248.16	5,249.19	5,251.38	0.029739	14.38	65.14	26.92	1.63			14.38	3.36
1.58*	937.0	5,243.57	5,247.10	5,247.96	5,249.91	0.024716	13.46	69.60	27.62	1.49			13.46	3.53
1.16*	937.0	5,242.35	5,245.88	5,246.76	5,248.69	0.024698	13.46	69.62	27.62	1.49			13.46	3.53
.74*	937.0	5,241.13	5,244.66	5,245.52	5,247.47	0.024676	13.45	69.64	27.62	1.49			13.45	3.53
0.32	937.0	5,239.90	5,243.43	5,244.29	5,246.25	0.024783	13.48	69.54	27.61	1.50			13.48	3.53
0.00	937.0	5,239.30	5,243.05	5,243.69	5,245.42	0.019478	12.36	75.82	28.56	1.34			12.36	3.75
						Max	14.38					**Avg**	6.92	
						Min	4.30							
						Avg	9.14							

Profile Output Table - Hosteen Branch 1 Pre-mine 100 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
104.00	423.0	5,412.10	5,413.88	5,413.94	5,414.18	0.017820	7.96	124.51	236.71	1.13	1.89	3.44	3.40	1.78
103.603*	423.0	5,411.40	5,413.13	5,413.24	5,413.52	0.022981	8.85	113.31	235.41	1.28	1.91	3.74	3.73	1.73
103.206*	423.0	5,410.70	5,412.44	5,412.54	5,412.81	0.021507	8.61	116.17	235.74	1.24	1.91	3.66	3.64	1.74
102.81	423.0	5,410.00	5,411.74	5,411.84	5,412.11	0.021722	8.65	115.73	235.69	1.25	1.91	3.67	3.66	1.74
102.405*	423.0	5,409.35	5,411.13	5,411.19	5,411.43	0.017775	7.95	124.62	236.72	1.13	1.89	3.44	3.39	1.78
102.00	423.0	5,408.70	5,410.46	5,410.54	5,410.79	0.019719	8.30	119.97	236.17	1.19	1.90	3.55	3.53	1.76
101.5*	423.0	5,407.93	5,409.69	5,409.75	5,410.01	0.018658	8.10	122.48	236.28	1.16	1.90	3.49	3.45	1.76
101.*	423.0	5,407.15	5,408.91	5,408.99	5,409.25	0.020174	8.38	118.95	236.06	1.20	1.91	3.58	3.56	1.76
100.5*	423.0	5,406.38	5,408.15	5,408.23	5,408.47	0.018681	8.12	122.44	236.61	1.16	1.90	3.49	3.45	1.77
100.00	423.0	5,405.60	5,407.45	5,407.44	5,407.67	0.012698	6.92	140.64	238.55	0.96	1.84	3.08	3.01	1.85
99.75*	423.0	5,405.21	5,407.07	5,407.05	5,407.28	0.011739	6.70	144.59	239.00	0.93	1.82	3.00	2.93	1.86
99.5*	423.0	5,404.83	5,406.68	5,406.67	5,406.90	0.012533	6.88	141.39	238.78	0.96	1.84	3.06	2.99	1.85
99.25*	423.0	5,404.44	5,406.30	5,406.28	5,406.51	0.012095	6.78	143.07	238.82	0.94	1.83	3.03	2.96	1.86
99.*	423.0	5,404.05	5,405.90	5,405.89	5,406.12	0.012702	6.92	140.62	238.54	0.96	1.84	3.08	3.01	1.85
98.75*	423.0	5,403.66	5,405.52	5,405.50	5,405.73	0.011639	6.67	145.03	239.05	0.93	1.82	2.99	2.92	1.86
98.5*	423.0	5,403.27	5,405.13	5,405.12	5,405.35	0.012611	6.91	140.84	238.61	0.96	1.83	3.07	3.00	1.86
98.25*	423.0	5,402.89	5,404.76	5,404.73	5,404.96	0.011630	6.67	145.07	239.06	0.93	1.82	2.99	2.92	1.87
98.00	423.0	5,402.50	5,404.34	5,404.34	5,404.57	0.013218	7.03	138.64	238.32	0.98	1.84	3.12	3.05	1.84
97.595*	423.0	5,401.88	5,403.61	5,403.72	5,403.99	0.022667	8.81	113.86	235.46	1.27	1.91	3.72	3.72	1.73
97.19*	423.0	5,401.25	5,403.04	5,403.09	5,403.33	0.016945	7.80	126.81	236.96	1.11	1.89	3.38	3.34	1.79
96.785*	423.0	5,400.63	5,402.40	5,402.47	5,402.72	0.019048	8.19	121.46	236.34	1.17	1.90	3.52	3.48	1.77
96.38	423.0	5,400.00	5,401.77	5,401.84	5,402.09	0.018905	8.16	121.84	236.39	1.17	1.90	3.51	3.47	1.77
96.00	423.0	5,399.40	5,401.28	5,401.24	5,401.48	0.010941	6.51	148.21	239.41	0.90	1.80	2.93	2.85	1.88
95.75*	423.0	5,399.04	5,400.91	5,400.88	5,401.11	0.011579	6.66	145.29	239.08	0.92	1.82	2.99	2.91	1.87
95.5*	423.0	5,398.67	5,400.54	5,400.52	5,400.75	0.011309	6.60	146.40	239.05	0.91	1.81	2.96	2.89	1.87
95.25*	423.0	5,398.31	5,400.19	5,400.15	5,400.39	0.011113	6.55	147.40	239.32	0.91	1.81	2.95	2.87	1.88
95.*	423.0	5,397.95	5,399.82	5,399.79	5,400.02	0.011376	6.61	146.20	239.18	0.92	1.81	2.97	2.89	1.87
94.75*	423.0	5,397.59	5,399.47	5,399.43	5,399.67	0.010699	6.45	149.37	239.54	0.89	1.80	2.91	2.83	1.88
94.5*	423.0	5,397.23	5,399.09	5,399.07	5,399.30	0.011902	6.74	143.89	238.93	0.94	1.82	3.01	2.94	1.86
94.25*	423.0	5,396.86	5,398.76	5,398.70	5,398.94	0.009965	6.26	153.12	239.97	0.86	1.78	2.84	2.76	1.90
94.00	423.0	5,396.50	5,398.34	5,398.34	5,398.57	0.013218	7.03	138.64	238.32	0.98	1.84	3.12	3.05	1.84
93.5*	423.0	5,395.75	5,397.55	5,397.59	5,397.83	0.015843	7.58	129.93	237.32	1.07	1.88	3.31	3.26	1.80
93.*	423.0	5,395.00	5,396.82	5,396.84	5,397.07	0.014579	7.32	133.88	237.77	1.03	1.86	3.22	3.16	1.82
92.5*	423.0	5,394.25	5,396.04	5,396.09	5,396.33	0.016444	7.70	128.20	237.12	1.09	1.88	3.35	3.30	1.79
92.00	423.0	5,393.50	5,395.34	5,395.34	5,395.57	0.013407	7.07	137.94	238.24	0.99	1.85	3.13	3.07	1.84
91.5*	423.0	5,392.77	5,394.51	5,394.62	5,394.90	0.023401	8.94	112.38	235.34	1.29	1.90	3.76	3.76	1.74
91.*	423.0	5,392.05	5,393.80	5,393.89	5,394.15	0.020551	8.45	118.14	235.97	1.21	1.91	3.60	3.58	1.75
90.5*	423.0	5,391.33	5,393.08	5,393.17	5,393.42	0.020147	8.38	119.12	236.23	1.20	1.91	3.58	3.55	1.75
90.00	423.0	5,390.60	5,392.34	5,392.44	5,392.71	0.022487	8.77	114.25	235.52	1.27	1.91	3.71	3.70	1.74
89.81*	423.0	5,390.30	5,392.11	5,392.14	5,392.37	0.015271	7.47	131.67	237.52	1.05	1.87	3.27	3.21	1.81
89.62	423.0	5,390.00	5,391.82	5,391.84	5,392.07	0.014544	7.32	133.99	237.79	1.03	1.86	3.22	3.16	1.82
89.215*	423.0	5,389.25	5,391.00	5,391.09	5,391.35	0.021041	8.53	117.11	235.85	1.23	1.91	3.63	3.61	1.75
88.81*	423.0	5,388.50	5,390.29	5,390.34	5,390.58	0.016734	7.76	127.38	237.03	1.10	1.89	3.37	3.32	1.79
88.405*	423.0	5,387.75	5,389.52	5,389.59	5,389.84	0.018954	8.17	121.72	236.38	1.17	1.90	3.51	3.48	1.77
88.00	423.0	5,387.00	5,388.77	5,388.84	5,389.09	0.018759	8.13	122.18	236.43	1.16	1.90	3.50	3.46	1.77
87.5*	423.0	5,386.08	5,387.85	5,387.91	5,388.17	0.018660	8.12	122.43	236.47	1.16	1.90	3.49	3.46	1.77
87.*	423.0	5,385.15	5,386.92	5,386.99	5,387.24	0.018954	8.17	121.72	236.38	1.17	1.90	3.51	3.48	1.77
86.5*	423.0	5,384.23	5,386.00	5,386.07	5,386.32	0.019003	8.18	121.61	236.37	1.17	1.90	3.51	3.48	1.77
86.00	423.0	5,383.30	5,385.07	5,385.14	5,385.39	0.018956	8.17	121.72	236.38	1.17	1.90	3.51	3.48	1.77
85.7737*	423.0	5,382.89	5,384.71	5,384.73	5,384.96	0.014436	7.29	134.35	237.84	1.03	1.86	3.21	3.15	1.82
85.5475*	423.0	5,382.47	5,384.26	5,384.30	5,384.55	0.016664	7.74	127.62	237.07	1.10	1.89	3.36	3.31	1.79
85.3212*	423.0	5,382.06	5,383.87	5,383.90	5,384.13	0.015044	7.42	132.38	237.61	1.05	1.87	3.25	3.20	1.81
85.095*	423.0	5,381.65	5,383.46	5,383.49	5,383.72	0.015458	7.50	131.09	237.45	1.06	1.87	3.28	3.23	1.81
84.8687*	423.0	5,381.24	5,383.05	5,383.08	5,383.31	0.015093	7.43	132.23	237.58	1.05	1.87	3.26	3.20	1.81
84.6425*	423.0	5,380.82	5,382.63	5,382.67	5,382.90	0.015577	7.52	130.77	237.42	1.06	1.88	3.29	3.23	1.81
84.4162*	423.0	5,380.41	5,382.22	5,382.25	5,382.48	0.015354	7.48	131.42	237.49	1.06	1.87	3.28	3.22	1.81
84.19	423.0	5,380.00	5,381.81	5,381.84	5,382.07	0.014901	7.39	132.83	237.65	1.04	1.87	3.24	3.18	1.81
84.00	423.0	5,379.70	5,381.54	5,381.54	5,381.77	0.013226	7.03	138.62	238.31	0.98	1.84	3.12	3.05	1.84
83.75*	423.0	5,379.34	5,381.15	5,381.18	5,381.41	0.015422	7.50	131.20	237.47	1.06	1.87	3.28	3.22	1.81
83.5*	423.0	5,378.98	5,380.80	5,380.82	5,381.04	0.013838	7.15	136.54	238.05	1.01	1.86	3.16	3.10	1.82
83.25*	423.0	5,378.61	5,380.44	5,380.45	5,380.68	0.013894	7.18	136.20	238.04	1.01	1.85	3.17	3.11	1.83

Profile Output Table - Hosteen Branch 1 Pre-mine 100 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
83.*	423.0	5,378.25	5,380.07	5,380.09	5,380.32	0.014300	7.27	134.81	237.88	1.02	1.86	3.20	3.14	1.82
82.75*	423.0	5,377.89	5,379.71	5,379.73	5,379.96	0.014127	7.23	135.40	237.96	1.02	1.86	3.19	3.12	1.82
82.5*	423.0	5,377.52	5,379.34	5,379.36	5,379.60	0.014758	7.37	133.19	237.74	1.04	1.86	3.23	3.18	1.82
82.25*	423.0	5,377.16	5,378.99	5,379.00	5,379.23	0.013803	7.16	136.53	238.08	1.00	1.85	3.16	3.10	1.83
82.00	423.0	5,376.80	5,378.62	5,378.64	5,378.87	0.014302	7.27	134.80	237.88	1.02	1.86	3.20	3.14	1.82
81.75*	423.0	5,376.42	5,378.26	5,378.25	5,378.49	0.013333	7.06	138.15	238.12	0.99	1.84	3.13	3.06	1.84
81.5*	423.0	5,376.05	5,377.89	5,377.89	5,378.12	0.013220	7.03	138.64	238.32	1.00	1.84	3.12	3.05	1.84
81.25*	423.0	5,375.67	5,377.51	5,377.50	5,377.74	0.013333	7.06	138.15	238.12	0.99	1.84	3.13	3.06	1.84
81.*	423.0	5,375.30	5,377.14	5,377.14	5,377.37	0.013220	7.03	138.64	238.32	1.00	1.84	3.12	3.05	1.84
80.75*	423.0	5,374.92	5,376.76	5,376.75	5,376.99	0.013333	7.06	138.15	238.12	0.99	1.84	3.13	3.06	1.84
80.5*	423.0	5,374.55	5,376.39	5,376.39	5,376.62	0.013220	7.03	138.64	238.32	1.00	1.84	3.12	3.05	1.84
80.25*	423.0	5,374.17	5,376.01	5,376.00	5,376.24	0.013333	7.06	138.15	238.12	0.99	1.84	3.13	3.06	1.84
80.00	423.0	5,373.80	5,375.64	5,375.64	5,375.87	0.013220	7.03	138.64	238.32	0.98	1.84	3.12	3.05	1.84
79.5*	423.0	5,373.07	5,374.88	5,374.92	5,375.15	0.015615	7.53	130.65	237.41	1.06	1.88	3.29	3.24	1.81
79.*	423.0	5,372.35	5,374.18	5,374.19	5,374.42	0.013925	7.19	136.10	238.04	1.01	1.86	3.17	3.11	1.83
78.5*	423.0	5,371.63	5,373.45	5,373.47	5,373.70	0.014472	7.31	134.19	237.80	1.03	1.86	3.21	3.15	1.82
78.00	423.0	5,370.90	5,372.72	5,372.74	5,372.97	0.014129	7.23	135.39	237.95	1.02	1.86	3.19	3.12	1.82
77.695*	423.0	5,370.45	5,372.27	5,372.29	5,372.52	0.014553	7.32	133.97	237.78	1.03	1.86	3.22	3.16	1.82
77.39	423.0	5,370.00	5,371.82	5,371.84	5,372.07	0.014197	7.24	135.15	237.92	1.02	1.86	3.19	3.13	1.82
76.9266*	423.0	5,369.13	5,370.87	5,370.97	5,371.24	0.021897	8.68	115.38	235.65	1.25	1.91	3.68	3.67	1.74
76.4633*	423.0	5,368.27	5,370.07	5,370.11	5,370.35	0.016362	7.68	128.43	237.15	1.09	1.88	3.34	3.29	1.80
76.00	423.0	5,367.40	5,369.16	5,369.24	5,369.49	0.019200	8.21	121.14	236.31	1.18	1.90	3.52	3.49	1.76
75.75*	423.0	5,366.94	5,368.71	5,368.78	5,369.03	0.019052	8.19	121.49	236.35	1.17	1.90	3.51	3.48	1.77
75.5*	423.0	5,366.48	5,368.25	5,368.32	5,368.57	0.018905	8.16	121.84	236.39	1.17	1.90	3.51	3.47	1.77
75.25*	423.0	5,366.01	5,367.77	5,367.85	5,368.10	0.019153	8.20	121.26	236.33	1.17	1.90	3.52	3.49	1.77
75.*	423.0	5,365.55	5,367.32	5,367.39	5,367.64	0.018956	8.17	121.72	236.38	1.17	1.90	3.51	3.48	1.77
74.75*	423.0	5,365.09	5,366.86	5,366.93	5,367.18	0.018810	8.14	122.06	236.42	1.16	1.90	3.50	3.47	1.77
74.5*	423.0	5,364.63	5,366.39	5,366.47	5,366.72	0.019700	8.31	119.96	236.17	1.19	1.90	3.55	3.53	1.76
74.25*	423.0	5,364.16	5,366.28	5,366.00	5,366.37	0.004114	4.38	206.96	246.00	0.56	1.51	2.12	2.04	2.12
74.00	854.0	5,363.70	5,365.83	5,365.83	5,366.18	0.016170	8.71	209.49	246.28	1.12	3.03	4.23	4.08	2.13
73.75*	854.0	5,363.24	5,365.34	5,365.37	5,365.72	0.018016	9.09	202.04	245.45	1.18	3.10	4.39	4.23	2.10
73.5*	854.0	5,362.78	5,364.89	5,364.91	5,365.26	0.017663	9.02	203.38	245.60	1.17	3.08	4.36	4.20	2.11
73.25*	854.0	5,362.31	5,364.42	5,364.44	5,364.79	0.017352	8.96	204.60	245.75	1.16	3.07	4.33	4.17	2.11
73.*	854.0	5,361.85	5,363.96	5,363.98	5,364.33	0.017141	8.91	205.44	245.84	1.15	3.06	4.31	4.16	2.11
72.75*	854.0	5,361.39	5,363.51	5,363.52	5,363.87	0.016613	8.80	207.60	246.08	1.13	3.04	4.27	4.11	2.12
72.5*	854.0	5,360.93	5,363.01	5,363.04	5,363.40	0.019097	9.29	198.13	244.84	1.21	3.14	4.47	4.31	2.08
72.25*	854.0	5,360.46	5,362.58	5,362.59	5,362.94	0.017084	8.90	205.67	245.86	1.15	3.06	4.31	4.15	2.12
72.00	854.0	5,360.00	5,362.23	5,362.13	5,362.50	0.011585	7.63	234.06	248.98	0.96	2.81	3.79	3.65	2.23
71.75*	854.0	5,359.71	5,361.94	5,361.84	5,362.21	0.011459	7.59	234.91	249.07	0.95	2.80	3.78	3.64	2.23
71.5*	854.0	5,359.43	5,361.66	5,361.54	5,361.92	0.011229	7.52	236.47	249.07	0.94	2.79	3.75	3.61	2.23
71.25*	854.0	5,359.14	5,361.37	5,361.27	5,361.64	0.011565	7.62	234.19	249.00	0.95	2.81	3.79	3.65	2.23
71.*	854.0	5,358.85	5,361.08	5,360.98	5,361.35	0.011547	7.62	234.32	249.01	0.95	2.81	3.79	3.64	2.23
70.75*	854.0	5,358.56	5,360.80	5,360.69	5,361.06	0.011106	7.50	237.36	249.35	0.94	2.78	3.74	3.60	2.24
70.5*	854.0	5,358.28	5,360.51	5,360.41	5,360.78	0.011568	7.62	234.17	248.99	0.95	2.81	3.79	3.65	2.23
70.25*	854.0	5,357.99	5,360.22	5,360.12	5,360.49	0.011553	7.62	234.27	249.00	0.95	2.81	3.79	3.65	2.23
70.00	854.0	5,357.70	5,359.93	5,359.83	5,360.20	0.011571	7.62	234.15	248.99	0.95	2.81	3.79	3.65	2.23
69.5*	854.0	5,357.13	5,359.35	5,359.26	5,359.63	0.011957	7.73	231.59	248.70	0.97	2.83	3.83	3.69	2.22
69.*	854.0	5,356.55	5,358.78	5,358.68	5,359.05	0.011532	7.61	234.42	249.02	0.95	2.81	3.78	3.64	2.23
68.5*	854.0	5,355.98	5,358.20	5,358.11	5,358.48	0.012013	7.74	231.26	248.67	0.97	2.83	3.84	3.69	2.22
68.00	854.0	5,355.40	5,357.64	5,357.53	5,357.90	0.011317	7.56	235.88	249.18	0.94	2.79	3.76	3.62	2.24
67.5*	854.0	5,354.83	5,357.06	5,356.96	5,357.33	0.011636	7.64	233.81	249.07	0.96	2.82	3.79	3.65	2.23
67.*	854.0	5,354.25	5,356.49	5,356.38	5,356.75	0.011247	7.54	236.37	249.23	0.94	2.79	3.75	3.61	2.24
66.5*	854.0	5,353.68	5,355.91	5,355.81	5,356.18	0.011755	7.67	232.94	248.86	0.96	2.82	3.81	3.67	2.23
66.00	854.0	5,353.10	5,355.35	5,355.23	5,355.61	0.010802	7.42	239.55	249.59	0.92	2.76	3.70	3.57	2.25
65.75*	854.0	5,352.83	5,355.07	5,354.96	5,355.33	0.011104	7.50	237.46	249.47	0.94	2.78	3.73	3.60	2.24
65.5*	854.0	5,352.55	5,354.80	5,354.68	5,355.06	0.010804	7.42	239.53	249.58	0.92	2.76	3.70	3.57	2.25
65.25*	854.0	5,352.27	5,354.52	5,354.42	5,354.78	0.011079	7.50	237.46	249.36	0.94	2.77	3.74	3.60	2.25
65.*	854.0	5,352.00	5,354.25	5,354.13	5,354.51	0.010787	7.42	239.65	249.59	0.92	2.76	3.70	3.56	2.25
64.75*	854.0	5,351.73	5,353.97	5,353.86	5,354.23	0.011104	7.50	237.48	249.52	0.94	2.78	3.73	3.60	2.24
64.5*	854.0	5,351.45	5,353.70	5,353.58	5,353.96	0.010758	7.41	239.87	249.61	0.92	2.76	3.70	3.56	2.25
64.25*	854.0	5,351.17	5,353.47	5,353.31	5,353.70	0.009365	7.02	251.01	250.66	0.86	2.67	3.53	3.40	2.30

Profile Output Table - Hosteen Branch 1 Pre-mine 100 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
64.00	854.0	5,350.90	5,353.29	5,353.03	5,353.48	0.007086	6.29	275.27	253.44	0.76	2.49	3.22	3.10	2.39
63.61*	854.0	5,350.45	5,353.02	5,352.77	5,353.21	0.006696	6.32	278.95	253.66	0.75	2.45	3.13	3.06	2.57
63.22	854.0	5,349.99	5,352.50	5,352.50	5,352.85	0.012663	8.47	222.94	247.02	1.02	2.82	3.81	3.83	2.51
62.8133*	854.0	5,348.99	5,351.42	5,351.62	5,352.09	0.024352	11.32	175.95	241.32	1.40	3.17	4.64	4.85	2.43
62.4066*	854.0	5,347.99	5,350.55	5,350.75	5,351.19	0.020847	10.81	183.83	241.70	1.31	3.05	4.36	4.65	2.56
62.00	854.0	5,346.99	5,349.65	5,349.87	5,350.35	0.020979	11.05	181.08	241.00	1.32	3.01	4.31	4.72	2.66
61.5*	854.0	5,345.76	5,348.58	5,348.82	5,349.34	0.019830	11.09	181.09	240.27	1.29	2.92	4.14	4.72	2.82
61.*	854.0	5,344.54	5,347.49	5,347.76	5,348.37	0.020071	11.44	175.85	238.94	1.31	2.84	4.06	4.86	2.95
60.5*	854.0	5,343.31	5,346.40	5,346.72	5,347.38	0.019589	11.55	171.71	230.59	1.30	2.86	3.90	4.97	3.09
60.00	854.0	5,342.08	5,345.30	5,345.66	5,346.39	0.019490	11.74	165.49	218.97	1.31	2.97	3.73	5.16	3.22
59.575*	854.0	5,341.03	5,344.39	5,344.78	5,345.53	0.018055	11.57	164.76	214.96	1.27	2.91	3.51	5.18	3.36
59.15	854.0	5,339.97	5,343.45	5,343.89	5,344.73	0.018096	11.77	157.77	207.85	1.27	2.93	3.34	5.41	3.48
58.7666*	854.0	5,339.60	5,343.41	5,343.63	5,344.11	0.009475	9.12	206.15	228.53	0.94	2.37	2.85	4.14	3.81
58.3833*	854.0	5,339.24	5,343.29	5,343.36	5,343.79	0.006320	7.80	241.74	243.32	0.77	2.05	2.55	3.53	4.05
58.00	854.0	5,338.87	5,342.94	5,343.11	5,343.55	0.007292	8.34	221.29	229.46	0.83	2.19	2.56	3.86	4.07
57.5*	854.0	5,338.37	5,342.57	5,342.68	5,343.20	0.006925	8.27	218.36	222.88	0.81	2.19	2.44	3.91	4.20
57.*	854.0	5,337.87	5,342.19	5,342.31	5,342.86	0.006742	8.28	212.97	218.18	0.80	2.16	2.31	4.01	4.32
56.5*	854.0	5,337.36	5,341.79	5,341.99	5,342.52	0.006803	8.38	204.09	212.09	0.81	2.18	2.19	4.18	4.43
56.00	854.0	5,336.86	5,341.39	5,341.60	5,342.18	0.006811	8.46	195.02	206.33	0.81	2.16	2.06	4.38	4.53
55.5*	854.0	5,336.36	5,340.96	5,341.23	5,341.84	0.007101	8.67	181.69	198.92	0.83	2.16	1.91	4.70	4.60
55.*	854.0	5,335.85	5,340.54	5,340.85	5,341.49	0.007082	8.71	171.85	193.13	0.83	2.13	1.73	4.97	4.69
54.5*	854.0	5,335.35	5,340.09	5,340.45	5,341.13	0.007426	8.91	155.46	172.80	0.85	2.10	1.62	5.49	4.74
54.00	854.0	5,334.85	5,339.63	5,340.03	5,340.75	0.007699	9.04	141.57	152.70	0.87	2.03	1.51	6.03	4.78
53.5*	854.0	5,334.37	5,339.19	5,339.65	5,340.37	0.007799	9.08	130.92	136.02	0.87	1.94	1.35	6.52	4.82
53.*	854.0	5,333.90	5,338.74	5,339.15	5,339.97	0.007999	9.14	120.06	119.92	0.88	1.81	1.14	7.11	4.84
52.5*	854.0	5,333.42	5,338.24	5,338.68	5,339.55	0.008511	9.29	107.06	100.41	0.91	1.62	0.72	7.98	4.82
52.00	854.0	5,332.94	5,337.70	5,338.08	5,339.10	0.009365	9.54	95.66	55.35	0.95	1.30		8.93	4.76
51.5*	854.0	5,332.44	5,337.08	5,337.23	5,338.59	0.010448	9.85	87.85	47.66	0.99	0.54		9.72	4.64
51.*	854.0	5,331.94	5,336.47	5,336.55	5,338.05	0.011316	10.10	84.59	28.35	1.03			10.10	4.53
50.5*	854.0	5,331.43	5,335.94	5,335.99	5,337.50	0.011153	10.02	85.20	28.59	1.02			10.02	4.51
50.00	854.0	5,330.93	5,335.40	5,335.49	5,336.96	0.011245	10.04	85.08	28.69	1.03			10.04	4.47
49.75*	854.0	5,330.69	5,335.12	5,335.23	5,336.70	0.011417	10.09	84.61	28.63	1.03			10.09	4.43
49.5*	854.0	5,330.45	5,334.84	5,334.94	5,336.45	0.011750	10.18	83.88	28.66	1.05			10.18	4.39
49.25*	854.0	5,330.21	5,334.55	5,334.72	5,336.20	0.012108	10.29	83.00	28.56	1.06			10.29	4.34
49.*	854.0	5,329.98	5,334.25	5,334.46	5,335.94	0.012581	10.43	81.91	28.46	1.08			10.43	4.27
48.75*	854.0	5,329.74	5,333.95	5,334.20	5,335.70	0.013261	10.62	80.39	28.26	1.11			10.62	4.21
48.5*	854.0	5,329.50	5,333.64	5,333.95	5,335.46	0.013984	10.83	78.88	28.06	1.14			10.83	4.14
48.25*	854.0	5,329.26	5,333.39	5,333.62	5,335.20	0.014013	10.82	78.96	28.21	1.14			10.82	4.13
48.00	854.0	5,329.02	5,333.14	5,333.45	5,334.94	0.013801	10.75	79.42	28.30	1.13			10.75	4.12
47.75*	854.0	5,328.77	5,333.48	5,333.18	5,334.67	0.007862	8.75	97.56	30.94	0.87			8.75	4.71
47.5*	854.0	5,328.52	5,333.38	5,332.91	5,334.45	0.006818	8.30	102.87	31.73	0.81			8.30	4.86
47.25*	854.0	5,328.27	5,333.31	5,332.63	5,334.26	0.005822	7.83	109.13	32.67	0.75			7.83	5.04
47.*	854.0	5,328.02	5,333.25	5,332.37	5,334.09	0.004907	7.35	116.19	33.58	0.70			7.35	5.23
46.75*	854.0	5,327.76	5,333.21	5,332.03	5,333.95	0.004123	6.89	123.96	34.63	0.64			6.89	5.45
46.5*	854.0	5,327.51	5,333.18	5,331.84	5,333.82	0.003441	6.45	132.47	35.67	0.59			6.45	5.67
46.25*	854.0	5,327.26	5,333.15	5,331.56	5,333.72	0.002898	6.04	141.37	36.91	0.54			6.04	5.89
46.00	1,089.0	5,327.01	5,331.88	5,331.87	5,333.50	0.010213	10.23	106.45	32.57	1.00			10.23	4.87
45.75*	1,089.0	5,326.76	5,331.69	5,331.59	5,333.24	0.009571	9.99	109.04	32.93	0.97			9.99	4.93
45.5*	1,089.0	5,326.51	5,331.35	5,331.35	5,332.97	0.010227	10.22	106.54	32.69	1.00			10.22	4.84
45.25*	1,089.0	5,326.26	5,330.96	5,331.07	5,332.70	0.011258	10.58	102.96	32.30	1.04			10.58	4.70
45.*	1,089.0	5,326.00	5,330.70	5,330.80	5,332.42	0.011176	10.54	103.29	32.39	1.04			10.54	4.70
44.75*	1,089.0	5,325.75	5,330.42	5,330.55	5,332.16	0.011376	10.61	102.67	32.34	1.05			10.61	4.67
44.5*	1,089.0	5,325.50	5,330.13	5,330.30	5,331.90	0.011581	10.66	102.14	32.35	1.06			10.66	4.63
44.25*	1,089.0	5,325.25	5,329.84	5,330.04	5,331.64	0.011870	10.75	101.29	32.32	1.07			10.75	4.59
44.00	1,089.0	5,325.00	5,329.55	5,329.72	5,331.37	0.012124	10.83	100.54	32.24	1.08			10.83	4.55
43.75*	1,089.0	5,324.76	5,329.24	5,329.48	5,331.14	0.012822	11.05	98.52	31.97	1.11			11.05	4.48
43.5*	1,089.0	5,324.52	5,328.96	5,329.28	5,330.92	0.013418	11.24	96.92	31.75	1.13			11.24	4.44
43.25*	1,089.0	5,324.29	5,328.68	5,329.01	5,330.70	0.013979	11.41	95.48	31.55	1.16			11.41	4.39
43.*	1,089.0	5,324.05	5,328.43	5,328.77	5,330.46	0.014066	11.43	95.27	31.52	1.16			11.43	4.38
42.75*	1,089.0	5,323.81	5,328.25	5,328.58	5,330.20	0.013383	11.23	97.00	31.76	1.13			11.23	4.44
42.5*	1,089.0	5,323.58	5,327.97	5,328.30	5,329.98	0.013925	11.39	95.61	31.57	1.15			11.39	4.39

Profile Output Table - Hosteen Branch 1 Pre-mine 100 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
42.25*	1,089.0	5,323.34	5,327.72	5,328.06	5,329.75	0.014091	11.44	95.20	31.52	1.16			11.44	4.38
42.00	1,089.0	5,323.10	5,327.52	5,327.87	5,329.50	0.013532	11.27	96.61	31.71	1.14			11.27	4.42
41.75*	1,089.0	5,322.85	5,327.29	5,327.62	5,329.24	0.013295	11.20	97.23	31.79	1.13			11.20	4.44
41.5*	1,089.0	5,322.60	5,327.05	5,327.37	5,328.99	0.013231	11.18	97.40	31.82	1.13			11.18	4.45
41.25*	1,089.0	5,322.35	5,326.72	5,327.12	5,328.76	0.014235	11.48	94.86	31.47	1.17			11.48	4.37
41.*	1,089.0	5,322.10	5,326.52	5,326.87	5,328.50	0.013598	11.29	96.44	31.68	1.14			11.29	4.42
40.75*	1,089.0	5,321.85	5,326.29	5,326.62	5,328.24	0.013307	11.20	97.20	31.79	1.13			11.20	4.44
40.5*	1,089.0	5,321.60	5,326.05	5,326.37	5,327.99	0.013237	11.18	97.39	31.81	1.13			11.18	4.45
40.25*	1,089.0	5,321.35	5,325.80	5,326.12	5,327.74	0.013220	11.18	97.44	31.82	1.13			11.18	4.45
40.00	1,089.0	5,321.10	5,325.47	5,325.87	5,327.51	0.014222	11.48	94.89	31.47	1.16			11.48	4.37
39.756*	1,089.0	5,320.86	5,325.25	5,325.58	5,327.27	0.014004	11.41	95.42	31.54	1.16			11.41	4.39
39.512*	1,089.0	5,320.62	5,325.05	5,325.39	5,327.01	0.013419	11.24	96.91	31.75	1.13			11.24	4.43
39.268*	1,089.0	5,320.38	5,324.78	5,325.10	5,326.78	0.013837	11.36	95.84	31.60	1.15			11.36	4.40
39.024*	1,089.0	5,320.14	5,324.57	5,324.91	5,326.53	0.013389	11.23	96.99	31.76	1.13			11.23	4.43
38.78	1,089.0	5,319.90	5,324.30	5,324.62	5,326.30	0.013818	11.36	95.88	31.61	1.15			11.36	4.40
38.585*	1,089.0	5,319.58	5,323.91	5,324.30	5,326.00	0.014679	11.61	93.80	31.32	1.18			11.61	4.33
38.39*	1,089.0	5,319.25	5,323.53	5,323.97	5,325.70	0.015377	11.81	92.24	31.10	1.21			11.81	4.28
38.195*	1,089.0	5,318.93	5,323.19	5,323.69	5,325.39	0.015727	11.90	91.49	31.00	1.22			11.90	4.26
38.00	1,089.0	5,318.60	5,322.83	5,323.37	5,325.07	0.016123	12.01	90.67	30.89	1.24			12.01	4.23
37.5*	1,089.0	5,317.75	5,321.94	5,322.47	5,324.24	0.016724	12.17	89.48	30.72	1.26			12.17	4.19
37.*	1,089.0	5,316.90	5,321.09	5,321.62	5,323.40	0.016818	12.20	89.30	30.69	1.26			12.20	4.19
36.5*	1,089.0	5,316.05	5,320.25	5,320.77	5,322.54	0.016670	12.16	89.58	30.73	1.25			12.16	4.20
36.00	1,089.0	5,315.20	5,319.39	5,319.96	5,321.70	0.016774	12.18	89.38	30.70	1.26			12.18	4.19
35.5*	1,089.0	5,314.38	5,318.56	5,319.09	5,320.87	0.016826	12.20	89.27	30.69	1.26			12.20	4.18
35.*	1,089.0	5,313.55	5,317.74	5,318.27	5,320.04	0.016748	12.18	89.43	30.71	1.26			12.18	4.19
34.5*	1,089.0	5,312.73	5,316.91	5,317.48	5,319.22	0.016777	12.19	89.37	30.70	1.26			12.19	4.18
34.00	1,089.0	5,311.90	5,316.09	5,316.62	5,318.39	0.016724	12.17	89.48	30.72	1.26			12.17	4.19
33.5*	1,089.0	5,311.07	5,315.26	5,315.83	5,317.57	0.016825	12.20	89.28	30.69	1.26			12.20	4.19
33.*	1,089.0	5,310.25	5,314.47	5,314.97	5,316.73	0.016373	12.08	90.17	30.81	1.24			12.08	4.22
32.5*	1,089.0	5,309.42	5,313.64	5,314.19	5,315.90	0.016346	12.07	90.22	30.83	1.24			12.07	4.22
32.00	1,089.0	5,308.60	5,312.83	5,313.37	5,315.08	0.016183	12.03	90.55	30.87	1.24			12.03	4.23
31.5*	1,089.0	5,307.75	5,311.94	5,312.47	5,314.25	0.016740	12.17	89.45	30.71	1.26			12.17	4.19
31.*	1,089.0	5,306.90	5,311.09	5,311.62	5,313.40	0.016818	12.20	89.30	30.69	1.26			12.20	4.19
30.5*	1,089.0	5,306.05	5,310.25	5,310.77	5,312.54	0.016670	12.16	89.58	30.73	1.25			12.16	4.20
30.00	1,089.0	5,305.20	5,309.39	5,309.96	5,311.70	0.016774	12.18	89.38	30.70	1.26			12.18	4.19
29.5*	1,089.0	5,304.38	5,308.56	5,309.09	5,310.87	0.016826	12.20	89.27	30.69	1.26			12.20	4.18
29.*	1,089.0	5,303.55	5,307.74	5,308.27	5,310.04	0.016748	12.18	89.43	30.71	1.26			12.18	4.19
28.5*	1,089.0	5,302.73	5,306.91	5,307.48	5,309.22	0.016777	12.19	89.37	30.70	1.26			12.19	4.18
28.00	1,089.0	5,301.90	5,306.09	5,306.62	5,308.39	0.016724	12.17	89.48	30.72	1.26			12.17	4.19
27.61*	1,089.0	5,301.23	5,305.42	5,305.95	5,307.73	0.016825	12.20	89.28	30.69	1.26			12.20	4.19
27.22*	1,089.0	5,300.57	5,304.76	5,305.29	5,307.07	0.016763	12.18	89.40	30.71	1.26			12.18	4.19
26.83	1,089.0	5,299.90	5,304.09	5,304.62	5,306.40	0.016857	12.21	89.22	30.68	1.26			12.21	4.19
26.415*	1,089.0	5,299.25	5,303.56	5,303.97	5,305.69	0.014999	11.70	93.08	31.22	1.19			11.70	4.31
26.00	1,089.0	5,298.60	5,302.90	5,303.37	5,305.04	0.015174	11.75	92.68	31.17	1.20			11.75	4.30
25.5*	1,089.0	5,297.75	5,301.98	5,302.53	5,304.24	0.016288	12.07	90.23	30.73	1.24			12.07	4.23
25.*	1,089.0	5,296.90	5,301.10	5,301.65	5,303.42	0.016813	12.22	89.11	30.48	1.26			12.22	4.20
24.5*	1,089.0	5,296.05	5,300.24	5,300.83	5,302.59	0.017012	12.29	88.63	30.33	1.27			12.29	4.19
24.00	1,089.0	5,295.20	5,299.40	5,299.97	5,301.74	0.016924	12.28	88.70	30.25	1.26			12.28	4.20
23.5*	1,089.0	5,294.40	5,298.70	5,299.18	5,300.89	0.015440	11.88	91.70	30.67	1.21			11.88	4.30
23.*	1,089.0	5,293.60	5,297.89	5,298.37	5,300.10	0.015584	11.92	91.39	30.62	1.22			11.92	4.29
22.5*	1,089.0	5,292.80	5,297.08	5,297.58	5,299.30	0.015736	11.96	91.07	30.58	1.22			11.96	4.28
22.00	1,089.0	5,292.00	5,296.27	5,296.79	5,298.50	0.015814	11.98	90.90	30.56	1.22			11.98	4.27
21.5*	1,089.0	5,291.20	5,295.48	5,295.97	5,297.70	0.015667	11.94	91.21	30.60	1.22			11.94	4.28
21.*	1,089.0	5,290.40	5,294.68	5,295.18	5,296.90	0.015793	11.97	90.95	30.56	1.22			11.97	4.28
20.5*	1,089.0	5,289.60	5,293.87	5,294.37	5,296.10	0.015855	11.99	90.82	30.55	1.23			11.99	4.27
20.00	1,089.0	5,288.80	5,293.08	5,293.58	5,295.30	0.015757	11.96	91.02	30.57	1.22			11.96	4.28
19.5*	1,089.0	5,288.00	5,292.27	5,292.79	5,294.50	0.015843	11.99	90.85	30.55	1.23			11.99	4.27
19.*	1,089.0	5,287.20	5,291.48	5,291.97	5,293.70	0.015717	11.95	91.11	30.59	1.22			11.95	4.28
18.5*	1,089.0	5,286.40	5,290.67	5,291.18	5,292.90	0.015836	11.99	90.86	30.55	1.22			11.99	4.27
18.00	1,089.0	5,285.60	5,289.88	5,290.37	5,292.10	0.015712	11.95	91.12	30.59	1.22			11.95	4.28
17.5*	1,089.0	5,284.80	5,289.07	5,289.58	5,291.30	0.015836	11.99	90.86	30.55	1.22			11.99	4.27

Profile Output Table - Hosteen Branch 1 Pre-mine 100 yr-6 hr

HEC-RAS Plan: Pre-mine Reach: Branch 1 September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
17.*	1,089.0	5,284.00	5,288.28	5,288.79	5,290.50	0.015721	11.95	91.10	30.58	1.22			11.95	4.28
16.5*	1,089.0	5,283.20	5,287.47	5,287.97	5,289.70	0.015824	11.98	90.88	30.55	1.22			11.98	4.27
16.00	1,089.0	5,282.40	5,286.68	5,287.18	5,288.90	0.015708	11.95	91.13	30.59	1.22			11.95	4.28
15.6075*	1,089.0	5,281.77	5,286.05	5,286.56	5,288.28	0.015805	11.98	90.92	30.56	1.22			11.98	4.28
15.215*	1,089.0	5,281.15	5,285.44	5,285.93	5,287.65	0.015580	11.92	91.40	30.62	1.22			11.92	4.29
14.8225*	1,089.0	5,280.52	5,284.82	5,285.31	5,287.02	0.015592	11.92	91.37	30.62	1.22			11.92	4.30
14.43	1,089.0	5,279.90	5,284.19	5,284.68	5,286.40	0.015622	11.93	91.31	30.61	1.22			11.93	4.29
14.00	1,089.0	5,278.70	5,282.60	5,283.47	5,285.50	0.022793	13.67	79.67	28.97	1.45			13.67	3.90
13.5*	1,089.0	5,277.35	5,281.17	5,282.12	5,284.27	0.025052	14.13	77.07	28.71	1.52			14.13	3.82
13.*	1,089.0	5,276.00	5,279.78	5,280.79	5,282.98	0.026169	14.35	75.89	28.58	1.55			14.35	3.78
12.5*	1,089.0	5,274.65	5,278.38	5,279.42	5,281.64	0.026896	14.49	75.14	28.45	1.57			14.49	3.73
12.00	1,089.0	5,273.30	5,276.99	5,278.05	5,280.28	0.027229	14.57	74.76	28.31	1.58			14.57	3.69
11.5*	1,089.0	5,271.92	5,275.61	5,276.68	5,278.90	0.027163	14.56	74.82	28.31	1.58			14.56	3.69
11.*	1,089.0	5,270.55	5,274.24	5,275.30	5,277.53	0.027173	14.56	74.81	28.31	1.58			14.56	3.69
10.5*	1,089.0	5,269.17	5,272.87	5,273.93	5,276.15	0.027038	14.53	74.94	28.33	1.57			14.53	3.70
10.00	1,089.0	5,267.80	5,271.49	5,272.55	5,274.77	0.027061	14.53	74.92	28.33	1.58			14.53	3.69
9.5*	1,089.0	5,266.42	5,270.14	5,271.19	5,273.43	0.027257	14.56	74.81	28.44	1.58			14.56	3.72
9.*	1,089.0	5,265.05	5,268.78	5,269.83	5,272.08	0.027380	14.57	74.75	28.49	1.58			14.57	3.73
8.5*	1,089.0	5,263.67	5,267.40	5,268.45	5,270.70	0.027430	14.57	74.72	28.48	1.59			14.57	3.73
8.00	1,089.0	5,262.30	5,266.02	5,267.05	5,269.30	0.027259	14.55	74.86	28.42	1.58			14.55	3.72
7.57*	1,089.0	5,261.10	5,264.81	5,265.87	5,268.11	0.027353	14.57	74.76	28.41	1.58			14.57	3.71
7.14	1,089.0	5,259.90	5,263.61	5,264.65	5,266.91	0.027443	14.58	74.68	28.39	1.58			14.58	3.71
6.76*	1,089.0	5,258.80	5,262.49	5,263.55	5,265.85	0.028134	14.71	74.01	28.29	1.60			14.71	3.69
6.38*	1,089.0	5,257.70	5,261.38	5,262.48	5,264.75	0.028212	14.73	73.94	28.28	1.61			14.73	3.68
6.00	1,366.0	5,256.60	5,261.77	5,261.98	5,263.76	0.011460	11.31	120.77	34.64	1.07			11.31	5.17
5.5*	1,366.0	5,255.13	5,259.47	5,260.50	5,262.78	0.023111	14.60	93.58	31.11	1.48			14.60	4.34
5.*	1,366.0	5,253.65	5,257.84	5,259.03	5,261.51	0.026588	15.36	88.94	30.46	1.58			15.36	4.19
4.5*	1,366.0	5,252.18	5,256.31	5,257.53	5,260.12	0.028038	15.66	87.25	30.22	1.62			15.66	4.13
4.00	1,366.0	5,250.70	5,254.81	5,256.04	5,258.69	0.028828	15.81	86.38	30.10	1.65			15.81	4.11
3.5*	1,366.0	5,249.23	5,253.32	5,254.59	5,257.24	0.029216	15.89	85.97	30.05	1.66			15.89	4.09
3.*	1,366.0	5,247.75	5,251.83	5,253.13	5,255.79	0.029624	15.97	85.53	29.98	1.67			15.97	4.08
2.5*	1,366.0	5,246.27	5,250.36	5,251.65	5,254.32	0.029647	15.97	85.51	29.97	1.67			15.97	4.09
2.00	1,366.0	5,244.80	5,248.89	5,250.18	5,252.82	0.029289	15.90	85.89	30.03	1.66			15.90	4.09
1.58*	1,366.0	5,243.57	5,247.82	5,248.95	5,251.35	0.025265	15.08	90.60	30.69	1.55			15.08	4.25
1.16*	1,366.0	5,242.35	5,246.62	5,247.73	5,250.10	0.024737	14.96	91.30	30.79	1.53			14.96	4.27
.74*	1,366.0	5,241.13	5,245.40	5,246.51	5,248.88	0.024741	14.96	91.29	30.79	1.53			14.96	4.27
0.32	1,366.0	5,239.90	5,244.16	5,245.28	5,247.66	0.024899	15.00	91.08	30.76	1.54			15.00	4.26
0.00	1,366.0	5,239.30	5,243.78	5,244.68	5,246.81	0.020422	13.96	97.87	31.69	1.40			13.96	4.48
						Max	15.97					**Avg**	7.62	
						Min	4.38							
						Avg	9.88							

SOUTH BARBER CHANNEL PRE-MINE HEC-RAS RESULTS

September-04

Profile Output Table - South Barber Channel Pre-mine 2 yr-6 hr

HEC-RAS Plan: prepl1 Reach: SBC Premine September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
15.42	51.0	5,367.38	5,368.78	5,368.69	5,369.22	0.014765	5.36	9.52	8.68	0.90			5.36	1.40
15.055*	51.0	5,366.67	5,368.19	5,368.17	5,368.65	0.016328	5.48	9.30	9.22	0.96			5.48	1.52
14.69*	51.0	5,365.95	5,367.59	5,367.59	5,368.05	0.016719	5.44	9.38	9.72	0.97			5.44	1.64
14.325*	51.0	5,365.23	5,366.96	5,366.96	5,367.43	0.017425	5.50	9.27	9.70	1.00			5.50	1.73
13.96	51.0	5,364.52	5,366.64	5,366.31	5,366.90	0.007716	4.05	12.58	11.20	0.67			4.05	2.12
13.6525*	51.0	5,364.41	5,366.39	5,366.13	5,366.65	0.008603	4.08	12.49	12.19	0.71			4.08	1.98
13.345*	51.0	5,364.29	5,366.12	5,365.91	5,366.37	0.009177	4.03	12.65	13.46	0.73			4.03	1.83
13.0375*	51.0	5,364.18	5,365.87	5,365.65	5,366.09	0.008510	3.75	13.61	15.50	0.70			3.75	1.69
12.73	51.0	5,364.07	5,365.72	5,365.32	5,365.86	0.004699	2.97	17.16	17.81	0.53			2.97	1.65
12.354*	51.0	5,363.77	5,365.54	5,365.11	5,365.68	0.004800	3.04	16.76	17.00	0.54			3.04	1.77
11.978*	51.0	5,363.47	5,365.35	5,364.95	5,365.50	0.004866	3.10	16.43	16.28	0.54			3.10	1.88
11.602*	51.0	5,363.18	5,365.15	5,364.74	5,365.31	0.005098	3.21	15.91	15.47	0.56			3.21	1.97
11.226*	51.0	5,362.88	5,364.93	5,364.53	5,365.11	0.005678	3.39	15.04	14.48	0.59			3.39	2.05
10.85	51.0	5,362.58	5,364.34	5,364.34	5,364.76	0.016887	5.20	9.81	11.13	0.98			5.20	1.76
10.5333*	51.0	5,361.34	5,362.60	5,362.90	5,363.51	0.055160	7.65	6.67	10.49	1.69			7.65	1.26
10.2166*	51.0	5,360.10	5,361.20	5,361.43	5,361.89	0.046342	6.65	7.66	13.18	1.54			6.65	1.10
9.90	51.0	5,358.86	5,359.68	5,359.88	5,360.30	0.052566	6.32	8.07	16.62	1.60			6.32	0.82
9.52666*	51.0	5,357.29	5,358.35	5,358.45	5,358.85	0.027462	5.63	9.05	13.38	1.21			5.63	1.06
9.15333*	51.0	5,355.71	5,357.53	5,357.19	5,357.78	0.007280	3.97	12.85	11.17	0.65			3.97	1.82
8.78	51.0	5,354.14	5,356.58	5,356.58	5,357.31	0.023138	6.86	7.43	4.93	0.98			6.86	2.44
8.43*	51.0	5,353.42	5,355.91	5,355.83	5,356.51	0.018731	6.19	8.24	6.00	0.93			6.19	2.49
8.08*	51.0	5,352.71	5,355.17	5,355.17	5,355.81	0.021381	6.38	7.99	6.21	0.99			6.38	2.46
7.73	51.0	5,351.99	5,354.58	5,354.31	5,355.13	0.015982	5.92	8.61	5.67	0.85			5.92	2.59
7.39333*	51.0	5,351.31	5,353.95	5,353.83	5,354.56	0.017555	6.24	8.18	5.39	0.89			6.24	2.64
7.05666*	51.0	5,350.62	5,353.49	5,353.21	5,353.99	0.014293	5.69	8.96	5.58	0.79			5.69	2.87
6.72	51.0	5,349.94	5,353.11	5,352.45	5,353.52	0.011851	5.14	9.93	5.74	0.69			5.14	3.17
6.38*	51.0	5,349.81	5,352.74	5,352.23	5,353.13	0.010864	5.04	10.13	6.11	0.69			5.04	2.93
6.04*	51.0	5,349.69	5,352.39	5,351.92	5,352.78	0.010029	5.01	10.17	6.02	0.68			5.01	2.70
5.70	51.0	5,349.56	5,351.82	5,351.55	5,352.36	0.014607	5.87	8.69	5.10	0.79			5.87	2.26
5.33*	51.0	5,349.20	5,351.31	5,351.12	5,351.82	0.013859	5.73	8.90	5.95	0.83			5.73	2.11
4.96*	51.0	5,348.85	5,350.85	5,350.67	5,351.32	0.012907	5.47	9.33	6.91	0.83			5.47	2.00
4.59	51.0	5,348.49	5,350.54	5,350.23	5,350.87	0.009184	4.68	10.91	8.30	0.72			4.68	2.04
4.23666*	51.0	5,348.15	5,350.23	5,349.90	5,350.56	0.008623	4.56	11.18	8.61	0.71			4.56	2.08
3.88333*	51.0	5,347.80	5,349.88	5,349.61	5,350.23	0.009666	4.73	10.77	8.50	0.74			4.73	2.08
3.53	51.0	5,347.46	5,349.41	5,349.22	5,349.84	0.012053	5.28	9.65	7.36	0.81			5.28	1.95
3.17*	51.0	5,346.97	5,348.99	5,348.83	5,349.38	0.012702	5.01	10.18	9.27	0.84			5.01	2.02
2.81*	51.0	5,346.47	5,348.59	5,348.47	5,348.91	0.012289	4.49	11.35	12.08	0.82			4.49	2.12
2.45	51.0	5,345.98	5,348.10	5,348.03	5,348.42	0.015021	4.51	11.32	13.61	0.87			4.51	2.12
2.01333*	51.0	5,345.46	5,347.46	5,347.37	5,347.79	0.013474	4.66	10.94	11.81	0.85			4.66	2.00
1.57666*	51.0	5,344.94	5,347.01	5,346.74	5,347.30	0.008597	4.27	11.95	10.56	0.71			4.27	2.07
1.14	51.0	5,344.42	5,346.26	5,346.26	5,346.77	0.017214	5.77	8.83	8.23	0.98			5.77	1.84
.76*	51.0	5,343.59	5,345.33	5,345.43	5,345.99	0.022922	6.52	7.82	7.39	1.12			6.52	1.74
.38*	51.0	5,342.75	5,344.54	5,344.59	5,345.17	0.020989	6.36	8.02	7.19	1.06			6.36	1.79
0.00	51.0	5,341.92	5,343.67	5,343.75	5,344.33	0.022631	6.54	7.80	6.90	1.08			6.54	1.75
						Max	7.65					**Avg**	5.13	
						Min	2.97							
						Avg	5.13							

Profile Output Table - South Barber Channel Pre-mine 10 yr-6 hr

HEC-RAS Plan: prepl1 Reach: SBC Premine September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
15.42	166.0	5,367.38	5,369.83	5,369.98	5,370.93	0.019609	8.41	19.73	32.70	1.09			8.41	2.45
15.055*	166.0	5,366.67	5,369.33	5,369.37	5,370.24	0.016069	7.65	21.69	41.41	1.02			7.65	2.66
14.69*	166.0	5,365.95	5,368.57	5,368.75	5,369.58	0.020109	8.09	20.52	40.16	1.14			8.09	2.62
14.325*	166.0	5,365.23	5,368.10	5,368.12	5,368.91	0.015482	7.22	23.00	52.96	1.01			7.22	2.87
13.96	166.0	5,364.52	5,367.71	5,367.48	5,368.29	0.010203	6.08	27.28	62.46	0.82			6.08	3.19
13.6525*	166.0	5,364.41	5,367.39	5,367.21	5,367.97	0.010823	6.08	27.30	17.23	0.85			6.08	2.98
13.345*	166.0	5,364.29	5,367.12	5,366.89	5,367.63	0.009819	5.73	28.95	18.90	0.82			5.73	2.83
13.0375*	166.0	5,364.18	5,366.95	5,366.57	5,367.33	0.007145	4.94	33.57	21.90	0.70			4.94	2.77
12.73	166.0	5,364.07	5,366.87	5,366.18	5,367.12	0.004107	3.98	41.74	25.08	0.54			3.98	2.80
12.354*	166.0	5,363.77	5,366.70	5,366.04	5,366.96	0.004280	4.08	40.67	24.17	0.55			4.08	2.93
11.978*	166.0	5,363.47	5,366.52	5,365.87	5,366.79	0.004441	4.18	39.76	23.40	0.56			4.18	3.05
11.602*	166.0	5,363.18	5,366.32	5,365.67	5,366.62	0.004797	4.34	38.28	22.44	0.59			4.34	3.14
11.226*	166.0	5,362.88	5,366.09	5,365.55	5,366.42	0.005539	4.61	36.04	21.40	0.63			4.61	3.21
10.85	166.0	5,362.58	5,365.39	5,365.39	5,366.08	0.014734	6.64	25.01	17.78	0.99			6.64	2.81
10.5333*	166.0	5,361.34	5,363.32	5,363.86	5,364.95	0.054071	10.25	16.19	16.15	1.80			10.25	1.98
10.2166*	166.0	5,360.10	5,361.80	5,362.25	5,363.20	0.052049	9.50	17.48	19.21	1.75			9.50	1.70
9.90	166.0	5,358.86	5,360.19	5,360.57	5,361.44	0.057653	8.98	18.49	24.06	1.80			8.98	1.33
9.52666*	166.0	5,357.29	5,359.20	5,359.35	5,359.98	0.021762	7.08	23.44	20.53	1.17			7.08	1.91
9.15333*	166.0	5,355.71	5,359.03	5,358.33	5,359.41	0.004316	5.01	35.37	19.31	0.57	1.33	1.34	4.69	3.32
8.78	166.0	5,354.14	5,358.40	5,358.40	5,359.15	0.010500	7.70	29.05	19.51	0.75	3.07	2.93	5.71	4.26
8.43*	166.0	5,353.42	5,357.11	5,357.57	5,358.51	0.022909	9.69	19.10	14.53	1.12	2.31	2.53	8.69	3.69
8.08*	166.0	5,352.71	5,356.44	5,356.82	5,357.68	0.022521	8.98	19.46	14.81	1.12	1.14	1.81	8.53	3.73
7.73	166.0	5,351.99	5,356.21	5,356.13	5,356.91	0.011834	6.85	26.63	21.93	0.83	0.83	1.58	6.23	4.22
7.39333*	166.0	5,351.31	5,355.67	5,355.51	5,356.47	0.013714	7.21	23.55	15.56	0.88	0.90	1.02	7.05	4.36
7.05666*	166.0	5,350.62	5,355.28	5,354.99	5,356.02	0.012311	6.90	24.21	12.86	0.82	1.13	0.45	6.86	4.66
6.72	166.0	5,349.94	5,354.93	5,354.46	5,355.60	0.011181	6.58	25.48	11.88	0.76	1.39		6.52	4.99
6.38*	166.0	5,349.81	5,354.61	5,354.02	5,355.25	0.008789	6.47	26.81	14.50	0.69	1.43	1.20	6.19	4.80
6.04*	166.0	5,349.69	5,354.35	5,353.70	5,354.97	0.007429	6.47	28.96	17.29	0.64	1.54	1.73	5.73	4.66
5.70	166.0	5,349.56	5,353.59	5,353.59	5,354.60	0.014114	8.27	22.80	14.26	0.82	1.56	2.52	7.28	4.03
5.33*	166.0	5,349.20	5,352.59	5,352.87	5,353.93	0.020951	9.34	18.51	10.24	1.06	0.13	2.26	8.97	3.39
4.96*	166.0	5,348.85	5,352.19	5,352.21	5,353.21	0.014676	8.16	21.25	12.29	0.94	0.53	2.09	7.81	3.34
4.59	166.0	5,348.49	5,351.88	5,351.61	5,352.60	0.009225	6.85	25.75	15.69	0.78	0.86	1.93	6.45	3.39
4.23666*	166.0	5,348.15	5,351.63	5,351.26	5,352.26	0.008399	6.42	26.38	14.76	0.76	0.68	1.31	6.29	3.48
3.88333*	166.0	5,347.80	5,351.38	5,350.97	5,351.95	0.008128	6.07	27.52	15.19	0.74	0.55	0.72	6.03	3.58
3.53	166.0	5,347.46	5,350.67	5,350.67	5,351.54	0.015971	7.48	22.19	12.67	1.00			7.48	3.21
3.17*	166.0	5,346.97	5,349.93	5,350.03	5,350.90	0.019751	7.91	20.98	13.46	1.12			7.91	2.96
2.81*	166.0	5,346.47	5,349.48	5,349.51	5,350.26	0.015218	7.10	23.65	17.10	0.99	1.03	0.59	7.02	3.01
2.45	166.0	5,345.98	5,348.89	5,348.97	5,349.68	0.016761	7.20	24.22	20.27	1.02	1.84	1.51	6.85	2.91
2.01333*	166.0	5,345.46	5,348.50	5,348.43	5,349.16	0.010703	6.64	27.33	21.32	0.85	1.77	1.72	6.07	3.04
1.57666*	166.0	5,344.94	5,348.02	5,347.95	5,348.71	0.009839	6.87	27.68	22.03	0.84	1.81	1.95	6.00	3.08
1.14	166.0	5,344.42	5,347.62	5,347.62	5,348.30	0.009027	6.98	29.90	24.82	0.81	2.00	2.26	5.55	3.20
.76*	166.0	5,343.59	5,346.47	5,346.87	5,347.69	0.019713	9.06	20.75	18.66	1.14	1.72	2.49	8.00	2.88
.38*	166.0	5,342.75	5,345.64	5,346.04	5,346.91	0.021573	9.23	20.34	18.91	1.16	1.20	2.41	8.16	2.89
0.00	166.0	5,341.92	5,344.77	5,345.17	5,346.04	0.024008	9.33	20.26	17.09	1.19		2.87	8.19	2.85
						Max	10.25					**Avg**	6.78	
						Min	3.98							
						Avg	7.10							

Profile Output Table - South Barber Channel Pre-mine 25 yr-6 hr

HEC-RAS Plan: prepl1 Reach: SBC Premine September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
15.42	251.0	5,367.38	5,370.43	5,370.65	5,371.81	0.019613	9.44	26.59	44.80	1.12			9.44	3.05
15.055*	251.0	5,366.67	5,369.75	5,370.00	5,371.08	0.019984	9.27	27.07	49.03	1.16			9.27	3.08
14.69*	251.0	5,365.95	5,369.32	5,369.32	5,370.31	0.014312	7.99	31.43	57.91	0.99			7.99	3.37
14.325*	251.0	5,365.23	5,368.69	5,368.69	5,369.63	0.014189	7.79	32.22	62.67	1.14			7.79	3.46
13.96	251.0	5,364.52	5,368.21	5,368.03	5,368.98	0.011174	7.01	35.81	69.47	0.88			7.01	3.69
13.6525*	251.0	5,364.41	5,367.87	5,367.74	5,368.62	0.011504	6.94	36.15	45.41	0.90			6.94	3.46
13.345*	251.0	5,364.29	5,367.62	5,367.39	5,368.26	0.009890	6.45	38.94	21.36	0.84			6.45	3.33
13.0375*	251.0	5,364.18	5,367.50	5,367.03	5,367.95	0.006609	5.39	46.53	25.02	0.70			5.39	3.32
12.73	251.0	5,364.07	5,367.44	5,366.65	5,367.74	0.003957	4.39	57.16	28.72	0.55			4.39	3.37
12.354*	251.0	5,363.77	5,367.27	5,366.48	5,367.59	0.004169	4.52	55.50	27.66	0.56			4.52	3.50
11.978*	251.0	5,363.47	5,367.09	5,366.34	5,367.43	0.004370	4.65	54.03	26.70	0.58			4.65	3.62
11.602*	251.0	5,363.18	5,366.88	5,366.18	5,367.25	0.004790	4.85	51.74	25.53	0.60			4.85	3.70
11.226*	251.0	5,362.88	5,366.63	5,366.03	5,367.05	0.005575	5.17	48.52	24.25	0.64			5.17	3.75
10.85	251.0	5,362.58	5,365.89	5,365.89	5,366.71	0.013907	7.26	34.56	20.52	0.99			7.26	3.31
10.5333*	251.0	5,361.34	5,363.69	5,364.30	5,365.59	0.049773	11.05	22.71	19.00	1.78			11.05	2.35
10.2166*	251.0	5,360.10	5,362.08	5,362.69	5,363.91	0.054833	10.84	23.15	21.65	1.85			10.84	1.98
9.90	251.0	5,358.86	5,360.42	5,360.91	5,362.05	0.061432	10.24	24.52	27.46	1.91			10.24	1.56
9.52666*	251.0	5,357.29	5,359.58	5,359.76	5,360.57	0.019740	7.99	31.55	22.52	1.16	1.13	1.20	7.96	2.29
9.15333*	251.0	5,355.71	5,359.56	5,358.92	5,360.10	0.004867	6.06	46.26	22.37	0.62	1.85	1.88	5.43	3.85
8.78	251.0	5,354.14	5,358.94	5,358.94	5,359.81	0.010913	8.70	40.25	21.59	0.79	3.99	3.84	6.24	4.80
8.43*	251.0	5,353.42	5,357.73	5,358.15	5,359.23	0.019268	10.42	29.89	19.26	1.07	3.29	3.83	8.40	4.31
8.08*	251.0	5,352.71	5,356.91	5,357.41	5,358.49	0.022813	10.40	27.92	20.18	1.16	2.37	3.16	8.99	4.20
7.73	251.0	5,351.99	5,356.37	5,356.71	5,357.67	0.020129	9.38	30.35	23.02	1.09	1.52	2.68	8.27	4.38
7.39333*	251.0	5,351.31	5,356.19	5,356.36	5,357.24	0.013777	8.38	33.81	24.06	0.92	1.90	2.09	7.42	4.88
7.05666*	251.0	5,350.62	5,355.89	5,355.79	5,356.83	0.011555	7.90	34.99	22.05	0.83	2.07	1.77	7.17	5.27
6.72	251.0	5,349.94	5,355.53	5,355.27	5,356.44	0.011477	7.74	34.73	19.42	0.80	2.26	1.51	7.23	5.59
6.38*	251.0	5,349.81	5,355.20	5,354.94	5,356.07	0.009510	7.67	37.53	21.60	0.74	2.25	2.04	6.69	5.39
6.04*	251.0	5,349.69	5,354.85	5,354.66	5,355.75	0.009241	7.96	39.32	25.15	0.73	2.34	2.29	6.38	5.16
5.70	251.0	5,349.56	5,354.72	5,354.72	5,355.41	0.007663	7.48	49.18	34.98	0.64	2.46	2.49	5.10	5.16
5.33*	251.0	5,349.20	5,353.30	5,353.76	5,354.85	0.018143	10.32	28.18	17.30	1.03	2.21	3.28	8.91	4.10
4.96*	251.0	5,348.85	5,352.59	5,353.06	5,354.17	0.018745	10.26	27.04	16.50	1.09	1.78	3.10	9.28	3.74
4.59	251.0	5,348.49	5,352.01	5,352.36	5,353.45	0.017524	9.76	27.79	17.11	1.09	1.51	2.87	9.03	3.52
4.23666*	251.0	5,348.15	5,352.15	5,351.96	5,353.04	0.009082	7.68	35.67	20.61	0.81	1.61	2.04	7.04	4.00
3.88333*	251.0	5,347.80	5,351.92	5,351.62	5,352.70	0.008354	7.17	37.56	21.99	0.78	1.49	1.48	6.68	4.12
3.53	251.0	5,347.46	5,351.34	5,351.34	5,352.32	0.013472	7.97	32.15	19.34	0.95	1.10	0.59	7.81	3.88
3.17*	251.0	5,346.97	5,350.38	5,350.68	5,351.68	0.020506	9.16	27.72	17.38	1.17	1.17	0.59	9.06	3.41
2.81*	251.0	5,346.47	5,349.90	5,350.07	5,350.96	0.015449	8.36	31.81	21.60	1.04	1.99	1.59	7.89	3.43
2.45	251.0	5,345.98	5,349.25	5,349.50	5,350.35	0.017917	8.56	32.30	24.09	1.09	2.64	2.31	7.77	3.27
2.01333*	251.0	5,345.46	5,348.86	5,349.00	5,349.82	0.012608	8.11	35.86	25.55	0.95	2.48	2.43	7.00	3.40
1.57666*	251.0	5,344.94	5,348.50	5,348.55	5,349.36	0.009678	7.84	39.80	26.90	0.86	2.62	2.56	6.31	3.56
1.14	251.0	5,344.42	5,348.01	5,348.12	5,348.92	0.010465	8.33	40.17	27.93	0.89	2.96	2.92	6.25	3.59
.76*	251.0	5,343.59	5,346.98	5,347.40	5,348.33	0.017180	9.89	32.51	26.33	1.11	2.62	3.40	7.72	3.39
.38*	251.0	5,342.75	5,346.09	5,346.57	5,347.59	0.020794	10.41	29.80	23.05	1.18	2.35	3.87	8.42	3.34
0.00	251.0	5,341.92	5,345.21	5,345.69	5,346.76	0.023403	10.58	28.60	20.58	1.21	1.81	4.35	8.78	3.29
						Max	11.05					**Avg**	7.42	
						Min	4.39							
						Avg	8.13							

Profile Output Table - South Barber Channel Pre-mine 25 yr-6 hr

HEC-RAS Plan: prepl1 Reach: SBC Premine September 2004

River Sta.	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Vel Lt (ft/s)	Vel Rt (ft/s)	Vel Total (ft/s)	Max Chnl Depth (ft)
15.42	375.0	5,367.38	5,371.44	5,371.44	5,372.83	0.014721	9.46	39.62	55.08	0.99			9.46	4.06
15.055*	375.0	5,366.67	5,370.75	5,370.75	5,371.97	0.013612	8.85	42.35	62.09	0.99			8.85	4.08
14.69*	375.0	5,365.95	5,370.02	5,370.01	5,371.19	0.013600	8.71	43.06	66.50	0.99			8.71	4.07
14.325*	375.0	5,365.23	5,369.35	5,369.29	5,370.47	0.013627	8.51	44.05	71.54	0.99			8.51	4.12
13.96	375.0	5,364.52	5,368.78	5,368.68	5,369.78	0.012195	8.03	46.70	77.38	0.94			8.03	4.26
13.6525*	375.0	5,364.41	5,368.43	5,368.34	5,369.39	0.012018	7.87	47.66	64.50	0.94			7.87	4.02
13.345*	375.0	5,364.29	5,368.23	5,367.98	5,368.99	0.009919	6.99	53.63	39.00	0.86			6.99	3.94
13.0375*	375.0	5,364.18	5,368.14	5,367.57	5,368.68	0.006278	5.89	63.64	28.79	0.70			5.89	3.96
12.73	375.0	5,364.07	5,368.11	5,367.16	5,368.47	0.003710	4.84	77.89	35.04	0.55		0.57	4.81	4.04
12.354*	375.0	5,363.77	5,367.94	5,367.03	5,368.32	0.003994	4.98	75.33	32.71	0.57		0.33	4.98	4.17
11.978*	375.0	5,363.47	5,367.75	5,366.86	5,368.16	0.004290	5.14	73.02	30.54	0.59			5.14	4.28
11.602*	375.0	5,363.18	5,367.54	5,366.71	5,367.99	0.004749	5.38	69.65	29.14	0.61			5.38	4.36
11.226*	375.0	5,362.88	5,367.27	5,366.60	5,367.79	0.005565	5.76	65.11	27.58	0.66			5.76	4.40
10.85	375.0	5,362.58	5,366.45	5,366.45	5,367.45	0.013357	7.99	46.92	23.35	0.99			7.99	3.87
10.5333*	375.0	5,361.34	5,364.08	5,364.86	5,366.39	0.047904	12.19	30.76	21.55	1.80			12.19	2.75
10.2166*	375.0	5,360.10	5,362.40	5,363.12	5,364.74	0.056939	12.25	30.61	24.49	1.93			12.25	2.30
9.90	375.0	5,358.86	5,360.69	5,361.32	5,362.79	0.060420	11.63	32.26	29.77	1.96	0.80	1.21	11.63	1.83
9.52666*	375.0	5,357.29	5,360.01	5,360.26	5,361.31	0.018299	9.15	41.84	24.45	1.17	2.07	2.15	8.96	2.72
9.15333*	375.0	5,355.71	5,360.14	5,359.60	5,360.90	0.005488	7.27	60.45	25.82	0.68	2.43	2.48	6.20	4.43
8.78	375.0	5,354.14	5,359.54	5,359.54	5,360.59	0.011508	9.85	53.75	23.25	0.83	4.90	4.86	6.98	5.40
8.43*	375.0	5,353.42	5,358.37	5,358.82	5,360.02	0.017889	11.44	43.32	23.01	1.07	4.13	4.93	8.66	4.95
8.08*	375.0	5,352.71	5,357.47	5,358.02	5,359.29	0.021512	11.57	39.97	22.91	1.17	3.38	4.68	9.38	4.76
7.73	375.0	5,351.99	5,356.79	5,357.27	5,358.51	0.022383	11.07	40.42	24.84	1.18	2.57	4.24	9.28	4.80
7.39333*	375.0	5,351.31	5,357.01	5,356.98	5,357.97	0.009545	8.40	55.50	28.41	0.80	2.58	3.35	6.76	5.70
7.05666*	375.0	5,350.62	5,356.77	5,356.63	5,357.65	0.008315	8.03	58.30	30.07	0.74	2.66	2.87	6.43	6.15
6.72	375.0	5,349.94	5,356.25	5,356.25	5,357.31	0.010640	8.64	52.07	28.90	0.80	2.98	2.52	7.20	6.31
6.38*	375.0	5,349.81	5,355.69	5,355.89	5,356.93	0.011950	9.42	50.00	29.80	0.85	3.12	2.76	7.50	5.88
6.04*	375.0	5,349.69	5,355.63	5,355.63	5,356.48	0.007825	8.32	64.53	36.85	0.69	2.91	2.96	5.81	5.94
5.70	375.0	5,349.56	5,354.88	5,355.21	5,356.10	0.013407	10.15	55.12	36.17	0.85	3.48	3.67	6.80	5.32
5.33*	375.0	5,349.20	5,354.26	5,354.54	5,355.61	0.012427	10.22	49.42	27.31	0.89	3.23	3.84	7.59	5.06
4.96*	375.0	5,348.85	5,353.31	5,353.82	5,355.06	0.016341	11.19	41.64	24.11	1.06	3.01	3.96	9.01	4.46
4.59	375.0	5,348.49	5,352.57	5,353.13	5,354.42	0.018022	11.33	39.16	23.50	1.14	2.72	3.83	9.58	4.08
4.23666*	375.0	5,348.15	5,352.65	5,352.80	5,353.92	0.010788	9.34	47.25	26.39	0.91	2.48	2.71	7.94	4.50
3.88333*	375.0	5,347.80	5,352.32	5,352.44	5,353.53	0.011014	9.04	47.29	27.00	0.91	2.31	2.21	7.93	4.52
3.53	375.0	5,347.46	5,352.02	5,352.14	5,353.14	0.011114	8.68	49.24	30.74	0.90	2.17	1.64	7.62	4.56
3.17*	375.0	5,346.97	5,350.93	5,351.41	5,352.55	0.018658	10.35	39.16	24.31	1.17	2.43	1.89	9.58	3.96
2.81*	375.0	5,346.47	5,350.24	5,350.72	5,351.87	0.019571	10.44	39.82	25.41	1.20	2.91	2.47	9.42	3.77
2.45	375.0	5,345.98	5,349.68	5,350.07	5,351.12	0.018692	10.01	43.63	28.72	1.15	3.45	3.13	8.60	3.70
2.01333*	375.0	5,345.46	5,349.46	5,349.58	5,350.53	0.011060	8.88	52.46	30.36	0.93	3.32	3.03	7.15	4.00
1.57666*	375.0	5,344.94	5,349.00	5,349.13	5,350.08	0.010355	9.11	53.96	30.58	0.91	3.52	3.22	6.95	4.06
1.14	375.0	5,344.42	5,348.50	5,348.69	5,349.62	0.011077	9.58	54.85	31.85	0.94	3.88	3.58	6.84	4.08
.76*	375.0	5,343.59	5,347.46	5,347.94	5,349.03	0.017288	11.15	45.94	29.81	1.14	3.77	4.43	8.16	3.87
.38*	375.0	5,342.75	5,346.60	5,347.15	5,348.32	0.019801	11.56	43.11	28.46	1.19	3.23	5.03	8.70	3.85
0.00	375.0	5,341.92	5,345.76	5,346.33	5,347.52	0.021553	11.67	41.10	25.24	1.21	2.92	5.55	9.13	3.84
						Max	12.25					**Avg**	7.92	
						Min	4.84							
						Avg	9.10							