APPENDIX 11-NN

HEC-RAS Results for Area II Reclaimed Channels

(10/99; 10/04)

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CHINDE BRANCH 1 POST-MINE HEC-RAS RESULTS

May-05

Profile Output Table - Chinde Branch 1 Post-mine 2 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
192.92	38	5,380.00	5,380.76	5,380.64	5,380.95	0.010918	3.51	10.82	16.55	0.76			3.51	0.76
192.46*	38	5,379.49	5,380.25	5,380.14	5,380.44	0.011066	3.53	10.77	16.52	0.77			3.53	0.76
192.00	38	5,378.97	5,379.74	5,379.62	5,379.93	0.011035	3.52	10.78	16.52	0.77			3.52	0.77
191.5*	38	5,378.42	5,379.19	5,379.07	5,379.38	0.010689	3.49	10.89	16.54	0.76			3.49	0.77
191.00	38	5,377.88	5,378.63	5,378.53	5,378.83	0.011409	3.56	10.67	16.49	0.78			3.56	0.75
190.5*	38	5,377.32	5,378.08	5,377.96	5,378.27	0.011073	3.53	10.77	16.52	0.77			3.53	0.76
190.00	38	5,376.76	5,377.51	5,377.40	5,377.71	0.011294	3.55	10.70	16.51	0.78			3.55	0.75
189.5*	38	5,376.21	5,376.97	5,376.85	5,377.16	0.010797	3.50	10.87	16.56	0.76			3.50	0.76
189.00	38	5,375.67	5,376.43	5,376.30	5,376.62	0.010797	3.50	10.87	16.56	0.76			3.50	0.76
188.5*	38	5,375.13	5,375.90	5,375.77	5,376.08	0.010535	3.47	10.95	16.60	0.75			3.47	0.77
188.00	38	5,374.60	5,375.36	5,375.24	5,375.55	0.011092	3.53	10.77	16.53	0.77			3.53	0.75
187.5*	38	5,374.05	5,374.81	5,374.69	5,375.00	0.010943	3.51	10.82	16.55	0.77			3.51	0.76
187.00	38	5,373.50	5,374.26	5,374.14	5,374.45	0.010992	3.52	10.80	16.54	0.77			3.52	0.76
186.5*	38	5,372.94	5,373.69	5,373.57	5,373.89	0.011371	3.56	10.68	16.50	0.78			3.56	0.75
186.00	38	5,372.38	5,373.14	5,373.02	5,373.33	0.011092	3.53	10.77	16.53	0.77			3.53	0.75
185.5*	38	5,371.83	5,372.59	5,372.47	5,372.78	0.011092	3.53	10.77	16.53	0.77			3.53	0.75
185.00	38	5,371.28	5,372.04	5,371.92	5,372.23	0.010845	3.50	10.85	16.56	0.76			3.50	0.76
184.5*	38	5,370.73	5,371.48	5,371.37	5,371.68	0.011117	3.53	10.76	16.53	0.77			3.53	0.75
184.00	38	5,370.18	5,370.94	5,370.82	5,371.13	0.010918	3.51	10.82	16.55	0.76			3.51	0.76
183.5*	38	5,369.63	5,370.39	5,370.27	5,370.58	0.011067	3.53	10.78	16.53	0.77			3.53	0.76
183.00	38	5,369.08	5,369.84	5,369.72	5,370.03	0.010943	3.51	10.82	16.55	0.77			3.51	0.76
182.5*	38	5,368.53	5,369.29	5,369.17	5,369.48	0.011042	3.52	10.78	16.54	0.77			3.52	0.76
182.00	38	5,367.98	5,368.74	5,368.62	5,368.93	0.010968	3.52	10.81	16.54	0.77			3.52	0.76
181.5*	38	5,367.43	5,368.19	5,368.07	5,368.38	0.011017	3.52	10.79	16.54	0.77			3.52	0.76
181.00	38	5,366.88	5,367.64	5,367.52	5,367.83	0.010701	3.49	10.90	16.58	0.76			3.49	0.76
180.5*	38	5,366.33	5,367.08	5,366.97	5,367.28	0.011243	3.54	10.72	16.51	0.78			3.54	0.75
180.00	38	5,365.78	5,366.54	5,366.41	5,366.73	0.010845	3.50	10.85	16.56	0.76			3.50	0.76
179.5*	38	5,365.23	5,365.98	5,365.86	5,366.18	0.011117	3.53	10.76	16.53	0.77			3.53	0.75
179.00	38	5,364.68	5,365.44	5,365.31	5,365.63	0.010918	3.51	10.82	16.55	0.76			3.51	0.76
178.5*	38	5,364.13	5,364.89	5,364.77	5,365.08	0.011067	3.53	10.78	16.53	0.77			3.53	0.76
178.00	38	5,363.58	5,364.34	5,364.22	5,364.53	0.010943	3.51	10.82	16.55	0.77			3.51	0.76
177.5*	38	5,363.03	5,363.79	5,363.66	5,363.98	0.011042	3.52	10.78	16.54	0.77			3.52	0.76
177.00	38	5,362.48	5,363.24	5,363.12	5,363.43	0.010968	3.52	10.81	16.54	0.77			3.52	0.76
176.5*	38	5,361.93	5,362.69	5,362.57	5,362.88	0.011017	3.52	10.79	16.54	0.77			3.52	0.76
176.00	38	5,361.38	5,362.14	5,362.02	5,362.33	0.010992	3.52	10.80	16.54	0.77			3.52	0.76
175.5*	38	5,360.83	5,361.59	5,361.47	5,361.78	0.010677	3.48	10.91	16.58	0.76			3.48	0.76
175.00	38	5,360.28	5,361.03	5,360.92	5,361.23	0.011268	3.55	10.71	16.51	0.78			3.55	0.75
174.5*	38	5,359.73	5,360.49	5,360.37	5,360.68	0.010821	3.50	10.86	16.56	0.76			3.50	0.76
174.00	38	5,359.18	5,359.93	5,359.82	5,360.13	0.011142	3.53	10.75	16.52	0.77			3.53	0.75
173.5*	38	5,358.63	5,359.39	5,359.27	5,359.58	0.010918	3.51	10.82	16.55	0.76			3.51	0.76
173.00	38	5,358.08	5,358.84	5,358.72	5,359.03	0.011067	3.53	10.78	16.53	0.77			3.53	0.76
172.5*	38	5,357.53	5,358.29	5,358.17	5,358.48	0.010968	3.52	10.81	16.54	0.77			3.52	0.76
172.00	38	5,356.98	5,357.74	5,357.61	5,357.93	0.010773	3.49	10.87	16.57	0.76			3.49	0.76
171.5*	38	5,356.43	5,357.18	5,357.06	5,357.38	0.011633	3.59	10.60	16.47	0.79			3.59	0.74
171.00	38	5,355.88	5,356.82	5,356.52	5,356.94	0.005135	2.73	13.94	17.64	0.54			2.73	0.94
170.5*	38	5,355.37	5,356.70	5,356.01	5,356.75	0.001487	1.79	21.29	19.99	0.30			1.79	1.33
170.00	101	5,354.86	5,356.34	5,356.02	5,356.61	0.007205	4.16	24.26	20.86	0.68			4.16	1.48
169.5*	101	5,354.50	5,355.97	5,355.66	5,356.24	0.007399	4.20	24.04	20.79	0.69			4.20	1.47
169.00	101	5,354.13	5,355.60	5,355.29	5,355.87	0.007399	4.20	24.04	20.79	0.69			4.20	1.47
168.5*	101	5,353.76	5,355.23	5,354.92	5,355.50	0.007373	4.20	24.07	20.80	0.69			4.20	1.47
168.00	101	5,353.39	5,354.87	5,354.55	5,355.14	0.007214	4.17	24.25	20.86	0.68			4.17	1.48
167.5*	101	5,353.03	5,354.50	5,354.19	5,354.77	0.007390	4.20	24.05	20.80	0.69			4.20	1.47
167.00	101	5,352.66	5,354.13	5,353.82	5,354.40	0.007417	4.21	24.02	20.79	0.69			4.21	1.46
166.00	101	5,351.92	5,353.40	5,353.08	5,353.67	0.007222	4.17	24.24	20.85	0.68			4.17	1.48
165.00	101	5,351.19	5,352.66	5,352.35	5,352.93	0.007408	4.20	24.03	20.79	0.69			4.20	1.47
164.00	101	5,350.45	5,351.93	5,351.61	5,352.20	0.007222	4.17	24.24	20.85	0.68			4.17	1.48
163.00	101	5,349.72	5,351.19	5,350.88	5,351.46	0.007417	4.21	24.02	20.79	0.69			4.21	1.46
162.00	101	5,348.98	5,350.46	5,350.14	5,350.73	0.007222	4.17	24.24	20.85	0.68			4.17	1.48
161.00	101	5,348.25	5,349.72	5,349.41	5,349.99	0.007417	4.21	24.02	20.79	0.69			4.21	1.46
160.00	101	5,347.51	5,348.99	5,348.67	5,349.26	0.007231	4.17	24.23	20.85	0.68			4.17	1.48

Profile Output Table - Chinde Branch 1 Post-mine 2 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
159.00	101	5,346.78	5,348.24	5,347.94	5,348.52	0.007472	4.22	23.95	20.77	0.69			4.22	1.46
158.00	101	5,346.04	5,347.51	5,347.20	5,347.78	0.007310	4.18	24.14	20.82	0.68			4.18	1.47
157.00	101	5,345.31	5,346.79	5,346.47	5,347.06	0.007222	4.17	24.24	20.85	0.68			4.17	1.48
156.00	101	5,344.58	5,346.05	5,345.74	5,346.32	0.007417	4.21	24.02	20.79	0.69			4.21	1.46
155.00	101	5,343.84	5,345.31	5,345.00	5,345.58	0.007240	4.17	24.22	20.85	0.68			4.17	1.47
154.00	101	5,343.11	5,344.58	5,344.27	5,344.85	0.007408	4.20	24.03	20.79	0.69			4.20	1.47
153.00	101	5,342.37	5,343.84	5,343.53	5,344.11	0.007266	4.18	24.19	20.84	0.68			4.18	1.47
152.00	101	5,341.64	5,343.11	5,342.80	5,343.38	0.007417	4.21	24.02	20.79	0.69			4.21	1.46
151.00	101	5,340.90	5,342.38	5,342.06	5,342.65	0.007205	4.16	24.26	20.86	0.68			4.16	1.48
150.5*	101	5,340.54	5,342.01	5,341.70	5,342.28	0.007399	4.20	24.04	20.79	0.69			4.20	1.47
150.00	101	5,340.17	5,341.64	5,341.33	5,341.91	0.007399	4.20	24.04	20.79	0.69			4.20	1.47
149.5*	101	5,339.80	5,341.27	5,340.96	5,341.54	0.007373	4.20	24.07	20.80	0.69			4.20	1.47
149.00	101	5,339.43	5,340.91	5,340.59	5,341.18	0.007214	4.17	24.25	20.86	0.68			4.17	1.48
148.5*	101	5,339.07	5,340.54	5,340.23	5,340.81	0.007390	4.20	24.05	20.80	0.69			4.20	1.47
148.00	101	5,338.70	5,340.17	5,339.86	5,340.44	0.007381	4.20	24.06	20.80	0.69			4.20	1.47
147.5*	101	5,338.33	5,339.81	5,339.49	5,340.08	0.007205	4.16	24.26	20.86	0.68			4.16	1.48
147.00	101	5,337.97	5,339.44	5,339.13	5,339.71	0.007399	4.20	24.04	20.79	0.69			4.20	1.47
146.5*	101	5,337.60	5,339.07	5,338.76	5,339.34	0.007390	4.20	24.05	20.80	0.69			4.20	1.47
146.00	101	5,337.23	5,338.70	5,338.39	5,338.97	0.007293	4.18	24.16	20.83	0.68			4.18	1.47
145.00	101	5,336.50	5,337.97	5,337.66	5,338.24	0.007399	4.20	24.04	20.79	0.69			4.20	1.47
144.5*	101	5,336.13	5,337.60	5,337.29	5,337.87	0.007399	4.20	24.04	20.79	0.69			4.20	1.47
144.00	101	5,335.76	5,337.23	5,336.92	5,337.50	0.007373	4.20	24.07	20.80	0.69			4.20	1.47
143.5*	101	5,335.39	5,336.87	5,336.55	5,337.14	0.007222	4.17	24.24	20.85	0.68			4.17	1.48
143.00	101	5,335.03	5,336.50	5,336.19	5,336.77	0.007408	4.20	24.03	20.79	0.69			4.20	1.47
142.00	101	5,334.29	5,335.77	5,335.45	5,336.04	0.007222	4.17	24.24	20.85	0.68			4.17	1.48
141.00	101	5,333.56	5,335.03	5,334.72	5,335.30	0.007417	4.21	24.02	20.79	0.69			4.21	1.46
140.00	101	5,332.82	5,334.30	5,333.98	5,334.57	0.007231	4.17	24.23	20.85	0.68			4.17	1.48
139.00	101	5,332.09	5,333.55	5,333.25	5,333.83	0.007463	4.21	23.96	20.77	0.69			4.21	1.46
138.00	101	5,331.35	5,332.82	5,332.51	5,333.09	0.007319	4.19	24.13	20.82	0.69			4.19	1.47
137.00	101	5,330.62	5,332.09	5,331.78	5,332.36	0.007293	4.18	24.16	20.83	0.68			4.18	1.47
136.00	101	5,329.89	5,331.36	5,331.05	5,331.63	0.007337	4.19	24.11	20.82	0.69			4.19	1.47
135.00	101	5,329.15	5,330.61	5,330.31	5,330.89	0.007481	4.22	23.94	20.77	0.69			4.22	1.46
134.00	101	5,328.41	5,329.88	5,329.57	5,330.15	0.007301	4.18	24.15	20.83	0.68			4.18	1.47
133.00	101	5,327.68	5,329.16	5,328.84	5,329.43	0.007240	4.17	24.22	20.85	0.68			4.17	1.47
132.00	101	5,326.95	5,328.42	5,328.11	5,328.69	0.007417	4.21	24.02	20.79	0.69			4.21	1.46
131.00	101	5,326.21	5,327.68	5,327.37	5,327.95	0.007275	4.18	24.18	20.84	0.68			4.18	1.47
130.00	101	5,325.48	5,326.95	5,326.64	5,327.22	0.007417	4.21	24.02	20.79	0.69			4.21	1.46
129.00	101	5,324.74	5,326.21	5,325.90	5,326.48	0.007373	4.20	24.07	20.80	0.69			4.20	1.47
128.00	101	5,324.01	5,325.48	5,325.17	5,325.75	0.007240	4.17	24.22	20.85	0.68			4.17	1.47
127.00	101	5,323.28	5,324.75	5,324.44	5,325.02	0.007408	4.20	24.03	20.79	0.69			4.20	1.47
126.00	101	5,322.54	5,324.01	5,323.70	5,324.28	0.007257	4.17	24.20	20.84	0.68			4.17	1.47
125.00	101	5,321.81	5,323.27	5,322.97	5,323.55	0.007435	4.21	24.00	20.78	0.69			4.21	1.46
124.00	101	5,321.07	5,322.56	5,322.23	5,322.83	0.006909	4.10	24.62	20.96	0.67			4.10	1.49
123.5*	101	5,320.71	5,322.27	5,321.87	5,322.50	0.005629	3.84	27.95	50.79	0.61	0.39	0.39	3.61	1.56
123.00	112	5,320.34	5,321.88	5,321.59	5,322.18	0.007388	4.35	26.86	50.53	0.69	0.34	0.34	4.17	1.54
122.5*	112	5,319.97	5,321.51	5,321.21	5,321.81	0.007399	4.36	26.84	50.52	0.69	0.34	0.34	4.17	1.54
122.00	112	5,319.60	5,321.15	5,320.85	5,321.44	0.007173	4.31	27.35	50.66	0.69	0.39	0.39	4.09	1.55
121.00	112	5,318.87	5,320.41	5,320.11	5,320.70	0.007497	4.37	26.61	50.44	0.70	0.32	0.32	4.21	1.54
120.00	112	5,318.13	5,319.68	5,319.38	5,319.97	0.007323	4.34	27.01	50.65	0.69	0.35	0.35	4.15	1.54
119.00	112	5,317.40	5,318.95	5,318.64	5,319.24	0.007173	4.31	27.36	50.71	0.69	0.38	0.39	4.09	1.55
118.00	112	5,316.67	5,318.21	5,317.92	5,318.50	0.007431	4.36	26.76	50.49	0.70	0.33	0.33	4.19	1.54
117.00	112	5,315.93	5,317.48	5,317.17	5,317.77	0.007226	4.32	27.23	50.51	0.69	0.37	0.38	4.11	1.55
116.00	112	5,315.20	5,316.74	5,316.45	5,317.03	0.007442	4.36	26.74	50.46	0.70	0.33	0.33	4.19	1.54
115.00	112	5,314.46	5,316.01	5,315.70	5,316.30	0.007183	4.31	27.33	50.62	0.69	0.38	0.38	4.10	1.55
114.00	112	5,313.73	5,315.27	5,314.98	5,315.56	0.007421	4.36	26.79	50.48	0.70	0.33	0.33	4.18	1.54
113.00	112	5,312.99	5,314.54	5,314.23	5,314.83	0.007237	4.32	27.20	50.50	0.69	0.37	0.37	4.12	1.55
112.00	112	5,312.26	5,313.80	5,313.51	5,314.09	0.007432	4.36	26.76	50.44	0.70	0.33	0.33	4.19	1.54
111.00	112	5,311.52	5,313.07	5,312.76	5,313.36	0.007173	4.31	27.35	50.54	0.69	0.39	0.39	4.09	1.55
110.00	112	5,310.79	5,312.33	5,312.04	5,312.62	0.007497	4.37	26.61	50.38	0.70	0.32	0.32	4.21	1.54
109.00	112	5,310.05	5,311.60	5,311.29	5,311.89	0.007323	4.34	27.01	50.45	0.69	0.35	0.36	4.15	1.54

Profile Output Table - Chinde Branch 1 Post-mine 2 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
108.00	112	5,309.32	5,310.87	5,310.57	5,311.16	0.007173	4.31	27.35	50.52	0.69	0.39	0.39	4.09	1.55
107.00	112	5,308.59	5,310.13	5,309.83	5,310.42	0.007432	4.36	26.76	50.35	0.70	0.33	0.33	4.19	1.54
106.00	112	5,307.85	5,309.40	5,309.10	5,309.69	0.007226	4.32	27.23	50.59	0.69	0.37	0.38	4.11	1.55
105.00	112	5,307.12	5,308.66	5,308.36	5,308.95	0.007442	4.36	26.74	50.48	0.70	0.33	0.33	4.19	1.54
104.00	112	5,306.38	5,307.93	5,307.63	5,308.22	0.007183	4.31	27.33	50.55	0.69	0.38	0.38	4.10	1.55
103.00	112	5,305.65	5,307.19	5,306.89	5,307.48	0.007421	4.36	26.79	50.45	0.70	0.33	0.33	4.18	1.54
102.00	112	5,304.91	5,306.46	5,306.16	5,306.75	0.007237	4.32	27.20	50.53	0.69	0.37	0.37	4.12	1.55
101.00	112	5,304.18	5,305.72	5,305.42	5,306.02	0.007432	4.36	26.76	50.42	0.70	0.33	0.33	4.19	1.54
100.00	112	5,303.44	5,304.99	5,304.69	5,305.28	0.007205	4.32	27.28	50.61	0.69	0.38	0.38	4.11	1.55
99.75*	112	5,303.26	5,304.81	5,304.50	5,305.10	0.007269	4.33	27.13	50.57	0.69	0.37	0.37	4.13	1.55
99.5*	112	5,303.08	5,304.62	5,304.33	5,304.91	0.007464	4.37	26.69	50.46	0.70	0.32	0.32	4.20	1.54
99.25*	112	5,302.89	5,304.44	5,304.13	5,304.73	0.007290	4.33	27.08	50.56	0.69	0.36	0.36	4.14	1.55
99.00	112	5,302.71	5,304.25	5,303.96	5,304.54	0.007431	4.36	26.76	50.48	0.70	0.33	0.33	4.19	1.54
98.75*	112	5,302.52	5,304.07	5,303.76	5,304.36	0.007173	4.31	27.35	50.62	0.69	0.39	0.39	4.09	1.55
98.5*	112	5,302.34	5,303.89	5,303.59	5,304.18	0.007215	4.32	27.26	50.60	0.69	0.38	0.38	4.11	1.55
98.25*	112	5,302.16	5,303.70	5,303.40	5,303.99	0.007553	4.38	26.49	50.42	0.70	0.30	0.30	4.23	1.53
97.25*	112	5,300.88	5,302.56	5,302.12	5,302.77	0.004888	3.80	33.82	52.02	0.57	0.71	0.72	3.31	1.68
97.00	112	5,300.51	5,302.56	5,301.76	5,302.66	0.001749	2.67	53.81	56.10	0.36	0.86	0.88	2.08	2.05
96.5*	112	5,300.51	5,302.42	5,301.75	5,302.55	0.002509	3.02	46.17	54.56	0.42	0.86	0.88	2.43	1.91
96.00	112	5,300.51	5,302.05	5,301.76	5,302.35	0.007388	4.35	26.86	50.47	0.69	0.34	0.34	4.17	1.54
95.5*	112	5,300.14	5,301.68	5,301.38	5,301.98	0.007410	4.36	26.81	50.47	0.70	0.34	0.34	4.18	1.54
95.00	112	5,299.77	5,301.32	5,301.02	5,301.61	0.007183	4.31	27.33	50.64	0.69	0.38	0.38	4.10	1.55
94.00	112	5,299.04	5,300.58	5,300.28	5,300.88	0.007421	4.36	26.79	50.50	0.70	0.33	0.33	4.18	1.54
93.00	112	5,298.30	5,299.85	5,299.55	5,300.14	0.007237	4.32	27.20	50.54	0.69	0.37	0.37	4.12	1.55
92.00	112	5,297.57	5,299.11	5,298.81	5,299.40	0.007431	4.36	26.76	50.54	0.70	0.33	0.33	4.18	1.54
91.00	112	5,296.83	5,298.38	5,298.08	5,298.67	0.007151	4.31	27.41	50.96	0.68	0.39	0.39	4.09	1.55
90.00	112	5,296.10	5,297.64	5,297.34	5,297.93	0.007519	4.38	26.57	50.57	0.70	0.31	0.31	4.22	1.54
89.00	112	5,295.36	5,296.91	5,296.61	5,297.20	0.007312	4.34	27.03	50.55	0.69	0.36	0.36	4.14	1.55
88.00	112	5,294.63	5,296.18	5,295.87	5,296.47	0.007237	4.32	27.21	50.64	0.69	0.37	0.37	4.12	1.55
87.00	112	5,293.90	5,295.44	5,295.15	5,295.73	0.007431	4.36	26.76	50.52	0.70	0.33	0.33	4.18	1.54
86.00	112	5,293.16	5,294.71	5,294.40	5,295.00	0.007183	4.31	27.33	50.68	0.69	0.38	0.38	4.10	1.55
85.00	112	5,292.43	5,293.97	5,293.68	5,294.27	0.007421	4.36	26.79	50.52	0.70	0.33	0.33	4.18	1.54
84.00	112	5,291.69	5,293.24	5,292.93	5,293.53	0.007237	4.32	27.21	50.59	0.69	0.37	0.37	4.12	1.55
83.00	112	5,290.96	5,292.50	5,292.21	5,292.79	0.007431	4.36	26.76	50.60	0.70	0.33	0.33	4.18	1.54
82.00	112	5,290.22	5,291.77	5,291.46	5,292.06	0.007162	4.31	27.38	50.81	0.68	0.39	0.39	4.09	1.55
81.5*	112	5,289.86	5,291.40	5,291.11	5,291.70	0.007388	4.35	26.86	50.65	0.69	0.34	0.34	4.17	1.54
81.00	112	5,289.49	5,291.03	5,290.73	5,291.33	0.007399	4.36	26.84	50.64	0.69	0.34	0.34	4.17	1.54
80.5*	112	5,289.12	5,290.67	5,290.37	5,290.96	0.007162	4.31	27.38	50.79	0.68	0.39	0.39	4.09	1.55
80.00	112	5,288.76	5,290.30	5,290.00	5,290.60	0.007388	4.35	26.86	50.63	0.69	0.34	0.34	4.17	1.54
79.00	112	5,288.02	5,289.56	5,289.27	5,289.86	0.007410	4.36	26.81	50.60	0.70	0.34	0.34	4.18	1.54
78.00	112	5,287.28	5,288.83	5,288.52	5,289.12	0.007301	4.34	27.06	50.65	0.69	0.36	0.36	4.14	1.55
77.00	112	5,286.55	5,288.10	5,287.80	5,288.39	0.007301	4.34	27.06	50.65	0.69	0.36	0.36	4.14	1.55
76.00	112	5,285.82	5,287.37	5,287.06	5,287.66	0.007290	4.33	27.08	50.57	0.69	0.36	0.36	4.14	1.55
75.00	112	5,285.08	5,286.62	5,286.33	5,286.91	0.007497	4.37	26.61	50.41	0.70	0.32	0.32	4.21	1.54
74.00	112	5,284.34	5,285.89	5,285.58	5,286.18	0.007323	4.34	27.01	50.63	0.69	0.35	0.35	4.15	1.54
73.00	112	5,283.61	5,285.16	5,284.86	5,285.45	0.007205	4.32	27.28	50.73	0.69	0.38	0.38	4.11	1.55
72.00	112	5,282.88	5,284.42	5,284.12	5,284.71	0.007421	4.36	26.79	50.65	0.70	0.33	0.33	4.18	1.54
71.00	112	5,282.14	5,283.69	5,283.39	5,283.98	0.007290	4.33	27.09	50.75	0.69	0.36	0.36	4.13	1.55
70.00	112	5,281.41	5,282.95	5,282.65	5,283.25	0.007399	4.36	26.84	50.53	0.69	0.34	0.34	4.17	1.54
69.00	112	5,280.67	5,282.21	5,281.92	5,282.51	0.007399	4.36	26.83	50.46	0.69	0.34	0.34	4.17	1.54
68.5*	112	5,280.30	5,281.85	5,281.54	5,282.14	0.007183	4.31	27.33	50.64	0.69	0.38	0.38	4.10	1.55
68.00	112	5,279.94	5,281.49	5,281.19	5,281.78	0.007151	4.31	27.41	50.80	0.68	0.39	0.39	4.09	1.55
67.5*	112	5,279.58	5,281.12	5,280.82	5,281.42	0.007399	4.36	26.84	50.65	0.69	0.34	0.34	4.17	1.54
67.00	112	5,279.21	5,280.75	5,280.46	5,281.04	0.007431	4.36	26.76	50.64	0.70	0.33	0.33	4.18	1.54
66.00	112	5,278.47	5,280.02	5,279.71	5,280.31	0.007173	4.31	27.36	50.83	0.69	0.38	0.38	4.09	1.55
65.00	112	5,277.74	5,279.28	5,278.99	5,279.58	0.007431	4.36	26.76	50.62	0.70	0.33	0.33	4.18	1.54
64.00	112	5,277.00	5,278.55	5,278.24	5,278.84	0.007226	4.32	27.24	50.91	0.69	0.37	0.37	4.11	1.55
63.00	112	5,276.27	5,277.81	5,277.52	5,278.10	0.007442	4.36	26.74	50.62	0.70	0.33	0.33	4.19	1.54
62.00	112	5,275.53	5,277.08	5,276.77	5,277.37	0.007162	4.31	27.39	50.95	0.68	0.39	0.39	4.09	1.55
61.00	112	5,274.80	5,276.34	5,276.05	5,276.63	0.007508	4.38	26.59	50.62	0.70	0.31	0.31	4.21	1.54

Profile Output Table - Chinde Branch 1 Post-mine 2 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
60.00	112	5,274.06	5,275.61	5,275.30	5,275.90	0.007312	4.34	27.04	50.74	0.69	0.36	0.36	4.14	1.55
59.00	112	5,273.33	5,274.88	5,274.58	5,275.17	0.007237	4.32	27.21	50.88	0.69	0.37	0.37	4.12	1.55
58.00	112	5,272.60	5,274.14	5,273.84	5,274.44	0.007431	4.36	26.76	50.59	0.70	0.33	0.33	4.18	1.54
57.00	112	5,271.86	5,273.41	5,273.11	5,273.70	0.007173	4.31	27.36	50.90	0.69	0.38	0.38	4.09	1.55
56.00	112	5,271.13	5,272.67	5,272.37	5,272.96	0.007431	4.36	26.77	50.66	0.70	0.33	0.33	4.18	1.54
55.00	112	5,270.39	5,271.94	5,271.64	5,272.23	0.007226	4.32	27.24	50.79	0.69	0.37	0.37	4.11	1.55
54.00	112	5,269.66	5,271.20	5,270.90	5,271.49	0.007442	4.36	26.74	50.60	0.70	0.33	0.33	4.19	1.54
53.00	112	5,268.92	5,270.47	5,270.17	5,270.76	0.007183	4.31	27.34	50.85	0.69	0.38	0.38	4.10	1.55
52.00	112	5,268.19	5,269.73	5,269.43	5,270.02	0.007486	4.37	26.64	50.63	0.70	0.32	0.32	4.20	1.54
51.00	112	5,267.45	5,269.00	5,268.70	5,269.29	0.007323	4.34	27.01	50.79	0.69	0.35	0.35	4.15	1.54
50.00	112	5,266.72	5,268.27	5,267.96	5,268.56	0.007194	4.32	27.31	50.84	0.69	0.38	0.38	4.10	1.55
49.00	112	5,265.99	5,267.53	5,267.24	5,267.83	0.007420	4.36	26.79	50.73	0.70	0.33	0.33	4.18	1.54
48.00	112	5,265.25	5,266.80	5,266.49	5,267.09	0.007269	4.33	27.14	50.73	0.69	0.37	0.37	4.13	1.55
47.00	112	5,264.52	5,266.06	5,265.77	5,266.36	0.007410	4.36	26.81	50.69	0.70	0.34	0.34	4.18	1.54
46.00	112	5,263.78	5,265.32	5,265.02	5,265.62	0.007399	4.36	26.84	50.75	0.69	0.34	0.34	4.17	1.54
45.00	112	5,263.04	5,264.58	5,264.29	5,264.88	0.007399	4.36	26.84	50.73	0.69	0.34	0.34	4.17	1.54
44.5*	112	5,262.67	5,264.22	5,263.91	5,264.51	0.007194	4.32	27.31	50.80	0.69	0.38	0.38	4.10	1.55
44.00	112	5,262.31	5,263.86	5,263.56	5,264.15	0.007151	4.31	27.41	50.92	0.68	0.39	0.39	4.09	1.55
43.5*	112	5,261.95	5,263.49	5,263.19	5,263.79	0.007410	4.36	26.82	50.75	0.70	0.34	0.34	4.18	1.54
43.00	112	5,261.58	5,263.12	5,262.83	5,263.42	0.007355	4.35	26.94	50.83	0.69	0.35	0.35	4.16	1.54
42.00	112	5,260.84	5,262.38	5,262.08	5,262.67	0.007442	4.36	26.74	50.68	0.70	0.33	0.33	4.19	1.54
41.00	112	5,260.10	5,261.66	5,261.35	5,261.94	0.007078	4.29	27.59	51.02	0.68	0.40	0.40	4.06	1.56
40.00	112	5,259.38	5,260.92	5,260.62	5,261.21	0.007442	4.36	26.74	50.71	0.70	0.33	0.33	4.19	1.54
39.00	112	5,258.64	5,260.20	5,259.88	5,260.48	0.007057	4.29	27.63	50.91	0.68	0.41	0.41	4.05	1.56
38.00	112	5,257.91	5,259.43	5,259.15	5,259.74	0.007833	4.43	25.88	50.37	0.71	0.23	0.23	4.33	1.52
37.00	108	5,257.17	5,258.69	5,258.38	5,258.98	0.007273	4.27	25.90	50.35	0.69	0.23	0.23	4.17	1.52
36.00	108	5,256.44	5,257.96	5,257.66	5,258.24	0.007411	4.30	25.58	50.27	0.69	0.18	0.18	4.22	1.52
35.00	108	5,255.70	5,257.22	5,256.92	5,257.50	0.007390	4.30	25.63	50.30	0.69	0.19	0.19	4.21	1.52
34.5*	108	5,255.33	5,256.86	5,256.55	5,257.14	0.007168	4.25	26.15	50.49	0.68	0.26	0.26	4.13	1.53
34.00	108	5,254.97	5,256.49	5,256.19	5,256.77	0.007379	4.29	25.66	50.33	0.69	0.19	0.19	4.21	1.52
33.5*	108	5,254.60	5,256.11	5,255.82	5,256.40	0.007583	4.33	25.19	50.15	0.70	0.12	0.12	4.29	1.51
33.00	108	5,254.22	5,255.75	5,255.43	5,256.03	0.007200	4.26	26.07	50.43	0.68	0.25	0.25	4.14	1.53
32.5*	108	5,253.86	5,255.38	5,255.08	5,255.67	0.007242	4.27	25.98	50.44	0.69	0.24	0.24	4.16	1.52
32.00	108	5,253.50	5,255.01	5,254.72	5,255.30	0.007405	4.30	25.79	50.49	0.69	0.23	0.23	4.19	1.51
31.5*	108	5,253.13	5,254.65	5,254.35	5,254.93	0.007341	4.29	25.94	50.48	0.69	0.25	0.25	4.16	1.52
31.00	108	5,252.76	5,254.28	5,253.98	5,254.57	0.007242	4.27	25.98	50.39	0.69	0.24	0.24	4.16	1.52
30.00	108	5,252.03	5,253.55	5,253.25	5,253.83	0.007422	4.30	25.56	50.27	0.69	0.18	0.18	4.23	1.52
29.00	108	5,251.29	5,252.82	5,252.50	5,253.10	0.007179	4.26	26.12	50.43	0.68	0.25	0.25	4.13	1.53
28.00	108	5,250.57	5,252.09	5,251.79	5,252.37	0.007401	4.30	25.61	50.29	0.69	0.19	0.19	4.22	1.52
27.00	108	5,249.83	5,251.35	5,251.05	5,251.63	0.007401	4.30	25.61	50.27	0.69	0.19	0.19	4.22	1.52
26.5*	108	5,249.46	5,250.98	5,250.68	5,251.26	0.007401	4.30	25.61	50.27	0.69	0.19	0.19	4.22	1.52
26.00	108	5,249.09	5,250.61	5,250.31	5,250.89	0.007390	4.30	25.63	50.28	0.69	0.19	0.19	4.21	1.52
25.5*	108	5,248.72	5,250.25	5,249.94	5,250.53	0.007179	4.26	26.12	50.43	0.68	0.25	0.25	4.13	1.53
25.00	108	5,248.36	5,249.88	5,249.57	5,250.16	0.007422	4.30	25.56	50.25	0.69	0.18	0.18	4.23	1.52
24.00	108	5,247.62	5,249.15	5,248.84	5,249.43	0.007179	4.26	26.12	50.40	0.68	0.25	0.25	4.13	1.53
23.00	108	5,246.89	5,248.40	5,248.11	5,248.69	0.007508	4.32	25.36	50.18	0.70	0.15	0.15	4.26	1.51
22.00	108	5,246.15	5,247.67	5,247.37	5,247.96	0.007316	4.28	25.80	50.34	0.69	0.21	0.21	4.19	1.52
21.00	108	5,245.42	5,246.94	5,246.64	5,247.23	0.007326	4.28	25.78	50.35	0.69	0.21	0.21	4.19	1.52
20.00	108	5,244.69	5,246.21	5,245.91	5,246.49	0.007369	4.29	25.68	50.26	0.69	0.20	0.20	4.21	1.52
19.00	108	5,243.95	5,245.47	5,245.16	5,245.75	0.007422	4.30	25.56	50.29	0.69	0.18	0.18	4.23	1.52
18.00	108	5,243.21	5,244.74	5,244.43	5,245.02	0.007210	4.26	26.05	50.41	0.68	0.24	0.24	4.15	1.53
17.00	108	5,242.48	5,244.00	5,243.70	5,244.28	0.007411	4.30	25.58	50.29	0.69	0.18	0.18	4.22	1.52
16.00	108	5,241.74	5,243.26	5,242.96	5,243.55	0.007252	4.27	25.95	50.42	0.69	0.23	0.23	4.16	1.52
15.00	108	5,241.01	5,242.53	5,242.23	5,242.81	0.007422	4.30	25.56	50.25	0.69	0.18	0.18	4.23	1.52
14.00	108	5,240.27	5,241.80	5,241.49	5,242.08	0.007168	4.25	26.15	50.48	0.68	0.26	0.26	4.13	1.53
13.5*	108	5,239.91	5,241.43	5,241.12	5,241.71	0.007401	4.30	25.61	50.28	0.69	0.19	0.19	4.22	1.52
13.00	108	5,239.54	5,241.06	5,240.76	5,241.34	0.007390	4.30	25.63	50.27	0.69	0.19	0.19	4.21	1.52
12.5*	108	5,239.17	5,240.70	5,240.39	5,240.98	0.007168	4.25	26.15	50.46	0.68	0.26	0.26	4.13	1.53
12.00	108	5,238.81	5,240.33	5,240.03	5,240.61	0.007401	4.30	25.61	50.31	0.69	0.19	0.19	4.22	1.52
11.5*	108	5,238.44	5,239.96	5,239.66	5,240.24	0.007390	4.30	25.63	50.30	0.69	0.19	0.19	4.21	1.52

Profile Output Table - Chinde Branch 1 Post-mine 2 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
11.00	108	5,238.07	5,239.60	5,239.29	5,239.88	0.007168	4.25	26.15	50.44	0.68	0.26	0.26	4.13	1.53
10.5*	108	5,237.71	5,239.23	5,238.92	5,239.51	0.007401	4.30	25.61	50.26	0.69	0.19	0.19	4.22	1.52
10.00	108	5,237.34	5,238.86	5,238.56	5,239.14	0.007390	4.30	25.63	50.26	0.69	0.19	0.19	4.21	1.52
9.5*	108	5,236.97	5,238.49	5,238.19	5,238.77	0.007401	4.30	25.61	50.28	0.69	0.19	0.19	4.22	1.52
9.00	108	5,236.60	5,238.12	5,237.82	5,238.40	0.007369	4.29	25.68	50.34	0.69	0.20	0.20	4.21	1.52
8.00	108	5,235.87	5,237.39	5,237.09	5,237.68	0.007284	4.28	25.88	50.39	0.69	0.22	0.22	4.17	1.52
7.00	108	5,235.14	5,236.66	5,236.36	5,236.94	0.007401	4.30	25.61	50.32	0.69	0.19	0.19	4.22	1.52
6.5*	108	5,234.77	5,236.29	5,235.98	5,236.57	0.007390	4.30	25.63	50.32	0.69	0.19	0.19	4.21	1.52
6.00	108	5,234.40	5,235.93	5,235.62	5,236.21	0.007168	4.25	26.15	50.48	0.68	0.26	0.26	4.13	1.53
5.5*	108	5,234.04	5,235.56	5,235.26	5,235.84	0.007401	4.30	25.61	50.32	0.69	0.19	0.19	4.22	1.52
5.00	108	5,233.67	5,235.19	5,234.89	5,235.47	0.007401	4.30	25.61	50.34	0.69	0.19	0.19	4.22	1.52
4.5*	108	5,233.30	5,234.82	5,234.52	5,235.10	0.007390	4.30	25.63	50.34	0.69	0.19	0.19	4.21	1.52
4.00	108	5,232.93	5,234.46	5,234.15	5,234.74	0.007189	4.26	26.10	50.51	0.68	0.25	0.25	4.14	1.53
3.00	108	5,232.20	5,233.72	5,233.41	5,234.00	0.007422	4.30	25.56	50.24	0.69	0.18	0.18	4.23	1.52
2.00	108	5,231.46	5,232.98	5,232.68	5,233.27	0.007242	4.27	25.98	50.40	0.69	0.24	0.24	4.16	1.52
1.00	108	5,230.73	5,232.25	5,231.94	5,232.53	0.007443	4.31	25.51	50.23	0.69	0.17	0.17	4.23	1.52
0.00	108	5,229.99	5,231.51	5,231.21	5,231.80	0.007358	4.29	25.71	50.32	0.69	0.20	0.20	4.20	1.52
						Max	4.43					**Avg**	4.02	
						Min	1.79							
						Avg	4.12							

192.92	38	3.59	3.47
170.00	101	4.22	4.18
123.00	112	4.43	4.10
37.00	108	4.33	4.19

Profile Output Table - Chinde Branch 1 Post-mine 10 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
192.92	104	5,380.00	5,381.34	5,381.18	5,381.70	0.010888	4.85	21.45	20.04	0.83			4.85	1.34
192.46*	104	5,379.49	5,380.83	5,380.68	5,381.20	0.011084	4.88	21.32	19.99	0.83			4.88	1.34
192.00	104	5,378.97	5,380.31	5,380.17	5,380.68	0.011066	4.88	21.32	19.98	0.83			4.88	1.34
191.5*	104	5,378.42	5,379.77	5,379.62	5,380.14	0.010792	4.84	21.51	20.02	0.82			4.84	1.35
191.00	104	5,377.88	5,379.22	5,379.08	5,379.59	0.011157	4.89	21.27	19.98	0.83			4.89	1.34
190.5*	104	5,377.32	5,378.65	5,378.51	5,379.02	0.011357	4.92	21.14	19.93	0.84			4.92	1.33
190.00	104	5,376.76	5,378.09	5,377.95	5,378.46	0.011047	4.87	21.35	20.00	0.83			4.87	1.33
189.5*	104	5,376.21	5,377.55	5,377.39	5,377.92	0.010773	4.83	21.53	20.06	0.82			4.83	1.34
189.00	104	5,375.67	5,377.01	5,376.86	5,377.38	0.010873	4.85	21.46	20.04	0.83			4.85	1.34
188.5*	104	5,375.13	5,376.49	5,376.32	5,376.84	0.010399	4.77	21.80	20.14	0.81			4.77	1.36
188.00	104	5,374.60	5,375.93	5,375.79	5,376.30	0.011047	4.87	21.35	20.00	0.83			4.87	1.33
187.5*	104	5,374.05	5,375.39	5,375.23	5,375.75	0.010916	4.85	21.43	20.03	0.83			4.85	1.34
187.00	104	5,373.50	5,374.83	5,374.69	5,375.20	0.011165	4.89	21.27	19.98	0.84			4.89	1.33
186.5*	104	5,372.94	5,374.27	5,374.13	5,374.64	0.011269	4.91	21.20	19.96	0.84			4.91	1.33
186.00	104	5,372.38	5,373.71	5,373.57	5,374.08	0.011062	4.87	21.34	20.00	0.83			4.87	1.33
185.5*	104	5,371.83	5,373.16	5,373.02	5,373.53	0.011150	4.89	21.28	19.98	0.83			4.89	1.33
185.00	104	5,371.28	5,372.62	5,372.46	5,372.98	0.011003	4.87	21.38	20.01	0.83			4.87	1.34
184.5*	104	5,370.73	5,372.07	5,371.92	5,372.43	0.010989	4.86	21.39	20.02	0.83			4.86	1.34
184.00	104	5,370.18	5,371.52	5,371.37	5,371.88	0.011018	4.87	21.37	20.01	0.83			4.87	1.33
183.5*	104	5,369.63	5,370.97	5,370.82	5,371.33	0.010989	4.86	21.39	20.02	0.83			4.86	1.34
183.00	104	5,369.08	5,370.42	5,370.27	5,370.78	0.011003	4.87	21.38	20.01	0.83			4.87	1.34
182.5*	104	5,368.53	5,369.87	5,369.71	5,370.23	0.011003	4.87	21.38	20.01	0.83			4.87	1.34
182.00	104	5,367.98	5,369.32	5,369.17	5,369.68	0.010989	4.86	21.39	20.02	0.83			4.86	1.34
181.5*	104	5,367.43	5,368.77	5,368.62	5,369.13	0.011018	4.87	21.37	20.01	0.83			4.87	1.33
181.00	104	5,366.88	5,368.22	5,368.07	5,368.58	0.010989	4.86	21.39	20.02	0.83			4.86	1.34
180.5*	104	5,366.33	5,367.67	5,367.52	5,368.03	0.011003	4.87	21.38	20.01	0.83			4.87	1.34
180.00	104	5,365.78	5,367.12	5,366.96	5,367.48	0.011003	4.87	21.38	20.01	0.83			4.87	1.34
179.5*	104	5,365.23	5,366.57	5,366.42	5,366.93	0.010989	4.86	21.39	20.02	0.83			4.86	1.34
179.00	104	5,364.68	5,366.02	5,365.87	5,366.38	0.011018	4.87	21.37	20.01	0.83			4.87	1.33
178.5*	104	5,364.13	5,365.47	5,365.32	5,365.83	0.010989	4.86	21.39	20.02	0.83			4.86	1.34
178.00	104	5,363.58	5,364.92	5,364.77	5,365.28	0.011003	4.87	21.38	20.01	0.83			4.87	1.34
177.5*	104	5,363.03	5,364.37	5,364.22	5,364.73	0.011003	4.87	21.38	20.01	0.83			4.87	1.34
177.00	104	5,362.48	5,363.82	5,363.67	5,364.18	0.010989	4.86	21.39	20.02	0.83			4.86	1.34
176.5*	104	5,361.93	5,363.27	5,363.12	5,363.63	0.011018	4.87	21.37	20.01	0.83			4.87	1.33
176.00	104	5,361.38	5,362.72	5,362.57	5,363.08	0.010989	4.86	21.39	20.02	0.83			4.86	1.34
175.5*	104	5,360.83	5,362.17	5,362.02	5,362.53	0.011003	4.87	21.38	20.01	0.83			4.87	1.34
175.00	104	5,360.28	5,361.62	5,361.47	5,361.98	0.011003	4.87	21.38	20.01	0.83			4.87	1.34
174.5*	104	5,359.73	5,361.07	5,360.92	5,361.43	0.010974	4.86	21.40	20.02	0.83			4.86	1.34
174.00	104	5,359.18	5,360.52	5,360.37	5,360.88	0.011032	4.87	21.36	20.01	0.83			4.87	1.33
173.5*	104	5,358.63	5,359.97	5,359.82	5,360.33	0.010960	4.86	21.40	20.02	0.83			4.86	1.34
173.00	104	5,358.08	5,359.41	5,359.27	5,359.78	0.011062	4.87	21.34	20.00	0.83			4.87	1.33
172.5*	104	5,357.53	5,358.87	5,358.72	5,359.23	0.010902	4.85	21.44	20.03	0.83			4.85	1.34
172.00	104	5,356.98	5,358.31	5,358.17	5,358.68	0.011180	4.89	21.26	19.98	0.84			4.89	1.33
171.5*	104	5,356.43	5,357.80	5,357.61	5,358.15	0.009964	4.70	22.12	20.24	0.79			4.70	1.37
171.00	104	5,355.88	5,357.55	5,357.07	5,357.74	0.004257	3.54	33.67	52.33	0.54	0.65	0.66	3.09	1.67
170.5*	104	5,355.37	5,357.50	5,356.56	5,357.57	0.001230	2.31	58.90	58.59	0.30	0.76	0.80	1.77	2.13
170.00	258	5,354.86	5,357.01	5,356.91	5,357.43	0.007143	5.61	60.38	59.15	0.73	1.88	1.98	4.27	2.15
169.5*	258	5,354.50	5,356.70	5,356.54	5,357.08	0.006464	5.42	62.95	59.96	0.70	1.85	1.95	4.10	2.19
169.00	258	5,354.13	5,356.49	5,356.18	5,356.78	0.004442	4.75	73.27	62.60	0.59	1.74	1.84	3.52	2.36
168.5*	258	5,353.76	5,355.97	5,355.90	5,356.47	0.007762	5.96	53.17	53.61	0.77	1.58	1.67	4.85	2.21
168.00	258	5,353.39	5,355.88	5,355.44	5,356.11	0.003416	4.34	81.21	64.32	0.52	1.63	1.78	3.18	2.49
167.5*	258	5,353.03	5,355.11	5,355.11	5,355.81	0.011083	6.80	41.74	37.83	0.90	1.52	1.52	6.18	2.08
167.00	258	5,352.66	5,354.79	5,354.70	5,355.23	0.007514	5.71	59.00	58.34	0.75	1.90	1.99	4.37	2.13
166.00	258	5,351.92	5,354.07	5,353.96	5,354.49	0.007146	5.61	60.46	59.47	0.73	1.88	1.96	4.27	2.15
165.00	258	5,351.19	5,353.32	5,353.24	5,353.75	0.007561	5.72	59.44	60.57	0.75	1.86	1.96	4.34	2.13
164.00	258	5,350.45	5,352.61	5,352.50	5,353.02	0.007021	5.57	61.65	62.36	0.72	1.85	1.90	4.19	2.16
163.00	258	5,349.72	5,351.85	5,351.77	5,352.29	0.007494	5.71	58.97	58.00	0.75	1.92	1.99	4.37	2.13
162.00	258	5,348.98	5,351.13	5,351.02	5,351.55	0.007153	5.62	60.08	58.16	0.73	1.91	1.97	4.29	2.15
161.00	258	5,348.25	5,350.38	5,350.29	5,350.82	0.007509	5.71	58.96	58.13	0.75	1.92	1.98	4.38	2.13
160.00	258	5,347.51	5,349.66	5,349.55	5,350.08	0.007211	5.63	60.29	59.60	0.73	1.90	1.94	4.28	2.15

Profile Output Table - Chinde Branch 1 Post-mine 10 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
159.00	258	5,346.78	5,348.92	5,348.82	5,349.35	0.007381	5.68	59.47	58.56	0.74	1.91	1.97	4.34	2.14
158.00	258	5,346.04	5,348.18	5,348.09	5,348.61	0.007411	5.68	59.31	58.31	0.74	1.92	1.98	4.35	2.14
157.00	258	5,345.31	5,347.46	5,347.36	5,347.88	0.007136	5.60	60.91	61.03	0.73	1.89	1.90	4.24	2.15
156.00	258	5,344.58	5,346.71	5,346.63	5,347.15	0.007483	5.70	59.55	60.06	0.75	1.89	1.95	4.33	2.13
155.00	258	5,343.84	5,346.00	5,345.89	5,346.41	0.007098	5.60	60.49	59.01	0.73	1.94	1.91	4.26	2.16
154.00	258	5,343.11	5,345.25	5,345.15	5,345.68	0.007470	5.70	58.64	56.45	0.75	1.95	2.01	4.40	2.14
153.00	258	5,342.37	5,344.52	5,344.41	5,344.94	0.007231	5.64	59.52	57.01	0.73	1.94	1.99	4.33	2.15
152.00	258	5,341.64	5,343.78	5,343.68	5,344.21	0.007469	5.70	59.18	58.49	0.75	1.93	1.95	4.36	2.13
151.00	258	5,340.90	5,343.06	5,342.94	5,343.48	0.007149	5.62	59.78	56.98	0.73	1.92	2.01	4.32	2.15
150.5*	258	5,340.54	5,342.68	5,342.58	5,343.11	0.007387	5.68	58.98	56.79	0.74	1.93	2.01	4.37	2.14
150.00	258	5,340.17	5,342.31	5,342.21	5,342.74	0.007387	5.68	58.98	56.79	0.74	1.94	2.00	4.37	2.14
149.5*	258	5,339.80	5,341.94	5,341.84	5,342.37	0.007378	5.68	59.00	56.78	0.74	1.94	2.00	4.37	2.14
149.00	258	5,339.43	5,341.58	5,341.47	5,342.01	0.007168	5.62	59.69	56.88	0.73	1.93	2.00	4.32	2.15
148.5*	258	5,339.07	5,341.21	5,341.11	5,341.64	0.007356	5.67	59.16	57.09	0.74	1.94	1.99	4.36	2.14
148.00	258	5,338.70	5,340.84	5,340.75	5,341.27	0.007425	5.69	59.06	57.53	0.74	1.95	1.97	4.37	2.14
147.5*	258	5,338.33	5,340.48	5,340.37	5,340.90	0.007255	5.64	59.99	59.01	0.74	1.91	1.95	4.30	2.15
147.00	258	5,337.97	5,340.12	5,340.02	5,340.54	0.007235	5.63	60.59	61.05	0.73	1.87	1.92	4.26	2.15
146.5*	258	5,337.60	5,339.74	5,339.64	5,340.17	0.007323	5.66	59.75	58.94	0.74	1.92	1.94	4.32	2.14
146.00	258	5,337.23	5,339.38	5,339.27	5,339.80	0.007245	5.64	59.66	57.66	0.74	1.95	1.96	4.32	2.15
145.00	258	5,336.50	5,338.64	5,338.55	5,339.07	0.007367	5.67	59.21	57.41	0.74	1.94	1.98	4.36	2.14
144.5*	258	5,336.13	5,338.27	5,338.18	5,338.70	0.007360	5.67	59.34	57.81	0.74	1.93	1.97	4.35	2.14
144.00	258	5,335.76	5,337.90	5,337.80	5,338.33	0.007387	5.68	59.36	58.22	0.74	1.93	1.96	4.35	2.14
143.5*	258	5,335.39	5,337.54	5,337.43	5,337.96	0.007164	5.62	60.13	58.48	0.73	1.91	1.97	4.29	2.15
143.00	258	5,335.03	5,337.16	5,337.07	5,337.60	0.007477	5.70	59.15	58.46	0.75	1.91	1.98	4.36	2.13
142.00	258	5,334.29	5,336.44	5,336.33	5,336.86	0.007147	5.61	60.07	58.03	0.73	1.91	1.98	4.30	2.15
141.00	258	5,333.56	5,335.70	5,335.60	5,336.13	0.007490	5.71	58.80	57.28	0.75	1.93	2.00	4.39	2.13
140.00	258	5,332.82	5,334.97	5,334.87	5,335.39	0.007177	5.62	59.91	57.80	0.73	1.94	1.96	4.31	2.15
139.00	258	5,332.09	5,334.23	5,334.14	5,334.66	0.007473	5.70	58.98	57.76	0.75	1.96	1.95	4.37	2.14
138.00	258	5,331.35	5,333.50	5,333.40	5,333.92	0.007250	5.64	59.95	58.83	0.74	1.93	1.93	4.30	2.15
137.00	258	5,330.62	5,332.77	5,332.66	5,333.19	0.007271	5.65	59.30	56.65	0.74	1.97	1.97	4.35	2.15
136.00	258	5,329.89	5,332.03	5,331.93	5,332.46	0.007383	5.68	59.18	57.50	0.74	1.95	1.97	4.36	2.14
135.00	258	5,329.15	5,331.29	5,331.19	5,331.72	0.007428	5.69	59.00	57.34	0.74	1.93	1.99	4.37	2.14
134.00	258	5,328.41	5,330.55	5,330.46	5,330.98	0.007361	5.67	59.19	57.26	0.74	1.93	2.00	4.36	2.14
133.00	258	5,327.68	5,329.83	5,329.72	5,330.25	0.007147	5.61	59.96	57.62	0.73	1.93	1.97	4.30	2.15
132.00	258	5,326.95	5,329.08	5,328.99	5,329.52	0.007505	5.71	58.78	57.39	0.75	1.94	1.98	4.39	2.13
131.00	258	5,326.21	5,328.36	5,328.25	5,328.78	0.007186	5.62	60.12	58.67	0.73	1.92	1.95	4.29	2.15
130.00	258	5,325.48	5,327.62	5,327.52	5,328.05	0.007407	5.68	59.13	57.58	0.74	1.97	1.95	4.36	2.14
129.00	258	5,324.74	5,326.88	5,326.79	5,327.31	0.007377	5.68	59.15	57.32	0.74	1.93	1.99	4.36	2.14
128.00	258	5,324.01	5,326.16	5,326.05	5,326.58	0.007178	5.62	60.00	58.16	0.73	1.93	1.96	4.30	2.15
127.00	258	5,323.28	5,325.41	5,325.33	5,325.85	0.007525	5.71	59.21	59.25	0.75	1.95	1.91	4.36	2.13
126.00	258	5,322.54	5,324.70	5,324.58	5,325.11	0.007017	5.58	60.61	58.49	0.72	1.99	1.88	4.26	2.16
125.00	258	5,321.81	5,323.93	5,323.86	5,324.37	0.007772	5.78	58.49	59.34	0.76	2.00	1.87	4.41	2.12
124.00	258	5,321.07	5,323.36	5,323.12	5,323.69	0.005283	5.05	67.83	59.73	0.64	1.87	1.86	3.80	2.29
123.5*	258	5,320.71	5,323.21	5,322.75	5,323.44	0.003390	4.33	80.72	62.43	0.52	1.72	1.71	3.20	2.50
123.00	332	5,320.34	5,322.70	5,322.59	5,323.18	0.007385	6.13	72.55	60.80	0.76	2.34	2.32	4.58	2.36
122.5*	332	5,319.97	5,322.33	5,322.22	5,322.81	0.007360	6.12	72.68	60.93	0.76	2.33	2.32	4.57	2.36
122.00	332	5,319.60	5,321.98	5,321.85	5,322.45	0.007117	6.05	73.67	61.20	0.74	2.32	2.30	4.51	2.38
121.00	332	5,318.87	5,321.23	5,321.12	5,321.71	0.007524	6.17	71.82	60.12	0.76	2.34	2.35	4.62	2.35
120.00	332	5,318.13	5,320.50	5,320.38	5,320.97	0.007316	6.11	73.37	62.45	0.75	2.31	2.28	4.53	2.36
119.00	332	5,317.40	5,319.77	5,319.65	5,320.24	0.007186	6.07	73.69	62.00	0.75	2.28	2.32	4.51	2.37
118.00	332	5,316.67	5,319.03	5,318.92	5,319.51	0.007399	6.14	72.40	60.51	0.76	2.39	2.28	4.59	2.36
117.00	332	5,315.93	5,318.31	5,318.18	5,318.78	0.007240	6.10	72.47	59.07	0.75	2.33	2.38	4.58	2.38
116.00	332	5,315.20	5,317.56	5,317.45	5,318.04	0.007474	6.16	71.94	59.94	0.76	2.31	2.39	4.62	2.36
115.00	332	5,314.46	5,316.83	5,316.71	5,317.31	0.007227	6.09	73.04	60.55	0.75	2.29	2.36	4.55	2.37
114.00	332	5,313.73	5,316.09	5,315.98	5,316.57	0.007407	6.14	72.27	60.21	0.76	2.32	2.36	4.59	2.36
113.00	332	5,312.99	5,315.37	5,315.24	5,315.84	0.007250	6.10	72.39	58.95	0.75	2.37	2.34	4.59	2.37
112.00	332	5,312.26	5,314.62	5,314.51	5,315.11	0.007446	6.15	71.89	59.52	0.76	2.37	2.34	4.62	2.36
111.00	332	5,311.52	5,313.90	5,313.77	5,314.37	0.007216	6.09	72.57	59.12	0.75	2.40	2.31	4.57	2.38
110.00	332	5,310.79	5,313.15	5,313.04	5,313.64	0.007423	6.15	71.75	58.89	0.76	2.35	2.39	4.63	2.36
109.00	332	5,310.05	5,312.42	5,312.30	5,312.90	0.007358	6.13	71.93	58.75	0.76	2.32	2.41	4.62	2.37

Profile Output Table - Chinde Branch 1 Post-mine 10 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
108.00	332	5,309.32	5,311.71	5,311.57	5,312.17	0.007100	6.06	72.90	58.84	0.74	2.32	2.39	4.55	2.38
107.00	332	5,308.59	5,310.95	5,310.84	5,311.44	0.007541	6.19	70.85	57.46	0.76	2.39	2.41	4.69	2.36
106.00	332	5,307.85	5,310.22	5,310.10	5,310.70	0.007228	6.09	73.01	60.50	0.75	2.30	2.35	4.55	2.37
105.00	332	5,307.12	5,309.48	5,309.37	5,309.96	0.007422	6.14	72.33	60.55	0.76	2.33	2.34	4.59	2.36
104.00	332	5,306.38	5,308.76	5,308.63	5,309.23	0.007211	6.09	72.69	59.38	0.75	2.33	2.37	4.57	2.38
103.00	332	5,305.65	5,308.01	5,307.90	5,308.50	0.007460	6.16	71.85	59.55	0.76	2.38	2.33	4.62	2.36
102.00	332	5,304.91	5,307.29	5,307.16	5,307.76	0.007158	6.07	72.91	59.47	0.75	2.31	2.38	4.55	2.38
101.00	332	5,304.18	5,306.54	5,306.43	5,307.03	0.007503	6.17	71.52	59.03	0.76	2.32	2.42	4.64	2.36
100.00	332	5,303.44	5,305.81	5,305.69	5,306.29	0.007220	6.09	73.05	60.52	0.75	2.29	2.37	4.54	2.37
99.75*	332	5,303.26	5,305.63	5,305.51	5,306.11	0.007280	6.10	72.81	60.48	0.75	2.29	2.37	4.56	2.37
99.5*	332	5,303.08	5,305.44	5,305.33	5,305.92	0.007402	6.14	72.35	60.39	0.76	2.30	2.37	4.59	2.36
99.25*	332	5,302.89	5,305.26	5,305.14	5,305.74	0.007281	6.10	72.80	60.45	0.75	2.30	2.37	4.56	2.37
99.00	332	5,302.71	5,305.08	5,304.96	5,305.56	0.007318	6.11	72.66	60.44	0.75	2.30	2.37	4.57	2.37
98.75*	332	5,302.52	5,304.91	5,304.77	5,305.37	0.007058	6.04	73.69	60.63	0.74	2.29	2.35	4.51	2.38
98.5*	332	5,302.34	5,304.73	5,304.59	5,305.19	0.006972	6.01	74.05	60.71	0.74	2.28	2.35	4.48	2.39
98.25*	332	5,302.16	5,304.56	5,304.41	5,305.01	0.006851	5.98	74.56	60.81	0.73	2.27	2.34	4.45	2.40
97.25*	332	5,300.88	5,303.53	5,303.13	5,303.84	0.004179	5.04	89.85	63.08	0.58	2.05	2.13	3.70	2.65
97.00	332	5,300.51	5,303.53	5,302.76	5,303.73	0.002218	4.05	113.81	66.96	0.43	1.75	1.83	2.92	3.02
96.5*	332	5,300.51	5,303.35	5,302.76	5,303.59	0.002979	4.48	101.93	64.95	0.50	1.89	1.97	3.26	2.84
96.00	332	5,300.51	5,302.87	5,302.76	5,303.36	0.007405	6.14	72.06	59.61	0.76	2.31	2.39	4.61	2.36
95.5*	332	5,300.14	5,302.50	5,302.39	5,302.99	0.007412	6.14	72.17	59.98	0.76	2.32	2.37	4.60	2.36
95.00	332	5,299.77	5,302.14	5,302.02	5,302.62	0.007212	6.08	73.22	60.91	0.75	2.32	2.32	4.53	2.37
94.00	332	5,299.04	5,301.40	5,301.29	5,301.88	0.007433	6.15	72.34	60.70	0.76	2.30	2.37	4.59	2.36
93.00	332	5,298.30	5,300.68	5,300.55	5,301.15	0.007209	6.08	72.83	59.77	0.75	2.32	2.37	4.56	2.38
92.00	332	5,297.57	5,299.92	5,299.82	5,300.41	0.007583	6.19	72.11	61.55	0.77	2.33	2.32	4.60	2.35
91.00	332	5,296.83	5,299.20	5,299.09	5,299.66	0.007210	6.07	74.90	65.79	0.75	2.30	2.18	4.43	2.37
90.00	332	5,296.10	5,298.47	5,298.36	5,298.94	0.007276	6.09	73.97	63.76	0.75	2.30	2.25	4.49	2.37
89.00	332	5,295.36	5,297.73	5,297.61	5,298.20	0.007354	6.12	72.58	60.55	0.75	2.34	2.33	4.57	2.37
88.00	332	5,294.63	5,297.00	5,296.88	5,297.47	0.007192	6.07	73.47	61.43	0.75	2.30	2.31	4.52	2.37
87.00	332	5,293.90	5,296.26	5,296.15	5,296.74	0.007459	6.15	72.43	61.22	0.76	2.32	2.33	4.58	2.36
86.00	332	5,293.16	5,295.53	5,295.42	5,296.00	0.007203	6.08	73.48	61.57	0.75	2.31	2.31	4.52	2.37
85.00	332	5,292.43	5,294.79	5,294.68	5,295.27	0.007424	6.14	72.51	61.08	0.76	2.32	2.33	4.58	2.36
84.00	332	5,291.69	5,294.06	5,293.94	5,294.54	0.007303	6.11	72.73	60.47	0.75	2.33	2.33	4.56	2.37
83.00	332	5,290.96	5,293.31	5,293.21	5,293.80	0.007480	6.15	72.93	62.89	0.76	2.33	2.27	4.55	2.35
82.00	332	5,290.22	5,292.59	5,292.48	5,293.06	0.007170	6.06	74.29	63.56	0.75	2.31	2.24	4.47	2.37
81.5*	332	5,289.86	5,292.22	5,292.11	5,292.70	0.007341	6.11	73.56	63.26	0.75	2.31	2.26	4.51	2.36
81.00	332	5,289.49	5,291.85	5,291.74	5,292.33	0.007357	6.12	73.49	63.25	0.75	2.29	2.27	4.52	2.36
80.5*	332	5,289.12	5,291.49	5,291.37	5,291.96	0.007165	6.06	74.18	63.18	0.75	2.28	2.28	4.48	2.37
80.00	332	5,288.76	5,291.12	5,291.01	5,291.60	0.007367	6.12	73.32	62.84	0.76	2.28	2.30	4.53	2.36
79.00	332	5,288.02	5,290.38	5,290.28	5,290.86	0.007410	6.13	73.08	62.61	0.76	2.30	2.29	4.54	2.36
78.00	332	5,287.28	5,289.64	5,289.53	5,290.12	0.007337	6.11	73.20	62.18	0.75	2.28	2.32	4.54	2.36
77.00	332	5,286.55	5,288.92	5,288.80	5,289.39	0.007247	6.09	73.55	62.22	0.75	2.28	2.31	4.51	2.37
76.00	332	5,285.82	5,288.19	5,288.07	5,288.67	0.007261	6.10	72.96	60.68	0.75	2.31	2.34	4.55	2.37
75.00	332	5,285.08	5,287.44	5,287.33	5,287.92	0.007524	6.18	71.60	59.47	0.76	2.36	2.36	4.64	2.36
74.00	332	5,284.34	5,286.70	5,286.59	5,287.18	0.007333	6.11	73.17	62.05	0.75	2.29	2.32	4.54	2.36
73.00	332	5,283.61	5,285.98	5,285.86	5,286.45	0.007274	6.10	73.58	62.62	0.75	2.28	2.30	4.51	2.37
72.00	332	5,282.88	5,285.24	5,285.13	5,285.71	0.007415	6.13	73.42	63.66	0.76	2.27	2.29	4.52	2.36
71.00	332	5,282.14	5,284.48	5,284.39	5,284.97	0.007684	6.21	72.43	63.54	0.77	2.28	2.31	4.58	2.34
70.00	332	5,281.41	5,283.80	5,283.66	5,284.26	0.007002	6.02	74.13	61.26	0.74	2.29	2.32	4.48	2.39
69.00	332	5,280.67	5,283.05	5,282.92	5,283.52	0.007107	6.06	73.21	59.78	0.74	2.30	2.37	4.53	2.38
68.5*	332	5,280.30	5,282.69	5,282.55	5,283.15	0.006998	6.02	74.09	61.11	0.74	2.29	2.32	4.48	2.39
68.00	332	5,279.94	5,282.31	5,282.19	5,282.78	0.007162	6.06	74.24	63.30	0.75	2.29	2.26	4.47	2.37
67.5*	332	5,279.58	5,281.94	5,281.83	5,282.42	0.007322	6.11	73.69	63.44	0.75	2.29	2.27	4.51	2.36
67.00	332	5,279.21	5,281.56	5,281.46	5,282.04	0.007502	6.16	73.09	63.60	0.76	2.28	2.28	4.54	2.35
66.00	332	5,278.47	5,280.85	5,280.73	5,281.31	0.007080	6.03	74.79	64.00	0.74	2.26	2.26	4.44	2.38
65.00	332	5,277.74	5,280.09	5,279.99	5,280.57	0.007598	6.19	72.61	63.18	0.77	2.30	2.29	4.57	2.35
64.00	332	5,277.00	5,279.38	5,279.26	5,279.83	0.007036	6.01	75.71	66.15	0.74	2.24	2.21	4.39	2.38
63.00	332	5,276.27	5,278.62	5,278.52	5,279.10	0.007531	6.17	72.88	63.31	0.76	2.25	2.33	4.56	2.35
62.00	332	5,275.53	5,277.90	5,277.79	5,278.36	0.007237	6.07	74.79	65.73	0.75	2.22	2.26	4.44	2.36
61.00	332	5,274.80	5,277.16	5,277.05	5,277.63	0.007322	6.10	74.11	64.69	0.75	2.24	2.28	4.48	2.36

Profile Output Table - Chinde Branch 1 Post-mine 10 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
60.00	332	5,274.06	5,276.41	5,276.31	5,276.89	0.007447	6.14	73.39	63.92	0.76	2.25	2.30	4.52	2.35
59.00	332	5,273.33	5,275.71	5,275.59	5,276.17	0.006985	6.00	75.82	65.88	0.74	2.22	2.23	4.38	2.38
58.00	332	5,272.60	5,274.95	5,274.85	5,275.44	0.007568	6.18	72.48	62.48	0.76	2.31	2.31	4.58	2.35
57.00	332	5,271.86	5,274.23	5,274.11	5,274.69	0.007140	6.05	74.95	65.14	0.74	2.23	2.26	4.43	2.37
56.00	332	5,271.13	5,273.48	5,273.38	5,273.96	0.007484	6.15	73.29	64.01	0.76	2.28	2.27	4.53	2.35
55.00	332	5,270.39	5,272.77	5,272.64	5,273.23	0.007122	6.05	74.65	64.07	0.74	2.26	2.26	4.45	2.38
54.00	332	5,269.66	5,272.01	5,271.91	5,272.50	0.007510	6.16	72.84	62.95	0.76	2.30	2.29	4.56	2.35
53.00	332	5,268.92	5,271.29	5,271.17	5,271.76	0.007189	6.06	74.50	64.35	0.75	2.26	2.26	4.46	2.37
52.00	332	5,268.19	5,270.54	5,270.45	5,271.02	0.007477	6.15	73.41	64.29	0.76	2.28	2.26	4.52	2.35
51.00	332	5,267.45	5,269.82	5,269.71	5,270.28	0.007248	6.08	74.58	65.26	0.75	2.24	2.26	4.45	2.36
50.00	332	5,266.72	5,269.08	5,268.98	5,269.56	0.007296	6.10	74.05	64.22	0.75	2.26	2.27	4.48	2.36
49.00	332	5,265.99	5,268.35	5,268.24	5,268.82	0.007388	6.12	74.11	65.40	0.76	2.24	2.26	4.48	2.36
48.00	332	5,265.25	5,267.62	5,267.50	5,268.09	0.007255	6.09	73.93	63.43	0.75	2.29	2.26	4.49	2.37
47.00	332	5,264.52	5,266.87	5,266.77	5,267.35	0.007436	6.14	73.58	64.36	0.76	2.27	2.26	4.51	2.35
46.00	332	5,263.78	5,266.13	5,266.04	5,266.61	0.007411	6.13	74.03	65.40	0.76	2.25	2.26	4.48	2.35
45.00	332	5,263.04	5,265.40	5,265.30	5,265.87	0.007348	6.11	74.18	65.16	0.75	2.22	2.28	4.48	2.36
44.5*	332	5,262.67	5,265.04	5,264.93	5,265.51	0.007186	6.06	74.72	65.00	0.75	2.24	2.25	4.44	2.37
44.00	332	5,262.31	5,264.68	5,264.56	5,265.14	0.007205	6.07	74.73	65.21	0.75	2.26	2.23	4.44	2.37
43.5*	332	5,261.95	5,264.30	5,264.21	5,264.78	0.007413	6.13	74.09	65.62	0.76	2.25	2.24	4.48	2.35
43.00	332	5,261.58	5,263.95	5,263.84	5,264.41	0.007208	6.06	75.19	66.58	0.75	2.22	2.23	4.42	2.37
42.00	332	5,260.84	5,263.19	5,263.10	5,263.67	0.007542	6.17	73.25	64.49	0.76	2.29	2.26	4.53	2.35
41.00	332	5,260.10	5,262.48	5,262.36	5,262.93	0.007070	6.03	75.49	65.92	0.74	2.26	2.20	4.40	2.38
40.00	332	5,259.38	5,261.73	5,261.64	5,262.21	0.007403	6.12	74.06	65.42	0.76	2.27	2.23	4.48	2.35
39.00	332	5,258.64	5,261.01	5,260.90	5,261.48	0.007253	6.09	74.04	63.74	0.75	2.34	2.21	4.48	2.37
38.00	332	5,257.91	5,260.27	5,260.16	5,260.74	0.007392	6.12	73.62	63.99	0.76	2.28	2.26	4.51	2.36
37.00	333	5,257.17	5,259.54	5,259.43	5,260.01	0.007258	6.09	74.01	63.21	0.75	2.25	2.33	4.50	2.37
36.00	333	5,256.44	5,258.80	5,258.70	5,259.28	0.007436	6.14	73.63	64.01	0.76	2.28	2.28	4.52	2.36
35.00	333	5,255.70	5,258.06	5,257.96	5,258.54	0.007393	6.13	74.07	64.85	0.76	2.27	2.26	4.50	2.36
34.5*	333	5,255.33	5,257.70	5,257.59	5,258.17	0.007169	6.06	75.11	65.44	0.75	2.26	2.23	4.43	2.37
34.00	333	5,254.97	5,257.34	5,257.23	5,257.81	0.007210	6.07	75.10	65.86	0.75	2.26	2.22	4.43	2.37
33.5*	333	5,254.60	5,256.95	5,256.86	5,257.43	0.007529	6.17	73.49	64.61	0.76	2.28	2.27	4.53	2.35
33.00	333	5,254.22	5,256.59	5,256.47	5,257.06	0.007275	6.10	74.25	64.09	0.75	2.27	2.27	4.49	2.37
32.5*	333	5,253.86	5,256.22	5,256.12	5,256.69	0.007398	6.13	74.29	65.56	0.76	2.25	2.25	4.48	2.36
32.00	333	5,253.50	5,255.86	5,255.75	5,256.32	0.007208	6.06	75.88	67.82	0.75	2.21	2.22	4.39	2.36
31.5*	333	5,253.13	5,255.50	5,255.38	5,255.96	0.007119	6.04	75.51	65.76	0.74	2.24	2.25	4.41	2.37
31.00	333	5,252.76	5,255.13	5,255.02	5,255.60	0.007236	6.09	74.32	63.88	0.75	2.27	2.28	4.48	2.37
30.00	333	5,252.03	5,254.39	5,254.29	5,254.87	0.007442	6.14	73.75	64.42	0.76	2.27	2.27	4.52	2.36
29.00	333	5,251.29	5,253.67	5,253.55	5,254.13	0.007161	6.06	74.53	63.64	0.75	2.27	2.27	4.47	2.38
28.00	333	5,250.57	5,252.93	5,252.82	5,253.41	0.007343	6.11	74.21	64.71	0.75	2.26	2.26	4.49	2.36
27.00	333	5,249.83	5,252.19	5,252.08	5,252.67	0.007385	6.13	73.67	63.59	0.76	2.28	2.28	4.52	2.36
26.5*	333	5,249.46	5,251.82	5,251.72	5,252.30	0.007343	6.12	73.89	63.79	0.75	2.27	2.28	4.51	2.36
26.00	333	5,249.09	5,251.45	5,251.35	5,251.93	0.007330	6.11	74.01	63.99	0.75	2.26	2.29	4.50	2.36
25.5*	333	5,248.72	5,251.09	5,250.97	5,251.56	0.007185	6.07	74.50	63.84	0.75	2.27	2.28	4.47	2.37
25.00	333	5,248.36	5,250.72	5,250.62	5,251.20	0.007444	6.15	73.38	63.36	0.76	2.29	2.29	4.54	2.36
24.00	333	5,247.62	5,250.00	5,249.87	5,250.46	0.007192	6.08	74.13	62.86	0.75	2.36	2.23	4.49	2.38
23.00	333	5,246.89	5,249.25	5,249.14	5,249.73	0.007451	6.15	73.01	62.37	0.76	2.37	2.25	4.56	2.36
22.00	333	5,246.15	5,248.51	5,248.40	5,248.99	0.007419	6.14	73.61	63.77	0.76	2.29	2.28	4.52	2.36
21.00	333	5,245.42	5,247.80	5,247.68	5,248.26	0.007023	6.02	75.55	65.09	0.74	2.30	2.20	4.41	2.38
20.00	333	5,244.69	5,247.05	5,246.95	5,247.53	0.007513	6.17	72.60	61.79	0.76	2.32	2.32	4.59	2.36
19.00	333	5,243.95	5,246.31	5,246.20	5,246.78	0.007413	6.13	74.25	65.58	0.76	2.24	2.26	4.49	2.36
18.00	333	5,243.21	5,245.58	5,245.46	5,246.05	0.007208	6.08	74.41	63.83	0.75	2.27	2.27	4.48	2.37
17.00	333	5,242.48	5,244.83	5,244.74	5,245.31	0.007520	6.16	73.55	64.67	0.76	2.26	2.28	4.53	2.35
16.00	333	5,241.74	5,244.12	5,244.00	5,244.58	0.007050	6.03	75.61	65.55	0.74	2.23	2.25	4.40	2.38
15.00	333	5,241.01	5,243.36	5,243.26	5,243.85	0.007538	6.17	72.93	63.02	0.76	2.30	2.30	4.57	2.35
14.00	333	5,240.27	5,242.65	5,242.53	5,243.11	0.007113	6.05	75.19	65.04	0.74	2.25	2.25	4.43	2.38
13.5*	333	5,239.91	5,242.28	5,242.17	5,242.75	0.007284	6.10	74.20	64.06	0.75	2.27	2.27	4.49	2.37
13.00	333	5,239.54	5,241.90	5,241.80	5,242.38	0.007418	6.14	73.41	63.18	0.76	2.30	2.29	4.54	2.36
12.5*	333	5,239.17	5,241.54	5,241.43	5,242.01	0.007259	6.09	74.44	64.47	0.75	2.27	2.26	4.47	2.37
12.00	333	5,238.81	5,241.18	5,241.07	5,241.64	0.007260	6.09	74.94	65.95	0.75	2.24	2.24	4.44	2.37
11.5*	333	5,238.44	5,240.80	5,240.70	5,241.28	0.007322	6.11	74.26	64.64	0.75	2.26	2.27	4.48	2.36

Profile Output Table - Chinde Branch 1 Post-mine 10 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
11.00	333	5,238.07	5,240.45	5,240.33	5,240.91	0.007143	6.06	74.64	63.79	0.74	2.27	2.27	4.46	2.38
10.5*	333	5,237.71	5,240.08	5,239.97	5,240.55	0.007328	6.11	73.73	63.14	0.75	2.30	2.28	4.52	2.37
10.00	333	5,237.34	5,239.70	5,239.60	5,240.18	0.007384	6.13	73.36	62.69	0.76	2.32	2.28	4.54	2.36
9.5*	333	5,236.97	5,239.33	5,239.23	5,239.81	0.007459	6.15	73.54	64.00	0.76	2.30	2.26	4.53	2.36
9.00	333	5,236.60	5,238.97	5,238.86	5,239.43	0.007228	6.08	75.09	66.04	0.75	2.26	2.21	4.43	2.37
8.00	333	5,235.87	5,238.23	5,238.13	5,238.71	0.007332	6.11	74.40	65.15	0.75	2.27	2.24	4.48	2.36
7.00	333	5,235.14	5,237.50	5,237.40	5,237.97	0.007300	6.10	74.84	66.12	0.75	2.27	2.21	4.45	2.36
6.5*	333	5,234.77	5,237.13	5,237.02	5,237.60	0.007324	6.11	74.53	65.47	0.75	2.28	2.23	4.47	2.36
6.00	333	5,234.40	5,236.77	5,236.66	5,237.24	0.007200	6.07	74.85	65.03	0.75	2.28	2.23	4.45	2.37
5.5*	333	5,234.04	5,236.40	5,236.30	5,236.87	0.007436	6.14	74.26	65.88	0.76	2.28	2.22	4.48	2.35
5.00	333	5,233.67	5,236.03	5,235.93	5,236.50	0.007272	6.09	75.33	67.25	0.75	2.26	2.19	4.42	2.36
4.5*	333	5,233.30	5,235.66	5,235.56	5,236.13	0.007325	6.10	74.93	66.64	0.75	2.25	2.21	4.44	2.36
4.00	333	5,232.93	5,235.31	5,235.19	5,235.77	0.007001	6.01	76.20	66.69	0.74	2.22	2.21	4.37	2.38
3.00	333	5,232.20	5,234.55	5,234.46	5,235.04	0.007516	6.17	72.98	62.94	0.76	2.30	2.30	4.56	2.35
2.00	333	5,231.46	5,233.83	5,233.72	5,234.30	0.007165	6.06	74.76	64.38	0.75	2.26	2.26	4.45	2.37
1.00	333	5,230.73	5,233.09	5,232.99	5,233.57	0.007435	6.15	73.33	63.13	0.76	2.29	2.29	4.54	2.36
0.00	333	5,229.99	5,232.35	5,232.25	5,232.83	0.007352	6.12	74.04	64.33	0.75	2.27	2.27	4.50	2.36
						Max	6.80					**Avg**	4.50	
						Min	2.31							
						Avg	5.74							

192.92	104	4.92	4.76
170.00	258	6.80	4.31
123.00	332	6.21	4.49
37.00	333	6.17	4.48

Profile Output Table - Chinde Branch 1 Post-mine 25 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
192.92	149	5,380.00	5,381.60	5,381.62	5,382.06	0.011000	5.47	29.84	53.20	0.85	0.72	0.71	4.99	1.60
192.46*	149	5,379.49	5,381.09	5,381.11	5,381.55	0.011225	5.51	29.45	52.81	0.86	0.71	0.66	5.06	1.60
192.00	149	5,378.97	5,380.57	5,380.60	5,381.04	0.011278	5.52	29.31	52.62	0.86	0.74	0.60	5.08	1.60
191.5*	149	5,378.42	5,380.03	5,380.05	5,380.49	0.010862	5.45	29.94	52.91	0.85	0.74	0.69	4.98	1.61
191.00	149	5,377.88	5,379.49	5,379.50	5,379.94	0.010651	5.42	30.38	53.18	0.84	0.73	0.77	4.90	1.61
190.5*	149	5,377.32	5,378.90	5,378.94	5,379.38	0.011835	5.61	28.52	51.69	0.88	0.59	0.65	5.22	1.58
190.00	149	5,376.76	5,378.36	5,378.38	5,378.82	0.010807	5.44	30.08	52.02	0.85	0.74	0.75	4.95	1.60
189.5*	149	5,376.21	5,377.81	5,377.83	5,378.27	0.010807	5.44	30.08	52.07	0.85	0.74	0.75	4.95	1.60
189.00	149	5,375.67	5,377.27	5,377.29	5,377.73	0.010806	5.44	30.09	52.17	0.85	0.74	0.75	4.95	1.60
188.5*	149	5,375.13	5,376.73	5,376.75	5,377.19	0.010807	5.44	30.08	51.98	0.85	0.74	0.75	4.95	1.60
188.00	149	5,374.60	5,376.22	5,376.22	5,376.66	0.010473	5.39	30.60	52.03	0.83	0.78	0.78	4.87	1.61
187.5*	149	5,374.05	5,375.63	5,375.67	5,376.11	0.011627	5.58	28.85	51.70	0.88	0.65	0.65	5.17	1.58
187.00	149	5,373.50	5,375.10	5,375.12	5,375.56	0.010837	5.45	30.07	52.74	0.85	0.73	0.74	4.96	1.60
186.5*	149	5,372.94	5,374.53	5,374.56	5,375.00	0.011285	5.52	29.36	52.05	0.86	0.69	0.69	5.08	1.59
186.00	149	5,372.38	5,373.98	5,374.00	5,374.44	0.011052	5.48	29.70	51.93	0.86	0.71	0.72	5.02	1.60
185.5*	149	5,371.83	5,373.43	5,373.45	5,373.89	0.011052	5.48	29.70	51.90	0.86	0.71	0.72	5.02	1.60
185.00	149	5,371.28	5,372.88	5,372.90	5,373.34	0.010969	5.47	29.83	51.92	0.85	0.72	0.73	5.00	1.60
184.5*	149	5,370.73	5,372.33	5,372.35	5,372.79	0.010969	5.47	29.83	51.93	0.85	0.72	0.73	5.00	1.60
184.00	149	5,370.18	5,371.78	5,371.80	5,372.24	0.010920	5.46	29.90	51.99	0.85	0.73	0.73	4.98	1.60
183.5*	149	5,369.63	5,371.23	5,371.25	5,371.69	0.010823	5.45	30.06	52.01	0.85	0.74	0.74	4.96	1.60
183.00	149	5,369.08	5,370.68	5,370.70	5,371.14	0.010920	5.46	29.90	51.91	0.85	0.73	0.73	4.98	1.60
182.5*	149	5,368.53	5,370.14	5,370.15	5,370.59	0.010694	5.42	30.26	52.11	0.84	0.75	0.76	4.92	1.61
182.00	149	5,367.98	5,369.56	5,369.60	5,370.04	0.011507	5.56	29.02	51.70	0.87	0.66	0.67	5.13	1.58
181.5*	149	5,367.43	5,369.05	5,369.05	5,369.49	0.010411	5.38	30.71	52.10	0.83	0.78	0.79	4.85	1.62
181.00	149	5,366.88	5,368.46	5,368.50	5,368.94	0.011680	5.58	28.76	51.30	0.88	0.65	0.65	5.18	1.58
180.5*	149	5,366.33	5,367.94	5,367.95	5,368.39	0.010727	5.43	30.19	51.74	0.84	0.76	0.76	4.94	1.61
180.00	149	5,365.78	5,367.38	5,367.40	5,367.84	0.011019	5.48	29.74	51.59	0.85	0.72	0.73	5.01	1.60
179.5*	149	5,365.23	5,366.83	5,366.85	5,367.29	0.010807	5.44	30.06	51.69	0.85	0.75	0.75	4.96	1.60
179.00	149	5,364.68	5,366.28	5,366.30	5,366.74	0.010937	5.46	29.86	51.62	0.85	0.73	0.73	4.99	1.60
178.5*	149	5,364.13	5,365.74	5,365.75	5,366.19	0.010711	5.43	30.21	51.69	0.84	0.76	0.76	4.93	1.61
178.00	149	5,363.58	5,365.18	5,365.20	5,365.64	0.011020	5.48	29.73	51.51	0.85	0.72	0.73	5.01	1.60
177.5*	149	5,363.03	5,364.64	5,364.65	5,365.09	0.010791	5.44	30.08	51.63	0.85	0.75	0.75	4.95	1.60
177.00	149	5,362.48	5,364.08	5,364.10	5,364.54	0.010954	5.47	29.83	51.57	0.85	0.73	0.73	4.99	1.60
176.5*	149	5,361.93	5,363.54	5,363.55	5,363.99	0.010743	5.43	30.16	51.69	0.84	0.75	0.75	4.94	1.61
176.00	149	5,361.38	5,362.98	5,363.00	5,363.44	0.011003	5.48	29.76	51.59	0.85	0.73	0.73	5.01	1.60
175.5*	149	5,360.83	5,362.44	5,362.45	5,362.89	0.010791	5.44	30.09	51.69	0.85	0.75	0.75	4.95	1.60
175.00	149	5,360.28	5,361.88	5,361.90	5,362.34	0.010970	5.47	29.81	51.60	0.85	0.73	0.73	5.00	1.60
174.5*	149	5,359.73	5,361.34	5,361.35	5,361.79	0.010775	5.44	30.12	51.84	0.85	0.75	0.75	4.95	1.61
174.00	149	5,359.18	5,360.78	5,360.80	5,361.24	0.010986	5.47	29.80	51.89	0.85	0.73	0.73	5.00	1.60
173.5*	149	5,358.63	5,360.24	5,360.25	5,360.69	0.010775	5.44	30.12	51.85	0.85	0.75	0.75	4.95	1.61
173.00	149	5,358.08	5,359.68	5,359.70	5,360.14	0.010986	5.47	29.79	51.65	0.85	0.72	0.73	5.00	1.60
172.5*	149	5,357.53	5,359.14	5,359.15	5,359.59	0.010776	5.44	30.11	51.56	0.85	0.75	0.76	4.95	1.61
172.00	149	5,356.98	5,358.58	5,358.60	5,359.04	0.010971	5.47	29.80	51.33	0.85	0.73	0.74	5.00	1.60
171.5*	149	5,356.43	5,358.27	5,358.05	5,358.54	0.005397	4.30	42.46	54.53	0.62	1.11	1.14	3.51	1.84
171.00	149	5,355.88	5,358.21	5,357.50	5,358.31	0.001596	2.82	70.80	61.07	0.35	1.03	1.08	2.10	2.33
170.5*	149	5,355.37	5,358.19	5,356.99	5,358.24	0.000613	2.02	102.70	68.04	0.23	0.82	0.89	1.45	2.82
170.00	468	5,354.86	5,357.61	5,357.43	5,358.14	0.006812	6.62	98.37	67.56	0.75	2.65	2.87	4.76	2.75
169.5*	468	5,354.50	5,357.34	5,357.08	5,357.80	0.005860	6.28	104.41	69.17	0.70	2.55	2.75	4.48	2.84
169.00	468	5,354.13	5,357.15	5,356.70	5,357.52	0.004279	5.63	117.96	72.29	0.60	2.35	2.52	3.97	3.02
168.5*	468	5,353.76	5,356.70	5,356.50	5,357.25	0.006144	6.61	97.33	66.48	0.72	2.34	2.63	4.81	2.94
168.00	468	5,353.39	5,356.67	5,355.97	5,356.94	0.002904	4.92	136.52	75.77	0.50	2.08	2.32	3.43	3.28
167.5*	468	5,353.03	5,355.88	5,355.88	5,356.67	0.008570	7.62	79.07	57.39	0.84	2.31	2.60	5.92	2.85
167.00	468	5,352.66	5,355.36	5,355.23	5,355.93	0.007500	6.85	94.36	65.86	0.78	2.75	2.94	4.96	2.70
166.00	468	5,351.92	5,354.63	5,354.49	5,355.18	0.007292	6.77	96.11	67.62	0.77	2.71	2.87	4.87	2.71
165.00	468	5,351.19	5,353.88	5,353.76	5,354.44	0.007596	6.86	95.80	69.95	0.79	2.68	2.87	4.89	2.68
164.00	468	5,350.45	5,353.20	5,353.02	5,353.70	0.006719	6.56	101.63	73.45	0.74	2.61	2.68	4.60	2.75
163.00	468	5,349.72	5,352.43	5,352.29	5,352.99	0.007438	6.83	94.36	65.25	0.78	2.77	2.92	4.96	2.71
162.00	468	5,348.98	5,351.71	5,351.55	5,352.26	0.007186	6.75	95.54	65.33	0.77	2.76	2.89	4.90	2.73
161.00	468	5,348.25	5,350.95	5,350.82	5,351.52	0.007569	6.87	93.86	65.39	0.79	2.78	2.92	4.99	2.70
160.00	468	5,347.51	5,350.23	5,350.09	5,350.78	0.007175	6.73	96.89	68.09	0.77	2.74	2.80	4.83	2.72

Profile Output Table - Chinde Branch 1 Post-mine 25 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
159.00	468	5,346.78	5,349.50	5,349.35	5,350.05	0.007299	6.78	95.46	66.27	0.77	2.76	2.87	4.90	2.72
158.00	468	5,346.04	5,348.74	5,348.61	5,349.31	0.007529	6.86	94.14	65.63	0.78	2.78	2.90	4.97	2.70
157.00	468	5,345.31	5,348.02	5,347.89	5,348.56	0.007197	6.73	97.92	70.55	0.77	2.72	2.73	4.78	2.71
156.00	468	5,344.58	5,347.29	5,347.15	5,347.84	0.007358	6.79	96.52	69.17	0.77	2.70	2.82	4.85	2.70
155.00	468	5,343.84	5,346.58	5,346.42	5,347.12	0.006941	6.66	97.53	67.08	0.75	2.80	2.74	4.80	2.74
154.00	468	5,343.11	5,345.83	5,345.68	5,346.40	0.007417	6.84	93.09	62.33	0.78	2.84	2.97	5.03	2.72
153.00	468	5,342.37	5,345.08	5,344.94	5,345.65	0.007450	6.84	93.30	63.09	0.78	2.84	2.94	5.02	2.71
152.00	468	5,341.64	5,344.36	5,344.21	5,344.91	0.007287	6.78	95.53	66.28	0.77	2.79	2.82	4.90	2.72
151.00	468	5,340.90	5,343.63	5,343.47	5,344.19	0.007198	6.76	94.44	63.14	0.77	2.78	2.97	4.96	2.73
150.5*	468	5,340.54	5,343.26	5,343.11	5,343.82	0.007398	6.83	93.43	62.88	0.78	2.81	2.97	5.01	2.72
150.00	468	5,340.17	5,342.89	5,342.74	5,343.45	0.007379	6.82	93.53	62.91	0.78	2.82	2.95	5.00	2.72
149.5*	468	5,339.80	5,342.52	5,342.37	5,343.08	0.007335	6.81	93.72	62.91	0.77	2.82	2.95	4.99	2.72
149.00	468	5,339.43	5,342.16	5,342.00	5,342.72	0.007242	6.78	94.15	62.93	0.77	2.81	2.94	4.97	2.73
148.5*	468	5,339.07	5,341.78	5,341.64	5,342.35	0.007480	6.85	93.30	63.35	0.78	2.83	2.93	5.02	2.71
148.00	468	5,338.70	5,341.40	5,341.28	5,341.98	0.007538	6.87	93.44	64.19	0.78	2.84	2.90	5.01	2.70
147.5*	468	5,338.33	5,341.04	5,340.90	5,341.60	0.007376	6.80	95.38	66.84	0.78	2.77	2.84	4.91	2.71
147.00	468	5,337.97	5,340.70	5,340.55	5,341.23	0.007022	6.67	98.96	71.00	0.76	2.66	2.75	4.73	2.73
146.5*	468	5,337.60	5,340.33	5,340.17	5,340.87	0.007139	6.73	96.58	67.08	0.76	2.76	2.81	4.85	2.73
146.00	468	5,337.23	5,339.96	5,339.80	5,340.51	0.007194	6.76	95.12	64.52	0.77	2.83	2.85	4.92	2.73
145.00	468	5,336.50	5,339.21	5,339.07	5,339.78	0.007454	6.84	93.71	63.98	0.78	2.83	2.91	4.99	2.71
144.5*	468	5,336.13	5,338.84	5,338.70	5,339.40	0.007437	6.83	94.13	64.72	0.78	2.81	2.89	4.97	2.71
144.00	468	5,335.76	5,338.47	5,338.33	5,339.03	0.007365	6.81	94.85	65.59	0.78	2.79	2.87	4.93	2.71
143.5*	468	5,335.39	5,338.11	5,337.96	5,338.66	0.007281	6.78	95.34	65.84	0.77	2.76	2.88	4.91	2.72
143.00	468	5,335.03	5,337.74	5,337.60	5,338.30	0.007410	6.82	94.88	66.11	0.78	2.75	2.90	4.93	2.71
142.00	468	5,334.29	5,337.02	5,336.86	5,337.57	0.007161	6.74	95.54	65.11	0.77	2.76	2.90	4.90	2.73
141.00	468	5,333.56	5,336.27	5,336.13	5,336.84	0.007476	6.85	93.55	63.86	0.78	2.80	2.95	5.00	2.71
140.00	468	5,332.82	5,335.55	5,335.39	5,336.10	0.007170	6.75	95.32	64.71	0.77	2.81	2.86	4.91	2.73
139.00	468	5,332.09	5,334.79	5,334.67	5,335.36	0.007555	6.87	93.59	64.66	0.78	2.87	2.85	5.00	2.70
138.00	468	5,331.35	5,334.09	5,333.92	5,334.63	0.007006	6.68	97.13	66.90	0.76	2.78	2.77	4.82	2.74
137.00	468	5,330.62	5,333.34	5,333.19	5,333.91	0.007361	6.82	93.43	62.53	0.78	2.90	2.88	5.01	2.72
136.00	468	5,329.89	5,332.60	5,332.46	5,333.17	0.007390	6.82	94.10	64.21	0.78	2.84	2.88	4.97	2.71
135.00	468	5,329.15	5,331.86	5,331.72	5,332.43	0.007410	6.83	93.88	63.95	0.78	2.81	2.93	4.98	2.71
134.00	468	5,328.41	5,331.13	5,330.99	5,331.69	0.007351	6.81	94.06	63.78	0.78	2.79	2.95	4.98	2.72
133.00	468	5,327.68	5,330.41	5,330.25	5,330.96	0.007181	6.75	95.09	64.32	0.77	2.80	2.88	4.92	2.73
132.00	468	5,326.95	5,329.65	5,329.53	5,330.23	0.007542	6.87	93.35	64.04	0.78	2.83	2.92	5.01	2.70
131.00	468	5,326.21	5,328.94	5,328.78	5,329.48	0.007149	6.73	96.20	66.36	0.76	2.77	2.83	4.87	2.73
130.00	468	5,325.48	5,328.20	5,328.05	5,328.76	0.007375	6.81	94.24	64.34	0.78	2.87	2.84	4.97	2.71
129.00	468	5,324.74	5,327.46	5,327.31	5,328.02	0.007348	6.81	94.13	63.90	0.77	2.80	2.93	4.97	2.72
128.00	468	5,324.01	5,326.72	5,326.58	5,327.28	0.007424	6.83	94.38	65.14	0.78	2.81	2.88	4.96	2.71
127.00	468	5,323.28	5,326.00	5,325.85	5,326.54	0.007240	6.76	96.49	67.94	0.77	2.82	2.73	4.85	2.72
126.00	468	5,322.54	5,325.24	5,325.11	5,325.81	0.007476	6.84	94.26	65.38	0.78	2.96	2.74	4.97	2.70
125.00	468	5,321.81	5,324.52	5,324.38	5,325.07	0.007328	6.78	96.07	67.69	0.77	2.92	2.69	4.87	2.71
124.00	468	5,321.07	5,323.84	5,323.64	5,324.36	0.006708	6.59	98.02	65.70	0.74	2.79	2.76	4.77	2.77
123.5*	468	5,320.71	5,323.57	5,323.28	5,324.03	0.005742	6.25	104.02	66.92	0.69	2.68	2.65	4.50	2.86
123.00	496	5,320.34	5,323.12	5,322.98	5,323.69	0.007375	6.93	98.90	66.01	0.78	2.94	2.91	5.02	2.78
122.5*	496	5,319.97	5,322.75	5,322.61	5,323.32	0.007319	6.92	99.25	66.21	0.78	2.93	2.90	5.00	2.78
122.00	496	5,319.60	5,322.40	5,322.24	5,322.96	0.007076	6.83	100.59	66.56	0.76	2.90	2.88	4.93	2.80
121.00	496	5,318.87	5,321.64	5,321.50	5,322.23	0.007584	7.01	97.45	64.97	0.79	2.95	2.97	5.09	2.76
120.00	496	5,318.13	5,320.91	5,320.77	5,321.48	0.007277	6.89	100.53	68.42	0.77	2.90	2.84	4.93	2.78
119.00	496	5,317.40	5,320.19	5,320.04	5,320.75	0.007187	6.86	100.61	67.70	0.77	2.85	2.91	4.93	2.79
118.00	496	5,316.67	5,319.46	5,319.30	5,320.03	0.007255	6.90	99.30	65.71	0.77	3.01	2.85	5.00	2.79
117.00	496	5,315.93	5,318.72	5,318.56	5,319.30	0.007345	6.94	97.72	63.35	0.78	2.94	3.02	5.08	2.79
116.00	496	5,315.20	5,317.98	5,317.83	5,318.56	0.007464	6.97	97.88	64.76	0.78	2.90	3.02	5.07	2.77
115.00	496	5,314.46	5,317.25	5,317.09	5,317.82	0.007292	6.91	99.05	65.54	0.78	2.87	2.98	5.01	2.79
114.00	496	5,313.73	5,316.52	5,316.36	5,317.09	0.007271	6.90	99.01	65.26	0.77	2.90	2.96	5.01	2.79
113.00	496	5,312.99	5,315.78	5,315.63	5,316.36	0.007338	6.94	97.68	63.19	0.78	3.00	2.96	5.08	2.79
112.00	496	5,312.26	5,315.04	5,314.89	5,315.62	0.007398	6.95	97.89	64.17	0.78	2.99	2.94	5.07	2.78
111.00	496	5,311.52	5,314.32	5,314.15	5,314.89	0.007244	6.90	98.25	63.47	0.77	3.03	2.90	5.05	2.80
110.00	496	5,310.79	5,313.57	5,313.43	5,314.16	0.007404	6.96	97.39	63.22	0.78	2.95	3.01	5.09	2.78
109.00	496	5,310.05	5,312.84	5,312.68	5,313.42	0.007344	6.94	97.55	63.00	0.78	2.92	3.06	5.08	2.79

Profile Output Table - Chinde Branch 1 Post-mine 25 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
108.00	496	5,309.32	5,312.13	5,311.95	5,312.70	0.007039	6.84	99.05	63.13	0.76	2.90	3.02	5.01	2.81
107.00	496	5,308.59	5,311.36	5,311.22	5,311.96	0.007612	7.03	95.41	61.07	0.79	3.04	3.06	5.20	2.77
106.00	496	5,307.85	5,310.64	5,310.48	5,311.21	0.007314	6.92	98.90	65.44	0.78	2.90	2.97	5.02	2.78
105.00	496	5,307.12	5,309.91	5,309.76	5,310.48	0.007298	6.91	99.12	65.74	0.78	2.91	2.93	5.00	2.79
104.00	496	5,306.38	5,309.17	5,309.02	5,309.75	0.007282	6.91	98.25	63.83	0.78	2.93	2.99	5.05	2.79
103.00	496	5,305.65	5,308.43	5,308.29	5,309.01	0.007421	6.96	97.81	64.21	0.78	3.00	2.93	5.07	2.78
102.00	496	5,304.91	5,307.71	5,307.54	5,308.28	0.007163	6.88	98.89	64.00	0.77	2.90	3.00	5.02	2.80
101.00	496	5,304.18	5,306.95	5,306.81	5,307.54	0.007540	7.00	96.86	63.38	0.79	2.91	3.08	5.12	2.77
100.00	496	5,303.44	5,306.23	5,306.08	5,306.80	0.007238	6.89	99.30	65.53	0.77	2.87	2.98	5.00	2.79
99.75*	496	5,303.26	5,306.05	5,305.90	5,306.62	0.007281	6.91	99.08	65.50	0.78	2.87	2.99	5.01	2.79
99.5*	496	5,303.08	5,305.86	5,305.71	5,306.44	0.007349	6.93	98.74	65.45	0.78	2.88	2.99	5.02	2.78
99.25*	496	5,302.89	5,305.68	5,305.52	5,306.25	0.007239	6.89	99.28	65.51	0.77	2.87	2.98	5.00	2.79
99.00	496	5,302.71	5,305.50	5,305.34	5,306.07	0.007244	6.89	99.26	65.52	0.77	2.88	2.97	5.00	2.79
98.75*	496	5,302.52	5,305.33	5,305.15	5,305.88	0.007027	6.82	100.41	65.72	0.76	2.85	2.95	4.94	2.81
98.5*	496	5,302.34	5,305.15	5,304.97	5,305.71	0.006950	6.80	100.83	65.81	0.76	2.85	2.94	4.92	2.81
98.25*	496	5,302.16	5,304.97	5,304.79	5,305.52	0.007014	6.82	100.48	65.74	0.76	2.85	2.95	4.94	2.81
97.25*	496	5,300.88	5,304.02	5,303.51	5,304.39	0.004132	5.69	121.94	68.62	0.60	2.49	2.60	4.07	3.14
97.00	496	5,300.51	5,304.02	5,303.14	5,304.27	0.002449	4.75	147.73	72.38	0.47	2.15	2.26	3.36	3.51
96.5*	496	5,300.51	5,303.81	5,303.14	5,304.13	0.003254	5.24	132.98	70.08	0.53	2.33	2.45	3.73	3.30
96.00	496	5,300.51	5,303.29	5,303.14	5,303.87	0.007432	6.96	97.77	64.24	0.78	2.91	3.03	5.07	2.78
95.5*	496	5,300.14	5,302.92	5,302.78	5,303.50	0.007427	6.96	98.06	64.78	0.78	2.92	2.99	5.06	2.78
95.00	496	5,299.77	5,302.56	5,302.40	5,303.13	0.007288	6.91	99.32	66.05	0.78	2.92	2.91	4.99	2.79
94.00	496	5,299.04	5,301.82	5,301.68	5,302.40	0.007321	6.92	99.12	65.95	0.78	2.87	2.97	5.00	2.78
93.00	496	5,298.30	5,301.09	5,300.93	5,301.66	0.007300	6.92	98.44	64.37	0.78	2.91	2.99	5.04	2.79
92.00	496	5,297.57	5,300.32	5,300.20	5,300.91	0.007722	7.04	97.81	66.98	0.80	2.94	2.92	5.07	2.75
91.00	496	5,296.83	5,299.61	5,299.46	5,300.16	0.007170	6.83	103.35	73.25	0.77	2.88	2.70	4.80	2.78
90.00	496	5,296.10	5,298.89	5,298.74	5,299.44	0.007096	6.82	102.42	70.51	0.77	2.85	2.78	4.84	2.79
89.00	496	5,295.36	5,298.14	5,298.00	5,298.72	0.007363	6.93	98.76	65.62	0.78	2.94	2.92	5.02	2.78
88.00	496	5,294.63	5,297.42	5,297.26	5,297.98	0.007233	6.88	99.96	66.82	0.77	2.89	2.90	4.96	2.79
87.00	496	5,293.90	5,296.67	5,296.53	5,297.25	0.007434	6.95	98.93	66.64	0.78	2.91	2.92	5.01	2.77
86.00	496	5,293.16	5,295.95	5,295.80	5,296.51	0.007244	6.89	100.01	67.03	0.77	2.89	2.89	4.96	2.79
85.00	496	5,292.43	5,295.21	5,295.06	5,295.78	0.007309	6.91	99.46	66.53	0.78	2.90	2.92	4.99	2.78
84.00	496	5,291.69	5,294.47	5,294.32	5,295.05	0.007439	6.96	98.29	65.37	0.78	2.94	2.95	5.05	2.77
83.00	496	5,290.96	5,293.72	5,293.60	5,294.30	0.007458	6.95	99.99	69.08	0.78	2.92	2.83	4.96	2.76
82.00	496	5,290.22	5,293.00	5,292.85	5,293.56	0.007197	6.86	101.63	69.92	0.77	2.89	2.78	4.88	2.78
81.5*	496	5,289.86	5,292.63	5,292.49	5,293.20	0.007356	6.91	100.70	69.55	0.78	2.89	2.82	4.93	2.77
81.00	496	5,289.49	5,292.27	5,292.12	5,292.83	0.007299	6.89	101.00	69.62	0.78	2.86	2.83	4.91	2.77
80.5*	496	5,289.12	5,291.90	5,291.76	5,292.46	0.007192	6.86	101.40	69.37	0.77	2.85	2.84	4.89	2.78
80.00	496	5,288.76	5,291.53	5,291.40	5,292.10	0.007383	6.92	100.28	68.95	0.78	2.85	2.88	4.95	2.77
79.00	496	5,288.02	5,290.79	5,290.66	5,291.36	0.007373	6.92	100.20	68.68	0.78	2.88	2.87	4.95	2.77
78.00	496	5,287.28	5,290.06	5,289.92	5,290.63	0.007327	6.91	100.09	68.01	0.78	2.85	2.91	4.96	2.78
77.00	496	5,286.55	5,289.34	5,289.18	5,289.90	0.007185	6.86	100.81	68.11	0.77	2.84	2.89	4.92	2.79
76.00	496	5,285.82	5,288.61	5,288.46	5,289.18	0.007180	6.87	99.75	65.88	0.77	2.89	2.93	4.97	2.79
75.00	496	5,285.08	5,287.85	5,287.71	5,288.44	0.007597	7.01	96.92	64.01	0.79	2.98	2.98	5.12	2.77
74.00	496	5,284.34	5,287.12	5,286.97	5,287.69	0.007347	6.92	99.90	67.79	0.78	2.86	2.91	4.97	2.78
73.00	496	5,283.61	5,286.39	5,286.24	5,286.95	0.007277	6.89	100.62	68.62	0.77	2.85	2.88	4.93	2.78
72.00	496	5,282.88	5,285.64	5,285.51	5,286.21	0.007529	6.96	100.12	70.03	0.79	2.85	2.87	4.95	2.76
71.00	496	5,282.14	5,284.89	5,284.78	5,285.47	0.007642	7.00	99.64	70.10	0.79	2.84	2.89	4.98	2.75
70.00	496	5,281.41	5,284.24	5,284.04	5,284.78	0.006779	6.73	102.22	66.83	0.75	2.84	2.88	4.85	2.83
69.00	496	5,280.67	5,283.47	5,283.31	5,284.04	0.007113	6.86	99.35	64.45	0.77	2.88	2.99	4.99	2.80
68.5*	496	5,280.30	5,283.10	5,282.93	5,283.66	0.007079	6.84	100.44	66.29	0.76	2.87	2.92	4.94	2.80
68.00	496	5,279.94	5,282.72	5,282.58	5,283.28	0.007211	6.86	101.38	69.52	0.77	2.87	2.82	4.89	2.78
67.5*	496	5,279.58	5,282.35	5,282.22	5,282.92	0.007368	6.91	100.74	69.77	0.78	2.86	2.84	4.92	2.77
67.00	496	5,279.21	5,281.97	5,281.85	5,282.54	0.007468	6.94	100.45	70.13	0.78	2.85	2.85	4.94	2.76
66.00	496	5,278.47	5,281.26	5,281.10	5,281.81	0.007046	6.80	102.73	70.62	0.76	2.81	2.81	4.83	2.79
65.00	496	5,277.74	5,280.49	5,280.38	5,281.07	0.007665	7.01	99.22	69.43	0.79	2.89	2.87	5.00	2.75
64.00	496	5,277.00	5,279.80	5,279.63	5,280.33	0.006871	6.73	105.22	73.91	0.75	2.77	2.72	4.71	2.80
63.00	496	5,276.27	5,279.02	5,278.91	5,279.60	0.007612	6.99	99.52	69.59	0.79	2.81	2.94	4.98	2.75
62.00	496	5,275.53	5,278.30	5,278.16	5,278.85	0.007207	6.84	103.13	73.15	0.77	2.76	2.81	4.81	2.77
61.00	496	5,274.80	5,277.57	5,277.44	5,278.13	0.007267	6.87	102.15	71.71	0.77	2.79	2.83	4.86	2.77

Profile Output Table - Chinde Branch 1 Post-mine 25 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
60.00	496	5,274.06	5,276.82	5,276.69	5,277.39	0.007480	6.95	100.56	70.50	0.78	2.81	2.88	4.93	2.76
59.00	496	5,273.33	5,276.14	5,275.96	5,276.66	0.006816	6.71	105.32	73.51	0.75	2.74	2.75	4.71	2.80
58.00	496	5,272.60	5,275.35	5,275.24	5,275.94	0.007621	7.00	98.94	68.43	0.79	2.89	2.89	5.01	2.75
57.00	496	5,271.86	5,274.64	5,274.50	5,275.19	0.007154	6.83	102.95	72.21	0.77	2.77	2.82	4.82	2.78
56.00	496	5,271.13	5,273.89	5,273.76	5,274.46	0.007435	6.93	100.90	70.75	0.78	2.84	2.83	4.92	2.76
55.00	496	5,270.39	5,273.18	5,273.03	5,273.73	0.007102	6.82	102.49	70.71	0.77	2.81	2.81	4.84	2.79
54.00	496	5,269.66	5,272.42	5,272.30	5,273.00	0.007521	6.96	99.74	69.14	0.79	2.88	2.87	4.97	2.76
53.00	496	5,268.92	5,271.70	5,271.56	5,272.25	0.007209	6.86	102.15	71.09	0.77	2.82	2.81	4.86	2.78
52.00	496	5,268.19	5,270.95	5,270.83	5,271.52	0.007507	6.95	100.70	71.05	0.79	2.85	2.82	4.93	2.75
51.00	496	5,267.45	5,270.23	5,270.09	5,270.78	0.007142	6.83	103.19	72.58	0.77	2.77	2.80	4.81	2.78
50.00	496	5,266.72	5,269.48	5,269.36	5,270.05	0.007408	6.92	101.06	70.81	0.78	2.83	2.84	4.91	2.76
49.00	496	5,265.99	5,268.76	5,268.62	5,269.32	0.007215	6.85	102.99	72.92	0.77	2.78	2.79	4.82	2.77
48.00	496	5,265.25	5,268.02	5,267.89	5,268.59	0.007314	6.90	100.98	69.73	0.78	2.86	2.83	4.91	2.77
47.00	496	5,264.52	5,267.28	5,267.15	5,267.85	0.007479	6.94	100.88	71.14	0.78	2.84	2.83	4.92	2.76
46.00	496	5,263.78	5,266.54	5,266.41	5,267.10	0.007401	6.91	101.98	72.71	0.78	2.79	2.81	4.86	2.76
45.00	496	5,263.04	5,265.81	5,265.68	5,266.37	0.007286	6.87	102.39	72.41	0.77	2.76	2.84	4.84	2.77
44.5*	496	5,262.67	5,265.45	5,265.30	5,266.00	0.007214	6.85	102.56	72.04	0.77	2.79	2.80	4.84	2.78
44.00	496	5,262.31	5,265.08	5,264.94	5,265.64	0.007312	6.88	102.17	72.21	0.78	2.83	2.78	4.85	2.77
43.5*	496	5,261.95	5,264.71	5,264.58	5,265.27	0.007409	6.91	102.09	73.02	0.78	2.81	2.79	4.86	2.76
43.00	496	5,261.58	5,264.36	5,264.22	5,264.90	0.007142	6.82	104.07	74.43	0.77	2.75	2.76	4.77	2.77
42.00	496	5,260.84	5,263.59	5,263.47	5,264.17	0.007520	6.95	100.82	71.43	0.79	2.85	2.81	4.92	2.75
41.00	496	5,260.10	5,262.88	5,262.73	5,263.43	0.007169	6.83	103.34	73.20	0.77	2.82	2.74	4.80	2.78
40.00	496	5,259.38	5,262.15	5,262.02	5,262.71	0.007226	6.85	102.94	72.95	0.77	2.82	2.76	4.82	2.77
39.00	496	5,258.64	5,261.41	5,261.28	5,261.98	0.007384	6.92	100.79	70.08	0.78	2.95	2.76	4.92	2.77
38.00	496	5,257.91	5,260.70	5,260.55	5,261.25	0.007049	6.80	102.93	71.07	0.76	2.81	2.79	4.82	2.79
37.00	503	5,257.17	5,259.96	5,259.83	5,260.53	0.007327	6.93	101.82	69.58	0.78	2.82	2.94	4.94	2.79
36.00	503	5,256.44	5,259.22	5,259.09	5,259.79	0.007466	6.97	101.77	70.83	0.78	2.86	2.86	4.94	2.77
35.00	503	5,255.70	5,258.48	5,258.35	5,259.05	0.007373	6.93	102.83	72.11	0.78	2.84	2.82	4.89	2.78
34.5*	503	5,255.33	5,258.12	5,257.99	5,258.68	0.007228	6.88	103.87	72.80	0.77	2.83	2.79	4.84	2.79
34.00	503	5,254.97	5,257.75	5,257.62	5,258.31	0.007287	6.90	103.86	73.39	0.78	2.83	2.78	4.84	2.78
33.5*	503	5,254.60	5,257.38	5,257.25	5,257.95	0.007436	6.96	102.42	71.90	0.78	2.85	2.83	4.91	2.77
33.00	503	5,254.22	5,257.00	5,256.87	5,257.57	0.007405	6.95	102.04	70.78	0.78	2.86	2.86	4.93	2.78
32.5*	503	5,253.86	5,256.63	5,256.50	5,257.20	0.007440	6.95	102.96	73.07	0.78	2.82	2.83	4.89	2.77
32.00	503	5,253.50	5,256.29	5,256.14	5,256.83	0.006997	6.78	106.98	76.63	0.76	2.73	2.75	4.70	2.79
31.5*	503	5,253.13	5,255.93	5,255.78	5,256.47	0.006996	6.80	105.46	73.46	0.76	2.78	2.80	4.77	2.80
31.00	503	5,252.76	5,255.55	5,255.41	5,256.11	0.007348	6.93	102.17	70.48	0.78	2.85	2.87	4.92	2.79
30.00	503	5,252.03	5,254.81	5,254.69	5,255.38	0.007328	6.92	102.80	71.61	0.78	2.84	2.84	4.89	2.78
29.00	503	5,251.29	5,254.08	5,253.94	5,254.65	0.007268	6.91	102.38	70.13	0.77	2.86	2.86	4.91	2.79
28.00	503	5,250.57	5,253.36	5,253.21	5,253.92	0.007293	6.91	103.13	71.94	0.78	2.83	2.83	4.88	2.79
27.00	503	5,249.83	5,252.61	5,252.49	5,253.19	0.007374	6.94	101.93	70.25	0.78	2.87	2.87	4.93	2.78
26.5*	503	5,249.46	5,252.24	5,252.12	5,252.81	0.007385	6.95	101.99	70.47	0.78	2.85	2.87	4.93	2.78
26.00	503	5,249.09	5,251.88	5,251.75	5,252.44	0.007299	6.92	102.58	70.85	0.78	2.83	2.87	4.90	2.79
25.5*	503	5,248.72	5,251.52	5,251.37	5,252.08	0.007219	6.89	102.81	70.52	0.77	2.84	2.86	4.89	2.80
25.00	503	5,248.36	5,251.14	5,251.01	5,251.72	0.007402	6.95	101.67	69.97	0.78	2.87	2.87	4.95	2.78
24.00	503	5,247.62	5,250.42	5,250.28	5,250.98	0.007183	6.89	102.29	69.14	0.77	2.98	2.78	4.92	2.80
23.00	503	5,246.89	5,249.67	5,249.55	5,250.25	0.007500	6.99	100.44	68.42	0.79	3.01	2.83	5.01	2.78
22.00	503	5,246.15	5,248.93	5,248.80	5,249.50	0.007447	6.97	101.69	70.47	0.78	2.87	2.86	4.95	2.78
21.00	503	5,245.42	5,248.25	5,248.08	5,248.78	0.006772	6.73	106.16	72.68	0.75	2.86	2.71	4.74	2.83
20.00	503	5,244.69	5,247.46	5,247.35	5,248.05	0.007709	7.06	99.03	67.43	0.80	2.95	2.94	5.08	2.77
19.00	503	5,243.95	5,246.74	5,246.61	5,247.29	0.007219	6.88	104.21	73.43	0.77	2.79	2.81	4.83	2.79
18.00	503	5,243.21	5,246.00	5,245.86	5,246.57	0.007332	6.93	102.20	70.39	0.78	2.86	2.86	4.92	2.79
17.00	503	5,242.48	5,245.25	5,245.14	5,245.82	0.007506	6.98	102.08	71.88	0.79	2.84	2.86	4.93	2.77
16.00	503	5,241.74	5,244.55	5,244.39	5,245.09	0.006922	6.78	105.62	73.19	0.76	2.77	2.79	4.76	2.81
15.00	503	5,241.01	5,243.78	5,243.66	5,244.36	0.007578	7.01	100.57	69.39	0.79	2.89	2.90	5.00	2.77
14.00	503	5,240.27	5,243.07	5,242.93	5,243.62	0.007083	6.84	104.37	72.33	0.77	2.81	2.81	4.82	2.80
13.5*	503	5,239.91	5,242.70	5,242.56	5,243.26	0.007336	6.93	102.40	70.83	0.78	2.86	2.85	4.91	2.79
13.00	503	5,239.54	5,242.32	5,242.20	5,242.90	0.007490	6.98	101.05	69.56	0.79	2.89	2.88	4.98	2.78
12.5*	503	5,239.17	5,241.96	5,241.83	5,242.52	0.007323	6.92	102.74	71.41	0.78	2.84	2.84	4.90	2.78
12.00	503	5,238.81	5,241.60	5,241.46	5,242.15	0.007178	6.86	104.58	73.76	0.77	2.79	2.80	4.81	2.79
11.5*	503	5,238.44	5,241.24	5,241.10	5,241.79	0.007178	6.87	103.71	71.95	0.77	2.82	2.82	4.85	2.79

Profile Output Table - Chinde Branch 1 Post-mine 25 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
11.00	503	5,238.07	5,240.87	5,240.72	5,241.43	0.007119	6.86	103.30	70.50	0.77	2.84	2.84	4.87	2.80
10.5*	503	5,237.71	5,240.50	5,240.36	5,241.07	0.007354	6.94	101.68	69.54	0.78	2.89	2.87	4.95	2.79
10.00	503	5,237.34	5,240.12	5,239.99	5,240.70	0.007536	7.00	100.45	68.75	0.79	2.93	2.88	5.01	2.77
9.5*	503	5,236.97	5,239.74	5,239.63	5,240.32	0.007510	6.98	101.55	70.80	0.79	2.90	2.84	4.95	2.77
9.00	503	5,236.60	5,239.39	5,239.26	5,239.94	0.007168	6.86	104.67	73.85	0.77	2.83	2.75	4.81	2.79
8.00	503	5,235.87	5,238.65	5,238.52	5,239.21	0.007380	6.93	102.95	72.44	0.78	2.85	2.81	4.89	2.78
7.00	503	5,235.14	5,237.92	5,237.80	5,238.48	0.007255	6.89	104.29	73.98	0.77	2.84	2.76	4.82	2.78
6.5*	503	5,234.77	5,237.55	5,237.42	5,238.11	0.007287	6.90	103.68	73.02	0.78	2.85	2.78	4.85	2.78
6.00	503	5,234.40	5,237.19	5,237.06	5,237.75	0.007271	6.90	103.36	72.20	0.77	2.86	2.79	4.87	2.79
5.5*	503	5,234.04	5,236.81	5,236.70	5,237.38	0.007480	6.96	102.99	73.54	0.78	2.86	2.78	4.88	2.77
5.00	503	5,233.67	5,236.45	5,236.31	5,237.00	0.007277	6.89	104.89	75.45	0.77	2.83	2.73	4.80	2.78
4.5*	503	5,233.30	5,236.08	5,235.95	5,236.64	0.007253	6.88	104.69	74.78	0.77	2.81	2.75	4.80	2.78
4.00	503	5,232.93	5,235.75	5,235.58	5,236.28	0.006815	6.74	107.04	74.94	0.75	2.75	2.74	4.70	2.82
3.00	503	5,232.20	5,234.97	5,234.86	5,235.56	0.007543	7.00	100.67	69.29	0.79	2.90	2.90	5.00	2.77
2.00	503	5,231.46	5,234.26	5,234.12	5,234.82	0.007094	6.85	103.88	71.43	0.77	2.82	2.82	4.84	2.80
1.00	503	5,230.73	5,233.51	5,233.38	5,234.09	0.007485	6.98	101.06	69.52	0.79	2.89	2.89	4.98	2.78
0.00	503	5,229.99	5,232.77	5,232.64	5,233.34	0.007357	6.93	102.52	71.30	0.78	2.85	2.85	4.91	2.78
						Max	7.62					**Avg**	4.88	
						Min	2.02							
						Avg	6.56							

192.92	149	5.61	4.82
170.00	468	7.62	4.88
123.00	496	7.04	4.92
37.00	503	7.06	4.89

Profile Output Table - Chinde Branch 1 Post-mine 100 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
192.92	213	5,380.00	5,381.84	5,381.91	5,382.38	0.011007	6.14	43.43	60.92	0.88	1.52	1.52	4.90	1.84
192.46*	213	5,379.49	5,381.33	5,381.40	5,381.87	0.010967	6.13	43.41	60.45	0.88	1.54	1.51	4.91	1.84
192.00	213	5,378.97	5,380.83	5,380.89	5,381.36	0.010849	6.11	43.54	60.15	0.87	1.56	1.49	4.89	1.85
191.5*	213	5,378.42	5,380.27	5,380.34	5,380.81	0.011017	6.14	43.18	59.81	0.88	1.53	1.51	4.93	1.85
191.00	213	5,377.88	5,379.73	5,379.80	5,380.26	0.010800	6.10	43.67	60.03	0.87	1.52	1.55	4.88	1.85
190.5*	213	5,377.32	5,379.15	5,379.23	5,379.71	0.011272	6.19	42.47	57.60	0.89	1.53	1.58	5.02	1.83
190.00	213	5,376.76	5,378.60	5,378.67	5,379.14	0.010898	6.12	43.00	56.63	0.87	1.57	1.59	4.95	1.84
189.5*	213	5,376.21	5,378.05	5,378.12	5,378.59	0.010895	6.12	43.03	56.79	0.87	1.56	1.60	4.95	1.84
189.00	213	5,375.67	5,377.51	5,377.58	5,378.05	0.010891	6.12	43.08	57.11	0.87	1.55	1.60	4.94	1.84
188.5*	213	5,375.13	5,376.97	5,377.04	5,377.51	0.010899	6.12	42.98	56.50	0.87	1.56	1.60	4.96	1.84
188.00	213	5,374.60	5,376.46	5,376.51	5,376.98	0.010493	6.04	43.67	56.31	0.86	1.58	1.61	4.88	1.86
187.5*	213	5,374.05	5,375.88	5,375.96	5,376.43	0.011212	6.18	42.51	57.01	0.89	1.54	1.59	5.01	1.83
187.00	213	5,373.50	5,375.34	5,375.41	5,375.88	0.010956	6.13	43.24	58.99	0.88	1.51	1.58	4.93	1.84
186.5*	213	5,372.94	5,374.77	5,374.84	5,375.32	0.011252	6.19	42.52	57.51	0.89	1.53	1.59	5.01	1.83
186.00	213	5,372.38	5,374.22	5,374.29	5,374.76	0.011109	6.16	42.64	56.66	0.88	1.55	1.60	5.00	1.84
185.5*	213	5,371.83	5,373.67	5,373.73	5,374.21	0.011110	6.16	42.62	56.56	0.88	1.55	1.60	5.00	1.84
185.00	213	5,371.28	5,373.12	5,373.19	5,373.66	0.011111	6.16	42.61	56.47	0.88	1.55	1.60	5.00	1.84
184.5*	213	5,370.73	5,372.57	5,372.64	5,373.11	0.011111	6.16	42.61	56.51	0.88	1.56	1.59	5.00	1.84
184.00	213	5,370.18	5,372.02	5,372.08	5,372.56	0.011110	6.16	42.63	56.62	0.88	1.56	1.58	5.00	1.84
183.5*	213	5,369.63	5,371.47	5,371.54	5,372.01	0.011111	6.16	42.61	56.47	0.88	1.57	1.58	5.00	1.84
183.00	213	5,369.08	5,370.92	5,370.99	5,371.46	0.011113	6.16	42.59	56.34	0.88	1.58	1.58	5.00	1.84
182.5*	213	5,368.53	5,370.37	5,370.43	5,370.91	0.011110	6.16	42.62	56.54	0.88	1.57	1.58	5.00	1.84
182.00	213	5,367.98	5,369.82	5,369.89	5,370.36	0.011107	6.16	42.66	56.78	0.88	1.56	1.59	4.99	1.84
181.5*	213	5,367.43	5,369.27	5,369.34	5,369.81	0.011117	6.16	42.54	56.04	0.88	1.58	1.59	5.01	1.84
181.00	213	5,366.88	5,368.72	5,368.78	5,369.26	0.011124	6.17	42.45	55.52	0.88	1.59	1.59	5.02	1.84
180.5*	213	5,366.33	5,368.17	5,368.23	5,368.71	0.011124	6.17	42.44	55.45	0.88	1.59	1.59	5.02	1.84
180.00	213	5,365.78	5,367.62	5,367.68	5,368.16	0.011125	6.17	42.43	55.42	0.88	1.58	1.60	5.02	1.84
179.5*	213	5,365.23	5,367.07	5,367.13	5,367.61	0.011125	6.17	42.43	55.42	0.88	1.58	1.60	5.02	1.84
179.00	213	5,364.68	5,366.52	5,366.58	5,367.06	0.011125	6.17	42.43	55.42	0.88	1.58	1.60	5.02	1.84
178.5*	213	5,364.13	5,365.97	5,366.04	5,366.51	0.011126	6.17	42.41	55.29	0.88	1.58	1.60	5.02	1.84
178.00	213	5,363.58	5,365.42	5,365.49	5,365.96	0.011128	6.17	42.39	55.17	0.88	1.58	1.61	5.02	1.84
177.5*	213	5,363.03	5,364.87	5,364.94	5,365.41	0.011128	6.17	42.39	55.20	0.88	1.59	1.60	5.02	1.84
177.00	213	5,362.48	5,364.32	5,364.39	5,364.86	0.011127	6.17	42.40	55.25	0.88	1.59	1.60	5.02	1.84
176.5*	213	5,361.93	5,363.77	5,363.84	5,364.31	0.011126	6.17	42.41	55.31	0.88	1.59	1.59	5.02	1.84
176.00	213	5,361.38	5,363.22	5,363.28	5,363.76	0.011125	6.17	42.43	55.39	0.88	1.59	1.59	5.02	1.84
175.5*	213	5,360.83	5,362.67	5,362.73	5,363.21	0.011125	6.17	42.43	55.39	0.88	1.59	1.59	5.02	1.84
175.00	213	5,360.28	5,362.12	5,362.18	5,362.66	0.011125	6.17	42.43	55.39	0.88	1.59	1.59	5.02	1.84
174.5*	213	5,359.73	5,361.57	5,361.64	5,362.11	0.011119	6.17	42.50	55.85	0.88	1.58	1.59	5.01	1.84
174.00	213	5,359.18	5,361.02	5,361.08	5,361.56	0.011112	6.16	42.60	56.41	0.88	1.57	1.58	5.00	1.84
173.5*	213	5,358.63	5,360.47	5,360.54	5,361.01	0.011119	6.17	42.51	55.90	0.88	1.57	1.60	5.01	1.84
173.00	213	5,358.08	5,359.92	5,359.98	5,360.46	0.011122	6.17	42.46	55.60	0.88	1.57	1.61	5.02	1.84
172.5*	213	5,357.53	5,359.37	5,359.44	5,359.91	0.011130	6.17	42.35	54.96	0.88	1.58	1.62	5.03	1.84
172.00	213	5,356.98	5,358.82	5,358.89	5,359.36	0.011136	6.17	42.27	54.48	0.88	1.58	1.63	5.04	1.84
171.5*	213	5,356.43	5,358.43	5,358.34	5,358.82	0.007194	5.31	51.23	56.63	0.72	1.61	1.68	4.16	2.00
171.00	213	5,355.88	5,358.34	5,357.79	5,358.51	0.002482	3.67	78.81	62.80	0.44	1.39	1.47	2.70	2.46
170.5*	213	5,355.37	5,358.31	5,357.28	5,358.39	0.001026	2.70	110.84	69.65	0.29	1.12	1.21	1.92	2.94
170.00	511	5,354.86	5,357.72	5,357.52	5,358.26	0.006746	6.78	105.60	69.04	0.75	2.76	3.00	4.84	2.86
169.5*	511	5,354.50	5,357.45	5,357.16	5,357.93	0.005783	6.42	112.23	70.77	0.70	2.65	2.86	4.55	2.95
169.00	511	5,354.13	5,357.27	5,356.79	5,357.65	0.004259	5.77	126.35	73.97	0.61	2.44	2.62	4.04	3.14
168.5*	511	5,353.76	5,356.82	5,356.60	5,357.38	0.006001	6.73	105.54	68.61	0.72	2.43	2.75	4.84	3.06
168.00	511	5,353.39	5,356.79	5,356.06	5,357.08	0.002892	5.05	146.14	77.59	0.51	2.16	2.41	3.50	3.40
167.5*	511	5,353.03	5,356.01	5,356.01	5,356.81	0.008310	7.75	86.47	60.04	0.84	2.41	2.76	5.91	2.98
167.00	511	5,352.66	5,355.46	5,355.33	5,356.05	0.007498	7.03	100.92	67.16	0.79	2.87	3.08	5.06	2.80
166.00	511	5,351.92	5,354.73	5,354.58	5,355.30	0.007327	6.97	102.65	69.01	0.78	2.84	3.01	4.98	2.81
165.00	511	5,351.19	5,353.97	5,353.85	5,354.56	0.007604	7.04	102.57	71.57	0.79	2.80	3.00	4.98	2.78
164.00	511	5,350.45	5,353.30	5,353.12	5,353.82	0.006642	6.71	109.41	75.41	0.74	2.71	2.79	4.67	2.85
163.00	511	5,349.72	5,352.53	5,352.38	5,353.11	0.007430	7.02	100.92	66.50	0.78	2.90	3.06	5.06	2.81
162.00	511	5,348.98	5,351.81	5,351.65	5,352.38	0.007190	6.94	102.11	66.58	0.77	2.89	3.02	5.00	2.83
161.00	511	5,348.25	5,351.05	5,350.92	5,351.64	0.007586	7.06	100.27	66.64	0.79	2.91	3.06	5.10	2.79
160.00	511	5,347.51	5,350.33	5,350.18	5,350.90	0.007157	6.91	103.78	69.57	0.77	2.86	2.92	4.92	2.82

Profile Output Table - Chinde Branch 1 Post-mine 100 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
159.00	511	5,346.78	5,349.60	5,349.44	5,350.17	0.007286	6.96	102.16	67.61	0.78	2.88	3.00	5.00	2.82
158.00	511	5,346.04	5,348.84	5,348.71	5,349.43	0.007560	7.05	100.51	66.88	0.79	2.91	3.04	5.08	2.80
157.00	511	5,345.31	5,348.12	5,347.98	5,348.68	0.007194	6.91	104.89	72.21	0.77	2.84	2.85	4.87	2.81
156.00	511	5,344.58	5,347.38	5,347.25	5,347.96	0.007331	6.96	103.49	70.75	0.78	2.82	2.95	4.94	2.80
155.00	511	5,343.84	5,346.69	5,346.50	5,347.24	0.006900	6.83	104.55	68.51	0.76	2.92	2.85	4.89	2.85
154.00	511	5,343.11	5,345.93	5,345.78	5,346.52	0.007415	7.03	99.41	63.34	0.78	2.97	3.11	5.14	2.82
153.00	511	5,342.37	5,345.18	5,345.04	5,345.78	0.007480	7.04	99.52	64.14	0.79	2.97	3.08	5.13	2.81
152.00	511	5,341.64	5,344.46	5,344.30	5,345.03	0.007238	6.95	102.43	67.66	0.77	2.92	2.95	4.99	2.82
151.00	511	5,340.90	5,343.73	5,343.57	5,344.31	0.007208	6.95	100.81	64.20	0.77	2.91	3.11	5.07	2.83
150.5*	511	5,340.54	5,343.36	5,343.21	5,343.95	0.007395	7.02	99.81	63.95	0.78	2.94	3.12	5.12	2.82
150.00	511	5,340.17	5,342.99	5,342.84	5,343.58	0.007376	7.01	99.91	63.97	0.78	2.95	3.10	5.11	2.82
149.5*	511	5,339.80	5,342.62	5,342.46	5,343.21	0.007335	7.00	100.10	63.97	0.78	2.95	3.09	5.10	2.82
149.00	511	5,339.43	5,342.26	5,342.10	5,342.84	0.007257	6.97	100.47	63.98	0.78	2.94	3.09	5.09	2.83
148.5*	511	5,339.07	5,341.88	5,341.74	5,342.47	0.007489	7.04	99.63	64.44	0.79	2.97	3.07	5.13	2.81
148.00	511	5,338.70	5,341.50	5,341.37	5,342.10	0.007564	7.06	99.74	65.34	0.79	2.98	3.03	5.12	2.80
147.5*	511	5,338.33	5,341.14	5,340.99	5,341.72	0.007387	6.99	101.98	68.21	0.78	2.90	2.97	5.01	2.81
147.00	511	5,337.97	5,340.80	5,340.63	5,341.35	0.006959	6.83	106.37	72.77	0.76	2.77	2.87	4.80	2.83
146.5*	511	5,337.60	5,340.43	5,340.26	5,340.99	0.007105	6.90	103.50	68.50	0.77	2.88	2.93	4.94	2.83
146.00	511	5,337.23	5,340.06	5,339.90	5,340.63	0.007191	6.94	101.67	65.70	0.77	2.96	2.98	5.03	2.83
145.00	511	5,336.50	5,339.31	5,339.16	5,339.90	0.007466	7.03	100.07	65.12	0.79	2.96	3.04	5.11	2.81
144.5*	511	5,336.13	5,338.94	5,338.80	5,339.53	0.007445	7.02	100.57	65.92	0.78	2.94	3.03	5.08	2.81
144.00	511	5,335.76	5,338.57	5,338.43	5,339.15	0.007372	6.99	101.38	66.86	0.78	2.92	3.00	5.04	2.81
143.5*	511	5,335.39	5,338.21	5,338.05	5,338.79	0.007290	6.97	101.90	67.13	0.78	2.89	3.01	5.01	2.82
143.00	511	5,335.03	5,337.84	5,337.69	5,338.42	0.007392	7.00	101.57	67.45	0.78	2.87	3.04	5.03	2.81
142.00	511	5,334.29	5,337.12	5,336.96	5,337.69	0.007162	6.93	102.12	66.34	0.77	2.88	3.04	5.00	2.83
141.00	511	5,333.56	5,336.37	5,336.22	5,336.96	0.007468	7.03	100.00	65.01	0.79	2.93	3.09	5.11	2.81
140.00	511	5,332.82	5,335.65	5,335.49	5,336.22	0.007202	6.94	101.70	65.88	0.77	2.94	2.99	5.02	2.83
139.00	511	5,332.09	5,334.89	5,334.75	5,335.49	0.007552	7.06	100.06	65.88	0.79	3.00	2.98	5.11	2.80
138.00	511	5,331.35	5,334.19	5,334.01	5,334.75	0.006940	6.85	104.26	68.34	0.76	2.90	2.89	4.90	2.84
137.00	511	5,330.62	5,333.44	5,333.29	5,334.03	0.007380	7.01	99.68	63.54	0.78	3.04	3.02	5.13	2.82
136.00	511	5,329.89	5,332.70	5,332.56	5,333.29	0.007391	7.01	100.55	65.38	0.78	2.97	3.01	5.08	2.81
135.00	511	5,329.15	5,331.96	5,331.82	5,332.55	0.007405	7.01	100.34	65.10	0.78	2.93	3.07	5.09	2.81
134.00	511	5,328.41	5,331.23	5,331.08	5,331.81	0.007350	7.00	100.50	64.91	0.78	2.92	3.09	5.08	2.82
133.00	511	5,327.68	5,330.51	5,330.35	5,331.09	0.007185	6.94	101.58	65.49	0.77	2.93	3.02	5.03	2.83
132.00	511	5,326.95	5,329.75	5,329.61	5,330.35	0.007550	7.06	99.72	65.19	0.79	2.96	3.05	5.12	2.80
131.00	511	5,326.21	5,329.04	5,328.88	5,329.61	0.007143	6.92	102.91	67.69	0.77	2.89	2.96	4.97	2.83
130.00	511	5,325.48	5,328.30	5,328.14	5,328.88	0.007362	7.00	100.77	65.51	0.78	3.00	2.97	5.07	2.82
129.00	511	5,324.74	5,327.56	5,327.41	5,328.14	0.007359	7.00	100.52	65.03	0.78	2.93	3.07	5.08	2.82
128.00	511	5,324.01	5,326.82	5,326.68	5,327.40	0.007456	7.02	100.74	66.35	0.79	2.94	3.01	5.07	2.81
127.00	511	5,323.28	5,326.10	5,325.95	5,326.67	0.007154	6.91	103.74	69.53	0.77	2.94	2.84	4.93	2.82
126.00	511	5,322.54	5,325.33	5,325.21	5,325.93	0.007598	7.07	100.15	66.48	0.79	3.12	2.88	5.10	2.79
125.00	511	5,321.81	5,324.73	5,324.49	5,325.22	0.005969	6.48	111.00	70.34	0.71	2.91	2.69	4.60	2.92
124.00	511	5,321.07	5,324.39	5,323.73	5,324.71	0.003344	5.33	136.05	72.51	0.54	2.42	2.39	3.76	3.32
123.5*	511	5,320.71	5,324.30	5,323.37	5,324.54	0.002302	4.69	156.53	76.09	0.46	2.17	2.14	3.26	3.59
123.00	741	5,320.34	5,323.63	5,323.43	5,324.32	0.007345	7.84	134.00	72.36	0.80	3.54	3.51	5.53	3.29
122.5*	741	5,319.97	5,323.26	5,323.06	5,323.95	0.007270	7.81	134.65	72.65	0.80	3.53	3.49	5.50	3.29
122.00	741	5,319.60	5,322.92	5,322.69	5,323.59	0.006950	7.69	137.03	73.20	0.78	3.48	3.45	5.41	3.32
121.00	741	5,318.87	5,322.13	5,321.96	5,322.85	0.007704	7.98	130.89	70.80	0.82	3.58	3.61	5.66	3.26
120.00	741	5,318.13	5,321.41	5,321.21	5,322.09	0.007237	7.78	136.80	75.67	0.80	3.48	3.41	5.42	3.28
119.00	741	5,317.40	5,320.70	5,320.49	5,321.37	0.007111	7.74	136.98	74.71	0.79	3.41	3.49	5.41	3.30
118.00	741	5,316.67	5,319.98	5,319.76	5,320.66	0.007072	7.74	135.50	72.11	0.79	3.62	3.40	5.47	3.31
117.00	741	5,315.93	5,319.22	5,319.02	5,319.94	0.007438	7.90	130.96	68.57	0.81	3.56	3.68	5.66	3.29
116.00	741	5,315.20	5,318.48	5,318.29	5,319.19	0.007478	7.90	132.05	70.61	0.81	3.50	3.67	5.61	3.28
115.00	741	5,314.46	5,317.75	5,317.55	5,318.45	0.007288	7.83	133.88	71.67	0.80	3.46	3.61	5.53	3.29
114.00	741	5,313.73	5,317.04	5,316.82	5,317.72	0.007125	7.77	134.76	71.46	0.79	3.48	3.56	5.50	3.31
113.00	741	5,312.99	5,316.29	5,316.09	5,317.00	0.007401	7.89	131.05	68.39	0.81	3.65	3.59	5.65	3.30
112.00	741	5,312.26	5,315.56	5,315.35	5,316.26	0.007316	7.85	132.55	69.89	0.80	3.61	3.54	5.59	3.30
111.00	741	5,311.52	5,314.83	5,314.61	5,315.53	0.007271	7.84	132.09	68.80	0.80	3.69	3.51	5.61	3.31
110.00	741	5,310.79	5,314.09	5,313.88	5,314.80	0.007381	7.88	131.26	68.51	0.81	3.57	3.66	5.65	3.30
109.00	741	5,310.05	5,313.36	5,313.14	5,314.06	0.007303	7.86	131.51	68.22	0.80	3.52	3.72	5.63	3.31

Profile Output Table - Chinde Branch 1 Post-mine 100 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
108.00	741	5,309.32	5,312.67	5,312.41	5,313.34	0.006874	7.70	134.36	68.49	0.78	3.48	3.64	5.52	3.35
107.00	741	5,308.59	5,311.86	5,311.68	5,312.61	0.007782	8.05	126.94	65.40	0.83	3.72	3.75	5.84	3.27
106.00	741	5,307.85	5,311.14	5,310.94	5,311.84	0.007329	7.84	133.54	71.52	0.80	3.49	3.59	5.55	3.29
105.00	741	5,307.12	5,310.43	5,310.21	5,311.11	0.007166	7.78	134.93	72.11	0.79	3.50	3.52	5.49	3.30
104.00	741	5,306.38	5,309.68	5,309.47	5,310.38	0.007342	7.86	131.98	69.25	0.80	3.55	3.64	5.61	3.30
103.00	741	5,305.65	5,308.94	5,308.74	5,309.65	0.007369	7.87	132.26	69.92	0.80	3.63	3.53	5.60	3.29
102.00	741	5,304.91	5,308.23	5,308.00	5,308.92	0.007117	7.78	133.56	69.58	0.79	3.50	3.63	5.55	3.32
101.00	741	5,304.18	5,307.46	5,307.27	5,308.18	0.007602	7.96	130.07	68.67	0.82	3.53	3.76	5.70	3.27
100.00	741	5,303.44	5,306.74	5,306.53	5,307.43	0.007245	7.81	134.13	71.64	0.80	3.45	3.61	5.52	3.30
99.75*	741	5,303.26	5,306.56	5,306.35	5,307.25	0.007270	7.82	133.96	71.63	0.80	3.46	3.61	5.53	3.30
99.5*	741	5,303.08	5,306.37	5,306.17	5,307.07	0.007310	7.83	133.70	71.60	0.80	3.47	3.62	5.54	3.29
99.25*	741	5,302.89	5,306.19	5,305.98	5,306.88	0.007216	7.80	134.31	71.64	0.80	3.46	3.60	5.52	3.30
99.00	741	5,302.71	5,306.01	5,305.80	5,306.70	0.007211	7.80	134.36	71.67	0.80	3.46	3.59	5.51	3.30
98.75*	741	5,302.52	5,305.84	5,305.61	5,306.52	0.007028	7.73	135.64	71.87	0.79	3.43	3.57	5.46	3.32
98.5*	741	5,302.34	5,305.67	5,305.43	5,306.34	0.006964	7.71	136.12	71.97	0.78	3.43	3.56	5.44	3.33
98.25*	741	5,302.16	5,305.48	5,305.25	5,306.15	0.007047	7.74	135.52	71.87	0.79	3.44	3.57	5.47	3.32
97.25*	741	5,300.88	5,304.60	5,303.97	5,305.06	0.004140	6.46	164.06	75.27	0.62	2.95	3.10	4.52	3.72
97.00	741	5,300.51	5,304.60	5,303.60	5,304.94	0.002688	5.57	191.98	78.90	0.51	2.59	2.73	3.86	4.09
96.5*	741	5,300.51	5,304.37	5,303.60	5,304.78	0.003522	6.11	173.75	76.28	0.57	2.82	2.96	4.26	3.86
96.00	741	5,300.51	5,303.79	5,303.60	5,304.50	0.007490	7.91	131.48	69.84	0.81	3.52	3.69	5.64	3.28
95.5*	741	5,300.14	5,303.42	5,303.23	5,304.13	0.007491	7.91	131.97	70.58	0.81	3.53	3.63	5.62	3.28
95.00	741	5,299.77	5,303.06	5,302.86	5,303.75	0.007297	7.83	134.29	72.35	0.80	3.52	3.52	5.52	3.29
94.00	741	5,299.04	5,302.35	5,302.13	5,303.03	0.007126	7.76	135.42	72.48	0.79	3.43	3.57	5.47	3.31
93.00	741	5,298.30	5,301.59	5,301.39	5,302.30	0.007417	7.89	131.98	69.94	0.81	3.53	3.64	5.61	3.29
92.00	741	5,297.57	5,300.80	5,300.66	5,301.53	0.007933	8.04	131.31	73.47	0.83	3.58	3.55	5.64	3.23
91.00	741	5,296.83	5,300.10	5,299.91	5,300.75	0.007062	7.67	142.13	82.34	0.79	3.44	3.21	5.21	3.27
90.00	741	5,296.10	5,299.42	5,299.18	5,300.06	0.006754	7.58	142.12	78.96	0.77	3.38	3.29	5.21	3.32
89.00	741	5,295.36	5,298.64	5,298.45	5,299.34	0.007395	7.86	133.31	71.75	0.81	3.56	3.53	5.56	3.28
88.00	741	5,294.63	5,297.92	5,297.72	5,298.61	0.007281	7.81	135.04	73.36	0.80	3.49	3.51	5.49	3.29
87.00	741	5,293.90	5,297.18	5,296.99	5,297.87	0.007420	7.86	134.10	73.22	0.81	3.50	3.52	5.53	3.27
86.00	741	5,293.16	5,296.45	5,296.24	5,297.13	0.007258	7.80	135.40	73.69	0.80	3.49	3.49	5.47	3.29
85.00	741	5,292.43	5,295.73	5,295.52	5,296.41	0.007176	7.78	135.58	73.19	0.79	3.47	3.50	5.47	3.30
84.00	741	5,291.69	5,294.95	5,294.78	5,295.67	0.007617	7.95	131.68	71.26	0.82	3.57	3.58	5.63	3.26
83.00	741	5,290.96	5,294.22	5,294.04	5,294.91	0.007450	7.85	136.05	76.56	0.81	3.51	3.40	5.45	3.26
82.00	741	5,290.22	5,293.50	5,293.30	5,294.17	0.007202	7.75	138.27	77.84	0.79	3.48	3.34	5.36	3.28
81.5*	741	5,289.86	5,293.13	5,292.95	5,293.81	0.007329	7.80	137.21	77.21	0.80	3.47	3.38	5.40	3.27
81.00	741	5,289.49	5,292.77	5,292.58	5,293.44	0.007261	7.78	137.70	77.31	0.80	3.44	3.40	5.38	3.27
80.5*	741	5,289.12	5,292.40	5,292.20	5,293.07	0.007210	7.76	137.75	76.87	0.80	3.42	3.42	5.38	3.28
80.00	741	5,288.76	5,292.03	5,291.84	5,292.71	0.007368	7.82	136.43	76.37	0.80	3.43	3.46	5.43	3.27
79.00	741	5,288.02	5,291.29	5,291.10	5,291.98	0.007321	7.81	136.52	76.05	0.80	3.45	3.44	5.43	3.27
78.00	741	5,287.28	5,290.56	5,290.37	5,291.24	0.007321	7.81	135.89	75.06	0.80	3.43	3.51	5.45	3.28
77.00	741	5,286.55	5,289.85	5,289.64	5,290.52	0.007069	7.72	137.65	75.33	0.79	3.40	3.47	5.38	3.30
76.00	741	5,285.82	5,289.14	5,288.91	5,289.81	0.007012	7.72	136.05	72.32	0.79	3.46	3.51	5.45	3.32
75.00	741	5,285.08	5,288.34	5,288.17	5,289.07	0.007733	8.00	129.87	69.47	0.82	3.63	3.63	5.71	3.26
74.00	741	5,284.34	5,287.62	5,287.43	5,288.30	0.007342	7.82	135.57	74.77	0.80	3.44	3.51	5.47	3.28
73.00	741	5,283.61	5,286.88	5,286.70	5,287.57	0.007394	7.84	135.86	75.72	0.80	3.44	3.48	5.45	3.27
72.00	741	5,282.88	5,286.12	5,285.96	5,286.82	0.007659	7.92	135.49	77.67	0.82	3.44	3.47	5.47	3.23
71.00	741	5,282.14	5,285.39	5,285.22	5,286.08	0.007432	7.83	137.23	78.27	0.81	3.39	3.45	5.40	3.25
70.00	741	5,281.41	5,284.78	5,284.50	5,285.41	0.006507	7.52	140.41	73.72	0.76	3.37	3.43	5.28	3.37
69.00	741	5,280.67	5,283.98	5,283.76	5,284.67	0.007212	7.81	133.27	70.04	0.80	3.49	3.64	5.56	3.31
68.5*	741	5,280.30	5,283.60	5,283.39	5,284.28	0.007243	7.80	134.69	72.46	0.80	3.47	3.55	5.50	3.30
68.00	741	5,279.94	5,283.21	5,283.02	5,283.89	0.007299	7.79	137.25	76.98	0.80	3.46	3.40	5.40	3.27
67.5*	741	5,279.58	5,282.84	5,282.67	5,283.52	0.007460	7.85	136.48	77.33	0.81	3.45	3.42	5.43	3.25
67.00	741	5,279.21	5,282.47	5,282.29	5,283.15	0.007421	7.83	137.17	78.05	0.81	3.42	3.42	5.40	3.26
66.00	741	5,278.47	5,281.77	5,281.55	5,282.42	0.006997	7.67	140.27	78.64	0.78	3.36	3.37	5.28	3.30
65.00	741	5,277.74	5,280.97	5,280.83	5,281.68	0.007753	7.95	134.49	76.94	0.82	3.49	3.46	5.51	3.23
64.00	741	5,277.00	5,280.31	5,280.08	5,280.93	0.006652	7.51	145.69	83.38	0.77	3.28	3.22	5.09	3.31
63.00	741	5,276.27	5,279.50	5,279.35	5,280.21	0.007716	7.94	134.80	77.12	0.82	3.39	3.56	5.50	3.23
62.00	741	5,275.53	5,278.80	5,278.61	5,279.45	0.007133	7.70	141.58	82.16	0.79	3.29	3.35	5.23	3.27
61.00	741	5,274.80	5,278.07	5,277.88	5,278.73	0.007232	7.75	139.67	80.14	0.80	3.33	3.40	5.31	3.27

(5/05)

Profile Output Table - Chinde Branch 1 Post-mine 100 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
60.00	741	5,274.06	5,277.31	5,277.14	5,277.99	0.007512	7.86	136.86	78.44	0.81	3.38	3.47	5.41	3.25
59.00	741	5,273.33	5,276.66	5,276.41	5,277.27	0.006565	7.48	146.03	82.90	0.76	3.24	3.25	5.07	3.33
58.00	741	5,272.60	5,275.84	5,275.69	5,276.55	0.007721	7.95	133.81	75.55	0.82	3.50	3.50	5.54	3.24
57.00	741	5,271.86	5,275.13	5,274.94	5,275.79	0.007133	7.71	140.71	80.78	0.79	3.31	3.38	5.27	3.27
56.00	741	5,271.13	5,274.39	5,274.22	5,275.06	0.007382	7.81	137.94	78.89	0.80	3.41	3.40	5.37	3.26
55.00	741	5,270.39	5,273.68	5,273.47	5,274.34	0.007013	7.68	140.28	78.83	0.78	3.36	3.36	5.28	3.29
54.00	741	5,269.66	5,272.91	5,272.74	5,273.61	0.007558	7.89	135.42	76.59	0.81	3.47	3.46	5.47	3.25
53.00	741	5,268.92	5,272.19	5,272.01	5,272.86	0.007267	7.77	138.82	79.14	0.80	3.39	3.38	5.34	3.27
52.00	741	5,268.19	5,271.43	5,271.27	5,272.12	0.007522	7.86	137.28	79.22	0.81	3.43	3.39	5.40	3.24
51.00	741	5,267.45	5,270.73	5,270.53	5,271.38	0.007001	7.65	142.04	81.48	0.78	3.30	3.33	5.22	3.28
50.00	741	5,266.72	5,269.97	5,269.80	5,270.65	0.007483	7.85	137.25	78.79	0.81	3.41	3.42	5.40	3.25
49.00	741	5,265.99	5,269.27	5,269.07	5,269.92	0.006981	7.64	142.58	82.12	0.78	3.29	3.32	5.20	3.28
48.00	741	5,265.25	5,268.51	5,268.34	5,269.20	0.007423	7.84	136.65	77.25	0.81	3.46	3.41	5.42	3.26
47.00	741	5,264.52	5,267.76	5,267.60	5,268.45	0.007536	7.86	137.23	79.27	0.81	3.42	3.40	5.40	3.24
46.00	741	5,263.78	5,267.03	5,266.86	5,267.70	0.007373	7.79	139.63	81.51	0.80	3.35	3.37	5.31	3.25
45.00	741	5,263.04	5,266.30	5,266.12	5,266.96	0.007269	7.75	140.01	81.07	0.80	3.30	3.41	5.29	3.26
44.5*	741	5,262.67	5,265.93	5,265.75	5,266.60	0.007272	7.76	139.60	80.47	0.80	3.36	3.37	5.31	3.26
44.00	741	5,262.31	5,265.56	5,265.39	5,266.23	0.007387	7.80	139.01	80.65	0.80	3.41	3.34	5.33	3.25
43.5*	741	5,261.95	5,265.19	5,265.03	5,265.86	0.007409	7.80	139.64	81.89	0.80	3.37	3.34	5.31	3.24
43.00	741	5,261.58	5,264.86	5,264.66	5,265.49	0.006968	7.62	143.89	84.06	0.78	3.26	3.28	5.15	3.28
42.00	741	5,260.84	5,264.08	5,263.92	5,264.76	0.007543	7.86	137.46	79.72	0.81	3.43	3.38	5.39	3.24
41.00	741	5,260.10	5,263.36	5,263.18	5,264.02	0.007211	7.73	140.97	82.01	0.79	3.39	3.28	5.26	3.26
40.00	741	5,259.38	5,262.65	5,262.46	5,263.30	0.007086	7.68	141.79	82.00	0.79	3.36	3.26	5.23	3.27
39.00	741	5,258.64	5,261.90	5,261.72	5,262.58	0.007386	7.82	137.24	77.89	0.80	3.56	3.31	5.40	3.26
38.00	741	5,257.91	5,261.24	5,260.99	5,261.86	0.006665	7.54	143.30	79.80	0.77	3.32	3.29	5.17	3.33
37.00	758	5,257.17	5,260.46	5,260.28	5,261.16	0.007428	7.90	138.66	77.20	0.81	3.41	3.56	5.47	3.29
36.00	758	5,256.44	5,259.72	5,259.55	5,260.41	0.007501	7.91	139.38	79.03	0.81	3.45	3.45	5.44	3.28
35.00	758	5,255.70	5,258.98	5,258.81	5,259.66	0.007383	7.86	141.24	80.80	0.80	3.42	3.40	5.37	3.28
34.5*	758	5,255.33	5,258.62	5,258.44	5,259.29	0.007248	7.80	142.68	81.70	0.80	3.40	3.36	5.31	3.29
34.00	758	5,254.97	5,258.26	5,258.07	5,258.93	0.007198	7.77	143.64	82.69	0.79	3.39	3.33	5.28	3.29
33.5*	758	5,254.60	5,257.88	5,257.71	5,258.56	0.007429	7.87	140.79	80.54	0.81	3.43	3.41	5.38	3.28
33.00	758	5,254.22	5,257.49	5,257.33	5,258.19	0.007585	7.94	138.68	78.74	0.82	3.47	3.47	5.47	3.27
32.5*	758	5,253.86	5,257.13	5,256.97	5,257.81	0.007495	7.89	141.32	82.05	0.81	3.40	3.41	5.36	3.27
32.00	758	5,253.50	5,256.82	5,256.59	5,257.44	0.006711	7.56	150.15	87.40	0.77	3.23	3.25	5.05	3.32
31.5*	758	5,253.13	5,256.46	5,256.23	5,257.09	0.006747	7.60	147.05	82.98	0.77	3.30	3.32	5.15	3.33
31.00	758	5,252.76	5,256.05	5,255.87	5,256.74	0.007402	7.88	139.67	78.51	0.81	3.44	3.46	5.43	3.29
30.00	758	5,252.03	5,255.33	5,255.14	5,256.00	0.007211	7.80	142.04	80.31	0.80	3.40	3.40	5.34	3.30
29.00	758	5,251.29	5,254.58	5,254.40	5,255.27	0.007365	7.87	139.55	77.95	0.80	3.46	3.46	5.43	3.29
28.00	758	5,250.57	5,253.87	5,253.68	5,254.54	0.007179	7.78	142.54	80.74	0.79	3.39	3.39	5.32	3.30
27.00	758	5,249.83	5,253.12	5,252.94	5,253.81	0.007408	7.88	139.45	78.22	0.81	3.46	3.46	5.44	3.29
26.5*	758	5,249.46	5,252.75	5,252.57	5,253.44	0.007363	7.86	139.99	78.61	0.80	3.44	3.46	5.41	3.29
26.00	758	5,249.09	5,252.39	5,252.20	5,253.07	0.007247	7.82	141.08	79.16	0.80	3.40	3.45	5.37	3.30
25.5*	758	5,248.72	5,252.03	5,251.83	5,252.70	0.007210	7.81	140.97	78.63	0.80	3.42	3.44	5.38	3.31
25.00	758	5,248.36	5,251.66	5,251.47	5,252.34	0.007328	7.85	139.81	78.00	0.80	3.45	3.46	5.42	3.30
24.00	758	5,247.62	5,250.94	5,250.74	5,251.62	0.007153	7.80	140.08	76.75	0.79	3.61	3.35	5.41	3.32
23.00	758	5,246.89	5,250.17	5,250.01	5,250.88	0.007584	7.96	136.71	75.67	0.82	3.66	3.42	5.54	3.28
22.00	758	5,246.15	5,249.43	5,249.26	5,250.13	0.007443	7.89	139.47	78.60	0.81	3.46	3.45	5.43	3.28
21.00	758	5,245.42	5,248.79	5,248.53	5,249.41	0.006475	7.51	148.30	82.00	0.76	3.39	3.20	5.11	3.37
20.00	758	5,244.69	5,247.95	5,247.80	5,248.68	0.007931	8.09	133.78	74.19	0.83	3.60	3.59	5.67	3.26
19.00	758	5,243.95	5,247.26	5,247.06	5,247.91	0.006997	7.70	145.18	82.96	0.78	3.32	3.35	5.22	3.31
18.00	758	5,243.21	5,246.50	5,246.32	5,247.19	0.007435	7.89	139.34	78.31	0.81	3.46	3.46	5.44	3.29
17.00	758	5,242.48	5,245.75	5,245.59	5,246.44	0.007473	7.89	140.53	80.57	0.81	3.41	3.44	5.39	3.27
16.00	758	5,241.74	5,245.08	5,244.85	5,245.71	0.006729	7.60	146.80	82.53	0.77	3.30	3.32	5.16	3.34
15.00	758	5,241.01	5,244.28	5,244.12	5,244.99	0.007634	7.97	137.32	77.06	0.82	3.50	3.51	5.52	3.27
14.00	758	5,240.27	5,243.59	5,243.38	5,244.24	0.006985	7.71	144.14	81.22	0.78	3.36	3.36	5.26	3.32
13.5*	758	5,239.91	5,243.22	5,243.02	5,243.89	0.007189	7.80	141.54	79.29	0.80	3.42	3.41	5.36	3.31
13.00	758	5,239.54	5,242.82	5,242.65	5,243.52	0.007560	7.94	137.89	77.25	0.81	3.50	3.48	5.50	3.28
12.5*	758	5,239.17	5,242.46	5,242.28	5,243.14	0.007354	7.85	140.80	79.80	0.80	3.43	3.42	5.38	3.29
12.00	758	5,238.81	5,242.12	5,241.92	5,242.77	0.006981	7.69	145.55	83.37	0.78	3.32	3.33	5.21	3.31
11.5*	758	5,238.44	5,241.76	5,241.55	5,242.42	0.007029	7.73	143.57	80.79	0.79	3.37	3.37	5.28	3.32

(5/05)

Profile Output Table - Chinde Branch 1 Post-mine 100 yr-6 hr

HEC-RAS Plan: CB1 post River: Chinde Branch 1 Reach: Reach 1 May 2005

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 Left (ft/s)	Vel Right (ft/s)	Vel Total (ft/s)	Max Chl Dpth (ft)
11.00	758	5,238.07	5,241.39	5,241.18	5,242.06	0.007052	7.75	142.04	78.67	0.79	3.41	3.41	5.34	3.32
10.5*	758	5,237.71	5,241.02	5,240.82	5,241.70	0.007253	7.83	139.94	77.44	0.80	3.47	3.44	5.42	3.31
10.00	758	5,237.34	5,240.61	5,240.45	5,241.33	0.007703	8.00	136.25	76.02	0.82	3.56	3.50	5.56	3.27
9.5*	758	5,236.97	5,240.23	5,240.08	5,240.94	0.007642	7.96	138.41	78.86	0.82	3.51	3.44	5.48	3.26
9.00	758	5,236.60	5,239.90	5,239.70	5,240.56	0.007103	7.74	144.63	83.25	0.79	3.39	3.30	5.24	3.30
8.00	758	5,235.87	5,239.15	5,238.98	5,239.83	0.007427	7.87	141.21	81.19	0.81	3.44	3.38	5.37	3.28
7.00	758	5,235.14	5,238.43	5,238.25	5,239.09	0.007213	7.78	143.98	83.40	0.80	3.40	3.30	5.26	3.29
6.5*	758	5,234.77	5,238.06	5,237.88	5,238.73	0.007256	7.80	142.87	82.08	0.80	3.42	3.33	5.31	3.29
6.00	758	5,234.40	5,237.67	5,237.51	5,238.36	0.007564	7.92	139.89	80.46	0.81	3.48	3.40	5.42	3.27
5.5*	758	5,234.04	5,237.29	5,237.15	5,237.98	0.007601	7.91	140.52	81.49	0.81	3.46	3.41	5.39	3.25
5.00	758	5,233.67	5,236.95	5,236.77	5,237.60	0.007111	7.71	144.87	82.92	0.79	3.36	3.38	5.23	3.28
4.5*	758	5,233.30	5,236.60	5,236.41	5,237.24	0.007016	7.69	145.71	83.63	0.79	3.34	3.33	5.20	3.30
4.00	758	5,232.93	5,236.28	5,236.03	5,236.90	0.006543	7.51	149.82	85.06	0.76	3.26	3.24	5.06	3.35
3.00	758	5,232.20	5,235.48	5,235.32	5,236.18	0.007572	7.95	137.63	76.95	0.81	3.50	3.50	5.51	3.28
2.00	758	5,231.46	5,234.79	5,234.57	5,235.44	0.006965	7.71	143.52	80.04	0.78	3.38	3.38	5.28	3.33
1.00	758	5,230.73	5,234.01	5,233.84	5,234.71	0.007551	7.94	137.92	77.21	0.81	3.49	3.49	5.50	3.28
0.00	758	5,229.99	5,233.28	5,233.10	5,233.96	0.007347	7.85	140.79	79.72	0.80	3.43	3.43	5.38	3.29
						Max	8.09					Avg	5.19	
						Min	2.70							
						Avg	7.25							

192.92	213	6.19	4.85
170.00	511	7.75	4.93
123.00	741	8.05	5.41
37.00	758	8.09	5.36

(5/05)

HOSTEEN BRANCH 1 POST-MINE HEC-RAS RESULTS

September-04

Profile Output Table - Hosteen Branch 1 Post-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)
86.00	121.0	5,381.10	5,382.30	5,382.45	5,382.76	0.014995	6.03	33.52	106.04	1.06	1.35	1.35	3.61	1.20
85.5*	121.0	5,380.35	5,381.55	5,381.70	5,382.01	0.014951	6.02	33.58	106.05	1.06	1.35	1.35	3.60	1.20
85.*	121.0	5,379.60	5,380.80	5,380.95	5,381.26	0.014737	5.99	33.83	106.13	1.05	1.35	1.35	3.58	1.20
84.5*	121.0	5,378.85	5,380.04	5,380.20	5,380.52	0.015570	6.12	32.85	105.84	1.08	1.35	1.35	3.68	1.19
84.00	121.0	5,378.10	5,379.29	5,379.45	5,379.78	0.015936	6.18	32.44	105.73	1.09	1.34	1.34	3.73	1.19
83.5*	121.0	5,377.35	5,378.55	5,378.70	5,379.02	0.015301	6.08	33.16	105.93	1.07	1.35	1.35	3.65	1.20
83.*	121.0	5,376.60	5,377.79	5,377.95	5,378.27	0.015390	6.09	33.06	105.90	1.07	1.35	1.35	3.66	1.19
82.5*	121.0	5,375.85	5,377.04	5,377.20	5,377.52	0.015525	6.11	32.90	105.86	1.07	1.35	1.35	3.68	1.19
82.00	121.0	5,375.10	5,376.29	5,376.45	5,376.77	0.015660	6.13	32.75	105.82	1.08	1.34	1.34	3.69	1.19
81.5*	121.0	5,374.35	5,375.55	5,375.70	5,376.01	0.015169	6.06	33.32	105.98	1.06	1.35	1.35	3.63	1.20
81.*	121.0	5,373.60	5,374.79	5,374.95	5,375.28	0.015936	6.18	32.44	105.73	1.09	1.34	1.34	3.73	1.19
80.5*	121.0	5,372.85	5,374.05	5,374.20	5,374.52	0.015301	6.08	33.16	105.93	1.07	1.35	1.35	3.65	1.20
80.00	121.0	5,372.10	5,373.29	5,373.45	5,373.77	0.015390	6.09	33.06	105.90	1.07	1.35	1.35	3.66	1.19
79.5*	121.0	5,371.35	5,372.54	5,372.70	5,373.02	0.015525	6.11	32.90	105.86	1.07	1.35	1.35	3.68	1.19
79.*	121.0	5,370.60	5,371.79	5,371.95	5,372.27	0.015660	6.13	32.75	105.82	1.08	1.34	1.34	3.69	1.19
78.5*	121.0	5,369.85	5,371.05	5,371.20	5,371.51	0.015169	6.06	33.32	105.98	1.06	1.35	1.35	3.63	1.20
78.00	121.0	5,369.10	5,370.29	5,370.45	5,370.78	0.015936	6.18	32.44	105.73	1.09	1.34	1.34	3.73	1.19
77.5*	121.0	5,368.35	5,369.55	5,369.70	5,370.02	0.015301	6.08	33.16	105.93	1.07	1.35	1.35	3.65	1.20
77.*	121.0	5,367.60	5,368.79	5,368.95	5,369.27	0.015390	6.09	33.06	105.90	1.07	1.35	1.35	3.66	1.19
76.5*	121.0	5,366.85	5,368.04	5,368.20	5,368.52	0.015525	6.11	32.90	105.86	1.07	1.35	1.35	3.68	1.19
76.00	121.0	5,366.10	5,367.29	5,367.45	5,367.77	0.015660	6.13	32.75	105.82	1.08	1.34	1.34	3.69	1.19
75.5*	121.0	5,365.35	5,366.55	5,366.70	5,367.01	0.015169	6.06	33.32	105.98	1.06	1.35	1.35	3.63	1.20
75.*	121.0	5,364.60	5,365.79	5,365.95	5,366.28	0.015936	6.18	32.44	105.73	1.09	1.34	1.34	3.73	1.19
74.5*	121.0	5,363.85	5,365.05	5,365.20	5,365.52	0.015301	6.08	33.16	105.93	1.07	1.35	1.35	3.65	1.20
74.00	121.0	5,363.10	5,364.29	5,364.45	5,364.77	0.015390	6.09	33.06	105.90	1.07	1.35	1.35	3.66	1.19
73.5*	121.0	5,362.35	5,363.54	5,363.70	5,364.02	0.015525	6.11	32.90	105.86	1.07	1.35	1.35	3.68	1.19
73.*	121.0	5,361.60	5,362.79	5,362.95	5,363.27	0.015660	6.13	32.75	105.82	1.08	1.34	1.34	3.69	1.19
72.5*	121.0	5,360.85	5,362.05	5,362.20	5,362.51	0.015169	6.06	33.32	105.98	1.06	1.35	1.35	3.63	1.20
72.00	121.0	5,360.10	5,361.29	5,361.45	5,361.78	0.015936	6.18	32.44	105.73	1.09	1.34	1.34	3.73	1.19
71.5*	121.0	5,359.35	5,360.55	5,360.70	5,361.02	0.015301	6.08	33.16	105.93	1.07	1.35	1.35	3.65	1.20
71.*	121.0	5,358.60	5,359.79	5,359.95	5,360.27	0.015390	6.09	33.06	105.90	1.07	1.35	1.35	3.66	1.19
70.5*	121.0	5,357.85	5,359.04	5,359.20	5,359.52	0.015525	6.11	32.90	105.86	1.07	1.35	1.35	3.68	1.19
70.00	121.0	5,357.10	5,358.29	5,358.45	5,358.77	0.015660	6.13	32.75	105.82	1.08	1.34	1.34	3.69	1.19
69.5*	121.0	5,356.35	5,357.55	5,357.70	5,358.01	0.015169	6.06	33.32	105.98	1.06	1.35	1.35	3.63	1.20
69.*	121.0	5,355.60	5,356.79	5,356.95	5,357.28	0.015936	6.18	32.44	105.73	1.09	1.34	1.34	3.73	1.19
68.5*	121.0	5,354.85	5,356.05	5,356.20	5,356.52	0.015301	6.08	33.16	105.93	1.07	1.35	1.35	3.65	1.20
68.00	121.0	5,354.10	5,355.29	5,355.45	5,355.77	0.015390	6.09	33.06	105.90	1.07	1.35	1.35	3.66	1.19
67.5*	121.0	5,353.35	5,354.54	5,354.70	5,355.02	0.015525	6.11	32.90	105.86	1.07	1.35	1.35	3.68	1.19
67.*	121.0	5,352.60	5,353.79	5,353.95	5,354.27	0.015660	6.13	32.75	105.82	1.08	1.34	1.34	3.69	1.19
66.5*	121.0	5,351.85	5,353.05	5,353.20	5,353.51	0.015169	6.06	33.32	105.98	1.06	1.35	1.35	3.63	1.20
66.00	121.0	5,351.10	5,352.29	5,352.45	5,352.78	0.015936	6.18	32.44	105.73	1.09	1.34	1.34	3.73	1.19
65.5*	121.0	5,350.35	5,351.55	5,351.70	5,352.02	0.015301	6.08	33.16	105.93	1.07	1.35	1.35	3.65	1.20
65.*	121.0	5,349.60	5,350.79	5,350.95	5,351.27	0.015390	6.09	33.06	105.90	1.07	1.35	1.35	3.66	1.19
64.5*	121.0	5,348.85	5,350.04	5,350.20	5,350.52	0.015525	6.11	32.90	105.86	1.07	1.35	1.35	3.68	1.19
64.00	121.0	5,348.10	5,349.29	5,349.45	5,349.77	0.015660	6.13	32.75	105.82	1.08	1.34	1.34	3.69	1.19
63.5*	121.0	5,347.35	5,348.55	5,348.70	5,349.01	0.015169	6.06	33.32	105.98	1.06	1.35	1.35	3.63	1.20
63.*	121.0	5,346.60	5,347.79	5,347.95	5,348.28	0.015936	6.18	32.44	105.73	1.09	1.34	1.34	3.73	1.19
62.5*	121.0	5,345.85	5,347.05	5,347.20	5,347.52	0.015301	6.08	33.16	105.93	1.07	1.35	1.35	3.65	1.20
62.00	121.0	5,345.10	5,346.29	5,346.45	5,346.77	0.015390	6.09	33.06	105.90	1.07	1.35	1.35	3.66	1.19
61.5*	121.0	5,344.35	5,345.54	5,345.70	5,346.02	0.015525	6.11	32.90	105.86	1.07	1.35	1.35	3.68	1.19
61.*	121.0	5,343.60	5,344.79	5,344.95	5,345.27	0.015660	6.13	32.75	105.82	1.08	1.34	1.34	3.69	1.19
60.5*	121.0	5,342.85	5,344.05	5,344.20	5,344.51	0.015169	6.06	33.32	105.98	1.06	1.35	1.35	3.63	1.20
60.00	121.0	5,342.10	5,343.29	5,343.45	5,343.78	0.015936	6.18	32.44	105.73	1.09	1.34	1.34	3.73	1.19
59.5*	121.0	5,341.35	5,342.58	5,342.73	5,343.03	0.014178	5.93	33.72	106.06	1.03	1.30	1.30	3.59	1.23
59.*	121.0	5,340.60	5,341.83	5,341.99	5,342.31	0.014849	6.05	32.27	105.47	1.05	1.25	1.25	3.75	1.23
58.5*	121.0	5,339.85	5,341.10	5,341.27	5,341.60	0.015013	6.12	31.27	105.30	1.06	1.20	1.20	3.87	1.25
58.00	121.0	5,339.10	5,340.36	5,340.52	5,340.87	0.014992	6.13	30.63	104.83	1.06	1.15	1.15	3.95	1.26
57.5*	121.0	5,338.35	5,339.62	5,339.81	5,340.15	0.014973	6.15	29.71	104.42	1.06	1.08	1.08	4.07	1.27
57.*	121.0	5,337.60	5,338.89	5,339.06	5,339.41	0.014742	6.14	29.41	104.20	1.05	1.05	1.05	4.11	1.29
56.5*	121.0	5,336.85	5,338.14	5,338.34	5,338.69	0.014999	6.18	28.35	103.58	1.06	0.99	0.99	4.27	1.29
56.00	121.0	5,336.10	5,337.40	5,337.61	5,337.97	0.015365	6.26	26.82	103.13	1.08	0.89	0.89	4.51	1.30

Profile Output Table - Hosteen Branch 1 Post-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)
55.5*	121.0	5,335.35	5,336.67	5,336.87	5,337.23	0.014851	6.18	26.63	102.81	1.06	0.83	0.86	4.54	1.32
55.*	121.0	5,334.60	5,335.94	5,336.13	5,336.50	0.014755	6.19	25.79	102.62	1.06	0.77	0.77	4.69	1.33
54.5*	121.0	5,333.85	5,335.20	5,335.42	5,335.77	0.014507	6.17	25.03	102.49	1.05	0.69	0.69	4.83	1.35
54.00	121.0	5,333.10	5,334.46	5,334.68	5,335.04	0.014672	6.19	23.87	101.83	1.05	0.59	0.59	5.07	1.36
53.5*	121.0	5,332.35	5,333.71	5,333.93	5,334.30	0.014708	6.19	22.72	101.23	1.05	0.46	0.50	5.33	1.36
53.*	121.0	5,331.60	5,332.99	5,333.19	5,333.56	0.013783	6.07	23.17	101.43	1.02	0.47	0.47	5.22	1.39
52.5*	121.0	5,330.85	5,332.23	5,332.47	5,332.83	0.014902	6.22	19.46	18.20	1.06			6.22	1.38
52.00	121.0	5,330.10	5,331.49	5,331.73	5,332.08	0.014499	6.15	19.67	18.33	1.05			6.15	1.39
51.5*	121.0	5,329.35	5,330.73	5,330.99	5,331.32	0.014960	6.21	19.48	18.33	1.06			6.21	1.38
51.*	121.0	5,328.60	5,329.97	5,330.27	5,330.58	0.015470	6.30	19.20	18.10	1.08			6.30	1.37
50.5*	121.0	5,327.85	5,329.22	5,329.28	5,329.83	0.015154	6.26	19.34	18.17	1.07			6.26	1.37
50.00	121.0	5,327.10	5,328.47	5,328.54	5,329.08	0.015257	6.26	19.32	18.22	1.07			6.26	1.37
49.5*	121.0	5,326.35	5,327.72	5,327.79	5,328.33	0.015058	6.23	19.41	18.25	1.06			6.23	1.37
49.*	121.0	5,325.60	5,326.97	5,327.04	5,327.58	0.015177	6.25	19.36	18.23	1.07			6.25	1.37
48.5*	121.0	5,324.85	5,326.21	5,326.29	5,326.83	0.015540	6.30	19.20	18.18	1.08			6.30	1.36
48.00	121.0	5,324.10	5,325.49	5,325.54	5,326.08	0.014462	6.15	19.69	18.34	1.05			6.15	1.39
47.5*	121.0	5,323.35	5,324.73	5,324.79	5,325.33	0.014979	6.22	19.45	18.26	1.06			6.22	1.38
47.*	121.0	5,322.60	5,323.98	5,324.04	5,324.58	0.014940	6.22	19.47	18.26	1.06			6.22	1.38
46.5*	121.0	5,321.85	5,323.23	5,323.29	5,323.83	0.014823	6.20	19.52	18.28	1.06			6.20	1.38
46.00	121.0	5,321.10	5,322.49	5,322.54	5,323.08	0.014480	6.15	19.68	18.33	1.05			6.15	1.39
45.5*	121.0	5,320.35	5,321.73	5,321.79	5,322.33	0.014979	6.22	19.45	18.26	1.06			6.22	1.38
45.*	121.0	5,319.60	5,320.98	5,321.04	5,321.58	0.014940	6.22	19.47	18.26	1.06			6.22	1.38
44.5*	121.0	5,318.85	5,320.23	5,320.29	5,320.83	0.014823	6.20	19.52	18.28	1.06			6.20	1.38
44.00	121.0	5,318.10	5,319.49	5,319.54	5,320.08	0.014480	6.15	19.68	18.33	1.05			6.15	1.39
43.5*	121.0	5,317.35	5,318.73	5,318.79	5,319.33	0.014979	6.22	19.45	18.26	1.06			6.22	1.38
43.*	121.0	5,316.60	5,317.98	5,318.04	5,318.58	0.014940	6.22	19.47	18.26	1.06			6.22	1.38
42.5*	121.0	5,315.85	5,317.23	5,317.29	5,317.83	0.014823	6.20	19.52	18.28	1.06			6.20	1.38
42.00	121.0	5,315.10	5,316.49	5,316.54	5,317.08	0.014480	6.15	19.68	18.33	1.05			6.15	1.39
41.5*	121.0	5,314.35	5,315.73	5,315.79	5,316.33	0.014979	6.22	19.45	18.26	1.06			6.22	1.38
41.*	121.0	5,313.60	5,314.98	5,315.04	5,315.58	0.014940	6.22	19.47	18.26	1.06			6.22	1.38
40.5*	121.0	5,312.85	5,314.23	5,314.29	5,314.83	0.014823	6.20	19.52	18.28	1.06			6.20	1.38
40.00	121.0	5,312.10	5,313.49	5,313.54	5,314.08	0.014480	6.15	19.68	18.33	1.05			6.15	1.39
39.5*	121.0	5,311.35	5,312.73	5,312.79	5,313.33	0.014979	6.22	19.45	18.26	1.06			6.22	1.38
39.*	121.0	5,310.60	5,311.98	5,312.04	5,312.58	0.014940	6.22	19.47	18.26	1.06			6.22	1.38
38.5*	121.0	5,309.85	5,311.23	5,311.29	5,311.83	0.014823	6.20	19.52	18.28	1.06			6.20	1.38
38.00	121.0	5,309.10	5,310.49	5,310.54	5,311.08	0.014480	6.15	19.68	18.33	1.05			6.15	1.39
37.5*	121.0	5,308.35	5,309.73	5,309.79	5,310.33	0.014979	6.22	19.45	18.26	1.06			6.22	1.38
37.*	121.0	5,307.60	5,308.98	5,309.04	5,309.58	0.014940	6.22	19.47	18.26	1.06			6.22	1.38
36.5*	121.0	5,306.85	5,308.23	5,308.29	5,308.83	0.014823	6.20	19.52	18.28	1.06			6.20	1.38
36.00	121.0	5,306.10	5,307.49	5,307.54	5,308.08	0.014480	6.15	19.68	18.33	1.05			6.15	1.39
35.5*	121.0	5,305.35	5,306.73	5,306.79	5,307.33	0.014979	6.22	19.45	18.26	1.06			6.22	1.38
35.*	121.0	5,304.60	5,305.98	5,306.04	5,306.58	0.014940	6.22	19.47	18.26	1.06			6.22	1.38
34.5*	121.0	5,303.85	5,305.23	5,305.29	5,305.83	0.014823	6.20	19.52	18.28	1.06			6.20	1.38
34.00	121.0	5,303.10	5,304.49	5,304.54	5,305.08	0.014480	6.15	19.68	18.33	1.05			6.15	1.39
33.5*	121.0	5,302.35	5,303.73	5,303.79	5,304.33	0.014979	6.22	19.45	18.26	1.06			6.22	1.38
33.*	121.0	5,301.60	5,302.98	5,303.04	5,303.58	0.014940	6.22	19.47	18.26	1.06			6.22	1.38
32.5*	121.0	5,300.85	5,302.23	5,302.29	5,302.83	0.014823	6.20	19.52	18.28	1.06			6.20	1.38
32.00	121.0	5,300.10	5,301.49	5,301.54	5,302.08	0.014480	6.15	19.68	18.33	1.05			6.15	1.39
31.5*	121.0	5,299.35	5,300.73	5,300.79	5,301.33	0.014979	6.22	19.45	18.26	1.06			6.22	1.38
31.*	121.0	5,298.60	5,299.98	5,300.04	5,300.58	0.014940	6.22	19.47	18.26	1.06			6.22	1.38
30.5*	121.0	5,297.85	5,299.23	5,299.29	5,299.83	0.014823	6.20	19.52	18.28	1.06			6.20	1.38
30.00	121.0	5,297.10	5,298.49	5,298.54	5,299.08	0.014480	6.15	19.68	18.33	1.05			6.15	1.39
29.5*	121.0	5,296.35	5,297.73	5,297.79	5,298.33	0.014979	6.22	19.45	18.26	1.06			6.22	1.38
29.*	121.0	5,295.60	5,296.98	5,297.04	5,297.58	0.014940	6.22	19.47	18.26	1.06			6.22	1.38
28.5*	121.0	5,294.85	5,296.23	5,296.29	5,296.83	0.014823	6.20	19.52	18.28	1.06			6.20	1.38
28.00	125.0	5,294.10	5,295.52	5,295.80	5,296.11	0.014162	6.16	20.29	18.53	1.04			6.16	1.42
27.5*	125.0	5,293.35	5,294.74	5,295.05	5,295.37	0.015414	6.35	19.70	18.34	1.08			6.35	1.39
27.*	125.0	5,292.60	5,294.00	5,294.30	5,294.61	0.015157	6.31	19.82	18.38	1.07			6.31	1.40
26.5*	125.0	5,291.85	5,293.24	5,293.55	5,293.87	0.015474	6.35	19.67	18.33	1.08			6.35	1.39
26.00	125.0	5,291.10	5,292.50	5,292.80	5,293.11	0.015137	6.31	19.82	18.38	1.07			6.31	1.40
25.5*	125.0	5,290.35	5,291.74	5,292.05	5,292.37	0.015414	6.35	19.70	18.34	1.08			6.35	1.39

Profile Output Table - Hosteen Branch 1 Post-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)
25.*	125.0	5,289.60	5,291.00	5,291.30	5,291.61	0.015157	6.31	19.82	18.38	1.07			6.31	1.40
24.5*	125.0	5,288.85	5,290.24	5,290.55	5,290.87	0.015474	6.35	19.67	18.33	1.08			6.35	1.39
24.00	125.0	5,288.10	5,289.50	5,289.80	5,290.11	0.015137	6.31	19.82	18.38	1.07			6.31	1.40
23.5*	125.0	5,287.35	5,288.74	5,289.05	5,289.37	0.015414	6.35	19.70	18.34	1.08			6.35	1.39
23.*	125.0	5,286.60	5,288.00	5,288.30	5,288.61	0.015157	6.31	19.82	18.38	1.07			6.31	1.40
22.5*	125.0	5,285.85	5,287.24	5,287.55	5,287.87	0.015474	6.35	19.67	18.33	1.08			6.35	1.39
22.00	125.0	5,285.10	5,286.50	5,286.80	5,287.11	0.015137	6.31	19.82	18.38	1.07			6.31	1.40
21.5*	125.0	5,284.35	5,285.74	5,286.05	5,286.37	0.015414	6.35	19.70	18.34	1.08			6.35	1.39
21.*	125.0	5,283.60	5,285.00	5,285.30	5,285.61	0.015157	6.31	19.82	18.38	1.07			6.31	1.40
20.5*	125.0	5,282.85	5,284.24	5,284.55	5,284.87	0.015474	6.35	19.67	18.33	1.08			6.35	1.39
20.00	125.0	5,282.10	5,283.50	5,283.80	5,284.11	0.015137	6.31	19.82	18.38	1.07			6.31	1.40
19.5*	125.0	5,281.35	5,282.74	5,283.05	5,283.37	0.015414	6.35	19.70	18.34	1.08			6.35	1.39
19.*	125.0	5,280.60	5,282.00	5,282.30	5,282.61	0.015157	6.31	19.82	18.38	1.07			6.31	1.40
18.5*	125.0	5,279.85	5,281.24	5,281.55	5,281.87	0.015474	6.35	19.67	18.33	1.08			6.35	1.39
18.00	125.0	5,279.10	5,280.50	5,280.80	5,281.11	0.015137	6.31	19.82	18.38	1.07			6.31	1.40
17.5*	125.0	5,278.34	5,279.82	5,279.84	5,280.41	0.013939	6.15	20.34	18.43	1.03			6.15	1.48
17.*	125.0	5,277.58	5,279.02	5,279.11	5,279.67	0.015984	6.46	19.34	17.96	1.10			6.46	1.44
16.5*	125.0	5,276.83	5,278.29	5,278.35	5,278.90	0.014583	6.28	19.90	17.96	1.05			6.28	1.46
16.00	125.0	5,276.07	5,277.43	5,277.54	5,278.11	0.016883	6.65	18.79	17.34	1.13			6.65	1.36
15.5*	125.0	5,275.31	5,276.74	5,276.76	5,277.35	0.014036	6.24	20.02	17.69	1.03			6.24	1.43
15.*	125.0	5,274.55	5,275.94	5,276.02	5,276.59	0.015765	6.48	19.28	17.59	1.09			6.48	1.39
14.5*	125.0	5,273.79	5,275.19	5,275.25	5,275.81	0.014959	6.35	19.69	17.80	1.06			6.35	1.40
14.00	125.0	5,273.03	5,274.41	5,274.49	5,275.05	0.015257	6.38	19.59	17.82	1.07			6.38	1.38
13.5*	125.0	5,272.27	5,273.65	5,273.73	5,274.29	0.015447	6.39	19.55	17.92	1.08			6.39	1.38
13.*	125.0	5,271.52	5,272.91	5,272.93	5,273.51	0.014694	6.26	19.97	18.20	1.05			6.26	1.39
12.5*	125.0	5,270.76	5,272.13	5,272.20	5,272.75	0.015131	6.30	19.83	18.29	1.07			6.30	1.37
12.00	125.0	5,270.00	5,271.34	5,271.42	5,271.98	0.016076	6.42	19.48	18.29	1.10			6.42	1.34
11.5*	125.0	5,269.23	5,270.60	5,270.65	5,271.21	0.014844	6.25	20.01	18.42	1.06			6.25	1.37
11.*	125.0	5,268.45	5,269.81	5,269.88	5,270.43	0.015362	6.32	19.78	18.36	1.07			6.32	1.36
10.5*	125.0	5,267.67	5,269.03	5,269.10	5,269.66	0.015557	6.35	19.69	18.34	1.08			6.35	1.36
10.00	125.0	5,266.90	5,268.56	5,268.32	5,268.94	0.007212	4.89	25.55	19.66	0.76			4.89	1.66
9.5*	125.0	5,266.54	5,268.20	5,267.96	5,268.57	0.007260	4.90	25.49	19.65	0.76			4.90	1.66
9.*	125.0	5,266.17	5,267.85	5,267.60	5,268.21	0.007078	4.86	25.71	19.69	0.75			4.86	1.68
8.5*	125.0	5,265.81	5,267.53	5,267.24	5,267.87	0.006405	4.70	26.60	19.89	0.72			4.70	1.72
8.00	125.0	5,265.45	5,267.27	5,266.88	5,267.57	0.005109	4.35	28.74	20.34	0.64			4.35	1.82
7.75*	125.0	5,265.32	5,267.15	5,266.74	5,267.44	0.005076	4.34	28.81	20.36	0.64			4.34	1.83
7.5*	125.0	5,265.20	5,267.02	5,266.63	5,267.31	0.005177	4.37	28.61	20.32	0.65			4.37	1.82
7.25*	125.0	5,265.07	5,266.89	5,266.49	5,267.18	0.005169	4.37	28.63	20.32	0.65			4.37	1.82
7.*	125.0	5,264.94	5,266.76	5,266.37	5,267.05	0.005253	4.39	28.47	20.28	0.65			4.39	1.82
6.75*	125.0	5,264.82	5,266.62	5,266.24	5,266.92	0.005372	4.42	28.25	20.24	0.66			4.42	1.80
6.5*	125.0	5,264.69	5,266.48	5,266.11	5,266.79	0.005444	4.44	28.12	20.21	0.66			4.44	1.79
6.25*	125.0	5,264.57	5,266.32	5,265.99	5,266.65	0.006001	4.60	27.20	20.02	0.69			4.60	1.75
6.00	125.0	5,264.44	5,265.86	5,265.86	5,266.42	0.013136	6.00	20.85	18.61	1.00			6.00	1.42
5.75*	125.0	5,264.06	5,265.39	5,265.49	5,266.05	0.016626	6.49	19.26	18.24	1.11			6.49	1.33
5.5*	125.0	5,263.67	5,265.09	5,265.10	5,265.65	0.013117	5.99	20.86	18.61	1.00			5.99	1.42
5.25*	125.0	5,263.29	5,264.62	5,264.71	5,265.28	0.016729	6.50	19.22	18.23	1.12			6.50	1.33
5.*	125.0	5,262.91	5,264.33	5,264.34	5,264.89	0.013128	6.00	20.85	18.61	1.00			6.00	1.42
4.75*	125.0	5,262.53	5,263.88	5,263.95	5,264.51	0.015815	6.38	19.58	18.32	1.09			6.38	1.35
4.5*	125.0	5,262.15	5,263.51	5,263.57	5,264.13	0.015434	6.33	19.74	18.36	1.08			6.33	1.36
4.25*	125.0	5,261.76	5,263.12	5,263.18	5,263.74	0.015248	6.31	19.83	18.37	1.07			6.31	1.36
4.00	125.0	5,261.38	5,262.91	5,262.80	5,263.37	0.009974	5.46	22.88	19.07	0.88			5.46	1.53
3.75*	125.0	5,261.13	5,262.66	5,262.55	5,263.12	0.009856	5.44	22.97	19.09	0.87			5.44	1.53
3.5*	125.0	5,260.88	5,262.43	5,262.30	5,262.88	0.009353	5.35	23.38	19.18	0.85			5.35	1.55
3.25*	125.0	5,260.64	5,262.17	5,262.07	5,262.63	0.009980	5.46	22.87	19.07	0.88			5.46	1.53
3.*	125.0	5,260.39	5,261.92	5,261.82	5,262.38	0.009933	5.46	22.91	19.08	0.88			5.46	1.53
2.75*	125.0	5,260.14	5,261.69	5,261.57	5,262.14	0.009381	5.35	23.36	19.18	0.85			5.35	1.55
2.5*	125.0	5,259.90	5,261.44	5,261.32	5,261.89	0.009681	5.41	23.11	19.12	0.87			5.41	1.54
2.25*	125.0	5,259.65	5,261.22	5,261.07	5,261.65	0.008893	5.25	23.79	19.27	0.83			5.25	1.57
2.00	125.0	5,259.40	5,260.82	5,260.82	5,261.38	0.013136	6.00	20.85	18.61	1.00			6.00	1.42
1.75*	125.0	5,258.90	5,260.15	5,260.32	5,260.92	0.020949	7.01	17.82	17.90	1.24			7.01	1.25
1.5*	125.0	5,258.41	5,259.69	5,259.84	5,260.41	0.019216	6.81	18.35	18.03	1.19			6.81	1.28

Profile Output Table - Hosteen Branch 1 Post-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)
1.25*	125.0	5,257.92	5,259.21	5,259.34	5,259.92	0.018715	6.75	18.51	18.07	1.18			6.75	1.29
1.*	125.0	5,257.42	5,258.69	5,258.84	5,259.43	0.019993	6.90	18.10	17.97	1.21			6.90	1.27
.75*	125.0	5,256.92	5,258.19	5,258.35	5,258.93	0.019960	6.90	18.11	17.97	1.21			6.90	1.27
.5*	125.0	5,256.43	5,257.70	5,257.86	5,258.44	0.019692	6.87	18.20	17.99	1.20			6.87	1.27
.25*	125.0	5,255.94	5,257.21	5,257.36	5,257.95	0.019878	6.89	18.14	17.98	1.21			6.89	1.27
0.00	125.0	5,255.44	5,256.71	5,256.86	5,257.45	0.019706	6.87	18.19	17.99	1.20			6.87	1.27
						Max	6.65					**Avg**	5.10	
						Min	5.93							
						Avg	6.18							

The reclaimed reach is between River Stations 86.00 and 16.00. The remaining downstream reach is undisturbed or a pre-mine channel. The undisturbed reach was not included in determining the maximum, minimum, and average velocities.

Profile Output Table - Hosteen Branch 1 Post-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)
86.00	364.0	5,381.10	5,382.77	5,382.91	5,383.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
85.5*	364.0	5,380.35	5,382.02	5,382.16	5,382.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
85.*	364.0	5,379.60	5,381.27	5,381.41	5,381.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
84.5*	364.0	5,378.85	5,380.52	5,380.66	5,381.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
84.00	364.0	5,378.10	5,379.77	5,379.91	5,380.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
83.5*	364.0	5,377.35	5,379.02	5,379.16	5,379.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
83.*	364.0	5,376.60	5,378.27	5,378.41	5,378.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
82.5*	364.0	5,375.85	5,377.52	5,377.66	5,378.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
82.00	364.0	5,375.10	5,376.77	5,376.91	5,377.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
81.5*	364.0	5,374.35	5,376.02	5,376.16	5,376.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
81.*	364.0	5,373.60	5,375.27	5,375.41	5,375.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
80.5*	364.0	5,372.85	5,374.52	5,374.66	5,375.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
80.00	364.0	5,372.10	5,373.77	5,373.91	5,374.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
79.5*	364.0	5,371.35	5,373.02	5,373.16	5,373.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
79.*	364.0	5,370.60	5,372.27	5,372.41	5,372.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
78.5*	364.0	5,369.85	5,371.52	5,371.66	5,372.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
78.00	364.0	5,369.10	5,370.77	5,370.91	5,371.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
77.5*	364.0	5,368.35	5,370.02	5,370.16	5,370.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
77.*	364.0	5,367.60	5,369.27	5,369.41	5,369.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
76.5*	364.0	5,366.85	5,368.52	5,368.66	5,369.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
76.00	364.0	5,366.10	5,367.77	5,367.91	5,368.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
75.5*	364.0	5,365.35	5,367.02	5,367.16	5,367.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
75.*	364.0	5,364.60	5,366.27	5,366.41	5,366.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
74.5*	364.0	5,363.85	5,365.52	5,365.66	5,366.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
74.00	364.0	5,363.10	5,364.77	5,364.91	5,365.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
73.5*	364.0	5,362.35	5,364.02	5,364.16	5,364.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
73.*	364.0	5,361.60	5,363.27	5,363.41	5,363.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
72.5*	364.0	5,360.85	5,362.52	5,362.66	5,363.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
72.00	364.0	5,360.10	5,361.77	5,361.91	5,362.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
71.5*	364.0	5,359.35	5,361.02	5,361.16	5,361.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
71.*	364.0	5,358.60	5,360.27	5,360.41	5,360.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
70.5*	364.0	5,357.85	5,359.52	5,359.66	5,360.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
70.00	364.0	5,357.10	5,358.77	5,358.91	5,359.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
69.5*	364.0	5,356.35	5,358.02	5,358.16	5,358.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
69.*	364.0	5,355.60	5,357.27	5,357.41	5,357.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
68.5*	364.0	5,354.85	5,356.52	5,356.66	5,357.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
68.00	364.0	5,354.10	5,355.77	5,355.91	5,356.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
67.5*	364.0	5,353.35	5,355.02	5,355.16	5,355.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
67.*	364.0	5,352.60	5,354.27	5,354.41	5,354.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
66.5*	364.0	5,351.85	5,353.52	5,353.66	5,354.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
66.00	364.0	5,351.10	5,352.77	5,352.91	5,353.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
65.5*	364.0	5,350.35	5,352.02	5,352.16	5,352.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
65.*	364.0	5,349.60	5,351.27	5,351.41	5,351.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
64.5*	364.0	5,348.85	5,350.52	5,350.66	5,351.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
64.00	364.0	5,348.10	5,349.77	5,349.91	5,350.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
63.5*	364.0	5,347.35	5,349.02	5,349.16	5,349.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
63.*	364.0	5,346.60	5,348.27	5,348.41	5,348.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
62.5*	364.0	5,345.85	5,347.52	5,347.66	5,348.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
62.00	364.0	5,345.10	5,346.77	5,346.91	5,347.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
61.5*	364.0	5,344.35	5,346.02	5,346.16	5,346.55	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
61.*	364.0	5,343.60	5,345.27	5,345.41	5,345.80	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
60.5*	364.0	5,342.85	5,344.52	5,344.66	5,345.05	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
60.00	364.0	5,342.10	5,343.77	5,343.91	5,344.30	0.015002	7.77	86.26	120.17	1.13	2.88	2.88	4.22	1.67
59.5*	364.0	5,341.35	5,343.04	5,343.19	5,343.58	0.014781	7.76	86.19	120.15	1.12	2.84	2.84	4.22	1.69
59.*	364.0	5,340.60	5,342.30	5,342.45	5,342.86	0.015009	7.83	85.21	119.71	1.13	2.84	2.84	4.27	1.70
58.5*	364.0	5,339.85	5,341.59	5,341.74	5,342.13	0.014004	7.67	87.05	120.25	1.09	2.77	2.77	4.18	1.74
58.00	364.0	5,339.10	5,340.83	5,341.00	5,341.42	0.015005	7.89	84.27	119.32	1.13	2.80	2.80	4.32	1.73
57.5*	364.0	5,338.35	5,340.11	5,340.29	5,340.70	0.014856	7.90	83.97	119.16	1.13	2.76	2.76	4.33	1.76
57.*	364.0	5,337.60	5,339.37	5,339.55	5,339.98	0.015165	7.99	82.92	118.74	1.14	2.76	2.76	4.39	1.77
56.5*	364.0	5,336.85	5,338.64	5,338.81	5,339.25	0.014804	7.94	83.17	118.52	1.13	2.73	2.73	4.38	1.79
56.00	364.0	5,336.10	5,337.91	5,338.09	5,338.53	0.014643	7.94	82.92	118.47	1.12	2.69	2.69	4.39	1.81

Profile Output Table - Hosteen Branch 1 Post-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)
55.5*	364.0	5,335.35	5,337.17	5,337.36	5,337.81	0.014873	8.01	81.82	117.95	1.13	2.68	2.69	4.45	1.82
55.*	364.0	5,334.60	5,336.44	5,336.64	5,337.09	0.014757	8.01	81.57	117.94	1.13	2.65	2.65	4.46	1.84
54.5*	364.0	5,333.85	5,335.71	5,335.91	5,336.37	0.014572	8.01	81.43	117.95	1.12	2.62	2.62	4.47	1.86
54.00	364.0	5,333.10	5,334.97	5,335.17	5,335.65	0.014831	8.08	80.29	117.41	1.13	2.61	2.61	4.53	1.87
53.5*	364.0	5,332.35	5,334.24	5,334.44	5,334.92	0.014624	8.06	80.14	117.14	1.12	2.57	2.58	4.54	1.89
53.*	364.0	5,331.60	5,333.51	5,333.73	5,334.20	0.014501	8.07	79.95	117.15	1.12	2.55	2.55	4.55	1.91
52.5*	364.0	5,330.85	5,332.78	5,333.00	5,333.48	0.014343	8.06	79.68	117.16	1.11	2.51	2.51	4.57	1.93
52.00	364.0	5,330.10	5,332.04	5,332.26	5,332.75	0.014522	8.11	78.67	116.60	1.12	2.50	2.50	4.63	1.94
51.5*	364.0	5,329.35	5,331.30	5,331.53	5,332.04	0.014771	8.18	77.45	116.01	1.13	2.47	2.48	4.70	1.95
51.*	364.0	5,328.60	5,330.57	5,330.81	5,331.32	0.014651	8.19	77.20	115.91	1.13	2.45	2.45	4.72	1.97
50.5*	364.0	5,327.85	5,329.84	5,330.09	5,330.60	0.014508	8.18	76.77	115.66	1.12	2.41	2.41	4.74	1.99
50.00	364.0	5,327.10	5,329.10	5,329.35	5,329.87	0.014671	8.23	75.82	115.23	1.13	2.39	2.39	4.80	2.00
49.5*	364.0	5,326.35	5,328.35	5,328.60	5,329.12	0.014720	8.24	75.71	115.20	1.13	2.39	2.39	4.81	2.00
49.*	364.0	5,325.60	5,327.59	5,327.85	5,328.40	0.015506	8.40	73.97	114.74	1.16	2.41	2.41	4.92	1.99
48.5*	364.0	5,324.85	5,326.83	5,327.10	5,327.65	0.015638	8.43	73.69	114.66	1.16	2.41	2.41	4.94	1.98
48.00	364.0	5,324.10	5,326.09	5,326.35	5,326.89	0.015145	8.33	74.75	114.95	1.15	2.40	2.40	4.87	1.99
47.5*	364.0	5,323.35	5,325.34	5,325.60	5,326.15	0.015533	8.41	73.91	114.72	1.16	2.41	2.41	4.92	1.99
47.*	364.0	5,322.60	5,324.59	5,324.85	5,325.38	0.015095	8.32	74.86	114.97	1.14	2.40	2.40	4.86	1.99
46.5*	364.0	5,321.85	5,323.84	5,324.10	5,324.64	0.015350	8.37	74.30	114.83	1.15	2.41	2.41	4.90	1.99
46.00	364.0	5,321.10	5,323.09	5,323.35	5,323.89	0.015402	8.38	74.19	114.80	1.16	2.41	2.41	4.91	1.99
45.5*	364.0	5,320.35	5,322.34	5,322.60	5,323.15	0.015454	8.39	74.08	114.77	1.16	2.41	2.41	4.91	1.99
45.*	364.0	5,319.60	5,321.59	5,321.85	5,322.40	0.015559	8.41	73.85	114.71	1.16	2.41	2.41	4.93	1.99
44.5*	364.0	5,318.85	5,320.84	5,321.10	5,321.64	0.015145	8.33	74.75	114.95	1.15	2.40	2.40	4.87	1.99
44.00	364.0	5,318.10	5,320.09	5,320.35	5,320.90	0.015559	8.41	73.85	114.71	1.16	2.41	2.41	4.93	1.99
43.5*	364.0	5,317.35	5,319.34	5,319.60	5,320.14	0.015120	8.32	74.81	114.96	1.15	2.40	2.40	4.87	1.99
43.*	364.0	5,316.60	5,318.59	5,318.85	5,319.39	0.015428	8.39	74.13	114.78	1.16	2.41	2.41	4.91	1.99
42.5*	364.0	5,315.85	5,317.84	5,318.10	5,318.65	0.015533	8.41	73.91	114.72	1.16	2.41	2.41	4.92	1.99
42.00	364.0	5,315.10	5,317.09	5,317.35	5,317.88	0.015095	8.32	74.86	114.97	1.14	2.40	2.40	4.86	1.99
41.5*	364.0	5,314.35	5,316.34	5,316.60	5,317.14	0.015350	8.37	74.30	114.83	1.15	2.41	2.41	4.90	1.99
41.*	364.0	5,313.60	5,315.59	5,315.85	5,316.39	0.015402	8.38	74.19	114.80	1.16	2.41	2.41	4.91	1.99
40.5*	364.0	5,312.85	5,314.84	5,315.10	5,315.65	0.015506	8.40	73.97	114.74	1.16	2.41	2.41	4.92	1.99
40.00	364.0	5,312.10	5,314.08	5,314.35	5,314.90	0.015638	8.43	73.69	114.66	1.16	2.41	2.41	4.94	1.98
39.5*	364.0	5,311.35	5,313.34	5,313.60	5,314.14	0.015145	8.33	74.75	114.95	1.15	2.40	2.40	4.87	1.99
39.*	364.0	5,310.60	5,312.59	5,312.85	5,313.40	0.015533	8.41	73.91	114.72	1.16	2.41	2.41	4.92	1.99
38.5*	364.0	5,309.85	5,311.84	5,312.10	5,312.63	0.015095	8.32	74.86	114.97	1.14	2.40	2.40	4.86	1.99
38.00	364.0	5,309.10	5,311.09	5,311.35	5,311.89	0.015350	8.37	74.30	114.83	1.15	2.41	2.41	4.90	1.99
37.5*	364.0	5,308.35	5,310.34	5,310.60	5,311.14	0.015402	8.38	74.19	114.80	1.16	2.41	2.41	4.91	1.99
37.*	364.0	5,307.60	5,309.59	5,309.85	5,310.40	0.015506	8.40	73.97	114.74	1.16	2.41	2.41	4.92	1.99
36.5*	364.0	5,306.85	5,308.83	5,309.10	5,309.65	0.015638	8.43	73.69	114.66	1.16	2.41	2.41	4.94	1.98
36.00	364.0	5,306.10	5,308.09	5,308.35	5,308.89	0.015145	8.33	74.75	114.95	1.15	2.40	2.40	4.87	1.99
35.5*	364.0	5,305.35	5,307.34	5,307.60	5,308.15	0.015533	8.41	73.91	114.72	1.16	2.41	2.41	4.92	1.99
35.*	364.0	5,304.60	5,306.59	5,306.85	5,307.38	0.015095	8.32	74.86	114.97	1.14	2.40	2.40	4.86	1.99
34.5*	364.0	5,303.85	5,305.84	5,306.10	5,306.64	0.015350	8.37	74.30	114.83	1.15	2.41	2.41	4.90	1.99
34.00	364.0	5,303.10	5,305.09	5,305.35	5,305.89	0.015402	8.38	74.19	114.80	1.16	2.41	2.41	4.91	1.99
33.5*	364.0	5,302.35	5,304.34	5,304.60	5,305.15	0.015506	8.40	73.97	114.74	1.16	2.41	2.41	4.92	1.99
33.*	364.0	5,301.60	5,303.58	5,303.85	5,304.40	0.015638	8.43	73.69	114.66	1.16	2.41	2.41	4.94	1.98
32.5*	364.0	5,300.85	5,302.84	5,303.10	5,303.64	0.015145	8.33	74.75	114.95	1.15	2.40	2.40	4.87	1.99
32.00	364.0	5,300.10	5,302.09	5,302.35	5,302.90	0.015533	8.41	73.91	114.72	1.16	2.41	2.41	4.92	1.99
31.5*	364.0	5,299.35	5,301.34	5,301.60	5,302.13	0.015095	8.32	74.86	114.97	1.14	2.40	2.40	4.86	1.99
31.*	364.0	5,298.60	5,300.59	5,300.85	5,301.39	0.015350	8.37	74.30	114.83	1.15	2.41	2.41	4.90	1.99
30.5*	364.0	5,297.85	5,299.84	5,300.10	5,300.64	0.015402	8.38	74.19	114.80	1.16	2.41	2.41	4.91	1.99
30.00	364.0	5,297.10	5,299.09	5,299.35	5,299.90	0.015506	8.40	73.97	114.74	1.16	2.41	2.41	4.92	1.99
29.5*	364.0	5,296.35	5,298.34	5,298.60	5,299.13	0.015095	8.32	74.86	114.97	1.14	2.40	2.40	4.86	1.99
29.*	364.0	5,295.60	5,297.59	5,297.85	5,298.39	0.015350	8.37	74.30	114.83	1.15	2.41	2.41	4.90	1.99
28.5*	364.0	5,294.85	5,296.84	5,297.10	5,297.64	0.015402	8.38	74.19	114.80	1.16	2.41	2.41	4.91	1.99
28.00	409.0	5,294.10	5,296.20	5,296.43	5,296.92	0.013417	8.18	87.22	118.19	1.09	2.55	2.55	4.69	2.10
27.5*	409.0	5,293.35	5,295.42	5,295.68	5,296.21	0.014676	8.46	83.94	117.34	1.14	2.59	2.59	4.87	2.07
27.*	409.0	5,292.60	5,294.65	5,294.93	5,295.48	0.015620	8.66	81.71	116.77	1.17	2.62	2.62	5.01	2.05
26.5*	409.0	5,291.85	5,293.91	5,294.18	5,294.72	0.015127	8.56	82.85	117.06	1.15	2.61	2.61	4.94	2.06
26.00	409.0	5,291.10	5,293.16	5,293.43	5,293.98	0.015445	8.63	82.11	116.87	1.17	2.61	2.61	4.98	2.06
25.5*	409.0	5,290.35	5,292.41	5,292.68	5,293.23	0.015470	8.63	82.05	116.85	1.17	2.62	2.62	4.98	2.06

Profile Output Table - Hosteen Branch 1 Post-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)
25.*	409.0	5,289.60	5,291.65	5,291.93	5,292.48	0.015545	8.65	81.88	116.81	1.17	2.62	2.62	5.00	2.05
24.5*	409.0	5,288.85	5,290.90	5,291.18	5,291.73	0.015595	8.66	81.77	116.78	1.17	2.62	2.62	5.00	2.05
24.00	409.0	5,288.10	5,290.16	5,290.43	5,290.97	0.015127	8.56	82.85	117.06	1.15	2.61	2.61	4.94	2.06
23.5*	409.0	5,287.35	5,289.41	5,289.68	5,290.23	0.015445	8.63	82.11	116.87	1.17	2.61	2.61	4.98	2.06
23.*	409.0	5,286.60	5,288.66	5,288.93	5,289.48	0.015470	8.63	82.05	116.85	1.17	2.62	2.62	4.98	2.06
22.5*	409.0	5,285.85	5,287.90	5,288.18	5,288.73	0.015545	8.65	81.88	116.81	1.17	2.62	2.62	5.00	2.05
22.00	409.0	5,285.10	5,287.15	5,287.43	5,287.98	0.015595	8.66	81.77	116.78	1.17	2.62	2.62	5.00	2.05
21.5*	409.0	5,284.35	5,286.41	5,286.68	5,287.22	0.015127	8.56	82.85	117.06	1.15	2.61	2.61	4.94	2.06
21.*	409.0	5,283.60	5,285.66	5,285.93	5,286.48	0.015445	8.63	82.11	116.87	1.17	2.61	2.61	4.98	2.06
20.5*	409.0	5,282.85	5,284.91	5,285.18	5,285.73	0.015470	8.63	82.05	116.85	1.17	2.62	2.62	4.98	2.06
20.00	409.0	5,282.10	5,284.15	5,284.43	5,284.98	0.015545	8.65	81.88	116.81	1.17	2.62	2.62	5.00	2.05
19.5*	409.0	5,281.35	5,283.40	5,283.68	5,284.23	0.015595	8.66	81.77	116.78	1.17	2.62	2.62	5.00	2.05
19.*	409.0	5,280.60	5,282.66	5,282.93	5,283.47	0.015127	8.56	82.85	117.06	1.15	2.61	2.61	4.94	2.06
18.5*	409.0	5,279.85	5,281.91	5,282.18	5,282.73	0.015445	8.63	82.11	116.87	1.17	2.61	2.61	4.98	2.06
18.00	409.0	5,279.10	5,281.16	5,281.43	5,281.98	0.015470	8.63	82.05	116.85	1.17	2.62	2.62	4.98	2.06
17.5*	409.0	5,278.34	5,280.95	5,281.04	5,281.49	0.007419	6.79	100.97	120.62	0.83	2.02	1.91	4.05	2.61
17.*	409.0	5,277.58	5,280.46	5,280.63	5,281.12	0.007470	7.01	87.34	115.25	0.84	1.68	1.44	4.68	2.88
16.5*	409.0	5,276.83	5,279.83	5,280.09	5,280.70	0.008911	7.53	60.84	89.73	0.91	0.97	0.20	6.72	3.00
16.00	409.0	5,276.07	5,278.64	5,278.90	5,280.02	0.016577	9.42	43.41	23.16	1.21			9.42	2.57
15.5*	409.0	5,275.31	5,278.02	5,278.20	5,279.22	0.013544	8.78	46.58	23.71	1.10			8.78	2.71
15.*	409.0	5,274.55	5,277.16	5,277.41	5,278.48	0.015543	9.23	44.31	23.20	1.18			9.23	2.61
14.5*	409.0	5,273.79	5,276.41	5,276.65	5,277.70	0.015127	9.14	44.74	23.27	1.16			9.14	2.62
14.00	409.0	5,273.03	5,275.64	5,275.89	5,276.94	0.015155	9.15	44.72	23.25	1.16			9.15	2.61
13.5*	409.0	5,272.27	5,274.85	5,275.11	5,276.18	0.015751	9.26	44.15	23.20	1.18			9.26	2.58
13.*	409.0	5,271.52	5,274.10	5,274.35	5,275.40	0.015255	9.15	44.70	23.36	1.17			9.15	2.58
12.5*	409.0	5,270.76	5,273.30	5,273.56	5,274.63	0.015755	9.24	44.26	23.35	1.18			9.24	2.54
12.00	409.0	5,270.00	5,272.56	5,272.80	5,273.85	0.015082	9.09	44.98	23.50	1.16			9.09	2.56
11.5*	409.0	5,269.23	5,271.79	5,272.03	5,273.08	0.015258	9.13	44.79	23.47	1.16			9.13	2.56
11.*	409.0	5,268.45	5,271.00	5,271.25	5,272.30	0.015409	9.16	44.64	23.44	1.17			9.16	2.55
10.5*	409.0	5,267.67	5,270.22	5,270.47	5,271.53	0.015538	9.19	44.51	23.42	1.17			9.19	2.55
10.00	409.0	5,266.90	5,270.02	5,269.70	5,270.77	0.007093	6.96	58.74	25.88	0.81			6.96	3.12
9.5*	409.0	5,266.54	5,269.67	5,269.34	5,270.42	0.007017	6.94	58.96	25.92	0.81			6.94	3.13
9.*	409.0	5,266.17	5,269.35	5,268.97	5,270.07	0.006656	6.81	60.08	26.10	0.79			6.81	3.18
8.5*	409.0	5,265.81	5,269.07	5,268.61	5,269.74	0.006028	6.57	62.24	26.46	0.75			6.57	3.26
8.00	409.0	5,265.45	5,268.83	5,268.25	5,269.44	0.005201	6.23	65.61	26.99	0.70			6.23	3.38
7.75*	409.0	5,265.32	5,268.70	5,268.12	5,269.31	0.005200	6.23	65.62	26.99	0.70			6.23	3.38
7.5*	409.0	5,265.20	5,268.56	5,268.00	5,269.18	0.005302	6.28	65.16	26.92	0.71			6.28	3.36
7.25*	409.0	5,265.07	5,268.43	5,267.87	5,269.05	0.005319	6.28	65.09	26.91	0.71			6.28	3.36
7.*	409.0	5,264.94	5,268.29	5,267.74	5,268.91	0.005394	6.32	64.76	26.86	0.72			6.32	3.35
6.75*	409.0	5,264.82	5,268.14	5,267.62	5,268.78	0.005566	6.39	64.04	26.74	0.73			6.39	3.32
6.5*	409.0	5,264.69	5,268.00	5,267.49	5,268.64	0.005672	6.43	63.61	26.68	0.73			6.43	3.31
6.25*	409.0	5,264.57	5,267.80	5,267.37	5,268.49	0.006190	6.63	61.66	26.36	0.76			6.63	3.23
6.00	409.0	5,264.44	5,267.24	5,267.24	5,268.25	0.010832	8.09	50.54	24.49	0.99			8.09	2.80
5.75*	409.0	5,264.06	5,266.65	5,266.86	5,267.90	0.014489	8.97	45.62	23.62	1.14			8.97	2.59
5.5*	409.0	5,263.67	5,266.24	5,266.47	5,267.52	0.015005	9.08	45.06	23.52	1.16			9.08	2.57
5.25*	409.0	5,263.29	5,265.86	5,266.09	5,267.14	0.015005	9.08	45.06	23.52	1.16			9.08	2.57
5.*	409.0	5,262.91	5,265.48	5,265.71	5,266.76	0.014880	9.05	45.19	23.54	1.15			9.05	2.57
4.75*	409.0	5,262.53	5,265.11	5,265.33	5,266.37	0.014715	9.02	45.37	23.58	1.15			9.02	2.58
4.5*	409.0	5,262.15	5,264.73	5,264.95	5,265.99	0.014843	9.04	45.23	23.55	1.15			9.04	2.58
4.25*	409.0	5,261.76	5,264.33	5,264.56	5,265.61	0.014973	9.07	45.09	23.53	1.15			9.07	2.57
4.00	409.0	5,261.38	5,263.95	5,264.18	5,265.23	0.014854	9.04	45.22	23.55	1.15			9.04	2.57
3.75*	409.0	5,261.13	5,263.74	5,263.93	5,264.96	0.014055	8.87	46.11	23.71	1.12			8.87	2.61
3.5*	409.0	5,260.88	5,263.51	5,263.68	5,264.71	0.013661	8.78	46.57	23.79	1.11			8.78	2.63
3.25*	409.0	5,260.64	5,263.28	5,263.44	5,264.47	0.013579	8.76	46.67	23.81	1.10			8.76	2.64
3.*	409.0	5,260.39	5,263.04	5,263.19	5,264.22	0.013304	8.70	47.01	23.87	1.09			8.70	2.65
2.75*	409.0	5,260.14	5,262.74	5,262.94	5,263.98	0.014303	8.93	45.82	23.66	1.13			8.93	2.60
2.5*	409.0	5,259.90	5,262.52	5,262.70	5,263.73	0.013935	8.84	46.25	23.73	1.12			8.84	2.62
2.25*	409.0	5,259.65	5,262.28	5,262.45	5,263.48	0.013612	8.77	46.63	23.80	1.10			8.77	2.63
2.00	409.0	5,259.40	5,262.05	5,262.20	5,263.23	0.013262	8.69	47.06	23.88	1.09			8.69	2.65
1.75*	409.0	5,258.90	5,261.35	5,261.70	5,262.80	0.017939	9.66	42.32	23.02	1.26			9.66	2.45
1.5*	409.0	5,258.41	5,260.83	5,261.21	5,262.33	0.018915	9.85	41.54	22.87	1.29			9.85	2.42

Profile Output Table - Hosteen Branch 1 Post-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)
1.25*	409.0	5,257.92	5,260.33	5,260.72	5,261.85	0.019142	9.89	41.37	22.84	1.29			9.89	2.41
1.*	409.0	5,257.42	5,259.82	5,260.22	5,261.35	0.019290	9.91	41.26	22.82	1.30			9.91	2.40
.75*	409.0	5,256.92	5,259.33	5,259.72	5,260.85	0.019230	9.90	41.30	22.83	1.30			9.90	2.41
.5*	409.0	5,256.43	5,258.84	5,259.23	5,260.36	0.019208	9.90	41.32	22.83	1.30			9.90	2.41
.25*	409.0	5,255.94	5,258.36	5,258.74	5,259.86	0.018937	9.85	41.52	22.87	1.29			9.85	2.42
0.00	409.0	5,255.44	5,257.85	5,258.24	5,259.37	0.019142	9.89	41.37	22.84	1.29			9.89	2.41
						Max	9.42					**Avg**	4.63	
						Min	6.79							
						Avg	8.11							

The reclaimed reach is between River Stations 86.00 and 16.00. The remaining downstream reach is undisturbed or a pre-mine channel. The undisturbed reach was not included in determining the maximum, minimum, and average velocities.

Profile Output Table - Hosteen Branch 1 Post-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)
86.00	540.0	5,381.10	5,383.00	5,383.13	5,383.60	0.014990	8.57	115.57	127.35	1.15	3.46	3.46	4.67	1.90
85.5*	540.0	5,380.35	5,382.25	5,382.38	5,382.85	0.014968	8.57	115.63	127.36	1.15	3.46	3.46	4.67	1.90
85.*	540.0	5,379.60	5,381.50	5,381.63	5,382.10	0.014902	8.55	115.82	127.40	1.15	3.45	3.45	4.66	1.90
84.5*	540.0	5,378.85	5,380.76	5,380.88	5,381.35	0.014685	8.51	116.44	127.55	1.14	3.44	3.44	4.64	1.91
84.00	540.0	5,378.10	5,379.99	5,380.13	5,380.61	0.015719	8.73	113.59	126.87	1.18	3.50	3.50	4.75	1.89
83.5*	540.0	5,377.35	5,379.26	5,379.38	5,379.85	0.014750	8.52	116.26	127.51	1.14	3.44	3.44	4.64	1.91
83.*	540.0	5,376.60	5,378.49	5,378.63	5,379.11	0.015510	8.68	114.14	127.01	1.17	3.49	3.49	4.73	1.89
82.5*	540.0	5,375.85	5,377.74	5,377.88	5,378.36	0.015372	8.65	114.52	127.09	1.17	3.48	3.48	4.72	1.89
82.00	540.0	5,375.10	5,377.00	5,377.13	5,377.61	0.015281	8.63	114.76	127.15	1.16	3.48	3.48	4.71	1.90
81.5*	540.0	5,374.35	5,376.25	5,376.38	5,376.86	0.015169	8.61	115.07	127.23	1.16	3.47	3.47	4.69	1.90
81.*	540.0	5,373.60	5,375.49	5,375.63	5,376.11	0.015556	8.69	114.02	126.98	1.17	3.49	3.49	4.74	1.89
80.5*	540.0	5,372.85	5,374.76	5,374.88	5,375.35	0.014772	8.53	116.19	127.49	1.15	3.44	3.44	4.65	1.91
80.00	540.0	5,372.10	5,373.99	5,374.13	5,374.61	0.015441	8.67	114.33	127.05	1.17	3.49	3.49	4.72	1.89
79.5*	540.0	5,371.35	5,373.25	5,373.38	5,373.86	0.015304	8.64	114.70	127.14	1.16	3.48	3.48	4.71	1.90
79.*	540.0	5,370.60	5,372.50	5,372.63	5,373.11	0.015213	8.62	114.95	127.20	1.16	3.47	3.47	4.70	1.90
78.5*	540.0	5,369.85	5,371.75	5,371.88	5,372.36	0.015124	8.60	115.20	127.26	1.16	3.47	3.47	4.69	1.90
78.00	540.0	5,369.10	5,370.99	5,371.13	5,371.61	0.015418	8.66	114.39	127.06	1.17	3.49	3.49	4.72	1.89
77.5*	540.0	5,368.35	5,370.25	5,370.38	5,370.86	0.015259	8.63	114.83	127.17	1.16	3.48	3.48	4.70	1.90
77.*	540.0	5,367.60	5,369.50	5,369.63	5,370.11	0.015169	8.61	115.07	127.23	1.16	3.47	3.47	4.69	1.90
76.5*	540.0	5,366.85	5,368.74	5,368.88	5,369.36	0.015556	8.69	114.02	126.98	1.17	3.49	3.49	4.74	1.89
76.00	540.0	5,366.10	5,368.01	5,368.13	5,368.60	0.014772	8.53	116.19	127.49	1.15	3.44	3.44	4.65	1.91
75.5*	540.0	5,365.35	5,367.24	5,367.38	5,367.86	0.015441	8.67	114.33	127.05	1.17	3.49	3.49	4.72	1.89
75.*	540.0	5,364.60	5,366.50	5,366.63	5,367.11	0.015304	8.64	114.70	127.14	1.16	3.48	3.48	4.71	1.90
74.5*	540.0	5,363.85	5,365.75	5,365.88	5,366.36	0.015213	8.62	114.95	127.20	1.16	3.47	3.47	4.70	1.90
74.00	540.0	5,363.10	5,365.00	5,365.13	5,365.61	0.015124	8.60	115.20	127.26	1.16	3.47	3.47	4.69	1.90
73.5*	540.0	5,362.35	5,364.24	5,364.38	5,364.86	0.015418	8.66	114.39	127.06	1.17	3.49	3.49	4.72	1.89
73.*	540.0	5,361.60	5,363.50	5,363.63	5,364.11	0.015259	8.63	114.83	127.17	1.16	3.48	3.48	4.70	1.90
72.5*	540.0	5,360.85	5,362.75	5,362.88	5,363.36	0.015169	8.61	115.07	127.23	1.16	3.47	3.47	4.69	1.90
72.00	540.0	5,360.10	5,361.99	5,362.13	5,362.61	0.015556	8.69	114.02	126.98	1.17	3.49	3.49	4.74	1.89
71.5*	540.0	5,359.35	5,361.26	5,361.38	5,361.85	0.014772	8.53	116.19	127.49	1.15	3.44	3.44	4.65	1.91
71.*	540.0	5,358.60	5,360.49	5,360.63	5,361.11	0.015441	8.67	114.33	127.05	1.17	3.49	3.49	4.72	1.89
70.5*	540.0	5,357.85	5,359.75	5,359.88	5,360.36	0.015304	8.64	114.70	127.14	1.16	3.48	3.48	4.71	1.90
70.00	540.0	5,357.10	5,359.00	5,359.13	5,359.61	0.015213	8.62	114.95	127.20	1.16	3.47	3.47	4.70	1.90
69.5*	540.0	5,356.35	5,358.25	5,358.38	5,358.86	0.015124	8.60	115.20	127.26	1.16	3.47	3.47	4.69	1.90
69.*	540.0	5,355.60	5,357.49	5,357.63	5,358.11	0.015418	8.66	114.39	127.06	1.17	3.49	3.49	4.72	1.89
68.5*	540.0	5,354.85	5,356.75	5,356.88	5,357.36	0.015259	8.63	114.83	127.17	1.16	3.48	3.48	4.70	1.90
68.00	540.0	5,354.10	5,356.00	5,356.13	5,356.61	0.015169	8.61	115.07	127.23	1.16	3.47	3.47	4.69	1.90
67.5*	540.0	5,353.35	5,355.24	5,355.38	5,355.86	0.015556	8.69	114.02	126.98	1.17	3.49	3.49	4.74	1.89
67.*	540.0	5,352.60	5,354.51	5,354.63	5,355.10	0.014772	8.53	116.19	127.49	1.15	3.44	3.44	4.65	1.91
66.5*	540.0	5,351.85	5,353.74	5,353.88	5,354.36	0.015441	8.67	114.33	127.05	1.17	3.49	3.49	4.72	1.89
66.00	540.0	5,351.10	5,353.00	5,353.13	5,353.61	0.015304	8.64	114.70	127.14	1.16	3.48	3.48	4.71	1.90
65.5*	540.0	5,350.35	5,352.25	5,352.38	5,352.86	0.015213	8.62	114.95	127.20	1.16	3.47	3.47	4.70	1.90
65.*	540.0	5,349.60	5,351.50	5,351.63	5,352.11	0.015124	8.60	115.20	127.26	1.16	3.47	3.47	4.69	1.90
64.5*	540.0	5,348.85	5,350.74	5,350.88	5,351.36	0.015418	8.66	114.39	127.06	1.17	3.49	3.49	4.72	1.89
64.00	540.0	5,348.10	5,350.00	5,350.13	5,350.61	0.015259	8.63	114.83	127.17	1.16	3.48	3.48	4.70	1.90
63.5*	540.0	5,347.35	5,349.25	5,349.38	5,349.86	0.015169	8.61	115.07	127.23	1.16	3.47	3.47	4.69	1.90
63.*	540.0	5,346.60	5,348.49	5,348.63	5,349.11	0.015556	8.69	114.02	126.98	1.17	3.49	3.49	4.74	1.89
62.5*	540.0	5,345.85	5,347.76	5,347.88	5,348.35	0.014772	8.53	116.19	127.49	1.15	3.44	3.44	4.65	1.91
62.00	540.0	5,345.10	5,346.99	5,347.13	5,347.61	0.015441	8.67	114.33	127.05	1.17	3.49	3.49	4.72	1.89
61.5*	540.0	5,344.35	5,346.25	5,346.38	5,346.86	0.015304	8.64	114.70	127.14	1.16	3.48	3.48	4.71	1.90
61.*	540.0	5,343.60	5,345.50	5,345.63	5,346.11	0.015213	8.62	114.95	127.20	1.16	3.47	3.47	4.70	1.90
60.5*	540.0	5,342.85	5,344.75	5,344.88	5,345.36	0.015124	8.60	115.20	127.26	1.16	3.47	3.47	4.69	1.90
60.00	540.0	5,342.10	5,343.99	5,344.13	5,344.61	0.015418	8.66	114.39	127.06	1.17	3.49	3.49	4.72	1.89
59.5*	540.0	5,341.35	5,343.31	5,343.38	5,343.87	0.013555	8.29	119.36	128.26	1.10	3.34	3.34	4.52	1.96
59.*	540.0	5,340.60	5,342.54	5,342.68	5,343.16	0.014974	8.63	114.60	126.93	1.15	3.42	3.42	4.71	1.94
58.5*	540.0	5,339.85	5,341.82	5,341.97	5,342.44	0.014604	8.59	115.26	127.14	1.14	3.38	3.38	4.69	1.97
58.00	540.0	5,339.10	5,341.08	5,341.24	5,341.72	0.014673	8.63	114.55	126.77	1.15	3.37	3.37	4.71	1.98
57.5*	540.0	5,338.35	5,340.36	5,340.51	5,341.00	0.014373	8.60	114.83	126.78	1.14	3.33	3.33	4.70	2.01
57.*	540.0	5,337.60	5,339.62	5,339.79	5,340.27	0.014644	8.69	113.67	126.35	1.15	3.34	3.34	4.75	2.02
56.5*	540.0	5,336.85	5,338.88	5,339.06	5,339.55	0.014704	8.72	112.95	125.89	1.15	3.33	3.33	4.78	2.03
56.00	540.0	5,336.10	5,338.16	5,338.32	5,338.83	0.014430	8.69	113.18	125.98	1.14	3.29	3.29	4.77	2.06

Profile Output Table - Hosteen Branch 1 Post-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)
55.5*	540.0	5,335.35	5,337.42	5,337.60	5,338.11	0.014564	8.75	112.19	125.51	1.15	3.27	3.28	4.81	2.07
55.*	540.0	5,334.60	5,336.68	5,336.88	5,337.39	0.014789	8.83	111.09	125.29	1.15	3.27	3.27	4.86	2.08
54.5*	540.0	5,333.85	5,335.96	5,336.14	5,336.67	0.014514	8.80	111.37	125.39	1.15	3.24	3.23	4.85	2.11
54.00	540.0	5,333.10	5,335.22	5,335.41	5,335.95	0.014676	8.86	110.34	124.92	1.15	3.23	3.23	4.89	2.12
53.5*	540.0	5,332.35	5,334.48	5,334.70	5,335.23	0.014729	8.89	109.58	124.51	1.15	3.21	3.22	4.93	2.13
53.*	540.0	5,331.60	5,333.76	5,333.96	5,334.50	0.014529	8.88	109.76	124.61	1.15	3.18	3.18	4.92	2.16
52.5*	540.0	5,330.85	5,333.02	5,333.24	5,333.79	0.014775	8.96	108.45	124.37	1.16	3.17	3.17	4.98	2.17
52.00	540.0	5,330.10	5,332.28	5,332.52	5,333.07	0.014839	8.99	107.67	123.89	1.16	3.16	3.16	5.02	2.18
51.5*	540.0	5,329.35	5,331.55	5,331.78	5,332.35	0.014881	9.02	106.91	123.47	1.16	3.13	3.14	5.05	2.20
51.*	540.0	5,328.60	5,330.82	5,331.01	5,331.62	0.014689	9.01	107.00	123.45	1.16	3.11	3.11	5.05	2.22
50.5*	540.0	5,327.85	5,330.10	5,330.33	5,330.90	0.014449	8.98	106.99	123.32	1.15	3.07	3.07	5.05	2.25
50.00	540.0	5,327.10	5,329.36	5,329.60	5,330.18	0.014579	9.02	106.05	122.92	1.15	3.06	3.06	5.09	2.26
49.5*	540.0	5,326.35	5,328.60	5,328.85	5,329.43	0.014743	9.06	105.57	122.80	1.16	3.07	3.07	5.11	2.25
49.*	540.0	5,325.60	5,327.84	5,328.10	5,328.70	0.015446	9.22	103.60	122.31	1.19	3.10	3.10	5.21	2.24
48.5*	540.0	5,324.85	5,327.09	5,327.35	5,327.95	0.015446	9.22	103.60	122.31	1.19	3.10	3.10	5.21	2.24
48.00	540.0	5,324.10	5,326.34	5,326.60	5,327.20	0.015446	9.22	103.60	122.31	1.19	3.10	3.10	5.21	2.24
47.5*	540.0	5,323.35	5,325.59	5,325.85	5,326.45	0.015446	9.22	103.60	122.31	1.19	3.10	3.10	5.21	2.24
47.*	540.0	5,322.60	5,324.84	5,325.10	5,325.70	0.015446	9.22	103.60	122.31	1.19	3.10	3.10	5.21	2.24
46.5*	540.0	5,321.85	5,324.09	5,324.35	5,324.95	0.015446	9.22	103.60	122.31	1.19	3.10	3.10	5.21	2.24
46.00	540.0	5,321.10	5,323.34	5,323.60	5,324.20	0.015446	9.22	103.60	122.31	1.19	3.10	3.10	5.21	2.24
45.5*	540.0	5,320.35	5,322.59	5,322.85	5,323.45	0.015468	9.23	103.54	122.30	1.19	3.10	3.10	5.22	2.24
45.*	540.0	5,319.60	5,321.84	5,322.10	5,322.70	0.015490	9.23	103.48	122.28	1.19	3.10	3.10	5.22	2.24
44.5*	540.0	5,318.85	5,321.08	5,321.35	5,321.95	0.015512	9.24	103.42	122.27	1.19	3.10	3.10	5.22	2.23
44.00	540.0	5,318.10	5,320.33	5,320.60	5,321.20	0.015512	9.24	103.42	122.27	1.19	3.10	3.10	5.22	2.23
43.5*	540.0	5,317.35	5,319.59	5,319.85	5,320.45	0.015490	9.23	103.48	122.28	1.19	3.10	3.10	5.22	2.24
43.*	540.0	5,316.60	5,318.83	5,319.10	5,319.70	0.015534	9.24	103.36	122.26	1.19	3.10	3.10	5.22	2.23
42.5*	540.0	5,315.85	5,318.10	5,318.35	5,318.94	0.015058	9.14	104.67	122.58	1.17	3.08	3.08	5.16	2.25
42.00	540.0	5,315.10	5,317.34	5,317.60	5,318.19	0.015186	9.16	104.32	122.49	1.18	3.09	3.09	5.18	2.24
41.5*	540.0	5,314.35	5,316.58	5,316.85	5,317.46	0.015600	9.26	103.18	122.21	1.19	3.11	3.11	5.23	2.23
41.*	540.0	5,313.60	5,315.84	5,316.10	5,316.69	0.015079	9.14	104.61	122.57	1.17	3.08	3.08	5.16	2.24
40.5*	540.0	5,312.85	5,315.09	5,315.35	5,315.95	0.015250	9.18	104.14	122.45	1.18	3.09	3.09	5.19	2.24
40.00	540.0	5,312.10	5,314.34	5,314.60	5,315.19	0.015229	9.17	104.20	122.46	1.18	3.09	3.09	5.18	2.24
39.5*	540.0	5,311.35	5,313.59	5,313.85	5,314.44	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
39.*	540.0	5,310.60	5,312.84	5,313.10	5,313.69	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
38.5*	540.0	5,309.85	5,312.09	5,312.35	5,312.94	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
38.00	540.0	5,309.10	5,311.34	5,311.60	5,312.19	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
37.5*	540.0	5,308.35	5,310.59	5,310.85	5,311.44	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
37.*	540.0	5,307.60	5,309.84	5,310.10	5,310.69	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
36.5*	540.0	5,306.85	5,309.09	5,309.35	5,309.94	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
36.00	540.0	5,306.10	5,308.34	5,308.60	5,309.19	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
35.5*	540.0	5,305.35	5,307.59	5,307.85	5,308.44	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
35.*	540.0	5,304.60	5,306.84	5,307.10	5,307.69	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
34.5*	540.0	5,303.85	5,306.09	5,306.35	5,306.94	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
34.00	540.0	5,303.10	5,305.34	5,305.60	5,306.19	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
33.5*	540.0	5,302.35	5,304.59	5,304.85	5,305.44	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
33.*	540.0	5,301.60	5,303.84	5,304.10	5,304.69	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
32.5*	540.0	5,300.85	5,303.09	5,303.35	5,303.94	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
32.00	540.0	5,300.10	5,302.34	5,302.60	5,303.19	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
31.5*	540.0	5,299.35	5,301.59	5,301.85	5,302.44	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
31.*	540.0	5,298.60	5,300.84	5,301.10	5,301.69	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
30.5*	540.0	5,297.85	5,300.09	5,300.35	5,300.94	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
30.00	540.0	5,297.10	5,299.34	5,299.60	5,300.19	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
29.5*	540.0	5,296.35	5,298.59	5,298.85	5,299.44	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
29.*	540.0	5,295.60	5,297.84	5,298.10	5,298.69	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
28.5*	540.0	5,294.85	5,297.09	5,297.35	5,297.94	0.015207	9.17	104.26	122.48	1.18	3.09	3.09	5.18	2.24
28.00	627.0	5,294.10	5,296.56	5,296.70	5,297.24	0.011346	8.52	131.84	129.12	1.04	3.11	3.11	4.76	2.46
27.5*	627.0	5,293.35	5,295.71	5,295.95	5,296.57	0.014694	9.39	119.12	126.10	1.17	3.32	3.32	5.26	2.36
27.*	627.0	5,292.60	5,294.94	5,295.20	5,295.84	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
26.5*	627.0	5,291.85	5,294.19	5,294.45	5,295.09	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
26.00	627.0	5,291.10	5,293.44	5,293.70	5,294.34	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
25.5*	627.0	5,290.35	5,292.69	5,292.95	5,293.59	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34

Profile Output Table - Hosteen Branch 1 Post-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)
25.*	627.0	5,289.60	5,291.94	5,292.20	5,292.84	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
24.5*	627.0	5,288.85	5,291.19	5,291.45	5,292.09	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
24.00	627.0	5,288.10	5,290.44	5,290.70	5,291.34	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
23.5*	627.0	5,287.35	5,289.69	5,289.95	5,290.59	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
23.*	627.0	5,286.60	5,288.94	5,289.20	5,289.84	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
22.5*	627.0	5,285.85	5,288.19	5,288.45	5,289.09	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
22.00	627.0	5,285.10	5,287.44	5,287.70	5,288.34	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
21.5*	627.0	5,284.35	5,286.69	5,286.95	5,287.59	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
21.*	627.0	5,283.60	5,285.94	5,286.20	5,286.84	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
20.5*	627.0	5,282.85	5,285.19	5,285.45	5,286.09	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
20.00	627.0	5,282.10	5,284.44	5,284.70	5,285.34	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
19.5*	627.0	5,281.35	5,283.69	5,283.95	5,284.59	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
19.*	627.0	5,280.60	5,282.94	5,283.20	5,283.84	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
18.5*	627.0	5,279.85	5,282.19	5,282.45	5,283.09	0.015488	9.58	116.67	125.51	1.20	3.36	3.36	5.37	2.34
18.00	627.0	5,279.10	5,281.80	5,281.70	5,282.22	0.006468	6.91	163.60	136.37	0.80	2.68	2.68	3.83	2.70
17.5*	627.0	5,278.34	5,281.37	5,281.37	5,281.89	0.006504	7.18	153.62	133.68	0.80	2.52	2.44	4.08	3.03
17.*	627.0	5,277.58	5,280.87	5,280.96	5,281.54	0.007043	7.63	136.76	128.63	0.84	2.34	2.16	4.58	3.29
16.5*	627.0	5,276.83	5,280.36	5,280.55	5,281.17	0.007260	7.87	120.41	122.44	0.85	2.04	1.73	5.21	3.53
16.00	627.0	5,276.07	5,279.74	5,280.04	5,280.77	0.008319	8.36	93.96	111.36	0.91	1.54	0.89	6.67	3.67
15.5*	627.0	5,275.31	5,278.73	5,278.90	5,280.20	0.012896	9.72	64.49	27.02	1.11			9.72	3.42
15.*	627.0	5,274.55	5,277.83	5,278.18	5,279.48	0.015059	10.30	60.87	26.27	1.19			10.30	3.28
14.5*	627.0	5,273.79	5,277.04	5,277.40	5,278.71	0.015375	10.39	60.37	26.11	1.20			10.39	3.25
14.00	627.0	5,273.03	5,276.28	5,276.60	5,277.94	0.015200	10.35	60.60	26.10	1.20			10.35	3.25
13.5*	627.0	5,272.27	5,275.51	5,275.81	5,277.18	0.015210	10.34	60.61	26.15	1.20			10.34	3.24
13.*	627.0	5,271.52	5,274.73	5,275.09	5,276.41	0.015451	10.40	60.27	26.09	1.21			10.40	3.21
12.5*	627.0	5,270.76	5,273.97	5,274.31	5,275.62	0.015116	10.31	60.81	26.23	1.19			10.31	3.21
12.00	627.0	5,270.00	5,273.20	5,273.55	5,274.85	0.015105	10.31	60.83	26.23	1.19			10.31	3.20
11.5*	627.0	5,269.23	5,272.42	5,272.78	5,274.08	0.015258	10.34	60.62	26.19	1.20			10.34	3.19
11.*	627.0	5,268.45	5,271.64	5,272.00	5,273.31	0.015380	10.37	60.44	26.16	1.20			10.37	3.19
10.5*	627.0	5,267.67	5,270.86	5,271.22	5,272.53	0.015458	10.39	60.33	26.15	1.21			10.39	3.19
10.00	627.0	5,266.90	5,270.79	5,270.45	5,271.75	0.007028	7.83	80.03	29.19	0.83			7.83	3.90
9.5*	627.0	5,266.54	5,270.45	5,270.09	5,271.39	0.006905	7.78	80.55	29.26	0.83			7.78	3.91
9.*	627.0	5,266.17	5,270.14	5,269.72	5,271.05	0.006530	7.63	82.18	29.50	0.81			7.63	3.97
8.5*	627.0	5,265.81	5,269.87	5,269.35	5,270.72	0.005959	7.38	84.94	29.90	0.77			7.38	4.06
8.00	627.0	5,265.45	5,269.64	5,269.00	5,270.41	0.005257	7.05	88.88	30.45	0.73			7.05	4.19
7.75*	627.0	5,265.32	5,269.51	5,268.87	5,270.28	0.005263	7.06	88.84	30.45	0.73			7.06	4.19
7.5*	627.0	5,265.20	5,269.37	5,268.75	5,270.16	0.005358	7.10	88.27	30.37	0.73			7.10	4.17
7.25*	627.0	5,265.07	5,269.24	5,268.62	5,270.02	0.005382	7.11	88.13	30.35	0.74			7.11	4.17
7.*	627.0	5,264.94	5,269.10	5,268.49	5,269.89	0.005455	7.15	87.70	30.29	0.74			7.15	4.16
6.75*	627.0	5,264.82	5,268.94	5,268.37	5,269.75	0.005631	7.23	86.69	30.15	0.75			7.23	4.12
6.5*	627.0	5,264.69	5,268.79	5,268.24	5,269.61	0.005733	7.28	86.14	30.07	0.76			7.28	4.10
6.25*	627.0	5,264.57	5,268.58	5,268.12	5,269.46	0.006234	7.50	83.57	29.70	0.79			7.50	4.02
6.00	627.0	5,264.44	5,267.99	5,267.99	5,269.23	0.010067	8.91	70.33	27.73	0.99			8.91	3.55
5.75*	627.0	5,264.06	5,267.30	5,267.60	5,268.90	0.014357	10.12	61.95	26.41	1.16			10.12	3.24
5.5*	627.0	5,263.67	5,266.89	5,267.22	5,268.52	0.014806	10.23	61.27	26.30	1.18			10.23	3.22
5.25*	627.0	5,263.29	5,266.51	5,266.84	5,268.13	0.014788	10.23	61.30	26.30	1.18			10.23	3.22
5.*	627.0	5,262.91	5,266.12	5,266.46	5,267.76	0.014888	10.25	61.15	26.28	1.18			10.25	3.21
4.75*	627.0	5,262.53	5,265.75	5,266.08	5,267.37	0.014754	10.22	61.35	26.31	1.18			10.22	3.22
4.5*	627.0	5,262.15	5,265.37	5,265.70	5,267.00	0.014849	10.24	61.21	26.29	1.18			10.24	3.22
4.25*	627.0	5,261.76	5,264.97	5,265.31	5,266.61	0.014946	10.27	61.06	26.26	1.19			10.27	3.21
4.00	627.0	5,261.38	5,264.60	5,264.93	5,266.23	0.014832	10.24	61.23	26.29	1.18			10.24	3.22
3.75*	627.0	5,261.13	5,264.40	5,264.68	5,265.96	0.013878	10.00	62.70	26.53	1.15			10.00	3.27
3.5*	627.0	5,260.88	5,264.20	5,264.43	5,265.69	0.013162	9.81	63.90	26.72	1.12			9.81	3.32
3.25*	627.0	5,260.64	5,263.92	5,264.18	5,265.46	0.013754	9.97	62.90	26.56	1.14			9.97	3.28
3.*	627.0	5,260.39	5,263.70	5,263.93	5,265.20	0.013280	9.84	63.70	26.69	1.12			9.84	3.31
2.75*	627.0	5,260.14	5,263.44	5,263.68	5,264.96	0.013364	9.87	63.55	26.67	1.13			9.87	3.30
2.5*	627.0	5,259.90	5,263.19	5,263.45	5,264.72	0.013671	9.95	63.04	26.58	1.14			9.95	3.29
2.25*	627.0	5,259.65	5,262.94	5,263.20	5,264.47	0.013608	9.93	63.14	26.60	1.14			9.93	3.29
2.00	627.0	5,259.40	5,262.69	5,262.95	5,264.22	0.013584	9.92	63.18	26.61	1.13			9.92	3.29
1.75*	627.0	5,258.90	5,262.00	5,262.45	5,263.80	0.017059	10.76	58.26	25.80	1.26			10.76	3.10
1.5*	627.0	5,258.41	5,261.46	5,261.96	5,263.34	0.018141	11.00	57.00	25.59	1.30			11.00	3.05

Profile Output Table - Hosteen Branch 1 Post-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)
1.25*	627.0	5,257.92	5,260.94	5,261.47	5,262.87	0.018823	11.15	56.25	25.47	1.32			11.15	3.02
1.*	627.0	5,257.42	5,260.42	5,260.97	5,262.39	0.019395	11.27	55.66	25.37	1.34			11.27	3.00
.75*	627.0	5,256.92	5,259.93	5,260.47	5,261.90	0.019420	11.27	55.63	25.37	1.34			11.27	3.01
.5*	627.0	5,256.43	5,259.43	5,259.98	5,261.40	0.019389	11.26	55.66	25.37	1.34			11.26	3.00
.25*	627.0	5,255.94	5,258.95	5,259.49	5,260.91	0.019274	11.24	55.78	25.39	1.34			11.24	3.01
0.00	627.0	5,255.44	5,258.44	5,258.99	5,260.41	0.019383	11.26	55.67	25.37	1.34			11.26	3.00
						Max	9.58					**Avg**	4.97	
						Min	6.91							
						Avg	8.91							

The reclaimed reach is between River Stations 86.00 and 16.00. The remaining downstream reach is undisturbed or a pre-mine channel. The undisturbed reach was not included in determining the maximum, minimum, and average velocities.

Profile Output Table - Hosteen Branch 1 Post-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)
86.00	793.0	5,381.10	5,383.28	5,383.42	5,383.98	0.015023	9.49	152.52	135.85	1.18	4.06	4.06	5.20	2.18
85.5*	793.0	5,380.35	5,382.53	5,382.67	5,383.23	0.015059	9.50	152.39	135.82	1.19	4.06	4.06	5.20	2.18
85.*	793.0	5,379.60	5,381.78	5,381.92	5,382.48	0.015169	9.53	151.99	135.74	1.19	4.07	4.07	5.22	2.18
84.5*	793.0	5,378.85	5,381.02	5,381.17	5,381.73	0.015485	9.60	150.86	135.48	1.20	4.10	4.10	5.26	2.17
84.00	793.0	5,378.10	5,380.29	5,380.42	5,380.97	0.014753	9.43	153.52	136.08	1.17	4.04	4.04	5.17	2.19
83.5*	793.0	5,377.35	5,379.52	5,379.67	5,380.23	0.015561	9.62	150.60	135.42	1.20	4.11	4.11	5.27	2.17
83.*	793.0	5,376.60	5,378.79	5,378.92	5,379.47	0.014718	9.42	153.65	136.11	1.17	4.04	4.04	5.16	2.19
82.5*	793.0	5,375.85	5,378.04	5,378.17	5,378.73	0.014932	9.47	152.85	135.93	1.18	4.05	4.05	5.19	2.19
82.00	793.0	5,375.10	5,377.29	5,377.42	5,377.97	0.014807	9.44	153.32	136.03	1.18	4.04	4.04	5.17	2.19
81.5*	793.0	5,374.35	5,376.55	5,376.67	5,377.22	0.014455	9.36	154.65	136.33	1.16	4.02	4.02	5.13	2.20
81.*	793.0	5,373.60	5,375.79	5,375.92	5,376.47	0.014789	9.44	153.38	136.05	1.18	4.04	4.04	5.17	2.19
80.5*	793.0	5,372.85	5,375.02	5,375.17	5,375.73	0.015599	9.63	150.47	135.40	1.21	4.11	4.11	5.27	2.17
80.00	793.0	5,372.10	5,374.29	5,374.42	5,374.97	0.014718	9.42	153.65	136.11	1.17	4.04	4.04	5.16	2.19
79.5*	793.0	5,371.35	5,373.52	5,373.67	5,374.23	0.015714	9.65	150.07	135.31	1.21	4.12	4.12	5.28	2.17
79.*	793.0	5,370.60	5,372.79	5,372.92	5,373.47	0.014682	9.42	153.78	136.13	1.17	4.03	4.03	5.16	2.19
78.5*	793.0	5,369.85	5,372.04	5,372.17	5,372.73	0.014914	9.47	152.92	135.94	1.18	4.05	4.05	5.19	2.19
78.00	793.0	5,369.10	5,371.29	5,371.42	5,371.97	0.014753	9.43	153.52	136.08	1.17	4.04	4.04	5.17	2.19
77.5*	793.0	5,368.35	5,370.52	5,370.67	5,371.23	0.015561	9.62	150.60	135.42	1.20	4.11	4.11	5.27	2.17
77.*	793.0	5,367.60	5,369.79	5,369.92	5,370.47	0.014718	9.42	153.65	136.11	1.17	4.04	4.04	5.16	2.19
76.5*	793.0	5,366.85	5,369.02	5,369.17	5,369.73	0.015714	9.65	150.07	135.31	1.21	4.12	4.12	5.28	2.17
76.00	793.0	5,366.10	5,368.29	5,368.42	5,368.97	0.014682	9.42	153.78	136.13	1.17	4.03	4.03	5.16	2.19
75.5*	793.0	5,365.35	5,367.54	5,367.67	5,368.23	0.014914	9.47	152.92	135.94	1.18	4.05	4.05	5.19	2.19
75.*	793.0	5,364.60	5,366.79	5,366.92	5,367.47	0.014753	9.43	153.52	136.08	1.17	4.04	4.04	5.17	2.19
74.5*	793.0	5,363.85	5,366.02	5,366.17	5,366.73	0.015561	9.62	150.60	135.42	1.20	4.11	4.11	5.27	2.17
74.00	793.0	5,363.10	5,365.29	5,365.42	5,365.97	0.014718	9.42	153.65	136.11	1.17	4.04	4.04	5.16	2.19
73.5*	793.0	5,362.35	5,364.52	5,364.67	5,365.23	0.015714	9.65	150.07	135.31	1.21	4.12	4.12	5.28	2.17
73.*	793.0	5,361.60	5,363.79	5,363.92	5,364.47	0.014682	9.42	153.78	136.13	1.17	4.03	4.03	5.16	2.19
72.5*	793.0	5,360.85	5,363.04	5,363.17	5,363.73	0.014914	9.47	152.92	135.94	1.18	4.05	4.05	5.19	2.19
72.00	793.0	5,360.10	5,362.29	5,362.42	5,362.97	0.014753	9.43	153.52	136.08	1.17	4.04	4.04	5.17	2.19
71.5*	793.0	5,359.35	5,361.52	5,361.67	5,362.23	0.015561	9.62	150.60	135.42	1.20	4.11	4.11	5.27	2.17
71.*	793.0	5,358.60	5,360.79	5,360.92	5,361.47	0.014718	9.42	153.65	136.11	1.17	4.04	4.04	5.16	2.19
70.5*	793.0	5,357.85	5,360.02	5,360.17	5,360.73	0.015714	9.65	150.07	135.31	1.21	4.12	4.12	5.28	2.17
70.00	793.0	5,357.10	5,359.29	5,359.42	5,359.97	0.014682	9.42	153.78	136.13	1.17	4.03	4.03	5.16	2.19
69.5*	793.0	5,356.35	5,358.54	5,358.67	5,359.23	0.014914	9.47	152.92	135.94	1.18	4.05	4.05	5.19	2.19
69.*	793.0	5,355.60	5,357.79	5,357.92	5,358.47	0.014753	9.43	153.52	136.08	1.17	4.04	4.04	5.17	2.19
68.5*	793.0	5,354.85	5,357.02	5,357.17	5,357.73	0.015561	9.62	150.60	135.42	1.20	4.11	4.11	5.27	2.17
68.00	793.0	5,354.10	5,356.29	5,356.42	5,356.97	0.014718	9.42	153.65	136.11	1.17	4.04	4.04	5.16	2.19
67.5*	793.0	5,353.35	5,355.52	5,355.67	5,356.23	0.015714	9.65	150.07	135.31	1.21	4.12	4.12	5.28	2.17
67.*	793.0	5,352.60	5,354.79	5,354.92	5,355.47	0.014682	9.42	153.78	136.13	1.17	4.03	4.03	5.16	2.19
66.5*	793.0	5,351.85	5,354.04	5,354.17	5,354.73	0.014914	9.47	152.92	135.94	1.18	4.05	4.05	5.19	2.19
66.00	793.0	5,351.10	5,353.29	5,353.42	5,353.97	0.014753	9.43	153.52	136.08	1.17	4.04	4.04	5.17	2.19
65.5*	793.0	5,350.35	5,352.52	5,352.67	5,353.23	0.015561	9.62	150.60	135.42	1.20	4.11	4.11	5.27	2.17
65.*	793.0	5,349.60	5,351.79	5,351.92	5,352.47	0.014718	9.42	153.65	136.11	1.17	4.04	4.04	5.16	2.19
64.5*	793.0	5,348.85	5,351.02	5,351.17	5,351.73	0.015714	9.65	150.07	135.31	1.21	4.12	4.12	5.28	2.17
64.00	793.0	5,348.10	5,350.29	5,350.42	5,350.97	0.014682	9.42	153.78	136.13	1.17	4.03	4.03	5.16	2.19
63.5*	793.0	5,347.35	5,349.54	5,349.67	5,350.23	0.014914	9.47	152.92	135.94	1.18	4.05	4.05	5.19	2.19
63.*	793.0	5,346.60	5,348.79	5,348.92	5,349.47	0.014753	9.43	153.52	136.08	1.17	4.04	4.04	5.17	2.19
62.5*	793.0	5,345.85	5,348.02	5,348.17	5,348.73	0.015561	9.62	150.60	135.42	1.20	4.11	4.11	5.27	2.17
62.00	793.0	5,345.10	5,347.29	5,347.42	5,347.97	0.014718	9.42	153.65	136.11	1.17	4.04	4.04	5.16	2.19
61.5*	793.0	5,344.35	5,346.52	5,346.67	5,347.23	0.015714	9.65	150.07	135.31	1.21	4.12	4.12	5.28	2.17
61.*	793.0	5,343.60	5,345.79	5,345.92	5,346.47	0.014682	9.42	153.78	136.13	1.17	4.03	4.03	5.16	2.19
60.5*	793.0	5,342.85	5,345.04	5,345.17	5,345.73	0.014914	9.47	152.92	135.94	1.18	4.05	4.05	5.19	2.19
60.00	793.0	5,342.10	5,344.29	5,344.42	5,344.97	0.014753	9.43	153.52	136.08	1.17	4.04	4.04	5.17	2.19
59.5*	793.0	5,341.35	5,343.56	5,343.69	5,344.26	0.014706	9.46	153.17	136.02	1.17	4.02	4.02	5.18	2.21
59.*	793.0	5,340.60	5,342.83	5,342.96	5,343.53	0.014660	9.47	152.82	135.74	1.17	4.00	4.00	5.19	2.23
58.5*	793.0	5,339.85	5,342.10	5,342.25	5,342.81	0.014688	9.52	152.34	135.66	1.17	3.99	3.99	5.21	2.25
58.00	793.0	5,339.10	5,341.37	5,341.50	5,342.09	0.014675	9.54	151.86	135.39	1.17	3.98	3.98	5.22	2.27
57.5*	793.0	5,338.35	5,340.64	5,340.78	5,341.37	0.014671	9.57	151.29	135.23	1.18	3.96	3.96	5.24	2.29
57.*	793.0	5,337.60	5,339.90	5,340.07	5,340.65	0.014671	9.60	150.93	134.98	1.18	3.95	3.95	5.25	2.30
56.5*	793.0	5,336.85	5,339.17	5,339.34	5,339.92	0.014620	9.61	150.53	134.62	1.17	3.93	3.94	5.27	2.32
56.00	793.0	5,336.10	5,338.44	5,338.60	5,339.21	0.014666	9.65	149.81	134.50	1.18	3.92	3.92	5.29	2.34

Profile Output Table - Hosteen Branch 1 Post-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)
55.5*	793.0	5,335.35	5,337.71	5,337.89	5,338.48	0.014626	9.67	149.34	134.17	1.18	3.90	3.91	5.31	2.36
55.*	793.0	5,334.60	5,336.97	5,337.16	5,337.76	0.014683	9.71	148.70	134.08	1.18	3.89	3.89	5.33	2.37
54.5*	793.0	5,333.85	5,336.24	5,336.45	5,337.05	0.014714	9.75	148.09	133.94	1.18	3.88	3.88	5.35	2.39
54.00	793.0	5,333.10	5,335.51	5,335.71	5,336.32	0.014662	9.76	147.72	133.67	1.18	3.86	3.86	5.37	2.41
53.5*	793.0	5,332.35	5,334.78	5,334.98	5,335.60	0.014624	9.77	147.22	133.34	1.18	3.84	3.84	5.39	2.43
53.*	793.0	5,331.60	5,334.04	5,334.27	5,334.88	0.014699	9.82	146.59	133.26	1.18	3.83	3.83	5.41	2.44
52.5*	793.0	5,330.85	5,333.32	5,333.54	5,334.16	0.014365	9.77	147.30	133.50	1.17	3.79	3.79	5.38	2.47
52.00	793.0	5,330.10	5,332.58	5,332.81	5,333.43	0.014493	9.81	146.18	132.96	1.18	3.78	3.78	5.42	2.48
51.5*	793.0	5,329.35	5,331.85	5,332.07	5,332.71	0.014555	9.85	145.29	132.57	1.18	3.76	3.77	5.46	2.50
51.*	793.0	5,328.60	5,331.11	5,331.36	5,332.00	0.014694	9.92	144.34	132.29	1.18	3.77	3.77	5.49	2.51
50.5*	793.0	5,327.85	5,330.38	5,330.63	5,331.28	0.014742	9.96	143.45	131.97	1.19	3.75	3.75	5.53	2.53
50.00	793.0	5,327.10	5,329.65	5,329.91	5,330.56	0.014682	9.96	143.11	131.74	1.19	3.73	3.73	5.54	2.55
49.5*	793.0	5,326.35	5,328.89	5,329.16	5,329.81	0.014838	10.00	142.53	131.61	1.19	3.74	3.74	5.56	2.54
49.*	793.0	5,325.60	5,328.15	5,328.41	5,329.05	0.014546	9.92	143.62	131.86	1.18	3.72	3.72	5.52	2.55
48.5*	793.0	5,324.85	5,327.40	5,327.66	5,328.31	0.014751	9.98	142.85	131.68	1.19	3.73	3.73	5.55	2.55
48.00	793.0	5,324.10	5,326.63	5,326.91	5,327.57	0.015352	10.13	140.67	131.18	1.21	3.77	3.77	5.64	2.53
47.5*	793.0	5,323.35	5,325.88	5,326.16	5,326.82	0.015298	10.11	140.86	131.22	1.21	3.77	3.77	5.63	2.53
47.*	793.0	5,322.60	5,325.13	5,325.41	5,326.07	0.015280	10.11	140.93	131.24	1.21	3.77	3.77	5.63	2.53
46.5*	793.0	5,321.85	5,324.38	5,324.66	5,325.32	0.015226	10.09	141.12	131.28	1.21	3.76	3.76	5.62	2.53
46.00	793.0	5,321.10	5,323.63	5,323.91	5,324.57	0.015190	10.09	141.25	131.31	1.20	3.76	3.76	5.61	2.53
45.5*	793.0	5,320.35	5,322.88	5,323.16	5,323.82	0.015172	10.08	141.31	131.33	1.20	3.76	3.76	5.61	2.53
45.*	793.0	5,319.60	5,322.12	5,322.41	5,323.08	0.015516	10.17	140.09	131.04	1.22	3.78	3.78	5.66	2.52
44.5*	793.0	5,318.85	5,321.39	5,321.66	5,322.31	0.014977	10.03	142.02	131.49	1.20	3.75	3.75	5.58	2.54
44.00	793.0	5,318.10	5,320.64	5,320.91	5,321.56	0.014960	10.03	142.08	131.50	1.20	3.75	3.75	5.58	2.54
43.5*	793.0	5,317.35	5,319.89	5,320.16	5,320.81	0.014890	10.01	142.34	131.56	1.19	3.74	3.74	5.57	2.54
43.*	793.0	5,316.60	5,319.15	5,319.41	5,320.06	0.014700	9.96	143.04	131.73	1.19	3.73	3.73	5.54	2.55
42.5*	793.0	5,315.85	5,318.39	5,318.66	5,319.31	0.014838	10.00	142.53	131.61	1.19	3.74	3.74	5.56	2.54
42.00	793.0	5,315.10	5,317.65	5,317.91	5,318.55	0.014563	9.93	143.56	131.84	1.18	3.72	3.72	5.52	2.55
41.5*	793.0	5,314.35	5,316.90	5,317.16	5,317.81	0.014700	9.96	143.04	131.73	1.19	3.73	3.73	5.54	2.55
41.*	793.0	5,313.60	5,316.12	5,316.41	5,317.08	0.015516	10.17	140.09	131.04	1.22	3.78	3.78	5.66	2.52
40.5*	793.0	5,312.85	5,315.39	5,315.66	5,316.31	0.014995	10.04	141.95	131.47	1.20	3.75	3.75	5.59	2.54
40.00	793.0	5,312.10	5,314.64	5,314.91	5,315.56	0.014977	10.03	142.02	131.49	1.20	3.75	3.75	5.58	2.54
39.5*	793.0	5,311.35	5,313.89	5,314.16	5,314.81	0.014942	10.02	142.14	131.52	1.20	3.75	3.75	5.58	2.54
39.*	793.0	5,310.60	5,313.14	5,313.41	5,314.06	0.014838	10.00	142.53	131.61	1.19	3.74	3.74	5.56	2.54
38.5*	793.0	5,309.85	5,312.40	5,312.66	5,313.30	0.014546	9.92	143.62	131.86	1.18	3.72	3.72	5.52	2.55
38.00	793.0	5,309.10	5,311.65	5,311.91	5,312.56	0.014751	9.98	142.85	131.68	1.19	3.73	3.73	5.55	2.55
37.5*	793.0	5,308.35	5,310.88	5,311.16	5,311.82	0.015352	10.13	140.67	131.18	1.21	3.77	3.77	5.64	2.53
37.*	793.0	5,307.60	5,310.13	5,310.41	5,311.07	0.015298	10.11	140.86	131.22	1.21	3.77	3.77	5.63	2.53
36.5*	793.0	5,306.85	5,309.38	5,309.66	5,310.32	0.015280	10.11	140.93	131.24	1.21	3.77	3.77	5.63	2.53
36.00	793.0	5,306.10	5,308.63	5,308.91	5,309.57	0.015226	10.09	141.12	131.28	1.21	3.76	3.76	5.62	2.53
35.5*	793.0	5,305.35	5,307.88	5,308.16	5,308.82	0.015190	10.09	141.25	131.31	1.20	3.76	3.76	5.61	2.53
35.*	793.0	5,304.60	5,307.12	5,307.41	5,308.08	0.015535	10.17	140.03	131.03	1.22	3.78	3.78	5.66	2.52
34.5*	793.0	5,303.85	5,306.39	5,306.66	5,307.31	0.014995	10.04	141.95	131.47	1.20	3.75	3.75	5.59	2.54
34.00	793.0	5,303.10	5,305.64	5,305.91	5,306.56	0.014977	10.03	142.02	131.49	1.20	3.75	3.75	5.58	2.54
33.5*	793.0	5,302.35	5,304.89	5,305.16	5,305.81	0.014942	10.02	142.14	131.52	1.20	3.75	3.75	5.58	2.54
33.*	793.0	5,301.60	5,304.14	5,304.41	5,305.06	0.014838	10.00	142.53	131.61	1.19	3.74	3.74	5.56	2.54
32.5*	793.0	5,300.85	5,303.40	5,303.66	5,304.30	0.014546	9.92	143.62	131.86	1.18	3.72	3.72	5.52	2.55
32.00	793.0	5,300.10	5,302.65	5,302.91	5,303.56	0.014751	9.98	142.85	131.68	1.19	3.73	3.73	5.55	2.55
31.5*	793.0	5,299.35	5,301.88	5,302.16	5,302.82	0.015352	10.13	140.67	131.18	1.21	3.77	3.77	5.64	2.53
31.*	793.0	5,298.60	5,301.13	5,301.41	5,302.07	0.015298	10.11	140.86	131.22	1.21	3.77	3.77	5.63	2.53
30.5*	793.0	5,297.85	5,300.38	5,300.66	5,301.32	0.015280	10.11	140.93	131.24	1.21	3.77	3.77	5.63	2.53
30.00	793.0	5,297.10	5,299.63	5,299.91	5,300.57	0.015226	10.09	141.12	131.28	1.21	3.76	3.76	5.62	2.53
29.5*	793.0	5,296.35	5,298.88	5,299.16	5,299.82	0.015208	10.09	141.18	131.30	1.20	3.76	3.76	5.62	2.53
29.*	793.0	5,295.60	5,298.13	5,298.41	5,299.07	0.015190	10.09	141.25	131.31	1.20	3.76	3.76	5.61	2.53
28.5*	793.0	5,294.85	5,297.37	5,297.66	5,298.33	0.015553	10.17	139.96	131.02	1.22	3.79	3.79	5.67	2.52
28.00	951.0	5,294.10	5,297.02	5,297.05	5,297.68	0.009515	8.89	193.66	142.90	0.98	3.58	3.58	4.91	2.92
27.5*	951.0	5,293.35	5,296.04	5,296.30	5,297.02	0.015057	10.53	162.86	136.21	1.21	4.08	4.08	5.84	2.69
27.*	951.0	5,292.60	5,295.29	5,295.55	5,296.28	0.015154	10.56	162.47	136.12	1.22	4.08	4.08	5.85	2.69
26.5*	951.0	5,291.85	5,294.53	5,294.80	5,295.53	0.015418	10.62	161.40	135.88	1.23	4.10	4.10	5.89	2.68
26.00	951.0	5,291.10	5,293.79	5,294.05	5,294.78	0.015335	10.60	161.73	135.96	1.22	4.10	4.10	5.88	2.69
25.5*	951.0	5,290.35	5,293.04	5,293.30	5,294.03	0.015302	10.60	161.87	135.99	1.22	4.10	4.10	5.88	2.69

Profile Output Table - Hosteen Branch 1 Post-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)
25.*	951.0	5,289.60	5,292.29	5,292.55	5,293.28	0.015252	10.58	162.07	136.03	1.22	4.09	4.09	5.87	2.69
24.5*	951.0	5,288.85	5,291.54	5,291.80	5,292.53	0.015220	10.57	162.20	136.06	1.22	4.09	4.09	5.86	2.69
24.00	951.0	5,288.10	5,290.79	5,291.05	5,291.78	0.015203	10.57	162.27	136.08	1.22	4.09	4.09	5.86	2.69
23.5*	951.0	5,287.35	5,290.04	5,290.30	5,291.03	0.015170	10.56	162.40	136.11	1.22	4.09	4.09	5.86	2.69
23.*	951.0	5,286.60	5,289.28	5,289.55	5,290.28	0.015451	10.63	161.27	135.85	1.23	4.11	4.11	5.90	2.68
22.5*	951.0	5,285.85	5,288.54	5,288.80	5,289.53	0.015385	10.62	161.54	135.91	1.23	4.10	4.10	5.89	2.69
22.00	951.0	5,285.10	5,287.79	5,288.05	5,288.78	0.015335	10.60	161.73	135.96	1.22	4.10	4.10	5.88	2.69
21.5*	951.0	5,284.35	5,287.04	5,287.30	5,288.03	0.015302	10.60	161.87	135.99	1.22	4.10	4.10	5.88	2.69
21.*	951.0	5,283.60	5,286.29	5,286.55	5,287.28	0.015252	10.58	162.07	136.03	1.22	4.09	4.09	5.87	2.69
20.5*	951.0	5,282.85	5,285.54	5,285.80	5,286.53	0.015220	10.57	162.20	136.06	1.22	4.09	4.09	5.86	2.69
20.00	951.0	5,282.10	5,284.79	5,285.05	5,285.78	0.015203	10.57	162.27	136.08	1.22	4.09	4.09	5.86	2.69
19.5*	951.0	5,281.35	5,284.04	5,284.30	5,285.03	0.015170	10.56	162.40	136.11	1.22	4.09	4.09	5.86	2.69
19.*	951.0	5,280.60	5,283.28	5,283.55	5,284.28	0.015451	10.63	161.27	135.85	1.23	4.11	4.11	5.90	2.68
18.5*	951.0	5,279.85	5,282.54	5,282.80	5,283.53	0.015385	10.62	161.54	135.91	1.23	4.10	4.10	5.89	2.69
18.00	951.0	5,279.10	5,282.24	5,282.05	5,282.71	0.006261	7.63	226.45	149.69	0.81	3.15	3.15	4.20	3.14
17.5*	951.0	5,278.34	5,281.77	5,281.74	5,282.37	0.006775	8.10	210.41	146.19	0.84	3.10	3.02	4.52	3.43
17.*	951.0	5,277.58	5,281.38	5,281.38	5,282.04	0.006211	8.07	206.30	144.83	0.81	2.86	2.72	4.61	3.80
16.5*	951.0	5,276.83	5,280.83	5,280.99	5,281.70	0.007109	8.68	181.59	138.30	0.87	2.73	2.49	5.24	4.00
16.00	951.0	5,276.07	5,280.30	5,280.55	5,281.33	0.007387	8.96	162.54	131.87	0.88	2.46	2.10	5.85	4.23
15.5*	951.0	5,275.31	5,279.74	5,280.07	5,280.94	0.007831	9.22	140.87	123.03	0.91	2.12	1.55	6.75	4.43
15.*	951.0	5,274.55	5,279.03	5,279.51	5,280.49	0.009317	9.78	107.87	81.20	0.98	1.44	0.19	8.82	4.48
14.5*	951.0	5,273.79	5,277.91	5,278.29	5,279.86	0.013873	11.23	84.69	30.00	1.18			11.23	4.12
14.00	951.0	5,273.03	5,277.08	5,277.53	5,279.13	0.014727	11.48	82.81	29.64	1.21			11.48	4.05
13.5*	951.0	5,272.27	5,276.28	5,276.75	5,278.37	0.015193	11.61	81.88	29.52	1.23			11.61	4.01
13.*	951.0	5,271.52	5,275.49	5,275.99	5,277.61	0.015364	11.67	81.48	29.40	1.24			11.67	3.97
12.5*	951.0	5,270.76	5,274.69	5,275.22	5,276.84	0.015706	11.76	80.89	29.35	1.25			11.76	3.94
12.00	951.0	5,270.00	5,273.93	5,274.45	5,276.07	0.015675	11.75	80.93	29.32	1.25			11.75	3.93
11.5*	951.0	5,269.23	5,273.16	5,273.68	5,275.30	0.015606	11.73	81.06	29.34	1.24			11.73	3.93
11.*	951.0	5,268.45	5,272.38	5,272.88	5,274.52	0.015602	11.73	81.07	29.34	1.24			11.73	3.93
10.5*	951.0	5,267.67	5,271.61	5,272.12	5,273.74	0.015583	11.73	81.10	29.34	1.24			11.73	3.94
10.00	951.0	5,266.90	5,270.83	5,271.35	5,272.96	0.015530	11.71	81.20	29.36	1.24			11.71	3.94
9.5*	951.0	5,266.54	5,271.39	5,270.99	5,272.55	0.006773	8.67	109.69	33.24	0.84			8.67	4.85
9.*	951.0	5,266.17	5,271.09	5,270.62	5,272.21	0.006383	8.48	112.09	33.55	0.82			8.48	4.92
8.5*	951.0	5,265.81	5,270.83	5,270.24	5,271.88	0.005845	8.22	115.74	34.01	0.78			8.22	5.02
8.00	951.0	5,265.45	5,270.62	5,269.88	5,271.58	0.005226	7.89	120.57	34.61	0.74			7.89	5.17
7.75*	951.0	5,265.32	5,270.48	5,269.77	5,271.45	0.005229	7.89	120.54	34.61	0.74			7.89	5.17
7.5*	951.0	5,265.20	5,270.33	5,269.63	5,271.32	0.005368	7.97	119.39	34.47	0.75			7.97	5.13
7.25*	951.0	5,265.07	5,270.20	5,269.52	5,271.18	0.005388	7.98	119.23	34.45	0.76			7.98	5.13
7.*	951.0	5,264.94	5,270.06	5,269.39	5,271.05	0.005449	8.01	118.74	34.39	0.76			8.01	5.12
6.75*	951.0	5,264.82	5,269.90	5,269.27	5,270.92	0.005595	8.09	117.60	34.24	0.77			8.09	5.08
6.5*	951.0	5,264.69	5,269.73	5,269.14	5,270.77	0.005755	8.17	116.40	34.09	0.78			8.17	5.04
6.25*	951.0	5,264.57	5,269.52	5,269.02	5,270.61	0.006236	8.41	113.04	33.67	0.81			8.41	4.95
6.00	951.0	5,264.44	5,268.89	5,268.89	5,270.39	0.009541	9.82	96.85	31.55	0.99			9.82	4.45
5.75*	951.0	5,264.06	5,268.14	5,268.49	5,270.06	0.013431	11.11	85.57	29.99	1.16			11.11	4.08
5.5*	951.0	5,263.67	5,267.70	5,268.12	5,269.70	0.014232	11.35	83.80	29.73	1.19			11.35	4.03
5.25*	951.0	5,263.29	5,267.28	5,267.74	5,269.33	0.014677	11.48	82.87	29.60	1.21			11.48	3.99
5.*	951.0	5,262.91	5,266.90	5,267.34	5,268.95	0.014759	11.50	82.71	29.58	1.21			11.50	3.99
4.75*	951.0	5,262.53	5,266.51	5,266.98	5,268.57	0.014856	11.53	82.51	29.55	1.22			11.53	3.98
4.5*	951.0	5,262.15	5,266.14	5,266.60	5,268.19	0.014734	11.49	82.76	29.58	1.21			11.49	3.99
4.25*	951.0	5,261.76	5,265.74	5,266.21	5,267.80	0.014827	11.52	82.57	29.56	1.21			11.52	3.98
4.00	951.0	5,261.38	5,265.37	5,265.83	5,267.42	0.014692	11.48	82.84	29.59	1.21			11.48	3.99
3.75*	951.0	5,261.13	5,265.26	5,265.58	5,267.12	0.012840	10.93	86.97	30.18	1.14			10.93	4.13
3.5*	951.0	5,260.88	5,265.04	5,265.33	5,266.86	0.012514	10.83	87.79	30.30	1.12			10.83	4.16
3.25*	951.0	5,260.64	5,264.78	5,265.07	5,266.62	0.012711	10.89	87.29	30.23	1.13			10.89	4.14
3.*	951.0	5,260.39	5,264.53	5,264.82	5,266.37	0.012646	10.87	87.45	30.25	1.13			10.87	4.14
2.75*	951.0	5,260.14	5,264.29	5,264.57	5,266.12	0.012628	10.87	87.50	30.26	1.13			10.87	4.15
2.5*	951.0	5,259.90	5,264.05	5,264.35	5,265.88	0.012578	10.85	87.62	30.28	1.12			10.85	4.15
2.25*	951.0	5,259.65	5,263.74	5,264.10	5,265.65	0.013383	11.10	85.68	30.00	1.16			11.10	4.09
2.00	951.0	5,259.40	5,263.53	5,263.85	5,265.39	0.012828	10.93	87.00	30.19	1.13			10.93	4.13
1.75*	951.0	5,258.90	5,262.79	5,263.35	5,264.99	0.016225	11.90	79.93	29.17	1.27			11.90	3.89
1.5*	951.0	5,258.41	5,262.24	5,262.84	5,264.54	0.017297	12.18	78.11	28.90	1.31			12.18	3.83

Profile Output Table - Hosteen Branch 1 Post-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)
1.25*	951.0	5,257.92	5,261.70	5,262.37	5,264.08	0.018133	12.38	76.79	28.71	1.33			12.38	3.78
1.*	951.0	5,257.42	5,261.17	5,261.87	5,263.61	0.018810	12.55	75.79	28.56	1.36			12.55	3.75
.75*	951.0	5,256.92	5,260.66	5,261.37	5,263.13	0.019122	12.62	75.34	28.49	1.37			12.62	3.74
.5*	951.0	5,256.43	5,260.16	5,260.86	5,262.64	0.019136	12.63	75.32	28.49	1.37			12.63	3.73
.25*	951.0	5,255.94	5,259.67	5,260.39	5,262.15	0.019210	12.64	75.22	28.47	1.37			12.64	3.73
0.00	951.0	5,255.44	5,259.16	5,259.89	5,261.65	0.019299	12.66	75.09	28.45	1.37			12.66	3.72
						Max	10.63					**Avg**	5.42	
						Min	7.63							
						Avg	9.80							

The reclaimed reach is between River Stations 86.00 and 16.00. The remaining downstream reach is undisturbed or a pre-mine channel. The undisturbed reach was not included in determining the maximum, minimum, and average velocities.

SOUTH BARBER CHANNEL POST-MINE HEC-RAS RESULTS

September-04

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

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
107.54	24.0	5,456.88	5,457.62	5,457.50	5,457.78	0.009767	3.16	7.60	12.46	0.71			3.16	0.74
106.54*	24.0	5,455.92	5,456.67	5,456.54	5,456.82	0.009387	3.12	7.70	12.51	0.70			3.12	0.75
105.54	24.0	5,454.97	5,455.71	5,455.59	5,455.87	0.009676	3.15	7.62	12.47	0.71			3.15	0.74
104.54*	24.0	5,454.01	5,454.76	5,454.63	5,454.91	0.009475	3.13	7.68	12.49	0.70			3.13	0.75
103.54	24.0	5,453.05	5,453.79	5,453.67	5,453.95	0.009813	3.16	7.58	12.45	0.71			3.16	0.74
102.54*	24.0	5,452.09	5,452.84	5,452.71	5,452.99	0.009301	3.11	7.72	12.52	0.70			3.11	0.75
101.54	24.0	5,451.14	5,451.88	5,451.76	5,452.04	0.009836	3.17	7.58	12.45	0.72			3.17	0.74
100.54*	24.0	5,450.19	5,450.94	5,450.81	5,451.09	0.009409	3.12	7.69	12.50	0.70			3.12	0.75
99.54	24.0	5,449.23	5,449.98	5,449.85	5,450.13	0.009653	3.15	7.63	12.47	0.71			3.15	0.75
98.54*	24.0	5,448.27	5,449.02	5,448.89	5,449.17	0.009475	3.13	7.68	12.49	0.70			3.13	0.75
97.54	24.0	5,447.31	5,448.05	5,447.93	5,448.21	0.009767	3.16	7.60	12.46	0.71			3.16	0.74
96.54*	24.0	5,446.35	5,447.10	5,446.97	5,447.25	0.009344	3.11	7.71	12.51	0.70			3.11	0.75
95.54	24.0	5,445.40	5,446.14	5,446.02	5,446.30	0.009721	3.15	7.61	12.46	0.71			3.15	0.74
94.54*	24.0	5,444.44	5,445.19	5,445.06	5,445.34	0.009564	3.14	7.65	12.48	0.71			3.14	0.75
93.54	24.0	5,443.49	5,444.24	5,444.11	5,444.39	0.009344	3.11	7.71	12.51	0.70			3.11	0.75
92.54*	24.0	5,442.54	5,443.28	5,443.16	5,443.44	0.009767	3.16	7.60	12.46	0.71			3.16	0.74
91.54	24.0	5,441.58	5,442.33	5,442.20	5,442.48	0.009344	3.11	7.71	12.51	0.70			3.11	0.75
90.54*	24.0	5,440.62	5,441.36	5,441.24	5,441.52	0.010023	3.19	7.53	12.42	0.72			3.19	0.74
89.54	24.0	5,439.66	5,440.42	5,440.28	5,440.57	0.009005	3.07	7.81	12.56	0.69			3.07	0.76
88.54*	24.0	5,438.71	5,439.44	5,439.33	5,439.60	0.010436	3.23	7.43	12.37	0.74			3.23	0.73
87.54	22.0	5,437.75	5,438.46	5,438.33	5,438.61	0.009426	3.04	7.25	12.29	0.70			3.04	0.71
86.54*	22.0	5,436.79	5,437.50	5,437.37	5,437.64	0.009850	3.08	7.14	12.23	0.71			3.08	0.71
85.54	22.0	5,435.84	5,436.56	5,436.42	5,436.70	0.009024	2.99	7.35	12.34	0.68			2.99	0.72
84.54*	22.0	5,434.88	5,435.57	5,435.46	5,435.73	0.010612	3.16	6.96	12.15	0.74			3.16	0.69
83.54	22.0	5,433.93	5,434.70	5,434.51	5,434.82	0.007246	2.78	7.93	12.61	0.62			2.78	0.77
82.75*	22.0	5,433.33	5,434.10	5,433.91	5,434.22	0.007116	2.76	7.98	12.64	0.61			2.76	0.77
81.96	22.0	5,432.74	5,433.51	5,433.32	5,433.63	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
80.96*	22.0	5,432.00	5,432.77	5,432.58	5,432.89	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
79.96	22.0	5,431.25	5,432.01	5,431.83	5,432.13	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
78.96*	22.0	5,430.50	5,431.27	5,431.08	5,431.39	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
77.96	22.0	5,429.75	5,430.51	5,430.33	5,430.63	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
76.96*	22.0	5,429.00	5,429.77	5,429.58	5,429.89	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
75.96	22.0	5,428.26	5,429.02	5,428.84	5,429.15	0.007447	2.80	7.85	12.58	0.62			2.80	0.76
74.96*	22.0	5,427.52	5,428.29	5,428.10	5,428.41	0.007246	2.78	7.93	12.61	0.62			2.78	0.77
73.96	22.0	5,426.78	5,427.53	5,427.36	5,427.66	0.007743	2.84	7.75	12.53	0.64			2.84	0.75
72.96*	22.0	5,426.02	5,426.79	5,426.60	5,426.91	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
71.96	22.0	5,425.27	5,426.03	5,425.85	5,426.15	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
70.96*	22.0	5,424.52	5,425.29	5,425.10	5,425.41	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
69.96	22.0	5,423.77	5,424.53	5,424.35	5,424.65	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
68.96*	22.0	5,423.02	5,423.79	5,423.60	5,423.91	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
67.96	22.0	5,422.27	5,423.03	5,422.85	5,423.15	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
66.96*	22.0	5,421.52	5,422.29	5,422.10	5,422.41	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
65.96	22.0	5,420.77	5,421.53	5,421.35	5,421.65	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
64.96*	22.0	5,420.02	5,420.79	5,420.60	5,420.91	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
63.96	22.0	5,419.28	5,420.05	5,419.86	5,420.17	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
62.96*	22.0	5,418.53	5,419.29	5,419.11	5,419.41	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
61.96	22.0	5,417.78	5,418.55	5,418.36	5,418.67	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
60.96*	22.0	5,417.03	5,417.79	5,417.61	5,417.91	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
59.96	22.0	5,416.28	5,417.04	5,416.86	5,417.16	0.007602	2.82	7.80	12.55	0.63			2.82	0.76
58.96*	22.0	5,415.53	5,416.30	5,416.11	5,416.42	0.007312	2.78	7.90	12.60	0.62			2.78	0.77
57.96	22.0	5,414.79	5,415.55	5,415.37	5,415.67	0.007567	2.82	7.81	12.56	0.63			2.82	0.76
56.96*	22.0	5,414.04	5,414.81	5,414.62	5,414.93	0.007329	2.79	7.90	12.60	0.62			2.79	0.77
55.96	22.0	5,413.30	5,414.06	5,413.88	5,414.18	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
54.96*	22.0	5,412.55	5,413.31	5,413.13	5,413.43	0.007619	2.82	7.79	12.55	0.63			2.82	0.76
53.96	22.0	5,411.80	5,412.56	5,412.38	5,412.68	0.007637	2.83	7.79	12.55	0.63			2.83	0.76
52.96*	22.0	5,411.05	5,411.81	5,411.63	5,411.94	0.007447	2.80	7.85	12.58	0.62			2.80	0.76
51.96	22.0	5,410.31	5,411.08	5,410.89	5,411.20	0.007379	2.79	7.88	12.59	0.62			2.79	0.77
50.96*	22.0	5,409.56	5,410.32	5,410.14	5,410.44	0.007550	2.81	7.82	12.56	0.63			2.81	0.76
49.96	22.0	5,408.81	5,409.57	5,409.39	5,409.69	0.007481	2.81	7.84	12.57	0.63			2.81	0.76
48.96*	22.0	5,408.07	5,408.84	5,408.65	5,408.96	0.007229	2.77	7.93	12.62	0.62			2.77	0.77
47.96	22.0	5,407.33	5,408.09	5,407.91	5,408.21	0.007725	2.84	7.75	12.53	0.64			2.84	0.76

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

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
46.96*	22.0	5,406.57	5,407.32	5,407.15	5,407.45	0.007743	2.84	7.75	12.53	0.64			2.84	0.75
45.96	22.0	5,405.81	5,406.58	5,406.39	5,406.70	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
44.96*	22.0	5,405.06	5,405.82	5,405.64	5,405.94	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
43.96	22.0	5,404.31	5,405.08	5,404.89	5,405.20	0.007295	2.78	7.91	12.61	0.62			2.78	0.77
42.96*	22.0	5,403.56	5,404.32	5,404.14	5,404.44	0.007584	2.82	7.80	12.56	0.63			2.82	0.76
41.96	22.0	5,402.81	5,403.57	5,403.39	5,403.69	0.007464	2.80	7.85	12.58	0.63			2.80	0.76
40.96*	22.0	5,402.06	5,402.82	5,402.64	5,402.94	0.007515	2.81	7.83	12.57	0.63			2.81	0.76
39.96	22.0	5,401.32	5,402.08	5,401.90	5,402.20	0.007550	2.81	7.82	12.56	0.63			2.81	0.76
38.96*	22.0	5,400.57	5,401.33	5,401.15	5,401.45	0.007481	2.81	7.84	12.57	0.63			2.81	0.76
37.96	22.0	5,399.83	5,400.59	5,400.41	5,400.71	0.007515	2.81	7.83	12.57	0.63			2.81	0.76
36.00	22.0	5,398.37	5,399.15	5,398.95	5,399.27	0.006818	2.72	8.09	12.69	0.60			2.72	0.78
35.00	22.0	5,397.66	5,398.41	5,398.24	5,398.54	0.007761	2.84	7.74	12.53	0.64			2.84	0.75
34.00	22.0	5,396.95	5,397.93	5,397.53	5,397.99	0.003059	2.06	10.67	13.86	0.41			2.06	0.98
33.00	22.0	5,396.24	5,397.01	5,396.82	5,397.13	0.007213	2.77	7.94	12.62	0.62			2.77	0.77
32.00	22.0	5,395.53	5,396.31	5,396.11	5,396.43	0.006834	2.72	8.09	12.69	0.60			2.72	0.78
31.00	22.0	5,394.83	5,395.60	5,395.41	5,395.72	0.007345	2.79	7.89	12.60	0.62			2.79	0.77
30.00	22.0	5,394.12	5,394.91	5,394.70	5,395.02	0.006493	2.67	8.23	12.76	0.59			2.67	0.79
29.00	22.0	5,393.41	5,394.13	5,393.99	5,394.27	0.009156	3.01	7.32	12.32	0.69			3.01	0.72
28.00	22.0	5,392.70	5,393.46	5,393.21	5,393.55	0.004975	2.34	9.39	14.58	0.51			2.34	0.76
27.00	31.0	5,391.99	5,392.83	5,392.62	5,392.97	0.007033	2.94	10.54	15.05	0.62			2.94	0.84
26.00	31.0	5,391.28	5,392.12	5,391.91	5,392.26	0.006976	2.93	10.57	15.06	0.62			2.93	0.84
25.00	31.0	5,390.57	5,391.41	5,391.20	5,391.54	0.007165	2.96	10.47	15.02	0.62			2.96	0.84
24.00	31.0	5,389.86	5,390.71	5,390.49	5,390.84	0.006919	2.93	10.60	15.07	0.61			2.93	0.85
23.00	31.0	5,389.15	5,389.99	5,389.78	5,390.12	0.007195	2.96	10.46	15.02	0.63			2.96	0.84
22.5*	31.0	5,388.79	5,389.63	5,389.42	5,389.77	0.006961	2.93	10.57	15.06	0.62			2.93	0.84
22.00	31.0	5,388.44	5,389.27	5,389.07	5,389.41	0.007300	2.98	10.40	15.00	0.63			2.98	0.83
21.5*	31.0	5,388.08	5,388.92	5,388.71	5,389.06	0.007004	2.94	10.55	15.05	0.62			2.94	0.84
21.00	31.0	5,387.73	5,388.58	5,388.36	5,388.71	0.006793	2.91	10.66	15.10	0.61			2.91	0.85
20.85*	31.0	5,387.63	5,388.54	5,388.18	5,388.62	0.003568	2.24	13.85	17.96	0.45			2.24	0.91
20.70	51.0	5,387.52	5,388.21	5,388.21	5,388.50	0.026628	4.34	11.74	19.13	0.98			4.34	0.69
20.35*	51.0	5,386.33	5,386.94	5,387.00	5,387.33	0.041270	5.01	10.18	18.63	1.19			5.01	0.61
20.00	51.0	5,385.15	5,385.83	5,385.84	5,386.13	0.027626	4.40	11.60	19.08	0.99			4.40	0.68
19.5*	51.0	5,383.45	5,384.06	5,384.12	5,384.44	0.040482	4.98	10.25	18.65	1.18			4.98	0.61
19.00	51.0	5,381.76	5,382.39	5,382.43	5,382.75	0.036528	4.81	10.59	18.76	1.13			4.81	0.63
18.00	51.0	5,378.37	5,379.02	5,379.04	5,379.35	0.031639	4.60	11.10	18.93	1.06			4.60	0.65
17.26	51.0	5,375.87	5,376.51	5,376.54	5,376.85	0.034373	4.72	10.80	18.83	1.10			4.72	0.64
16.42	51.0	5,373.02	5,373.66	5,373.71	5,374.00	0.034645	4.73	10.78	18.82	1.10			4.73	0.64
15.37	51.0	5,369.46	5,370.10	5,370.15	5,370.44	0.034463	4.72	10.79	18.83	1.10			4.72	0.64
14.8833*	51.0	5,367.81	5,368.45	5,368.50	5,368.79	0.034373	4.72	10.80	18.83	1.10			4.72	0.64
14.3966*	51.0	5,366.17	5,366.81	5,366.84	5,367.15	0.034373	4.72	10.80	18.83	1.10			4.72	0.64
13.91	51.0	5,364.52	5,366.08	5,365.21	5,366.12	0.001508	1.66	30.71	24.36	0.26			1.66	1.56
13.5*	51.0	5,364.37	5,366.01	5,365.21	5,366.06	0.001418	1.89	26.96	22.45	0.30			1.89	1.64
13.09*	51.0	5,364.22	5,365.91	5,365.24	5,365.99	0.002180	2.23	22.84	20.48	0.37			2.23	1.69
12.68	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
12.304*	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
11.928*	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
11.552*	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
11.176*	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
10.80	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
10.5*	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
10.2*	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

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

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
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**	3.53	
						Min	1.89							
						Avg	3.53							

The reclaimed reach is between River Stations 107.54 and 13.91. The shaded area (Station 20.70 to 13.91) is a riprapped reach. The remaining downstream reach is undisturbed or a pre-mine channel. The riprapped reach was not included in determining the maximum, minimum, and average velocities.

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

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
107.54	73.0	5,456.88	5,458.15	5,458.11	5,458.45	0.009712	4.53	19.33	31.62	0.78	1.31	1.31	3.78	1.27
106.54*	73.0	5,455.92	5,457.20	5,457.16	5,457.49	0.009428	4.49	19.55	31.65	0.77	1.30	1.32	3.73	1.28
105.54	73.0	5,454.97	5,456.24	5,456.20	5,456.54	0.009693	4.53	19.35	31.63	0.78	1.31	1.31	3.77	1.27
104.54*	73.0	5,454.01	5,455.29	5,455.24	5,455.58	0.009492	4.50	19.52	31.66	0.77	1.32	1.32	3.74	1.28
103.54	73.0	5,453.05	5,454.32	5,454.28	5,454.62	0.009786	4.54	19.27	31.61	0.78	1.31	1.31	3.79	1.27
102.54*	73.0	5,452.09	5,453.37	5,453.33	5,453.66	0.009321	4.47	19.64	31.66	0.76	1.31	1.32	3.72	1.28
101.54	73.0	5,451.14	5,452.41	5,452.37	5,452.71	0.009786	4.54	19.27	31.61	0.78	1.31	1.31	3.79	1.27
100.54*	73.0	5,450.19	5,451.47	5,451.42	5,451.76	0.009384	4.48	19.61	31.68	0.77	1.32	1.32	3.72	1.28
99.54	73.0	5,449.23	5,450.50	5,450.46	5,450.79	0.009881	4.56	19.20	31.60	0.78	1.31	1.31	3.80	1.27
98.54*	73.0	5,448.27	5,449.55	5,449.50	5,449.84	0.009492	4.50	19.52	31.66	0.77	1.32	1.32	3.74	1.28
97.54	73.0	5,447.31	5,448.58	5,448.54	5,448.88	0.009805	4.55	19.26	31.61	0.78	1.31	1.31	3.79	1.27
96.54*	73.0	5,446.35	5,447.63	5,447.58	5,447.92	0.009278	4.46	19.71	31.69	0.76	1.32	1.32	3.70	1.28
95.54	73.0	5,445.40	5,446.67	5,446.63	5,446.97	0.009805	4.55	19.26	31.61	0.78	1.31	1.31	3.79	1.27
94.54*	73.0	5,444.44	5,445.72	5,445.67	5,446.01	0.009296	4.47	19.69	31.69	0.76	1.32	1.32	3.71	1.28
93.54	73.0	5,443.49	5,444.76	5,444.72	5,445.06	0.009786	4.54	19.27	31.61	0.78	1.31	1.31	3.79	1.27
92.54*	73.0	5,442.54	5,443.82	5,443.77	5,444.11	0.009384	4.48	19.61	31.68	0.77	1.32	1.32	3.72	1.28
91.54	73.0	5,441.58	5,442.85	5,442.81	5,443.15	0.009900	4.56	19.18	31.59	0.78	1.31	1.31	3.81	1.27
90.54*	73.0	5,440.62	5,441.90	5,441.85	5,442.19	0.009438	4.49	19.57	31.67	0.77	1.32	1.32	3.73	1.28
89.54	73.0	5,439.66	5,440.93	5,440.89	5,441.23	0.009843	4.55	19.23	31.60	0.78	1.31	1.31	3.80	1.27
88.54*	73.0	5,438.71	5,439.99	5,439.94	5,440.28	0.009296	4.47	19.69	31.70	0.76	1.32	1.32	3.71	1.28
87.54	78.0	5,437.75	5,439.07	5,439.03	5,439.36	0.009059	4.52	21.01	31.94	0.76	1.42	1.42	3.71	1.32
86.54*	78.0	5,436.79	5,438.08	5,438.07	5,438.40	0.010220	4.71	20.00	31.75	0.80	1.41	1.41	3.90	1.29
85.54	78.0	5,435.84	5,437.18	5,437.12	5,437.45	0.008609	4.44	21.45	32.02	0.74	1.42	1.42	3.64	1.34
84.54*	78.0	5,434.88	5,436.16	5,436.15	5,436.49	0.010846	4.81	19.49	31.64	0.82	1.39	1.41	4.00	1.28
83.54	78.0	5,433.93	5,435.31	5,435.21	5,435.56	0.007414	4.22	22.77	32.27	0.69	1.42	1.42	3.43	1.38
82.75*	78.0	5,433.33	5,434.72	5,434.60	5,434.96	0.007163	4.18	23.08	32.32	0.68	1.42	1.42	3.38	1.39
81.96	78.0	5,432.74	5,434.12	5,434.02	5,434.37	0.007337	4.21	22.86	32.29	0.69	1.42	1.42	3.41	1.38
80.96*	78.0	5,432.00	5,433.38	5,433.28	5,433.63	0.007408	4.22	22.79	32.31	0.69	1.42	1.42	3.42	1.38
79.96	78.0	5,431.25	5,432.63	5,432.53	5,432.88	0.007414	4.22	22.77	32.27	0.69	1.42	1.42	3.43	1.38
78.96*	78.0	5,430.50	5,431.88	5,431.77	5,432.13	0.007449	4.23	22.73	32.29	0.69	1.42	1.42	3.43	1.38
77.96	78.0	5,429.75	5,431.13	5,431.03	5,431.38	0.007414	4.22	22.77	32.27	0.69	1.42	1.42	3.43	1.38
76.96*	78.0	5,429.00	5,430.38	5,430.28	5,430.63	0.007346	4.21	22.83	32.30	0.69	1.41	1.41	3.42	1.38
75.96	78.0	5,428.26	5,429.64	5,429.54	5,429.89	0.007324	4.21	22.88	32.29	0.69	1.42	1.42	3.41	1.38
74.96*	78.0	5,427.52	5,428.90	5,428.79	5,429.15	0.007373	4.22	22.79	32.25	0.69	1.42	1.41	3.42	1.38
73.96	78.0	5,426.78	5,428.16	5,428.06	5,428.41	0.007401	4.22	22.78	32.27	0.69	1.42	1.42	3.42	1.38
72.96*	78.0	5,426.02	5,427.39	5,427.29	5,427.65	0.007645	4.28	22.38	32.18	0.70	1.40	1.39	3.49	1.37
71.96	78.0	5,425.27	5,426.65	5,426.55	5,426.90	0.007376	4.22	22.81	32.28	0.69	1.42	1.42	3.42	1.38
70.96*	78.0	5,424.52	5,425.89	5,425.80	5,426.14	0.007579	4.26	22.56	32.25	0.70	1.42	1.42	3.46	1.37
69.96	78.0	5,423.77	5,425.15	5,425.05	5,425.40	0.007363	4.21	22.83	32.28	0.69	1.42	1.42	3.42	1.38
68.96*	78.0	5,423.02	5,424.39	5,424.30	5,424.65	0.007586	4.26	22.55	32.26	0.70	1.42	1.42	3.46	1.37
67.96	78.0	5,422.27	5,423.65	5,423.55	5,423.90	0.007363	4.21	22.83	32.28	0.69	1.42	1.42	3.42	1.38
66.96*	78.0	5,421.52	5,422.90	5,422.79	5,423.15	0.007486	4.25	22.59	32.29	0.69	1.40	1.40	3.45	1.38
65.96	78.0	5,420.77	5,422.15	5,422.05	5,422.40	0.007401	4.22	22.78	32.27	0.69	1.42	1.42	3.42	1.38
64.96*	78.0	5,420.02	5,421.40	5,421.30	5,421.65	0.007358	4.22	22.76	32.20	0.69	1.41	1.40	3.43	1.38
63.96	78.0	5,419.28	5,420.66	5,420.56	5,420.91	0.007401	4.22	22.78	32.27	0.69	1.42	1.42	3.42	1.38
62.96*	78.0	5,418.53	5,419.91	5,419.80	5,420.16	0.007461	4.24	22.69	32.28	0.69	1.41	1.41	3.44	1.38
61.96	78.0	5,417.78	5,419.16	5,419.06	5,419.41	0.007414	4.22	22.77	32.27	0.69	1.42	1.42	3.43	1.38
60.96*	78.0	5,417.03	5,418.41	5,418.31	5,418.66	0.007422	4.23	22.75	32.27	0.69	1.42	1.42	3.43	1.38
59.96	78.0	5,416.28	5,417.66	5,417.56	5,417.91	0.007401	4.22	22.78	32.27	0.69	1.42	1.42	3.42	1.38
58.96*	78.0	5,415.53	5,416.91	5,416.80	5,417.16	0.007376	4.22	22.74	32.28	0.69	1.41	1.40	3.43	1.38
57.96	78.0	5,414.79	5,416.17	5,416.07	5,416.42	0.007401	4.22	22.78	32.27	0.69	1.42	1.42	3.42	1.38
56.96*	78.0	5,414.04	5,415.42	5,415.31	5,415.67	0.007404	4.23	22.70	32.22	0.69	1.40	1.40	3.44	1.38
55.96	78.0	5,413.30	5,414.68	5,414.58	5,414.93	0.007414	4.22	22.77	32.27	0.69	1.42	1.42	3.43	1.38
54.96*	78.0	5,412.55	5,413.93	5,413.83	5,414.18	0.007383	4.22	22.79	32.25	0.69	1.42	1.42	3.42	1.38
53.96	78.0	5,411.80	5,413.17	5,413.08	5,413.42	0.007572	4.25	22.58	32.23	0.70	1.42	1.42	3.45	1.37
52.96*	78.0	5,411.05	5,412.43	5,412.33	5,412.68	0.007332	4.21	22.86	32.28	0.69	1.42	1.42	3.41	1.38
51.96	78.0	5,410.31	5,411.69	5,411.59	5,411.94	0.007401	4.22	22.78	32.27	0.69	1.42	1.42	3.42	1.38
50.96*	78.0	5,409.56	5,410.94	5,410.83	5,411.19	0.007463	4.24	22.67	32.20	0.69	1.42	1.41	3.44	1.38
49.96	78.0	5,408.81	5,410.19	5,410.09	5,410.44	0.007350	4.21	22.85	32.28	0.69	1.42	1.42	3.41	1.38
48.96*	78.0	5,408.07	5,409.45	5,409.35	5,409.70	0.007275	4.20	22.94	32.32	0.68	1.42	1.42	3.40	1.38
47.96	78.0	5,407.33	5,408.71	5,408.61	5,408.96	0.007493	4.24	22.67	32.25	0.69	1.42	1.42	3.44	1.38

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

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
46.96*	78.0	5,406.57	5,407.94	5,407.83	5,408.19	0.007568	4.25	22.57	32.24	0.70	1.42	1.42	3.46	1.37
45.96	78.0	5,405.81	5,407.19	5,407.09	5,407.44	0.007401	4.22	22.78	32.27	0.69	1.42	1.42	3.42	1.38
44.96*	78.0	5,405.06	5,406.44	5,406.33	5,406.69	0.007461	4.24	22.69	32.27	0.69	1.41	1.41	3.44	1.38
43.96	78.0	5,404.31	5,405.69	5,405.59	5,405.94	0.007427	4.23	22.75	32.26	0.69	1.42	1.42	3.43	1.38
42.96*	78.0	5,403.56	5,404.94	5,404.84	5,405.19	0.007377	4.22	22.81	32.28	0.69	1.42	1.42	3.42	1.38
41.96	78.0	5,402.81	5,404.18	5,404.09	5,404.43	0.007585	4.26	22.56	32.23	0.70	1.42	1.42	3.46	1.37
40.96*	78.0	5,402.06	5,403.44	5,403.34	5,403.69	0.007314	4.21	22.89	32.29	0.69	1.42	1.42	3.41	1.38
39.96	78.0	5,401.32	5,402.70	5,402.60	5,402.95	0.007427	4.23	22.75	32.26	0.69	1.42	1.42	3.43	1.38
38.96*	78.0	5,400.57	5,401.95	5,401.84	5,402.20	0.007384	4.22	22.78	32.25	0.69	1.41	1.42	3.42	1.38
37.96	78.0	5,399.83	5,401.21	5,401.11	5,401.46	0.007324	4.21	22.88	32.29	0.69	1.42	1.42	3.41	1.38
36.00	78.0	5,398.37	5,399.77	5,399.65	5,400.00	0.006906	4.12	23.41	32.39	0.67	1.41	1.41	3.33	1.40
35.00	78.0	5,397.66	5,399.04	5,398.94	5,399.29	0.007363	4.21	22.83	32.28	0.69	1.42	1.42	3.42	1.38
34.00	78.0	5,396.95	5,398.61	5,398.23	5,398.74	0.003000	3.11	32.13	33.96	0.46	1.27	1.27	2.43	1.66
33.00	78.0	5,396.24	5,397.63	5,397.52	5,397.87	0.007124	4.17	23.13	32.33	0.68	1.42	1.42	3.37	1.39
32.00	78.0	5,395.53	5,396.93	5,396.81	5,397.17	0.006765	4.09	23.60	32.42	0.66	1.41	1.41	3.30	1.40
31.00	78.0	5,394.83	5,396.21	5,396.11	5,396.46	0.007453	4.23	22.72	32.26	0.69	1.42	1.42	3.43	1.38
30.00	78.0	5,394.12	5,395.55	5,395.40	5,395.77	0.006154	3.96	24.49	32.59	0.63	1.40	1.40	3.18	1.43
29.00	78.0	5,393.41	5,394.73	5,394.69	5,395.02	0.009176	4.54	20.90	31.92	0.76	1.42	1.42	3.73	1.32
28.00	78.0	5,392.70	5,394.13	5,393.88	5,394.30	0.004577	3.47	27.30	34.58	0.55	1.21	1.21	2.86	1.43
27.00	103.0	5,391.99	5,393.46	5,393.33	5,393.73	0.007102	4.41	28.56	34.79	0.69	1.58	1.58	3.61	1.47
26.00	103.0	5,391.28	5,392.75	5,392.62	5,393.01	0.007102	4.41	28.56	34.79	0.69	1.58	1.58	3.61	1.47
25.00	103.0	5,390.57	5,392.04	5,391.91	5,392.30	0.007102	4.41	28.56	34.79	0.69	1.58	1.58	3.61	1.47
24.00	103.0	5,389.86	5,391.33	5,391.20	5,391.60	0.007079	4.41	28.59	34.80	0.69	1.58	1.58	3.60	1.47
23.00	103.0	5,389.15	5,390.61	5,390.49	5,390.88	0.007213	4.43	28.39	34.77	0.69	1.58	1.58	3.63	1.46
22.5*	103.0	5,388.79	5,390.26	5,390.13	5,390.53	0.007003	4.39	28.71	34.82	0.68	1.58	1.58	3.59	1.47
22.00	103.0	5,388.44	5,389.93	5,389.78	5,390.18	0.006655	4.31	29.27	34.92	0.67	1.57	1.57	3.52	1.49
21.5*	103.0	5,388.08	5,389.68	5,389.42	5,389.88	0.004675	3.83	33.42	35.62	0.57	1.50	1.50	3.08	1.60
21.00	103.0	5,387.73	5,389.55	5,389.07	5,389.68	0.002638	3.16	41.21	36.91	0.44	1.35	1.35	2.50	1.82
20.85*	103.0	5,387.63	5,389.49	5,388.80	5,389.64	0.002995	3.06	33.63	23.66	0.45			3.06	1.86
20.70	166.0	5,387.52	5,388.93	5,388.93	5,389.51	0.023054	6.13	27.08	23.45	1.01			6.13	1.41
20.35*	166.0	5,386.33	5,387.54	5,387.74	5,388.38	0.039670	7.37	22.52	22.25	1.29			7.37	1.21
20.00	166.0	5,385.15	5,386.47	5,386.56	5,387.15	0.029422	6.66	24.92	22.89	1.12			6.66	1.32
19.5*	166.0	5,383.45	5,384.68	5,384.86	5,385.49	0.037016	7.20	23.05	22.40	1.25			7.20	1.23
19.00	166.0	5,381.76	5,383.06	5,383.17	5,383.77	0.031026	6.78	24.48	22.78	1.15			6.78	1.30
18.00	166.0	5,378.37	5,379.61	5,379.78	5,380.40	0.035797	7.12	23.32	22.47	1.23			7.12	1.24
17.26	166.0	5,375.87	5,377.15	5,377.28	5,377.88	0.032042	6.86	24.21	22.71	1.17			6.86	1.28
16.42	166.0	5,373.02	5,374.27	5,374.43	5,375.05	0.035207	7.08	23.45	22.50	1.22			7.08	1.25
15.37	166.0	5,369.46	5,370.74	5,370.88	5,371.48	0.032566	6.89	24.08	22.67	1.18			6.89	1.28
14.8833*	166.0	5,367.81	5,369.08	5,369.22	5,369.83	0.033601	6.97	23.82	22.60	1.20			6.97	1.27
14.3966*	166.0	5,366.17	5,367.45	5,367.58	5,368.19	0.032743	6.91	24.03	22.66	1.18			6.91	1.28
13.91	166.0	5,364.52	5,367.31	5,365.93	5,367.41	0.001871	2.55	65.16	70.28	0.31			2.55	2.79
13.5*	166.0	5,364.37	5,367.21	5,366.01	5,367.33	0.001690	2.84	58.36	29.82	0.36			2.84	2.84
13.09*	166.0	5,364.22	5,367.08	5,366.08	5,367.25	0.002390	3.25	51.13	27.79	0.42			3.25	2.86
12.68	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
12.304*	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
11.928*	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
11.552*	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
11.176*	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
10.80	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
10.5*	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
10.2*	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

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

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
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**	4.41	
						Min	2.84							
						Avg	5.07							

The reclaimed reach is between River Stations 107.54 and 13.91. The shaded area (Station 20.70 to 13.91) is a riprapped reach. The remaining downstream reach is undisturbed or a pre-mine channel. The riprapped reach was not included in determining the maximum, minimum, and average velocities.

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

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
107.54	110.0	5,456.88	5,458.37	5,458.35	5,458.74	0.009902	5.20	26.57	32.97	0.81	1.94	1.94	4.14	1.49
106.54*	110.0	5,455.92	5,457.44	5,457.40	5,457.78	0.009251	5.09	27.25	33.08	0.79	1.91	1.92	4.04	1.52
105.54	110.0	5,454.97	5,456.47	5,456.44	5,456.83	0.009808	5.19	26.67	32.99	0.81	1.93	1.93	4.12	1.50
104.54*	110.0	5,454.01	5,455.52	5,455.48	5,455.87	0.009414	5.11	27.09	33.06	0.79	1.92	1.92	4.06	1.51
103.54	110.0	5,453.05	5,454.55	5,454.52	5,454.91	0.009823	5.19	26.65	32.98	0.81	1.93	1.93	4.13	1.50
102.54*	110.0	5,452.09	5,453.60	5,453.57	5,453.95	0.009368	5.11	27.11	33.05	0.79	1.91	1.92	4.06	1.51
101.54	110.0	5,451.14	5,452.64	5,452.61	5,453.00	0.009700	5.17	26.78	33.01	0.80	1.93	1.93	4.11	1.50
100.54*	110.0	5,450.19	5,451.70	5,451.66	5,452.05	0.009311	5.10	27.21	33.10	0.79	1.92	1.92	4.04	1.51
99.54	110.0	5,449.23	5,450.72	5,450.70	5,451.09	0.009917	5.21	26.56	32.96	0.81	1.94	1.94	4.14	1.49
98.54*	110.0	5,448.27	5,449.79	5,449.74	5,450.13	0.009224	5.08	27.30	33.10	0.78	1.92	1.92	4.03	1.52
97.54	110.0	5,447.31	5,448.80	5,448.78	5,449.17	0.009996	5.22	26.48	32.95	0.81	1.94	1.94	4.15	1.49
96.54*	110.0	5,446.35	5,447.87	5,447.82	5,448.21	0.009124	5.06	27.41	33.12	0.78	1.92	1.92	4.01	1.52
95.54	110.0	5,445.40	5,446.89	5,446.87	5,447.26	0.009917	5.21	26.56	32.96	0.81	1.94	1.94	4.14	1.49
94.54*	110.0	5,444.44	5,445.96	5,445.91	5,446.30	0.009239	5.08	27.28	33.10	0.78	1.92	1.92	4.03	1.52
93.54	110.0	5,443.49	5,444.99	5,444.96	5,445.35	0.009777	5.18	26.70	32.99	0.81	1.93	1.93	4.12	1.50
92.54*	110.0	5,442.54	5,444.06	5,444.01	5,444.40	0.009181	5.07	27.35	33.11	0.78	1.92	1.92	4.02	1.52
91.54	110.0	5,441.58	5,443.07	5,443.05	5,443.44	0.010060	5.23	26.41	32.94	0.82	1.94	1.94	4.16	1.49
90.54*	110.0	5,440.62	5,442.14	5,442.09	5,442.48	0.008998	5.04	27.56	33.15	0.78	1.91	1.91	3.99	1.52
89.54	110.0	5,439.66	5,441.14	5,441.13	5,441.52	0.010321	5.28	26.15	32.89	0.83	1.94	1.94	4.21	1.48
88.54*	110.0	5,438.71	5,440.26	5,440.18	5,440.58	0.008219	4.88	28.52	33.34	0.74	1.89	1.89	3.86	1.55
87.54	123.0	5,437.75	5,439.34	5,439.29	5,439.70	0.009255	5.27	29.66	33.52	0.79	2.08	2.08	4.15	1.59
86.54*	123.0	5,436.79	5,438.35	5,438.33	5,438.74	0.009971	5.41	28.84	33.38	0.82	2.10	2.10	4.26	1.56
85.54	123.0	5,435.84	5,437.44	5,437.38	5,437.80	0.008779	5.18	30.25	33.63	0.77	2.06	2.06	4.07	1.60
84.54*	123.0	5,434.88	5,436.42	5,436.42	5,436.83	0.010609	5.52	28.15	33.25	0.84	2.11	2.12	4.37	1.54
83.54	123.0	5,433.93	5,435.59	5,435.47	5,435.90	0.007420	4.89	32.20	33.98	0.72	2.00	2.00	3.82	1.66
82.75*	123.0	5,433.33	5,435.00	5,434.87	5,435.31	0.007169	4.83	32.60	34.06	0.70	1.99	1.99	3.77	1.67
81.96	123.0	5,432.74	5,434.40	5,434.28	5,434.71	0.007378	4.88	32.26	33.99	0.71	2.00	2.00	3.81	1.66
80.96*	123.0	5,432.00	5,433.66	5,433.54	5,433.97	0.007482	4.90	32.11	33.97	0.72	2.01	2.01	3.83	1.66
79.96	123.0	5,431.25	5,432.91	5,432.79	5,433.22	0.007524	4.91	32.03	33.95	0.72	2.01	2.01	3.84	1.66
78.96*	123.0	5,430.50	5,432.16	5,432.03	5,432.47	0.007497	4.91	32.08	33.98	0.72	2.01	2.00	3.83	1.66
77.96	123.0	5,429.75	5,431.41	5,431.29	5,431.72	0.007514	4.91	32.05	33.95	0.72	2.01	2.01	3.84	1.66
76.96*	123.0	5,429.00	5,430.66	5,430.53	5,430.98	0.007427	4.89	32.16	33.98	0.72	2.00	2.00	3.82	1.66
75.96	123.0	5,428.26	5,429.92	5,429.80	5,430.23	0.007389	4.88	32.24	33.98	0.71	2.00	2.00	3.81	1.66
74.96*	123.0	5,427.52	5,429.19	5,429.06	5,429.50	0.007381	4.88	32.23	33.98	0.71	2.00	2.00	3.82	1.67
73.96	123.0	5,426.78	5,428.44	5,428.32	5,428.75	0.007503	4.91	32.06	33.95	0.72	2.01	2.01	3.84	1.66
72.96*	123.0	5,426.02	5,427.68	5,427.55	5,428.00	0.007588	4.94	31.84	33.96	0.72	2.00	1.99	3.86	1.66
71.96	123.0	5,425.27	5,426.93	5,426.81	5,427.24	0.007493	4.91	32.08	33.96	0.72	2.01	2.01	3.83	1.66
70.96*	123.0	5,424.52	5,426.18	5,426.06	5,426.49	0.007528	4.91	32.02	33.95	0.72	2.01	2.00	3.84	1.66
69.96	123.0	5,423.77	5,425.43	5,425.31	5,425.74	0.007472	4.90	32.11	33.96	0.72	2.00	2.00	3.83	1.66
68.96*	123.0	5,423.02	5,424.68	5,424.56	5,424.99	0.007555	4.92	31.98	33.99	0.72	2.01	2.00	3.85	1.66
67.96	123.0	5,422.27	5,423.94	5,423.80	5,424.24	0.007368	4.88	32.28	33.99	0.71	2.00	2.00	3.81	1.67
66.96*	123.0	5,421.52	5,423.18	5,423.07	5,423.50	0.007588	4.93	31.86	33.97	0.72	1.99	2.00	3.86	1.66
65.96	123.0	5,420.77	5,422.43	5,422.31	5,422.74	0.007472	4.90	32.11	33.96	0.72	2.00	2.00	3.83	1.66
64.96*	123.0	5,420.02	5,421.69	5,421.56	5,422.00	0.007429	4.90	32.11	33.95	0.72	2.00	1.99	3.83	1.67
63.96	123.0	5,419.28	5,420.94	5,420.82	5,421.25	0.007472	4.90	32.11	33.96	0.72	2.00	2.00	3.83	1.66
62.96*	123.0	5,418.53	5,420.19	5,420.07	5,420.50	0.007530	4.92	32.00	33.97	0.72	2.01	2.00	3.84	1.66
61.96	123.0	5,417.78	5,419.44	5,419.32	5,419.75	0.007482	4.90	32.10	33.96	0.72	2.00	2.00	3.83	1.66
60.96*	123.0	5,417.03	5,418.69	5,418.56	5,419.00	0.007520	4.91	32.03	33.97	0.72	2.00	2.01	3.84	1.66
59.96	123.0	5,416.28	5,417.94	5,417.81	5,418.25	0.007472	4.90	32.11	33.96	0.72	2.00	2.00	3.83	1.66
58.96*	123.0	5,415.53	5,417.19	5,417.08	5,417.51	0.007436	4.90	32.11	33.97	0.72	2.00	1.99	3.83	1.66
57.96	123.0	5,414.79	5,416.45	5,416.31	5,416.76	0.007461	4.90	32.13	33.96	0.72	2.00	2.00	3.83	1.66
56.96*	123.0	5,414.04	5,415.70	5,415.59	5,416.02	0.007453	4.90	32.06	33.93	0.72	1.99	2.00	3.84	1.66
55.96	123.0	5,413.30	5,414.96	5,414.83	5,415.27	0.007493	4.91	32.08	33.96	0.72	2.01	2.01	3.83	1.66
54.96*	123.0	5,412.55	5,414.21	5,414.09	5,414.52	0.007490	4.91	32.07	33.93	0.72	2.00	2.01	3.84	1.66
53.96	123.0	5,411.80	5,413.46	5,413.33	5,413.77	0.007535	4.92	32.01	33.94	0.72	2.01	2.01	3.84	1.66
52.96*	123.0	5,411.05	5,412.71	5,412.59	5,413.02	0.007386	4.88	32.24	33.98	0.71	2.00	2.00	3.82	1.66
51.96	123.0	5,410.31	5,411.97	5,411.84	5,412.28	0.007451	4.90	32.15	33.97	0.72	2.00	2.00	3.83	1.66
50.96*	123.0	5,409.56	5,411.22	5,411.10	5,411.53	0.007548	4.92	31.95	33.88	0.72	2.01	2.00	3.85	1.66
49.96	123.0	5,408.81	5,410.47	5,410.34	5,410.78	0.007440	4.89	32.16	33.97	0.72	2.00	2.00	3.82	1.66
48.96*	123.0	5,408.07	5,409.74	5,409.60	5,410.05	0.007298	4.86	32.40	34.06	0.71	1.99	1.99	3.80	1.67
47.96	123.0	5,407.33	5,408.99	5,408.87	5,409.30	0.007566	4.92	31.96	33.93	0.72	2.01	2.01	3.85	1.66

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

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
46.96*	123.0	5,406.57	5,408.22	5,408.11	5,408.54	0.007660	4.94	31.81	33.93	0.73	2.01	2.01	3.87	1.65
45.96	123.0	5,405.81	5,407.47	5,407.35	5,407.78	0.007472	4.90	32.11	33.96	0.72	2.00	2.00	3.83	1.66
44.96*	123.0	5,405.06	5,406.72	5,406.60	5,407.03	0.007530	4.92	32.00	33.95	0.72	2.01	2.00	3.84	1.66
43.96	123.0	5,404.31	5,405.97	5,405.85	5,406.28	0.007503	4.91	32.06	33.95	0.72	2.01	2.01	3.84	1.66
42.96*	123.0	5,403.56	5,405.22	5,405.09	5,405.53	0.007494	4.91	32.08	33.98	0.72	2.00	2.00	3.83	1.66
41.96	123.0	5,402.81	5,404.47	5,404.34	5,404.78	0.007535	4.92	32.01	33.94	0.72	2.01	2.01	3.84	1.66
40.96*	123.0	5,402.06	5,403.73	5,403.59	5,404.04	0.007329	4.87	32.34	34.00	0.71	2.00	2.00	3.80	1.67
39.96	123.0	5,401.32	5,402.98	5,402.84	5,403.29	0.007493	4.91	32.08	33.96	0.72	2.01	2.01	3.83	1.66
38.96*	123.0	5,400.57	5,402.23	5,402.11	5,402.54	0.007514	4.91	32.02	33.92	0.72	2.00	2.01	3.84	1.66
37.96	123.0	5,399.83	5,401.51	5,401.37	5,401.81	0.007068	4.81	32.78	34.08	0.70	1.98	1.98	3.75	1.68
36.00	123.0	5,398.37	5,400.05	5,399.90	5,400.35	0.007156	4.83	32.63	34.05	0.70	1.99	1.99	3.77	1.68
35.00	123.0	5,397.66	5,399.36	5,399.19	5,399.65	0.006765	4.74	33.31	34.17	0.69	1.97	1.97	3.69	1.70
34.00	123.0	5,396.95	5,398.94	5,398.48	5,399.11	0.003207	3.68	43.67	35.94	0.49	1.67	1.67	2.82	1.99
33.00	123.0	5,396.24	5,397.92	5,397.77	5,398.22	0.007147	4.83	32.64	34.05	0.70	1.99	1.99	3.77	1.68
32.00	123.0	5,395.53	5,397.22	5,397.07	5,397.51	0.006896	4.77	33.08	34.13	0.69	1.97	1.97	3.72	1.69
31.00	123.0	5,394.83	5,396.50	5,396.35	5,396.81	0.007246	4.85	32.48	34.03	0.71	1.99	1.99	3.79	1.67
30.00	123.0	5,394.12	5,395.84	5,395.65	5,396.11	0.006400	4.65	34.00	34.29	0.67	1.95	1.95	3.62	1.72
29.00	123.0	5,393.41	5,395.01	5,394.95	5,395.37	0.008830	5.19	30.18	33.62	0.78	2.06	2.06	4.08	1.60
28.00	123.0	5,392.70	5,394.45	5,394.15	5,394.66	0.004472	4.00	38.71	36.50	0.56	1.67	1.67	3.18	1.75
27.00	159.0	5,391.99	5,393.76	5,393.60	5,394.10	0.007124	5.09	39.38	36.61	0.71	2.14	2.14	4.04	1.77
26.00	159.0	5,391.28	5,393.05	5,392.89	5,393.39	0.007115	5.09	39.40	36.62	0.71	2.14	2.14	4.04	1.77
25.00	159.0	5,390.57	5,392.34	5,392.19	5,392.68	0.007124	5.09	39.38	36.61	0.71	2.14	2.14	4.04	1.77
24.00	159.0	5,389.86	5,391.63	5,391.47	5,391.97	0.007115	5.09	39.40	36.62	0.71	2.14	2.14	4.04	1.77
23.00	159.0	5,389.15	5,390.92	5,390.75	5,391.26	0.007098	5.08	39.44	36.62	0.71	2.14	2.14	4.03	1.77
22.5*	159.0	5,388.79	5,390.60	5,390.41	5,390.91	0.006503	4.94	40.71	36.83	0.68	2.11	2.11	3.91	1.81
22.00	159.0	5,388.44	5,390.33	5,390.06	5,390.61	0.005241	4.59	44.01	37.36	0.62	2.01	2.01	3.61	1.89
21.5*	159.0	5,388.08	5,390.17	5,389.70	5,390.37	0.003400	3.98	51.38	38.53	0.51	1.82	1.82	3.09	2.09
21.00	159.0	5,387.73	5,390.07	5,389.34	5,390.21	0.002056	3.36	61.44	40.07	0.40	1.59	1.59	2.59	2.34
20.85*	159.0	5,387.63	5,389.99	5,389.13	5,390.17	0.002818	3.44	46.98	36.71	0.46	0.34	0.25	3.38	2.36
20.70	251.0	5,387.52	5,389.34	5,389.34	5,390.05	0.020979	6.75	37.21	25.91	0.99			6.75	1.82
20.35*	251.0	5,386.33	5,387.86	5,388.15	5,388.95	0.039504	8.40	29.90	24.16	1.33			8.40	1.53
20.00	251.0	5,385.15	5,386.80	5,386.97	5,387.70	0.029881	7.63	32.92	24.90	1.17			7.63	1.65
19.5*	251.0	5,383.45	5,385.02	5,385.27	5,386.04	0.035995	8.13	30.87	24.40	1.27			8.13	1.57
19.00	251.0	5,381.76	5,383.38	5,383.58	5,384.33	0.031948	7.80	32.16	24.72	1.21			7.80	1.62
18.00	251.0	5,378.37	5,379.95	5,380.19	5,380.96	0.035120	8.06	31.13	24.47	1.26			8.06	1.58
17.26	251.0	5,375.87	5,377.47	5,377.69	5,378.44	0.033340	7.92	31.69	24.60	1.23			7.92	1.60
16.42	251.0	5,373.02	5,374.61	5,374.84	5,375.60	0.033933	7.97	31.50	24.56	1.24			7.97	1.59
15.37	251.0	5,369.46	5,371.05	5,371.28	5,372.04	0.033821	7.96	31.54	24.57	1.24			7.96	1.59
14.8833*	251.0	5,367.81	5,369.41	5,369.63	5,370.38	0.033194	7.91	31.74	24.62	1.23			7.91	1.60
14.3966*	251.0	5,366.17	5,367.77	5,367.99	5,368.75	0.033709	7.95	31.57	24.57	1.24			7.95	1.60
13.91	251.0	5,364.52	5,367.91	5,366.34	5,368.05	0.002011	2.94	85.42	83.71	0.33			2.94	3.39
13.5*	251.0	5,364.37	5,367.80	5,366.42	5,367.97	0.001784	3.25	77.13	36.29	0.38			3.25	3.43
13.09*	251.0	5,364.22	5,367.67	5,366.53	5,367.88	0.002451	3.67	68.38	31.43	0.44			3.67	3.45
12.68	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
12.304*	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
11.928*	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
11.552*	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
11.176*	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
10.80	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
10.5*	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
10.2*	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

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

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
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**	4.85	
						Min	3.25							
						Avg	5.83							

The reclaimed reach is between River Stations 107.54 and 13.91. The shaded area (Station 20.70 to 13.91) is a riprapped reach. The remaining downstream reach is undisturbed or a pre-mine channel. The riprapped reach was not included in determining the maximum, minimum, and average velocities.

Profile Output Table - South Barber Channel Post-mine 100 yr-6 hr

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
107.54	164.0	5,456.88	5,458.65	5,458.59	5,459.10	0.009691	5.87	36.05	34.65	0.83	2.51	2.51	4.55	1.77
106.54*	164.0	5,455.92	5,457.71	5,457.65	5,458.14	0.009435	5.82	36.38	34.71	0.82	2.49	2.50	4.51	1.79
105.54	164.0	5,454.97	5,456.75	5,456.68	5,457.19	0.009629	5.86	36.13	34.66	0.83	2.51	2.51	4.54	1.78
104.54*	164.0	5,454.01	5,455.79	5,455.72	5,456.23	0.009592	5.85	36.18	34.67	0.82	2.51	2.51	4.53	1.78
103.54	164.0	5,453.05	5,454.83	5,454.76	5,455.27	0.009629	5.86	36.13	34.66	0.83	2.51	2.51	4.54	1.78
102.54*	164.0	5,452.09	5,453.87	5,453.80	5,454.31	0.009545	5.85	36.22	34.66	0.82	2.50	2.51	4.53	1.78
101.54	164.0	5,451.14	5,452.92	5,452.85	5,453.36	0.009518	5.84	36.29	34.69	0.82	2.50	2.50	4.52	1.78
100.54*	164.0	5,450.19	5,451.97	5,451.91	5,452.41	0.009517	5.84	36.29	34.71	0.82	2.50	2.50	4.52	1.78
99.54	164.0	5,449.23	5,451.00	5,450.94	5,451.45	0.009704	5.88	36.03	34.65	0.83	2.51	2.51	4.55	1.77
98.54*	164.0	5,448.27	5,450.05	5,449.98	5,450.49	0.009458	5.83	36.37	34.71	0.82	2.50	2.50	4.51	1.78
97.54	164.0	5,447.31	5,449.08	5,449.02	5,449.52	0.009766	5.89	35.95	34.63	0.83	2.52	2.52	4.56	1.77
96.54*	164.0	5,446.35	5,448.14	5,448.06	5,448.57	0.009302	5.79	36.59	34.74	0.81	2.49	2.49	4.48	1.79
95.54	164.0	5,445.40	5,447.17	5,447.11	5,447.62	0.009741	5.88	35.98	34.64	0.83	2.51	2.51	4.56	1.77
94.54*	164.0	5,444.44	5,446.23	5,446.15	5,446.66	0.009397	5.81	36.45	34.72	0.82	2.50	2.50	4.50	1.79
93.54	164.0	5,443.49	5,445.27	5,445.20	5,445.71	0.009629	5.86	36.13	34.66	0.83	2.51	2.51	4.54	1.78
92.54*	164.0	5,442.54	5,444.33	5,444.25	5,444.76	0.009290	5.79	36.61	34.75	0.81	2.49	2.49	4.48	1.79
91.54	164.0	5,441.58	5,443.35	5,443.29	5,443.79	0.009945	5.93	35.71	34.59	0.84	2.53	2.53	4.59	1.77
90.54*	164.0	5,440.62	5,442.43	5,442.33	5,442.84	0.008843	5.69	37.27	34.86	0.79	2.46	2.46	4.40	1.81
89.54	164.0	5,439.66	5,441.40	5,441.39	5,441.87	0.010519	6.04	34.99	34.46	0.86	2.55	2.55	4.69	1.74
88.54*	164.0	5,438.71	5,440.60	5,440.43	5,440.96	0.007147	5.30	40.27	35.40	0.72	2.35	2.35	4.07	1.90
87.54	192.0	5,437.75	5,439.65	5,439.60	5,440.13	0.009601	6.16	40.55	35.42	0.84	2.74	2.74	4.74	1.90
86.54*	192.0	5,436.79	5,438.69	5,438.64	5,439.17	0.009613	6.17	40.53	35.42	0.84	2.74	2.74	4.74	1.90
85.54	192.0	5,435.84	5,437.76	5,437.69	5,438.22	0.009214	6.08	41.15	35.52	0.82	2.71	2.71	4.67	1.92
84.54*	192.0	5,434.88	5,436.76	5,436.73	5,437.26	0.010084	6.27	39.82	35.30	0.85	2.76	2.77	4.82	1.88
83.54	192.0	5,433.93	5,435.96	5,435.78	5,436.35	0.007364	5.66	45.01	37.87	0.74	2.44	2.49	4.27	2.03
82.75*	192.0	5,433.33	5,435.37	5,435.17	5,435.76	0.007204	5.62	45.38	38.01	0.73	2.43	2.47	4.23	2.04
81.96	192.0	5,432.74	5,434.76	5,434.59	5,435.16	0.007415	5.67	44.83	37.53	0.74	2.47	2.51	4.28	2.02
80.96*	192.0	5,432.00	5,434.01	5,433.85	5,434.41	0.007524	5.69	44.51	37.10	0.75	2.51	2.53	4.31	2.01
79.96	192.0	5,431.25	5,433.26	5,433.10	5,433.66	0.007508	5.68	44.50	36.93	0.75	2.52	2.54	4.31	2.01
78.96*	192.0	5,430.50	5,432.51	5,432.34	5,432.91	0.007508	5.68	44.53	37.03	0.75	2.51	2.53	4.31	2.01
77.96	192.0	5,429.75	5,431.76	5,431.60	5,432.16	0.007508	5.68	44.50	36.93	0.75	2.52	2.54	4.31	2.01
76.96*	192.0	5,429.00	5,431.03	5,430.84	5,431.42	0.007311	5.64	45.01	37.37	0.74	2.48	2.51	4.27	2.03
75.96	192.0	5,428.26	5,430.28	5,430.11	5,430.68	0.007392	5.66	44.92	37.73	0.74	2.44	2.51	4.27	2.02
74.96*	192.0	5,427.52	5,429.54	5,429.35	5,429.94	0.007401	5.67	44.90	37.79	0.74	2.45	2.50	4.28	2.02
73.96	192.0	5,426.78	5,428.79	5,428.61	5,429.19	0.007507	5.69	44.52	37.00	0.75	2.50	2.55	4.31	2.01
72.96*	192.0	5,426.02	5,428.03	5,427.88	5,428.44	0.007604	5.72	44.59	38.18	0.75	2.47	2.47	4.31	2.01
71.96	192.0	5,425.27	5,427.28	5,427.12	5,427.68	0.007513	5.69	44.48	36.89	0.75	2.52	2.54	4.32	2.01
70.96*	192.0	5,424.52	5,426.53	5,426.37	5,426.93	0.007497	5.68	44.54	37.00	0.75	2.52	2.53	4.31	2.01
69.96	192.0	5,423.77	5,425.78	5,425.62	5,426.18	0.007499	5.68	44.53	37.01	0.75	2.51	2.54	4.31	2.01
68.96*	192.0	5,423.02	5,425.03	5,424.86	5,425.43	0.007504	5.68	44.61	37.31	0.75	2.51	2.51	4.30	2.01
67.96	192.0	5,422.27	5,424.29	5,424.12	5,424.69	0.007425	5.67	44.73	37.20	0.74	2.51	2.50	4.29	2.02
66.96*	192.0	5,421.52	5,423.53	5,423.38	5,423.94	0.007567	5.71	44.67	38.11	0.75	2.47	2.48	4.30	2.01
65.96	192.0	5,420.77	5,422.79	5,422.62	5,423.19	0.007486	5.68	44.59	37.13	0.75	2.49	2.54	4.31	2.02
64.96*	192.0	5,420.02	5,422.04	5,421.83	5,422.44	0.007432	5.67	44.84	37.81	0.74	2.47	2.49	4.28	2.02
63.96	192.0	5,419.28	5,421.29	5,421.13	5,421.69	0.007503	5.68	44.52	36.96	0.75	2.51	2.54	4.31	2.01
62.96*	192.0	5,418.53	5,420.55	5,420.37	5,420.94	0.007483	5.68	44.64	37.30	0.75	2.49	2.52	4.30	2.02
61.96	192.0	5,417.78	5,419.80	5,419.63	5,420.20	0.007412	5.67	44.83	37.49	0.74	2.48	2.50	4.28	2.02
60.96*	192.0	5,417.03	5,419.05	5,418.88	5,419.45	0.007444	5.68	44.95	38.38	0.74	2.38	2.51	4.27	2.02
59.96	192.0	5,416.28	5,418.30	5,418.13	5,418.70	0.007588	5.72	44.60	38.17	0.75	2.38	2.54	4.31	2.02
58.96*	192.0	5,415.53	5,417.55	5,417.38	5,417.95	0.007459	5.68	44.79	37.75	0.74	2.49	2.48	4.29	2.02
57.96	192.0	5,414.79	5,416.80	5,416.63	5,417.20	0.007466	5.67	44.51	36.62	0.74	2.55	2.54	4.31	2.01
56.96*	192.0	5,414.04	5,416.07	5,415.87	5,416.46	0.007355	5.65	45.01	37.79	0.74	2.48	2.47	4.27	2.03
55.96	192.0	5,413.30	5,415.32	5,415.15	5,415.72	0.007442	5.68	44.85	37.89	0.74	2.43	2.51	4.28	2.02
54.96*	192.0	5,412.55	5,414.57	5,414.40	5,414.97	0.007485	5.69	44.83	38.25	0.75	2.39	2.51	4.28	2.02
53.96	192.0	5,411.80	5,413.82	5,413.65	5,414.23	0.007452	5.69	44.93	38.37	0.74	2.38	2.51	4.27	2.02
52.96*	192.0	5,411.05	5,413.09	5,412.89	5,413.49	0.007273	5.65	45.55	39.55	0.74	2.28	2.48	4.22	2.04
51.96	192.0	5,410.31	5,412.35	5,412.16	5,412.75	0.007350	5.68	45.59	40.58	0.74	2.21	2.45	4.21	2.04
50.96*	192.0	5,409.56	5,411.61	5,411.39	5,412.02	0.007450	5.73	45.83	43.52	0.75	1.99	2.47	4.19	2.05
49.96	192.0	5,408.81	5,410.83	5,410.65	5,411.26	0.007827	5.82	44.87	42.88	0.76	1.99	2.58	4.28	2.02
48.96*	192.0	5,408.07	5,410.09	5,409.92	5,410.49	0.007505	5.70	44.75	38.04	0.75	2.40	2.53	4.29	2.02
47.96	192.0	5,407.33	5,409.33	5,409.18	5,409.74	0.007600	5.70	44.18	36.33	0.75	2.56	2.57	4.35	2.00

Profile Output Table - South Barber Channel Post-mine 100 yr-6 hr

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
46.96*	192.0	5,406.57	5,408.58	5,408.40	5,408.98	0.007575	5.70	44.30	36.67	0.75	2.55	2.55	4.33	2.01
45.96	192.0	5,405.81	5,407.83	5,407.66	5,408.23	0.007485	5.68	44.59	37.12	0.75	2.49	2.54	4.31	2.02
44.96*	192.0	5,405.06	5,407.08	5,406.90	5,407.48	0.007493	5.69	44.64	37.44	0.75	2.48	2.52	4.30	2.02
43.96	192.0	5,404.31	5,406.32	5,406.16	5,406.73	0.007549	5.70	44.48	37.24	0.75	2.48	2.55	4.32	2.01
42.96*	192.0	5,403.56	5,405.57	5,405.40	5,405.97	0.007524	5.69	44.44	36.81	0.75	2.54	2.54	4.32	2.01
41.96	192.0	5,402.81	5,404.82	5,404.66	5,405.22	0.007517	5.68	44.39	36.53	0.75	2.56	2.55	4.33	2.01
40.96*	192.0	5,402.06	5,404.08	5,403.90	5,404.47	0.007346	5.64	44.76	36.62	0.74	2.56	2.51	4.29	2.02
39.96	192.0	5,401.32	5,403.33	5,403.16	5,403.73	0.007500	5.68	44.41	36.46	0.75	2.57	2.55	4.32	2.01
38.96*	192.0	5,400.57	5,402.59	5,402.42	5,402.99	0.007338	5.64	44.84	36.96	0.74	2.53	2.49	4.28	2.02
37.96	192.0	5,399.83	5,401.89	5,401.68	5,402.27	0.006938	5.56	46.37	39.70	0.72	2.32	2.37	4.14	2.06
36.00	192.0	5,398.37	5,400.51	5,400.22	5,400.90	0.006491	5.54	50.65	56.71	0.70	1.92	1.67	3.79	2.14
35.00	192.0	5,397.66	5,399.78	5,399.50	5,400.21	0.007189	5.78	50.40	69.23	0.74	1.58	1.60	3.81	2.12
34.00	192.0	5,396.95	5,399.39	5,398.80	5,399.62	0.003426	4.43	73.02	92.62	0.52	1.15	1.47	2.63	2.44
33.00	192.0	5,396.24	5,398.28	5,398.09	5,398.67	0.007144	5.60	45.54	38.10	0.73	2.40	2.48	4.22	2.04
32.00	192.0	5,395.53	5,397.58	5,397.38	5,397.96	0.007025	5.57	45.79	38.02	0.72	2.42	2.45	4.19	2.05
31.00	192.0	5,394.83	5,396.86	5,396.68	5,397.25	0.007165	5.60	45.25	37.03	0.73	2.52	2.48	4.24	2.03
30.00	192.0	5,394.12	5,396.19	5,395.97	5,396.55	0.006708	5.48	46.40	37.51	0.71	2.42	2.47	4.14	2.07
29.00	192.0	5,393.41	5,395.37	5,395.26	5,395.80	0.008343	5.88	42.65	35.77	0.78	2.65	2.65	4.50	1.96
28.00	192.0	5,392.70	5,394.85	5,394.44	5,395.12	0.004340	4.59	53.88	38.92	0.58	2.12	2.12	3.56	2.15
27.00	243.0	5,391.99	5,394.13	5,393.93	5,394.56	0.007099	5.85	53.48	38.86	0.74	2.70	2.70	4.54	2.14
26.00	243.0	5,391.28	5,393.42	5,393.20	5,393.85	0.007113	5.86	53.44	38.85	0.74	2.70	2.70	4.55	2.14
25.00	243.0	5,390.57	5,392.71	5,392.48	5,393.14	0.007070	5.84	53.55	38.87	0.74	2.70	2.70	4.54	2.14
24.00	243.0	5,389.86	5,392.00	5,391.81	5,392.43	0.007170	5.87	53.29	38.83	0.74	2.71	2.71	4.56	2.14
23.00	243.0	5,389.15	5,391.34	5,391.09	5,391.74	0.006509	5.69	55.15	39.11	0.71	2.64	2.64	4.41	2.19
22.5*	243.0	5,388.79	5,391.07	5,390.73	5,391.43	0.005368	5.33	59.06	39.71	0.65	2.51	2.51	4.11	2.28
22.00	243.0	5,388.44	5,390.89	5,390.38	5,391.17	0.003989	4.83	65.62	40.69	0.57	2.32	2.32	3.70	2.45
21.5*	243.0	5,388.08	5,390.76	5,390.00	5,390.98	0.002868	4.37	75.45	46.56	0.49	1.94	1.93	3.22	2.68
21.00	243.0	5,387.73	5,390.67	5,389.67	5,390.85	0.001941	3.85	88.59	52.69	0.41	1.55	1.75	2.74	2.94
20.85*	243.0	5,387.63	5,390.61	5,389.58	5,390.81	0.002192	3.71	73.95	47.29	0.42	1.08	0.97	3.29	2.98
20.70	377.0	5,387.52	5,389.83	5,389.83	5,390.69	0.019596	7.44	50.67	28.86	0.99			7.44	2.31
20.35*	377.0	5,386.33	5,388.25	5,388.64	5,389.64	0.038989	9.47	39.81	26.51	1.36			9.47	1.92
20.00	377.0	5,385.15	5,387.20	5,387.46	5,388.38	0.030650	8.71	43.30	27.29	1.22			8.71	2.05
19.5*	377.0	5,383.45	5,385.43	5,385.76	5,386.71	0.034633	9.09	41.49	26.89	1.29			9.09	1.98
19.00	377.0	5,381.76	5,383.76	5,384.07	5,385.01	0.033467	8.98	41.99	27.00	1.27			8.98	2.00
18.00	377.0	5,378.37	5,380.36	5,380.68	5,381.63	0.033921	9.02	41.79	26.95	1.28			9.02	1.99
17.26	377.0	5,375.87	5,377.86	5,378.18	5,379.13	0.034321	9.06	41.62	26.92	1.28			9.06	1.99
16.42	377.0	5,373.02	5,375.01	5,375.33	5,376.28	0.034167	9.04	41.68	26.93	1.28			9.04	1.99
15.37	377.0	5,369.46	5,371.45	5,371.77	5,372.72	0.034074	9.04	41.72	26.94	1.28			9.04	1.99
14.8833*	377.0	5,367.81	5,369.80	5,370.12	5,371.07	0.034321	9.06	41.62	26.92	1.28			9.06	1.99
14.3966*	377.0	5,366.17	5,368.16	5,368.48	5,369.43	0.034136	9.04	41.70	26.93	1.28			9.04	1.99
13.91	377.0	5,364.52	5,368.60	5,366.83	5,368.78	0.001992	3.42	110.73	93.41	0.34	0.68	0.67	3.40	4.08
13.5*	377.0	5,364.37	5,368.48	5,366.92	5,368.70	0.001754	3.74	101.21	74.70	0.39	0.40	0.54	3.73	4.11
13.09*	377.0	5,364.22	5,368.34	5,367.03	5,368.61	0.002399	4.16	91.02	35.59	0.45	0.15	0.60	4.14	4.12
12.68	377.0	5,364.07	5,368.12	5,367.15	5,368.48	0.003698	4.84	78.29	35.19	0.55		0.59	4.82	4.05
12.304*	377.0	5,363.77	5,367.95	5,367.04	5,368.33	0.003978	4.99	75.72	32.87	0.57		0.35	4.98	4.18
11.928*	377.0	5,363.47	5,367.77	5,366.88	5,368.18	0.004272	5.13	73.43	30.62	0.58			5.13	4.30
11.552*	377.0	5,363.18	5,367.55	5,366.74	5,368.00	0.004726	5.38	70.05	29.22	0.61			5.38	4.37
11.176*	377.0	5,362.88	5,367.29	5,366.59	5,367.80	0.005524	5.75	65.54	27.66	0.66			5.75	4.41
10.80	377.0	5,362.58	5,366.44	5,366.44	5,367.46	0.013773	8.09	46.58	23.27	1.01			8.09	3.86
10.5*	377.0	5,361.34	5,364.10	5,364.86	5,366.37	0.046583	12.09	31.19	21.68	1.78			12.09	2.77
10.2*	377.0	5,360.10	5,362.42	5,363.12	5,364.73	0.056156	12.21	30.88	24.59	1.92			12.21	2.32
9.90	377.0	5,358.86	5,360.69	5,361.34	5,362.81	0.060615	11.67	32.33	29.77	1.96	0.82	1.23	11.66	1.83
9.52666*	377.0	5,357.29	5,360.02	5,360.28	5,361.32	0.018287	9.17	41.99	24.48	1.17	2.09	2.16	8.98	2.73
9.15333*	377.0	5,355.71	5,360.16	5,359.61	5,360.92	0.005431	7.26	60.96	25.93	0.68	2.43	2.48	6.18	4.45
8.78	377.0	5,354.14	5,359.52	5,359.52	5,360.60	0.011967	10.01	53.17	23.18	0.84	4.96	4.92	7.09	5.38
8.43*	377.0	5,353.42	5,358.40	5,358.85	5,360.02	0.017302	11.32	44.13	23.22	1.05	4.11	4.91	8.54	4.98
8.08*	377.0	5,352.71	5,357.47	5,358.02	5,359.32	0.021863	11.65	39.88	22.89	1.18	3.40	4.70	9.45	4.76
7.73	377.0	5,351.99	5,356.81	5,357.31	5,358.50	0.021871	11.00	40.97	24.94	1.17	2.58	4.25	9.20	4.82
7.39333*	377.0	5,351.31	5,357.02	5,356.99	5,357.98	0.009528	8.40	55.78	28.46	0.80	2.58	3.36	6.76	5.71
7.05666*	377.0	5,350.62	5,356.78	5,356.63	5,357.66	0.008292	8.03	58.64	30.15	0.74	2.67	2.89	6.43	6.16
6.72	377.0	5,349.94	5,356.25	5,356.25	5,357.32	0.010656	8.66	52.29	29.00	0.80	3.00	2.53	7.21	6.31

Profile Output Table - South Barber Channel Post-mine 100 yr-6 hr

HEC-RAS Plan: postpl1 Reach: SBC Postmine 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)
6.38*	377.0	5,349.81	5,355.70	5,355.92	5,356.94	0.011899	9.42	50.38	30.01	0.85	3.12	2.77	7.48	5.89
6.04*	377.0	5,349.69	5,355.33	5,355.64	5,356.55	0.011637	9.69	53.82	34.64	0.84	3.21	3.02	7.01	5.64
5.70	377.0	5,349.56	5,354.87	5,355.23	5,356.12	0.013762	10.27	54.73	36.09	0.86	3.51	3.70	6.89	5.31
5.33*	377.0	5,349.20	5,354.26	5,354.56	5,355.62	0.012463	10.24	49.60	27.39	0.89	3.24	3.85	7.60	5.06
4.96*	377.0	5,348.85	5,353.33	5,353.84	5,355.06	0.015994	11.13	42.27	24.38	1.05	3.02	3.96	8.92	4.48
4.59	377.0	5,348.49	5,352.60	5,353.17	5,354.42	0.017529	11.24	39.85	23.83	1.13	2.73	3.82	9.46	4.11
4.23666*	377.0	5,348.15	5,352.64	5,352.80	5,353.93	0.010993	9.42	47.07	26.30	0.92	2.49	2.73	8.01	4.49
3.88333*	377.0	5,347.80	5,352.33	5,352.46	5,353.54	0.011001	9.05	47.54	27.11	0.91	2.33	2.22	7.93	4.53
3.53	377.0	5,347.46	5,352.02	5,352.15	5,353.15	0.011181	8.71	49.35	30.79	0.91	2.19	1.65	7.64	4.56
3.17*	377.0	5,346.97	5,350.94	5,351.40	5,352.56	0.018489	10.34	39.48	24.47	1.16	2.44	1.91	9.55	3.97
2.81*	377.0	5,346.47	5,350.27	5,350.73	5,351.86	0.018966	10.35	40.50	25.71	1.18	2.91	2.48	9.31	3.80
2.45	377.0	5,345.98	5,349.70	5,350.09	5,351.13	0.018299	9.96	44.19	28.93	1.14	3.45	3.13	8.53	3.72
2.01333*	377.0	5,345.46	5,349.47	5,349.59	5,350.54	0.011023	8.88	52.75	30.44	0.93	3.33	3.04	7.15	4.01
1.57666*	377.0	5,344.94	5,349.00	5,349.13	5,350.09	0.010395	9.13	54.11	30.62	0.92	3.54	3.23	6.97	4.06
1.14	377.0	5,344.42	5,348.51	5,348.65	5,349.63	0.011081	9.59	55.08	31.91	0.94	3.89	3.58	6.84	4.09
.76*	377.0	5,343.59	5,347.47	5,347.95	5,349.04	0.017262	11.16	46.17	29.86	1.14	3.79	4.44	8.16	3.88
.38*	377.0	5,342.75	5,346.61	5,347.15	5,348.33	0.019831	11.59	43.27	28.50	1.19	3.25	5.05	8.71	3.86
0.00	377.0	5,341.92	5,345.77	5,346.33	5,347.53	0.021596	11.70	41.24	25.30	1.21	2.93	5.57	9.14	3.85
						Max	12.21					**Avg**	5.30	
						Min	3.71							
						Avg	6.67							

The reclaimed reach is between River Stations 107.54 and 13.91. The shaded area (Station 20.70 to 13.91) is a riprapped reach. The remaining downstream reach is undisturbed or a pre-mine channel. The riprapped reach was not included in determining the maximum, minimum, and average velocities.