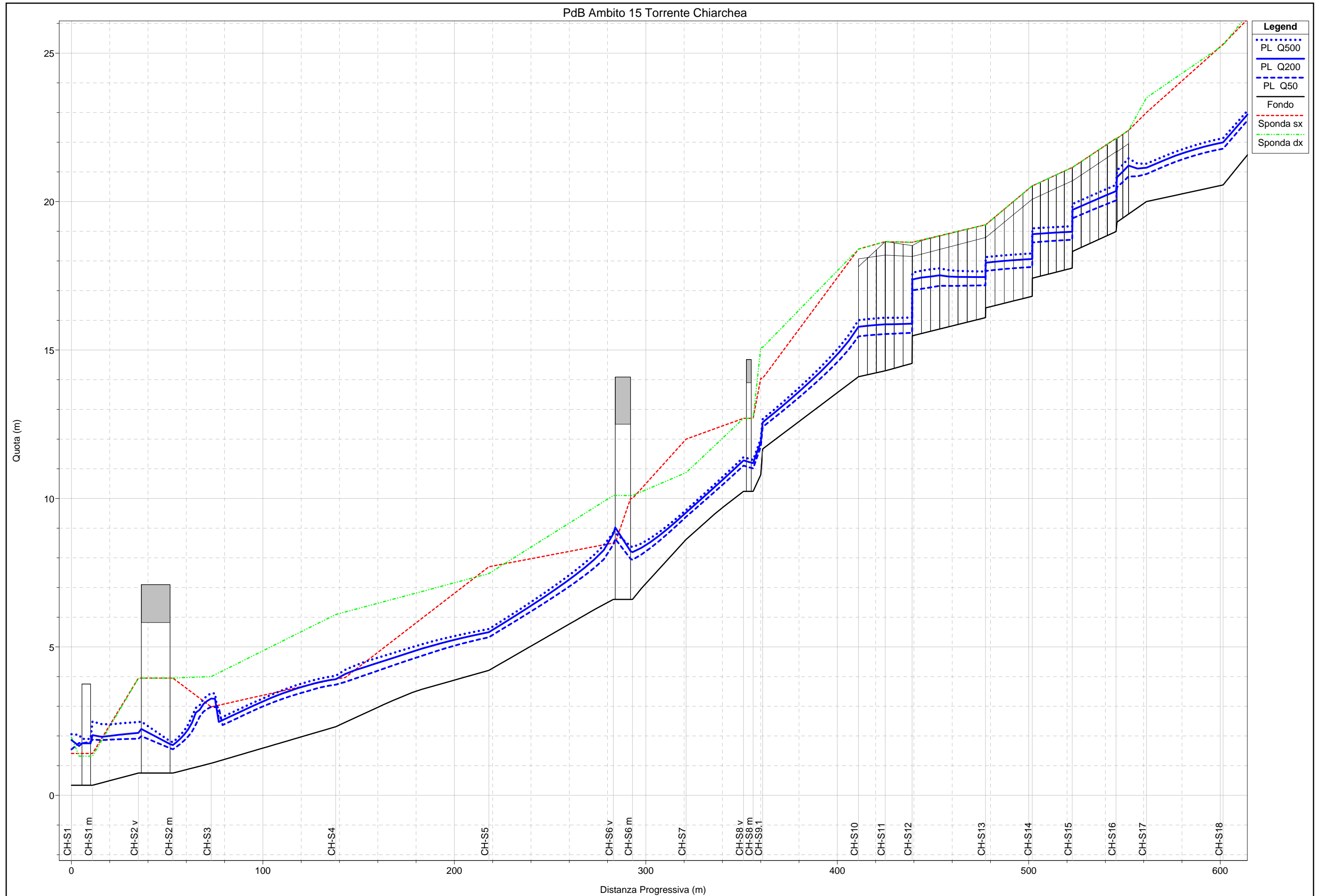


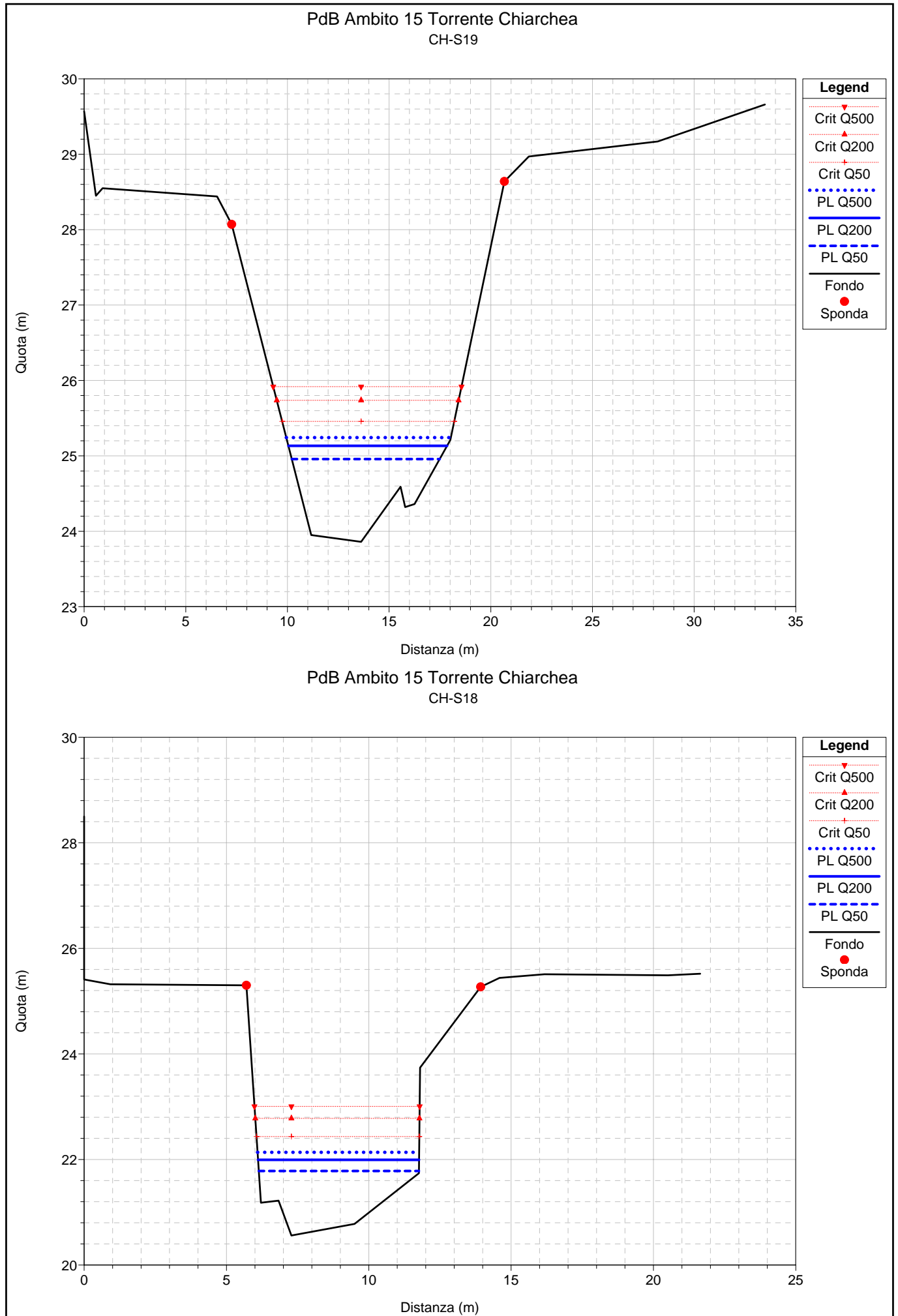
Torrente Chiarchea (o Carcara)

Rapallo

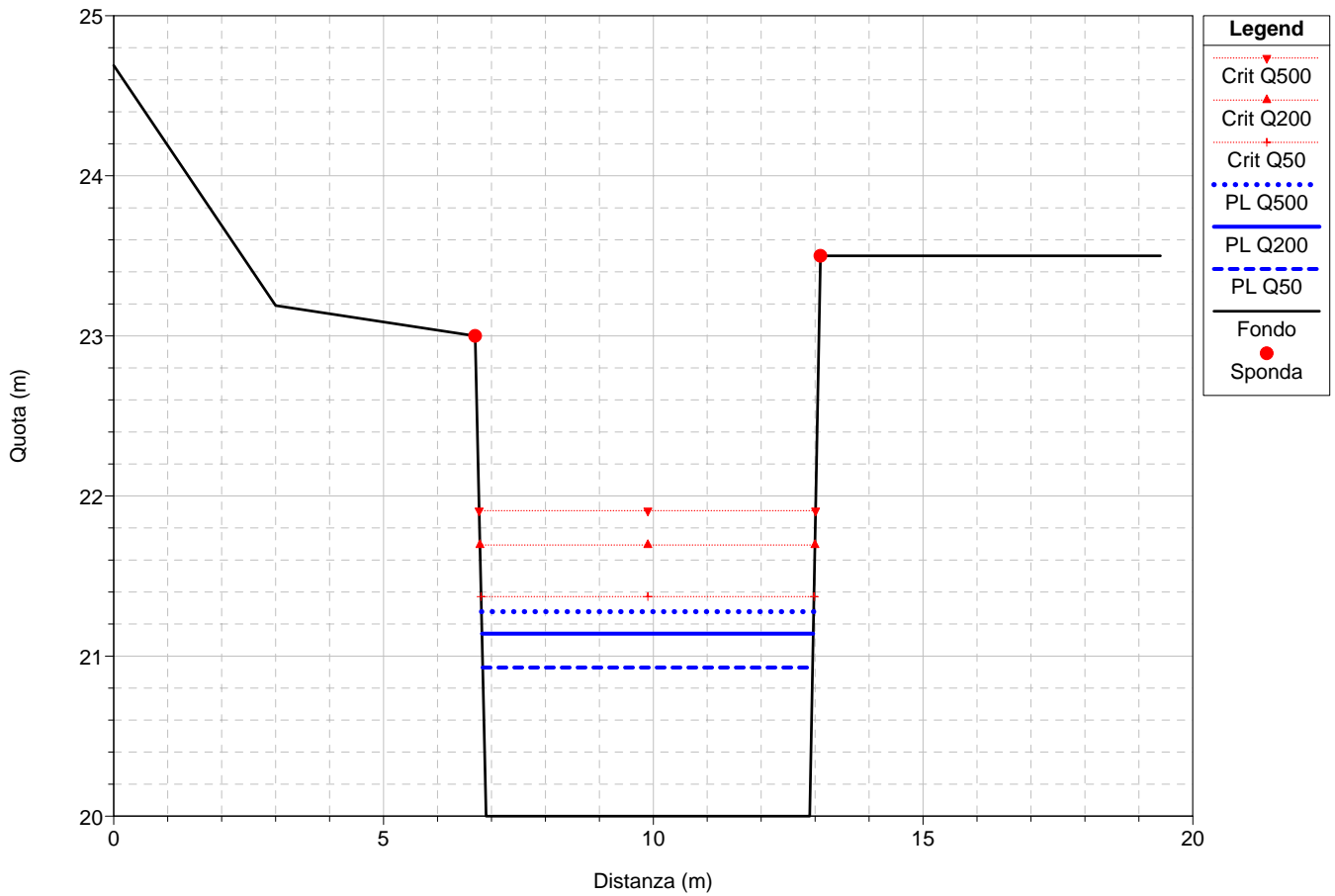
dalla sezione CH-S19 alla CH-S1

- Profili di corrente
- Sezioni idrauliche
- Tabelle dei risultati

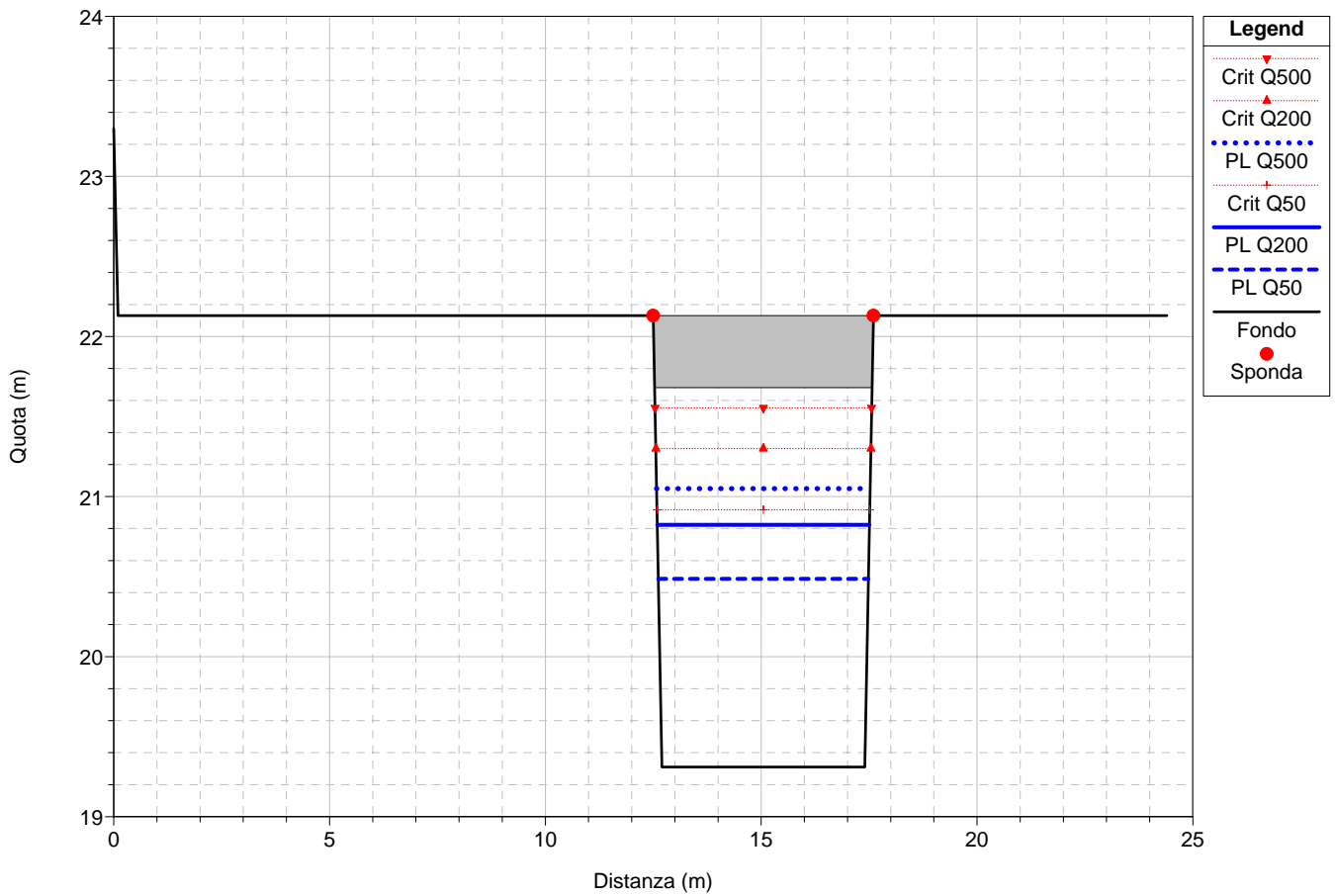




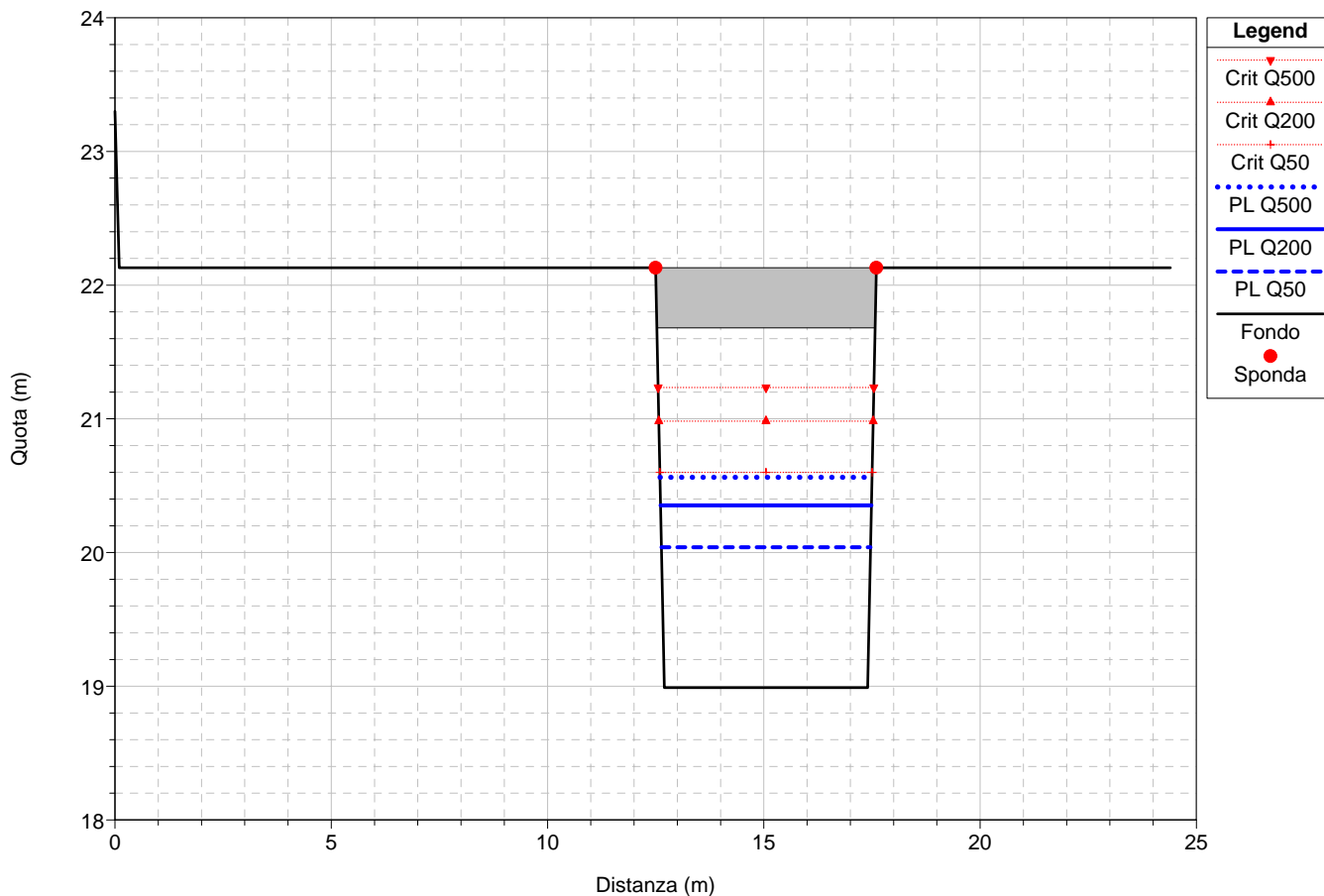
PdB Ambito 15 Torrente Chiarchea
CH-S17



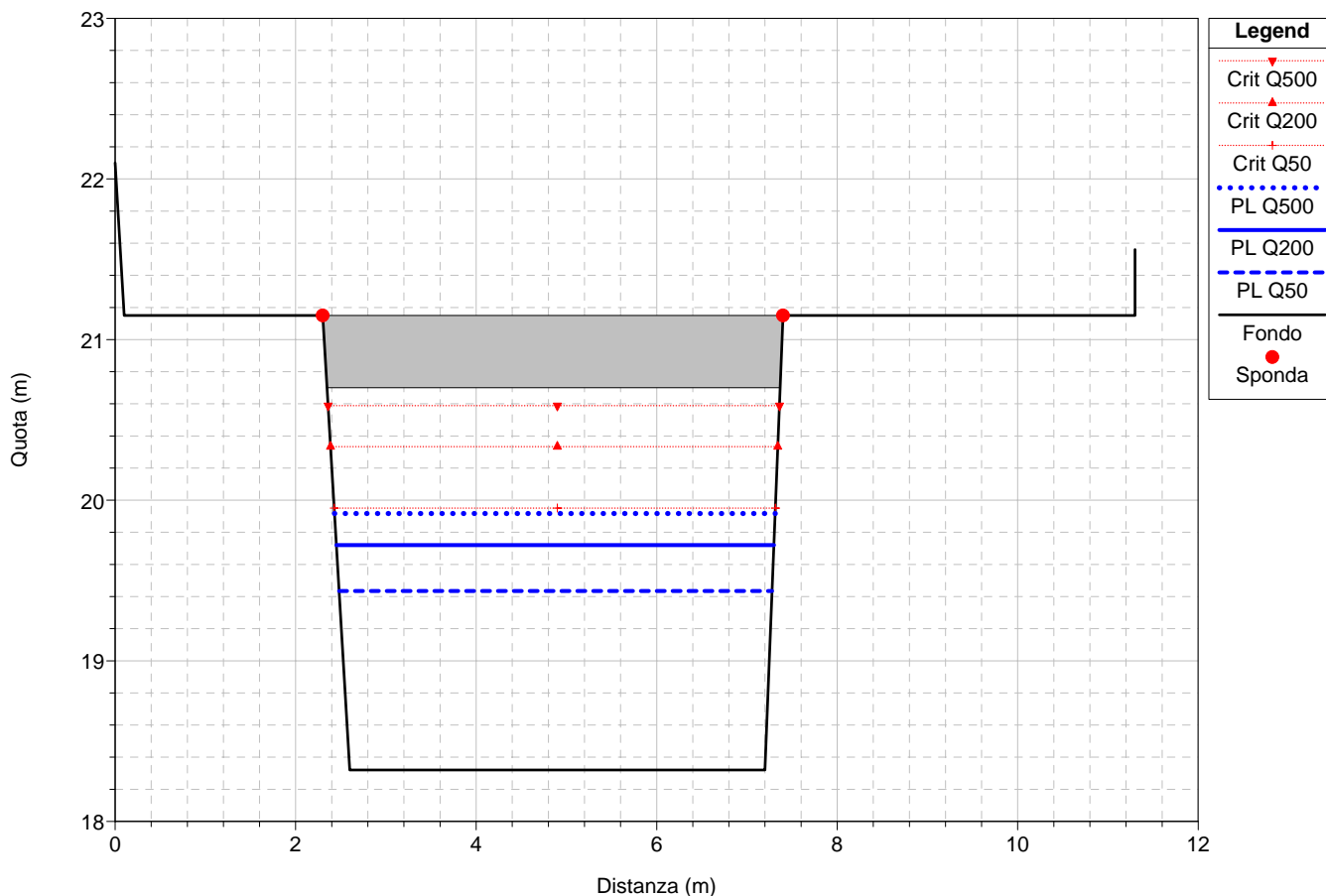
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CH-S16.1



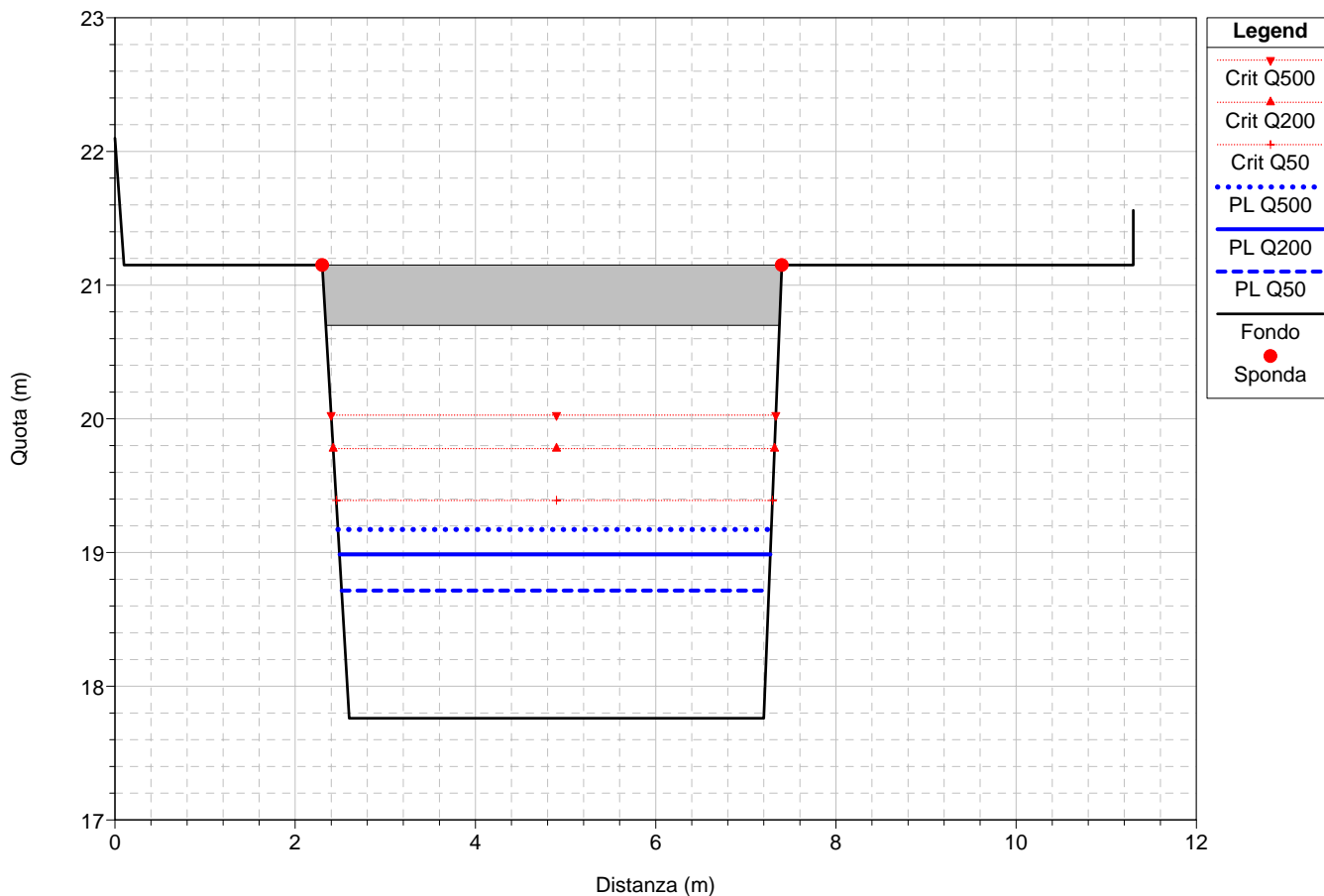
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CH-S16



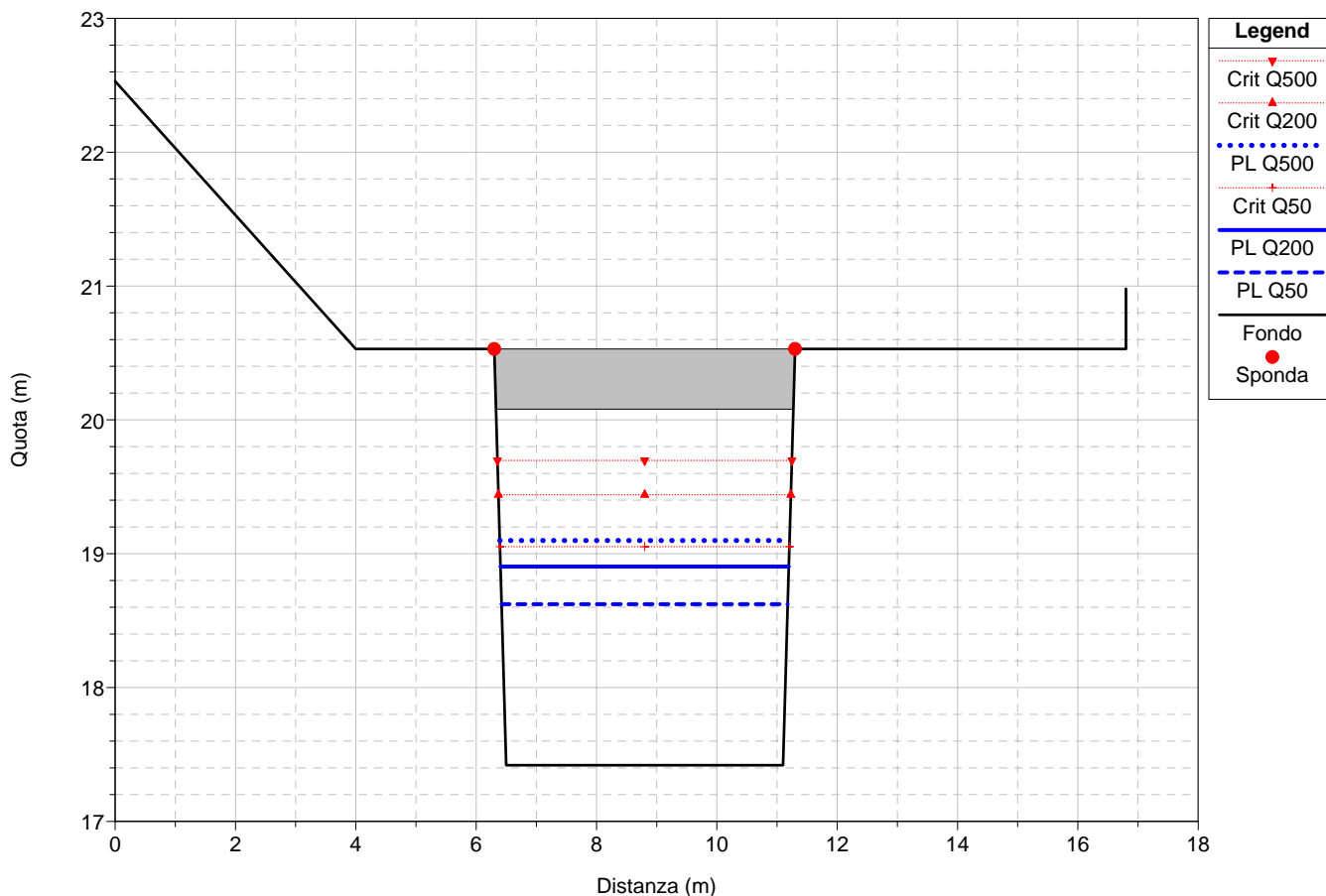
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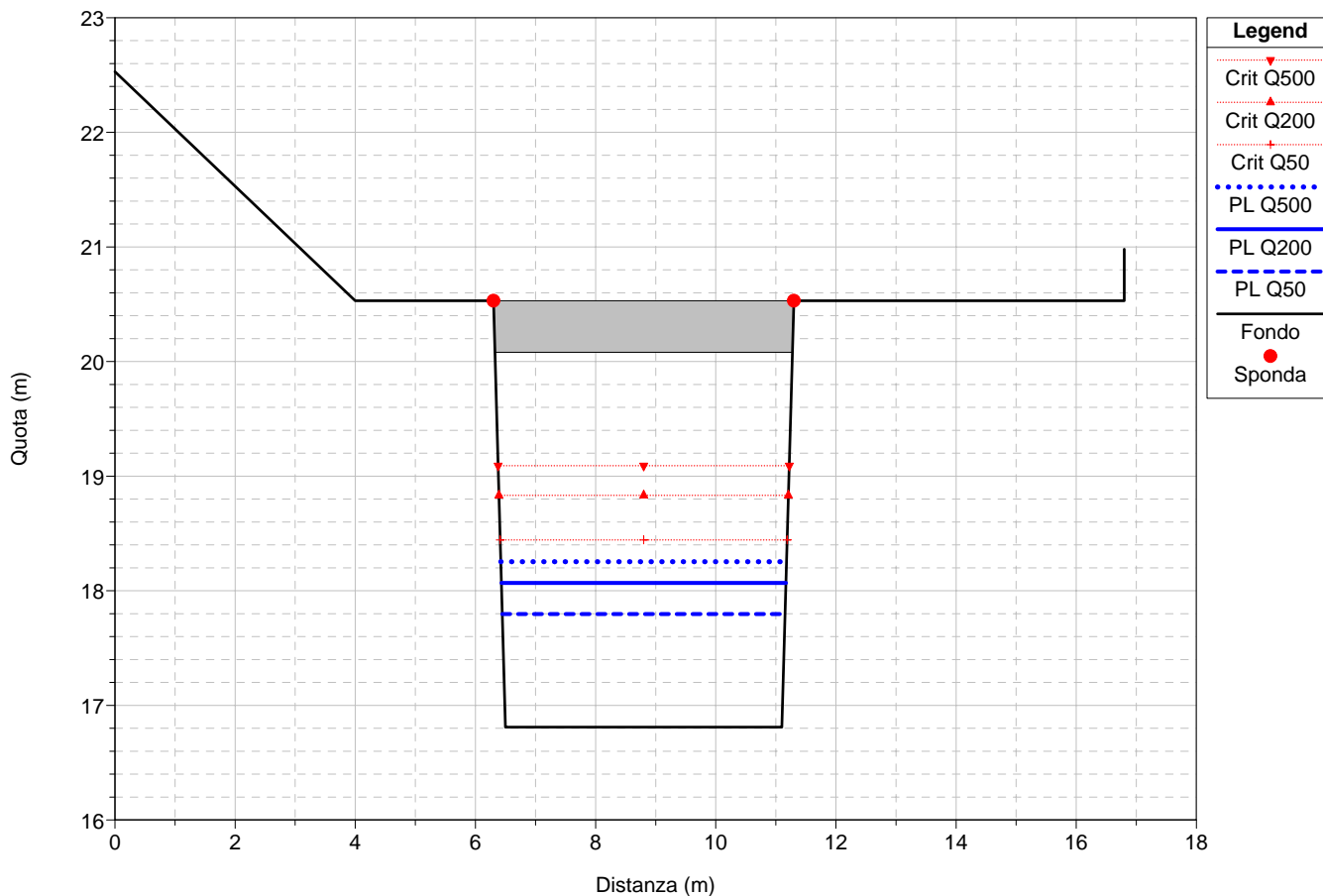
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CH-S15



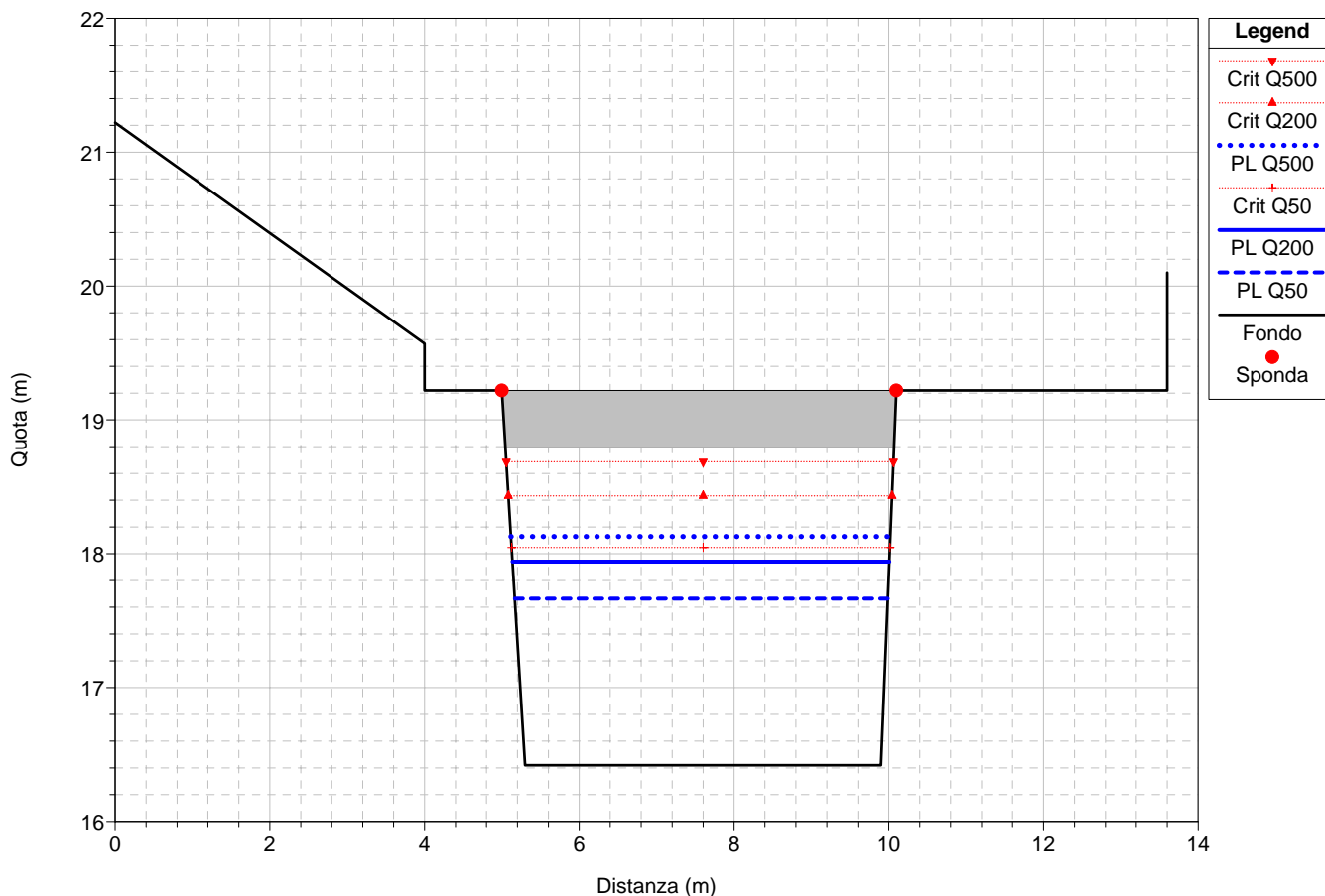
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CH-S14.1



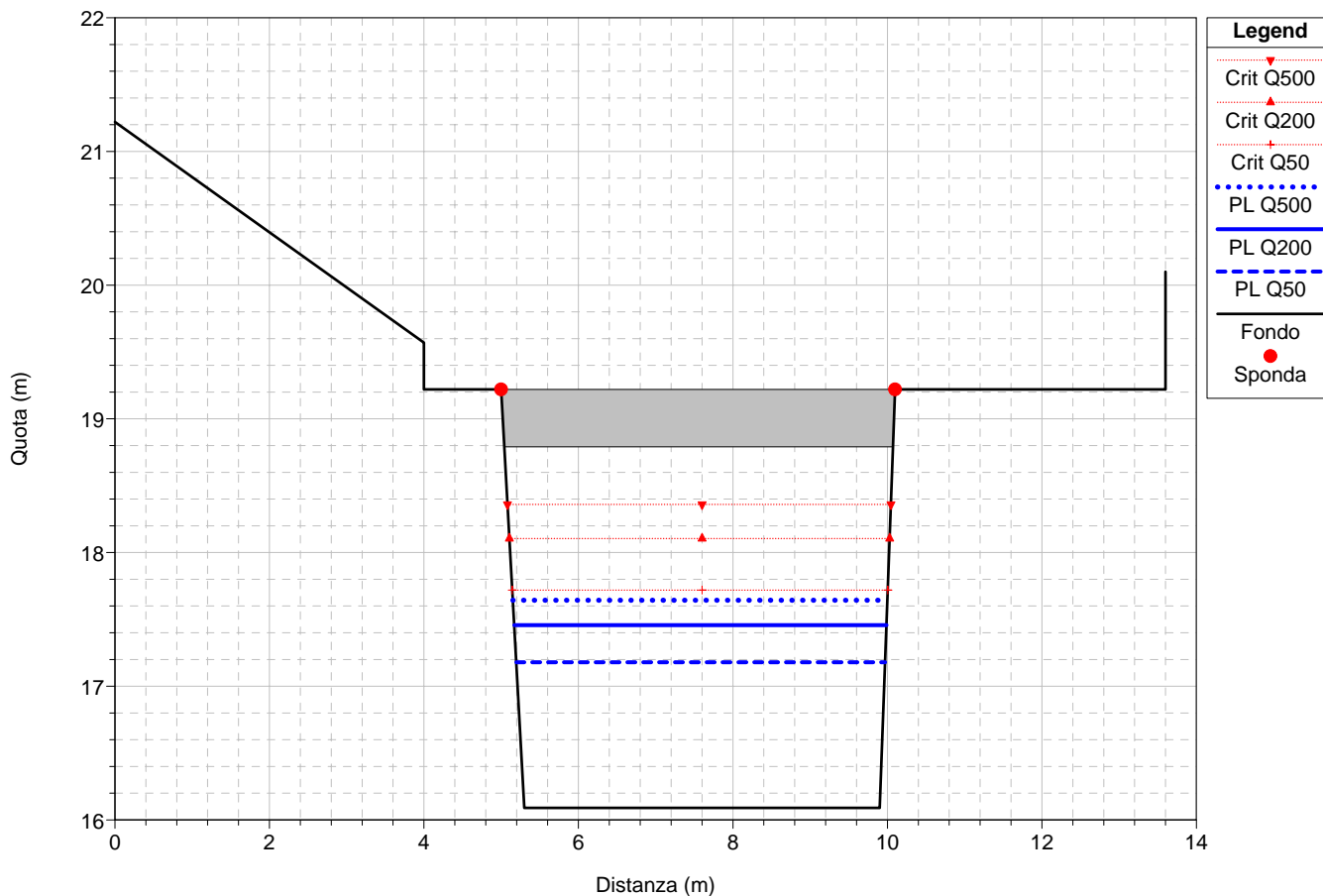
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CH-S14



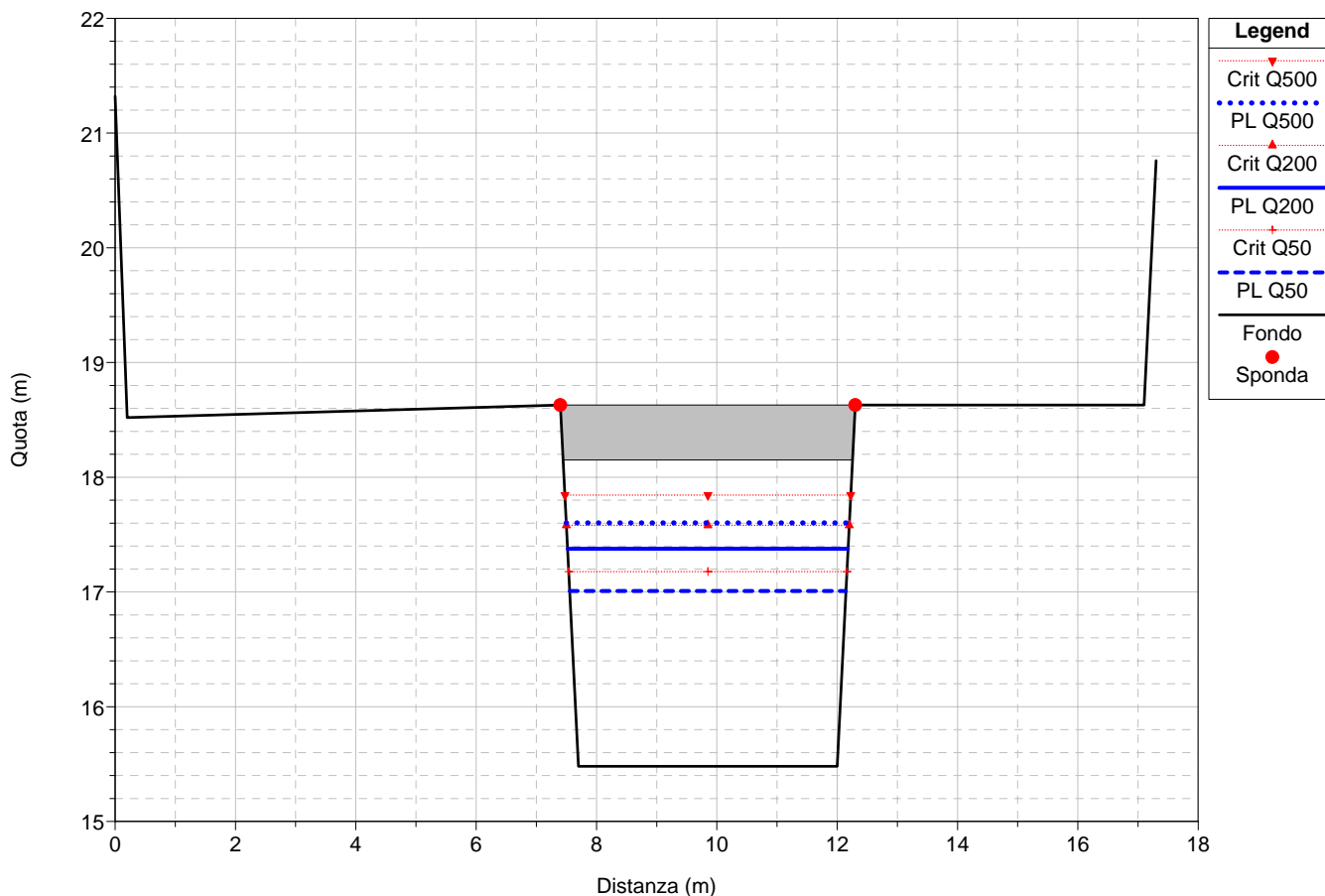
PdB Ambito 15 Torrente Chiarchea
CH-S13.1



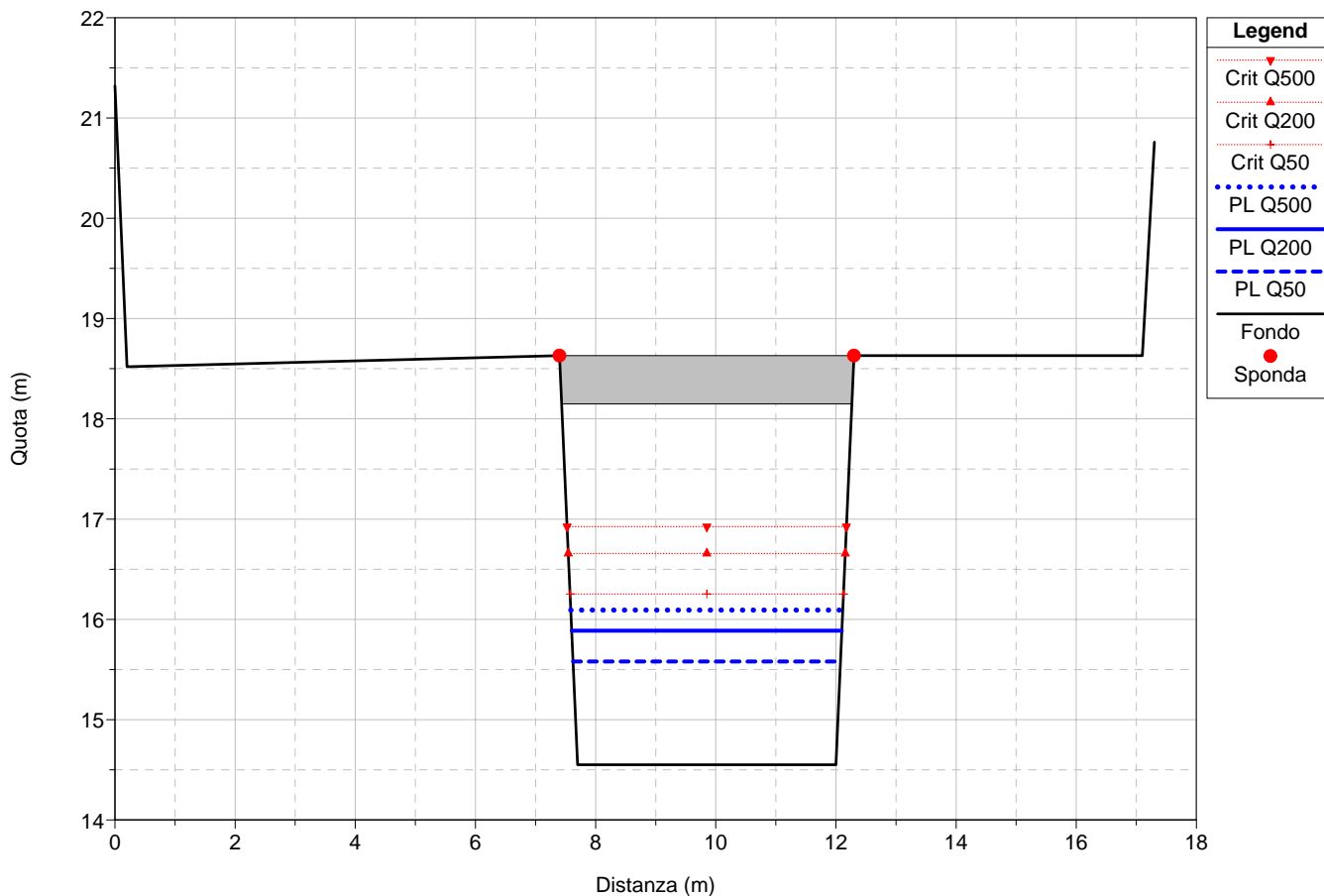
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CH-S13



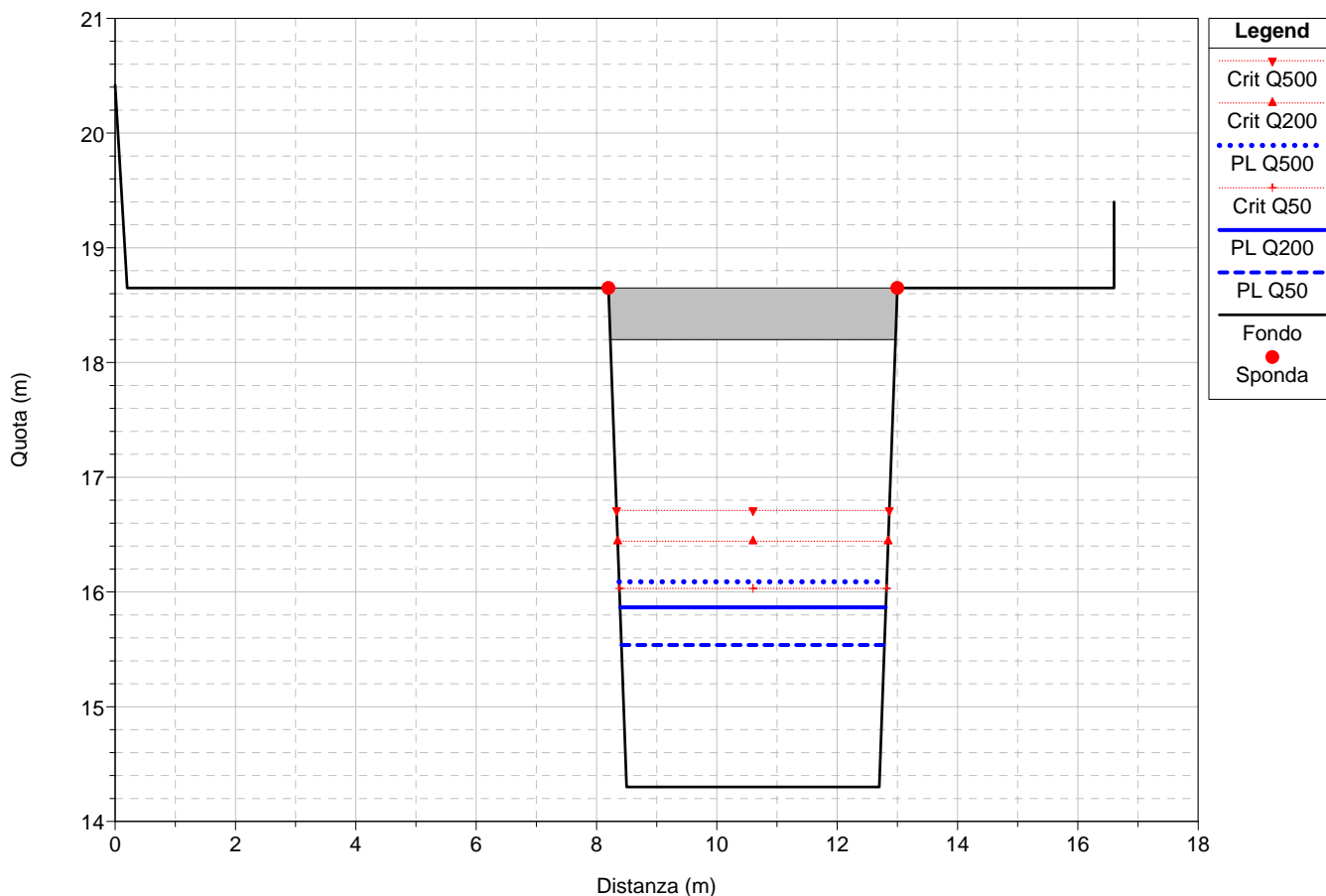
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CH-S12.1



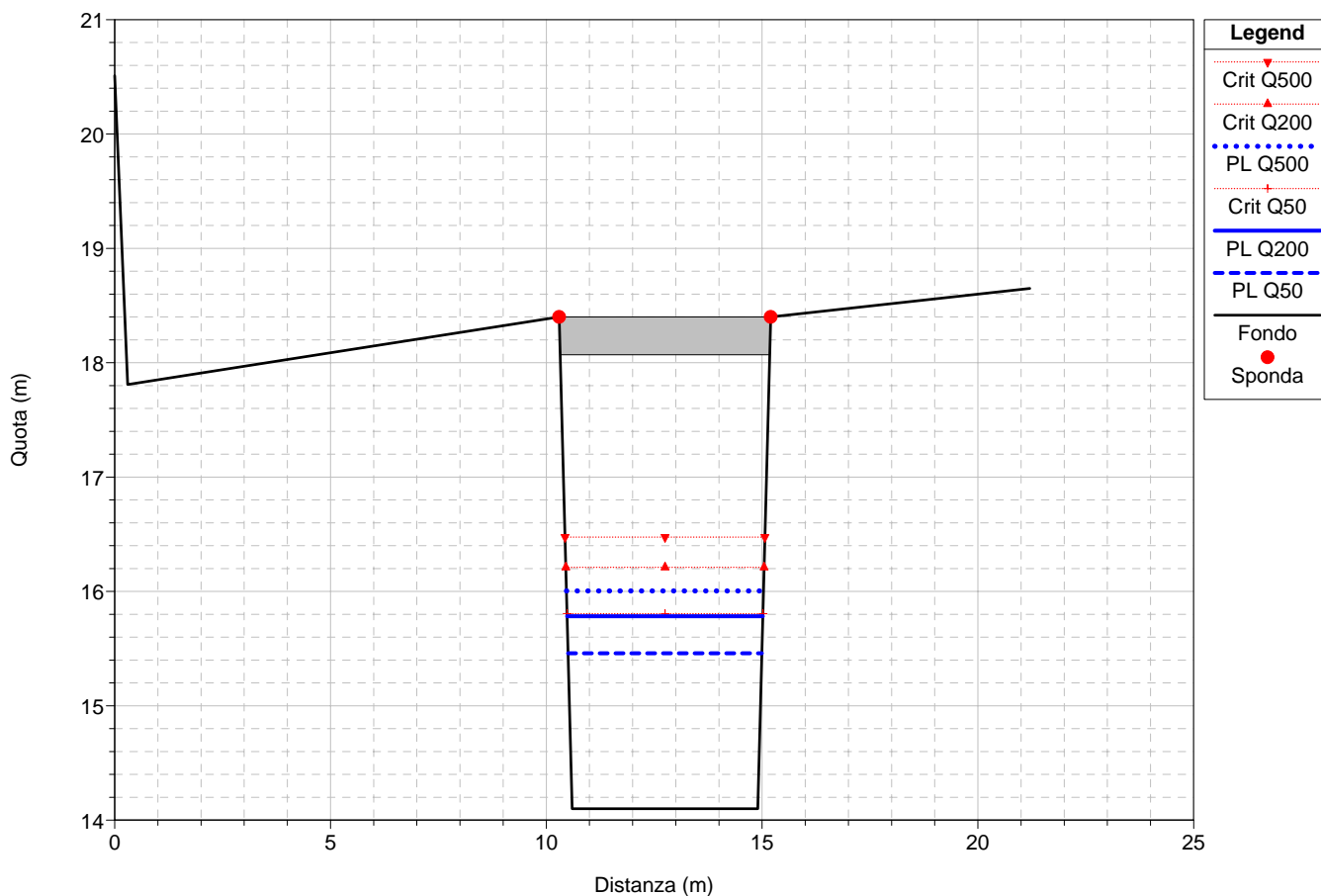
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CH-S12



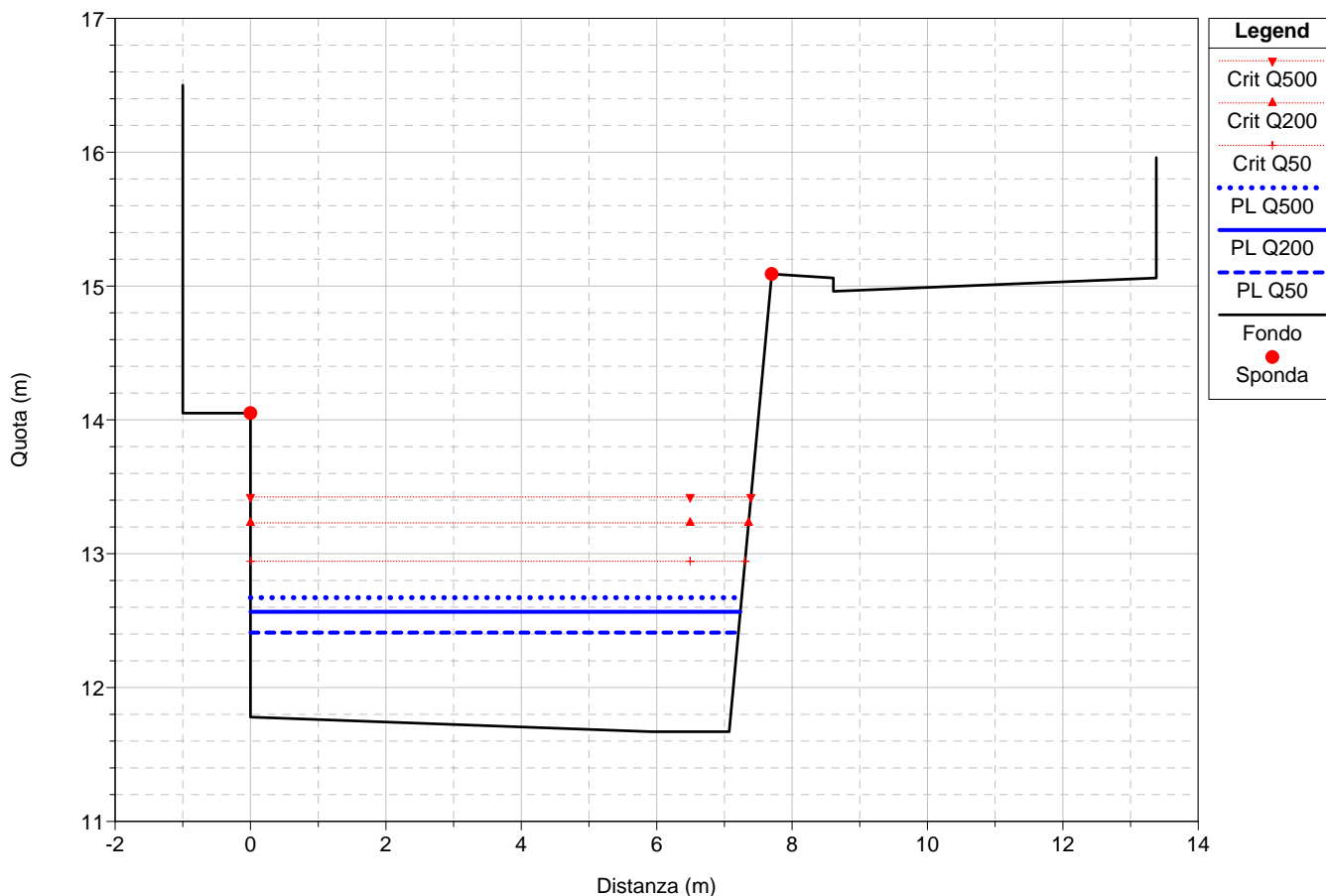
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CH-S11



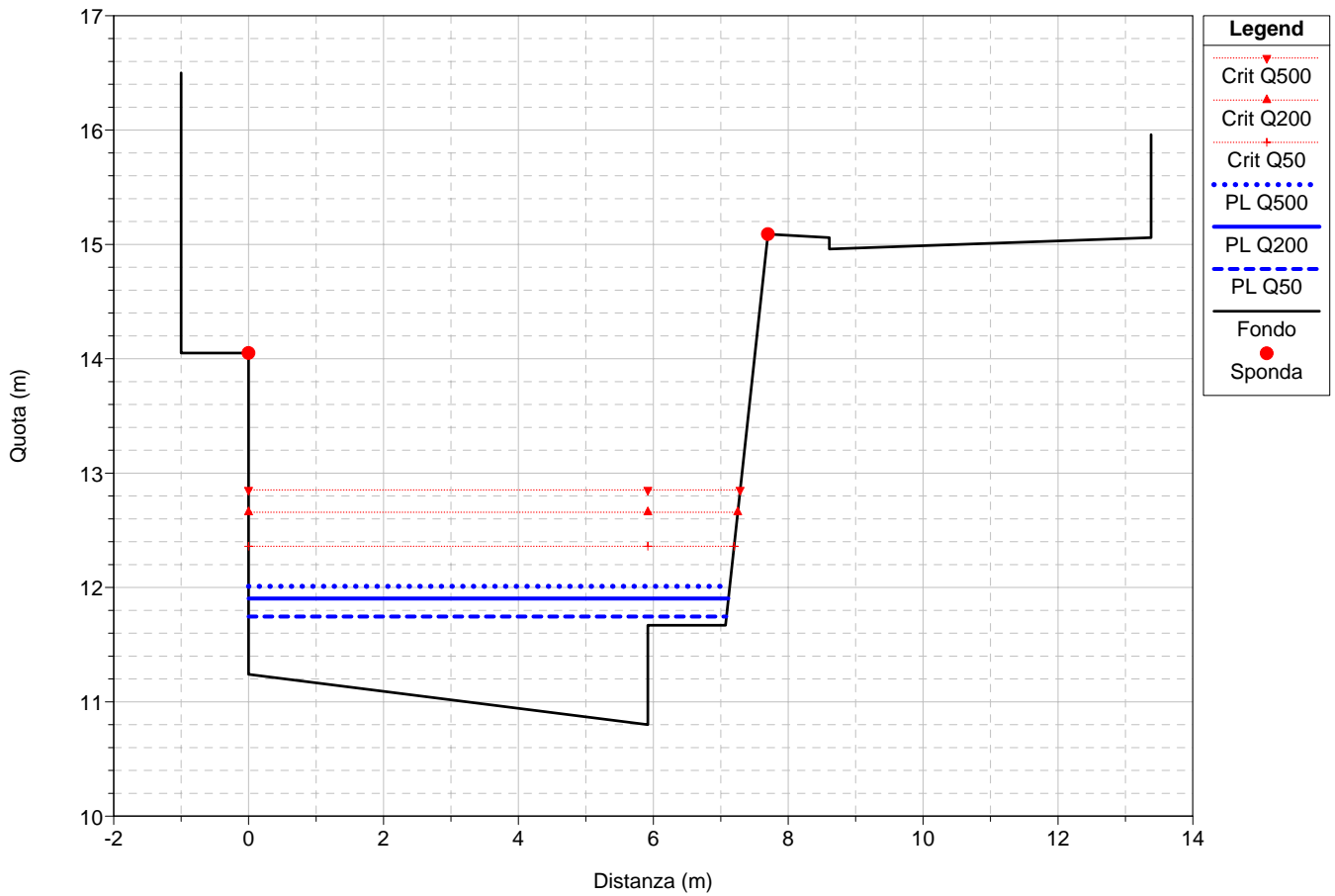
PdB Ambito 15 Torrente Chiarchea
CH-S10



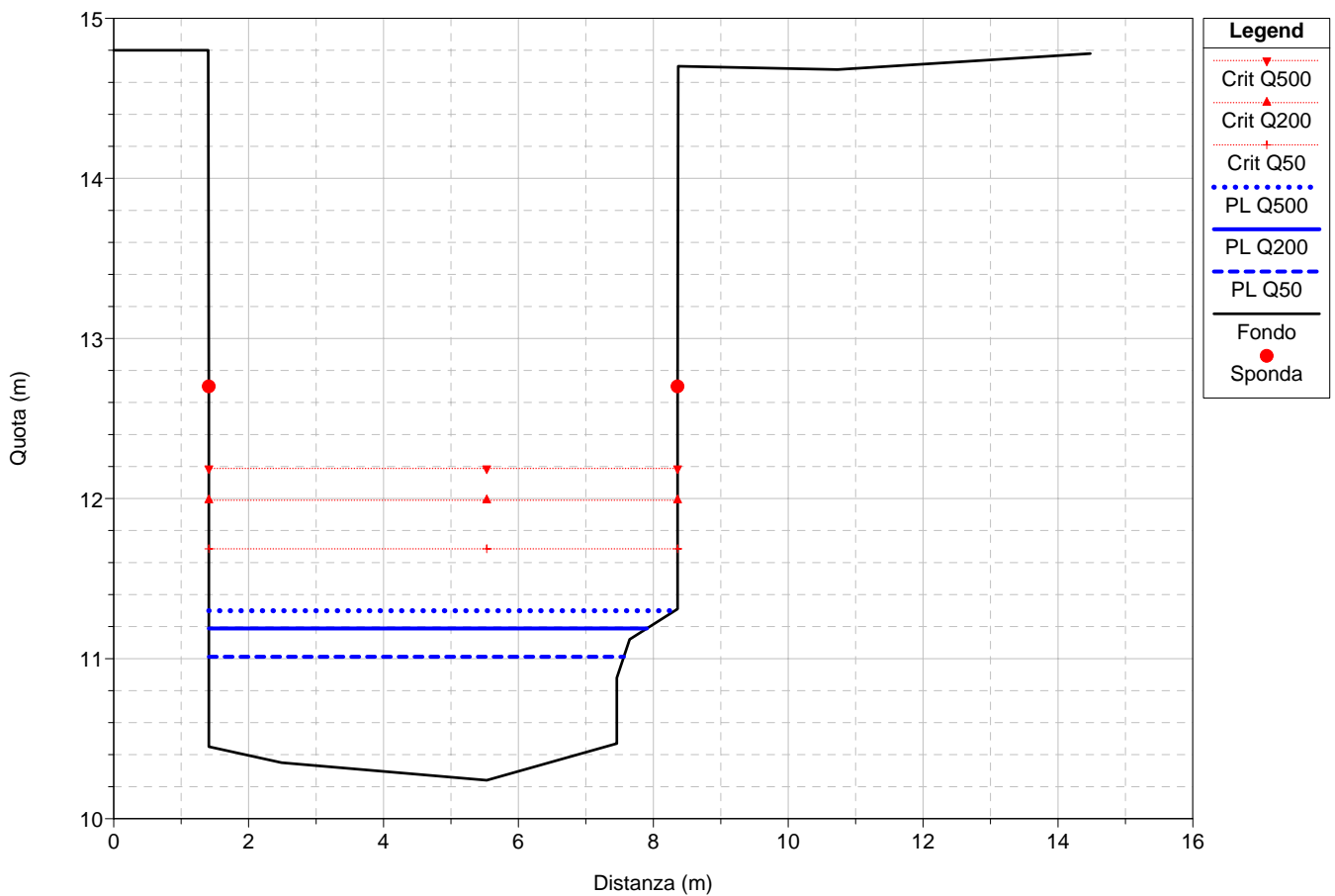
PdB Ambito 15 Torrente Chiarchea
CH-S9.1



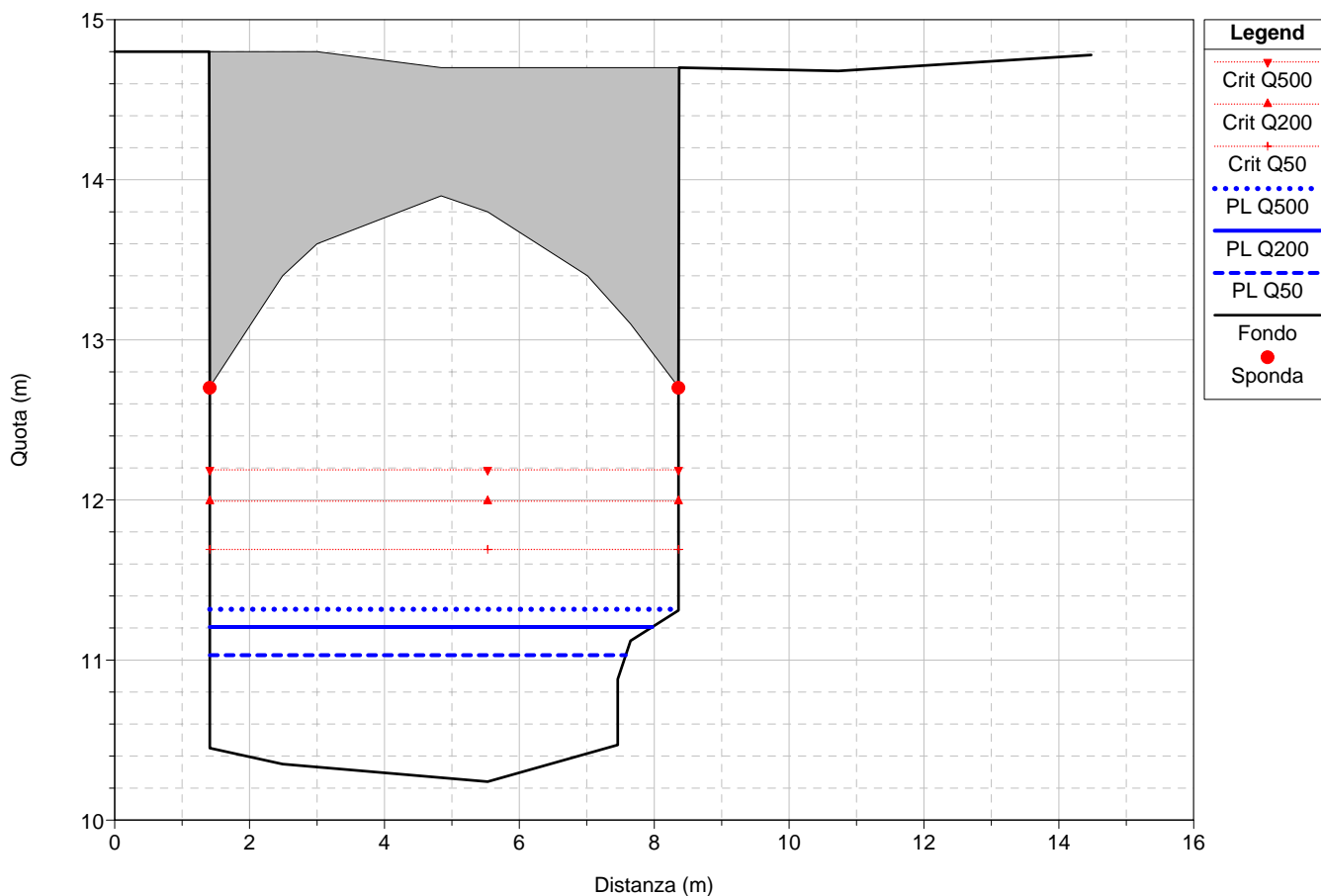
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CH-S9



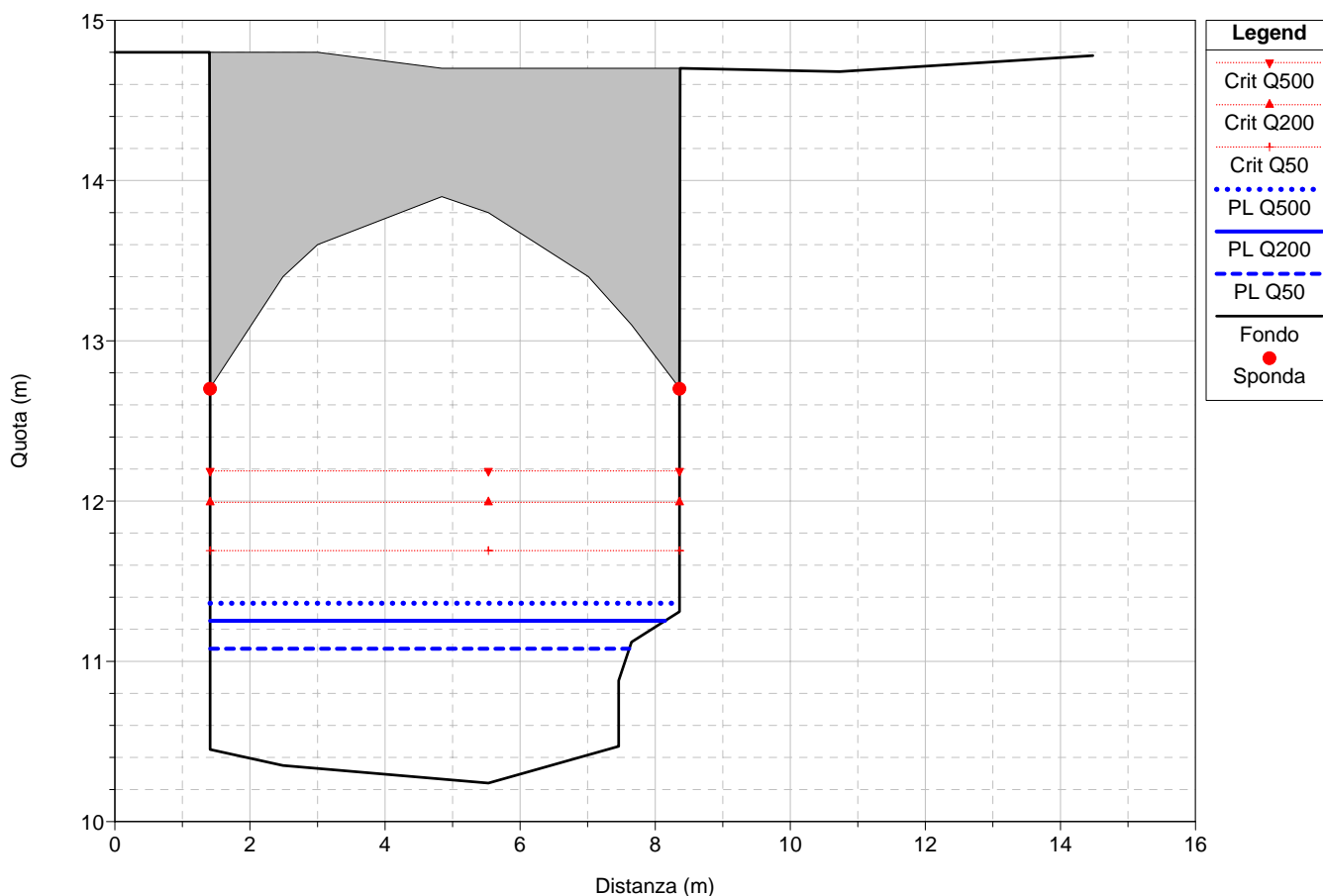
PdB Ambito 15 Torrente Chiarchea
CH-S8 m



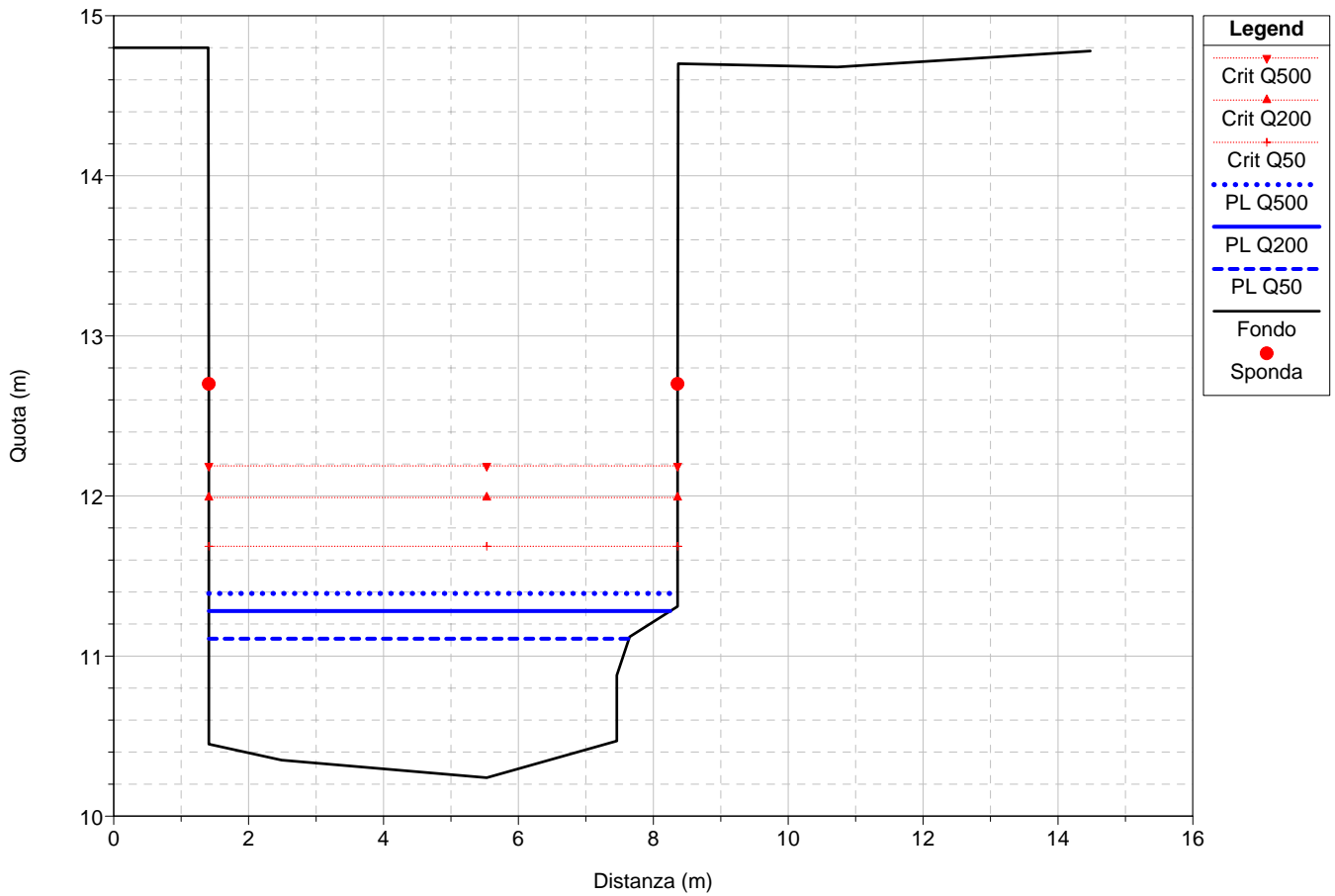
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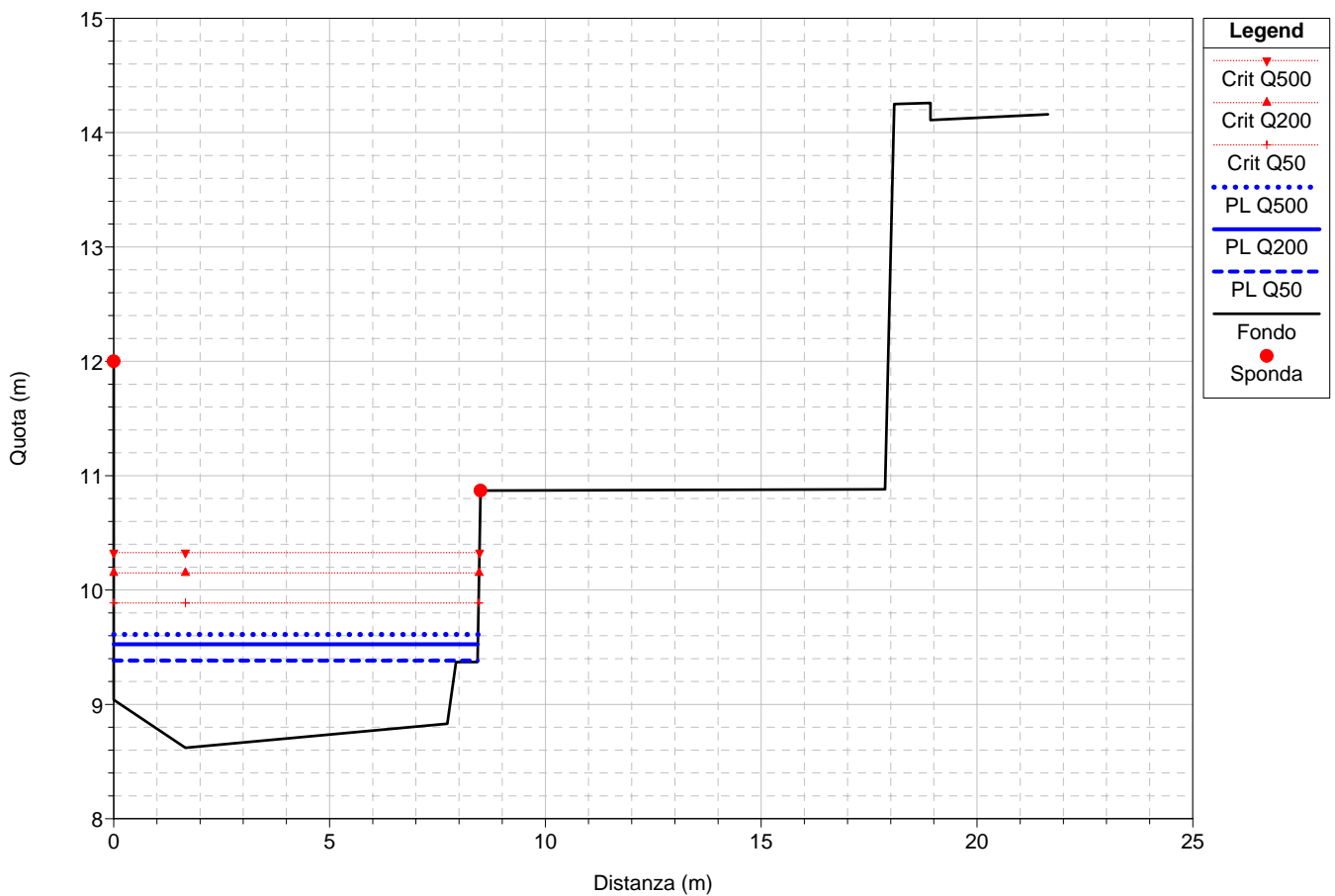
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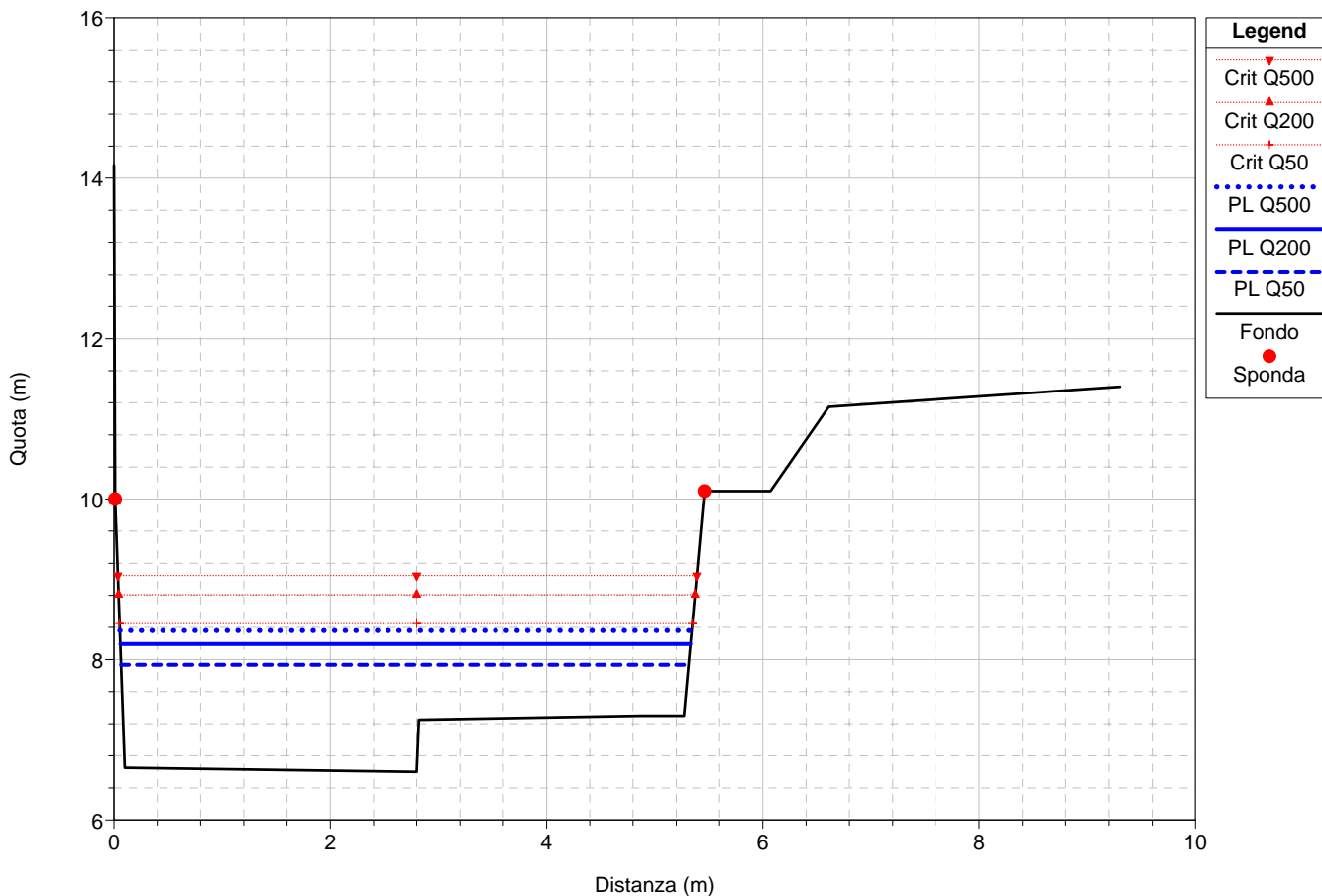
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CH-S8 v



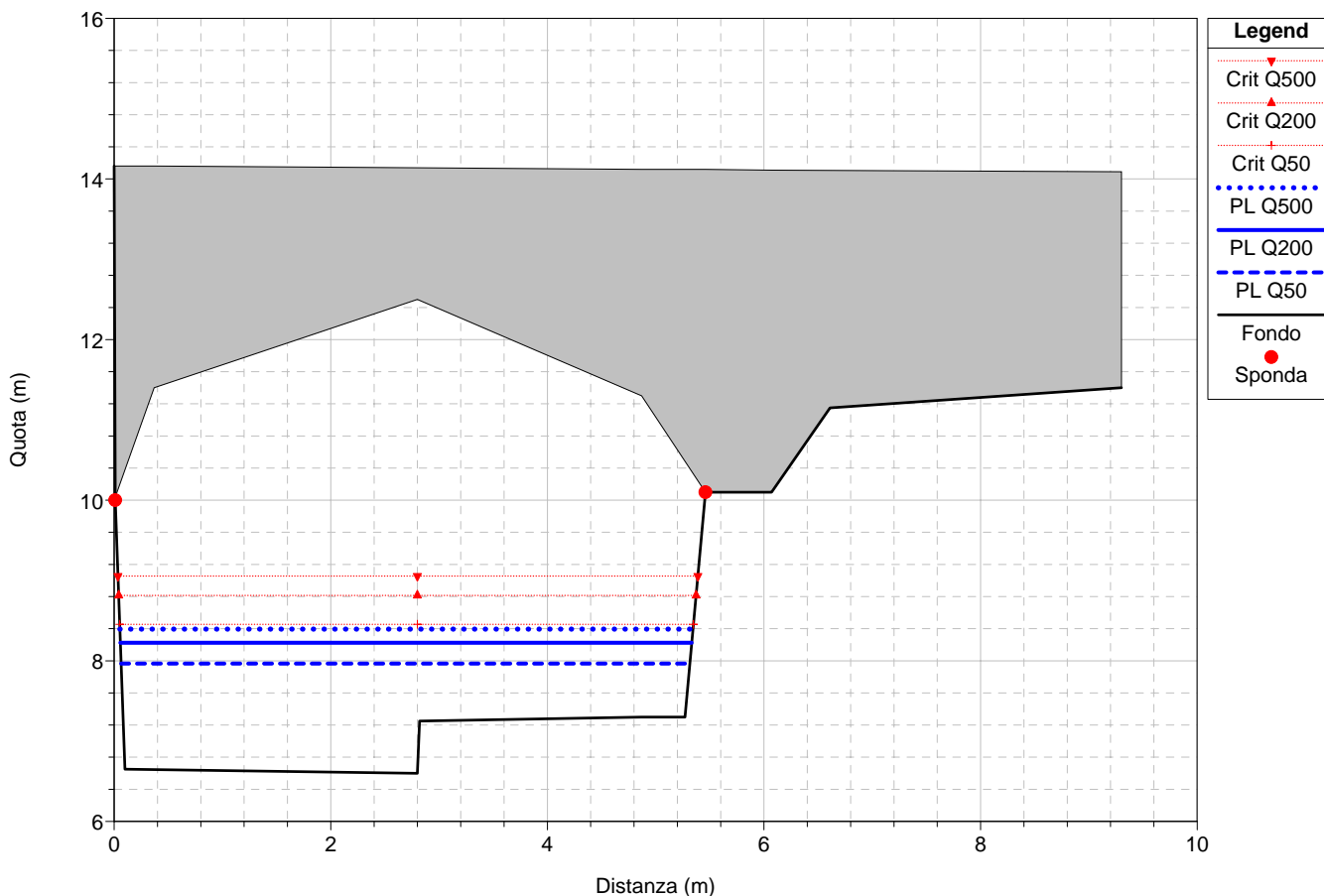
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CH-S7



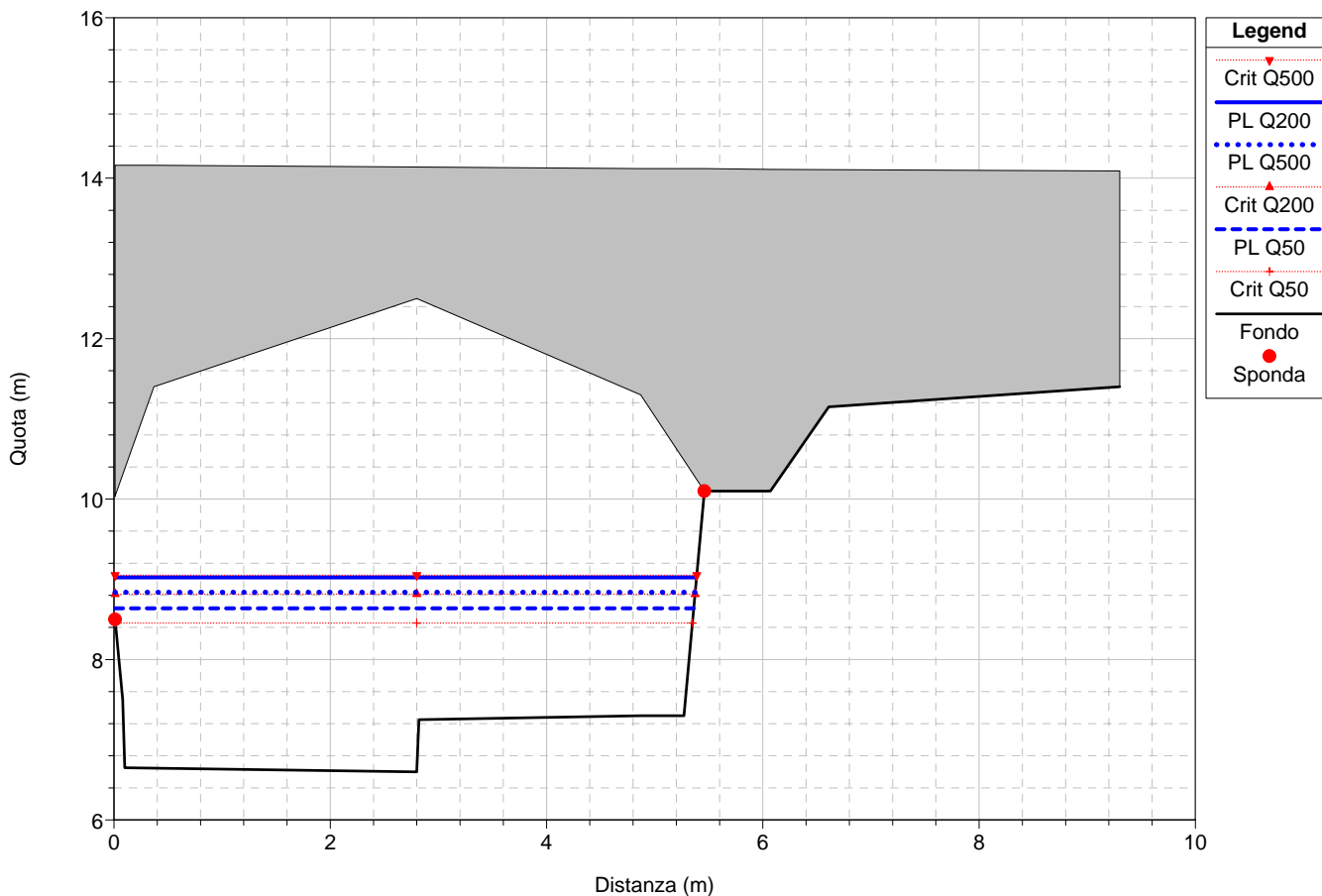
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CH-S6 m



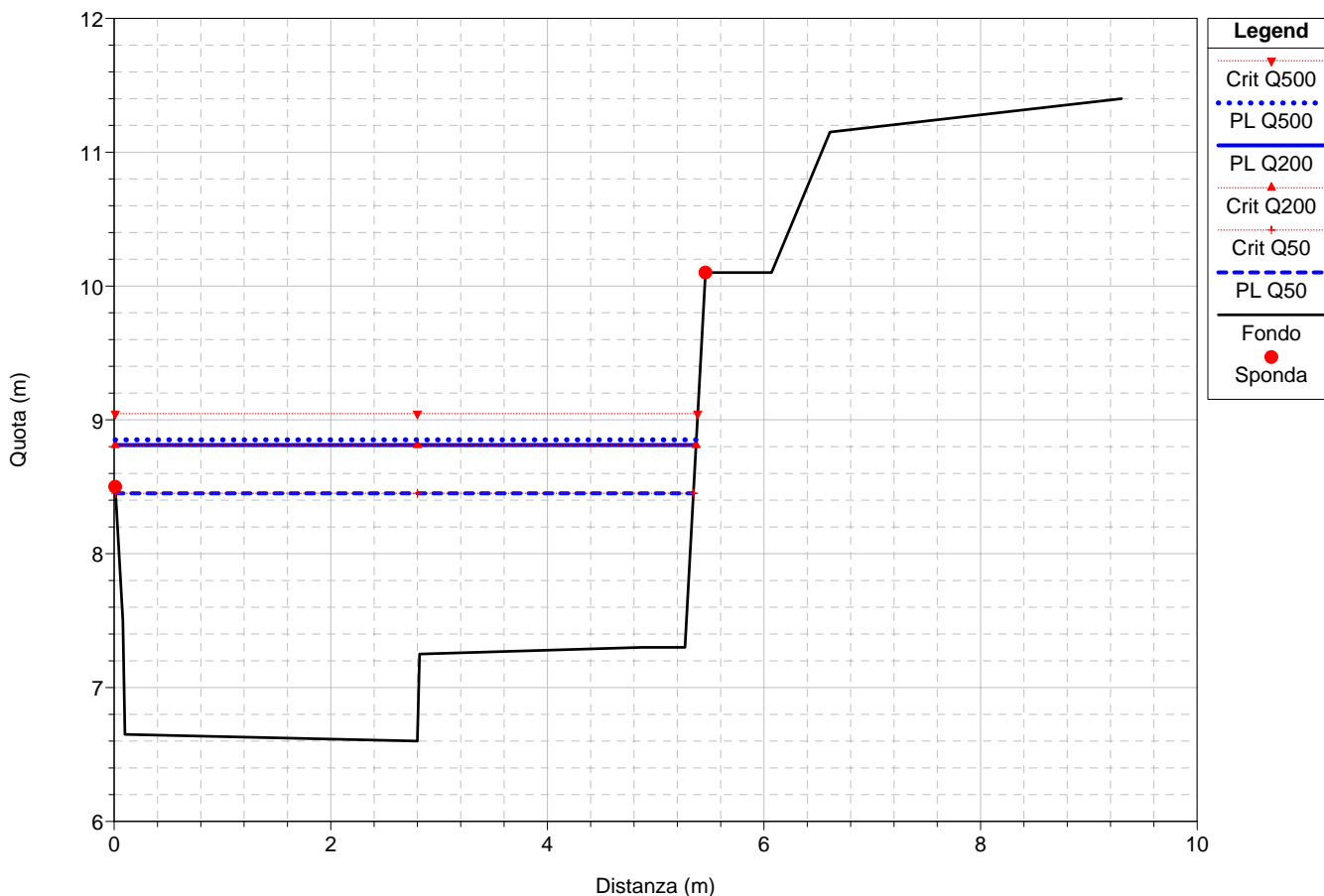
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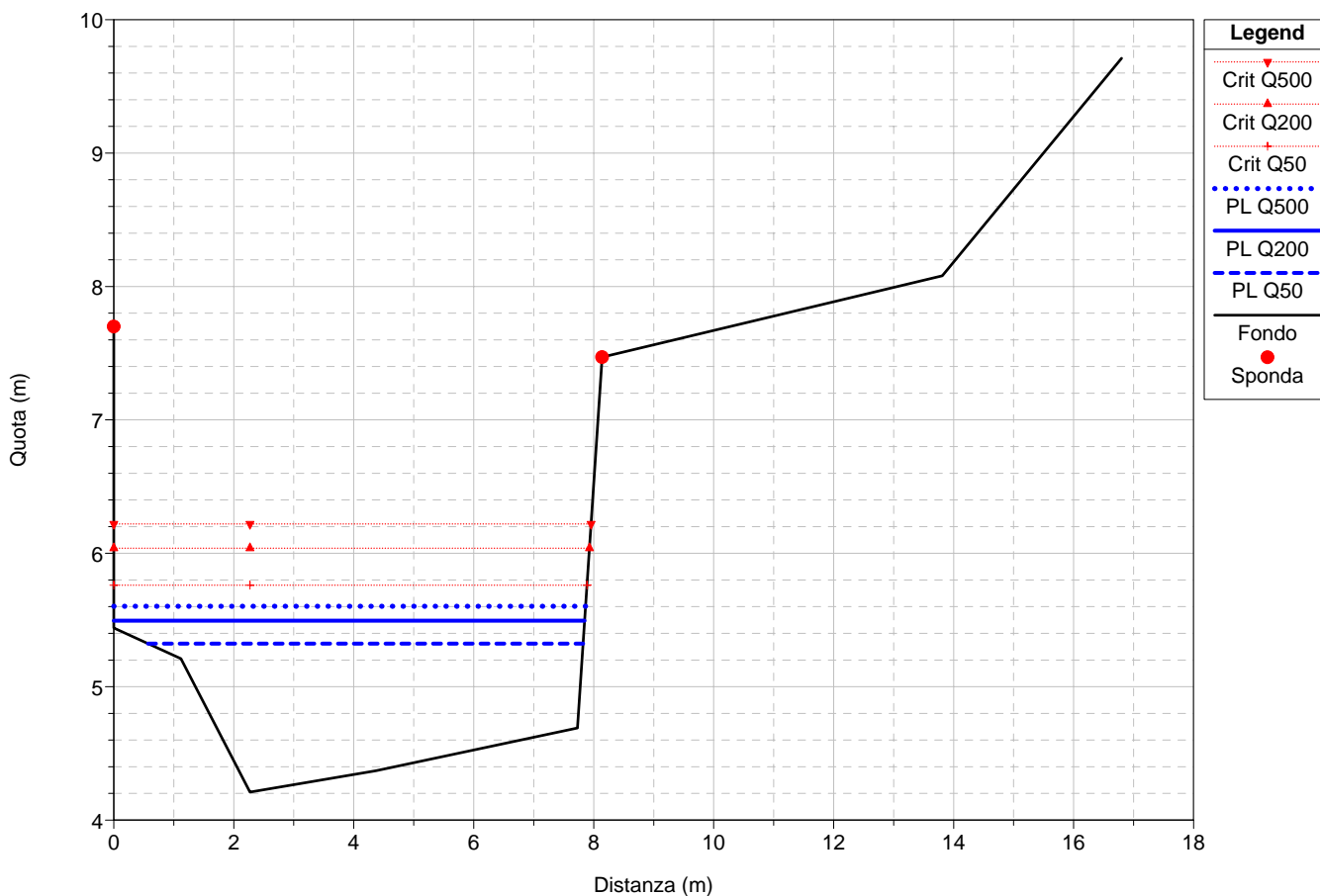
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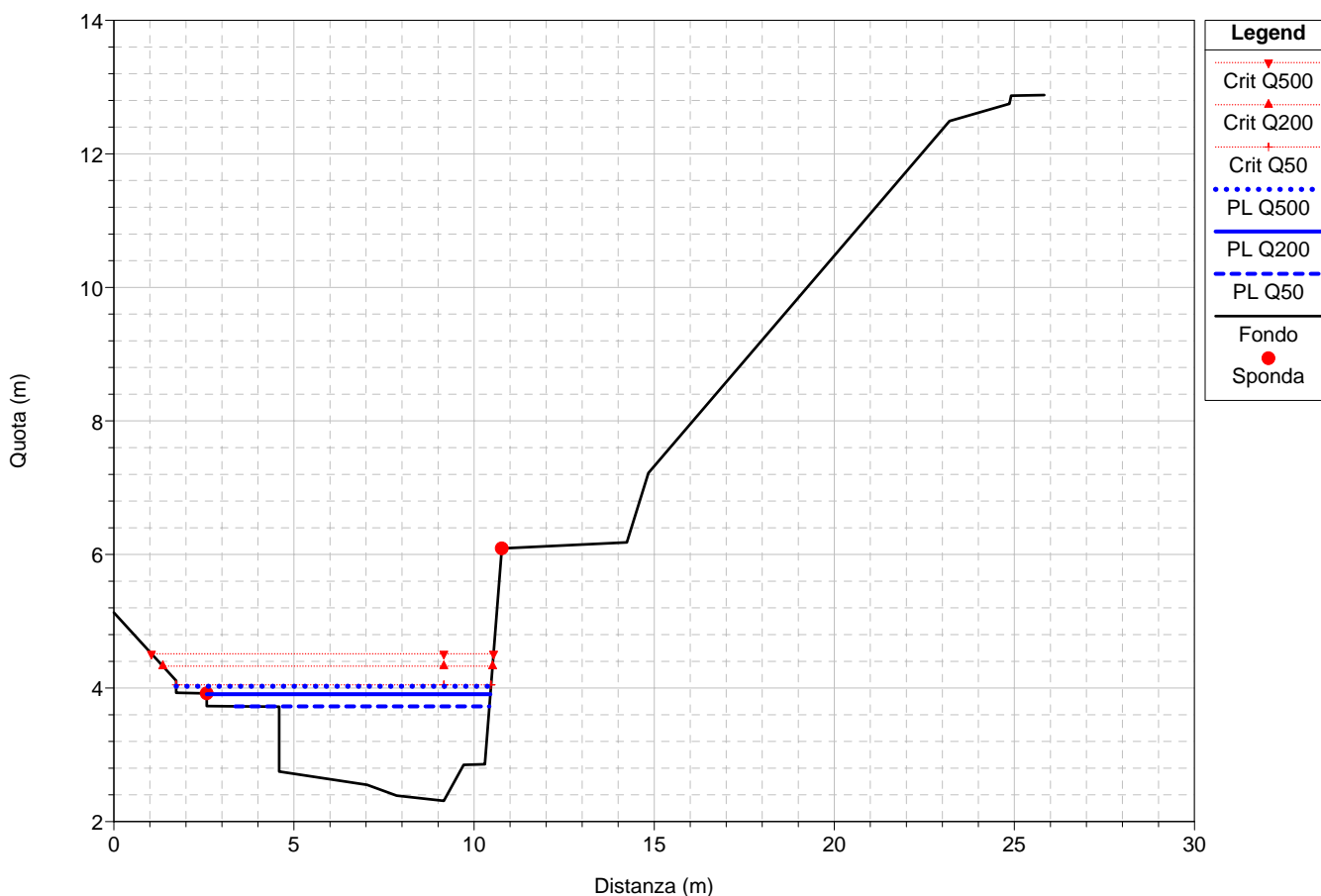
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CH-S6 v



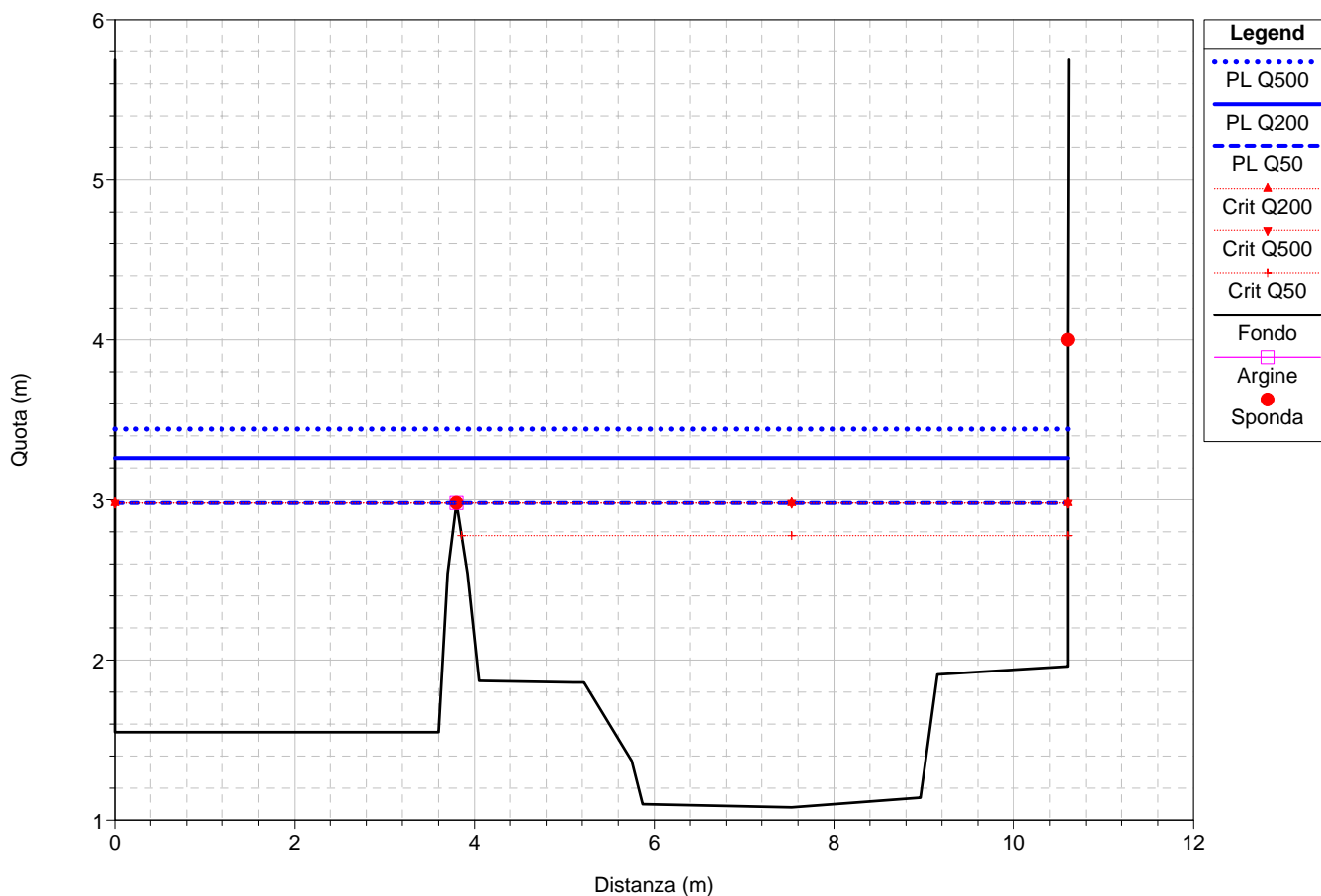
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CH-S5



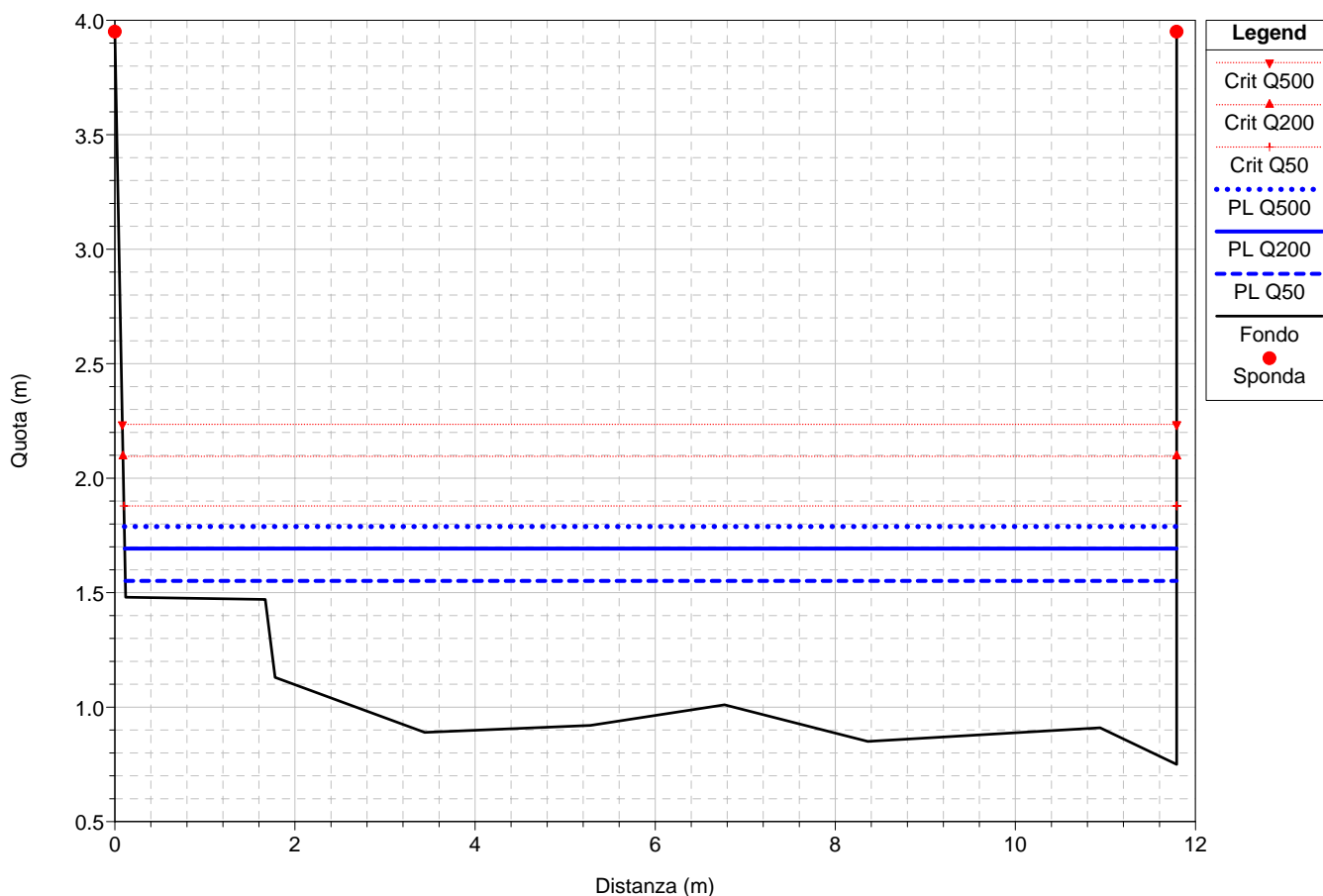
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CH-S4



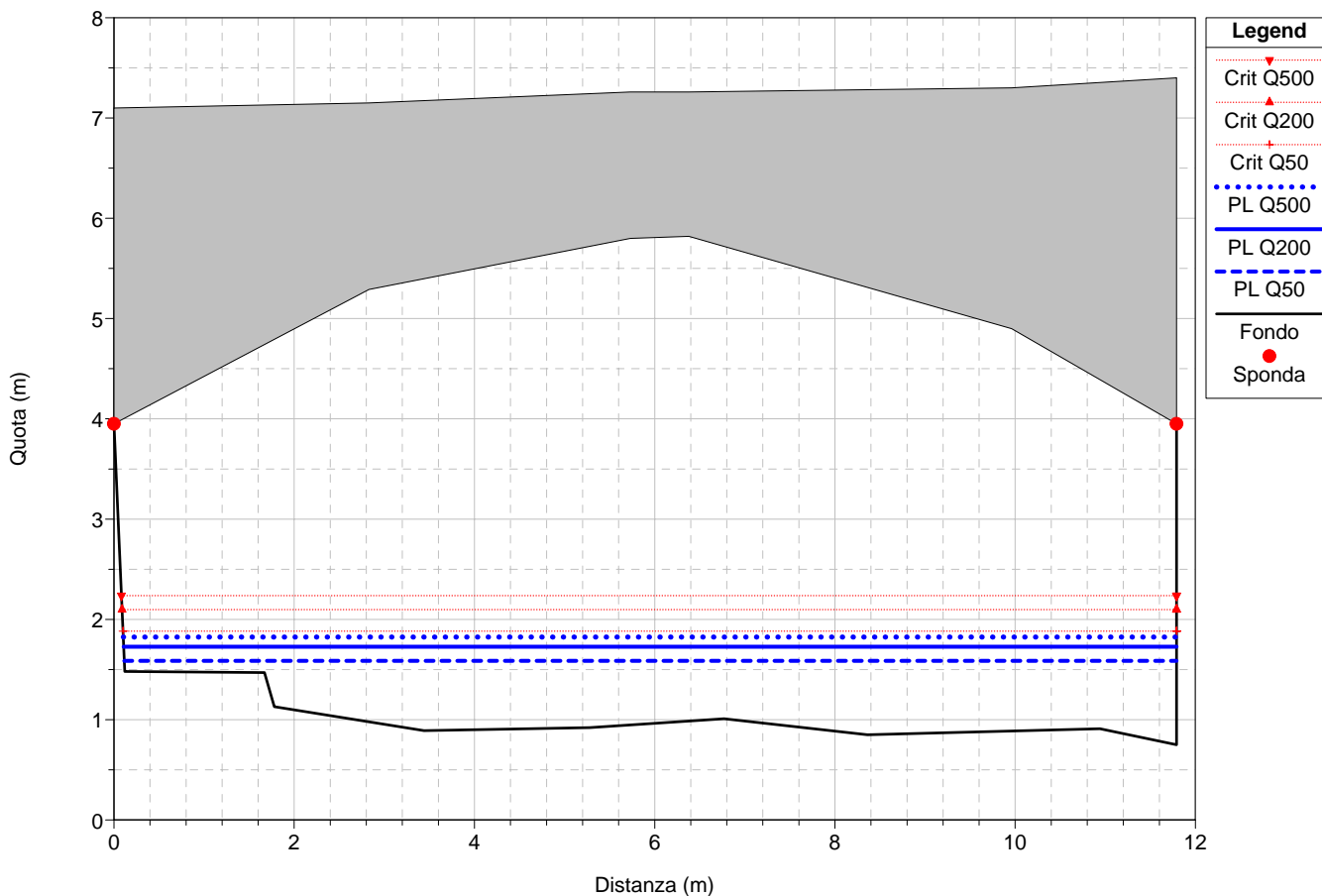
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CH-S3



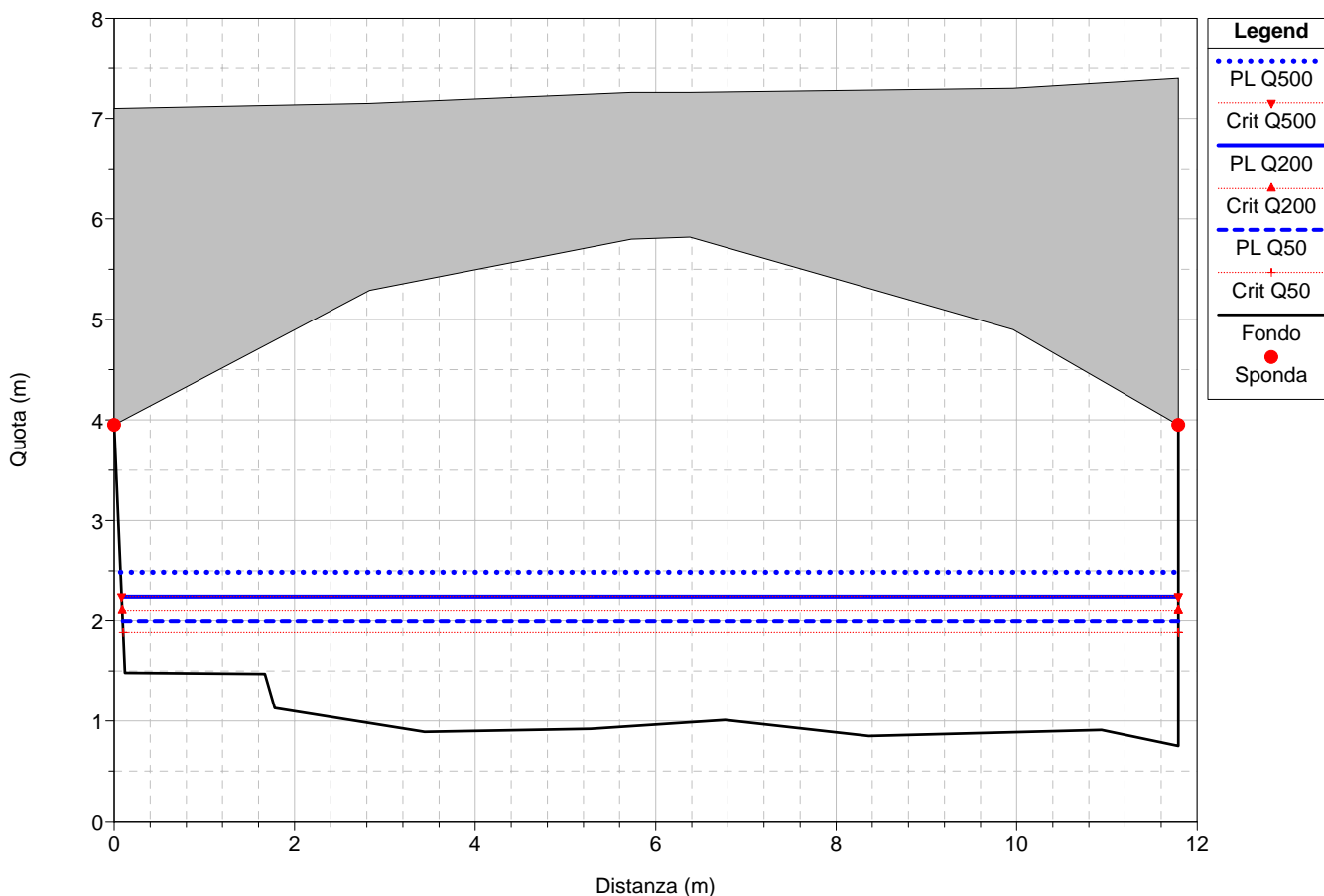
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CH-S2 m

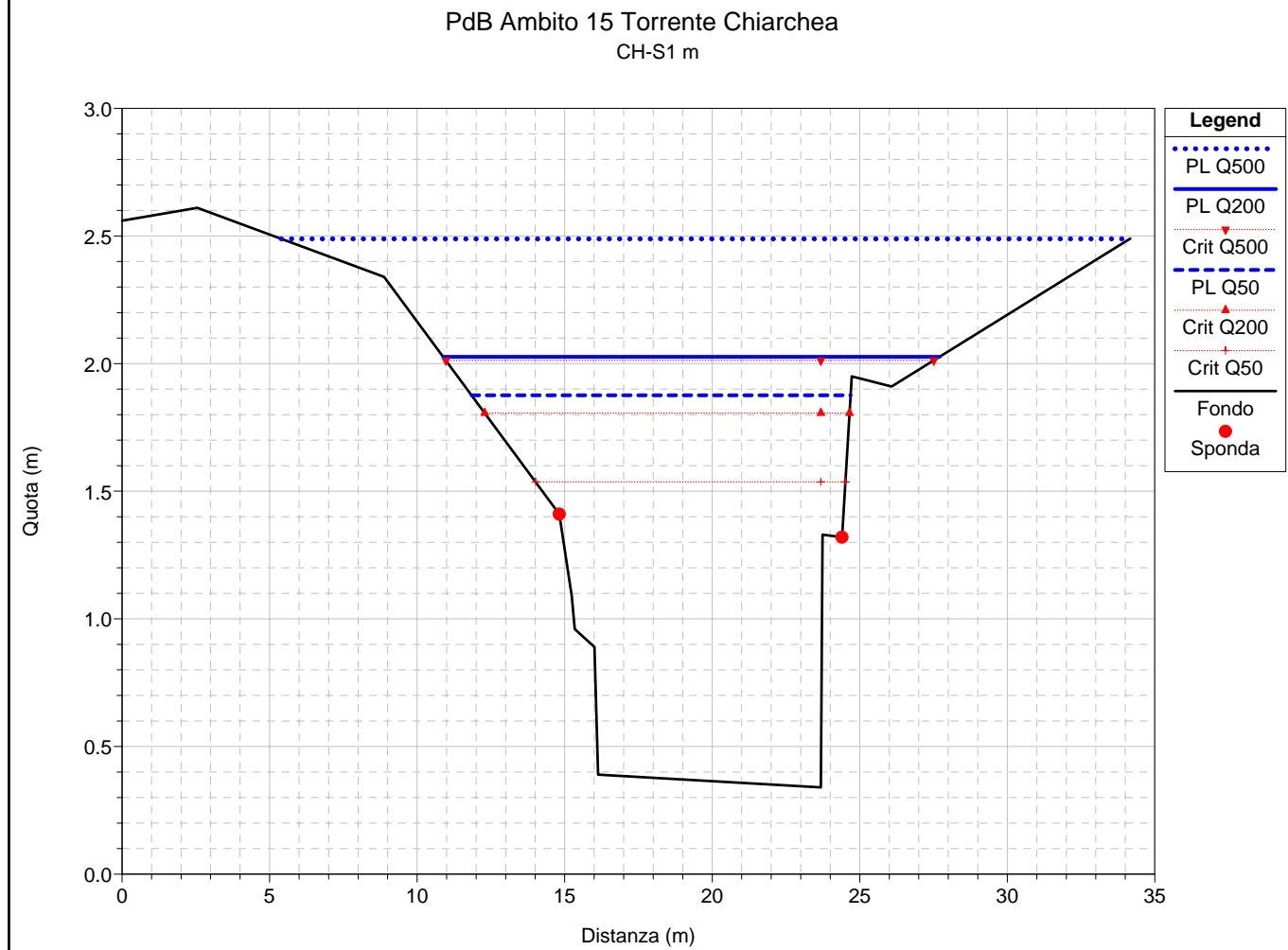
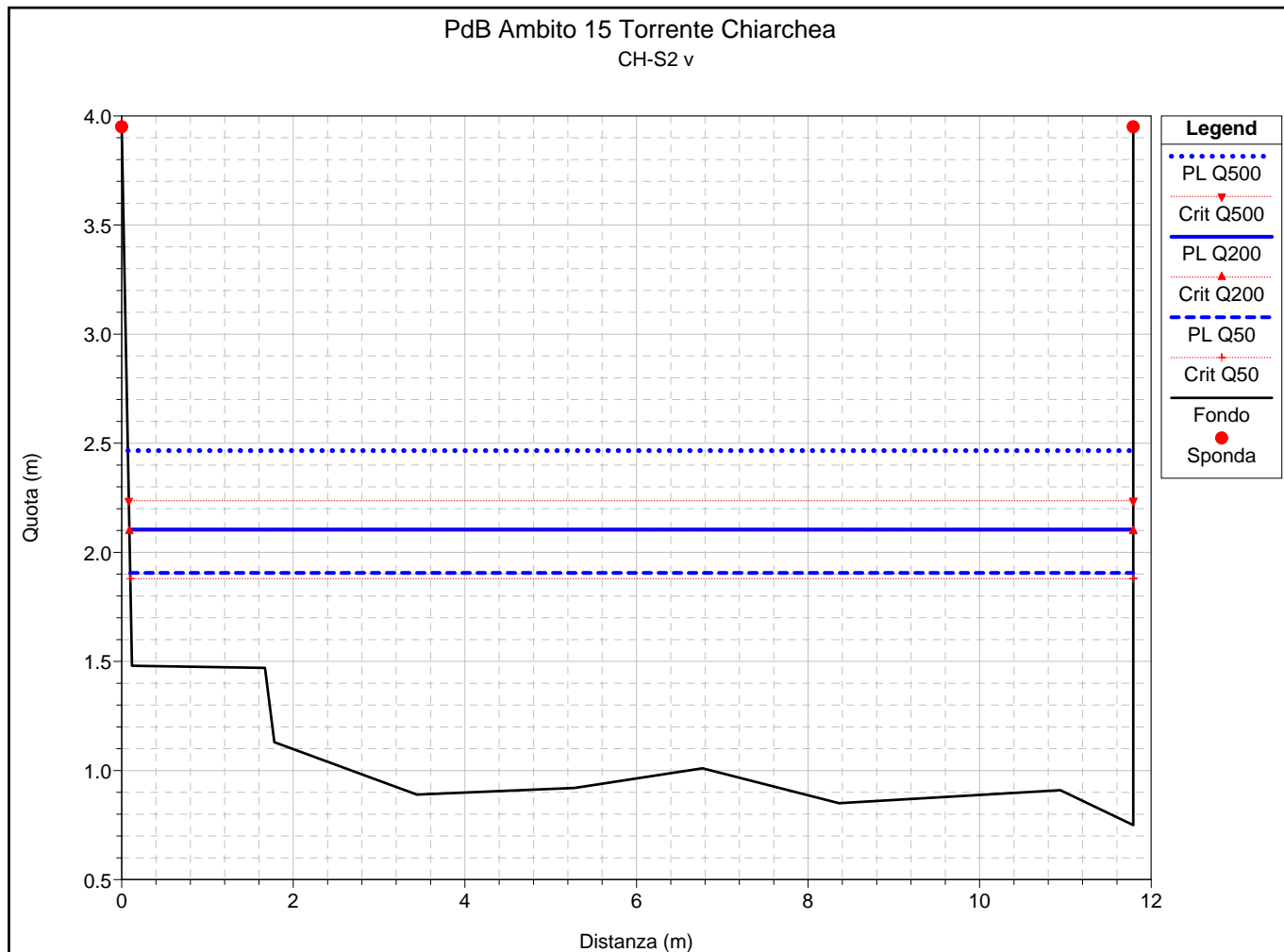


PdB Ambito 15 Torrente Chiarchea

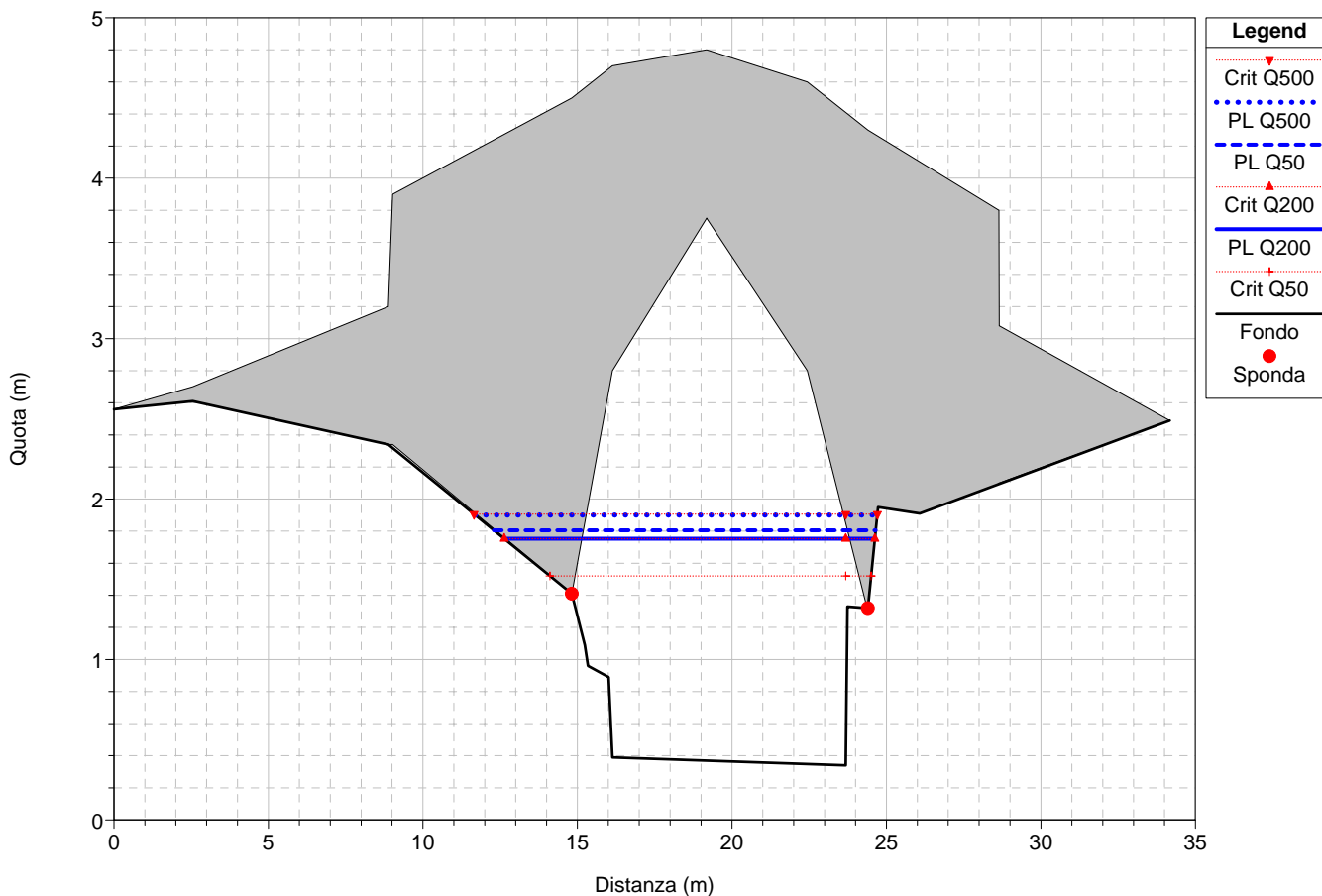


PdB Ambito 15 Torrente Chiarchea

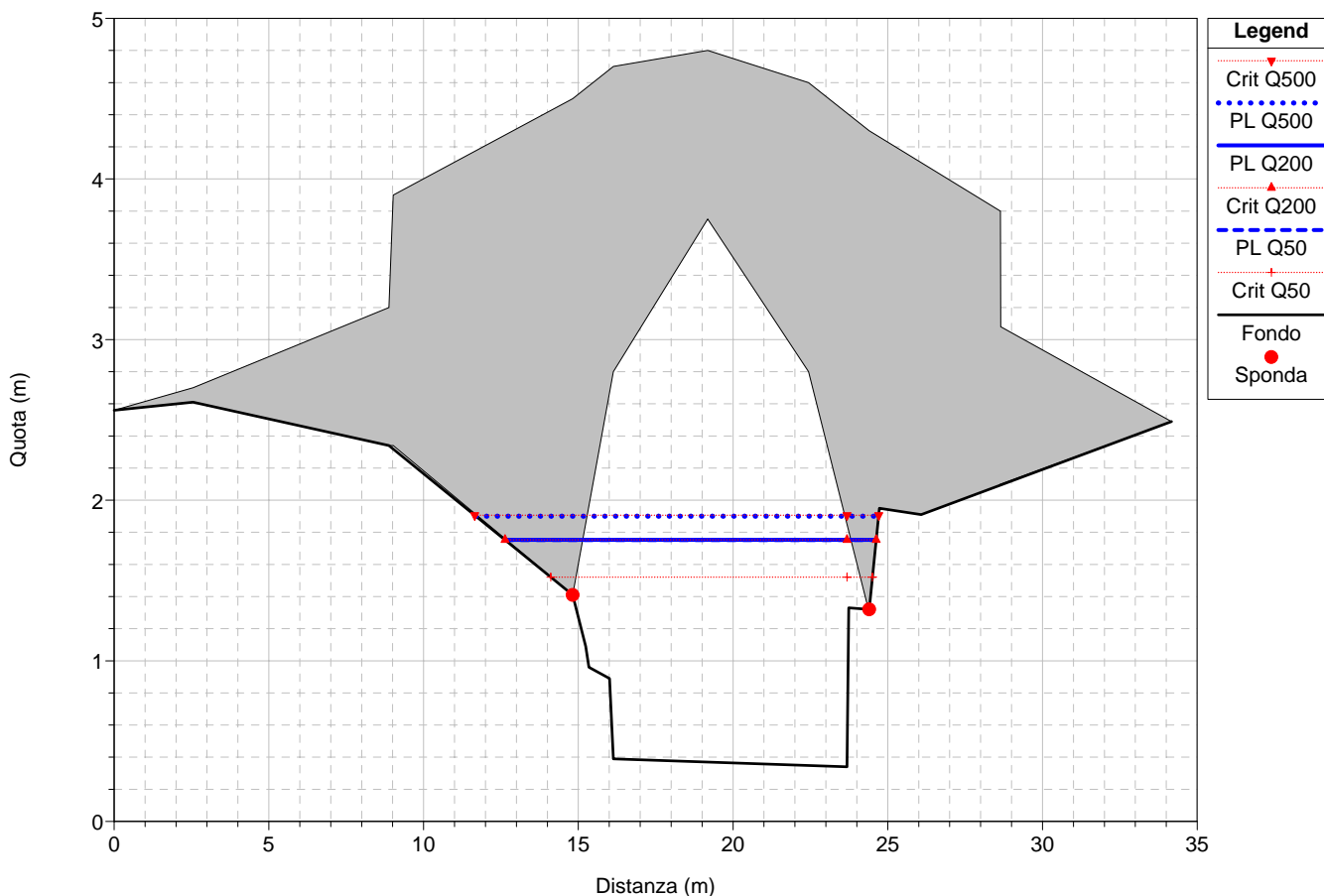


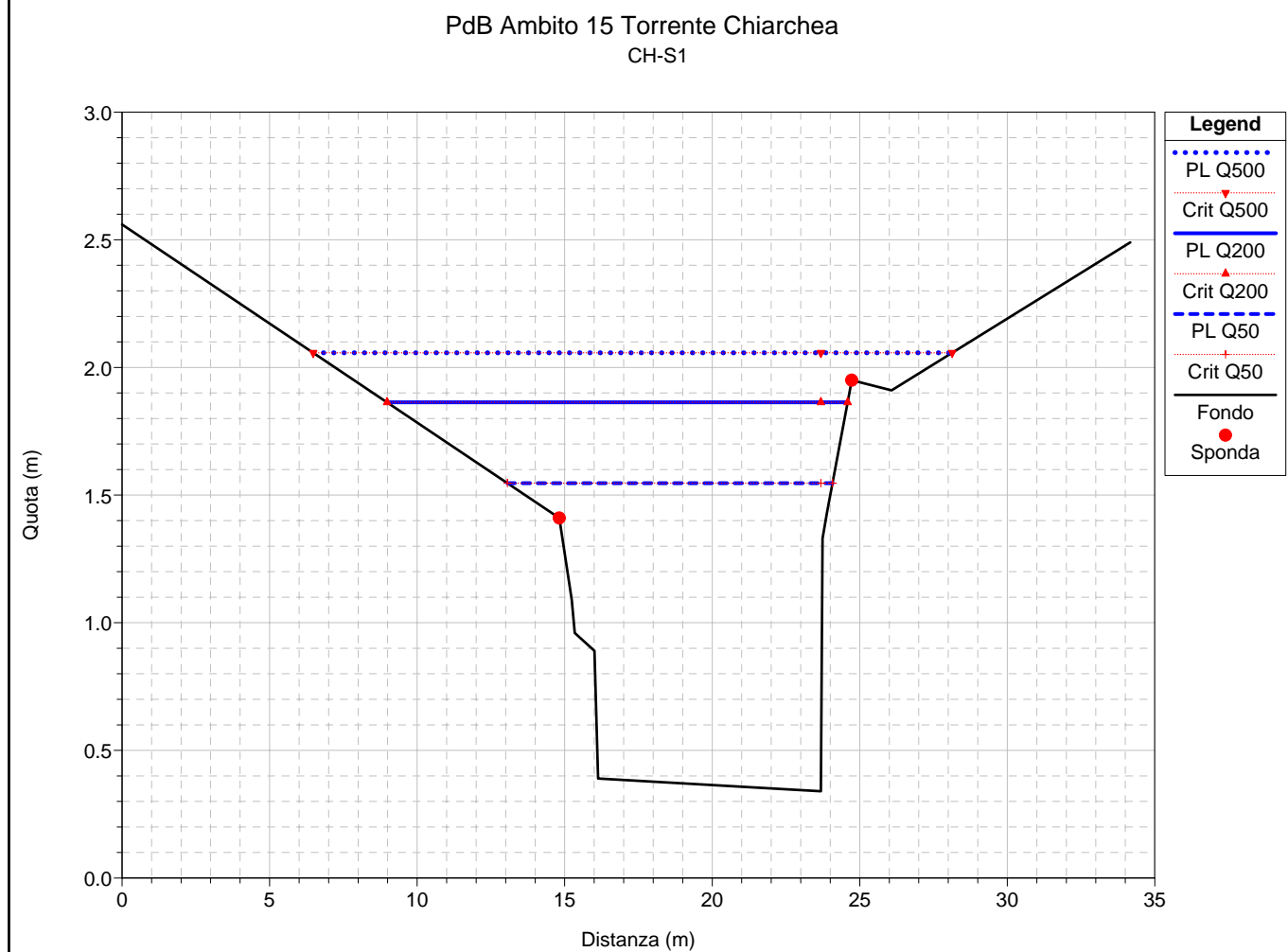
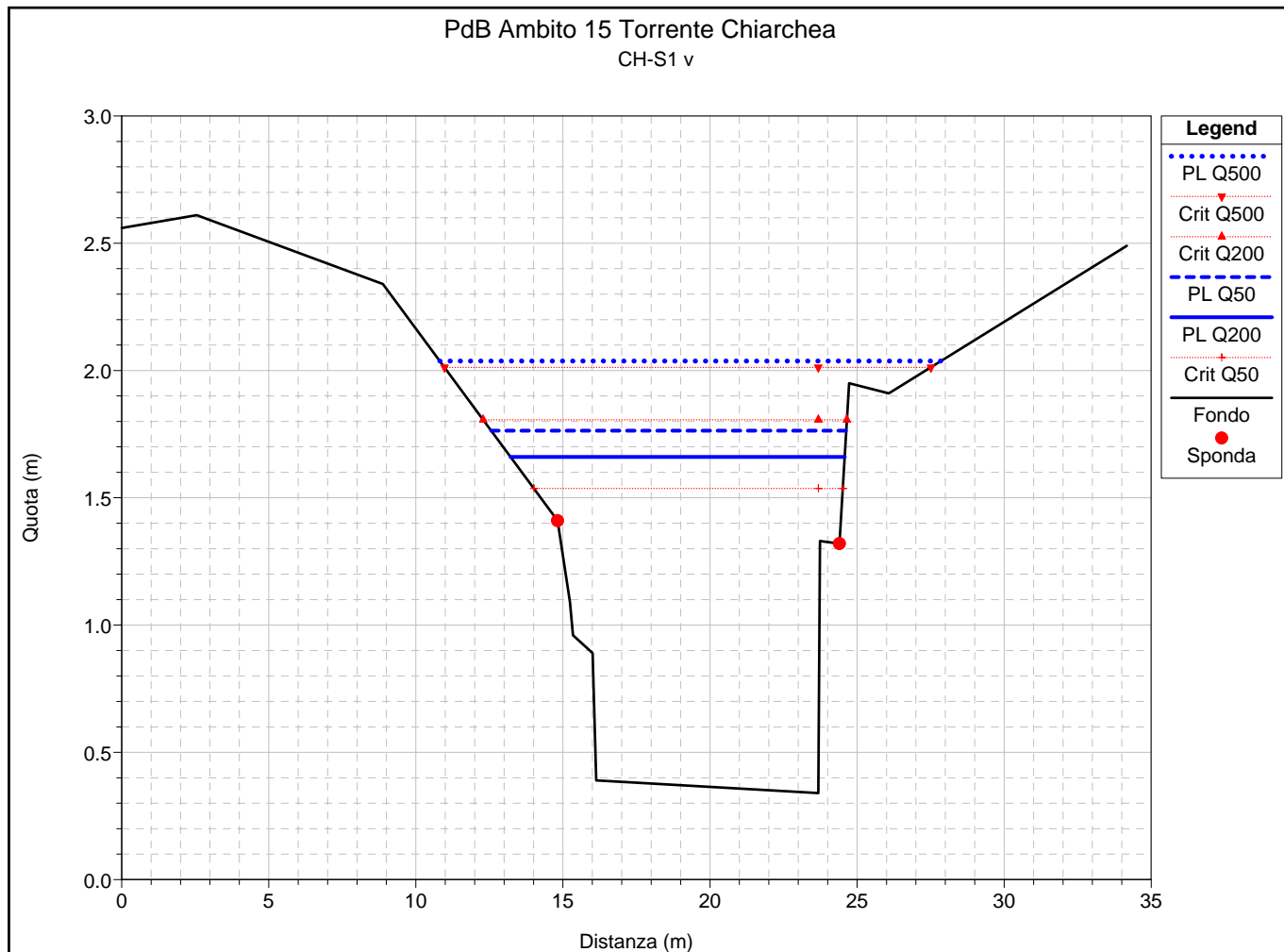


PdB Ambito 15 Torrente Chiarchea



PdB Ambito 15 Torrente Chiarchea





HEC-RAS Plan: pdb stampa River: chiarchea Reach: unico

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl	
unico	19	CH-S19	Q50	30.40	23.86	24.96	28.07	3.11	28.64	3.68	25.46	26.67	0.047009	5.80	5.25	7.27	2.18
unico	19	CH-S19	Q200	42.00	23.86	25.13	28.07	2.94	28.64	3.51	25.74	27.21	0.046949	6.39	6.57	7.80	2.22
unico	19	CH-S19	Q500	50.30	23.86	25.24	28.07	2.83	28.64	3.40	25.92	27.57	0.046935	6.76	7.44	8.09	2.25
unico	18	CH-S18	Q50	30.40	20.56	21.78	25.30	3.52	25.27	3.49	22.43	24.18	0.064623	6.86	4.43	5.63	2.47
unico	18	CH-S18	Q200	42.00	20.56	21.99	25.30	3.31	25.27	3.28	22.78	24.83	0.060445	7.46	5.63	5.66	2.39
unico	18	CH-S18	Q500	50.30	20.56	22.14	25.30	3.16	25.27	3.13	23.01	25.25	0.058407	7.82	6.43	5.68	2.34
unico	17	CH-S17	Q50	30.40	20.00	20.93	23.00	2.07	23.50	2.57	21.37	22.42	0.028553	5.41	5.62	6.11	1.80
unico	17	CH-S17	Q200	42.00	20.00	21.14	23.00	1.86	23.50	2.36	21.69	23.02	0.029259	6.07	6.92	6.14	1.82
unico	17	CH-S17	Q500	50.30	20.00	21.28	23.00	1.72	23.50	2.22	21.91	23.42	0.029862	6.48	7.77	6.16	1.84
unico	16.5		Q50	30.40	19.58	20.84	21.95	1.11	21.95	1.11	21.19	22.13	0.019978	5.02	6.05	4.88	1.44
unico	16.5		Q200	42.00	19.58	21.21	21.95	0.74	21.95	0.74	21.57	22.67	0.018183	5.34	7.86	4.93	1.35
unico	16.5		Q500	50.30	19.58	21.46	21.95	0.49	21.95	0.49	21.82	23.02	0.017513	5.54	9.07	4.97	1.31
unico	16.1	CH-S16.1	Q50	30.40	19.31	20.49	21.68	1.19	21.68	1.19	20.92	21.97	0.024720	5.41	5.62	4.87	1.61
unico	16.1	CH-S16.1	Q200	42.00	19.31	20.82	21.68	0.86	21.68	0.86	21.30	22.52	0.022585	5.77	7.28	4.91	1.51
unico	16.1	CH-S16.1	Q500	50.30	19.31	21.05	21.68	0.63	21.68	0.63	21.55	22.88	0.021753	6.00	8.39	4.95	1.47
unico	16	CH-S16	Q50	30.40	18.99	20.04	21.68	1.64	21.68	1.64	20.60	21.92	0.034775	6.08	5.00	4.83	1.91
unico	16	CH-S16	Q200	42.00	18.99	20.35	21.68	1.33	21.68	1.33	20.98	22.47	0.030855	6.44	6.52	4.87	1.78
unico	16	CH-S16	Q500	50.30	18.99	20.56	21.68	1.12	21.68	1.12	21.23	22.82	0.029250	6.66	7.55	4.90	1.71
unico	15.1	CH-S15.1	Q50	30.40	18.32	19.43	20.70	1.27	20.70	1.27	19.95	21.15	0.030044	5.80	5.24	4.80	1.77
unico	15.1	CH-S15.1	Q200	42.00	18.32	19.72	20.70	0.98	20.70	0.98	20.33	21.77	0.029330	6.35	6.61	4.85	1.74
unico	15.1	CH-S15.1	Q500	50.30	18.32	19.92	20.70	0.78	20.70	0.78	20.59	22.16	0.028708	6.64	7.57	4.88	1.70
unico	15	CH-S15	Q50	30.40	17.76	18.72	20.70	1.98	20.70	1.98	19.39	21.08	0.048061	6.81	4.46	4.74	2.24
unico	15	CH-S15	Q200	42.00	17.76	18.99	20.70	1.71	20.70	1.71	19.78	21.70	0.043836	7.30	5.75	4.78	2.13
unico	15	CH-S15	Q500	50.30	17.76	19.17	20.70	1.53	20.70	1.53	20.03	22.09	0.041628	7.57	6.64	4.81	2.06
unico	14.1	CH-S14.1	Q50	30.40	17.42	18.62	20.08	1.46	20.08	1.46	19.05	20.11	0.024466	5.40	5.63	4.75	1.59
unico	14.1	CH-S14.1	Q200	42.00	17.42	18.90	20.08	1.18	20.08	1.18	19.44	20.76	0.025389	6.03	6.97	4.79	1.60
unico	14.1	CH-S14.1	Q500	50.30	17.42	19.10	20.08	0.98	20.08	0.98	19.70	21.16	0.025571	6.36	7.90	4.82	1.59
unico	14	CH-S14	Q50	30.40	16.81	17.80	20.08	2.28	20.08	2.28	18.44	20.03	0.044305	6.62	4.59	4.71	2.14
unico	14	CH-S14	Q200	42.00	16.81	18.07	20.08	2.01	20.08	2.01	18.83	20.68	0.041390	7.16	5.87	4.74	2.05
unico	14	CH-S14	Q500	50.30	16.81	18.25	20.08	1.83	20.08	1.83	19.09	21.08	0.039872	7.45	6.75	4.76	2.00
unico	13.1	CH-S13.1	Q50	30.40	16.42	17.66	18.79	1.13	18.79	1.13	18.05	19.03	0.021674	5.18	5.86	4.82	1.50
unico	13.1	CH-S13.1	Q200	42.00	16.42	17.94	18.79	0.85	18.79	0.85	18.43	19.67	0.023032	5.83	7.20	4.87	1.53
unico	13.1	CH-S13.1	Q500	50.30	16.42	18.13	18.79	0.66	18.79	0.66	18.69	20.08	0.023622	6.19	8.12	4.91	1.54
unico	13	CH-S13	Q50	30.40	16.09	17.18	18.79	1.61	18.79	1.61	17.72	18.98	0.032346	5.95	5.11	4.77	1.84
unico	13	CH-S13	Q200	42.00	16.09	17.46	18.79	1.33	18.79	1.33	18.11	19.63	0.031721	6.53	6.44	4.82	1.80
unico	13	CH-S13	Q500	50.30	16.09	17.64	18.79	1.15	18.79	1.15	18.36	20.04	0.031383	6.85	7.34	4.85	1.78
unico	12.1	CH-S12.1	Q50	30.40	15.48	17.01	18.15	1.14	18.15	1.14	17.18	18.03	0.013924	4.47	6.80	4.59	1.17
unico	12.1	CH-S12.1	Q200	42.00	15.48	17.38	18.15	0.77	18.15	0.77	17.58	18.62	0.014355	4.94	8.50	4.66	1.17

HEC-RAS Plan: pdb stampa River: chiara chea Reach: unico (Continued)

Reach	River Sta		Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
unico	12.1	CH-S12.1	Q500	50.30	15.48	17.60	18.15	0.55	18.15	0.55	17.84	19.01	0.014955	5.26	9.56	4.70	1.18
unico	12	CH-S12	Q50	30.40	14.55	15.58	18.15	2.57	18.15	2.57	16.25	17.90	0.044988	6.74	4.51	4.45	2.14
unico	12	CH-S12	Q200	42.00	14.55	15.89	18.15	2.26	18.15	2.26	16.66	18.48	0.040012	7.14	5.88	4.50	1.99
unico	12	CH-S12	Q500	50.30	14.55	16.09	18.15	2.06	18.15	2.06	16.92	18.87	0.038099	7.39	6.81	4.53	1.92
unico	11	CH-S11	Q50	30.40	14.30	15.54	18.20	2.66	18.20	2.66	16.03	17.21	0.027931	5.73	5.30	4.37	1.66
unico	11	CH-S11	Q200	42.00	14.30	15.87	18.20	2.33	18.20	2.33	16.44	17.84	0.027125	6.23	6.74	4.42	1.61
unico	11	CH-S11	Q500	50.30	14.30	16.09	18.20	2.11	18.20	2.11	16.71	18.24	0.026682	6.50	7.73	4.45	1.57
unico	10	CH-S10	Q50	30.40	14.10	15.46	18.07	2.61	18.07	2.61	15.81	16.78	0.020084	5.09	5.97	4.49	1.41
unico	10	CH-S10	Q200	42.00	14.10	15.78	18.07	2.29	18.07	2.29	16.21	17.41	0.020794	5.65	7.44	4.53	1.41
unico	10	CH-S10	Q500	50.30	14.10	16.00	18.07	2.07	18.07	2.07	16.48	17.81	0.021054	5.96	8.44	4.57	1.40
unico	9.1	CH-S9.1	Q50	30.40	11.67	12.41	14.05	1.64	15.09	2.68	12.94	14.32	0.059784	6.12	4.96	7.21	2.35
unico	9.1	CH-S9.1	Q200	42.00	11.67	12.57	14.05	1.48	15.09	2.52	13.23	14.99	0.060792	6.90	6.09	7.24	2.40
unico	9.1	CH-S9.1	Q500	50.30	11.67	12.67	14.05	1.38	15.09	2.42	13.42	15.42	0.060739	7.35	6.85	7.25	2.41
unico	9	CH-S9	Q50	30.40	10.80	11.75	14.05	2.30	15.09	3.34	12.36	14.19	0.091549	6.93	4.39	7.08	2.81
unico	9	CH-S9	Q200	42.00	10.80	11.90	14.05	2.15	15.09	3.19	12.66	14.87	0.085971	7.63	5.51	7.11	2.77
unico	9	CH-S9	Q500	50.30	10.80	12.01	14.05	2.04	15.09	3.08	12.85	15.30	0.082955	8.03	6.26	7.13	2.74
unico	8.2	CH-S8 m	Q50	30.40	10.24	11.01	12.70	1.69	12.70	1.69	11.69	13.80	0.090563	7.39	4.11	6.15	2.89
unico	8.2	CH-S8 m	Q200	42.00	10.24	11.19	12.70	1.51	12.70	1.51	11.99	14.49	0.086653	8.05	5.22	6.49	2.87
unico	8.2	CH-S8 m	Q500	50.30	10.24	11.30	12.70	1.40	12.70	1.40	12.19	14.92	0.087116	8.44	5.96	6.91	2.90
unico	8		Bridge														
unico	7.8	CH-S8 v	Q50	30.40	10.24	11.11	12.70	1.59	12.70	1.59	11.69	13.23	0.059928	6.45	4.71	6.23	2.37
unico	7.8	CH-S8 v	Q200	42.00	10.24	11.28	12.70	1.42	12.70	1.42	11.99	13.92	0.064215	7.19	5.84	6.84	2.49
unico	7.8	CH-S8 v	Q500	50.30	10.24	11.39	12.70	1.31	12.70	1.31	12.19	14.35	0.064267	7.62	6.60	6.95	2.50
unico	7	CH-S7	Q50	30.40	8.62	9.38	12.00	2.62	10.87	1.49	9.89	11.28	0.066515	6.11	4.98	8.43	2.54
unico	7	CH-S7	Q200	42.00	8.62	9.53	12.00	2.47	10.87	1.34	10.15	11.88	0.064437	6.80	6.17	8.44	2.54
unico	7	CH-S7	Q500	50.30	8.62	9.61	12.00	2.39	10.87	1.26	10.33	12.32	0.065385	7.29	6.90	8.44	2.57
unico	6.1	CH-S6 m	Q50	30.40	6.60	7.93	10.00	2.07	10.10	2.17	8.45	9.68	0.045527	5.85	5.20	5.25	1.88
unico	6.1	CH-S6 m	Q200	42.00	6.60	8.19	10.00	1.81	10.10	1.91	8.81	10.28	0.043694	6.41	6.55	5.27	1.83
unico	6.1	CH-S6 m	Q500	50.30	6.60	8.36	10.00	1.64	10.10	1.74	9.05	10.69	0.043274	6.76	7.44	5.29	1.82
unico	6		Bridge														
unico	5.9	CH-S6 v	Q50	30.40	6.60	8.45	8.50	0.05	10.10	1.65	8.45	9.20	0.013127	3.83	7.93	5.33	1.00
unico	5.9	CH-S6 v	Q200	42.00	6.60	8.81	8.50	-0.31	10.10	1.29	8.81	9.74	0.013474	4.26	9.87	5.36	1.00
unico	5.9	CH-S6 v	Q500	50.30	6.60	8.85	8.50	-0.35	10.10	1.25	9.05	10.12	0.018217	4.99	10.08	5.37	1.16
unico	5	CH-S5	Q50	30.40	4.21	5.32	7.70	2.38	7.47	2.15	5.76	6.83	0.038507	5.43	5.60	7.25	1.97
unico	5	CH-S5	Q200	42.00	4.21	5.49	7.70	2.21	7.47	1.98	6.04	7.38	0.041305	6.08	6.91	7.85	2.07
unico	5	CH-S5	Q500	50.30	4.21	5.60	7.70	2.10	7.47	1.87	6.22	7.74	0.041466	6.48	7.76	7.86	2.08

HEC-RAS Plan: pdb stampa River: chiarchea Reach: unico (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	LOB Elev (m)	L. Freeboard (m)	ROB Elev (m)	R. Freeboard (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl	
unico	4	CH-S4	Q50	30.40	2.31	3.73	3.92	0.19	6.09	2.36	4.05	4.79	0.024388	4.56	6.66	7.03	1.50
unico	4	CH-S4	Q200	42.00	2.31	3.91	3.92	0.01	6.09	2.18	4.33	5.28	0.028737	5.19	8.09	7.87	1.64
unico	4	CH-S4	Q500	50.30	2.31	4.03	3.92	-0.11	6.09	2.06	4.51	5.60	0.029049	5.57	9.10	8.74	1.66
unico	3	CH-S3	Q50	30.40	1.08	2.98	2.98	0.00	4.00	1.02	2.78	3.19	0.003325	2.10	15.24	10.60	0.55
unico	3	CH-S3	Q200	42.00	1.08	3.26	2.98	-0.28	4.00	0.74	2.98	3.54	0.003664	2.43	18.22	10.60	0.59
unico	3	CH-S3	Q500	50.30	1.08	3.44	2.98	-0.46	4.00	0.56	2.98	3.77	0.003875	2.64	20.13	10.60	0.61
unico	2.1	CH-S2 m	Q50	30.40	0.75	1.55	3.95	2.40	3.95	2.40	1.88	2.69	0.043845	4.72	6.44	11.67	2.03
unico	2.1	CH-S2 m	Q200	42.00	0.75	1.69	3.95	2.26	3.95	2.26	2.10	3.07	0.040252	5.19	8.09	11.68	1.99
unico	2.1	CH-S2 m	Q500	50.30	0.75	1.79	3.95	2.16	3.95	2.16	2.24	3.31	0.038149	5.46	9.21	11.68	1.96
unico	2		Bridge														
unico	1.9	CH-S2 v	Q50	30.40	0.75	1.91	3.95	2.04	3.95	2.04	1.88	2.33	0.008991	2.87	10.58	11.69	0.96
unico	1.9	CH-S2 v	Q200	42.00	0.75	2.10	3.95	1.85	3.95	1.85	2.10	2.64	0.009203	3.25	12.91	11.70	0.99
unico	1.9	CH-S2 v	Q500	50.30	0.75	2.47	3.95	1.48	3.95	1.48	2.24	2.90	0.005485	2.93	17.14	11.72	0.77
unico	1.8	CH-S1 m	Q50	30.40	0.34	1.88	1.41	-0.47	1.32	-0.56	1.54	2.14	0.003363	2.30	13.74	12.85	0.63
unico	1.8	CH-S1 m	Q200	42.00	0.34	2.03	1.41	-0.62	1.32	-0.71	1.81	2.42	0.004369	2.81	15.98	16.83	0.73
unico	1.8	CH-S1 m	Q500	50.30	0.34	2.49	1.41	-1.08	1.32	-1.17	2.01	2.74	0.002117	2.33	26.12	28.76	0.53
unico	1.6		Bridge														
unico	1.5	CH-S1 v	Q50	30.40	0.34	1.76	1.41	-0.35	1.32	-0.44	1.54	2.09	0.004566	2.53	12.34	12.07	0.72
unico	1.5	CH-S1 v	Q200	42.00	0.34	1.66	1.41	-0.25	1.32	-0.34	1.81	2.41	0.011764	3.83	11.14	11.36	1.15
unico	1.5	CH-S1 v	Q500	50.30	0.34	2.04	1.41	-0.63	1.32	-0.72	2.01	2.59	0.006102	3.34	16.16	17.04	0.87
unico	1	CH-S1	Q50	30.40	0.34	1.55	1.41	-0.14	1.95	0.40	1.55	2.04	0.008865	3.13	9.82	11.02	0.97
unico	1	CH-S1	Q200	42.00	0.34	1.86	1.41	-0.45	1.95	0.09	1.86	2.37	0.006914	3.19	14.04	15.61	0.89
unico	1	CH-S1	Q500	50.30	0.34	2.06	1.41	-0.65	1.95	-0.11	2.06	2.54	0.005842	3.19	17.65	21.66	0.84