



Provincia di Genova

AMBITI REGIONALI DI BACINO 12 e 13

PIANI DI BACINO STRALCIO PER LA TUTELA DAL RISCHIO IDROGEOLOGICO

(ai sensi dell'art. 1, comma1, del D.L. 180/1998 convertito in L. 267/1998)

ALLEGATO B

VERIFICHE IDRAULICHE

STRALCIO

CONFLUENZA ACQUASANTA – GORSEXIO



Approvato con DCP n. 65 del 12/12/2002

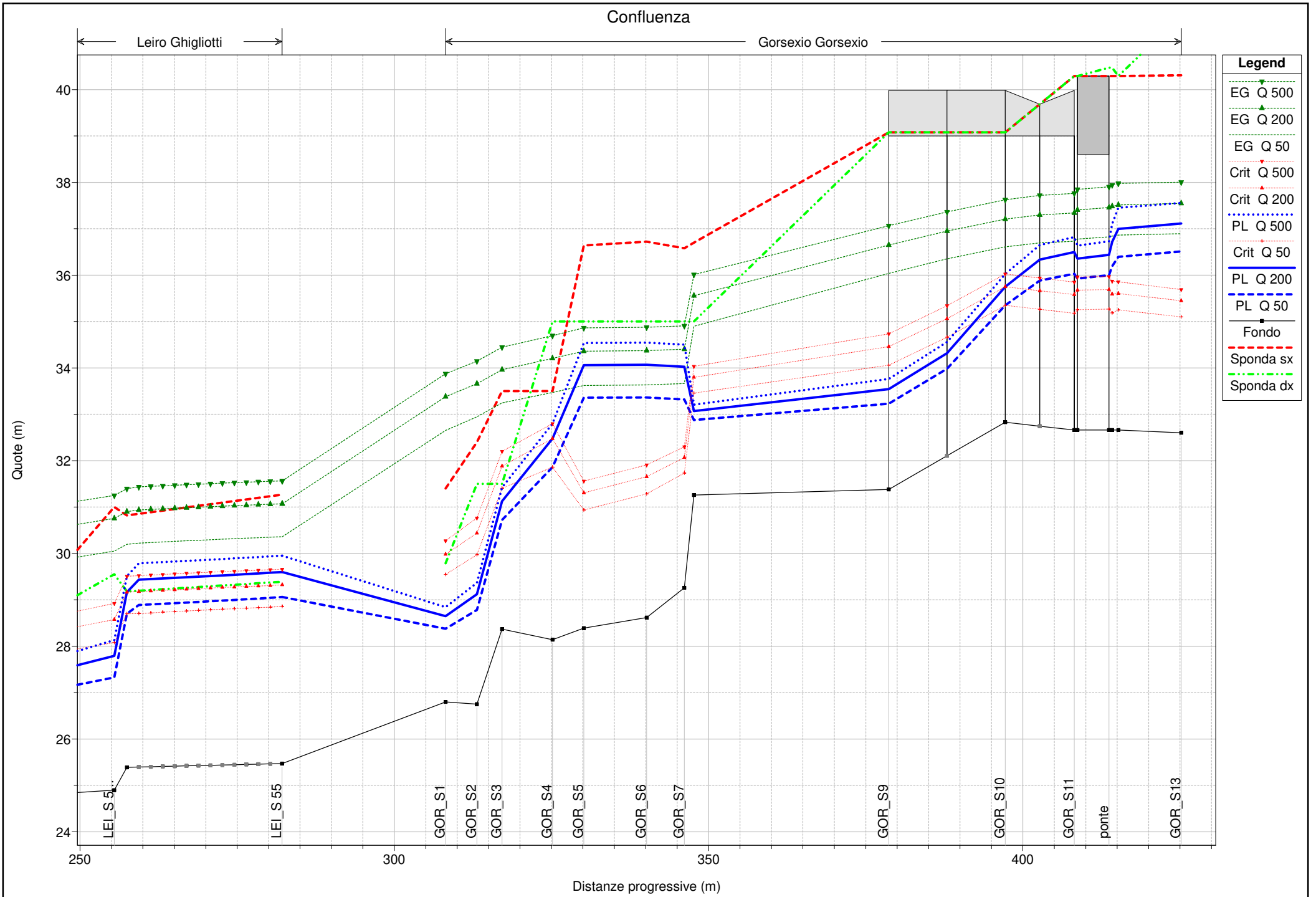
Modificato con D.G.P. n. 130 del 19/04/2005, con D.C.P. n. 28 del 28/03/2007,
con D.G.P. n. 396 del 04/12/2007, con D.C.P. n. 27 del 13/05/2009
e con D.G.P. n. 6 del 05/02/2013

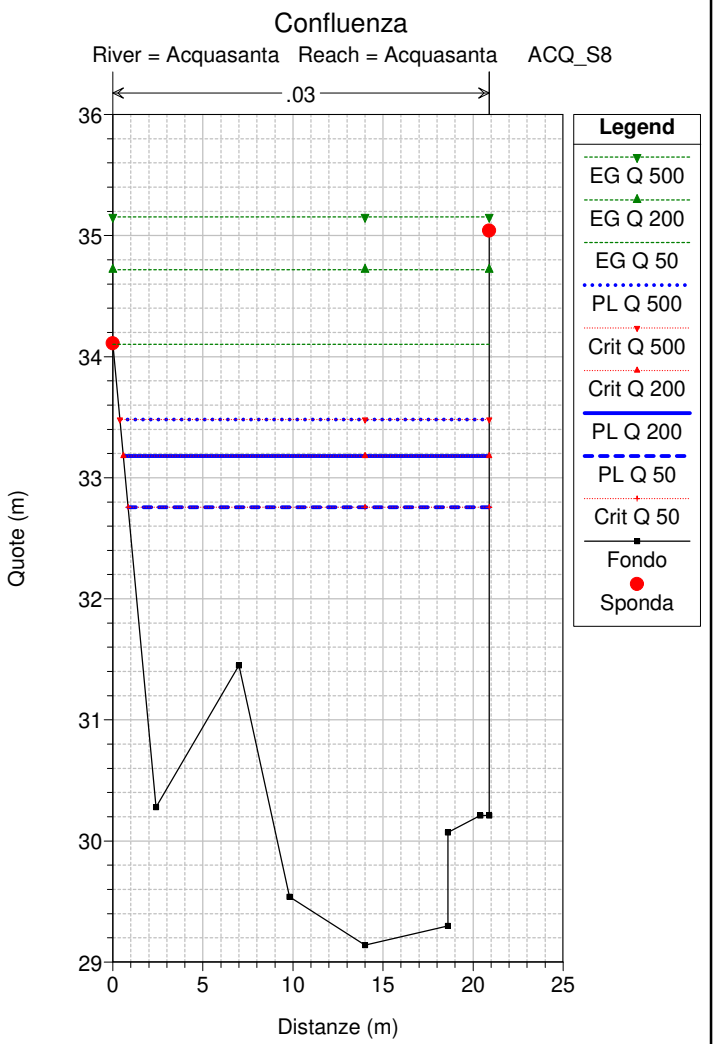
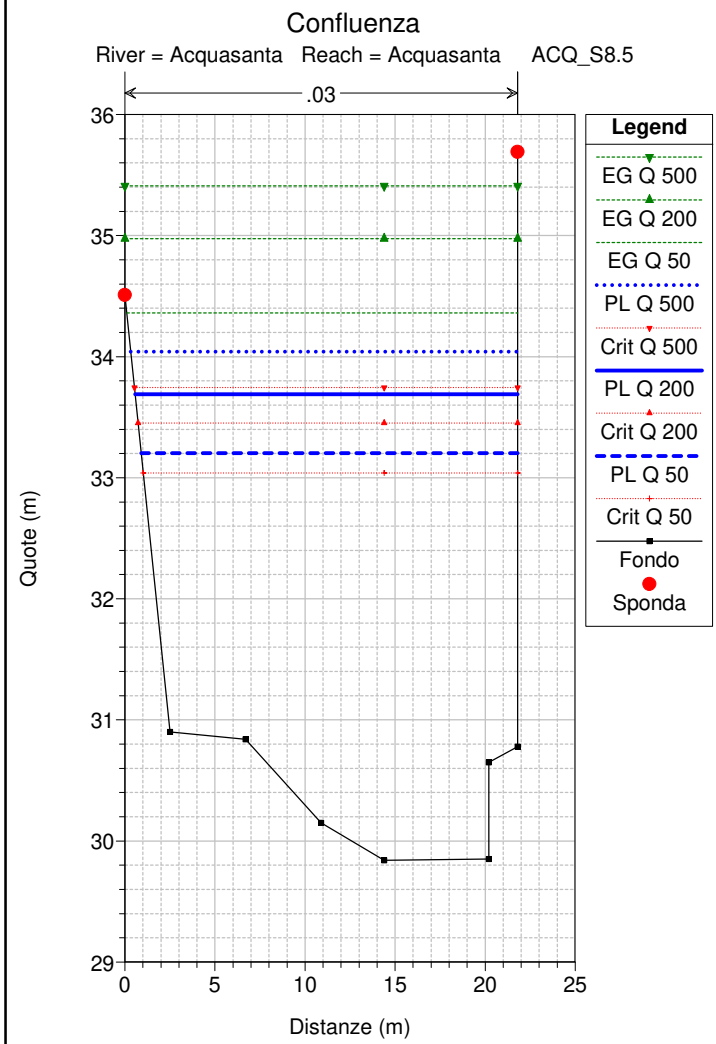
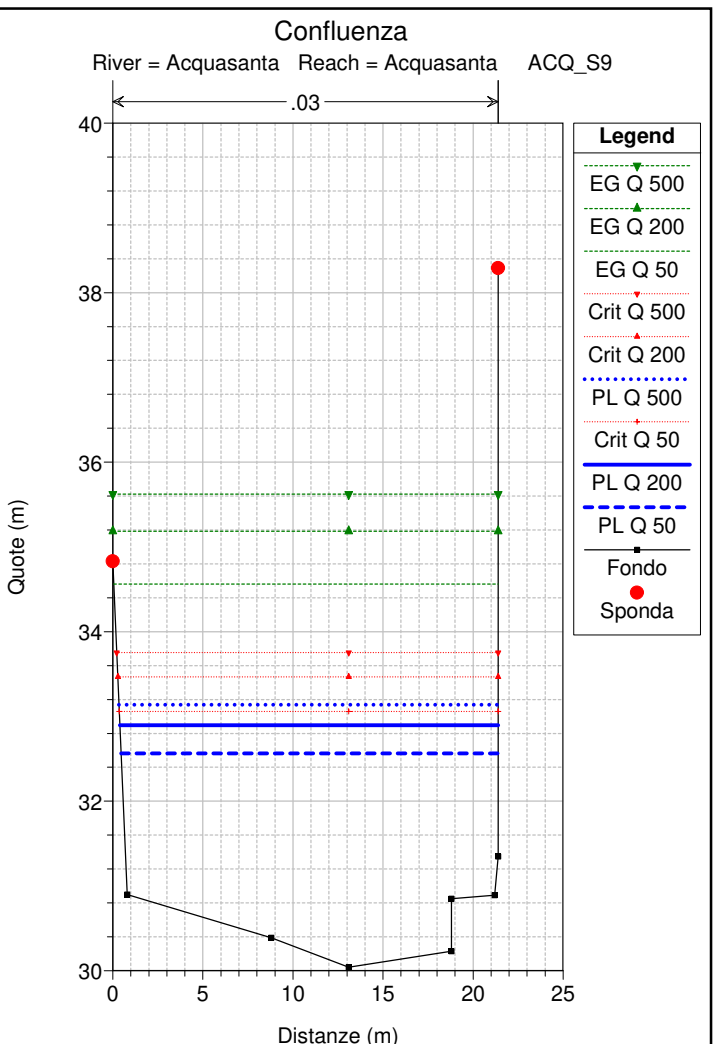
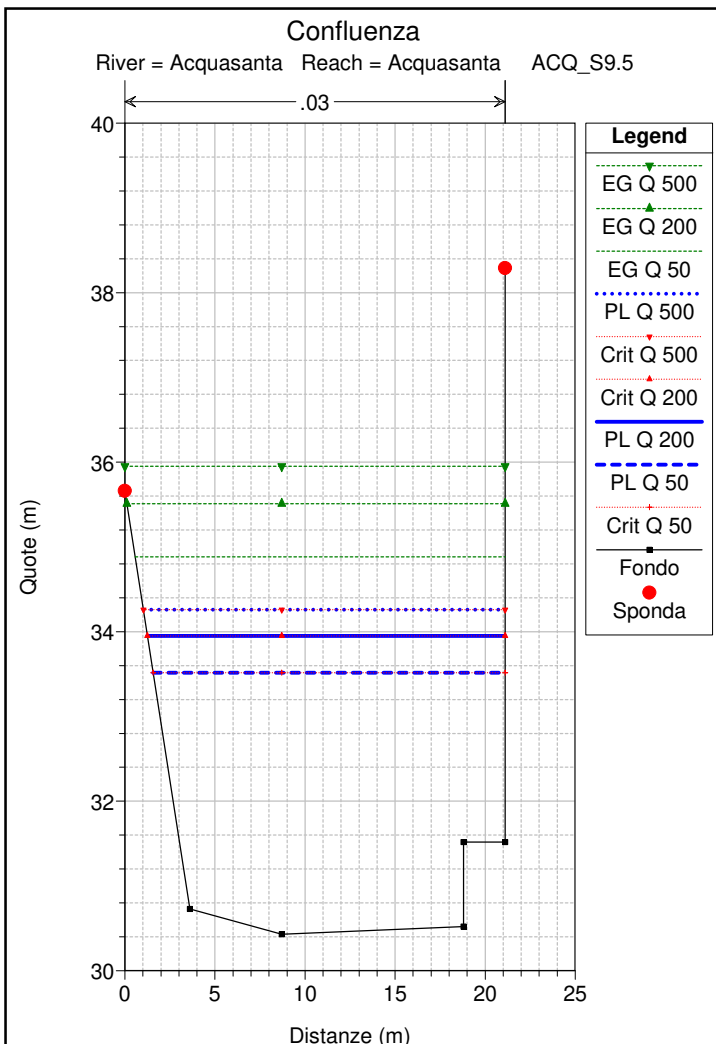
Elaborato	Verificato	Regolarità tecnica	Data	Ed.	Rev.
Ufficio Pianificazione territoriale	Arch. Andrea Pasetti	Arch. Andrea Pasetti	05/02/2013	1	2

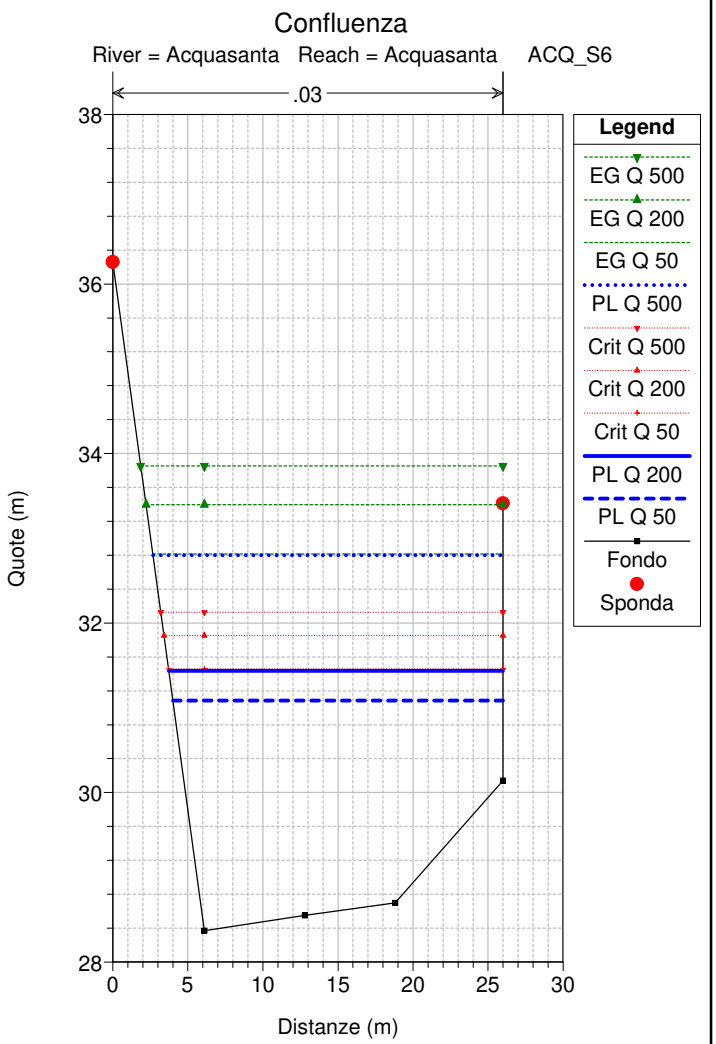
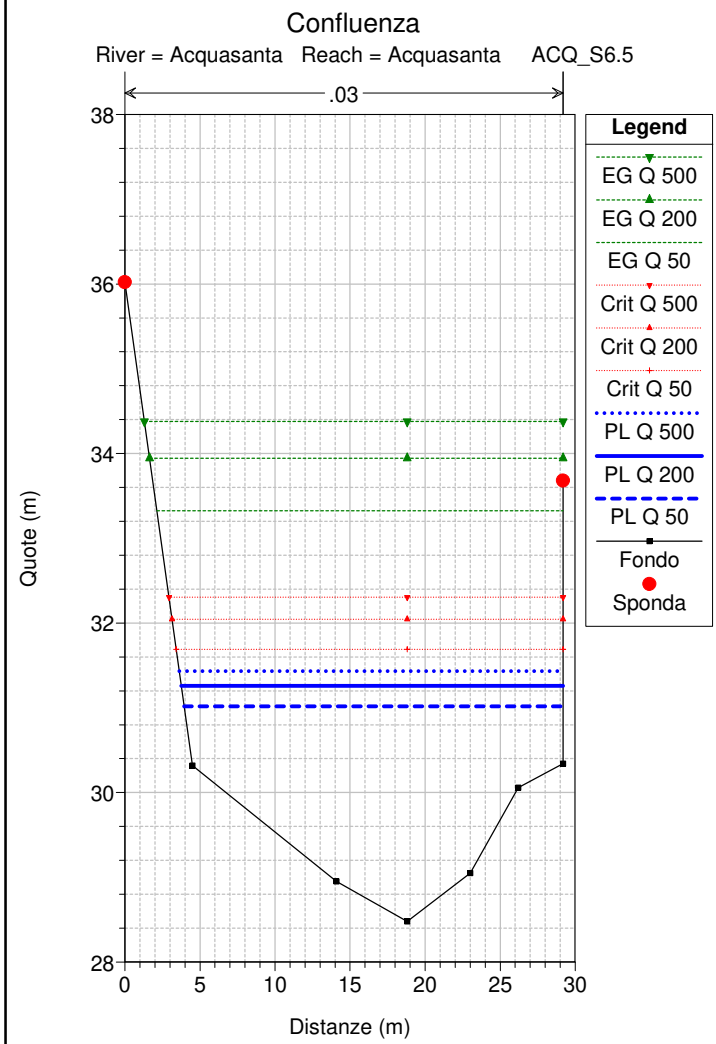
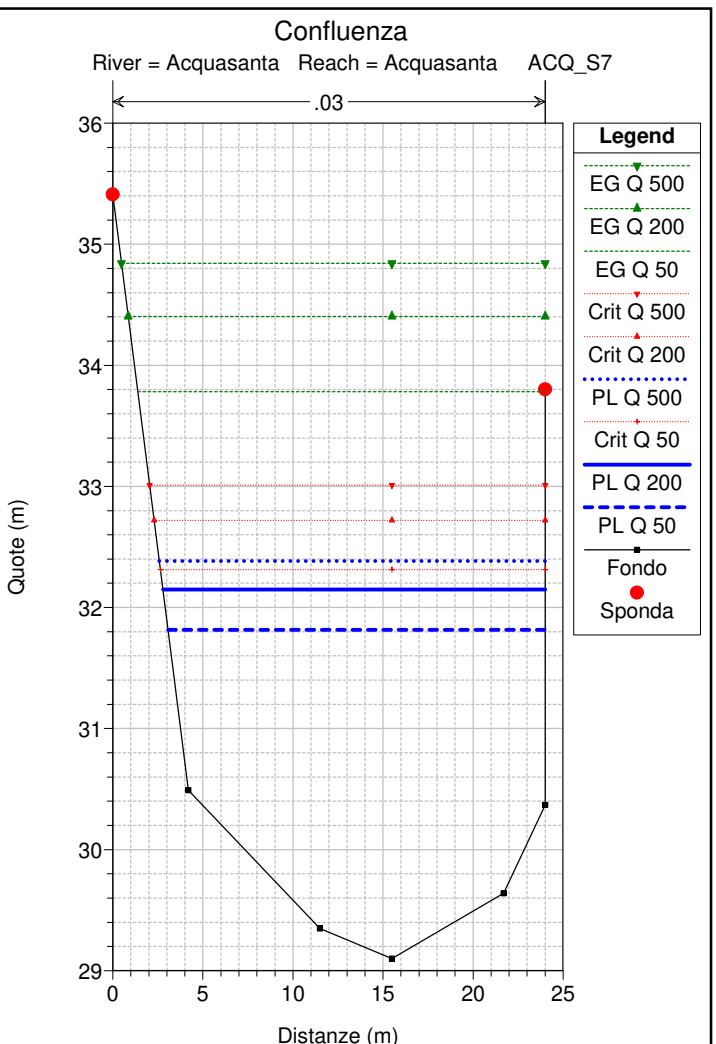
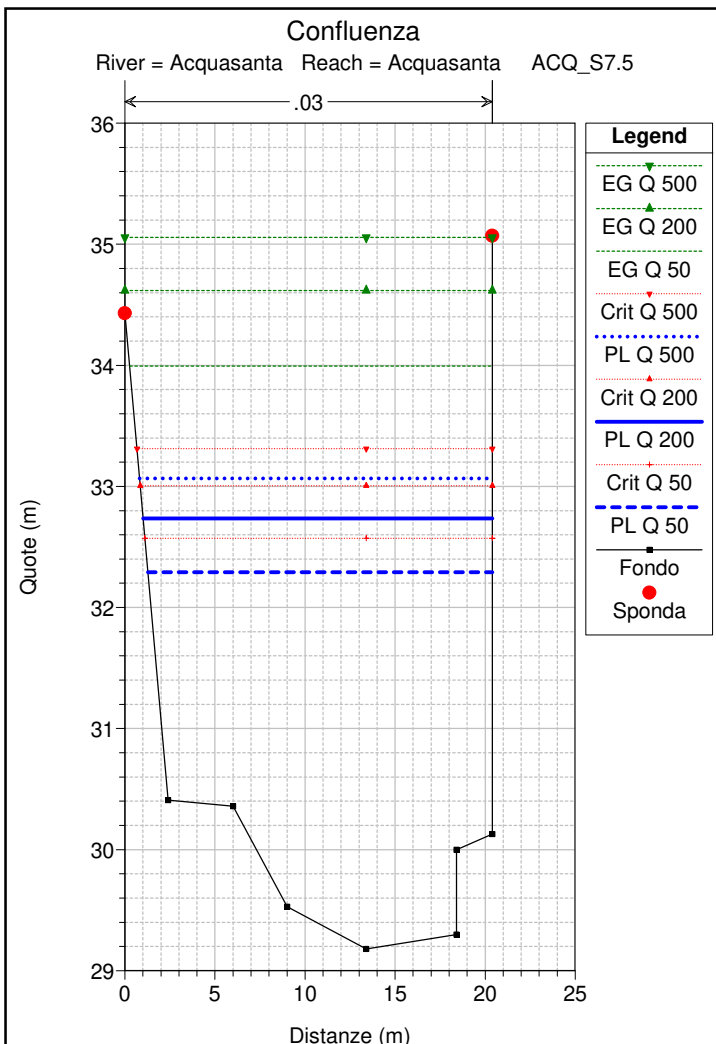
Confluenza Acquasanta-Gorsexio

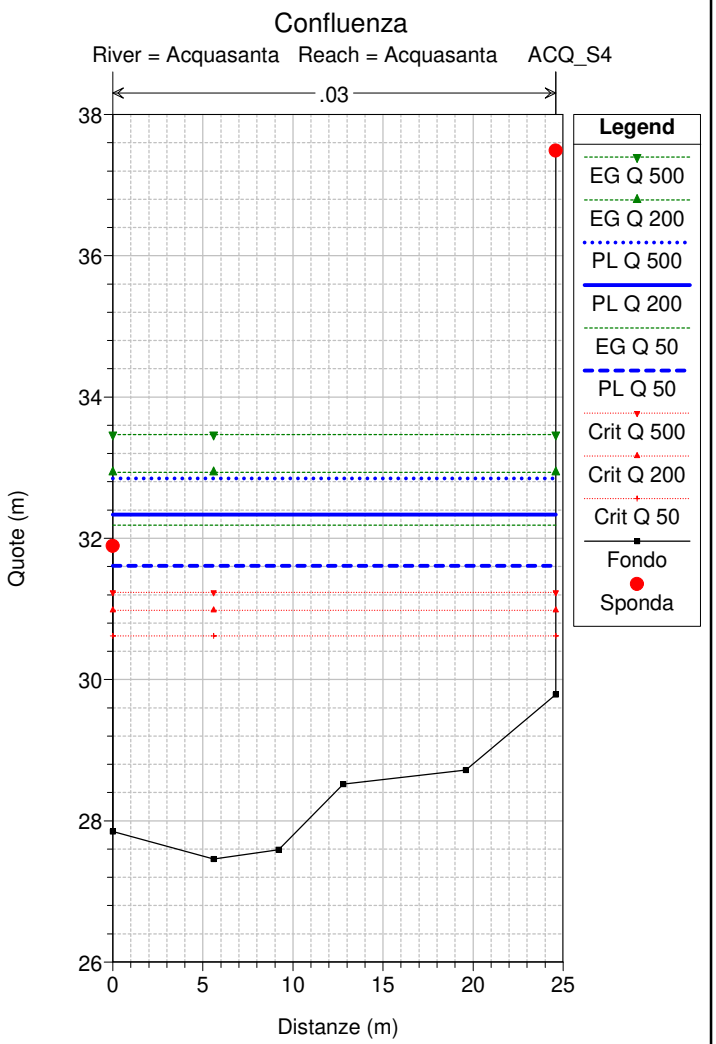
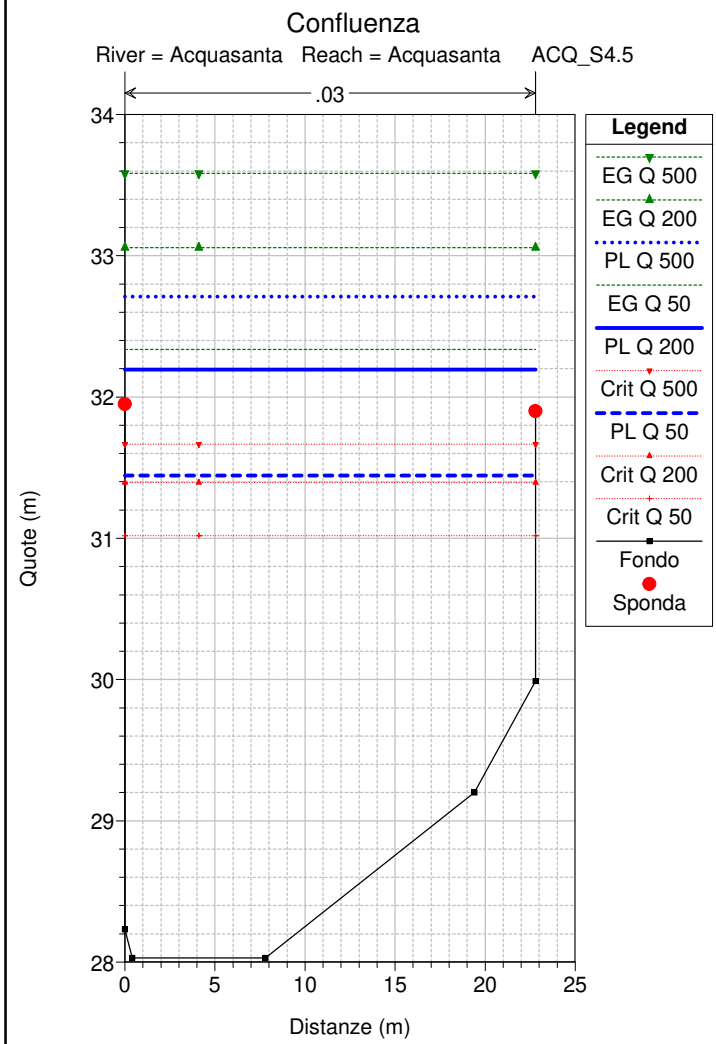
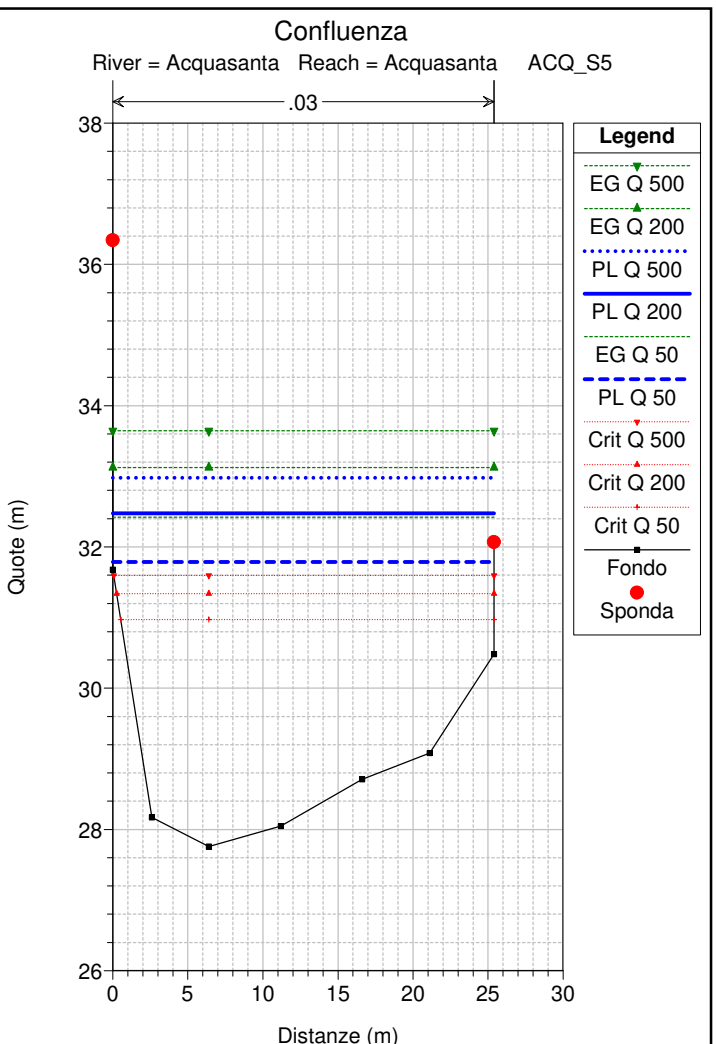
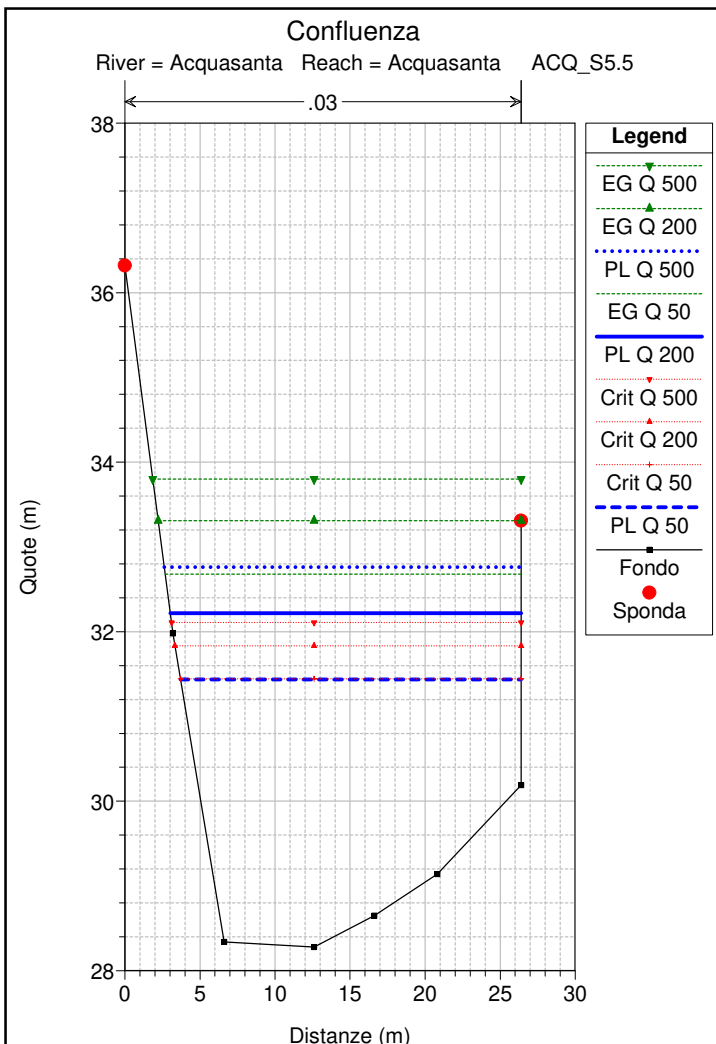
t. Acquasanta: dalla sez. ACQ_S9.5 alla ACQ_S1
rio Gorsexio: dalla sez. GOR_S13 alla GOR_S1

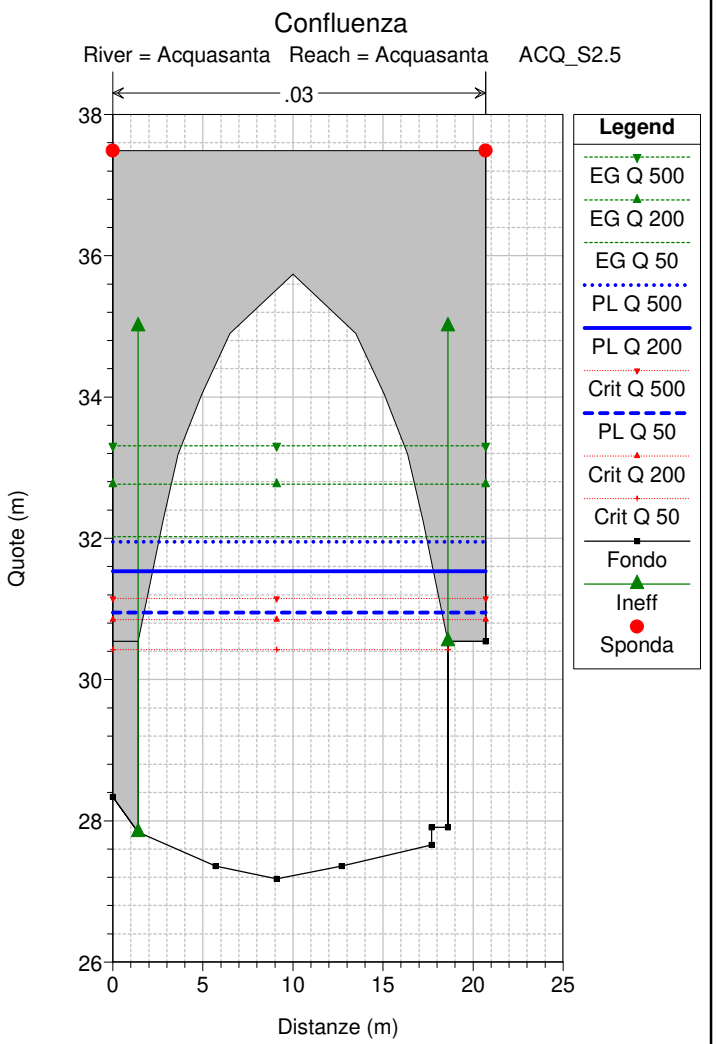
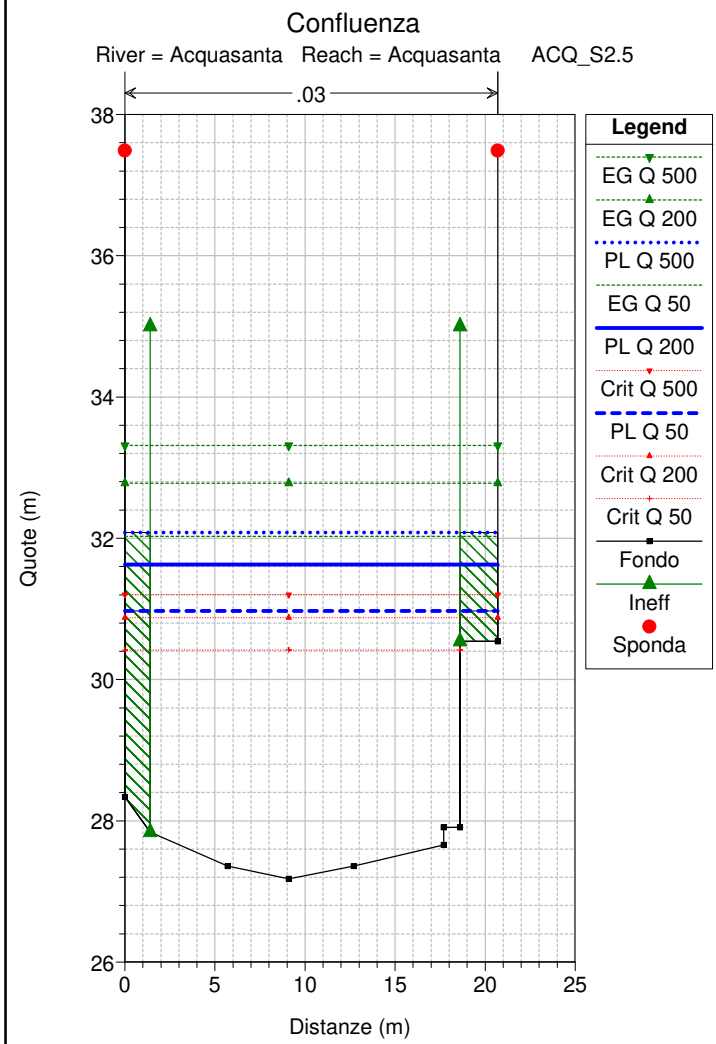
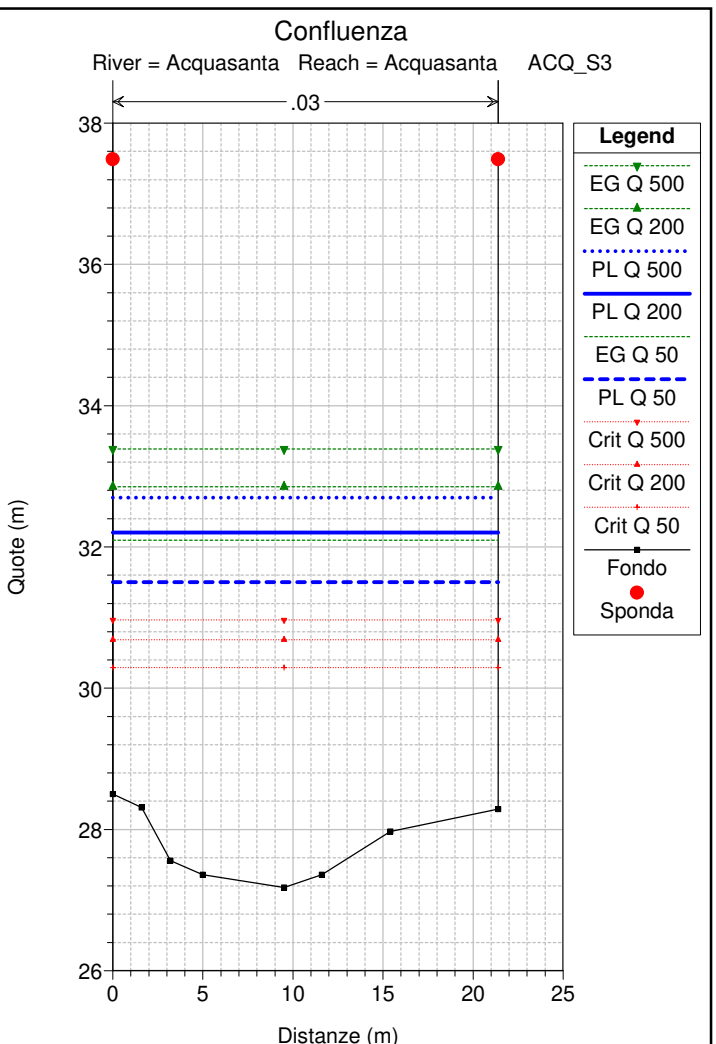
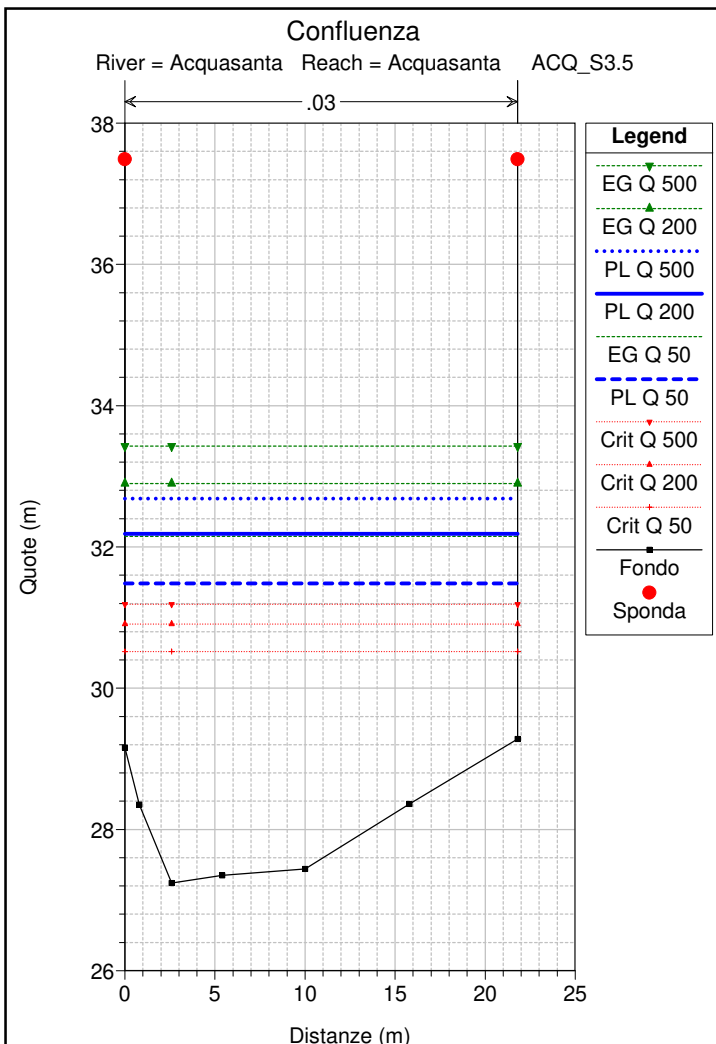
- Profili di corrente
- Sezioni idrauliche
- Tabelle dei risultati

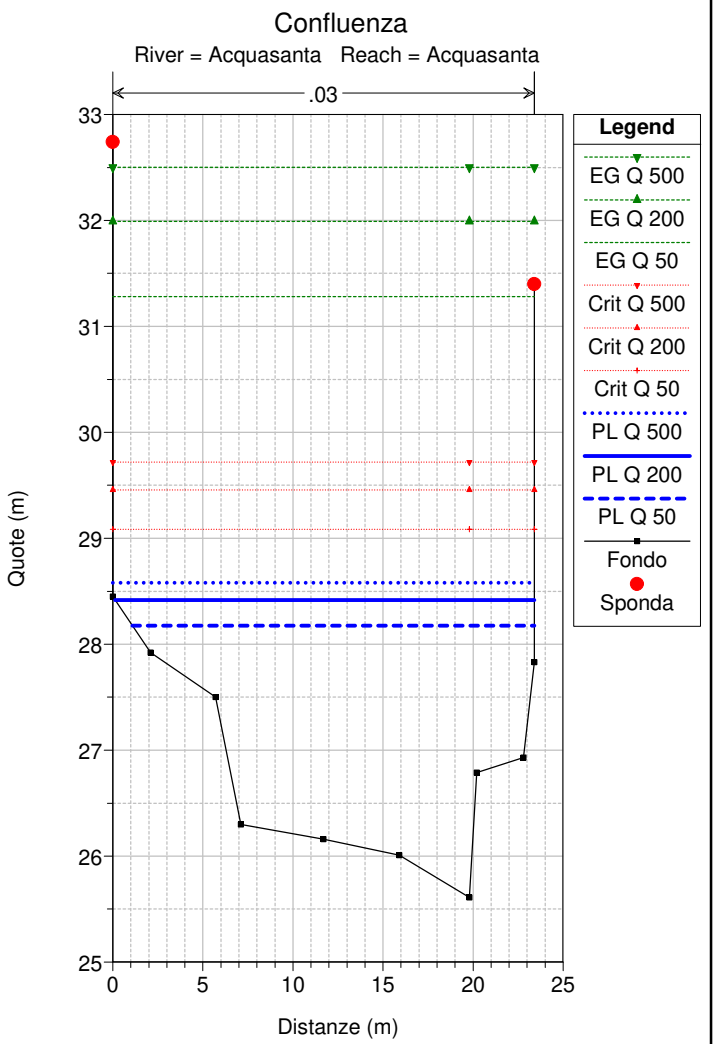
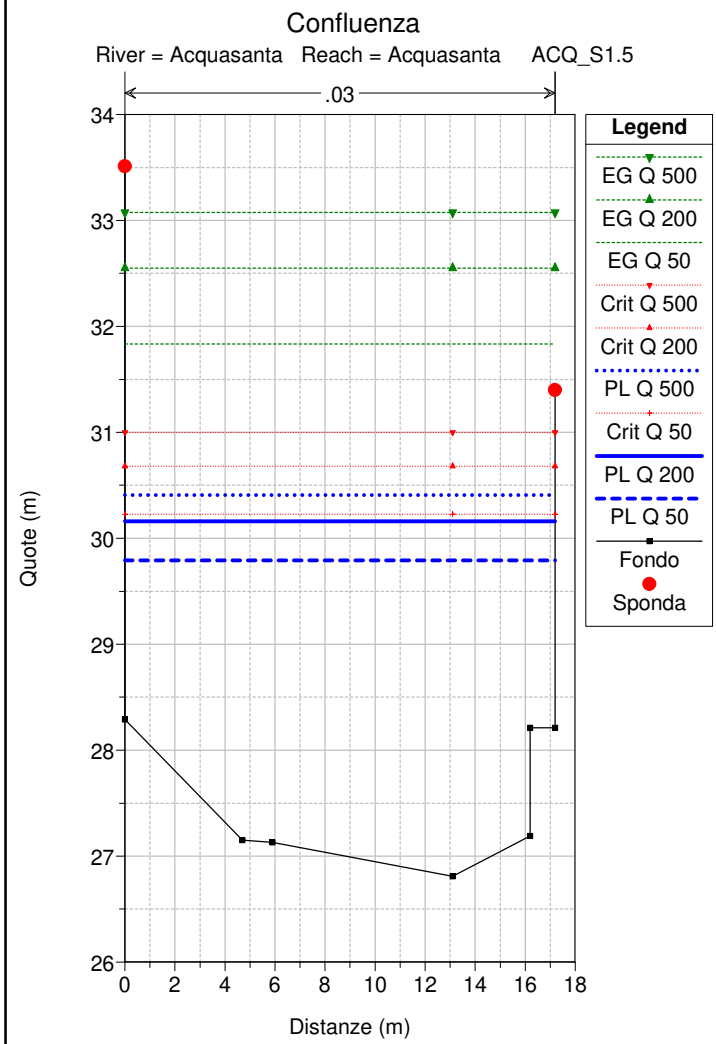
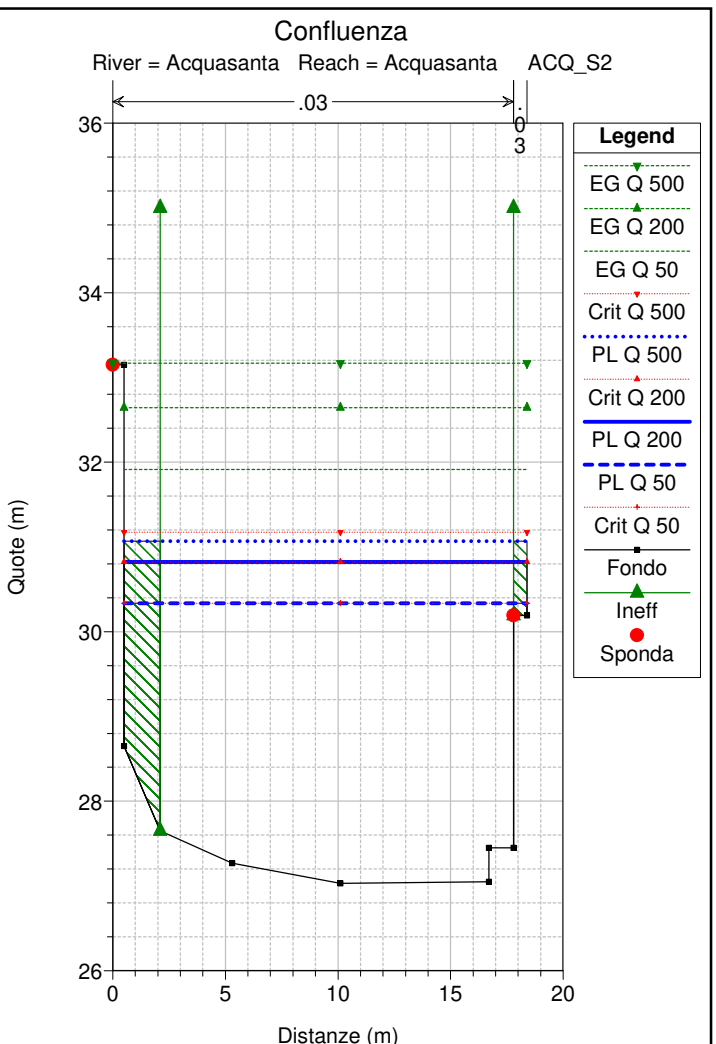
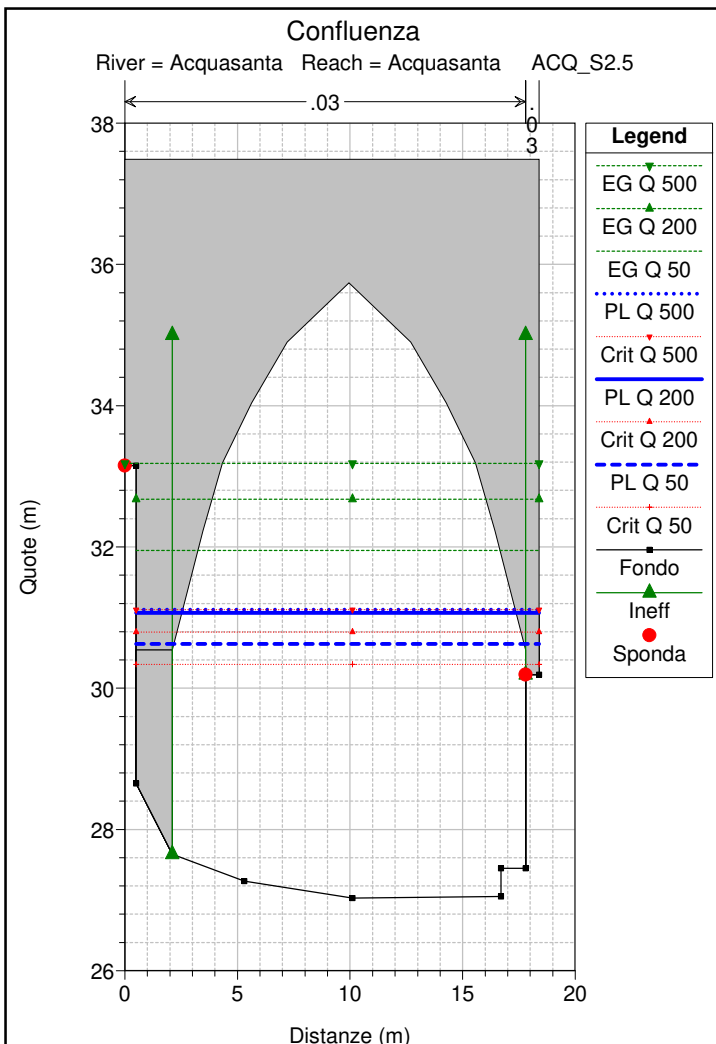








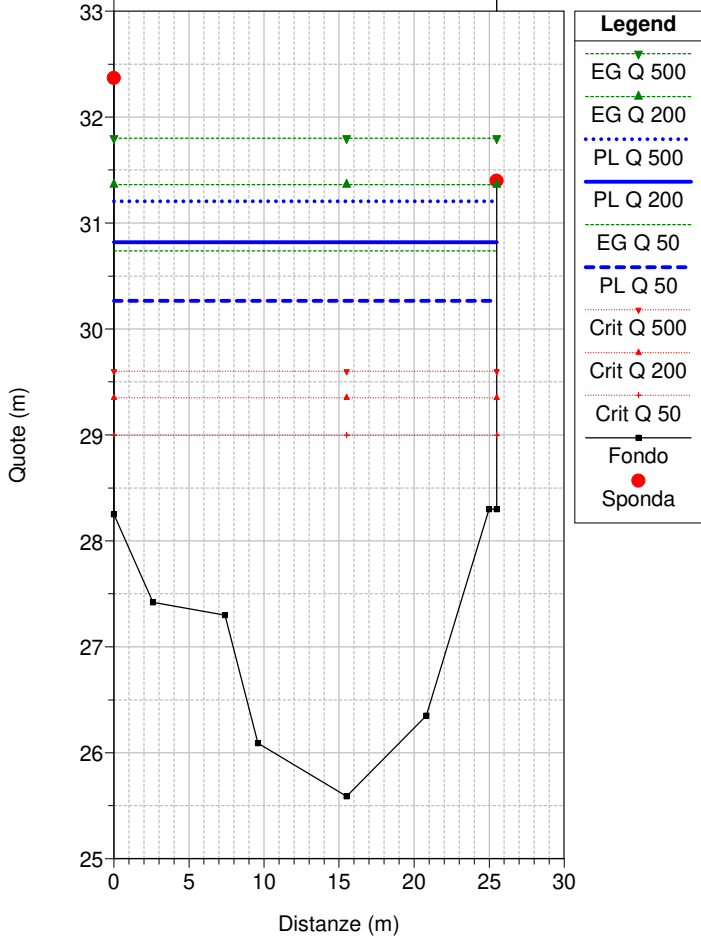


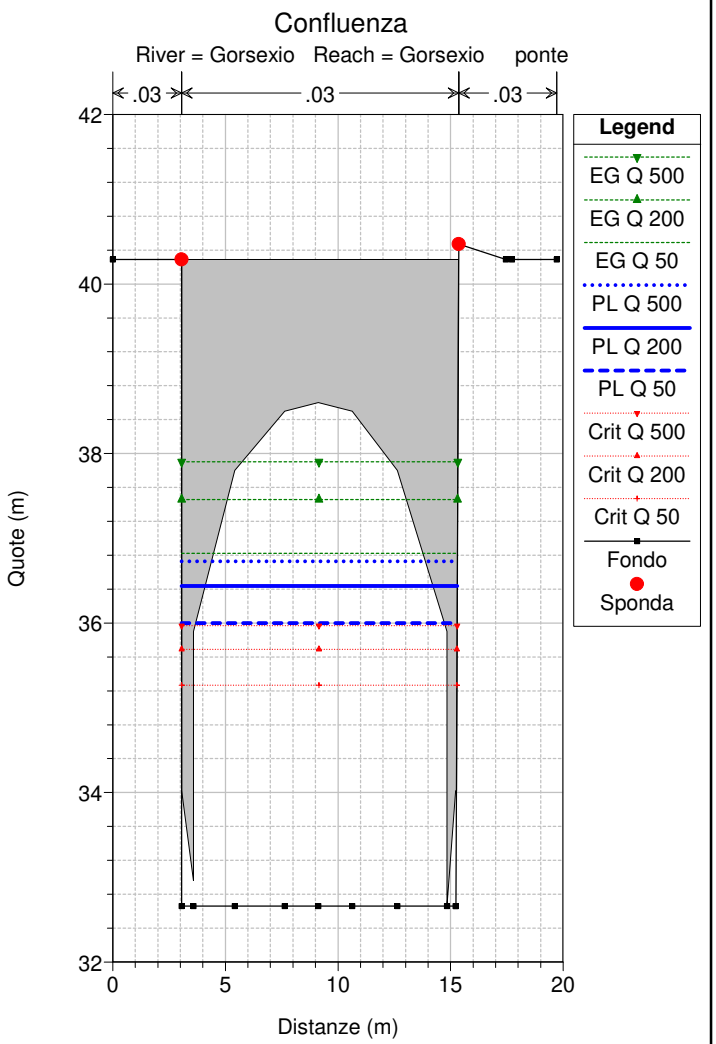
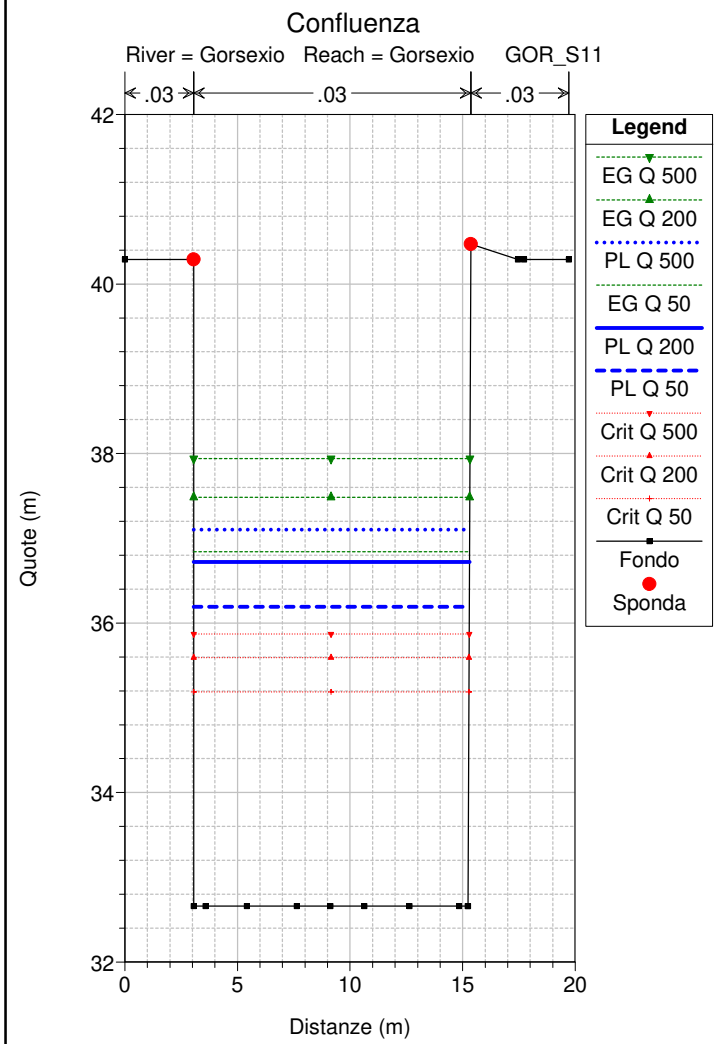
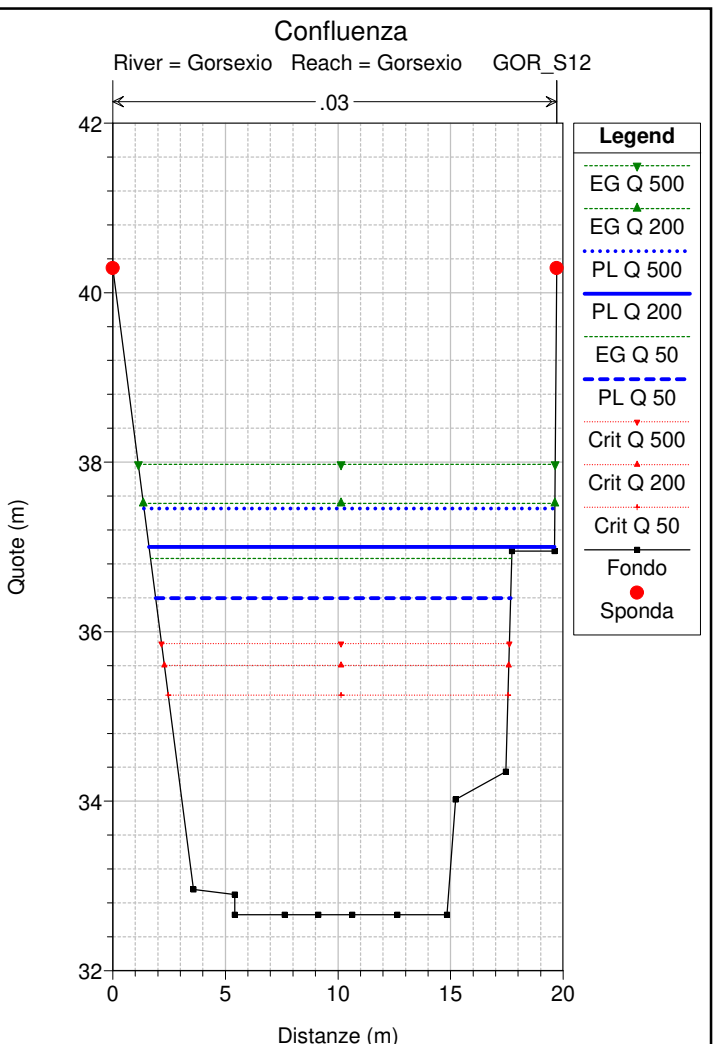
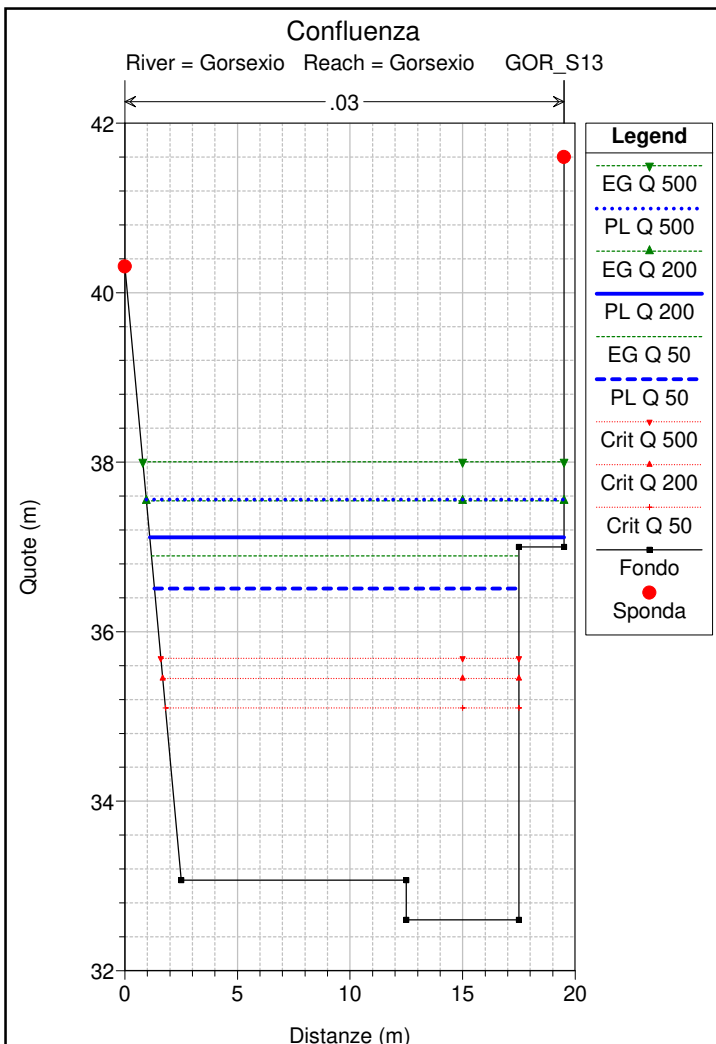


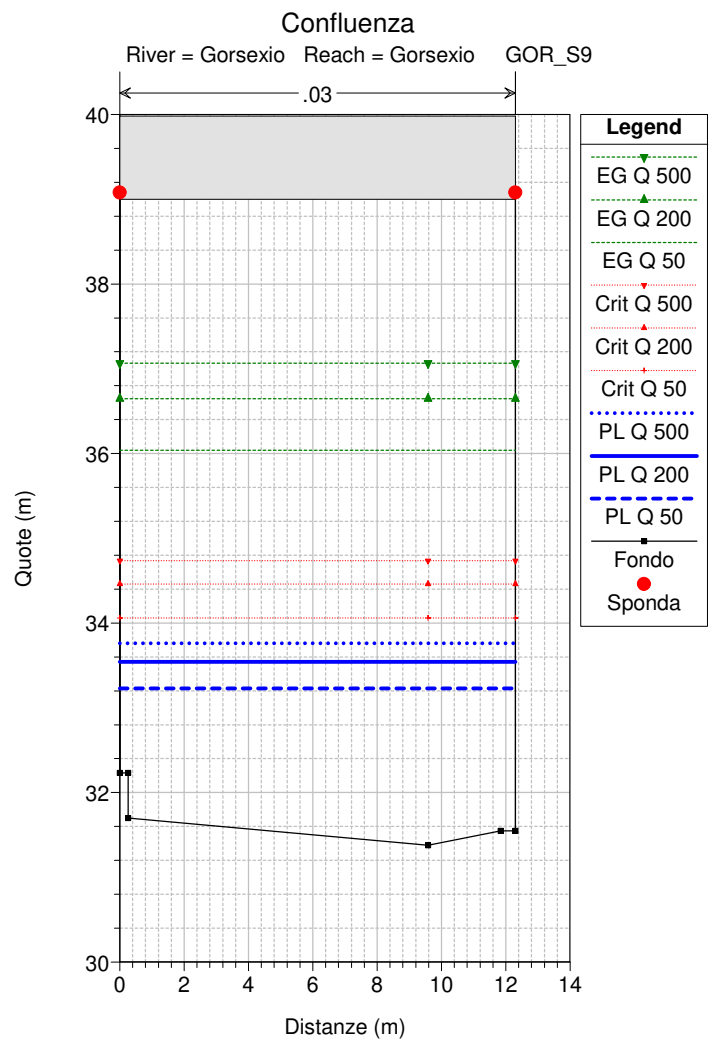
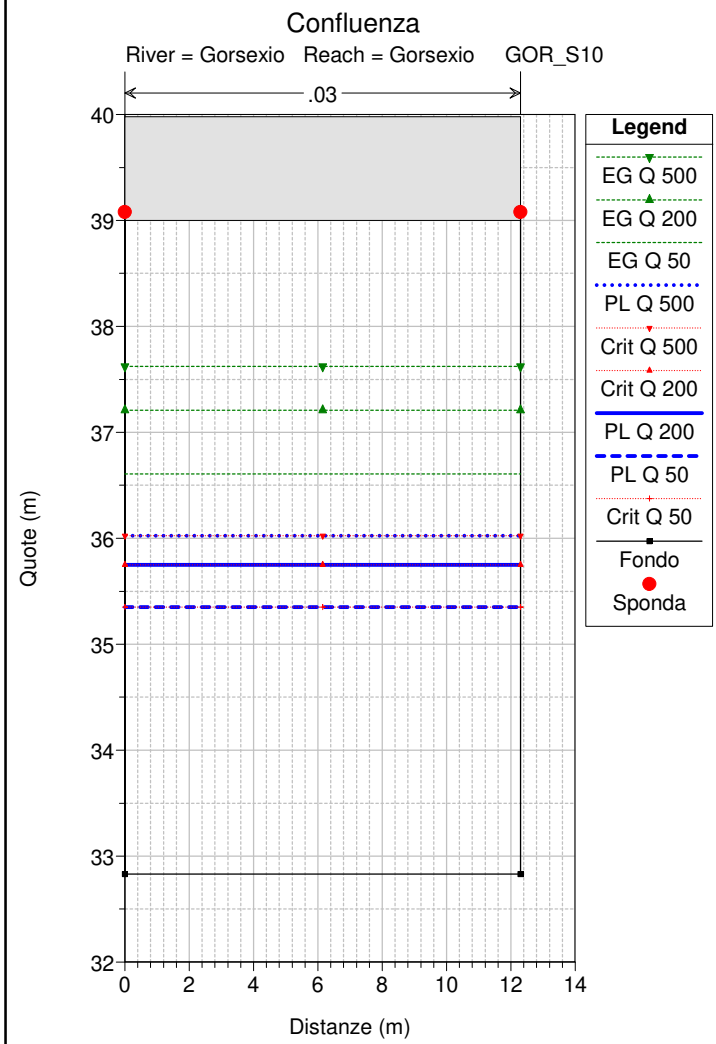
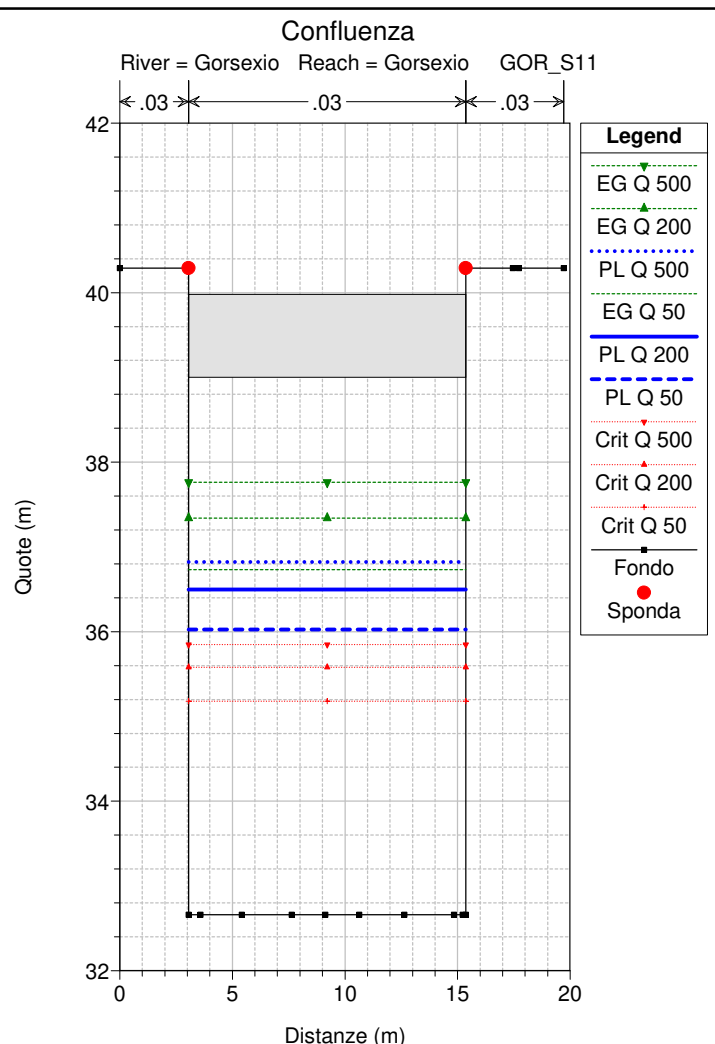
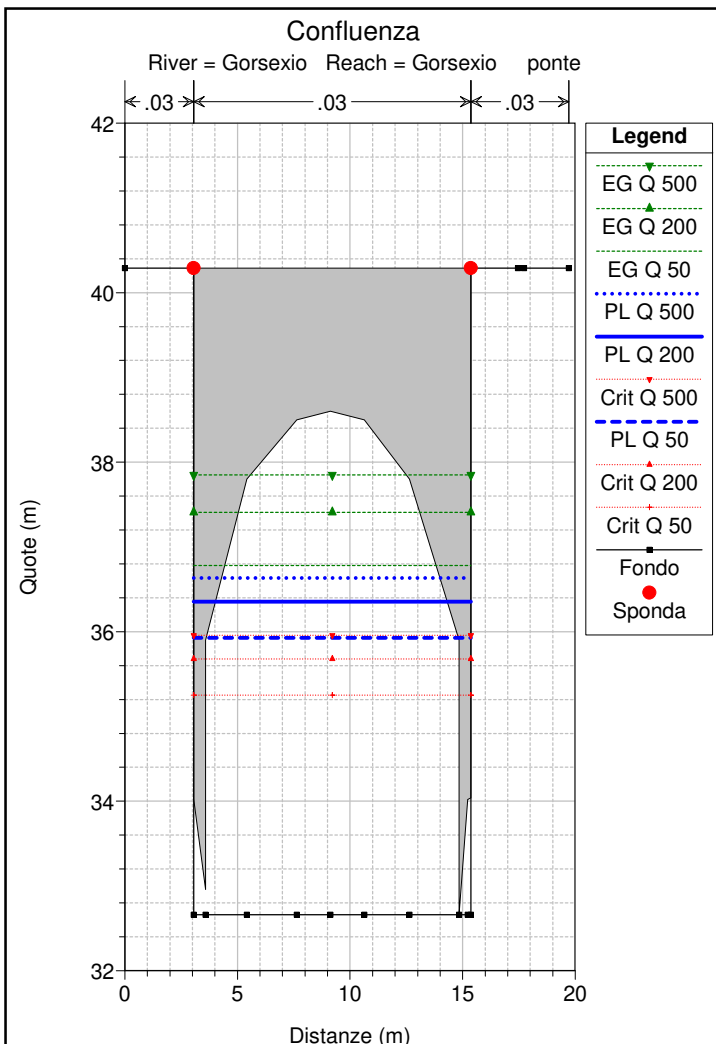
Confluenza

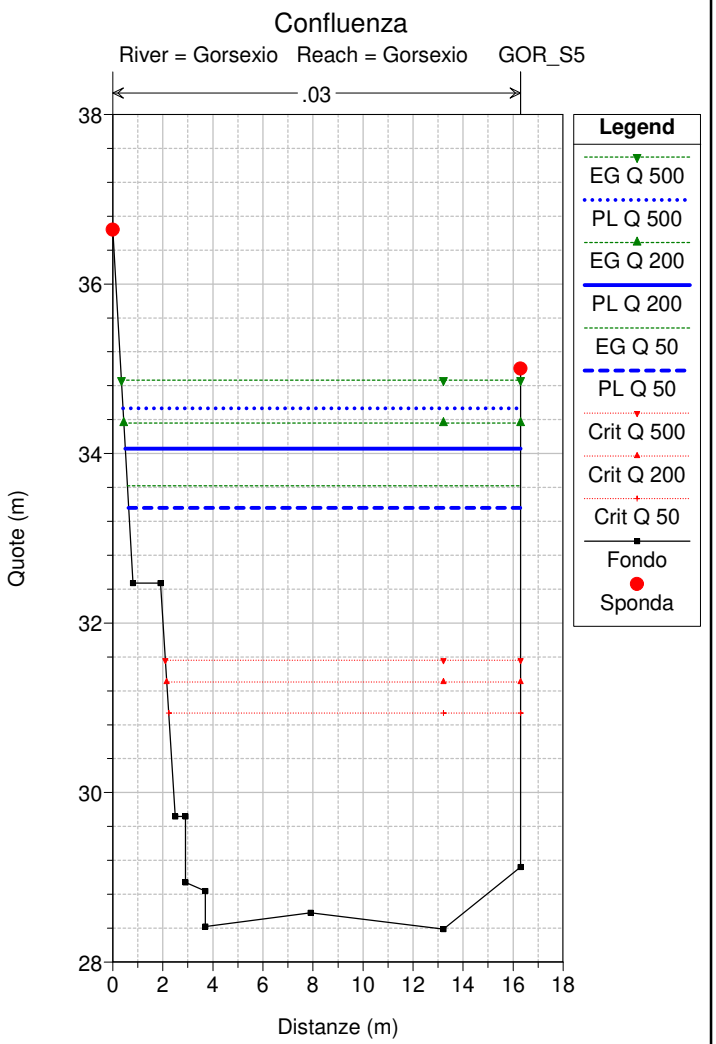
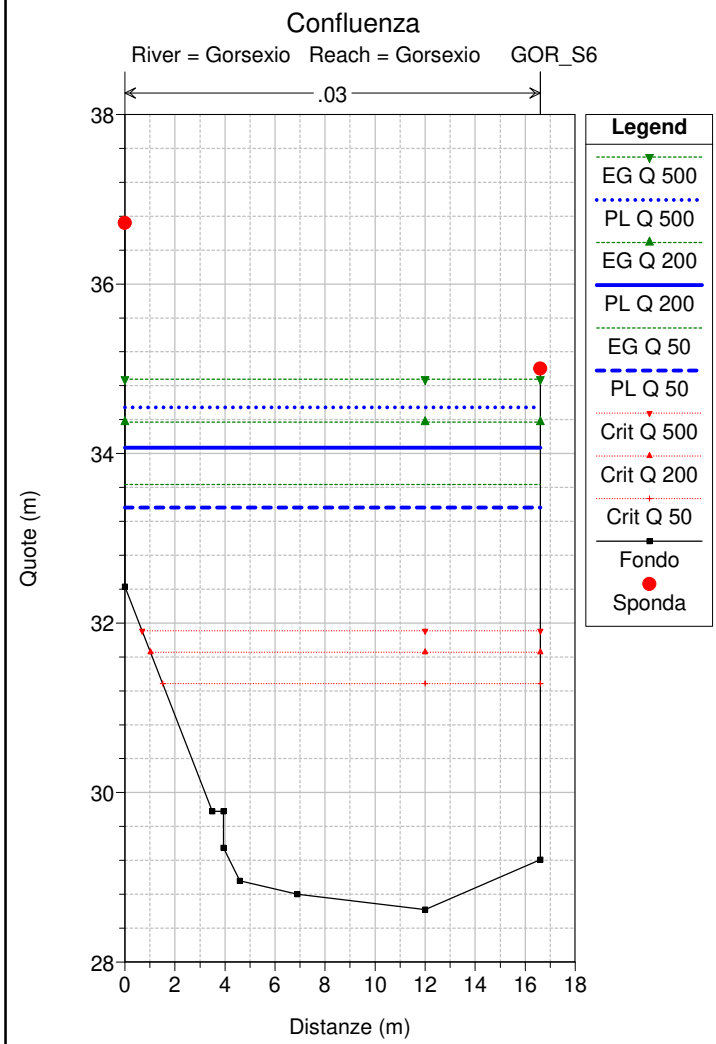
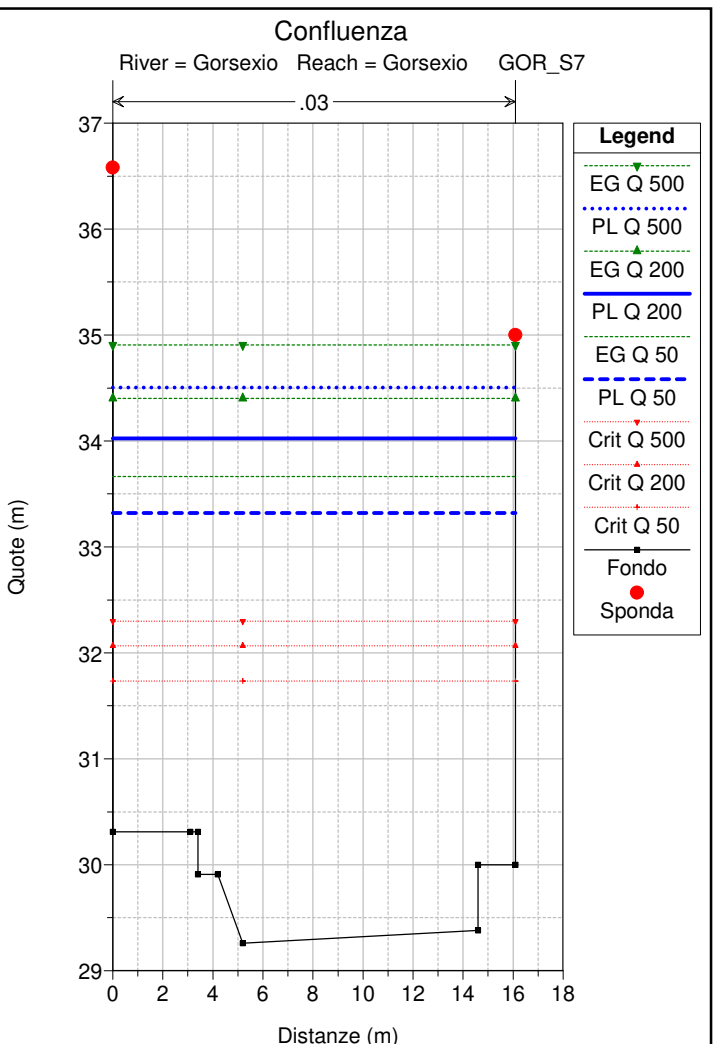
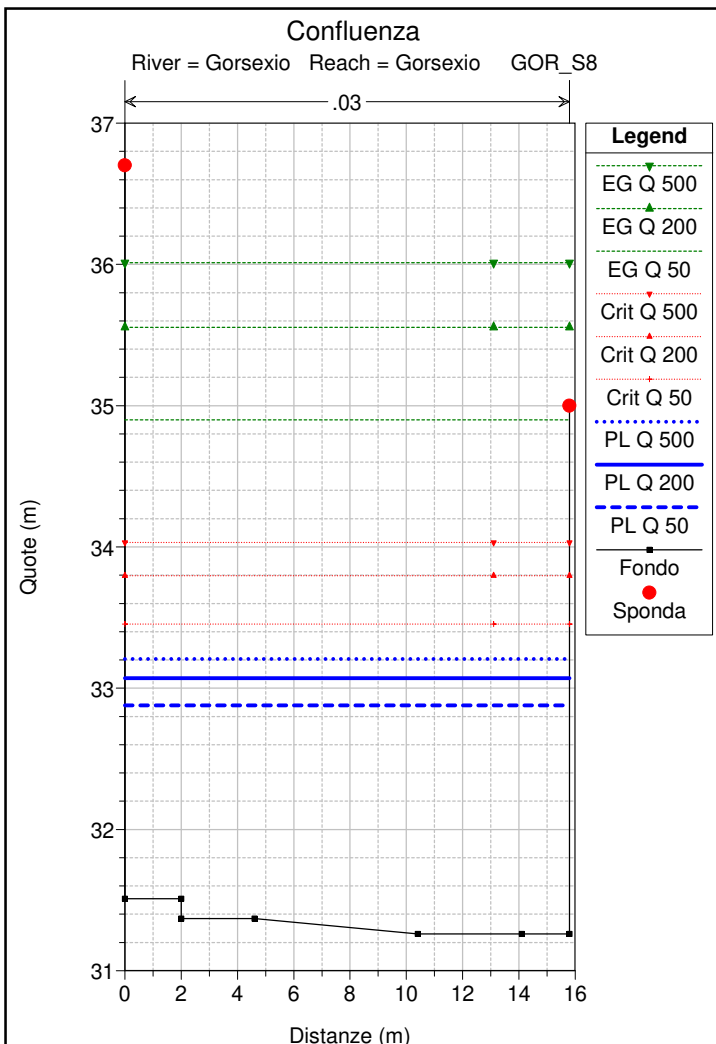
River = Acquasanta Reach = Acquasanta ACQ_S1

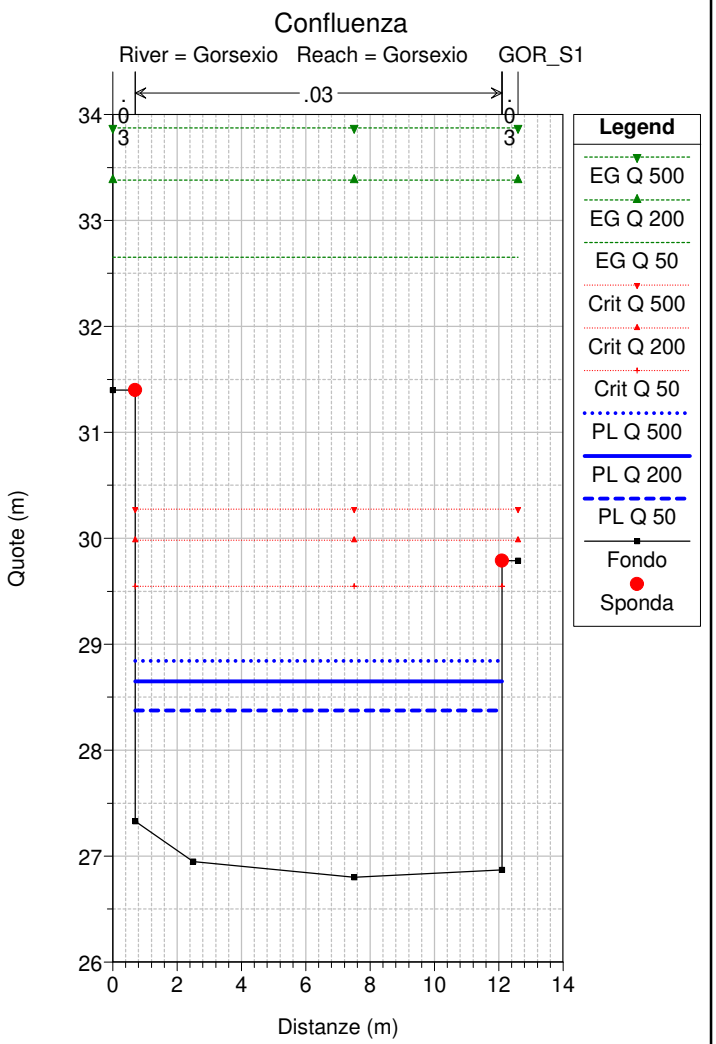
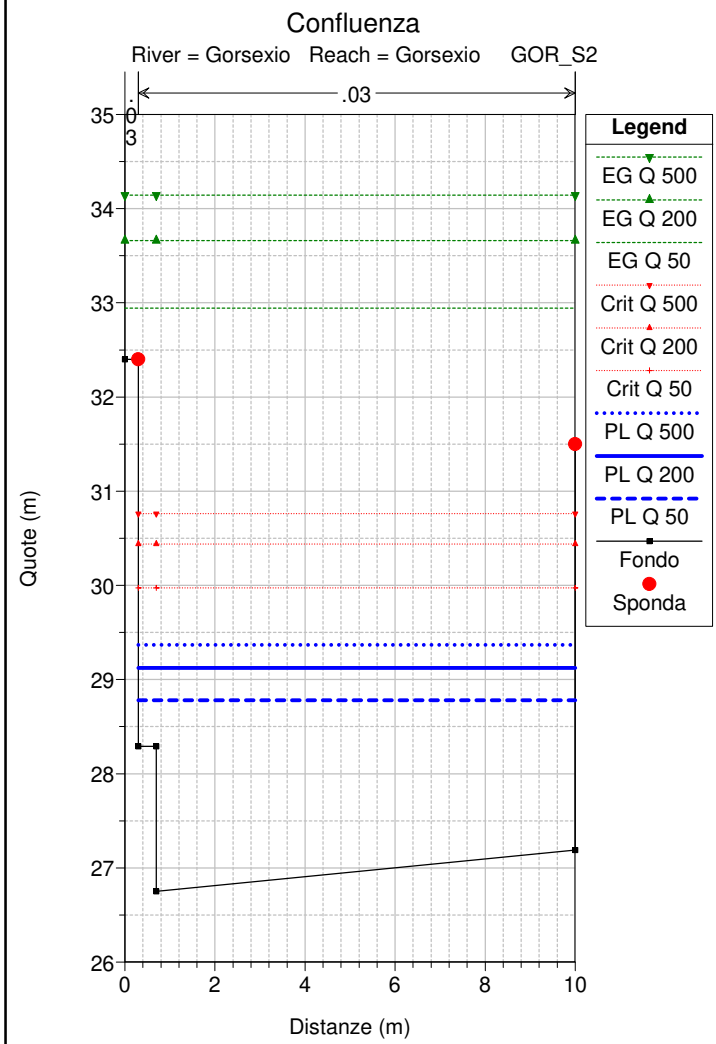
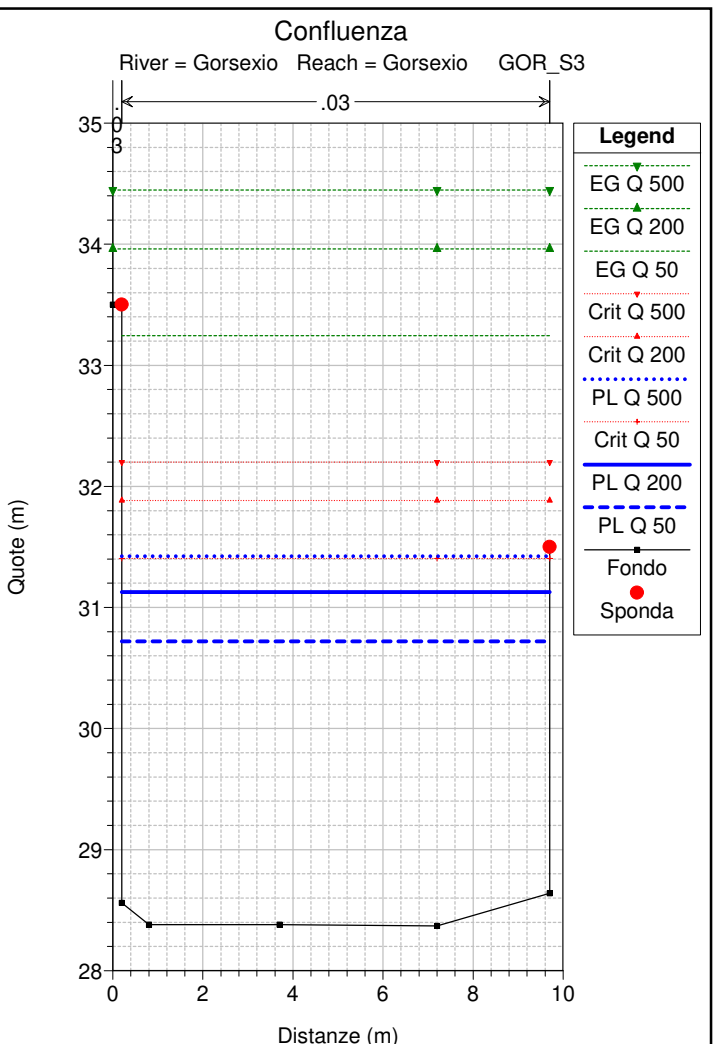
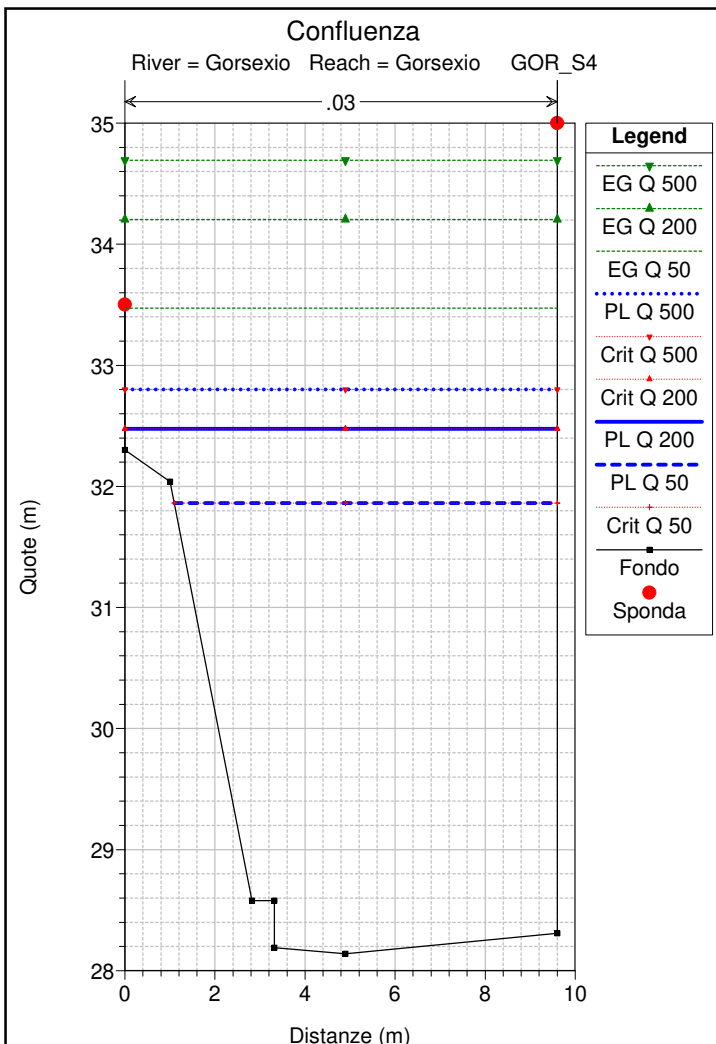
← .03 →











Reach	River Sta		Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Acquasanta	18	ACQ_S9.5	Q 50	275.00	30.43	33.52	35.66	2.14	38.29	4.77	33.52	34.88	0.008333	5.18	53.14	19.54	1.00
Acquasanta	18	ACQ_S9.5	Q 200	341.00	30.43	33.95	35.66	1.71	38.29	4.34	33.95	35.51	0.008221	5.53	61.68	19.85	1.00
Acquasanta	18	ACQ_S9.5	Q 500	391.00	30.43	34.26	35.66	1.40	38.29	4.03	34.26	35.95	0.008164	5.76	67.83	20.08	1.00
Acquasanta	17	ACQ_S9	Q 50	275.00	30.04	32.56	34.83	2.27	38.29	5.73	33.06	34.56	0.016180	6.26	43.91	20.94	1.38
Acquasanta	17	ACQ_S9	Q 200	341.00	30.04	32.90	34.83	1.93	38.29	5.39	33.47	35.18	0.015768	6.70	50.90	21.01	1.37
Acquasanta	17	ACQ_S9	Q 500	391.00	30.04	33.14	34.83	1.69	38.29	5.15	33.75	35.62	0.015488	6.98	55.98	21.06	1.37
Acquasanta	16	ACQ_S8.5	Q 50	275.00	29.84	33.20	34.51	1.31	35.69	2.49	33.04	34.36	0.006838	4.76	57.72	20.90	0.92
Acquasanta	16	ACQ_S8.5	Q 200	341.00	29.84	33.69	34.51	0.82	35.69	2.00	33.45	34.97	0.006448	5.02	67.96	21.23	0.90
Acquasanta	16	ACQ_S8.5	Q 500	391.00	29.84	34.04	34.51	0.47	35.69	1.65	33.74	35.41	0.006215	5.18	75.47	21.48	0.88
Acquasanta	15	ACQ_S8	Q 50	275.00	29.14	32.76	34.11	1.35	35.04	2.28	32.76	34.10	0.008826	5.14	53.55	20.05	1.00
Acquasanta	15	ACQ_S8	Q 200	341.00	29.14	33.18	34.11	0.93	35.04	1.86	33.18	34.72	0.008681	5.49	62.11	20.32	1.00
Acquasanta	15	ACQ_S8	Q 500	391.00	29.14	33.48	34.11	0.63	35.04	1.56	33.48	35.15	0.008609	5.73	68.26	20.51	1.00
Acquasanta	14	ACQ_S7.5	Q 50	275.00	29.18	32.29	34.43	2.14	35.07	2.78	32.57	33.99	0.011508	5.78	47.61	19.12	1.17
Acquasanta	14	ACQ_S7.5	Q 200	341.00	29.18	32.74	34.43	1.69	35.07	2.33	33.00	34.62	0.010775	6.07	56.15	19.39	1.14
Acquasanta	14	ACQ_S7.5	Q 500	391.00	29.18	33.07	34.43	1.36	35.07	2.00	33.31	35.06	0.010259	6.25	62.58	19.59	1.12
Acquasanta	13	ACQ_S7	Q 50	275.00	29.10	31.82	35.41	3.59	33.80	1.98	32.31	33.78	0.014666	6.21	44.29	20.93	1.36
Acquasanta	13	ACQ_S7	Q 200	341.00	29.10	32.15	35.41	3.26	33.80	1.65	32.72	34.40	0.014451	6.65	51.28	21.22	1.37
Acquasanta	13	ACQ_S7	Q 500	391.00	29.10	32.38	35.41	3.03	33.80	1.42	33.01	34.84	0.014323	6.94	56.33	21.42	1.37
Acquasanta	12	ACQ_S6.5	Q 50	275.00	28.48	31.02	36.02	5.00	33.68	2.66	31.69	33.33	0.022979	6.73	40.87	25.25	1.69
Acquasanta	12	ACQ_S6.5	Q 200	341.00	28.48	31.26	36.02	4.76	33.68	2.42	32.05	33.94	0.022787	7.26	47.00	25.44	1.70
Acquasanta	12	ACQ_S6.5	Q 500	391.00	28.48	31.43	36.02	4.59	33.68	2.25	32.30	34.38	0.022625	7.60	51.42	25.58	1.71
Acquasanta	11	ACQ_S6	Q 50	275.00	28.37	31.09	36.26	5.17	33.41	2.32	31.46	32.82	0.012672	5.82	47.23	22.00	1.27
Acquasanta	11	ACQ_S6	Q 200	341.00	28.37	31.44	36.26	4.82	33.41	1.97	31.85	33.40	0.012243	6.20	54.99	22.27	1.26
Acquasanta	11	ACQ_S6	Q 500	391.00	28.37	32.80	36.26	3.46	33.41	0.61	32.13	33.85	0.004224	4.55	86.02	23.32	0.76
Acquasanta	10	ACQ_S5.5	Q 50	275.00	28.28	31.43	36.32	4.89	33.31	1.88	31.44	32.68	0.007719	4.94	55.68	22.69	1.01
Acquasanta	10	ACQ_S5.5	Q 200	341.00	28.28	32.22	36.32	4.10	33.31	1.09	31.83	33.31	0.005098	4.62	73.77	23.38	0.83
Acquasanta	10	ACQ_S5.5	Q 500	391.00	28.28	32.76	36.32	3.56	33.31	0.55	32.11	33.80	0.004173	4.52	86.53	23.78	0.76
Acquasanta	9.5	ACQ_S5	Q 50	275.00	27.76	31.79	36.34	4.55	32.07	0.28	30.97	32.42	0.002972	3.52	78.03	25.40	0.64
Acquasanta	9.5	ACQ_S5	Q 200	341.00	27.76	32.48	36.34	3.86	32.07	-0.41	31.34	33.13	0.002476	3.57	95.54	25.40	0.59
Acquasanta	9.5	ACQ_S5	Q 500	391.00	27.76	32.98	36.34	3.36	32.07	-0.91	31.60	33.64	0.002238	3.61	108.32	25.40	0.56
Acquasanta	9	ACQ_S4.5	Q 50	275.00	28.03	31.44	31.95	0.51	31.90	0.46	31.02	32.34	0.004977	4.19	65.70	22.80	0.79
Acquasanta	9	ACQ_S4.5	Q 200	341.00	28.03	32.19	31.95	-0.24	31.90	-0.29	31.39	33.06	0.003802	4.12	82.77	22.80	0.69
Acquasanta	9	ACQ_S4.5	Q 500	391.00	28.03	32.71	31.95	-0.76	31.90	-0.81	31.67	33.58	0.003358	4.13	94.56	22.80	0.65
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Acquasanta	8.5	ACQ_S4	Q 200	341.00	27.46	32.34	31.89	-0.45	37.49	5.15	30.98	32.93	0.002308	3.42	99.63	24.60	0.54
Acquasanta	8.5	ACQ_S4	Q 500	391.00	27.46	32.85	31.89	-0.96	37.49	4.64	31.24	33.47	0.002130	3.48	112.20	24.60	0.52
Acquasanta	8	ACQ_S3.5	Q 50	275.00	27.24	31.48	37.49	6.01	37.49	6.01	30.52	32.15	0.002972	3.61	76.08	21.80	0.62
Acquasanta	8	ACQ_S3.5	Q 200	341.00	27.24	32.19	37.49	5.30	37.49	5.30	30.91	32.90	0.002646	3.73	91.47	21.80	0.58
Acquasanta	8	ACQ_S3.5	Q 500	391.00	27.24	32.68	37.49	4.81	37.49	4.81	31.19	33.43	0.002508	3.82	102.30	21.80	0.56

HEC-RAS Plan: Acquasanta River: Acquasanta Reach: Acquasanta (Continued)

Reach	River Sta		Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Acquasanta	7	ACQ_S3	Q 50	275.00	27.18	31.50	37.49	5.99	37.49	5.99	30.29	32.10	0.002532	3.41	80.71	21.40	0.56
Acquasanta	7	ACQ_S3	Q 200	341.00	27.18	32.20	37.49	5.29	37.49	5.29	30.69	32.85	0.002357	3.56	95.68	21.40	0.54
Acquasanta	7	ACQ_S3	Q 500	391.00	27.18	32.70	37.49	4.79	37.49	4.79	30.97	33.39	0.002285	3.68	106.23	21.40	0.53
Acquasanta	6	ACQ_S2.5	Q 50	275.00	27.18	30.97	37.49	6.52	37.49	6.52	30.42	32.03	0.004286	4.55	60.50	20.70	0.77
Acquasanta	6	ACQ_S2.5	Q 200	341.00	27.18	31.63	37.49	5.86	37.49	5.86	30.88	32.78	0.003728	4.75	71.77	20.70	0.74
Acquasanta	6	ACQ_S2.5	Q 500	391.00	27.18	32.08	37.49	5.41	37.49	5.41	31.20	33.31	0.003477	4.91	79.57	20.70	0.73
Acquasanta	5.5	ACQ_S2.5		Bridge													
Acquasanta	5	ACQ_S2	Q 50	275.00	27.03	30.33	33.15	2.82	30.19	-0.14	30.33	31.91	0.007738	5.57	49.38	17.90	1.00
Acquasanta	5	ACQ_S2	Q 200	341.00	27.03	30.82	33.15	2.33	30.19	-0.63	30.82	32.64	0.007343	5.97	57.08	17.90	1.00
Acquasanta	5	ACQ_S2	Q 500	391.00	27.03	31.07	33.15	2.08	30.19	-0.88	31.18	33.17	0.007768	6.42	60.92	17.90	1.04
Acquasanta	4	ACQ_S1.5	Q 50	275.00	26.81	29.79	33.51	3.72	31.40	1.61	30.23	31.83	0.014076	6.33	43.46	17.20	1.27
Acquasanta	4	ACQ_S1.5	Q 200	341.00	26.81	30.16	33.51	3.35	31.40	1.24	30.68	32.55	0.014389	6.85	49.78	17.20	1.29
Acquasanta	4	ACQ_S1.5	Q 500	391.00	26.81	30.41	33.51	3.10	31.40	0.99	31.00	33.07	0.014801	7.23	54.07	17.20	1.30
Acquasanta	3.5		Q 50	275.00	25.61	28.18	32.74	4.56	31.40	3.22	29.08	31.28	0.033788	7.80	35.24	22.31	1.98
Acquasanta	3.5		Q 200	341.00	25.61	28.42	32.74	4.32	31.40	2.98	29.45	31.99	0.034229	8.37	40.72	23.27	2.02
Acquasanta	3.5		Q 500	391.00	25.61	28.58	32.74	4.16	31.40	2.82	29.72	32.50	0.034024	8.77	44.59	23.40	2.03
Acquasanta	3	ACQ_S1	Q 50	275.00	25.59	30.27	32.37	2.10	31.40	1.13	29.00	30.74	0.001954	3.04	90.34	25.50	0.52
Acquasanta	3	ACQ_S1	Q 200	341.00	25.59	30.82	32.37	1.55	31.40	0.58	29.35	31.36	0.001942	3.26	104.47	25.50	0.51
Acquasanta	3	ACQ_S1	Q 500	391.00	25.59	31.20	32.37	1.17	31.40	0.20	29.60	31.80	0.001955	3.42	114.27	25.50	0.52

HEC-RAS Plan: Gorsexio River: Gorsexio Reach: Gorsexio

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	
			(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)		
Gorsexio	8	GOR_S13	Q 50	154.00	32.60	36.51	40.31	3.80	41.60	5.09	35.10	36.90	0.002082	2.75	55.99	16.19	0.47
Gorsexio	8	GOR_S13	Q 200	192.00	32.60	37.11	40.31	3.20	41.60	4.49	35.45	37.55	0.002221	2.91	66.08	18.40	0.49
Gorsexio	8	GOR_S13	Q 500	220.00	32.60	37.56	40.31	2.75	41.60	4.04	35.69	38.01	0.002068	2.96	74.26	18.55	0.47
Gorsexio	7	GOR_S12	Q 50	154.00	32.66	36.39	40.29	3.90	40.29	3.90	35.25	36.86	0.002561	3.03	50.76	15.76	0.54
Gorsexio	7	GOR_S12	Q 200	192.00	32.66	37.00	40.29	3.29	40.29	3.29	35.60	37.51	0.002678	3.17	60.49	18.01	0.55
Gorsexio	7	GOR_S12	Q 500	220.00	32.66	37.45	40.29	2.84	40.29	2.84	35.86	37.98	0.002419	3.20	68.72	18.25	0.53
Gorsexio	6	GOR_S11	Q 50	154.00	32.66	36.19	40.29	4.10	40.47	4.28	35.19	36.84	0.003915	3.57	43.12	12.23	0.61
Gorsexio	6	GOR_S11	Q 200	192.00	32.66	36.72	40.29	3.57	40.47	3.75	35.59	37.48	0.004107	3.87	49.57	12.24	0.61
Gorsexio	6	GOR_S11	Q 500	220.00	32.66	37.10	40.29	3.19	40.47	3.37	35.87	37.94	0.004189	4.05	54.27	12.25	0.62
Gorsexio	5.5	ponte	Bridge														
Gorsexio	5	GOR_S11	Q 50	154.00	32.66	36.03	39.00	2.97	39.00	2.97	35.18	36.73	0.004414	3.72	41.42	12.30	0.65
Gorsexio	5	GOR_S11	Q 200	192.00	32.66	36.50	39.00	2.50	39.00	2.50	35.58	37.34	0.004736	4.07	47.19	12.30	0.66
Gorsexio	5	GOR_S11	Q 500	220.00	32.66	36.82	39.00	2.18	39.00	2.18	35.85	37.76	0.004949	4.30	51.18	12.30	0.67
Gorsexio	4	GOR_S10	Q 50	154.00	32.83	35.35	39.00	3.65	39.00	3.65	35.35	36.61	0.010253	4.97	30.98	12.30	1.00
Gorsexio	4	GOR_S10	Q 200	192.00	32.83	35.75	39.00	3.25	39.00	3.25	35.75	37.21	0.010357	5.35	35.90	12.30	1.00
Gorsexio	4	GOR_S10	Q 500	220.00	32.83	36.02	39.00	2.98	39.00	2.98	36.02	37.62	0.010489	5.60	39.28	12.30	1.00
Gorsexio	3	GOR_S9	Q 50	154.00	31.38	33.23	39.00	5.77	39.00	5.77	34.06	36.04	0.033655	7.42	20.75	12.30	1.82
Gorsexio	3	GOR_S9	Q 200	192.00	31.38	33.54	39.00	5.46	39.00	5.46	34.46	36.65	0.031257	7.80	24.60	12.30	1.76
Gorsexio	3	GOR_S9	Q 500	220.00	31.38	33.76	39.00	5.24	39.00	5.24	34.74	37.07	0.029974	8.05	27.33	12.30	1.72
Gorsexio	1.8	GOR_S8	Q 50	154.00	31.26	32.88	36.70	3.82	35.00	2.12	33.45	34.90	0.025324	6.29	24.47	15.80	1.62
Gorsexio	1.8	GOR_S8	Q 200	192.00	31.26	33.07	36.70	3.63	35.00	1.93	33.80	35.55	0.027350	6.98	27.51	15.80	1.69
Gorsexio	1.8	GOR_S8	Q 500	220.00	31.26	33.21	36.70	3.49	35.00	1.79	34.03	36.01	0.028469	7.42	29.66	15.80	1.73
Gorsexio	1.7	GOR_S7	Q 50	154.00	29.26	33.32	36.58	3.26	35.00	1.68	31.73	33.66	0.001783	2.60	59.29	16.10	0.43
Gorsexio	1.7	GOR_S7	Q 200	192.00	29.26	34.03	36.58	2.55	35.00	0.97	32.07	34.40	0.001670	2.72	70.63	16.10	0.41
Gorsexio	1.7	GOR_S7	Q 500	220.00	29.26	34.50	36.58	2.08	35.00	0.50	32.30	34.91	0.001632	2.81	78.34	16.10	0.41
Gorsexio	1.6	GOR_S6	Q 50	154.00	28.62	33.36	36.72	3.36	35.00	1.64	31.29	33.63	0.001167	2.31	66.77	16.60	0.37
Gorsexio	1.6	GOR_S6	Q 200	192.00	28.62	34.07	36.72	2.65	35.00	0.93	31.66	34.37	0.001146	2.45	78.46	16.60	0.36
Gorsexio	1.6	GOR_S6	Q 500	220.00	28.62	34.55	36.72	2.17	35.00	0.45	31.91	34.88	0.001148	2.55	86.41	16.60	0.36
Gorsexio	1.5	GOR_S5	Q 50	154.00	28.39	33.36	36.64	3.28	35.00	1.64	30.94	33.62	0.001165	2.27	67.94	15.67	0.35
Gorsexio	1.5	GOR_S5	Q 200	192.00	28.39	34.06	36.64	2.58	35.00	0.94	31.31	34.36	0.001183	2.43	78.96	15.80	0.35
Gorsexio	1.5	GOR_S5	Q 500	220.00	28.39	34.53	36.64	2.11	35.00	0.47	31.56	34.86	0.001204	2.54	86.51	15.90	0.35
Gorsexio	1.4	GOR_S4	Q 50	154.00	28.14	31.86	33.50	1.64	35.00	3.14	31.86	33.47	0.012083	5.62	27.41	8.51	1.00
Gorsexio	1.4	GOR_S4	Q 200	192.00	28.14	32.48	33.50	1.02	35.00	2.52	32.48	34.20	0.012067	5.82	32.99	9.60	1.00
Gorsexio	1.4	GOR_S4	Q 500	220.00	28.14	32.80	33.50	0.70	35.00	2.20	32.80	34.69	0.012356	6.10	36.09	9.60	1.00
Gorsexio	1.3	GOR_S3	Q 50	154.00	28.37	30.72	33.50	2.78	31.50	0.78	31.41	33.25	0.024059	7.04	21.88	9.50	1.48
Gorsexio	1.3	GOR_S3	Q 200	192.00	28.37	31.13	33.50	2.37	31.50	0.37	31.88	33.96	0.023452	7.45	25.76	9.50	1.45
Gorsexio	1.3	GOR_S3	Q 500	220.00	28.37	31.42	33.50	2.08	31.50	0.08	32.20	34.45	0.022974	7.70	28.57	9.50	1.42
Gorsexio	1.2	GOR_S2	Q 50	154.00	26.75	28.78	32.40	3.62	31.50	2.72	29.97	32.94	0.052960	9.04	17.04	9.70	2.18
Gorsexio	1.2	GOR_S2	Q 200	192.00	26.75	29.12	32.40	3.28	31.50	2.38	30.44	33.66	0.048694	9.43	20.35	9.70	2.08

HEC-RAS Plan: Gorsexio River: Gorsexio Reach: Gorsexio (Continued)

Reach	River Sta		Profile	Q Total	Min Ch El	W.S. Elev	LOB Elev	L. Freeboard	ROB Elev	R. Freeboard	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Gorsexio	1.2	GOR_S2	Q 500	220.00	26.75	29.37	32.40	3.03	31.50	2.13	30.76	34.14	0.046328	9.68	22.73	9.70	2.02
Gorsexio	1.1	GOR_S1	Q 50	154.00	26.80	28.38	31.40	3.02	29.79	1.41	29.55	32.65	0.059095	9.16	16.81	11.40	2.41
Gorsexio	1.1	GOR_S1	Q 200	192.00	26.80	28.65	31.40	2.75	29.79	1.14	29.98	33.38	0.054868	9.63	19.93	11.40	2.33
Gorsexio	1.1	GOR_S1	Q 500	220.00	26.80	28.84	31.40	2.56	29.79	0.95	30.27	33.87	0.052451	9.93	22.15	11.40	2.27