

AUTORITA' DI BACINO
DI RILIEVO REGIONALE



PROVINCIA
DI SAVONA

PIANO DI BACINO SANDA

Piano stralcio per la tutela dal rischio idrogeologico
di cui all'art.1, comma 1 del D.L. 11/06/1998 n.180,
convertito in legge 03/08/1998 n.267 e s.m.

VERIFICHE IDRAULICHE

AGGIORNAMENTI PIANI DI BACINO SANDA

DELIBERA	OGGETTO	DESCRIZIONE	ATTI MODIFICATI
D.C.P. n. 156 del 26/07/2005	Attuazione del comma 15 dell'art. 97 della L.R. 18/1999 relativo alle procedure di modifica ed integrazione dei piani di bacino di rilievo regionale	<p>Aggiornamento dei Piani di Bacino sulla base delle attività finanziate con D.G.R. 1592/03, mediante approfondimenti geologici sul bacino del Torrente Sanda, come approvato nel Comitato Tecnico Provinciale della Difesa del Suolo seduta del 19/05/2005</p>	<ul style="list-style-type: none"> - Relazione generale - TAV. 02 Carta Geolitologica (CTP 19/05/05) CTR 229030-040, 229030; 229070 - TAV. 03 Carta Geomorfologica (CTP 19/05/05) CTR 229030-040, 229030; 229070 - TAV. 05 Carta della Franosità Reale (CTP 19/05/05) CTR 229030-040, 229030; 229070 - TAV. 08 Carta della Suscettività al dissesto dei versanti (CTP 19/05/05) CTR 229040-030 - TAV. 10 Carta del Rischio Geomorfologico (CTP 19/05/05) CTR 229030-040, 229030;
		<p>Aggiornamento dei Piani di Bacino sulla base delle attività finanziate con D.G.R. 1592/03, mediante studio idraulico del Torrente Rianello come approvato nel Comitato Tecnico Provinciale della Difesa del Suolo seduta del 28/06/05</p>	<ul style="list-style-type: none"> - - Relazione generale - TAV. 09 Carta delle Fasce di inondabilità (CTP 28/06/05) CTR 229030-070 - TAV. 11 Carta del Rischio Idraulico (CTP 28/06/05) CTR 229030-070 - TAV. 14 Carta delle Aree inondabili (CTP 28/06/05) CTR 229030-070 - TAV. 17 Carta dei tratti d'alveo indagati (CTP 28/06/05) CTR 229-1 - Verifiche idrauliche
		<p>Aggiornamento dei Piani di Bacino sulla base delle attività finanziate con D.G.R. 1592/03, mediante revisione del piano interventi sul bacino del Torrente Sanda, come approvato nel Comitato Tecnico Provinciale della Difesa del Suolo seduta del 28/06/05</p>	<ul style="list-style-type: none"> - Piano interventi - TAV. 12 Carta degli interventi (CTP 28/06/05) CTR 229030-040, 229030; 229070

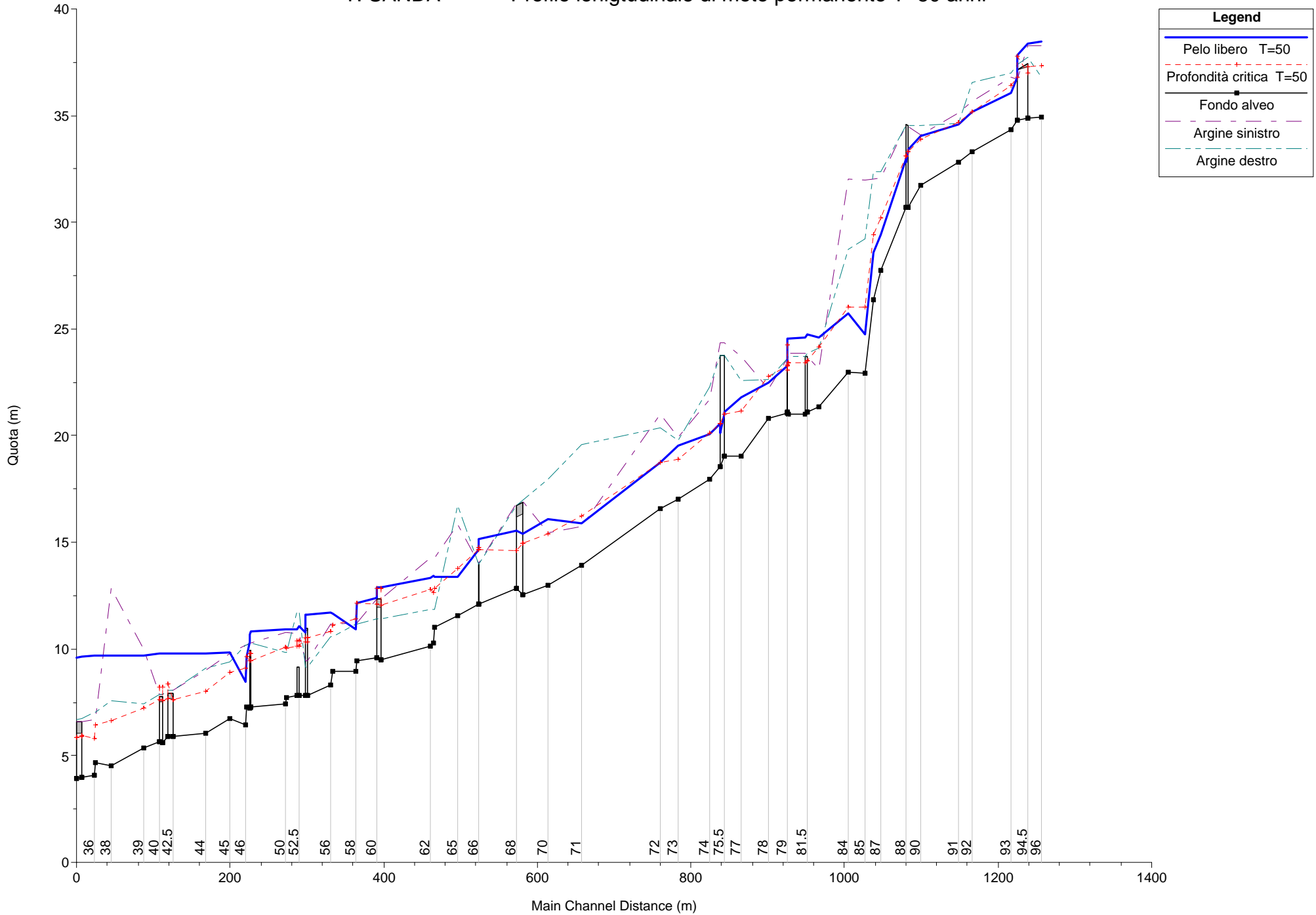
		Modifiche degli atti di piano a seguito di evidenziazione di errori di priorità di stampa, controllo incrociato dei tematismi, comunicazioni da parte di altri Servizi di questo Settore come approvati nel Comitato Tecnico Provinciale della Difesa del Suolo seduta del 19/05/2005	- TAV 08 Carta della Suscettività al dissesto dei versanti (CTP 19/05/05) CTR 229040
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**PROFILI DI RIGURGITO IN CONDIZIONI DI MOTO
PERMANENTE PER LE PORTATE T=50, 200, 500 ANNI**

T. SANDA

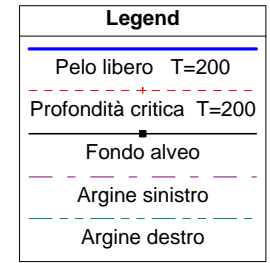
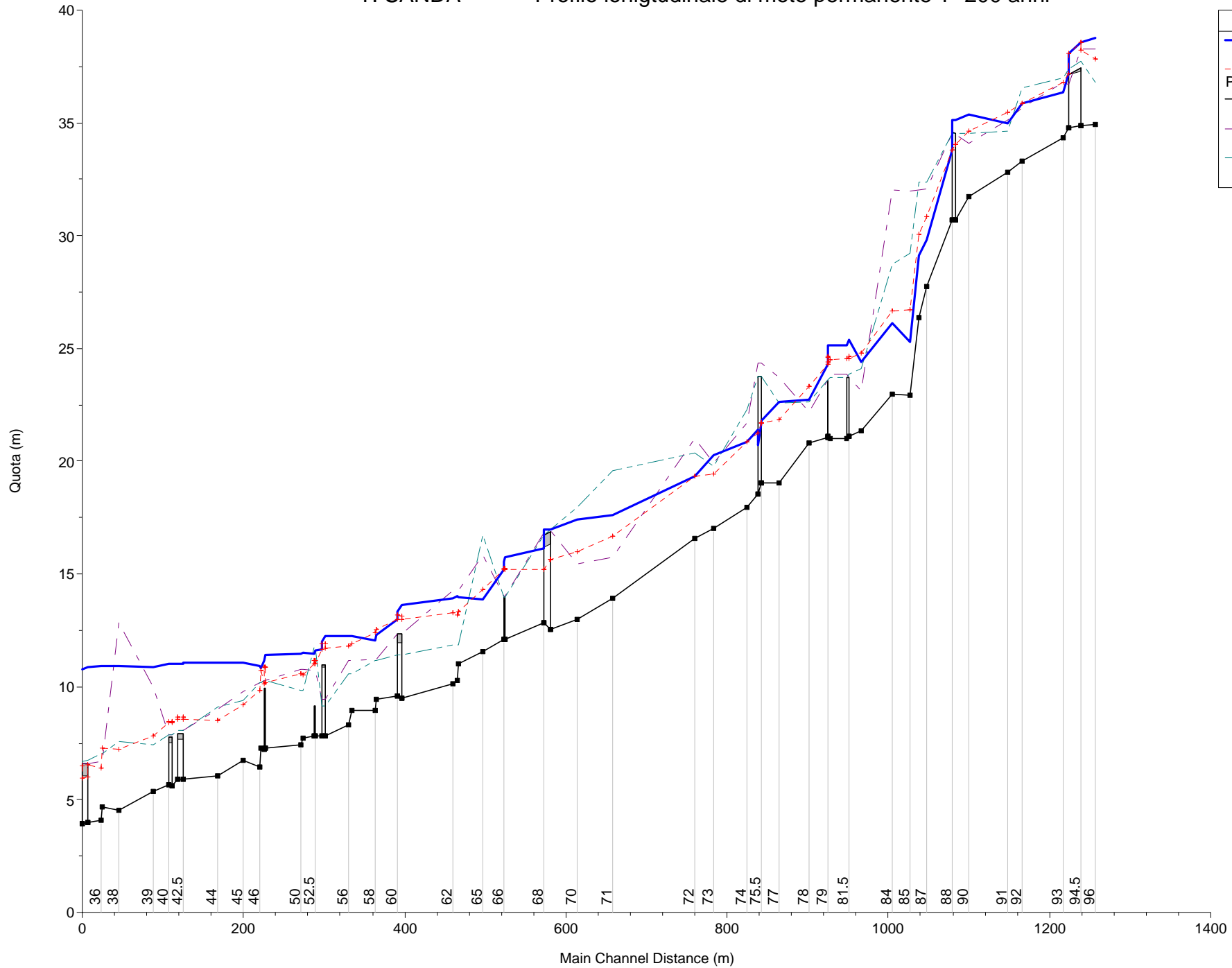
T. SANDA

Profilo longitudinale di moto permanente T=50 anni



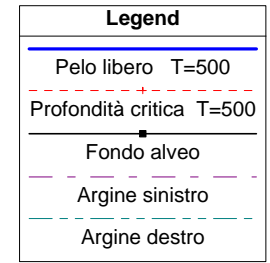
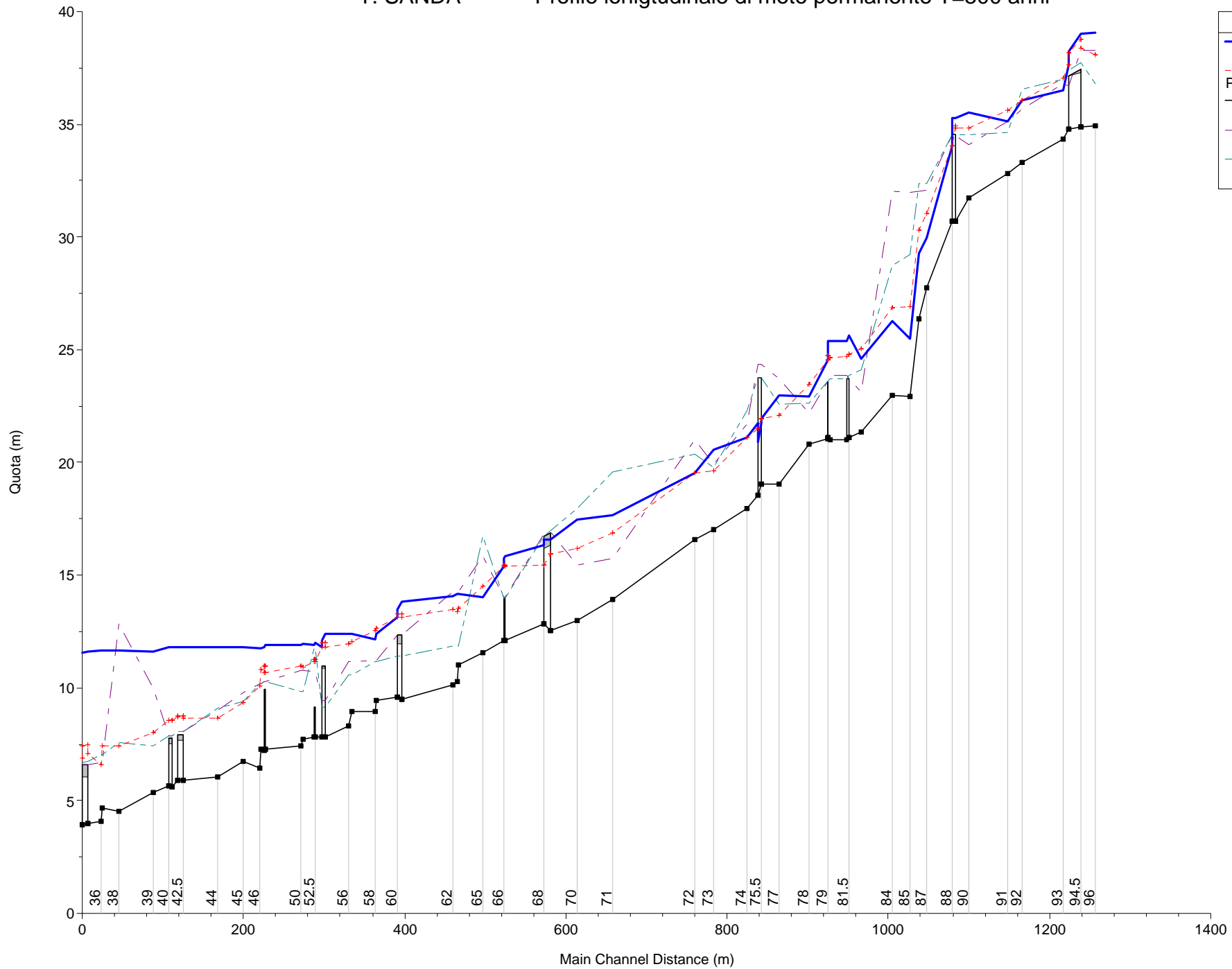
T. SANDA

Profilo longitudinale di moto permanente T=200 anni



T. SANDA

Profilo longitudinale di moto permanente T=500 anni



**GEOMETRIA DELLE SEZIONI ED ALTEZZA DEL PELO
LIBERO IN CONDIZIONI DI MOTO PERMANENTE
PER LE PORTATE T=50, 200, 500 ANNI**

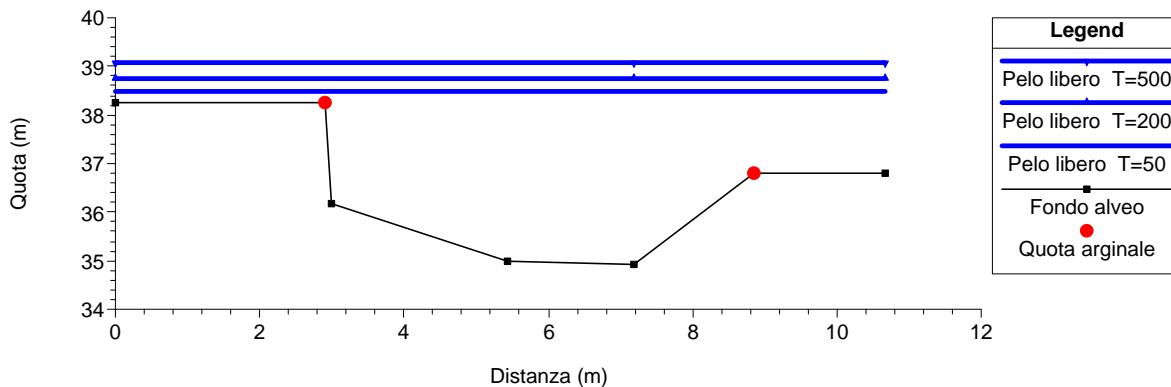
T. SANDA

DALLA SEZ. 96
ALLA SEZ. 34

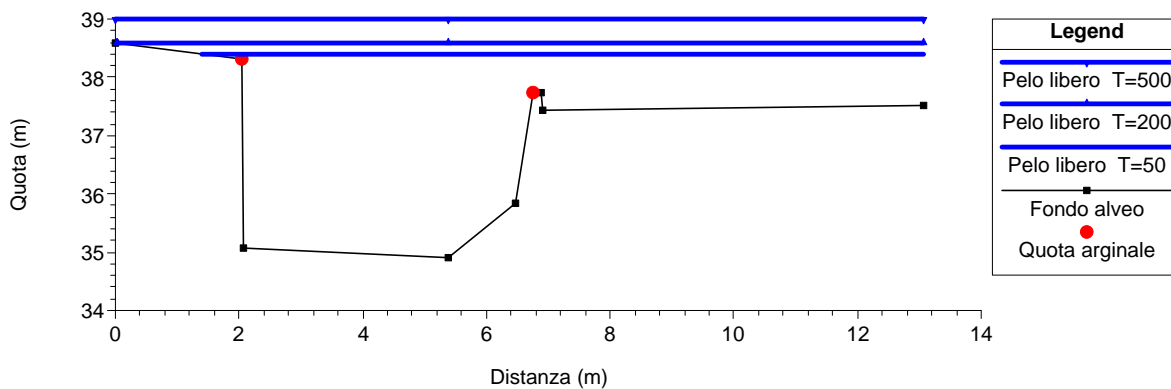
TORRENTE SANDA

Sezioni trasversali

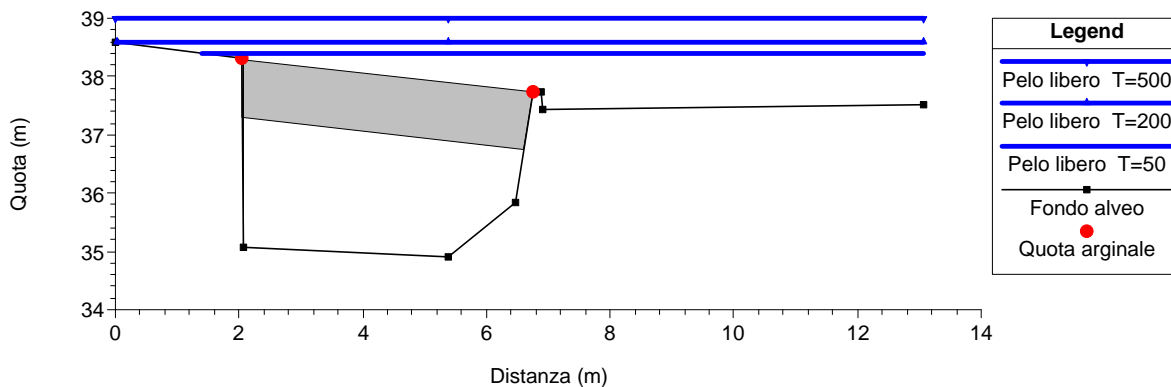
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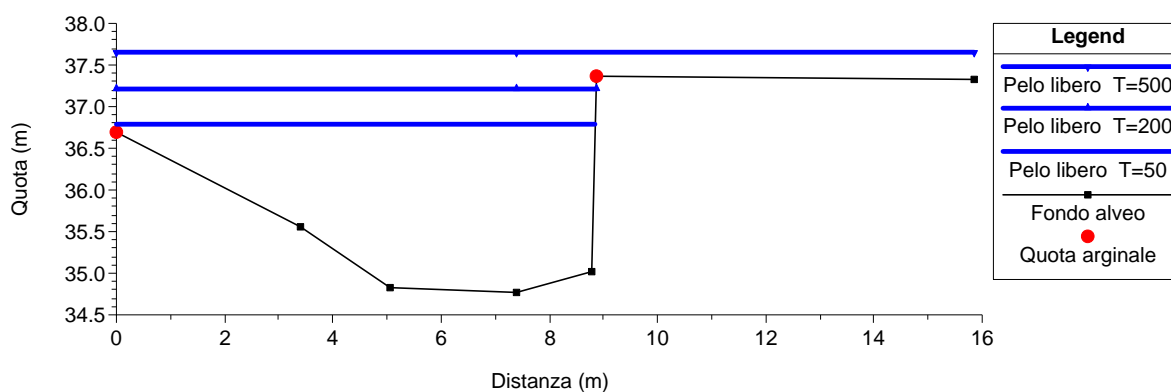
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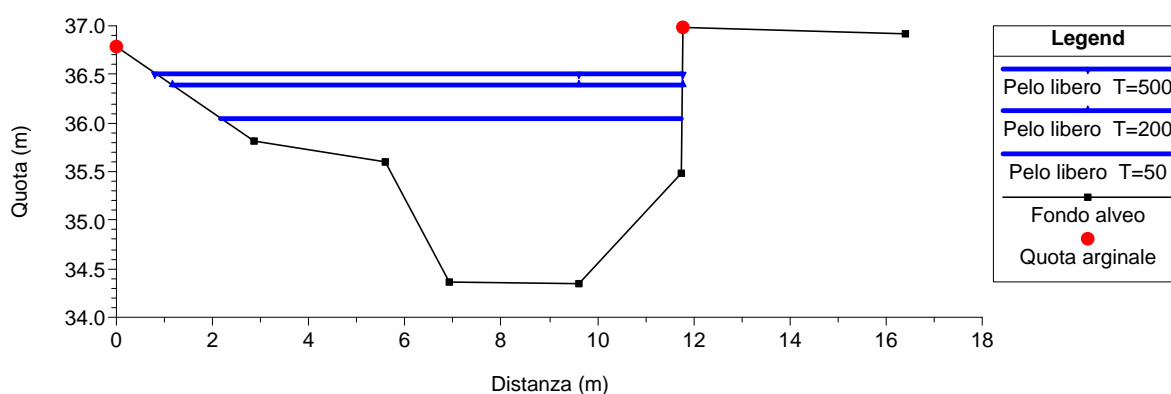
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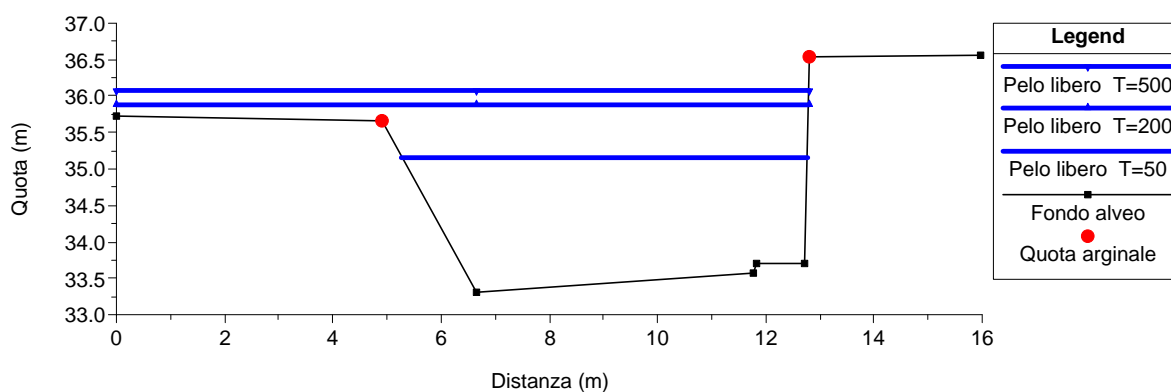
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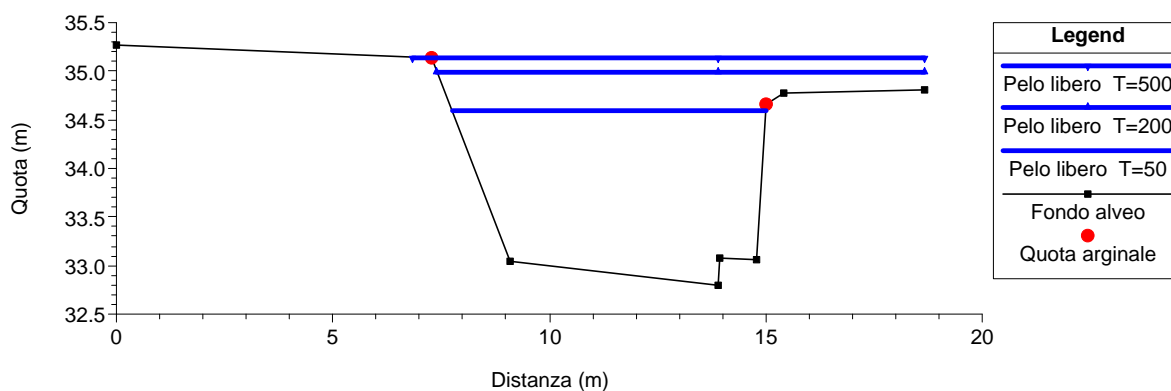
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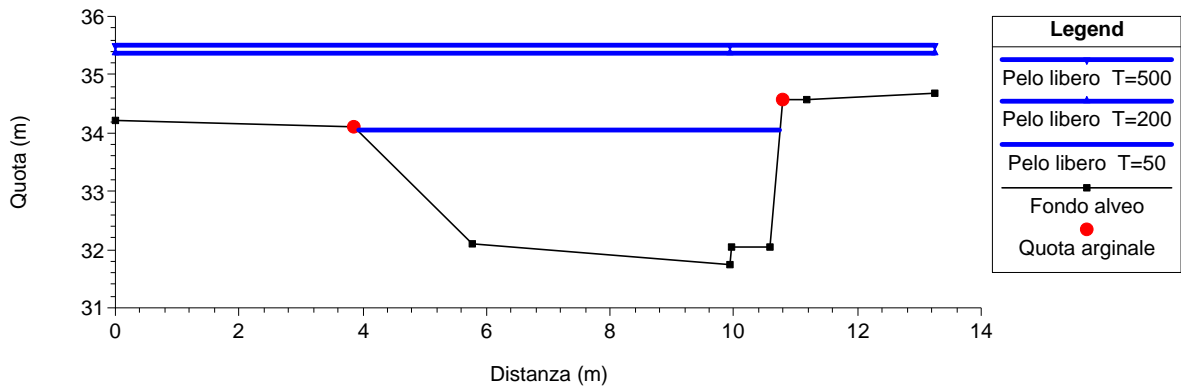
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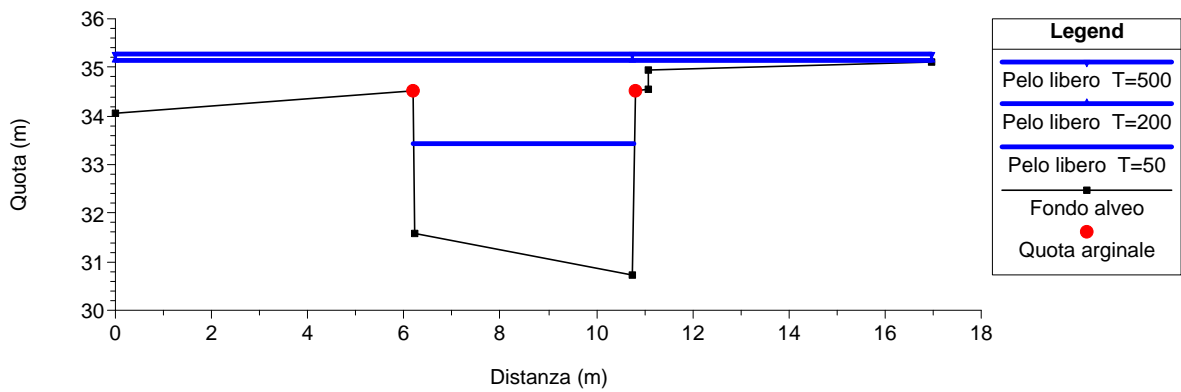
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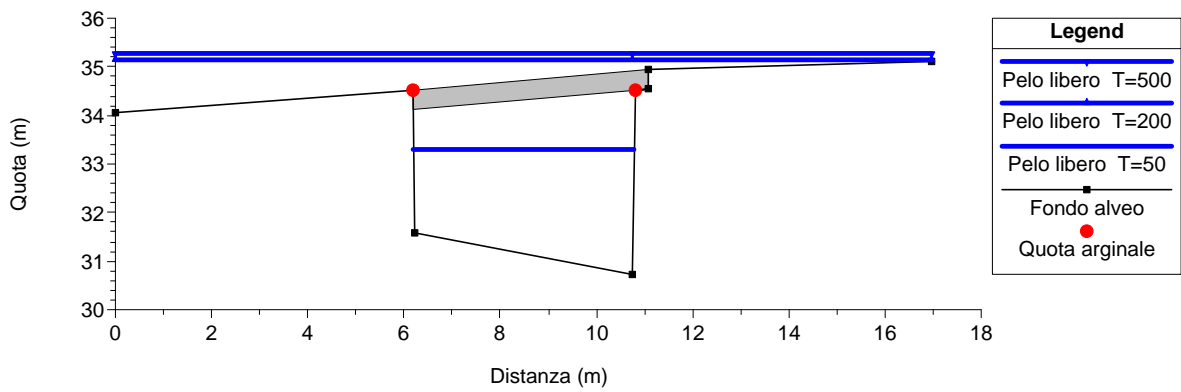
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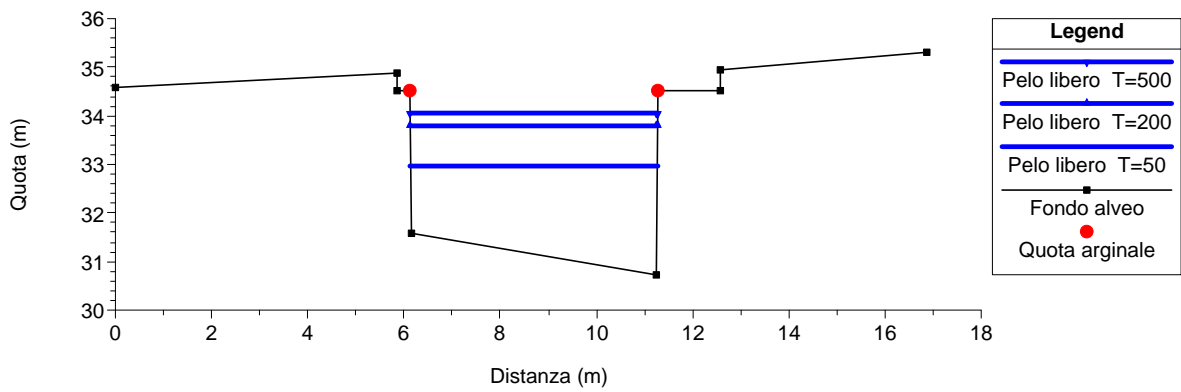
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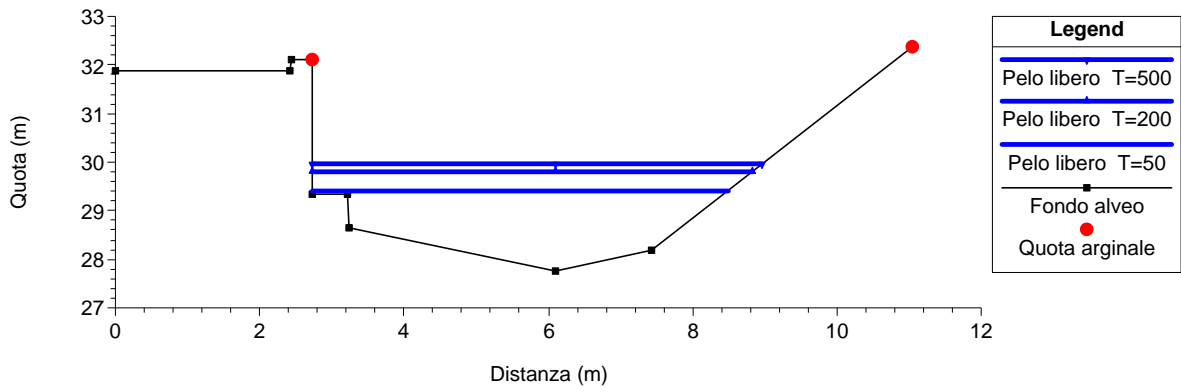
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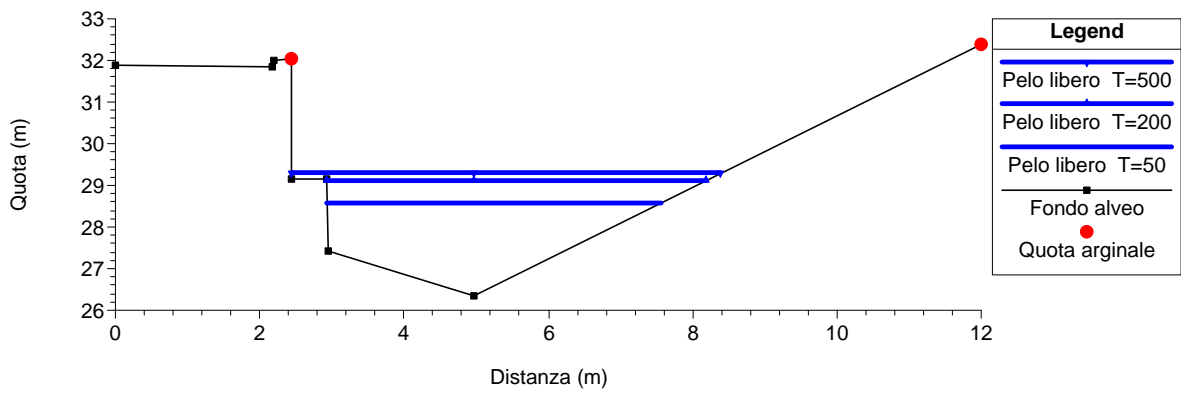
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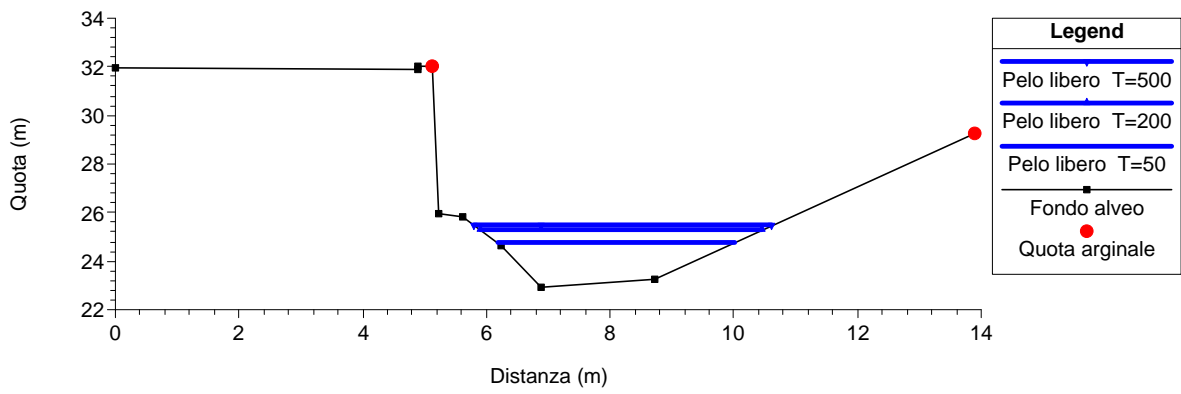
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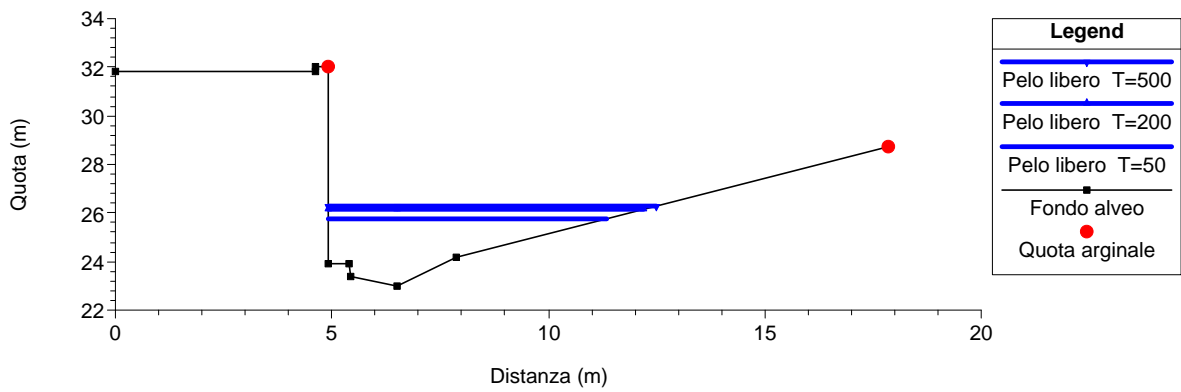
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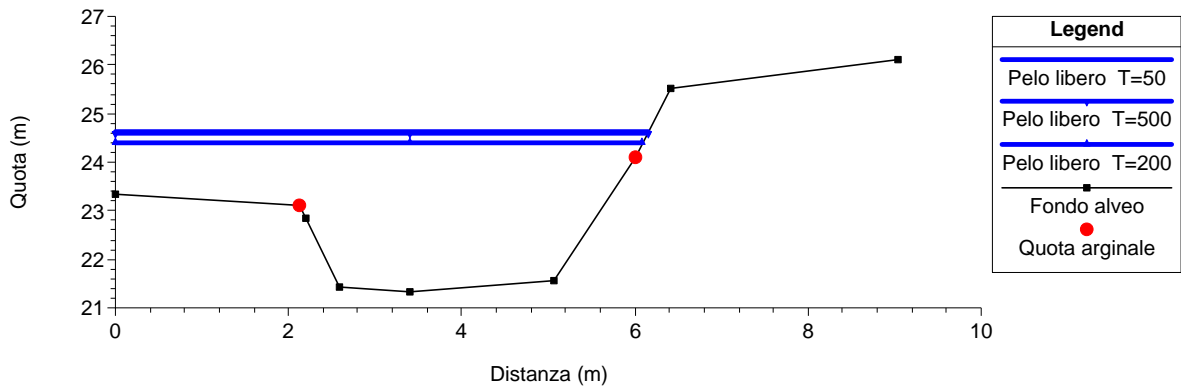
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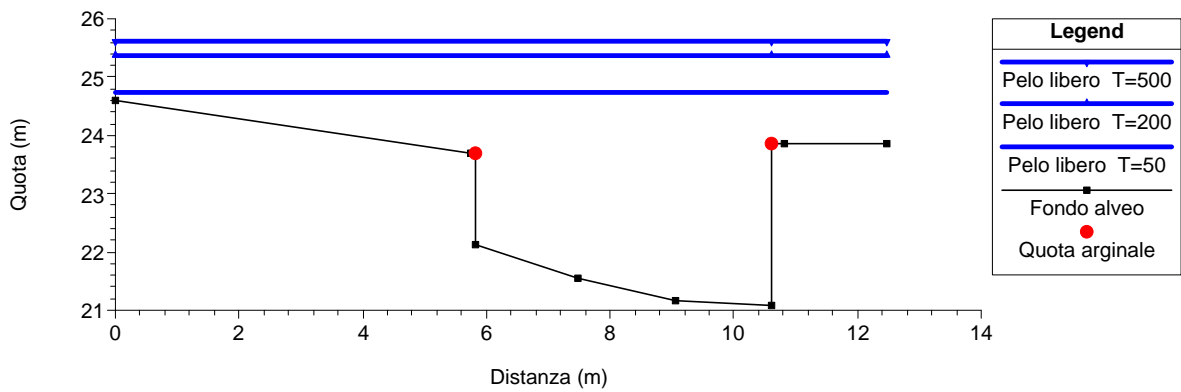
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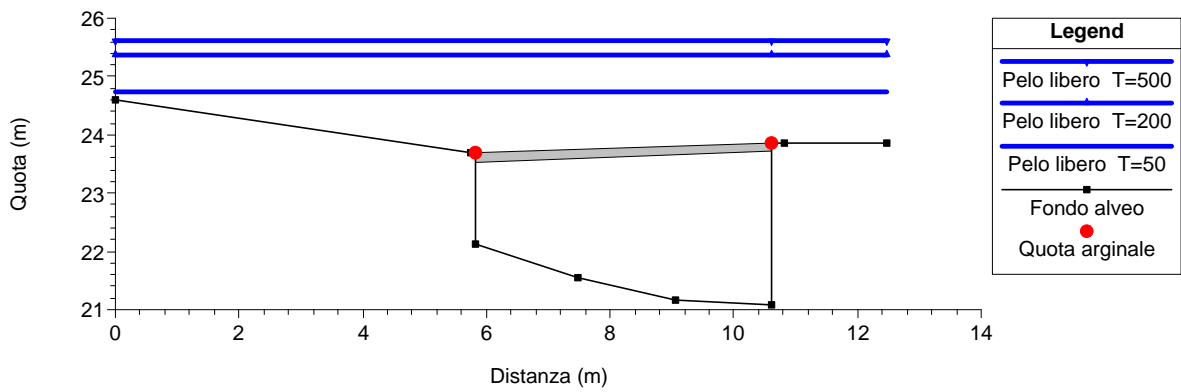
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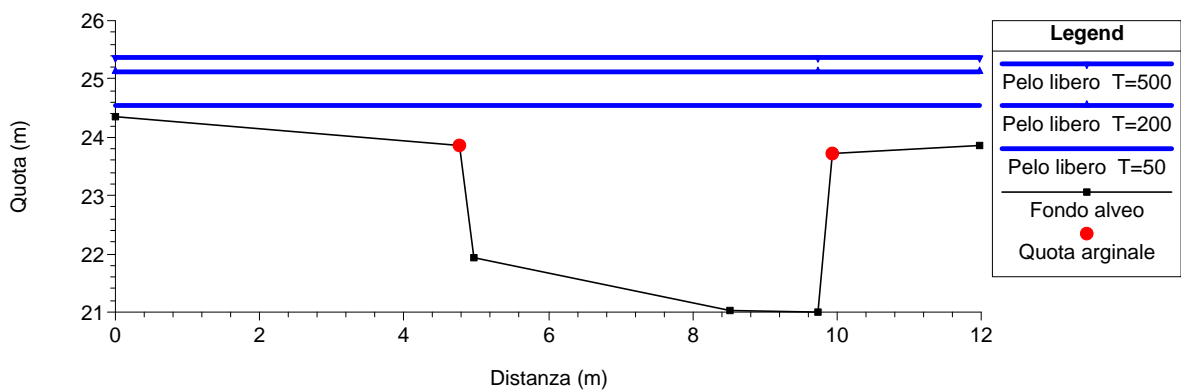
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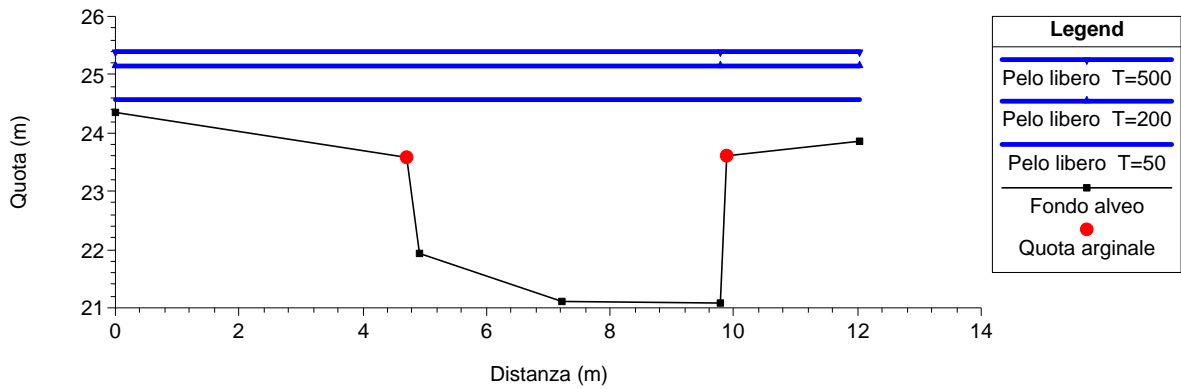
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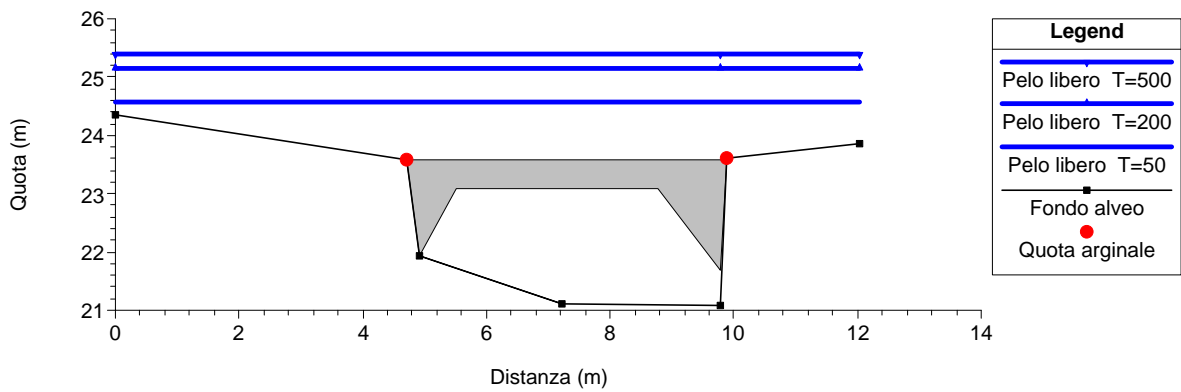
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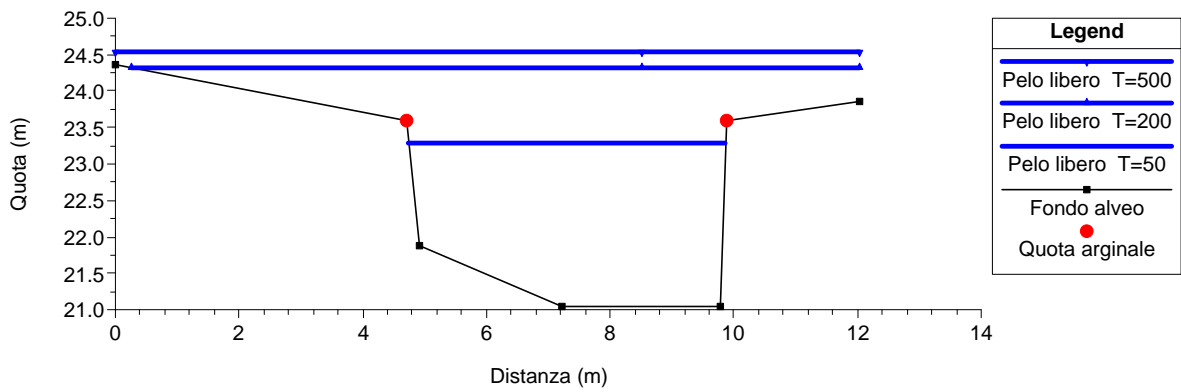
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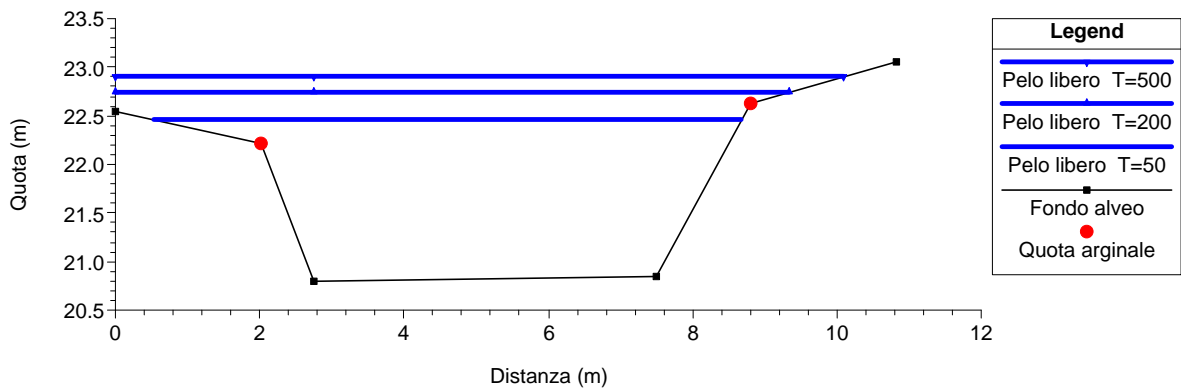
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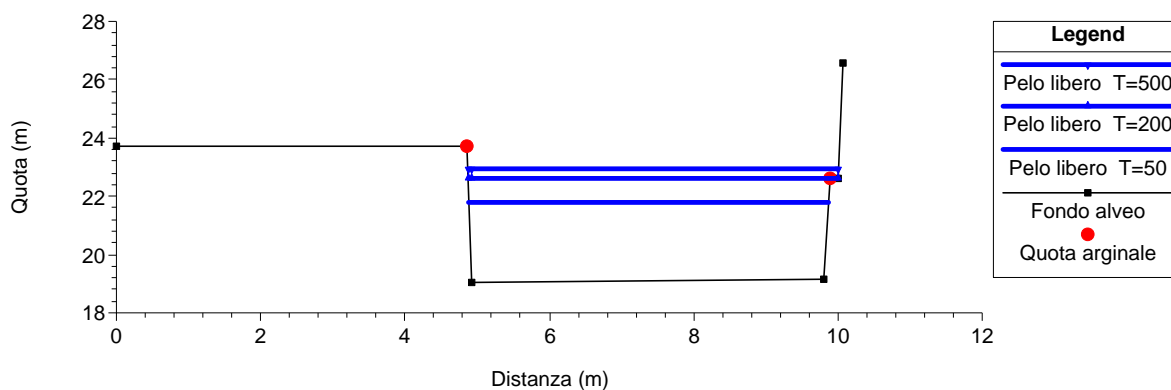
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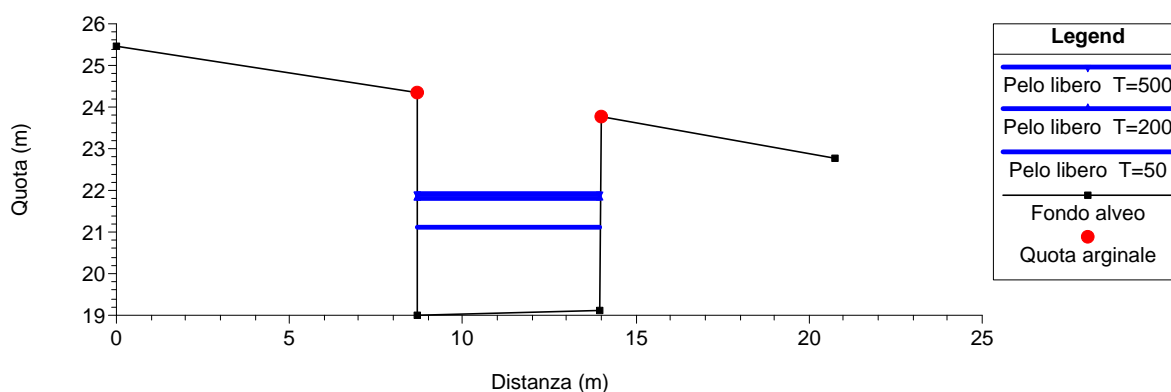
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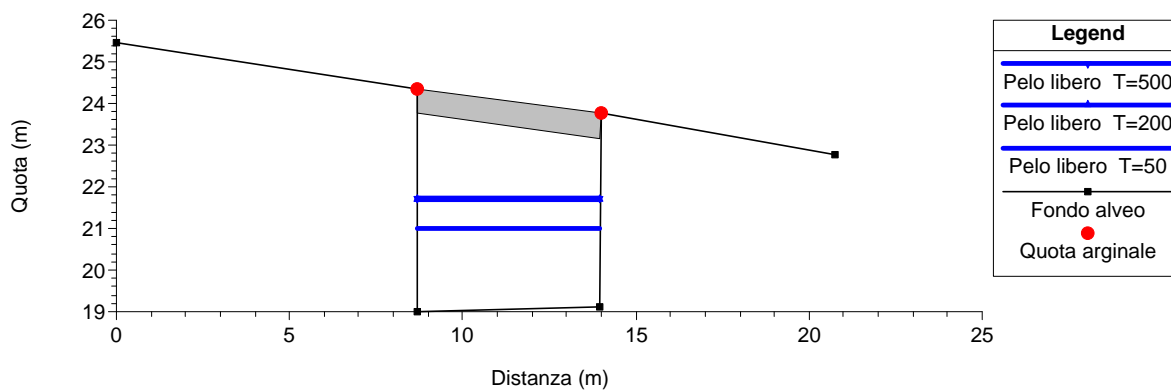
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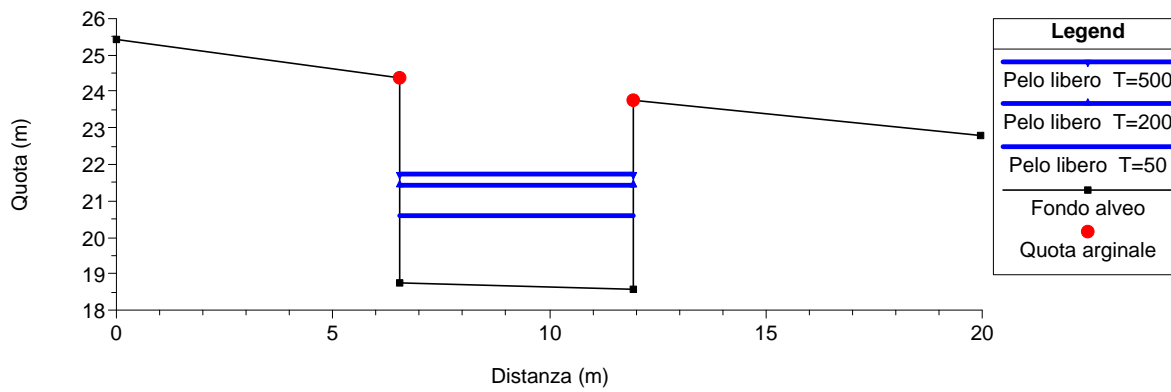
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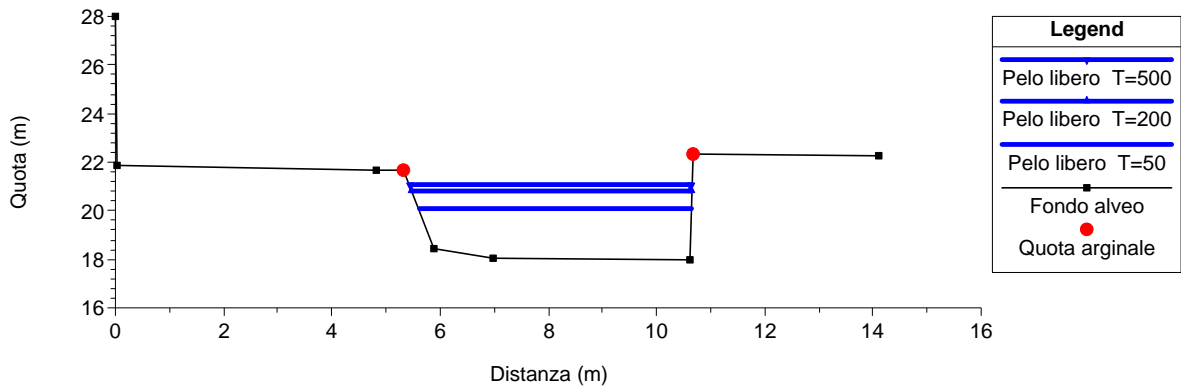
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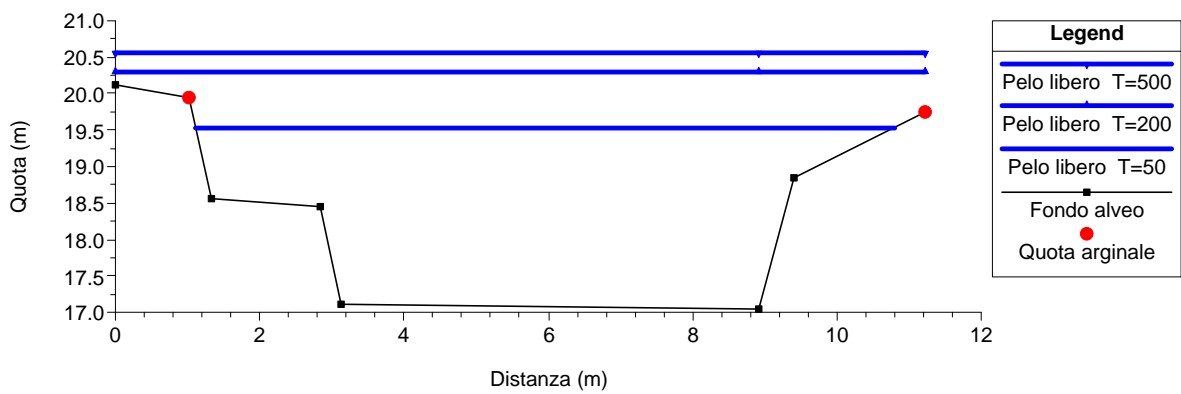
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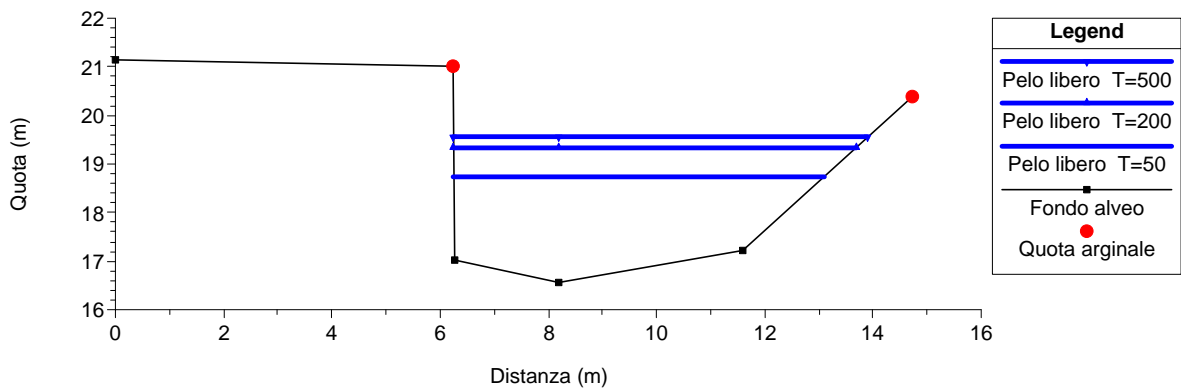
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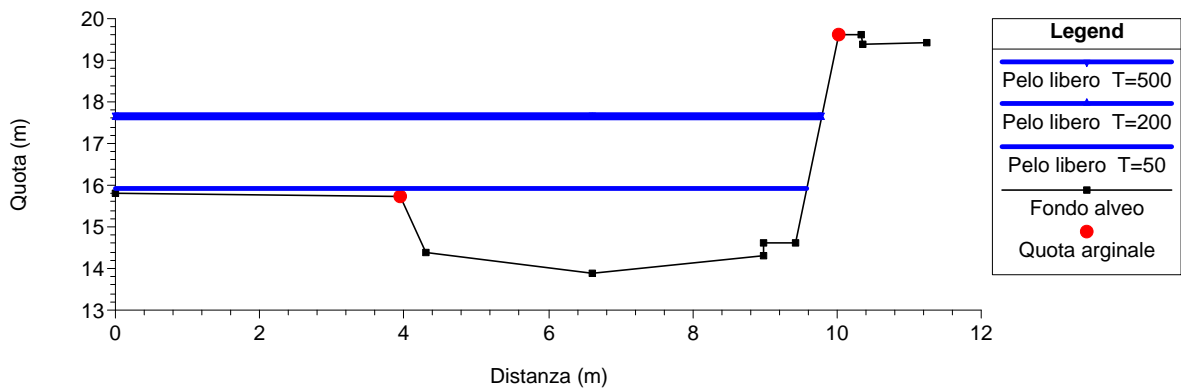
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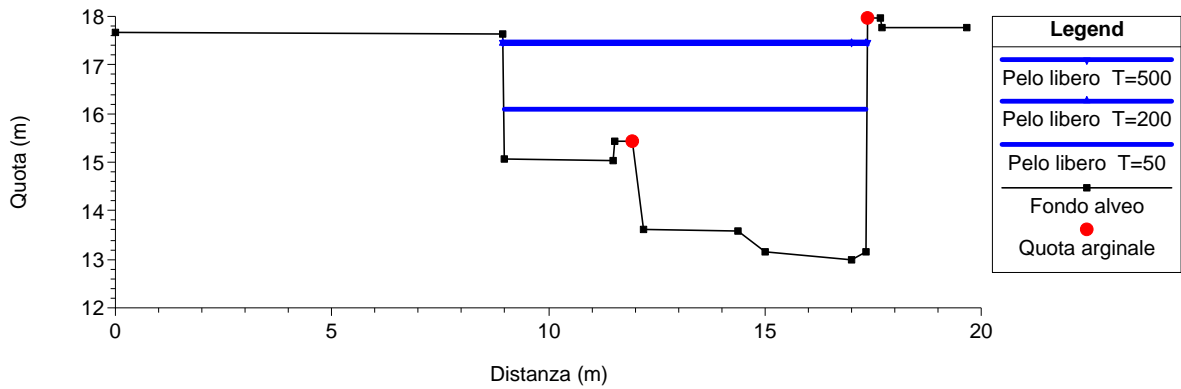
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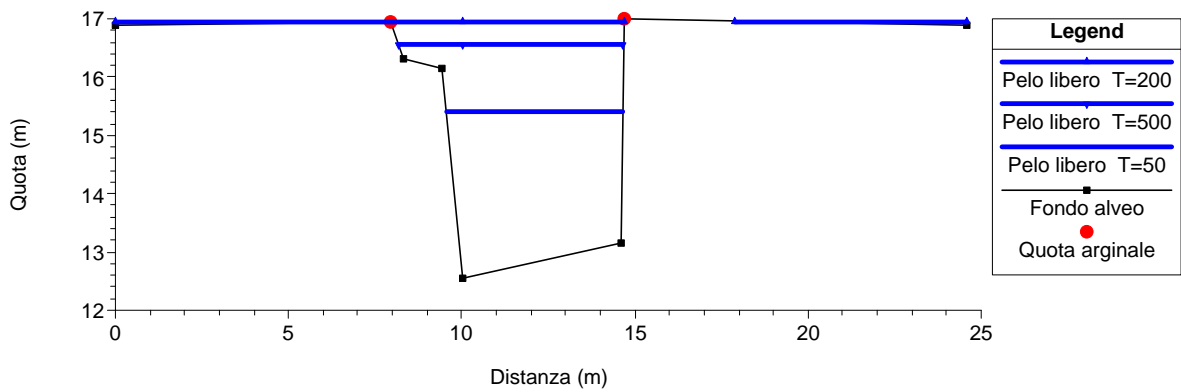
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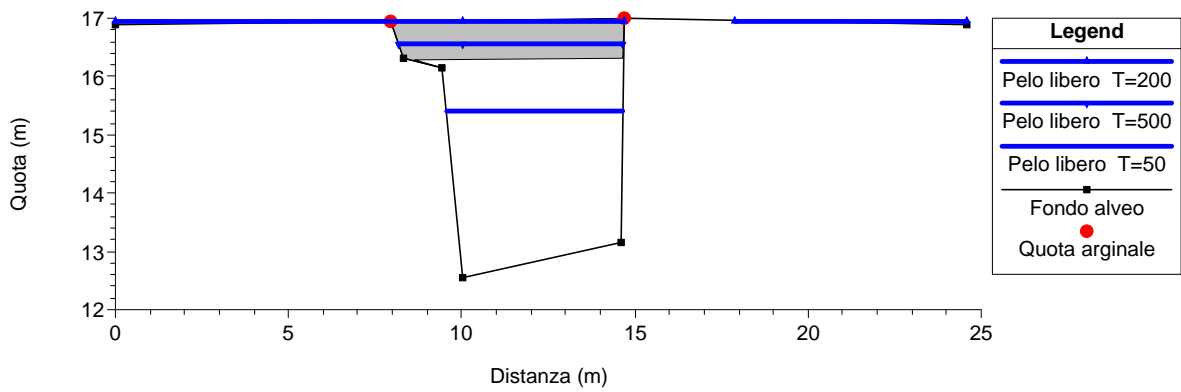
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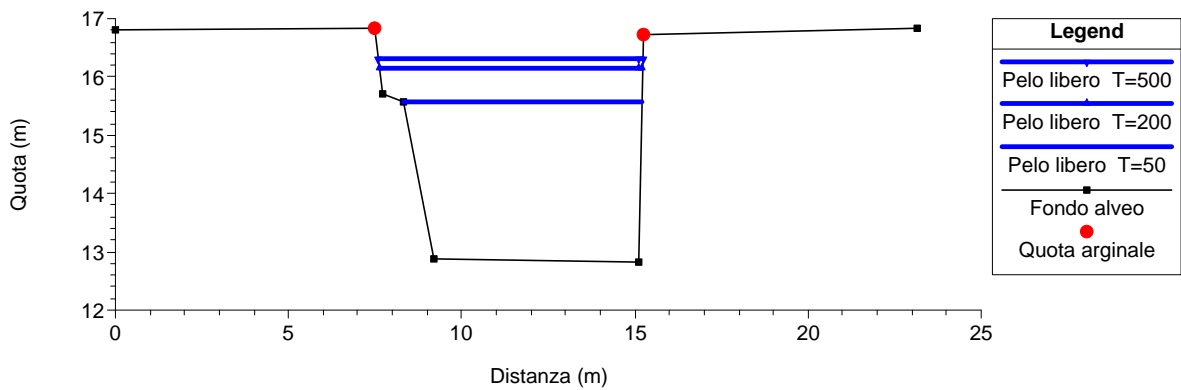
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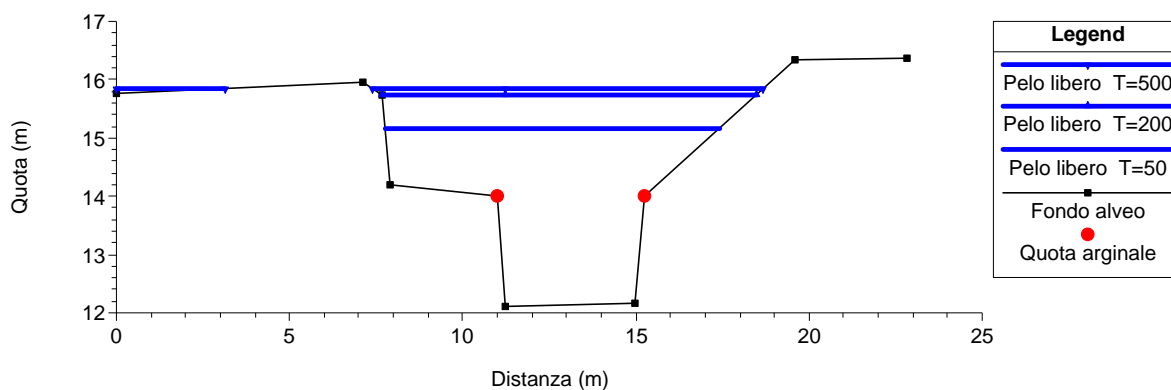
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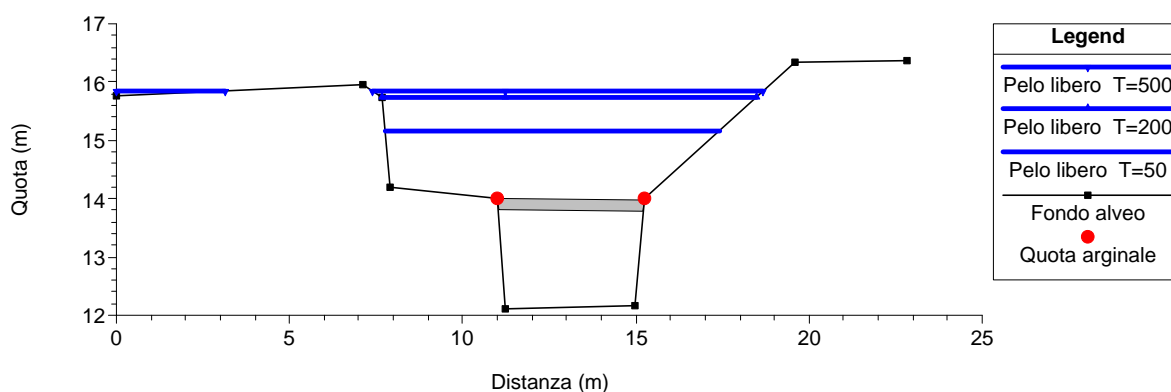
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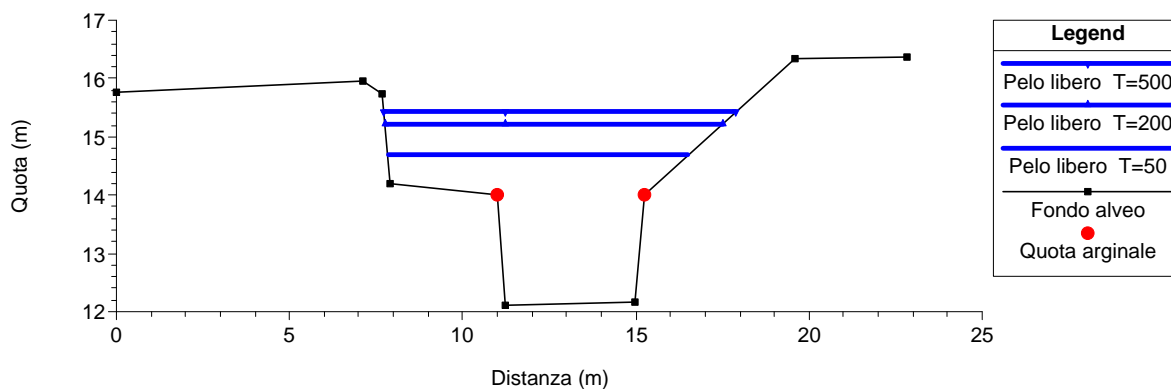
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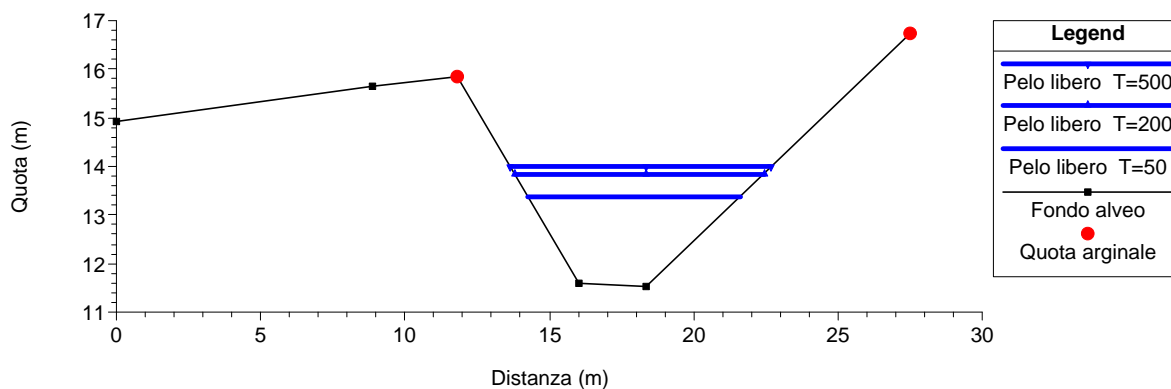
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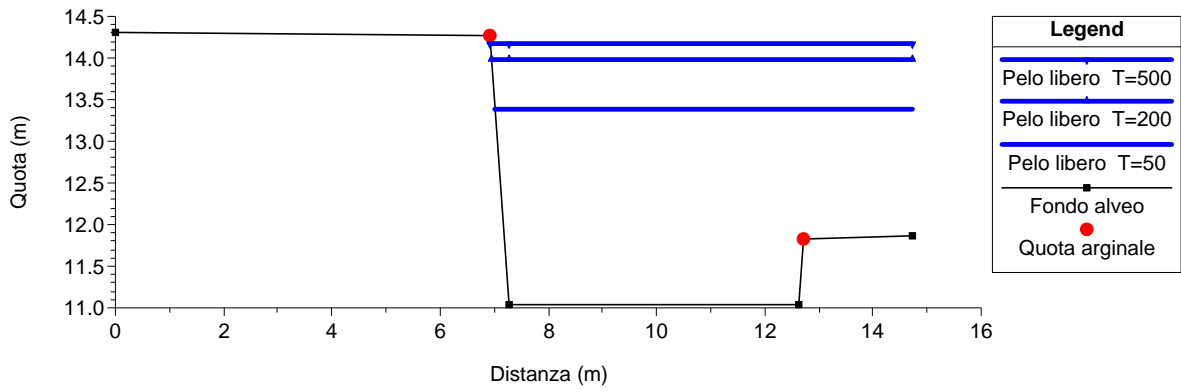
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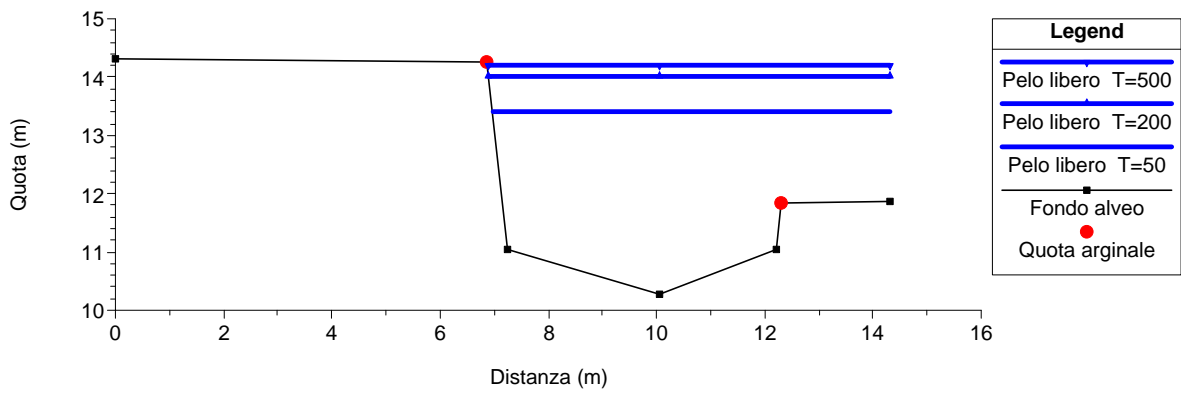
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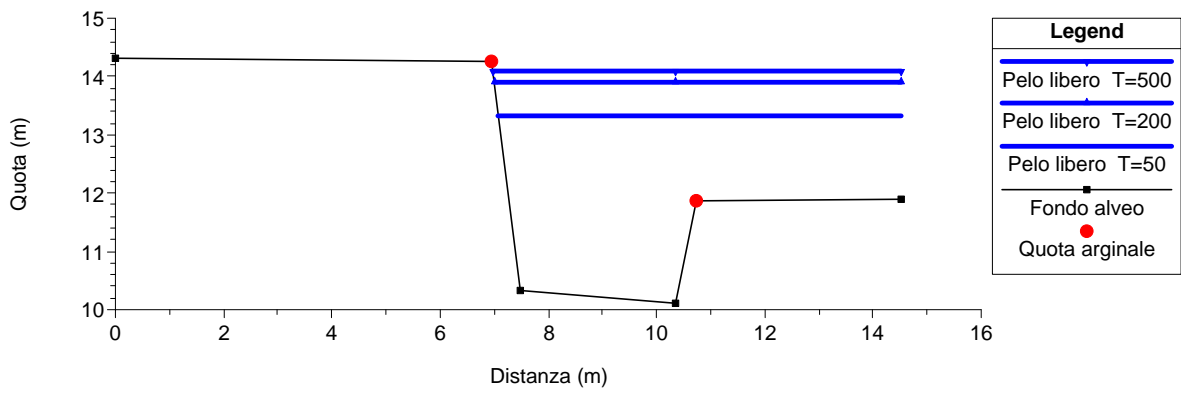
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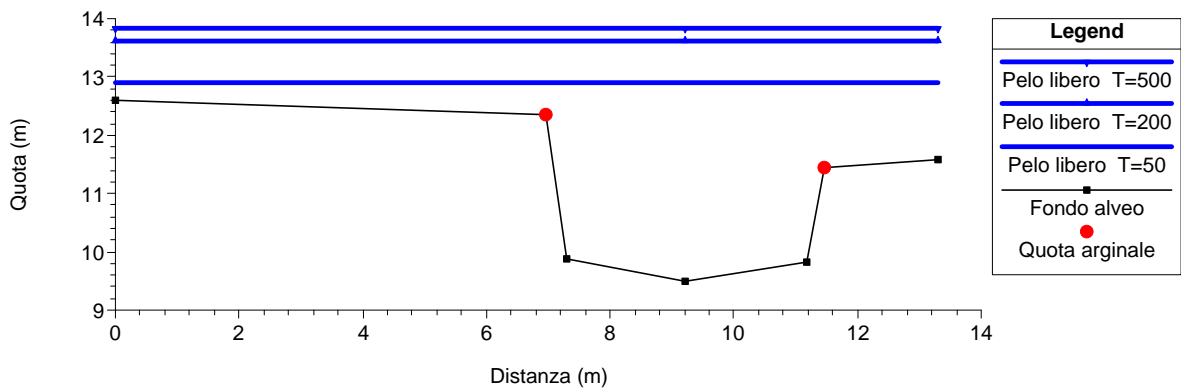
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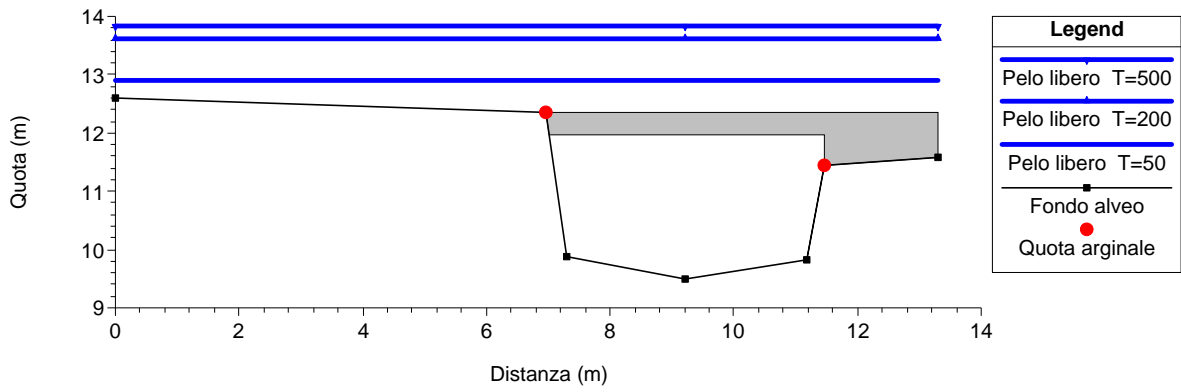
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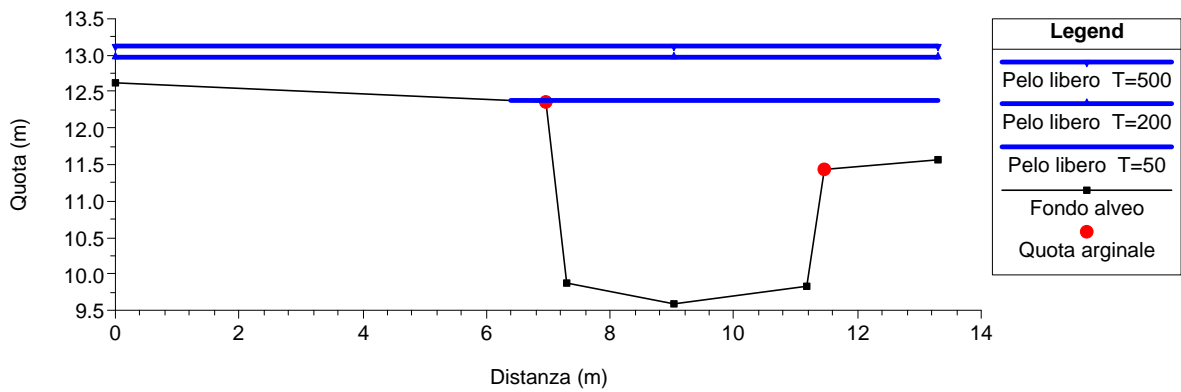
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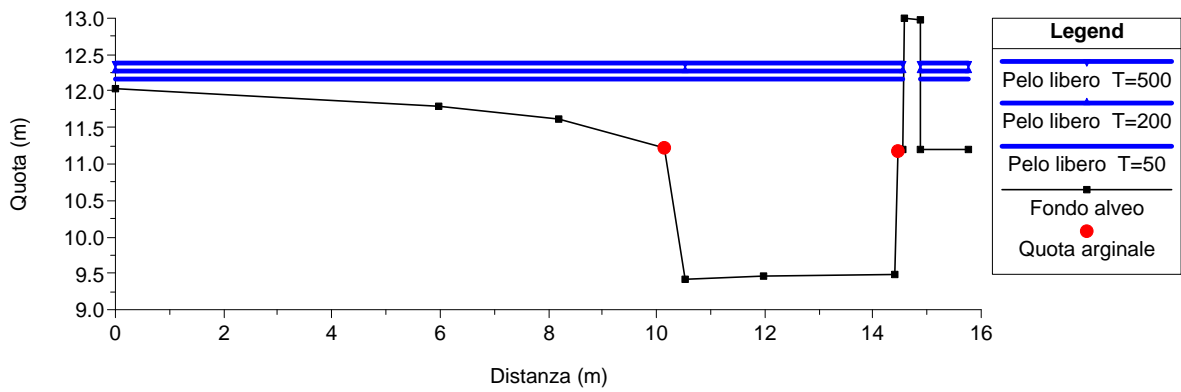
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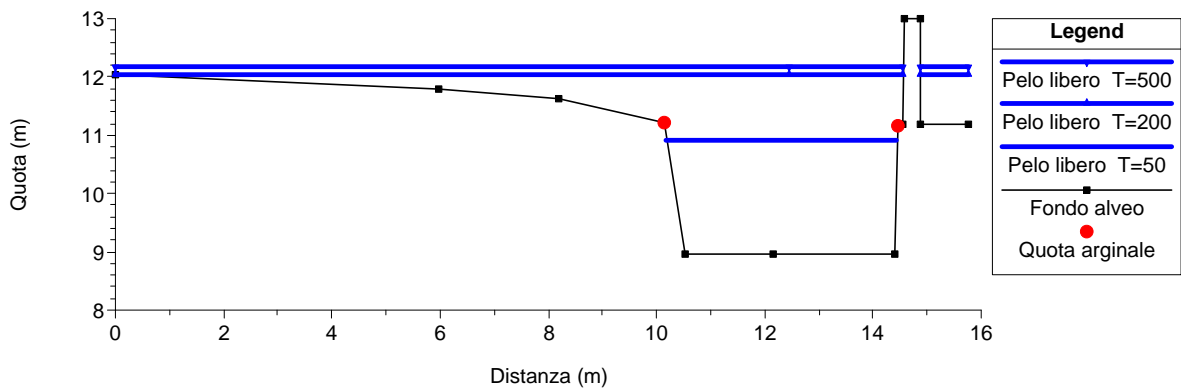
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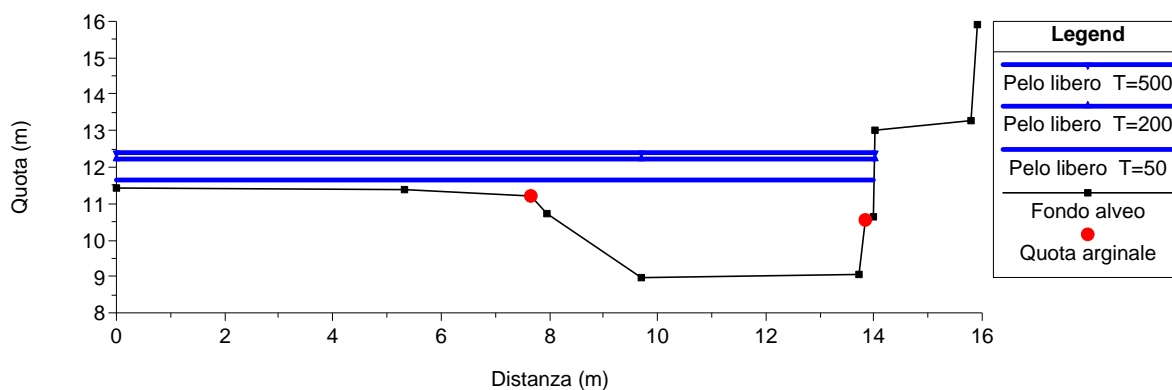
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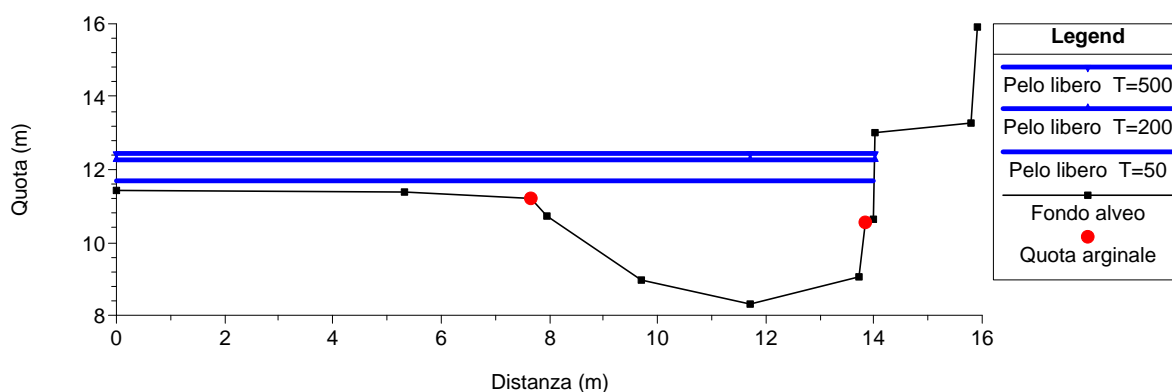
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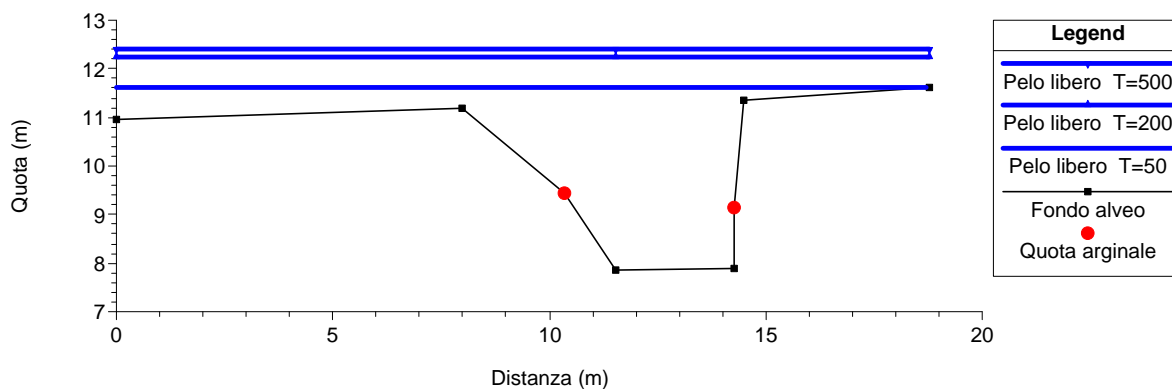
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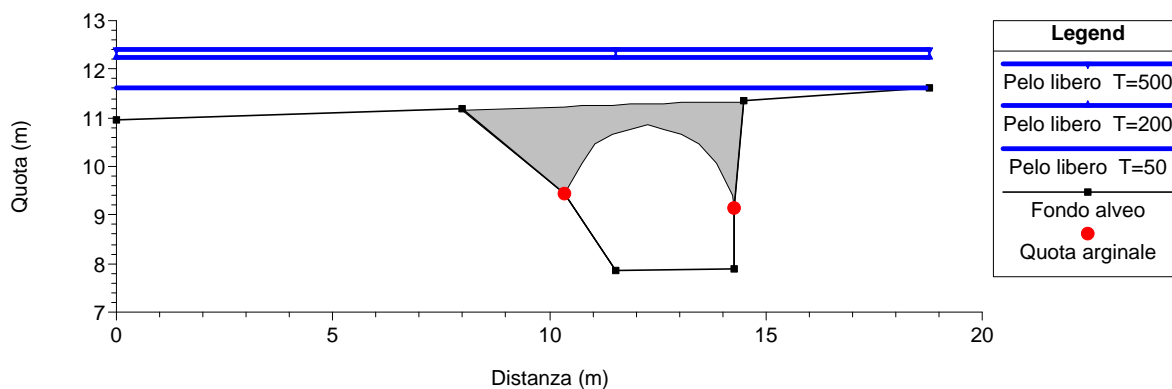
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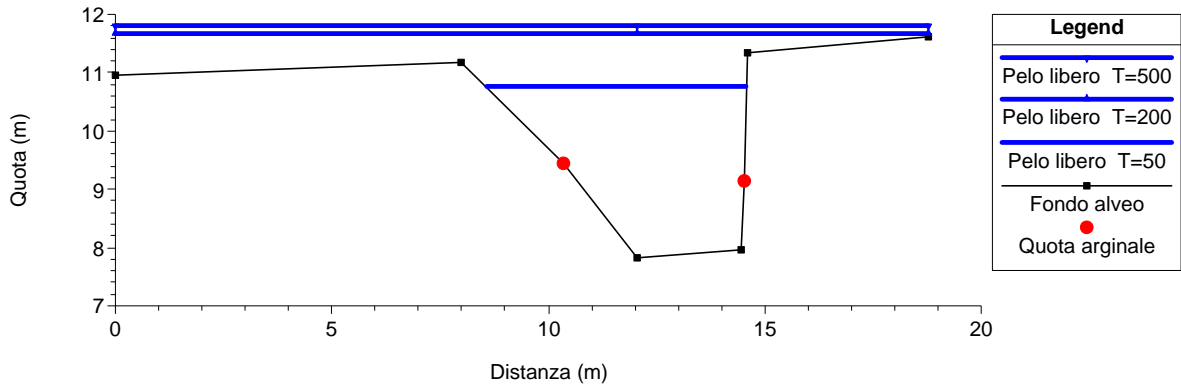
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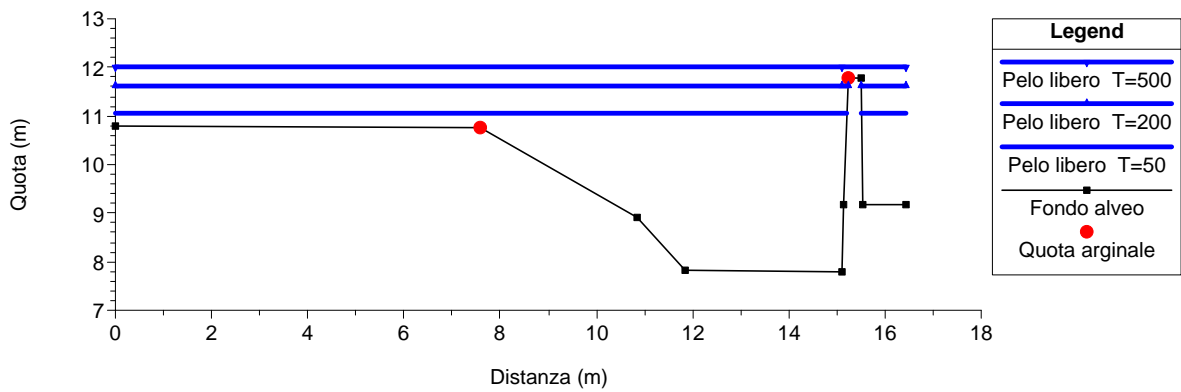
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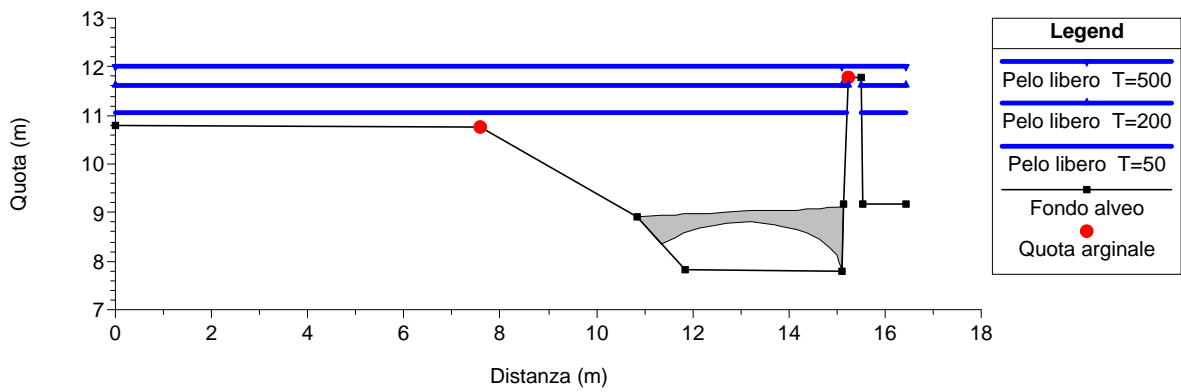
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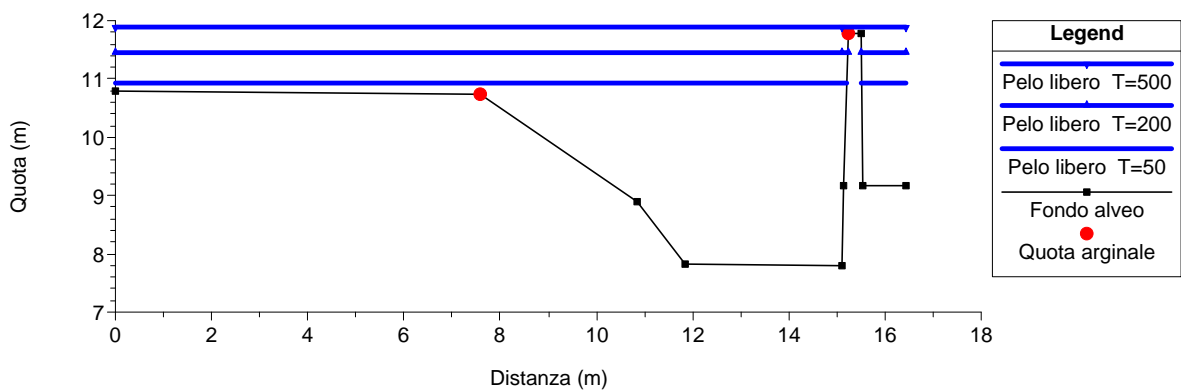
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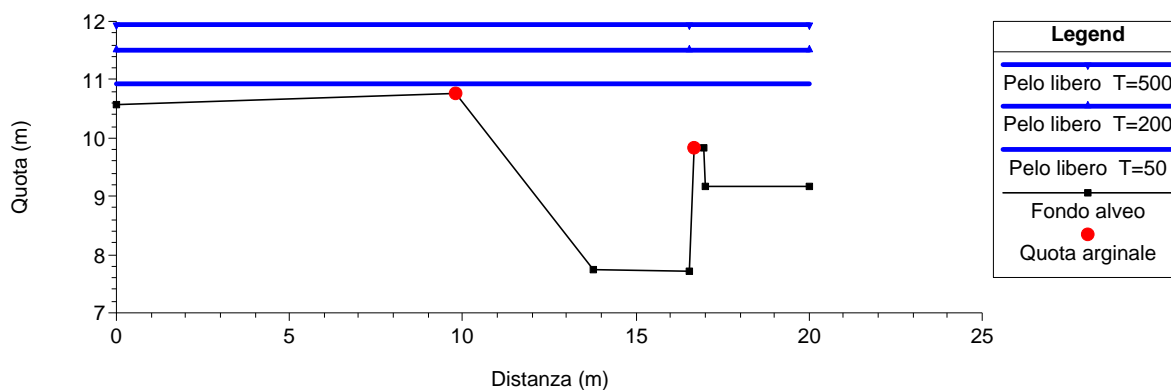
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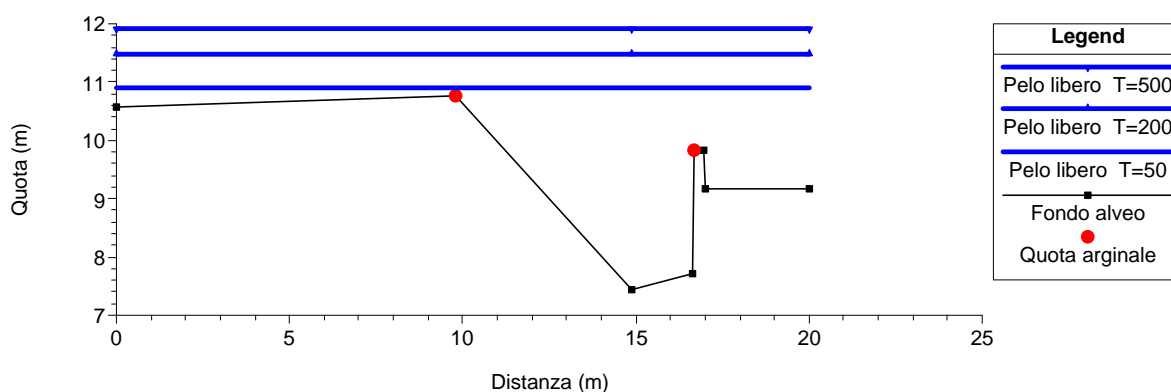
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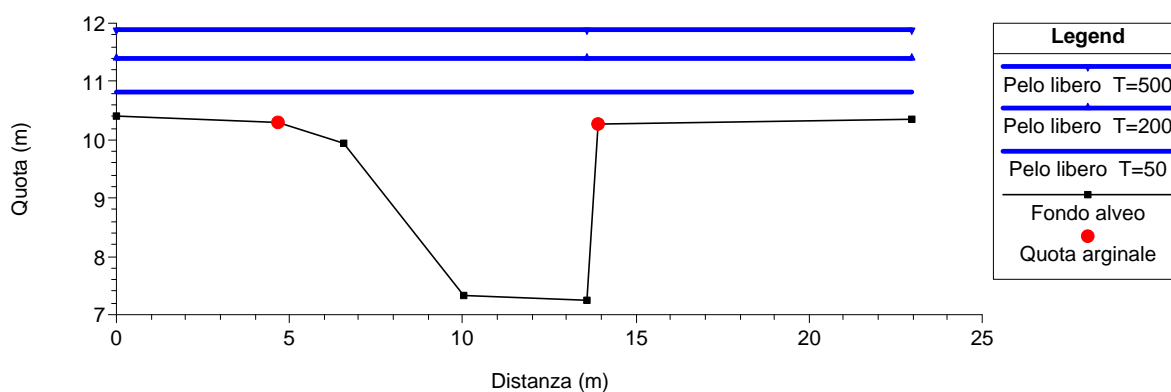
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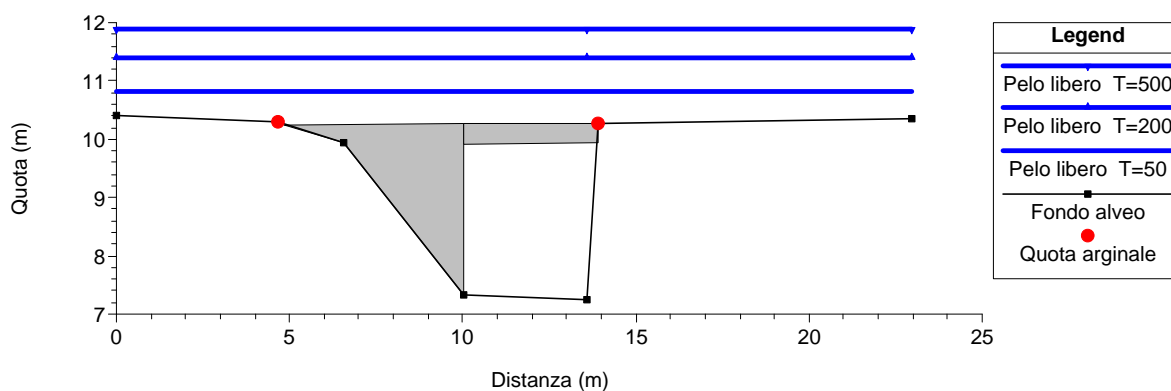
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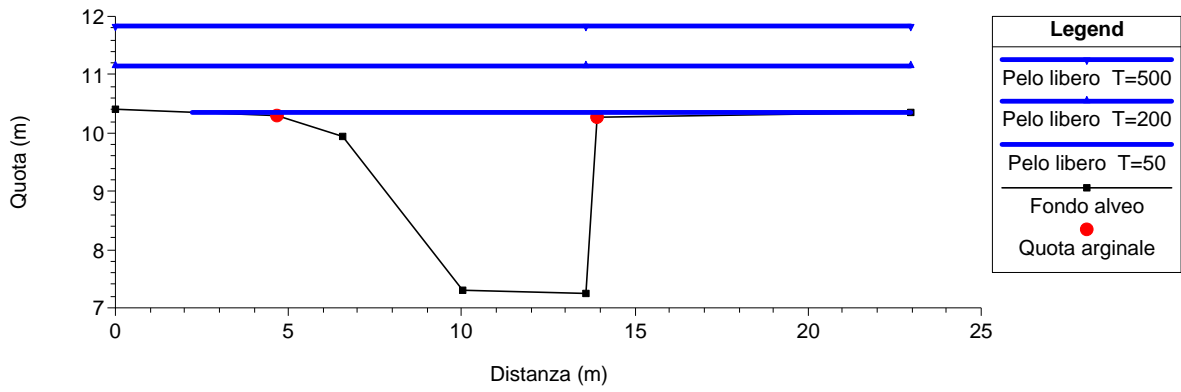
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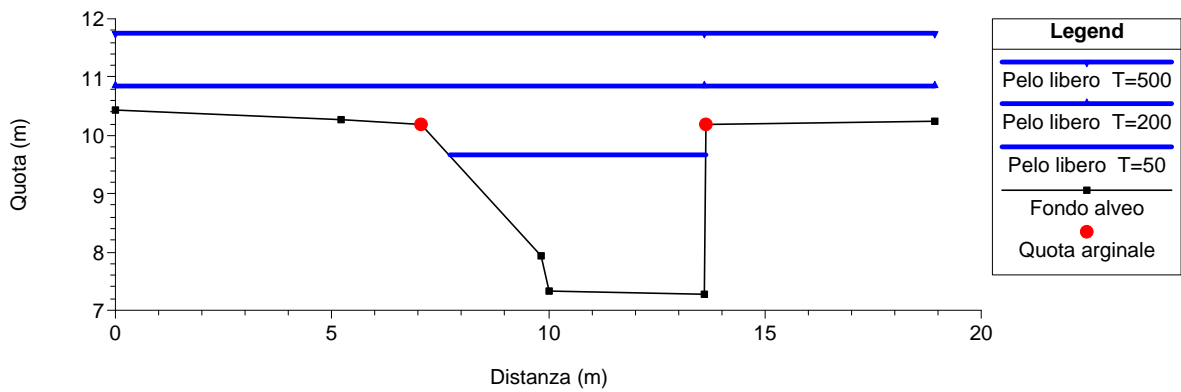
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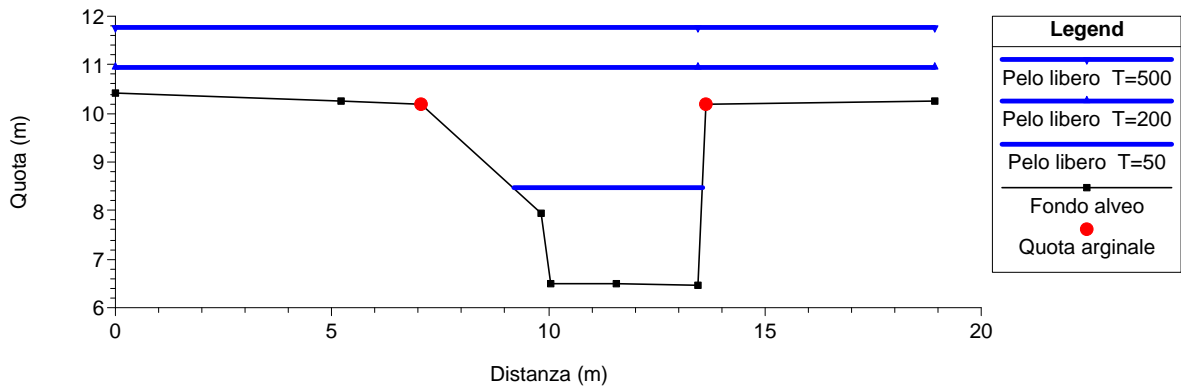
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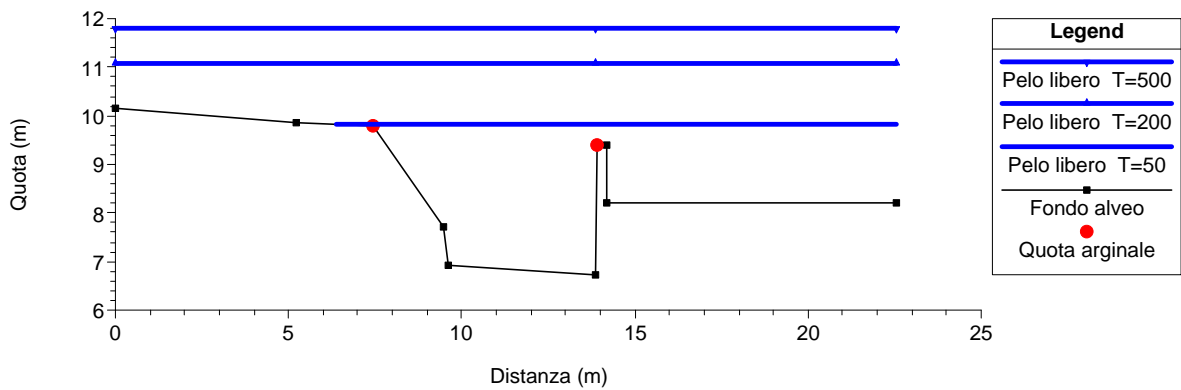
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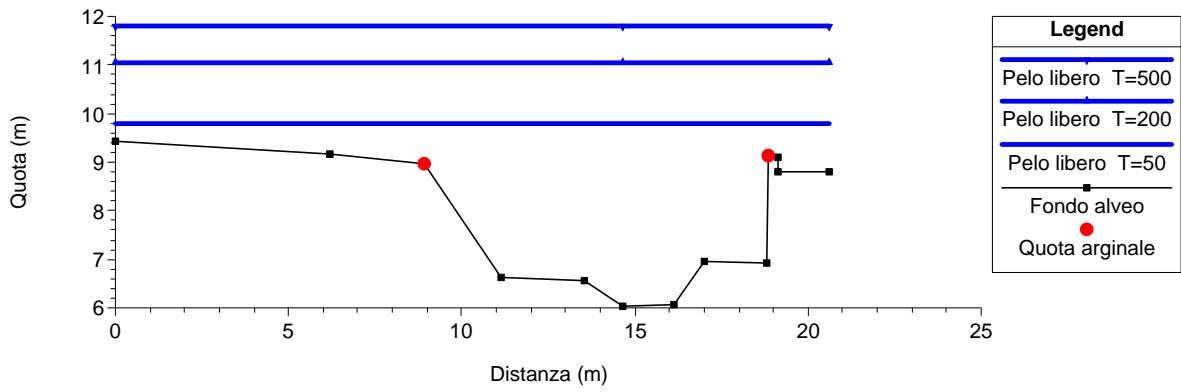
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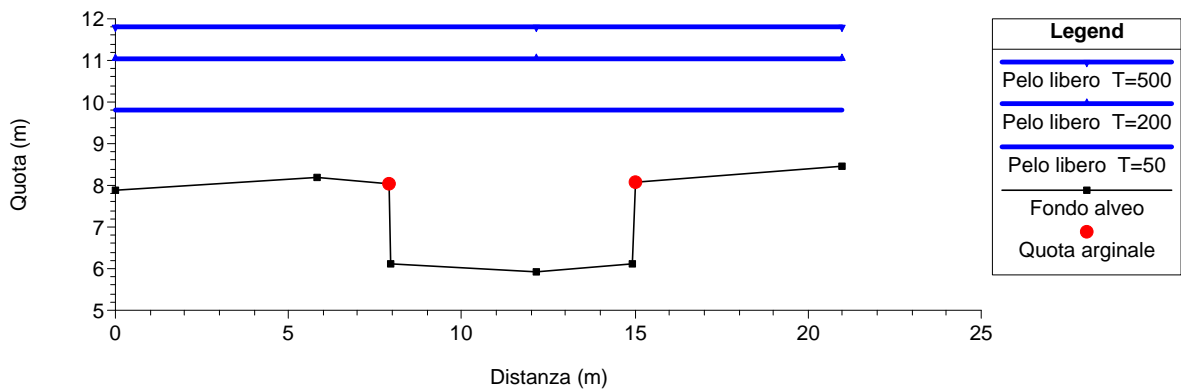
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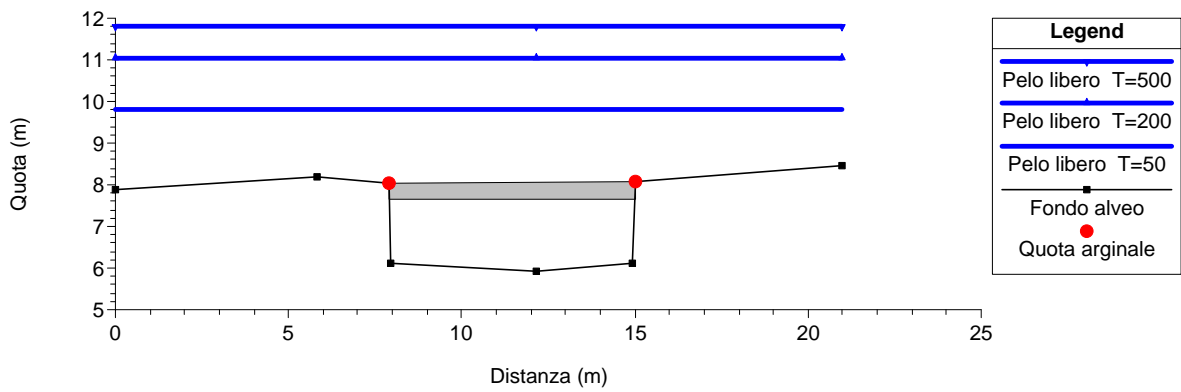
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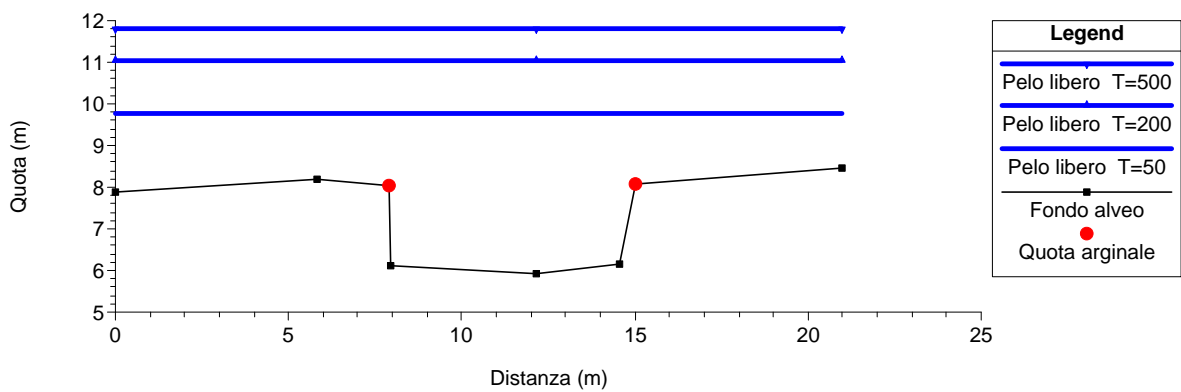
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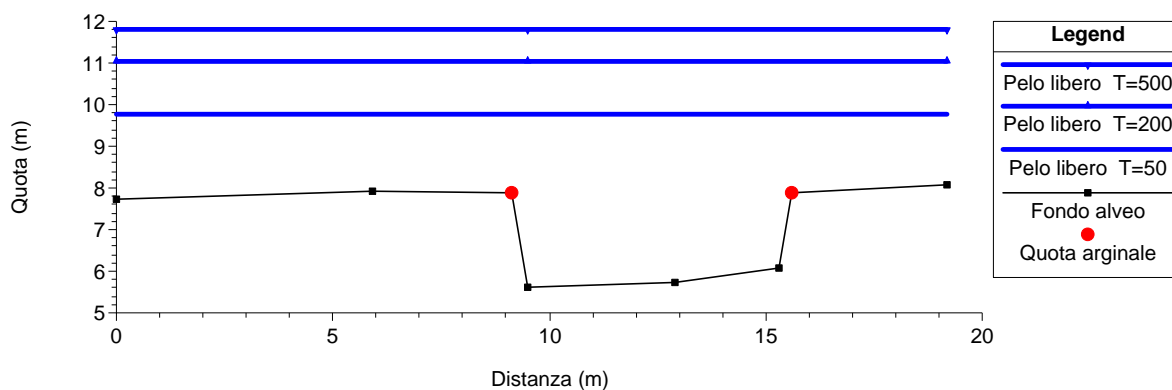
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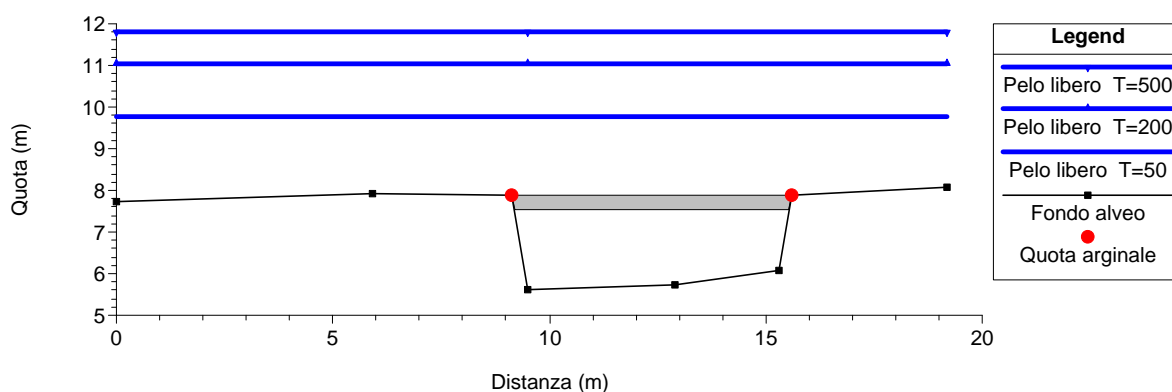
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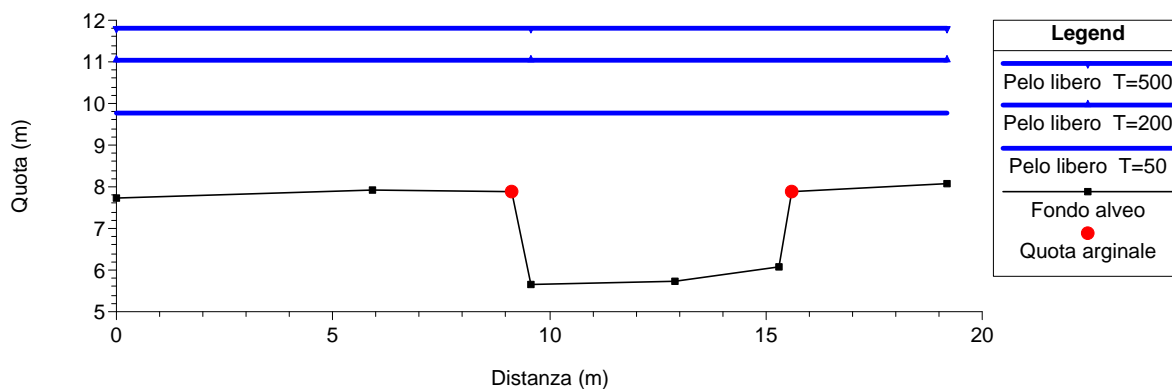
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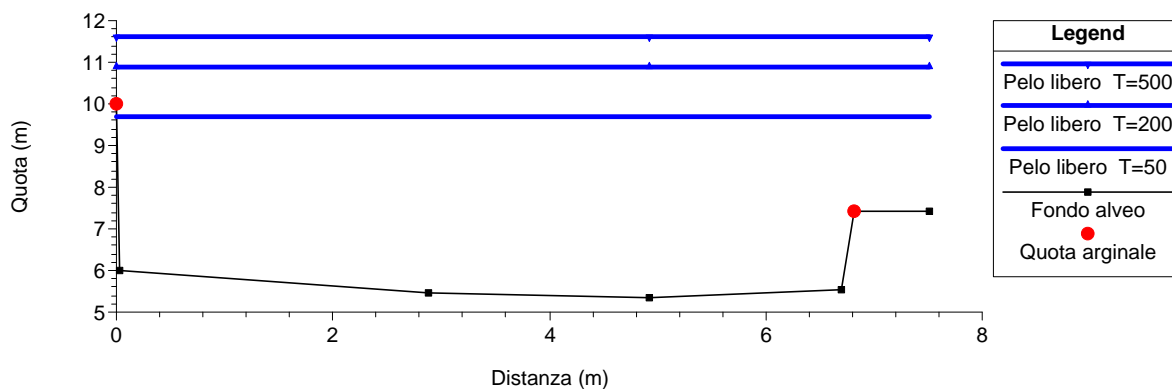
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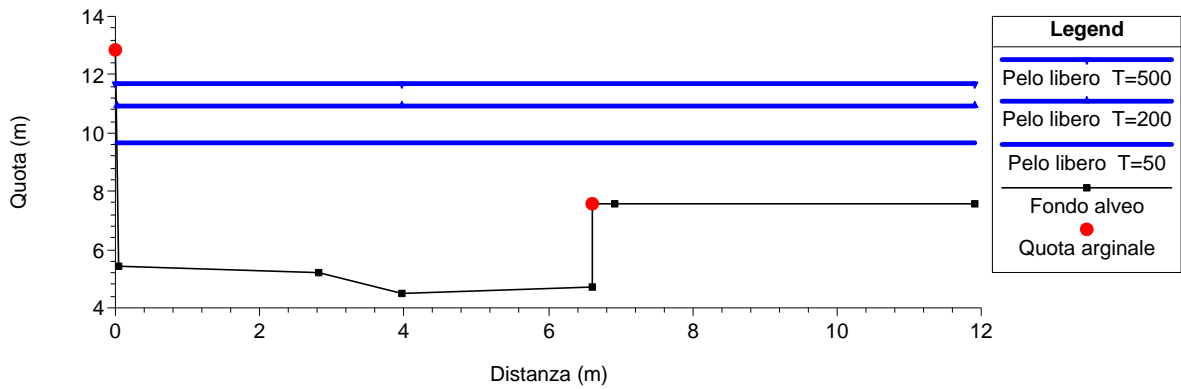
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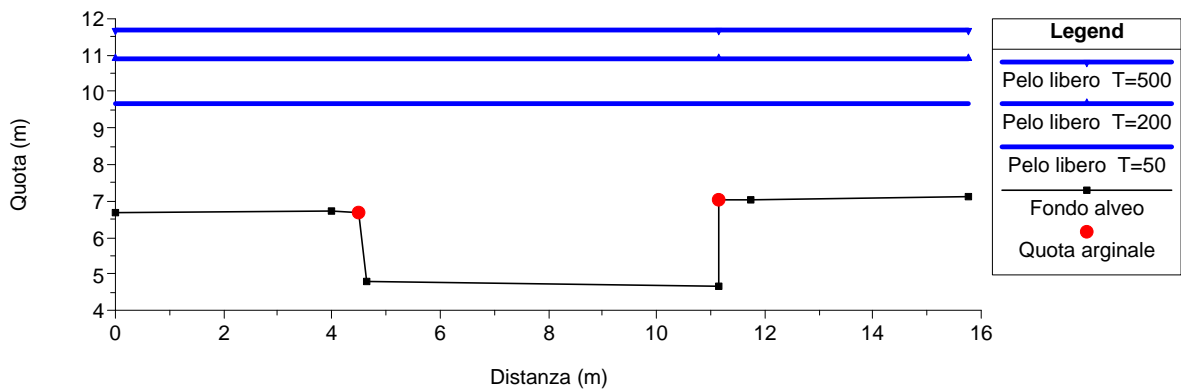
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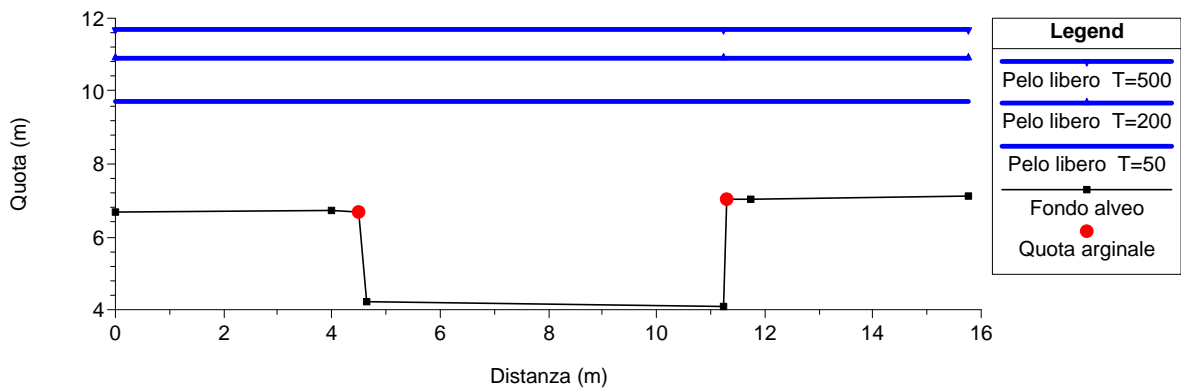
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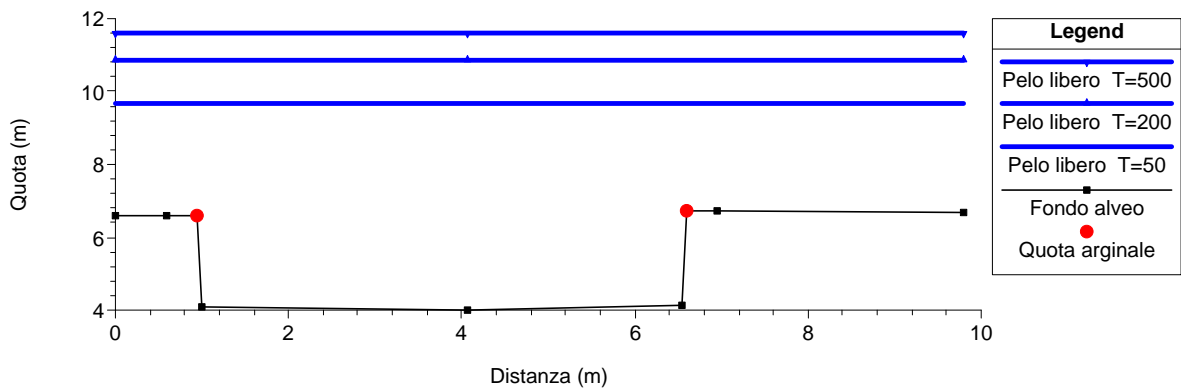
RS = 37



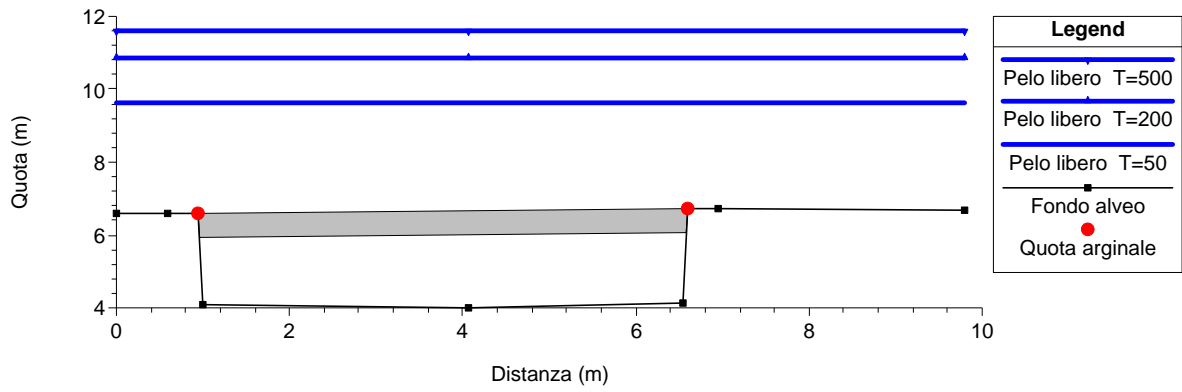
RS = 36



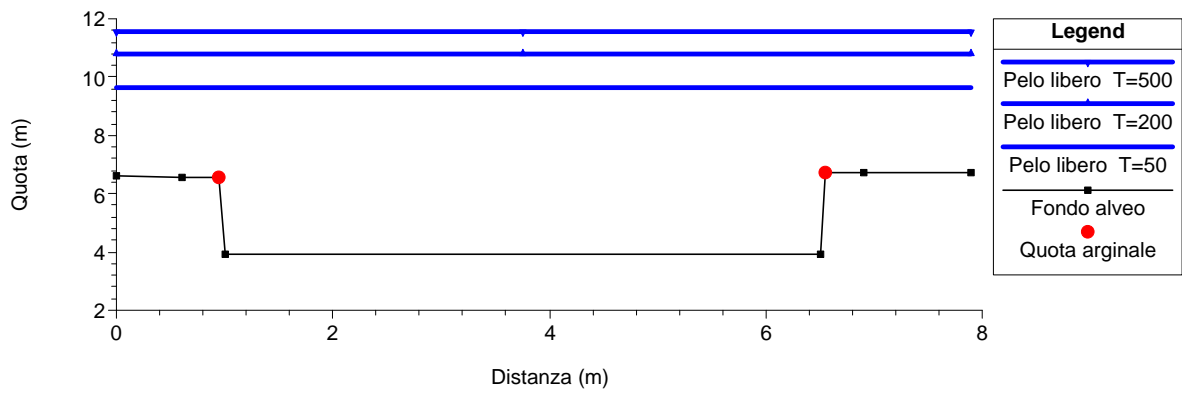
RS = 35



RS = 34.5 BR



RS = 34



**MODELLAZIONE IDRAULICA IN CONDIZIONI DI MOTO
PERMANENTE:
TABELLE DELLE GRANDEZZE IDRAULICHE SIGNIFICATIVE
PER LE PORTATE T=50, 200, 500 ANNI**

T. SANDA

54	45	7.81	9.45	9.13	10.76	10.53	11.55	4.03	11.86	0.81
53	45	7.81	10.75	11.77	11.06	10.15	11.33	2.4	21.2	0.51
52.5	Bridge									
52	45	7.81	10.75	11.77	10.92	10.15	11.25	2.62	18.99	0.57
51	45	7.72	10.76	9.82	10.94	10.06	11.15	2.15	24.33	0.45
50	45	7.44	10.76	9.82	10.91	10.1	11.13	2.25	23.1	0.48
49	45	7.26	10.28	10.28	10.81	9.46	10.96	1.81	28.77	0.37
48.5	Bridge									
48	45	7.25	10.28	10.28	10.35	9.46	10.67	2.5	18.37	0.57
47	45	7.26	10.19	10.19	9.66	9.66	10.56	4.21	10.68	1
46	45	6.46	10.19	10.19	8.46	9.08	10.42	6.21	7.25	1.54
45	45	6.73	9.78	9.4	9.82	8.88	9.95	1.66	28.89	0.34
44	45	6.03	8.98	9.12	9.8	8	9.89	1.4	36.25	0.26
43	45	5.92	8.04	8.06	9.8	7.62	9.84	1.07	49.68	0.18
42.5	Bridge									
42	45	5.92	8.04	8.06	9.79	7.68	9.83	1.09	48.99	0.18
41	45	5.61	7.89	7.89	9.78	7.57	9.83	1.07	49.29	0.17
40.5	Bridge									
40	45	5.64	7.89	7.89	9.78	7.6	9.82	1.08	49.02	0.18
39	45	5.35	10	7.41	9.68	7.21	9.8	1.58	29.47	0.25
38	45	4.52	12.84	7.55	9.68	6.65	9.74	1.13	42.26	0.17
37	45	4.67	6.7	7.03	9.69	6.43	9.72	0.89	58.23	0.13
36	45	4.08	6.7	7.03	9.69	5.82	9.72	0.83	62.47	0.11
35	45	4	6.59	6.72	9.65	5.94	9.71	1.16	43.81	0.16
34.5	Bridge									
34	45	3.94	6.58	6.7	9.62	5.83	9.7	1.3	38.45	0.17

54	70	7.81	9.45	9.13	11.66	11.66	12.31	3.9	23.19	0.67
53	70	7.81	10.75	11.77	11.6	11.01	11.93	2.7	30.04	0.51
52.5	Bridge									
52	70	7.81	10.75	11.77	11.45	11.01	11.85	2.94	27.6	0.57
51	70	7.72	10.76	9.82	11.5	10.52	11.73	2.37	35.56	0.45
50	70	7.44	10.76	9.82	11.48	10.58	11.72	2.43	34.53	0.47
49	70	7.26	10.28	10.28	11.41	10.18	11.57	1.93	42.54	0.36
48.5	Bridge									
48	70	7.25	10.28	10.28	11.14	10.16	11.37	2.25	36.56	0.43
47	70	7.26	10.19	10.19	10.84	10.7	11.32	3.26	25.28	0.62
46	70	6.46	10.19	10.19	10.93	9.84	11.27	2.74	29.71	0.48
45	70	6.73	9.78	9.4	11.07	9.22	11.15	1.39	55.82	0.23
44	70	6.03	8.98	9.12	11.05	8.49	11.12	1.3	62.05	0.2
43	70	5.92	8.04	8.06	11.05	8.54	11.09	1.08	75.95	0.15
42.5	Bridge									
42	70	5.92	8.04	8.06	11.04	8.57	11.09	1.09	75.35	0.16
41	70	5.61	7.89	7.89	11.04	8.43	11.09	1.11	73.35	0.16
40.5	Bridge									
40	70	5.64	7.89	7.89	11.03	8.44	11.08	1.11	73.1	0.16
39	70	5.35	10	7.41	10.88	7.8	11.05	1.89	38.48	0.26
38	70	4.52	12.84	7.55	10.9	7.23	10.98	1.29	56.78	0.17
37	70	4.67	6.7	7.03	10.91	7.29	10.96	1.06	77.52	0.14
36	70	4.08	6.7	7.03	10.92	6.39	10.96	1	81.76	0.12
35	70	4	6.59	6.72	10.85	6.57	10.95	1.46	55.57	0.18
34.5	Bridge									
34	70	3.94	6.58	6.7	10.8	6.48	10.93	1.66	47.79	0.2

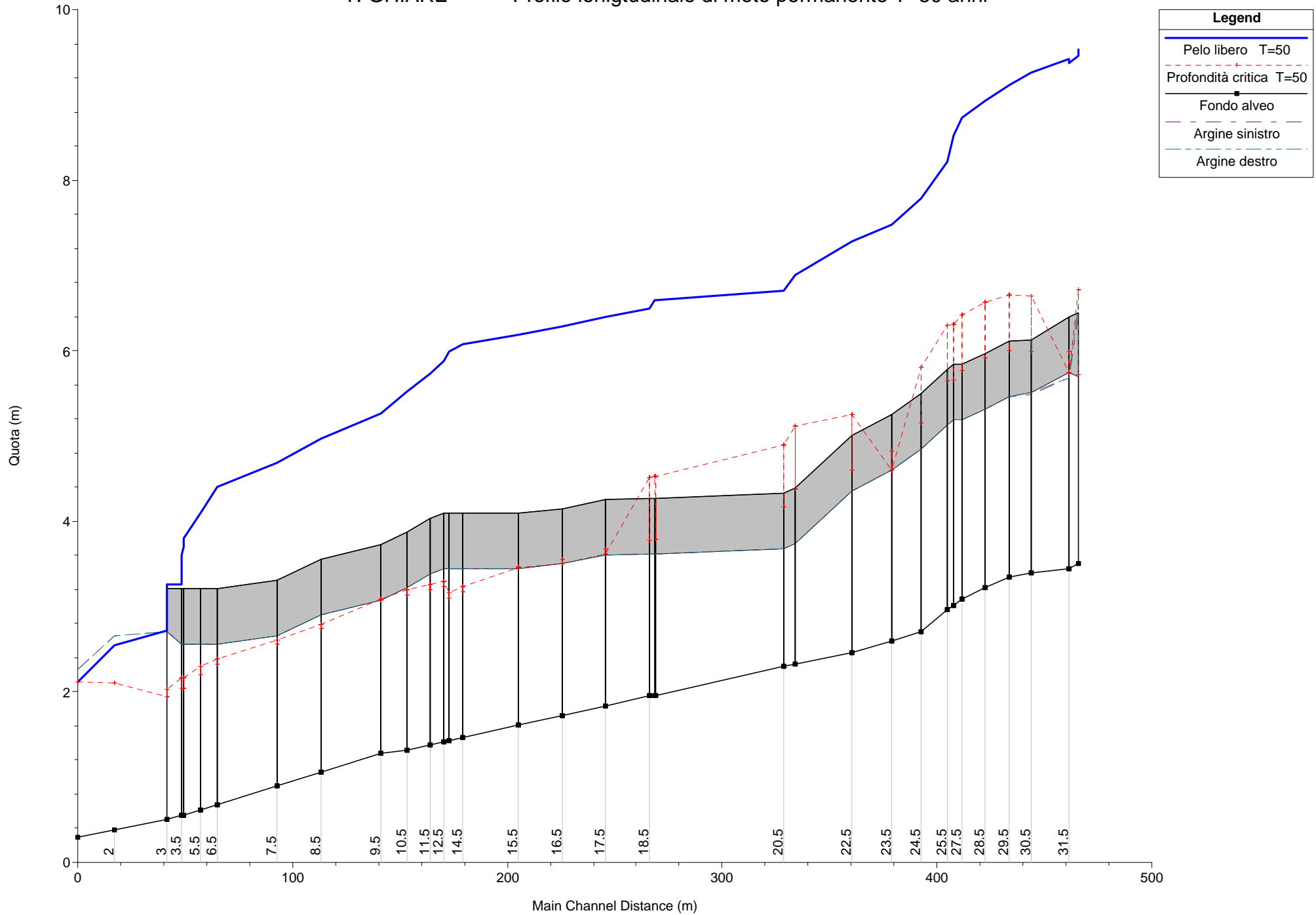
54	80	7.81	9.45	9.13	11.81	11.81	12.49	4.06	25.96	0.68
53	80	7.81	10.75	11.77	12.01	11.18	12.29	2.52	36.64	0.45
52.5	Bridge									
52	80	7.81	10.75	11.77	11.9	11.18	12.21	2.66	34.84	0.48
51	80	7.72	10.76	9.82	11.94	10.93	12.13	2.17	44.37	0.38
50	80	7.44	10.76	9.82	11.93	10.97	12.12	2.2	43.54	0.39
49	80	7.26	10.28	10.28	11.89	10.68	12.02	1.74	53.6	0.3
48.5	Bridge									
48	80	7.25	10.28	10.28	11.83	10.68	11.97	1.78	52.33	0.31
47	80	7.26	10.19	10.19	11.75	10.83	11.95	2.22	42.4	0.37
46	80	6.46	10.19	10.19	11.76	10.08	11.94	2.04	45.43	0.32
45	80	6.73	9.78	9.4	11.82	9.34	11.88	1.22	72.78	0.19
44	80	6.03	8.98	9.12	11.8	8.67	11.87	1.19	77.62	0.17
43	80	5.92	8.04	8.06	11.8	8.67	11.85	1.02	91.82	0.14
42.5	Bridge									
42	80	5.92	8.04	8.06	11.8	8.7	11.84	1.03	91.26	0.14
41	80	5.61	7.89	7.89	11.79	8.55	11.84	1.06	87.9	0.14
40.5	Bridge									
40	80	5.64	7.89	7.89	11.79	8.55	11.84	1.07	87.68	0.14
39	80	5.35	10	7.41	11.63	8	11.81	1.89	44.17	0.25
38	80	4.52	12.84	7.55	11.67	7.44	11.74	1.26	65.88	0.16
37	80	4.67	6.7	7.03	11.68	7.45	11.72	1.06	89.55	0.13
36	80	4.08	6.7	7.03	11.68	6.61	11.72	1	93.79	0.12
35	80	4	6.59	6.72	11.61	7.08	11.71	1.49	63.02	0.17
34.5	Bridge									
34	80	3.94	6.58	6.7	11.56	6.87	11.69	1.71	53.79	0.2

**PROFILI DI RIGURGITO IN CONDIZIONI DI MOTO
PERMANENTE PER LE PORTATE T=50, 200, 500 ANNI**

T. GHIARE

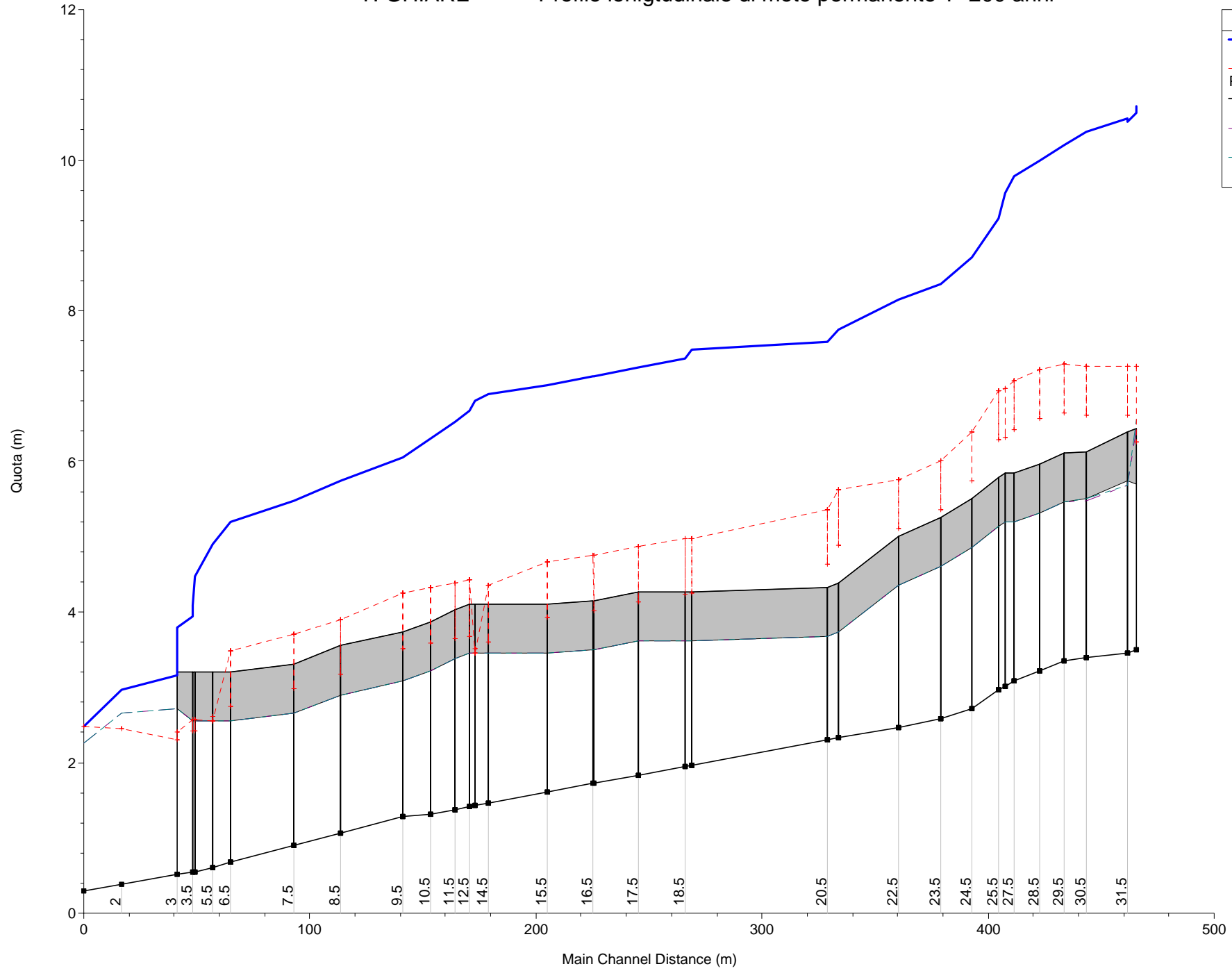
T. GHIARE

Profilo longitudinale di moto permanente T=50 anni



T. GHIARE

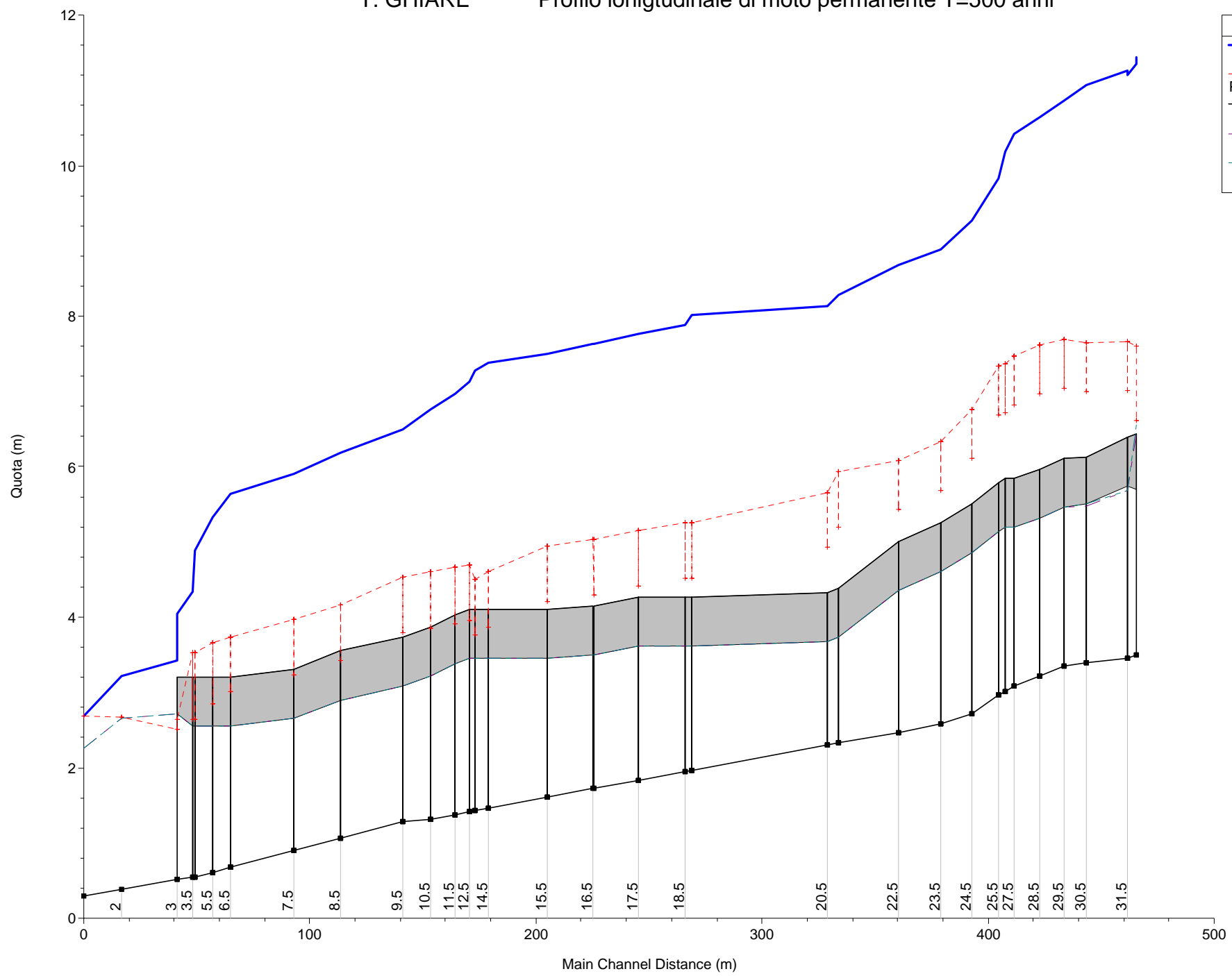
Profilo longitudinale di moto permanente T=200 anni



Legend	
	Pelo libero T=200
	Profondità critica T=200
	Fondo alveo
	Argine sinistro
	Argine destro

T. GHIARE

Profilo longitudinale di moto permanente T=500 anni



Legend	
	Pelo libero T=500
	Profondità critica T=500
	Fondo alveo
	Argine sinistro
	Argine destro

**GEOMETRIA DELLE SEZIONI ED ALTEZZA DEL PELO
LIBERO IN CONDIZIONI DI MOTO PERMANENTE
PER LE PORTATE T=50, 200, 500 ANNI**

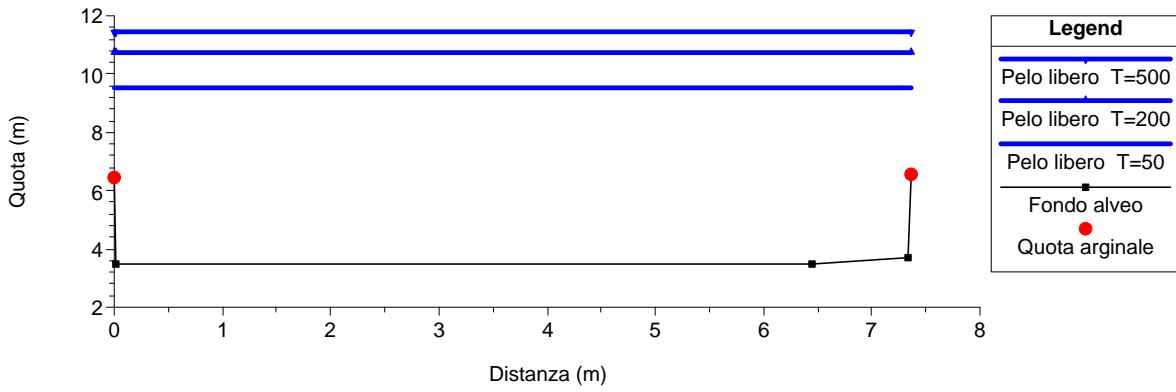
T. GHIARE

DALLA SEZ. 33
ALLA SEZ. 1

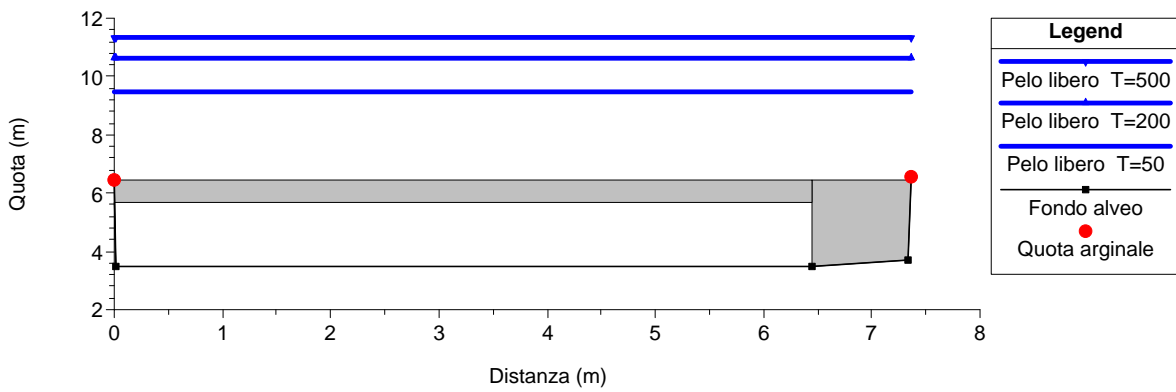
TORRENTE GHIARE

Sezioni trasversali

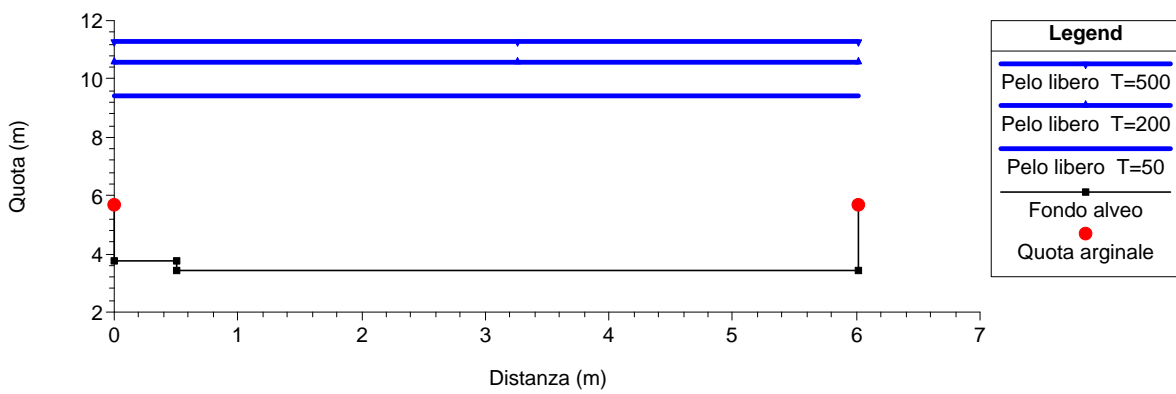
RS = 33



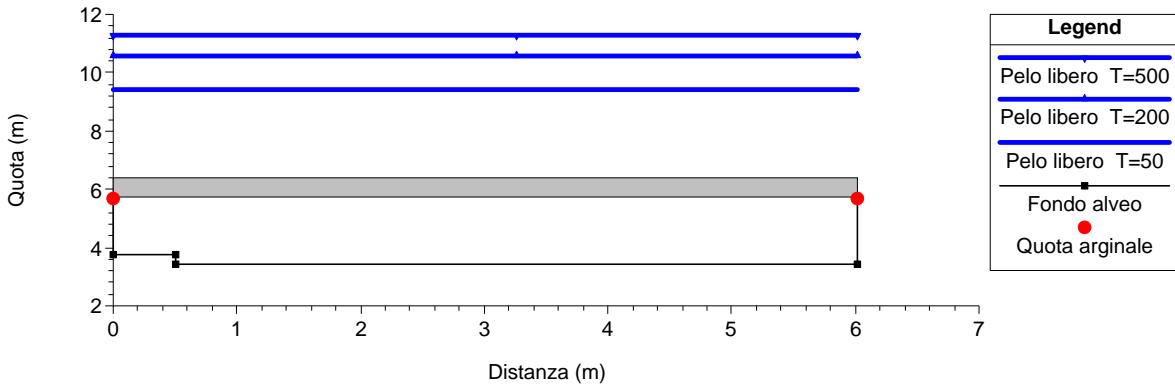
RS = 32.5 BR



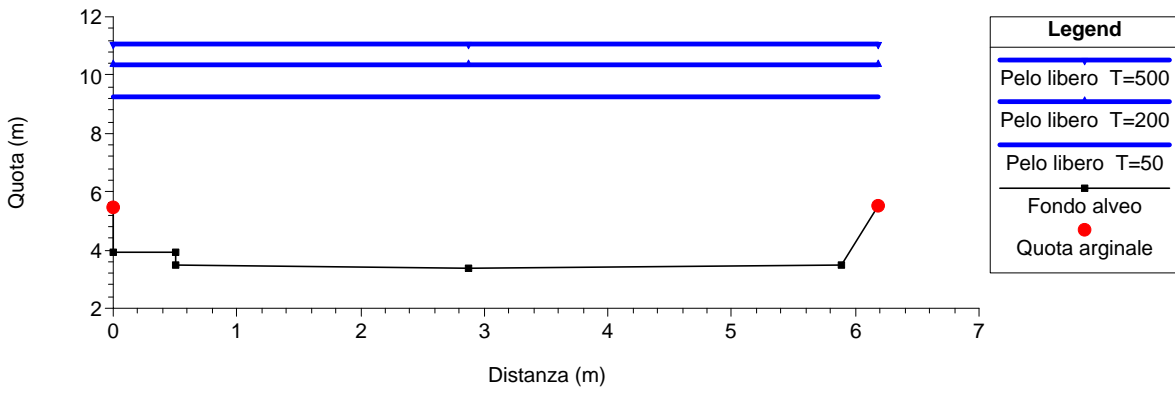
RS = 32



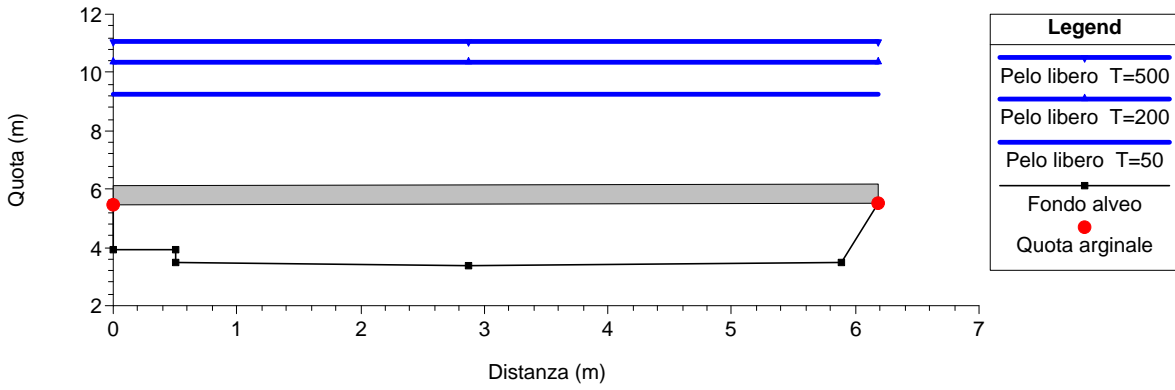
RS = 31.5 BR



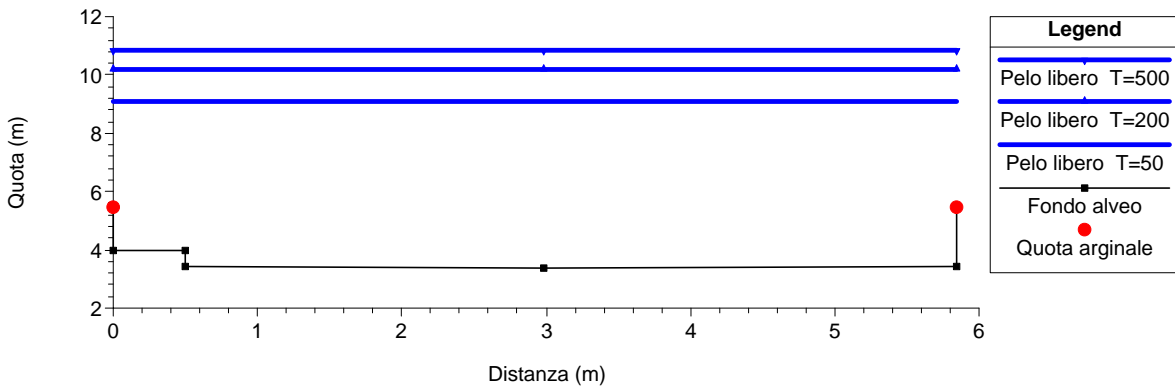
RS = 31



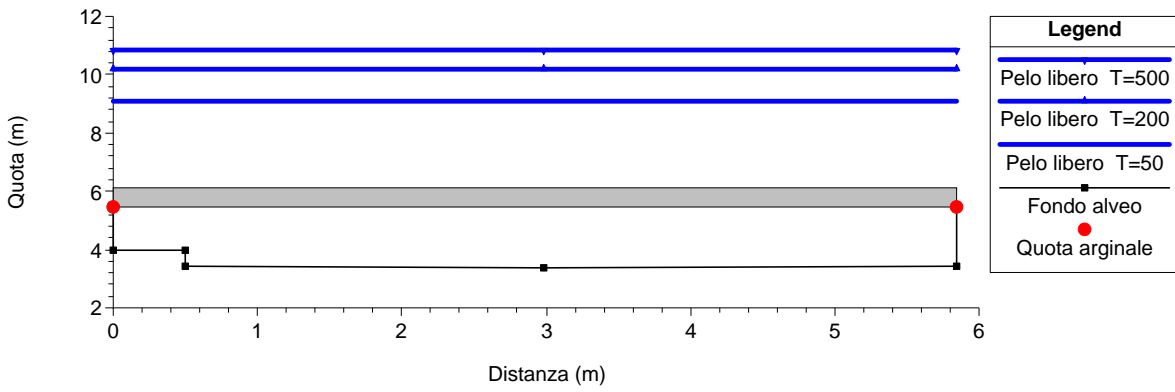
RS = 30.5 BR



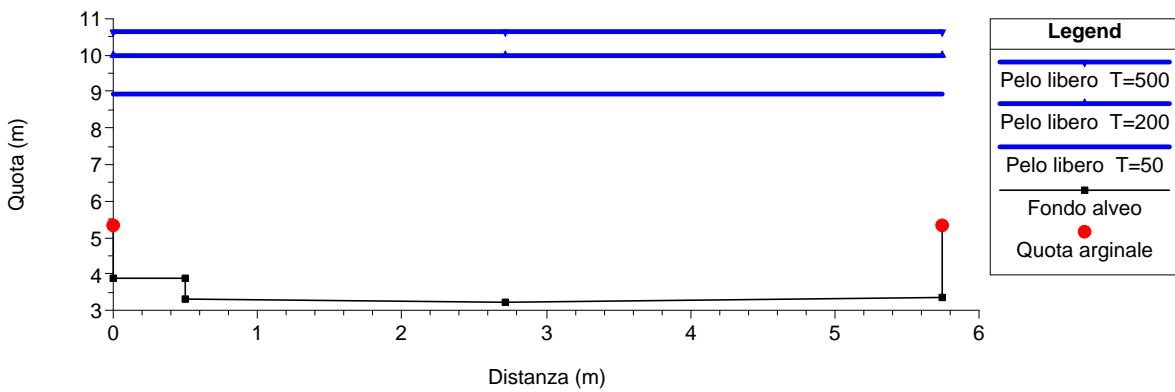
RS = 30



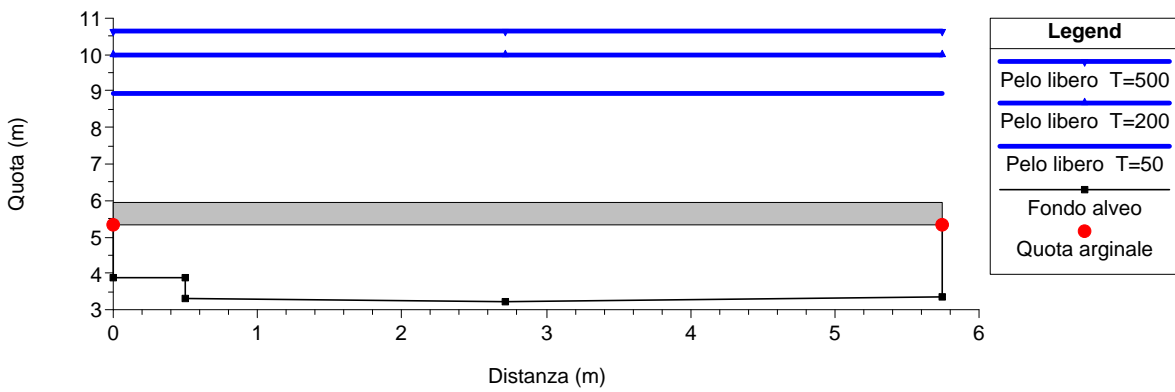
RS = 29.5 BR



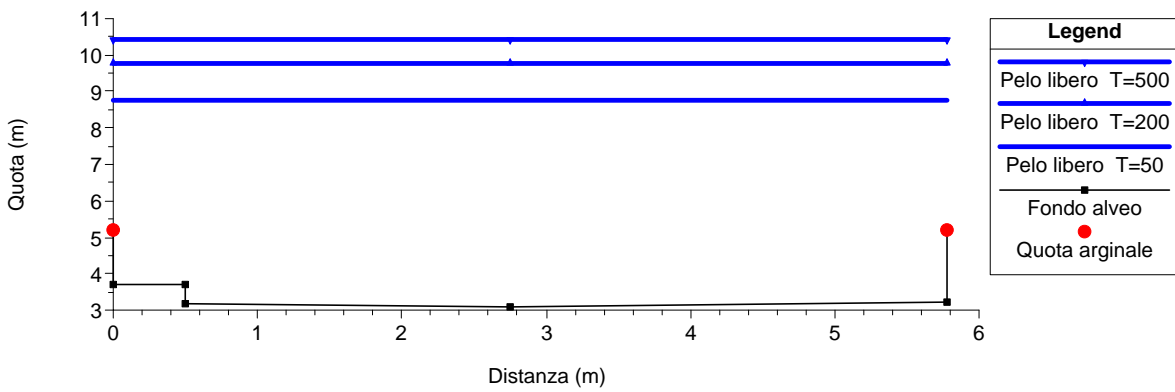
RS = 29



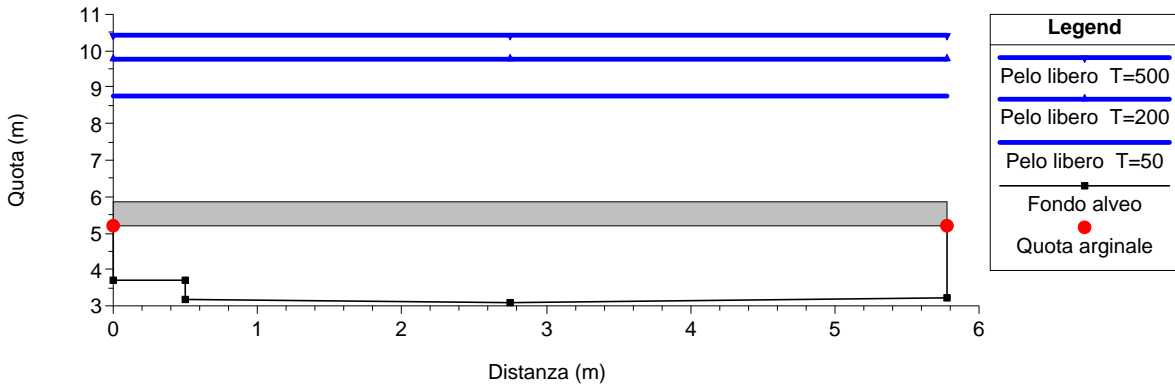
RS = 28.5 BR



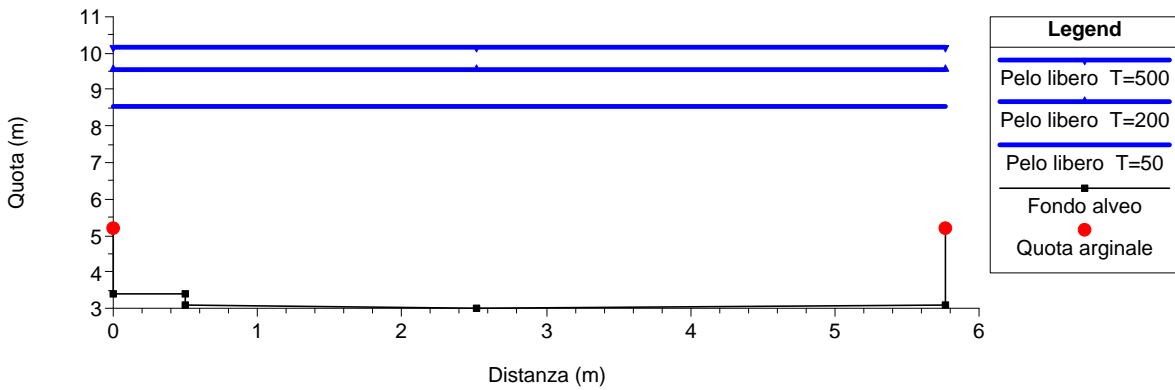
RS = 28



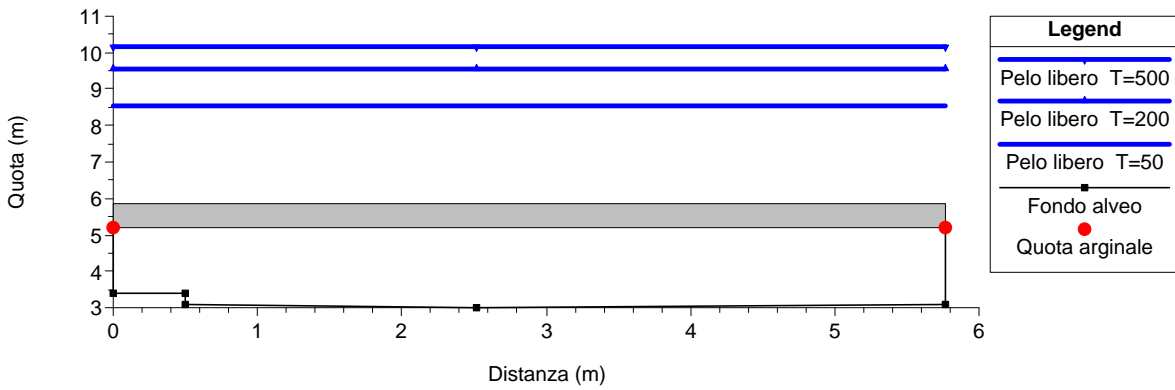
RS = 27.5 BR



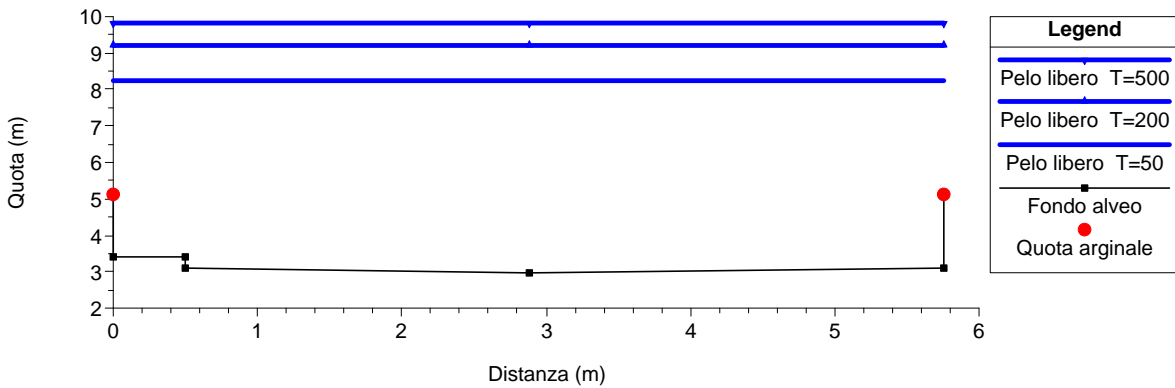
RS = 27



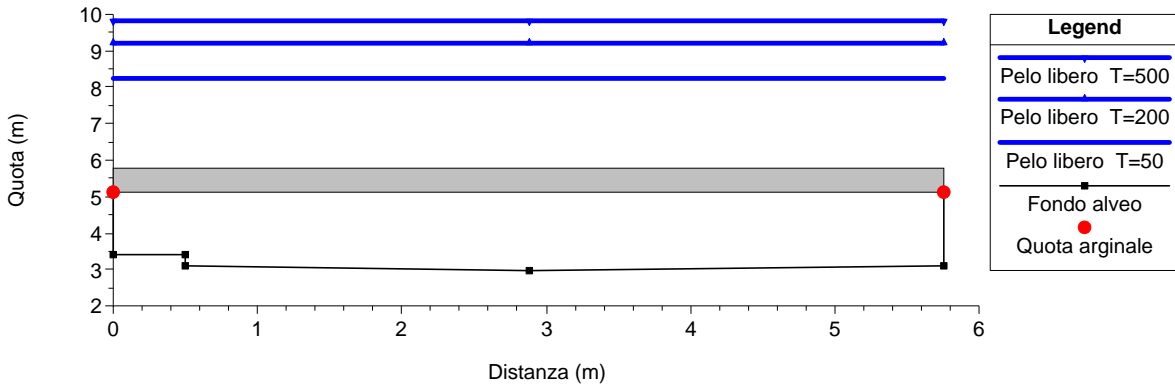
RS = 26.5 BR



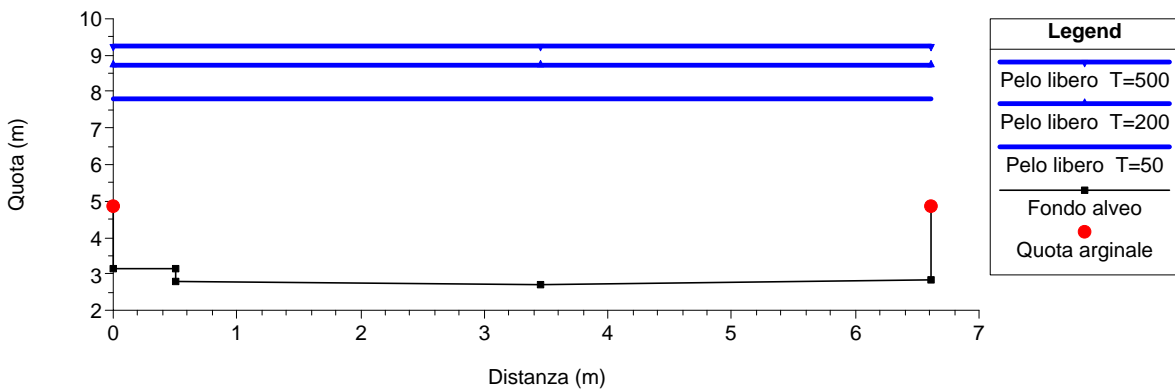
RS = 26



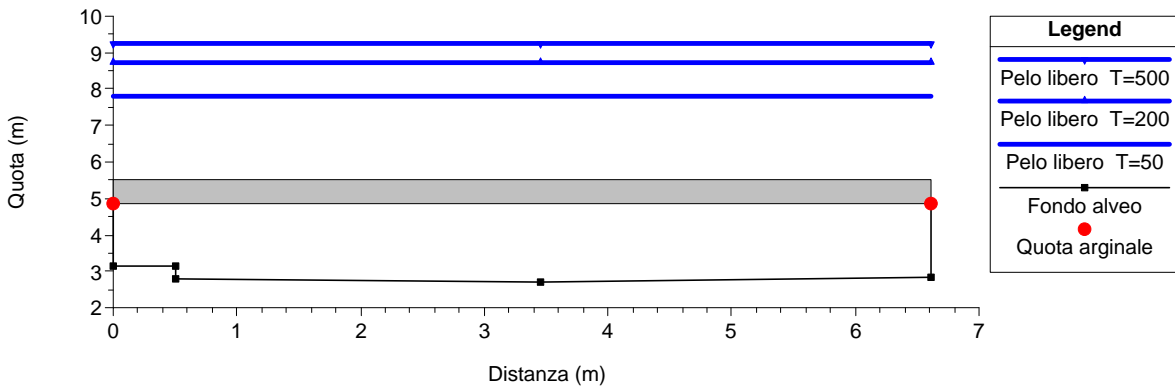
RS = 25.5 BR



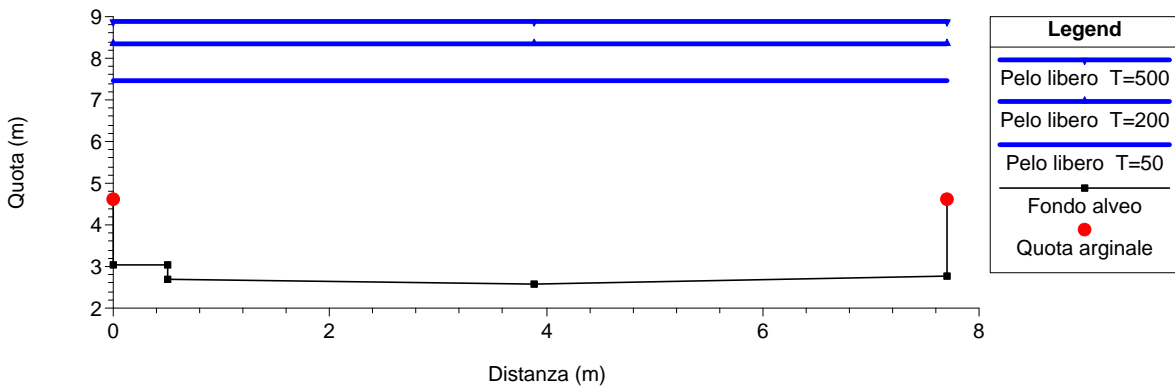
RS = 25



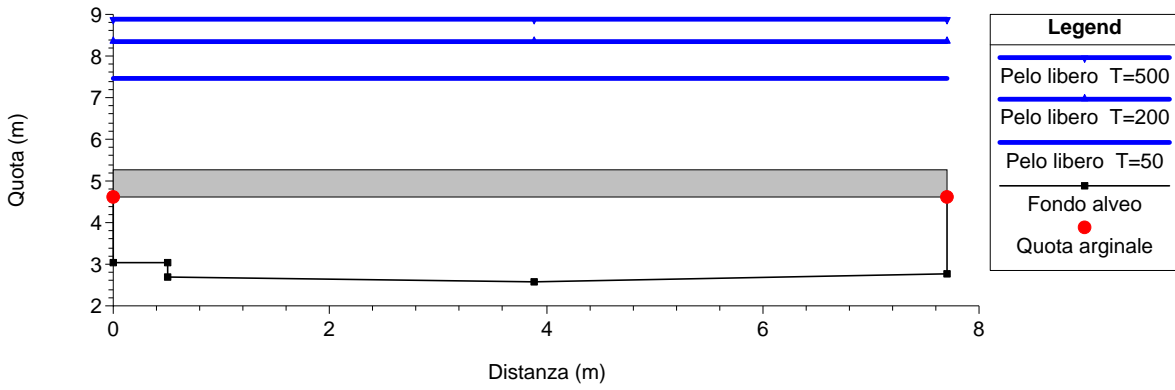
RS = 24.5 BR



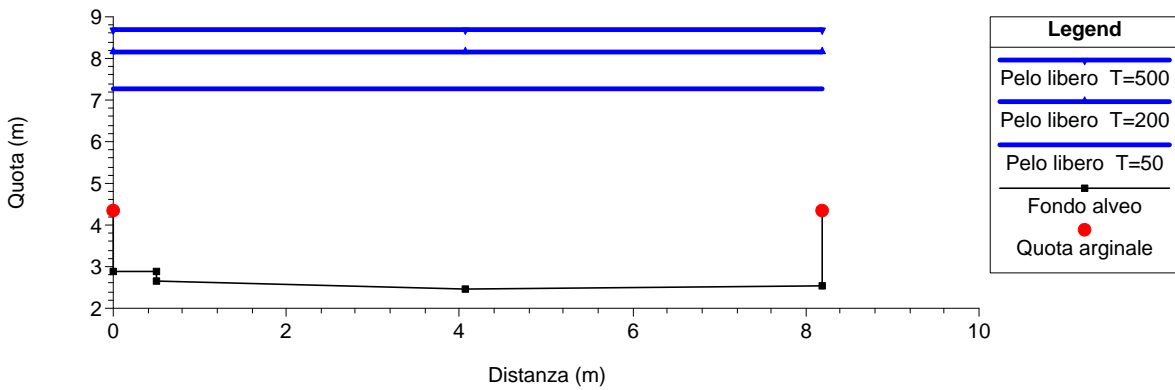
RS = 24



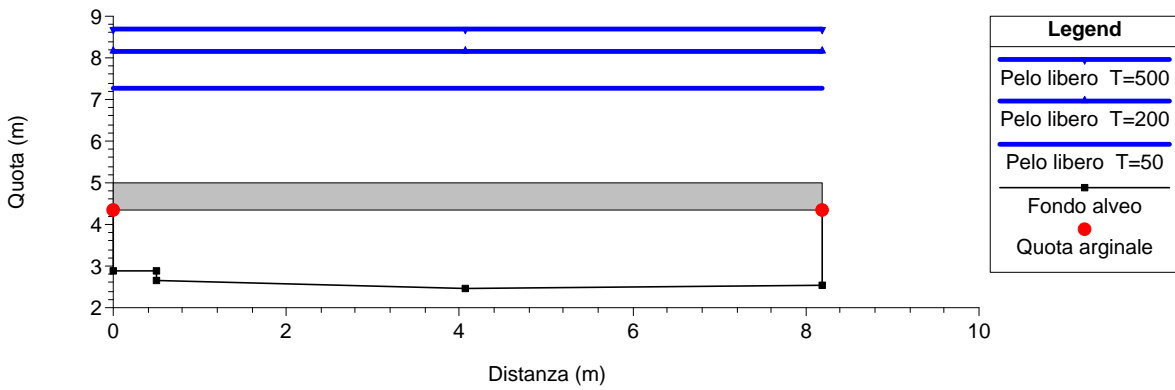
RS = 23.5 BR



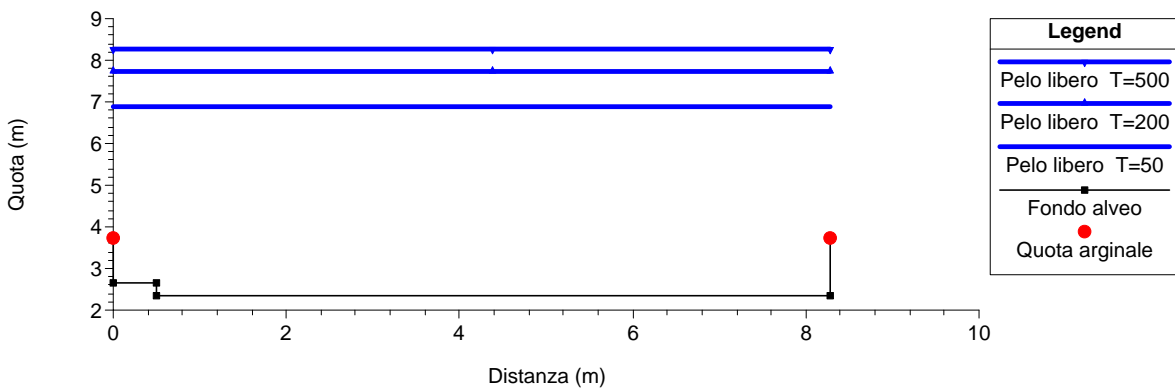
RS = 23



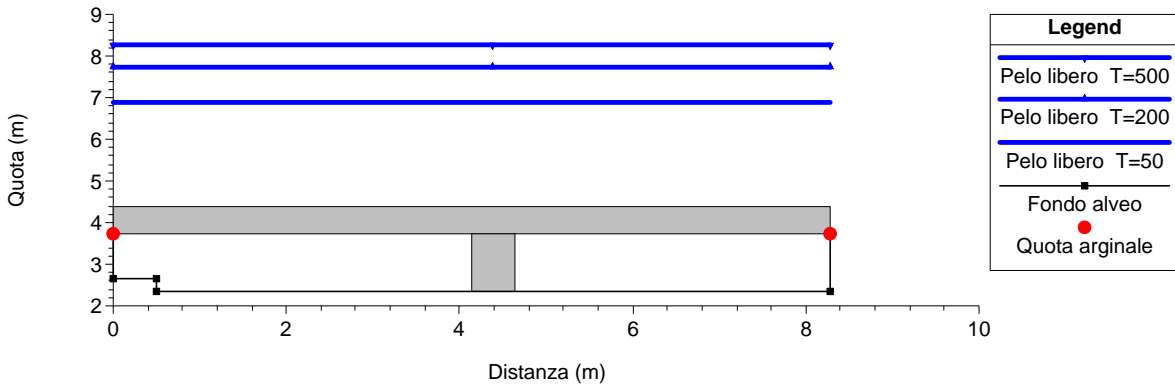
RS = 22.5 BR



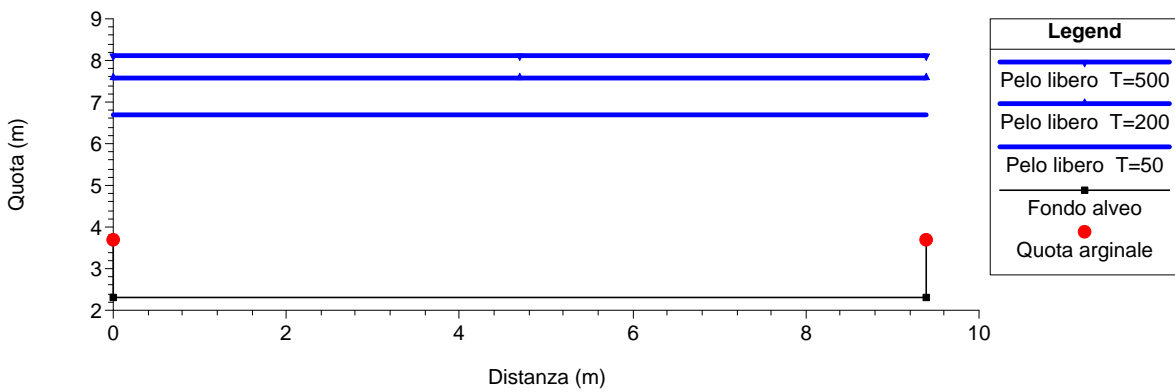
RS = 22



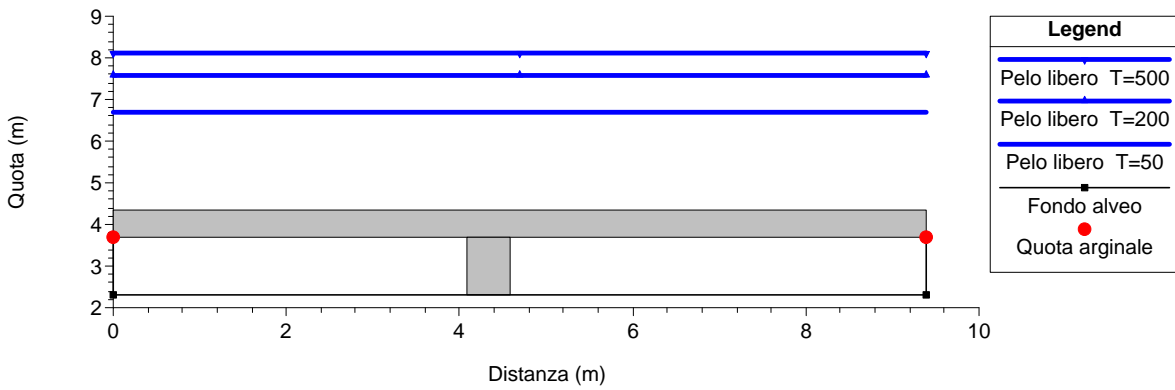
RS = 21.5 BR



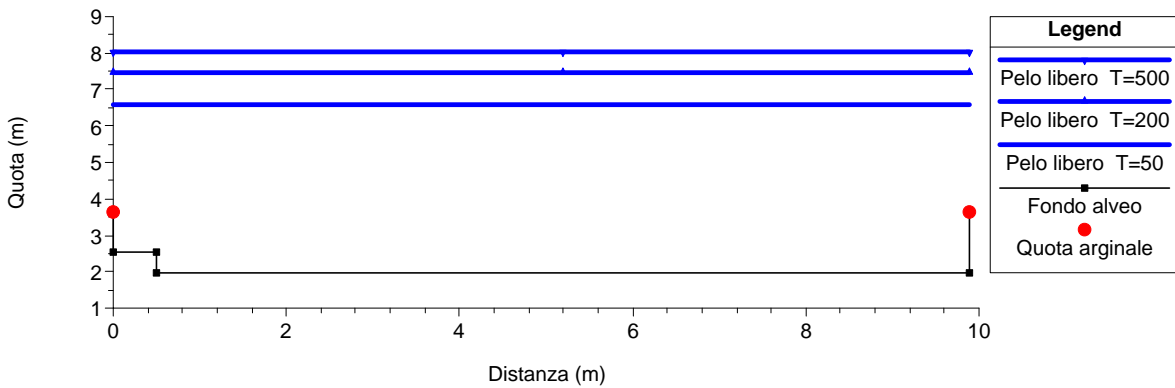
RS = 21



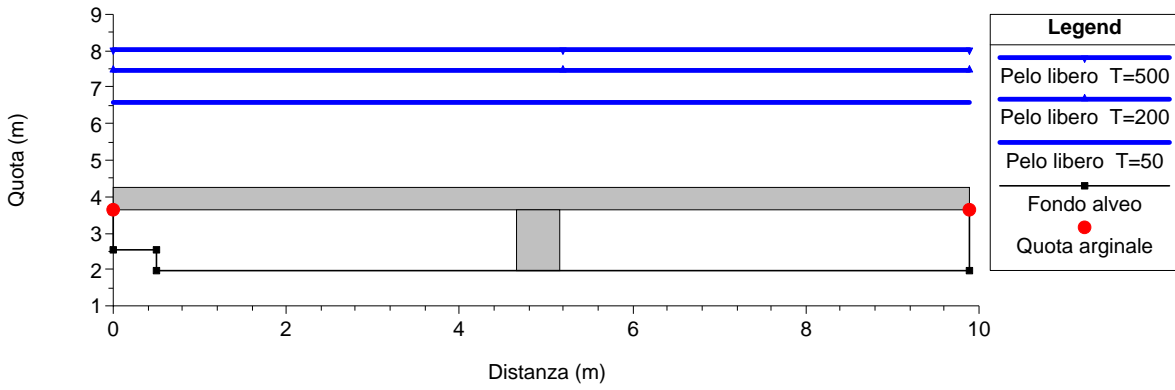
RS = 20.5 BR



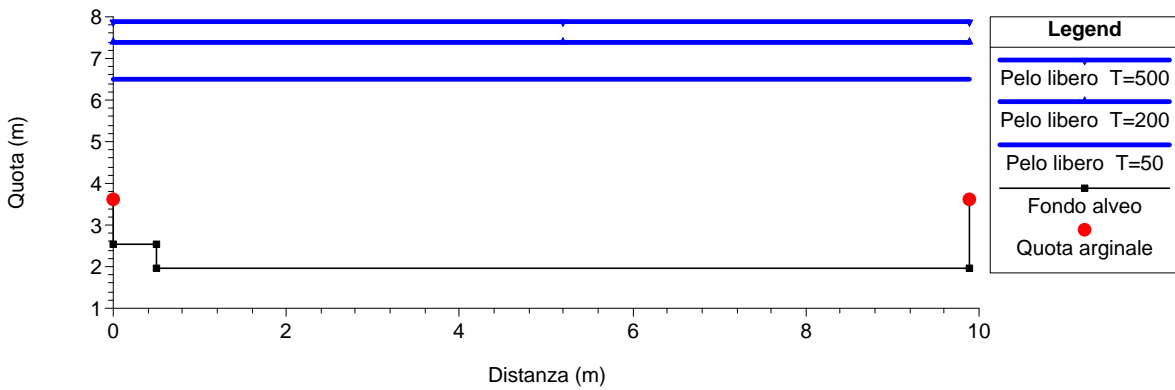
RS = 20



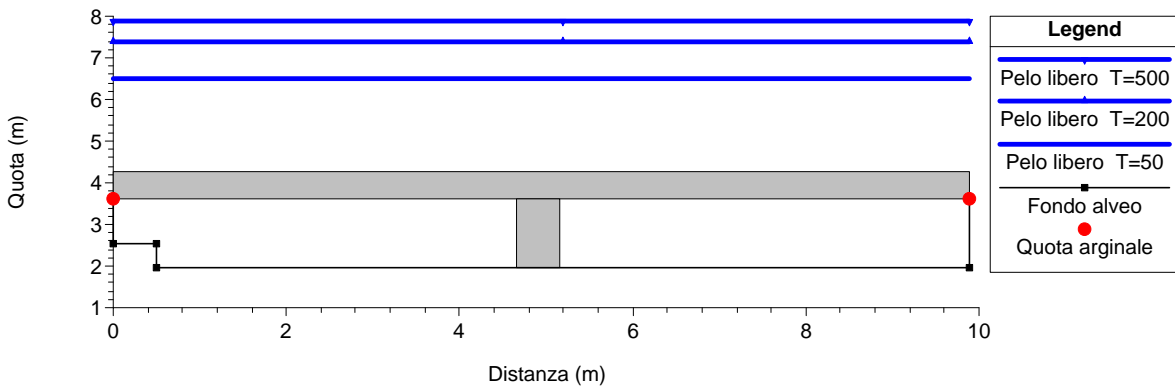
RS = 19.5 BR



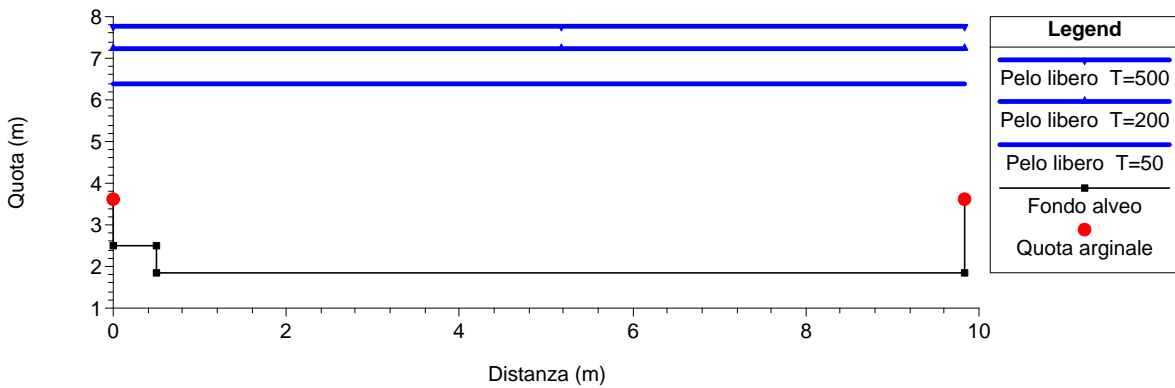
RS = 19



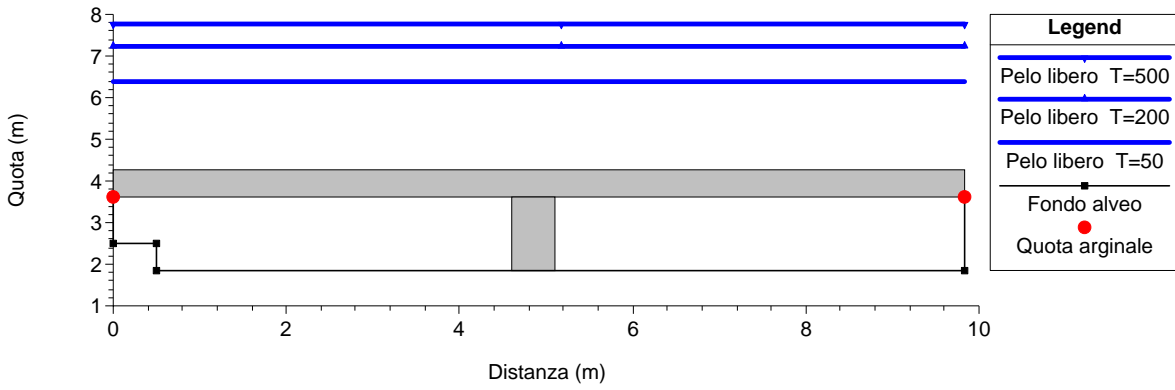
RS = 18.5 BR



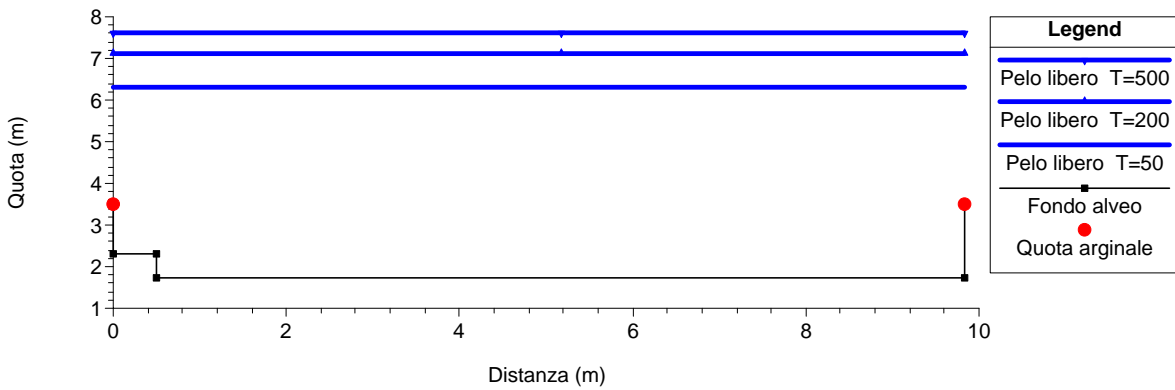
RS = 18



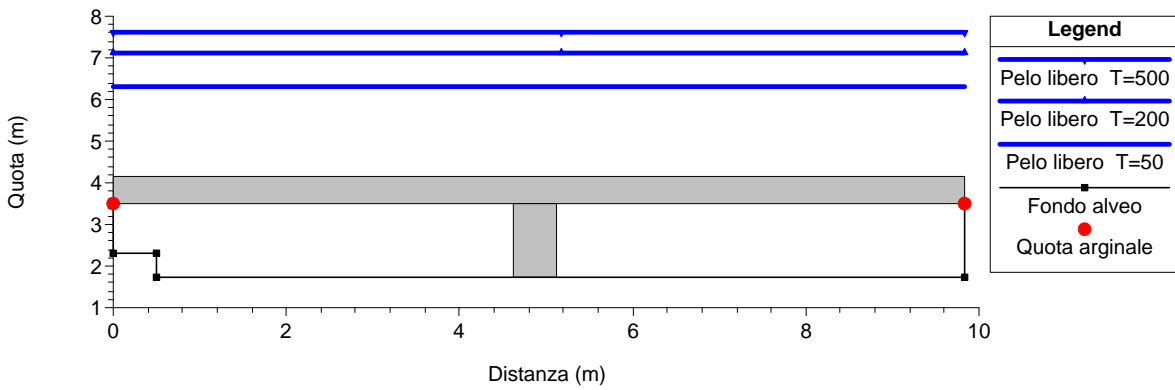
RS = 17.5 BR



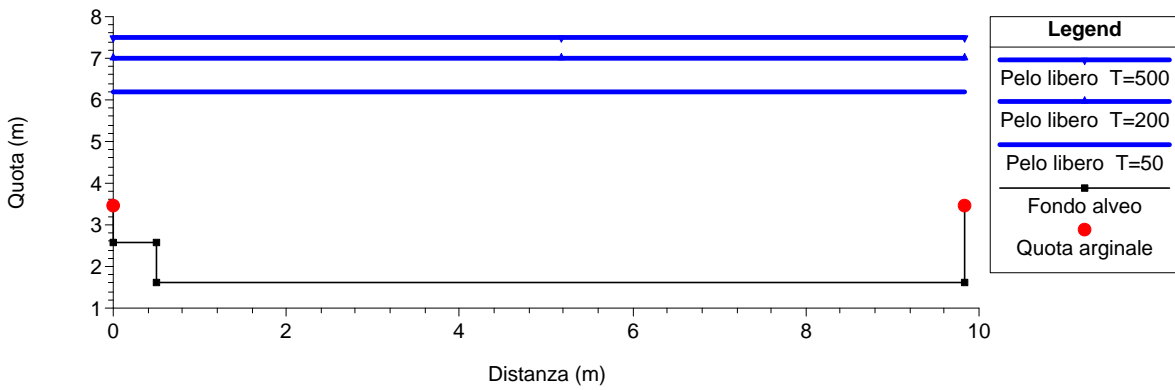
RS = 17



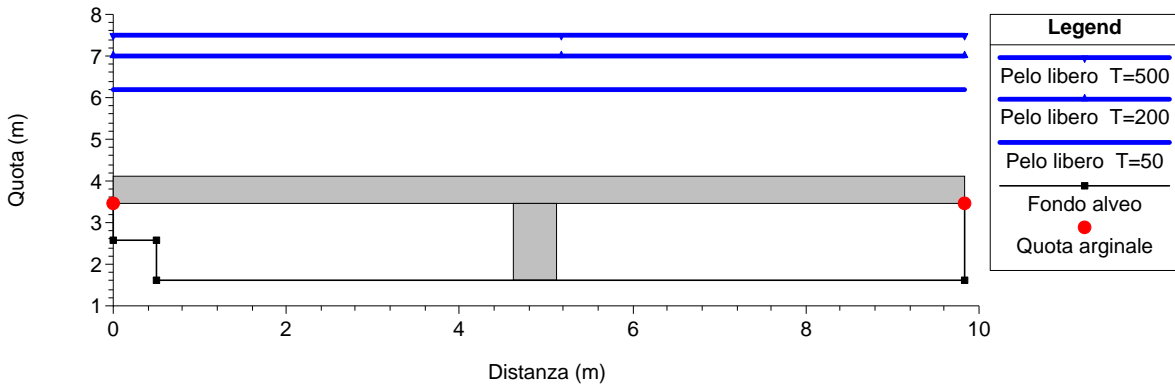
RS = 16.5 BR



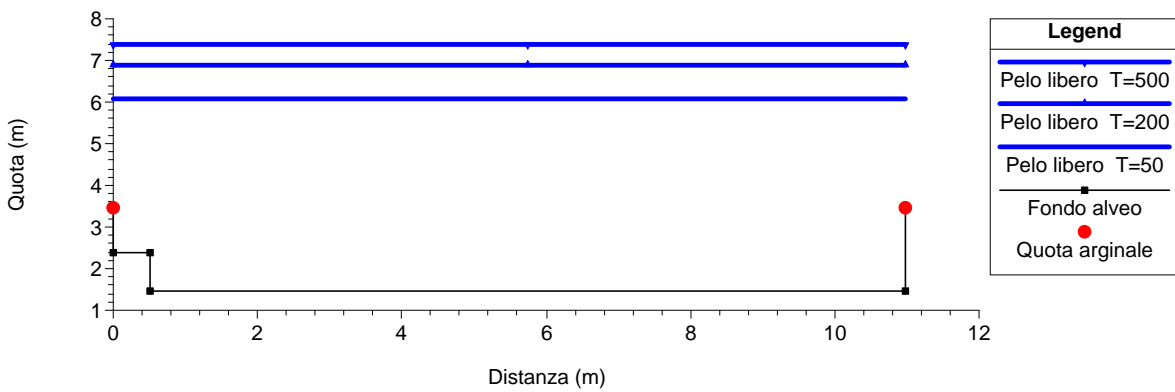
RS = 16



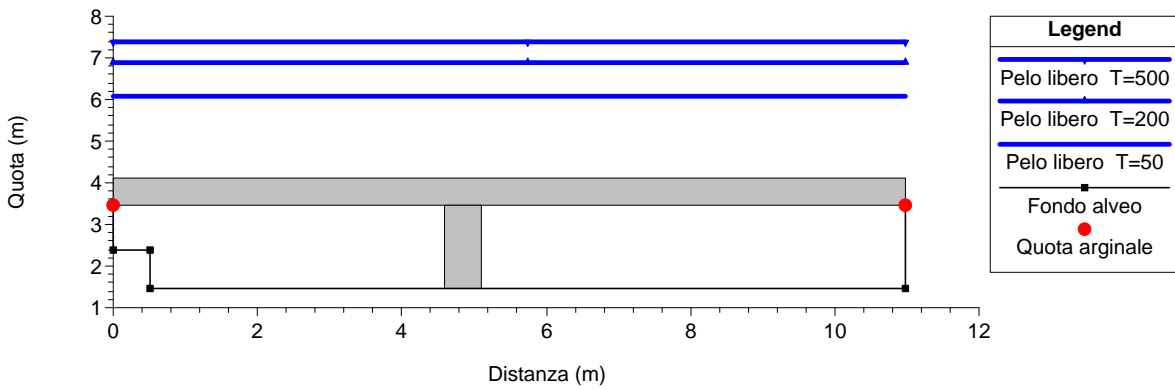
RS = 15.5 BR



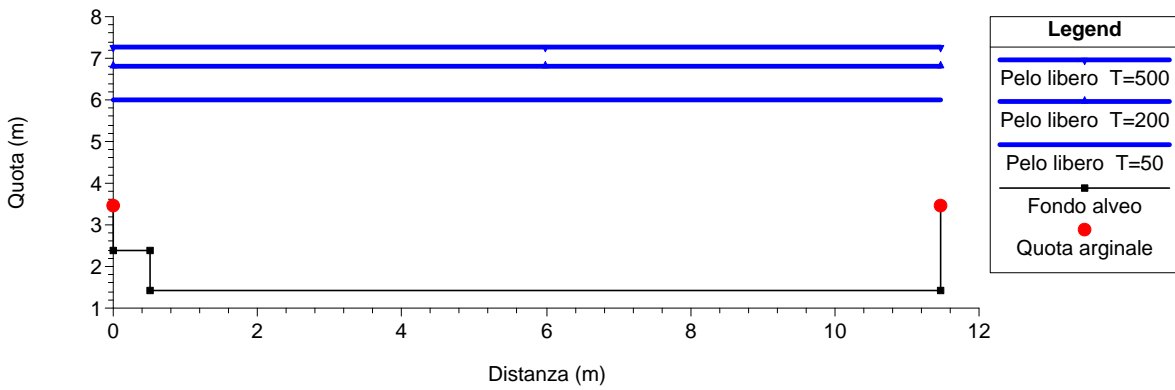
RS = 15



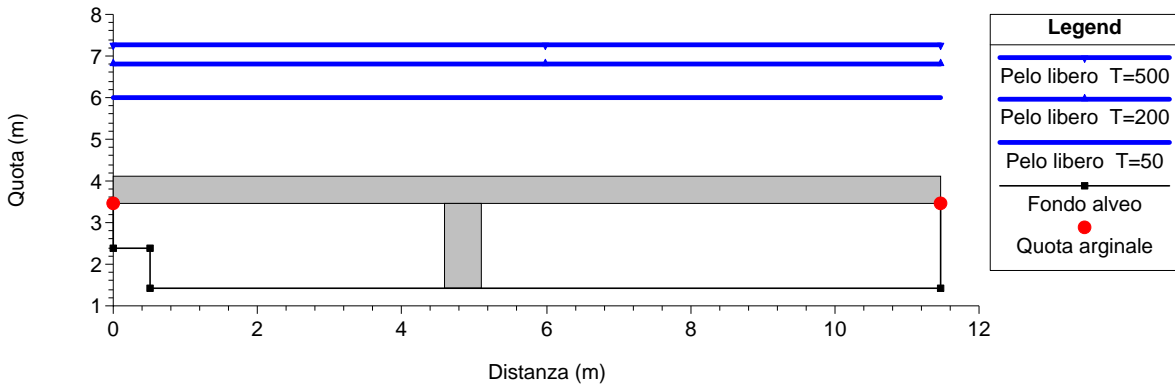
RS = 14.5 BR



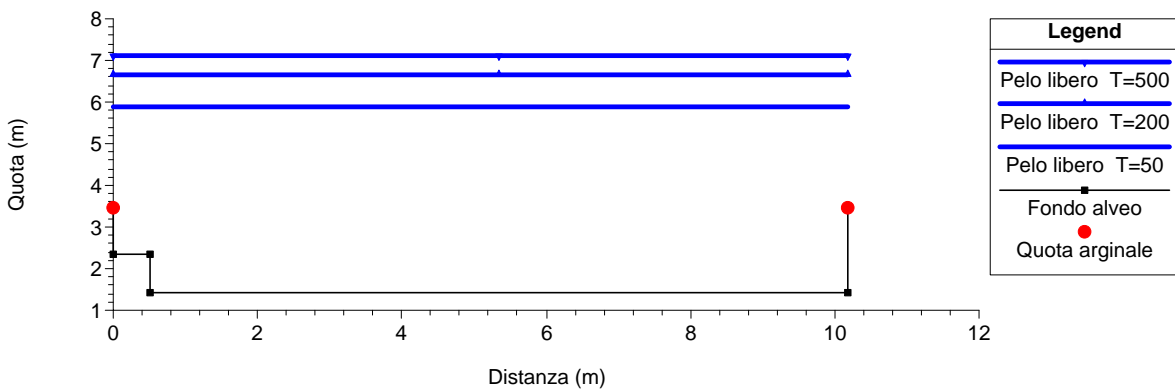
RS = 14



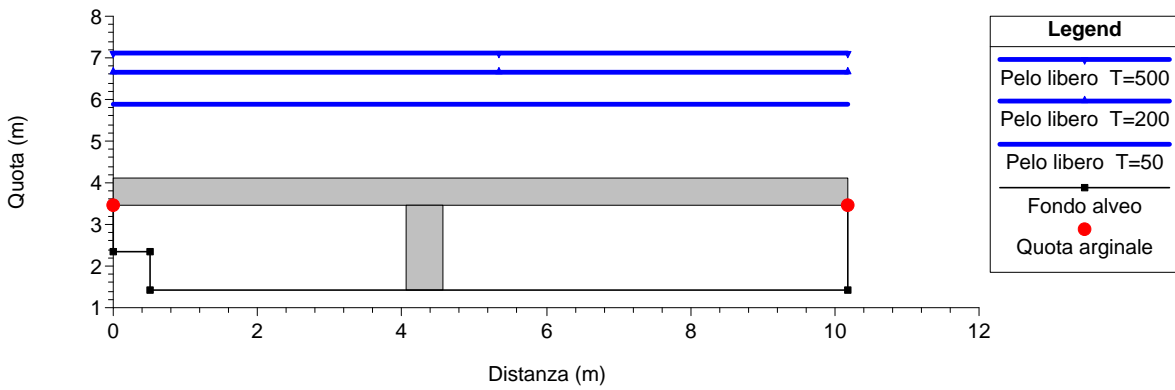
RS = 13.5 BR



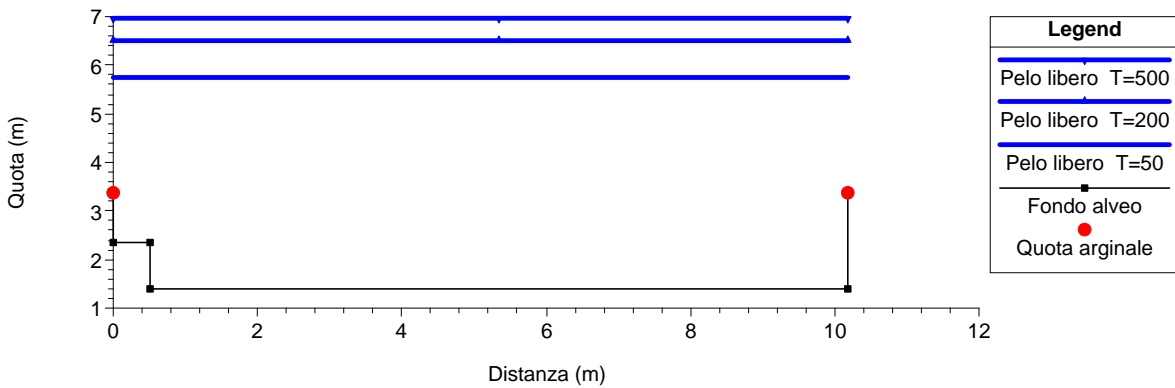
RS = 13



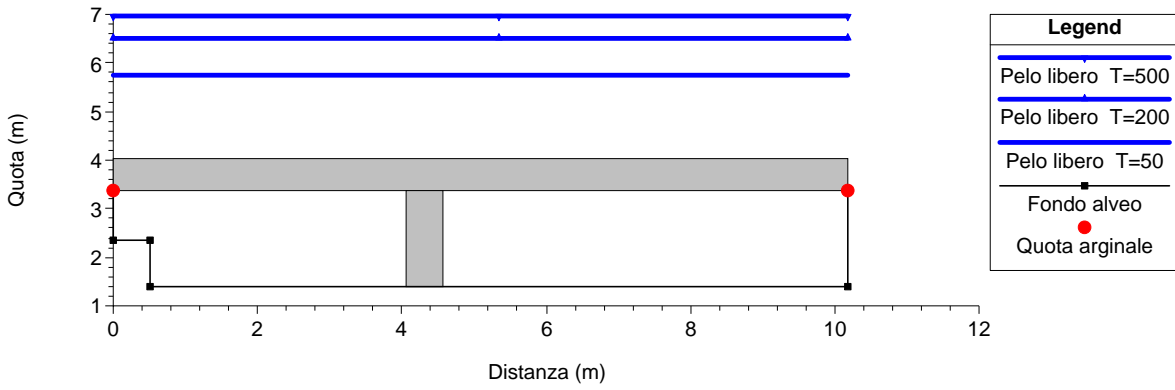
RS = 12.5 BR



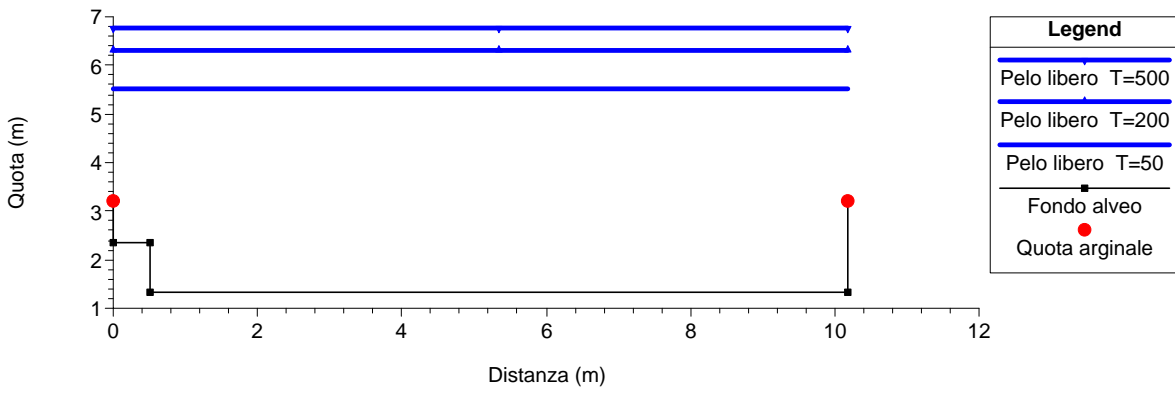
RS = 12



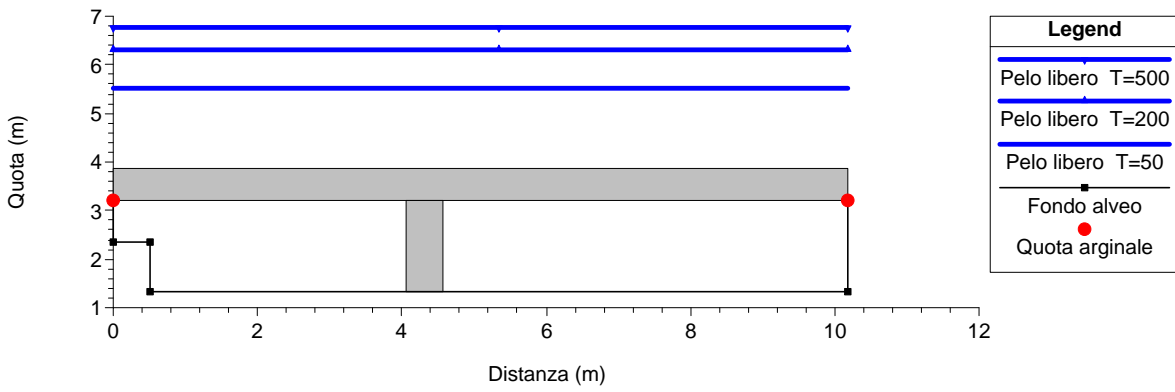
RS = 11.5 BR



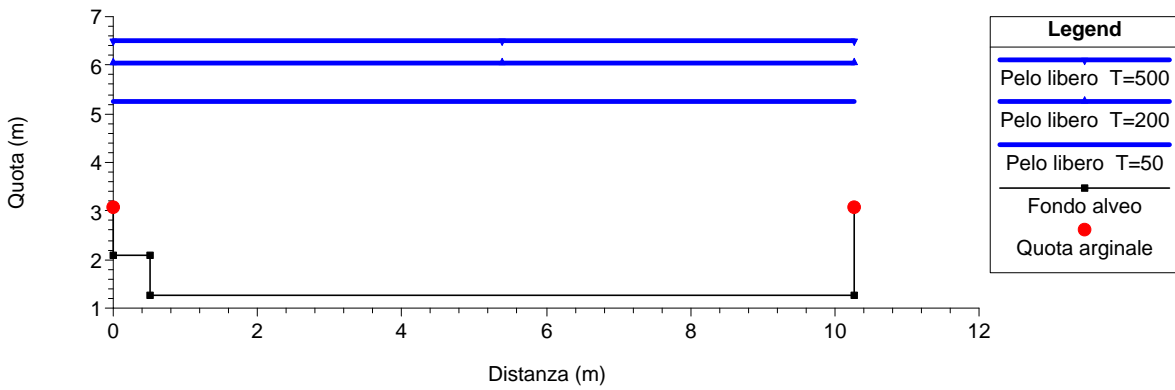
RS = 11



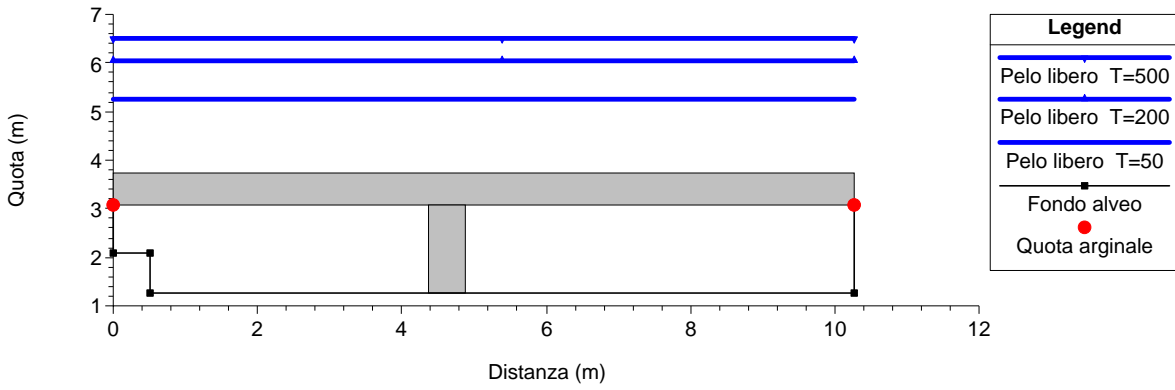
RS = 10.5 BR



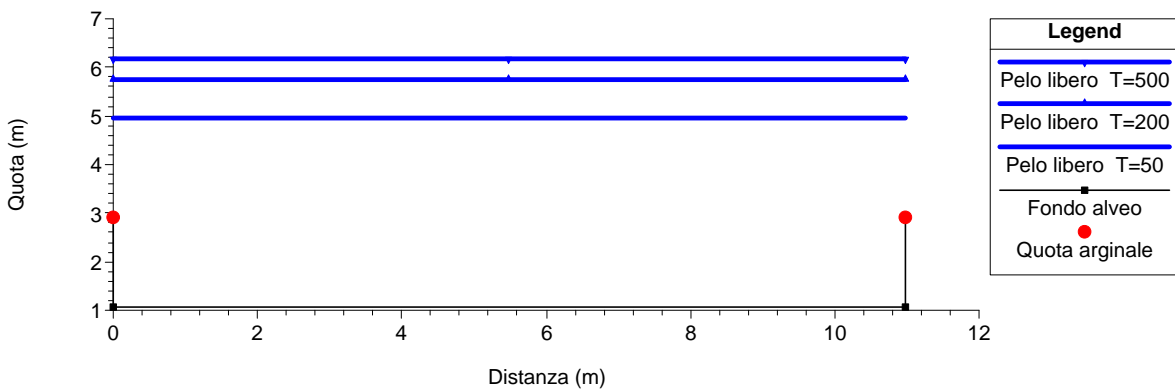
RS = 10



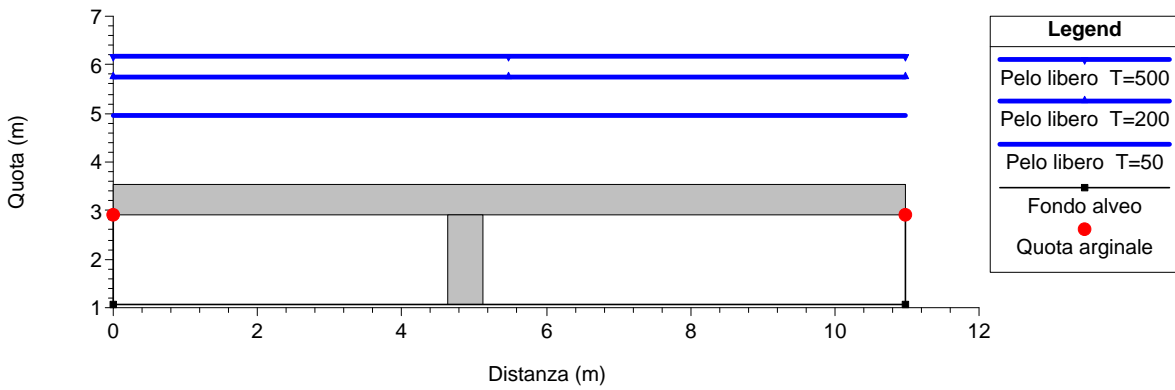
RS = 9.5 BR



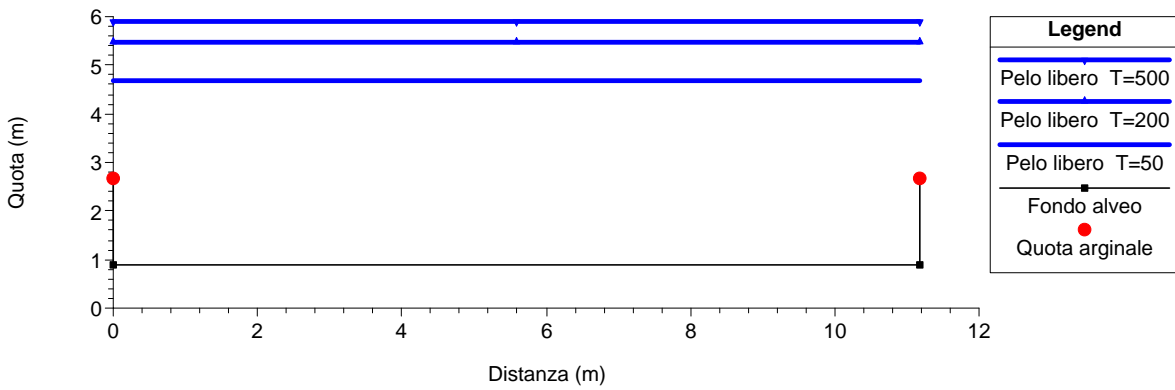
RS = 9



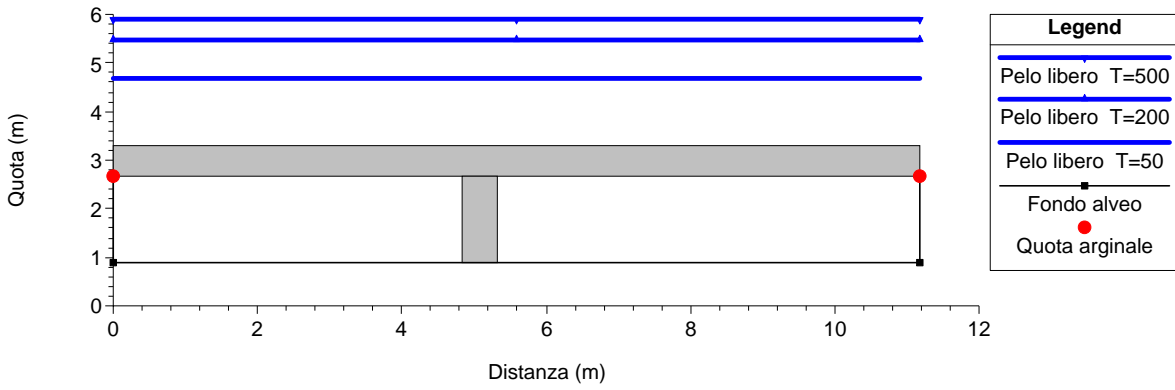
RS = 8.5 BR



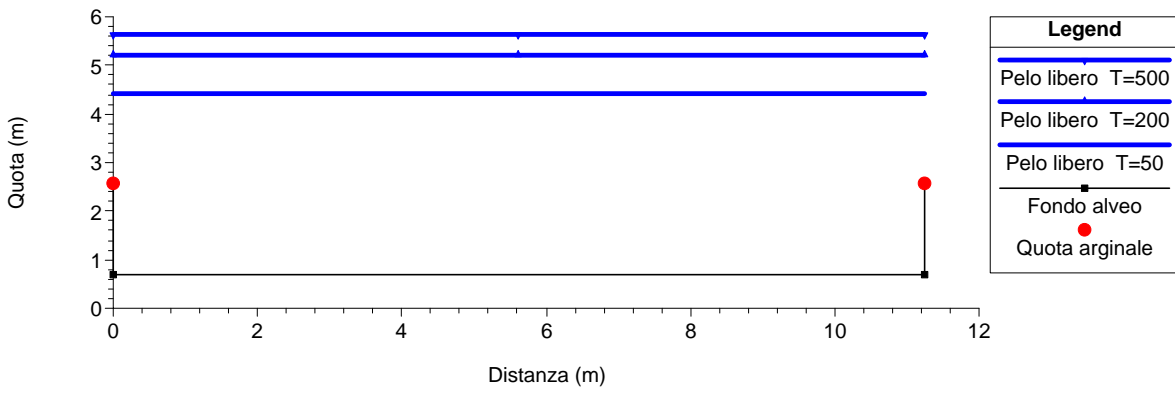
RS = 8



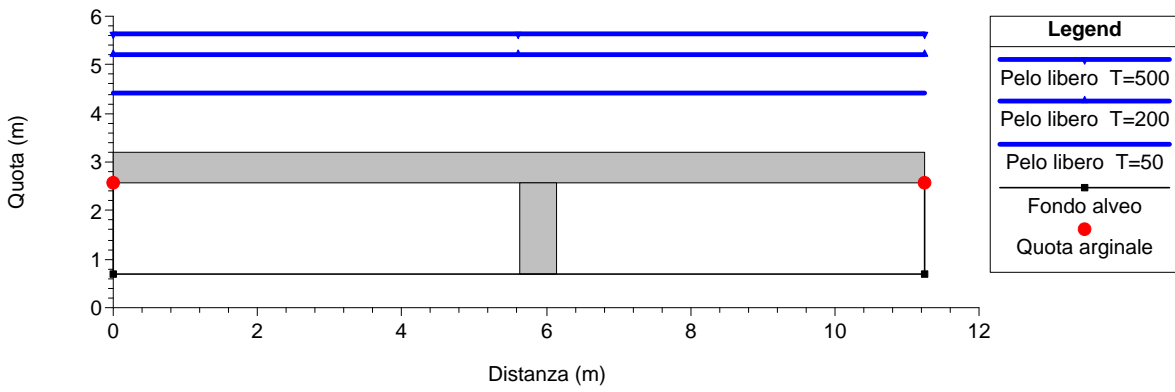
RS = 7.5 BR



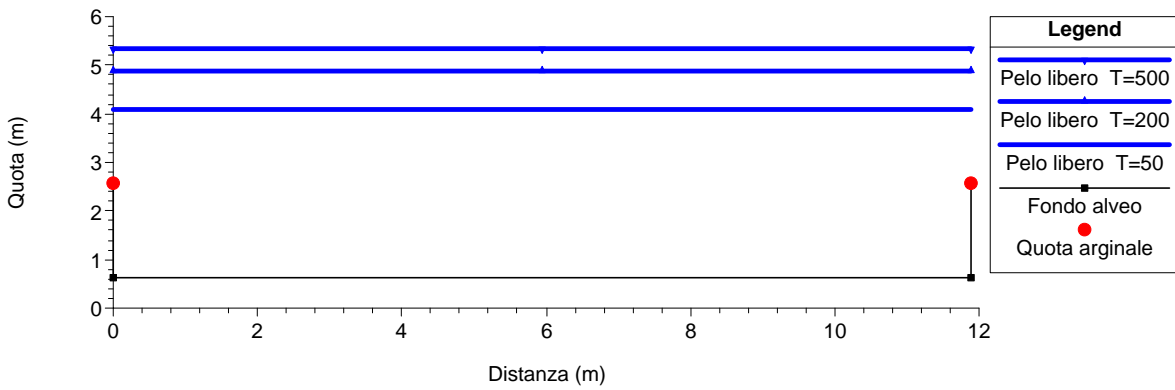
RS = 7



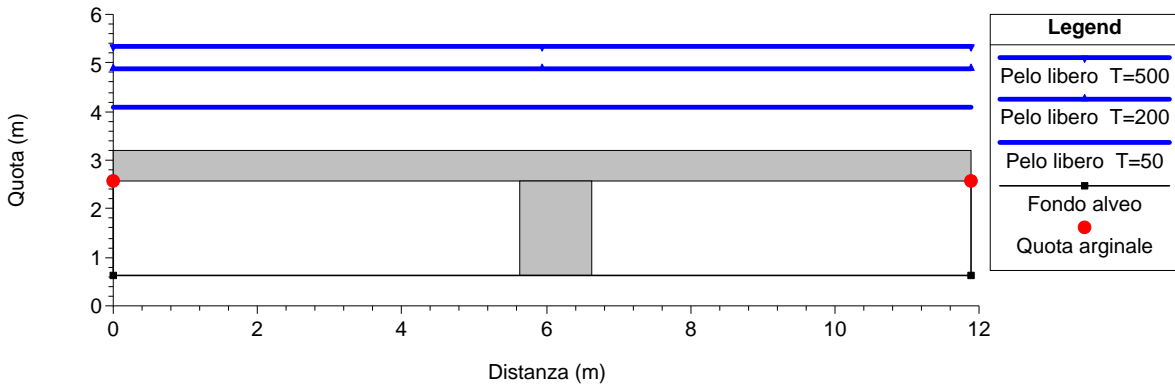
RS = 6.5 BR



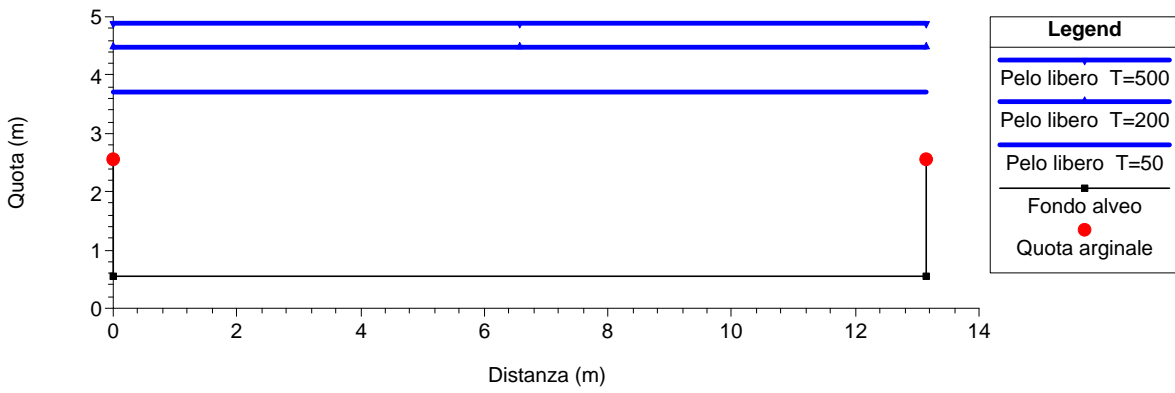
RS = 6



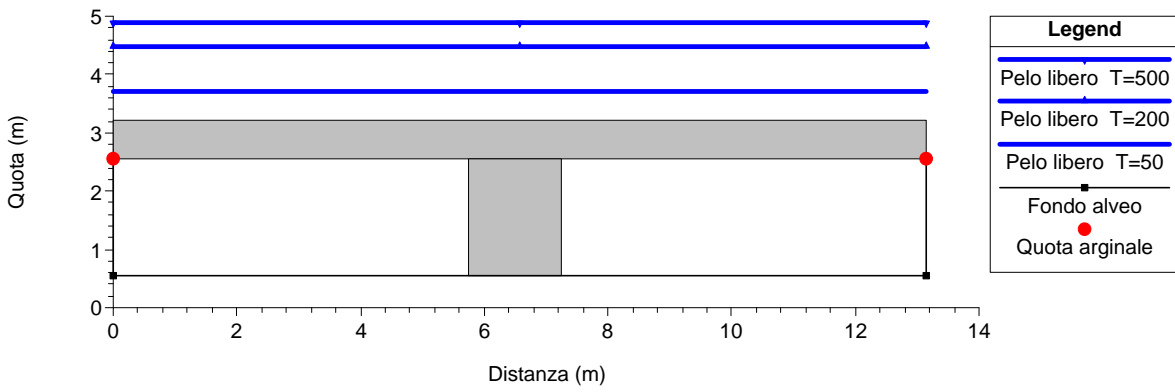
RS = 5.5 BR



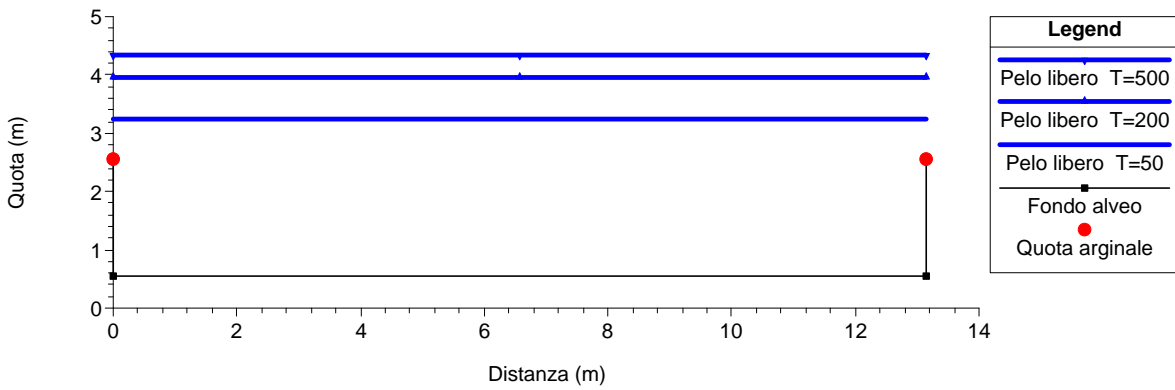
RS = 5



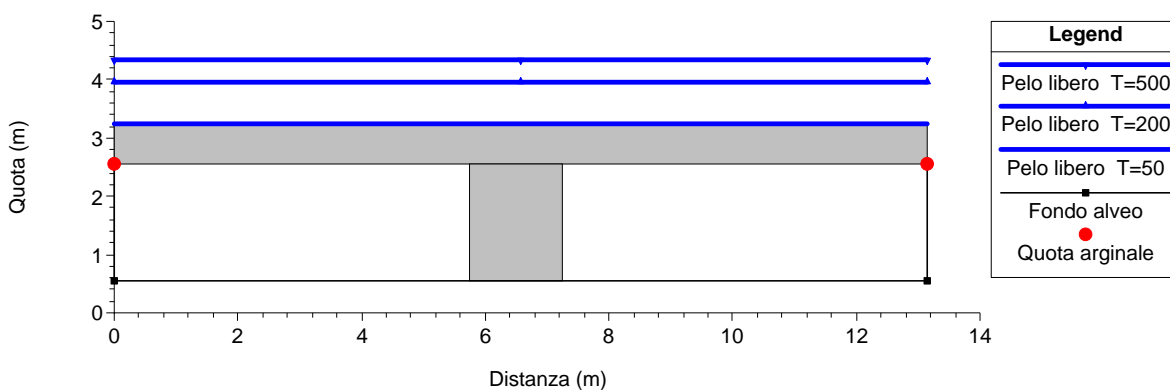
RS = 4.5 BR



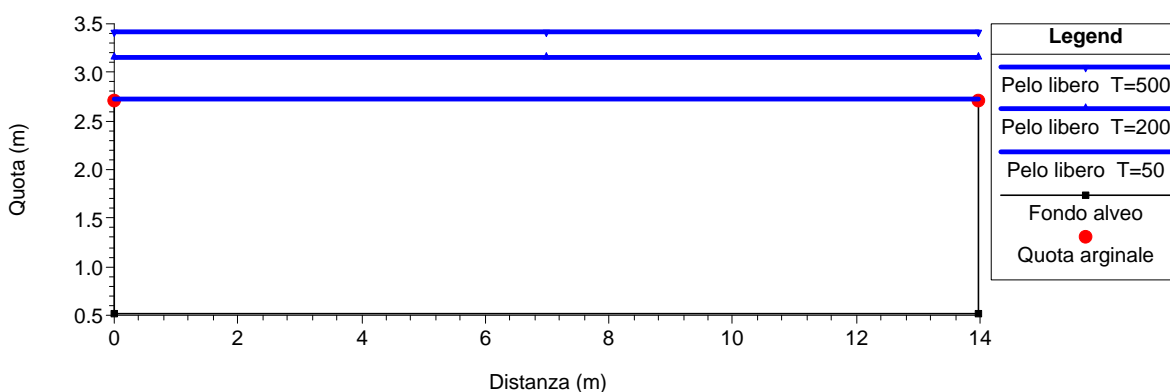
RS = 4



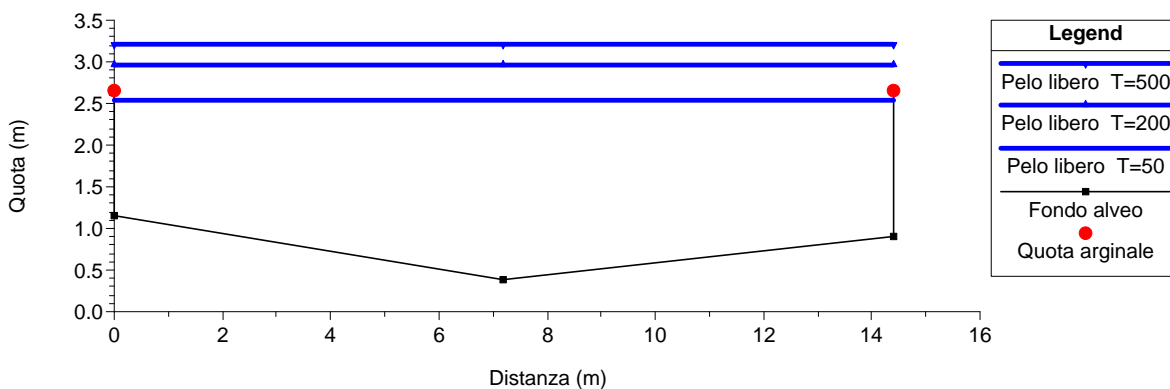
RS = 3.5 BR



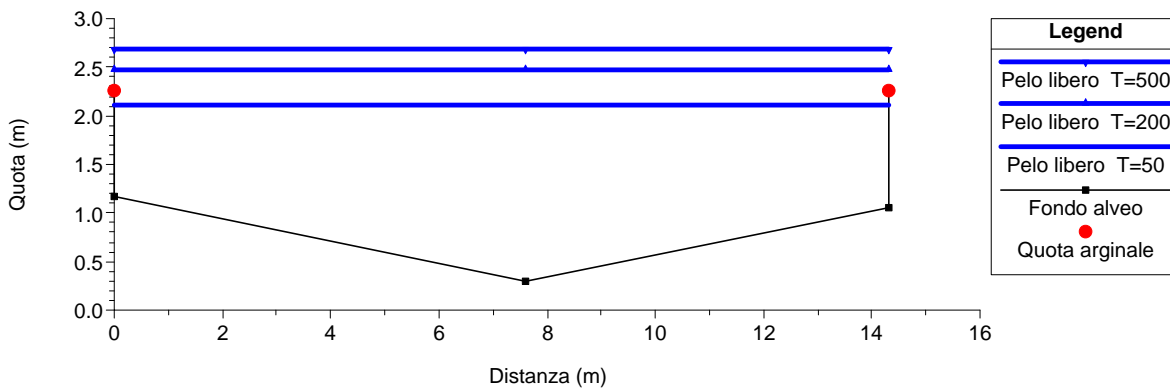
RS = 3



RS = 2



RS = 1



**MODELLAZIONE IDRAULICA IN CONDIZIONI DI MOTO
PERMANENTE:
TABELLE DELLE GRANDEZZE IDRAULICHE SIGNIFICATIVE
PER LE PORTATE T=50, 200, 500 ANNI**

T. GHIARE

Torrente Ghiare T=50 anni

Sezioni	Portata totale (m3/s)	Fondo alveo (m)	Argine sinistro (m)	Argine destro (m)	Pelo libero (m)	Profondità critica (m)	Energia (m2)	Velocità (m/s)	Area bagnata (m2)	N° Froude
33	75	3.5	6.43	6.56	9.54	5.71	9.68	1.69	44.27	0.22
32.5	Bridge									
32	75	3.45	5.68	5.68	9.42	5.99	9.64	2.1	35.77	0.27
31.5	Bridge									
31	75	3.4	5.48	5.51	9.26	5.99	9.49	2.11	35.48	0.28
30.5	Bridge									
30	75	3.35	5.46	5.46	9.11	6	9.37	2.27	33.11	0.3
29.5	Bridge									
29	75	3.22	5.31	5.31	8.93	5.91	9.21	2.33	32.19	0.31
28.5	Bridge									
28	75	3.09	5.19	5.19	8.74	5.77	9.02	2.34	32.05	0.32
27.5	Bridge									
27	75	3.01	5.19	5.19	8.52	5.66	8.81	2.39	31.4	0.33
26.5	Bridge									
26	75	2.96	5.13	5.13	8.22	5.64	8.54	2.52	29.73	0.35
25.5	Bridge									
25	75	2.71	4.85	4.85	7.78	5.15	8.05	2.27	32.97	0.33
24.5	Bridge									
24	75	2.59	4.6	4.6	7.48	4.82	7.69	2.03	36.88	0.3
23.5	Bridge									
23	75	2.46	4.36	4.36	7.28	4.59	7.47	1.94	38.75	0.28
22.5	Bridge									
22	75	2.33	3.74	3.74	6.88	4.38	7.09	2	37.54	0.3
21.5	Bridge									
21	75	2.3	3.68	3.68	6.71	4.17	6.87	1.81	41.37	0.28
20.5	Bridge									
20	75	1.96	3.62	3.62	6.59	3.79	6.73	1.65	45.54	0.24
19.5	Bridge									
19	75	1.95	3.62	3.62	6.5	3.78	6.64	1.68	44.69	0.25
18.5	Bridge									
18	75	1.83	3.61	3.61	6.4	3.67	6.54	1.68	44.59	0.25
17.5	Bridge									
17	75	1.72	3.5	3.5	6.29	3.56	6.44	1.68	44.69	0.25
16.5	Bridge									
16	75	1.61	3.45	3.45	6.19	3.47	6.33	1.68	44.55	0.25
15.5	Bridge									
15	75	1.46	3.45	3.45	6.08	3.18	6.19	1.49	50.19	0.22
14.5	Bridge									
14	75	1.43	3.45	3.45	6	3.1	6.1	1.45	51.89	0.22
13.5	Bridge									
13	75	1.42	3.45	3.45	5.88	3.23	6.03	1.67	45.03	0.25
12.5	Bridge									
12	75	1.38	3.38	3.38	5.73	3.19	5.88	1.71	43.87	0.26
11.5	Bridge									
11	75	1.32	3.22	3.22	5.52	3.14	5.68	1.77	42.28	0.28
10.5	Bridge									
10	75	1.28	3.08	3.08	5.26	3.08	5.44	1.85	40.52	0.3
9.5	Bridge									
9	75	1.06	2.9	2.9	4.96	2.74	5.12	1.75	42.83	0.28
8.5	Bridge									
8	75	0.9	2.66	2.66	4.69	2.56	4.85	1.77	42.32	0.29

7.5	Bridge										
7	75	0.68	2.56	2.56	4.41	2.33	4.57	1.79	41.88	0.3	
6.5	Bridge										
6	75	0.61	2.56	2.56	4.1	2.2	4.26	1.81	41.45	0.31	
5.5	Bridge										
5	75	0.55	2.56	2.56	3.7	2.04	3.87	1.81	41.4	0.33	
4.5	Bridge										
4	75	0.55	2.56	2.56	3.25	2.04	3.48	2.11	35.54	0.41	
3.5	Bridge										
3	75	0.51	2.71	2.71	2.72	1.94	3.02	2.43	30.9	0.52	
2	75	0.38	2.66	2.66	2.55	2.11	2.95	2.83	26.52	0.67	
1	75	0.3	2.26	2.26	2.12	2.12	2.82	3.72	20.16	1	

Torrente Ghiare T=200 anni

Sezioni	Portata totale (m3/s)	Fondo alveo (m)	Argine sinistro (m)	Argine destro (m)	Pelo libero (m)	Profondità critica (m)	Energia (m2)	Velocità (m/s)	Area bagnata (m2)	N° Froude
33	105	3.5	6.43	6.56	10.71	6.26	10.91	1.98	52.93	0.24
32.5	Bridge									
32	105	3.45	5.68	5.68	10.56	6.62	10.87	2.46	42.62	0.3
31.5	Bridge									
31	105	3.4	5.48	5.51	10.38	6.61	10.69	2.48	42.4	0.3
30.5	Bridge									
30	105	3.35	5.46	5.46	10.19	6.65	10.55	2.66	39.42	0.33
29.5	Bridge									
29	105	3.22	5.31	5.31	9.99	6.57	10.37	2.74	38.27	0.34
28.5	Bridge									
28	105	3.09	5.19	5.19	9.78	6.42	10.17	2.76	38.1	0.34
27.5	Bridge									
27	105	3.01	5.19	5.19	9.56	6.31	9.96	2.81	37.36	0.35
26.5	Bridge									
26	105	2.96	5.13	5.13	9.22	6.29	9.67	2.96	35.51	0.38
25.5	Bridge									
25	105	2.71	4.85	4.85	8.71	5.75	9.08	2.68	39.13	0.35
24.5	Bridge									
24	105	2.59	4.6	4.6	8.36	5.35	8.65	2.41	43.66	0.32
23.5	Bridge									
23	105	2.46	4.36	4.36	8.15	5.11	8.42	2.29	45.86	0.31
22.5	Bridge									
22	105	2.33	3.74	3.74	7.75	4.89	8.03	2.35	44.7	0.32
21.5	Bridge									
21	105	2.3	3.68	3.68	7.59	4.63	7.82	2.11	49.67	0.29
20.5	Bridge									
20	105	1.96	3.62	3.62	7.48	4.24	7.67	1.93	54.3	0.26
19.5	Bridge									
19	105	1.95	3.62	3.62	7.37	4.24	7.56	1.97	53.28	0.27
18.5	Bridge									
18	105	1.83	3.61	3.61	7.25	4.13	7.45	1.98	52.98	0.27
17.5	Bridge									
17	105	1.72	3.5	3.5	7.13	4.01	7.33	1.98	52.91	0.27
16.5	Bridge									
16	105	1.61	3.45	3.45	7	3.92	7.21	2	52.58	0.28
15.5	Bridge									
15	105	1.46	3.45	3.45	6.9	3.61	7.06	1.77	59.16	0.24
14.5	Bridge									
14	105	1.43	3.45	3.45	6.8	3.52	6.96	1.72	61.16	0.24
13.5	Bridge									
13	105	1.42	3.45	3.45	6.67	3.68	6.87	1.98	53.04	0.28
12.5	Bridge									
12	105	1.38	3.38	3.38	6.52	3.64	6.73	2.02	51.86	0.29
11.5	Bridge									
11	105	1.32	3.22	3.22	6.3	3.58	6.53	2.09	50.27	0.3
10.5	Bridge									
10	105	1.28	3.08	3.08	6.05	3.52	6.29	2.16	48.57	0.32
9.5	Bridge									
9	105	1.06	2.9	2.9	5.74	3.17	5.96	2.04	51.37	0.3
8.5	Bridge									
8	105	0.9	2.66	2.66	5.47	2.98	5.69	2.06	51.05	0.31

7.5	Bridge										
7	105	0.68	2.56	2.56	5.2	2.75	5.42	2.07	50.8	0.31	
6.5	Bridge										
6	105	0.61	2.56	2.56	4.89	2.61	5.11	2.06	50.93	0.32	
5.5	Bridge										
5	105	0.55	2.56	2.56	4.47	2.42	4.68	2.04	51.5	0.33	
4.5	Bridge										
4	105	0.55	2.56	2.56	3.94	2.42	4.23	2.36	44.59	0.41	
3.5	Bridge										
3	105	0.51	2.71	2.71	3.16	2.3	3.57	2.84	37.03	0.56	
2	105	0.38	2.66	2.66	2.96	2.45	3.49	3.23	32.54	0.69	
1	105	0.3	2.26	2.26	2.47	2.47	3.35	4.16	25.23	1	

Torrente Ghiare T=500 anni

Sezioni	Portata totale (m3/s)	Fondo alveo (m)	Argine sinistro (m)	Argine destro (m)	Pelo libero (m)	Profondità critica (m)	Energia (m2)	Velocità (m/s)	Area bagnata (m2)	N° Froude
33	125	3.5	6.43	6.56	11.44	6.61	11.68	2.14	58.3	0.24
32.5	Bridge									
32	125	3.45	5.68	5.68	11.26	7.01	11.63	2.67	46.88	0.31
31.5	Bridge									
31	125	3.4	5.48	5.51	11.07	6.99	11.44	2.68	46.7	0.31
30.5	Bridge									
30	125	3.35	5.46	5.46	10.86	7.04	11.29	2.88	43.33	0.34
29.5	Bridge									
29	125	3.22	5.31	5.31	10.64	6.97	11.09	2.98	42	0.35
28.5	Bridge									
28	125	3.09	5.19	5.19	10.42	6.82	10.88	2.99	41.79	0.36
27.5	Bridge									
27	125	3.01	5.19	5.19	10.18	6.71	10.65	3.05	40.94	0.37
26.5	Bridge									
26	125	2.96	5.13	5.13	9.83	6.69	10.35	3.21	38.99	0.39
25.5	Bridge									
25	125	2.71	4.85	4.85	9.27	6.11	9.71	2.92	42.82	0.37
24.5	Bridge									
24	125	2.59	4.6	4.6	8.89	5.68	9.24	2.62	47.75	0.34
23.5	Bridge									
23	125	2.46	4.36	4.36	8.68	5.43	8.99	2.49	50.18	0.32
22.5	Bridge									
22	125	2.33	3.74	3.74	8.28	5.2	8.61	2.55	49.11	0.33
21.5	Bridge									
21	125	2.3	3.68	3.68	8.13	4.92	8.4	2.28	54.74	0.3
20.5	Bridge									
20	125	1.96	3.62	3.62	8.01	4.52	8.24	2.1	59.58	0.27
19.5	Bridge									
19	125	1.95	3.62	3.62	7.89	4.51	8.12	2.14	58.45	0.28
18.5	Bridge									
18	125	1.83	3.61	3.61	7.76	4.41	8	2.15	58.02	0.28
17.5	Bridge									
17	125	1.72	3.5	3.5	7.63	4.29	7.87	2.16	57.88	0.28
16.5	Bridge									
16	125	1.61	3.45	3.45	7.5	4.2	7.74	2.18	57.44	0.29
15.5	Bridge									
15	125	1.46	3.45	3.45	7.38	3.87	7.57	1.94	64.52	0.26
14.5	Bridge									
14	125	1.43	3.45	3.45	7.28	3.77	7.46	1.88	66.65	0.25
13.5	Bridge									
13	125	1.42	3.45	3.45	7.13	3.95	7.37	2.17	57.74	0.29
12.5	Bridge									
12	125	1.38	3.38	3.38	6.97	3.91	7.22	2.21	56.5	0.3
11.5	Bridge									
11	125	1.32	3.22	3.22	6.75	3.85	7.02	2.28	54.87	0.31
10.5	Bridge									
10	125	1.28	3.08	3.08	6.49	3.79	6.78	2.35	53.16	0.33
9.5	Bridge									
9	125	1.06	2.9	2.9	6.18	3.42	6.44	2.22	56.21	0.31
8.5	Bridge									
8	125	0.9	2.66	2.66	5.91	3.24	6.16	2.23	55.96	0.32

7.5	Bridge										
7	125	0.68	2.56	2.56	5.64	3.01	5.9	2.24	55.75	0.32	
6.5	Bridge										
6	125	0.61	2.56	2.56	5.33	2.85	5.58	2.23	56.08	0.33	
5.5	Bridge										
5	125	0.55	2.56	2.56	4.89	2.65	5.14	2.19	57.06	0.34	
4.5	Bridge										
4	125	0.55	2.56	2.56	4.34	2.65	4.66	2.51	49.75	0.41	
3.5	Bridge										
3	125	0.51	2.71	2.71	3.42	2.52	3.9	3.07	40.74	0.57	
2	125	0.38	2.66	2.66	3.22	2.67	3.83	3.45	36.19	0.7	
1	125	0.3	2.26	2.26	2.68	2.68	3.68	4.43	28.23	1.01	