



REGIONE LIGURIA



Autorità di Bacino Distrettuale  
dell'Appennino Settentrionale

## AMBITO REGIONALE DI BACINO 16

### PIANO DI BACINO STRALCIO SUL RISCHIO IDROGEOLOGICO

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

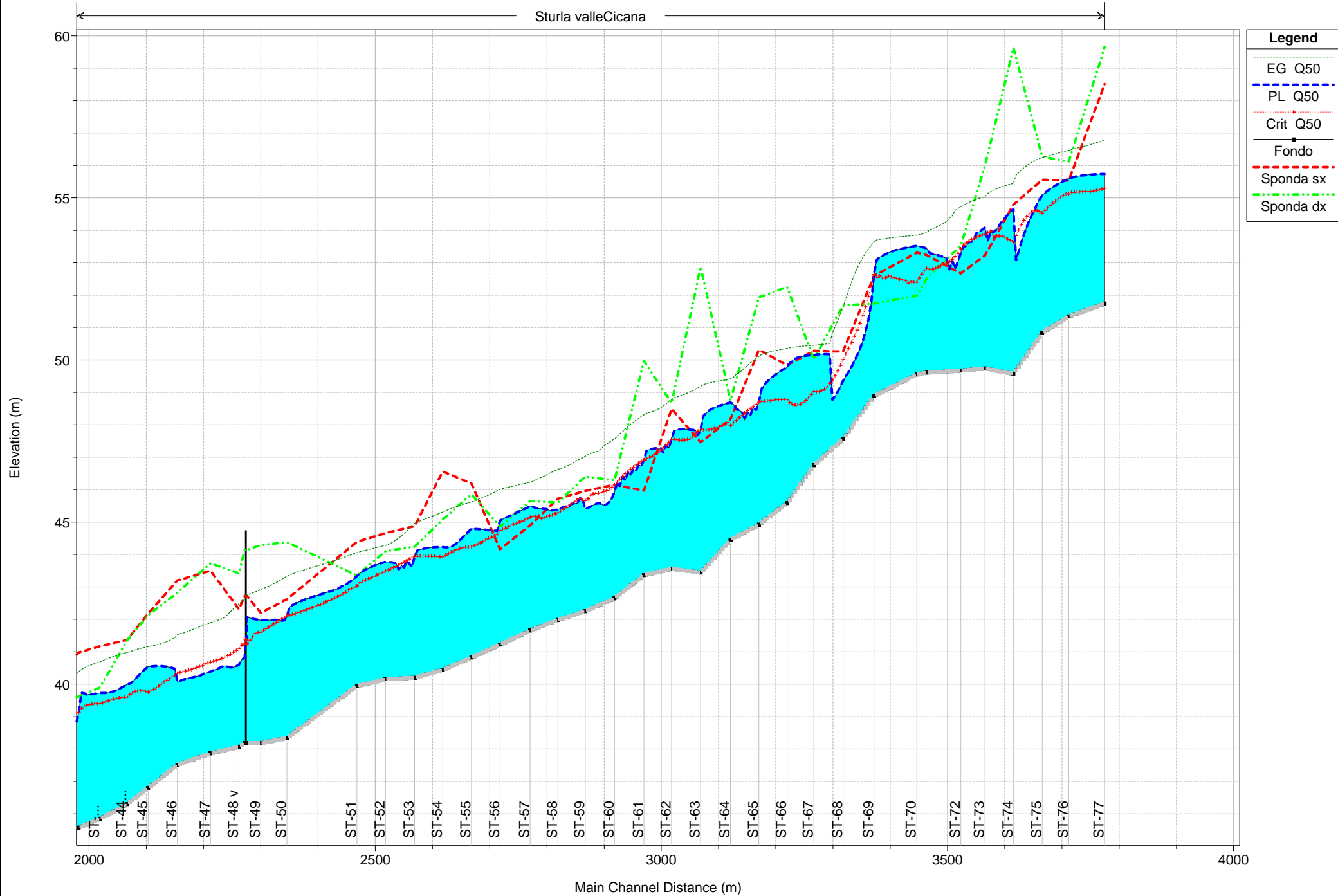


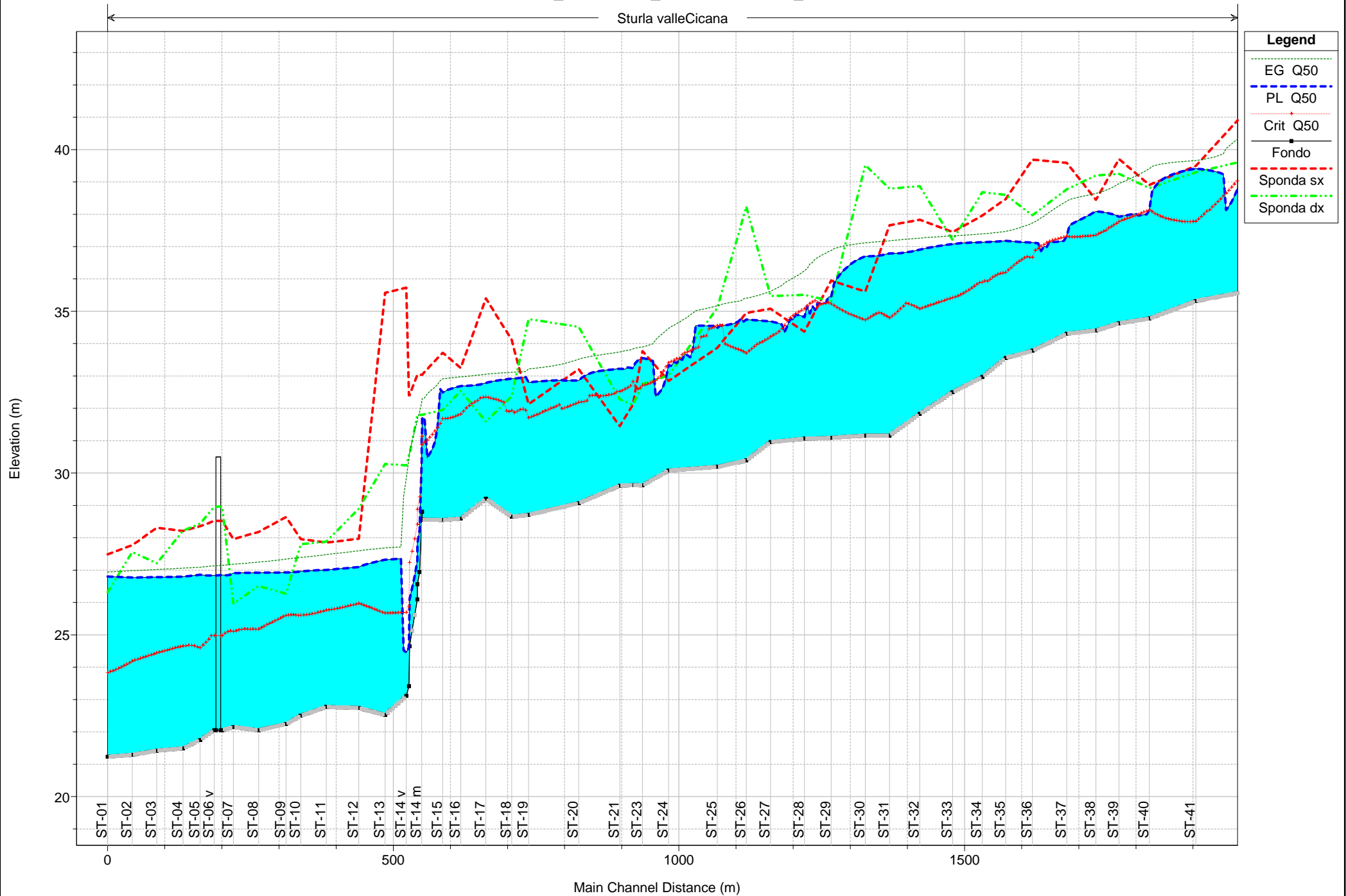
## VERIFICHE IDRAULICHE – T.STURLA tratto a valle t. Cicana

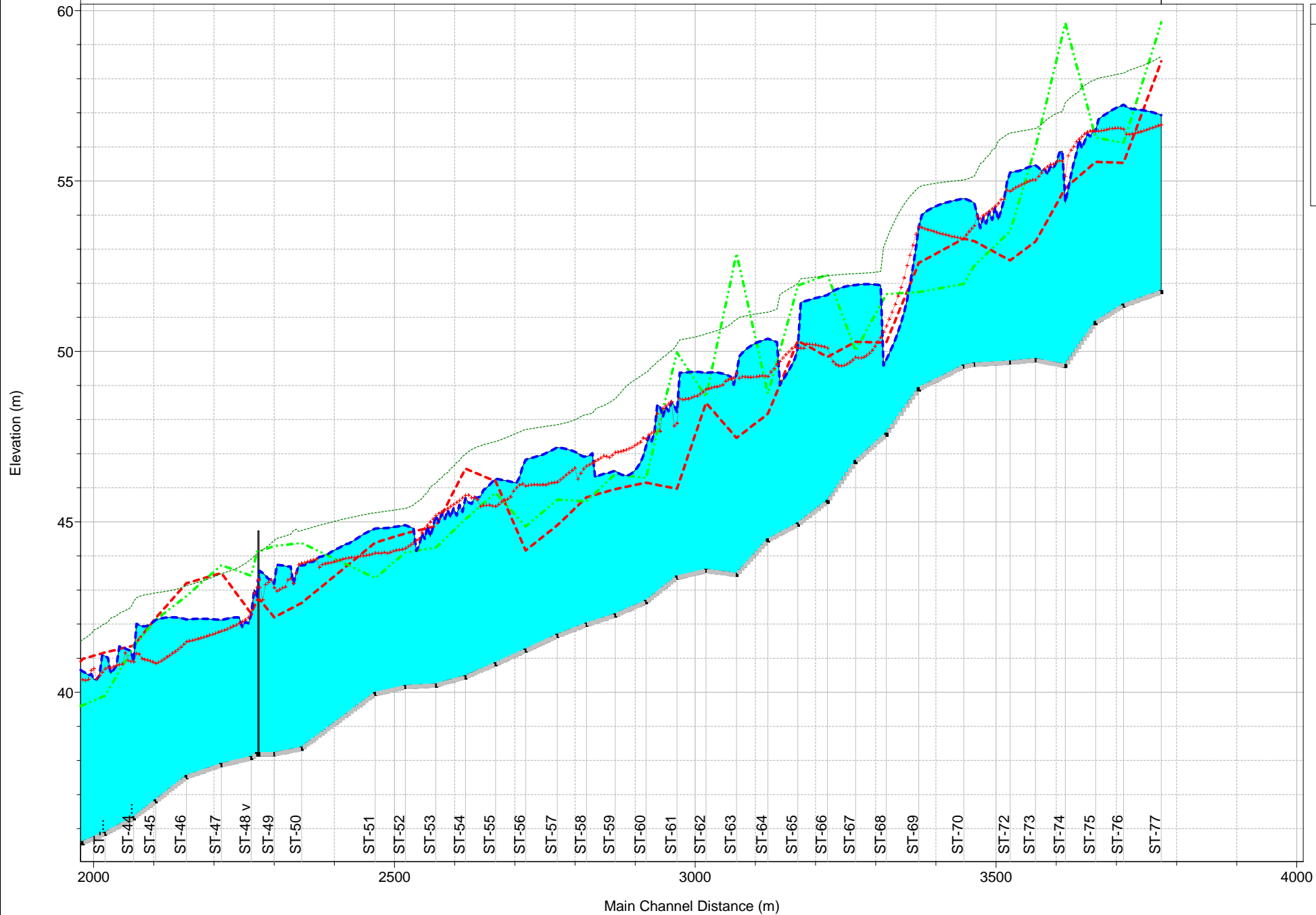
APPROVAZIONE	Delibera del Consiglio Provinciale di Genova n. 3 del 21/01/2003
ULTIMA MODIFICA DELL'ELABORATO	Decreto del Direttore Generale n. 2461 del 22/04/2020
ENTRATA IN VIGORE	BURL n. 20 del 13/05/2020 – parte II

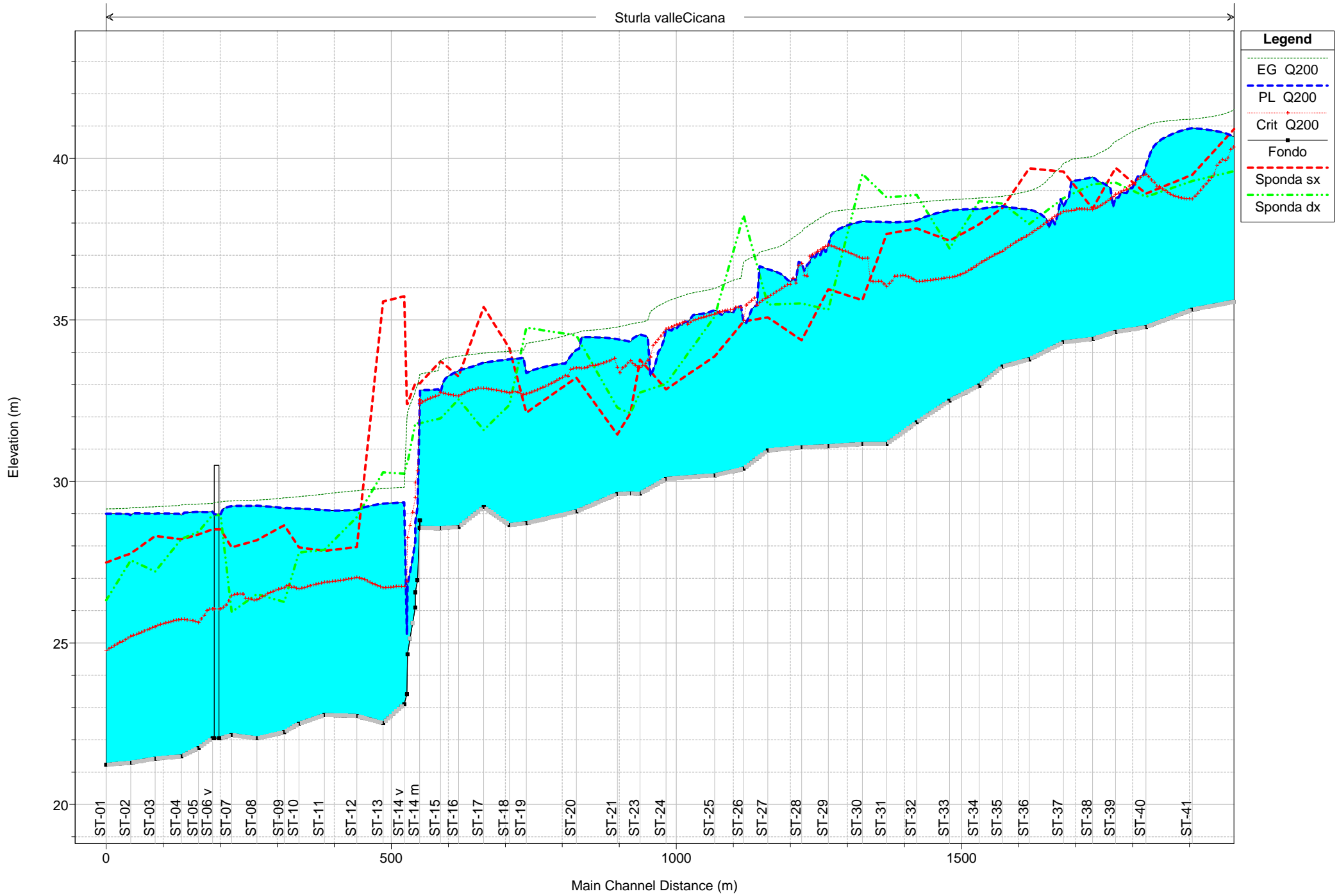
Sturla\_valleCicana\_2017 Plan: 01\_PdB

Sturla valleCicana



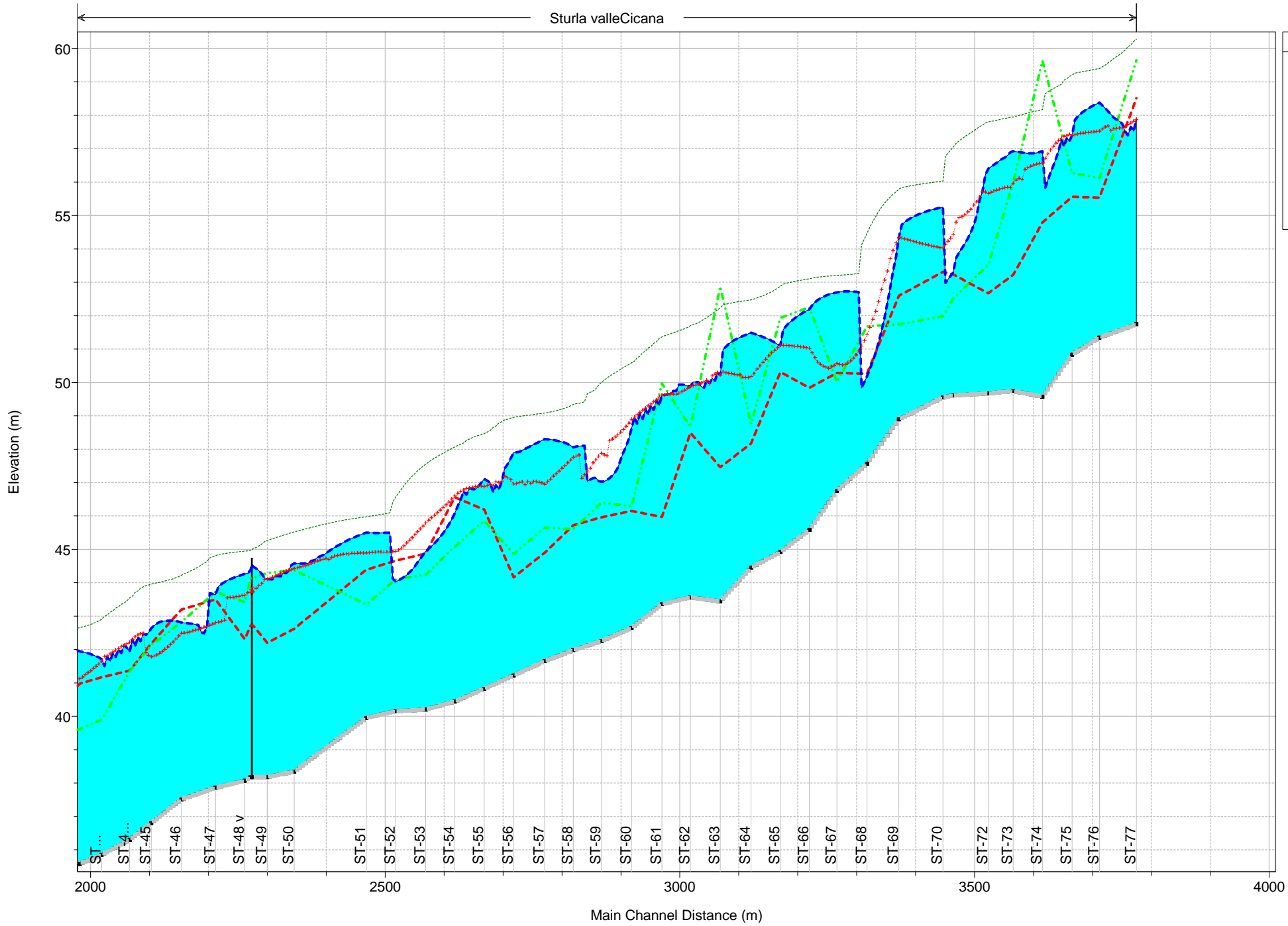






1 cm Horiz. = 85 m 1 cm Vert. = 1.5 m

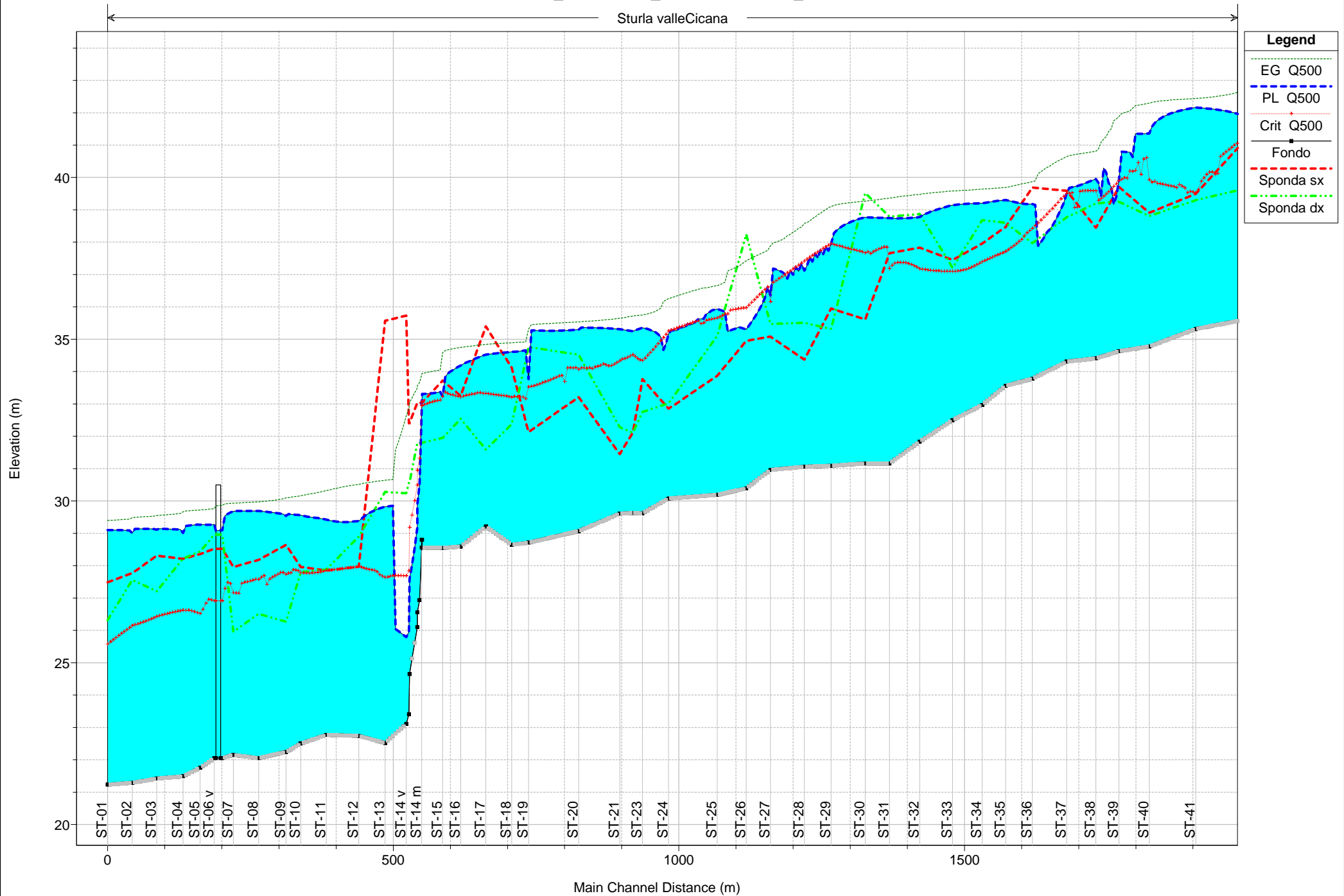
Sturla valleCicana



Legend	
EG Q500	Green dotted line
PL Q500	Blue dashed line
Crit Q500	Red dotted line
Fondo	Black line with markers
Sponda sx	Red dashed line
Sponda dx	Green dashed line

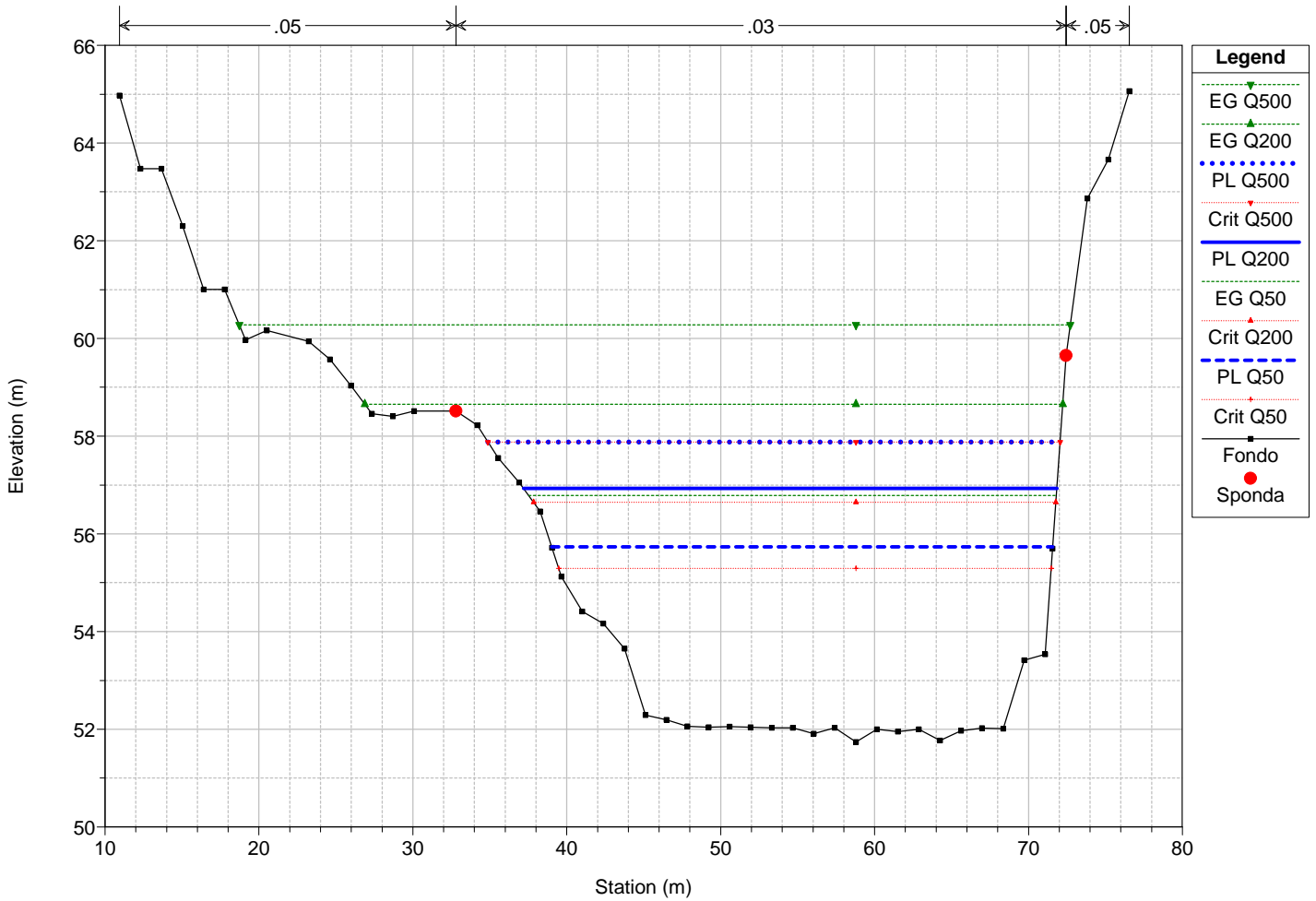
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Sturla valleCicana

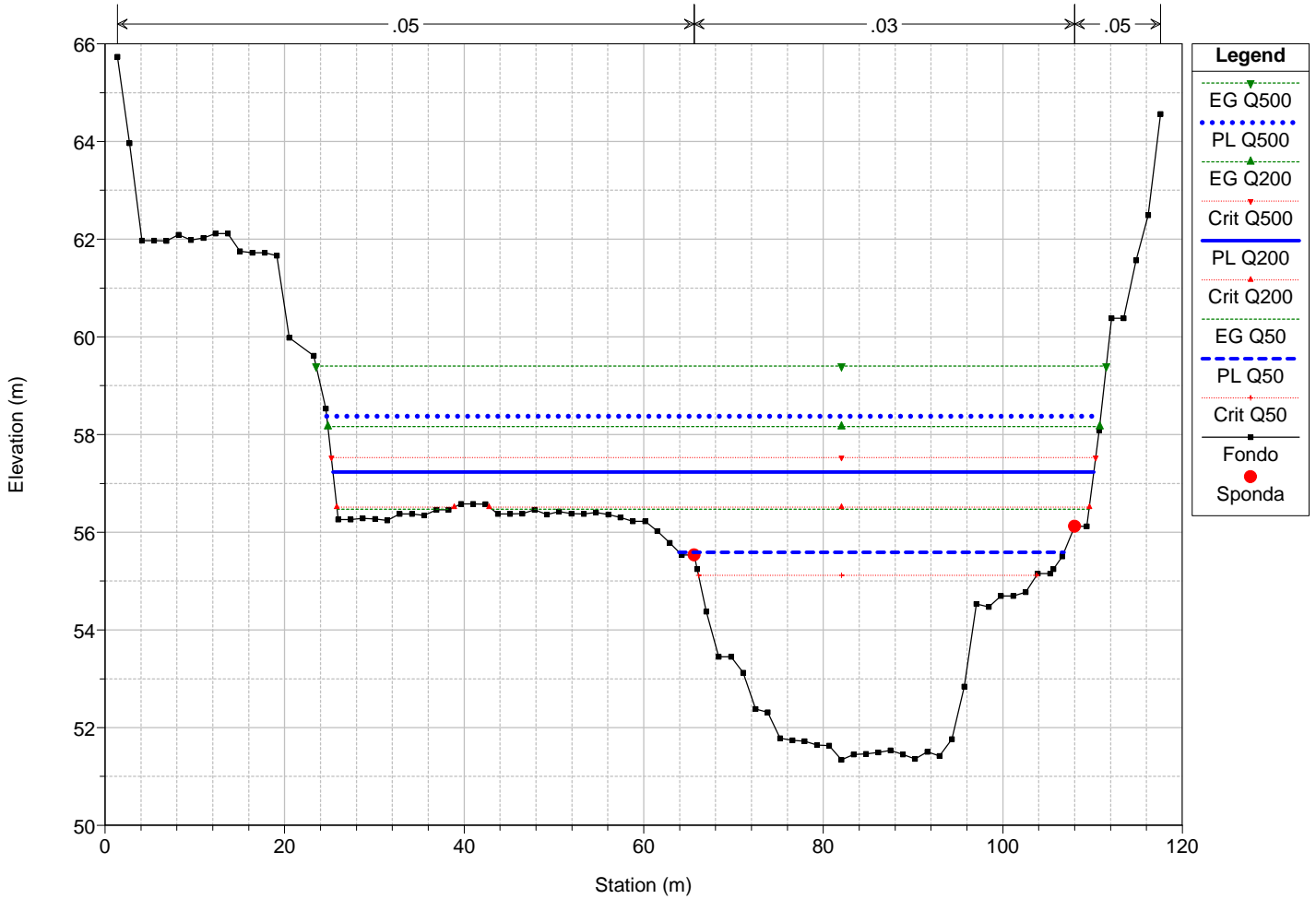


1 cm Horiz. = 85 m 1 cm Vert. = 1.5 m

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ST-77



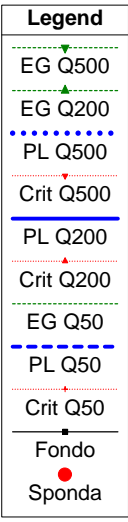
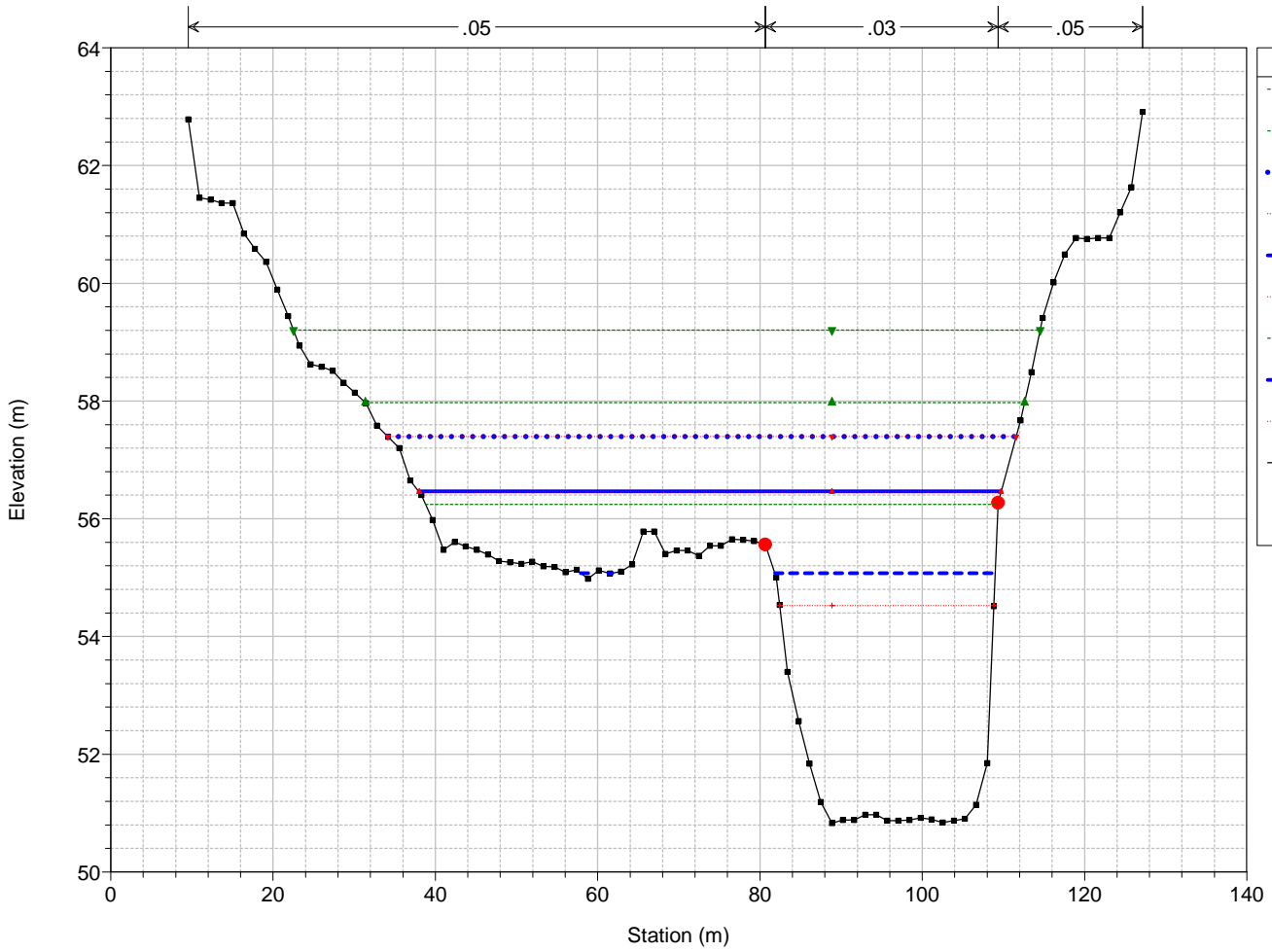
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ST-76





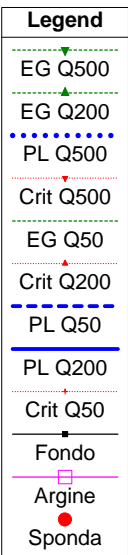
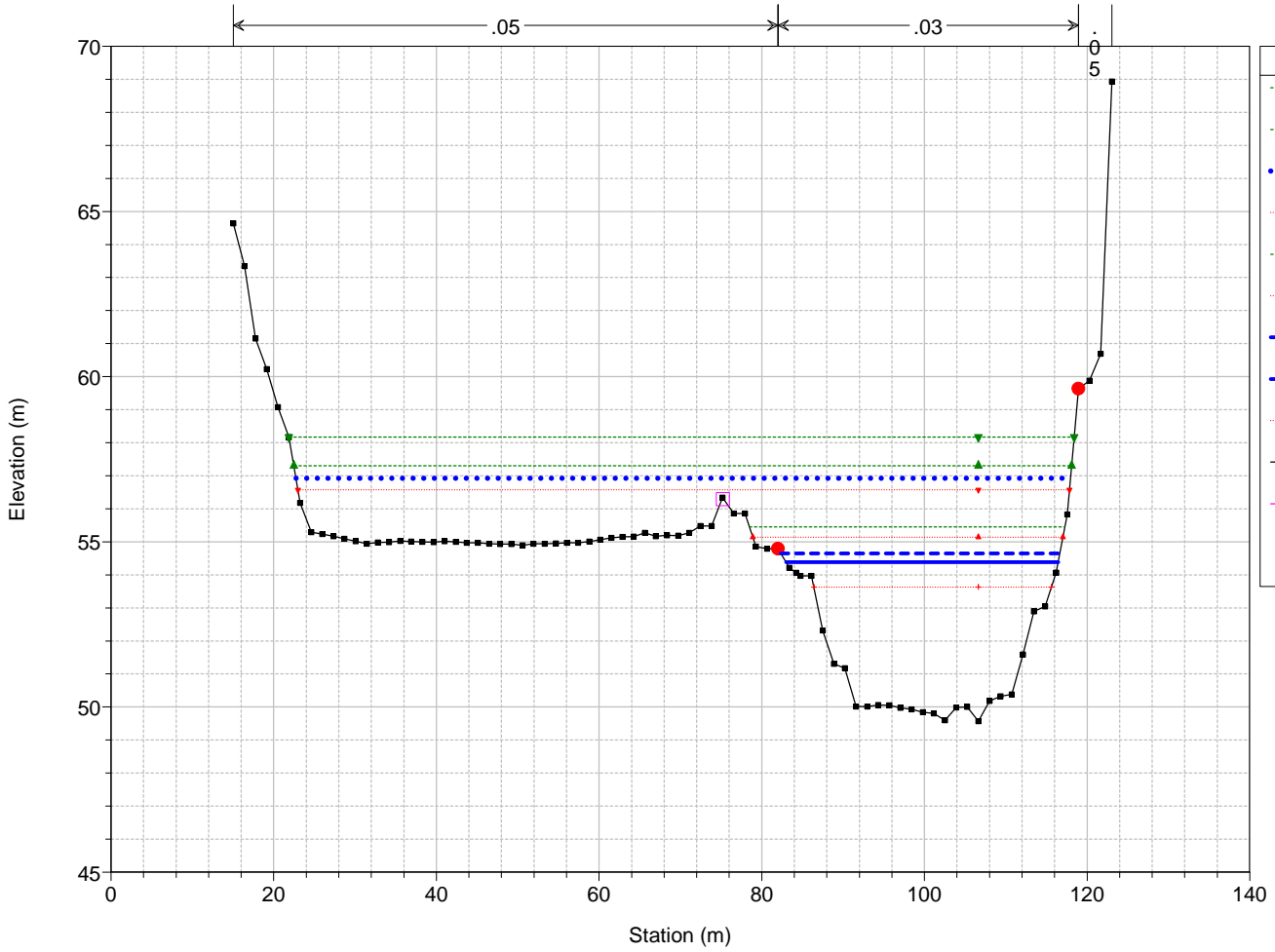
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ST-75



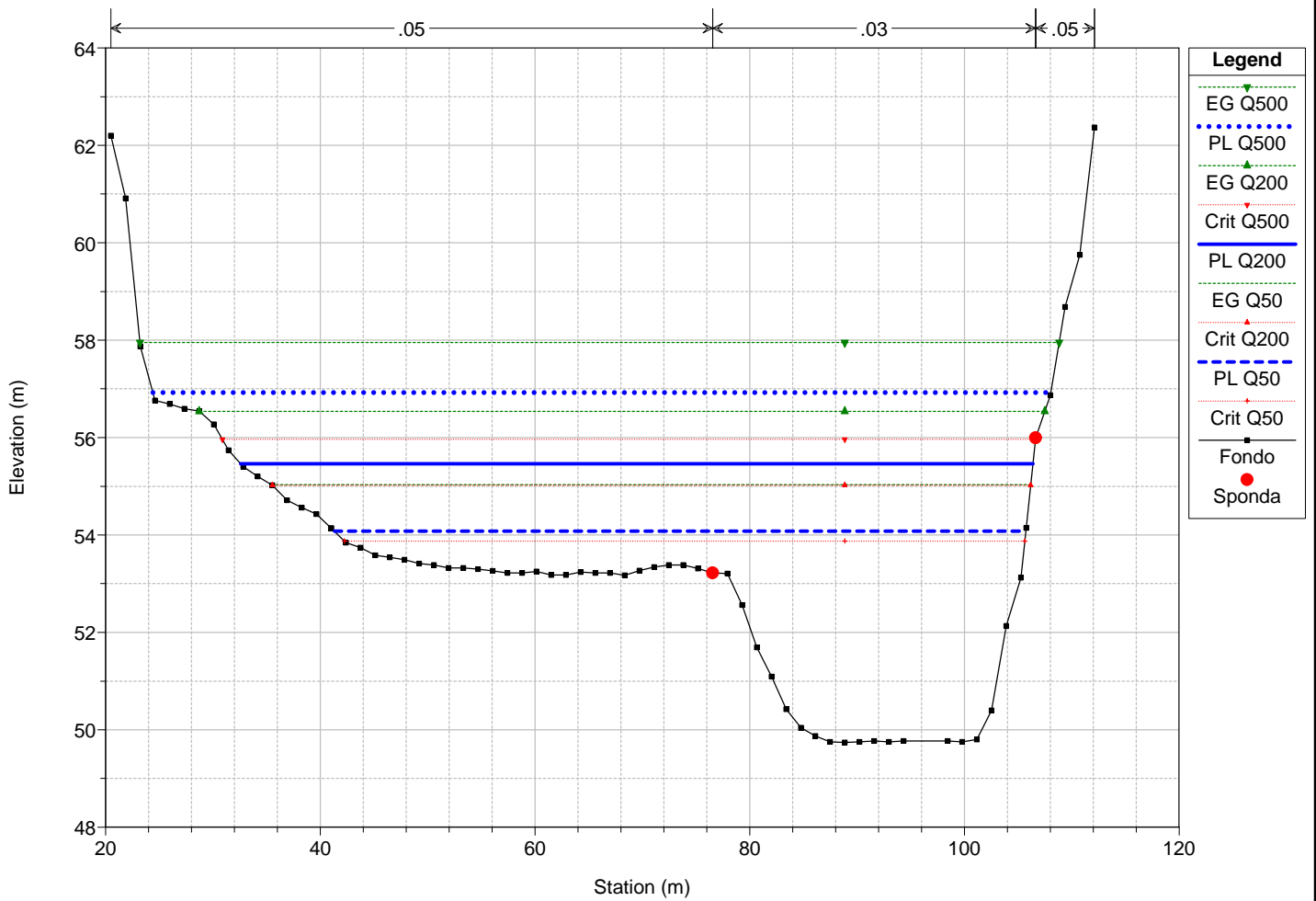
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ST-74



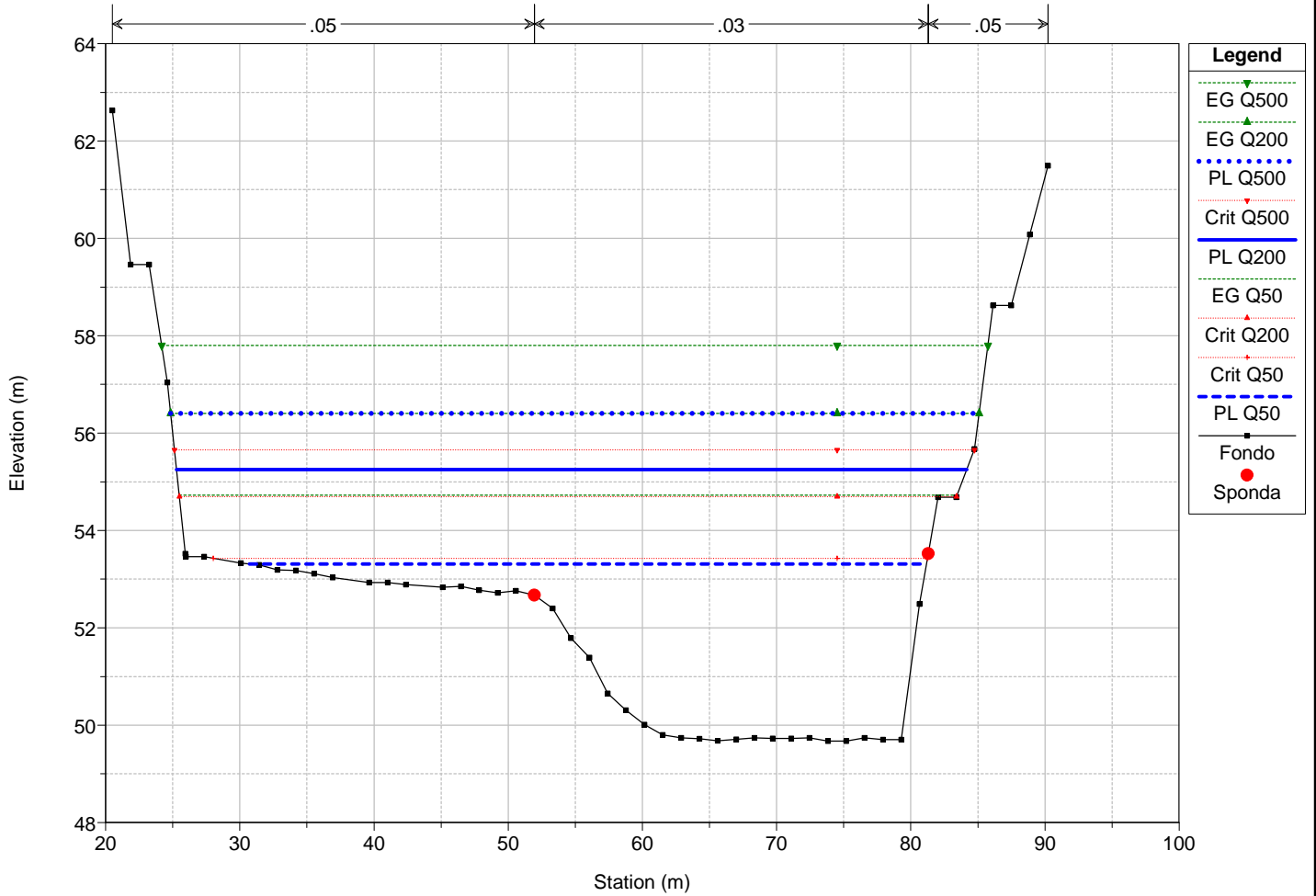
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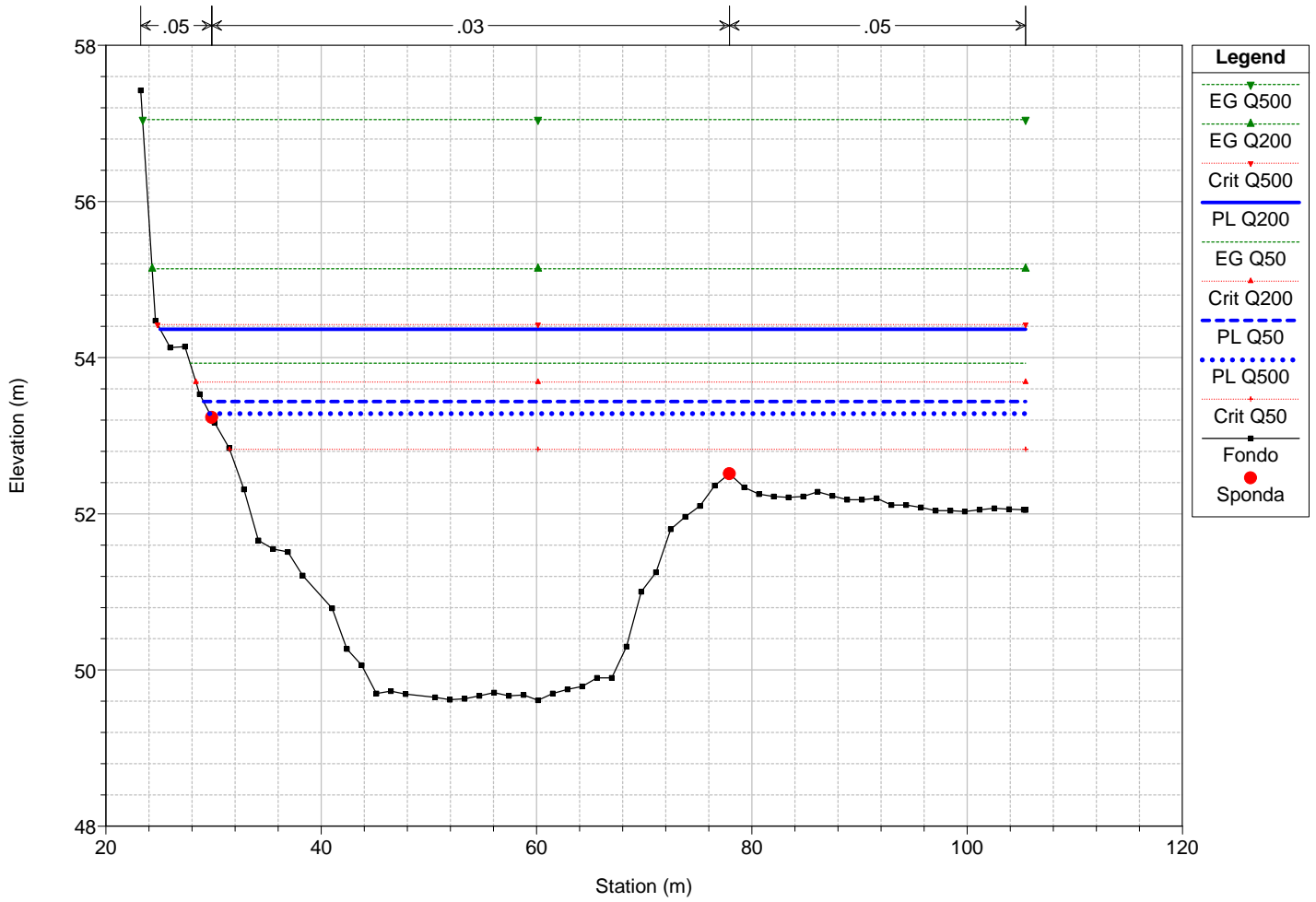
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ST-72



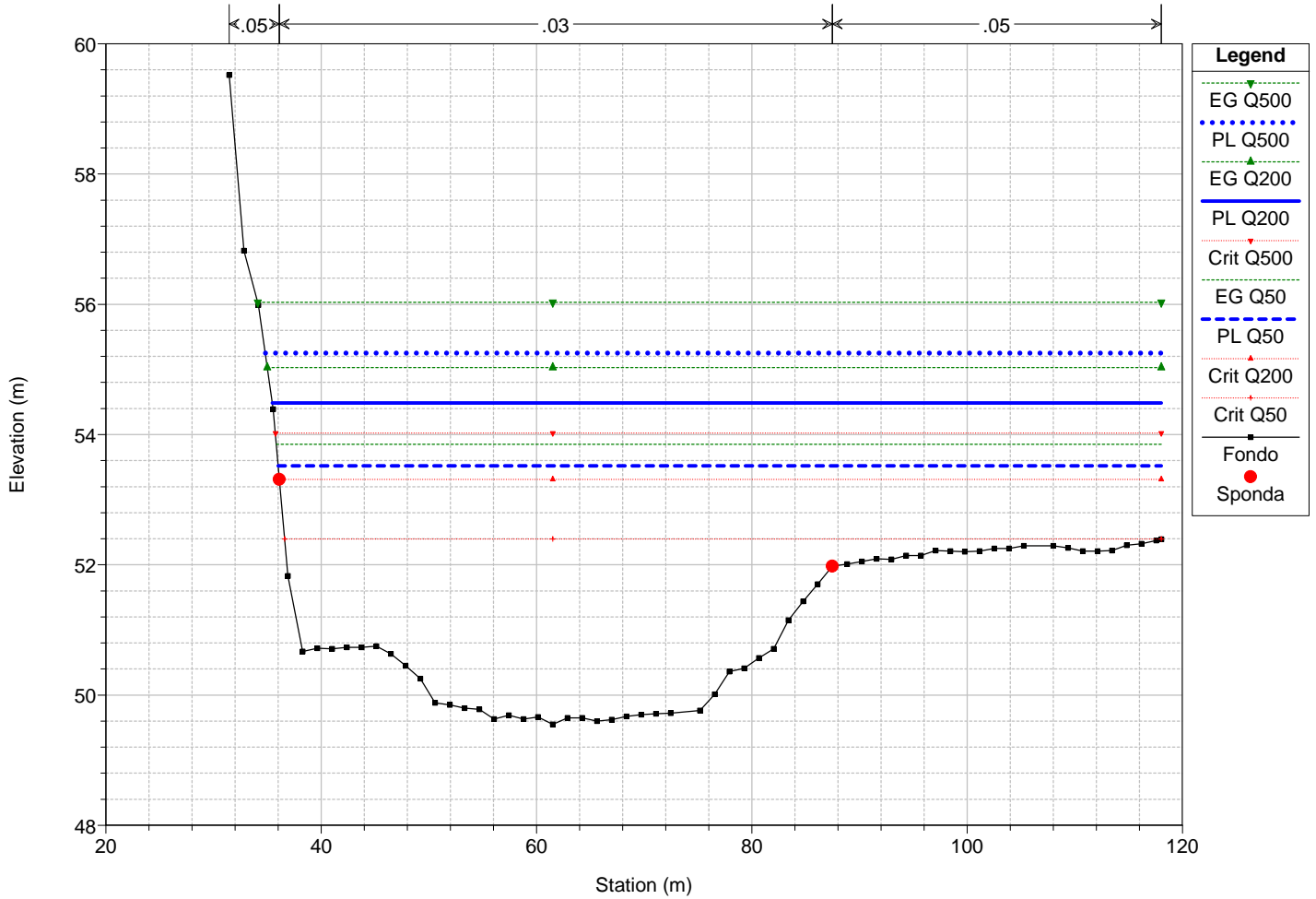
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ST-71

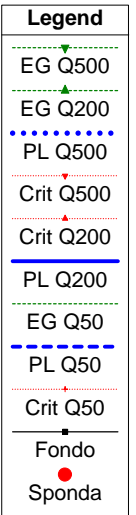
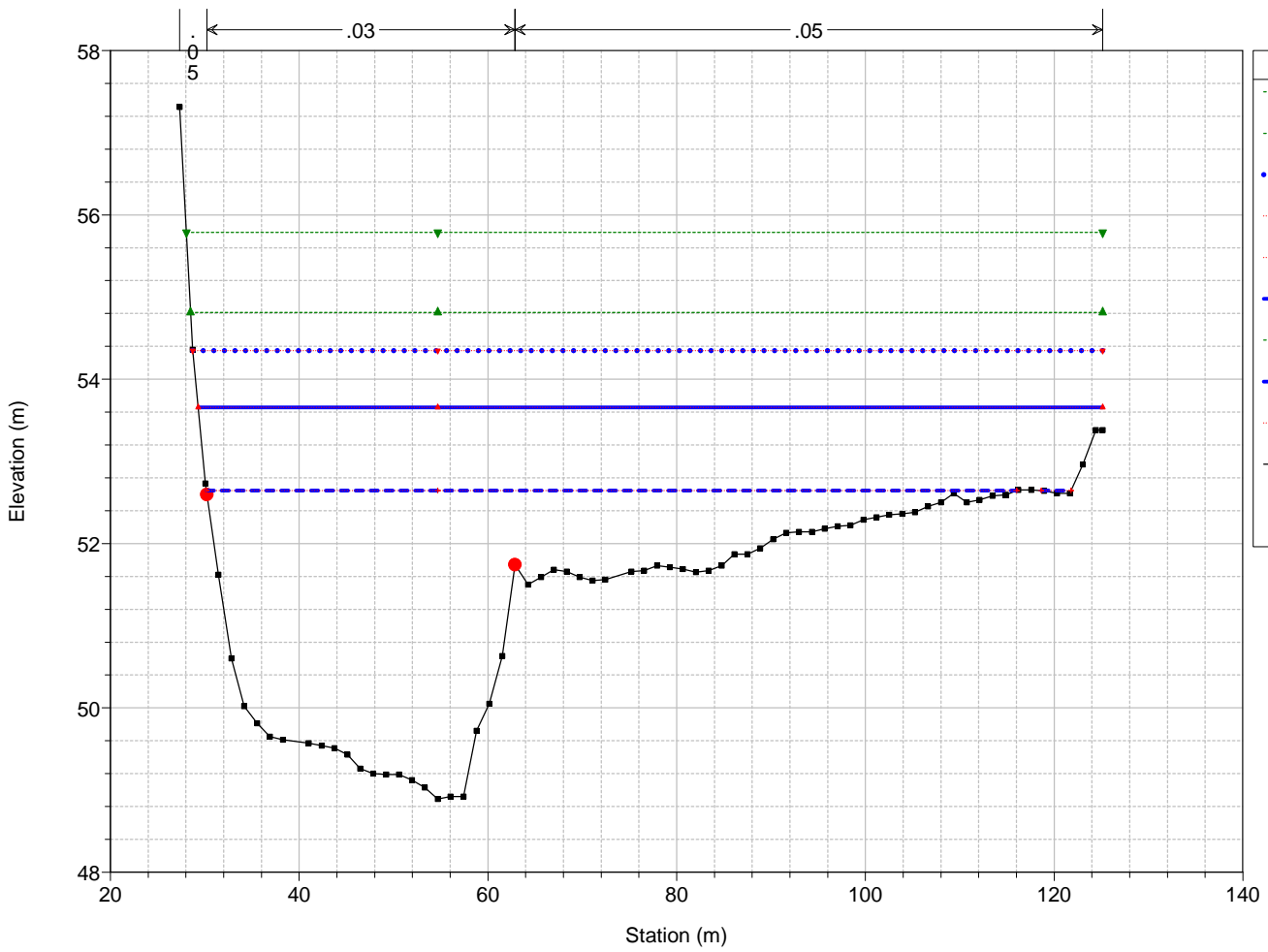


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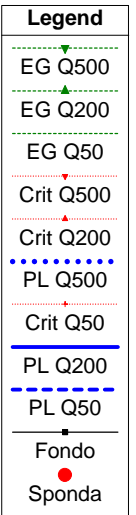
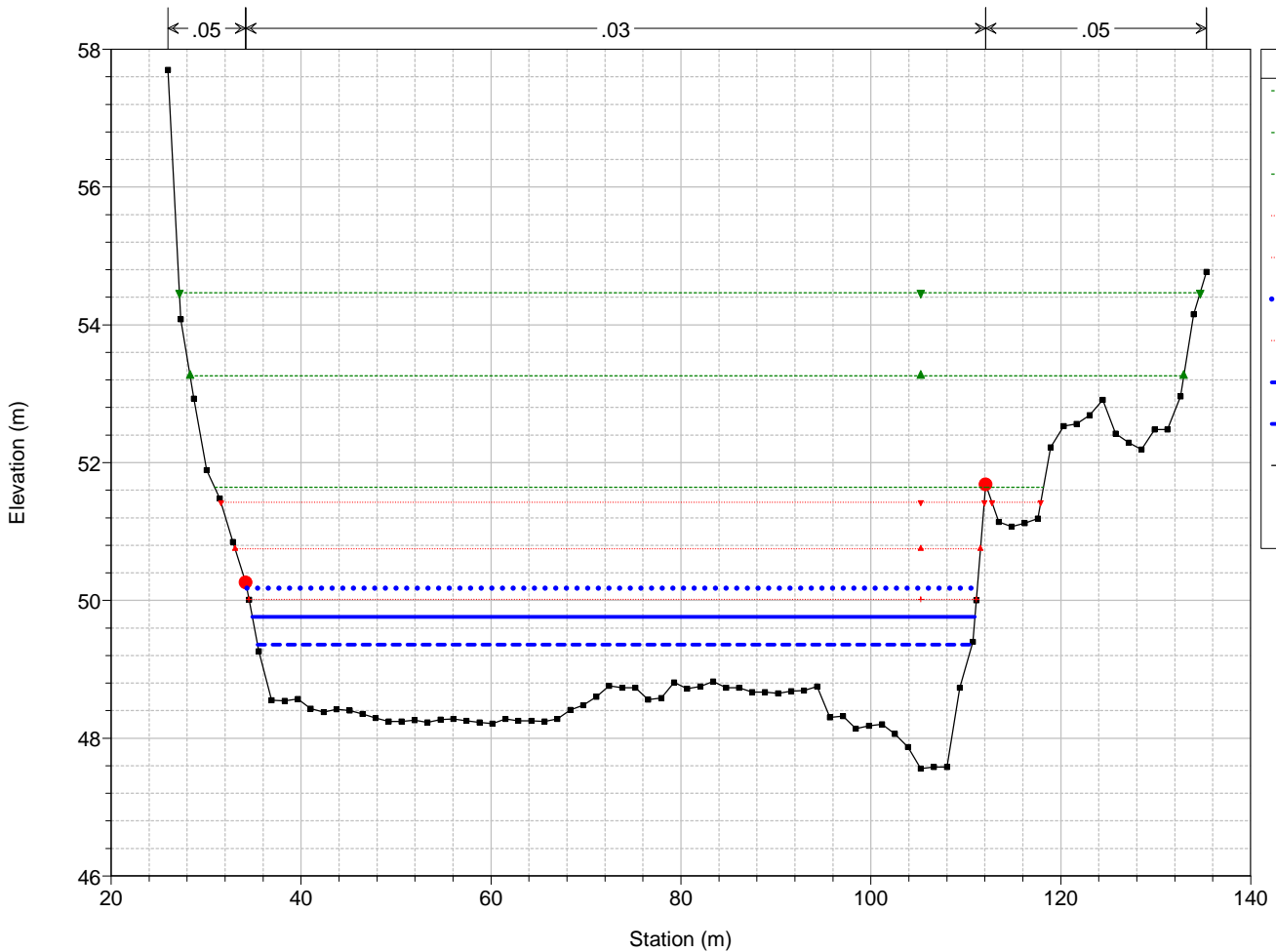
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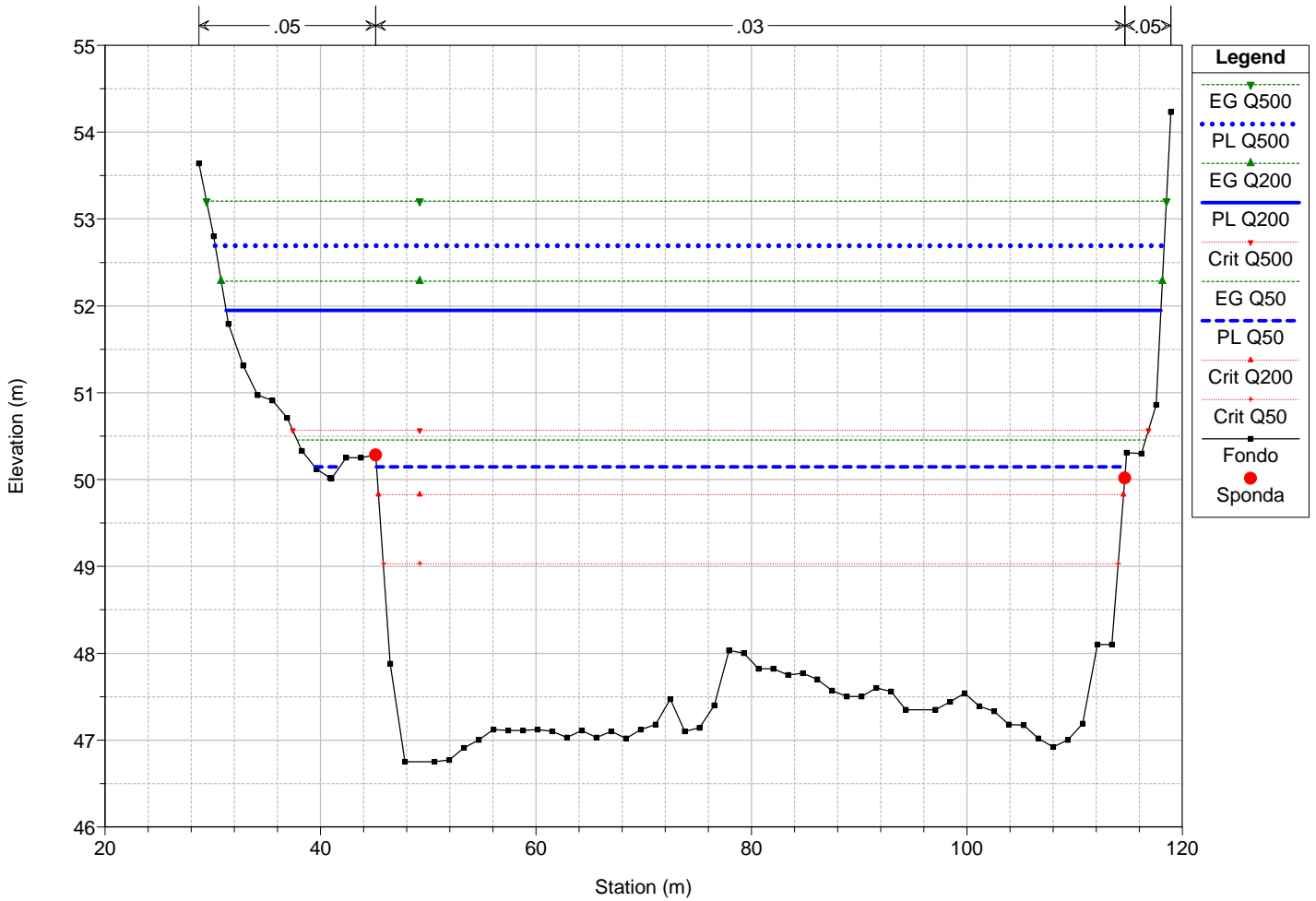
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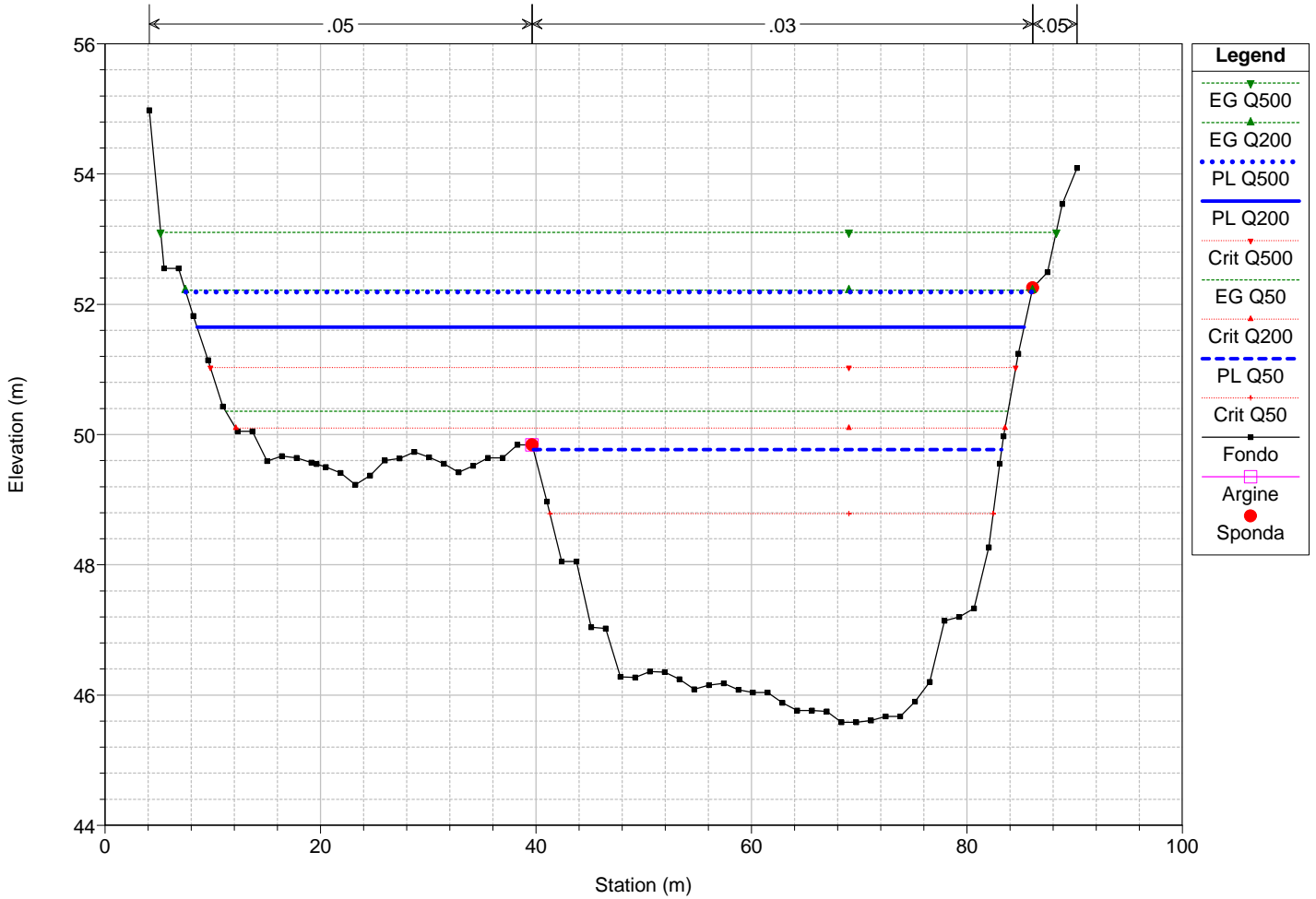
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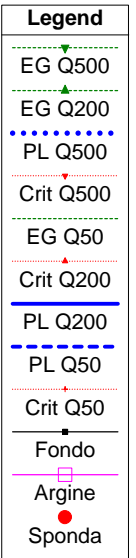
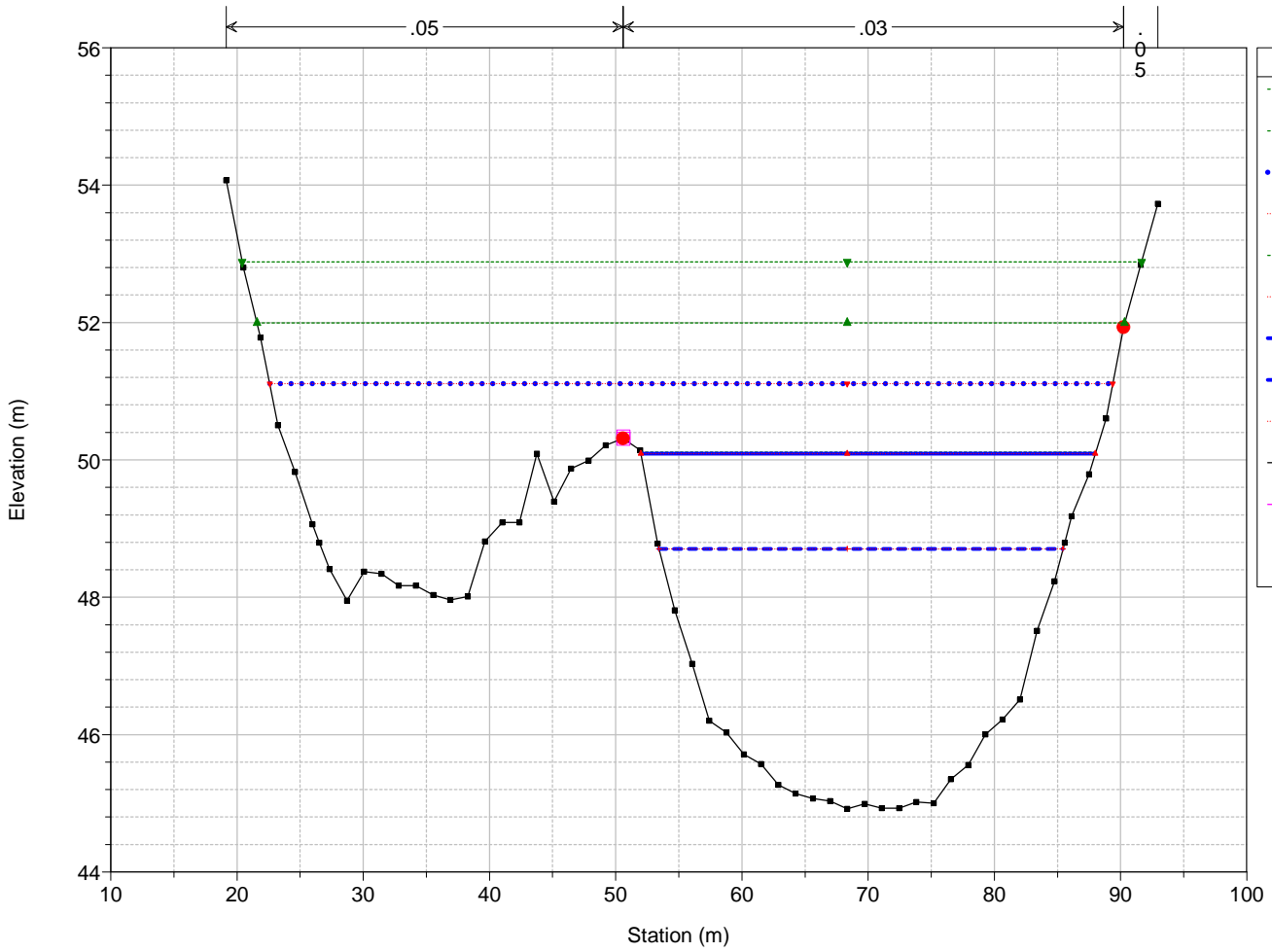
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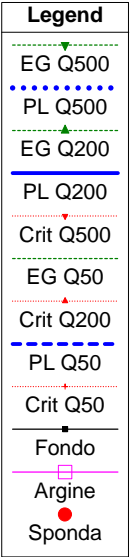
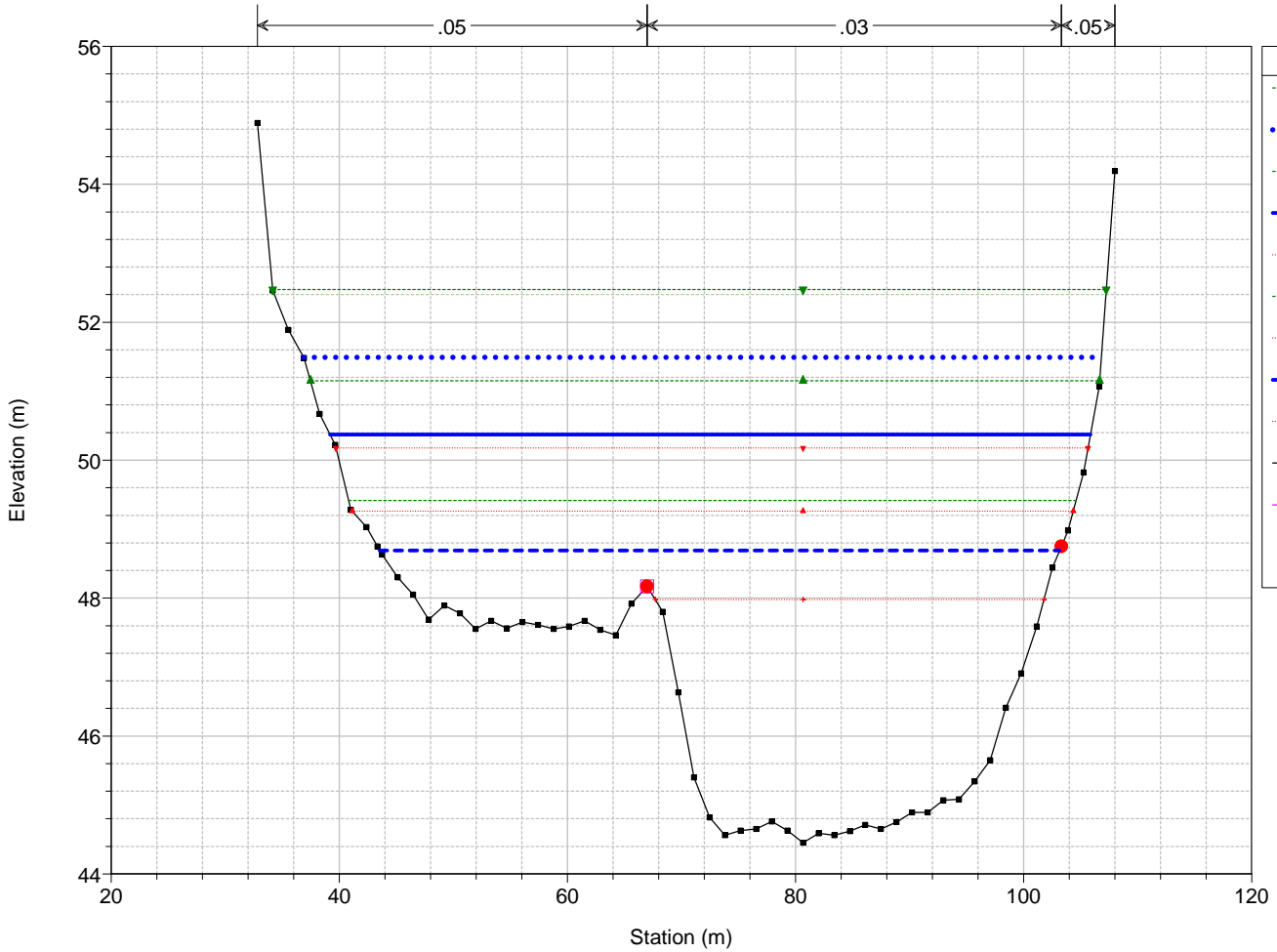
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ST-65

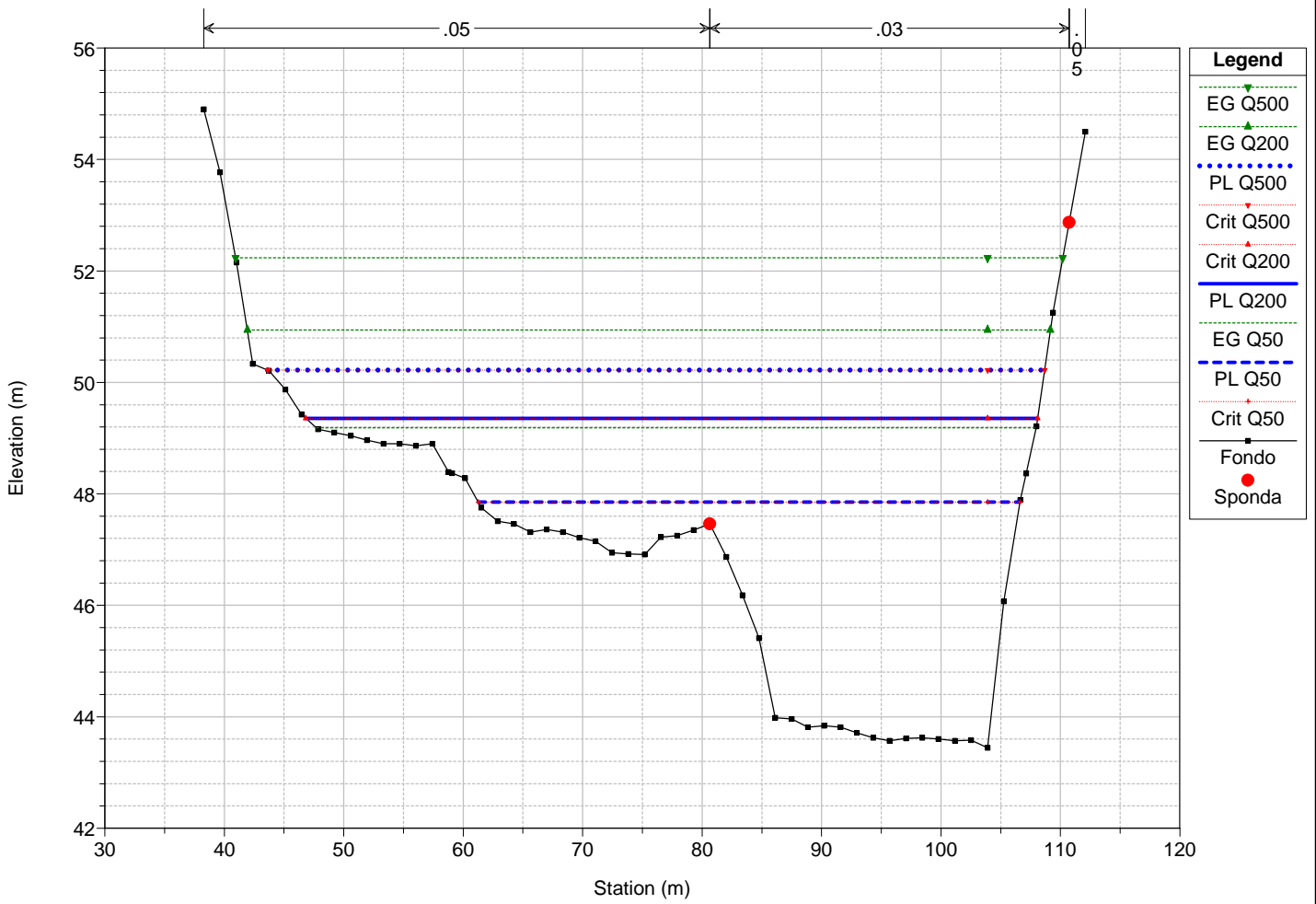


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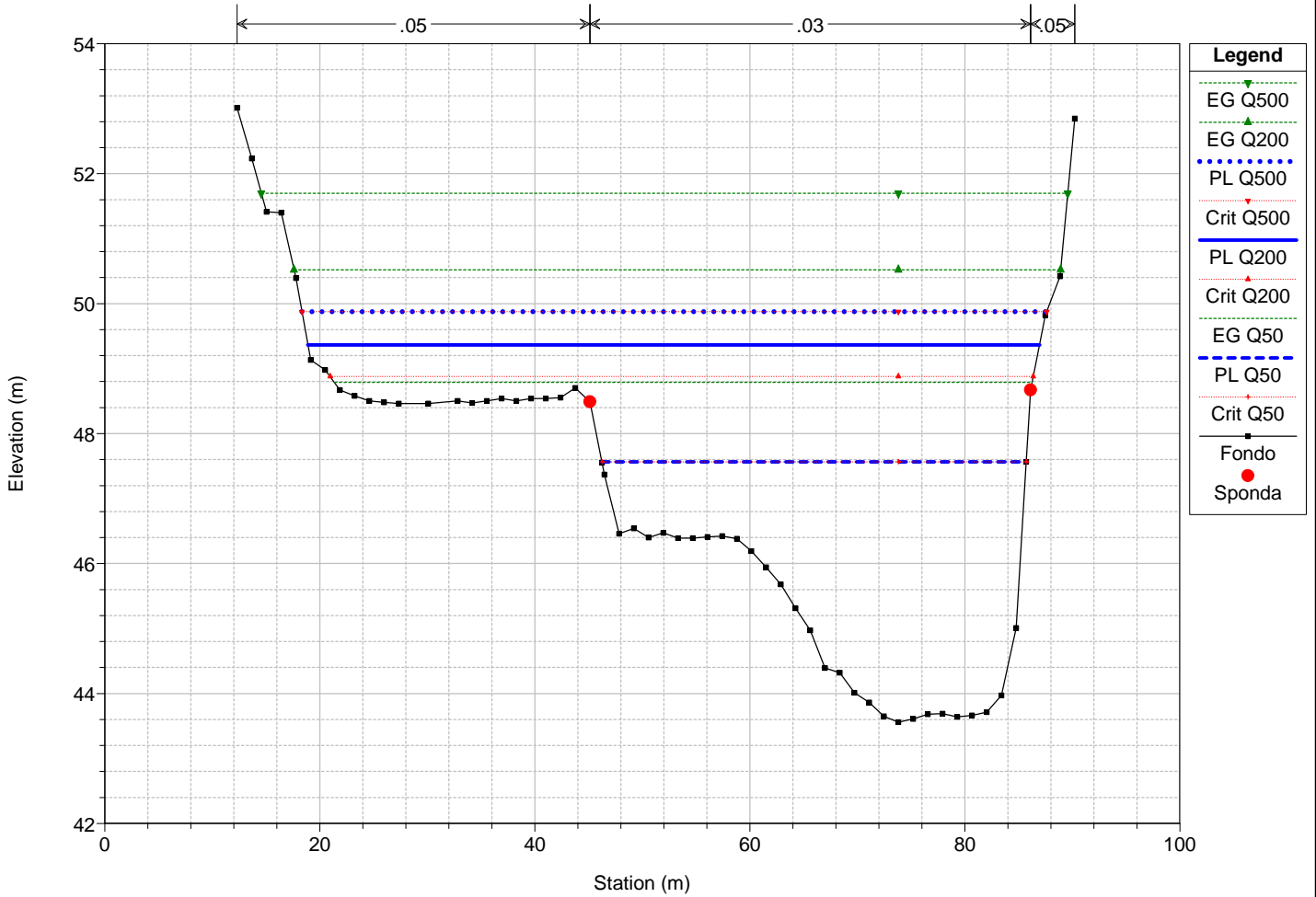
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ST-63

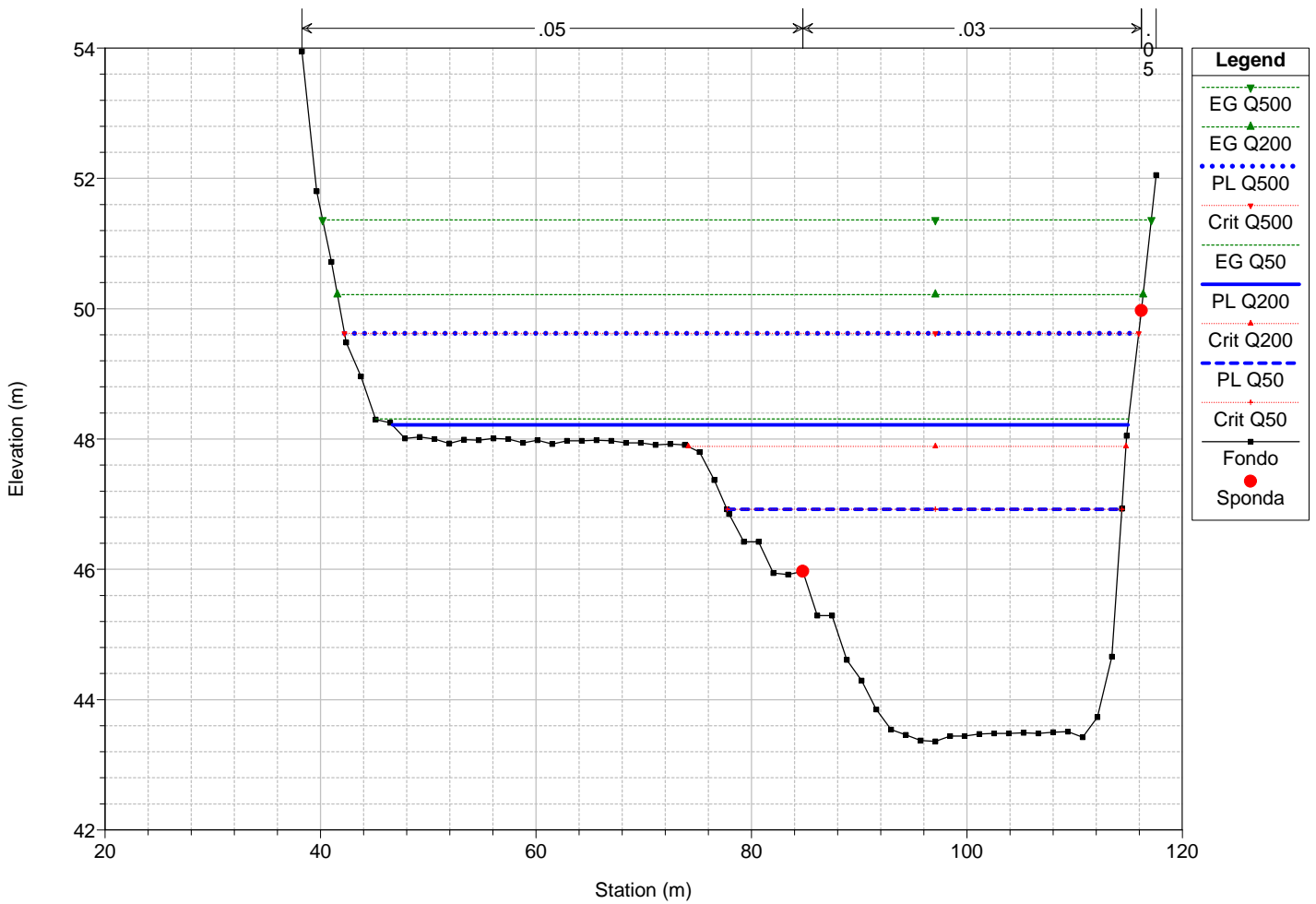


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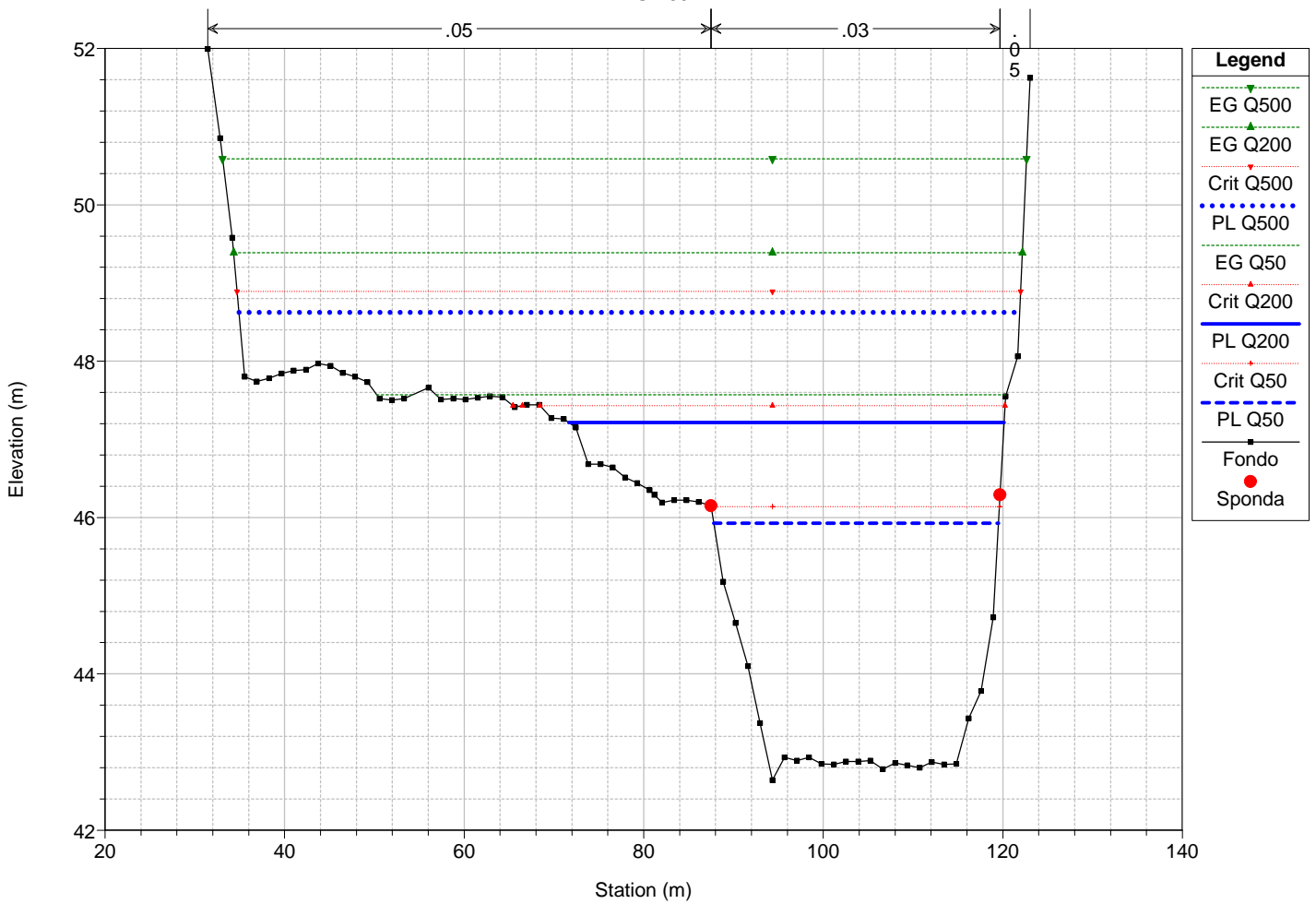
ST-62



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ST-61



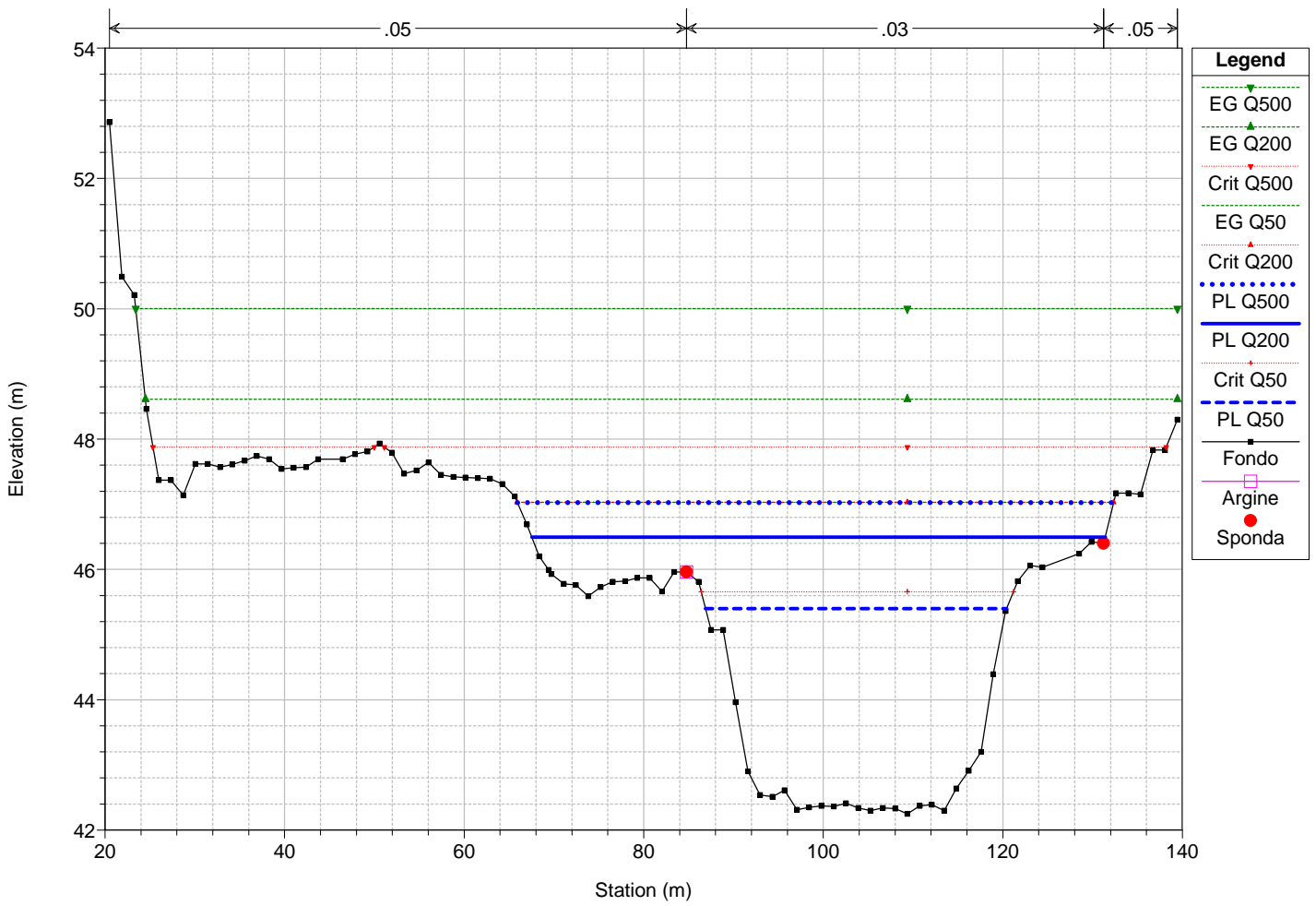
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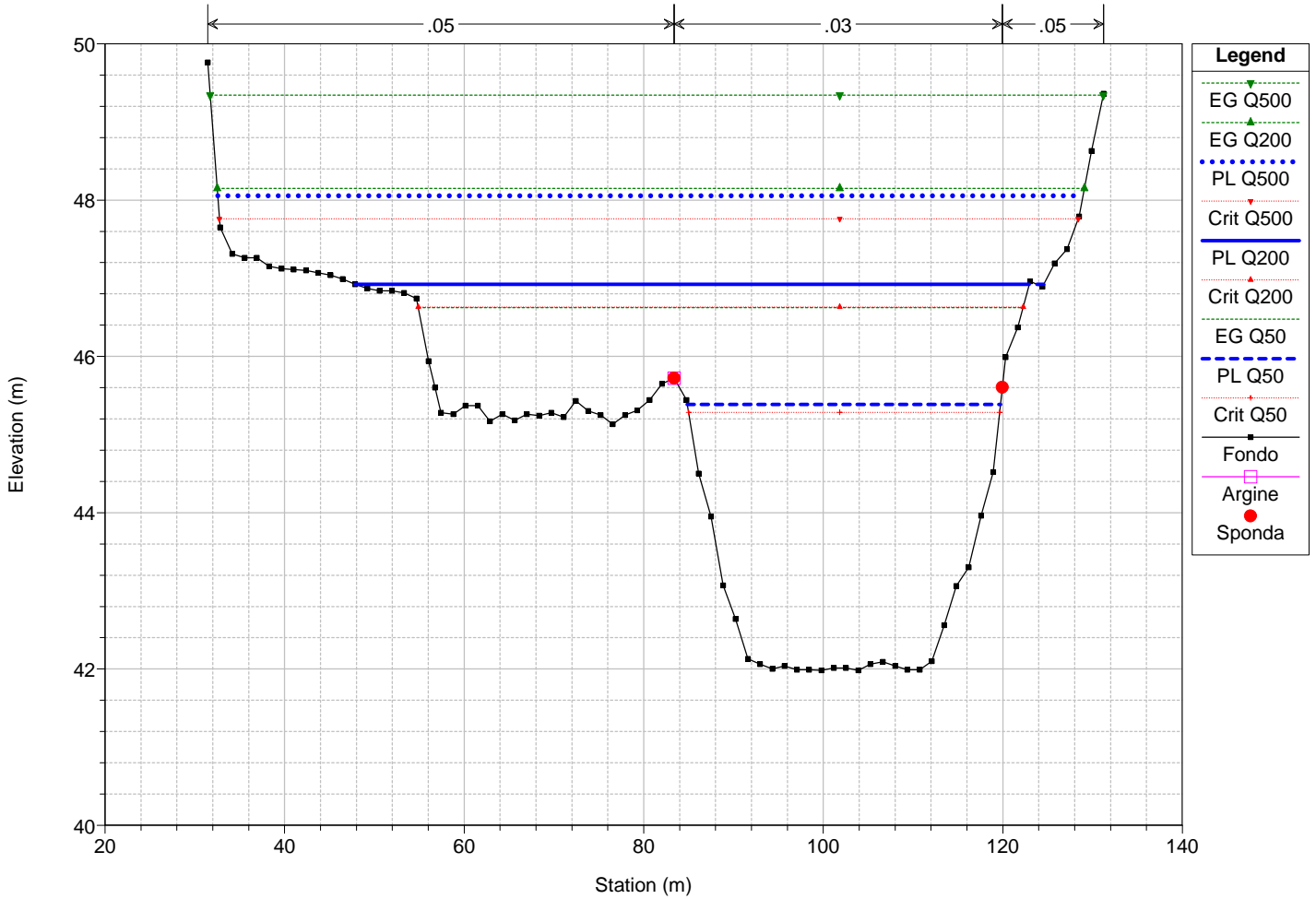
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ST-59

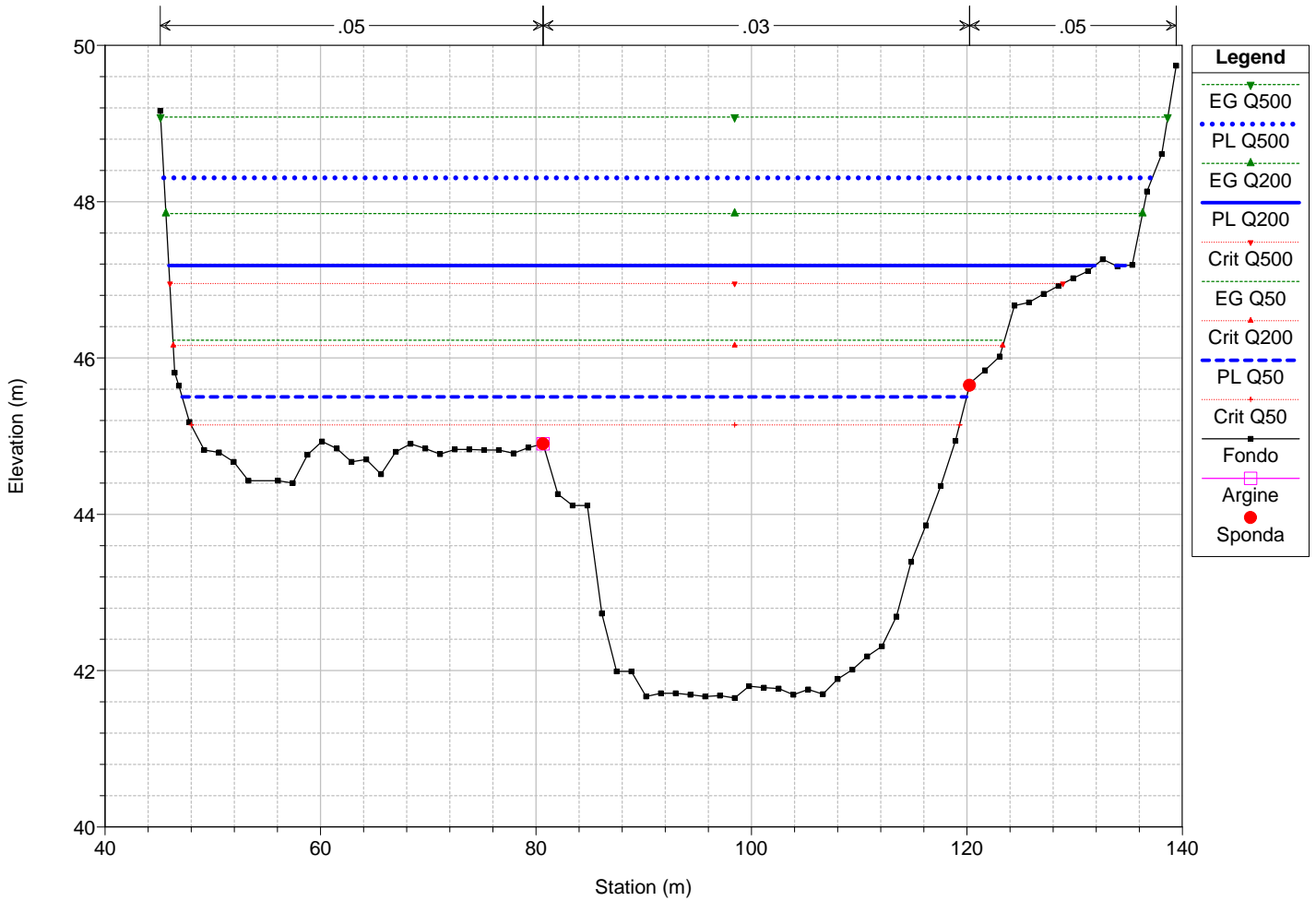


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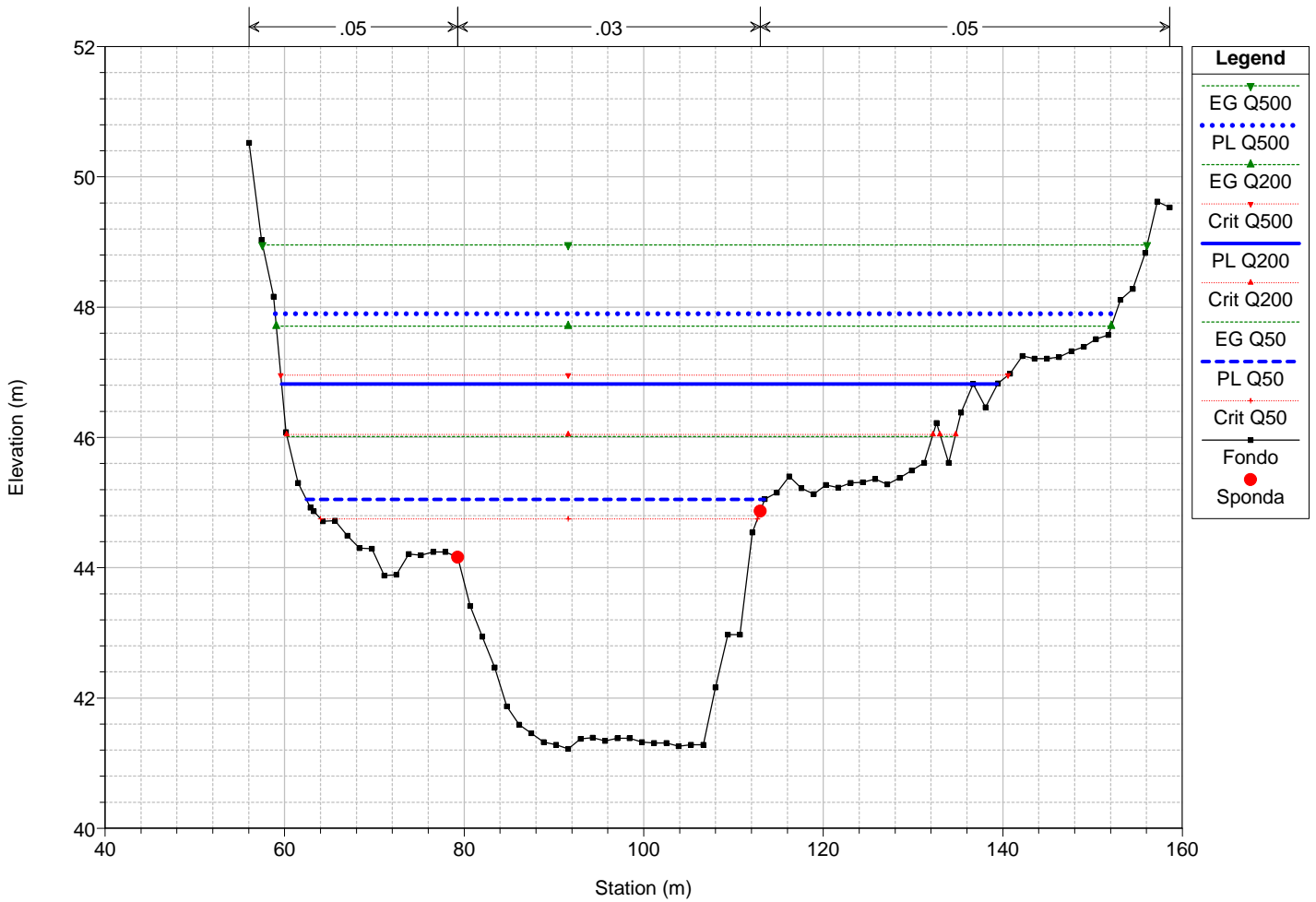
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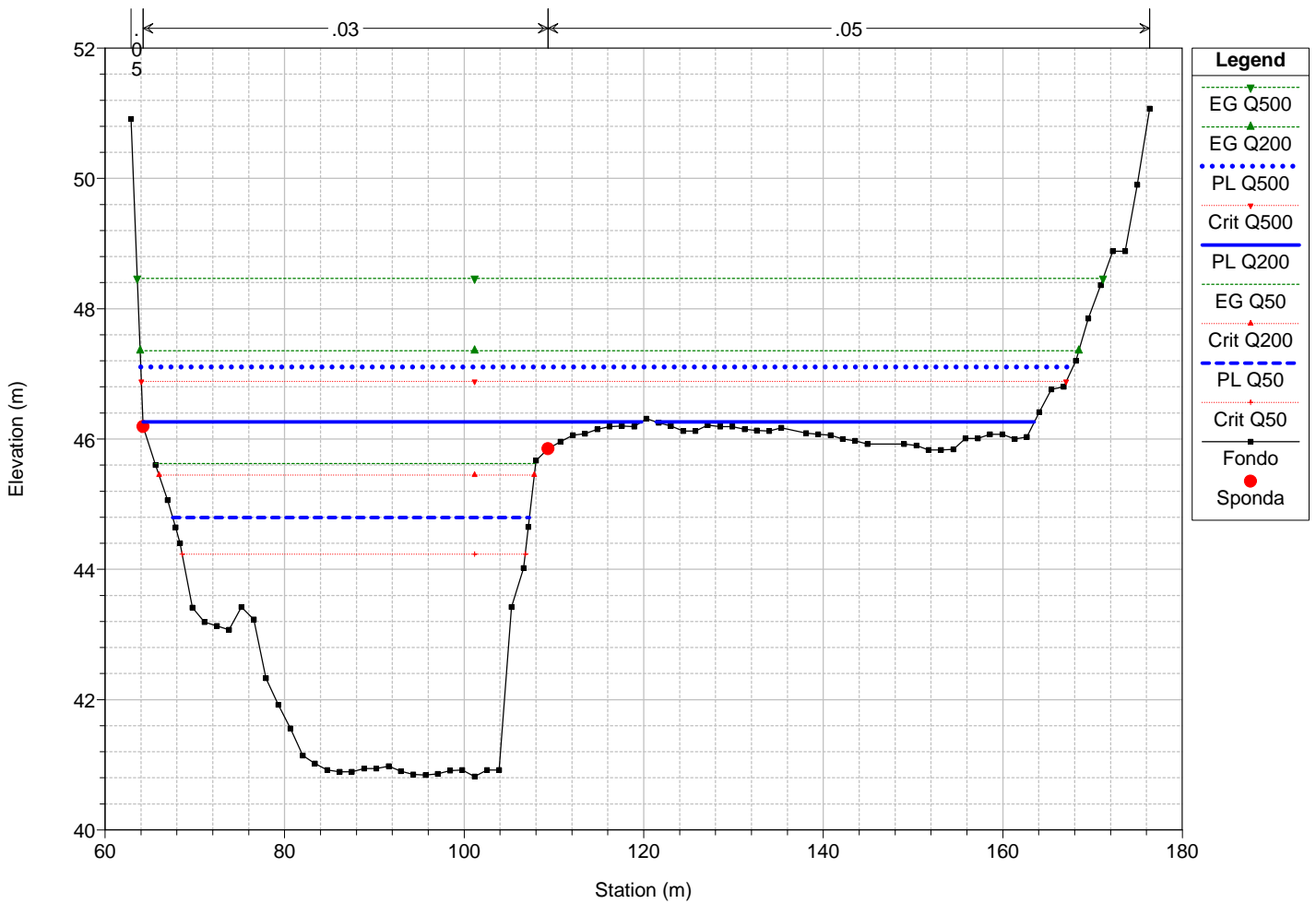
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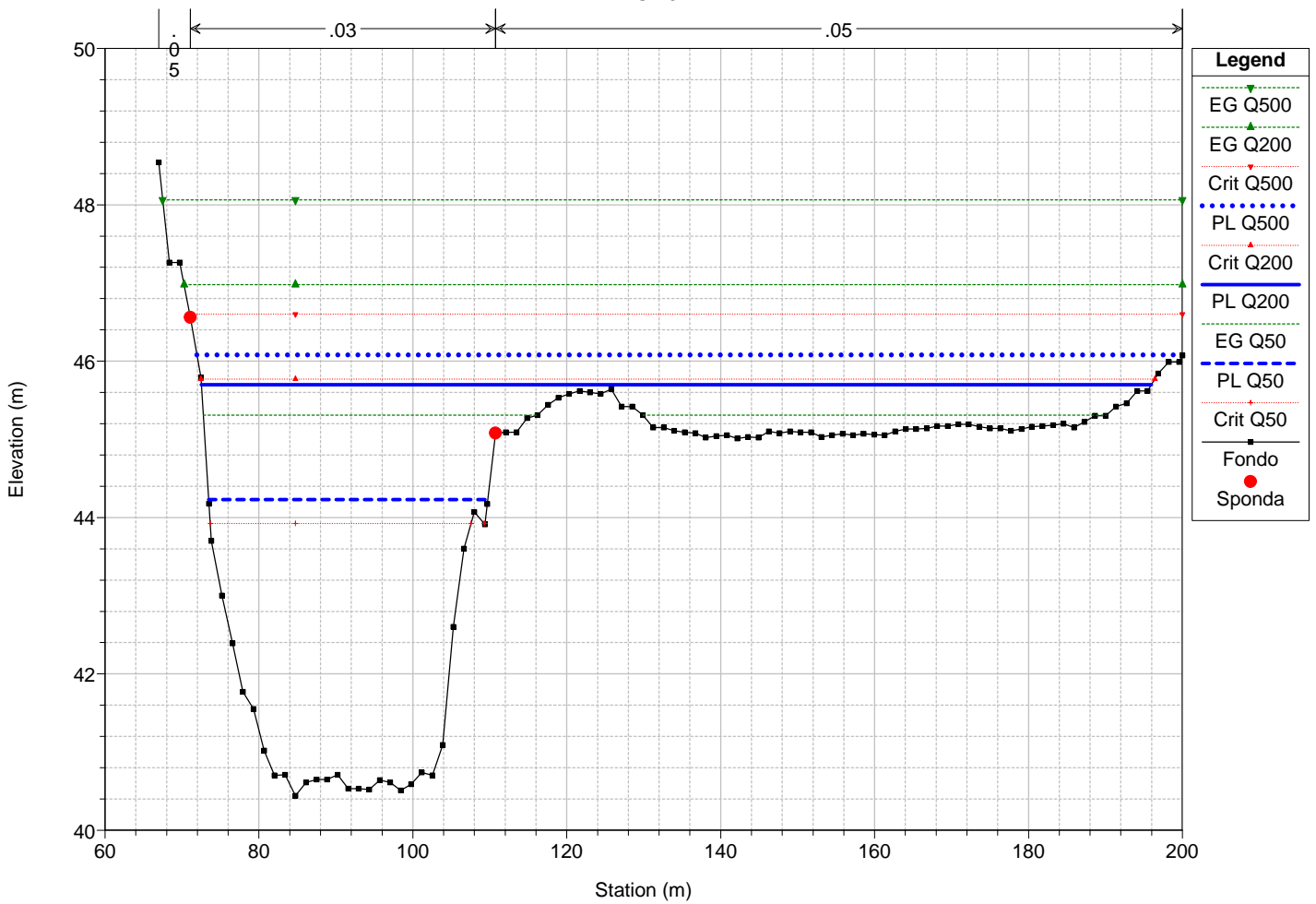
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ST-55

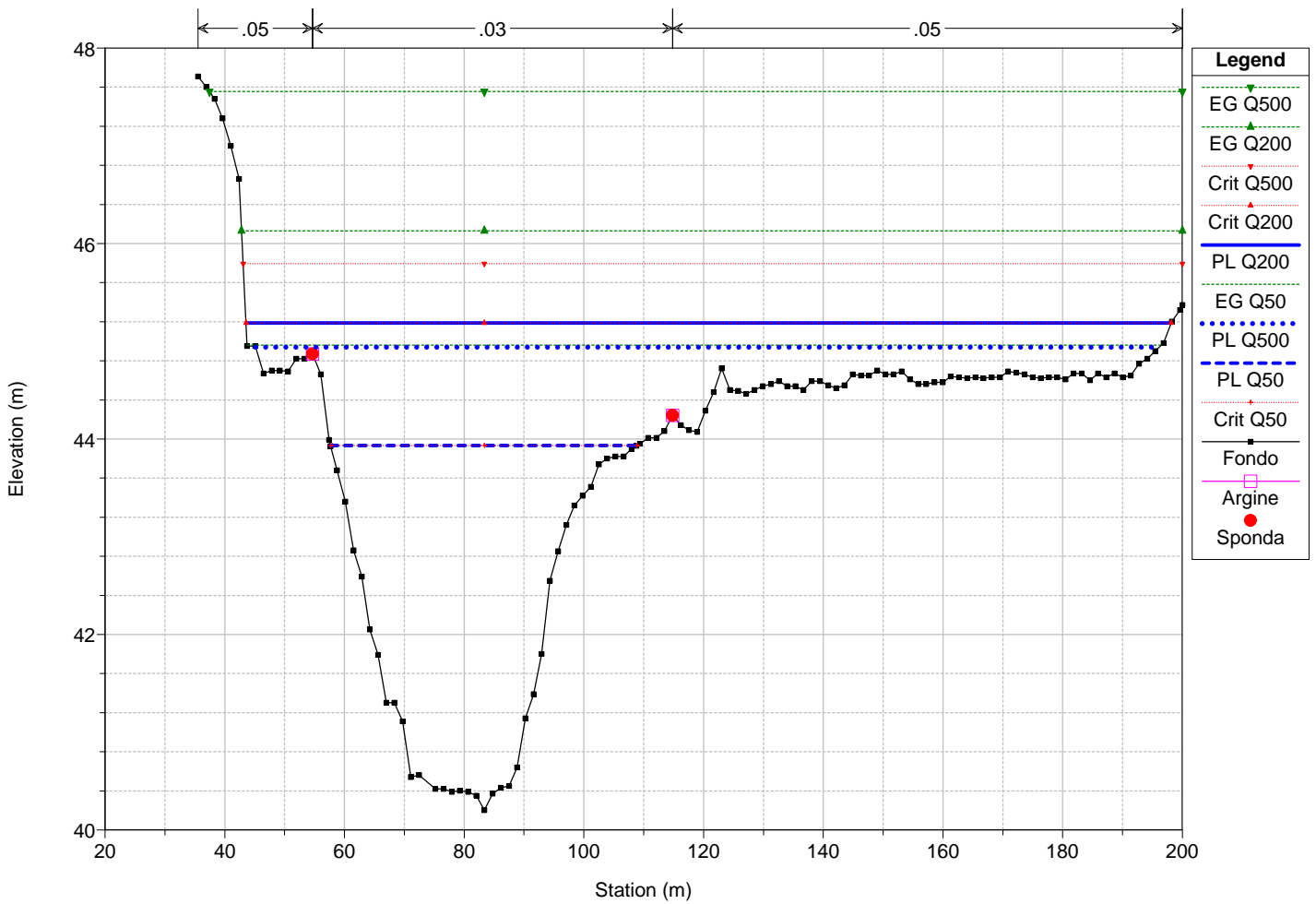


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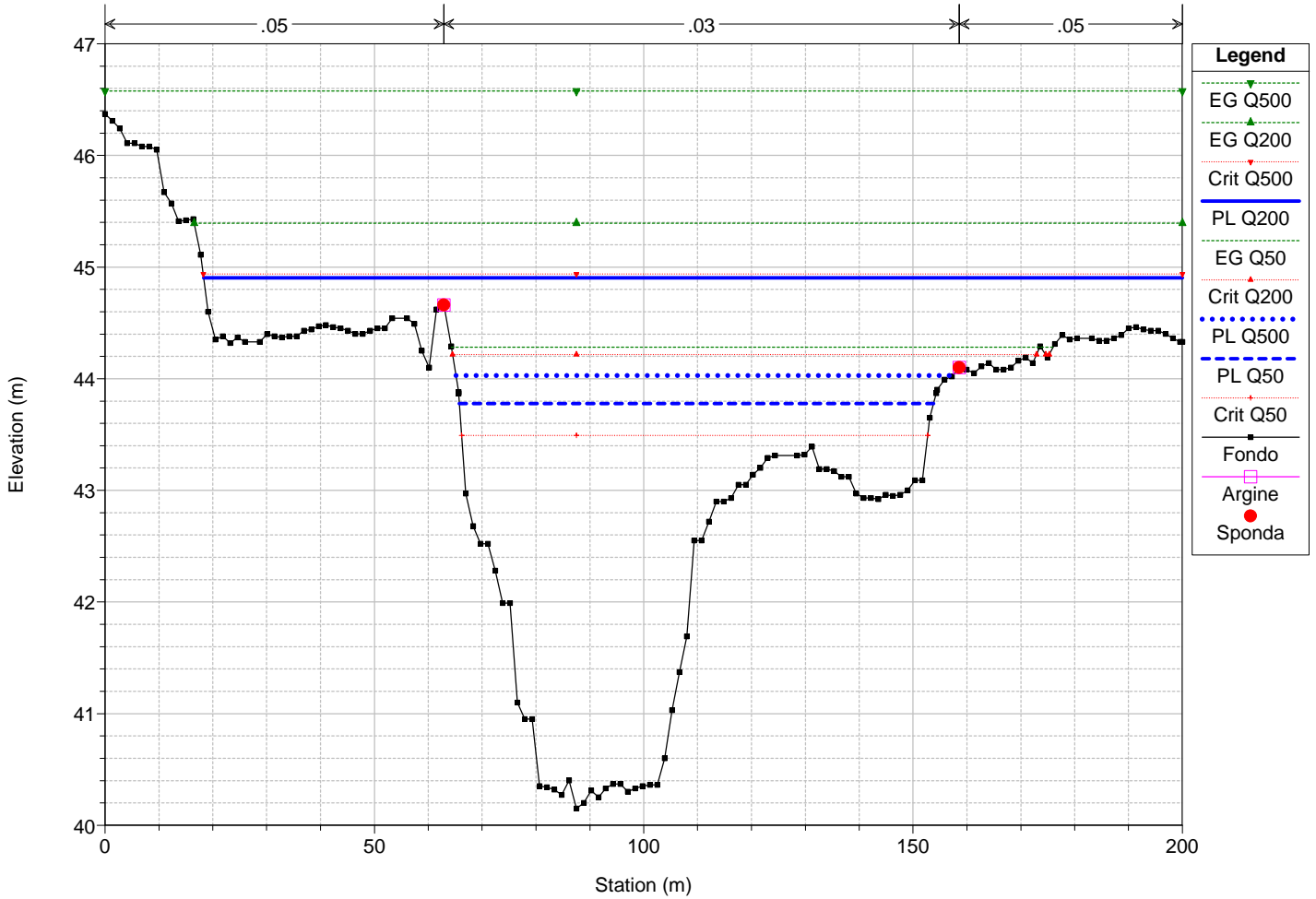
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ST-53



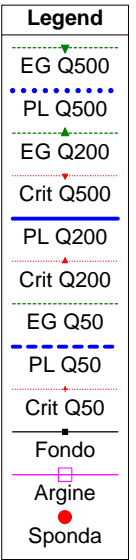
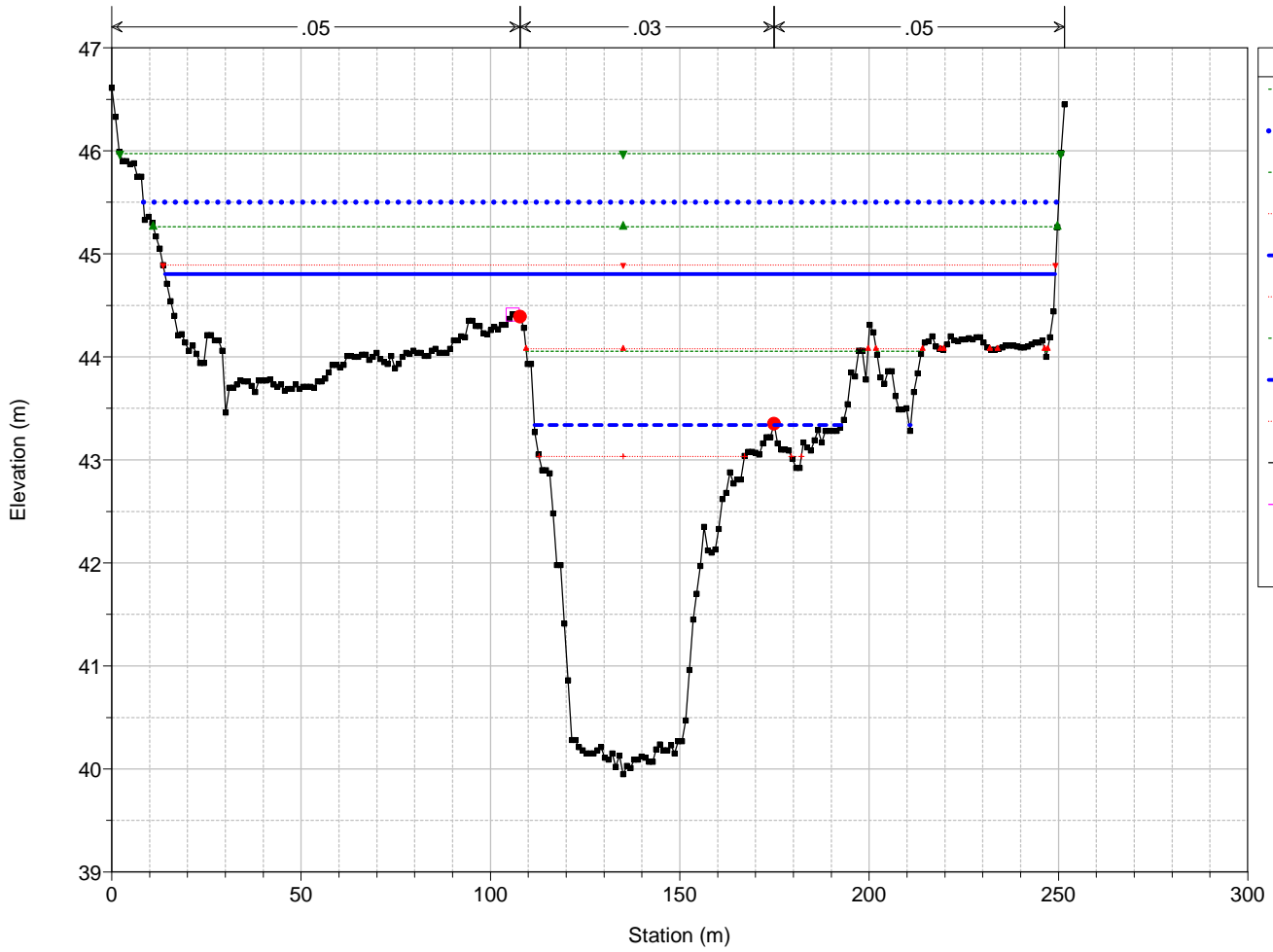
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ST-52



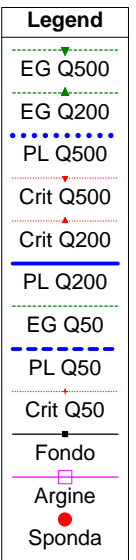
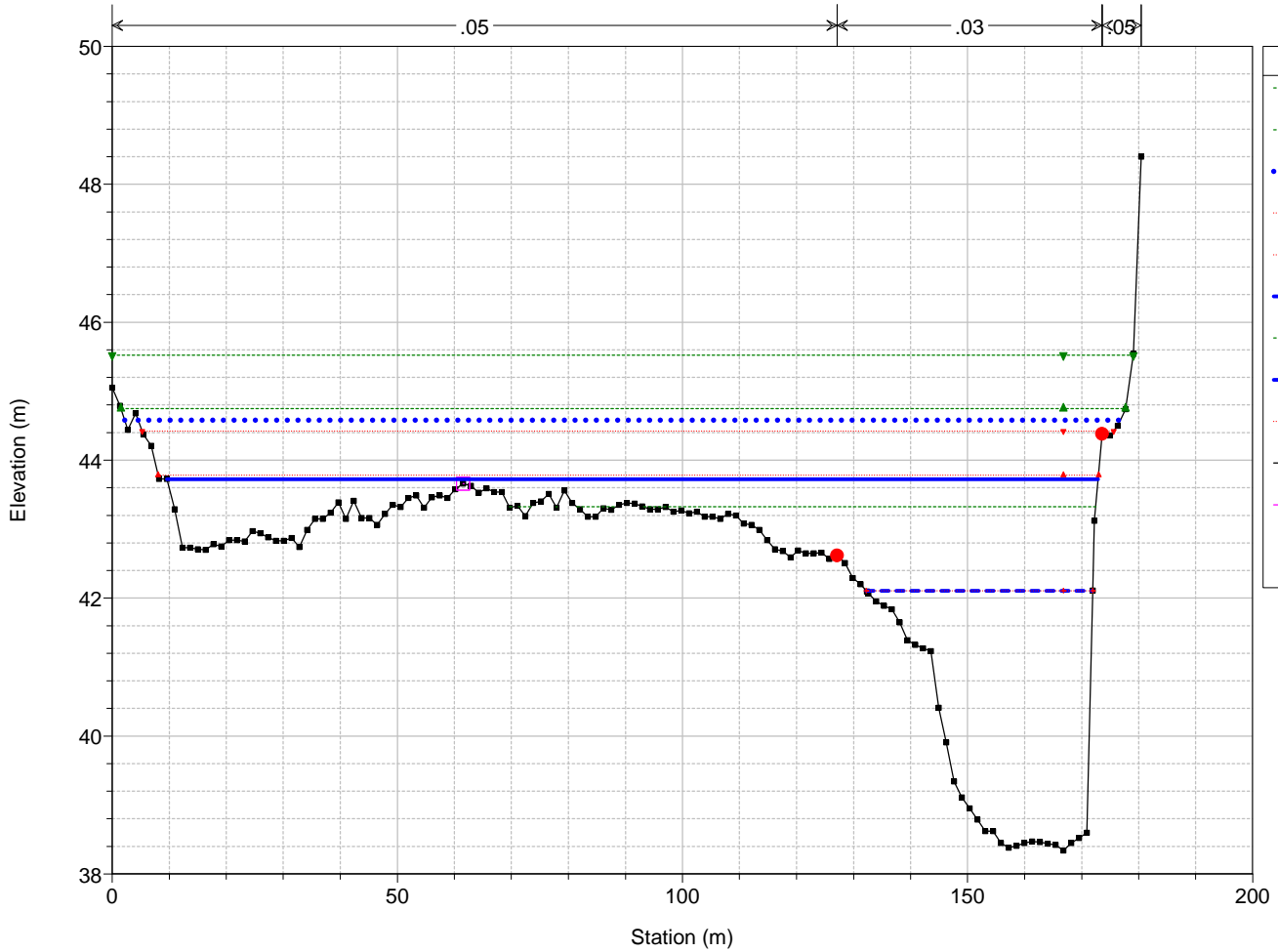
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ST-51

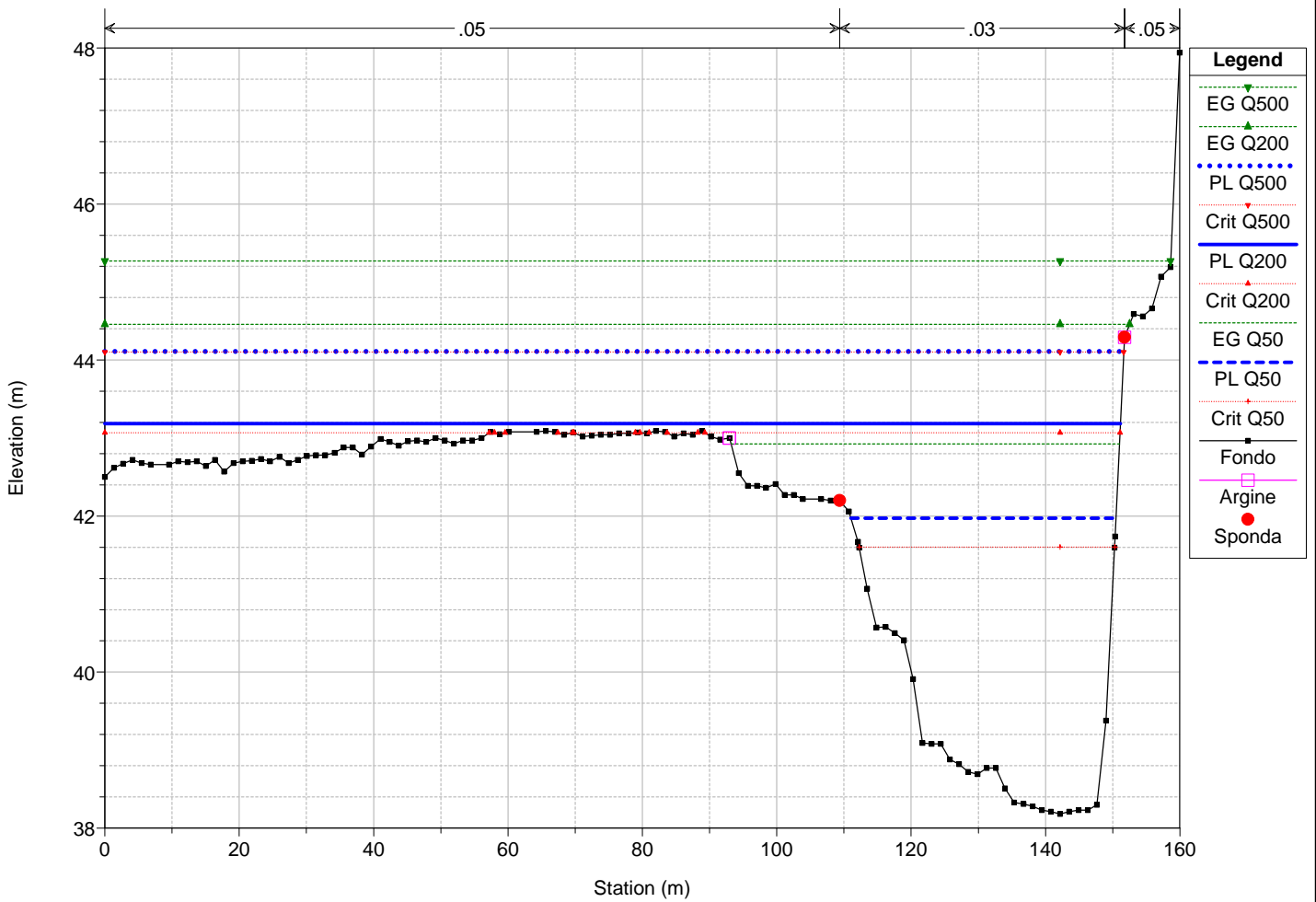


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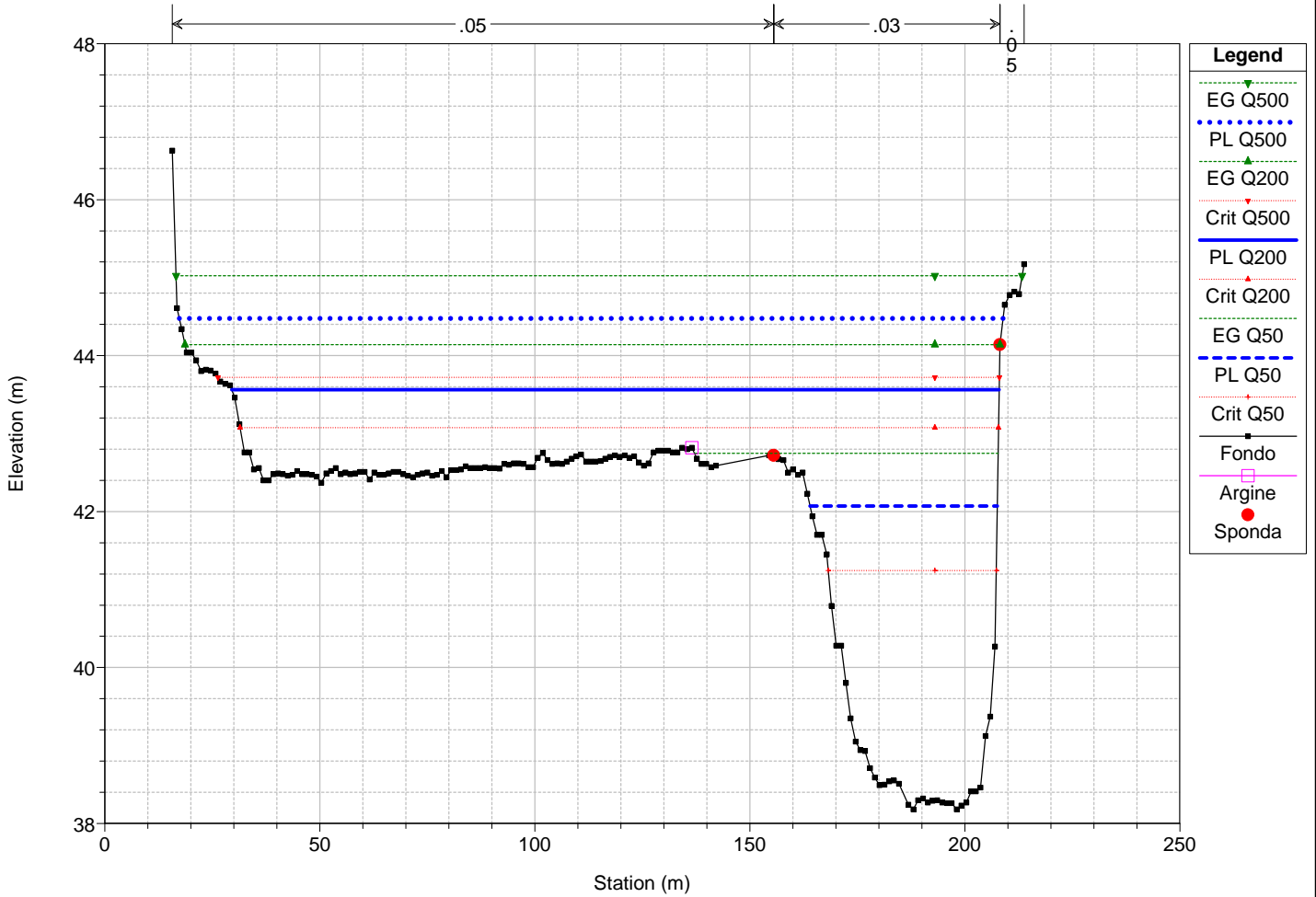
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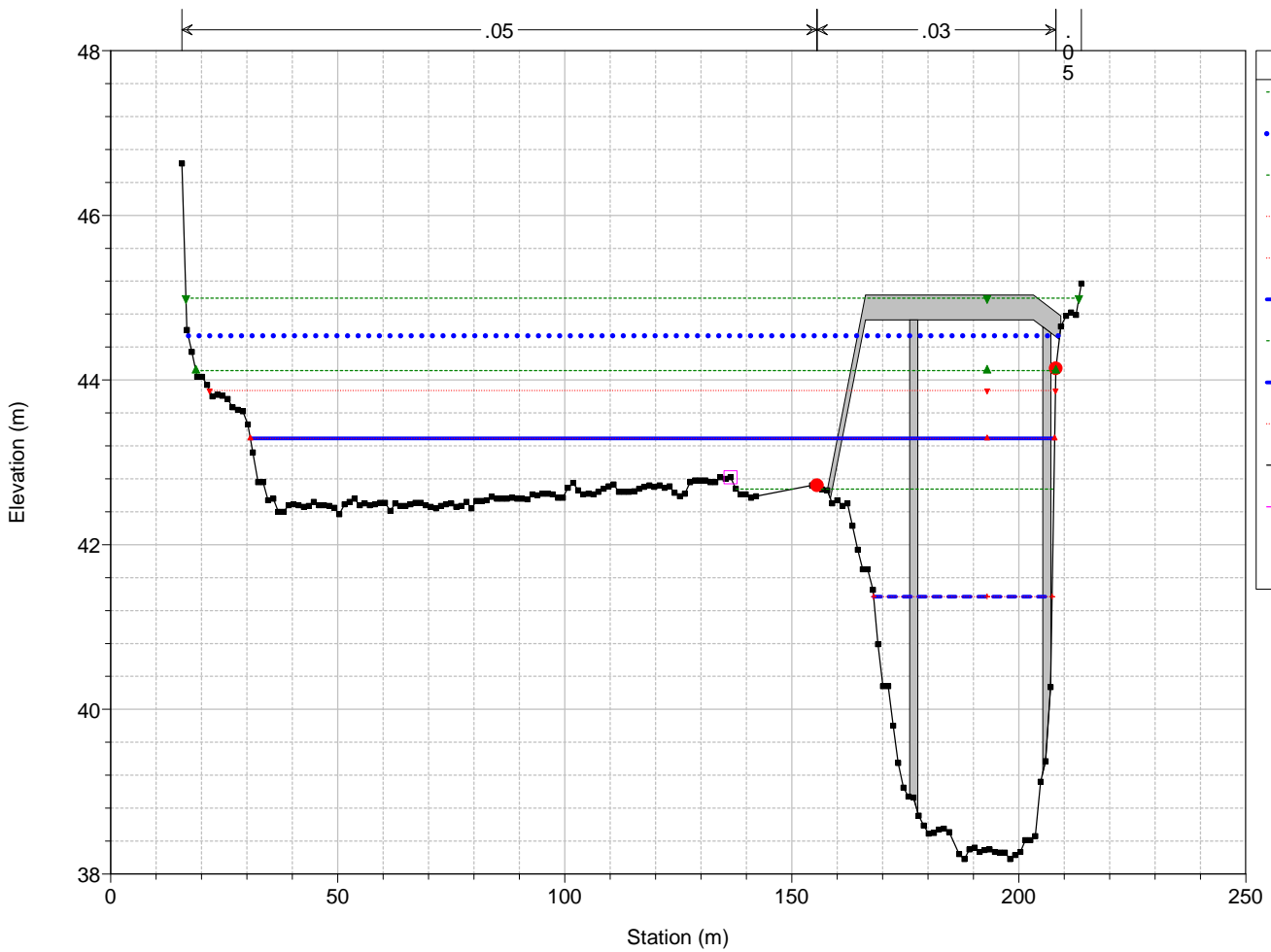
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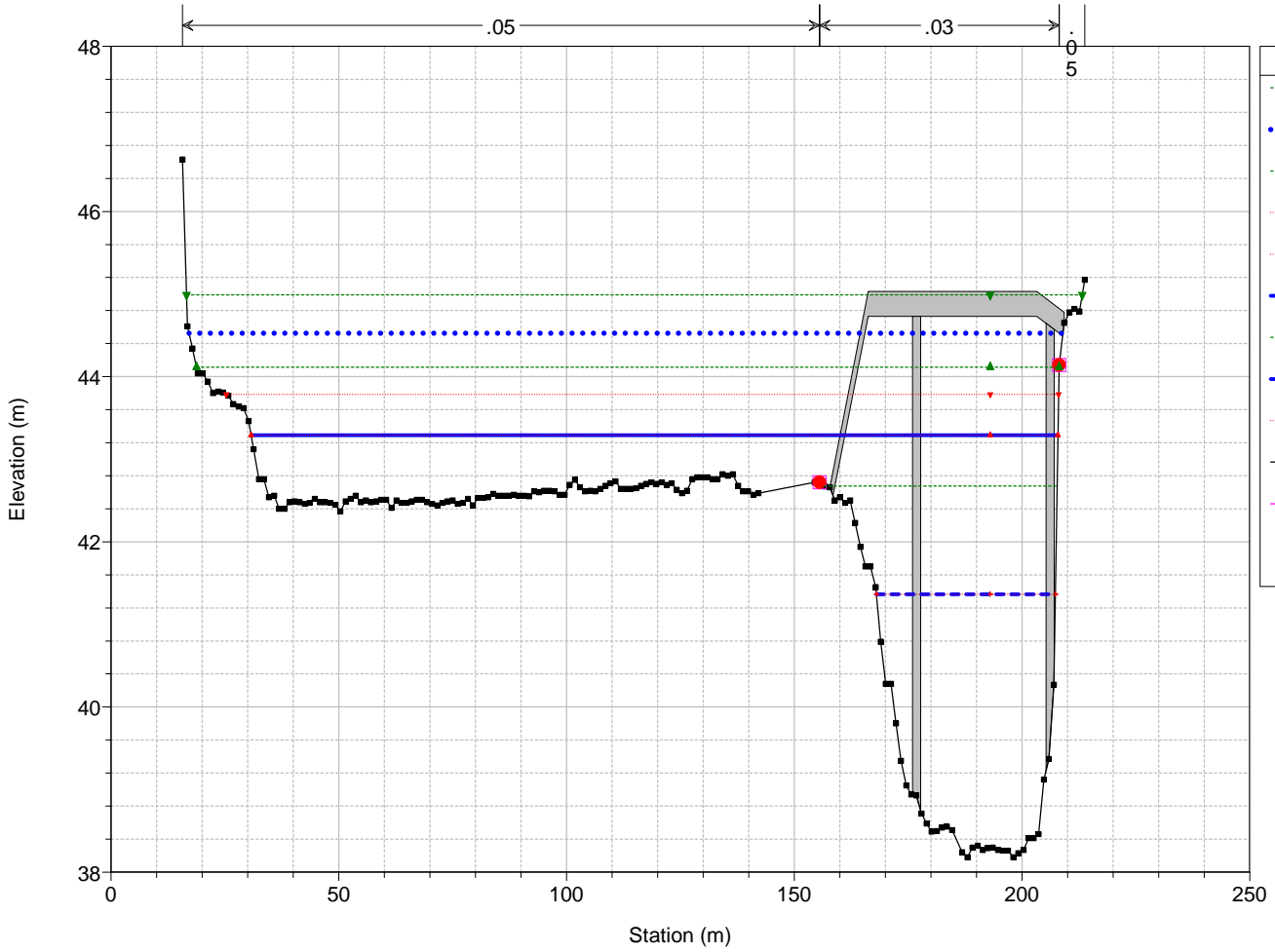
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ST-48 m



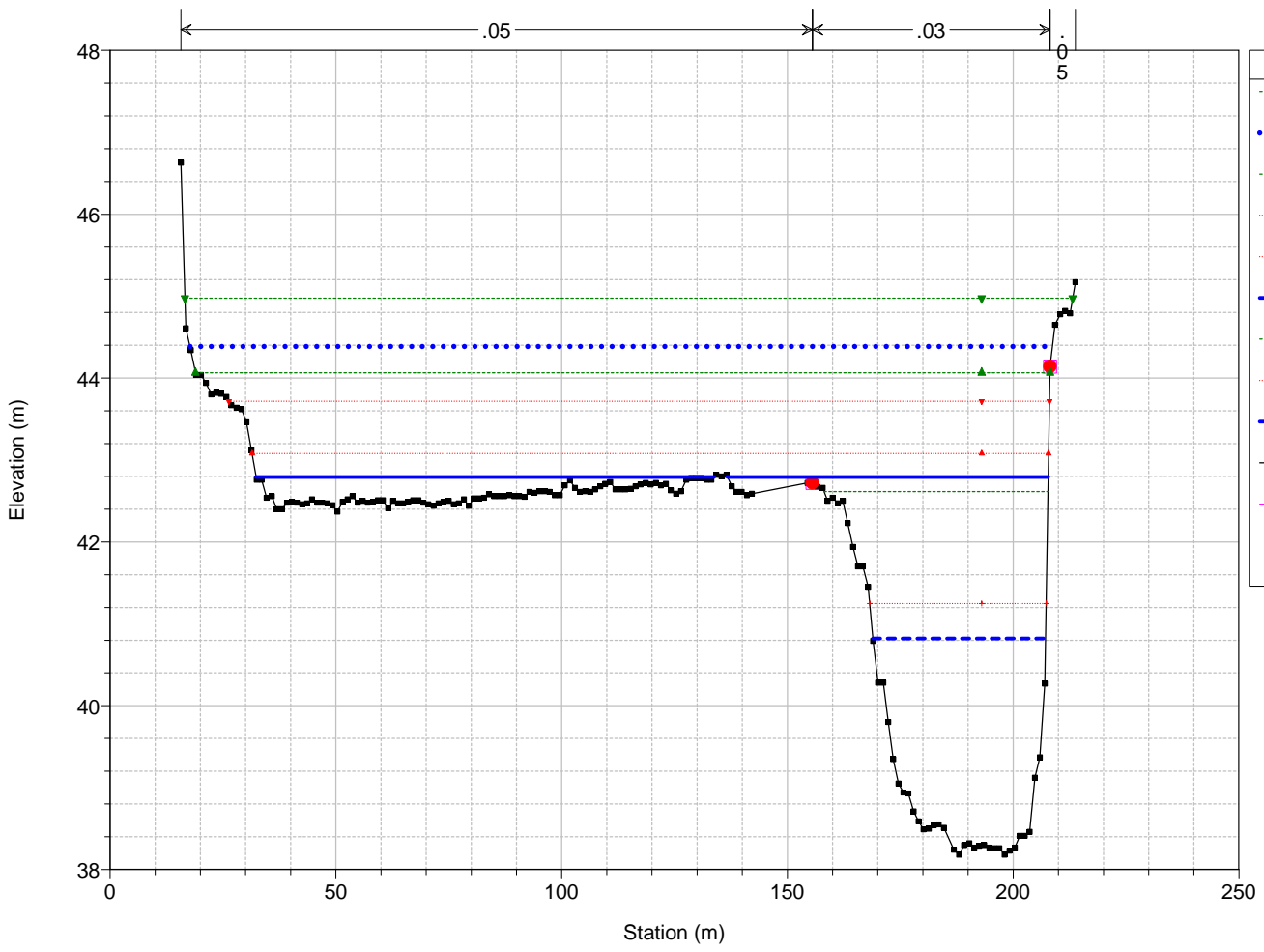
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ST-48



Sturla\_valleCicana\_2017  
ST-48

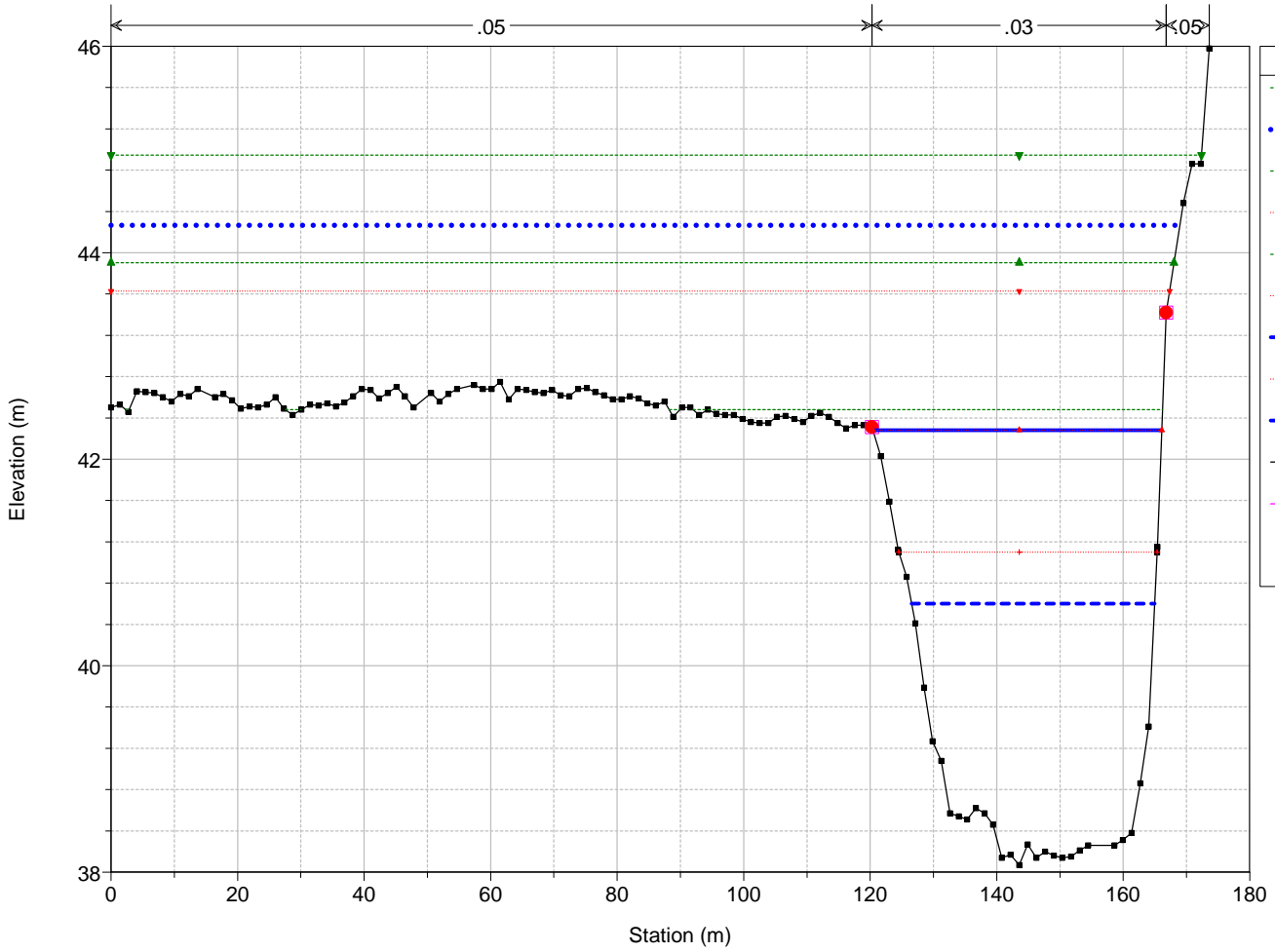


Sturla\_valleCicana\_2017  
ST-48 v



Legend	
EG Q500	Green dashed line with downward triangle
PL Q500	Blue dotted line
EG Q200	Green dashed line with upward triangle
Crit Q500	Red dotted line with downward triangle
Crit Q200	Red dotted line with upward triangle
PL Q200	Blue solid line
EG Q50	Green dashed line with cross
Crit Q50	Red dotted line with cross
PL Q50	Blue dashed line
Fondo	Black solid line with square
Argine	Pink solid line with square
Sponda	Red solid circle

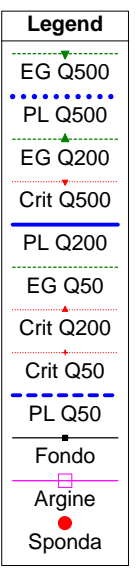
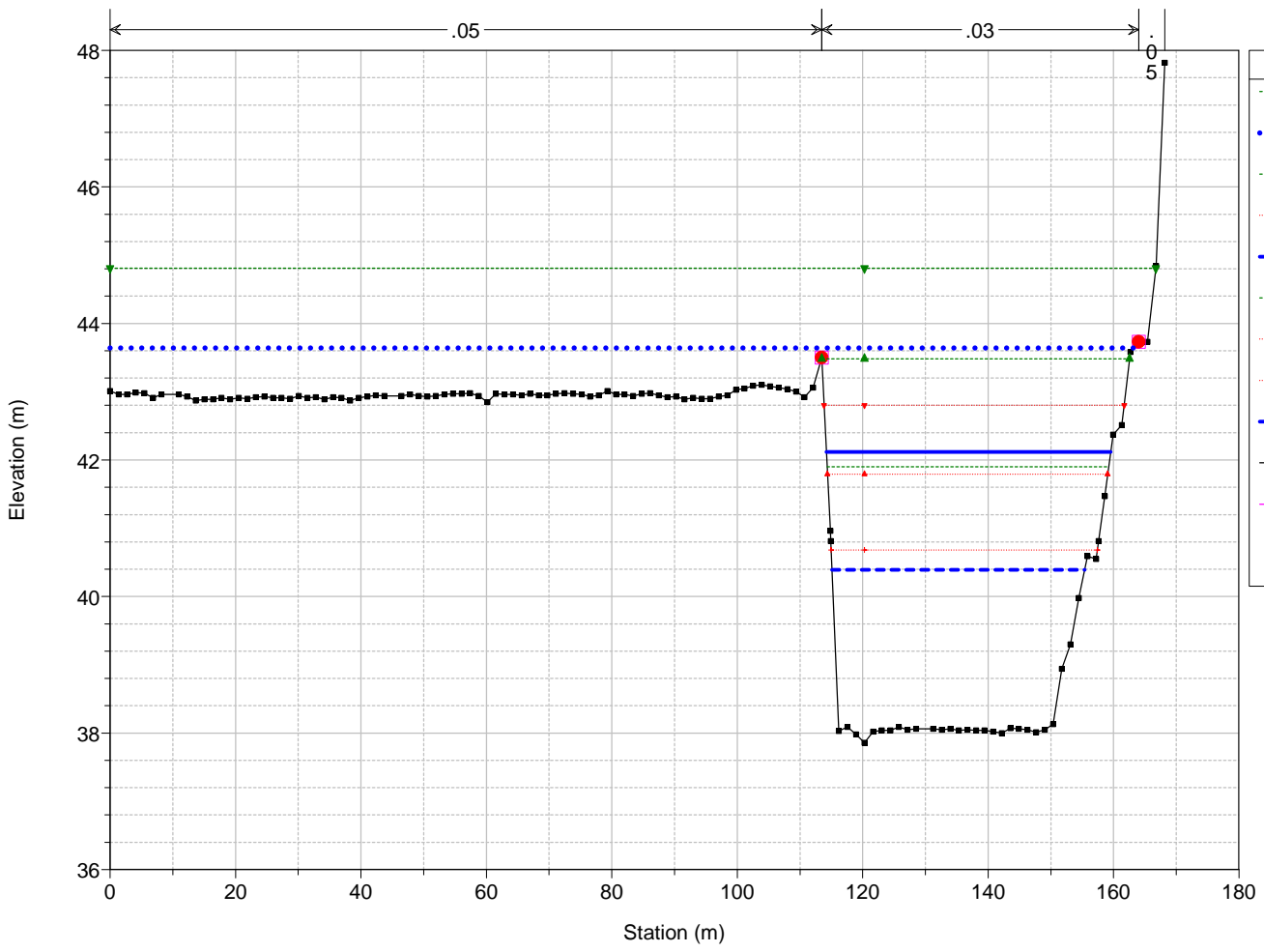
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ST-48 v



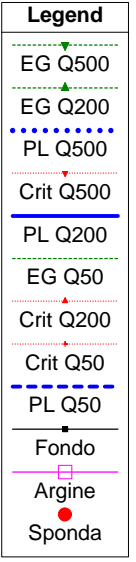
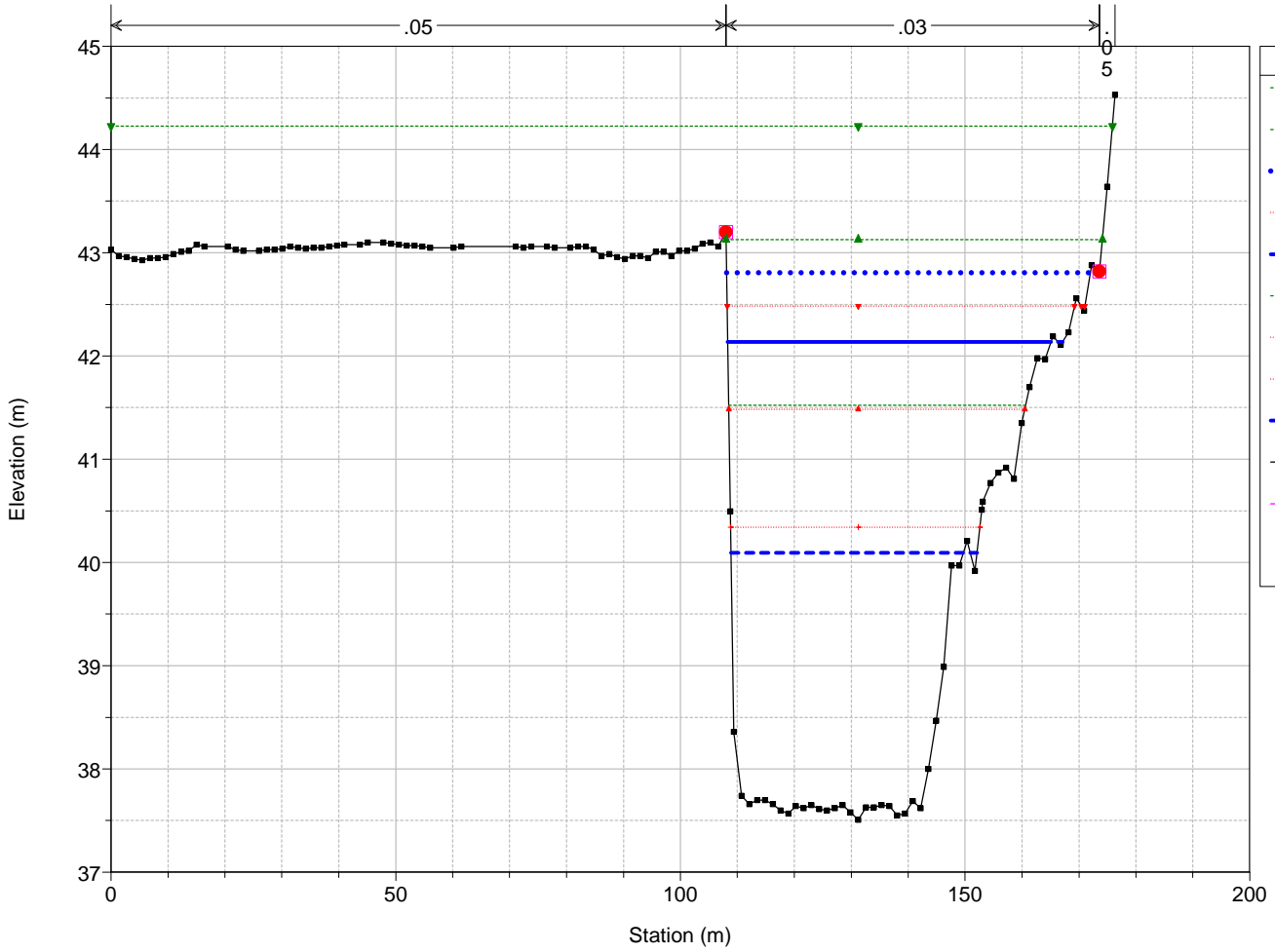
Legend	
EG Q500	Green dashed line with downward triangle
PL Q500	Blue dotted line
EG Q200	Green dashed line with upward triangle
Crit Q500	Red dotted line with downward triangle
EG Q50	Green dashed line with cross
Crit Q200	Red dotted line with upward triangle
PL Q200	Blue solid line
Crit Q50	Red dotted line with cross
PL Q50	Blue dashed line
Fondo	Black solid line with square
Argine	Pink solid line with square
Sponda	Red solid circle



Sturla\_valleCicana\_2017  
ST-47

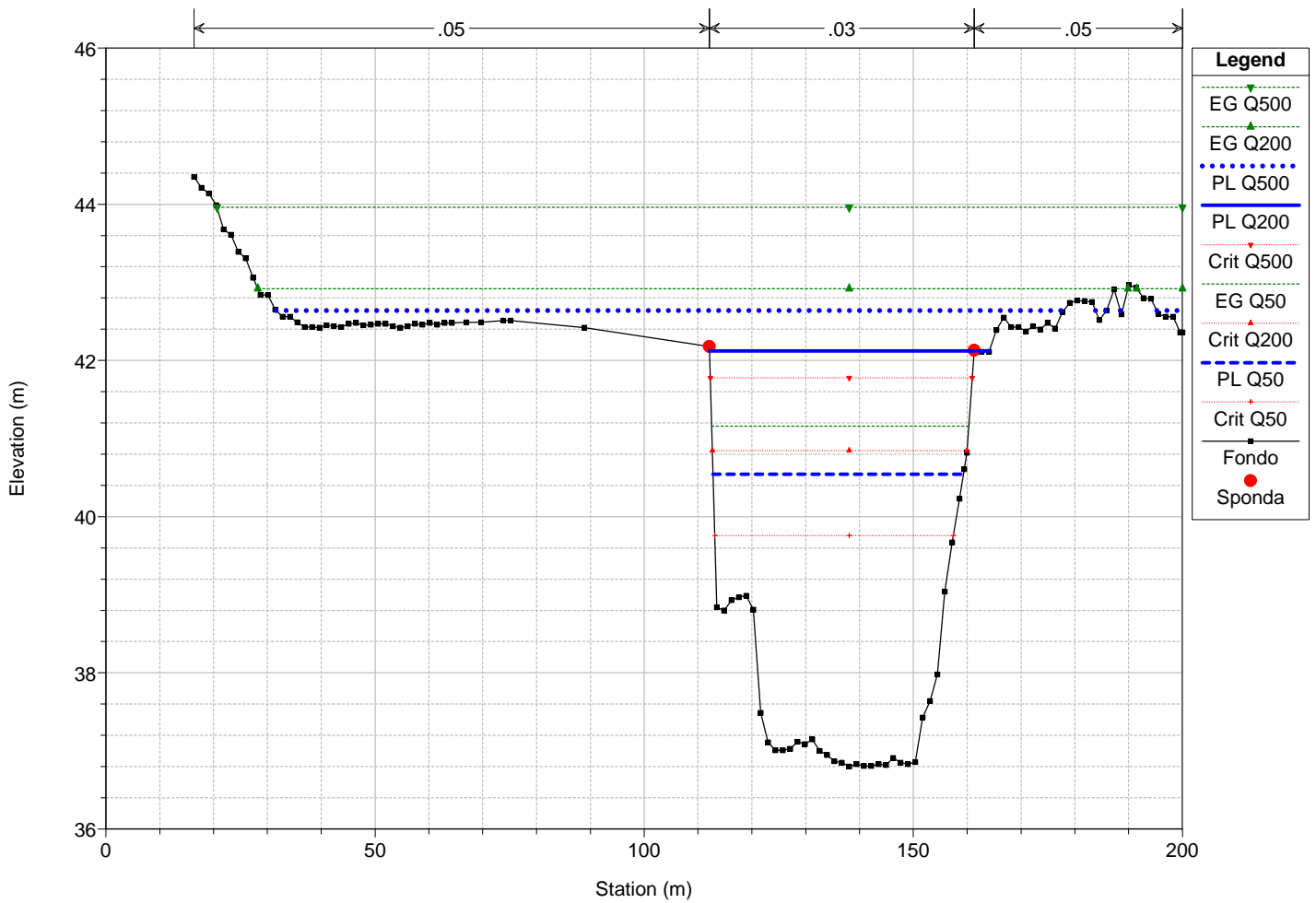


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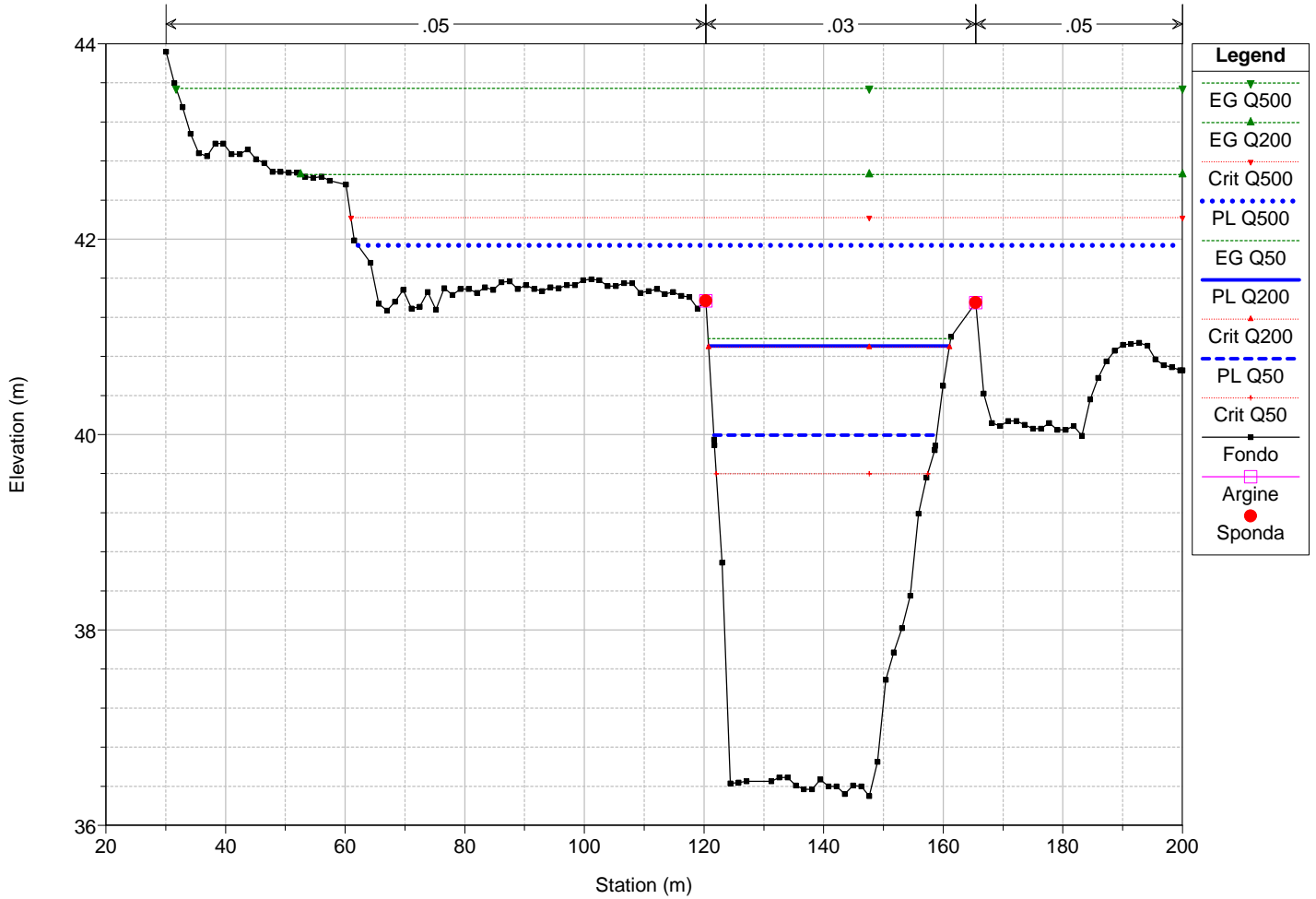
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ST-45



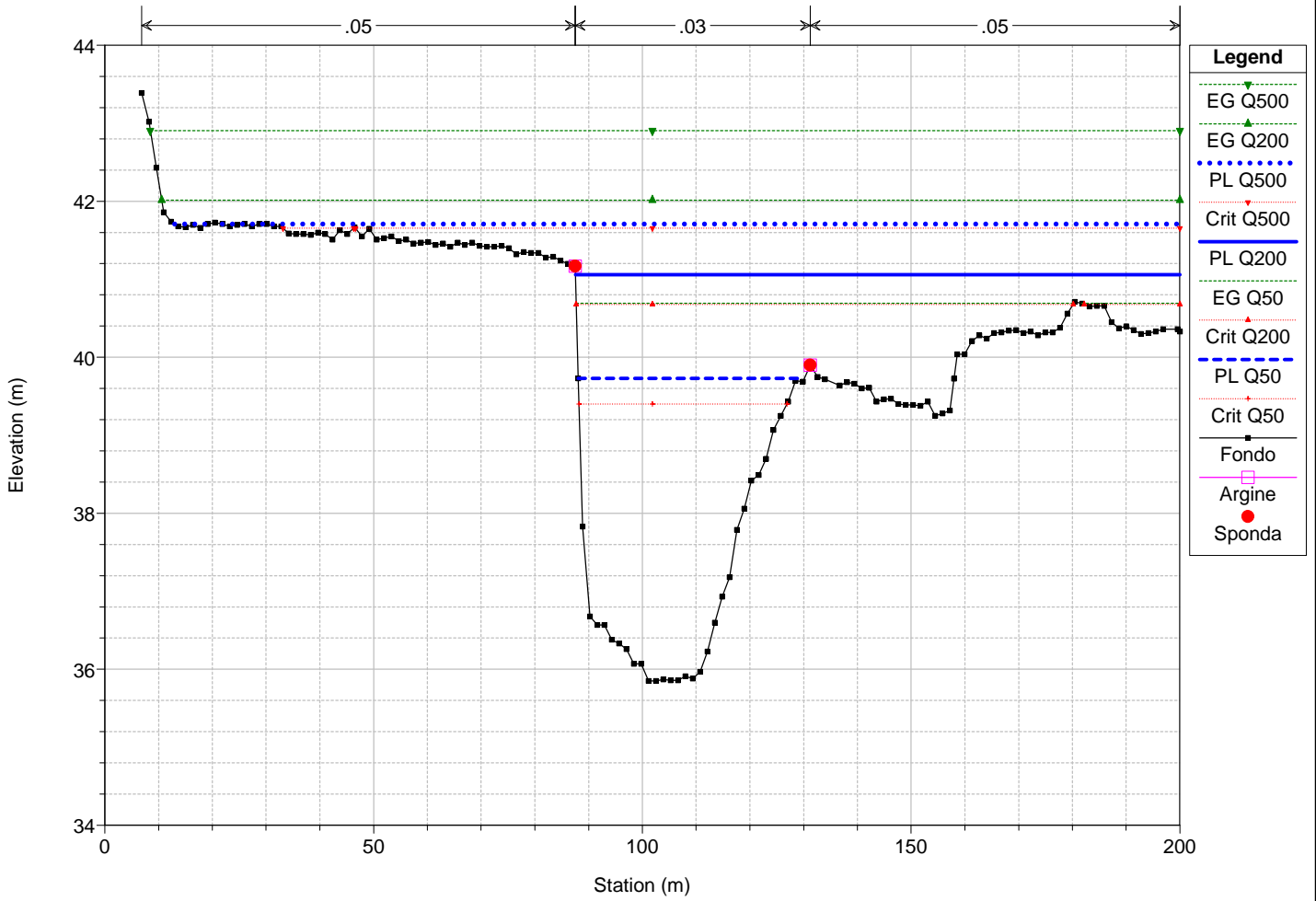
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ST-44



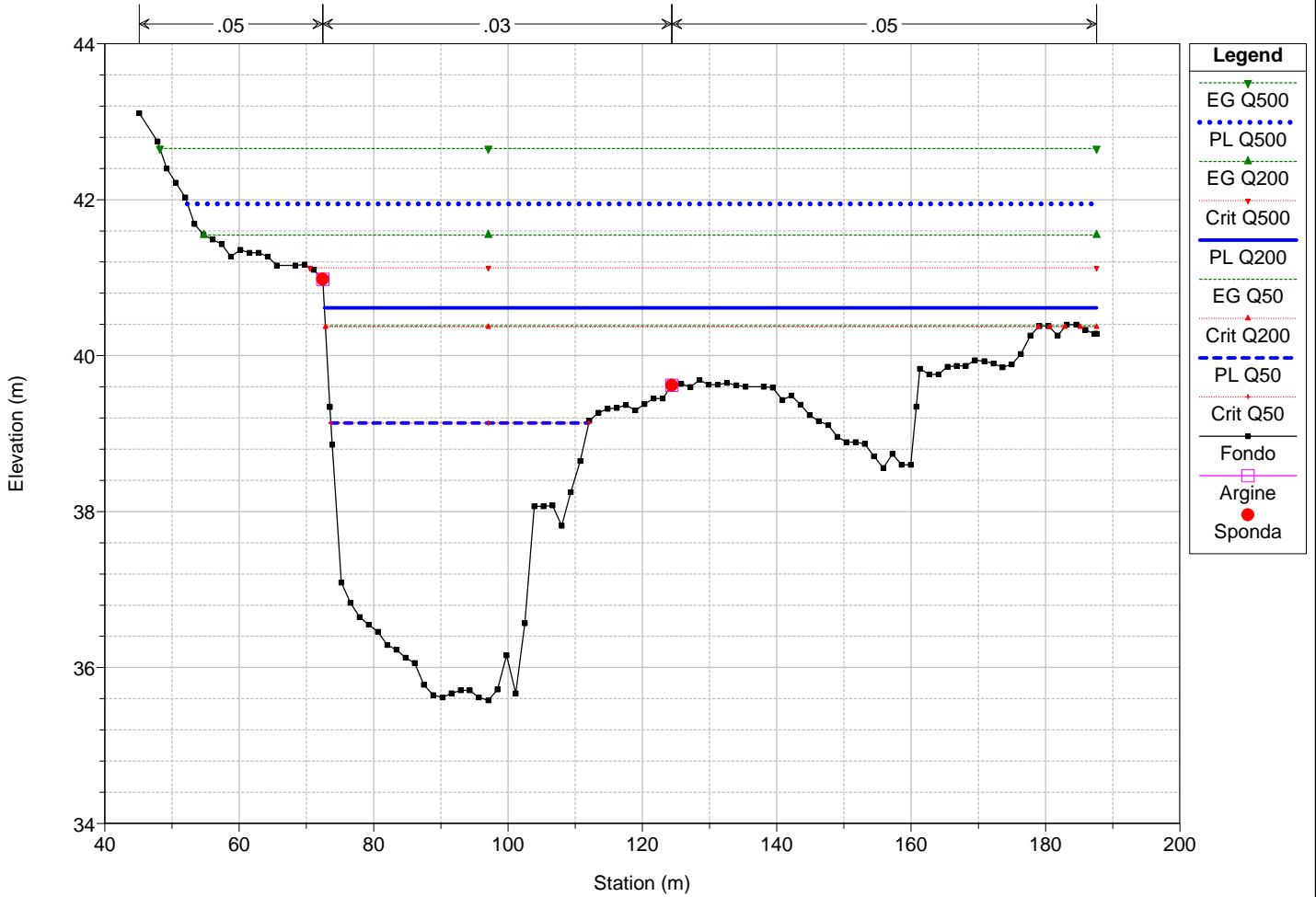
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ST-43

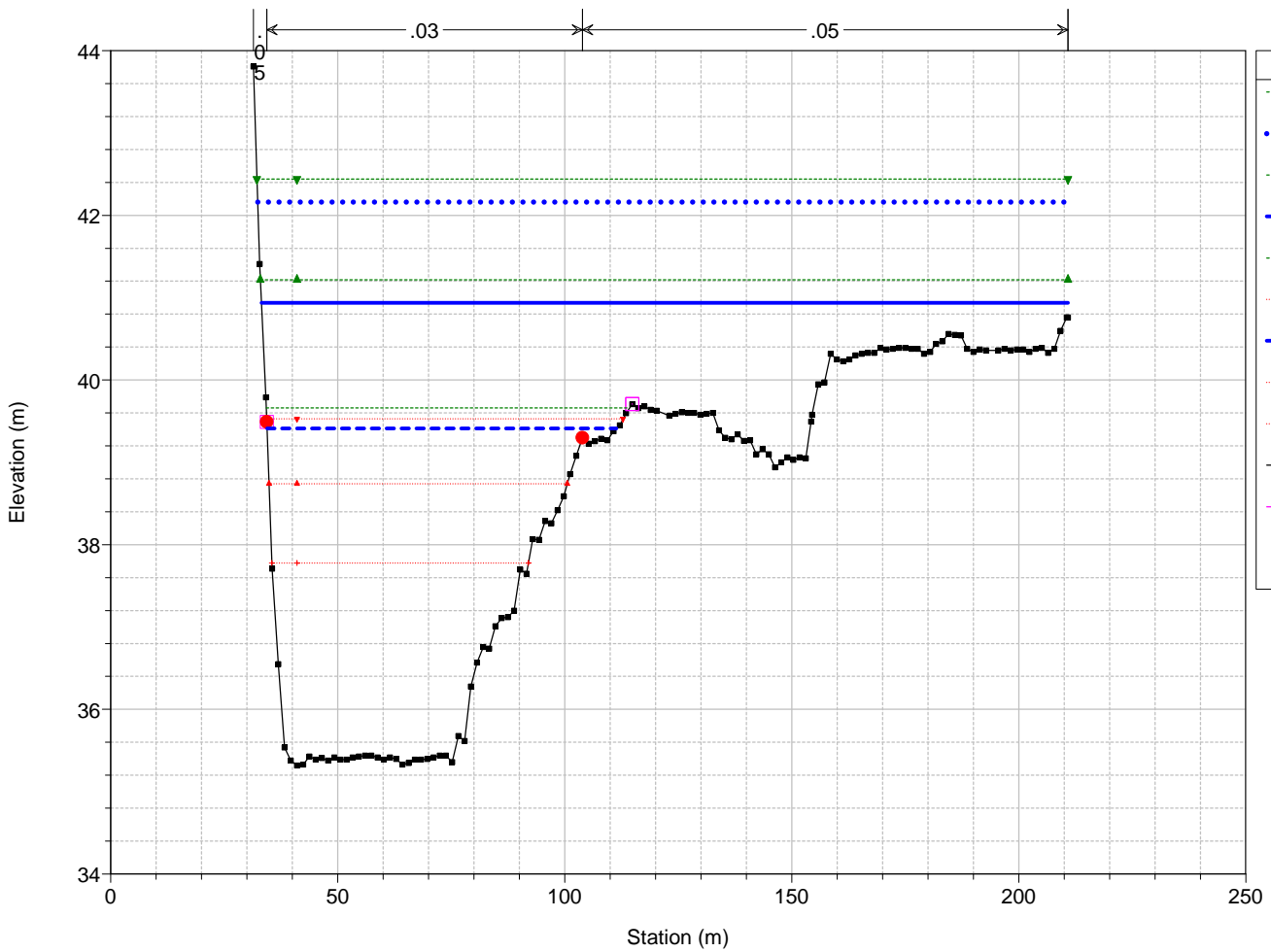


### Sturla\_valleCicana\_2017

ST-42

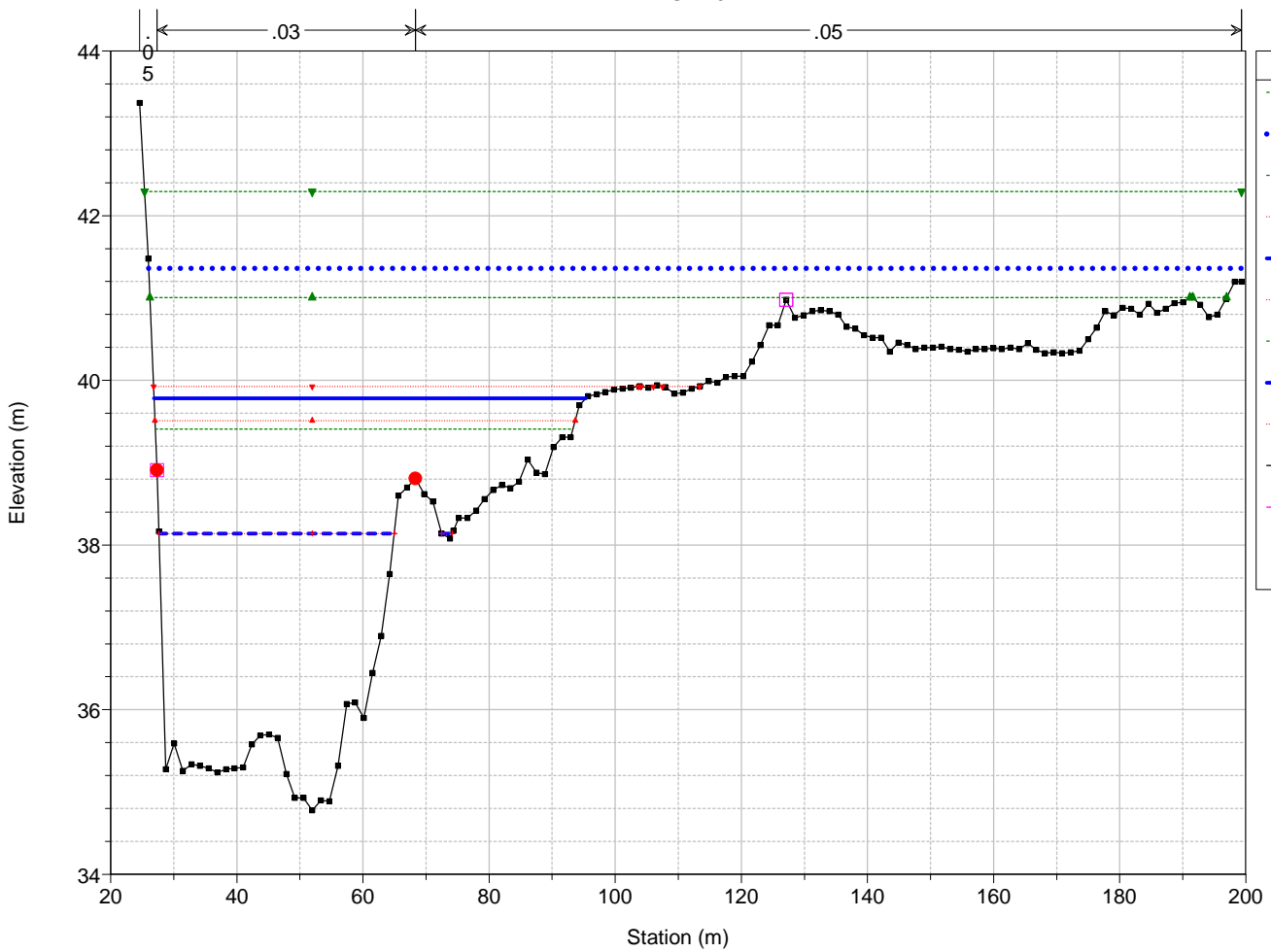


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ST-41



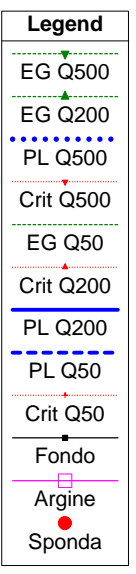
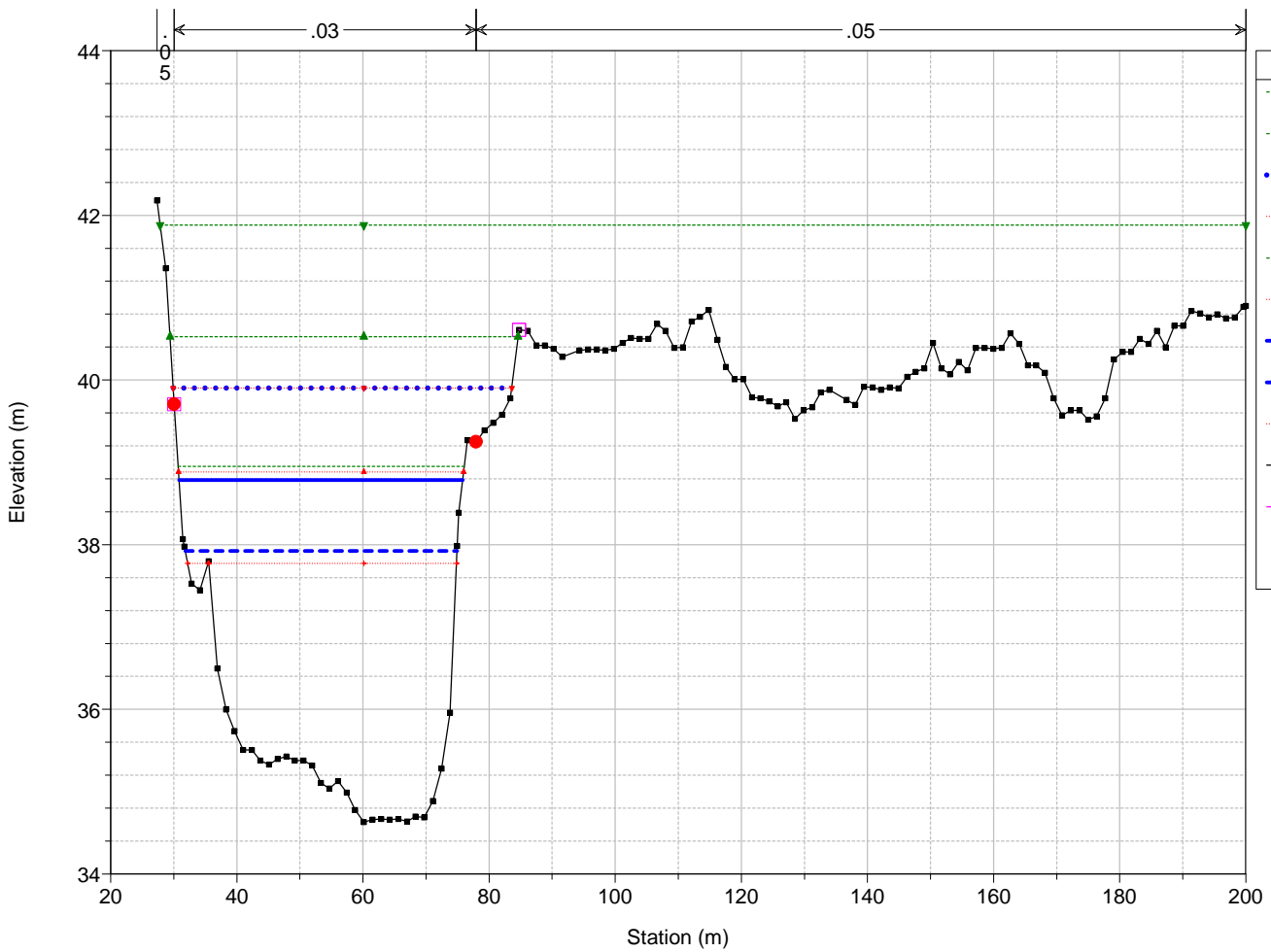
Legend	
EG Q500	(Green dotted line with inverted triangle)
PL Q500	(Blue dotted line)
EG Q200	(Green solid line with triangle)
PL Q200	(Blue solid line)
EG Q50	(Green dotted line)
Crit Q500	(Red dotted line with inverted triangle)
PL Q50	(Blue dashed line)
Crit Q200	(Red dotted line with triangle)
Crit Q50	(Red dotted line with plus sign)
Fondo	(Black solid line with square)
Argine	(Pink square)
Sponda	(Red circle)

Sturla\_valleCicana\_2017  
ST-40

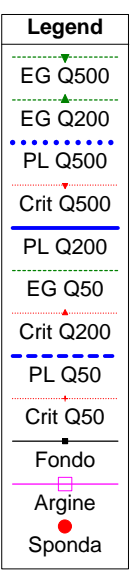
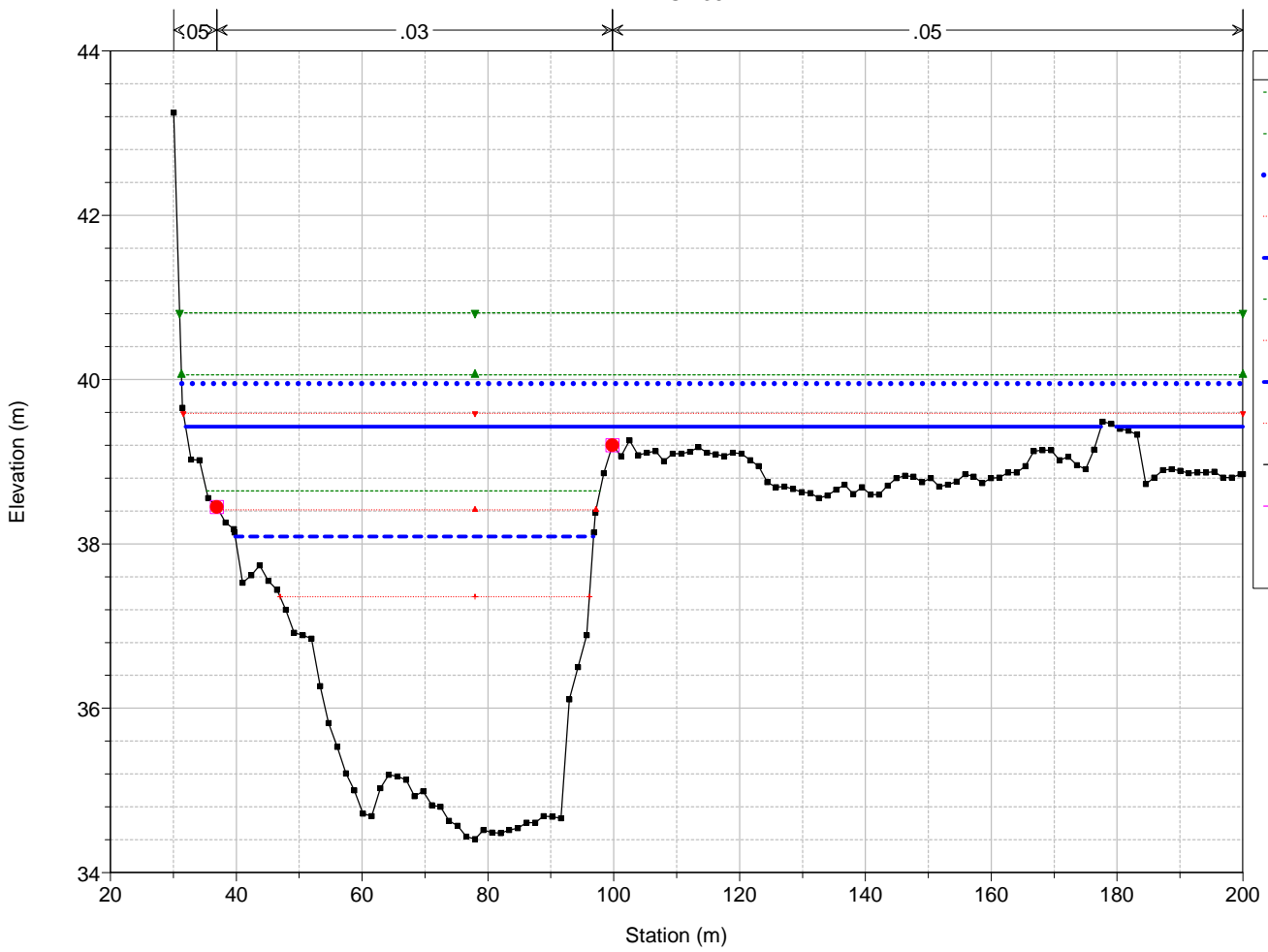


Legend	
EG Q500	(Green dotted line with inverted triangle)
PL Q500	(Blue dotted line)
EG Q200	(Green solid line with triangle)
Crit Q500	(Red dotted line with inverted triangle)
PL Q200	(Blue solid line)
Crit Q200	(Red dotted line with triangle)
EG Q50	(Green dotted line)
PL Q50	(Blue dashed line)
Crit Q50	(Red dotted line with plus sign)
Fondo	(Black solid line with square)
Argine	(Pink square)
Sponda	(Red circle)

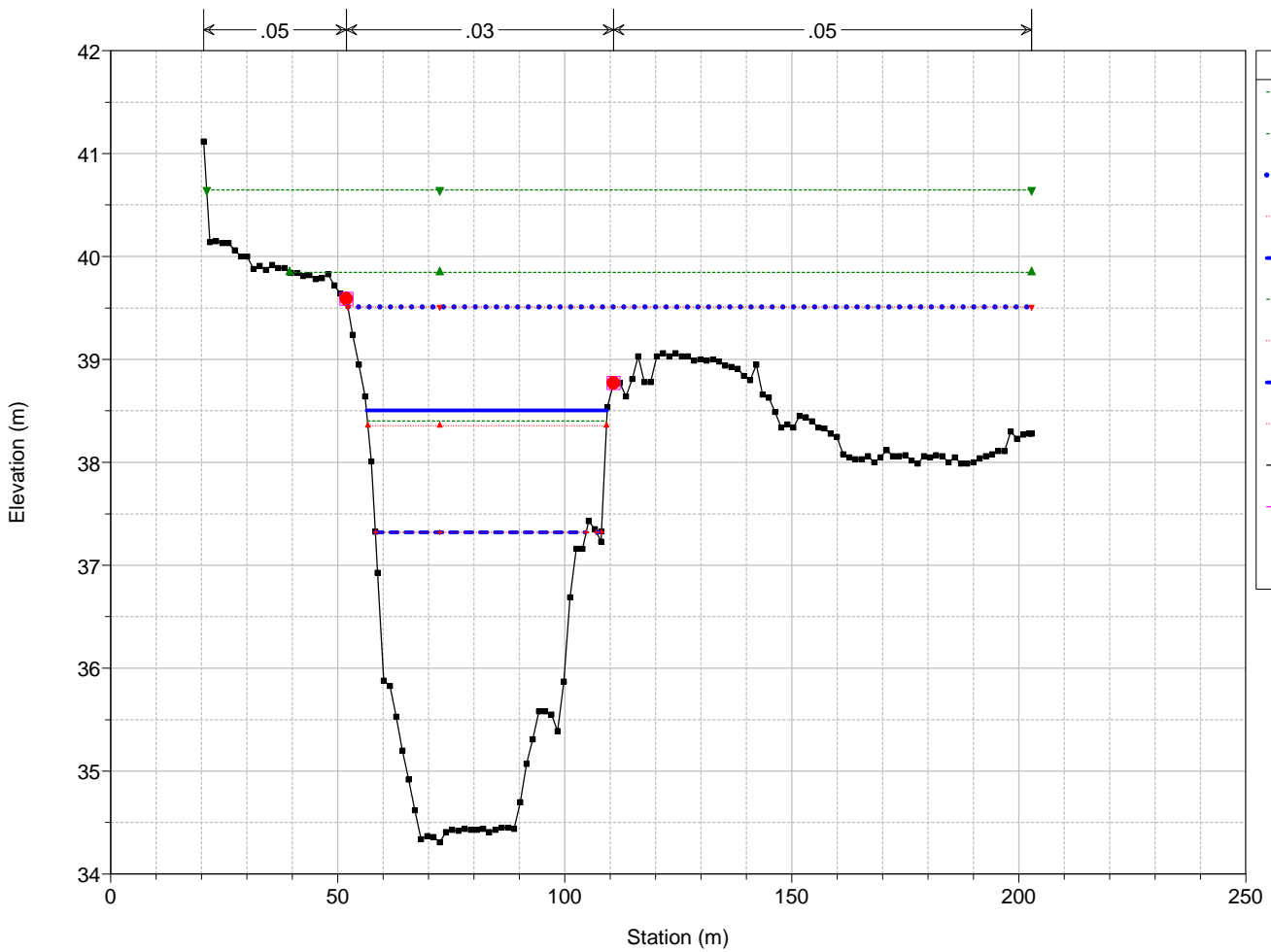
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ST-39



Sturla\_valleCicana\_2017  
ST-38

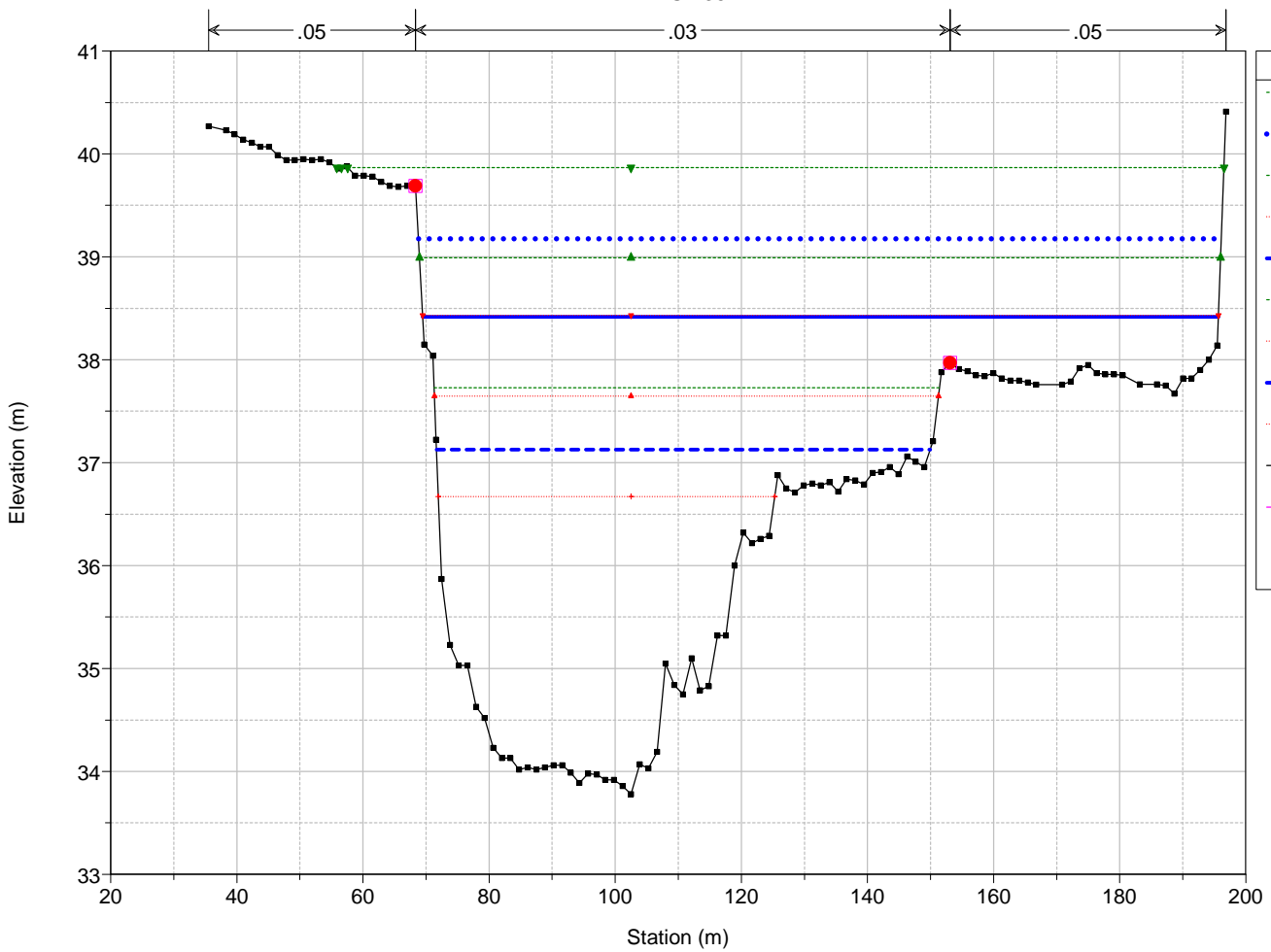


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ST-37



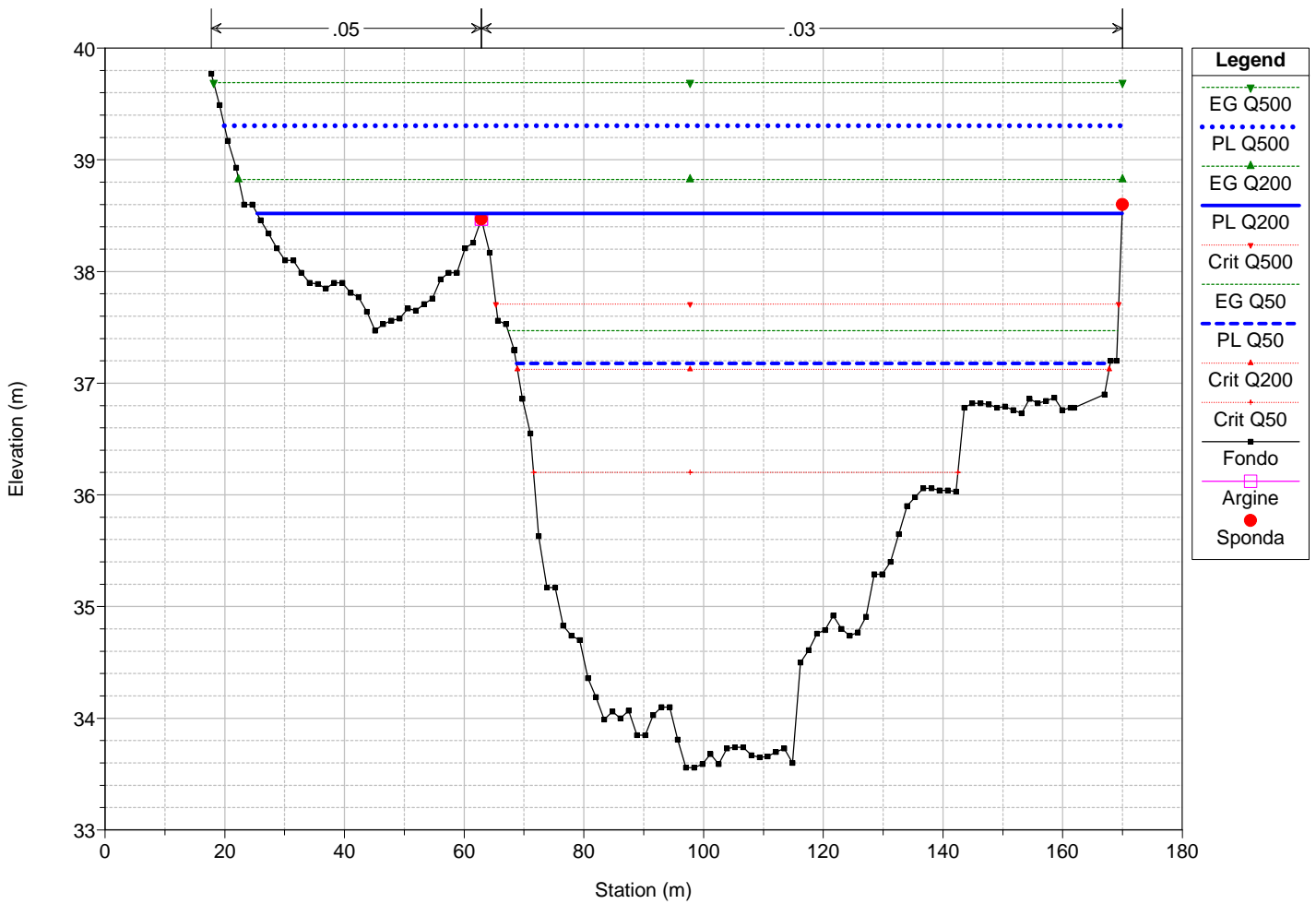
Legend	
EG Q500	Green dashed line with inverted triangles
EG Q200	Green dotted line with triangles
PL Q500	Blue dotted line
Crit Q500	Red dotted line with inverted triangles
PL Q200	Solid blue line
EG Q50	Green dashed line with triangles
Crit Q200	Red dotted line with triangles
PL Q50	Blue dashed line
Crit Q50	Red dotted line with triangles
Fondo	Solid black line with square markers
Argine	Red circle
Sponda	Red circle

Sturla\_valleCicana\_2017  
ST-36

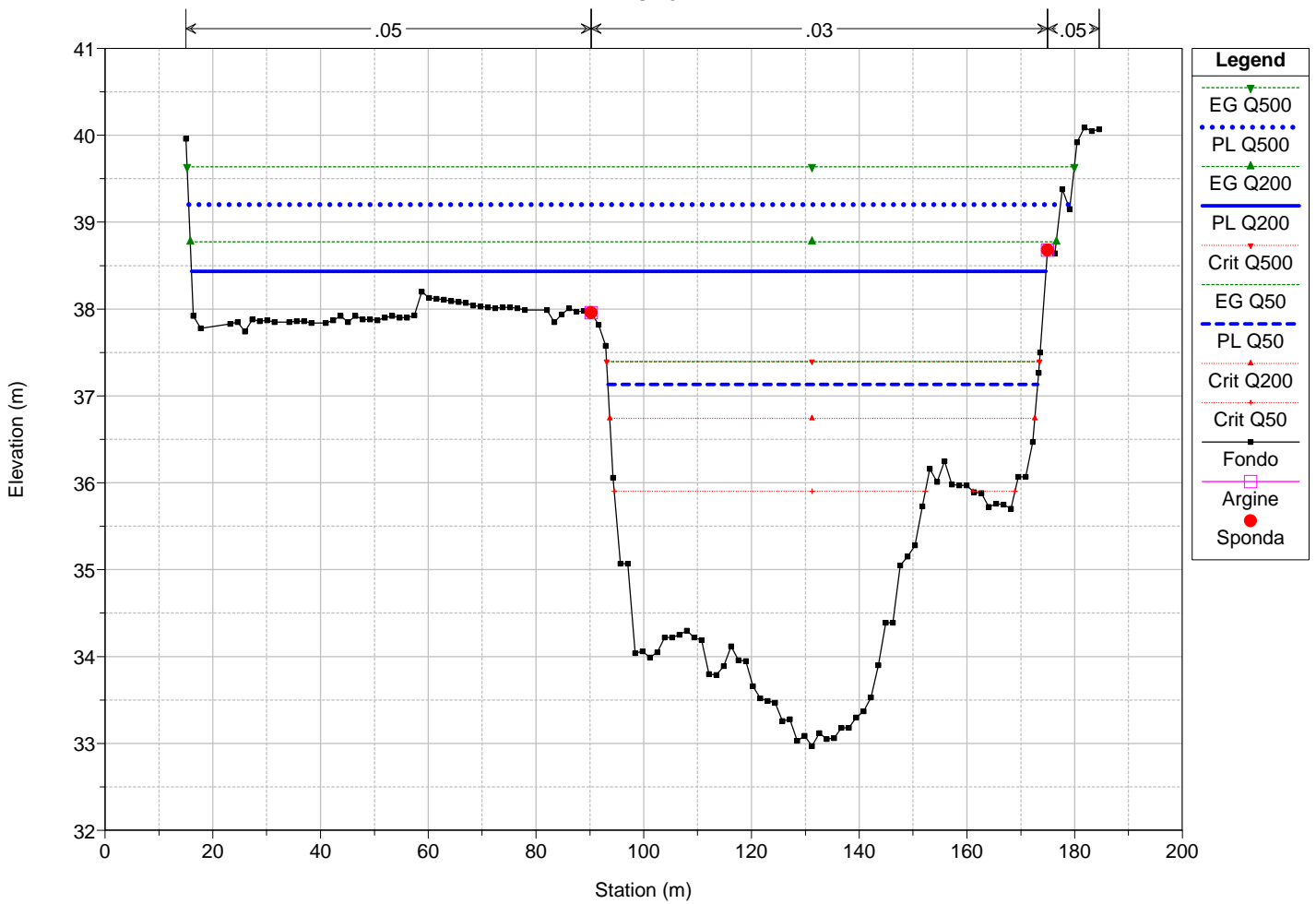


Legend	
EG Q500	Green dashed line with inverted triangles
PL Q500	Blue dotted line
EG Q200	Green dotted line with triangles
Crit Q500	Red dotted line with inverted triangles
PL Q200	Solid blue line
EG Q50	Green dashed line with triangles
Crit Q200	Red dotted line with triangles
PL Q50	Blue dashed line
Crit Q50	Red dotted line with triangles
Fondo	Solid black line with square markers
Argine	Red circle
Sponda	Red circle

Sturla\_valleCicana\_2017  
ST-35

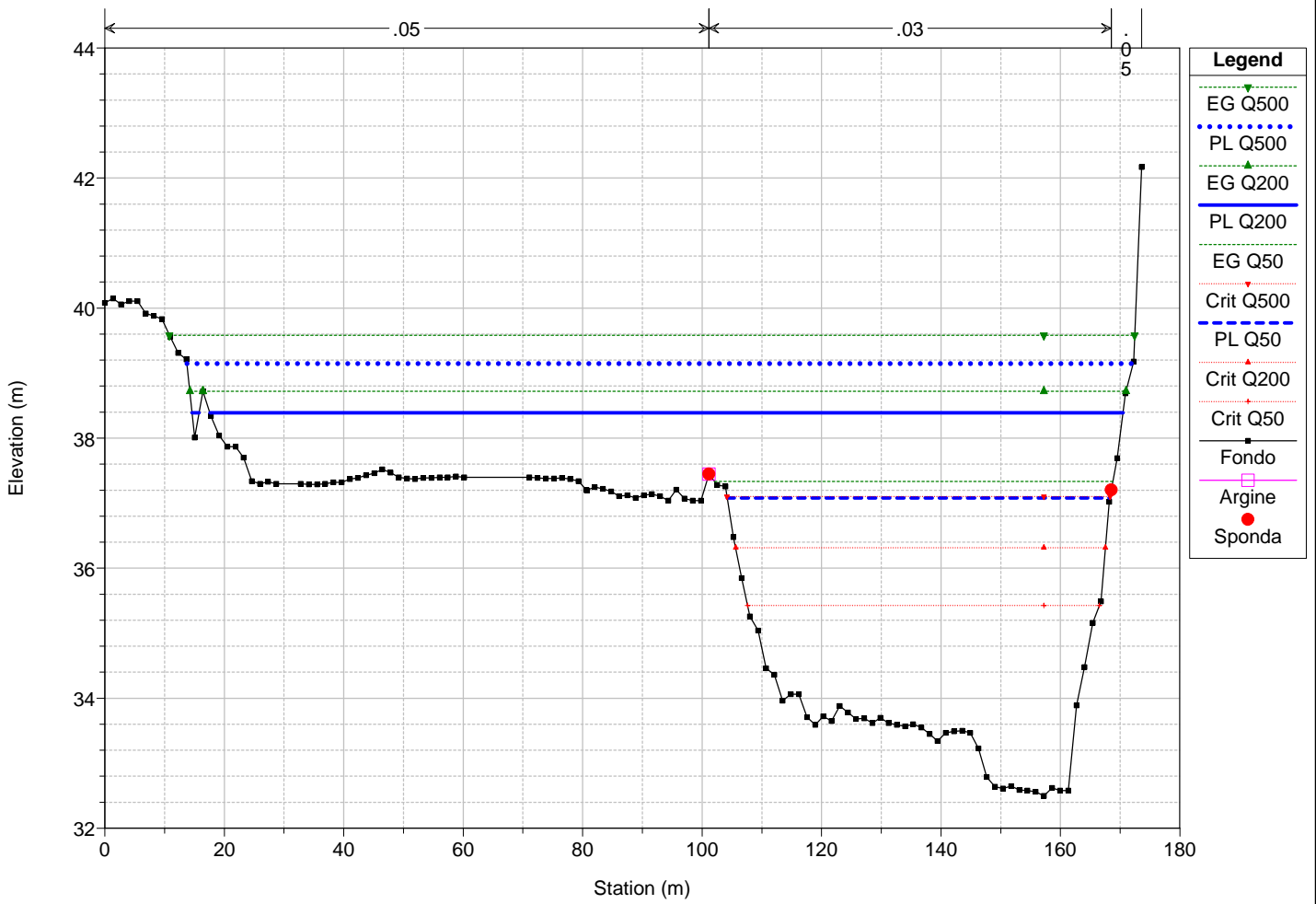


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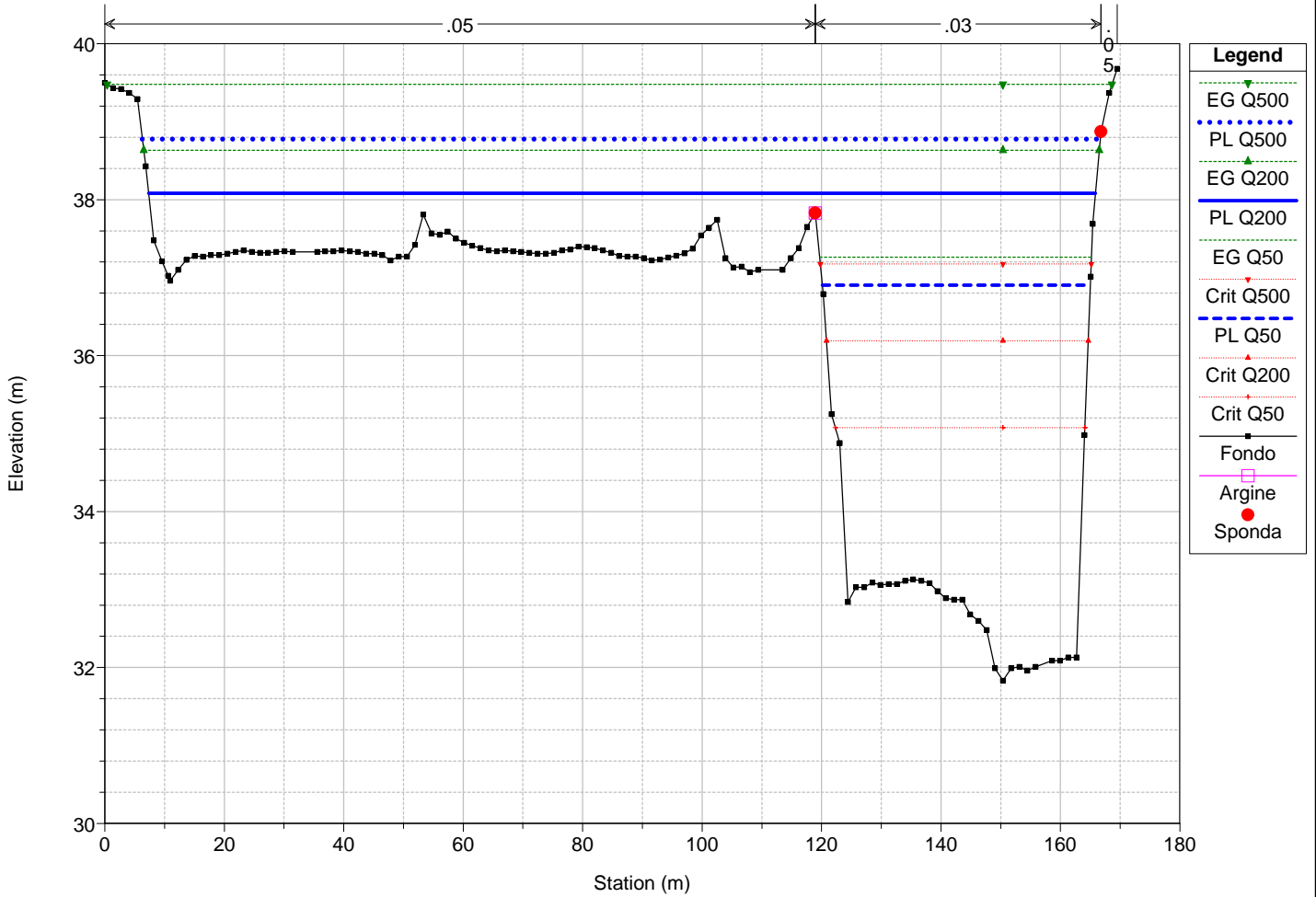
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ST-33



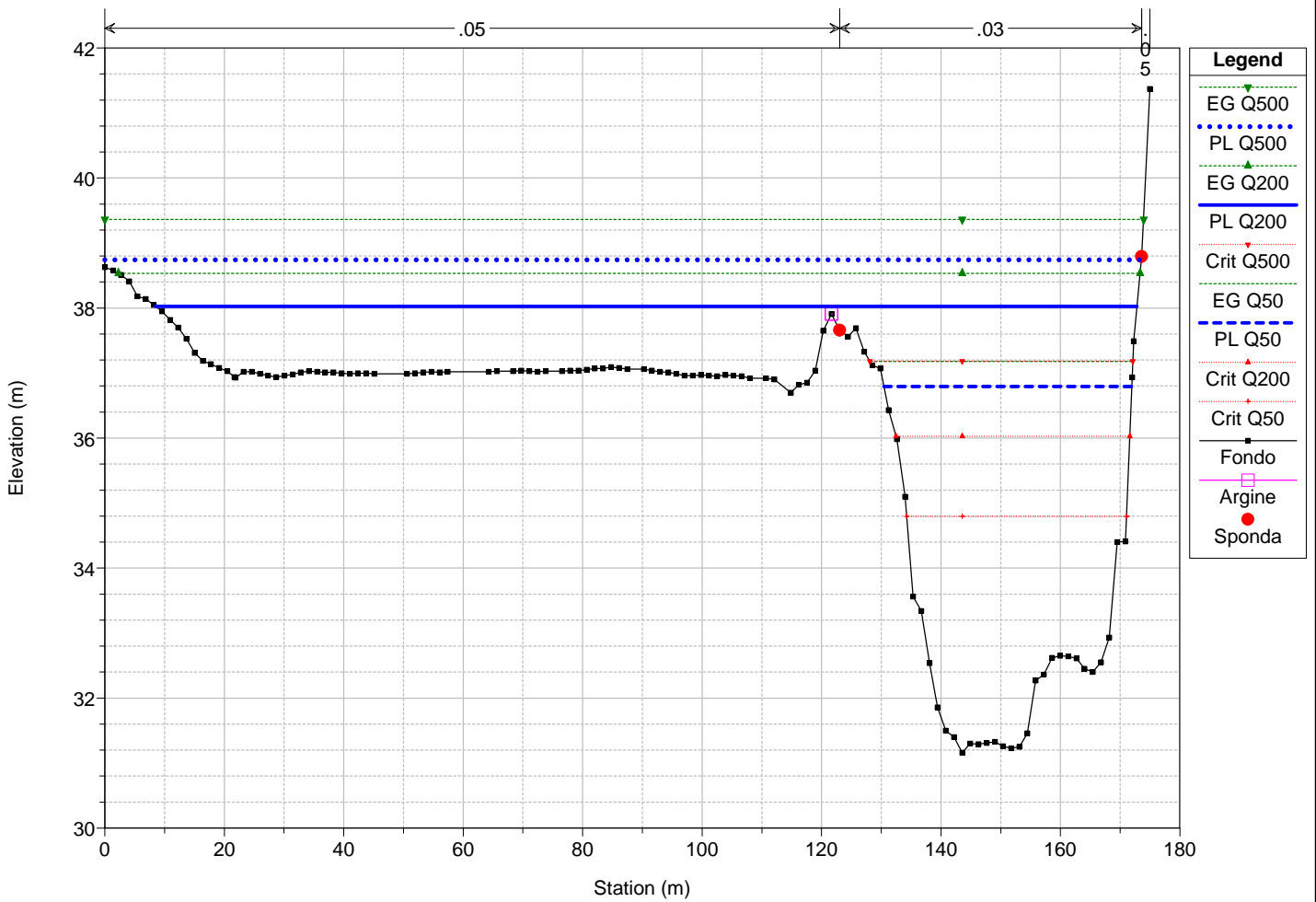
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ST-32

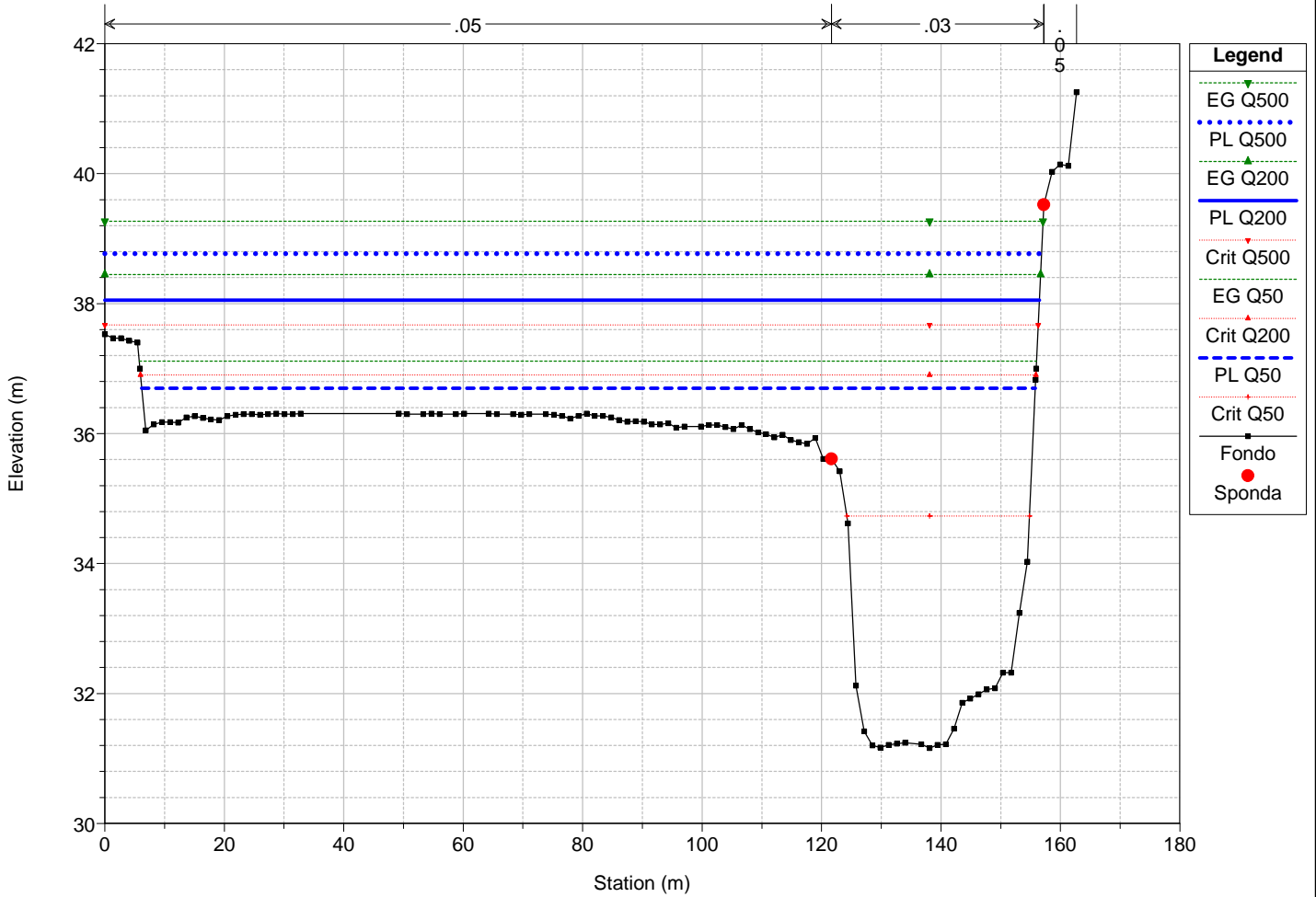




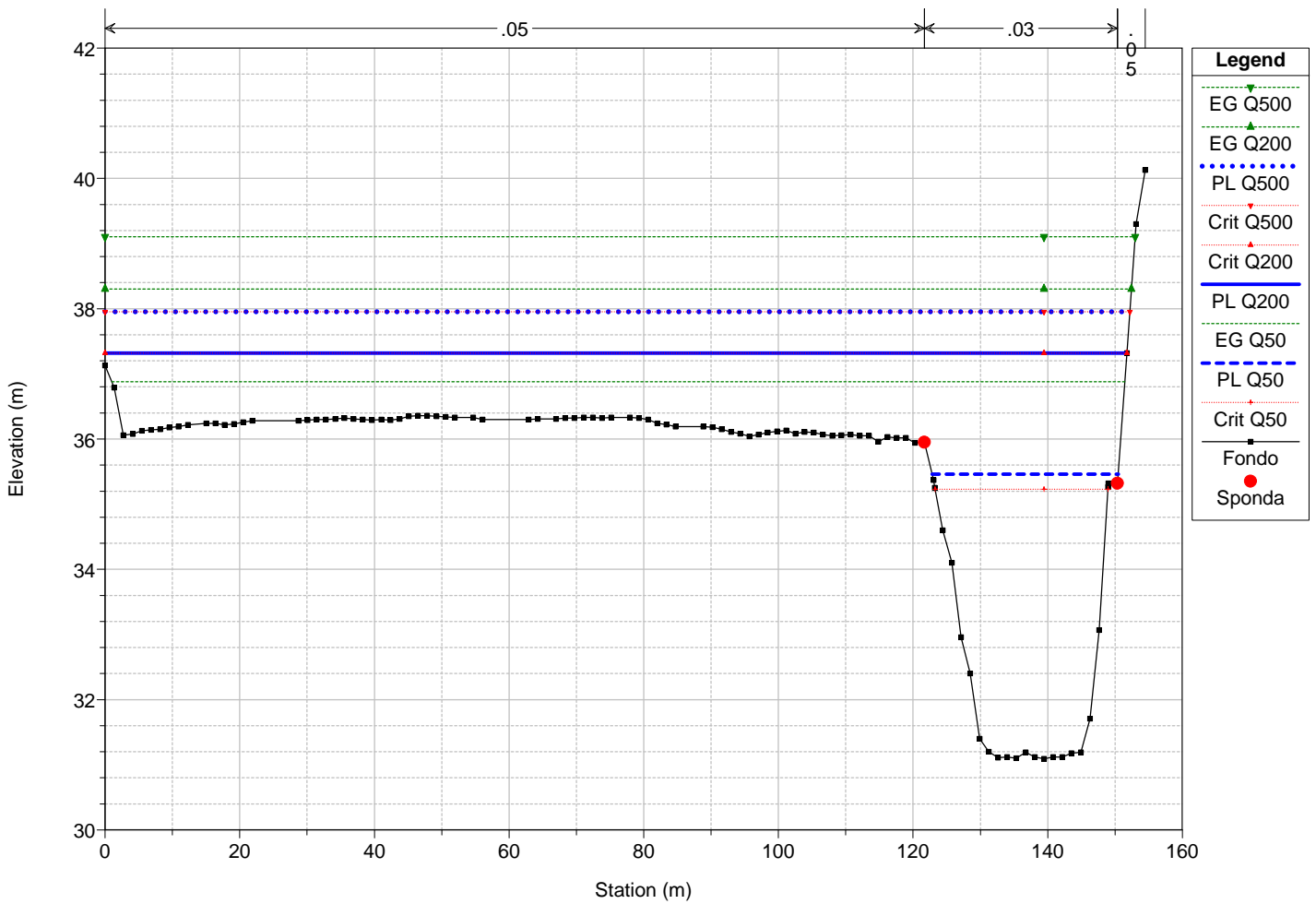
Sturla\_valleCicana\_2017  
ST-31



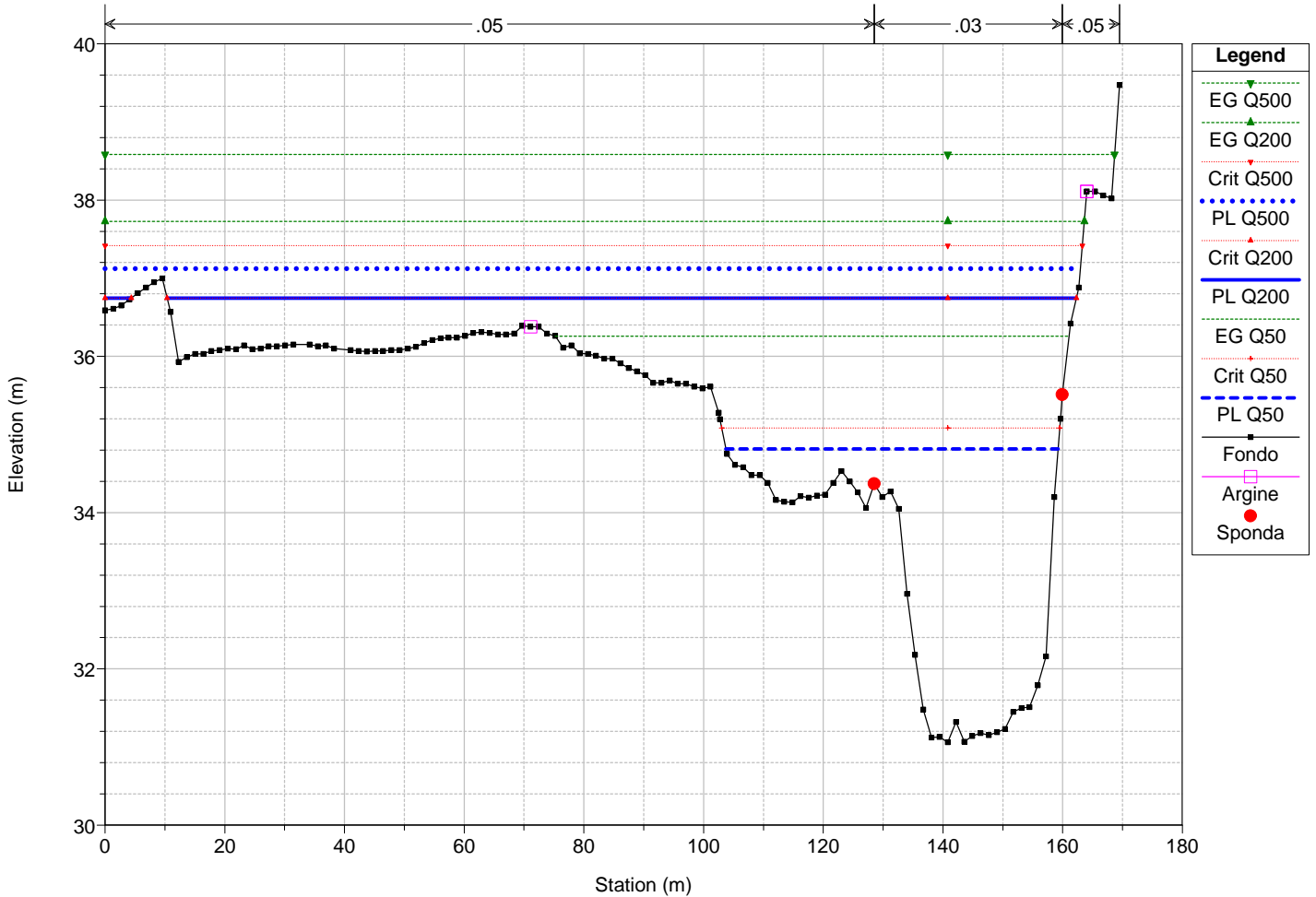
Sturla\_valleCicana\_2017  
ST-30



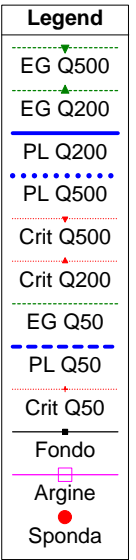
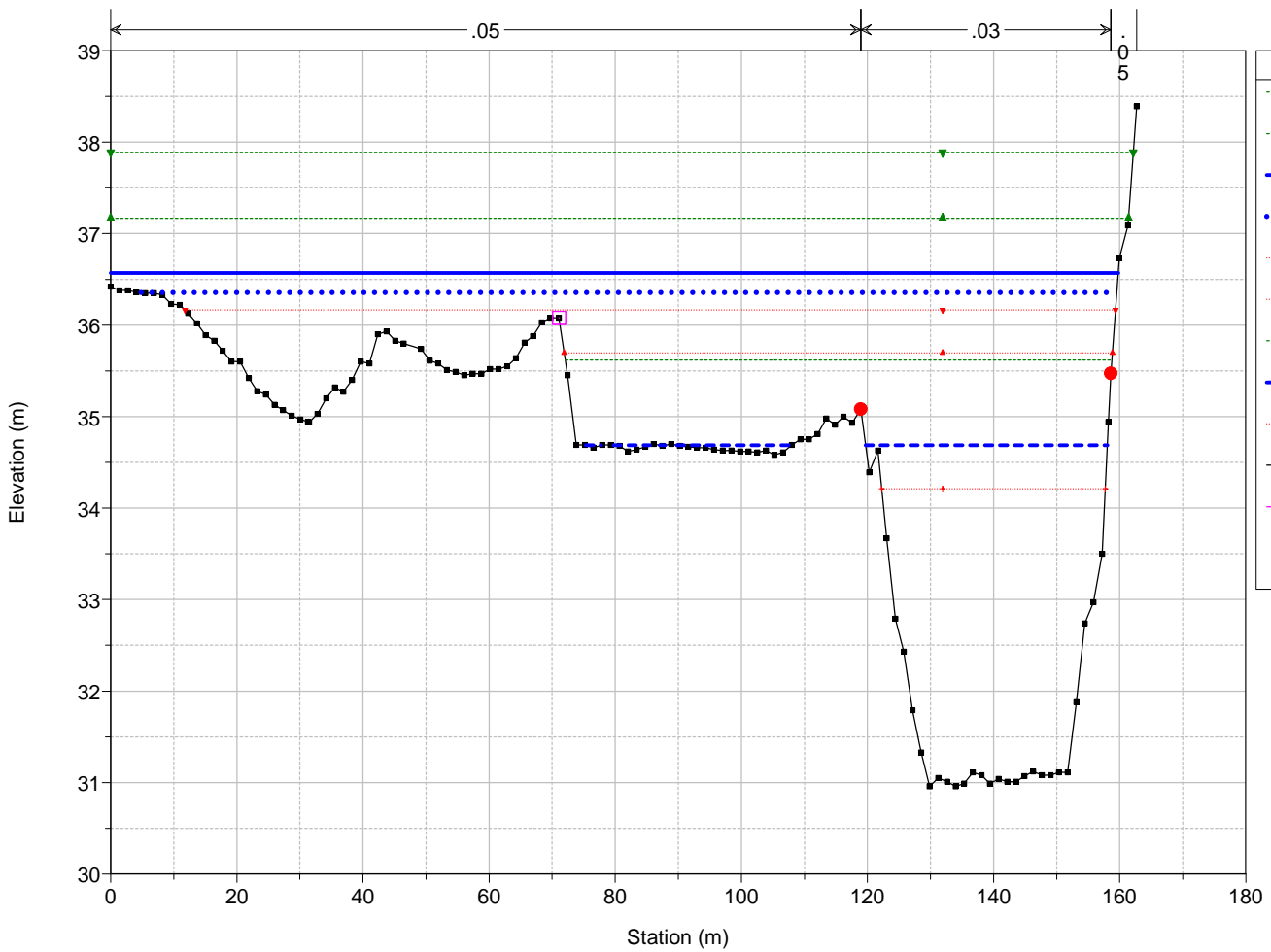
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ST-29



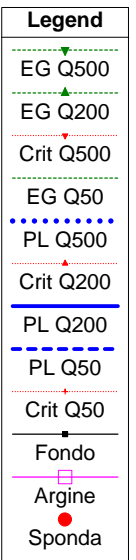
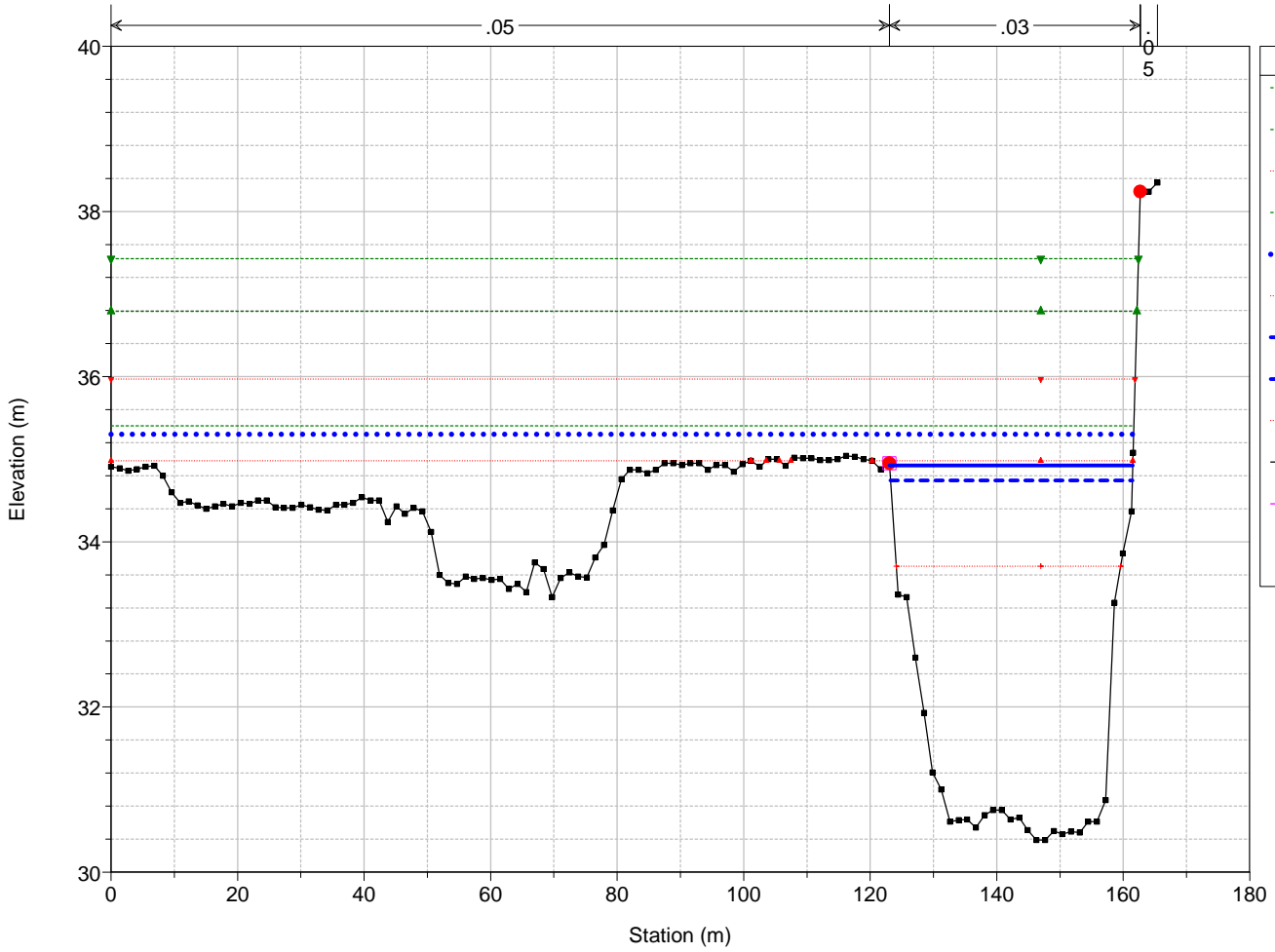
Sturla\_valleCicana\_2017  
ST-28



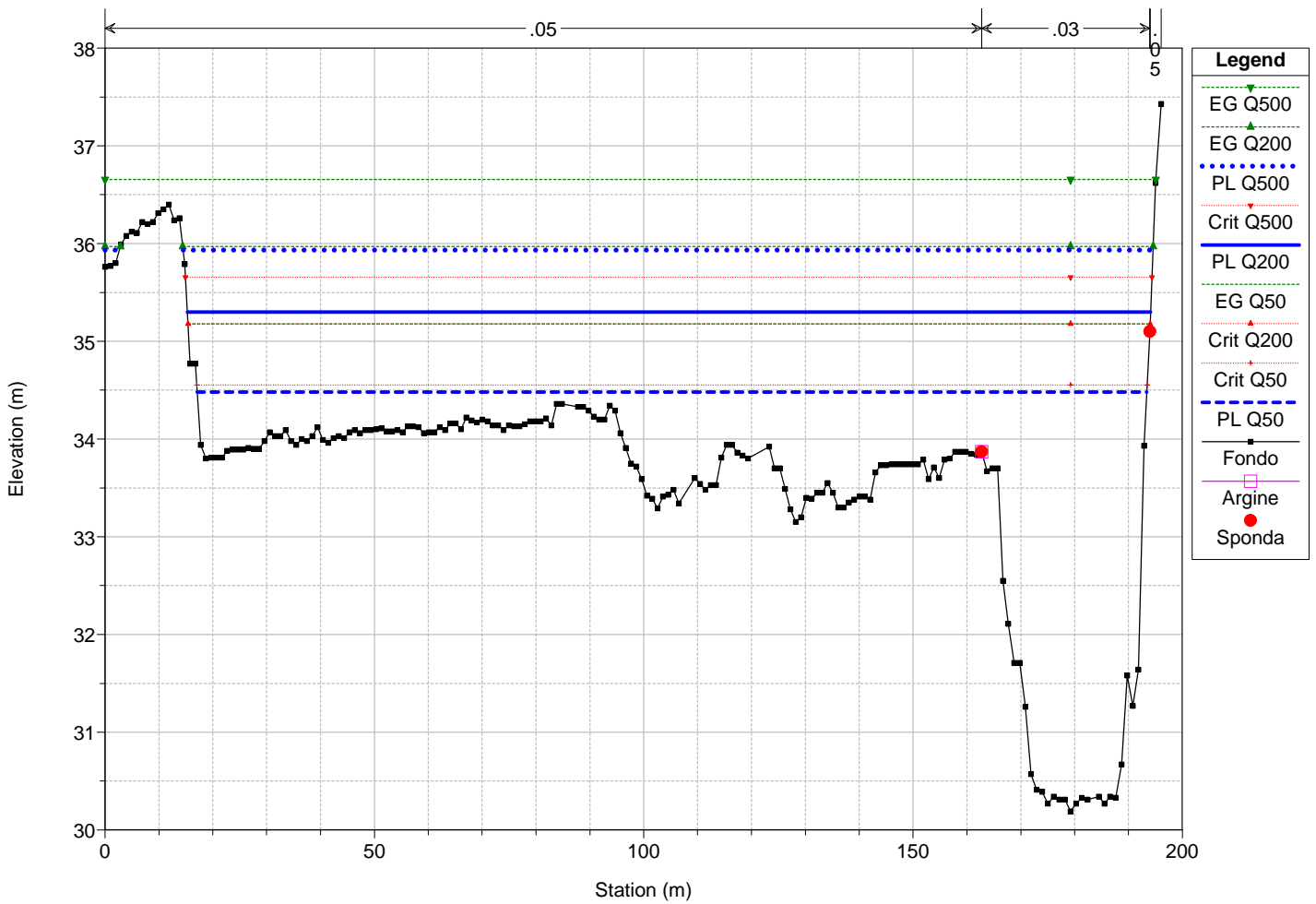
Sturla\_valleCicana\_2017  
ST-27



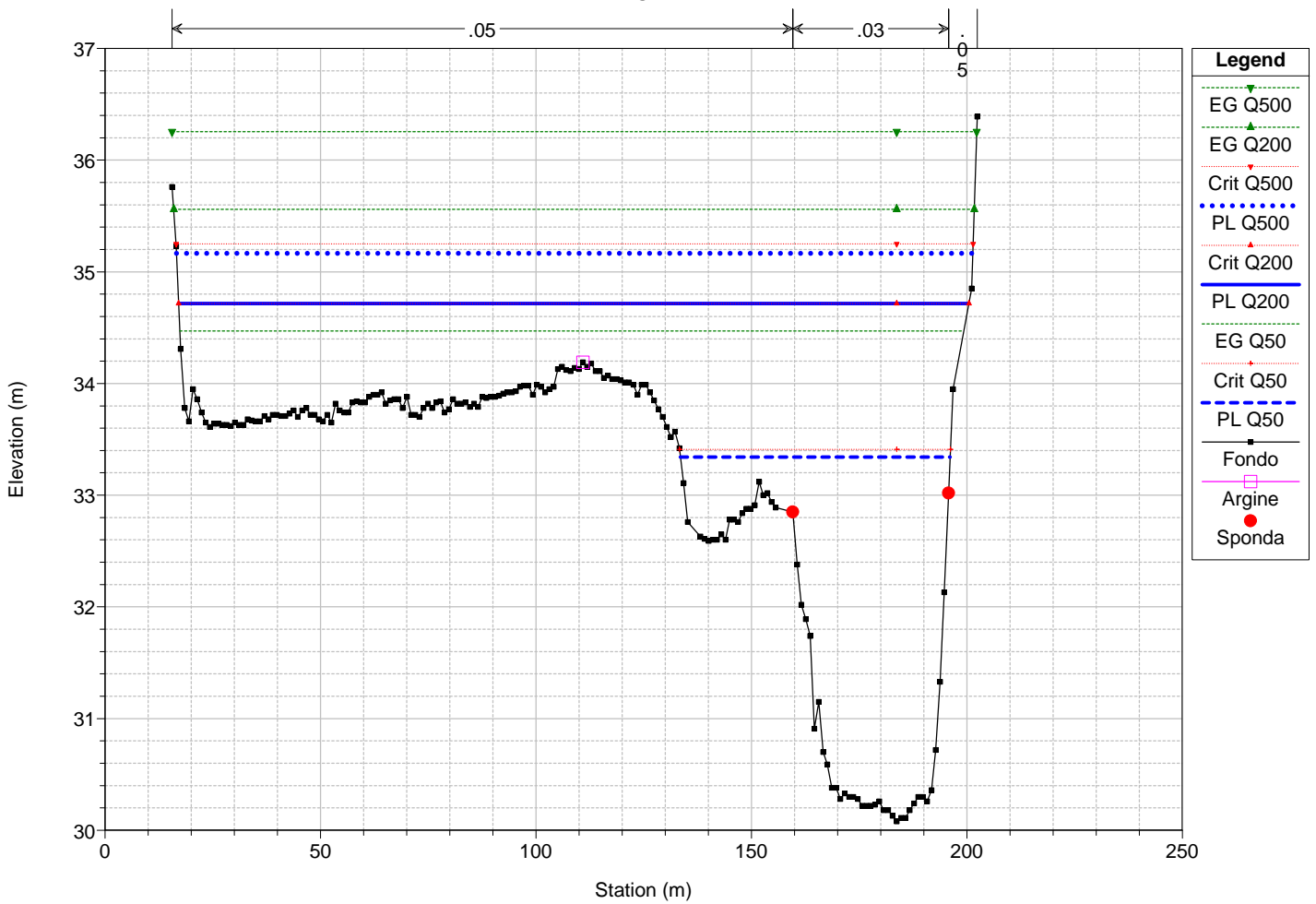
Sturla\_valleCicana\_2017  
ST-26



Sturla\_valleCicana\_2017  
ST-25

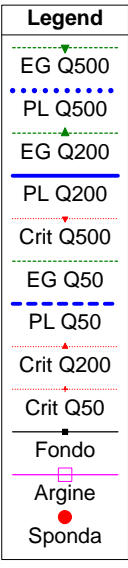
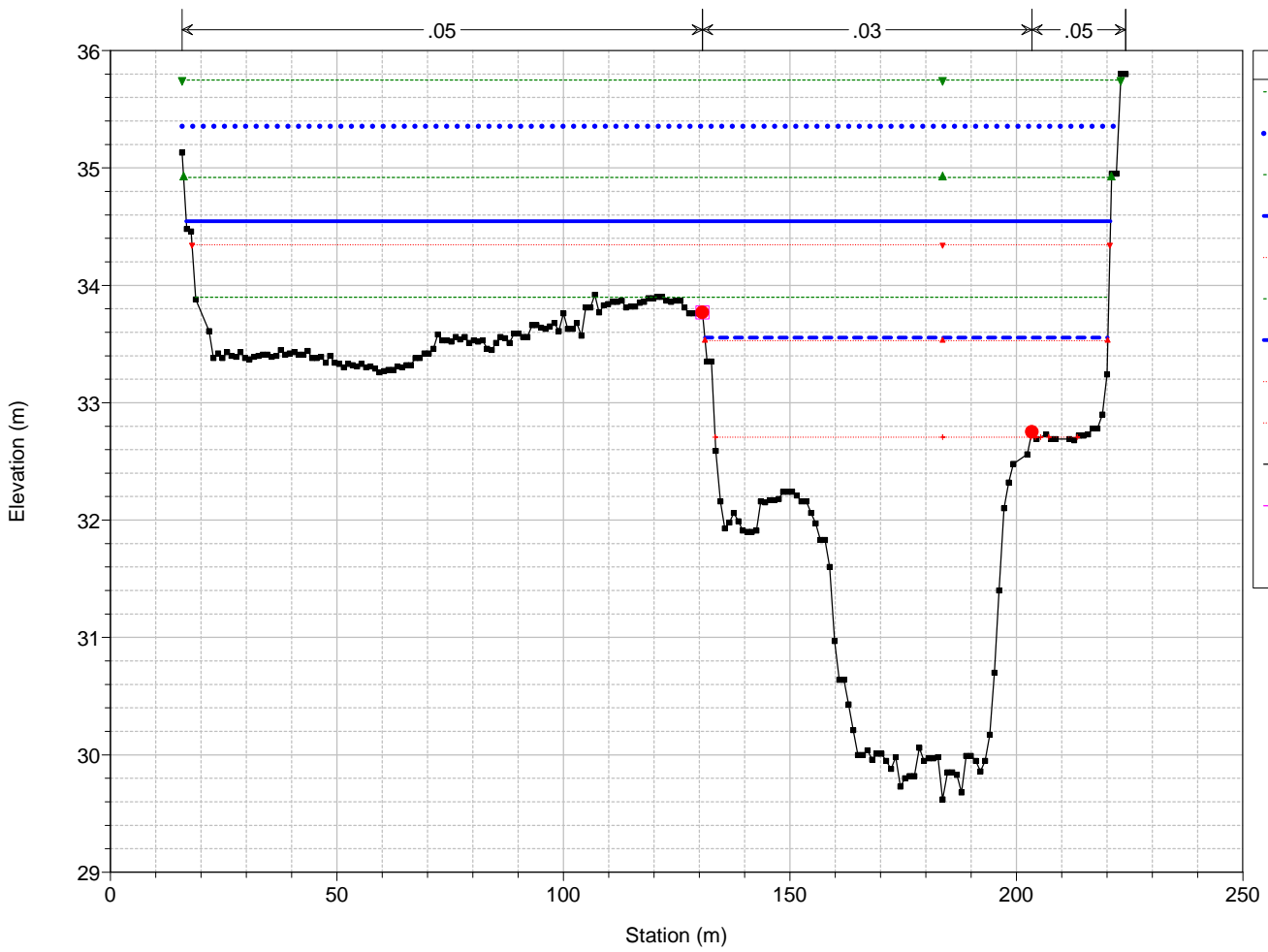


Sturla\_valleCicana\_2017  
ST-24



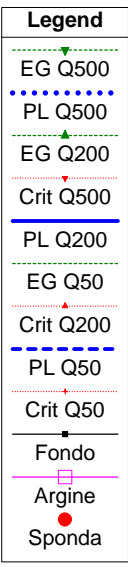
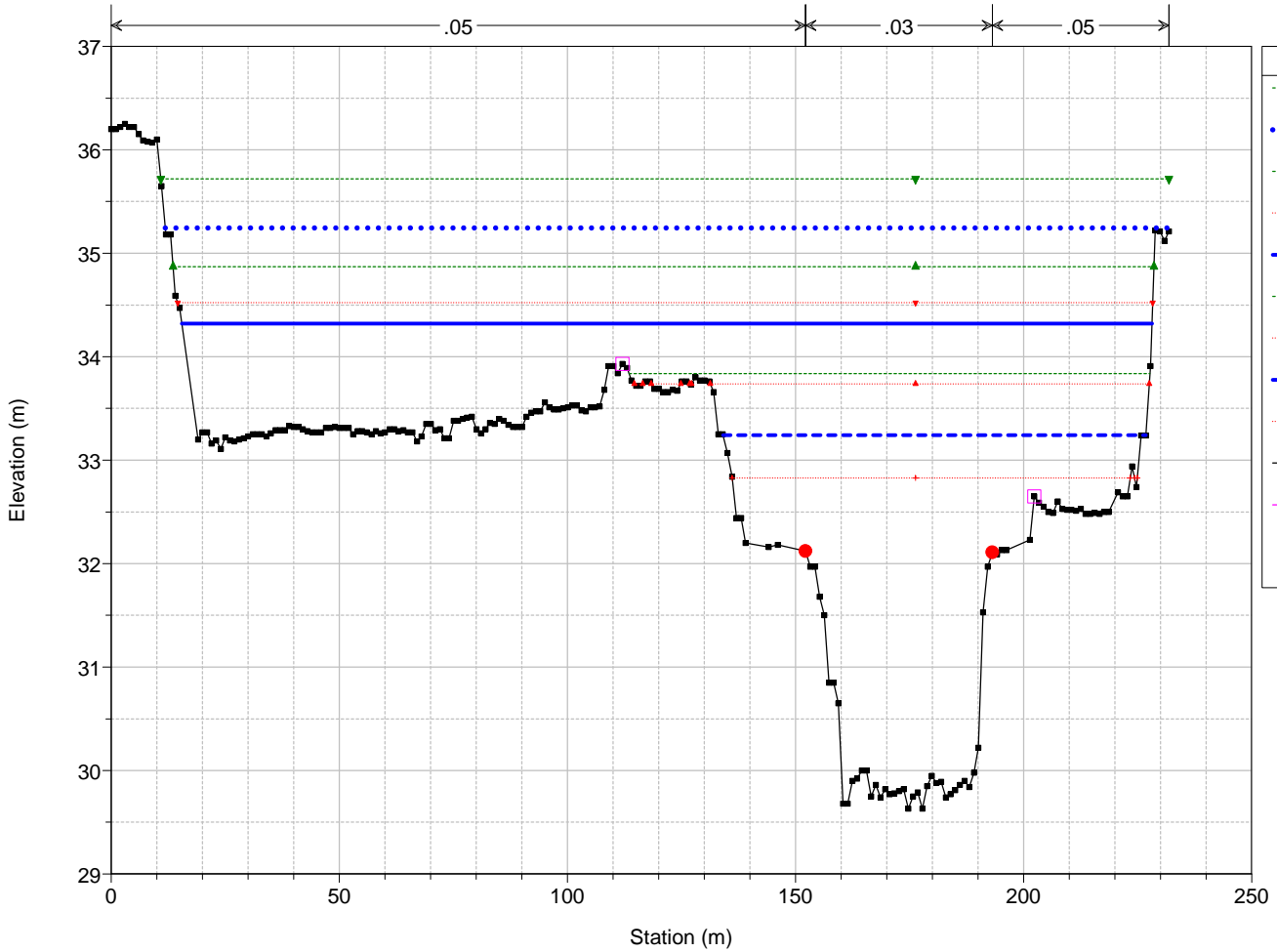
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ST-23



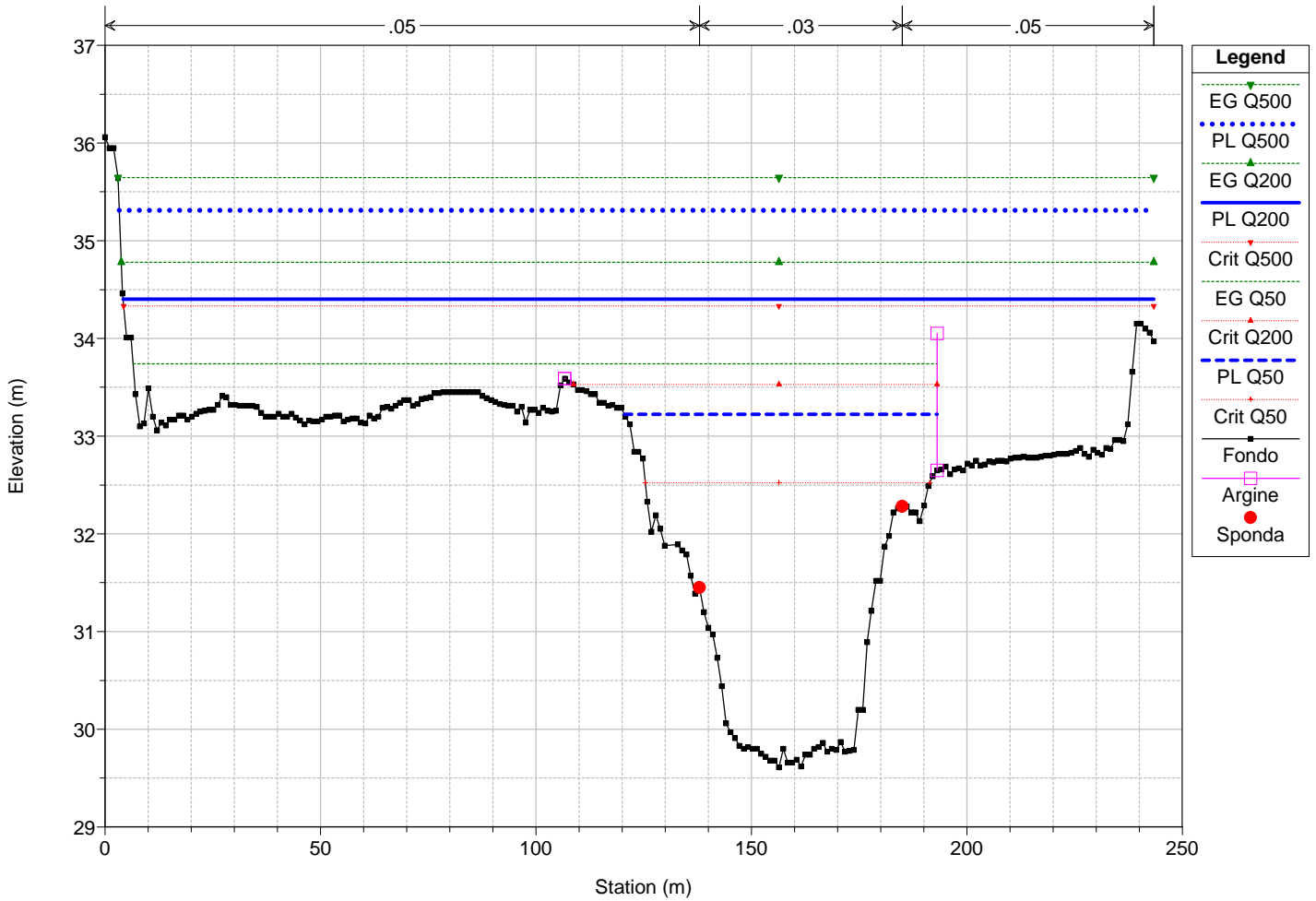
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ST-22



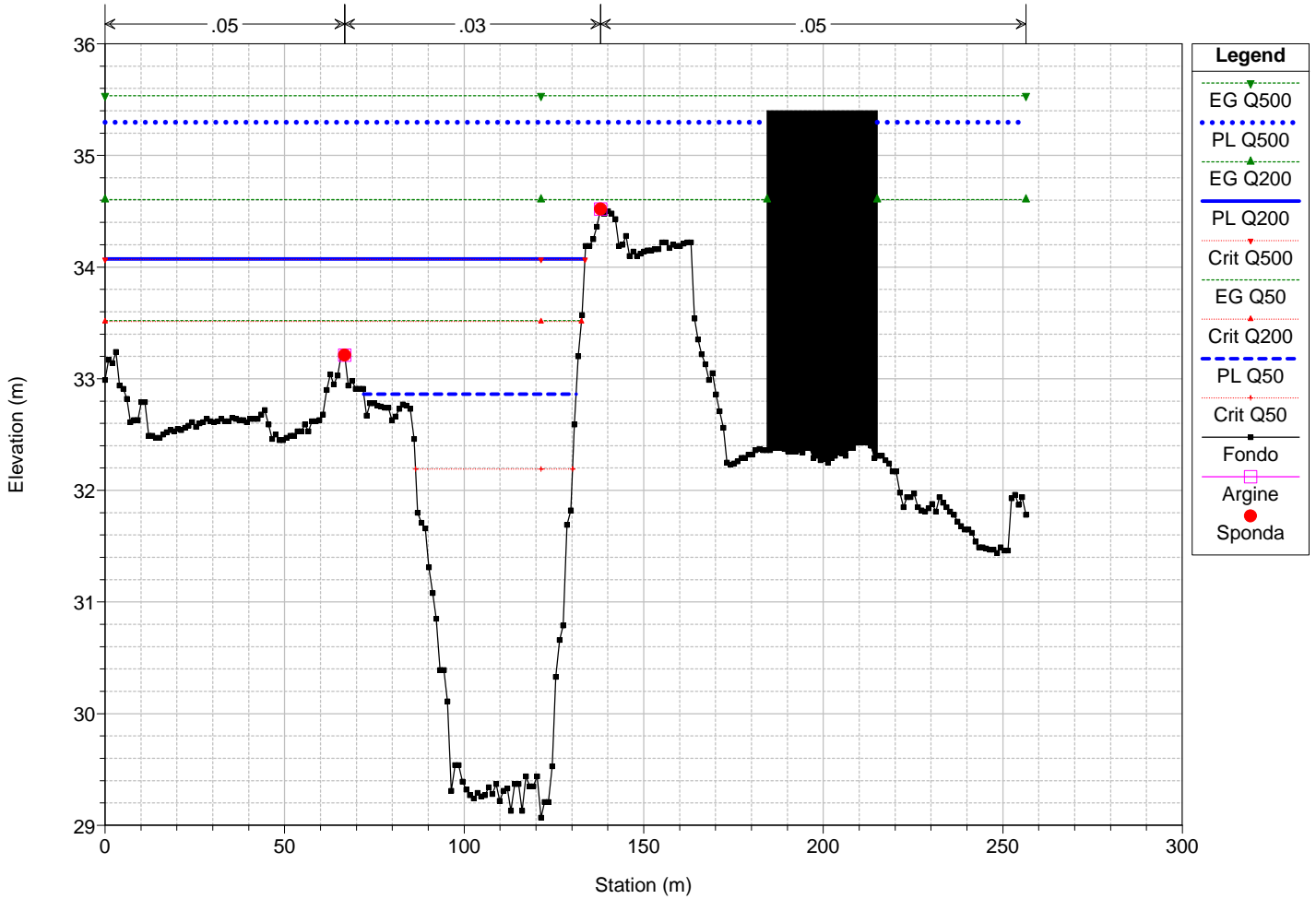
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ST-21

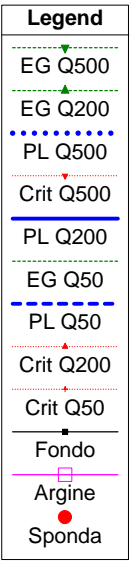
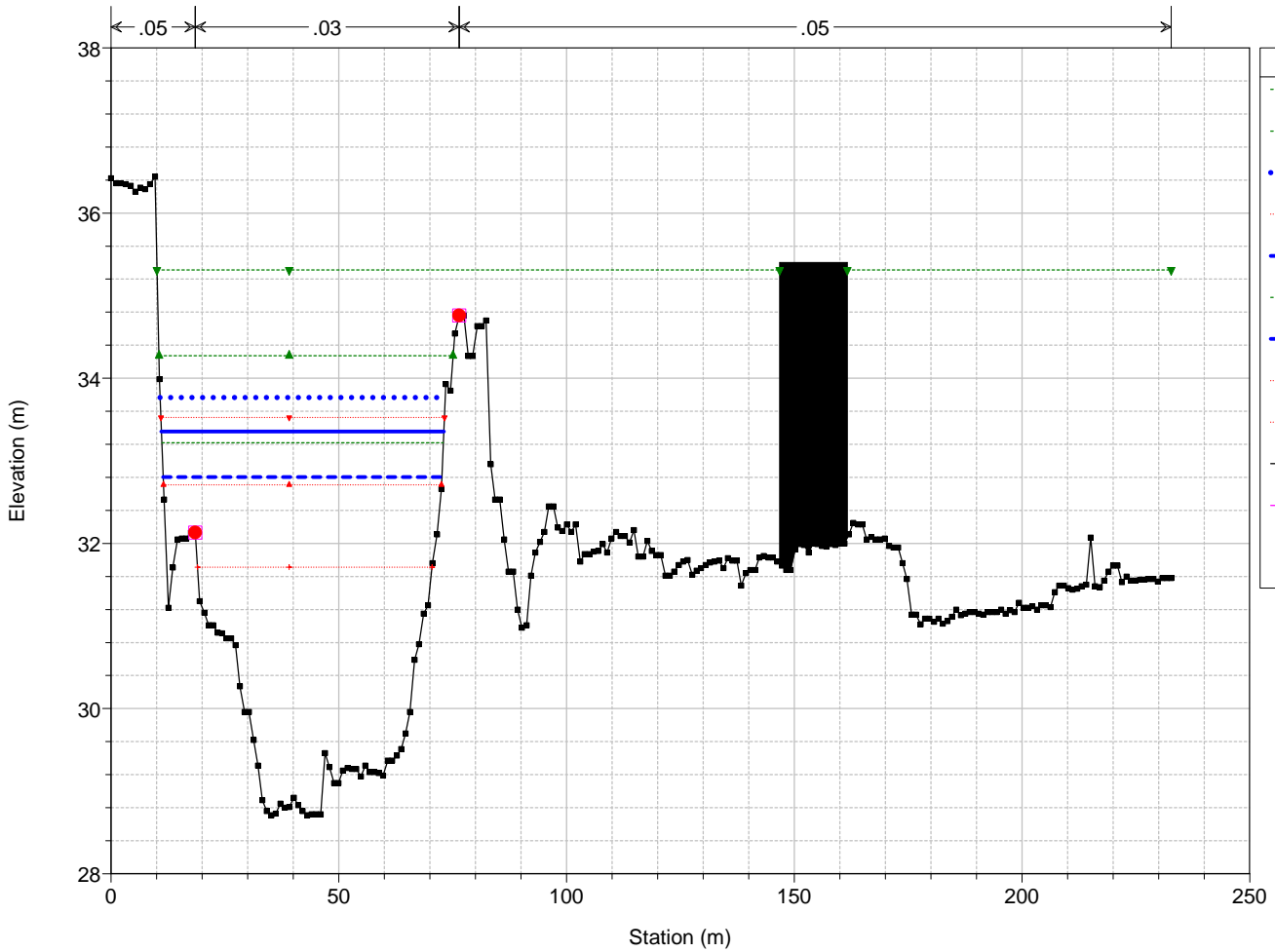


### Sturla\_valleCicana\_2017

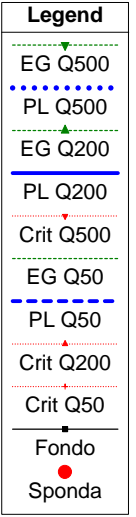
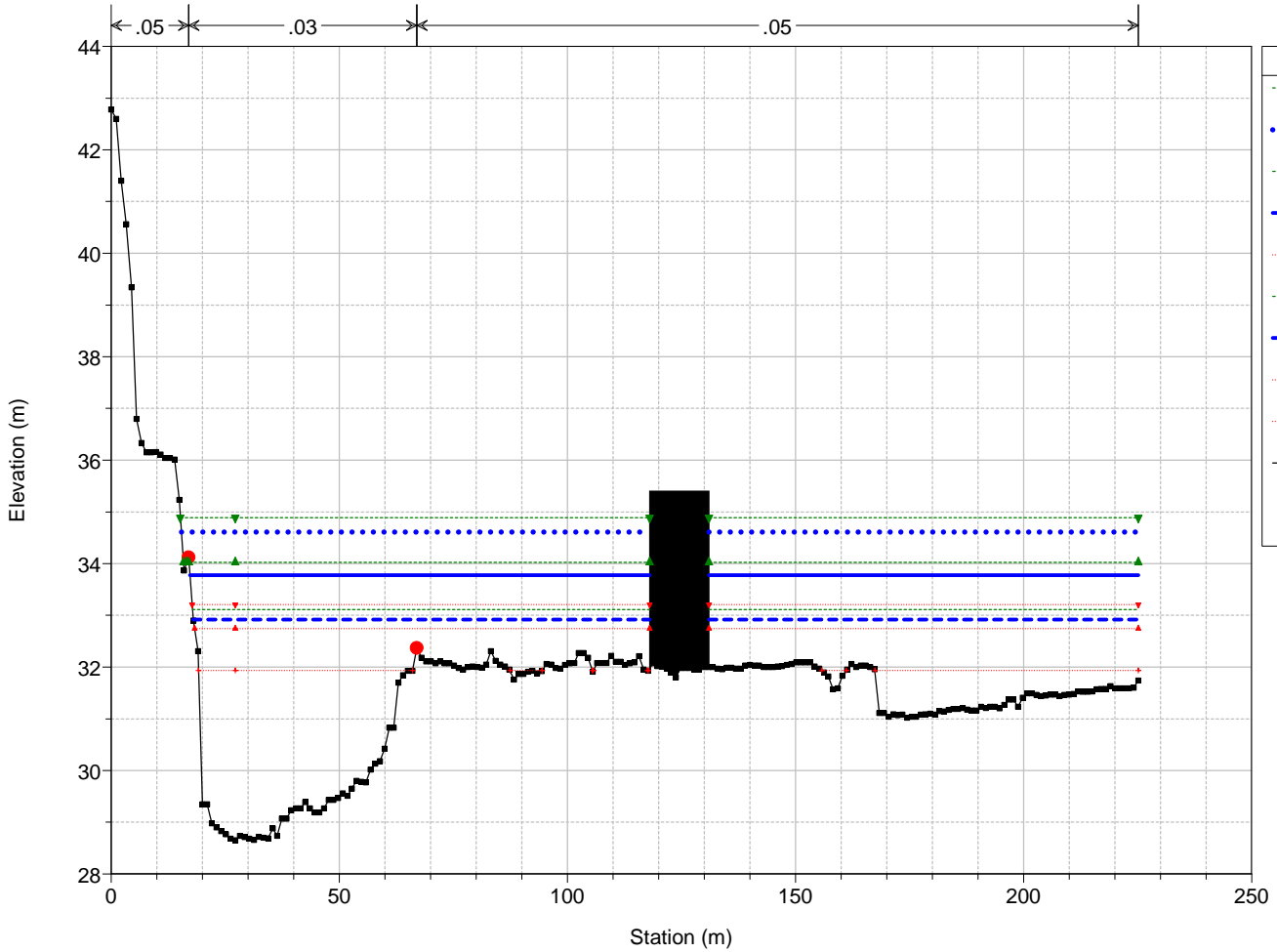
ST-20



Sturla\_valleCicana\_2017  
ST-19

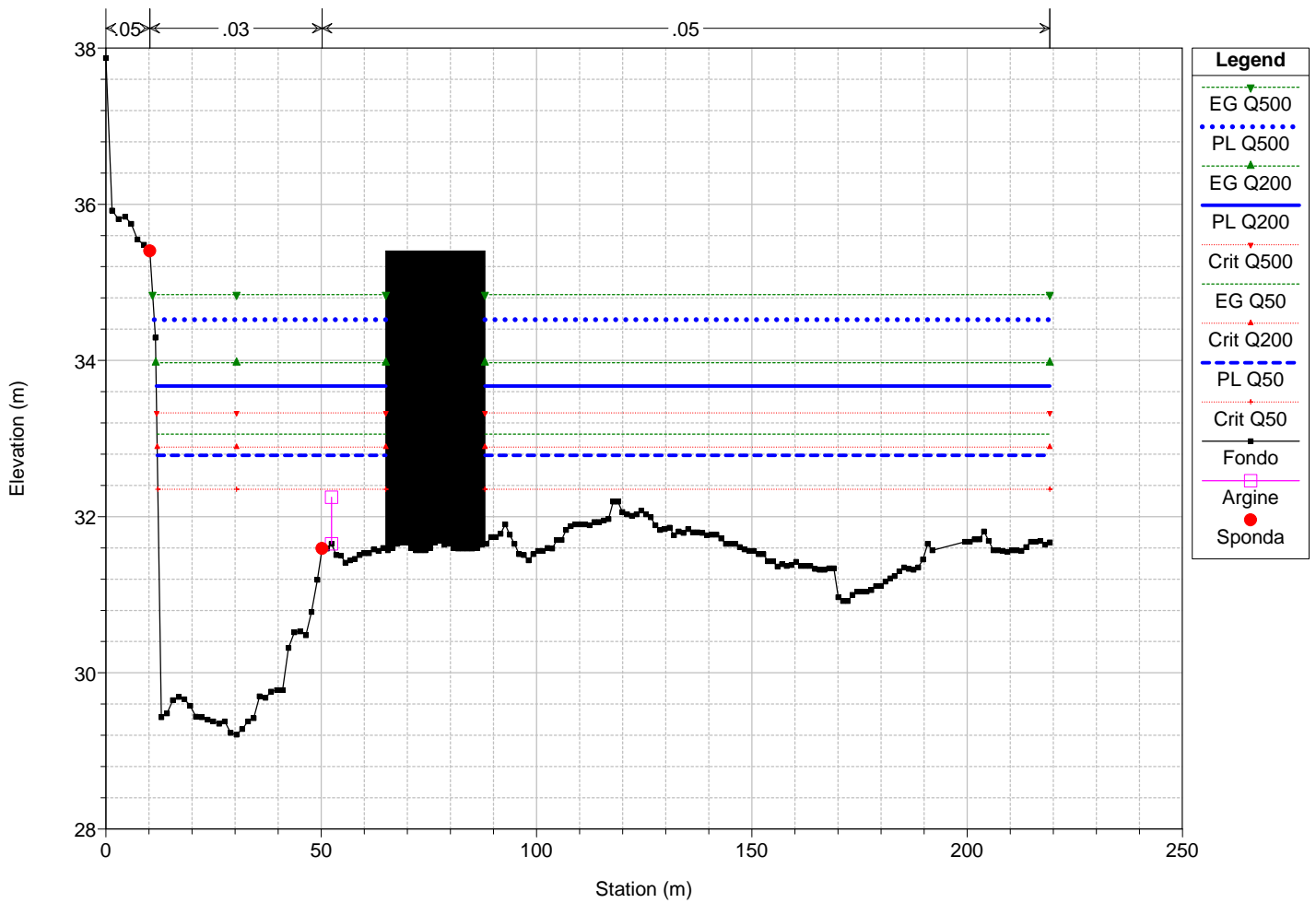


Sturla\_valleCicana\_2017  
ST-18



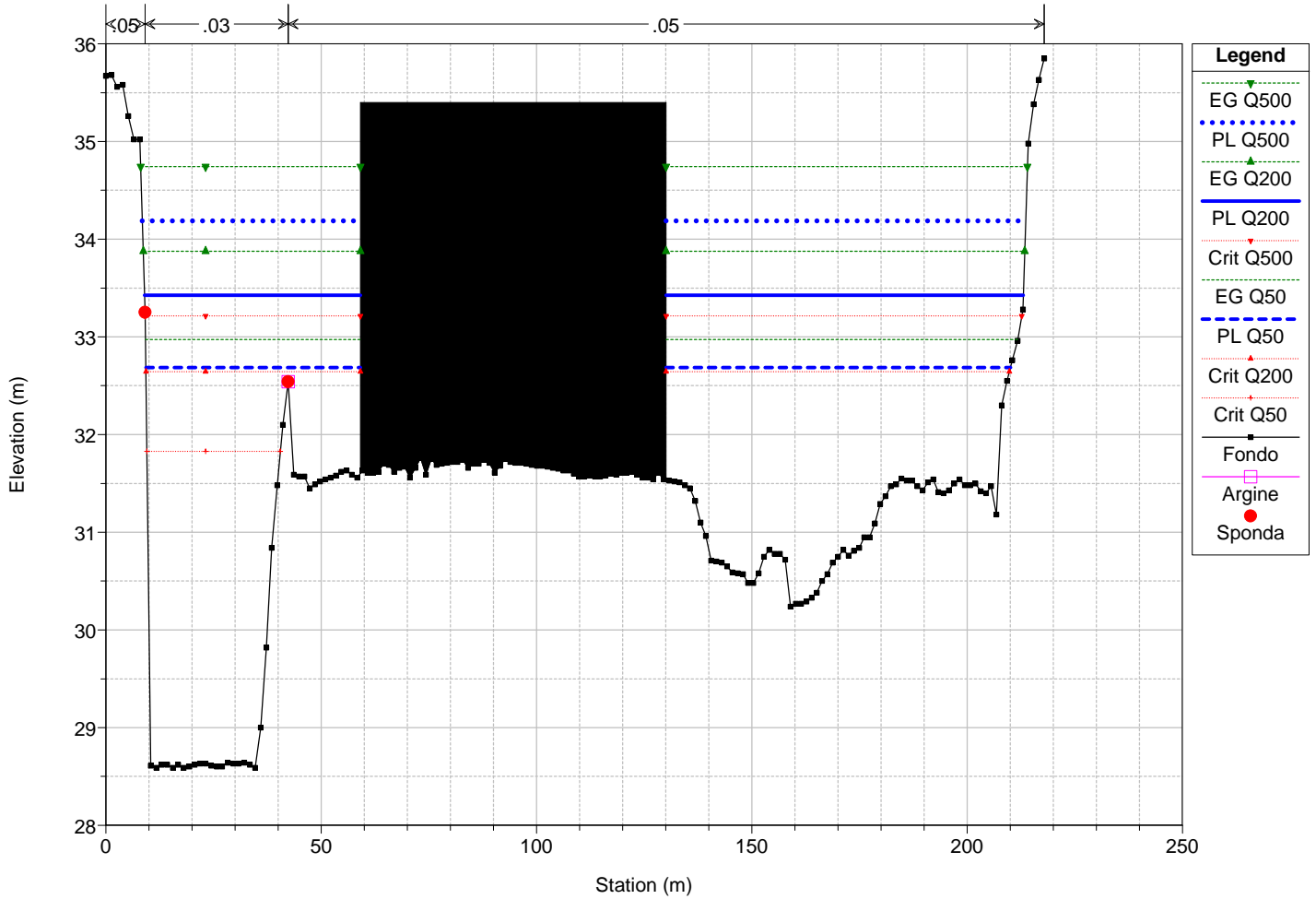
### Sturla\_valleCicana\_2017

ST-17



### Sturla\_valleCicana\_2017

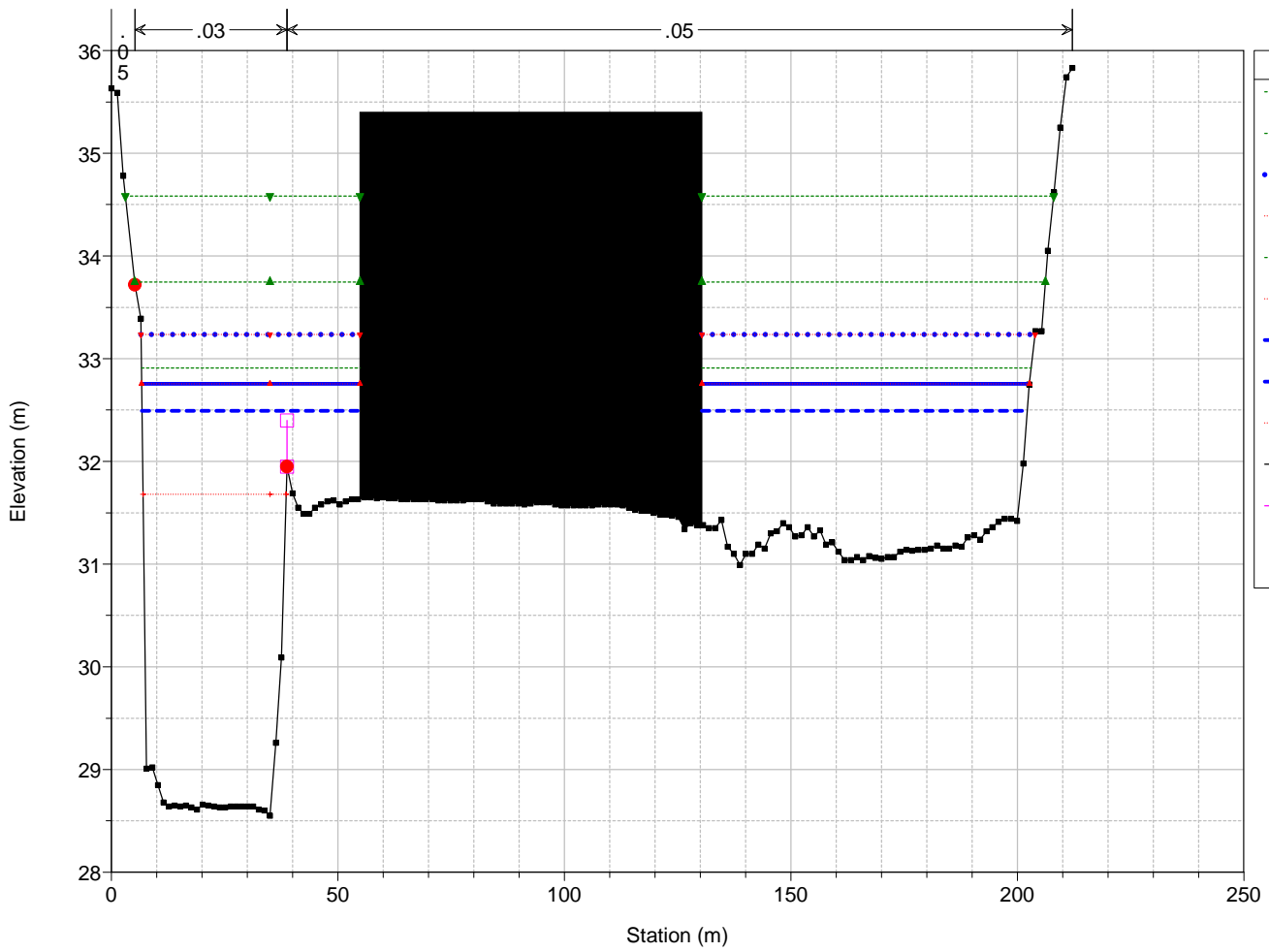
ST-16





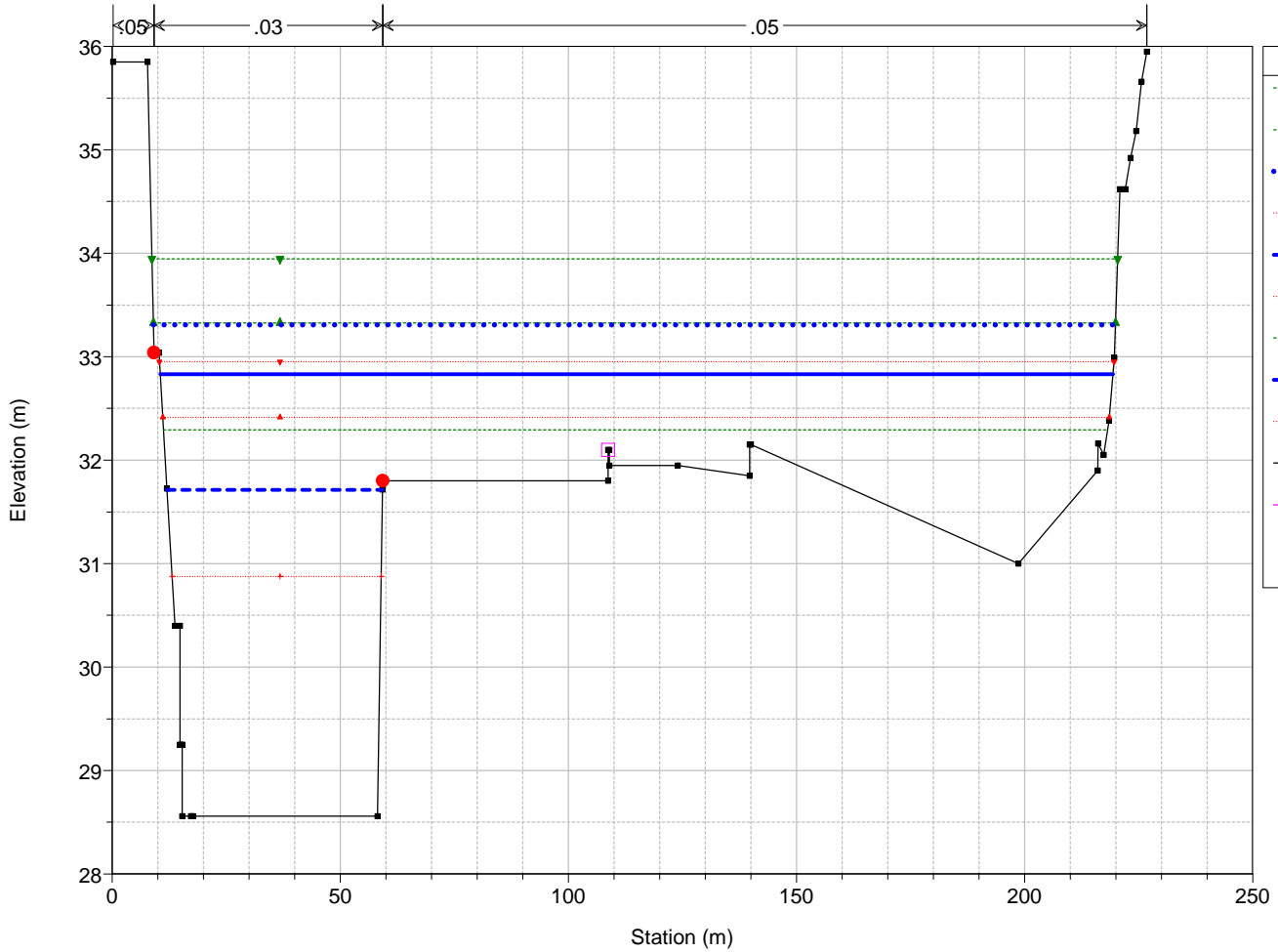
Sturla\_valleCicana\_2017

ST-15

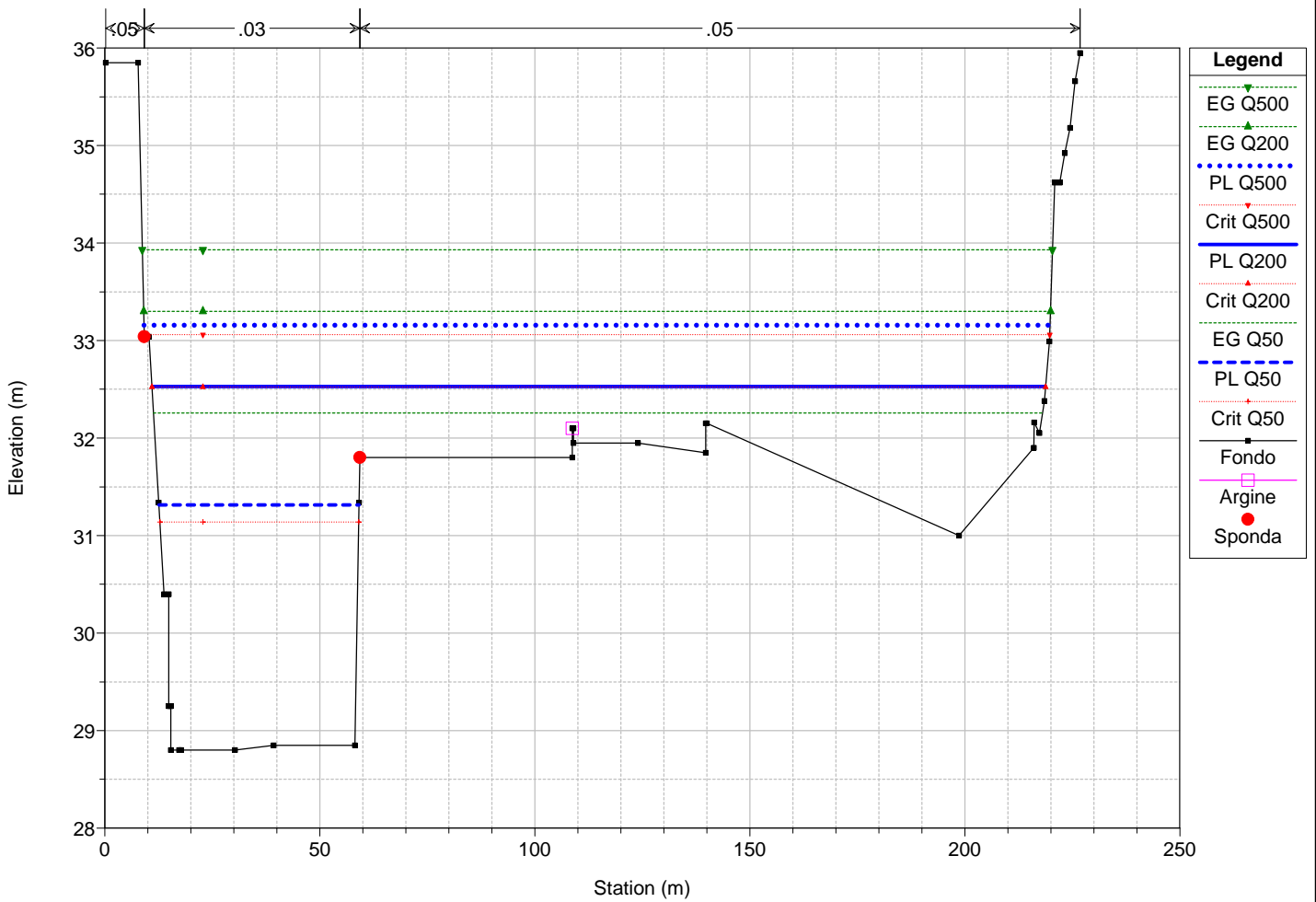


Sturla\_valleCicana\_2017

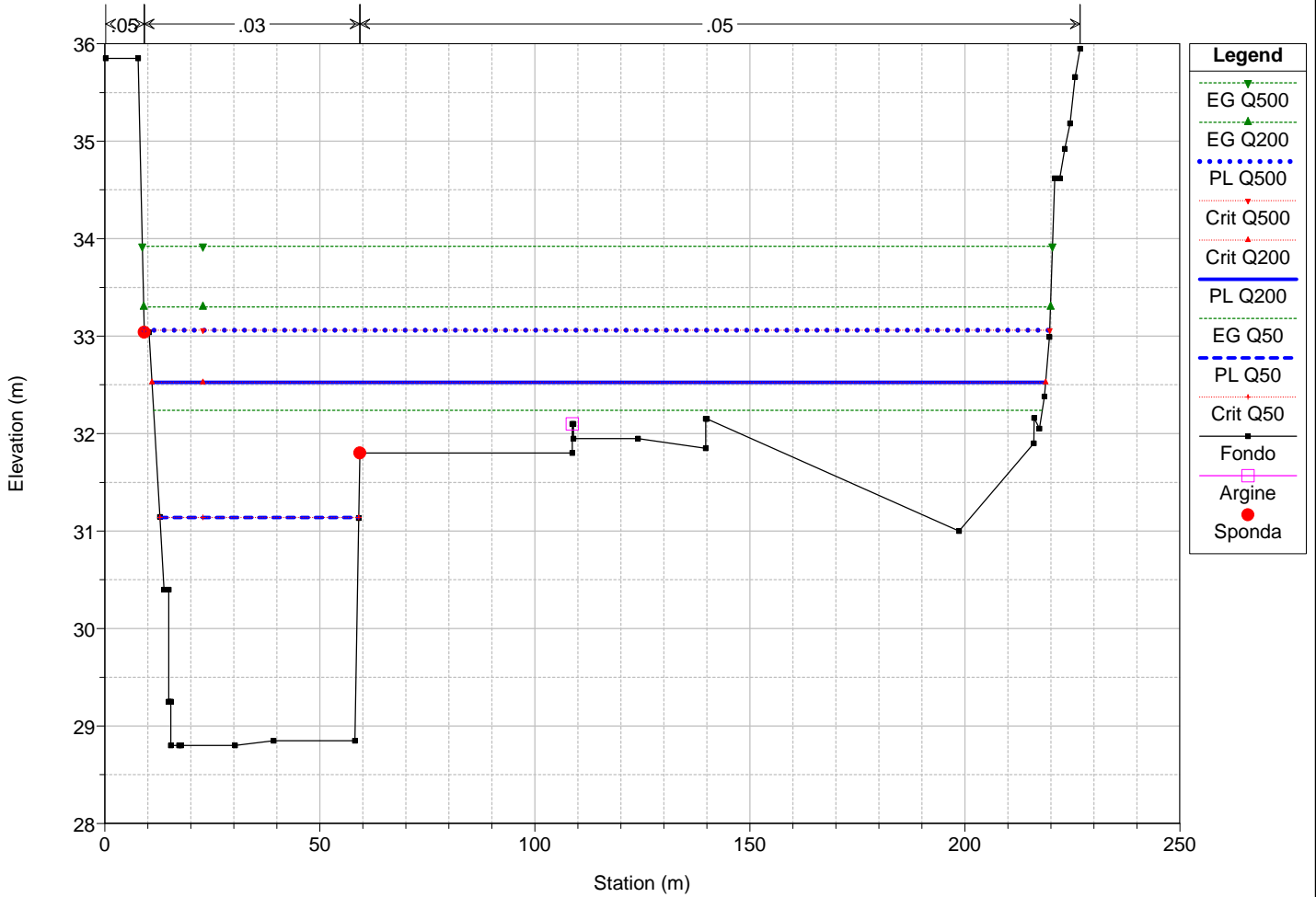
ST-14 m



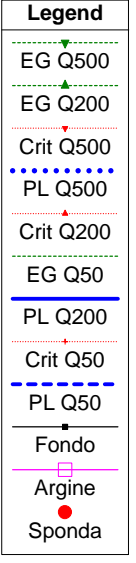
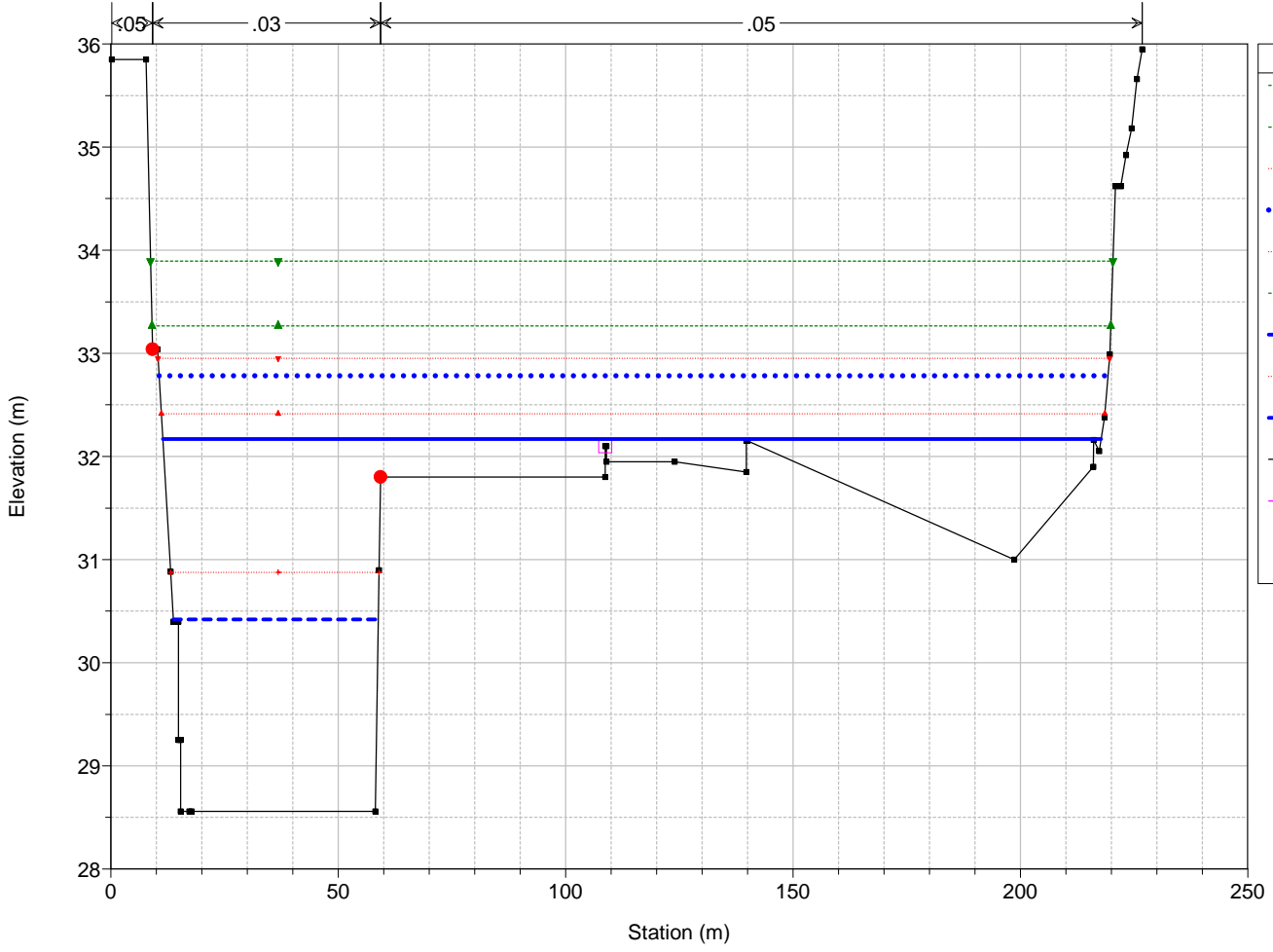
Sturla\_valleCicana\_2017  
ST-14 m



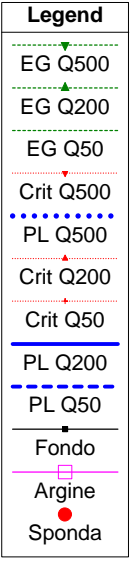
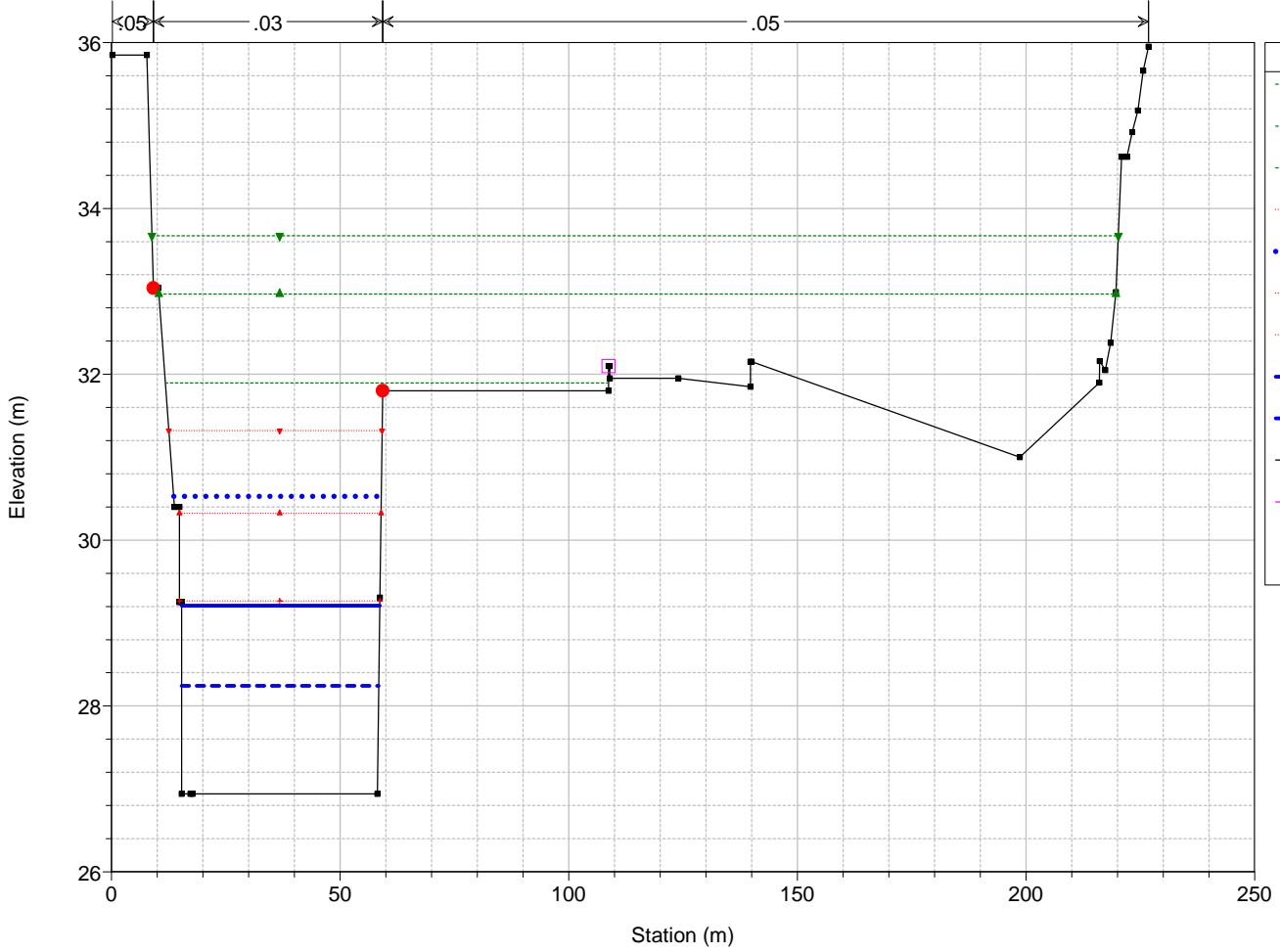
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ST-14 m



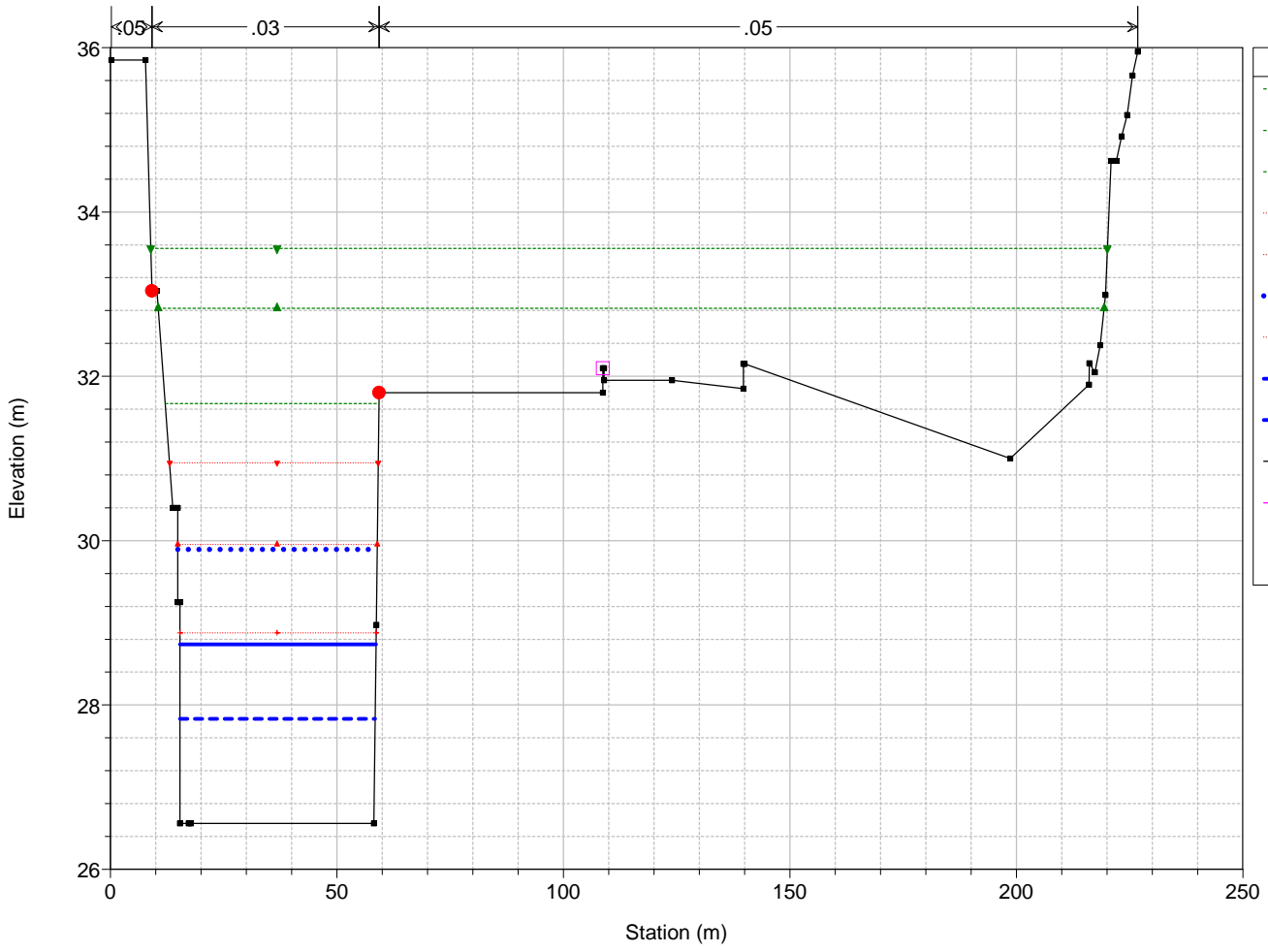
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ST-14 m



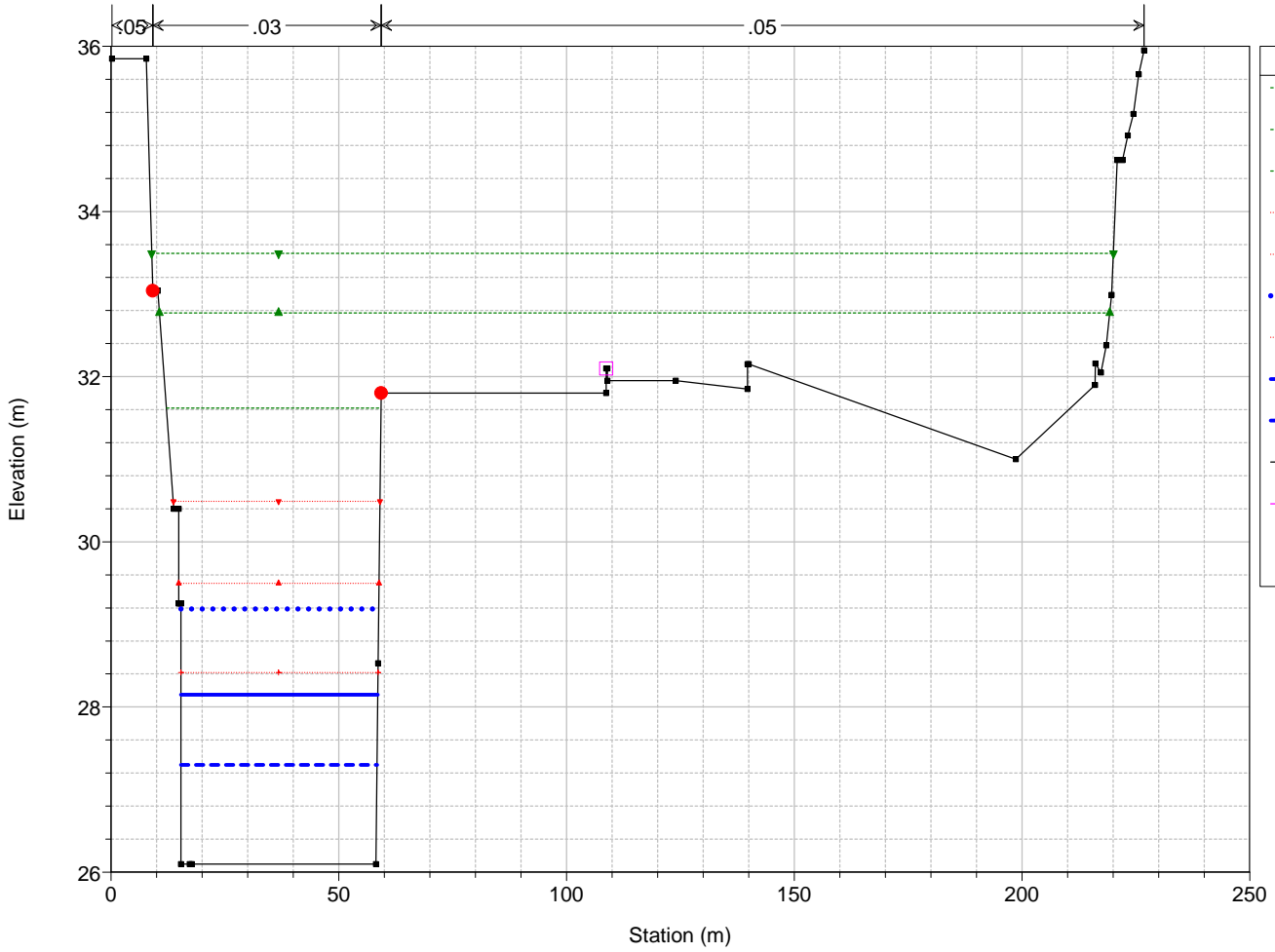
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ST-14



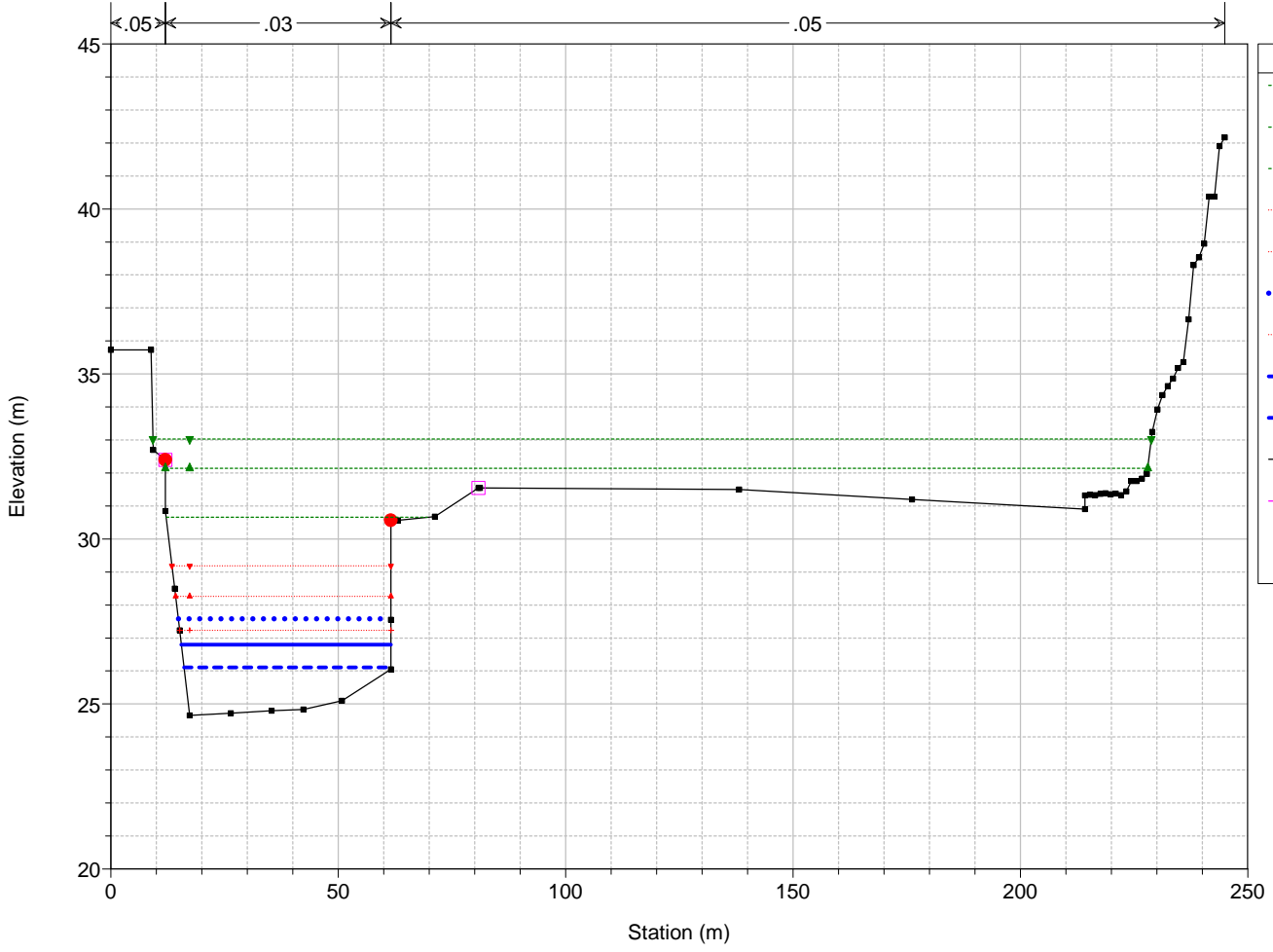
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ST-14



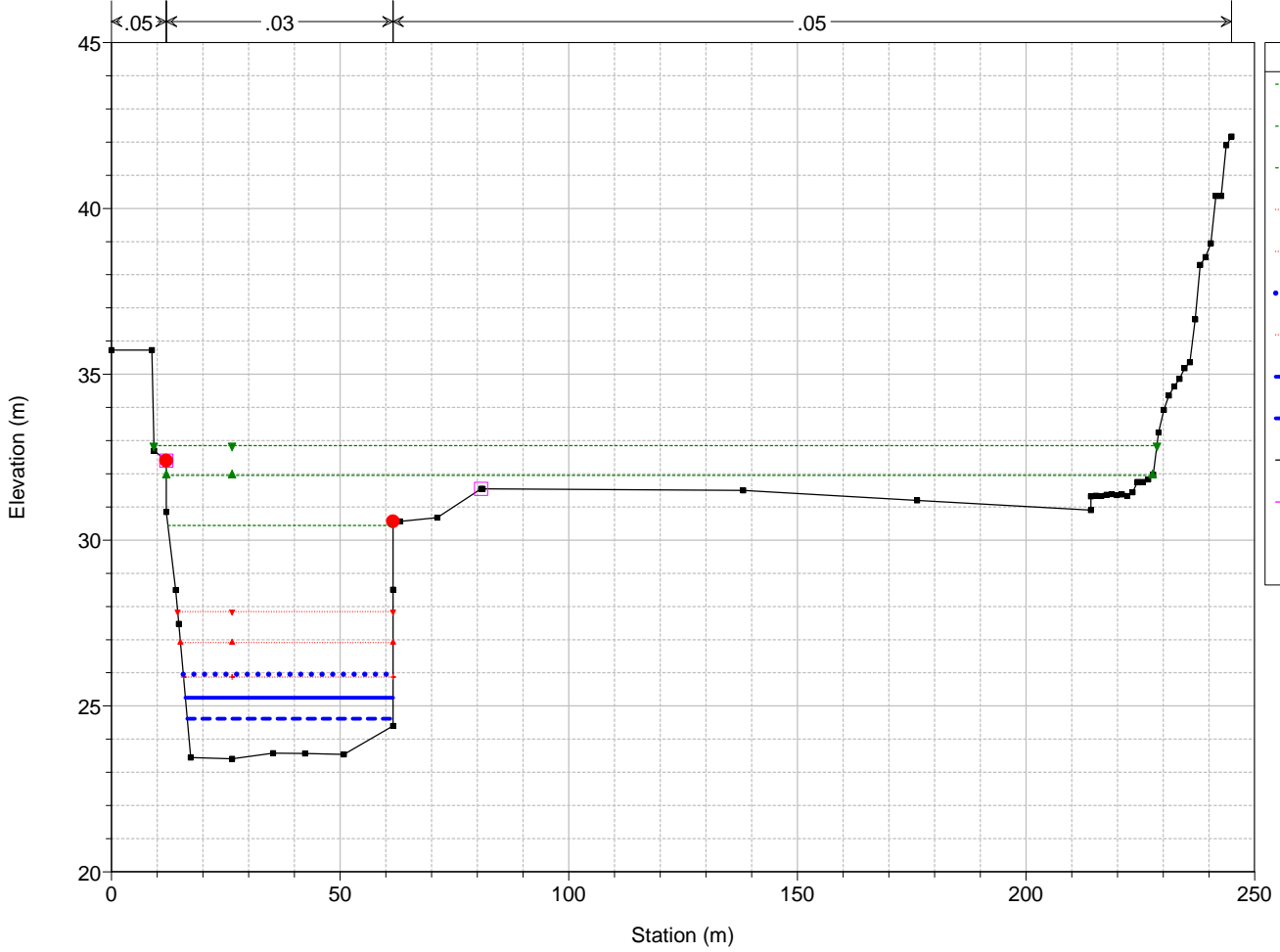
Sturla\_valleCicana\_2017  
ST-14



Sturla\_valleCicana\_2017  
ST-14 v

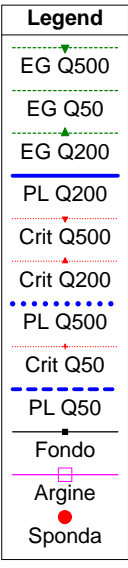
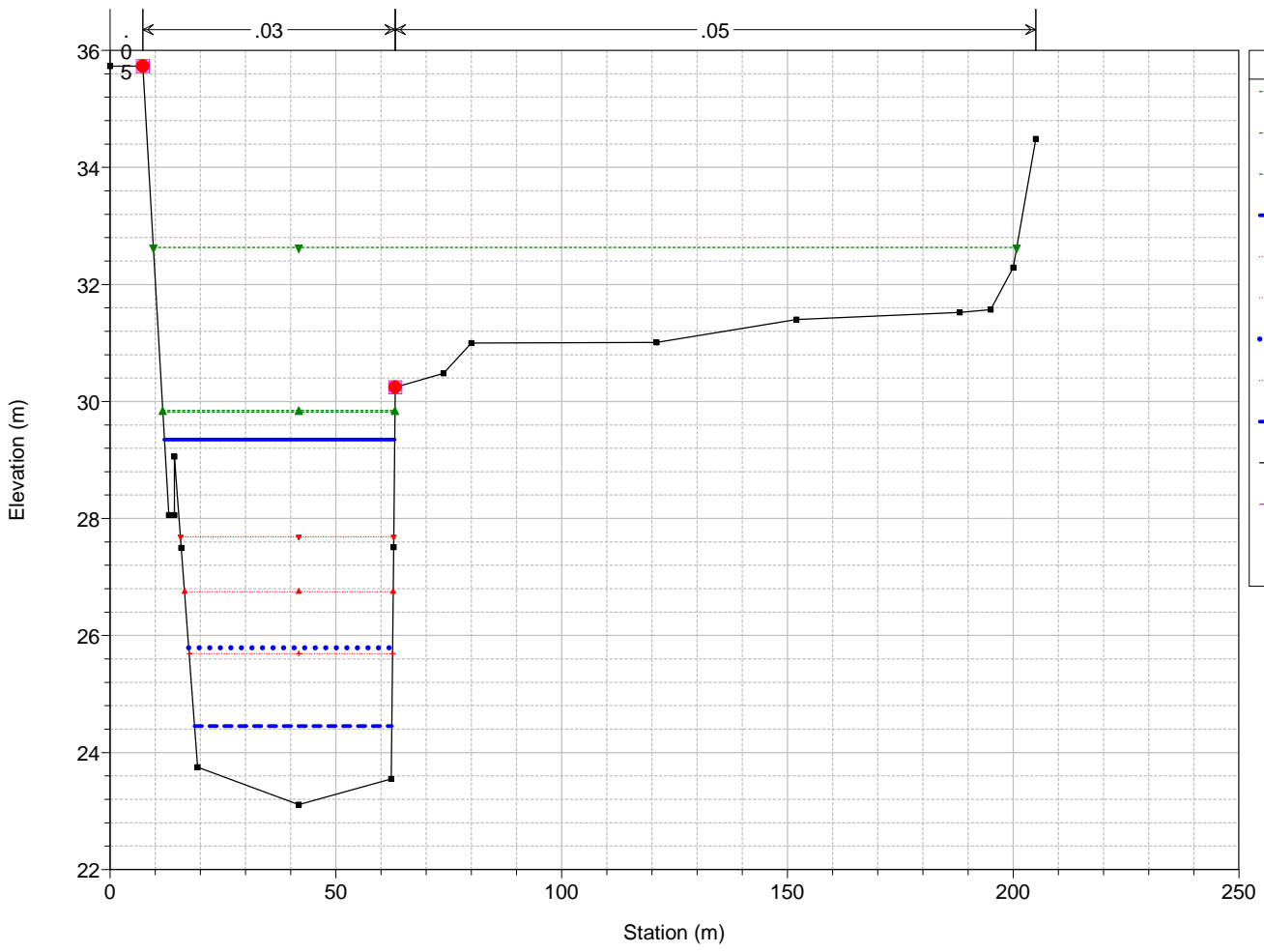


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ST-14 v



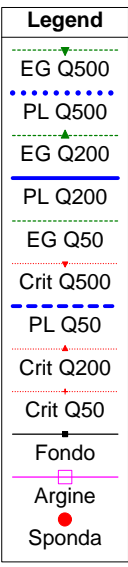
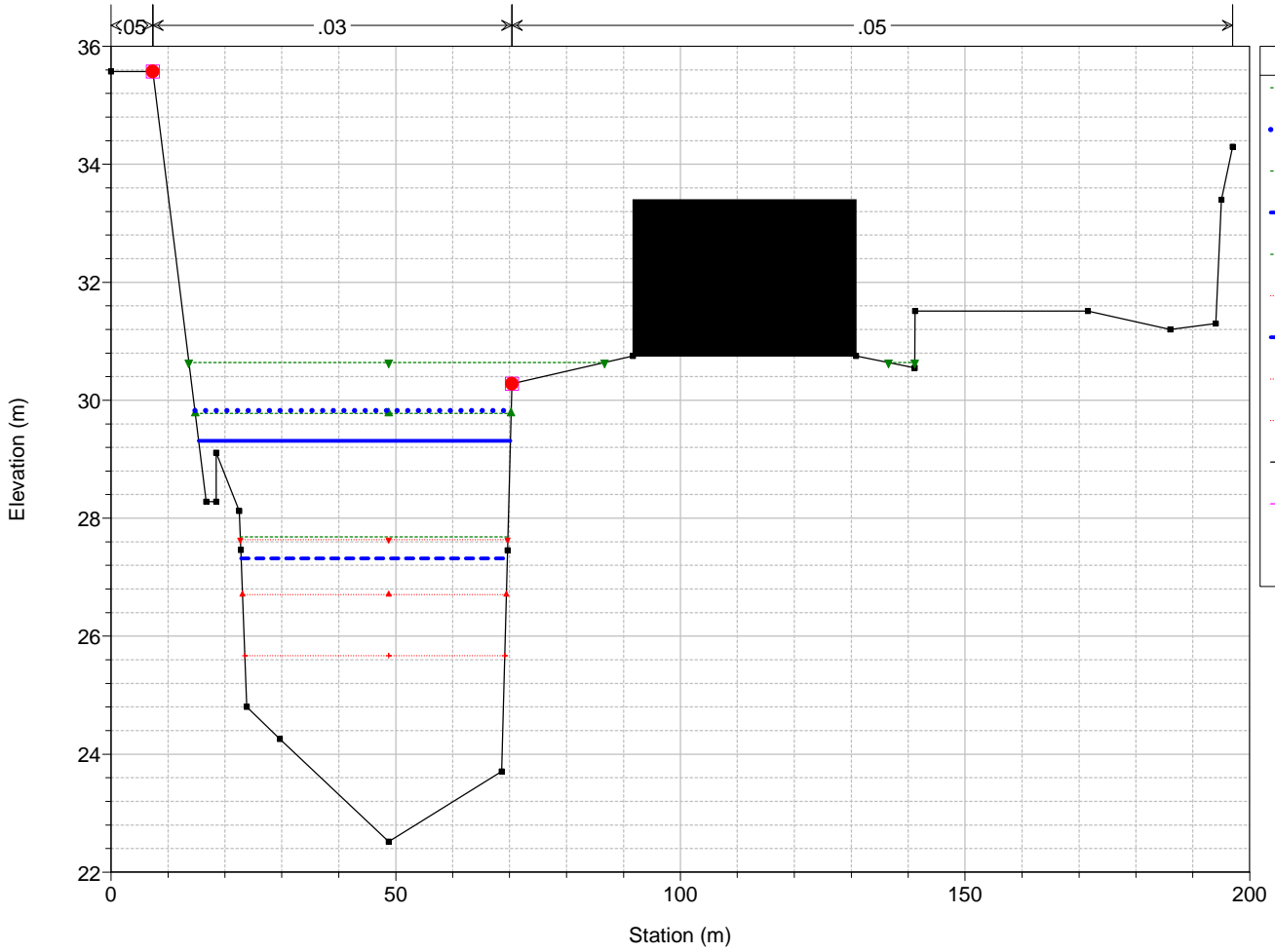
### Sturla\_valleCicana\_2017

ST-14 v



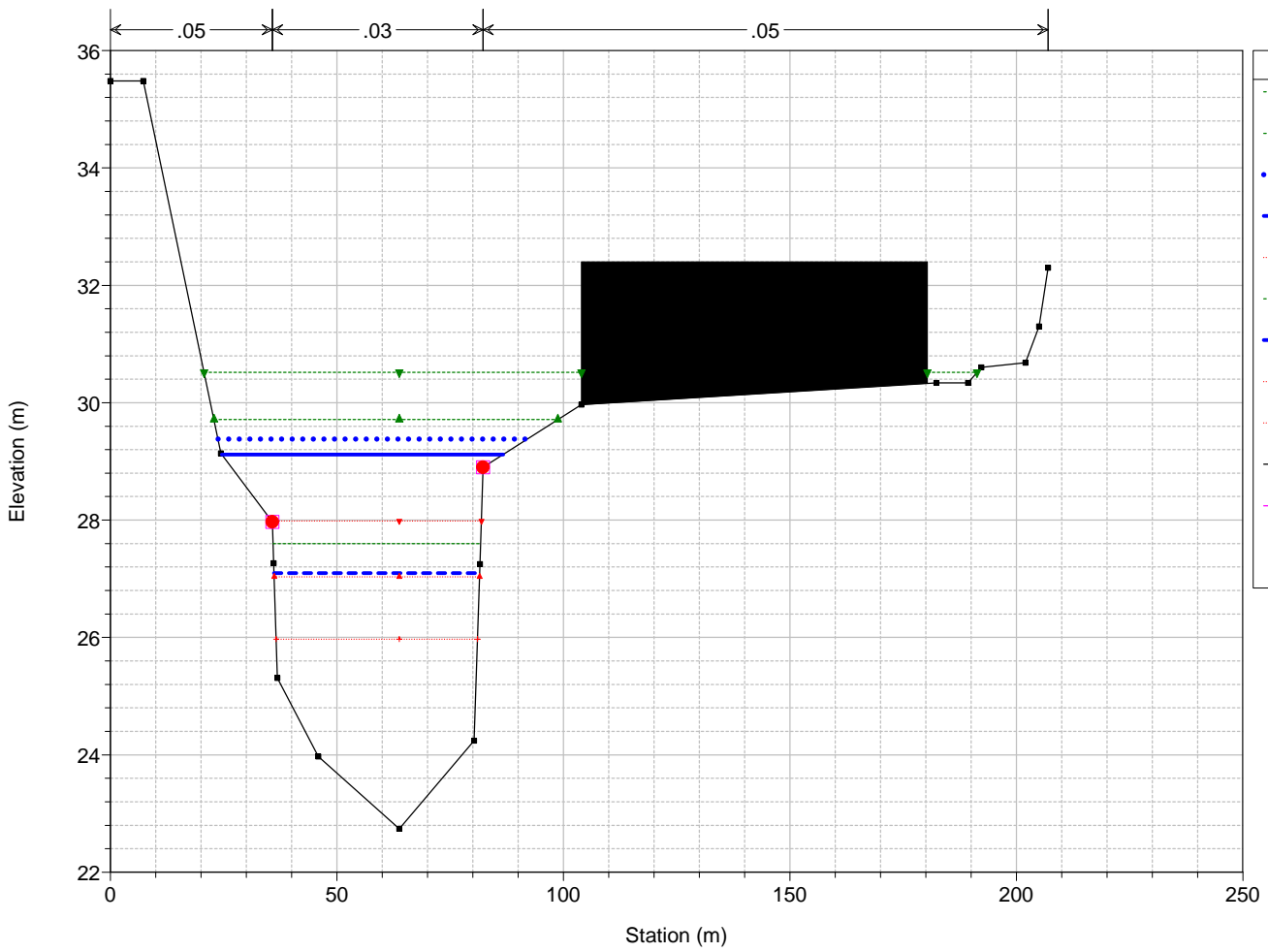
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ST-13



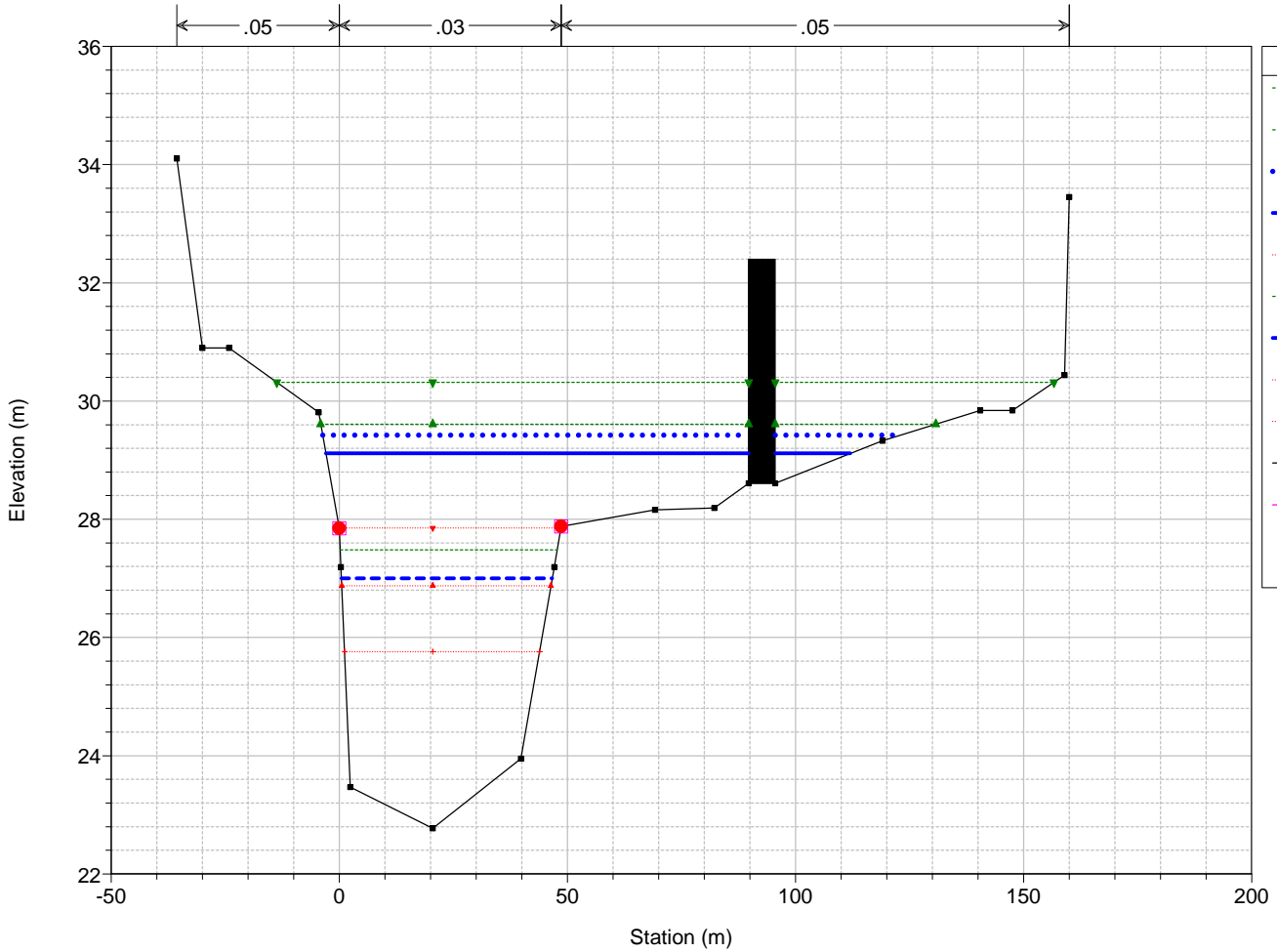
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ST-12

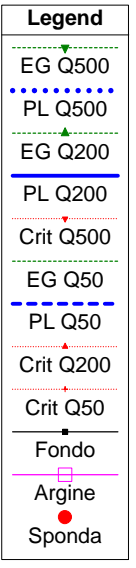
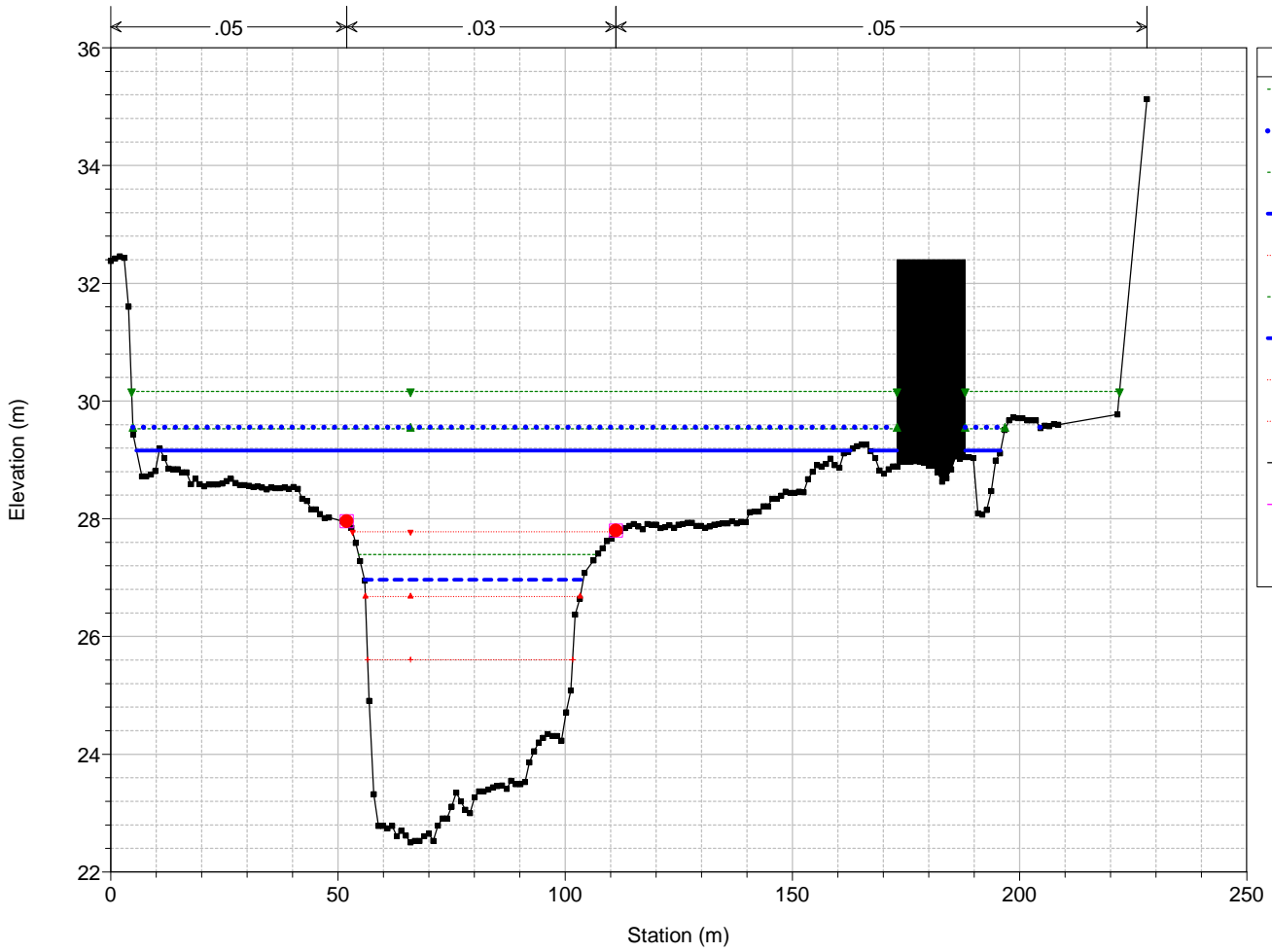


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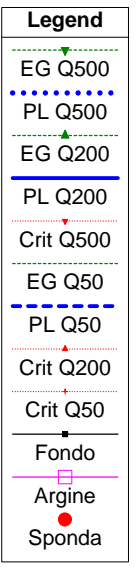
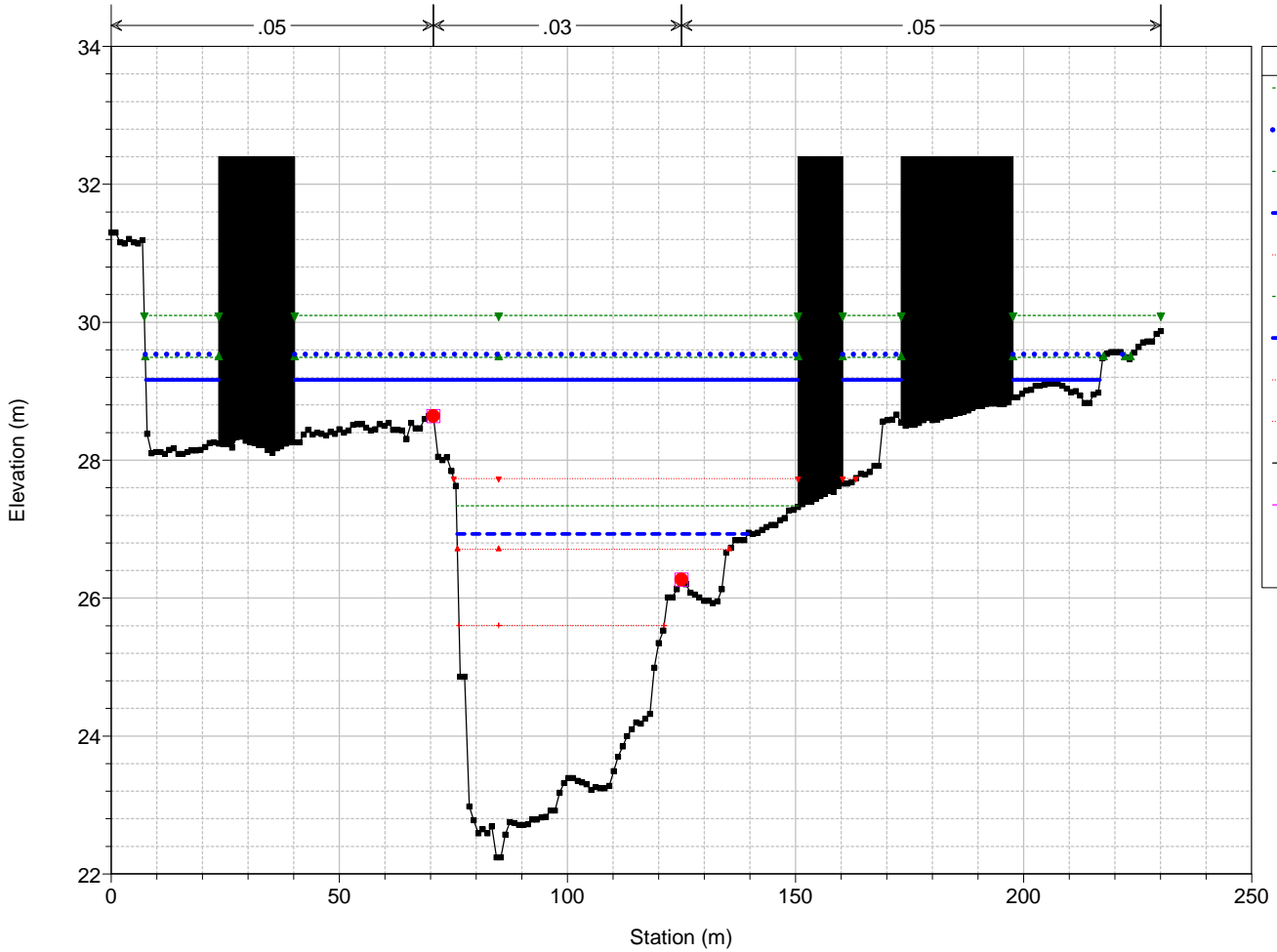
ST-11



Sturla\_valleCicana\_2017  
ST-10



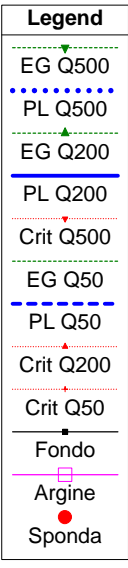
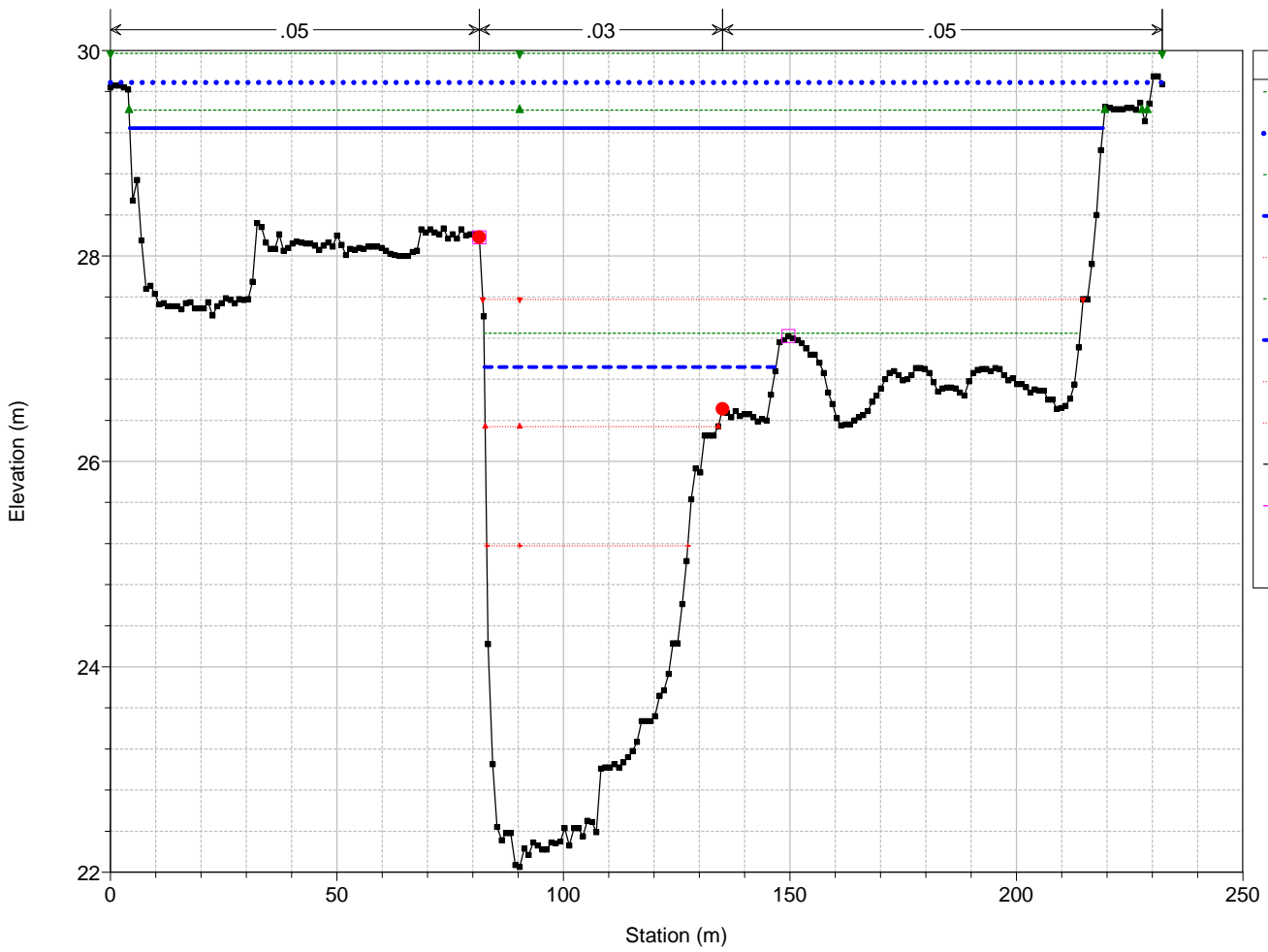
Sturla\_valleCicana\_2017  
ST-09





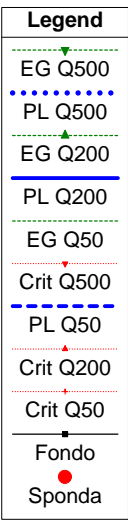
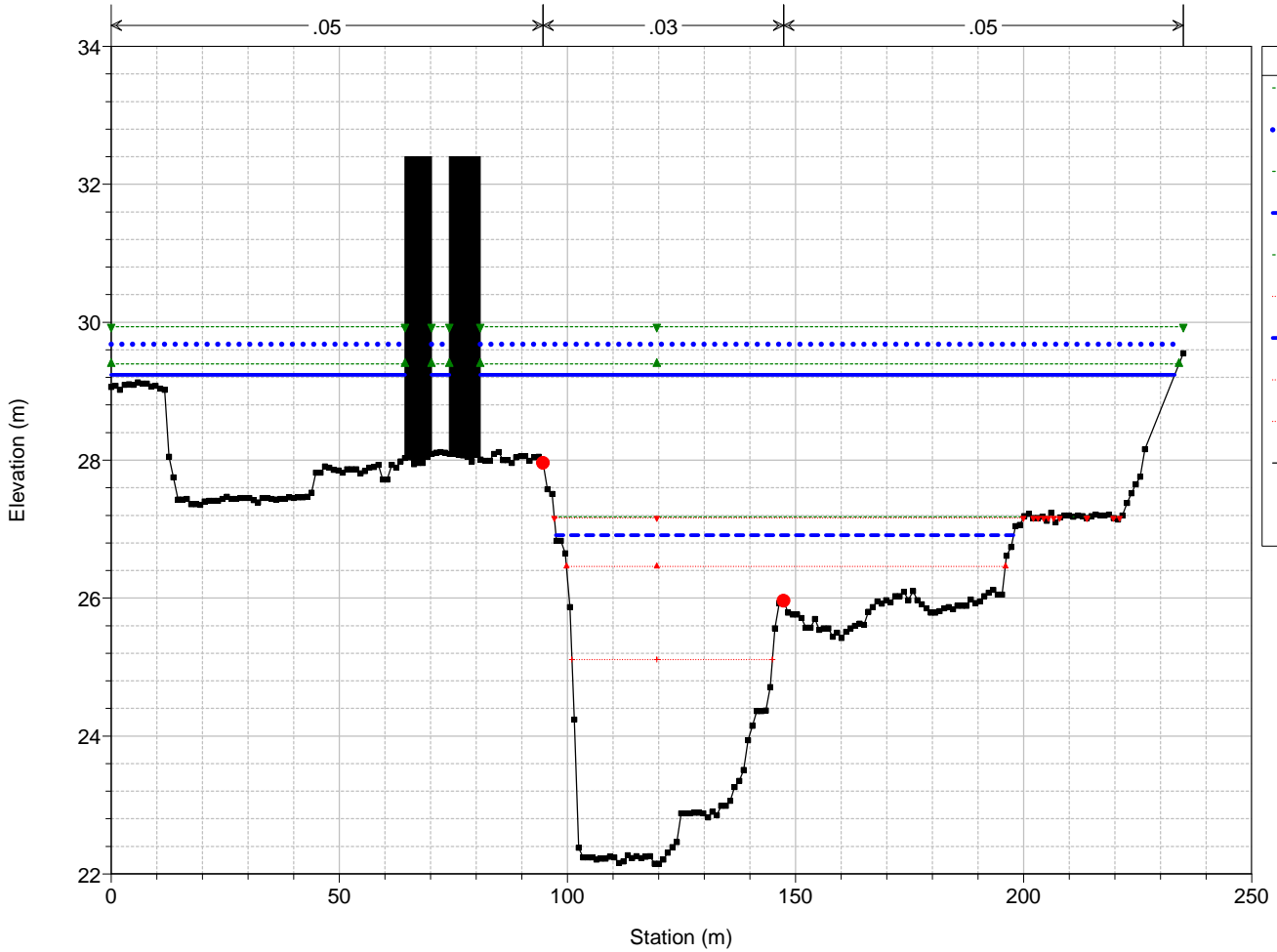
### Sturla\_valleCicana\_2017

ST-08

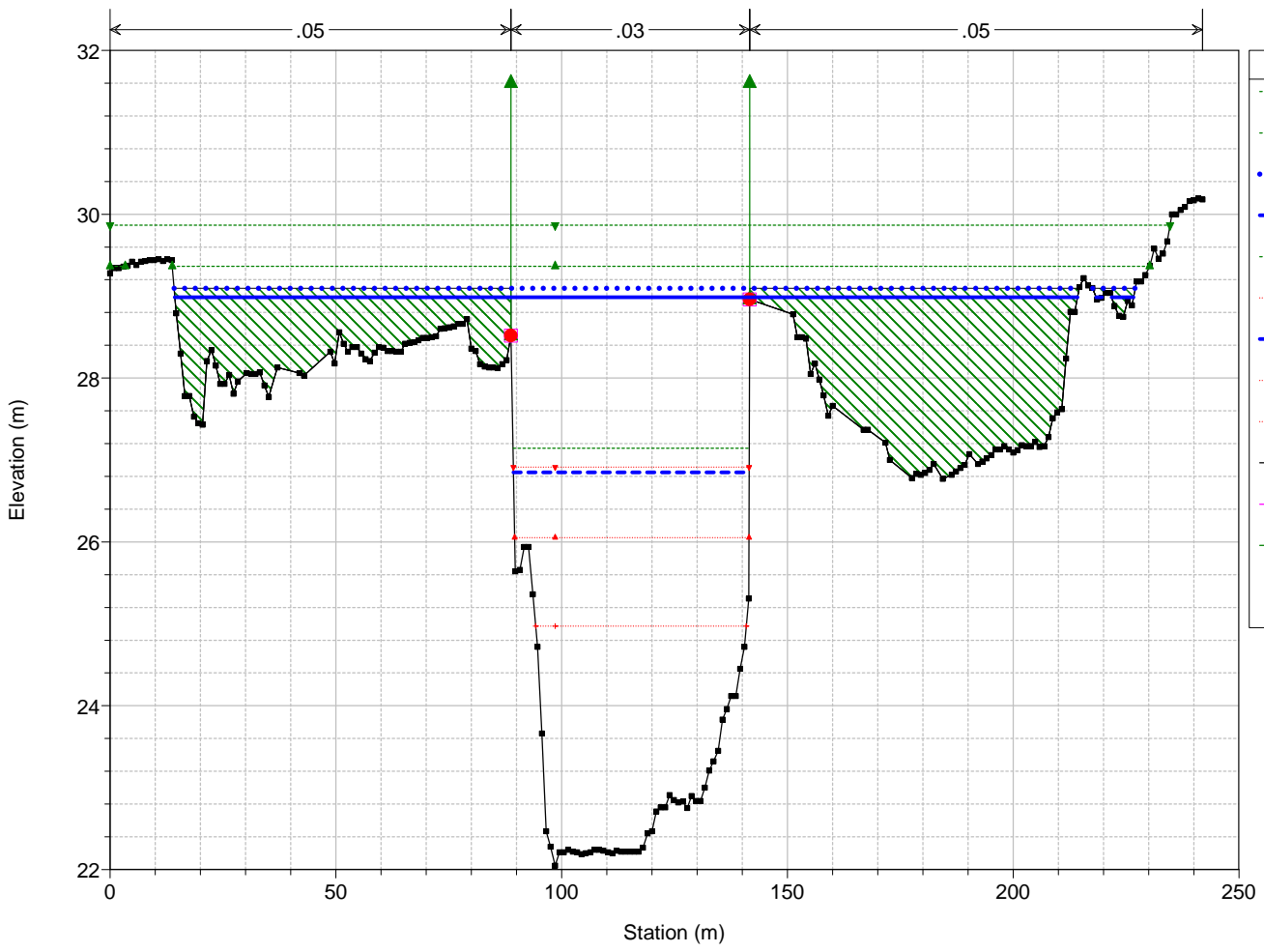


### Sturla\_valleCicana\_2017

ST-07

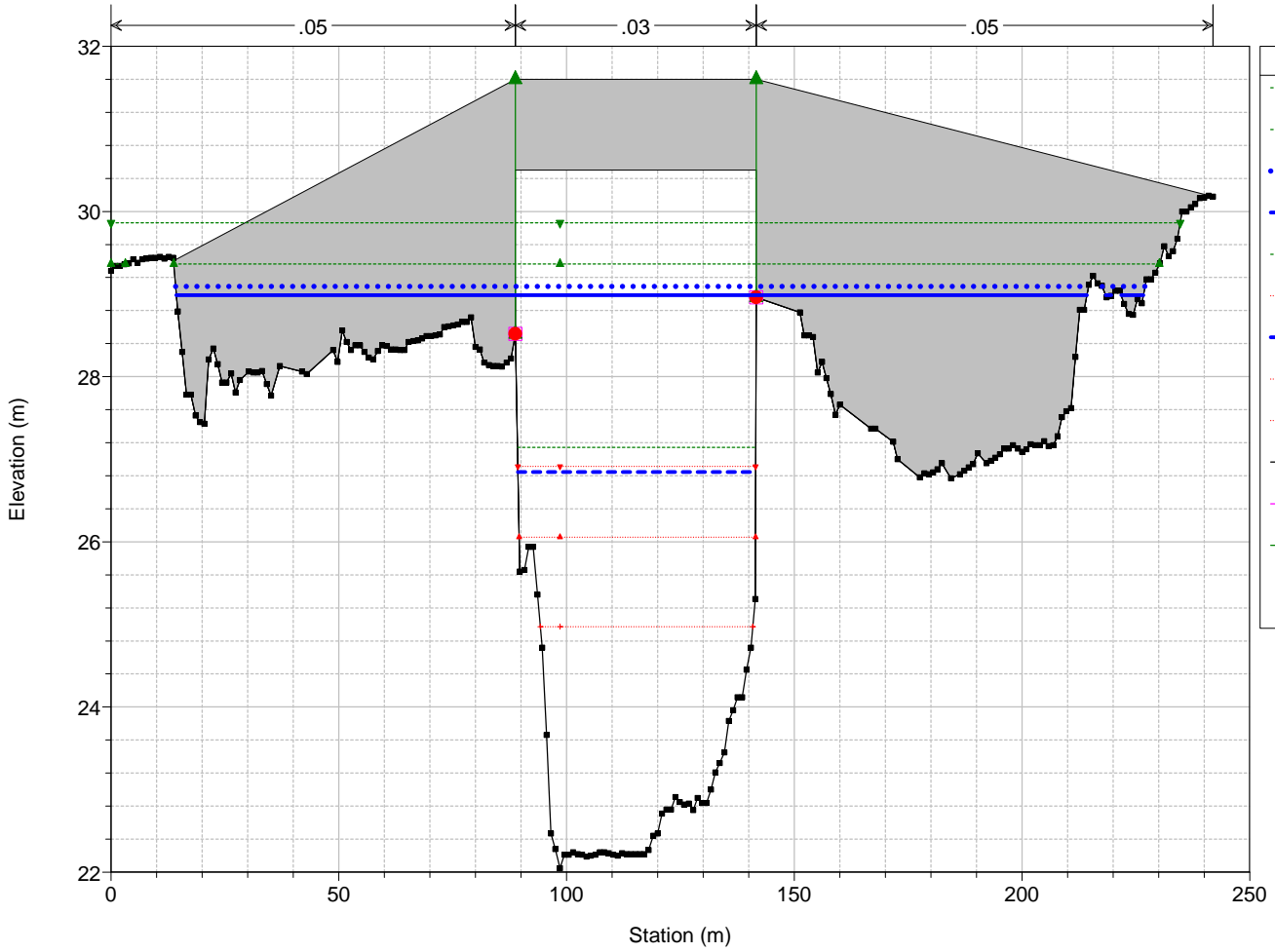


Sturla\_valleCicana\_2017  
ST-06 m



- Legend**
- EG Q500
  - EG Q200
  - PL Q500
  - PL Q200
  - EG Q50
  - Crit Q500
  - PL Q50
  - Crit Q200
  - Crit Q50
  - Fondo
  - Argine
  - Ineff
  - Sponda

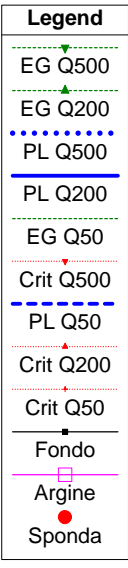
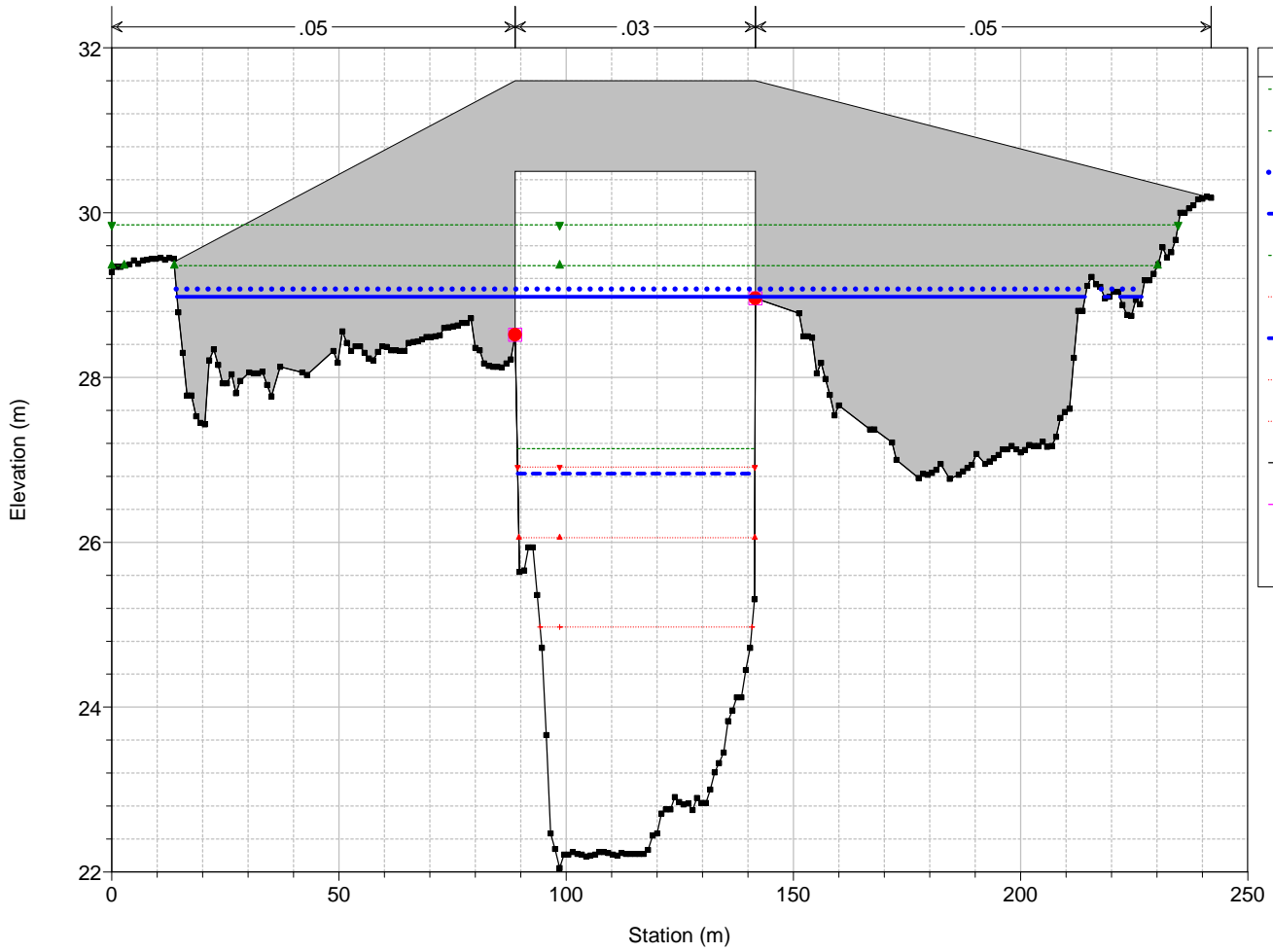
Sturla\_valleCicana\_2017  
ST-06



- Legend**
- EG Q500
  - EG Q200
  - PL Q500
  - PL Q200
  - EG Q50
  - Crit Q500
  - PL Q50
  - Crit Q200
  - Crit Q50
  - Fondo
  - Argine
  - Ineff
  - Sponda

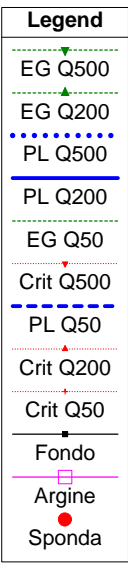
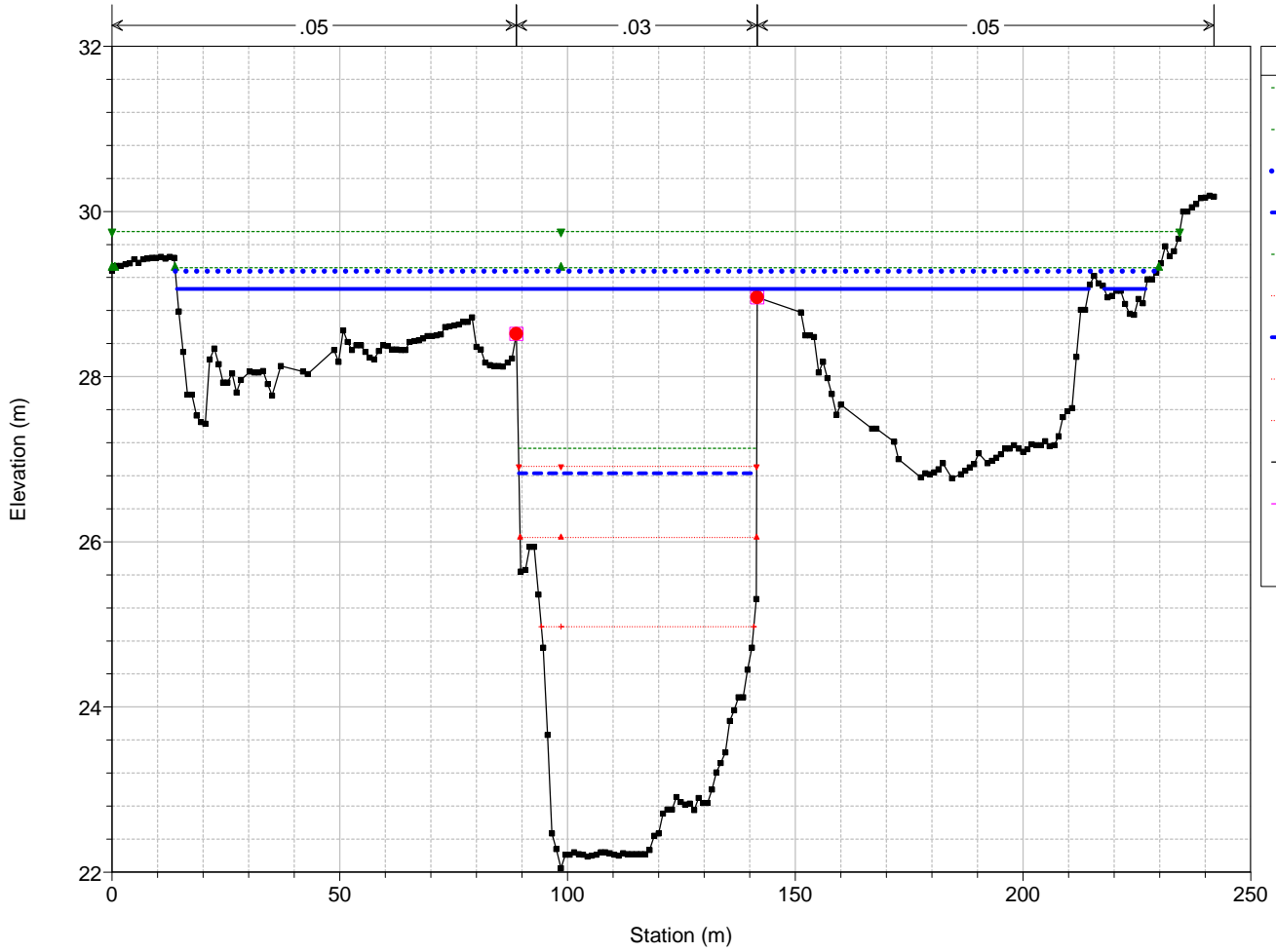
### Sturla\_valleCicana\_2017

ST-06



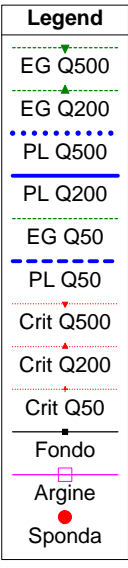
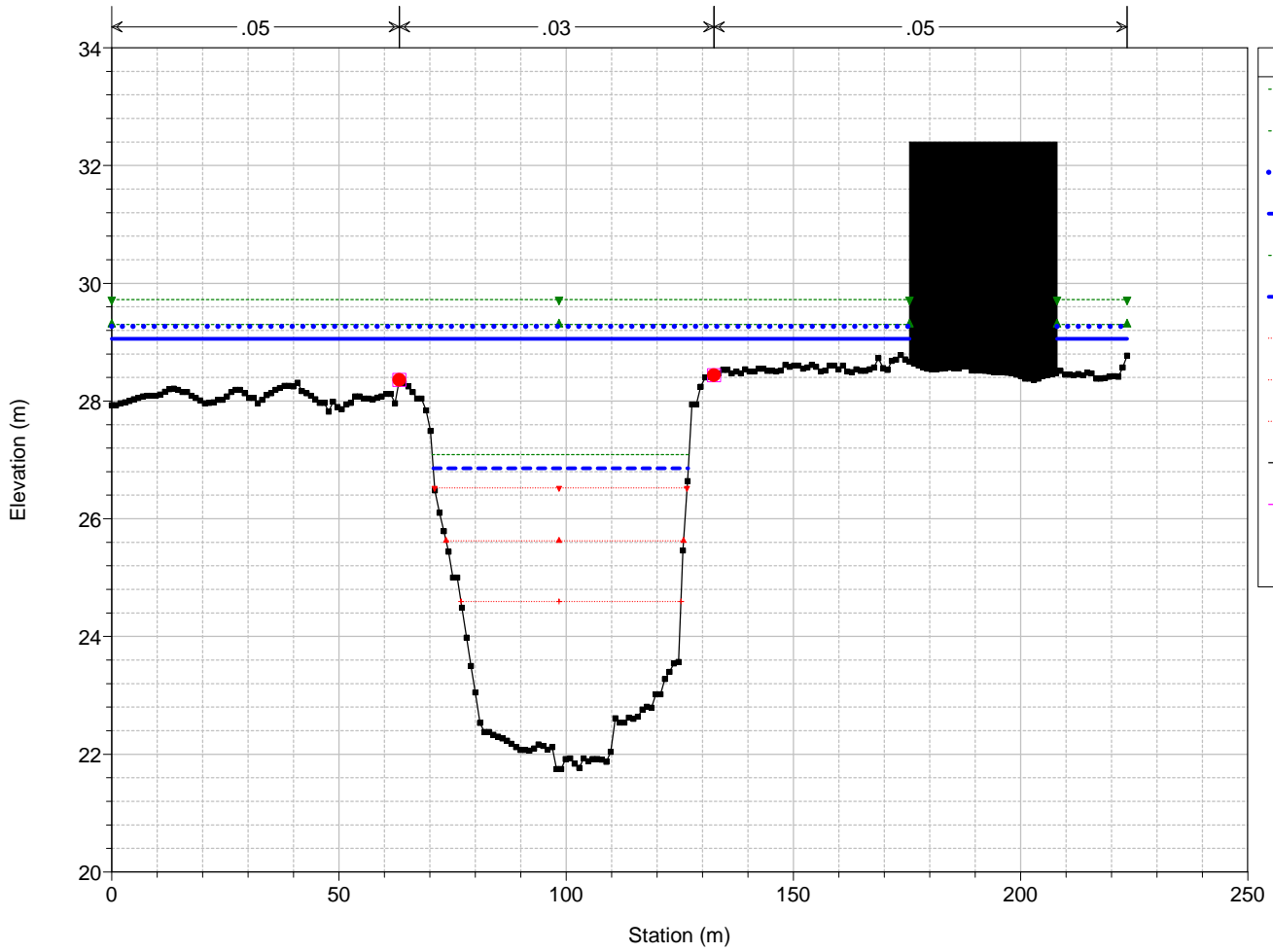
### Sturla\_valleCicana\_2017

ST-06 v



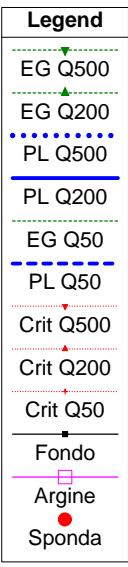
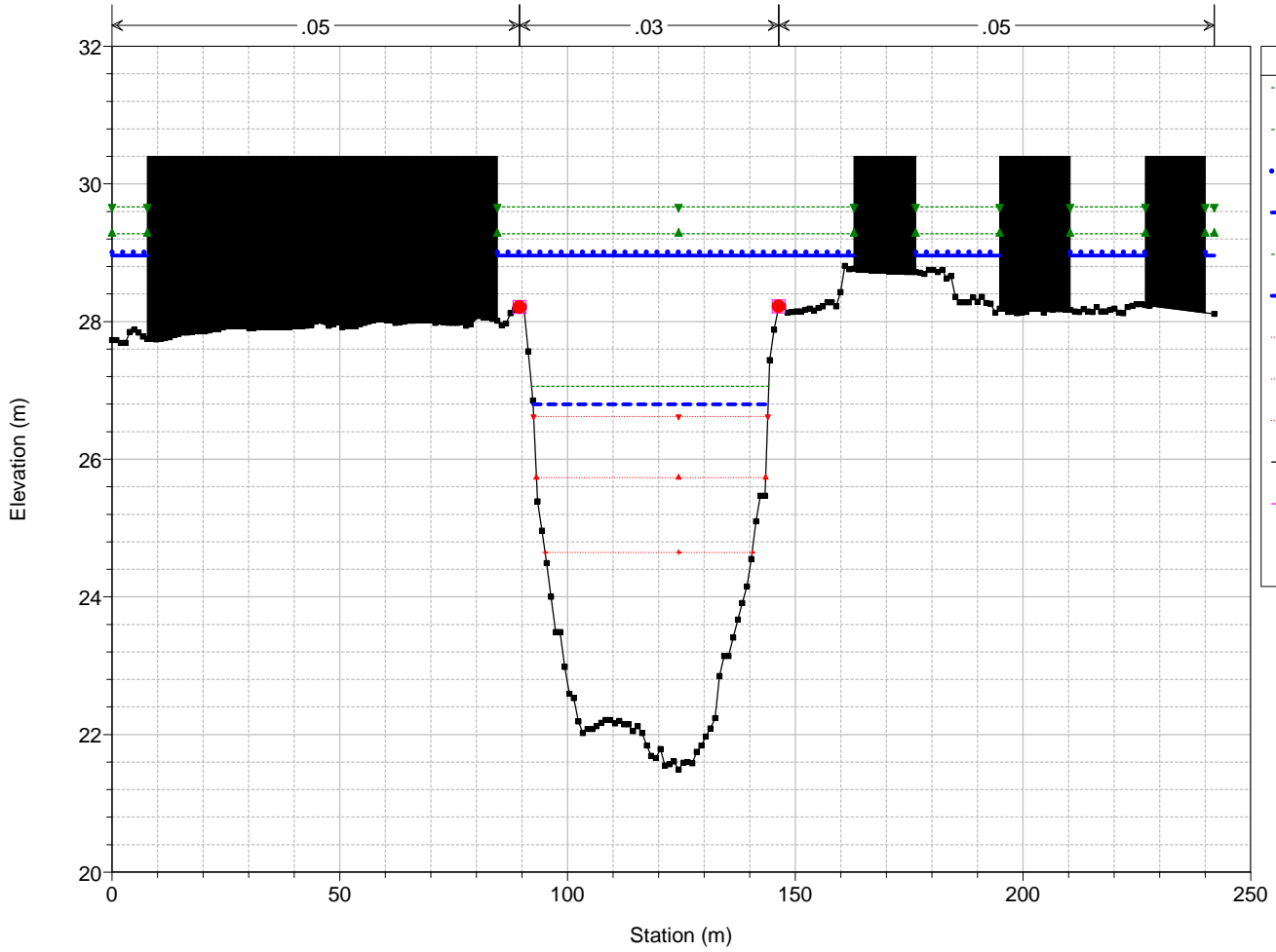
Sturla\_valleCicana\_2017

ST-05



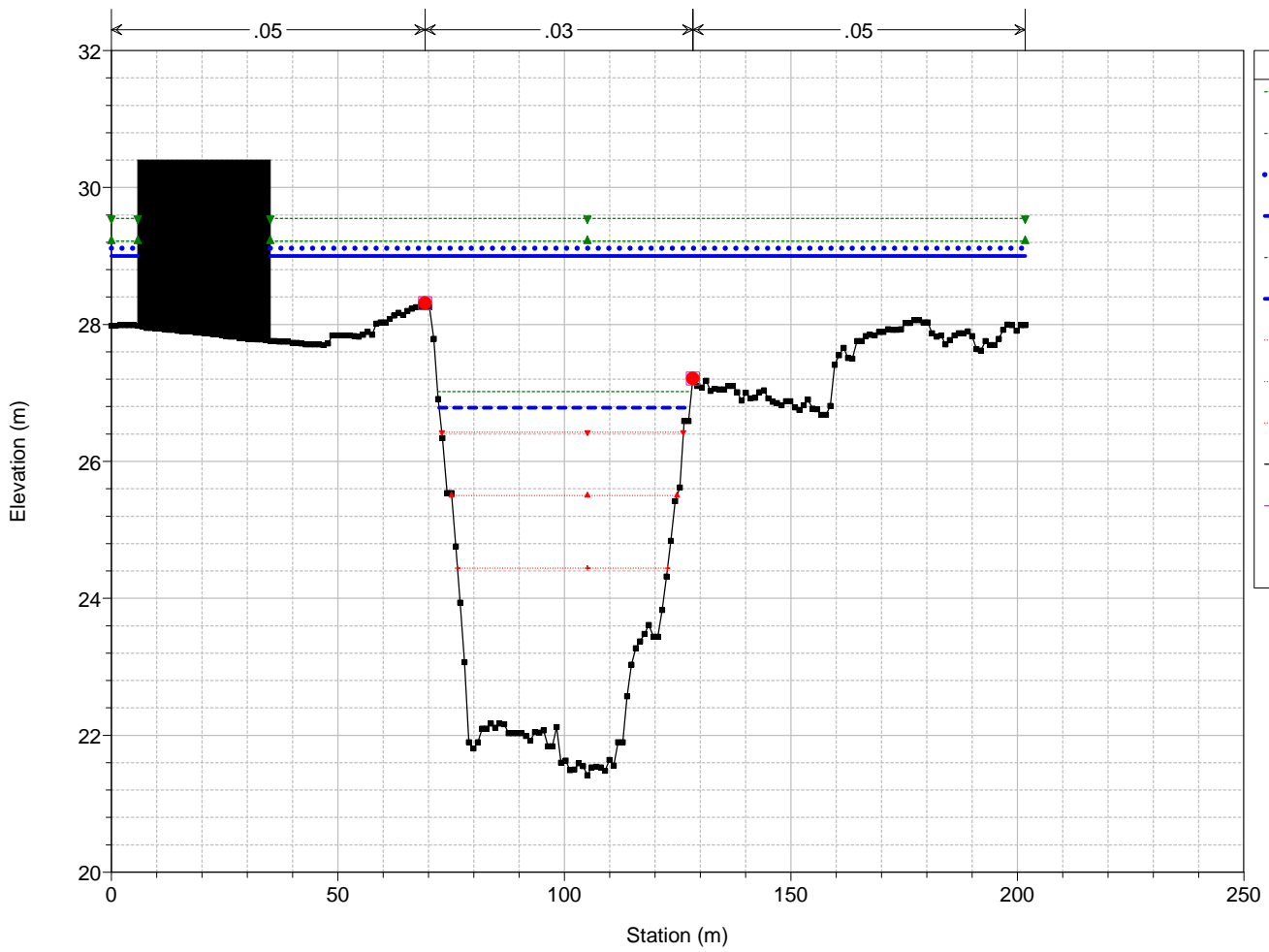
Sturla\_valleCicana\_2017

ST-04



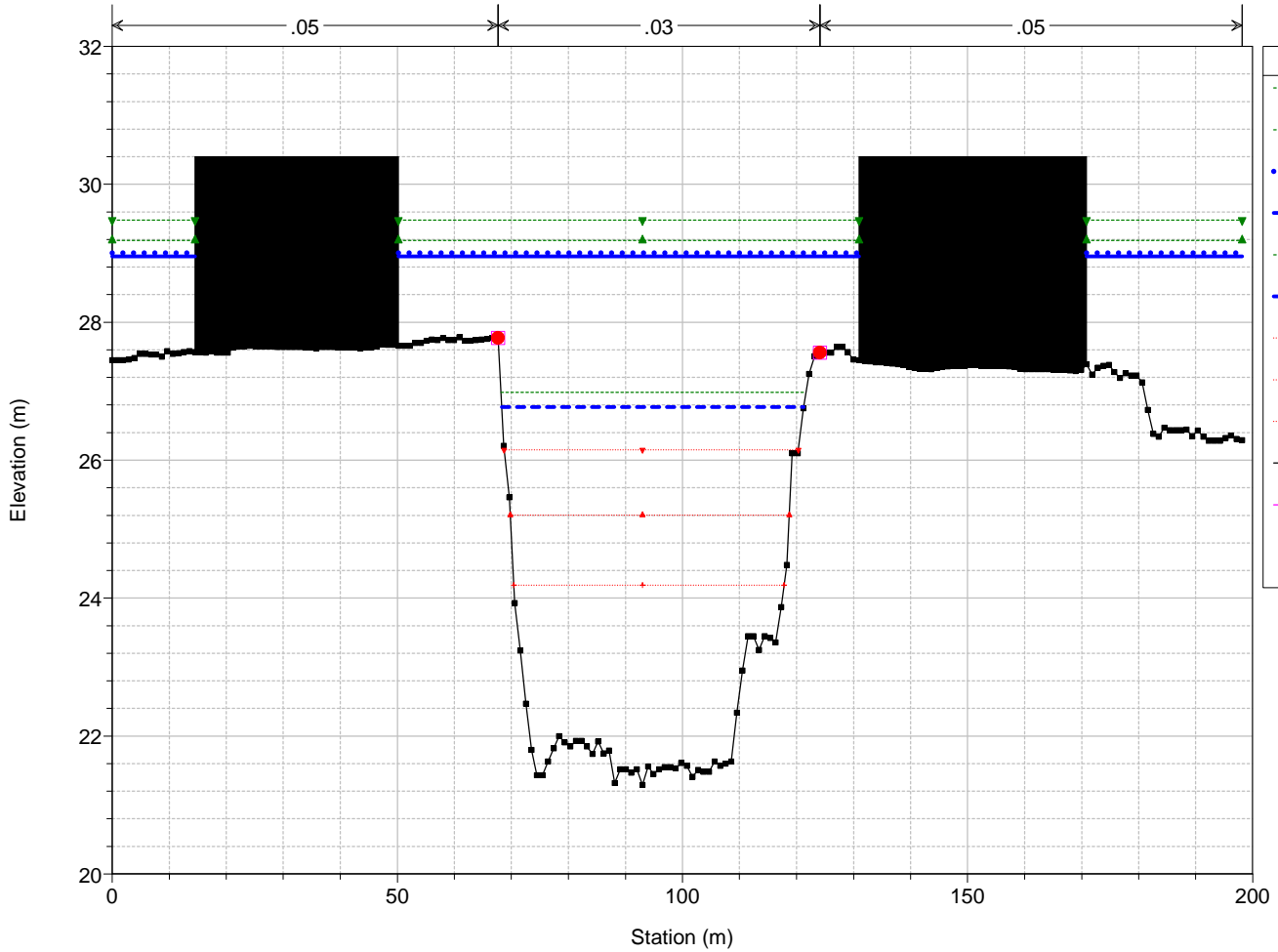
Sturla\_valleCicana\_2017

ST-03



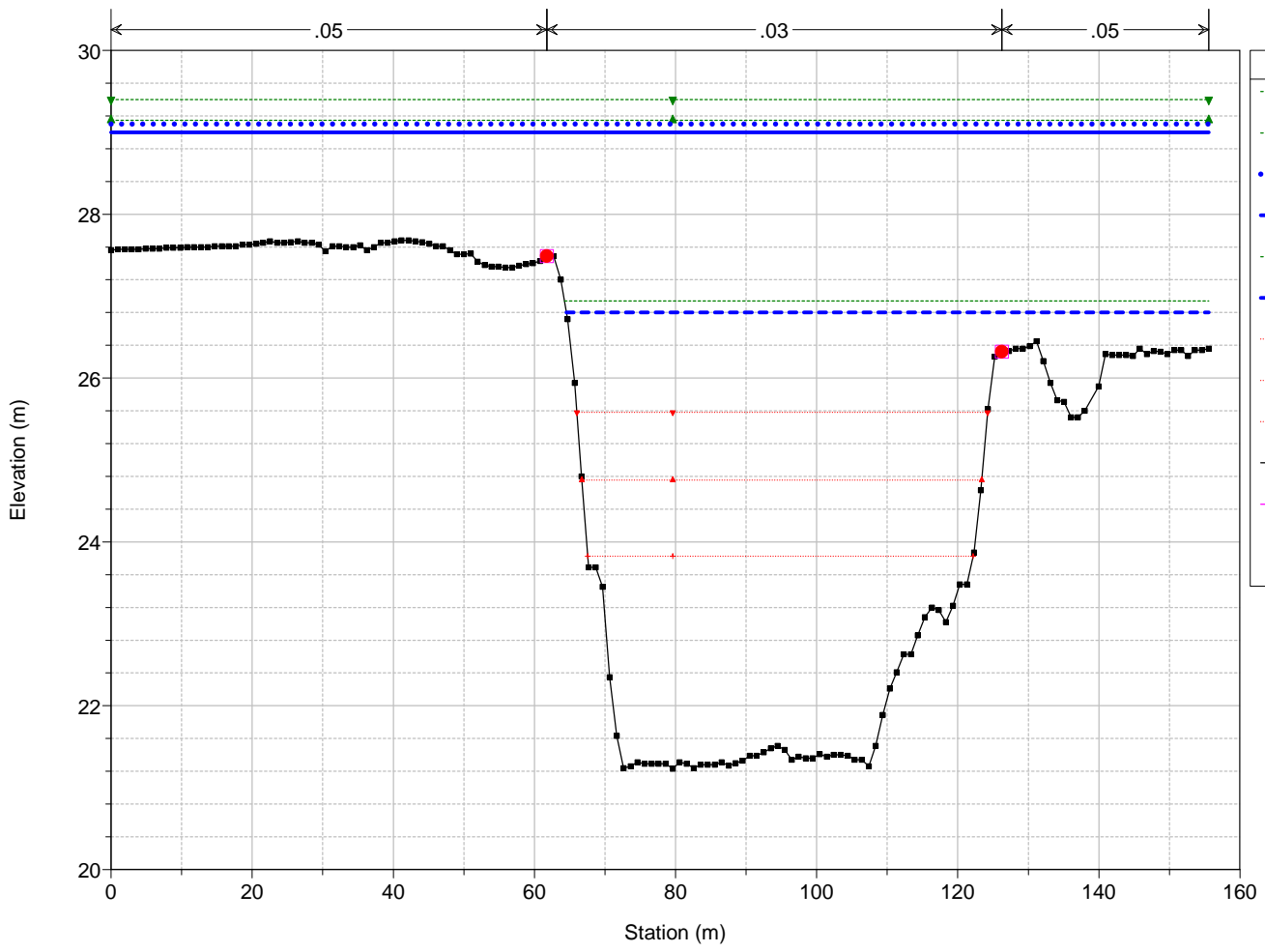
Sturla\_valleCicana\_2017

ST-02



# Sturla\_valleCicana\_2017

ST-01



Legend	
EG Q500	(Green dotted line with inverted triangle)
EG Q200	(Blue dotted line with inverted triangle)
PL Q500	(Blue dotted line)
PL Q200	(Blue solid line)
EG Q50	(Green dotted line with inverted triangle)
PL Q50	(Blue solid line)
Crit Q500	(Red dotted line with inverted triangle)
Crit Q200	(Red dotted line with inverted triangle)
Crit Q50	(Red dotted line with inverted triangle)
Fondo	(Black line with square)
Argine	(Red circle)
Sponda	(Red circle)

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
valleCicana	3792.44 ST-77	Q50	474.00	51.74	55.74	58.51	2.78	59.65	3.92	55.30	56.79	0.004516	4.54	104.35	32.56	0.81
valleCicana	3792.44 ST-77	Q200	839.00	51.74	56.93	58.51	1.58	59.65	2.72	56.65	58.65	0.005429	5.82	144.24	34.65	0.91
valleCicana	3792.44 ST-77	Q500	1223.00	51.74	57.88	58.51	0.64	59.65	1.78	57.88	60.27	0.006368	6.86	178.27	37.17	1.00
valleCicana	3729.59 ST-76	Q50	474.00	51.34	55.59	55.53	-0.06	56.12	0.53	55.12	56.47	0.004307	4.15	114.24	42.89	0.80
valleCicana	3729.59 ST-76	Q200	839.00	51.34	57.23	55.53	-1.70	56.12	-1.11	56.51	58.16	0.002634	4.37	222.65	84.75	0.67
valleCicana	3729.59 ST-76	Q500	1223.00	51.34	58.38	55.53	-2.84	56.12	-2.25	57.53	59.40	0.002242	4.71	320.42	86.20	0.64
valleCicana	3683.23 ST-75	Q50	474.00	50.83	55.08	55.56	0.48	56.27	1.19	54.54	56.24	0.004391	4.78	99.18	29.36	0.80
valleCicana	3683.23 ST-75	Q200	839.00	50.83	56.46	55.56	-0.90	56.27	-0.19	56.45	57.97	0.004324	5.63	182.97	71.80	0.82
valleCicana	3683.23 ST-75	Q500	1223.00	50.83	57.39	55.56	-1.83	56.27	-1.12	57.39	59.20	0.004388	6.38	252.02	77.37	0.85
valleCicana	3632.95 ST-74	Q50	474.00	49.57	54.65	54.79	0.14	59.63	4.98	53.63	55.45	0.003015	3.95	120.00	34.30	0.67
valleCicana	3632.95 ST-74	Q200	839.00	49.57	54.38	54.79	0.41	59.63	5.25	55.13	57.30	0.011888	7.58	110.75	33.45	1.33
valleCicana	3632.95 ST-74	Q500	1223.00	49.57	56.93	54.79	-2.13	59.63	2.71	56.57	58.17	0.002999	5.27	305.69	95.23	0.71
valleCicana	3583.37 ST-73	Q50	474.00	49.74	54.08	53.22	-0.86	55.99	1.91	53.87	55.04	0.003817	4.45	126.33	64.42	0.76
valleCicana	3583.37 ST-73	Q200	839.00	49.74	55.46	53.22	-2.24	55.99	0.53	55.02	56.54	0.003233	4.97	221.57	73.80	0.73
valleCicana	3583.37 ST-73	Q500	1223.00	49.74	56.92	53.22	-3.70	55.99	-0.93	55.96	57.95	0.002363	5.03	335.04	83.62	0.65
valleCicana	3541.05 ST-72	Q50	474.00	49.67	53.32	52.67	-0.65	53.52	0.21	53.51	54.73	0.006486	5.29	96.22	50.67	0.97
valleCicana	3541.05 ST-72	Q200	839.00	49.67	55.25	52.67	-2.58	53.52	-1.72	54.70	56.40	0.003084	5.05	204.98	58.88	0.73
valleCicana	3541.05 ST-72	Q500	1223.00	49.67	56.40	52.67	-3.73	53.52	-2.88	55.66	57.80	0.002929	5.66	273.88	60.24	0.73
valleCicana	3481.42 ST-71	Q50	474.00	49.61	53.44	53.24	-0.20	52.51	-0.93	52.82	53.93	0.002443	3.23	169.75	76.37	0.62
valleCicana	3481.42 ST-71	Q200	839.00	49.61	54.36	53.24	-1.13	52.51	-1.85	53.69	55.14	0.002711	4.11	241.79	80.38	0.68
valleCicana	3481.42 ST-71	Q500	1223.00	49.61	53.28	53.24	-0.05	52.51	-0.77	54.42	57.04	0.019971	8.89	158.14	75.79	1.75
valleCicana	3464.10 ST-70	Q50	474.00	49.55	53.52	53.31	-0.21	51.98	-1.54	52.39	53.85	0.001336	2.62	207.75	82.02	0.46
valleCicana	3464.10 ST-70	Q200	839.00	49.55	54.49	53.31	-1.17	51.98	-2.50	53.31	55.03	0.001621	3.44	287.16	82.56	0.53
valleCicana	3464.10 ST-70	Q500	1223.00	49.55	55.25	53.31	-1.94	51.98	-3.27	54.02	56.03	0.001891	4.14	350.44	83.21	0.59
valleCicana	3389.39 ST-69	Q50	474.00	48.89	52.64	52.60	-0.05	51.74	-0.90	52.64	53.64	0.004816	4.59	129.25	88.98	0.86
valleCicana	3389.39 ST-69	Q200	839.00	48.89	53.66	52.60	-1.06	51.74	-1.91	53.66	54.81	0.004230	5.24	224.36	95.85	0.84
valleCicana	3389.39 ST-69	Q500	1223.00	48.89	54.35	52.60	-1.75	51.74	-2.61	54.35	55.79	0.004487	6.01	290.92	96.43	0.89
valleCicana	3335.11 ST-68	Q50	474.00	47.56	49.36	50.26	0.90	51.68	2.32	50.01	51.64	0.044433	6.69	70.84	75.23	2.20
valleCicana	3335.11 ST-68	Q200	839.00	47.56	49.76	50.26	0.50	51.68	1.92	50.75	53.26	0.043211	8.29	101.25	76.08	2.29
valleCicana	3335.11 ST-68	Q500	1223.00	47.56	50.18	50.26	0.08	51.68	1.50	51.42	54.46	0.037395	9.17	133.38	76.91	2.22
valleCicana	3284.16 ST-67	Q50	474.00	46.75	50.15	50.28	0.14	50.02	-0.13	49.03	50.45	0.001490	2.46	192.86	71.83	0.47
valleCicana	3284.16 ST-67	Q200	839.00	46.75	51.95	50.28	-1.66	50.02	-1.93	49.83	52.28	0.000850	2.59	341.10	86.77	0.39
valleCicana	3284.16 ST-67	Q500	1223.00	46.75	52.69	50.28	-2.41	50.02	-2.67	50.57	53.20	0.001068	3.21	406.37	88.09	0.44
valleCicana	3237.26 ST-66	Q50	474.00	45.58	49.77	49.84	0.07	52.25	2.48	48.78	50.36	0.002352	3.39	139.67	43.47	0.60
valleCicana	3237.26 ST-66	Q200	839.00	45.58	51.65	49.84	-1.81	52.25	0.60	50.10	52.21	0.001413	3.45	282.60	76.76	0.50
valleCicana	3237.26 ST-66	Q500	1223.00	45.58	52.19	49.84	-2.35	52.25	0.06	51.02	53.10	0.002079	4.44	324.34	78.52	0.61
valleCicana	3188.25 ST-65	Q50	474.00	44.92	48.71	50.31	1.61	51.93	3.23	48.71	50.11	0.006669	5.25	90.25	32.02	1.00
valleCicana	3188.25 ST-65	Q200	839.00	44.92	50.09	50.31	0.22	51.93	1.84	50.09	51.99	0.006191	6.11	137.26	36.00	1.00
valleCicana	3188.25 ST-65	Q500	1223.00	44.92	51.11	50.31	-0.80	51.93	0.82	51.11	52.88	0.005082	6.19	234.97	66.79	0.93

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
valleCicana	3138.59 ST-64	Q50	474.00	44.45	48.69	48.17	-0.52	48.75	0.06	47.98	49.42	0.003001	3.86	138.74	59.62	0.68
valleCicana	3138.59 ST-64	Q200	839.00	44.45	50.37	48.17	-2.20	48.75	-1.62	49.26	51.15	0.001980	4.13	245.81	66.67	0.60
valleCicana	3138.59 ST-64	Q500	1223.00	44.45	51.49	48.17	-3.32	48.75	-2.74	50.18	52.47	0.001960	4.71	322.26	69.92	0.61
valleCicana	3086.33 ST-63	Q50	474.00	43.44	47.85	47.46	-0.39	52.87	5.02	47.85	49.19	0.005546	5.18	100.62	45.34	0.89
valleCicana	3086.33 ST-63	Q200	839.00	43.44	49.35	47.46	-1.89	52.87	3.52	49.35	50.94	0.004710	5.84	177.53	61.26	0.86
valleCicana	3086.33 ST-63	Q500	1223.00	43.44	50.22	47.46	-2.76	52.87	2.65	50.22	52.23	0.005250	6.76	231.88	64.98	0.92
valleCicana	3035.61 ST-62	Q50	474.00	43.56	47.56	48.49	0.93	48.67	1.11	47.56	48.79	0.007168	4.90	96.76	39.47	1.00
valleCicana	3035.61 ST-62	Q200	839.00	43.56	49.36	48.49	-0.87	48.67	-0.69	48.88	50.52	0.003562	4.82	190.55	68.05	0.76
valleCicana	3035.61 ST-62	Q500	1223.00	43.56	49.88	48.49	-1.39	48.67	-1.21	49.88	51.70	0.004881	6.11	226.18	69.29	0.90
valleCicana	2987.18 ST-61	Q50	474.00	43.36	46.92	45.97	-0.95	49.97	3.05	46.92	48.31	0.006279	5.24	94.11	36.65	0.96
valleCicana	2987.18 ST-61	Q200	839.00	43.36	48.22	45.97	-2.25	49.97	1.75	47.89	50.21	0.006031	6.35	151.42	68.31	0.98
valleCicana	2987.18 ST-61	Q500	1223.00	43.36	49.53	45.97	-3.56	49.97	0.44	49.62	51.37	0.004500	6.37	244.95	73.56	0.87
valleCicana	2935.84 ST-60	Q50	474.00	42.64	45.93	46.15	0.22	46.29	0.36	46.14	47.57	0.008686	5.68	83.47	31.71	1.12
valleCicana	2935.84 ST-60	Q200	839.00	42.64	47.22	46.15	-1.07	46.29	-0.93	47.43	49.38	0.007000	6.58	137.18	48.56	1.06
valleCicana	2935.84 ST-60	Q500	1223.00	42.64	48.62	46.15	-2.47	46.29	-2.33	48.89	50.59	0.004553	6.51	242.38	86.97	0.90
valleCicana	2884.65 ST-59	Q50	474.00	42.25	45.40	45.96	0.56	46.40	1.00	45.66	47.03	0.009110	5.66	83.78	33.53	1.14
valleCicana	2884.65 ST-59	Q200	839.00	42.25	46.50	45.96	-0.54	46.40	-0.10	47.03	48.61	0.010581	6.50	137.72	63.89	1.26
valleCicana	2884.65 ST-59	Q500	1223.00	42.25	47.02	45.96	-1.06	46.40	-0.62	47.88	50.00	0.012019	7.79	171.88	66.41	1.38
valleCicana	2836.94 ST-58	Q50	474.00	41.98	45.38	45.72	0.34	45.61	0.22	45.28	46.62	0.006010	4.93	96.19	34.90	0.95
valleCicana	2836.94 ST-58	Q200	839.00	41.98	46.92	45.72	-1.20	45.61	-1.32	46.63	48.15	0.003708	5.09	198.92	75.88	0.80
valleCicana	2836.94 ST-58	Q500	1223.00	41.98	48.06	45.72	-2.33	45.61	-2.45	47.76	49.34	0.003024	5.39	302.36	96.38	0.75
valleCicana	2788.40 ST-57	Q50	474.00	41.65	45.50	44.90	-0.60	45.65	0.15	45.14	46.23	0.003353	3.87	141.41	72.81	0.72
valleCicana	2788.40 ST-57	Q200	839.00	41.65	47.18	44.90	-2.28	45.65	-1.53	46.16	47.85	0.001863	3.88	272.79	86.84	0.58
valleCicana	2788.40 ST-57	Q500	1223.00	41.65	48.30	44.90	-3.40	45.65	-2.65	46.95	49.08	0.001702	4.29	374.19	91.73	0.57
valleCicana	2735.73 ST-56	Q50	474.00	41.22	45.05	44.16	-0.89	44.87	-0.18	44.74	46.01	0.004108	4.40	117.05	51.03	0.80
valleCicana	2735.73 ST-56	Q200	839.00	41.22	46.82	44.16	-2.66	44.87	-1.95	46.05	47.71	0.002290	4.44	242.25	79.74	0.64
valleCicana	2735.73 ST-56	Q500	1223.00	41.22	47.90	44.16	-3.74	44.87	-3.03	46.96	48.95	0.002201	4.97	336.58	93.61	0.65
valleCicana	2685.73 ST-55	Q50	474.00	40.82	44.79	46.19	1.40	45.85	1.06	44.23	45.62	0.003794	4.03	117.48	39.73	0.75
valleCicana	2685.73 ST-55	Q200	839.00	40.82	46.26	46.19	-0.07	45.85	-0.41	45.45	47.35	0.003404	4.64	190.46	97.62	0.74
valleCicana	2685.73 ST-55	Q500	1223.00	40.82	47.11	46.19	-0.92	45.85	-1.26	46.88	48.46	0.003437	5.30	276.07	103.84	0.77
valleCicana	2635.73 ST-54	Q50	474.00	40.44	44.23	46.56	2.33	45.08	0.85	43.92	45.31	0.005139	4.61	102.91	36.26	0.87
valleCicana	2635.73 ST-54	Q200	839.00	40.44	45.70	46.56	0.86	45.08	-0.62	45.77	46.98	0.003958	5.11	199.28	123.45	0.80
valleCicana	2635.73 ST-54	Q500	1223.00	40.44	46.08	46.56	0.48	45.08	-1.00	46.60	48.06	0.005823	6.50	247.09	128.06	0.98
valleCicana	2586.43 ST-53	Q50	474.00	40.20	43.93	44.87	0.94	44.24	0.31	43.93	44.96	0.007130	4.50	105.35	51.10	1.00
valleCicana	2586.43 ST-53	Q200	839.00	40.20	45.19	44.87	-0.31	44.24	-0.94	45.19	46.13	0.004255	4.43	232.03	154.56	0.82
valleCicana	2586.43 ST-53	Q500	1223.00	40.20	44.94	44.87	-0.07	44.24	-0.70	45.79	47.55	0.012831	7.26	194.28	150.97	1.41
valleCicana	2535.73 ST-52	Q50	474.00	40.15	43.78	44.66	0.89	44.10	0.32	43.49	44.28	0.004462	3.15	150.45	88.02	0.77
valleCicana	2535.73 ST-52	Q200	839.00	40.15	44.91	44.66	-0.25	44.10	-0.81	44.22	45.40	0.002425	3.14	305.21	181.71	0.61
valleCicana	2535.73 ST-52	Q500	1223.00	40.15	44.03	44.66	0.63	44.10	0.07	44.94	46.58	0.019882	7.07	172.88	92.18	1.65



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
valleCicana	2485.73 ST-51	Q50	474.00	39.95	43.34	44.39	1.05	43.35	0.01	43.03	44.05	0.005206	3.76	129.03	81.28	0.85
valleCicana	2485.73 ST-51	Q200	839.00	39.95	44.82	44.39	-0.43	43.35	-1.47	44.08	45.27	0.001929	3.21	374.58	235.17	0.56
valleCicana	2485.73 ST-51	Q500	1223.00	39.95	45.50	44.39	-1.11	43.35	-2.15	44.89	45.97	0.001732	3.44	537.66	241.67	0.55
valleCicana	2363.38 ST-50	Q50	474.00	38.34	42.10	42.62	0.52	44.38	2.28	42.10	43.32	0.007281	4.90	96.77	39.67	1.00
valleCicana	2363.38 ST-50	Q200	839.00	38.34	44.31	42.62	-1.69	44.38	0.07	43.78	44.88	0.001938	3.61	333.96	167.59	0.56
valleCicana	2363.38 ST-50	Q500	1223.00	38.34	44.58	42.62	-1.96	44.38	-0.20	44.43	45.52	0.003091	4.74	379.43	173.60	0.71
valleCicana	2317.65 ST-49	Q50	474.00	38.18	41.97	42.20	0.23	44.29	2.32	41.60	42.92	0.004658	4.32	109.77	39.46	0.83
valleCicana	2317.65 ST-49	Q200	839.00	38.18	43.18	42.20	-0.98	44.29	1.11	43.07	44.46	0.004310	5.09	199.96	151.15	0.83
valleCicana	2317.65 ST-49	Q500	1223.00	38.18	44.11	42.20	-1.91	44.29	0.18	44.10	45.27	0.003434	5.17	340.49	151.64	0.76
valleCicana	2284 ST-48 m	Q50	474.00	38.18	42.07	42.72	0.65	44.14	2.07	41.25	42.74	0.002993	3.64	130.11	43.54	0.67
valleCicana	2284 ST-48 m	Q200	839.00	38.18	43.56	42.72	-0.84	44.14	0.58	43.08	44.14	0.002066	3.58	325.13	178.48	0.58
valleCicana	2284 ST-48 m	Q500	1223.00	38.18	44.47	42.72	-1.75	44.14	-0.33	43.72	45.02	0.001684	3.70	495.47	191.53	0.54
valleCicana	2282 ST-48		Bridge													
valleCicana	2280 ST-48 v	Q50	474.00	38.18	40.82	42.72	1.90	44.14	3.32	41.25	42.62	0.012458	5.94	79.85	38.26	1.31
valleCicana	2280 ST-48 v	Q200	839.00	38.18	43.11	42.72	-0.39	44.14	1.03	43.08	44.03	0.003574	4.37	245.11	176.49	0.75
valleCicana	2280 ST-48 v	Q500	1223.00	38.18	44.38	42.72	-1.66	44.14	-0.24	43.72	44.97	0.001841	3.82	478.06	190.95	0.56
valleCicana	2278.79 ST-48 v	Q50	474.00	38.07	40.60	42.31	1.71	43.42	2.82	41.10	42.48	0.013421	6.07	78.10	38.43	1.36
valleCicana	2278.79 ST-48 v	Q200	839.00	38.07	42.22	42.31	0.09	43.42	1.20	42.28	43.90	0.006712	5.76	145.73	45.30	1.02
valleCicana	2278.79 ST-48 v	Q500	1223.00	38.07	44.27	42.31	-1.96	43.42	-0.85	43.63	44.95	0.001792	4.05	448.18	168.96	0.57
valleCicana	2229.05 ST-47	Q50	474.00	37.86	40.39	43.50	3.11	43.73	3.34	40.68	41.90	0.010215	5.45	87.02	40.29	1.18
valleCicana	2229.05 ST-47	Q200	839.00	37.86	42.12	43.50	1.38	43.73	1.61	41.79	43.48	0.004878	5.17	162.19	45.35	0.87
valleCicana	2229.05 ST-47	Q500	1223.00	37.86	43.63	43.50	-0.13	43.73	0.10	42.80	44.81	0.003131	4.93	311.97	163.17	0.72
valleCicana	2170.98 ST-46	Q50	474.00	37.51	40.08	43.20	3.12	42.82	2.74	40.34	41.53	0.009968	5.33	88.98	41.86	1.17
valleCicana	2170.98 ST-46	Q200	839.00	37.51	42.14	43.20	1.06	42.82	0.68	41.48	43.13	0.003877	4.40	190.48	57.63	0.77
valleCicana	2170.98 ST-46	Q500	1223.00	37.51	42.81	43.20	0.39	42.82	0.01	42.48	44.23	0.004941	5.28	231.68	63.92	0.89
valleCicana	2119.99 ST-45	Q50	474.00	36.80	40.54	42.18	1.64	42.13	1.59	39.76	41.16	0.002806	3.48	136.13	46.53	0.65
valleCicana	2119.99 ST-45	Q200	839.00	36.80	42.12	42.18	0.06	42.13	0.01	40.84	42.92	0.002246	3.96	211.99	51.42	0.61
valleCicana	2119.99 ST-45	Q500	1223.00	36.80	42.64	42.18	-0.46	42.13	-0.51	41.78	43.96	0.003225	5.11	260.00	153.61	0.74
valleCicana	2083.44 ST-44	Q50	474.00	36.30	39.99	41.37	1.37	41.35	1.35	39.60	40.98	0.004625	4.40	107.69	37.27	0.83
valleCicana	2083.44 ST-44	Q200	839.00	36.30	40.90	41.37	0.47	41.35	0.45	40.89	42.66	0.006334	5.87	142.90	40.30	1.00
valleCicana	2083.44 ST-44	Q500	1223.00	36.30	41.94	41.37	-0.57	41.35	-0.59	42.22	43.54	0.005097	5.88	266.46	137.84	0.92
valleCicana	2035.73 ST-43	Q50	474.00	35.85	39.73	41.17	1.44	39.90	0.17	39.40	40.69	0.005092	4.34	109.16	42.05	0.86
valleCicana	2035.73 ST-43	Q200	839.00	35.85	41.06	41.17	0.11	39.90	-1.16	40.68	42.01	0.003409	4.54	236.81	112.46	0.74
valleCicana	2035.73 ST-43	Q500	1223.00	35.85	41.71	41.17	-0.54	39.90	-1.81	41.65	42.90	0.003701	5.24	323.62	184.30	0.79
valleCicana	1998.73 ST-42	Q50	474.00	35.58	39.13	40.98	1.85	39.62	0.49	39.13	40.38	0.007066	4.95	95.78	38.36	1.00
valleCicana	1998.73 ST-42	Q200	839.00	35.58	40.61	40.98	0.37	39.62	-0.99	40.37	41.55	0.004056	4.48	233.08	114.89	0.79
valleCicana	1998.73 ST-42	Q500	1223.00	35.58	41.94	40.98	-0.97	39.62	-2.33	41.13	42.65	0.002171	4.10	398.90	135.29	0.61
valleCicana	1921.71 ST-41	Q50	474.00	35.32	39.41	39.49	0.08	39.30	-0.11	37.78	39.66	0.001040	2.22	214.10	76.94	0.41
valleCicana	1921.71 ST-41	Q200	839.00	35.32	40.94	39.49	-1.44	39.30	-1.64	38.74	41.22	0.000728	2.43	431.94	177.59	0.36

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
valleCicana	1921.71 ST-41	Q500	1223.00	35.32	42.16	39.49	-2.67	39.30	-2.86	39.53	42.44	0.000575	2.53	649.75	178.41	0.33
valleCicana	1840.38 ST-40	Q50	474.00	34.78	38.13	38.91	0.78	38.81	0.68	38.13	39.41	0.007187	5.00	94.87	38.86	1.00
valleCicana	1840.38 ST-40	Q200	839.00	34.78	39.79	38.91	-0.88	38.81	-0.98	39.51	41.01	0.004069	4.99	188.79	68.54	0.80
valleCicana	1840.38 ST-40	Q500	1223.00	34.78	41.36	38.91	-2.45	38.81	-2.55	39.93	42.29	0.002219	4.62	392.31	173.28	0.63
valleCicana	1787.22 ST-39	Q50	474.00	34.63	37.92	39.71	1.79	39.25	1.33	37.77	38.95	0.005875	4.49	105.58	43.11	0.92
valleCicana	1787.22 ST-39	Q200	839.00	34.63	38.78	39.71	0.93	39.25	0.47	38.88	40.53	0.007143	5.85	143.40	44.95	1.05
valleCicana	1787.22 ST-39	Q500	1223.00	34.63	39.90	39.71	-0.19	39.25	-0.65	39.90	41.88	0.005875	6.23	198.16	53.68	0.98
valleCicana	1746.97 ST-38	Q50	474.00	34.41	38.09	38.45	0.36	39.20	1.11	37.35	38.64	0.002979	3.30	143.67	56.96	0.66
valleCicana	1746.97 ST-38	Q200	839.00	34.41	39.43	38.45	-0.98	39.20	-0.23	38.41	40.05	0.002204	3.58	278.81	165.67	0.60
valleCicana	1746.97 ST-38	Q500	1223.00	34.41	39.95	38.45	-1.51	39.20	-0.75	39.59	40.81	0.002638	4.29	367.65	168.67	0.68
valleCicana	1695.65 ST-37	Q50	474.00	34.31	37.32	39.59	2.27	38.77	1.45	37.32	38.40	0.007061	4.61	102.90	47.56	1.00
valleCicana	1695.65 ST-37	Q200	839.00	34.31	38.50	39.59	1.09	38.77	0.27	38.35	39.85	0.005558	5.13	163.45	52.99	0.93
valleCicana	1695.65 ST-37	Q500	1223.00	34.31	39.51	39.59	0.08	38.77	-0.74	39.51	40.64	0.004008	4.98	318.41	150.52	0.82
valleCicana	1635.73 ST-36	Q50	474.00	33.78	37.13	39.69	2.56	37.97	0.84	36.67	37.73	0.005141	3.44	137.99	78.27	0.83
valleCicana	1635.73 ST-36	Q200	839.00	33.78	38.42	39.69	1.27	37.97	-0.45	37.64	38.99	0.002607	3.39	267.21	126.17	0.64
valleCicana	1635.73 ST-36	Q500	1223.00	33.78	39.18	39.69	0.51	37.97	-1.21	38.43	39.87	0.002411	3.78	363.19	127.30	0.63
valleCicana	1588.71 ST-35	Q50	474.00	33.56	37.18	38.47	1.29	38.60	1.42	36.20	37.47	0.002113	2.40	197.31	99.19	0.54
valleCicana	1588.71 ST-35	Q200	839.00	33.56	38.52	38.47	-0.05	38.60	0.08	37.12	38.82	0.001209	2.46	360.05	144.55	0.44
valleCicana	1588.71 ST-35	Q500	1223.00	33.56	39.30	38.47	-0.83	38.60	-0.70	37.71	39.69	0.001178	2.80	476.19	150.07	0.45
valleCicana	1547.84 ST-34	Q50	474.00	32.97	37.13	37.96	0.83	38.68	1.55	35.90	37.39	0.001322	2.26	209.32	79.77	0.45
valleCicana	1547.84 ST-34	Q200	839.00	32.97	38.43	37.96	-0.47	38.68	0.25	36.74	38.77	0.001099	2.60	353.22	158.63	0.43
valleCicana	1547.84 ST-34	Q500	1223.00	32.97	39.20	37.96	-1.24	38.68	-0.52	37.40	39.64	0.001150	3.01	476.71	162.24	0.45
valleCicana	1496.09 ST-33	Q50	474.00	32.50	37.08	37.45	0.37	37.20	0.12	35.42	37.33	0.000949	2.23	212.56	64.06	0.39
valleCicana	1496.09 ST-33	Q200	839.00	32.50	38.39	37.45	-0.94	37.20	-1.19	36.31	38.72	0.000884	2.62	387.89	154.04	0.40
valleCicana	1496.09 ST-33	Q500	1223.00	32.50	39.15	37.45	-1.70	37.20	-1.94	37.10	39.58	0.000995	3.09	506.42	158.41	0.43
valleCicana	1438.39 ST-32	Q50	474.00	31.83	36.90	37.83	0.93	38.87	1.97	35.07	37.26	0.001168	2.66	178.09	44.86	0.43
valleCicana	1438.39 ST-32	Q200	839.00	31.83	38.08	37.83	-0.25	38.87	0.79	36.19	38.63	0.001435	3.39	315.94	158.53	0.49
valleCicana	1438.39 ST-32	Q500	1223.00	31.83	38.78	37.83	-0.95	38.87	0.09	37.17	39.48	0.001703	3.98	426.48	160.38	0.54
valleCicana	1385.47 ST-31	Q50	474.00	31.16	36.79	37.66	0.87	38.79	2.00	34.79	37.18	0.001162	2.75	172.06	41.48	0.43
valleCicana	1385.47 ST-31	Q200	839.00	31.16	38.03	37.66	-0.37	38.79	0.76	36.03	38.53	0.001468	3.31	338.67	164.30	0.49
valleCicana	1385.47 ST-31	Q500	1223.00	31.16	38.74	37.66	-1.08	38.79	0.05	37.19	39.36	0.001641	3.81	459.85	173.56	0.53
valleCicana	1343.20 ST-30	Q50	474.00	31.16	36.70	35.61	-1.09	39.52	2.82	34.73	37.11	0.001208	2.93	210.59	149.60	0.44
valleCicana	1343.20 ST-30	Q200	839.00	31.16	38.05	35.61	-2.44	39.52	1.47	36.90	38.45	0.001048	3.17	416.94	156.46	0.42
valleCicana	1343.20 ST-30	Q500	1223.00	31.16	38.77	35.61	-3.16	39.52	0.75	37.67	39.27	0.001248	3.69	529.43	156.83	0.47
valleCicana	1283.39 ST-29	Q50	474.00	31.09	35.46	35.95	0.49	35.32	-0.14	35.23	36.88	0.005970	5.28	89.86	27.64	0.93
valleCicana	1283.39 ST-29	Q200	839.00	31.09	37.32	35.95	-1.37	35.32	-2.00	37.32	38.30	0.002841	4.83	276.38	151.74	0.69
valleCicana	1283.39 ST-29	Q500	1223.00	31.09	37.95	35.95	-2.00	35.32	-2.63	37.95	39.10	0.003129	5.49	373.47	152.18	0.74
valleCicana	1236.49 ST-28	Q50	474.00	31.06	34.82	34.37	-0.45	35.51	0.69	35.08	36.26	0.007330	5.39	97.57	55.50	1.03
valleCicana	1236.49 ST-28	Q200	839.00	31.06	36.74	34.37	-2.37	35.51	-1.23	36.74	37.73	0.002956	4.78	271.91	156.25	0.71

## HEC-RAS Plan: 01\_PdB River: Sturla Reach: valleCicana (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
valleCicana	1236.49 ST-28	Q500	1223.00	31.06	37.12	34.37	-2.75	35.51	-1.61	37.42	38.58	0.004210	6.02	332.57	162.95	0.86
valleCicana	1177.07 ST-27	Q50	474.00	30.96	34.69	35.08	0.39	35.47	0.78	34.21	35.62	0.004308	4.28	111.89	65.60	0.80
valleCicana	1177.07 ST-27	Q200	839.00	30.96	36.57	35.08	-1.49	35.47	-1.10	35.69	37.17	0.001765	3.74	335.44	159.77	0.55
valleCicana	1177.07 ST-27	Q500	1223.00	30.96	36.36	35.08	-1.28	35.47	-0.89	36.16	37.89	0.004670	5.90	301.80	155.06	0.89
valleCicana	1134.90 ST-26	Q50	474.00	30.39	34.74	34.95	0.21	38.24	3.50	33.71	35.40	0.002483	3.60	131.82	38.23	0.62
valleCicana	1134.90 ST-26	Q200	839.00	30.39	34.92	34.95	0.03	38.24	3.32	34.98	36.79	0.006652	6.05	138.74	38.45	1.02
valleCicana	1134.90 ST-26	Q500	1223.00	30.39	35.30	34.95	-0.35	38.24	2.94	35.97	37.43	0.007716	6.91	257.70	161.64	1.11
valleCicana	327 ST-25	Q50	474.00	30.19	34.48	33.87	-0.61	35.10	0.62	34.55	35.18	0.003431	4.01	188.28	176.28	0.71
valleCicana	327 ST-25	Q200	839.00	30.19	35.30	33.87	-1.43	35.10	-0.20	35.18	35.97	0.003121	4.37	333.53	178.81	0.70
valleCicana	327 ST-25	Q500	1223.00	30.19	35.94	33.87	-2.07	35.10	-0.84	35.66	36.65	0.003034	4.76	448.12	182.71	0.70
valleCicana	326 ST-24	Q50	474.00	30.08	33.34	32.85	-0.49	33.02	-0.32	33.41	34.47	0.005844	4.77	110.38	62.61	0.93
valleCicana	326 ST-24	Q200	839.00	30.08	34.72	32.85	-1.87	33.02	-1.70	34.72	35.56	0.003040	4.54	300.56	183.37	0.72
valleCicana	326 ST-24	Q500	1223.00	30.08	35.17	32.85	-2.32	33.02	-2.15	35.25	36.25	0.003710	5.38	383.25	184.75	0.81
valleCicana	325 ST-23	Q50	474.00	29.62	33.55	33.77	0.22	32.75	-0.80	32.71	33.90	0.001932	2.62	190.38	88.97	0.53
valleCicana	325 ST-23	Q200	839.00	29.62	34.55	33.77	-0.78	32.75	-1.80	33.53	34.92	0.001505	2.89	391.23	204.04	0.50
valleCicana	325 ST-23	Q500	1223.00	29.62	35.35	33.77	-1.58	32.75	-2.60	34.35	35.75	0.001297	3.09	557.35	206.70	0.48
valleCicana	324 ST-22	Q50	474.00	29.63	33.24	32.12	-1.12	32.11	-1.13	32.83	33.84	0.002782	3.56	164.37	92.68	0.66
valleCicana	324 ST-22	Q200	839.00	29.63	34.32	32.12	-2.20	32.11	-2.21	33.74	34.87	0.002056	3.75	370.93	212.65	0.59
valleCicana	324 ST-22	Q500	1223.00	29.63	35.24	32.12	-3.12	32.11	-3.13	34.52	35.72	0.001544	3.73	569.55	220.01	0.53
valleCicana	323 ST-21	Q50	474.00	29.61	33.22	31.45	-1.77	32.28	-0.94	32.52	33.74	0.002333	3.26	163.40	72.55	0.61
valleCicana	323 ST-21	Q200	839.00	29.61	34.40	31.45	-2.95	32.28	-2.12	33.53	34.78	0.001389	3.15	450.00	239.21	0.50
valleCicana	323 ST-21	Q500	1223.00	29.61	35.31	31.45	-3.86	32.28	-3.03	34.33	35.65	0.001074	3.17	667.81	240.07	0.45
valleCicana	322 ST-20	Q50	474.00	29.07	32.86	33.21	0.35	34.52	1.66	32.19	33.52	0.004174	3.59	131.96	59.16	0.77
valleCicana	322 ST-20	Q200	839.00	29.07	34.07	33.21	-0.86	34.52	0.45	33.51	34.60	0.002408	3.44	304.86	133.63	0.62
valleCicana	322 ST-20	Q500	1223.00	29.07	35.30	33.21	-2.09	34.52	-0.78	34.07	35.53	0.000937	2.58	700.07	225.82	0.40
valleCicana	321 ST-19	Q50	474.00	28.71	32.80	32.13	-0.67	34.76	1.96	31.71	33.22	0.001773	2.87	169.61	61.21	0.53
valleCicana	321 ST-19	Q200	839.00	28.71	33.35	32.13	-1.22	34.76	1.41	32.71	34.27	0.003182	4.27	203.66	62.01	0.72
valleCicana	321 ST-19	Q500	1223.00	28.71	33.77	32.13	-1.64	34.76	0.99	33.52	35.31	0.004702	5.55	229.35	62.60	0.89
valleCicana	320 ST-18	Q50	474.00	28.65	32.92	34.12	1.20	32.37	-0.55	31.93	33.11	0.000986	2.21	330.79	194.16	0.39
valleCicana	320 ST-18	Q200	839.00	28.65	33.78	34.12	0.34	32.37	-1.41	32.74	34.03	0.001061	2.65	498.09	194.87	0.42
valleCicana	320 ST-18	Q500	1223.00	28.65	34.61	34.12	-0.49	32.37	-2.24	33.21	34.89	0.001008	2.90	660.75	196.74	0.42
valleCicana	319 ST-17	Q50	474.00	29.21	32.78	35.40	2.62	31.59	-1.19	32.35	33.05	0.001756	2.75	287.84	184.21	0.51
valleCicana	319 ST-17	Q200	839.00	29.21	33.67	35.40	1.73	31.59	-2.08	32.89	33.97	0.001601	3.08	451.33	184.46	0.50
valleCicana	319 ST-17	Q500	1223.00	29.21	34.52	35.40	0.88	31.59	-2.93	33.33	34.84	0.001423	3.27	607.96	184.91	0.48
valleCicana	318 ST-16	Q50	474.00	28.59	32.69	33.25	0.56	32.54	-0.15	31.82	32.97	0.001507	2.77	264.12	129.85	0.47
valleCicana	318 ST-16	Q200	839.00	28.59	33.42	33.25	-0.17	32.54	-0.88	32.64	33.88	0.002029	3.62	361.52	133.12	0.56
valleCicana	318 ST-16	Q500	1223.00	28.59	34.19	33.25	-0.94	32.54	-1.64	33.22	34.74	0.002104	4.11	463.12	134.22	0.59
valleCicana	317 ST-15	Q50	474.00	28.55	32.49	33.72	1.23	31.95	-0.54	31.68	32.91	0.001980	3.20	220.55	119.97	0.54
valleCicana	317 ST-15	Q200	839.00	28.55	32.75	33.72	0.97	31.95	-0.80	32.75	33.75	0.004489	5.02	252.06	120.51	0.82

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)	
valleCicana	317 ST-15	Q500	1223.00	28.55	33.24	33.72	0.48	31.95	-1.29	33.24	34.58	0.005603	6.01	310.61	121.92	0.92
valleCicana	316.01 ST-14 m	Q50	474.00	28.56	31.71	33.04	1.33	31.80	0.09	30.88	32.29	0.002703	3.37	140.51	47.24	0.62
valleCicana	316.01 ST-14 m	Q200	839.00	28.56	32.83	33.04	0.21	31.80	-1.03	32.41	33.33	0.001937	3.46	372.84	208.85	0.55
valleCicana	316.01 ST-14 m	Q500	1223.00	28.56	33.31	33.04	-0.27	31.80	-1.51	32.95	33.94	0.002385	4.07	473.15	210.90	0.62
valleCicana	316 ST-14 m	Q50	474.00	28.80	31.31	33.04	1.73	31.80	0.49	31.13	32.26	0.005827	4.30	110.19	46.54	0.89
valleCicana	316 ST-14 m	Q200	839.00	28.80	32.53	33.04	0.51	31.80	-0.73	32.52	33.30	0.003410	4.21	297.99	207.85	0.72
valleCicana	316 ST-14 m	Q500	1223.00	28.80	33.16	33.04	-0.12	31.80	-1.36	33.06	33.93	0.003242	4.49	429.31	210.72	0.72
valleCicana	315.9 ST-14 m	Q50	474.00	28.80	31.13	33.04	1.91	31.80	0.67	31.13	32.24	0.007475	4.65	101.85	46.23	1.00
valleCicana	315.9 ST-14 m	Q200	839.00	28.80	32.52	33.04	0.52	31.80	-0.72	32.52	33.30	0.003432	4.22	297.02	207.83	0.72
valleCicana	315.9 ST-14 m	Q500	1223.00	28.80	33.06	33.04	-0.02	31.80	-1.26	33.06	33.92	0.003647	4.68	409.60	210.60	0.76
valleCicana	315.89 ST-14 m	Q50	474.00	28.56	30.42	33.04	2.62	31.80	1.38	30.88	32.17	0.015540	5.87	80.82	45.04	1.40
valleCicana	315.89 ST-14 m	Q200	839.00	28.56	32.17	33.04	0.87	31.80	-0.37	32.41	33.27	0.004636	4.81	235.39	206.32	0.83
valleCicana	315.89 ST-14 m	Q500	1223.00	28.56	32.78	33.04	0.26	31.80	-0.98	32.95	33.89	0.004371	5.15	362.71	208.69	0.83
valleCicana	315.8 ST-14	Q50	474.00	26.94	28.24	33.04	4.80	31.80	3.56	29.26	31.89	0.048813	8.46	56.00	43.11	2.37
valleCicana	315.8 ST-14	Q200	839.00	26.94	29.21	33.04	3.83	31.80	2.59	30.32	32.97	0.025349	8.59	97.64	43.34	1.83
valleCicana	315.8 ST-14	Q500	1223.00	26.94	30.52	33.04	2.52	31.80	1.28	31.32	33.67	0.012766	7.85	155.71	45.37	1.35
valleCicana	315.7 ST-14	Q50	474.00	26.56	27.83	33.04	5.21	31.80	3.97	28.88	31.67	0.052881	8.68	54.64	43.08	2.46
valleCicana	315.7 ST-14	Q200	839.00	26.56	28.74	33.04	4.30	31.80	3.06	29.95	32.83	0.028983	8.96	93.64	43.28	1.94
valleCicana	315.7 ST-14	Q500	1223.00	26.56	29.89	33.04	3.15	31.80	1.91	30.95	33.56	0.015784	8.48	144.21	44.03	1.50
valleCicana	315.69 ST-14	Q50	474.00	26.10	27.30	33.04	5.74	31.80	4.50	28.42	31.62	0.064179	9.21	51.48	43.04	2.69
valleCicana	315.69 ST-14	Q200	839.00	26.10	28.15	33.04	4.89	31.80	3.65	29.50	32.77	0.035272	9.52	88.09	43.21	2.13
valleCicana	315.69 ST-14	Q500	1223.00	26.10	29.19	33.04	3.85	31.80	2.62	30.49	33.49	0.020118	9.20	133.00	43.42	1.68
valleCicana	315 ST-14 v	Q50	474.00	24.65	26.10	32.40	6.30	30.56	4.46	27.23	30.65	0.072085	9.45	50.15	45.45	2.87
valleCicana	315 ST-14 v	Q200	839.00	24.65	26.80	32.40	5.60	30.56	3.76	28.26	32.14	0.045995	10.24	81.96	46.05	2.45
valleCicana	315 ST-14 v	Q500	1223.00	24.65	27.58	32.40	4.82	30.56	2.98	29.19	33.03	0.030250	10.34	118.26	46.72	2.07
valleCicana	314.8 ST-14 v	Q50	474.00	23.41	24.61	32.40	7.79	30.56	5.95	25.87	30.44	0.107651	10.69	44.32	44.96	3.44
valleCicana	314.8 ST-14 v	Q200	839.00	23.41	25.25	32.40	7.15	30.56	5.31	26.91	31.95	0.065963	11.46	73.19	45.38	2.88
valleCicana	314.8 ST-14 v	Q500	1223.00	23.41	25.95	32.40	6.45	30.56	4.61	27.84	32.85	0.043788	11.64	105.10	45.84	2.45
valleCicana	314 ST-14 v	Q50	474.00	23.11	24.45	35.73	11.28	30.24	5.79	25.69	29.84	0.091547	10.29	46.08	43.64	3.20
valleCicana	314 ST-14 v	Q200	839.00	23.11	29.35	35.73	6.38	30.24	0.89	26.74	29.82	0.001096	3.05	275.28	51.03	0.42
valleCicana	314 ST-14 v	Q500	1223.00	23.11	25.79	35.73	9.94	30.24	4.45	27.68	32.63	0.042190	11.59	105.56	45.12	2.42
valleCicana	313 ST-13	Q50	474.00	22.52	27.32	35.57	8.25	30.28	2.96	25.67	27.68	0.001220	2.67	177.85	46.75	0.44
valleCicana	313 ST-13	Q200	839.00	22.52	29.31	35.57	6.26	30.28	0.97	26.71	29.78	0.001136	3.03	277.27	54.75	0.43
valleCicana	313 ST-13	Q500	1223.00	22.52	29.82	35.57	5.75	30.28	0.46	27.63	30.64	0.001799	4.00	305.43	55.55	0.55
valleCicana	312 ST-12	Q50	474.00	22.74	27.10	27.97	0.87	28.90	1.80	25.97	27.60	0.001958	3.14	151.07	45.40	0.55
valleCicana	312 ST-12	Q200	839.00	22.74	29.12	27.97	-1.15	28.90	-0.22	27.03	29.71	0.001324	3.42	251.20	62.09	0.48
valleCicana	312 ST-12	Q500	1223.00	22.74	29.38	27.97	-1.41	28.90	-0.48	27.98	30.51	0.002373	4.73	268.45	68.32	0.64
valleCicana	311 ST-11	Q50	474.00	22.77	27.00	27.85	0.85	27.88	0.88	25.76	27.48	0.001830	3.07	154.56	46.21	0.54
valleCicana	311 ST-11	Q200	839.00	22.77	29.11	27.85	-1.26	27.88	-1.23	26.88	29.61	0.001080	3.17	302.32	109.15	0.44

HEC-RAS Plan: 01\_PdB River: Sturla Reach: valleCicana (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
valleCicana	311 ST-11	Q500	1223.00	22.77	29.42	27.85	-1.57	27.88	-1.54	27.85	30.32	0.001836	4.29	337.74	120.82	0.58
valleCicana	310 ST-10	Q50	474.00	22.50	26.96	27.96	1.00	27.80	0.84	25.61	27.39	0.001610	2.89	164.03	48.16	0.50
valleCicana	310 ST-10	Q200	839.00	22.50	29.16	27.96	-1.20	27.80	-1.36	26.68	29.53	0.000897	2.75	373.28	170.63	0.40
valleCicana	310 ST-10	Q500	1223.00	22.50	29.56	27.96	-1.60	27.80	-1.76	27.77	30.16	0.001372	3.59	442.64	177.65	0.50
valleCicana	309 ST-09	Q50	474.00	22.24	26.93	28.64	1.71	26.27	-0.66	25.60	27.34	0.001600	2.85	173.40	63.75	0.50
valleCicana	309 ST-09	Q200	839.00	22.24	29.16	28.64	-0.52	26.27	-2.89	26.71	29.49	0.000793	2.67	399.55	158.08	0.38
valleCicana	309 ST-09	Q500	1223.00	22.24	29.54	28.64	-0.90	26.27	-3.27	27.73	30.10	0.001261	3.53	458.87	162.06	0.48
valleCicana	308 ST-08	Q50	474.00	22.05	26.92	28.18	1.26	26.51	-0.41	25.18	27.25	0.001200	2.55	189.93	64.36	0.43
valleCicana	308 ST-08	Q200	839.00	22.05	29.24	28.18	-1.06	26.51	-2.73	26.34	29.42	0.000417	2.08	612.43	214.86	0.28
valleCicana	308 ST-08	Q500	1223.00	22.05	29.69	28.18	-1.51	26.51	-3.18	27.58	29.97	0.000639	2.70	710.68	230.26	0.35
valleCicana	307 ST-07	Q50	474.00	22.15	26.91	27.96	1.05	25.96	-0.95	25.11	27.18	0.000980	2.39	237.15	100.31	0.40
valleCicana	307 ST-07	Q200	839.00	22.15	29.24	27.96	-1.28	25.96	-3.28	26.46	29.40	0.000384	2.02	643.77	220.49	0.27
valleCicana	307 ST-07	Q500	1223.00	22.15	29.68	27.96	-1.72	25.96	-3.72	27.16	29.93	0.000579	2.60	741.77	222.40	0.33
valleCicana	306.1 ST-06 m	Q50	474.00	22.05	26.85	28.52	1.67	28.96	2.11	24.97	27.14	0.000996	2.41	196.32	52.19	0.40
valleCicana	306.1 ST-06 m	Q200	839.00	22.05	28.99	28.52	-0.47	28.96	-0.03	26.05	29.36	0.000753	2.72	308.84	206.09	0.36
valleCicana	306.1 ST-06 m	Q500	1223.00	22.05	29.10	28.52	-0.58	28.96	-0.14	26.91	29.87	0.001506	3.89	314.55	209.86	0.51
valleCicana	305.5 ST-06	Bridge														
valleCicana	305.3 ST-06 v	Q50	474.00	22.05	26.83	28.52	1.69	28.96	2.13	24.97	27.13	0.001010	2.43	195.46	52.18	0.40
valleCicana	305.3 ST-06 v	Q200	839.00	22.05	29.06	28.52	-0.54	28.96	-0.10	26.05	29.32	0.000568	2.38	486.82	209.32	0.31
valleCicana	305.3 ST-06 v	Q500	1223.00	22.05	29.28	28.52	-0.76	28.96	-0.32	26.91	29.76	0.001031	3.28	532.72	215.50	0.42
valleCicana	305 ST-05	Q50	474.00	21.75	26.86	28.36	1.50	28.44	1.58	24.60	27.09	0.000702	2.13	222.35	56.12	0.34
valleCicana	305 ST-05	Q200	839.00	21.75	29.06	28.36	-0.70	28.44	-0.62	25.63	29.30	0.000541	2.23	451.70	191.01	0.31
valleCicana	305 ST-05	Q500	1223.00	21.75	29.27	28.36	-0.91	28.44	-0.83	26.52	29.72	0.000973	3.08	492.22	191.01	0.42
valleCicana	304 ST-04	Q50	474.00	21.49	26.80	28.21	1.41	28.22	1.42	24.65	27.06	0.000790	2.28	207.70	51.60	0.36
valleCicana	304 ST-04	Q200	839.00	21.49	28.96	28.21	-0.75	28.22	-0.74	25.73	29.27	0.000612	2.52	373.53	122.98	0.34
valleCicana	304 ST-04	Q500	1223.00	21.49	29.01	28.21	-0.80	28.22	-0.79	26.62	29.67	0.001257	3.63	379.95	122.98	0.48
valleCicana	303 ST-03	Q50	474.00	21.42	26.78	28.31	1.53	27.21	0.43	24.44	27.02	0.000715	2.15	220.57	55.32	0.34
valleCicana	303 ST-03	Q200	839.00	21.42	29.00	28.31	-0.69	27.21	-1.79	25.50	29.22	0.000439	2.18	505.08	172.49	0.29
valleCicana	303 ST-03	Q500	1223.00	21.42	29.11	28.31	-0.80	27.21	-1.90	26.42	29.55	0.000859	3.08	524.50	172.49	0.40
valleCicana	302 ST-02	Q50	474.00	21.29	26.77	27.77	1.00	27.56	0.79	24.18	26.98	0.000589	2.05	231.46	52.95	0.31
valleCicana	302 ST-02	Q200	839.00	21.29	28.96	27.77	-1.19	27.56	-1.40	25.20	29.19	0.000425	2.20	465.82	122.52	0.28
valleCicana	302 ST-02	Q500	1223.00	21.29	29.00	27.77	-1.23	27.56	-1.44	26.15	29.48	0.000877	3.18	471.58	122.52	0.40
valleCicana	301 ST-01	Q50	474.00	21.23	26.80	27.49	0.69	26.32	-0.48	23.82	26.94	0.000360	1.67	299.04	91.04	0.25
valleCicana	301 ST-01	Q200	839.00	21.23	29.00	27.49	-1.51	26.32	-2.68	24.75	29.15	0.000255	1.79	592.15	155.58	0.22
valleCicana	301 ST-01	Q500	1223.00	21.23	29.10	27.49	-1.61	26.32	-2.78	25.58	29.40	0.000508	2.56	607.71	155.58	0.32