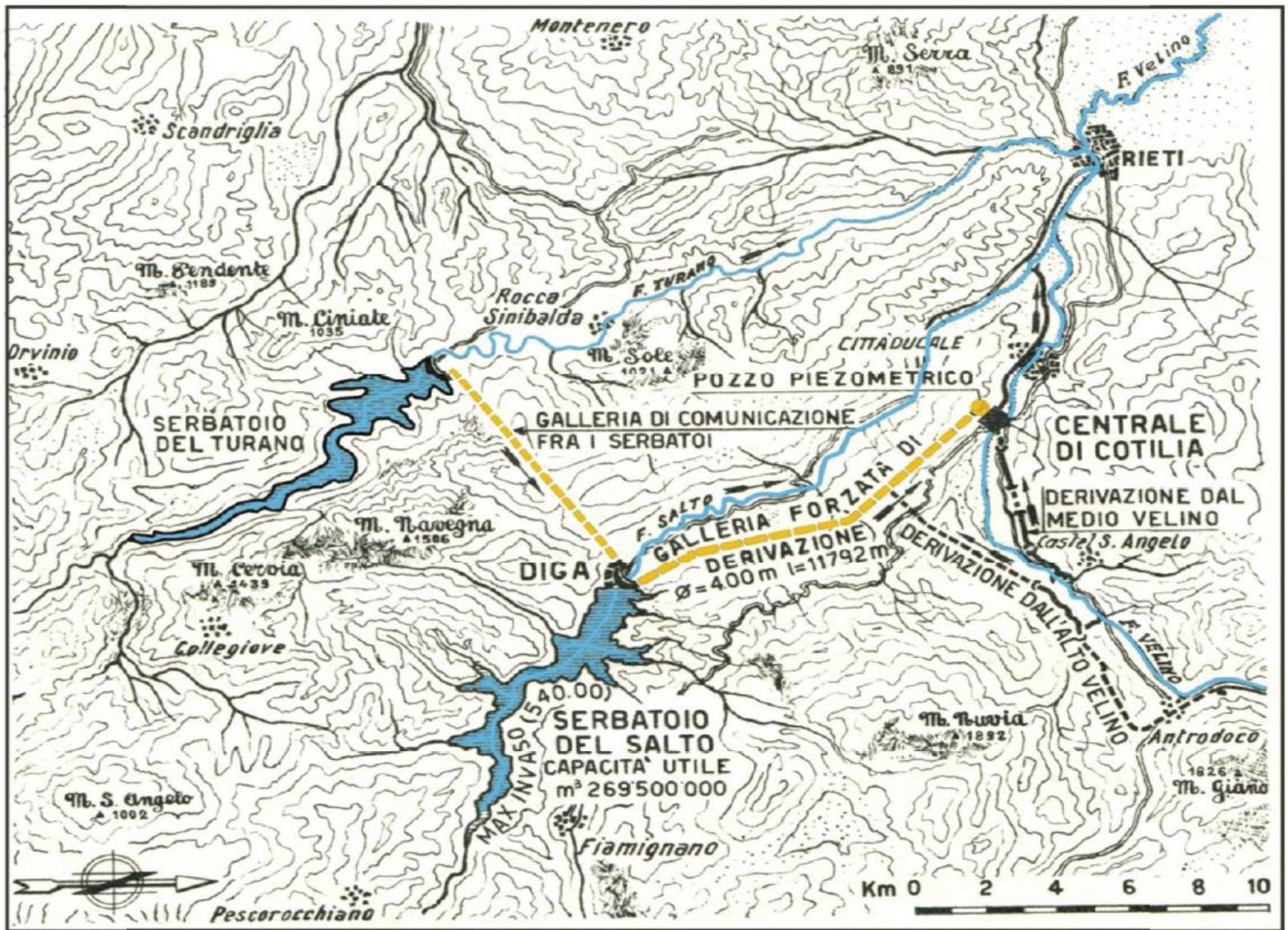




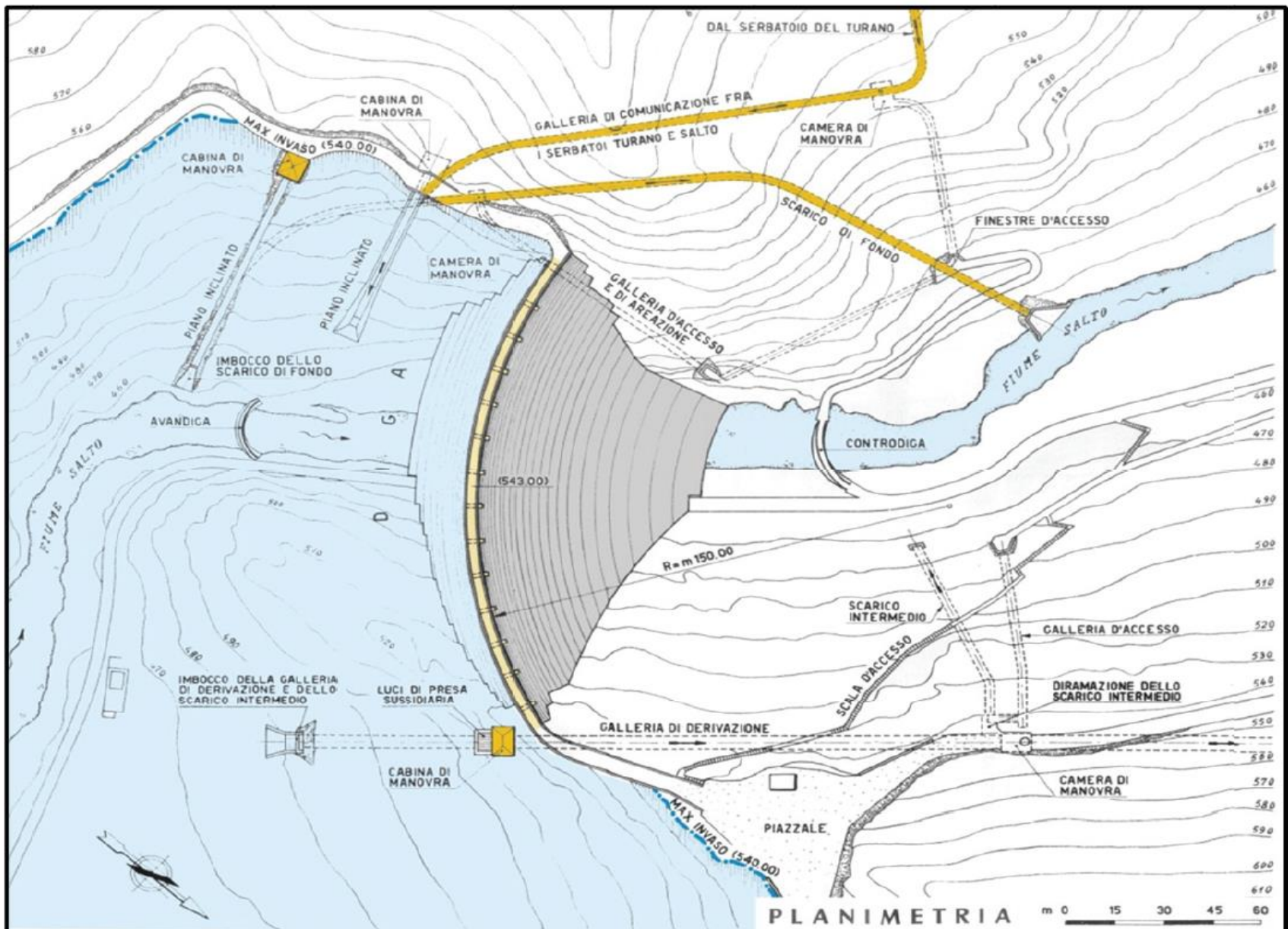
Diga del Salto: nuovo schermo di drenaggio

Ing. Giuliano Spogli

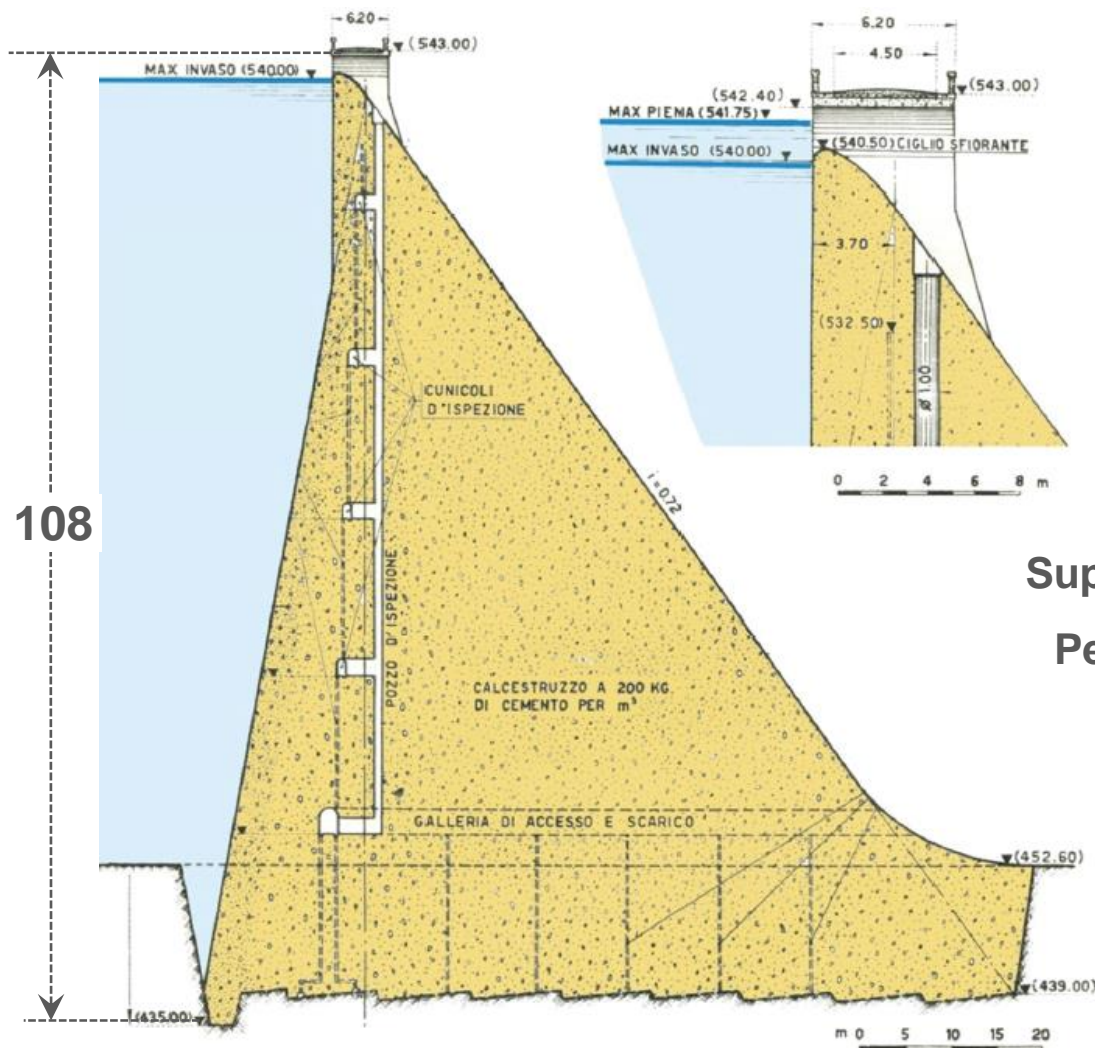
Rieti, 26/10/2017



Centrale di Cotilia – Schema idraulico



Diga del Salto - Planimetria

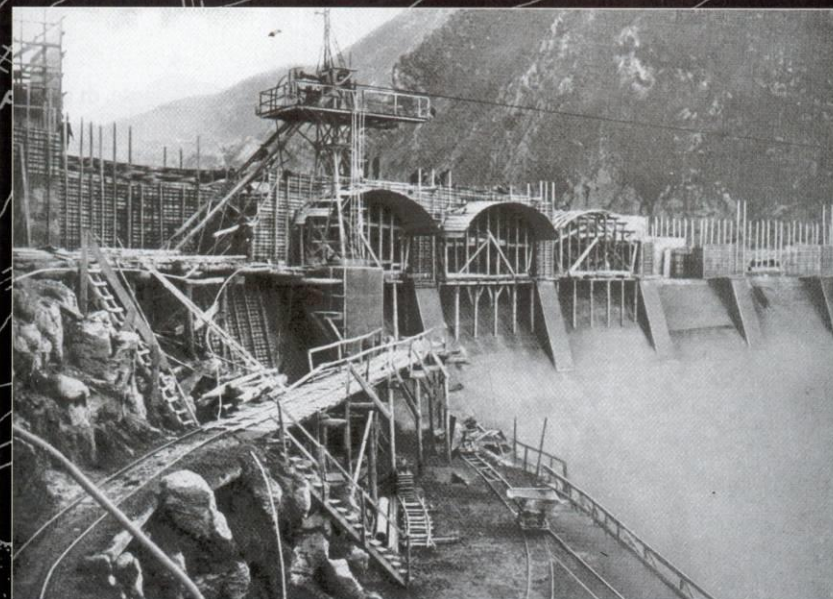
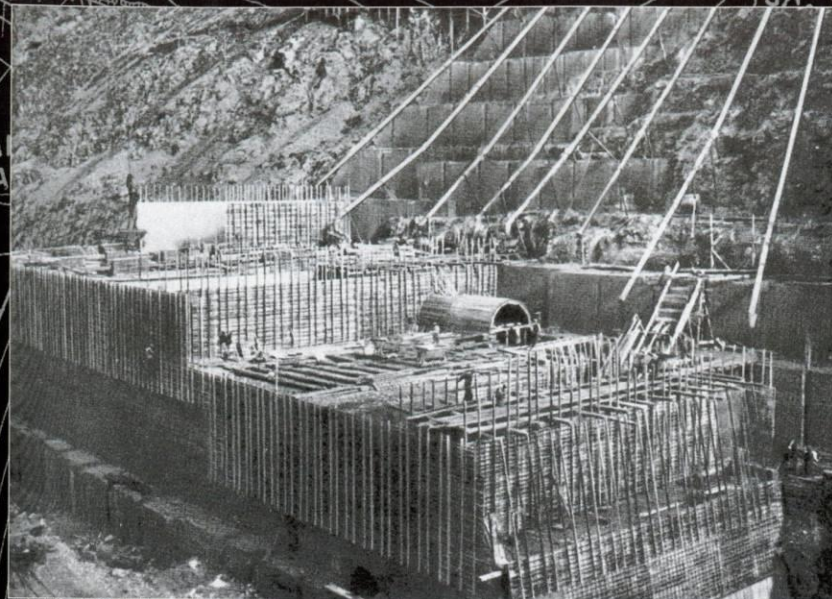


Volume Invaso 278.0 Mm³
 Volume diga : 358.000 m³
 Tipologia: Gravità

Sup. bacino imbrifero: 741 km²
 Periodo costruzione: 1937-1940

Scarichi:
 Superficie: 200 m³/s
 Intermedio: 60 m³/s
 Fondo: 46 m³/s
 TOTALE: 306 m³/s

Diga del Salto – Sezione trasversale

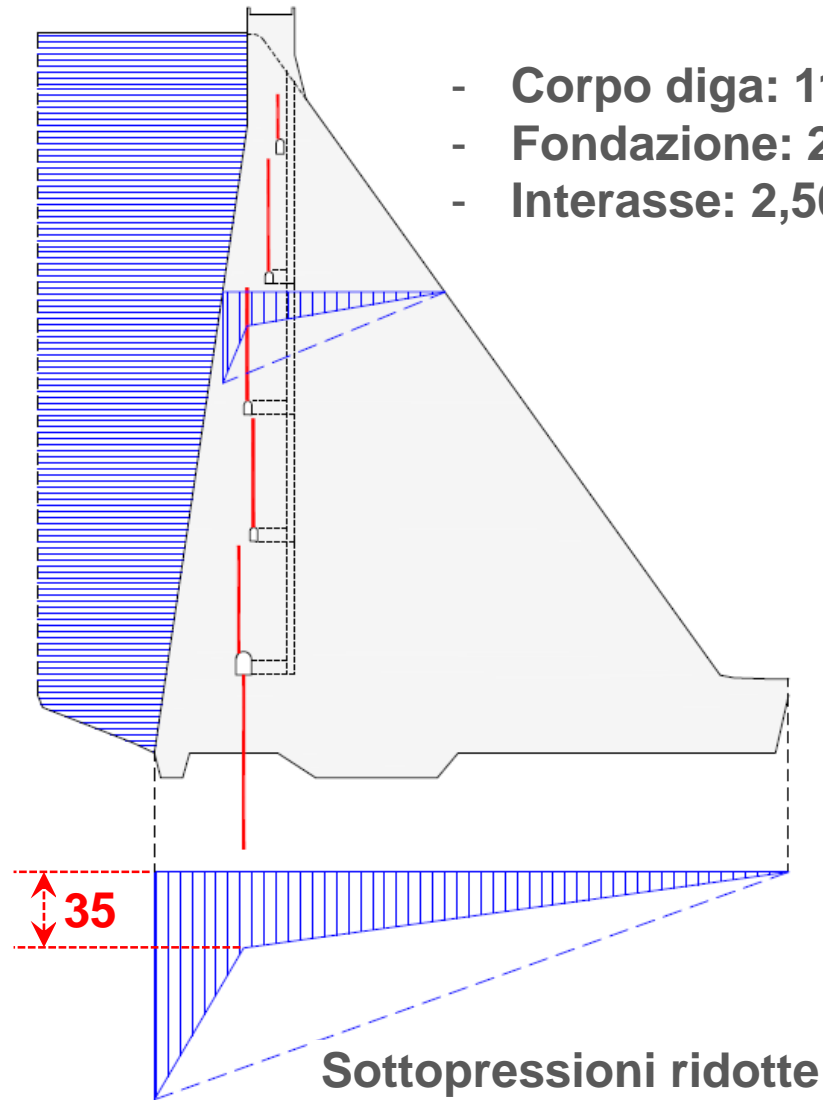
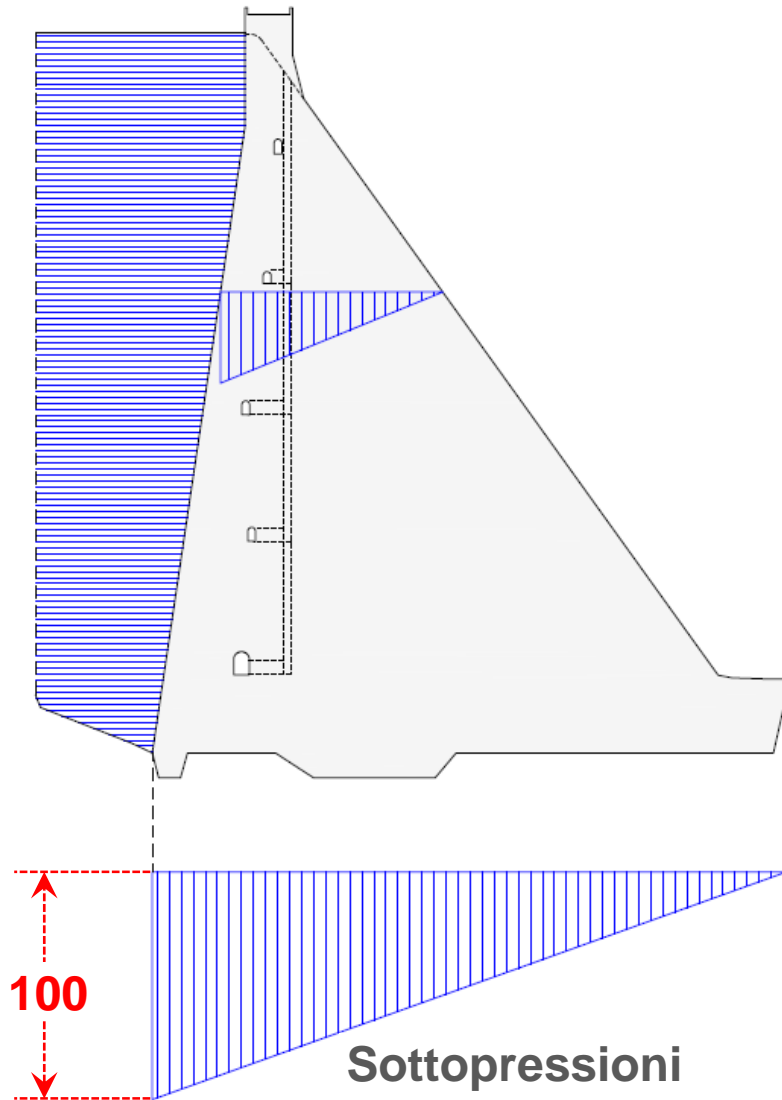


CONTRODIGA

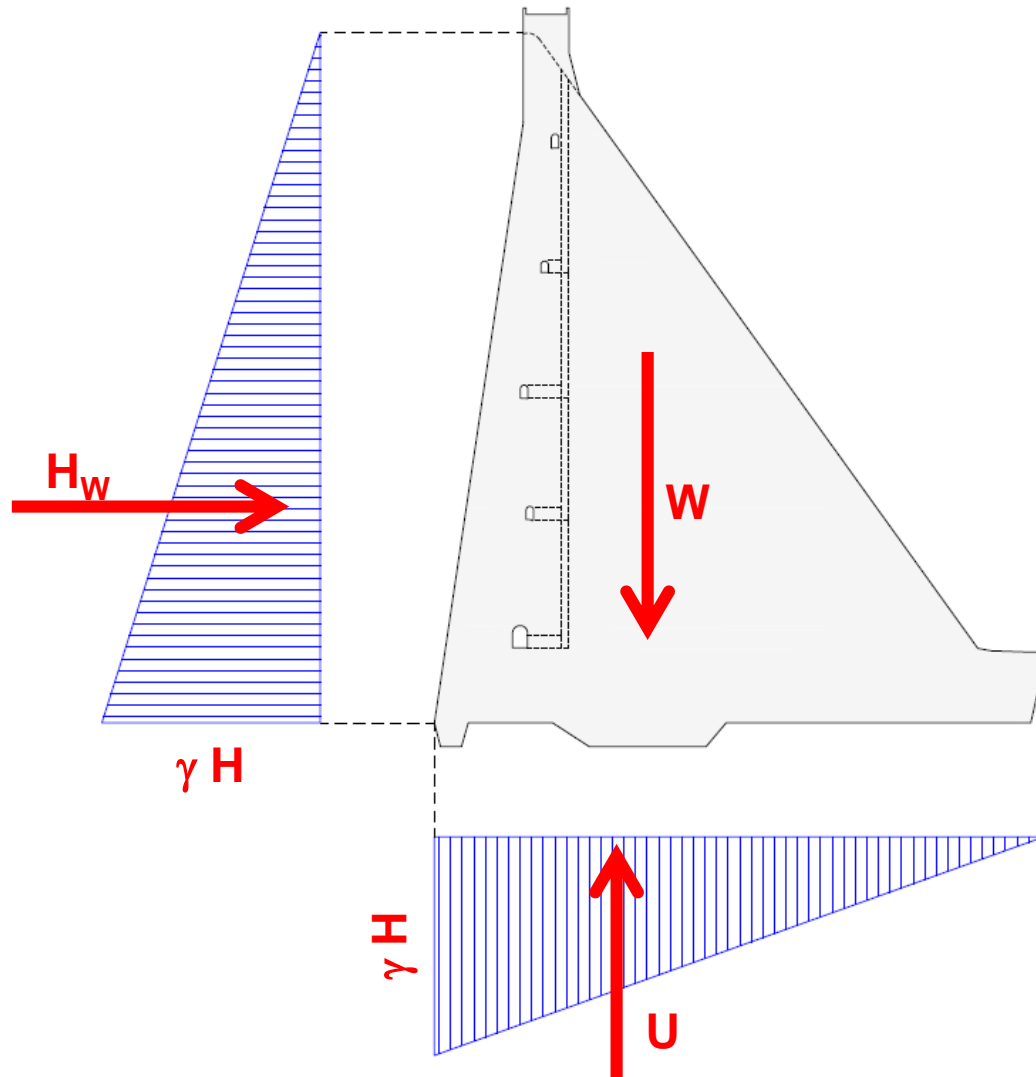
(543.00)



Schermo di drenaggio: criteri di progetto



Dighe a gravità: verifica alla “traslazione” (*)



$$\frac{H}{V} < 0.75$$

$$\frac{H_w}{W - U} < 0.75$$

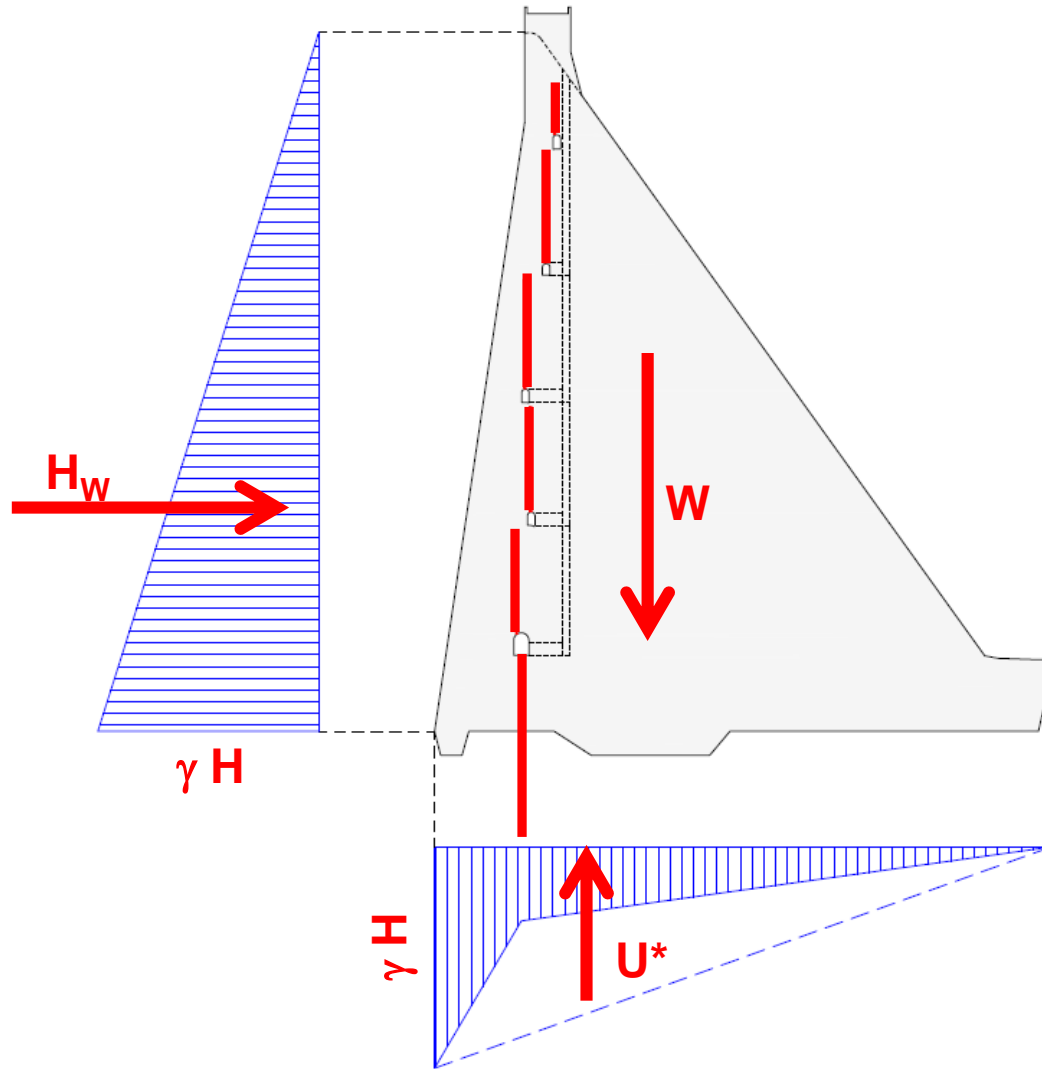
H_w : Spinta idrostatica

W : Peso

U : Sottopressione

(*) Rif. D.M.LL.PP. 24/3/1982

Dighe a gravità: verifica alla “traslazione” (*)



$$\frac{H}{V} < 0.75$$

$$\frac{H_w}{W - U^*} < 0.75$$

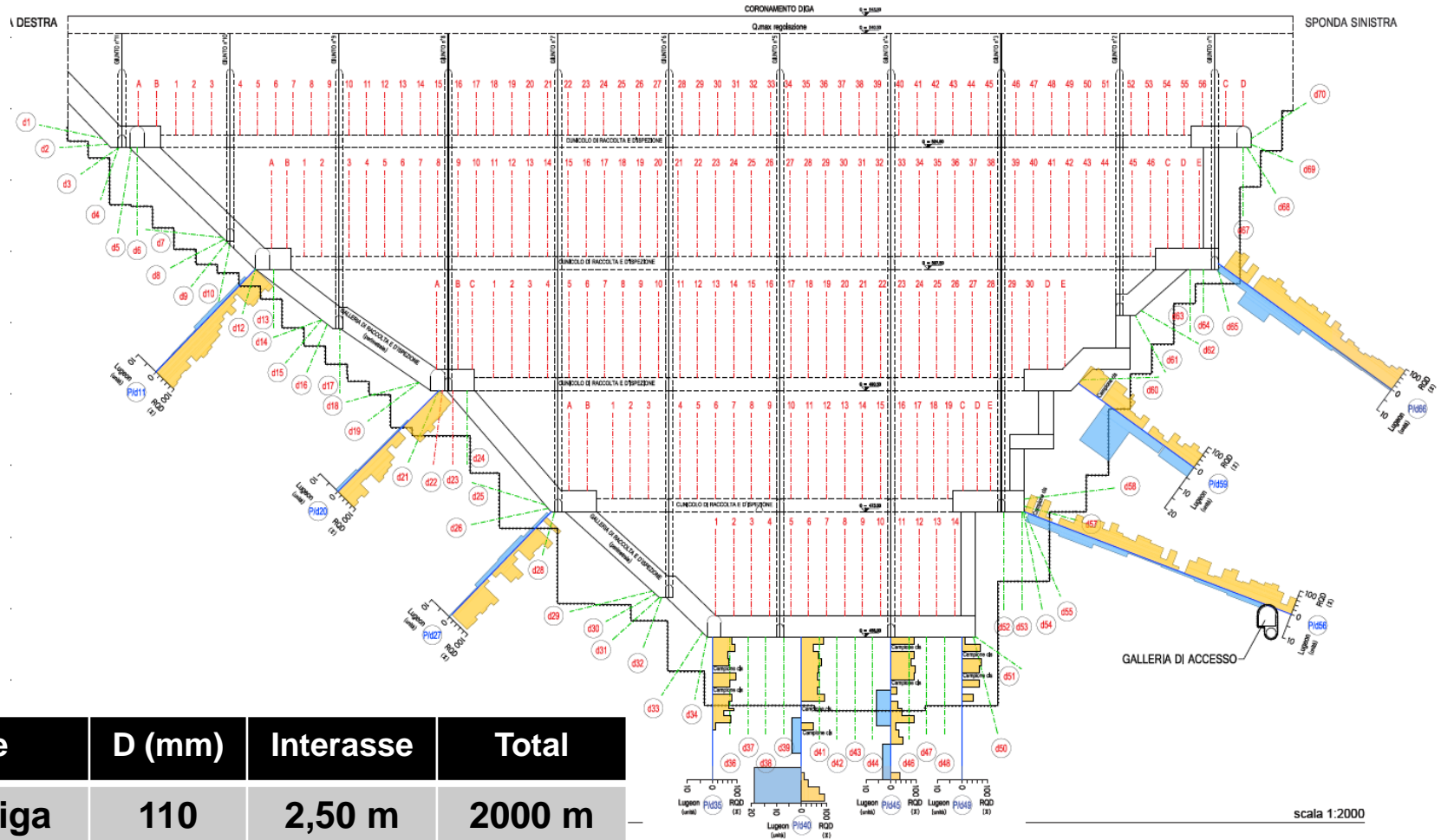
H_w : Spinta idrostatica

W : Peso

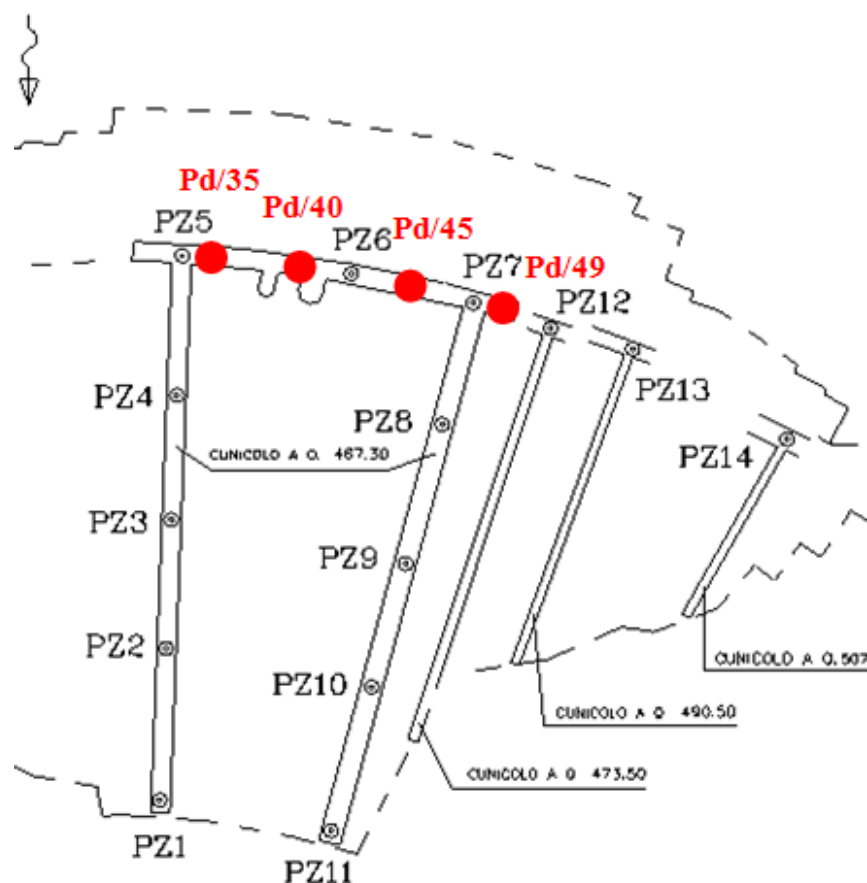
U^* : Sottopressione ridotta

(*) Rif. D.M.LL.PP. 24/3/1982

Diga Salto: schermo di drenaggio: “As built”



Diga Salto: analisi valori sottopressioni

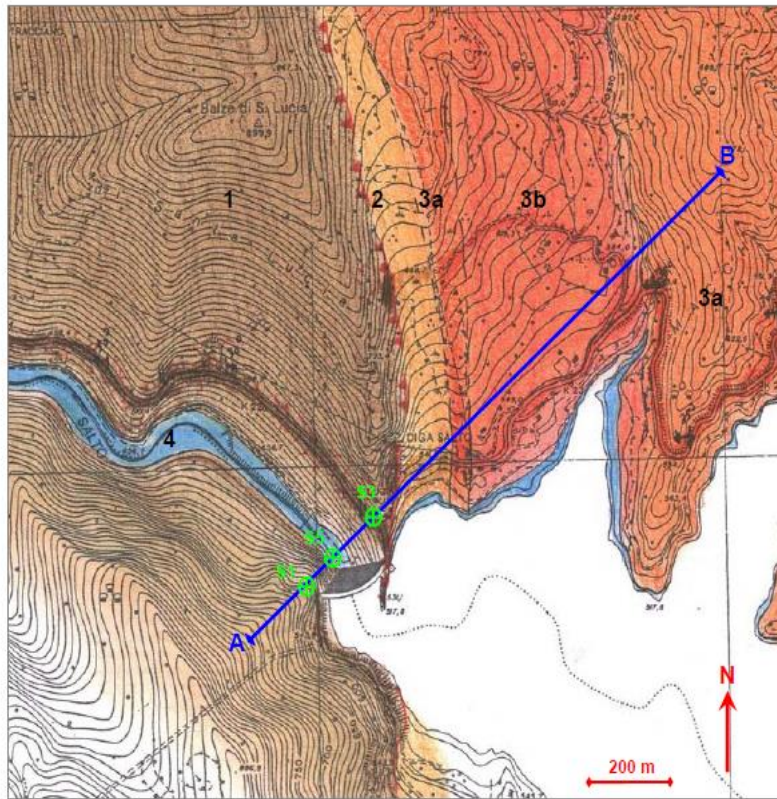


Sottopressioni (m colonna d'acqua)

	Prima	Dopo
	21/8/2014	13/3/2016
Livello invaso (m slm)	527,90	528,90

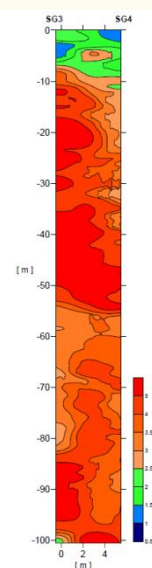
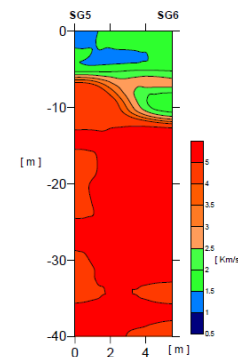
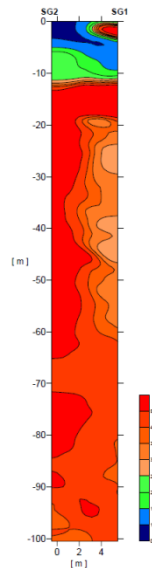
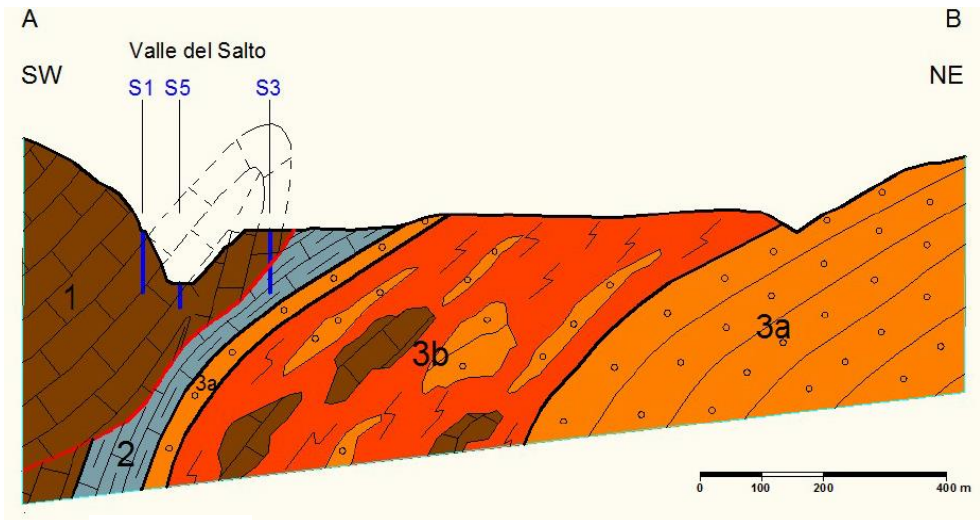
Piezometro	Prima	Dopo	Δ
PZ 5 (old)	19	0,5	-18,5
Pd 35 (new)	----	0	
Pd 40 (new)	----	0	
PZ 6 (old)	18	0	-18
Pd 45 (new)	----	0	
PZ 7 (old)	11	0	-11
Pd 49 (new)	----	0	

Diga Salto: indagini geotecniche / geofisiche

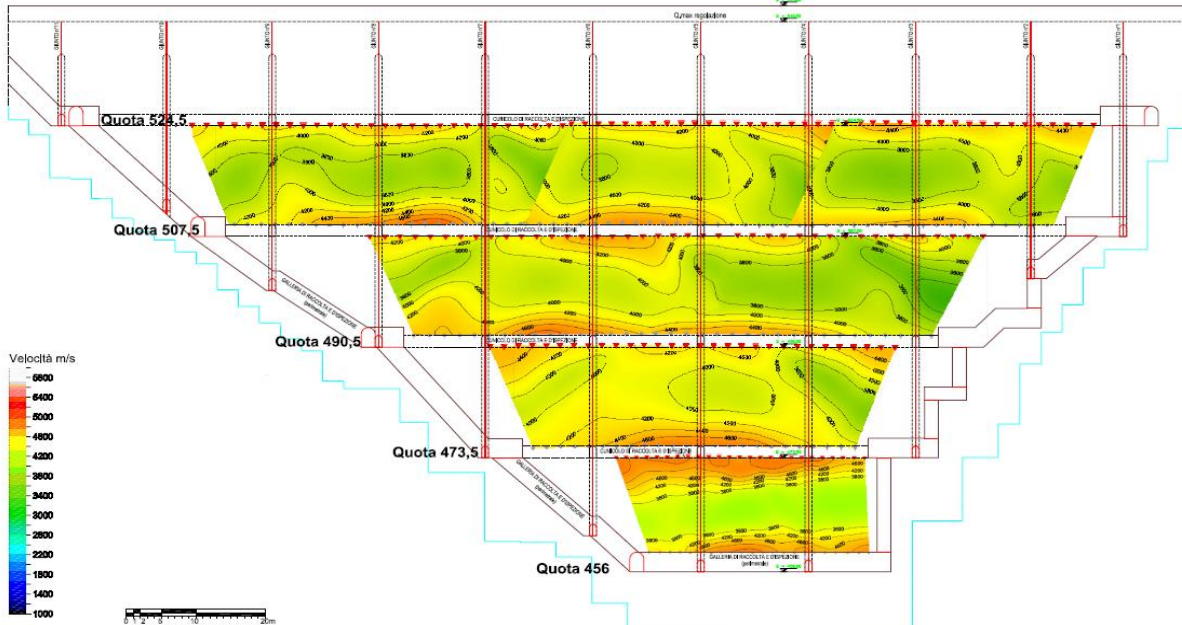


Carta geologica della Diga del Salto. 1-Calcareni della diga del Salto. 2-Marne della Diga del Salto. 3-Unità arenacea del Salto. 3a-Facies A. 3b-Facies caotica. 4-Depositi alluvionali. A-B-Traccia della sezione geologica. S1-S3-S5-Sondaggi geognostici. Sovrascorrimento. Area intensamente fratturata.

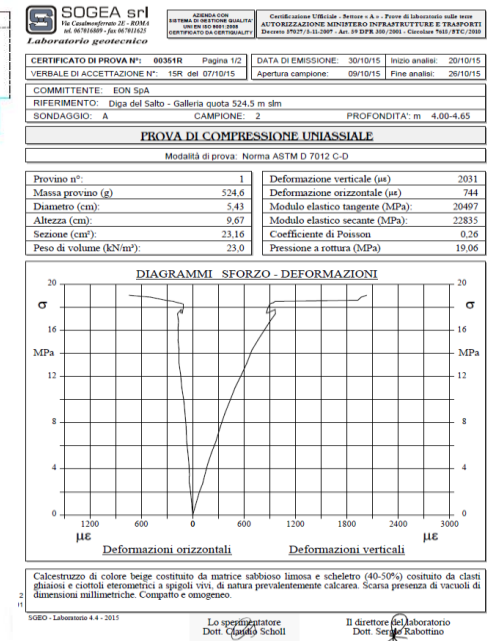
Giacitura degli strati
 Strati rovesci
 Strati verticali
 orizzontali



Diga Salto: Caratterizzazione CLS – Prove lab.



Quota 524.5 F54

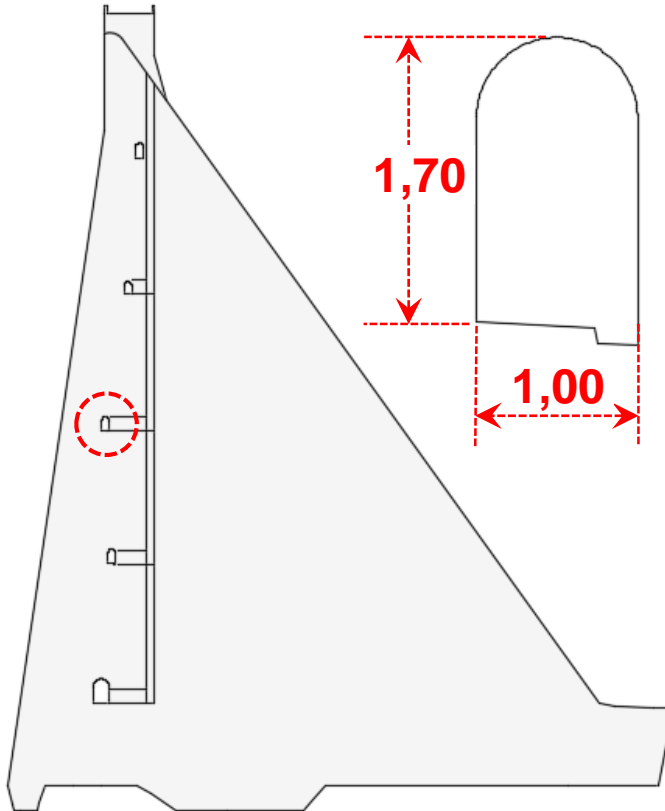


99 Campioni di CLS – Prove lab.

Peso di volume	23,14	kN/m ³
Compressione	22,45	MPa
Trazione	2,64	MPa
Permeabilità	2,82 10 ⁻¹⁰	cm/s
Velocità sonica	4469	m/s

Health and Safety

Cunicolo di ispezione



D.M. 81/2008 – Titolo IV

DPR 177/2011 (Ambienti confinati)



Diga TURANO - Nuovo schermo di drenaggio

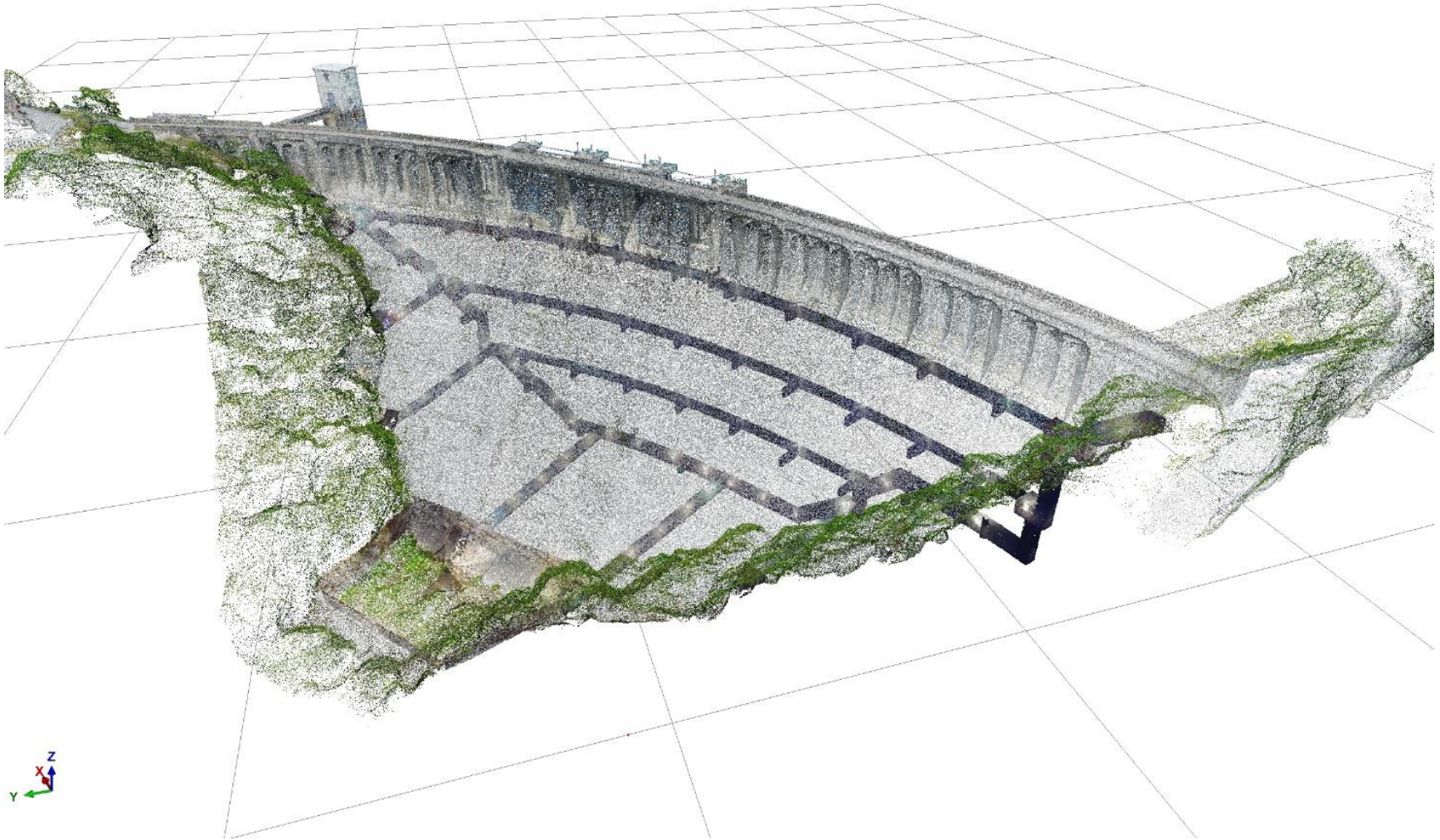
Programma 2017/2018

Diga Turano: modello 3d



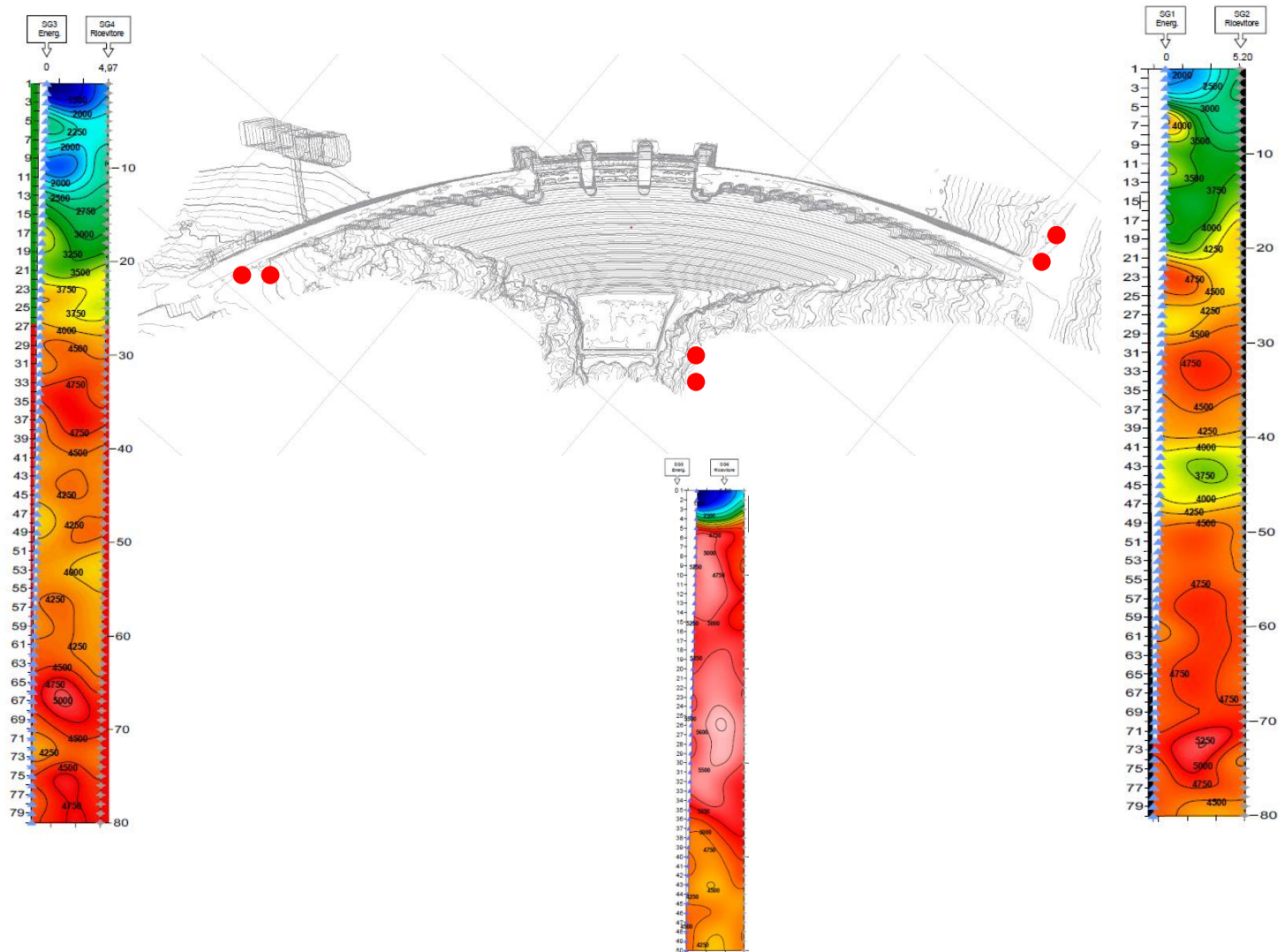
Laser Scan – Rilievi GPS - Drone (Attività completata – 2017)

Diga Turano: modello 3d



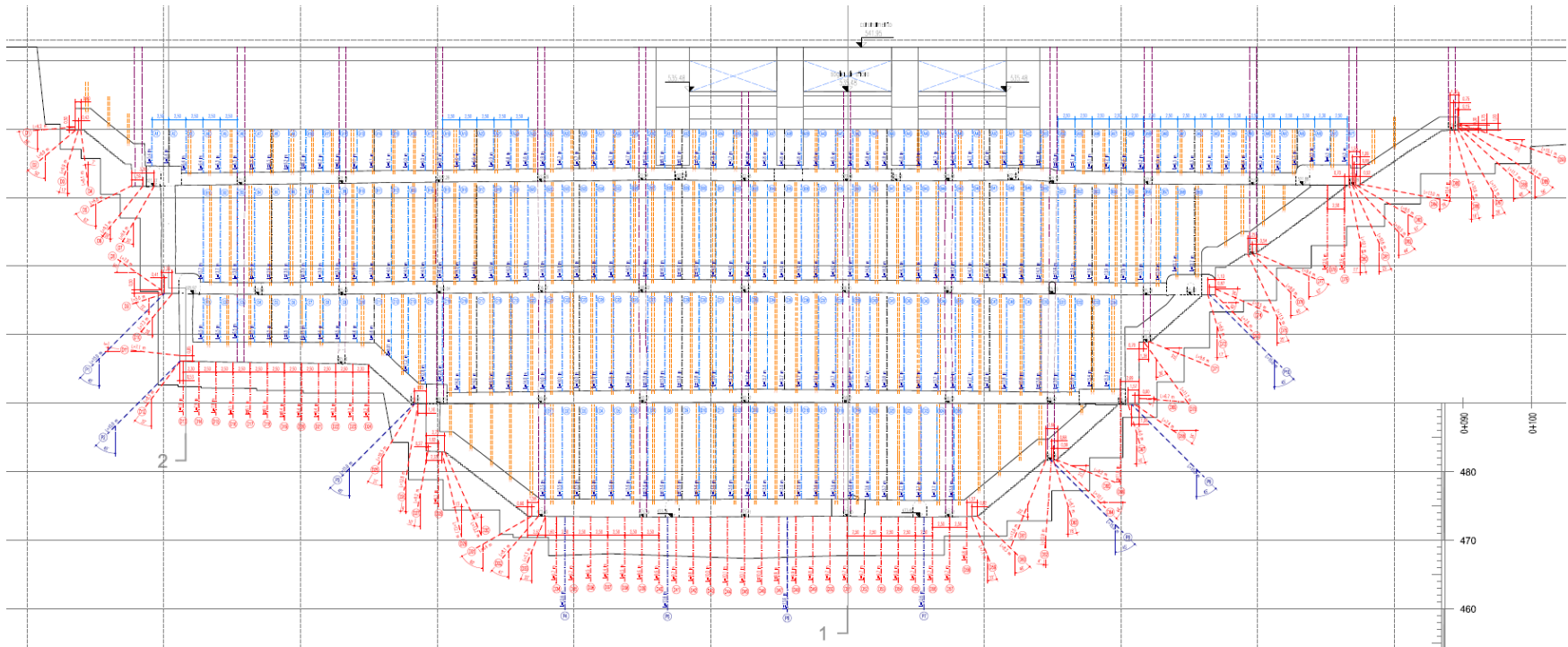
Laser Scan – Rilievi GPS - Drone (Attività completata – 2017)

Diga Turano: indagini geotecniche / geofisiche



420 ml sondaggi / Cross-hole / Prove lab. (Attività completata – 2017)

Diga Turano: progetto nuovo schermo (2018)



Posizione	D (mm)	Interasse	Total
Corpo diga	110	2,50 m	1860 m
Fondazione	200	2,50 m	840 m
Piezometri (10)	101		210 m

Programma delle attività on site: Marzo/Ottobre 2018