

Declassified E.O. 12356 Section 3.3/NND No. 785021

ACC AC 3(G) 10000/148/1887 LINES SAV
JUL.-AUG. 1945

87 LINES SAVONA - ALTARE - S. GIUSEPPE
JUL.-AUG. 1945

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Declassified E.O. 12356 Section 3.3/NND No.

785021

Vedi anche B 74

Ministero dei Lavori Pubblici
UFFICIO COSTRUZIONI

FERROVIARIE

SAVONA

Savona, 27 Luglio 1945

Ufficio
Tel. N° 449
Allegato N° 3 preventivi

L. II, Ta

for the ALLIED MILITARY
GOVERNMENTRegional Commissioner
GENOVAOGGETTO: Linea Savona Fornaci-S. Giuseppe
di Cairo - Completamento -

A seguito della proposta inoltrata per il tramite del Comando Provinciale di Savona di codesto A.M.G. con lettera N°363 del 20 Giugno u.s., ed in relazione agli accordi verbali intercorsi col Capo Compartimento delle Ferrovie dello Stato di Torino che, col benestare di codesto A.M.G., avrebbe assicurata la fornitura dei materiali per armare la linea su indicata nel tratto Savona-Altare, quest'Ufficio, a guadagno di tempo, è venuto nella determinazione di iniziare senz'altro i lavori più urgenti per mettere in efficienza la linea stessa.

Si prega pertanto di voler approvare, in conto del preventivo generale già presentato, le accluse perizie di spesa concernenti la sistemazione del piano di piattaforma dalla stazione di Altare alla progressiva Km.15+380 e relativa provvista di parte dei lastroni di copertura dei cunicoli di scolo delle gallerie, nonché lo sgombrò delle macerie, e necessarie demolizioni, per il ripristino della galleria "Seccanale".

L'INGEGNERE DIRIGENTE
L'UFFICIO COSTRUZIONI FERROVIARIE DI SAVONA

D. Seccanale 2 AGO 1945

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Notes

Line Savona-San Giuseppe

The engineers insisted on the fact that Svona should be handed to the Turin Compartimento. According to their informations Savona and the line Savona - San Giuseppe are still in the Genova Compartimento. If Savona is in the Compartimento of Turin the problem of finding an engineer is solved because the engineer of the line Savona San Giuseppe should automatically pass under the compartimento of Turin. If the "station" of Savona is still in the Genova Compartimento there will be some difficulties in finding an available engineer and even in this case ing. Becchetti of the Public Work Section would prefer to deal with an engineer of the Compartimento of Turin.

Materials: All equipment material will be provide by Turin. Work will not begin till the arrival of this material because the group is in good and very few other works must be undertaken. Among the materials which are difficult to find there are:

cement 500 qls
iron 14 tons, diametre 6 to 8 mm.

During the visit to the line it was discussed the telephone and telegraph installations: every Km. there must be a telephone. It is uncertain who must unertake these installations.

In order to hasten works, material could be directly transported on the line by means of trucks : there are about four or five places where it is possible by means of tracks to unload the materials directly on the line; one of these ^{access} is almost on the same level of the road, another near the entrance of the Santuario tunnel on the S; Giuseppe side.

The tunnel has fallen in: it will probably be open entirely instead of building again the vault. ~~XXXXXXXXXXXXXXXXXXXX~~ Before this tunnel there is the only place where it would be possible to lay a side line. In this same area long about 400 m. there is also a safety track which goes up the hill.

Line Savouo

0 8 2 2

A New Railway- Line Section Savona -S.Giuseppe
will be opened within autumn.

Since the years before the war 1914/1918 Savona was linked with Piemonte; by an electrified single track Railway line of great slope, but when on 1918 the American Army Corps landed in Italy that Staff deemed the line insufficient to grant a quick despatch of american troops and supplies to the Front on the Piave. Therefore it was decided to built a new line section with double track, which would have crossed the Apennin with spacious curves maintaining a slight slope, on which line the convoys would have been able to develop a speed of 75 km /hour. The construction of the new line, which should be called " La nuova direttissima Savona-Torino" (the new express-line Savona-Torino) was started by the Americans on 1918 but was then stopped owing to the leaving of hostilities.

The bottom of the road of the new line section Savona S.Giuseppe di Cairo was then completed by the Fascist Government on 1926, there remained only to lay down the tracks and to spread the wire for the electrification, but the project was given up.

The old line section was left in order until short time ago, but at their flight from Italy Germans did not forget to destroy the three very big bridges which followed each other along the whole distance; so that the line was set out of order for at least 1 year. The work Office of the I.S.R. states that it would take 1 year to reconstruct these three destroyed bridges.

As a consequence of this, Savona, the only Port of the Riviera which is in working order is at present not linked with Piemonte. Therefore the Industry Union (Unione Industriale) of Savona ~~has~~ made an

0823

crossed the Apennin with spacious curves maintaining a slight slope, on which line the convoys would have been able to develop a speed of 75 km /hour. The construction of the new line, which should be called "la nuova direttissima Savona-Torino" ("the new express-line Savona-Torino") was started by the Americans on 1918 but was then stopped owing to the leaving of hostilities.

The bottom of the road of the new line section Savona S. Giuseppe di Cairo was then completed by the Fascist Government on 1926, there remained only to lay down the tracks and to spread the wire for the electrification, but the project was given up.

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As a consequence of this, Savona, the only Port of the Riviera which is in working order is at present not linked with Piemonte. Therefore the Industry Union (Unione Industriali) of Savona ~~xxxxx~~ made an application to the Allies for the opening of this new line, which had been given up on 1926.

A period of three or four months will be sufficient to do this work provided that abt. 3000 workers will be engaged. This would represent even a good settlement for the numerous unemployed workers of the Region .

0828

The request was accepted and yesterday morning Capt. Conway of A.M.G. (Rails) told that the Railway Commission in Rome has given the permit for the beginning of work. To-day he will reach the spot together with Ing. Maragnoli of the I.S.R. for a reccy and to give the last instructions.

This result could be reached thanks to the Democratic Labour Party and especially to Mr. Franco Bruno, Regional Secretary of the Party for Liguria, who took this matter in hand.

Mr. Bruno had formerly talked the matter over with Col. Jordan, Vice-Governor of Liguria, and with Col. Lee, and during these meetings he succeeded in overcoming many serious difficulties.

From "Corriere del Popolo"
dated 3rd August 1945.

19

SAVONA, 4 Agosto 1945

Ministero dei Lavori Pubblici

UFFICIO COSTRUZIONI

FERROVIARIE

SAVONA

Ufficio 473/II.Ta.17*Allegato A*Al COMPARTIMENTO F.S.
Sezione LavoriBOLOGNA

e per conoscenza:

To: ALLIED COMMISSION
T.N.S.C. (Rails) C.E. Branch NW
Via Andrea Doria, 5GENOVA

O g g e t t o

Linea: Savona-Altare-S. Giuseppe di Cairo.
Apertura all'esercizio.Al MINISTERO LL.FF.
Direz. Gen. Viab. Ordinaria
e Nuove Costruz. Ferrov.ROMA

La Commissione Alleata dei Trasporti di Genova ha comunicato che è stata approvata la proposta presentata da quest'Ufficio per l'attivazione del tronco Savona-Altare della linea in oggetto, mediante raccordo provvisorio con la stazione di Savona Letimbro.

Il lavoro di cui trattasi dovrà essere iniziato d'urgenza e condotto in stretta cooperazione con codesto Compartimento che, all'uopo, dovrà distaccare un proprio ingegnere a Savona per gli opportuni collegamenti con quest'Ufficio e con la Commissione Alleata.

A seguito di quanto è stato concretato verbalmente nel convegno tenutosi a Savona il 21 Luglio u.s., si prega di voler far conoscere il programma che codesto Compartimento ha fissato per la fornitura del materiale d'armamento nella stazione di Altare e a quale data potranno aver luogo le prime forniture. Ciò perché il termine di mesi quattro, stabilito per l'ultimazione dei lavori, è in correlazione alla regolarità e continuità della fornitura del materiale stesso. -/-

Il pietrisco che dalle cave di Rossiglione dovrà essere avviato ad Altare può, per ora, essere limitato a diecimila metri cubi.

Per quanto concerne la fornitura e posa in opera delle linee telegrafoniche e degli impianti di sicurezza o segnalamento, si prega codesto Compartimento di voler provvedere direttamente, per mezzo dell'Ufficio I.A.S.

Occorrendo, quest'Ufficio potrà fornire la mano d'opera e le altre maestranze specializzate necessarie.

Si prega, nel contempo, codesto Compartimento di voler esaminare ^{la possibilità} di procedere al più presto all'elettrificazione dell'intera linea mediante materiale recuperato dalla Fossano-Mondovì-Ceva, giusta gli intendimenti manifestati dal Sig. Capo Compartimento in occasione dell'anzidetto convegno.

Ciò non tanto per ragioni generali di economia al fine di ridurre il consumo del carbone, quanto per ovviare a riserve affacciate dalla Commissione Allegata dei Trasporti circa inconvenienti del fumo nell'interno della galleria del "Santuario". Inconvenienti che, per esperienza ventennale fatta nel tronco Altare-S. Giuseppe C., possono ritenersi del tutto trascurabili date le dimensioni della galleria e il fatto che l'esercizio si svolge su di un solo binario.

Le spese relative dovranno essere addebitate, nei modi d'uso, al bilancio del Ministero LL.PP., salvo le particolari disposizioni che la Comm.All.Trasp. vorrà impartire per semplificare la relativa contabilità.

L'INGEGNERE DIRIGENTE

UFFICIO COSTRUZIONI FERROVIARIE DI SAVONA

Scelto

Ministry of Public Works
Railway Construction Office

To Compartimento (Work Section)
Torino
for information to:
Allied Commission, Genoa

Subject: Line Savona-Altare-
S. Giuseppe di Cairo;
Opening of the line.

The Allied Commission, In. Genoa has informed us, that our application for the opening of the line section Savona-Altare by means of a temporary linking with the Station of Savona-Letimbro has been approved.

The work must be commenced urgently and carried out in cooperation with your Compartimento. An Engineer of your office must be displaced to Savona ~~xxxx~~ to establish the connection with our Office and with the Allied Commission.

Following the agreement established during the meeting which took place in Savona on 21st July, we beg to let us know the programme which has been fixed from the Compartimento relating to the supply of ~~xxxxxxx~~ equipment material in the Altare Station and at what date the first supplies will be done because the period of 4 months fixed for the completion of works is ~~xxxxxxxx~~ subordinated to ~~xxxxxxxxxxxx~~ the regular supply of materials.

The rubble-stone which must be despatched from the Quarry in Rossiglione to Altare may for the moment be limited to a quantity of 10000 cub.m.

Regarding the supply and the settlement of the telegraphic and telephone lines and of the safety and signalling installations; we beg the Compartimento to will arrange the matter direct ~~xxxx~~ through the I.E.S. Office.

If necessary, our office could supply the workers and other specialised staff.

We further beg you to examine the possibility of carrying out a ~~xxx~~ as soon as possible the electrification of the whole

The expenses relating to the above work must be debited in the usual way to the Budget of the Ministry of Public Works except that the Allied Commission T.N.S.C. would give special instructions in order to simplify the bookkeeping.

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MINISTRY OF PUBLIC WORKS
GENERAL DIRECTION
OF COMMON TRAFFIC
AND OF NEW RAILWAY
CONSTRUCTIONS

Savona, 4th August 1945

To: Allied Commission
Tn S.C. (Rails) C.E. Branch N.W.
Italy

Via A. Doria No. 5
GENOVA

Office of Savona

and for inf.

To: ~~ENR~~ Compartimento I.S.R.
Work section of TORINO

Ref/N. 474/II.T.a.17

SUBJECT

Line Savona Fornaci-San Giuseppe
of Cairo. Works of completion
for the opening of the working
of the railway.

To: Ministry of Public Works
General Direction Common
Traffic and new Railway
Construction. ROME

Ref Subject, we confirm the agreements taken and the programme of work decided with Capt. Conway on occasion of his recy effected on the 3rd inst. i.e.:

1°) The laying of the tracks will take place by ~~laying~~ ~~ixen~~ putting the tracks on the ground from Altare towards Savona at the rate of 200 m. per day. The completion will take 80 ~~days~~ work 's days since the day when will begin, from the Compartimento of Torino I.S.R., the supply of the required materials in the station of Alcare, materials which must be taken from the line Fossano-Mondovì-Cega.

2°) The supply of ~~materials~~ ~~for~~ rubblestone for the ballasting will be done from the stone quarry of Rossignione and eventually from nearer quarries if these are judged idoneous ~~for~~ by the I.S.R. Compartimento of Turin.. The supply of ballast is to begin as soon as the tracks have been laid till "Maschio".

3°) In order to ~~hasten~~ ~~the~~ ~~laying~~ ~~of~~ ~~the~~ ~~equipment~~ ~~it~~ ~~will~~ ~~be~~ ~~examined~~ ~~the~~ ~~possibility~~ ~~of~~ ~~introducing~~ ~~the~~ ~~materials~~ ~~even~~ ~~in~~ ~~intermediary~~ ~~spots~~, especially ~~from~~ ~~the~~ ~~upper~~ ~~entrance~~ ~~of~~ ~~the~~ ~~Santuario~~ ~~tunnel~~ ~~in~~ ~~the~~ ~~Letimbro~~ ~~Valley~~. ~~But~~ ~~it~~ ~~is~~ ~~deemed~~ ~~that~~ ~~without~~ ~~ob-~~ ~~taining~~ ~~an~~ ~~appreciable~~ ~~saving~~ ~~of~~ ~~time~~ ~~-~~ ~~this~~ ~~can~~ ~~give~~ ~~occasion~~ ~~to~~ ~~higher~~ ~~expenses~~ ~~and~~ ~~to~~ ~~false~~ ~~subsidies~~ ~~(!)~~ ~~for~~ ~~the~~ ~~to~~ ~~retake~~ ~~the~~ ~~material~~: particularly regarding the laying of ballast.

4°) The most urgent materials to supply are:

Cement, 3000 Qls at Savona
2000 Qls at Altare

Round homogeneous iron, diametre m/m 6: 150 Qls at Alcare.

to provide the drivers from its start.

OWN
The Management will provide the drivers from its staff.

- 1°) The laying of the tracks will take place by laying ~~xxxx~~ putting the tracks on the ground from Altare towards Savona at the rate of 200 m. per day. The completion will take 80 ~~days~~ work 's days since the day when will begin, from the Compartimento of Torino I.S.R., the supply of the required materials in the station of Alcare, materials which must be taken from the line Fossano-Mondovì, Ceva.
- 2°) The supply of ~~xxxxxxxxxxxx~~ rubblestone for the ballasting will be done from the stone quarry of Rossignione and eventually from nearer quarries if these are judged idoneous ~~for~~ by the I.S.R. Compartimento of Turin.. The supply of ballast is to begin as soon as the tracks have been laid till "Maschio".
- 3°) In order to hasten the laying of the equipment it will be examined ~~xxxx~~ introducing ~~xx~~ materials even in intermediary spots, especially ~~xxxxxx~~ at the upper entrance of the Santuario tunnel in the Letimbro Valley. It is deemed that ~~xxxx~~ without obtaining an appreciable saving of time - this ~~xxx~~ could give occasion to ~~xxxx~~ expenses and to false ~~xxxxxxxx~~ (!) ~~xxxxxx~~ to retake the material: particularly regarding the laying of ballast.
- 4°) The most urgent materials to supply are:

Cement, 3000 Qls at Savona

2000 Qls at Altare

Round homogeneous iron, diametre m/m 6: 150 Qls at Alcare.
Timber: at Savona

Beulks in commercial sizes of about 0,20 x 0,20
cubic metres 4=

Scantlings Trieste type cubic metres 6=

" 0,10 x 0,10 cubic metres 5=

Raw boardings ~~xxxxxx~~ from 0,02 to 0,03
cubic metres 5=

total cubic metres 20=
~~xxxxxx~~ Common bricks size

0,26 x 0,13 x 0,06 : 40 thousands at Savona.

5°) Supply of transport:

A small autocar, type Balilla, for the Management of the works, in substitution of the car already in dotation of the Office and taken away during the war.

A middle sized car type 1100 or 1500 Fiat to transport officer and agents of the Administration in charge of the supervision of the works.

AMx truck of average capacity ~~for~~ to transport material and ~~xxxx~~ machinery;

O.L. and lubricating required for their use.

MINISTERO DEI LAVORI PUBBLICI

Direzione Generale

della Viabilità Ordinaria

e delle Nuove Costruzioni Ferroviarie

UFFICIO DI SAVONA

Savona 4 agosto 1945

To Allied Commission

T.W. S.C. (Rails) C.E. Branch N.W. Italy

Via A. Doria N.5

3 E M O V A

e per conoscenza :

Prot. N. 474/11.T.a.17

Al Compartimento Ferrovie dello Stato
Sezione Lavori di

T O R I N O

OGGETTO

Linea Savona Fornaci-S. Giuseppe
di Cairo. Lavori di completamento
per l'apertura all'esercizio.

Al Ministero dei Lavori Pubblici
Direzione Generale Viabilità Ordinaria
e delle Nuove Costruz. Ferroviarie

R O M A

In merito all'oggetto, si confermano gli accordi presi ed
il programma di lavoro concordato col sig. Capitano Conway in oc-
casione del sopralluogo effettuato il 3 c.m. e cioè :

- 1°) La distesa dell'armamento provvederà con posa a terra da
Altare verso Savona in ragione di ml. 200 giornalieri. Il
completamento avverrà in 80 giornate lavorative del giorno
in cui avrà inizio, a cura del Compartimento F.S. di Torino,
la fornitura nella stazione di Altare dei materiali occorren-
ti, da prelevarsi dalla linea Fossano-Mondovì-Ceva;
- 2°) La fornitura del pietrisco per la massicciata sarà fatta dal-
le cave di Rossiglione o eventualmente da altre più vicine,
purché idonee a giudizio del Compartimento F.S. di Torino.
La fornitura dovrà iniziarsi non appena la posa delle rotaie
abbia raggiunto la località "Maschio";
- 3°) Si prenderà in esame, allo scopo di affrettare la posa dell'ar-

0833

In merito all'oggetto, si confermano gli accordi presi ed il programma di lavoro concordato col sig. Capitano Conway in occasione del sopralluogo effettuato il 3 c.m. e cioè :

1°) La distesa dell'armamento provvederà con posa a terra da Altare verso Savona in regione di ml. 200 giornalieri. Il completamento avverrà in 20 giornate lavorative dal giorno in cui avrà inizio, a cura del Compartimento F.S. di Torino, la fornitura nella stazione di Altare dei materiali occorrenti, da prelevarsi dalla linea Fossano-Mondovì-Ceva;

2°) La fornitura del pietrisco per la massicciata sarà fatta dalle cave di Rossiglione o eventualmente da altre più vicine, purché idonee a giudizio del Compartimento F.S. di Torino.

La fornitura dovrà iniziarsi non appena la posa delle rotaie abbia raggiunto la località "Maschio";

3°) Si prenderà in esame, allo scopo di affrettare la posa dell'armamento, l'immissione dei materiali anche da punti intermedi, principalmente dall'imbocco superiore della galleria del Santuario in valle Letimbro. Si ritiene peraltro che - senza pur ottenere apprezzabile guadagno di tempo - ciò possa dar luogo a maggiori spese e a false manovre per la ripresa del materiale :. in particolare, riguardo al distendimento del pietrisco ,

/.

4°) Materiali più urgenti da fornire :

- Cemento, Qli 3000 a Savona
- " 2000 ad Altare;
- Ferro tondo omogeneo diametro m/m 6, Qli 150 ad Altare ;
- ; Legnami: a Savona

Benelli Travi a spigolo vivo in dimensioni commerciali di circa 0,20 x 0,20 mc. 4,00

Benelli Travicelli squadriati uso Trieste " 6,00

Murali 0,10 x 0,10 " 5,00

Tavole grezze da 0,02 x 0,03 " 5,00

in totale mc. 20,00

- Mattoni forti comuni delle dimensioni

0,26 x 0,13 x 0,06 Migliaia 40 a Savona .

5°) Fornitura di automezzi :

- Una autovettura piccola, tipo "Balilla" per la Dirigenza dei lavori, ~~in~~ in sostituzione di quella già in dotazione dell'Ufficio e sottratta durante il periodo bellico;
- Una autovettura media tipo 1100 oppure 1500 Fiat per trasporto dei funzionari ed agenti dell'Amministrazione incaricati dell'assistenza e sorveglianza dei lavori ;
- Un autocarro di portata media per trasporto

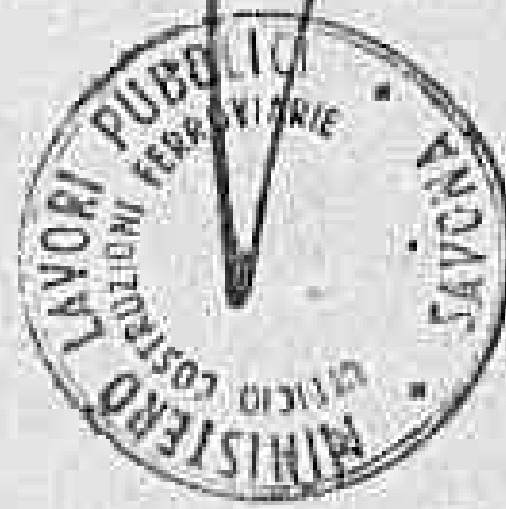
Murali 0,10 x 0,10 " 5,00
Tavole grezze da 0,02 x 0,03 " 5,00
in totale mc. 20,00
=====

- Mattoni forti comuni delle dimensioni 0,26 x 0,13 x 0,06 Migliaia 40 a Savona.

50) Fornitura di automezzi:

- Una autovettura piccola, tipo "Balilla" per la Dirigenza dei lavori, ~~A~~ in sostituzione di quella già in dotazione dell'Ufficio e sottratta durante il periodo bellico;
- Una autovettura media tipo 1100 oppure 1500 Fiat per trasporto dei funzionari ed agenti dell'Amministrazione incaricati dell'assistenza e sorveglianza dei lavori;
- Un autocarro di portata media per trasporto di materiali e mezzi d'opera;
- Carburante e lubrificanti occorrenti per l'uso.

Per gli autisti provvederà la Dirigenza con proprio personale.



L'INGEGNERE DIRIGENTE

UFFICIO COSTRUZIONI FERROVIARIE DI SAVONA

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NEW LINE SAVONA FORNACI=S. GIUSEPPE DI CAIRO, RAILWAY BRANCH SAVONA=ALTARE
=====

Temporary railway-junction to connect the line with
Savona Letimbro station and settlement of the above
mentioned branch.

The origin of the new line Savona=Fornaci=San Giuseppe di Cairo goes back to the Summer of the year 1918, when the Supreme Command of the American Army required the construction of this line with the purpose of using the Vado roadstead to go inland with an independent railway line of high power.

After the armistice on the 4th November of the same year, as there was no reason to complete the line with the greatest urgency, the plan has been improved in all its characteristics. Now it is practically completed; only the equipment and the electrification are missing, as well as the completion of the works necessary to connect it to the actual stations of Savona Letimbro and Savona Fornaci.

It had been foreseen for the connection with the Savona Letimbro station, the construction of an underground passage in correspondence of the road for Piemonte and a connection ramp, between retaining walls which must be developed mostly in the area occupied by the sliding of Lavagnola; here there were to be the double tracks of the Savona=San Giuseppe di Cairo line, and even the Savona=Sentuario=San Giuseppe line opportunely deviated either planimetrically and altrimetrically.

Owing to the mentioned suppression of the sliding of Lavagnola

the plan has been improved in all its characteristics. Now it is practically completed; only the equipment and the electrification are missing, as well as the completion of the works necessary to connect it to the actual stations of Savona Letimbro and Savona Fornaci.

43
It had been foreseen for the connection with the Savona Letimbro station, the construction of an underground passage in correspondence of the road for Piemonte and a connection ramp, between retaining walls which must be developed mostly in the area occupied by the sliding of Lavagnola; here there were to be the double tracks of the Savona-San Giuseppe di Cairo line, and even the Savona-Santuario-San Giuseppe line opportunely deviated either planimetrically and altimetrically.

Owing to the mentioned suppression of the sliding of Lavagnola and to the connection of the new railway Savona Fornaci, in this latter place the construction of a large sliding had been foreseen; this was to be used for the shunting and the arrangement of the goods trains in arrival and departure for Piemonte, as well as for the exigencies of the Savona harbour with which the sliding itself had to be linked.

All these installations had to be improved displacing the actual railway station, which is inadequate for an intense traffic and has no possibilities of development, beyond the Letimbro torrent.

The accomplishment of the plan, studied for this purpose and agreed either by the Railway Administration and the Comune of Savona which intended to contribute to the expense, has been postponed owing to the war.

But in the meanwhile as it had been foreseen that during the war the line working between Savona-Santuario-San Giuseppe would be so seriously damaged to prevent traffic for a long time a temporary

junction has been planned that would consent to open without delays the line Savona-Altare, which, connected to the line Altare-San Giuseppe - working since long ago - would allow the utilisation of all the new line from Savona to San Giuseppe, with considerable improvement in the conditions of the railways service to and from Piemonte.

This junction which must be built without hindering the already existing installations, requires the laying of a rail by the side of the Santuario one, which it follows till the progr. 240, and then independently from the other and by means of a ramp of 768,61 m. having a slope of 32,65%, it reaches the platform of the new line at the km. 3+261,14.

The total length of the junction is of 1011 m.

For its accomplishment two underground passages of 2,50 m. and 5,50 m. of span at the progr. 429,00 and 488,50 must be lengthened.

It will then be necessary to expropriate a building near the progr. 100,00 constituted by a ground floor and two upper floors, where there are two shops of no importance and two flats for civilian use.

The works required to repair the road damaged by air raids are, on the whole, of little entity.

The most important repairs must be done at the vault of the tunnel "Seccamele", length 112,13 m. between the km. 9+594,85 and the km. 9+706,98. The tunnel has been firstly hit by a bomb, and owing to its thinness the vault has fallen in. Afterwards owing to the blasting of some mines the remainder has fallen in or has been damaged.

The total amount of the expenses, calculated on a basis of

5,50 m. of span at the progr. 429,00 and 488,50 must be lengthened.

It will then be necessary to expropriate a building near the progr. 100,00 constituted by a ground floor and two upper floors, where there are two shops of no importance and two flats for civilian use.

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The most important repairs must be done at the vault of the tunnel "Seccamele", length 112,13 m. between the km.9+594,85 and the km.9+706,98. The tunnel has been firstly hit by a bomb, and owing to its thinness the vault has fallen in. Afterwards owing to the blasting of some mines the remainder has fallen in or has been damaged.

The total amount of the expenses, calculated on a basis of estimated prices, is divided in the following way:

1°) Works that must be contracted	6.660.767= L.
2°) Supplies and expenses reserved to the Administration (essentially for equipment material)	57.496.640=
3°) Unforeseen expenses	5.842.593=

Total	70.000.000= L.
	=====

In this amount, the liabilities are only of L.3.000.000 abt. including the share for unforeseen expenses, because the remaining 67.000.000 (i.e. L.4.040.000 for repairs of war damages and the other L.62.060.000= for equipment) are really used to complete the line.

It has been foreseen that at first steam traction will be adopted as it is ^{for} the Altare-San Giuseppe railway branch

already working. Although the line includes 24 tunnels of which the longest has about 2 km. of length, it is deemed that the inconvenience due to smoke is not a serious matter, because the tunnels are large enough for two tracks, while at present only one would be used.

The time required to do all the works can be estimated in four months since the day in which the equipment materials will be available.

The execution of this project presents no difficulties, either of finance because the liabilities are limited to the utmost degree, as already said, or of construction because there are only two installations to lengthen and only unimportant transport of material is required.

The only difficulty of some importance could be the supply of equipment materials. As only 15 km. should be equipped with simple track, we believe that this difficulty can be easily surmounted. If the provisions, considering the emergency, could not satisfy the request, we can apply to the cooperation of the Allied Military Government or we can recover materials from lines with double tracks, actually out of use and which at present and perhaps for a long time will be used without detriment for the service with an only track. For example the railway branch Ceva-Mondovì of the line Fossano-Mondovì-Ceva, that can even use the branch Ceva-Bastia-Mondovì as subsidiary line.

Savona in front of the ~~water~~ necessity to be quickly linked with the inland cannot wait the reconstruction of the viaducts of the line of Santuario, to re-establish its communications with Piemonte.

It is impossible here to give the exact time required for such reconstruction, because the projects are unknown, but this reconstruction will certainly require much more time than the inhabitants of Savona would like in view of their urgent needs.

The utilization of the new line of Alghero

track, we believe that this difficulty can be easily surmounted. If the provisions, considering the emergency, could not satisfy the request, we can apply to the cooperation of the Allied Military Government or we can recover materials from lines with double tracks, actually out of use and which at present and perhaps for a long time will be used without detriment for the service with an only track. For example the railway branch Ceva=Mondovì of the line Fossano=Mondovì-Ceva, that can even use the branch Ceva=Bastia=Mondovì as subsidiary line.

Savona in front of the viaduct necessity to be quickly linked with the inland cannot wait the reconstruction of the viaducts of the line of Santuario, to re-establish its communications with Piemonte.

It is impossible here to give the exact time required for such reconstruction, because the projects are unknown, but this reconstruction will certainly require much more time than the inhabitants of Savona would like in view of their urgent needs.

The utilisation of the new line of Altare, on the contrary, not only assure the re-establishment of a regular service between Savona and San Giuseppe, but allows also to repair the line of Santuario avoiding the actual difficulties of service.

34

MEMO

To hasten works and to avoid appropriation of funds this system could be used.

The railway line Ceva-Mondovì is long 15 km.

It has double tracks.

Taking a track, this material could be used to equip the Savona-Albare line.

The line Ceva-Mondovì is out of use for a long time.

There are four viaducts completely down:

(1) the first on the Tanaro at Ceva, high 12 m.

(2) the second on the Mongia at Lesenio, high 57 m.

(3) the third on the Coraaglia at Vico Forte, high 52 m.

(4) the fourth on the Stura at Prinita, high 62 m.

The construction of these viaducts will cost millions and years of time.

Therefore the line Ceva-Mondovì will be out of use for a long time.

The material, iron and wood, of at least a track will be taken and used to equip the line, we sustain to be so necessary to connect Savona with Piemonte.

Even the Savona-San Giuseppe line has 3 ~~existing~~ broken bridges, Acquabona, Isola and Gilioglio.

more

To build these bridges in due form many months are required than to equip the Savona-Albare.



Ces. 9
già Modulo Cos. 97 (est.)

MINISTERO DEI LAVORI PUBBLICI
DIREZIONE GENERALE DELLE NUOVE COSTRUZIONI FERROVIARIE

Linea Savona Fornaci-S. Giuseppe di Cairo Tronco Savona -Altare

CONTO PREVENTIVO

della spesa occorrente per la fornitura di una parte dei lastroni da
impiegarsi per la copertura del cunicolo delle gallerie.

Savona 25 luglio 1945

CONTO PREVENTIVO

della spesa occorrente per la fornitura di una parte dei lastroni da
impiegarli per la copertura del cunicolo delle gallerie.

Savona 25 luglio 1945

785021

Cos. 9
gila Modulo Cos. 97 (int.)

[illegible]



MINISTERO DEI LAVORI PUBBLICI

Direzione Generale delle Nuove Costruzioni Ferroviarie

Linea Savona Fornaci-S. Giuseppe di Cairo Tronco Savona-Altare

CONTO PREVENTIVO

della spesa occorrente per la sistemazione del piano di
piattaforma e lo stendimento di parte del pietrisco per il primo
strato di massicciata, per la sede di un binario nel tratto compreso
tra i Km. 15 + 300 e 18 + 000 circa.

Savona 27 luglio 1945

CONTO PREVENTIVO

della spesa occorrente per la sistemazione del piano di
piattaforma e lo stendimento di parte del pietrisco per il primo
strato di massicciata, per la sede di un binario nel tratto compreso
tra i Km. 15 + 300 e 18 + 000 circa.

Savona 27 luglio 1945

CONTO

Numero progressivo	Lettera sotto il mod. N.	INDICAZIONE DELLE PARTITE	Unità di conto	QUANTITA'
:		Sistemazione del piano di piattaforma nel tratto compreso tra i Km. 15 + 300 e 18+000 -----		
1		Sistemazione del piano di piattaforma		
		a) in galleria	mq.	6815
		b) allo scoperto	"	2500
2		Vagliatura e stendimento di pietrisco sia in galleria che allo scoperto	mc.	1000
		Importo totale		



C.A. 9
grà Modulo Cos. 97 (est.)

MINISTERO DEI LAVORI PUBBLICI

DIREZIONE GENERALE DELLE NUOVE COSTRUZIONI FERROVIARIE

Linea Savona Fornaci-S. Giuseppe di Cairo Tronco Savona-Altare

CONTO PREVENTIVO

della spesa occorrente per il ripristino parziale della galleria Seccamele

dell'imbocco verso Savona

Savona 27 luglio 1945

CONTO PREVENTIVO

della spesa occorrente per il ripristino parziale della galleria Secomale

dell'impegno verso Savona

Savona 27 luglio 1945

785021

F

RIFE

No

785021

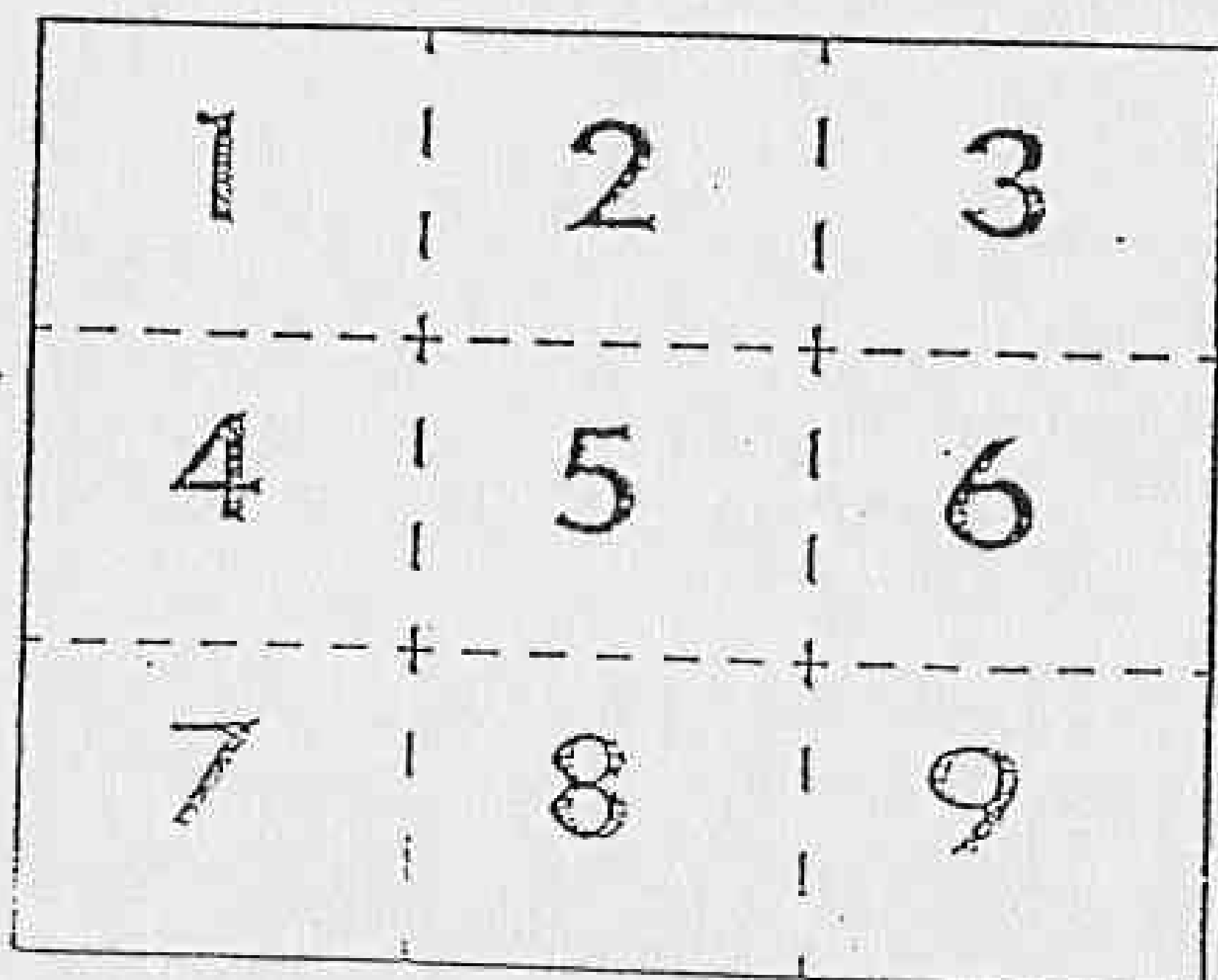
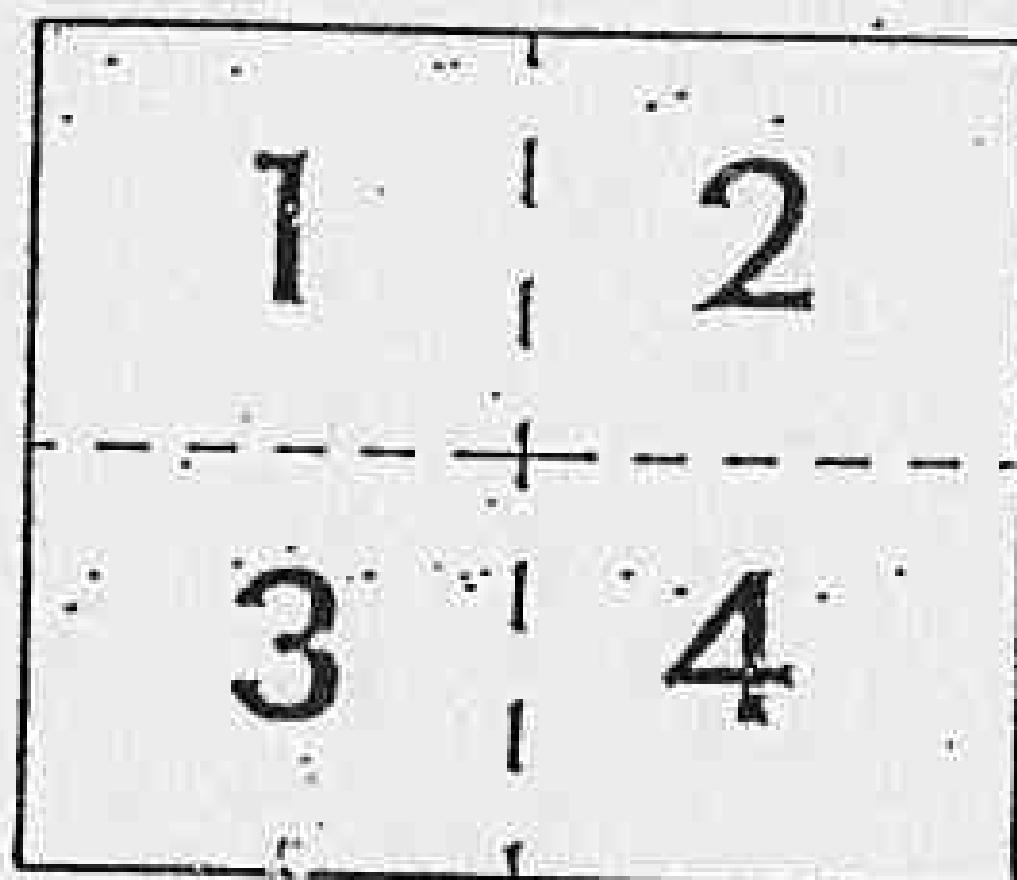
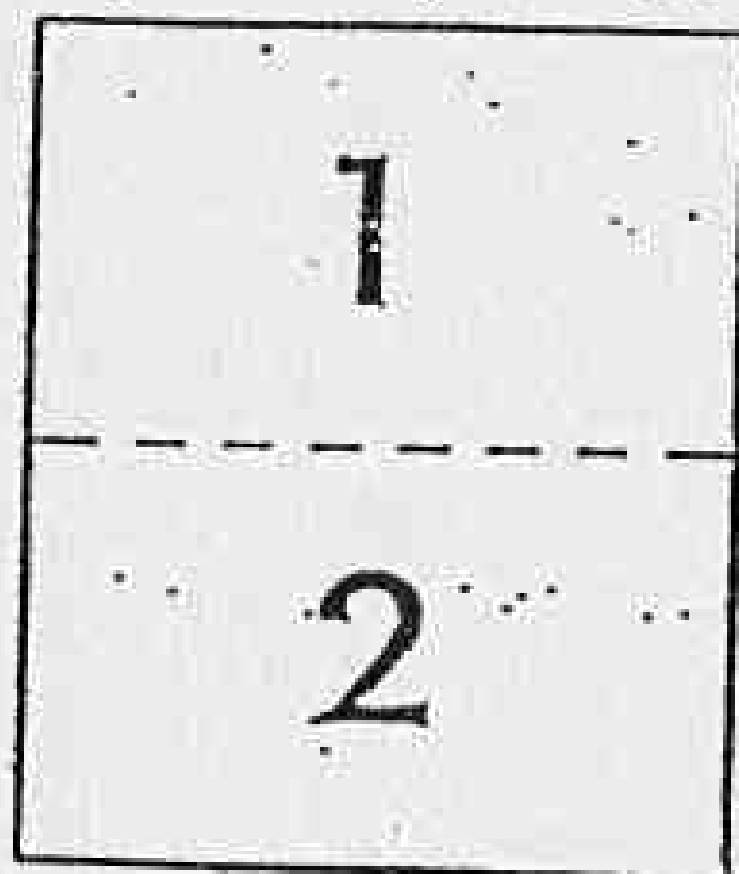
PREVENTIVO

Cos. 9
già Modulo Cos. 97 (int.)

[illegible]

MAPS AND CHARTS TOO LARGE TO FILM
ON ONE EXPOSURE ARE FILMED CLOCKWISE
BEGINNING IN THE UPPER LEFT CORNER,
LEFT TO RIGHT, AND TOP TO BOTTOM.

SEE DIAGRAMS BELOW.



BEST COPY POSSIBLE
FILMED AS FOUND
IN COLLECTION

0861

Declassified E.O. 12356 Section 3.3/NND No. 785021

Ascesa del $\pm 20\%$ per m. 2000.29

0862

Declassified E.O. 12356 Section 3.3/NND No. 785021

del 20% per m. 2000.29

Prog. 6532.65
(114.97)

Asc. Sade 22
per m. 4610

Prog. 6578.75
(115.88)

Imbocco prog. 6594.00

Ponticello di m. 1.00 prog. 6594.40

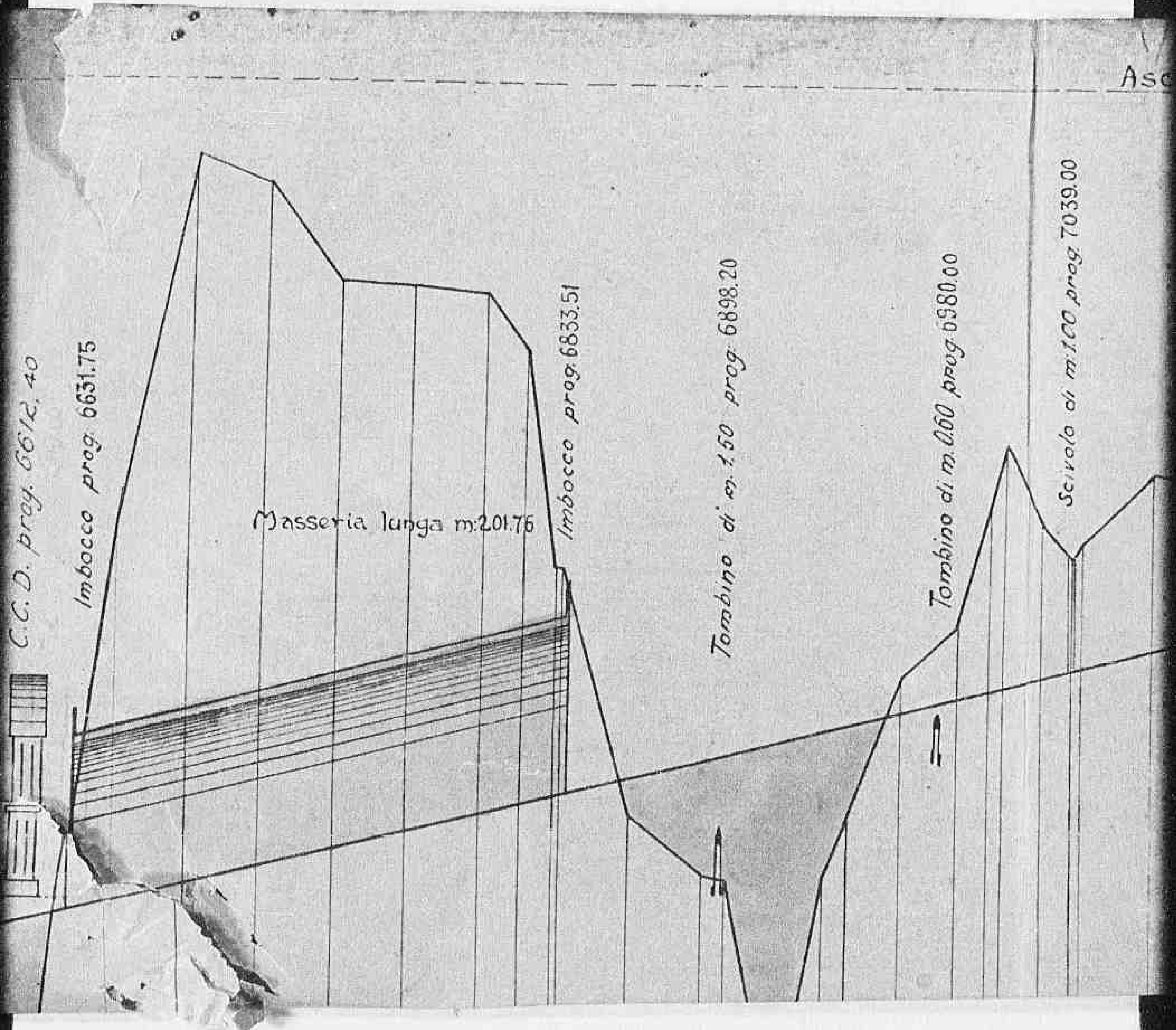
C.C.D. prog. 6612.40

Imbocco prog. 6631.75

Masseria

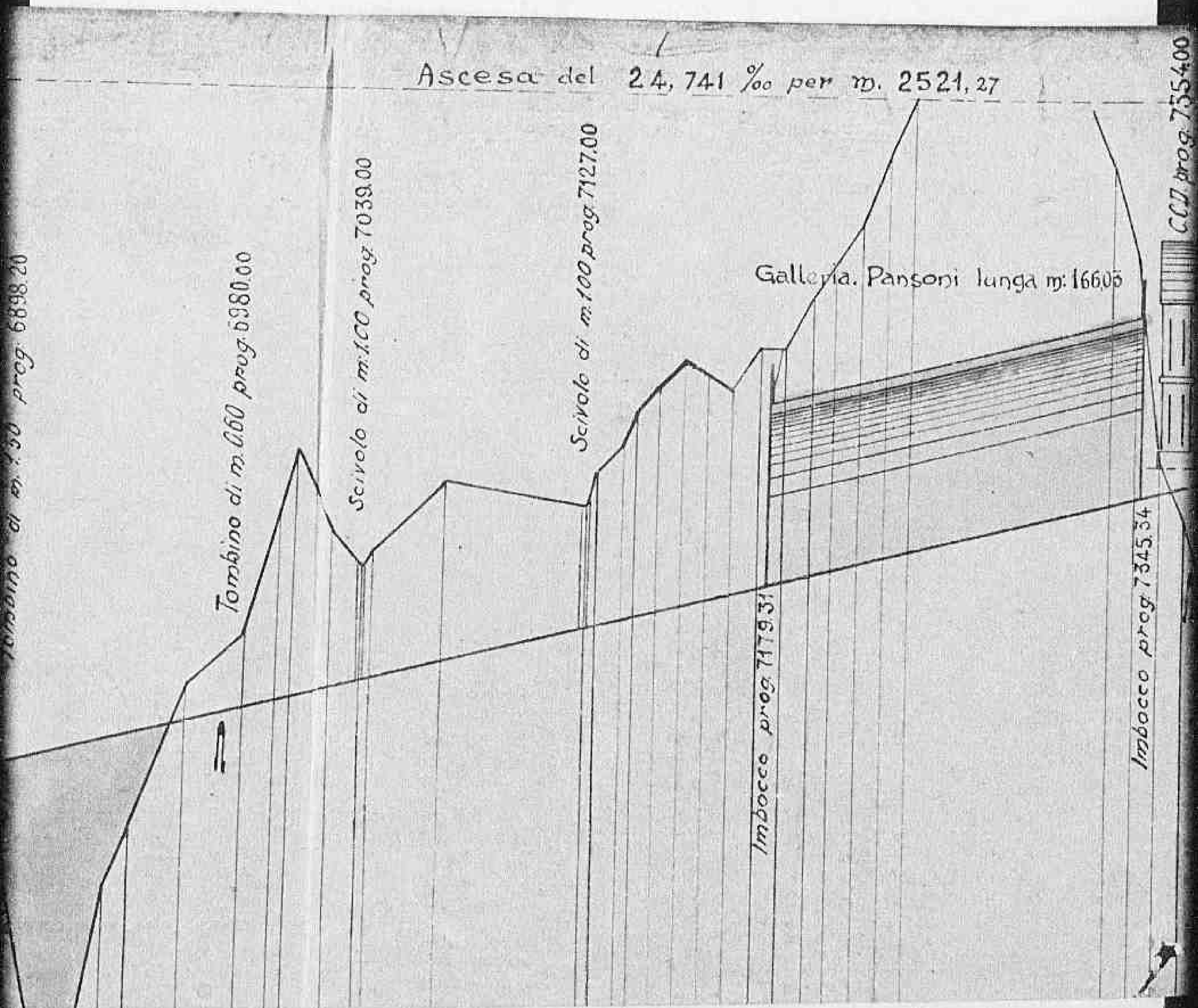
0863

Declassified E.O. 12356 Section 3.3/NND No. 785021



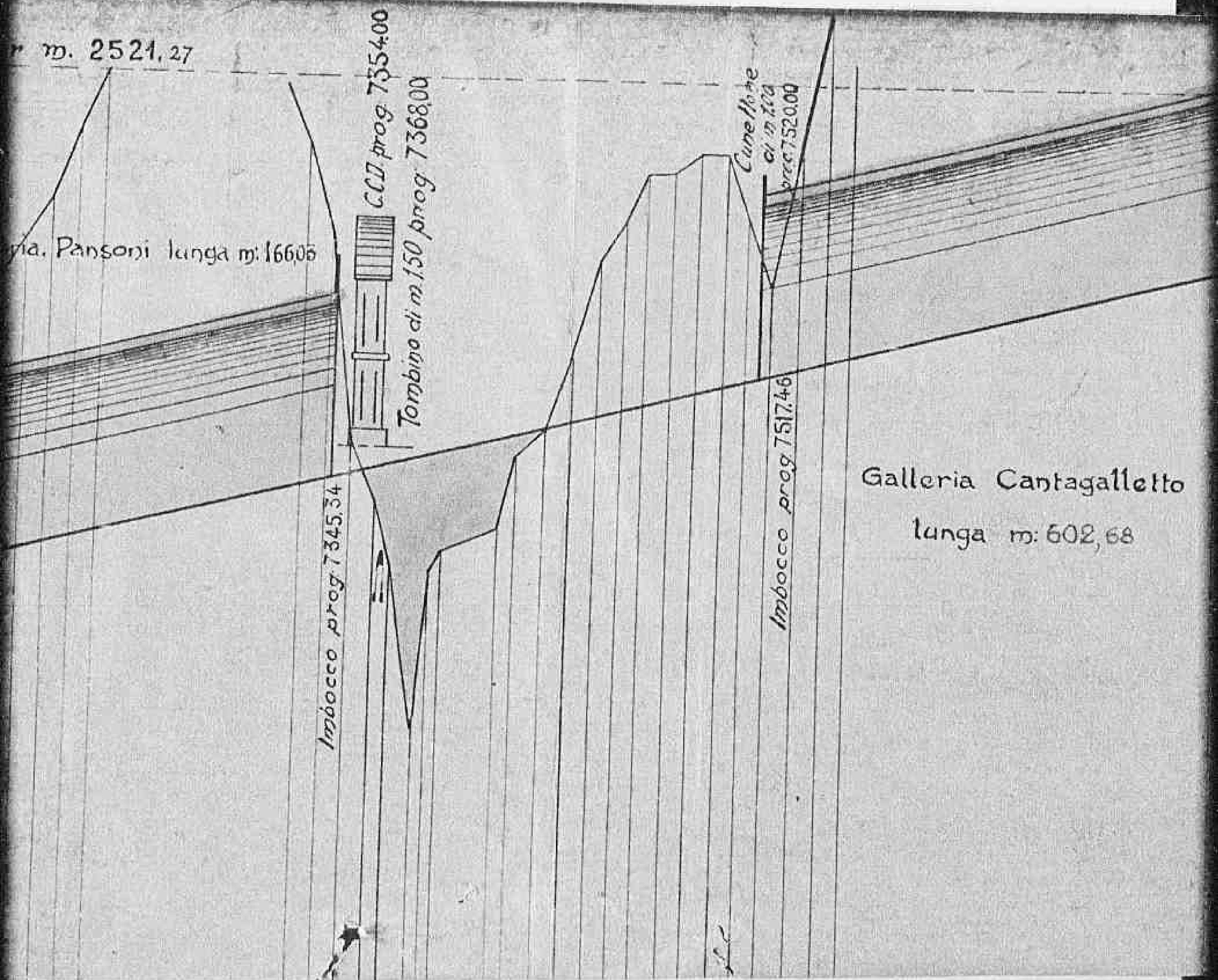
0864

Declassified E.O. 12356 Section 3.3/NND No. 785021



0865

Declassified E.O. 12356 Section 3.3/NND No. 785021



0866

Declassified E.O. 12356 Section 3.3/NND No. 785021

Ascesa del 25,30 ‰

Pr. 7879,38

Galleria Cantagalletto

lunga m: 602,68

Galleria

Cantagalle

lunga m.

progr. 7520.00

Imbocco progr. 7517.46

0867

Declassified E.O. 12356 Section 3.3/NND No. 785021

25,30 ‰

Pr. 7079,38

Galleria

Cantagalletto.

lunga m. 602,68

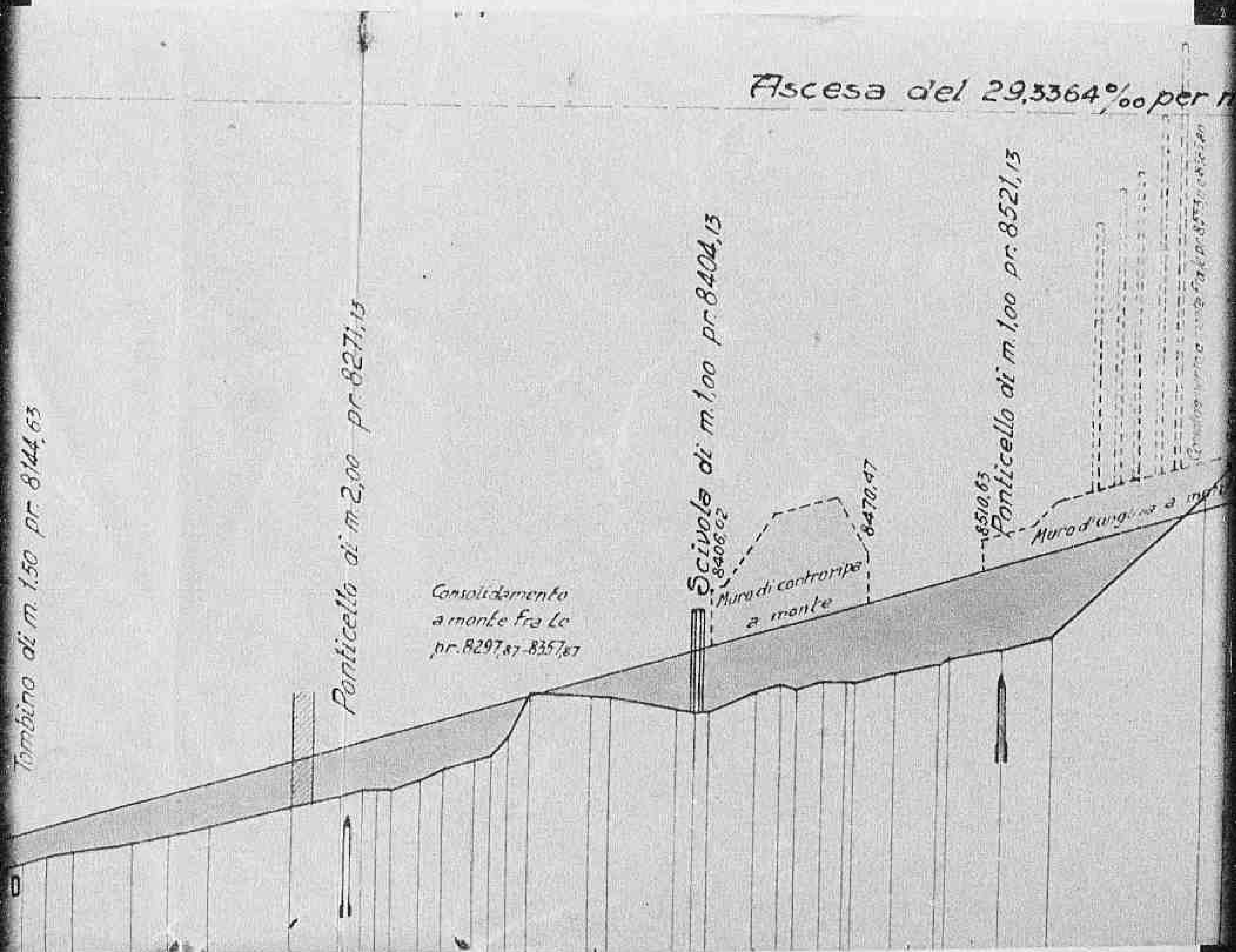
Tambino di m. 1,50 pr 8144,63

0.14

0

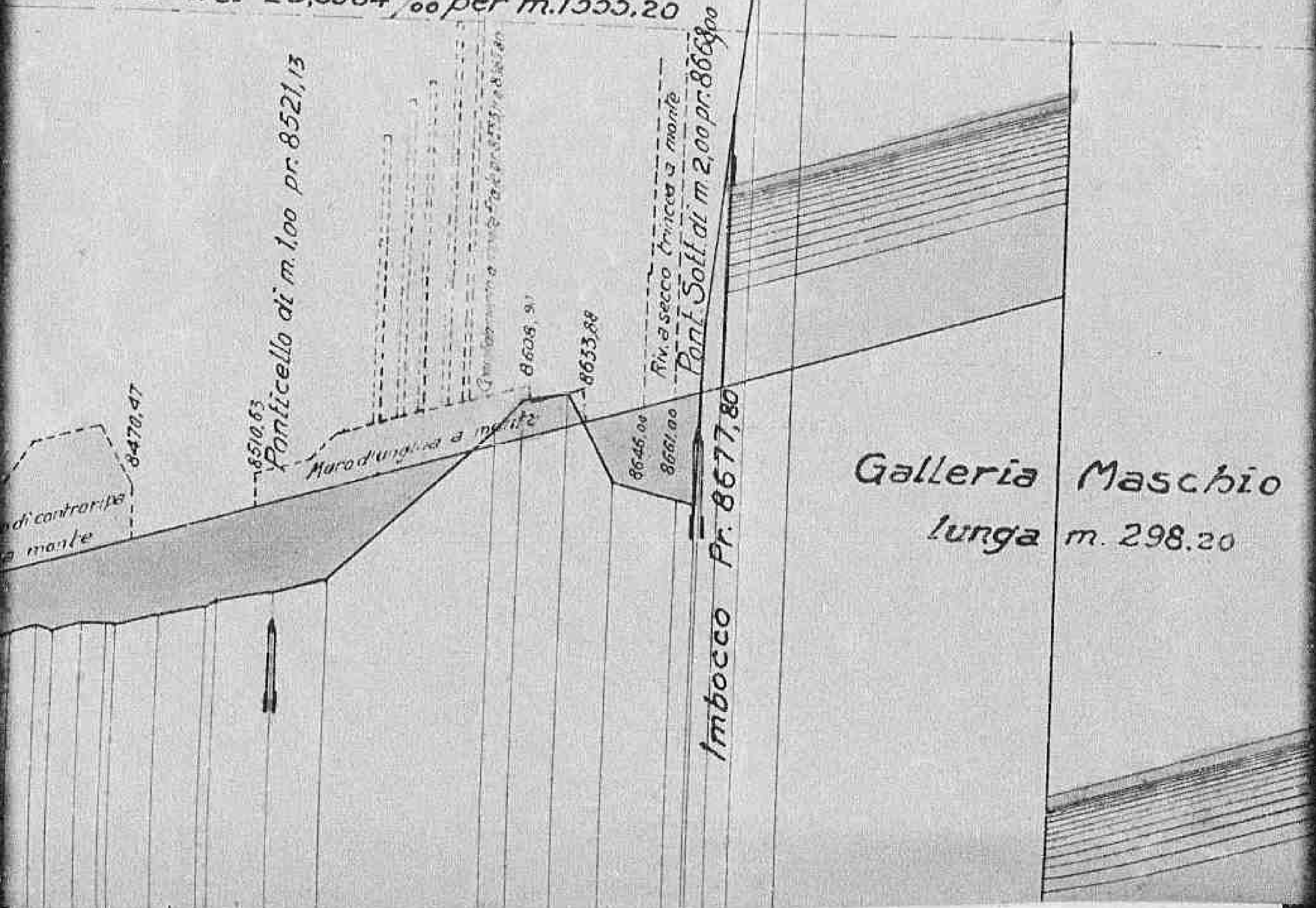
0868

Declassified E.O. 12356 Section 3.3/NND No. 725021



0.869

Ascesa del 29,3364‰ per m.1335.20



0870

Declassified E.O. 12356 Section 3.3/NND No. 785021

alleria Maschio
lunga m. 298.20

Ponticello di m. 2.00 pr 900572

Pont. Solt. di m. 3.00 pr 9188.00

Prod. 9214.58

R° 3000
Sv. 15845
Tg. 29.23
b: 0.00 b: 0.03

0-8,71

Declassified E.O. 12356 Section 3.3/NND No. 725021

Ascesa del 9,85‰ per m. 400,

Pont. Solt. di m. 3,00 pr 9188,00

Prog. 9214,58
(18718)

R: 3000
Sv: 158,45
Tg: 29,73
h: 100,03

9289,60
Muro di sostegno
e muro di rivest.
mento a secco a
monte
9332,00

9387,40

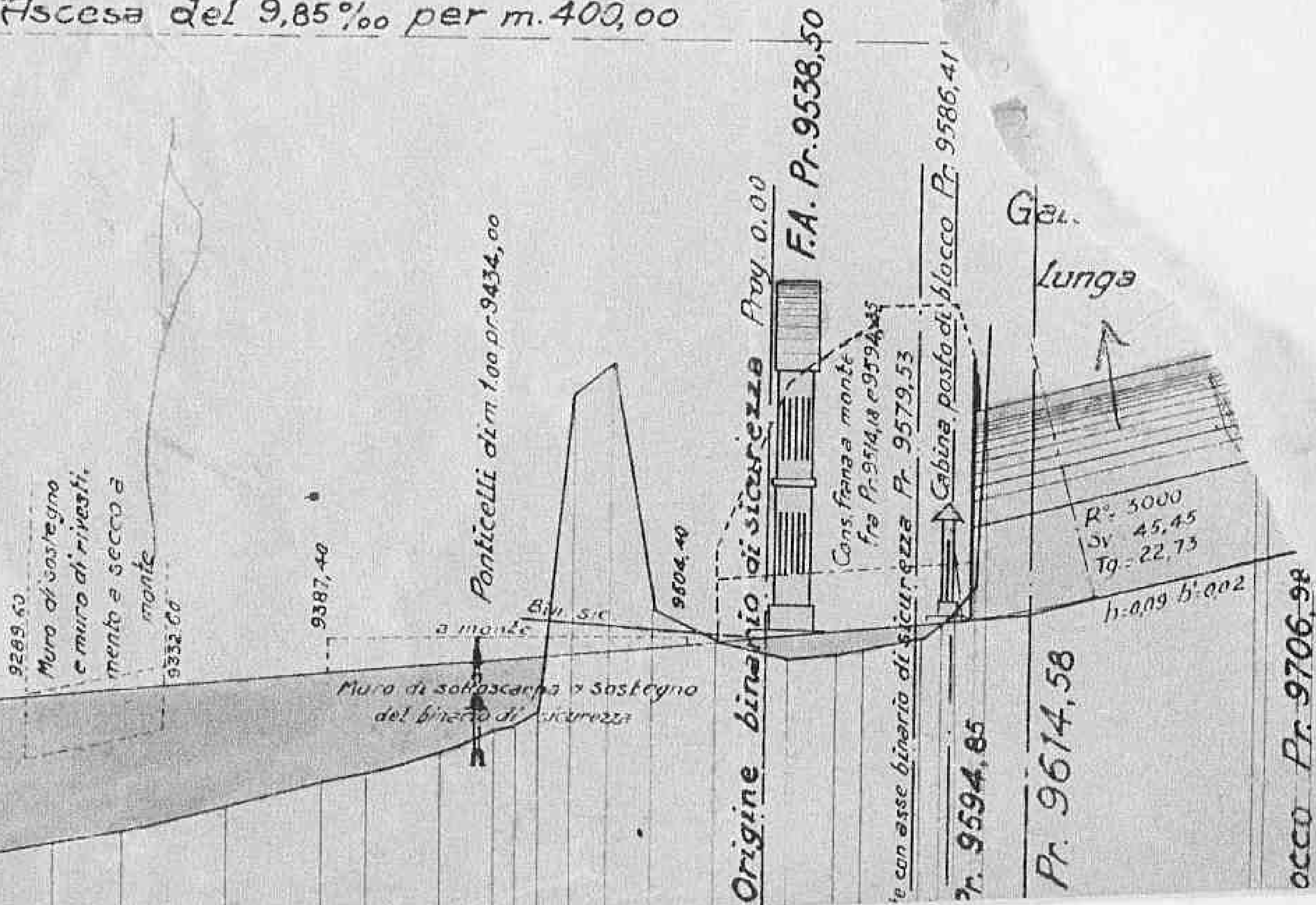
Ponticelli di m. 1,00 pr 9434,00

Muro di sottoscampa o sost.
del binario di sicurezza

Biv. S/C
a monte

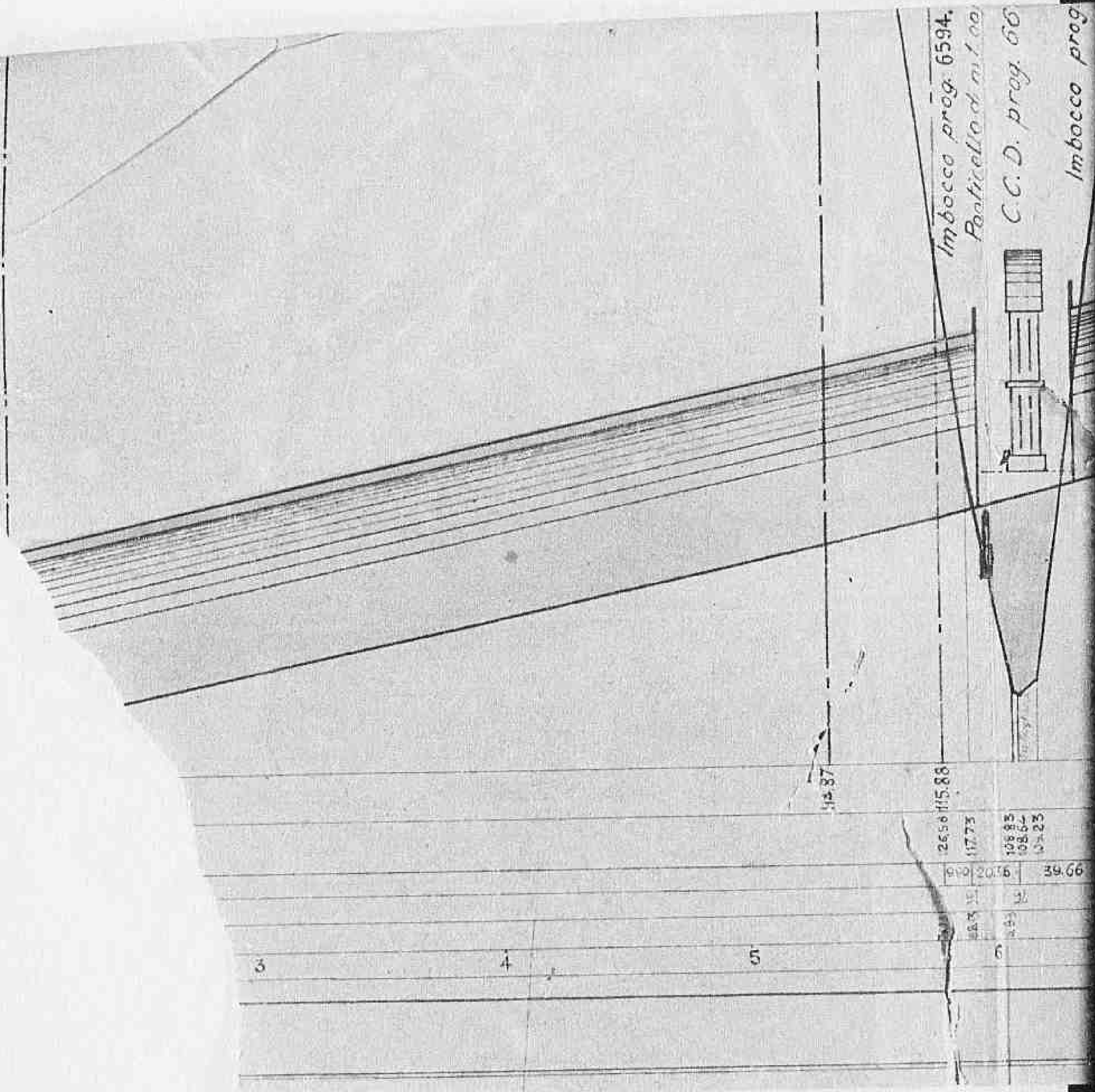
0872

Ascesa del 9,85‰ per m. 400,00



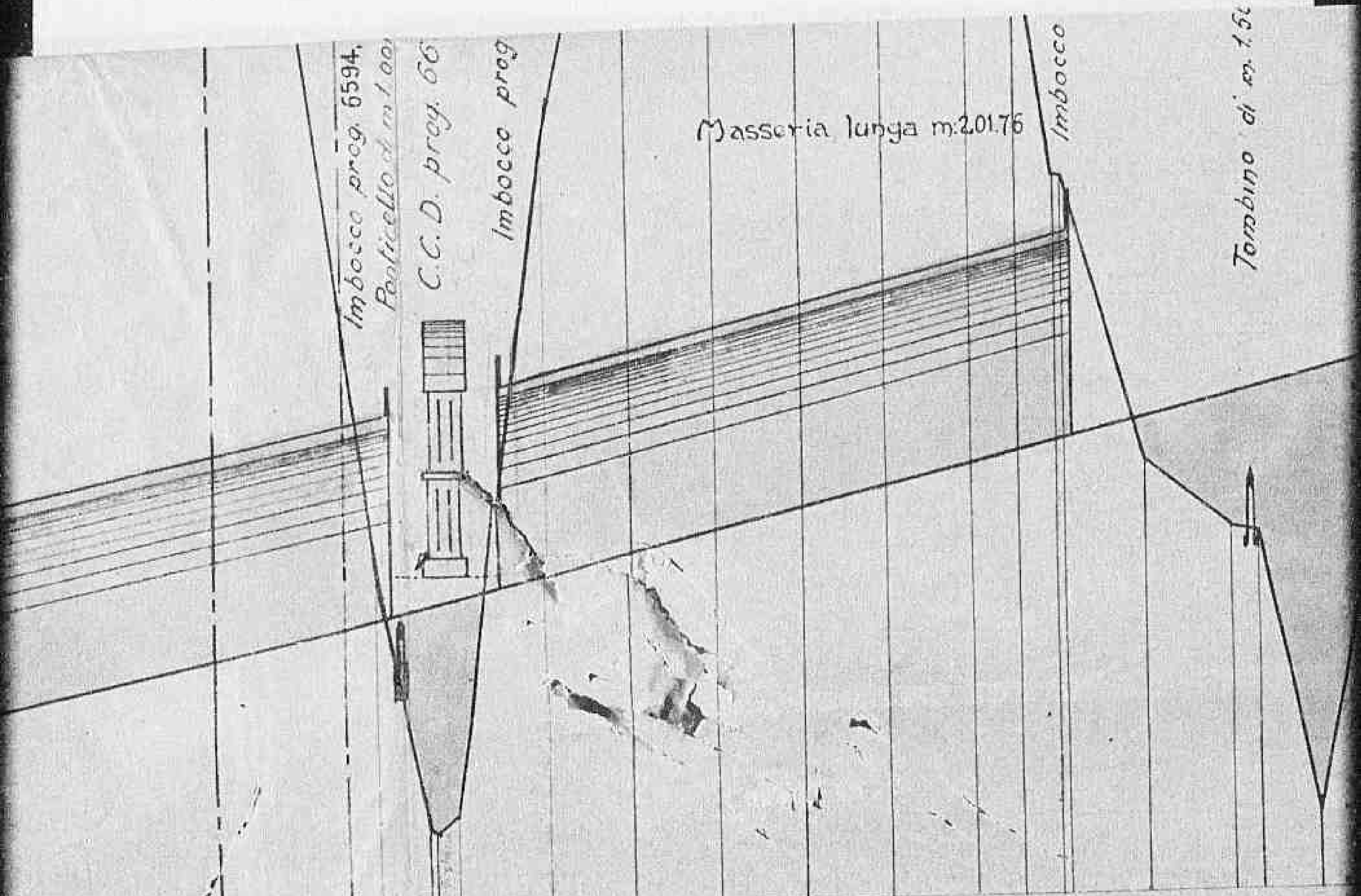
0 8 7 3

Declassified E.O. 12356 Section 3.3/NND No. 785021



0874

Declassified E.O. 12356 Section 3.3/NND No. 785021



112.87	24.56	115.88	117.73	108.93	108.04	112.23	133.30	147.17	146.79	144.66	142.53	142.33	139.89	131.11	131.11	121.25	118.90	118.80	108.78
18.0	20.76	39.66	30.00	30.01	30.01	30.01	30.01	30.01	30.01	30.01	30.01	7.05	2.95	27.51	30.01	112.103	19.93	104	
15.7	18.3	19	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
15.7	18.3	19	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	

5

6

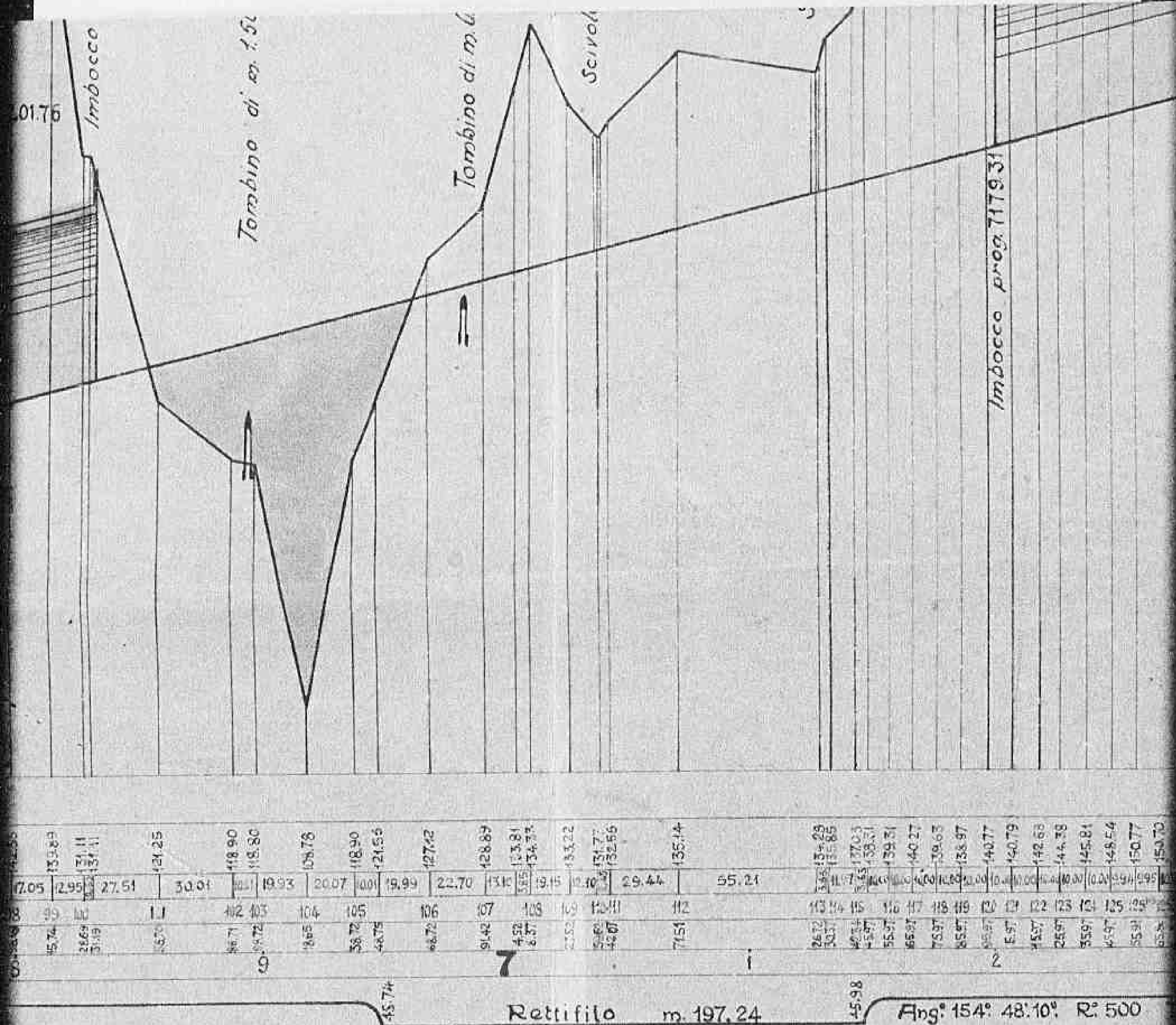
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8

9

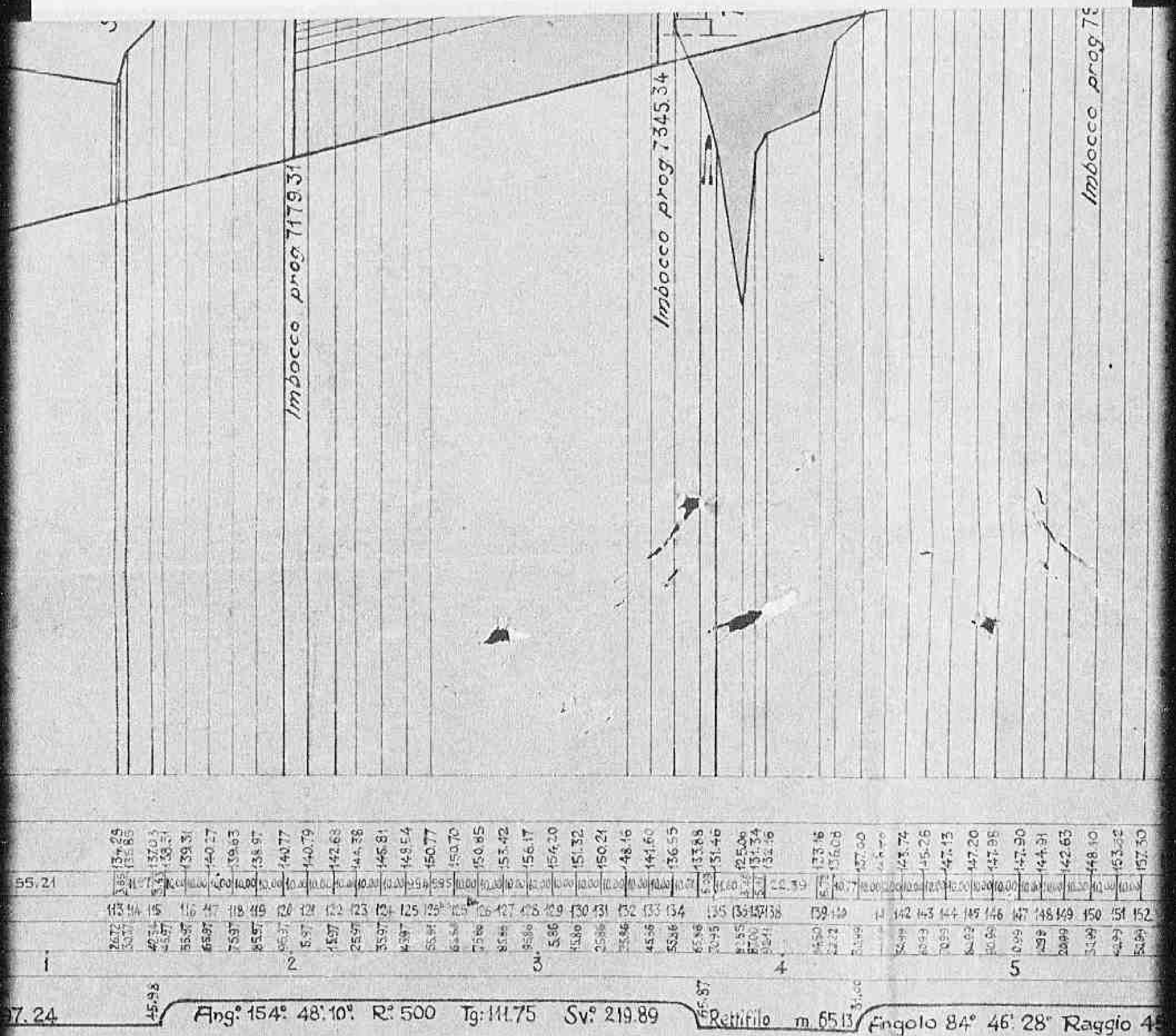
0875

Declassified E.O. 12356 Section 3.3/NND No. 785021



0876

Declassified E.O. 12356 Section 3.3/NND No. 785021



0877

Declassified E.O. 12356 Section 3.3/NND No. 785021

Imbocco prog 78

Galleria Cantagalletto
lunga m: 602,68

Galleria

(106,00

132.16	133.16	136.08	137.00	143.70	143.72	145.28	147.13	147.20	147.98	147.90	144.31	142.63	148.10	153.52	157.30
22.39	40.77	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	
138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	
4															

Angolo 84° 46' 28" Raggio 450 Tang. m. 493.03 Sv. m. 747,90

Ang° 84° 46' 28" R° 4

0878

Declassified E.O. 12356 Section 3.3/NND No. 785021

Galleria

Cantagalletto

lunga m. 602.68

Tombino di m. 1.50 pr 8144.6

C. L. (140)

Imbocco Pr. 8120.14

148.01

176.65-154.58

165.67-155.00

144.54-155.44

154.82-155.88

155.17-156.18

243.82

14.58

15.00

15.00

10.00

10.00

79.38

17.20

15.54

15.54

17.20

15.54

8

9

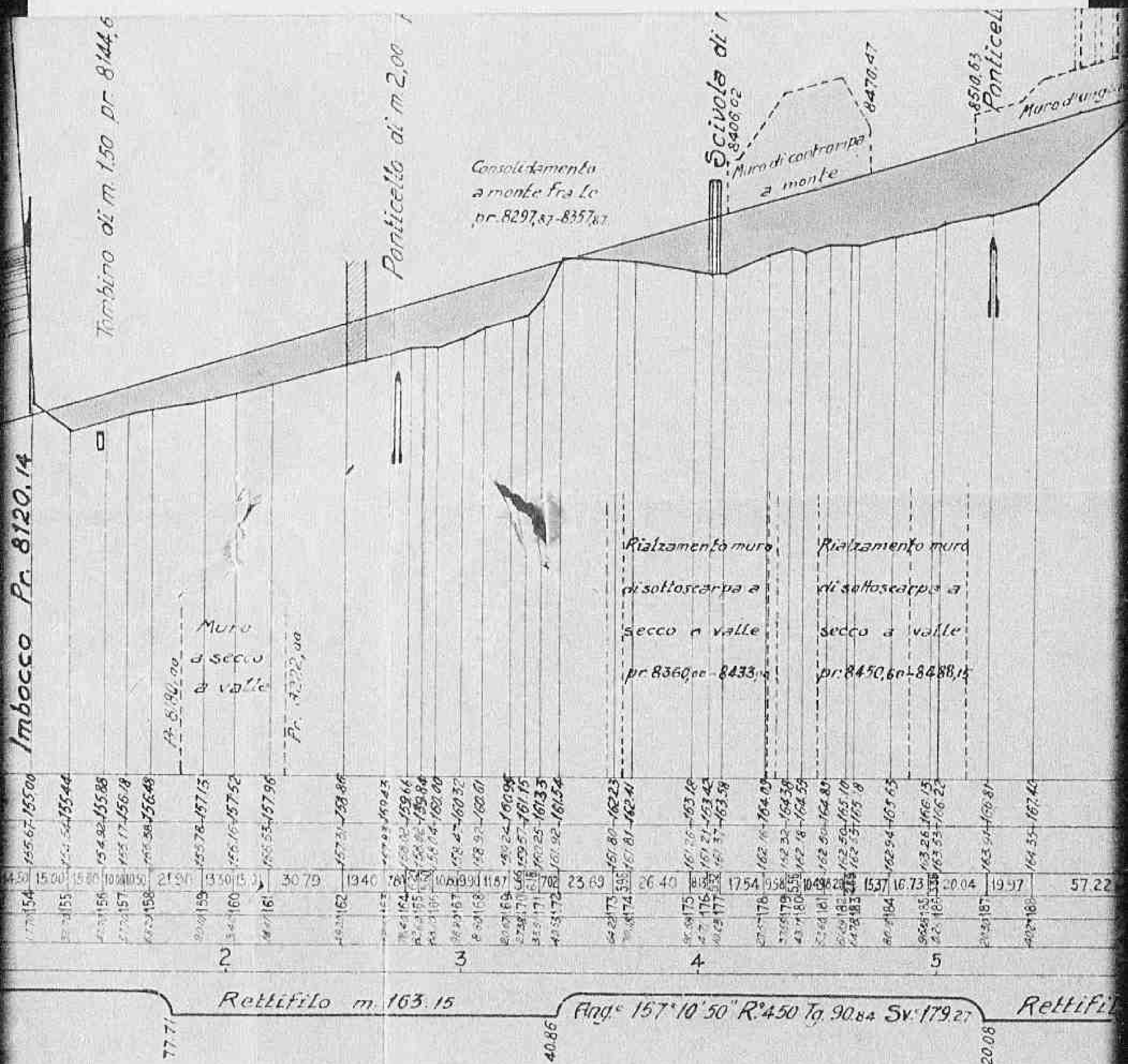
8

1

Ang° 84° 46' 28" R° 450 Tg 493.03 Sv° 747.90

0879

Declassified E.O. 12356 Section 3.3/NND No. 785021



<i>Galleria</i>	<i>Maschio</i>
<i>lunga</i>	m. 298.20

(140) (165)

17502-

236 38

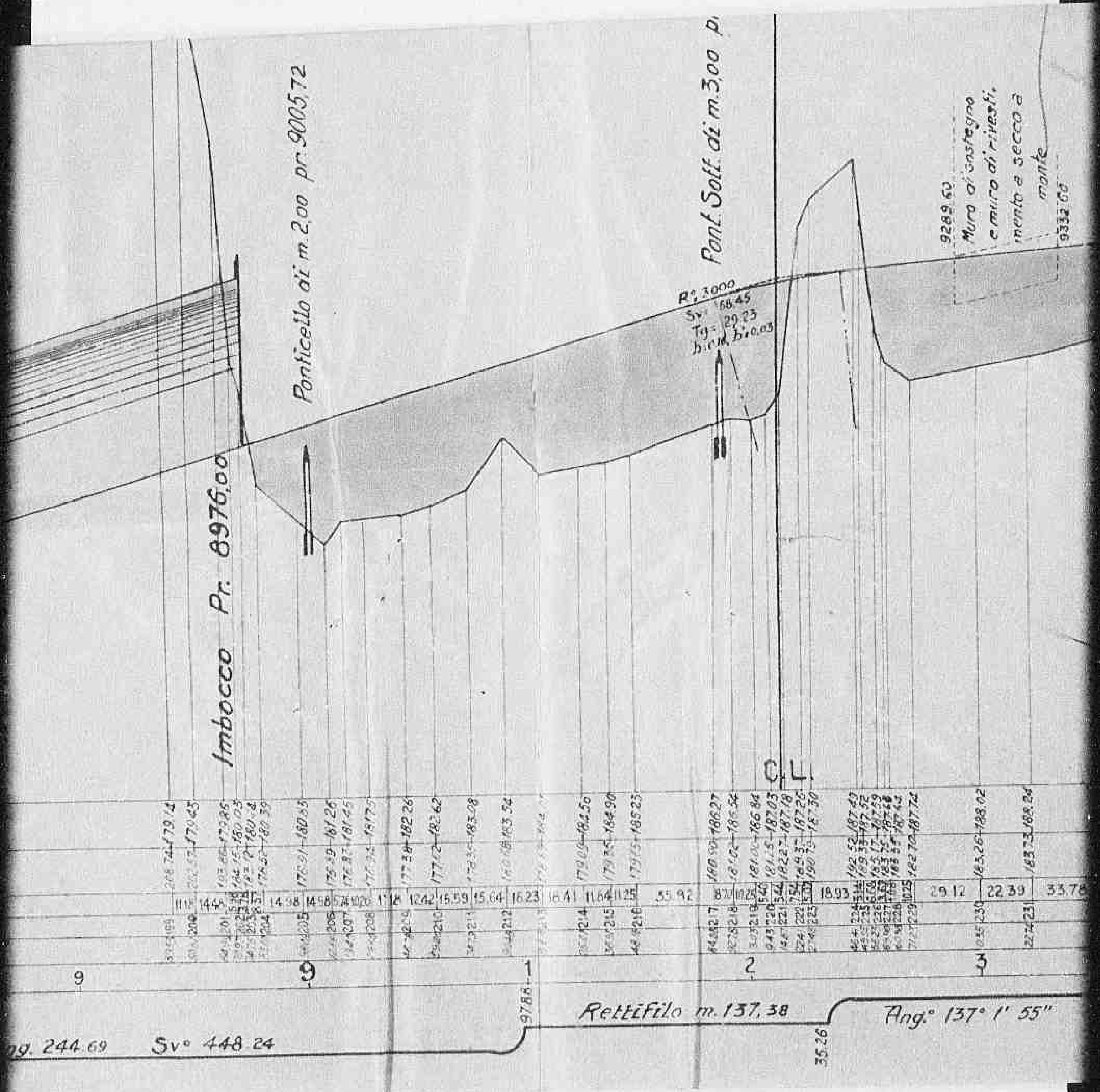
9064 SV-179.27

Rettifilo m. 129.56

Ang° 122° 55' 43" *R*° 450 *Tang*. 244.69

0.881

Declassified E.O. 12356 Section 3.3/NND No. 785021



785021

Declassified E.O. 12356 Section 3.3/NND No. 785021

Declassified E.O. 12356 Section 3.3/NND No. 785021

Ponte Viadotto a 5 luci
di cui la centrale di m. 25.00
e le laterali di m. 20.00

proj 3507.53

Agosto del 25/00.

Muro di controvia e destra
Ferrovia lungo m. 116.00

Asa Samuele d'istituzione
Strada Comunale per Mantova

Strada Comunale per Montebello

Strada Comunale per Marmaritis

09/06/2019

[illegible]

Top-people
eeting box

0884

Declassified E.O. 12356 Section 3.3/NND No. 785021

lto a 5 luci
le di m. 25.00
di m. 2000
07.53

del 25 %

Galleria Lavagnolo

Galleria di Lavag

Torronle
lembro

0885

Declassified E.O. 12356 Section 3.3/NND No. 785021

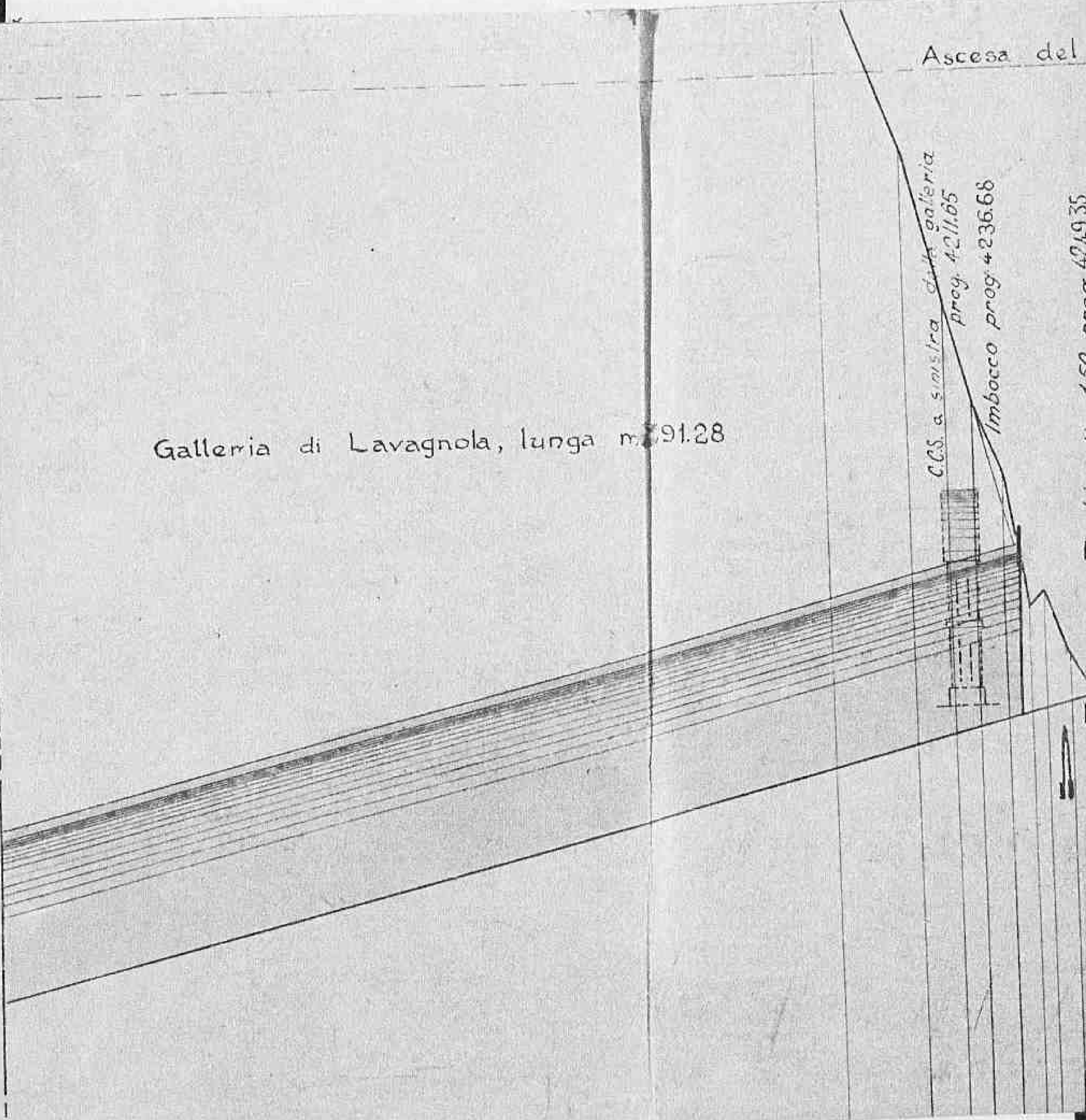
Ascesa del

Galleria di Lavagnola, lunga m. 91.28

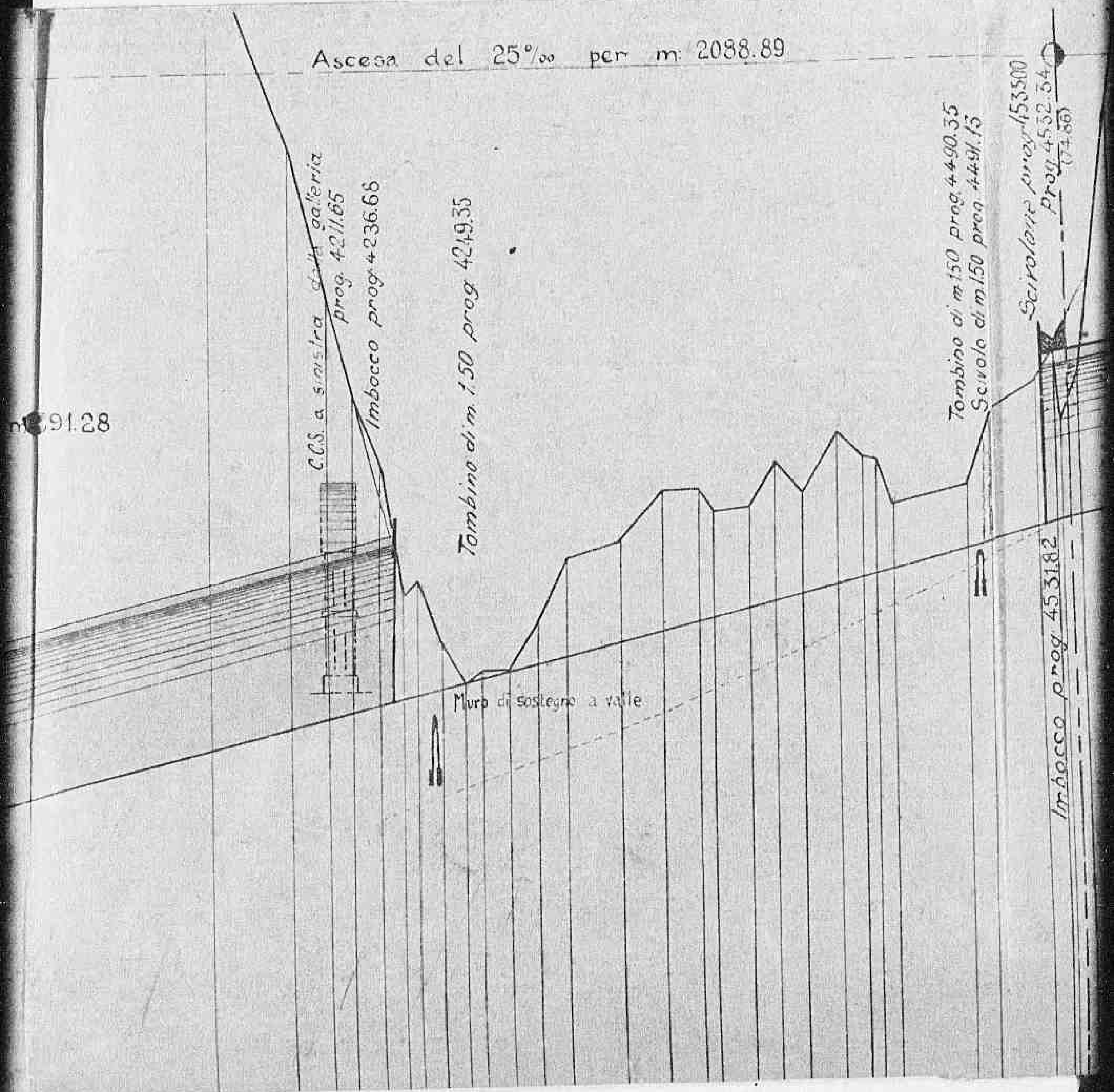
CCS. a sinistra della galleria
prog. 4211.65

Imbocco prog. 4236.68

Tambino di m. 1.50 prog. 4249.35



0886



0887

Declassified E.O. 12356 Section 3.3/NND No. 785021

8.89

Ascesa del 20‰ per m: 2000.2

Tombino di m.150 prog. 4490.35
Sciolo di m.150 prog. 4491.13

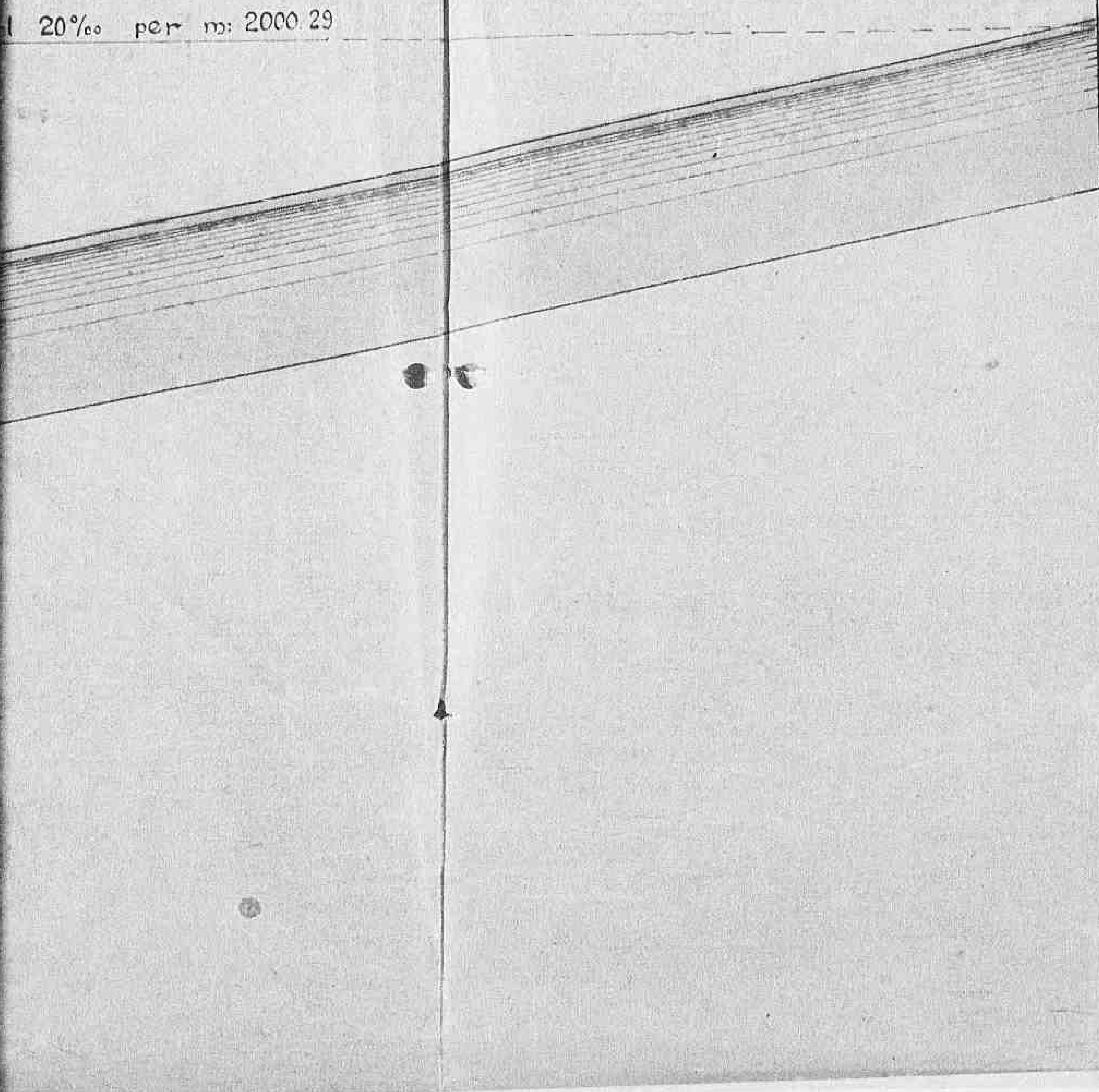
Scioglimento prog. 4535001
prog. 4532.34
(7480)

Imbocco prog. 453182

0 8 8 8

Declassified E.O. 12356 Section 3.3/NND No. 785021

1 20‰ per m: 2000.29



0889

Declassified E.O. 12356 Section 3.3/NND No. 785021

Galleria del Santuario.

0890

Declassified E.O. 12356 Section 3.3/NND No. 785021

Galleria del Santuario, lunga m.2062,18

0891

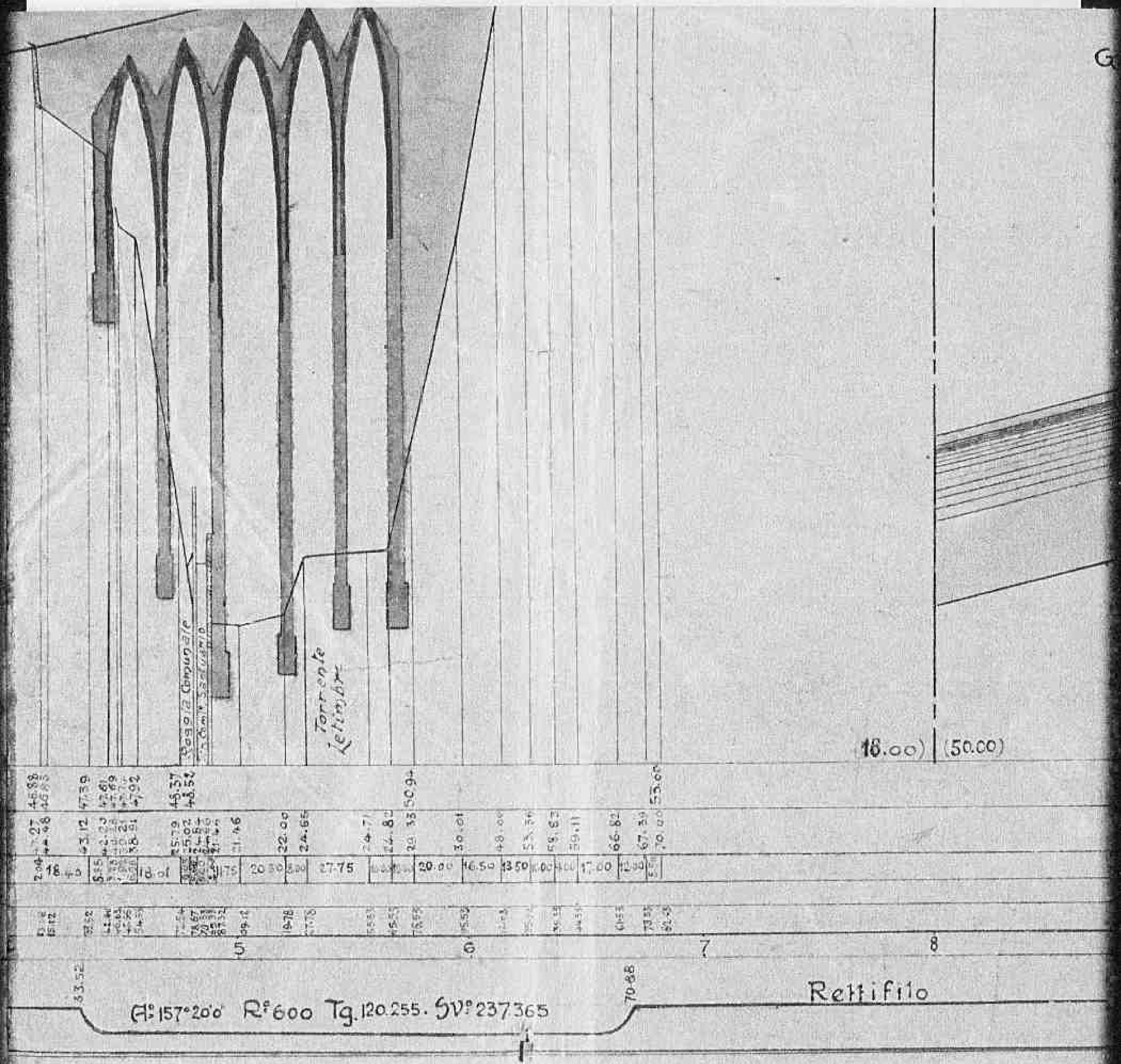
Declassified E.O. 12356 Section 3.3/NND No. 785021

Comando d'ordine
Strada Comandante per Muniti

Stads Gemeinde der Markgrafschaft

Rettilio m 323.17

$\Delta: 157^{\circ}20'0''$ $R: 600$ $Tg. 120.255. S$

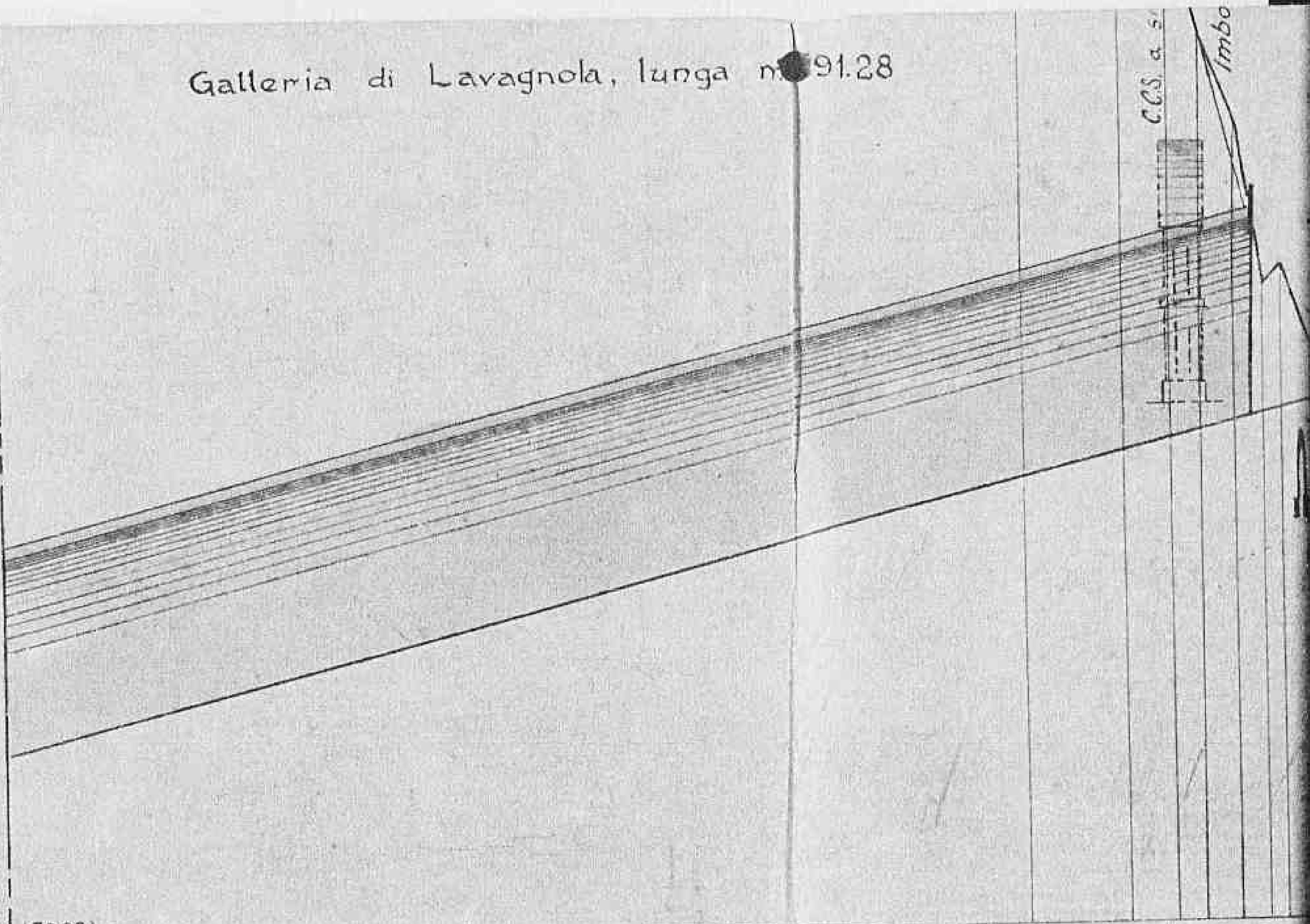


0894

Declassified E.O. 12356 Section 3.3/NND No. 785021

Galleria di Lavagnola, lunga m. 91.28

CCS a s.
Imbo



00) (50.00)

470.50

100.58	91.75	85.15	80.84	77.74	74.99	72.56
35.50	15.60	9.50	12.00	15	500	72.56
56.2	91.5	7.00	6.50	4.50	4.00	4.50

8

9

4

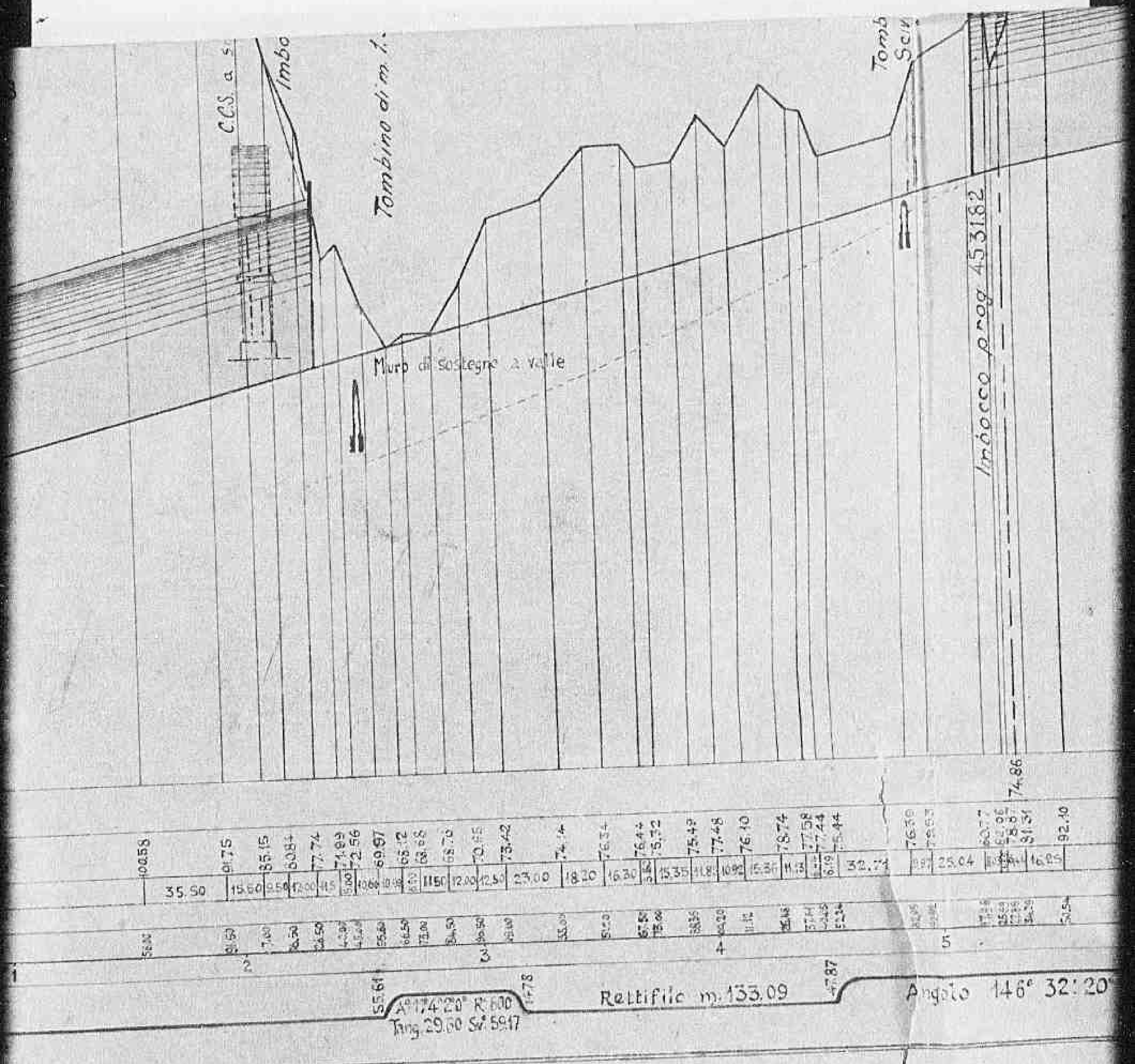
1

2

filo m. 584.72

0895

Declassified E.O. 12356 Section 3.3/NND No. 785021



0 8 9 6

Declassified E.O. 12356 Section 3.3/NND No. 785021

Imbocco prog 4531.82

74.86

60.77
92.06
78.87
81.37

92.10

25.04 25.04 16.25

47.96
50.93
50.93
50.93

50.54

5 6 7 8 9

8
0.827

Anglo 146° 32' 20" Raggio 600 Tang. 180.36 Sv: 350.40

0897

Declassified E.O. 12356 Section 3.3/NND No. 785021

(50.00) (70.00)

3822

9

5

1

2

3

Rettifile m 483.00

3127

0898

Declassified E.O. 12356 Section 3.3/NND No. 785021

3127

3

4

5

6

7

Angolo

0899

Declassified E.O. 12356 Section 3.3/NND No. 785021

6

7

8

9

6

Angolo $11^{\circ} 4' 40''$

R^o 500

Tangente 5156.01

0900

Declassified E.O. 12356 Section 3.3/NND No. 785021

(7000) (106,00)

40822

9

6

i

2

500

Tangente 5156.01

Sviluppo 1667/47

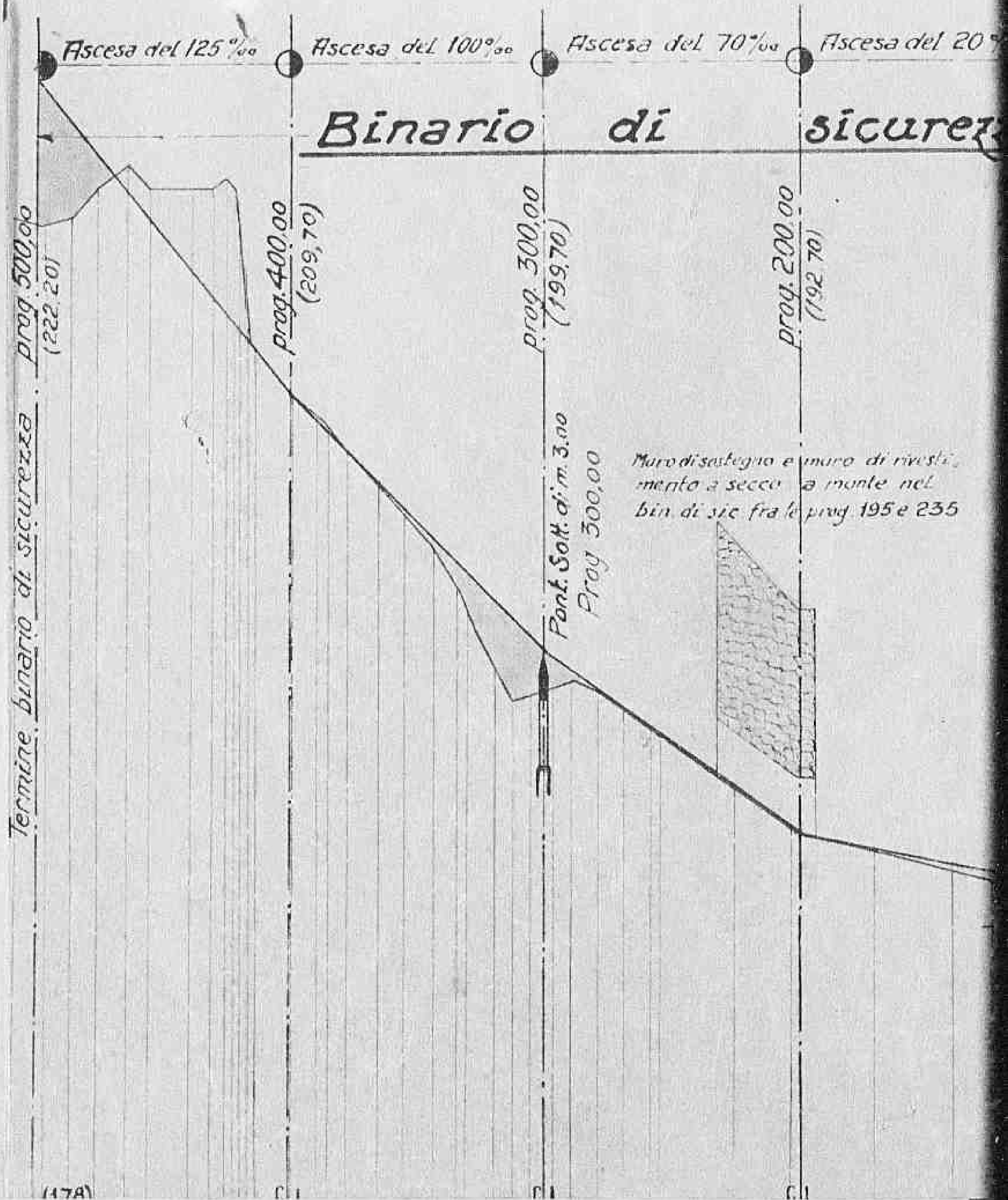
Ascesa del 25‰

"I. Seccamele

m. 112,13

Panticello al m. 300
Prog. 9783,79Termine binario di sicurezza prog. 500,00
(222,20)

Ascesa del 125‰



0903

Ascesa del 20‰

Ascesa del 4.10‰

Sicurezza

prog. 100.00
(190.70)

Origine binario di sicurezza prog. 0.00
F.A. prog. 9538.50 (190.29)

Intersezione asse binario discendente con asse binario di sicurezza Prog. 9579.55
Cabina posto di blocco prog. 9586.41

Galleria
Seccamele

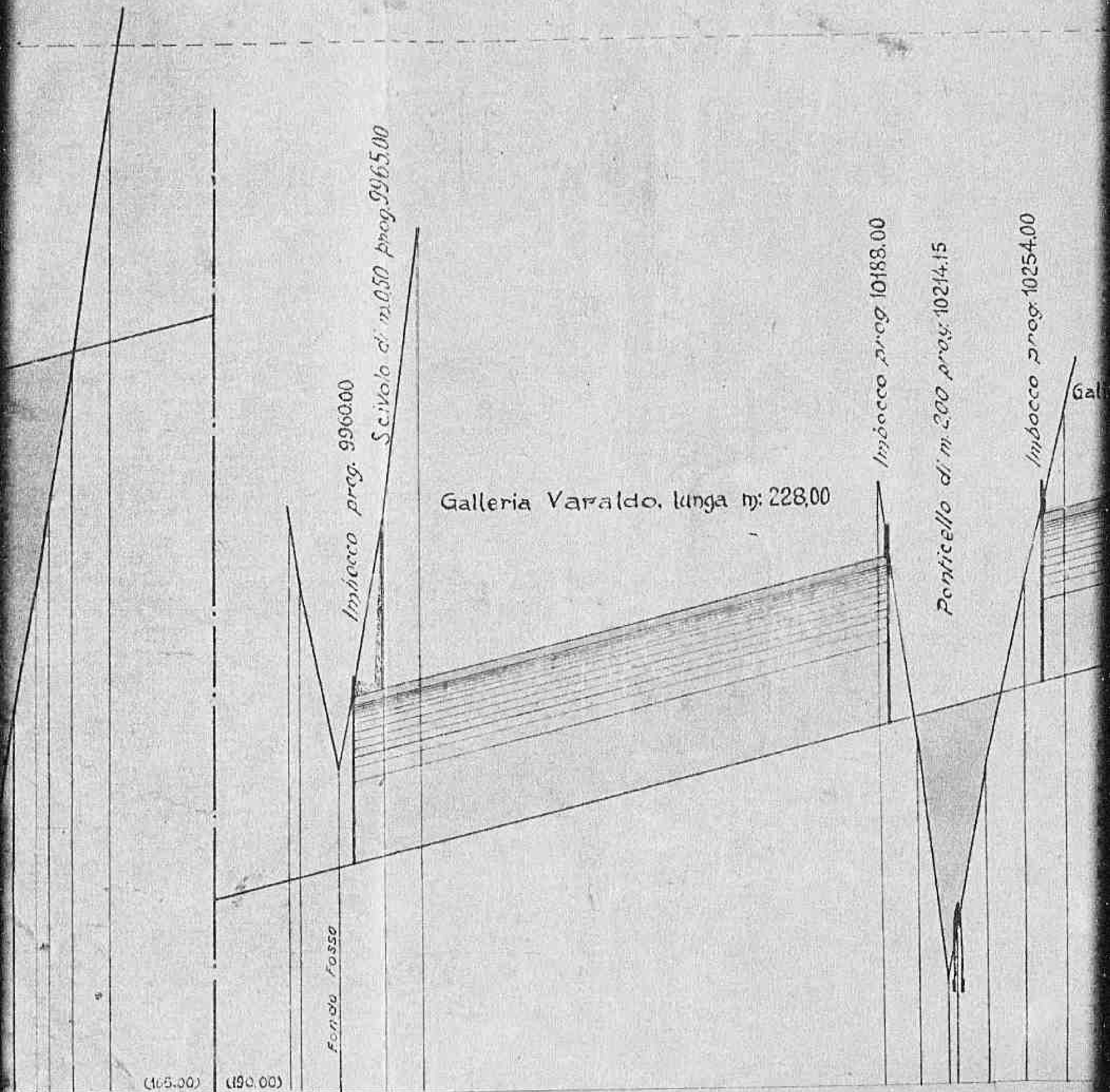
Fonitello di m. 3.00
prog. 9783.79

(165.00)

(190.00)

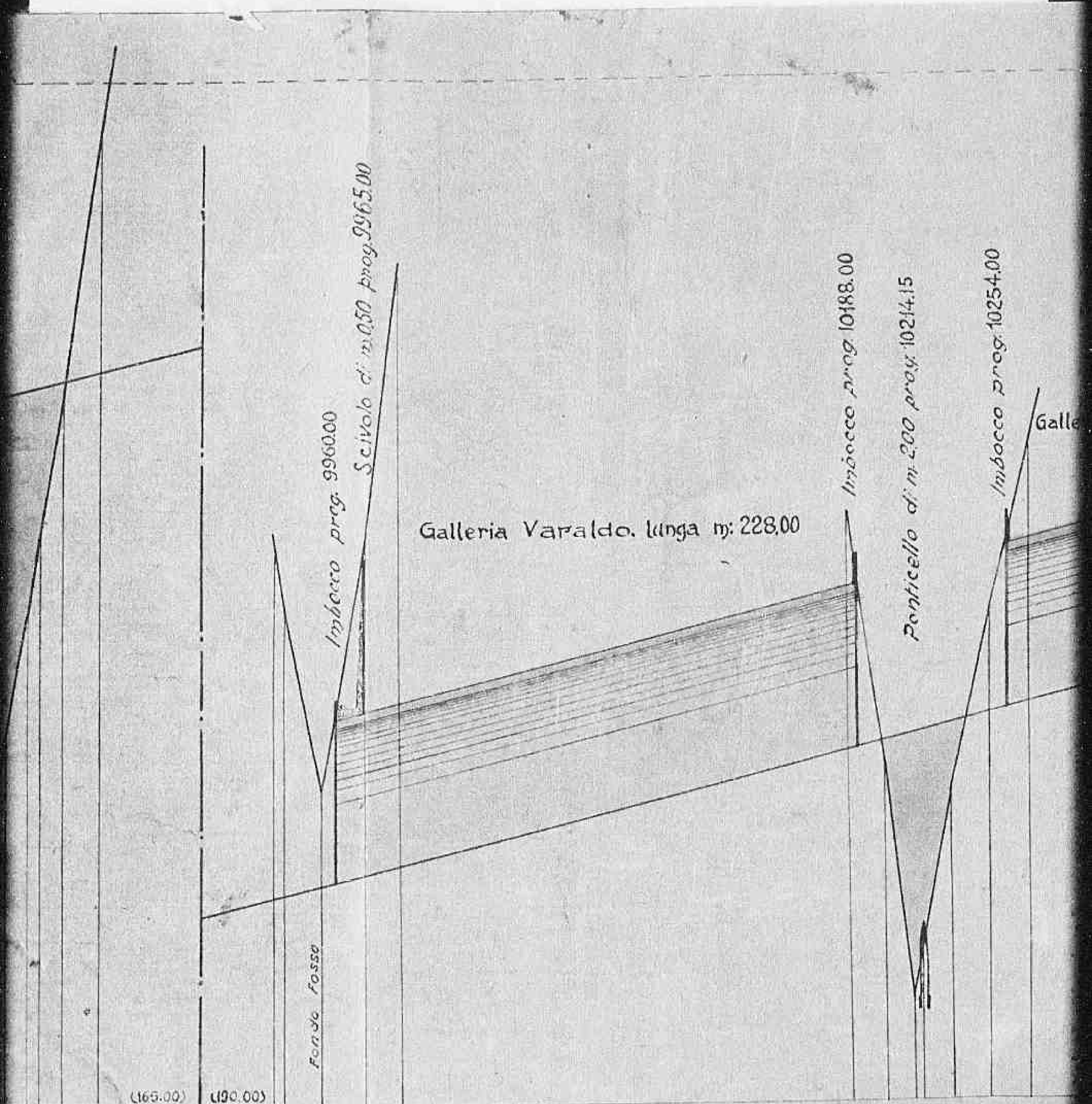
0904

Declassified E.O. 12356 Section 3.3/NND No. 785021



0905

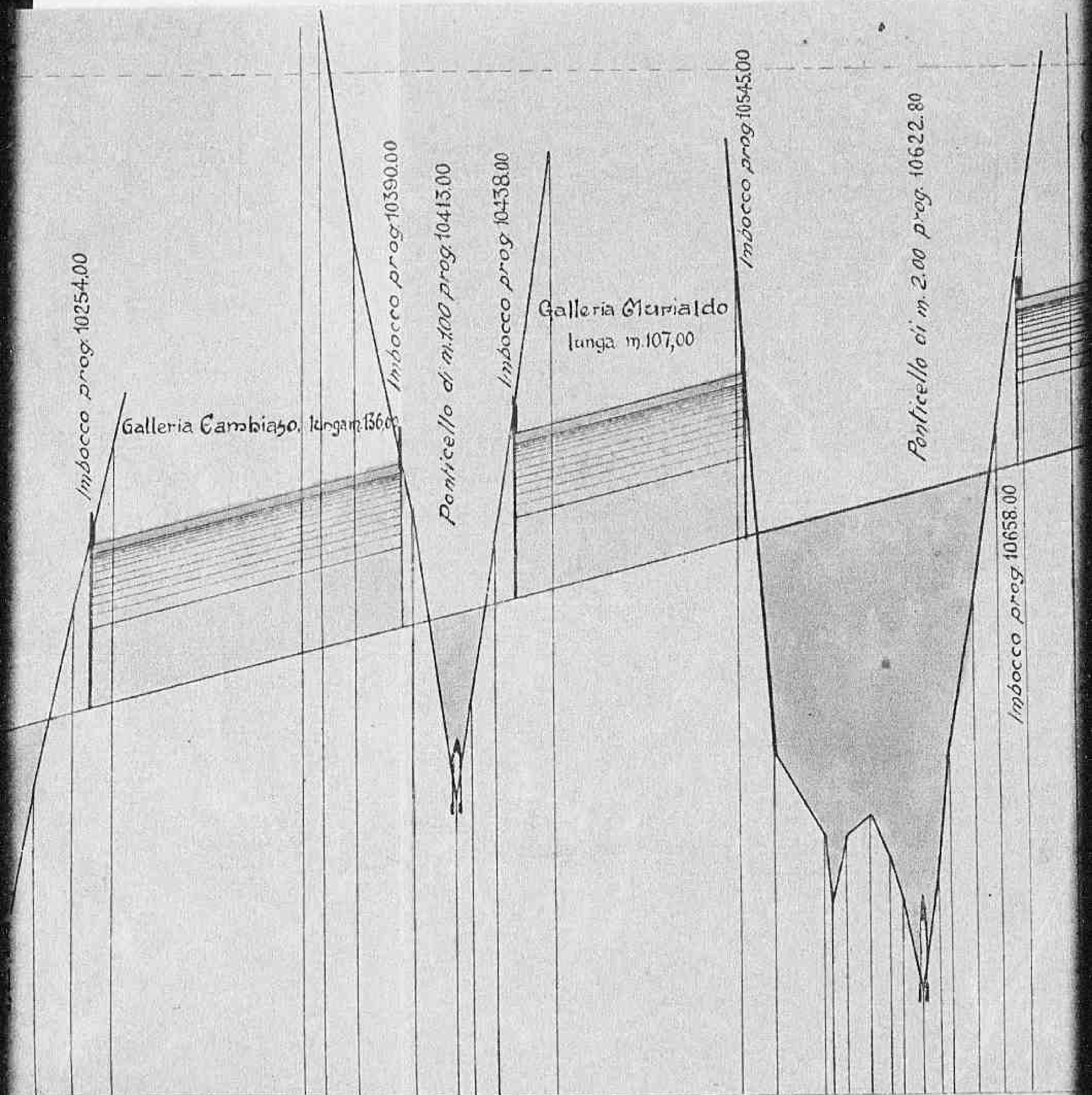
Declassified E.O. 12356 Section 3.3/NND No. 785021



0906

Declassified E.O. 12356 Section 3.3/NND No.

785021



0907

Declassified E.O. 12356 Section 3.3/NND No. 785021

Ponticello di m. 2.00 prog 10622.80

Galleria Monte Moro lunga m 272.00

Imbocco prog 10658.00

Imbocco prog 10930.00

C.C.D. prog 10950.00

Acquedotto tubolare di m 150 prog 10973.22

Imbocco prog 10996.29

Galle

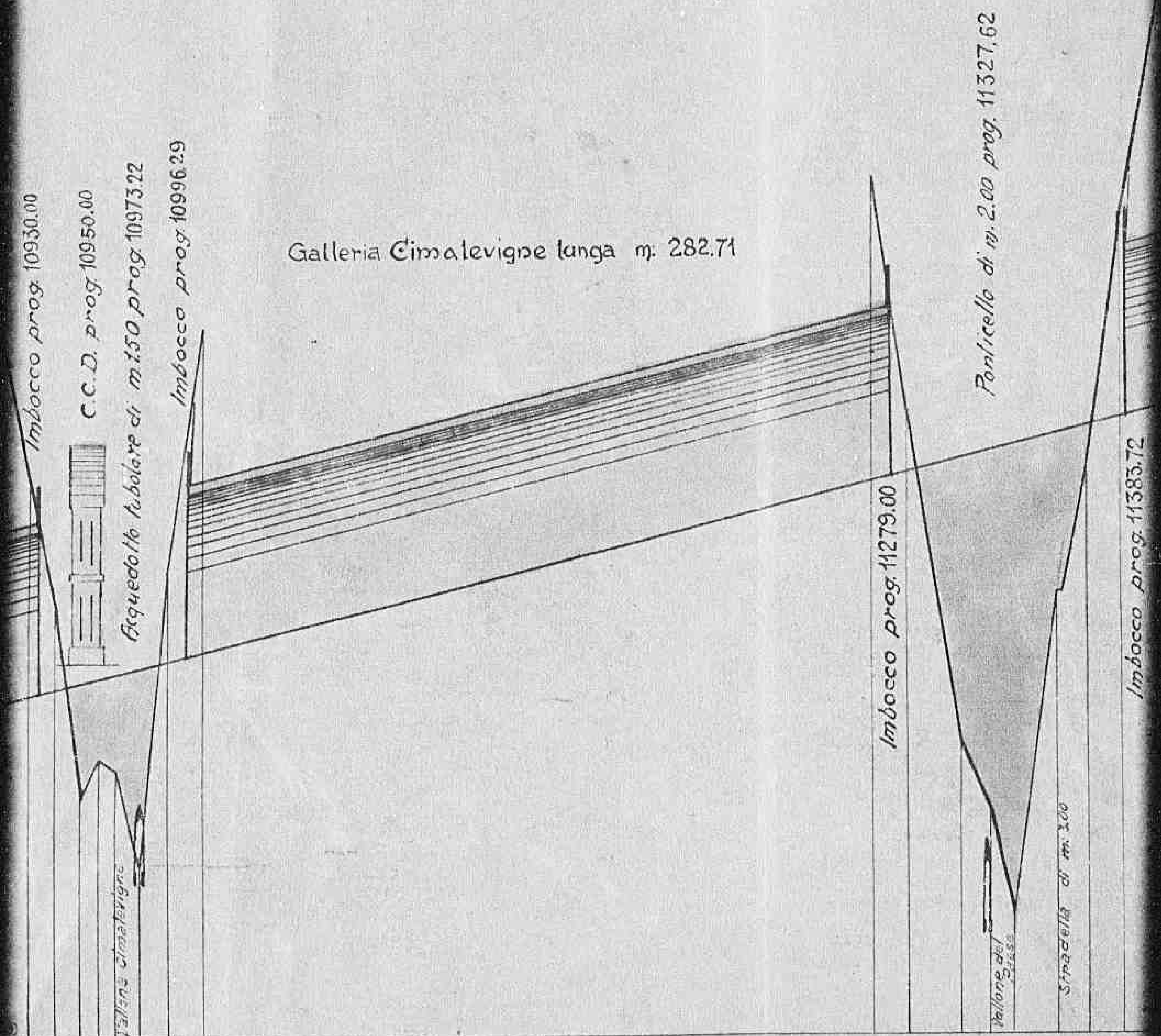
(50.00)

(210.00)

valle di m. 150

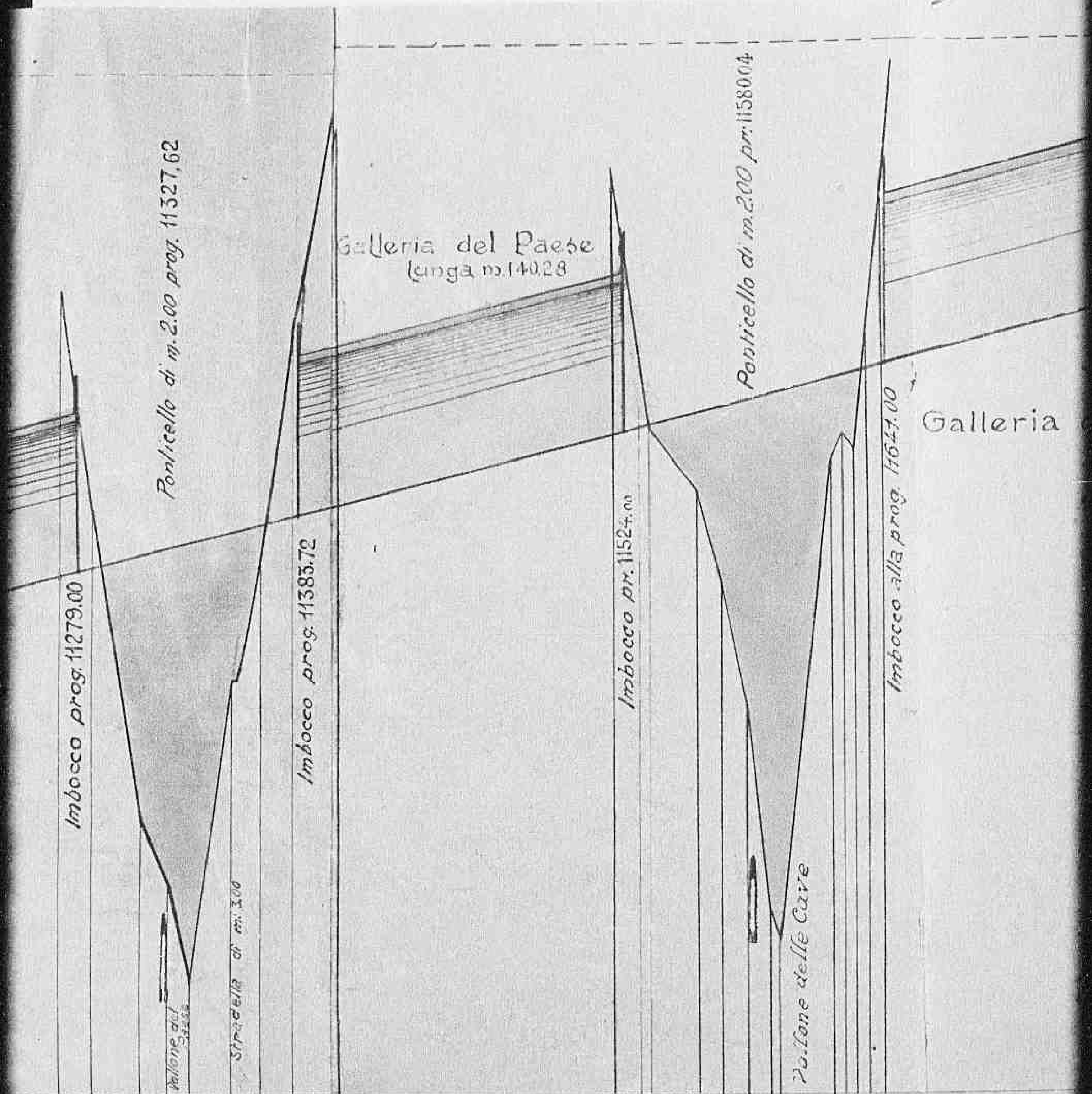
0908

Declassified E.O. 12356 Section 3.3/NND No. 785021



0909

Declassified E.O. 12356 Section 3.3/NND No. 785021



0910

Declassified E.O. 12356 Section 3.3/NND No. 785021

Ponticello di m. 2.00 pr. 1158004

Pollone delle Cave

Imbocco alla prog. 11644.00

Galleria delle Cave. lunga m. 318.00

Imbocco alla prog. 11959.00

Ponte Viadotto a 3 luci di m. 5, alla prog. 12012.00

C.C.D. alla prog. 12036.00



Pollone delle Cave

(210)

(235)

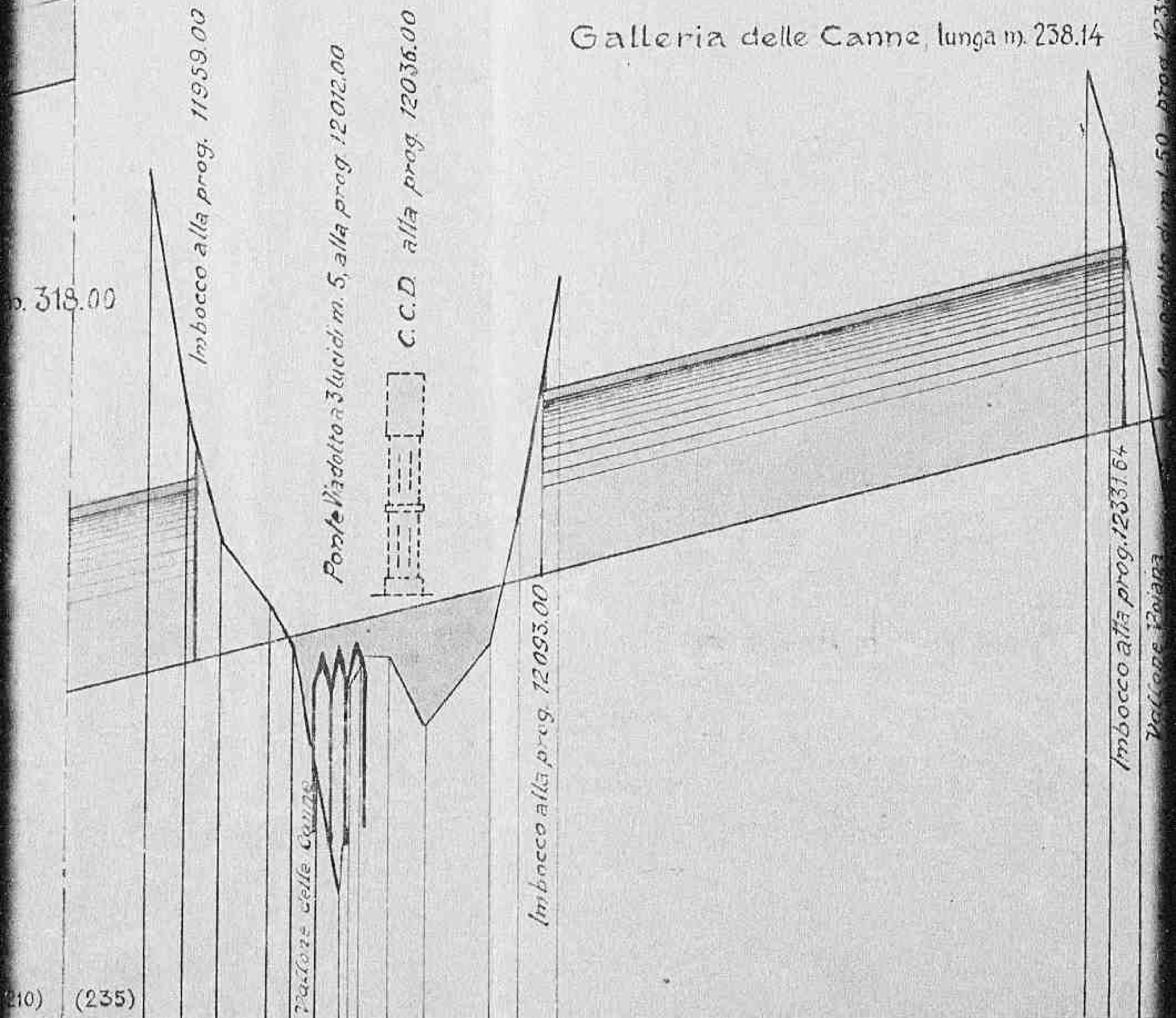
18.06

0911

Declassified E.O. 12356 Section 3.3/NND No. 785021

Ascesa del 25 % per

Galleria delle Canne, lunga m. 238.14



0912

Declassified E.O. 12356 Section 3.3/NND No. 785021

Ascesa del 25 ‰ per m 4162.00

Galleria delle Canne, lunga m. 238.14

Galleria Voiana, lunga m. 24

Acquedotto di m. 1.50 prog. 12327.24

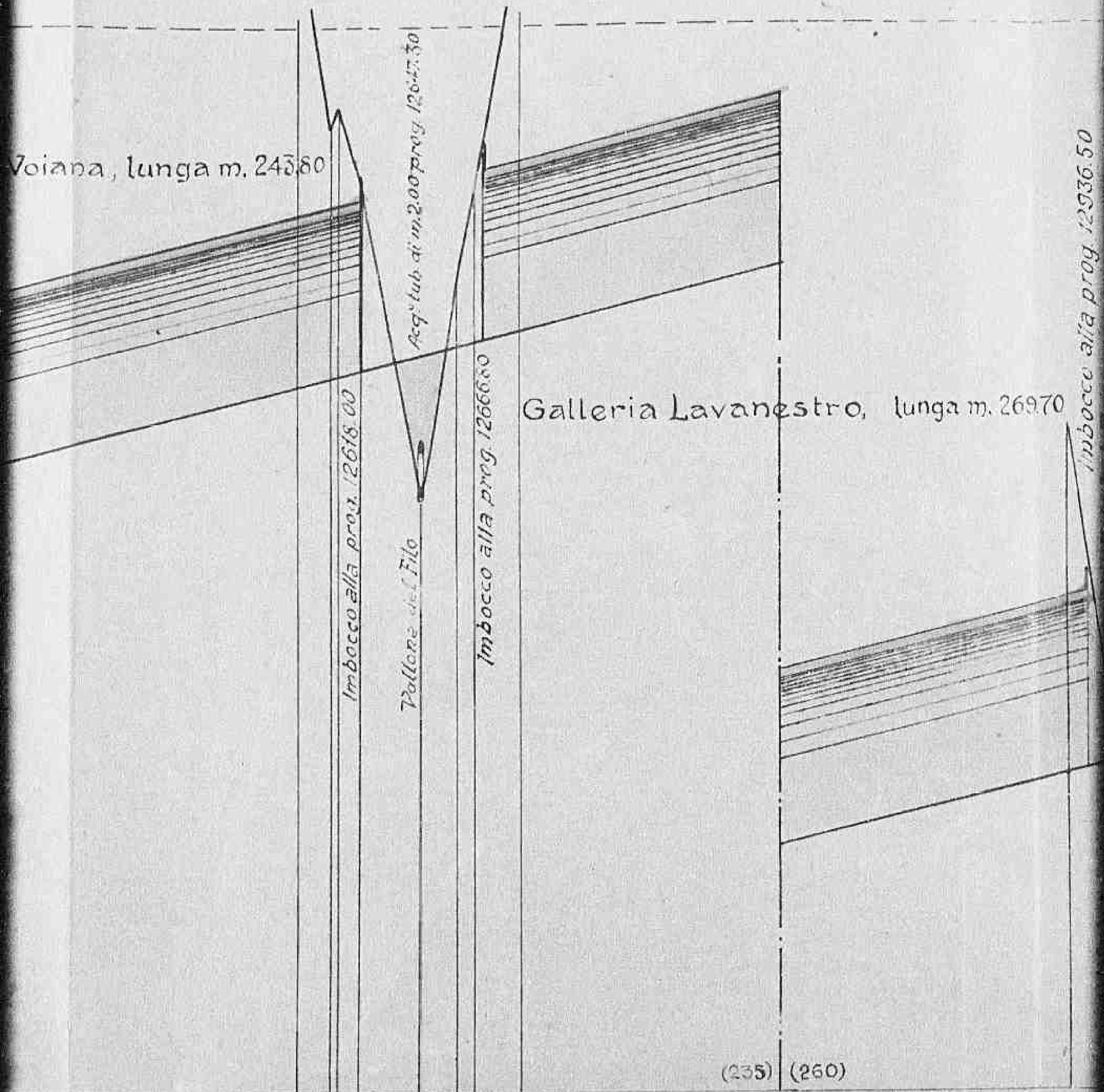
Imbocco alla prog. 12331.64

Vallone Voiana

Imbocco alla prog. 12374.20

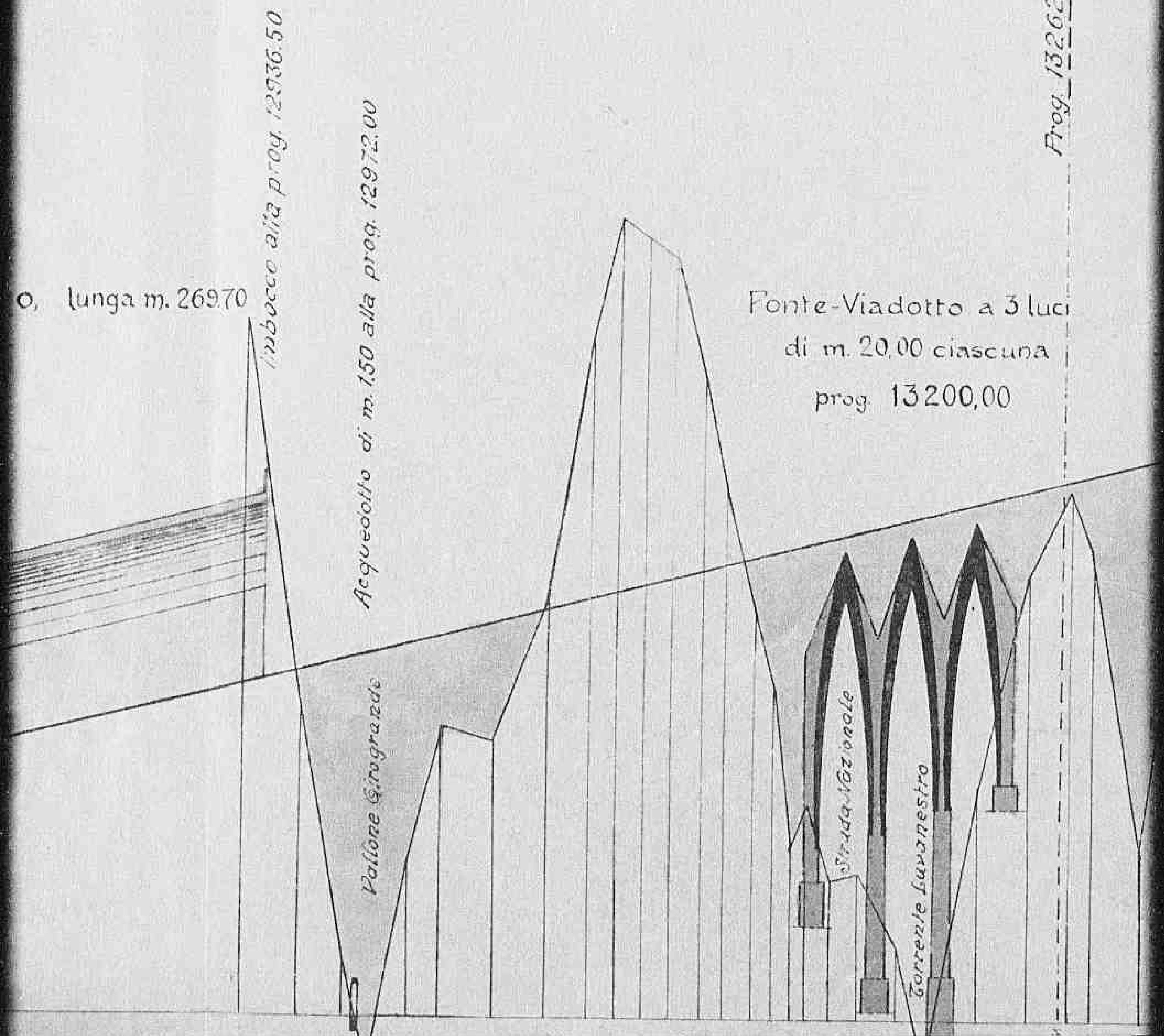
0913

Declassified E.O. 12356 Section 3.3/NND No. 785021



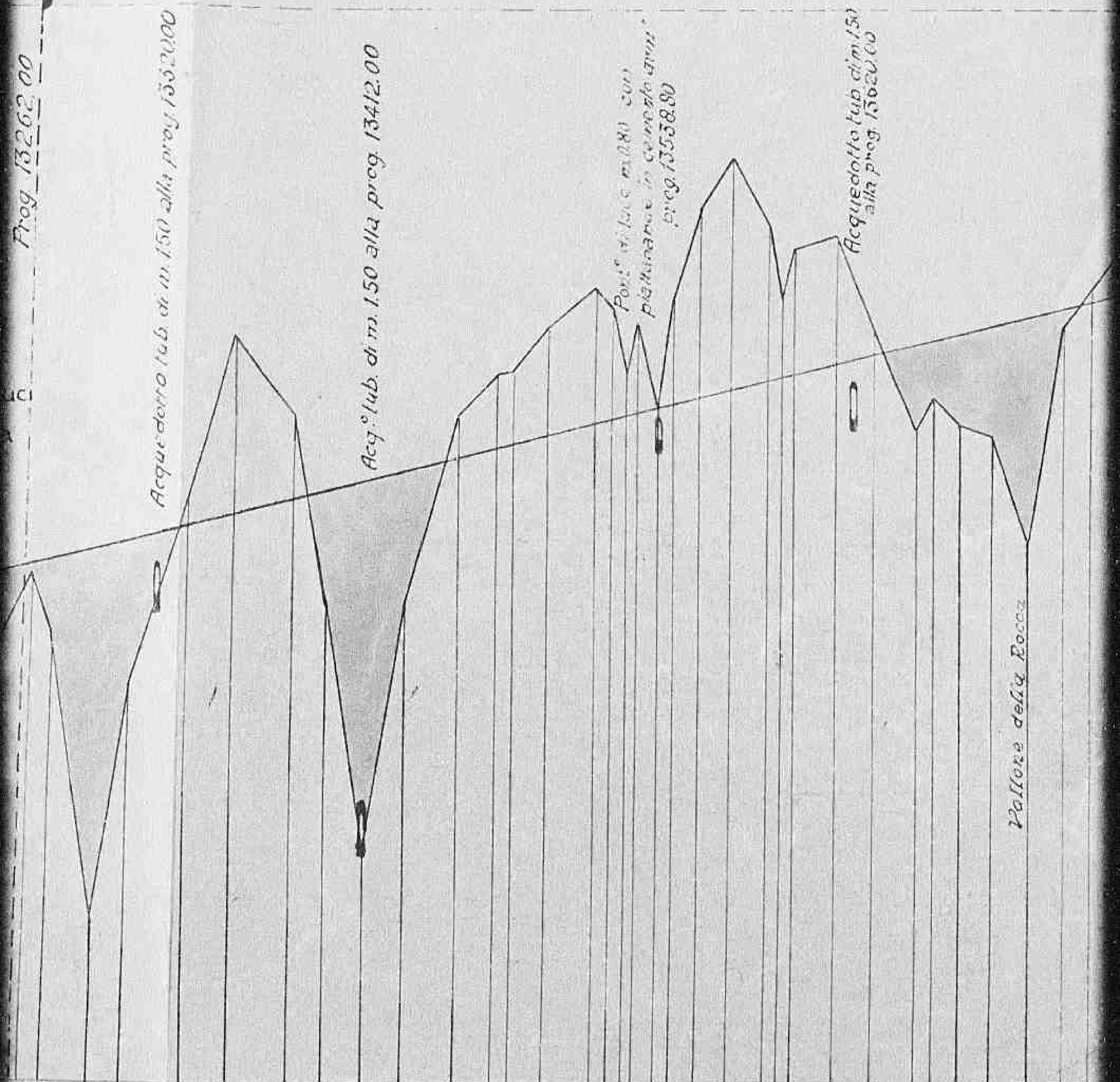
0914

Declassified E.O. 12356 Section 3.3/NND No. 785021



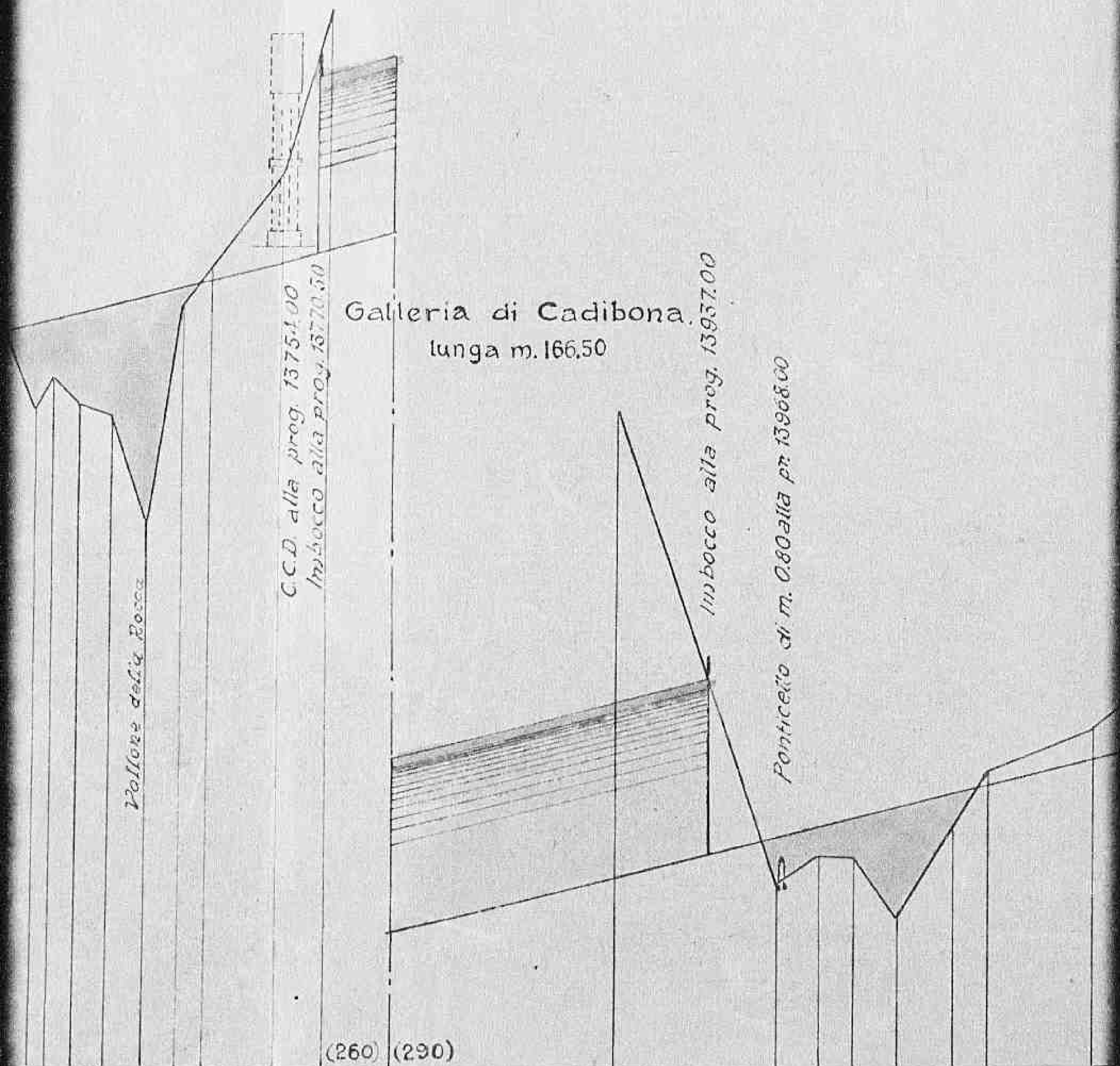
0915

Declassified E.O. 12356 Section 3.3/NND No. 785021



0916

Declassified E.O. 12356 Section 3.3/NND No. 785021



0917

Declassified E.O. 12356 Section 3.3/NND No. 785021

Acquedotto tubolare di m. 150 alla prog. 14157.00

Galleria Bricco
lunga m. 144.70

Acquedotto tubolare di m. 150 alla prog. 14346.

Galleria Boagno.
lunga m. 68.00

Imbocco alla prog. 14177.20

Imbocco alla prog. 14321.90

Imbocco alla prog. 14448.00

Imbocco alla prog. 14516.00

Acquedotto tub. di m. 150 alla pr. 1526.00

0918

Declassified E.O. 12356 Section 3.3/NND No. 785021

Ascesa del 25,055 ‰ per m.

pagno.
68,00

Imbocco alla prog. 14516,00
Acquedotto tub. di m. 150 alla p. 14526,00

Imbocco alla prog. 14604,00

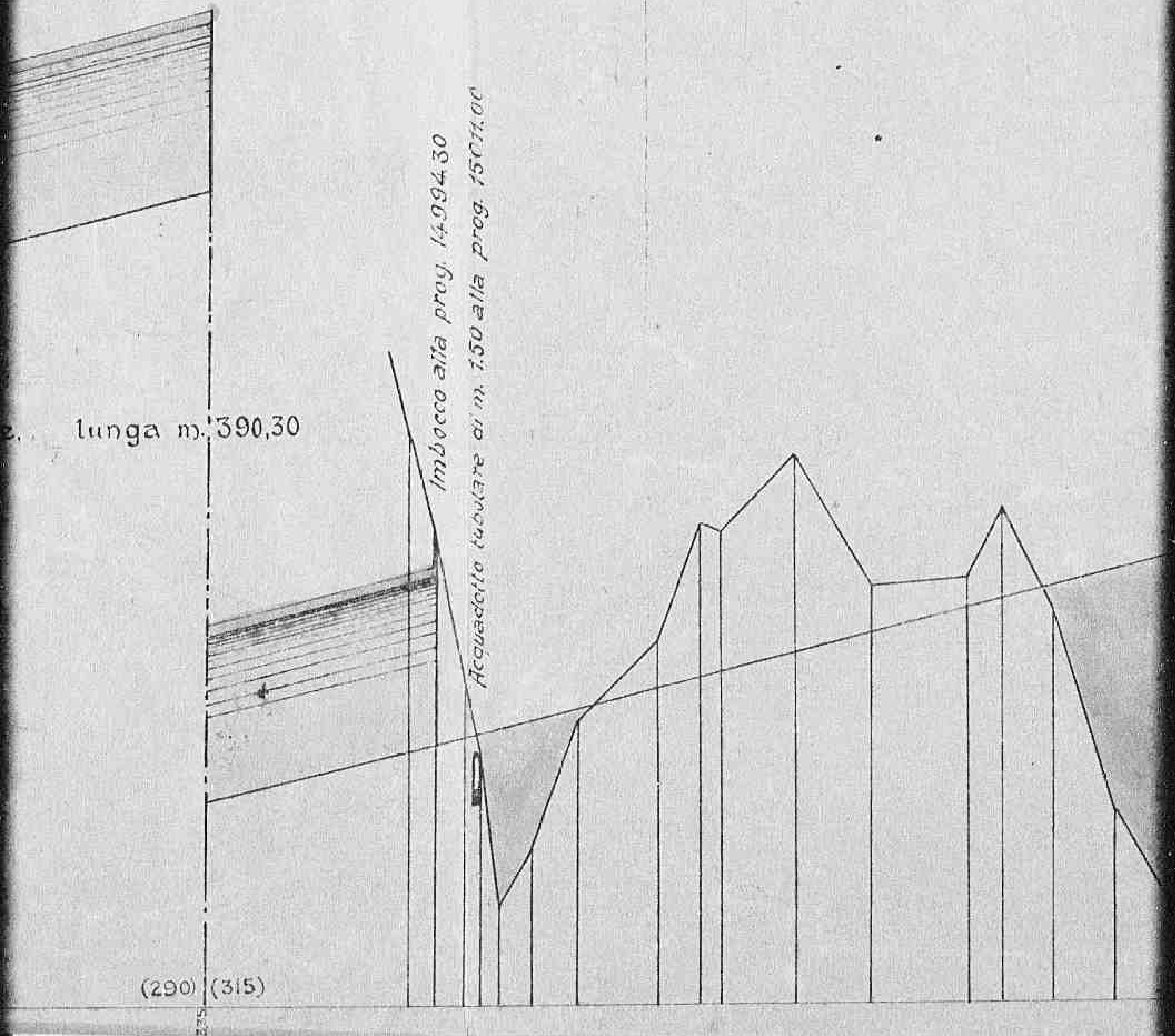
Galleria della Torre. lunga m. 390,30

(290) (315)

0919

Declassified E.O. 12356 Section 3.3/NND No. 785021

25,055 ‰. per m. 3169,80.



0920

Declassified E.O. 12356 Section 3.3/NND No. 785021

Acquedotto tubolare di m. 150 alla prog. 15304.00

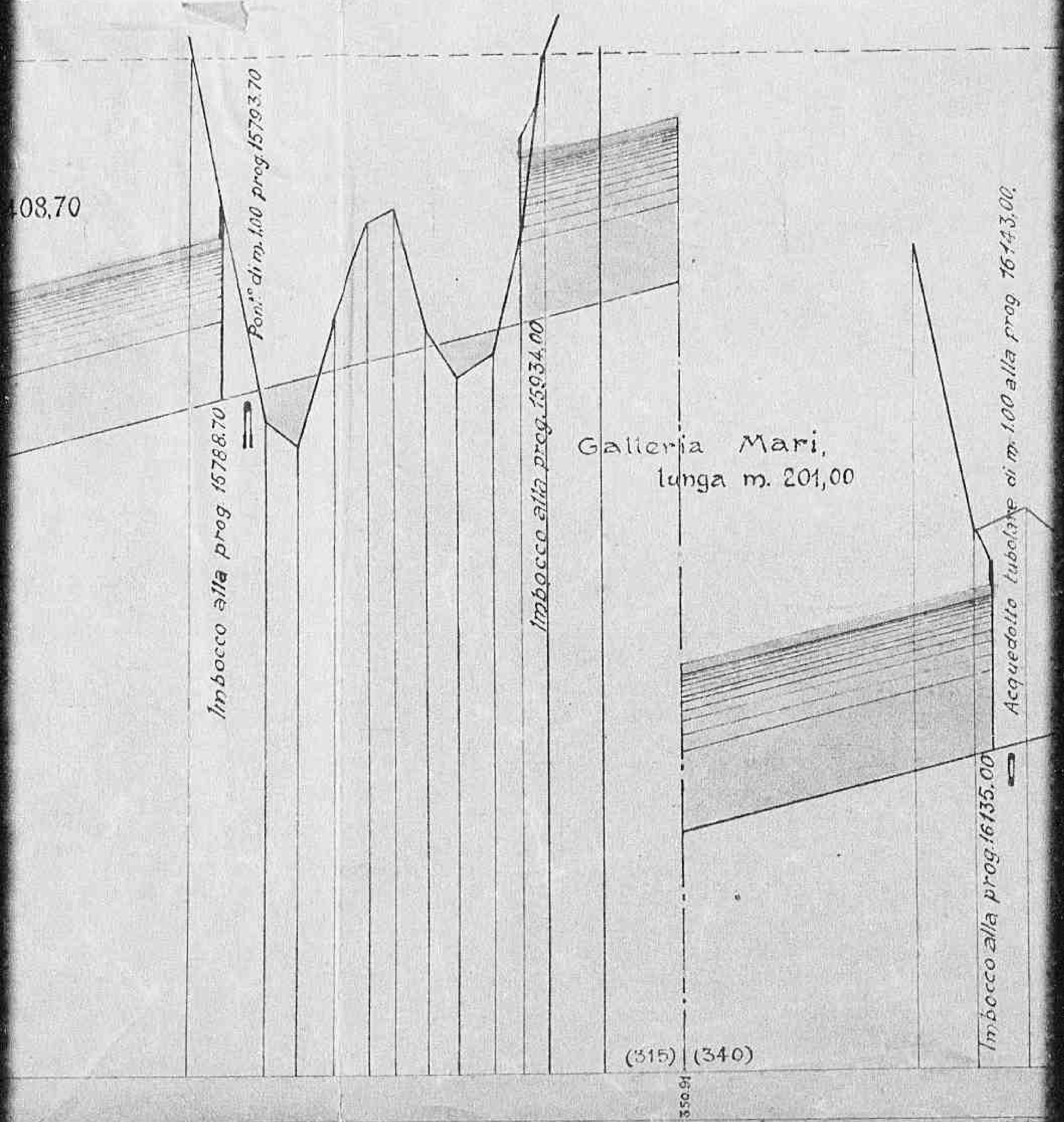
Imbocco alla prog. 15380.00

Strada Nazionale

Galleria della Madonnetta, lunga m. 408,70

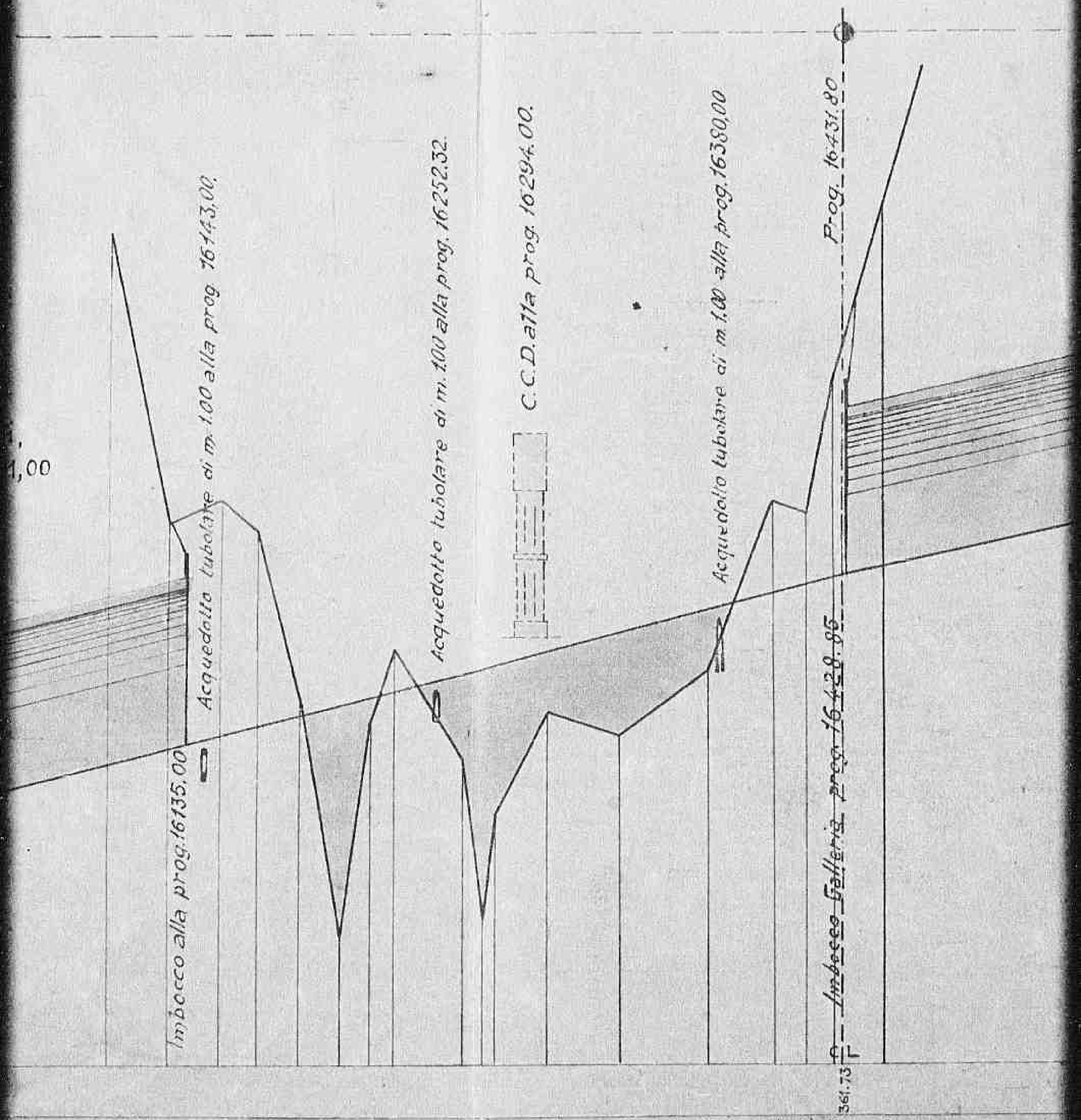
0921

Declassified E.O. 12356 Section 3.3/NND No. 785021



0 9 2 2

Declassified E.O. 12356 Section 3.3/NND No. 785021



0923

Declassified E.O. 12356 Section 3.3/NND No. 785021

Asse finestra prog. 16850.94

(340)

(370)

37125

0924

Declassified E.O. 12356 Section 3.3/NND No. 785021

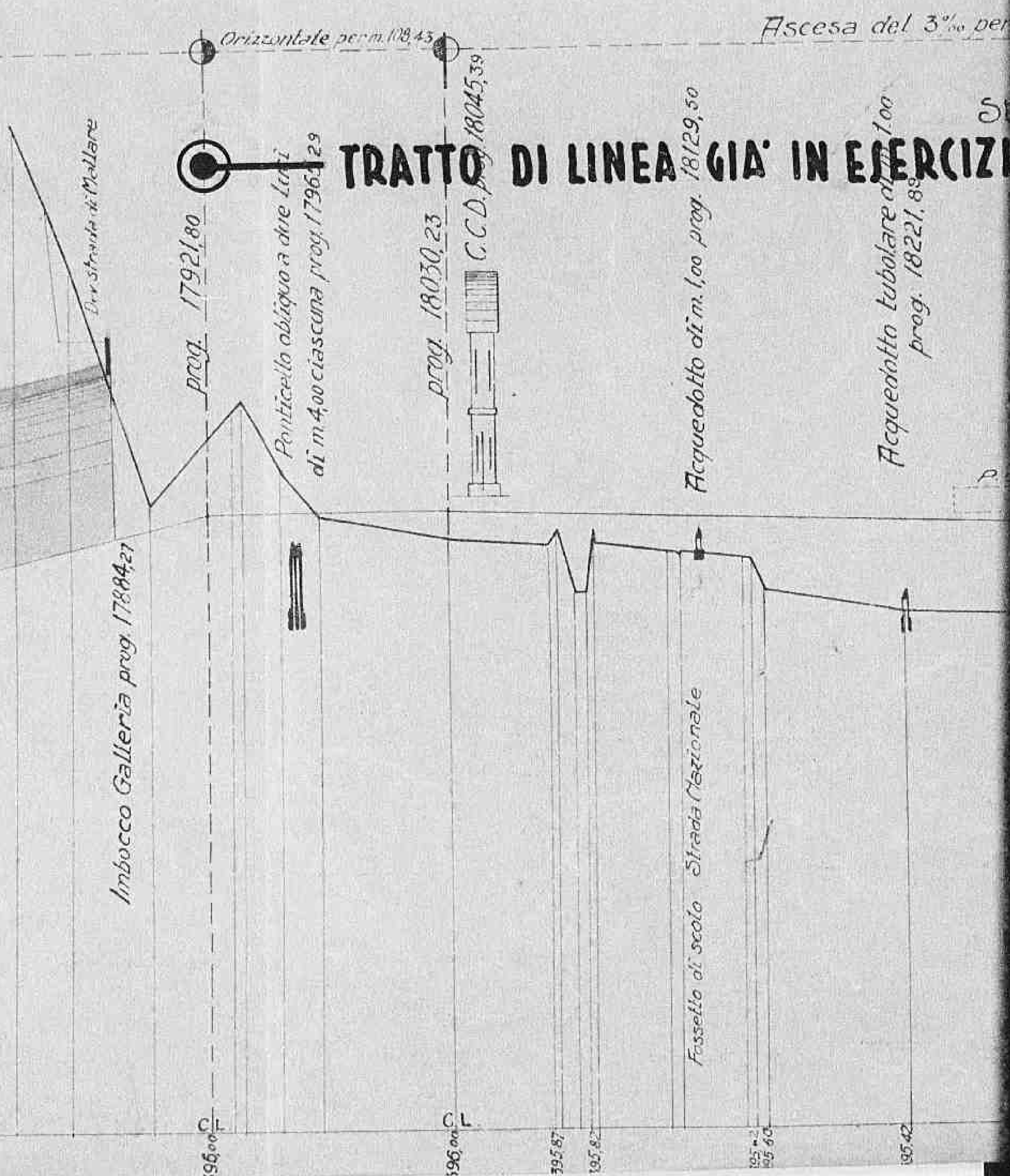
Ascesa del 23^{oo} per ml. 1490,00

Galleria di Altare (Valico) lun

0925

Declassified E.O. 12356 Section 3.3/NND No. 785021

m. 1455,42



0927

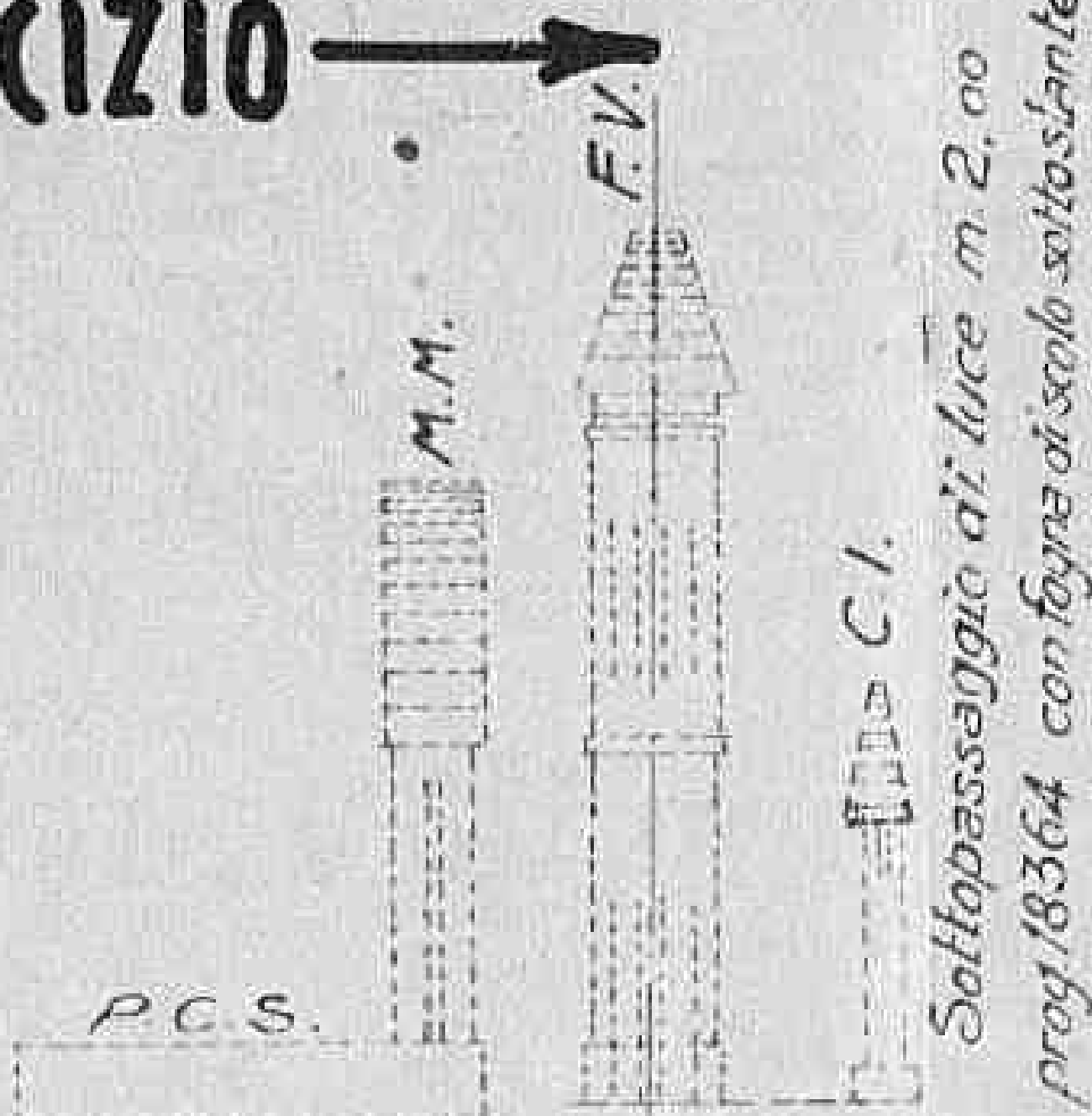
Ascesa del 3‰ per m. 483,53

Acquedotto di m. 1,00 prog. 18129,50

IN ESERCIZIO

Acquedotto tubolare di m. 1,00
prog. 18221,83

Stazione di Altare



prog. 18513,76

Fossato di scolo Strada Nazionale

Asse F.V. prog. 18328,89

Strada per Mallare

Stradella campestre

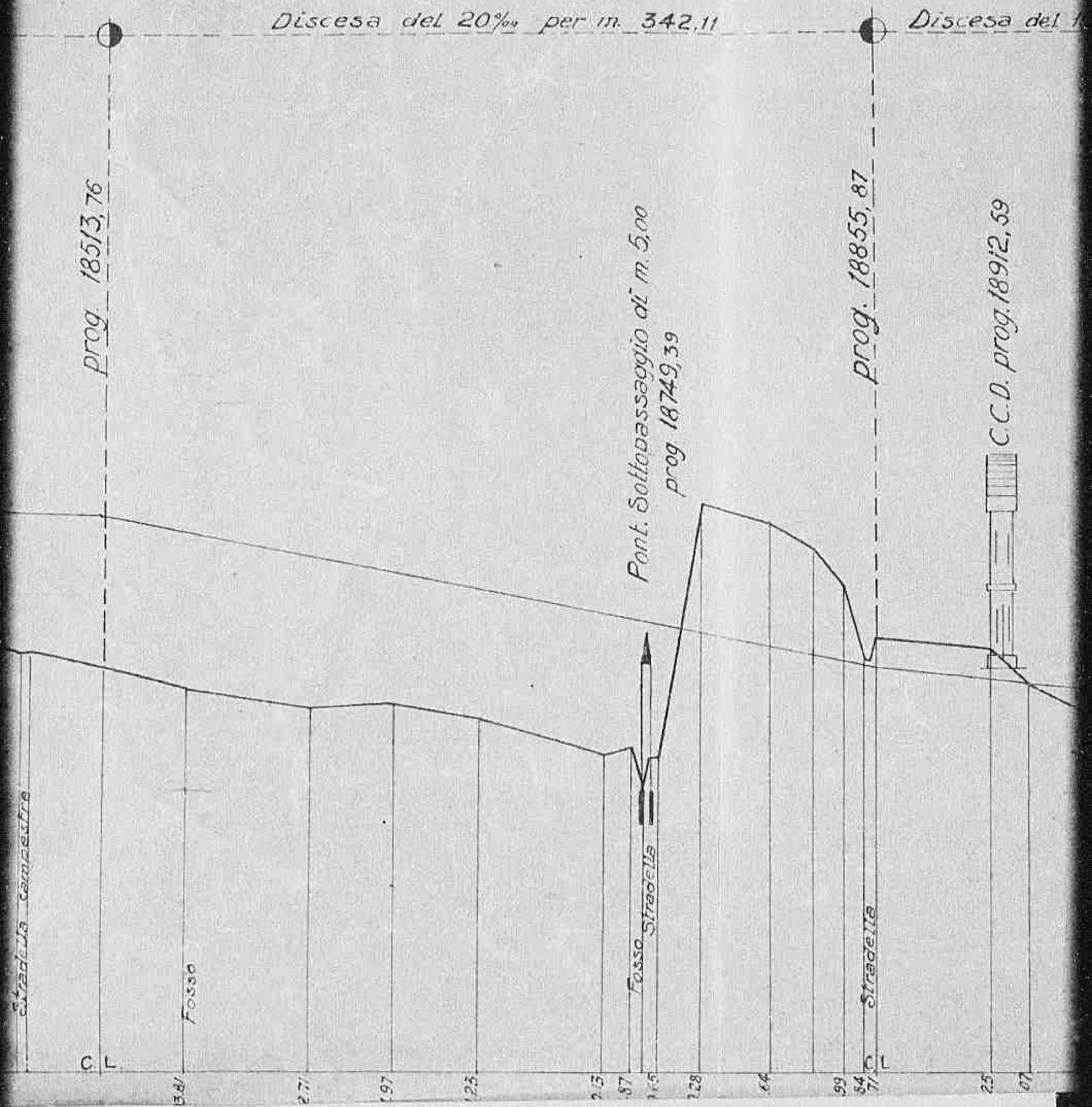
Stradella campestre

Fosso

95.60 95.42 95.19 95.17 95.16 (370) 95.08 95.05 95.02 94.92 94.81 94.70 94.58

0928

Declassified E.O. 12356 Section 3.3/NND No. 785021



0929

Declassified E.O. 12356 Section 3.3/NND No. 785021

Discesa del 10‰ per m. 171,00

prog. 18855,87

C.C.D. prog. 18912,59

prog. 19026,87

Sottopassaggio di m. 3,00
prog. 19055,89

Ponte a 3 luci di cui due di m. 15 e una di m. 18,00
prog. 19235,39

Sottopassaggio di m. 3,00 prog. 19266,99

Stradella

Stradella

Fiume Bernina

Canale

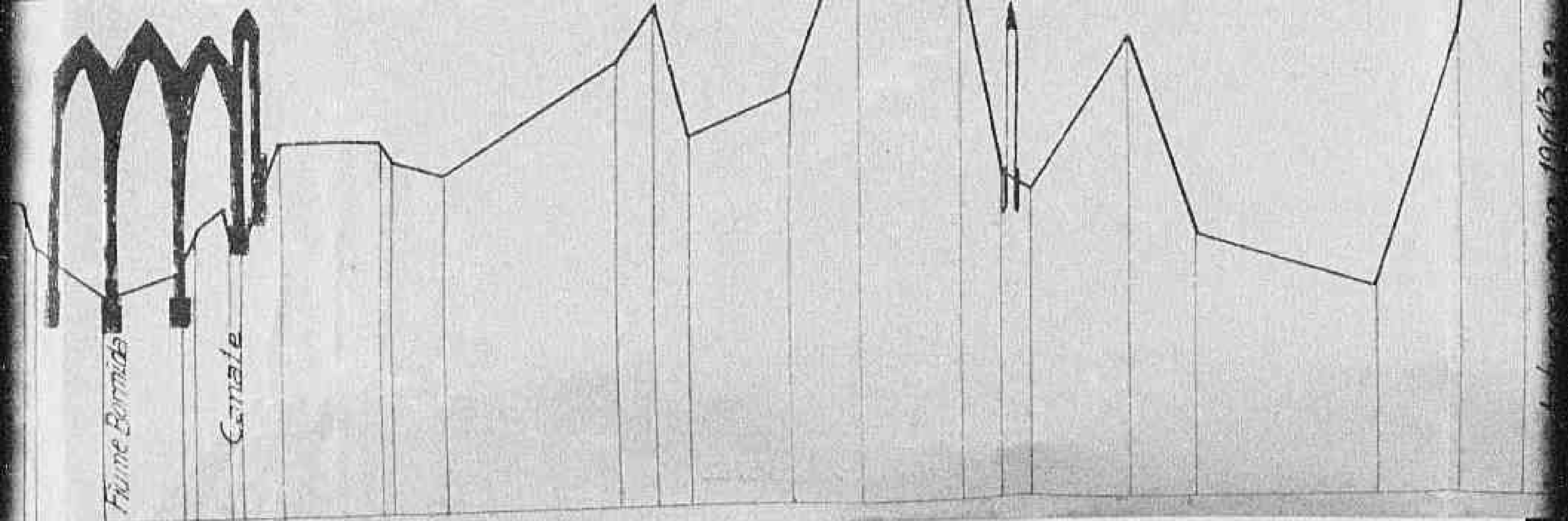
0930

Declassified E.O. 12356 Section 3.3/NND No. 785021

Ponte a 3 luci di cui due di m. 15 e una di m. 18,00
prog. 19235,39

Sottopassaggio di m. 3,00 prog 19266,99

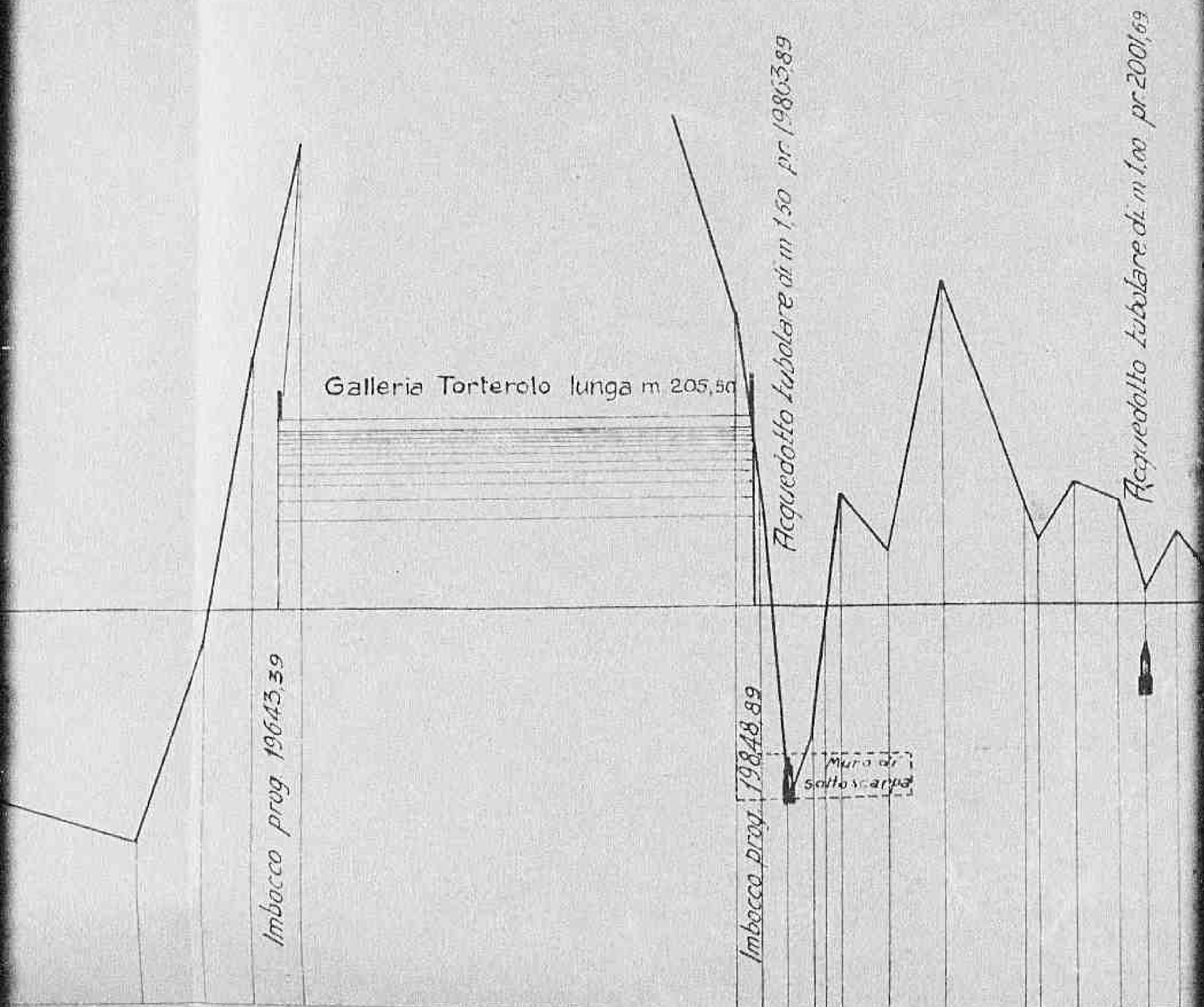
Acquedotto di m. 1,00 prog 19495,89



0931

Declassified E.O. 12356 Section 3.3/NND No. 785021

Orizzonte



0932

Declassified E.O. 12356 Section 3.3/NND No. 785021

orizzontale per m. 2029,76

Acquedotto tubolare di m 1,00 pr 2001,69

Acquedotto tubolare di m 0,60 pr 20104,89

Acquedotto tubolare di m 2,00 prog 20257,89

Sottopassaggio di m 3,00 prog. 20304,39

C.C.D. prog 20326,49

Gall. Dovetta
lunga m 70,77

Muro di sottoscarpa

Muro di
sottoscarpa

Imbocco prog 20345,27

Imbocco prog 20415,54

Acquedotto tubolare di m 1,00 pr 20458,89

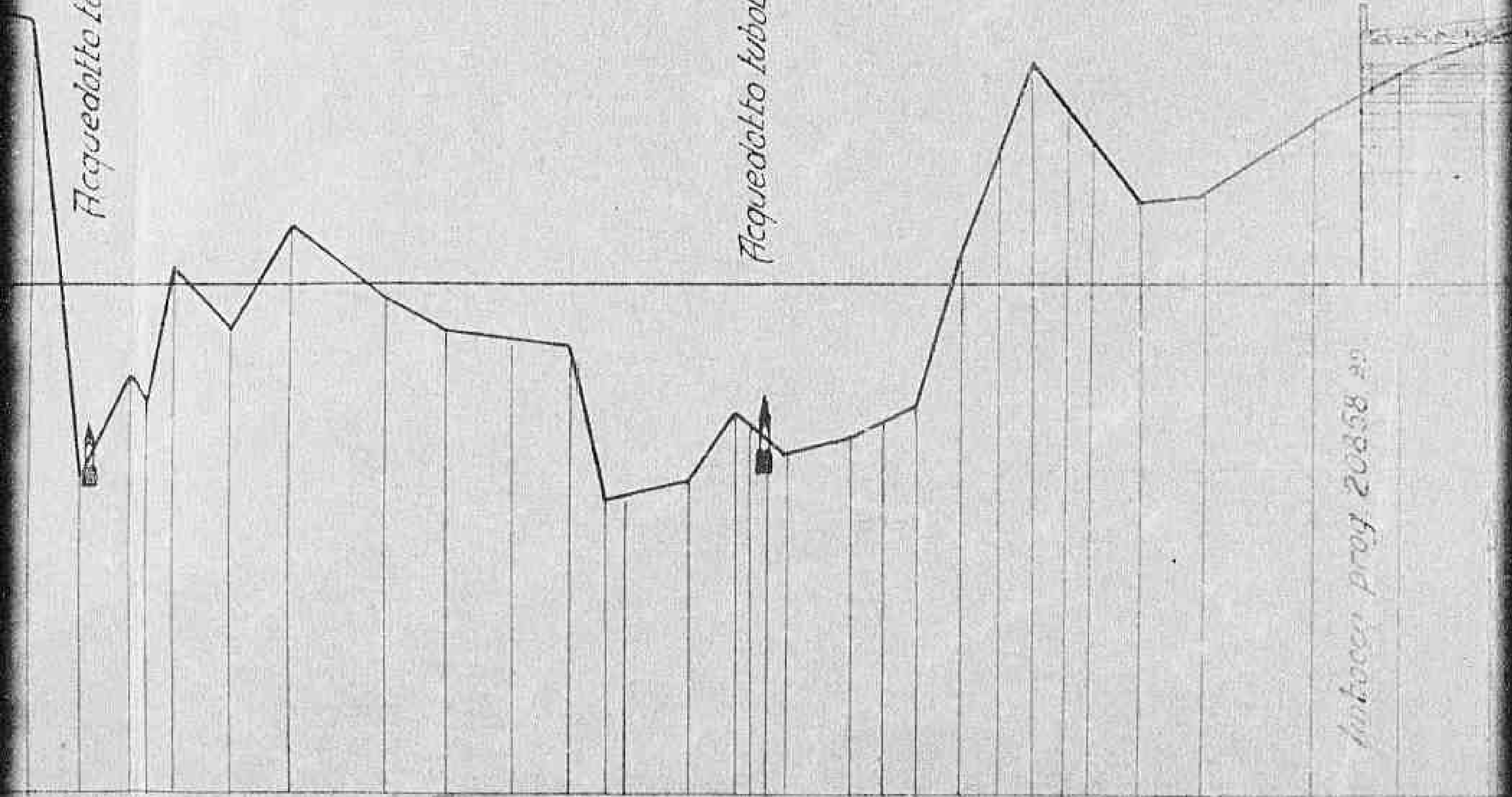
0933

Declassified E.O. 12356 Section 3.3/NND No. 785021

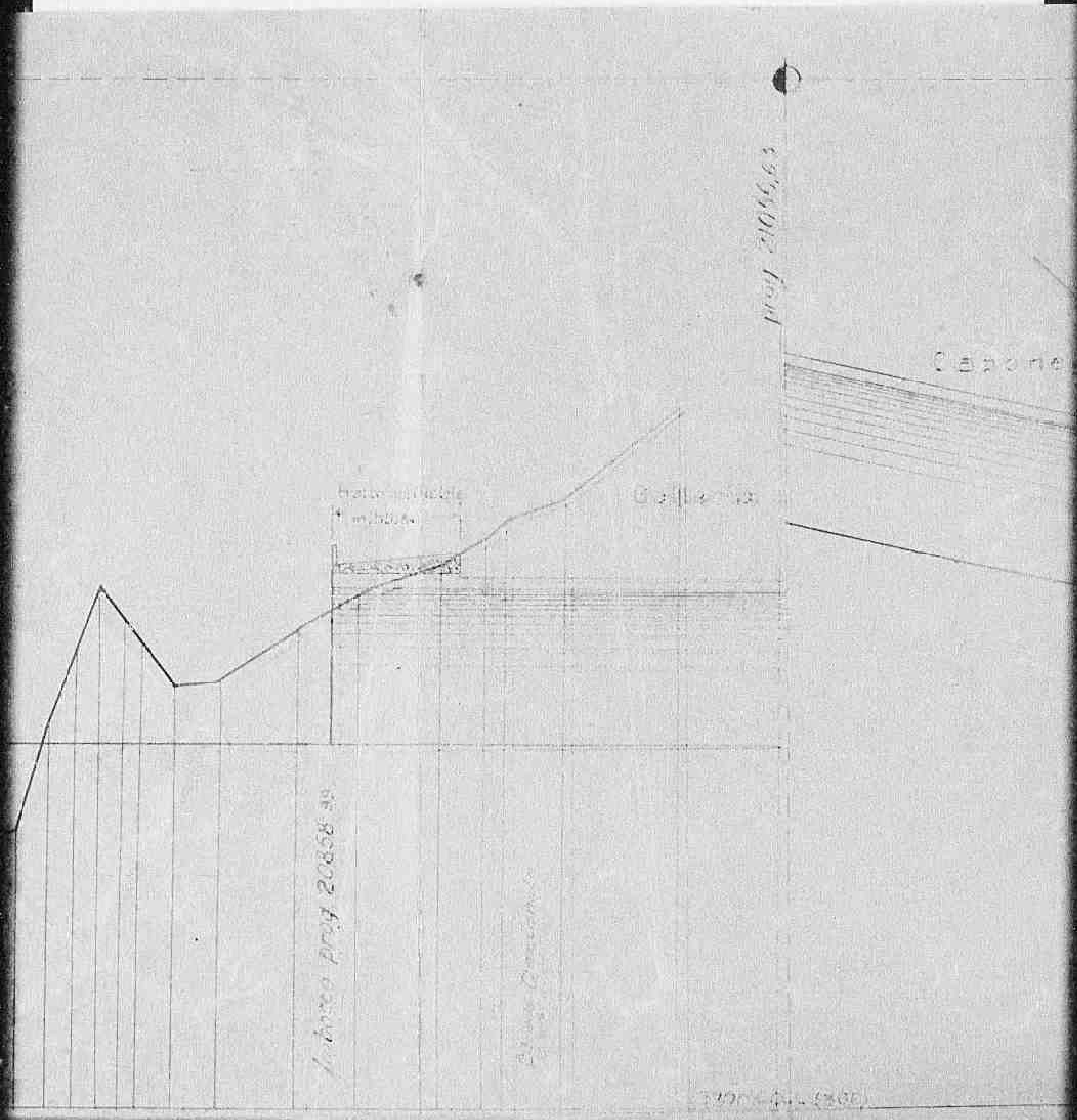
Acquedotto tubolare di m. 100 pr. 20458,89

Acquedotto tubolare di m. 150 pr. 20670,29

Autocci pr. 20858,29



Declassified E.O. 12356 Section 3.3/NND No. 785021



0935

Declassified E.O. 12356 Section 3.3/NND No. 785021

Discesa del 22‰ per m. 73

prog 21446,63

Canone

Lunghezza m. 585,50

Strada Nazionale

Imbocco prog 21447,49

C.C.D. prog 21481,89

0936

Declassified E.O. 12356 Section 3.3/NND No. 785021

per m. 732,00

Strada Nazionale

Imbocco prog. 21427,49

C.C.D. prog. 21481,89



prog. 21788,03

Sottopassaggio di m. 300 }
Acquedotto di m. 100 } prog. 21796,89



fesso

Strada privata

(360) C.L. (350)

0937

Declassified E.O. 12356 Section 3.3/NND No. 785021

Discesa del 25‰ per m. 818,00

Acquedotto tubolare di m. 100 pr. 22.148,89

C.C.O. proy. 22.232,89

Stradella privata

Fosso

*Strada
Nazionale*

Strada

Strada Comunale

100 proy. 22.337,89

0938

Declassified E.O. 12356 Section 3.3/NND No. 785021

m. 818,00

CCO prog. 22.532,89

da
nale

Strada

Strada Comunitaria

Cassa Strada Comunitaria

Ponticello di m. 400 prog. 22.337,89

Nazionale

(350) (330)

Imbocco prog. 22.416,39

Deviazione
Strada Nazionale

Gall Becchi

lunga m. 127,80

Imbocco prog. 22.544,19

deviata

Prog. 22.606,53

Muro di contenimento

0939

Declassified E.O. 12356 Section 3.3/NND No. 785021

Prog 22600, 53

Passerello ped. a travata met. pr 22740

Acquedotto tub. di m. l. oc. pr 22794, 39

Muro di controripa

MURO
di controripa

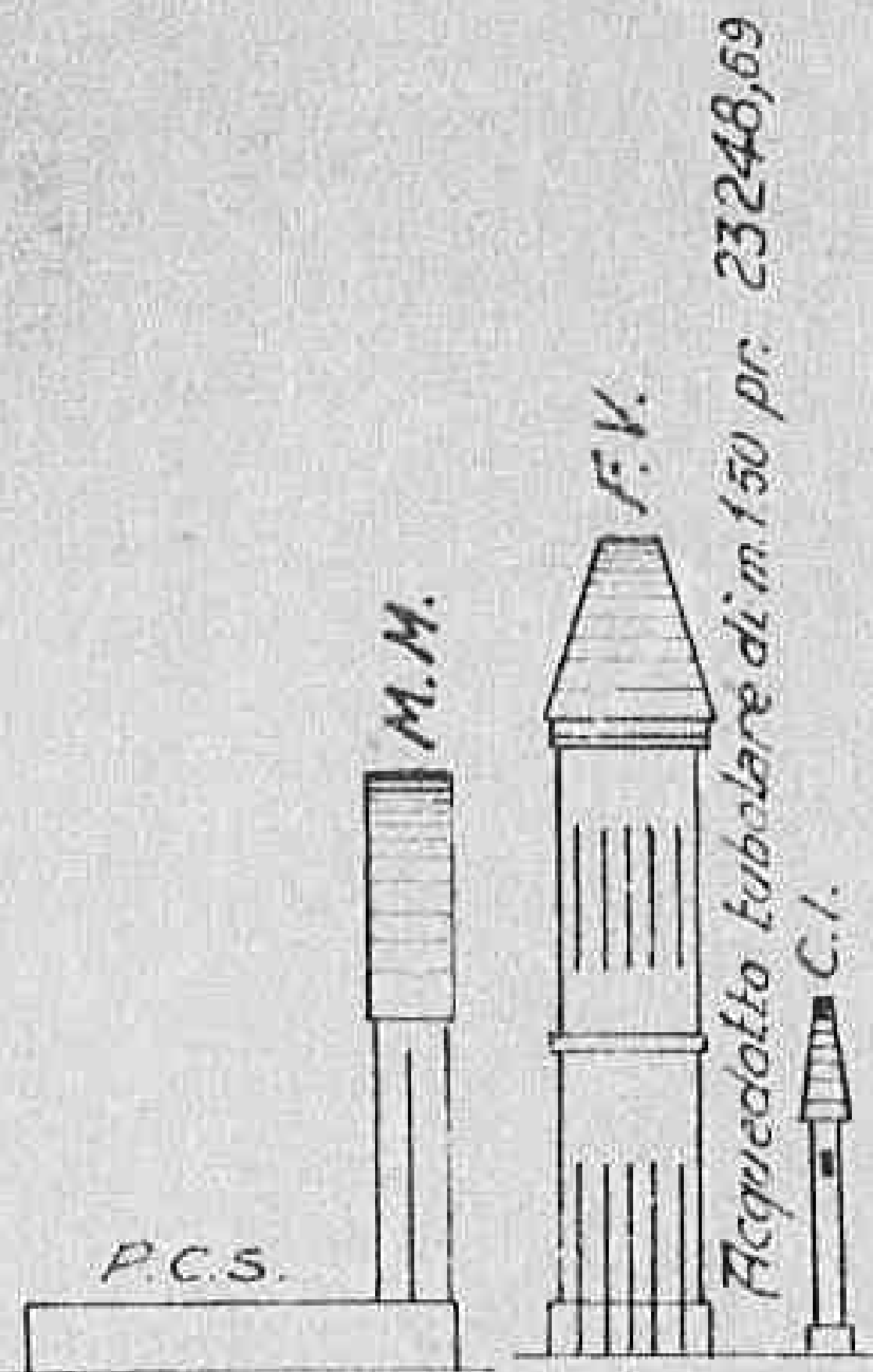
reviata

0940

Declassified E.O. 12356 Section 3.3/NND No. 785021

Discesa del 3% per m. 1100,21

Stazione di Carcare



Asse F.V. pr. 23234,29

0941

Declassified E.O. 12356 Section 3.3/NND No. 785021

Discesa da

C.C.D. prog. 23435,89

Acquedotto tubolare di m. 1,50 prog. 23462,89

Muro di conten.

Acquedotto di m. 1,50 prog. 23654,89

Prog. 23706,84

Acquedotto di m. 1,00 prog. 23776,89

0942

Declassified E.O. 12356 Section 3.3/NND No. 785021

Discesa del 10,35‰ per m. 246,40

Orizzontale per

Acquedotto di m. 100 prog. 23776,45

Sottopassaggio di m. 3,00 prog. 23942,58

Prog. 23953,24

Ponte a due luci di m. 15,55 ciascuna
da prolungarsi prog. 24123,93

Sottopassaggio di m. 6,95

da prolungarsi prog. 24174,31

Stradella

Stradella
Bormida

0943

Declassified E.O. 12356 Section 3.3/NND No. 785021

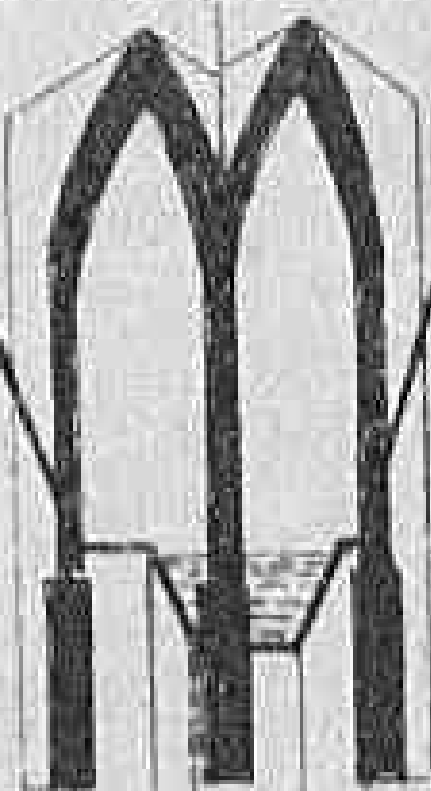
Orizzontale per m. 422.24

Ponte a due luci di m. 15.55 ciascuna
da prolungarsi prog. 24123.93

Sottopassaggio di m. 6.95
da prolungarsi prog. 24174.31

di S. Giuseppe prog. 24375.48

Asse F.V. Stazione

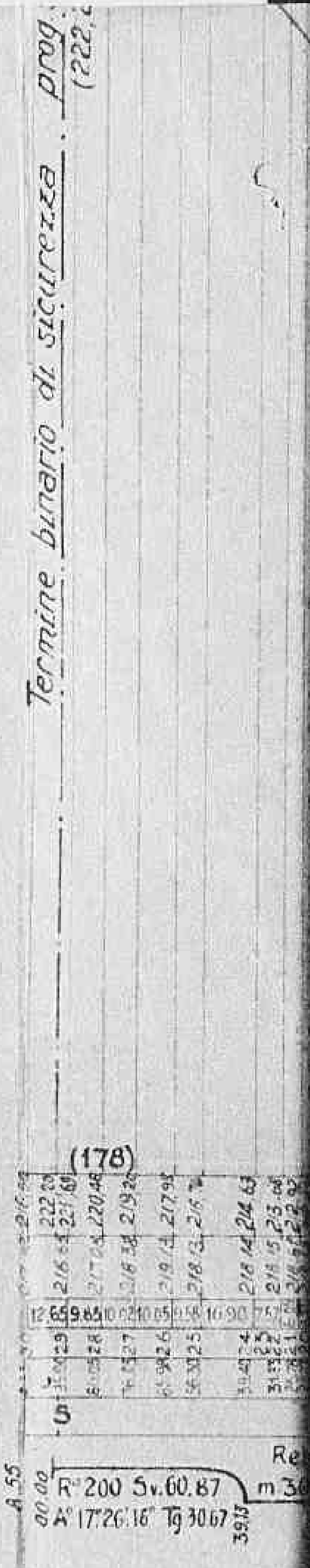
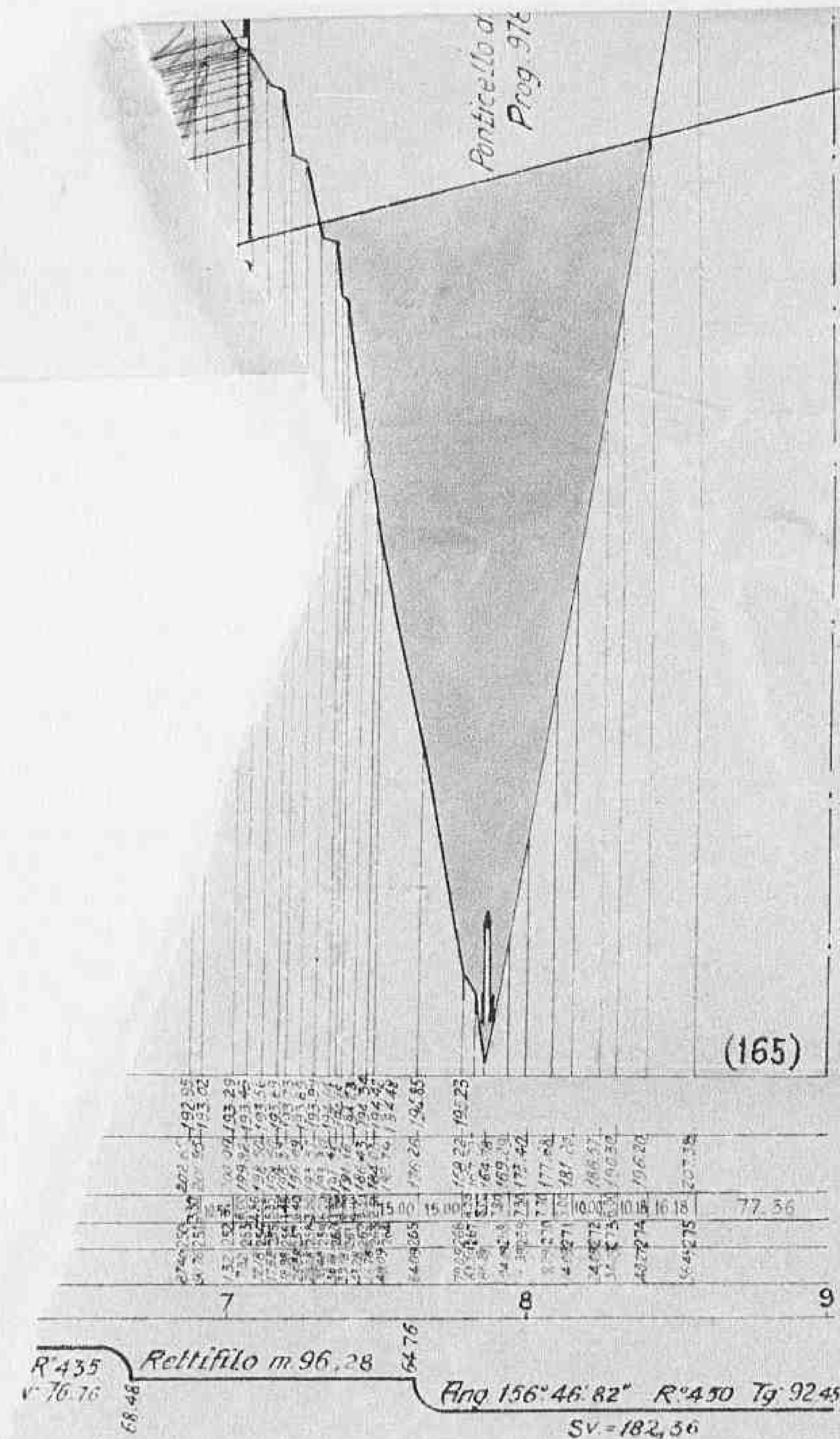


Arco
Bormida

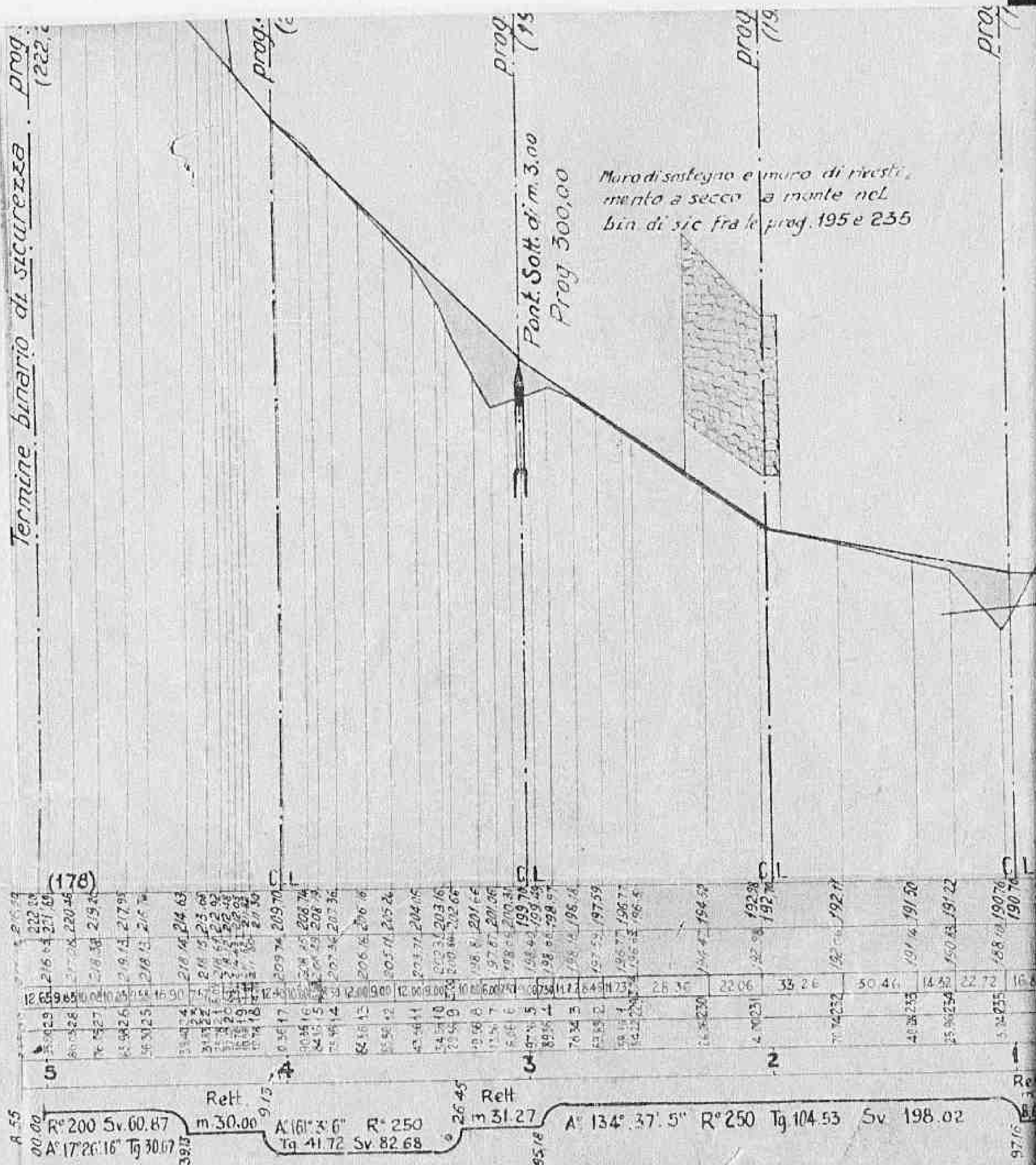
11

0944

Declassified E.O. 12356 Section 3.3/NND No. 785021

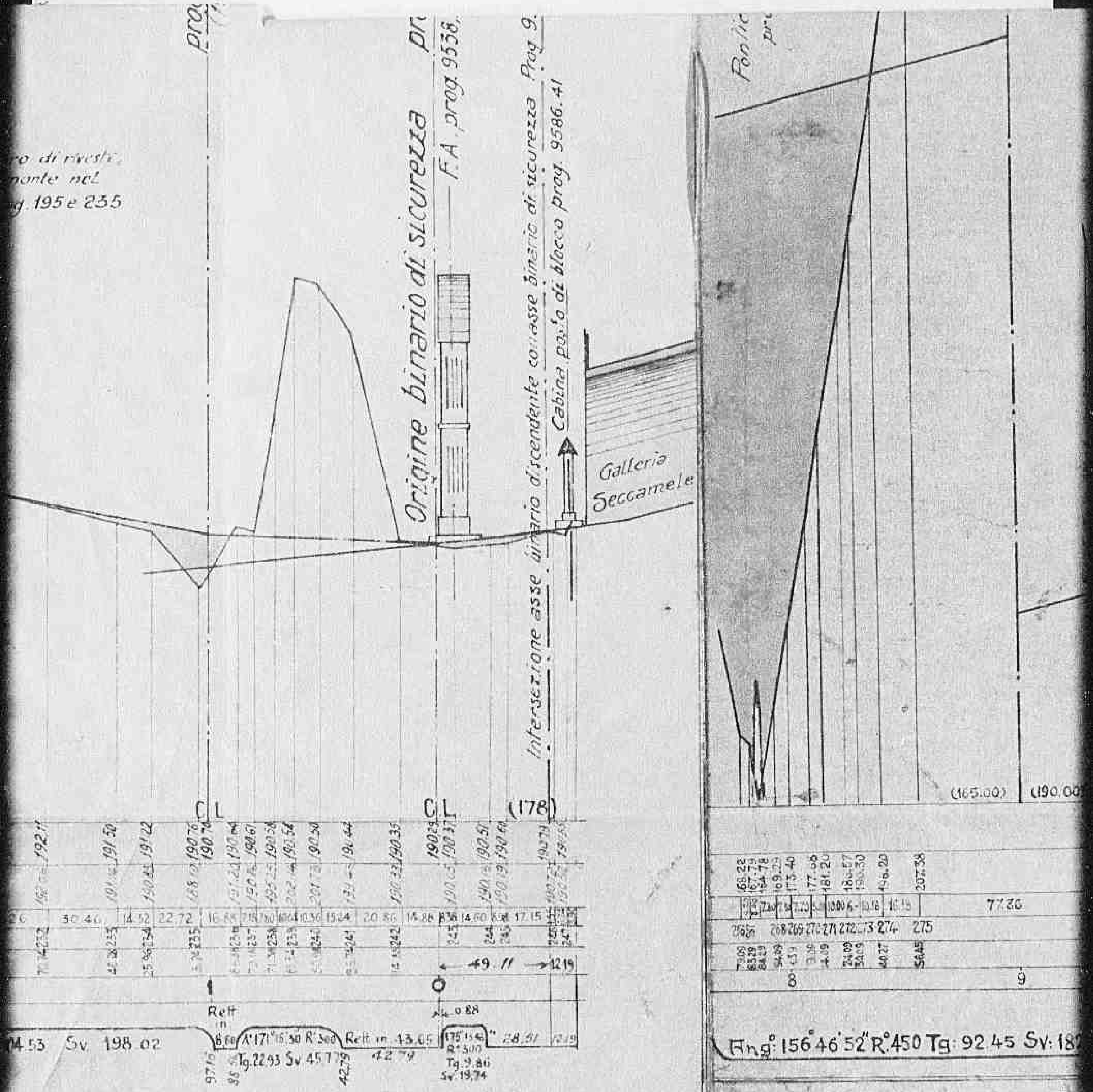


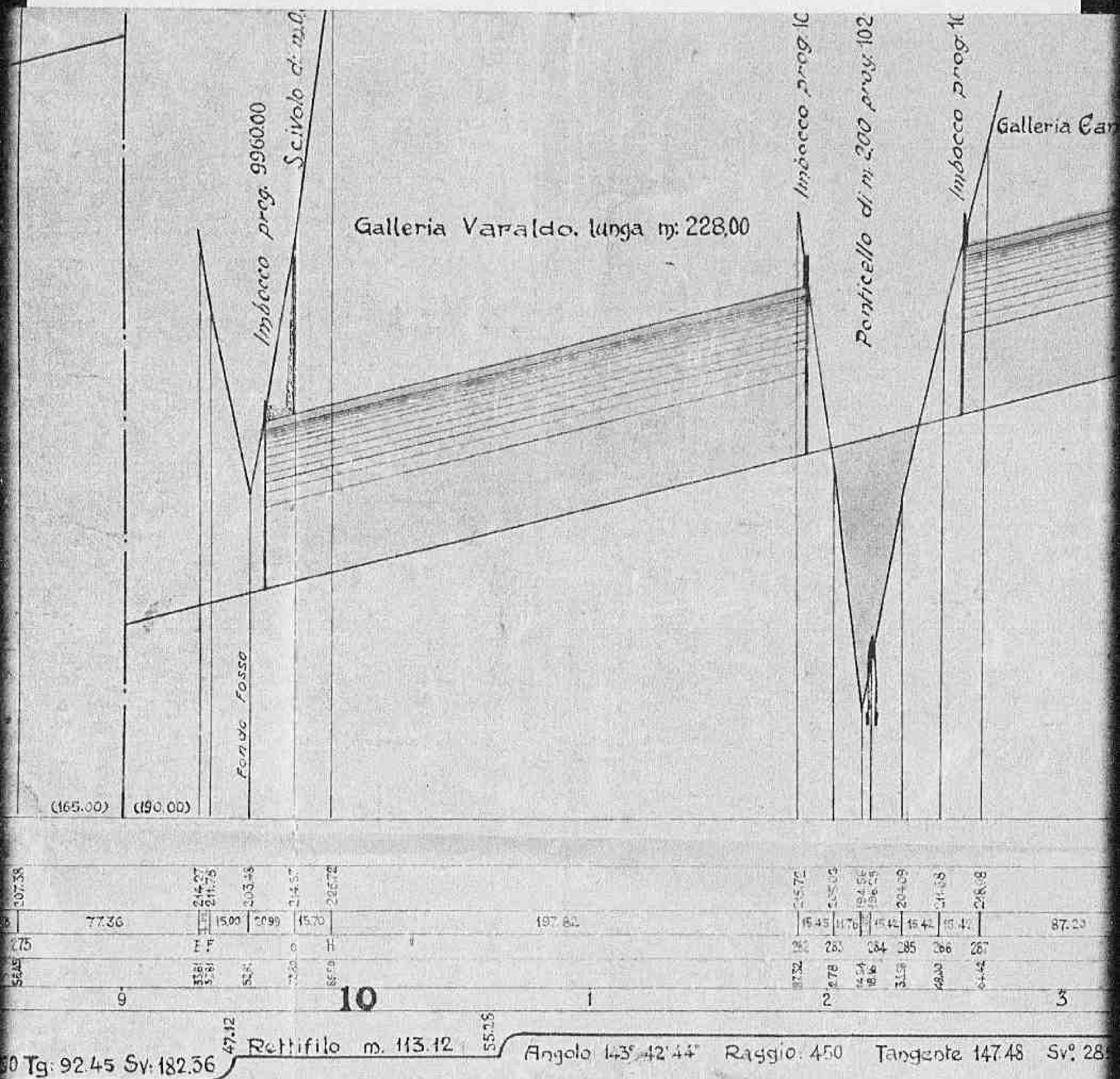
785021



0946

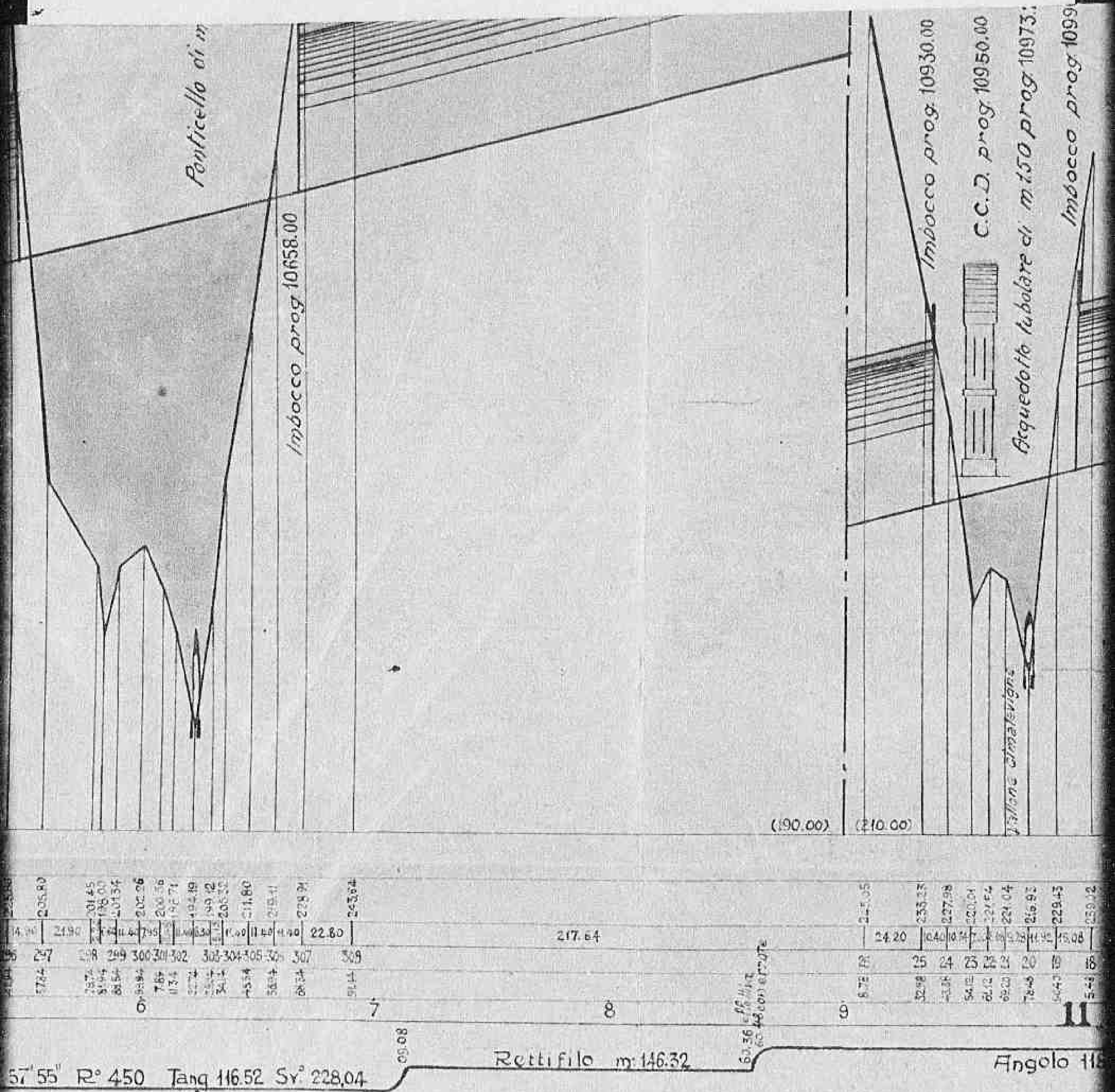
Declassified E.O. 12356 Section 3.3/NND No. 785021





0949

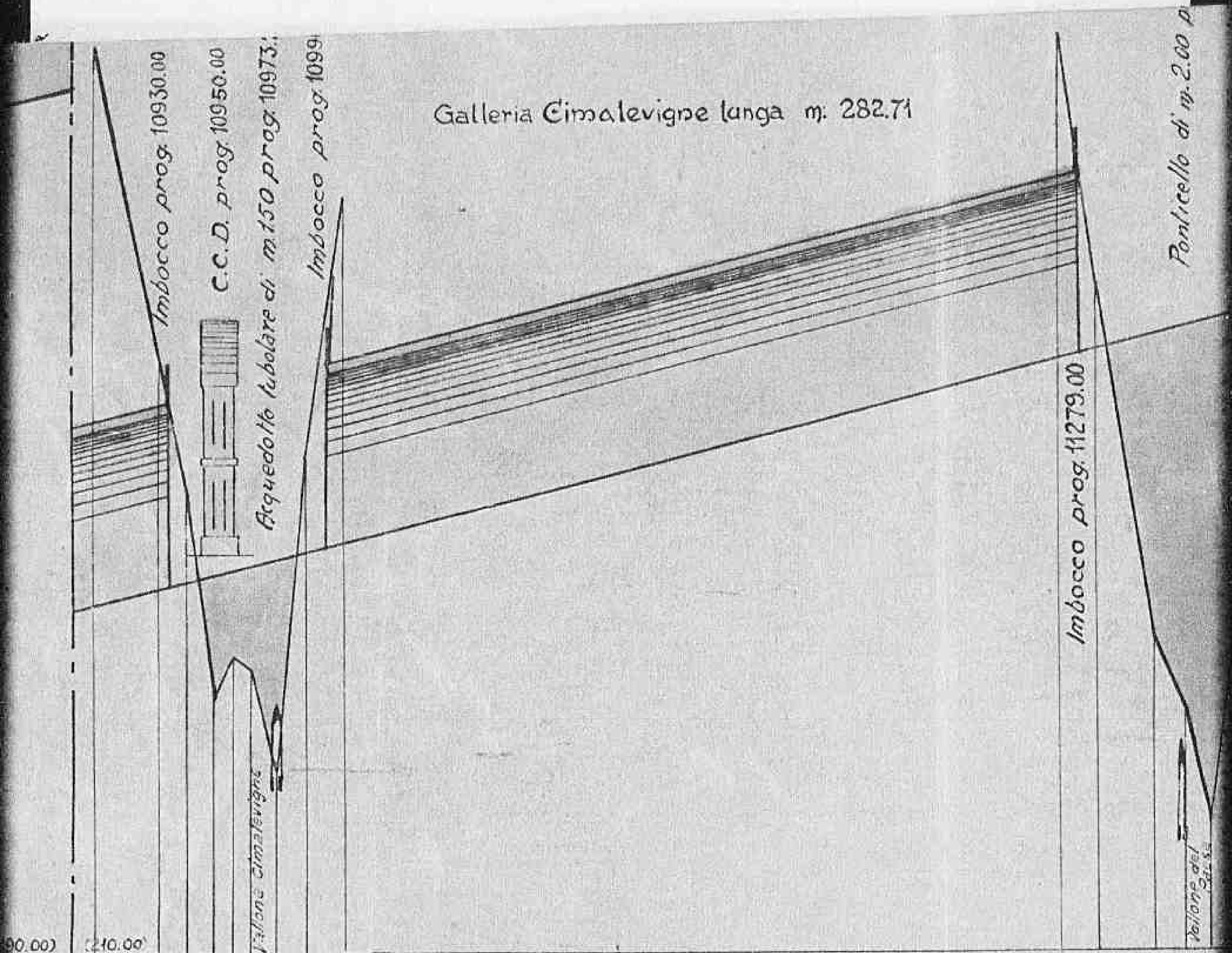
Declassified E.O. 12356 Section 3.3/NND No. 785021



57° 55' R° 450 Tang 116.52 Sv° 228.04

Rettifilo m 146.32

Angolo 118



8.76	25	24.20	245.05
52.98	25	104.00	235.23
41.35	24	100.50	227.98
54.12	23	100.50	220.04
61.12	22	99.20	217.54
69.20	21	97.10	224.04
78.45	20	94.40	215.93
88.40	19	91.08	229.43
98.45	18		230.02

11

1

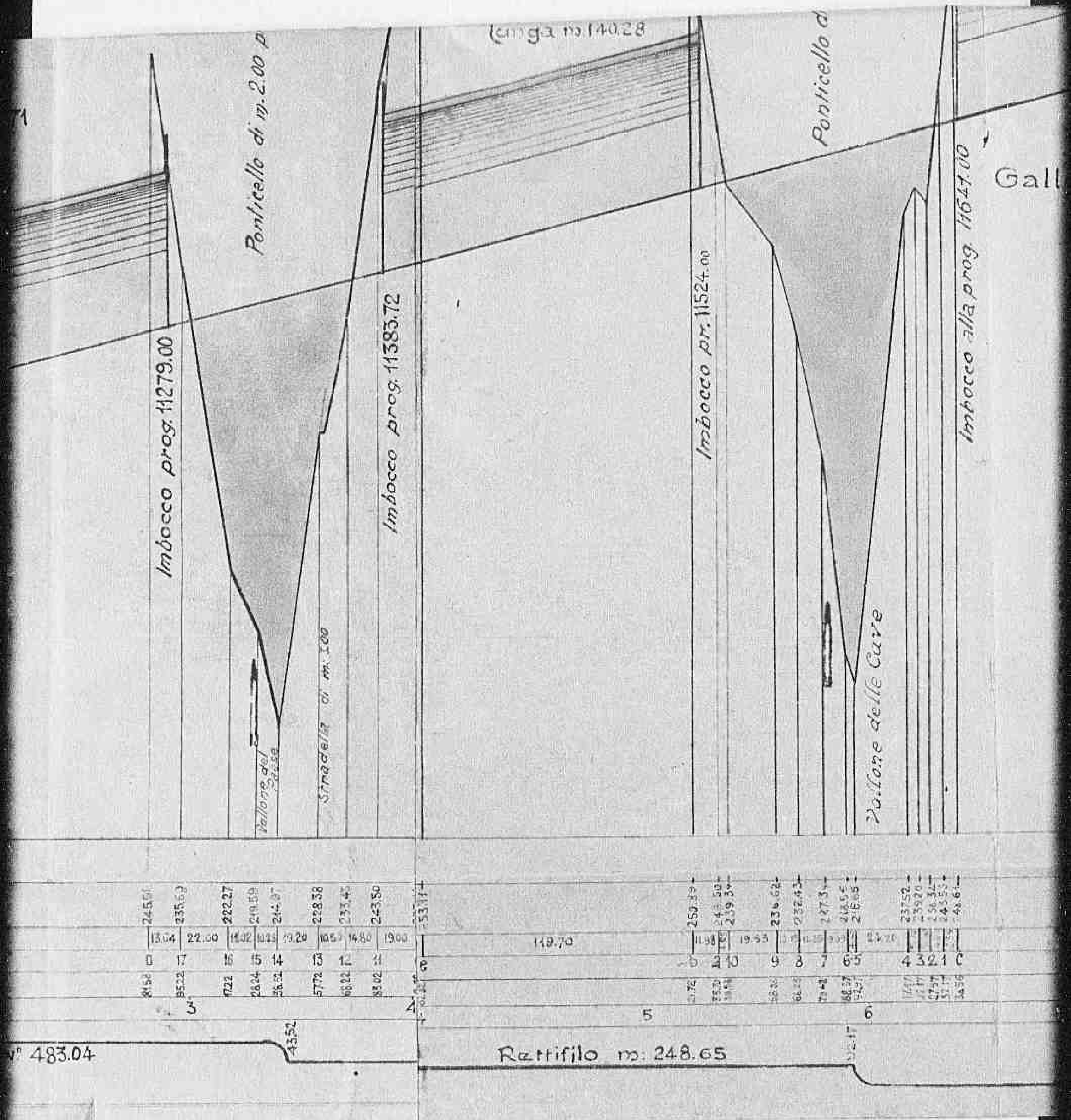
276.10

2

3

8.52	0	13.04	245.54
95.22	17	22.60	235.69
1722	16	14.02	222.27
2824	15	10.25	218.59
39.82	14		214.97

Angolo 118° 29' 49" Raggio 450 Tangente 267.74 Sv° 483.04



Porticello di

Valleone delle Caves

Imbocco alla prog. 17047.00

Galleria delle Cave. lunga m. 318.00

Imbocco alla prog. 11.

Ponte Vedotto a 3 luci di m. 5, alla p. 120.

C.C.D. alla proc 13

(210)

(235)

Matrone delle Canne

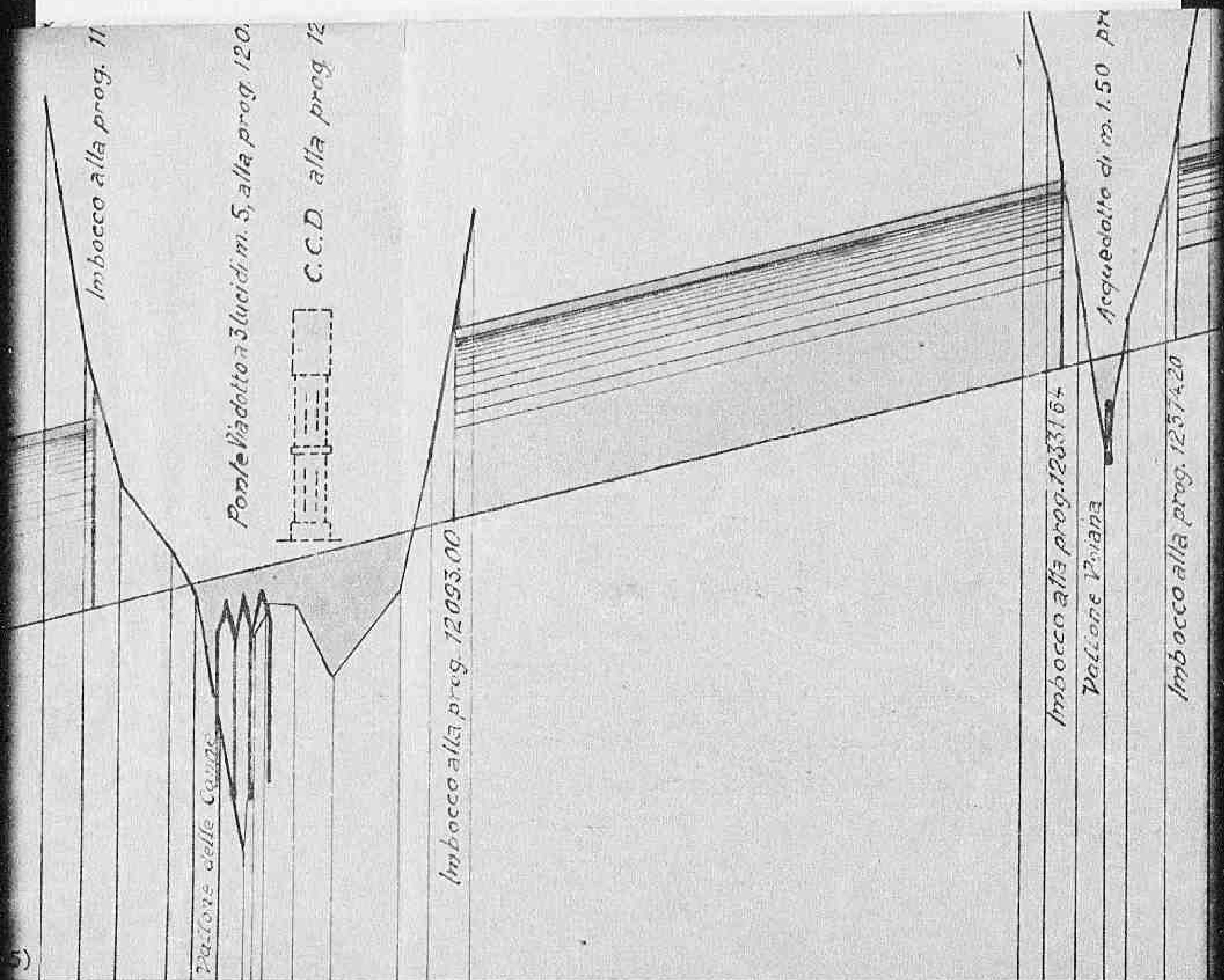
294.54

2603	1	63	26020	10	370	25459	3	2000	25210	10	3000	24577	6	2100	24003	7	24900	24908	8	24908
------	---	----	-------	----	-----	-------	---	------	-------	----	------	-------	---	------	-------	---	-------	-------	---	-------

12

Ang. $115^{\circ} 8' 8''$ P. 550 Tang. 363,13 Sv. 641,85

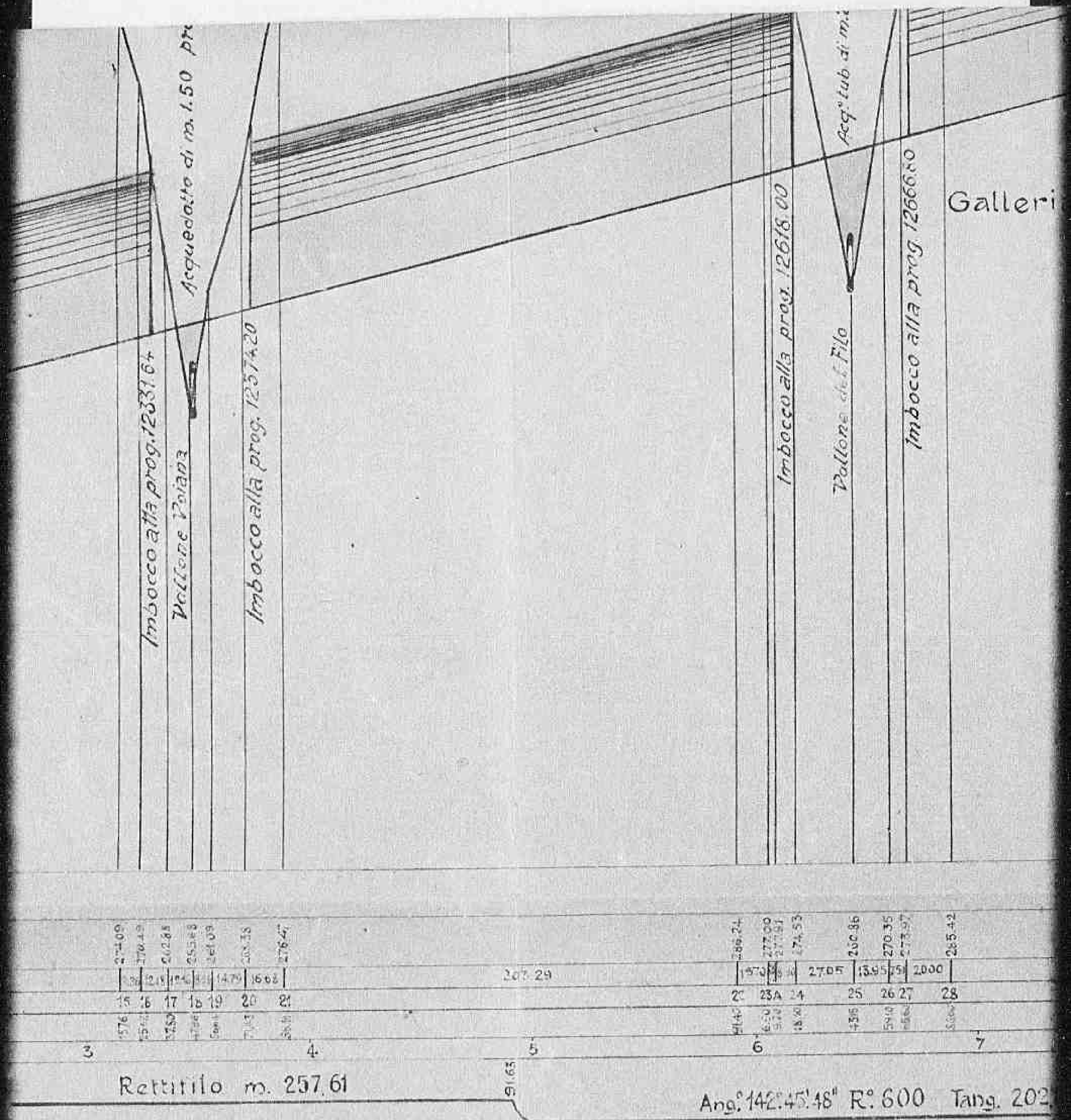
Declassified E.O. 12356 Section 3.3/NND No. 785021



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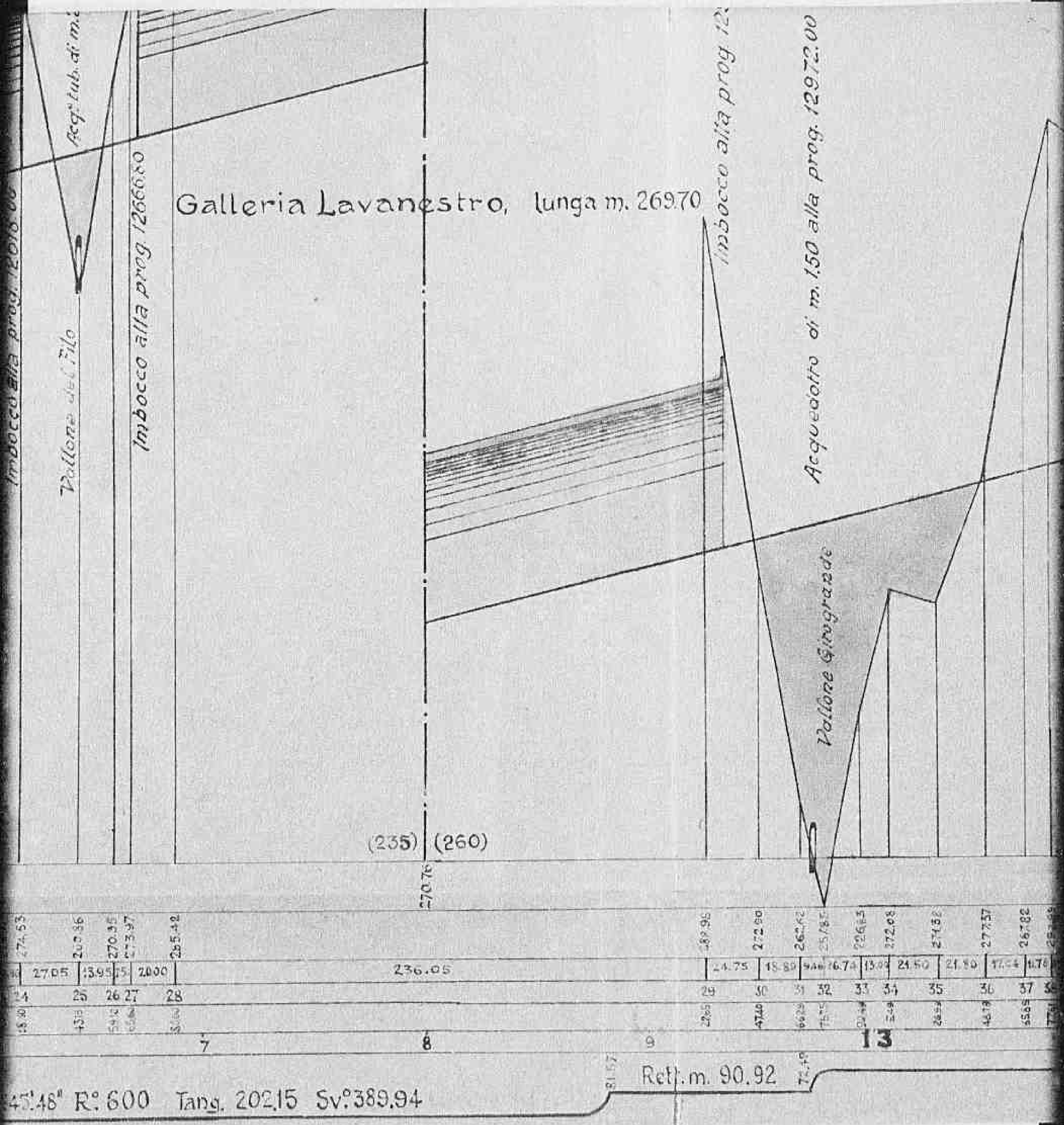
0954

Declassified E.O. 12356 Section 3.3/NND No. 785021



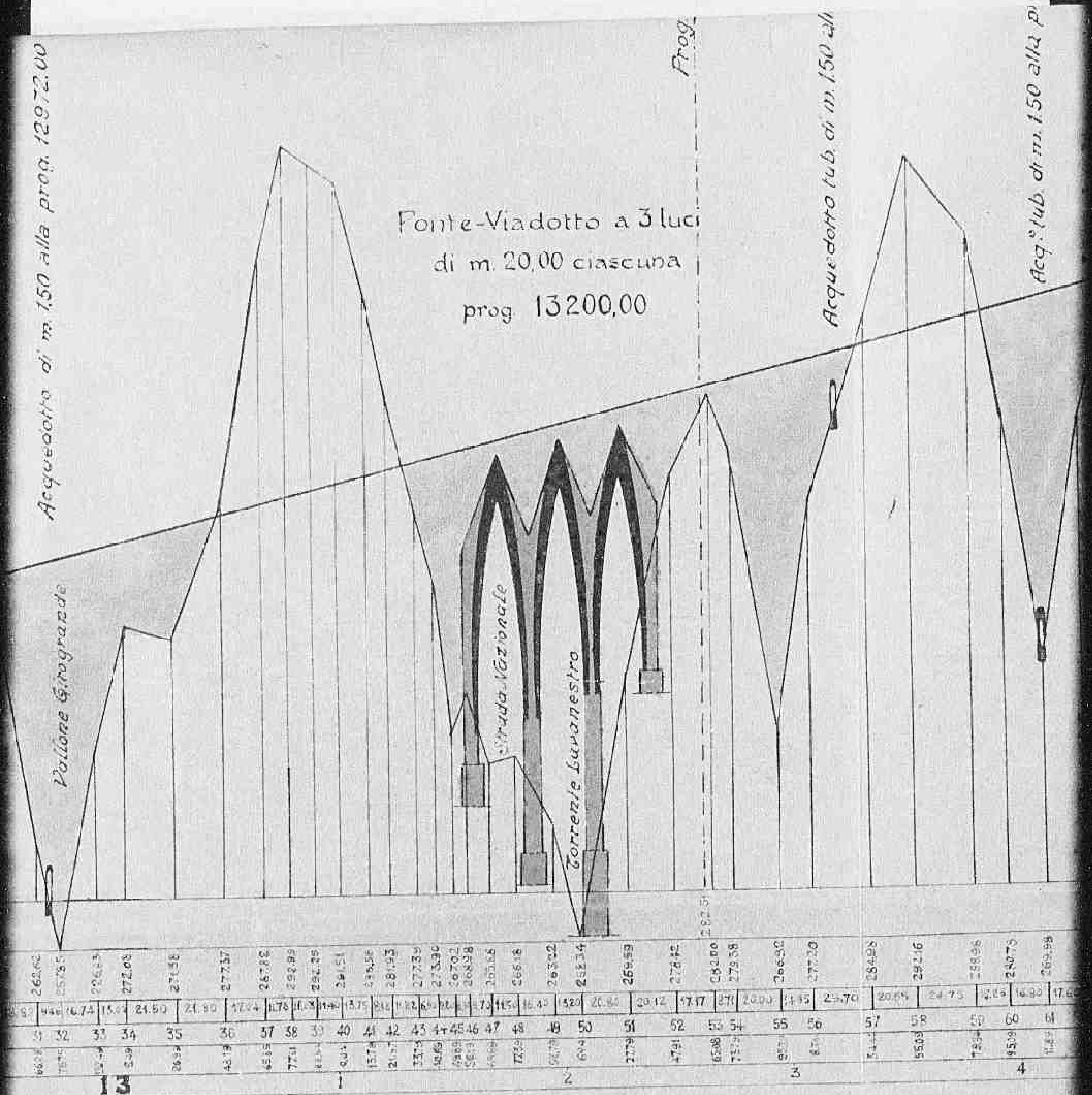
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Declassified E.O. 12356 Section 3.3/NND No. 785021



0956

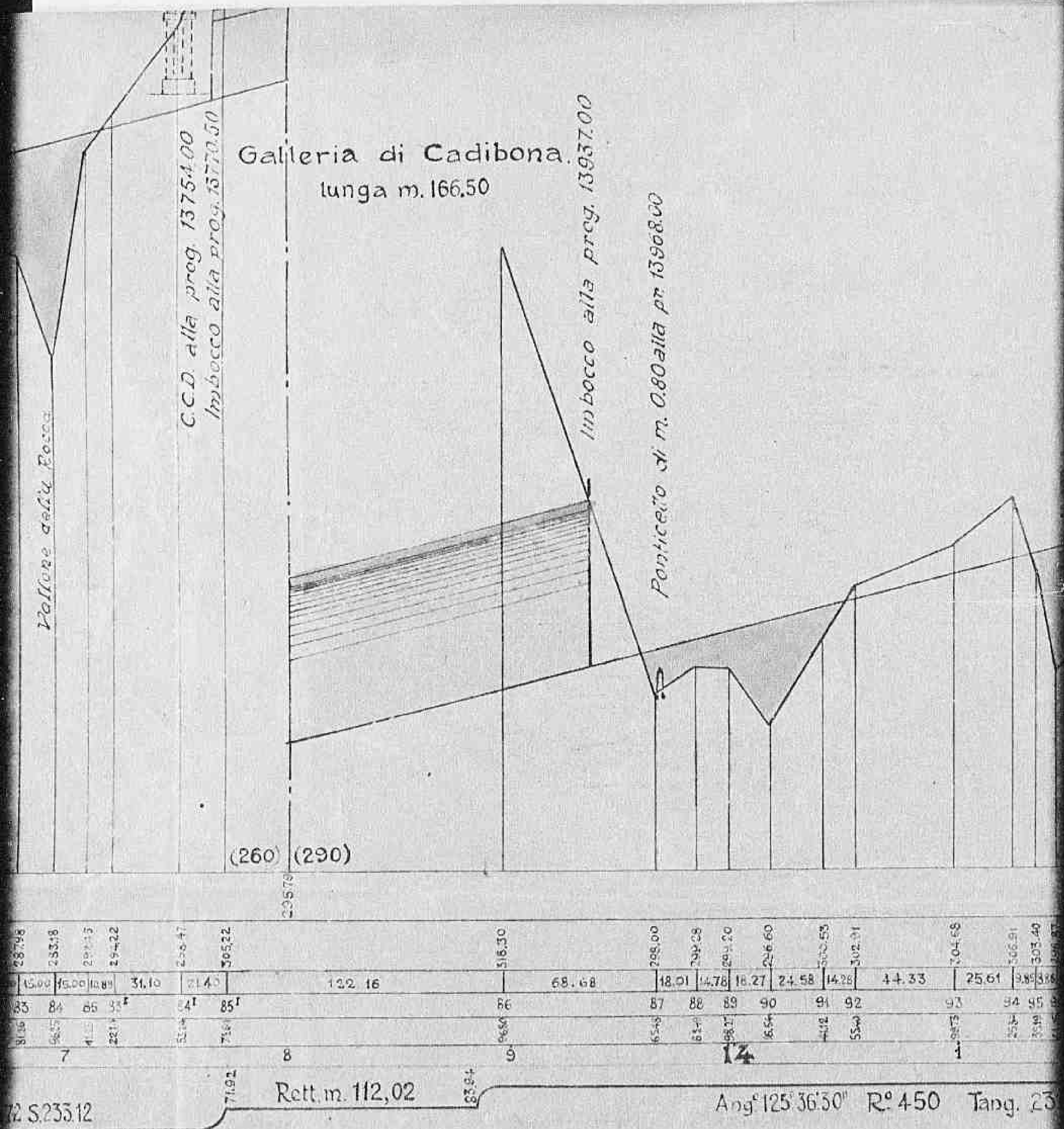
Declassified E.O. 12356 Section 3.3/NND No. 785021

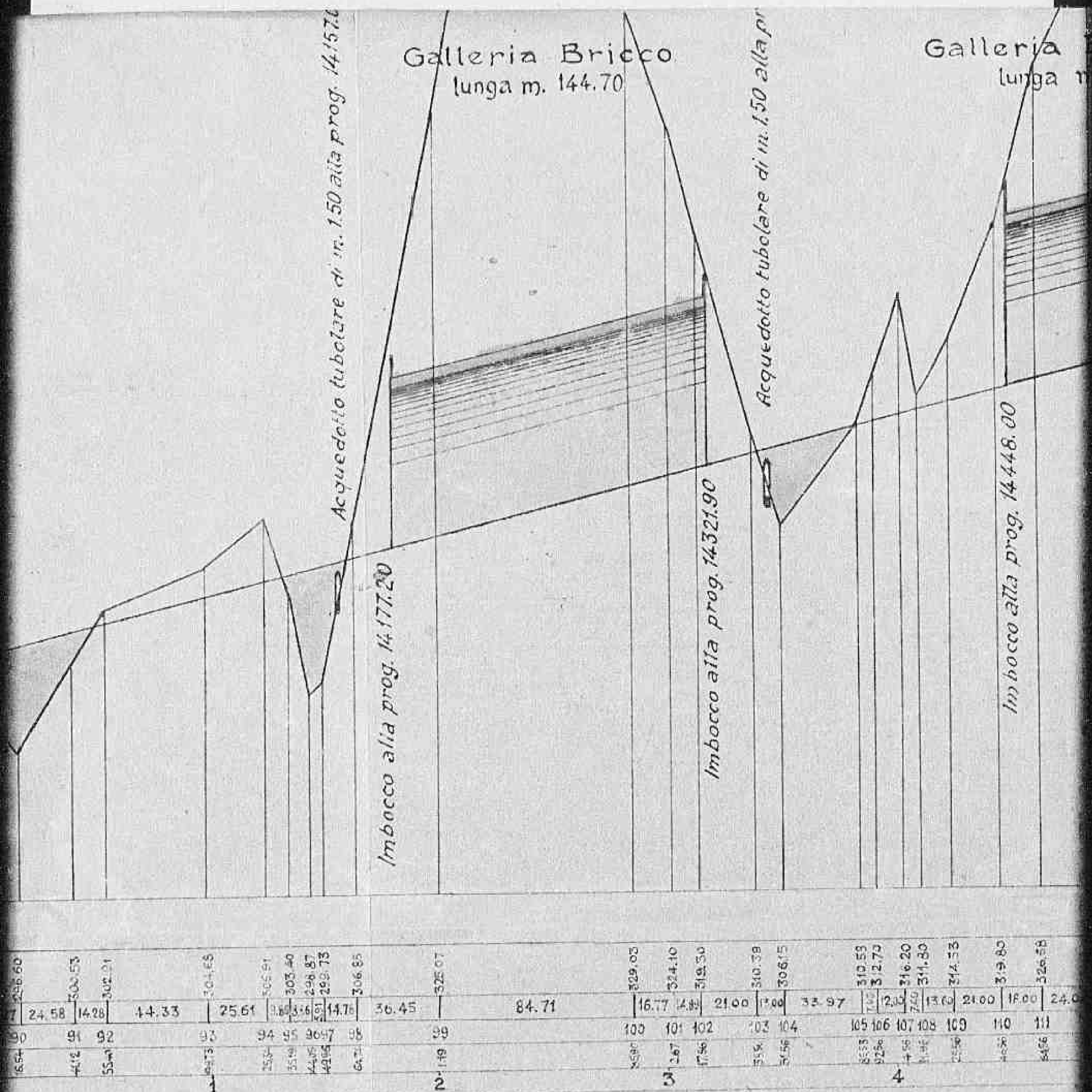


Ang° 118° 35' 20" R° 450 Tang. 267,43 Sv° 482,58

0958

Declassified E.O. 12356 Section 3.3/NND No. 785021





Rettifilo m. 205,28

125° 36' 30" R° 450 Tang. 231,23 Sv° 427,19

0960

Declassified E.O. 12356 Section 3.3/NND No. 785021

Galleria Boagno.
lunga m. 68,00

Galleria della Torre

Imbocco alla prog. 14448.00

Imbocco alla prog. 14515.00
Acquedotto tub. di m. 150 alla p. 14526.00

Imbocco alla prog. 14604.00

306.15	313.55	312.70	316.20	314.80	314.53	313.80	320.58	331.20	325.55	317.35	320.43	314.20	309.93	312.25	315.63	319.42	318.20	325.50	327.26	330.00	332.40
100	35.97	23.00	20.00	13.00	21.00	18.00	24.00	15.00	12.00	10.35	12.50	16.82	72.20	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
31.50	32.55	32.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50	34.50

Rettifilo m. 205,28

Ang° 148° 18' 0" R° 500 Tang. 141,95 Sv° 276,64

0961

Declassified E.O. 12356 Section 3.3/NND No. 785021

Galleria della Torre. lunga m. 390,30

Imbocco alla proy. 14994,30

Acquedotto tuoltre or m. 150 alla proy. 15011,00

(290) (315)

369,78

7

8

9

Tang. 141,95 Sv. 276,64

9305

Rettifilo m. 465,95

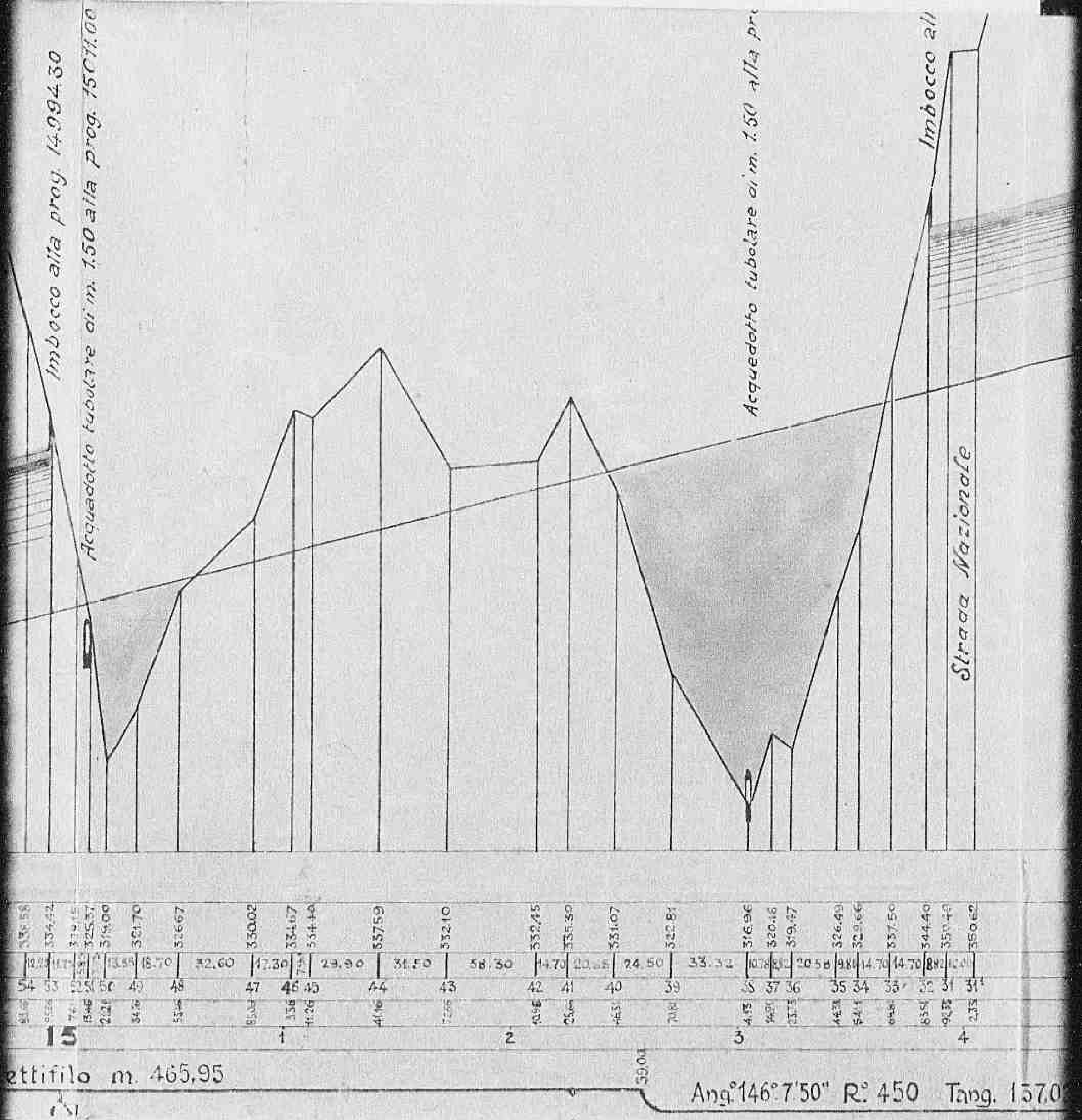
338,58	334,42	324,15	325,37	319,00	321,70	326,67	330,02	334,67	334,40
12,20	4,10	5,30	5,30	13,55	18,70	52,60	17,30	7,70	7,70
54	53	52	51	50	49	48	47	46	45
35,00	33,00	31,00	29,00	27,00	25,00	23,00	21,00	19,00	17,00

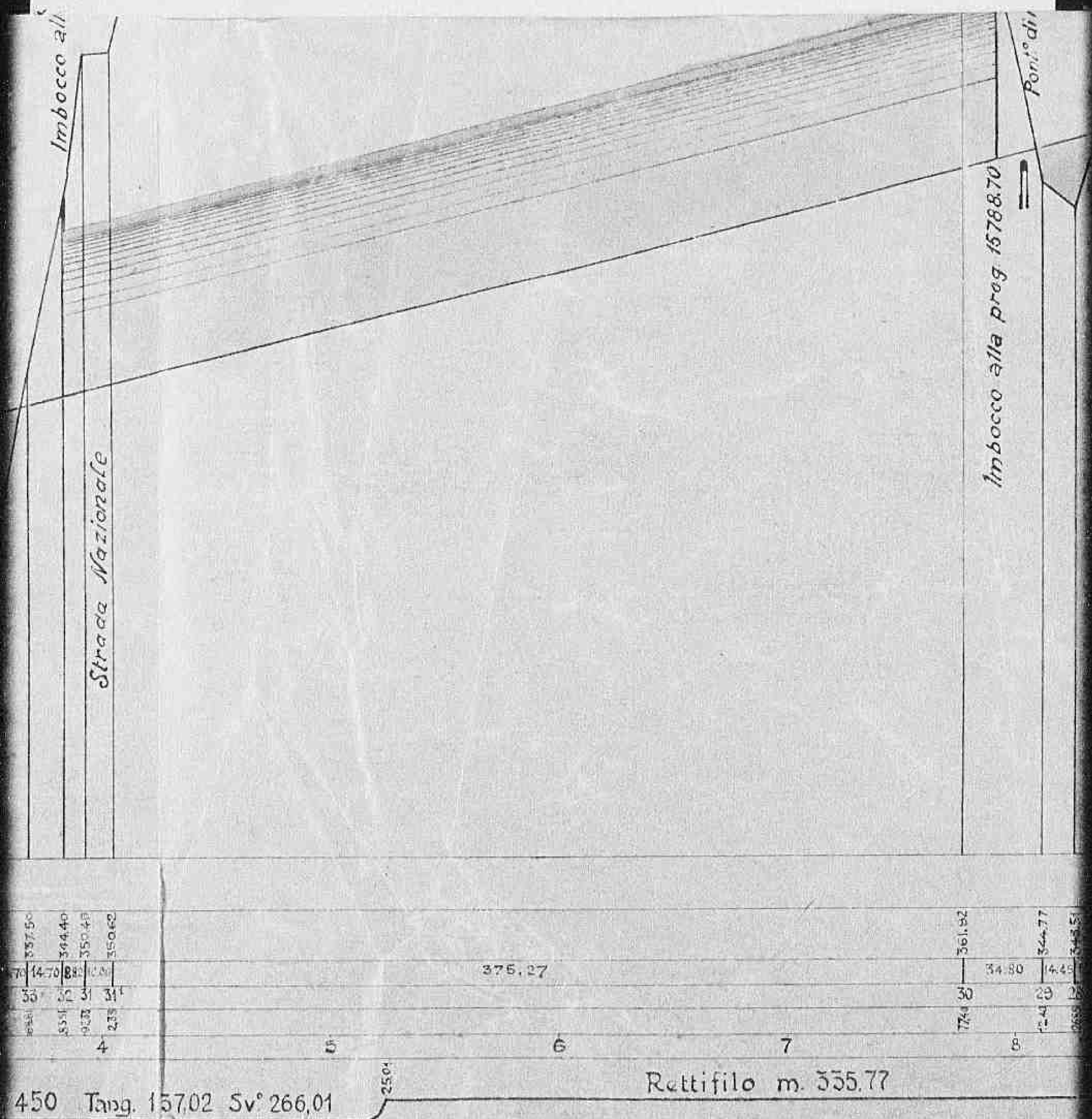
15

1

0962

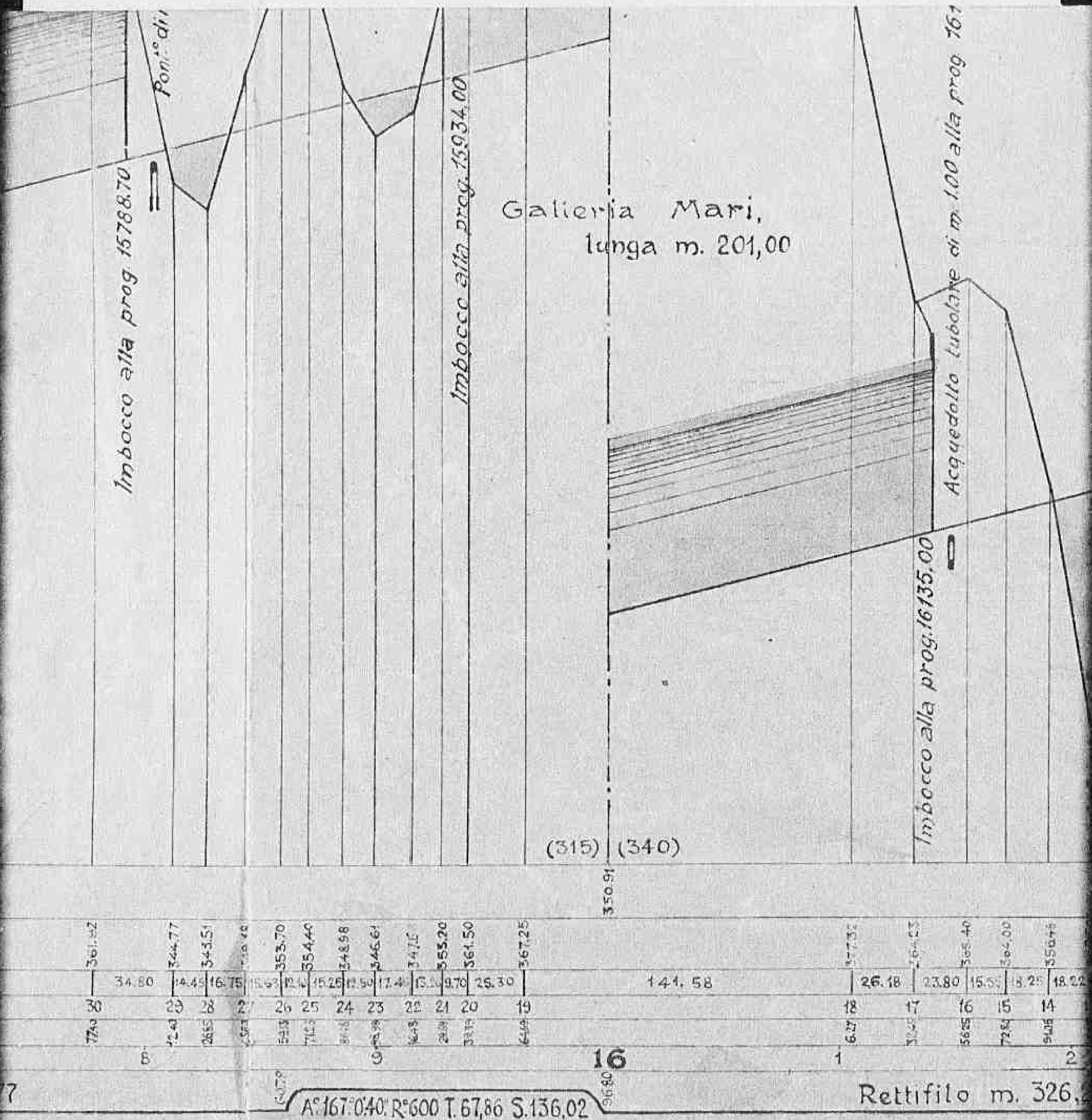
Declassified E.O. 12356 Section 3.3/NND No. 785021





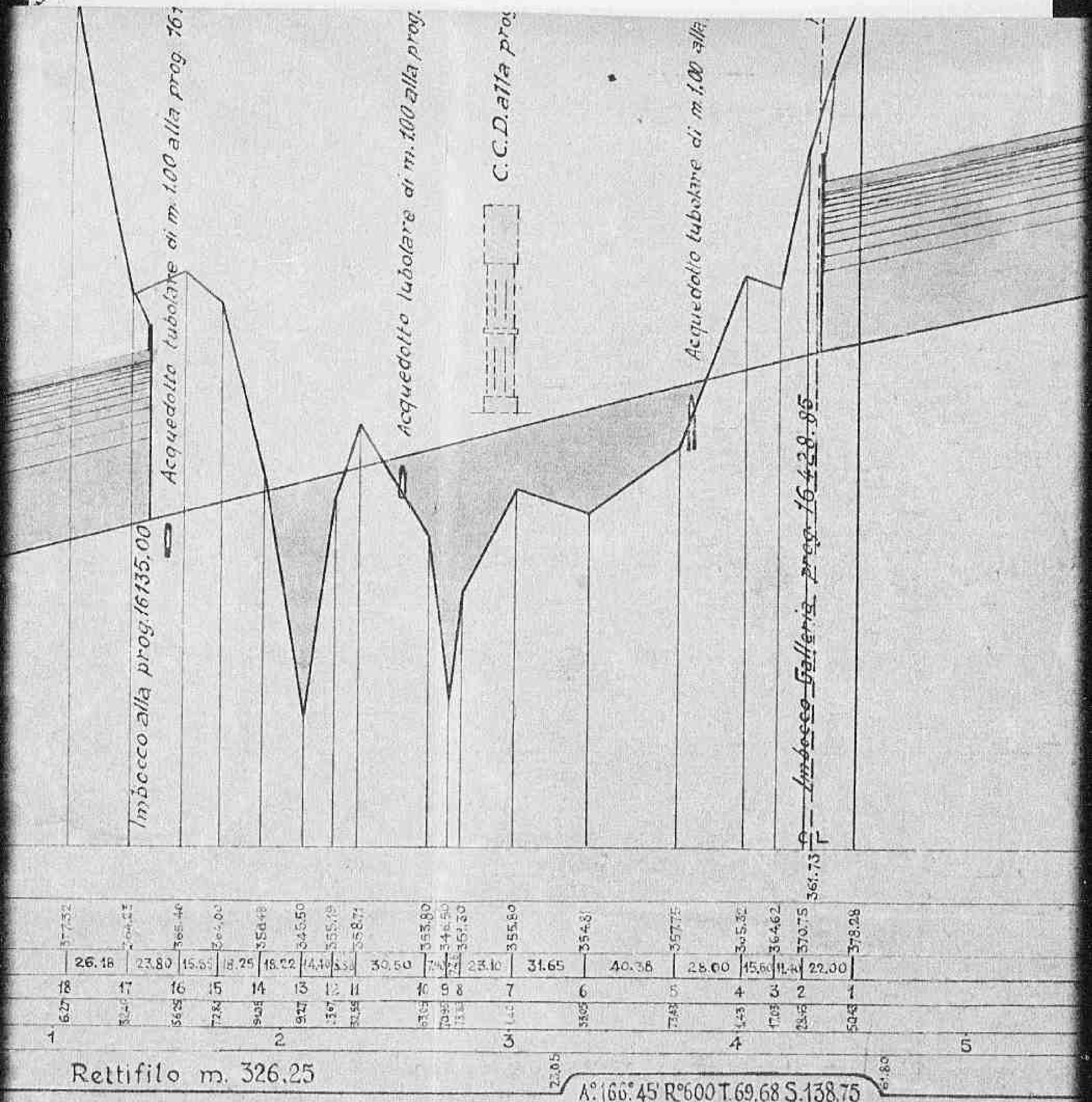
0964

Declassified E.O. 12356 Section 3.3/NND No. 785021



Q 9 6 5

Declassified E.O. 12356 Section 3.3/NND No. 785021



0968

Declassified E.O. 12356 Section 3.3/NND No. 785021

Asse finestra prog. 16850.94

(340)

(370)

37125

0967

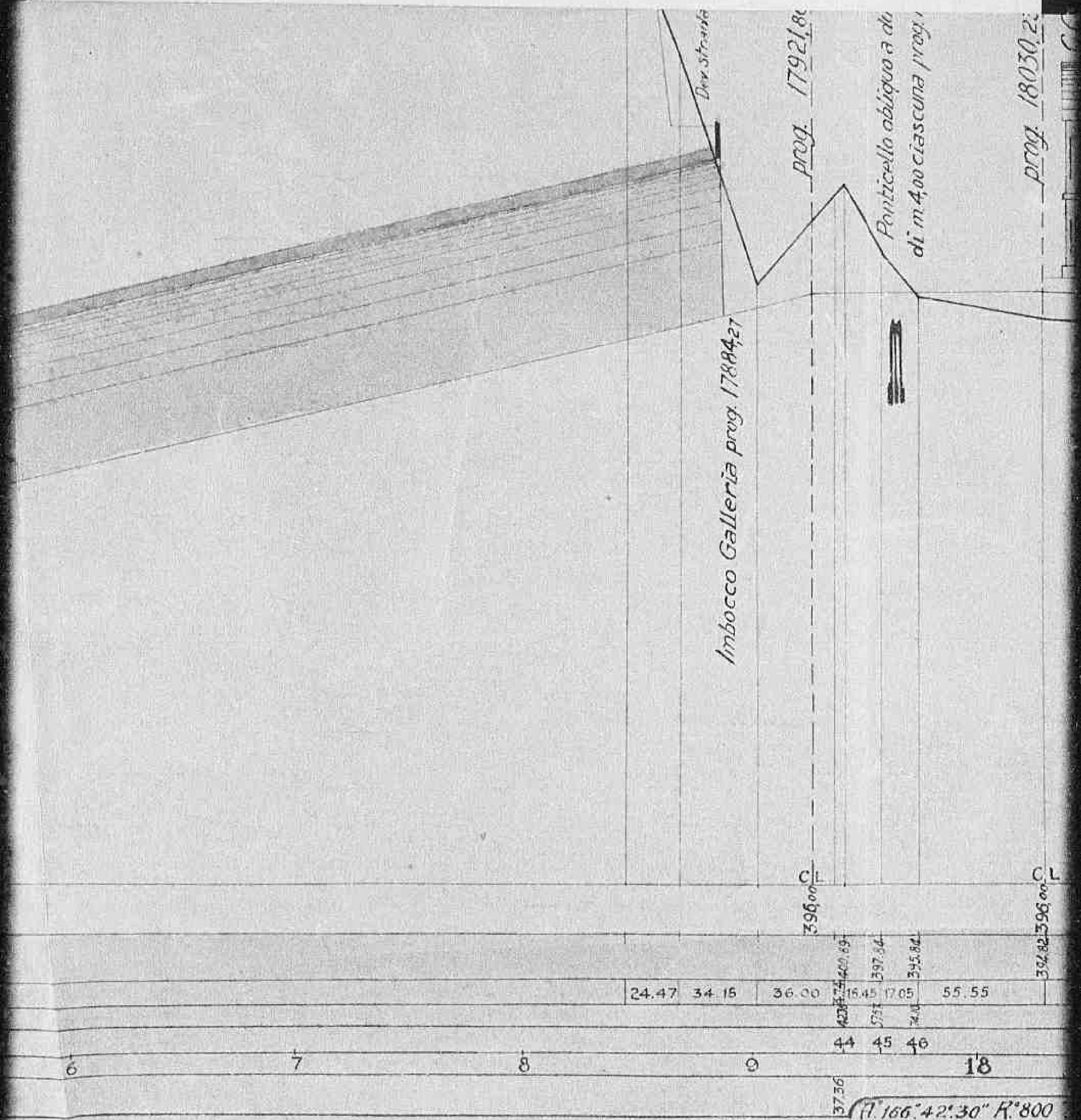
Declassified E.O. 12356 Section 3.3/NND No. 785021

Galleria di Altare (Valico) lunga m. 1455,42

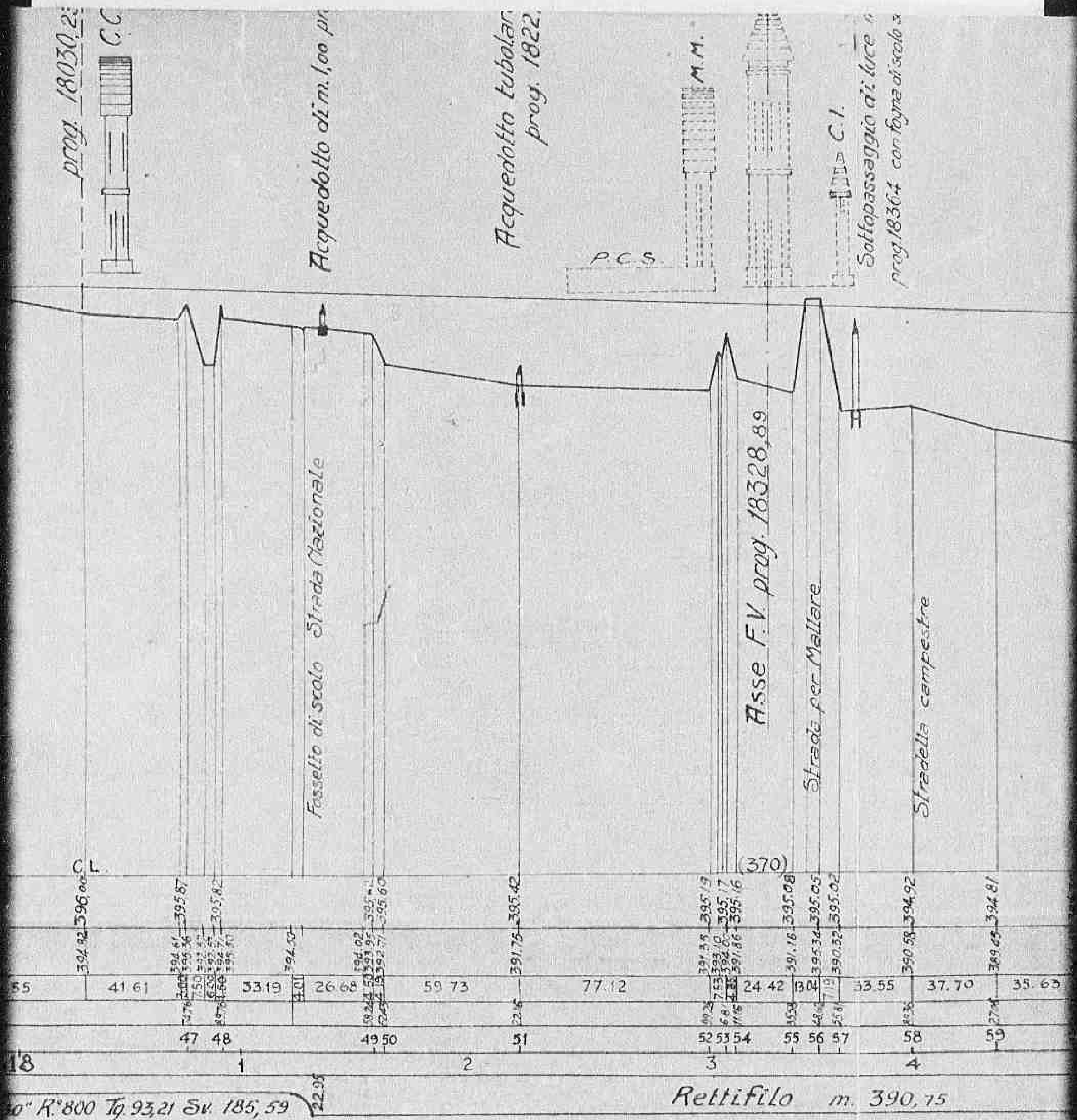
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Rettifilo m. 1475,56

0968

Declassified E.O. 12356 Section 3.3/NND No. 785021

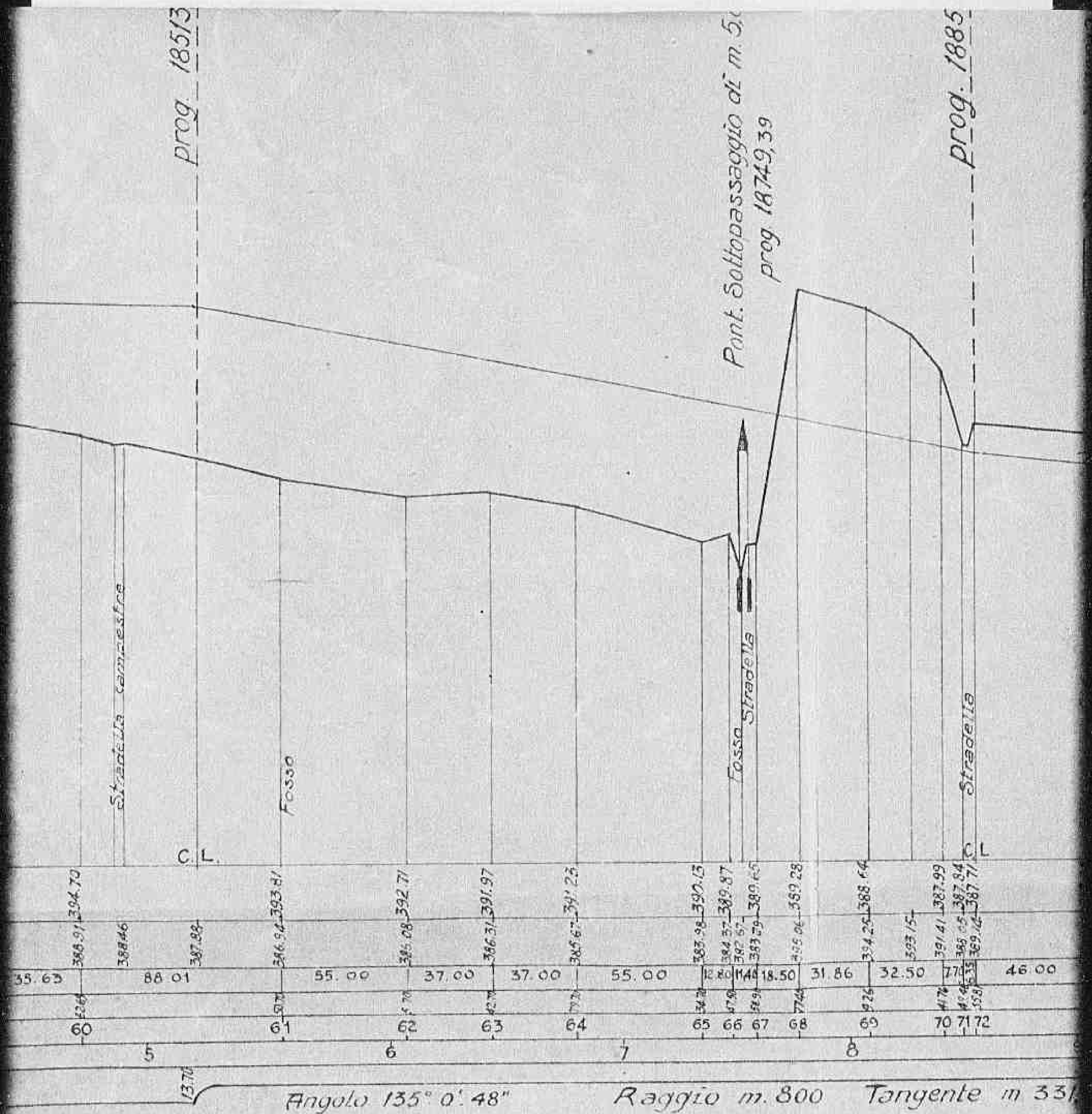


0969



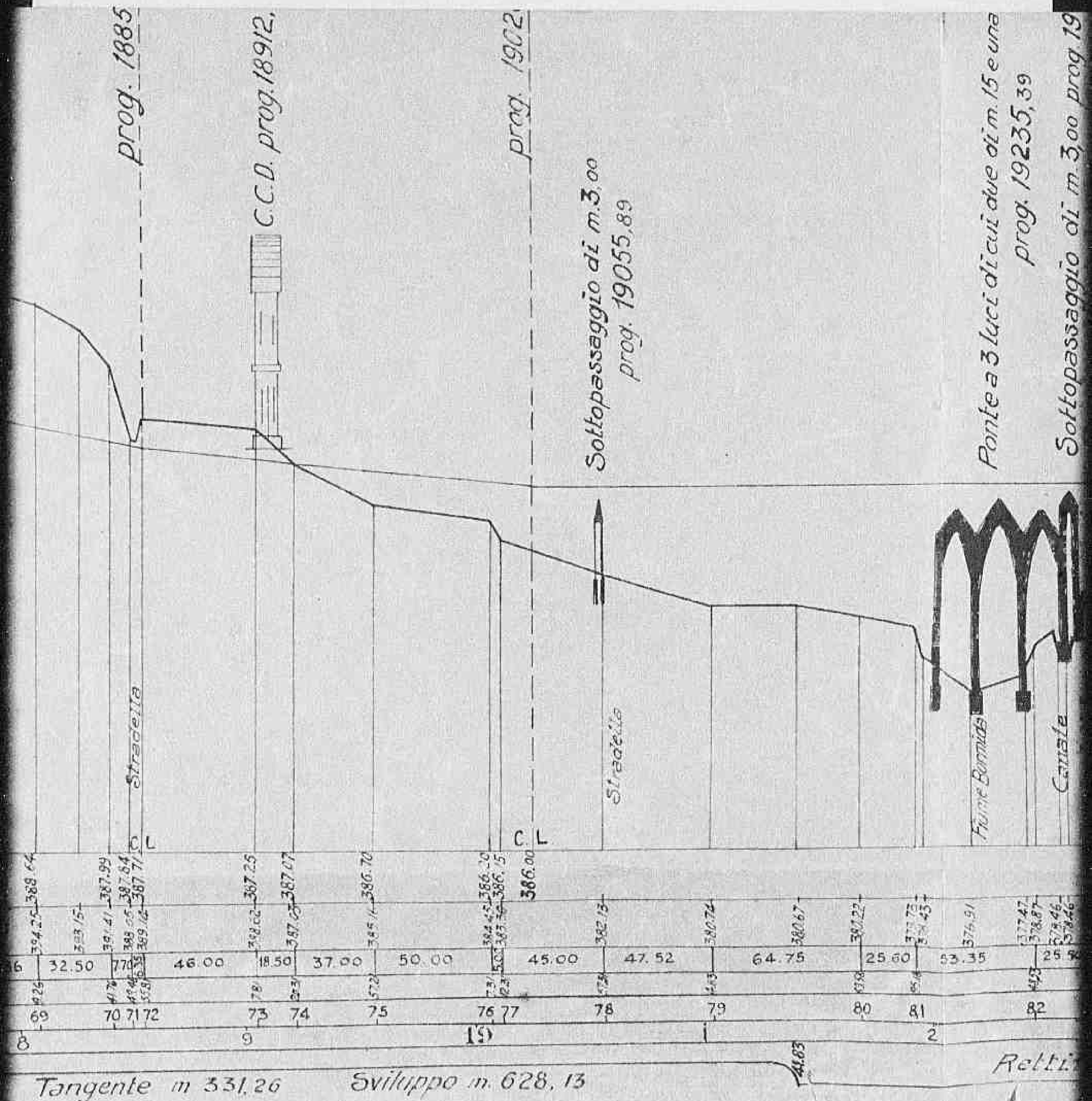
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Declassified E.O. 12356 Section 3.3/NND No. 785021



0971

Declassified E.O. 12356 Section 3.3/NND No. 785021



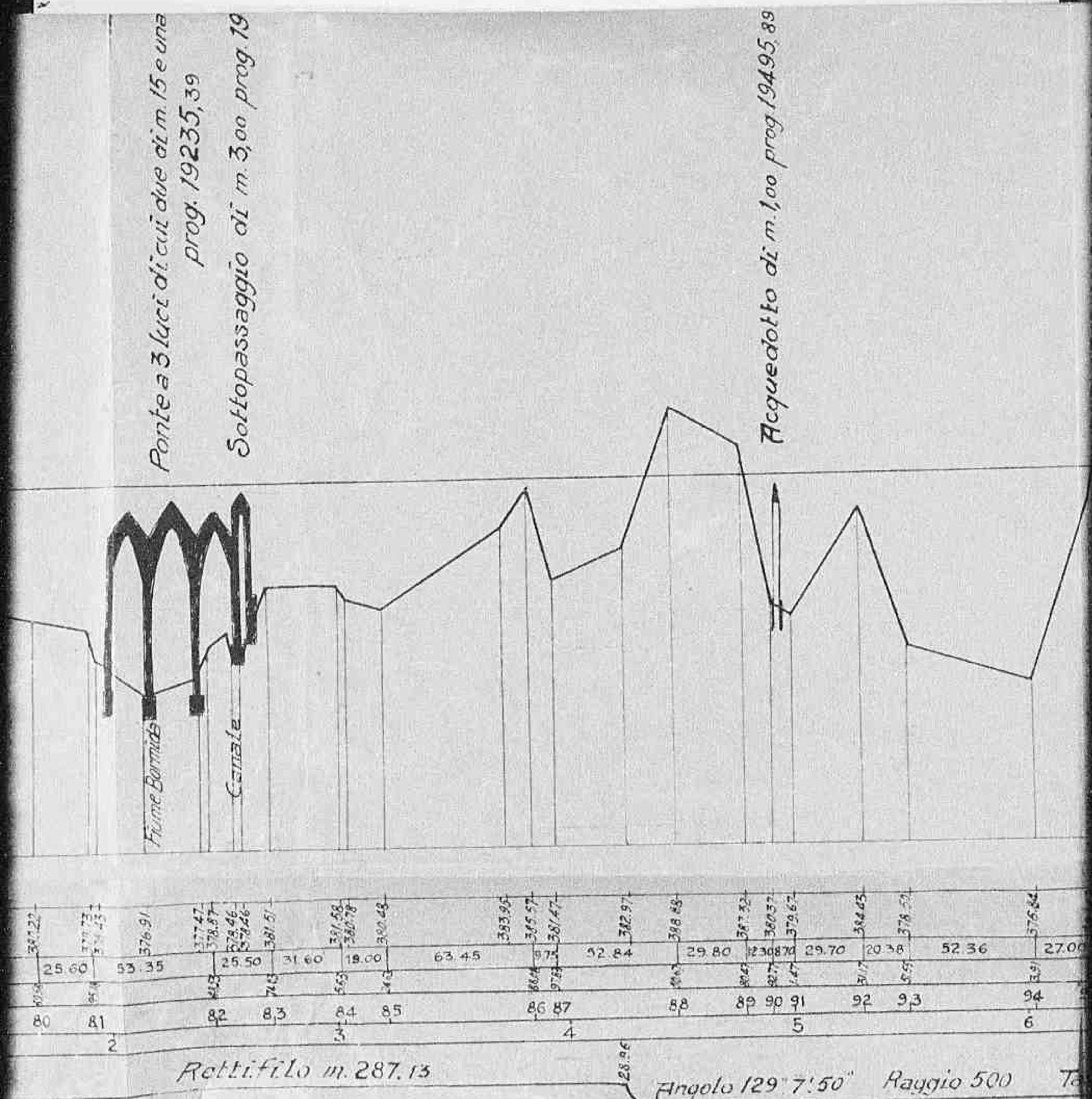
0972

Declassified E.O. 12356 Section 3.3/NND No. 785021

Ponte a 3 luci di cui due di m. 15 e una
prog. 19235,39

Sottopassaggio di m. 3,00 prog 19

Acquedotto di m. 100 prog 19495,89



Rettili filo m. 287.13

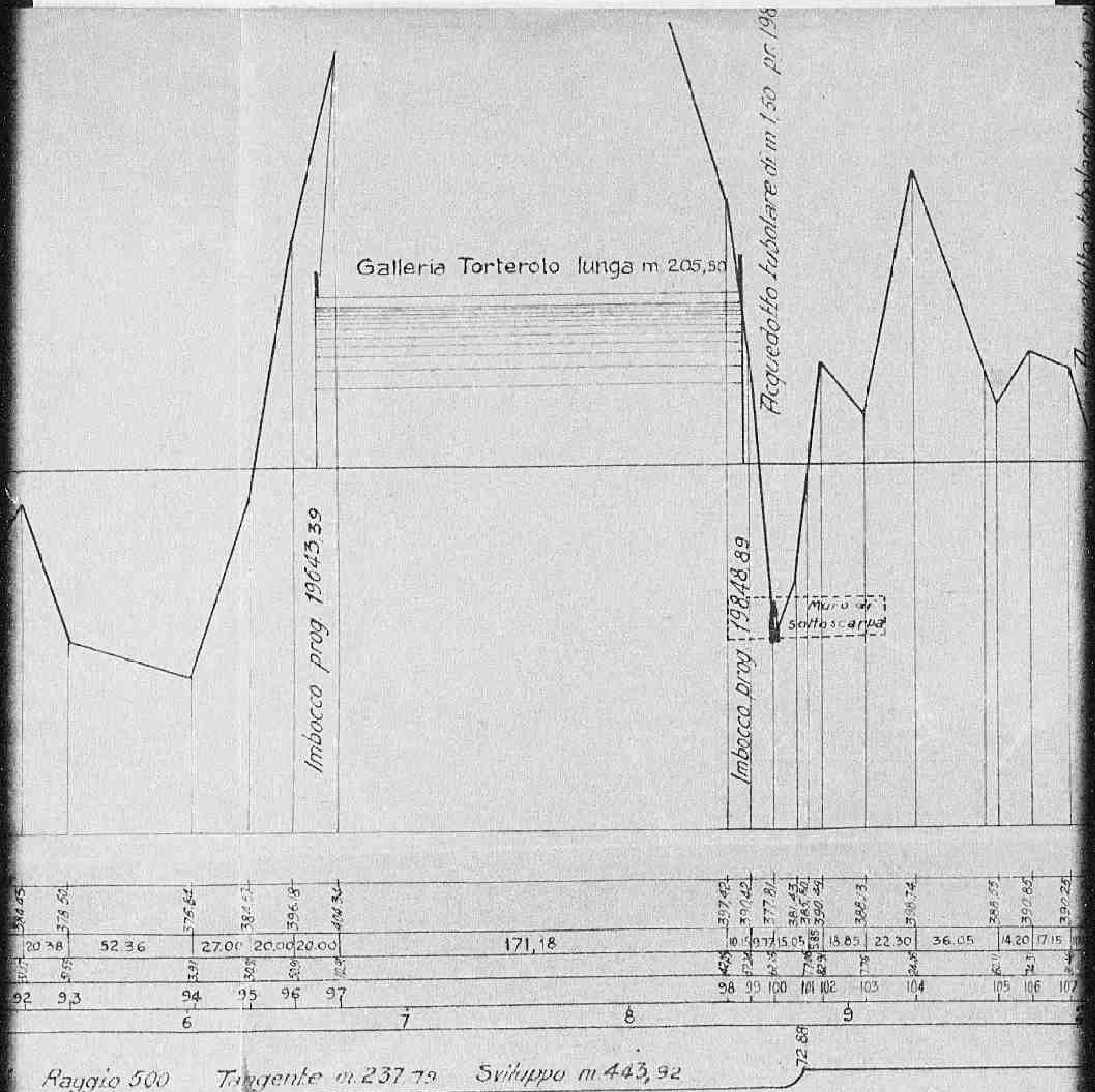
28.96

Angolo 129° 7' 50" Raggio 500

Ta

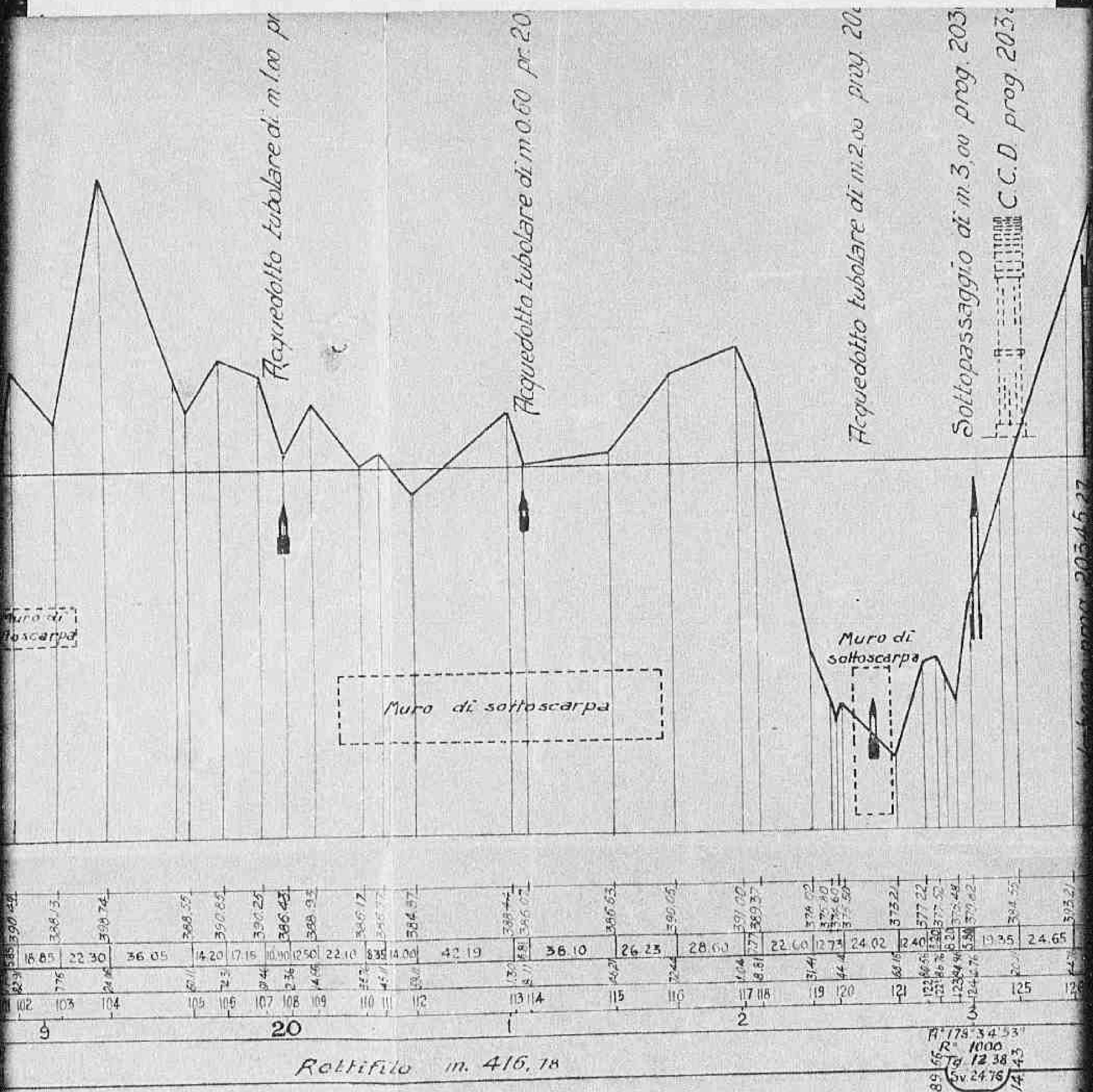
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Declassified E.O. 12356 Section 3.3/NND No. 785021

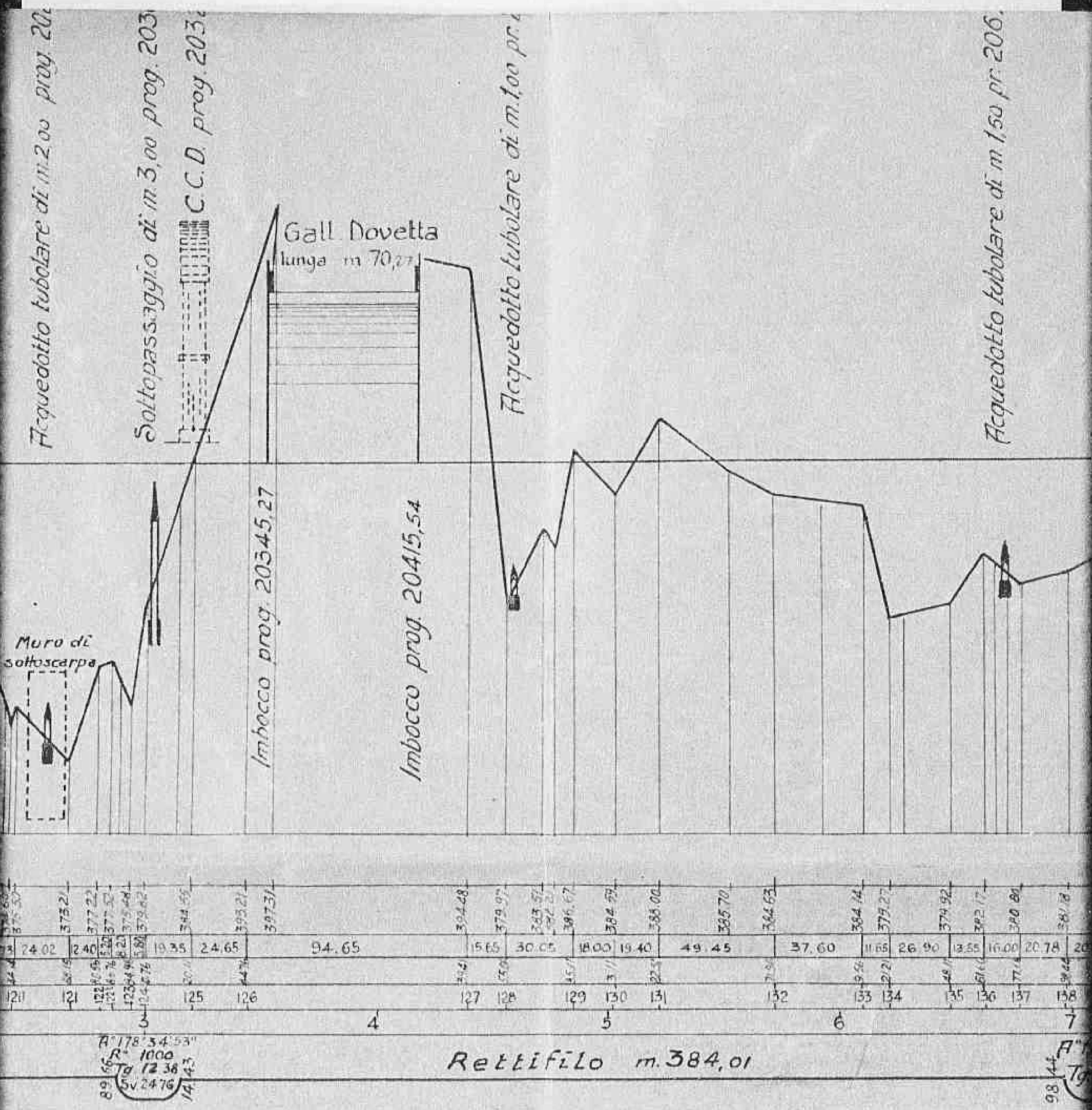


0974

Declassified E.O. 12356 Section 3.3/NND No. 785021



0975



0977

Declassified E.O. 12356 Section 3.3/NND No. 785021

Canone Lunga m. 588,50

Strada Nazionale
Imbocco prog 2/447,49

47 m. 41

397,75

393,78

395,12

394,20 374,89

5,00

17,00

58,00

1,55

7,55

34,55

149

150

151

4

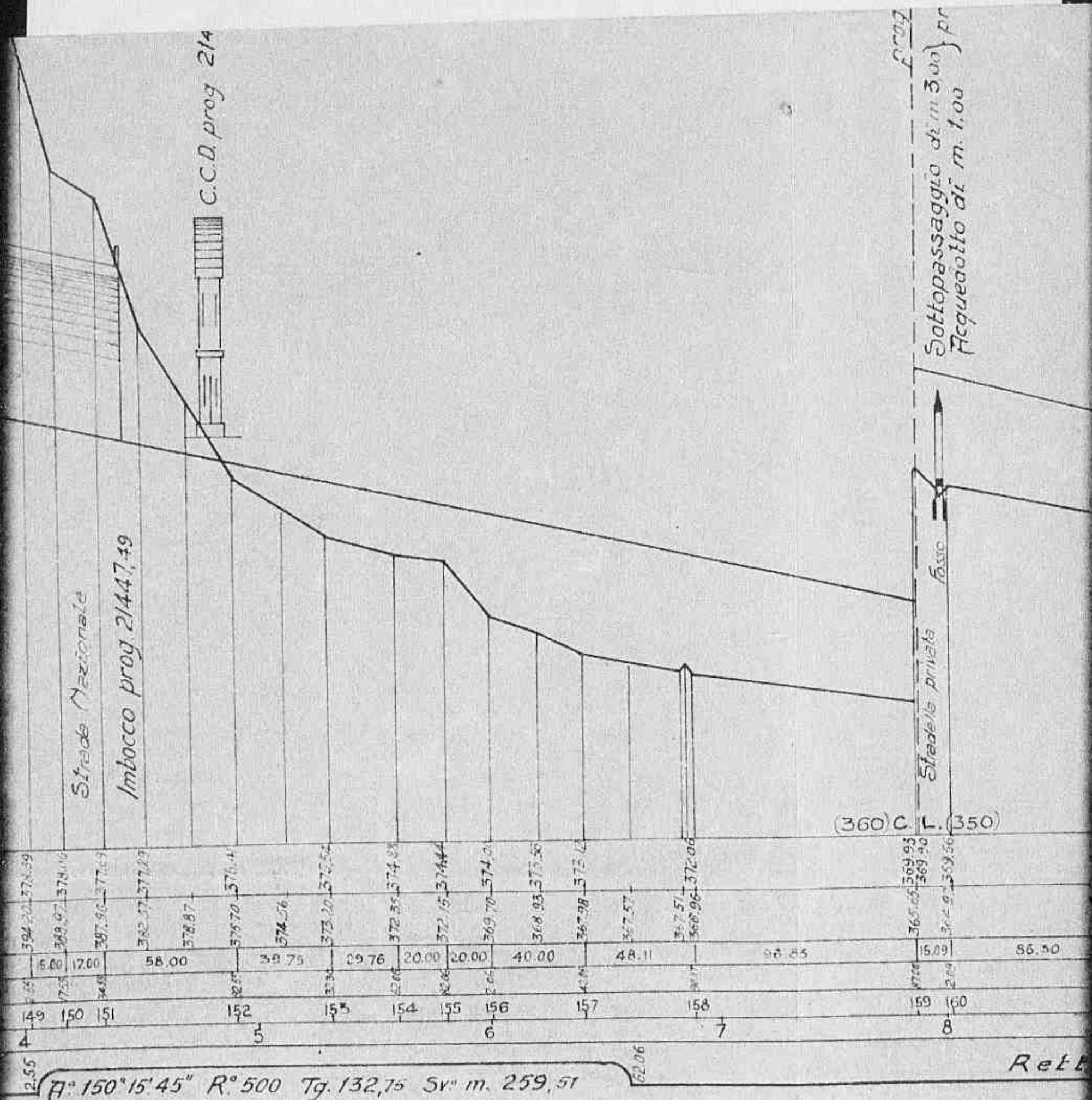
2,55

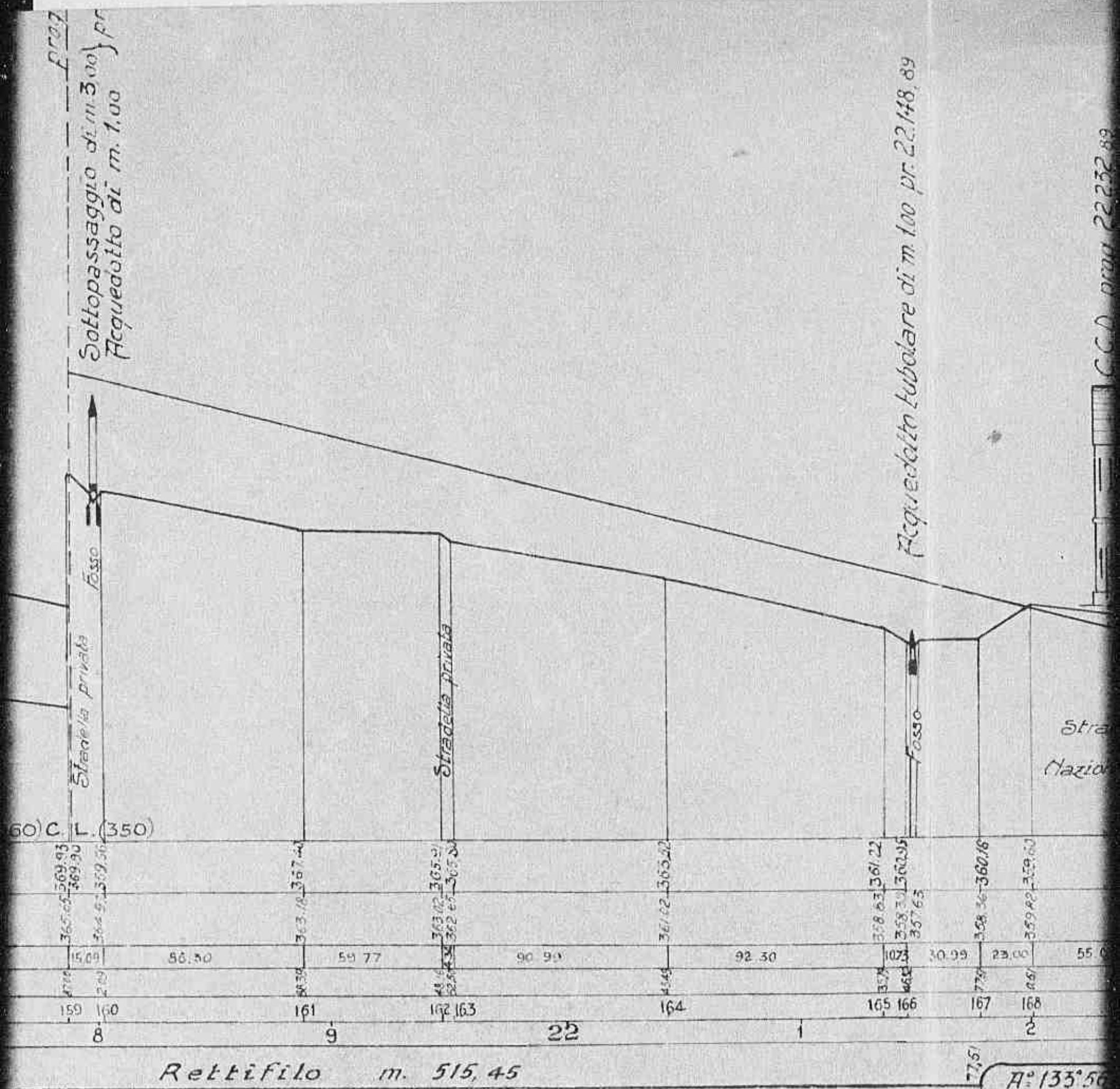
Rettifilo m. 304,55

A° 150° 15' 45"

0978

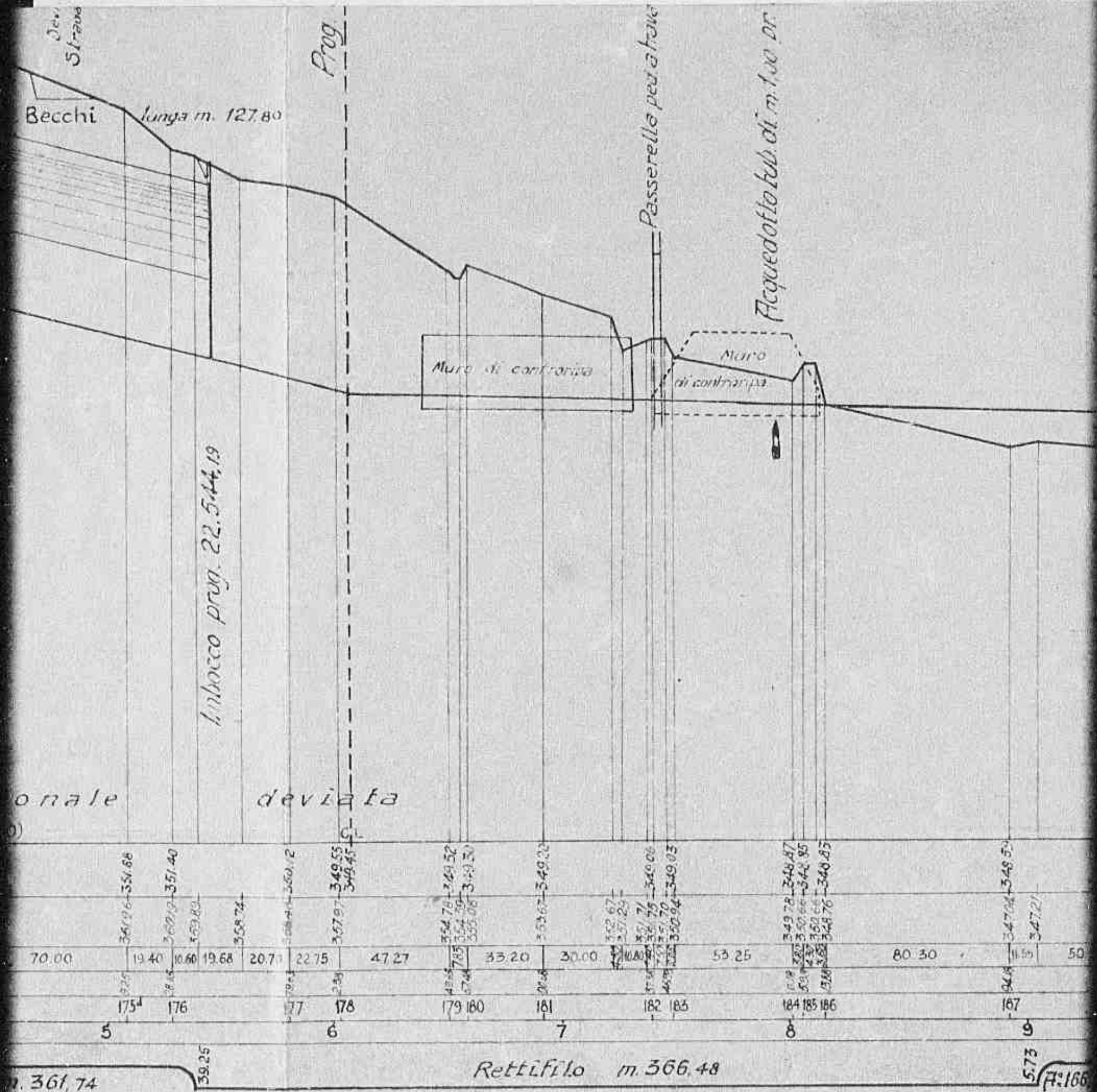
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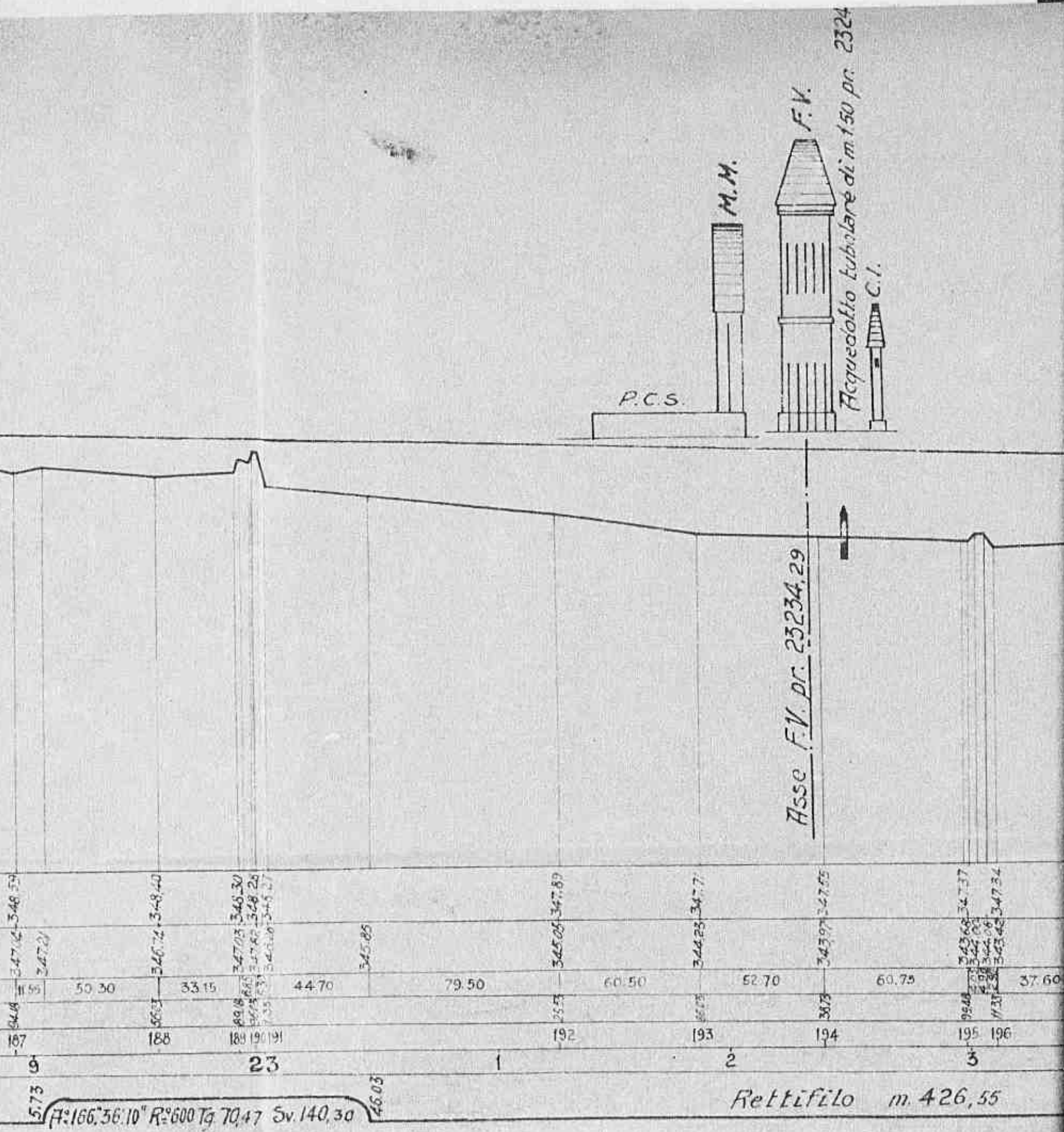
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Declassified E.O. 12356 Section 3.3/NND No. 785021



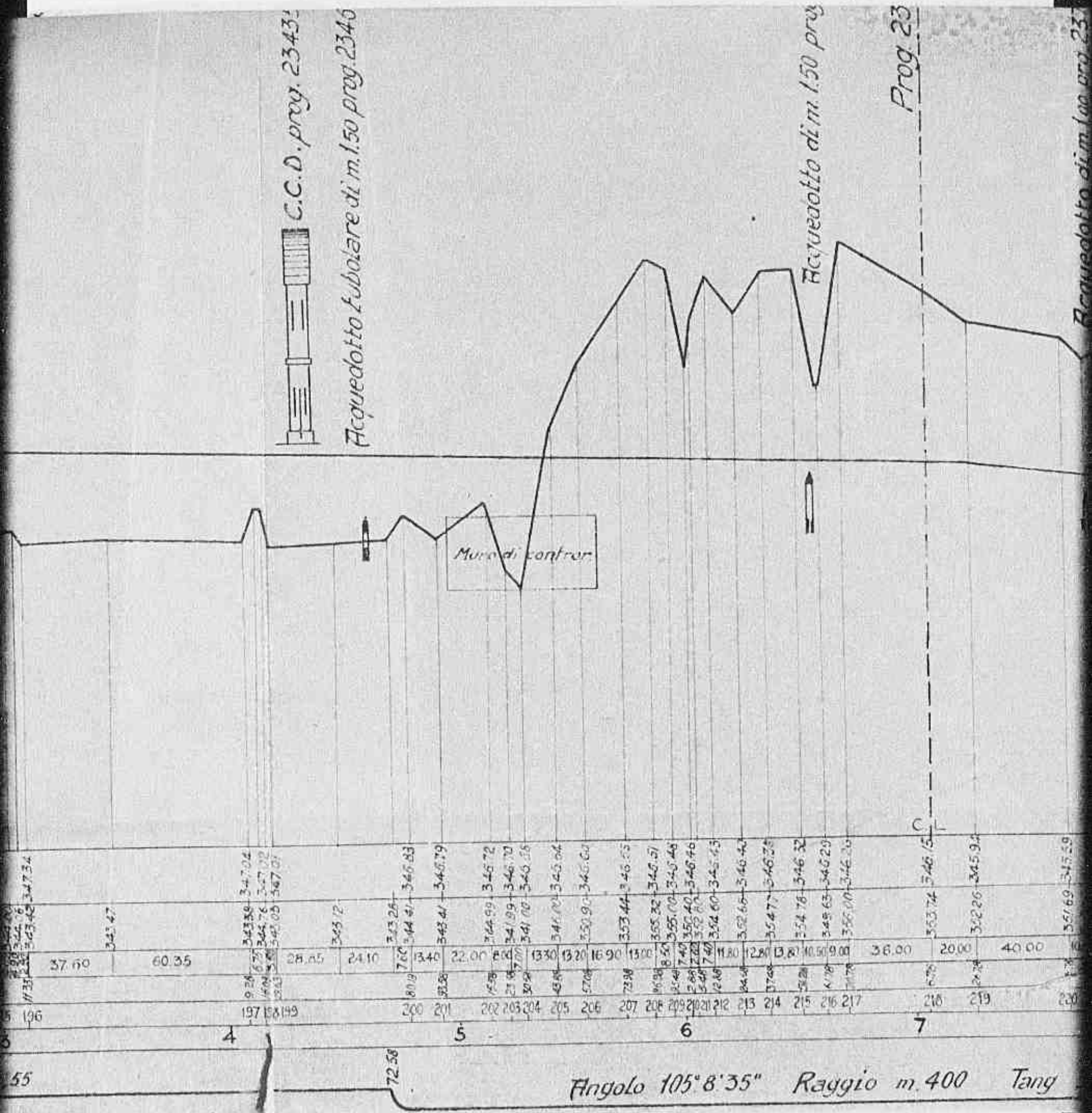
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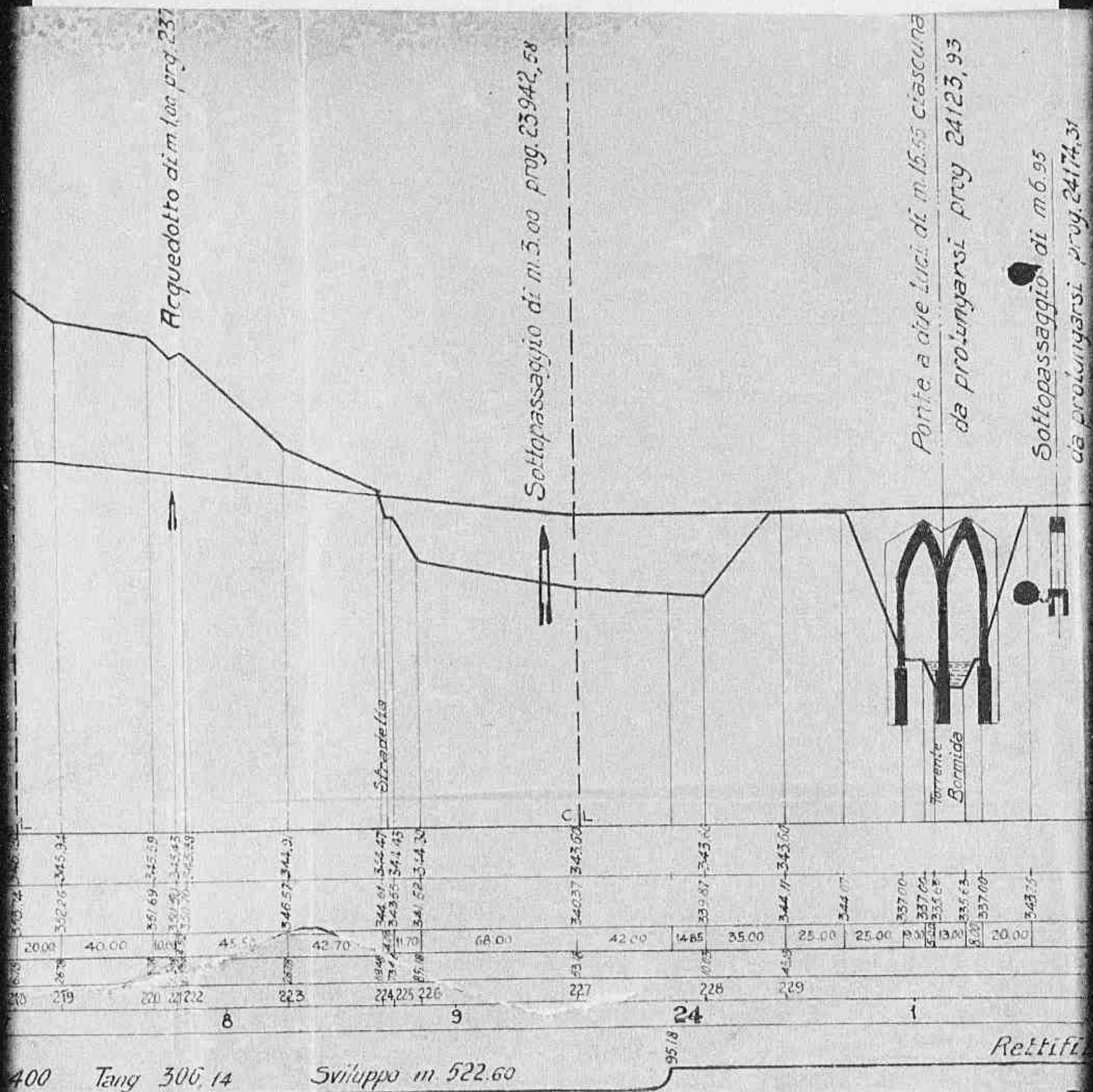
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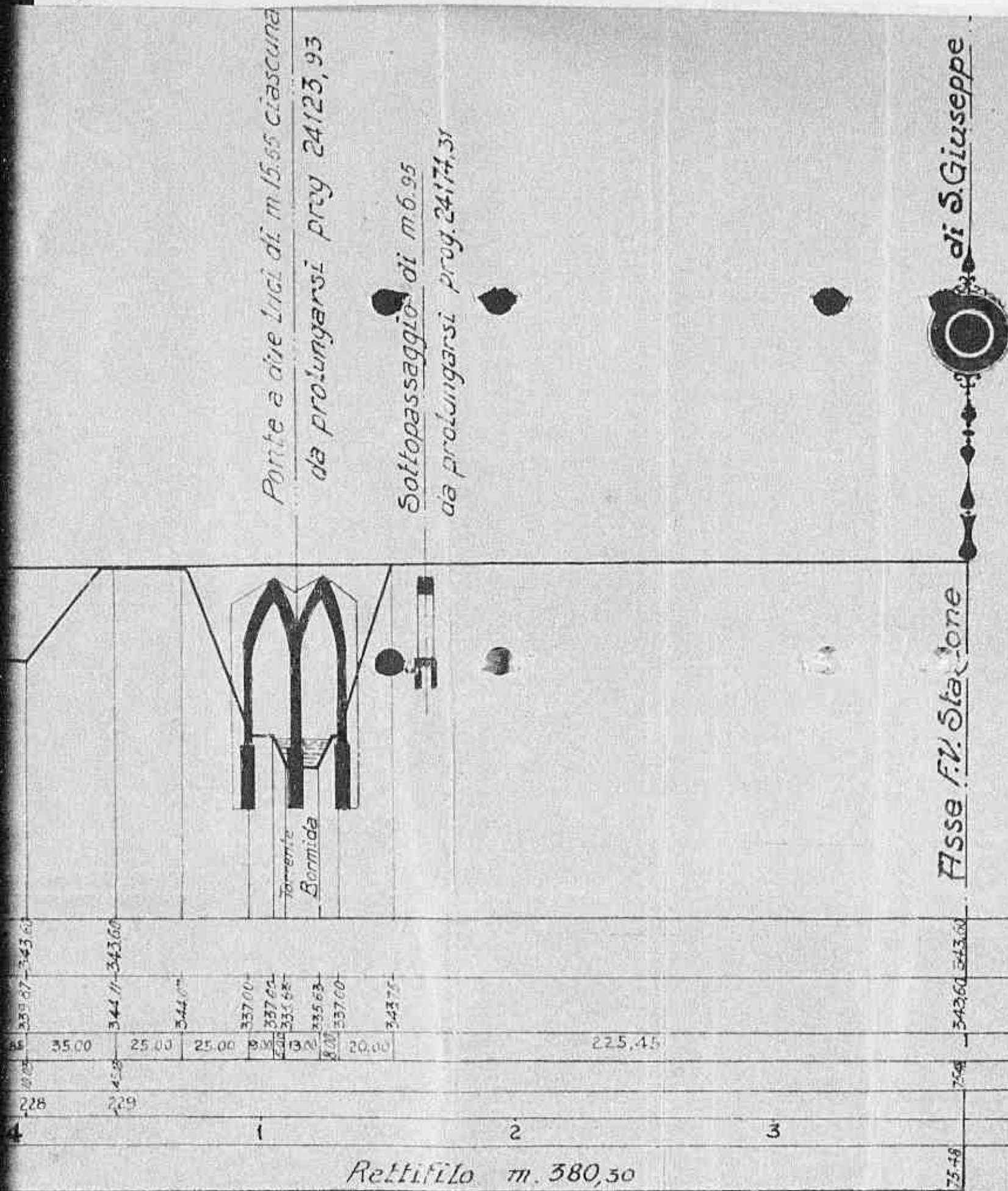
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Declassified E.O. 12356 Section 3.3/NND No. 785021



0985

Declassified E.O. 12356 Section 3.3/NND No. 785021



0986