



ITACA (ITalian ACcelerometric Archive)

RAN

Rete Accelerometrica Nazionale

(National Accelerometric Network)

Recording Station

Bojano

Station Code

BOI

	Day	Month	Year
First compilation	15	march	2007
Last update	28	october	2008

General Information

Station
photograph



Code

BOI

Owner

DPC (Italian Civil Protection Department)

Type of network

Permanent

Activation date

22 May 1975

Removal date

-

Instrument type

Analogue

Instrument
model

-

Location

ENEL cabin "Pandone"

Housing

Basement structure

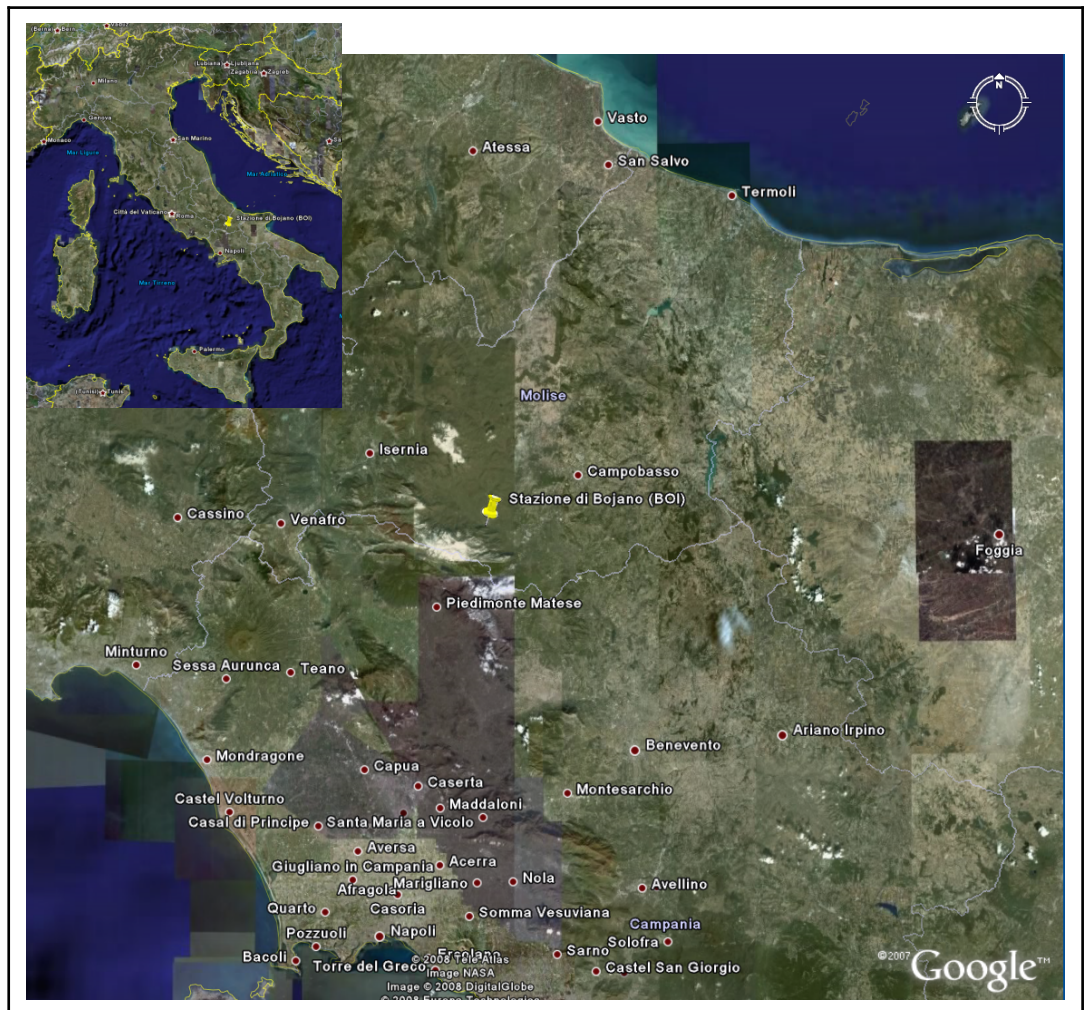
Notes

-

Geographical Information (1)

Location

Region	Molise
Province	Campobasso
City	Bojano
Place / Address	City center / Via Salita Pandone, 11
ISTAT Code	14070003
Notes	-



Location map
(Italy and Region)

Geographical Information (2)

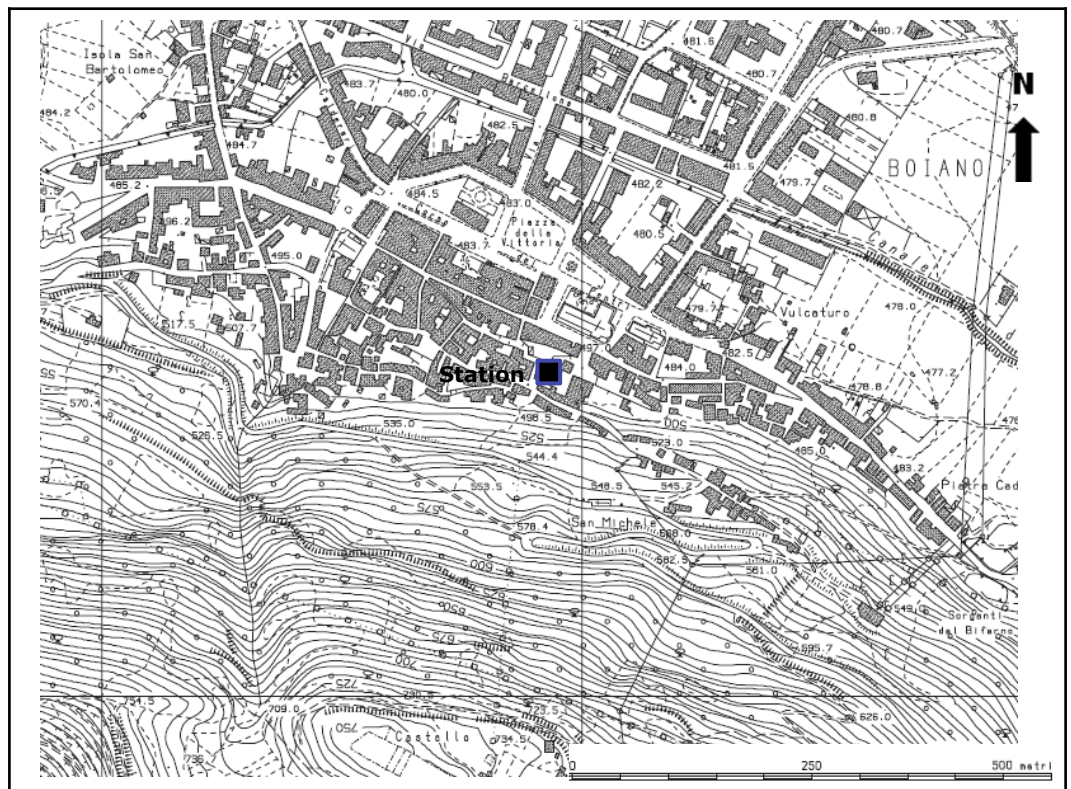
Coordinates

	Latitude	Longitude
Geographic (WGS84)	41.480833	14.472878
UTM (WGS84 zone 33)	-	-
Gauss-Boaga	-	-
Elevation (m a.s.l.)	495	

Cartography

	Scale	Code
Topographic map (I.G.M.I.)	1:25.000	162 III NO
	Scale	Element number
Regional technical map (C.T.R.)	1:5.000	405101

C.T.R. map



Geomorphology

Site morphology

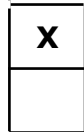
Plain	Valley (centre)	Valley (edge)	Alluvial fan
Saddle	Slope	Edge of scarp	Ridge

Landslides



Not present

Present

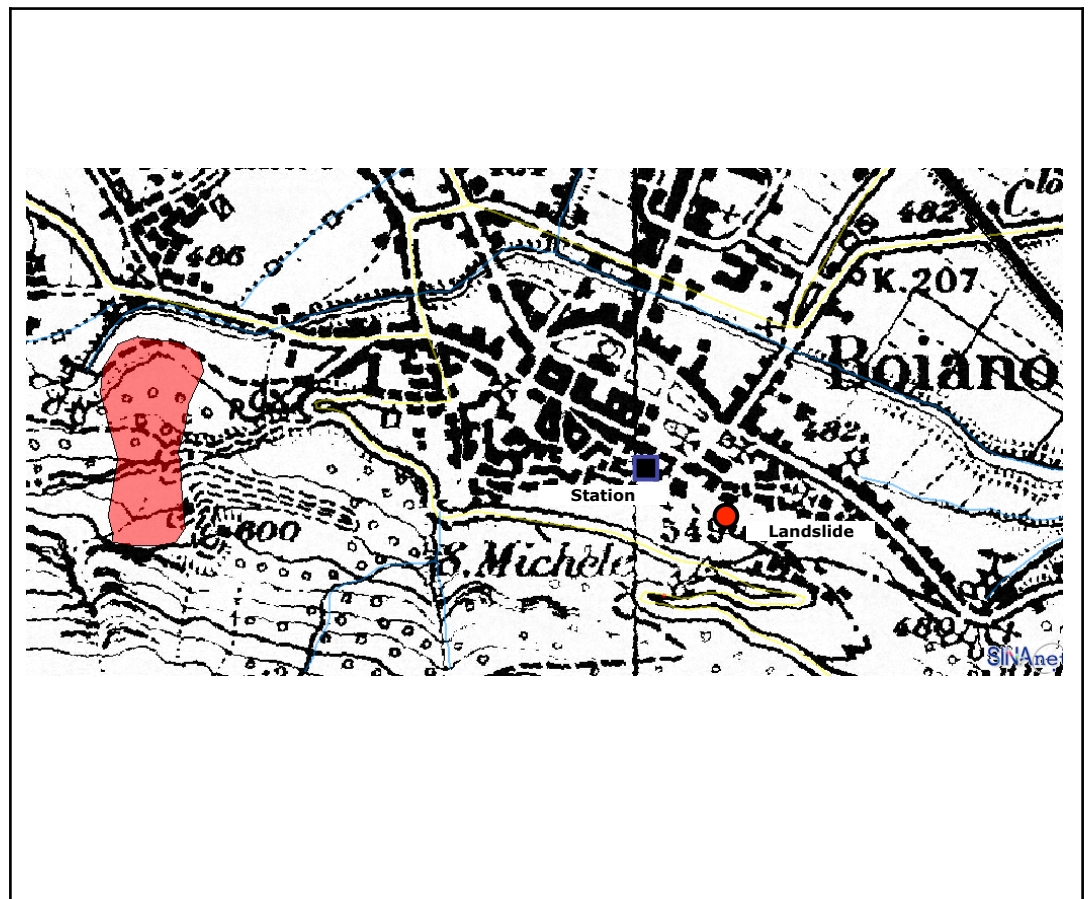


Active or quiescent

Inactive or stabilized

Distance (m)

112



I.F.F.I. map

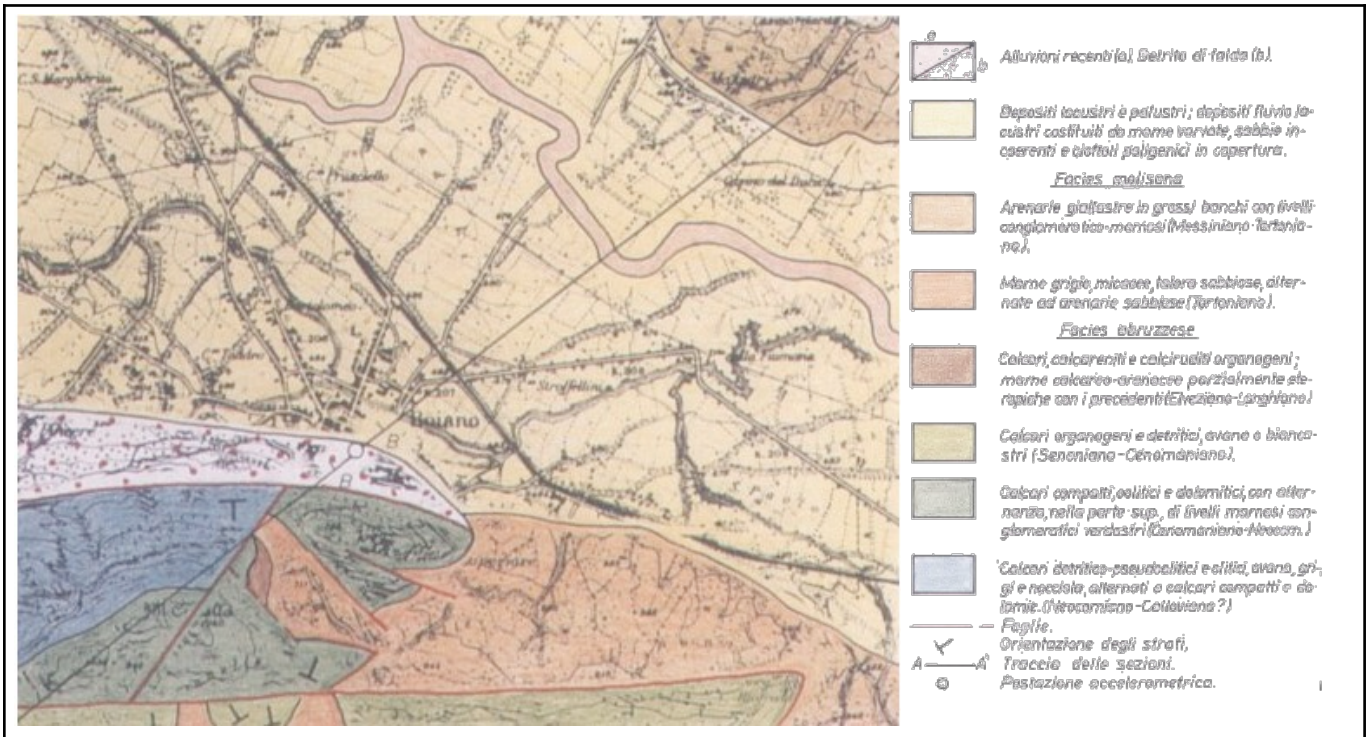
Notes

ID landslide (from database IFFI Project): 0702183200
 Type of movement: Translational/Rotational (estimated by historical information).
 The landslide is considered quiescent.

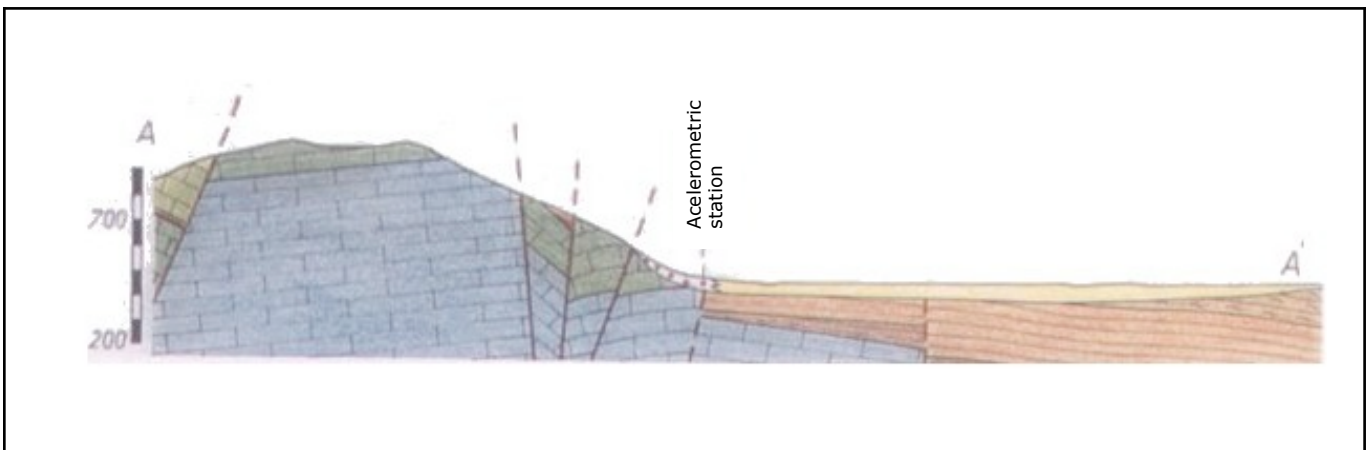
Geology

Cartography

Geological map	Scale	Sheet number	Sheet name
	1:100.000	162	Campobasso



Geological cross section



Fault

present

(if fault-station distance < 300 m)

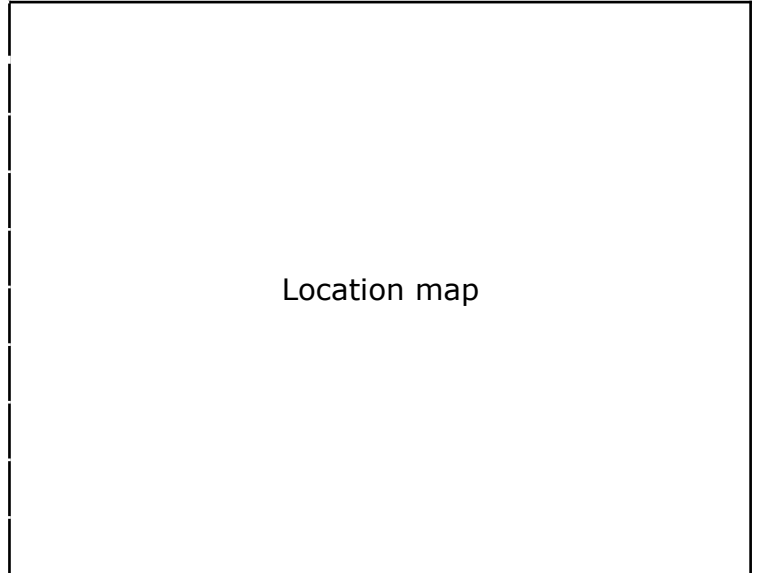
Notes

Supposed fault beneath the site station

Geotechnical & Geophysical Information (1)

Test summary and location

<input type="checkbox"/>	⊗	Borehole
<input type="checkbox"/>	P	Piezometer
<input type="checkbox"/>	▲	Penetration tests (SPT, CPT)
<input type="checkbox"/>	⊕	Down-Hole, Cross-Hole (DH, CH)
<input type="checkbox"/>	∇-∇	Seismic refraction/reflection
<input type="checkbox"/>	○	SASW, MASW
<input type="checkbox"/>	⊘	Spectral Ratio (H/V)
<input type="checkbox"/>	◇-◇	Geoelectric
<input type="checkbox"/>		Lab tests



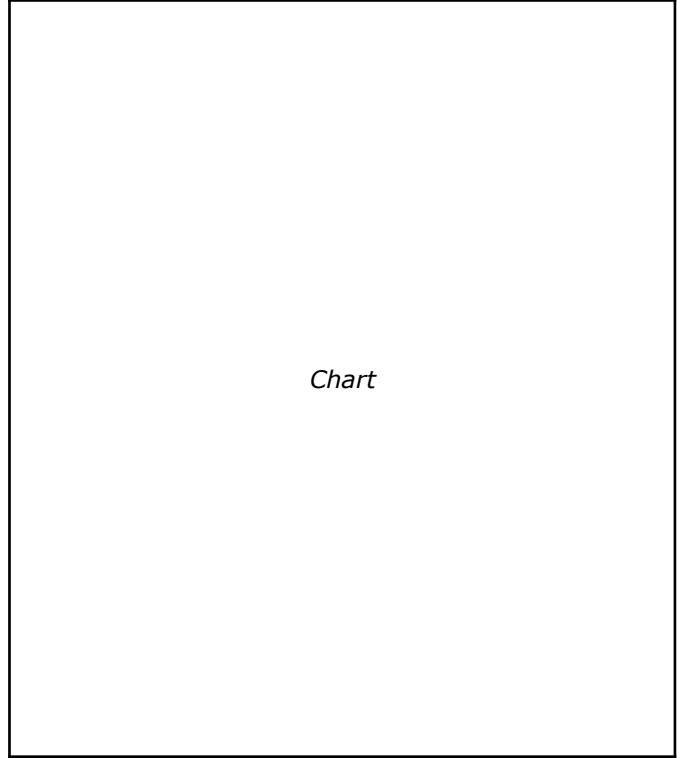
Stratigraphic profile

Depth (m), #Layer, Piezometric level, Samples, Layer description

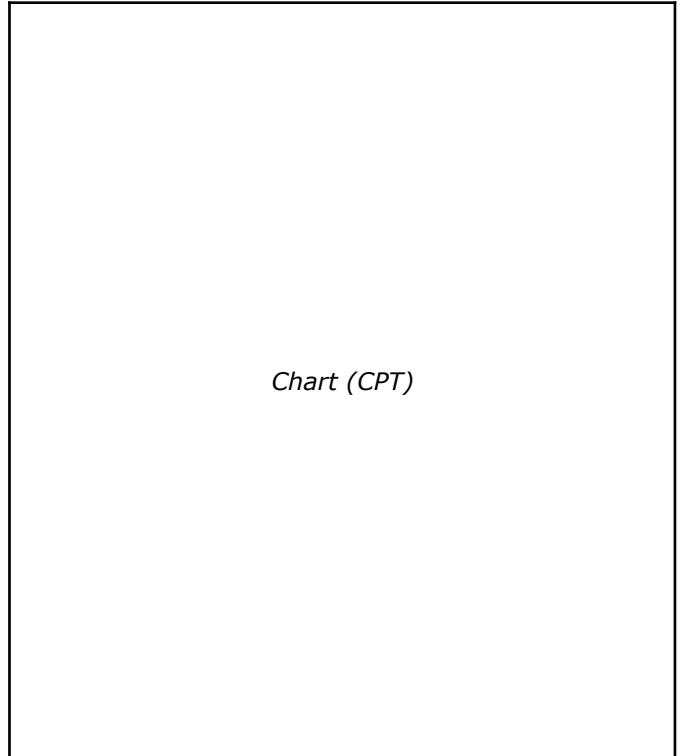
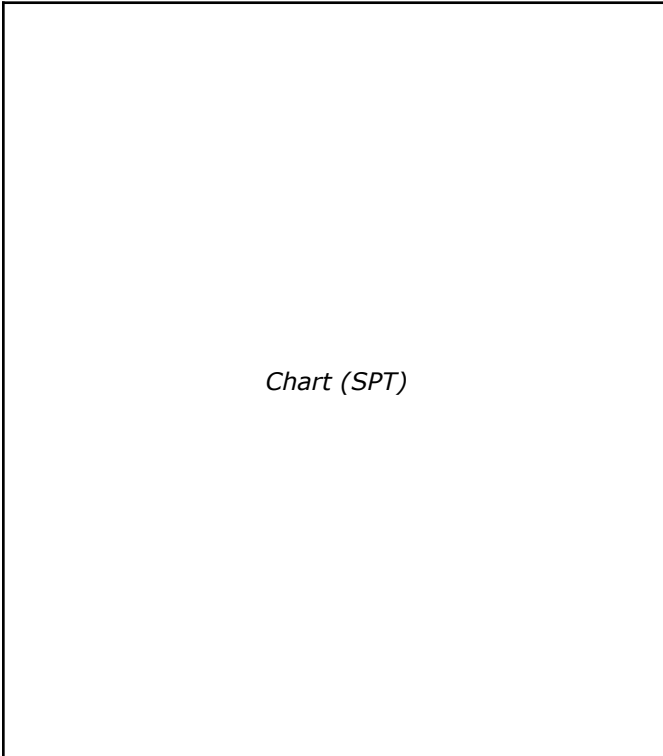
Geotechnical & Geophysical Information (2)

In situ Tests: Piezometric measurements

Table



In situ Tests: Penetration Test (SPT, CPT)



Geotechnical & Geophysical Information (3)

In situ Tests: Down-Hole (DH), Cross-Hole (CH), SASW, MASW

Table 1

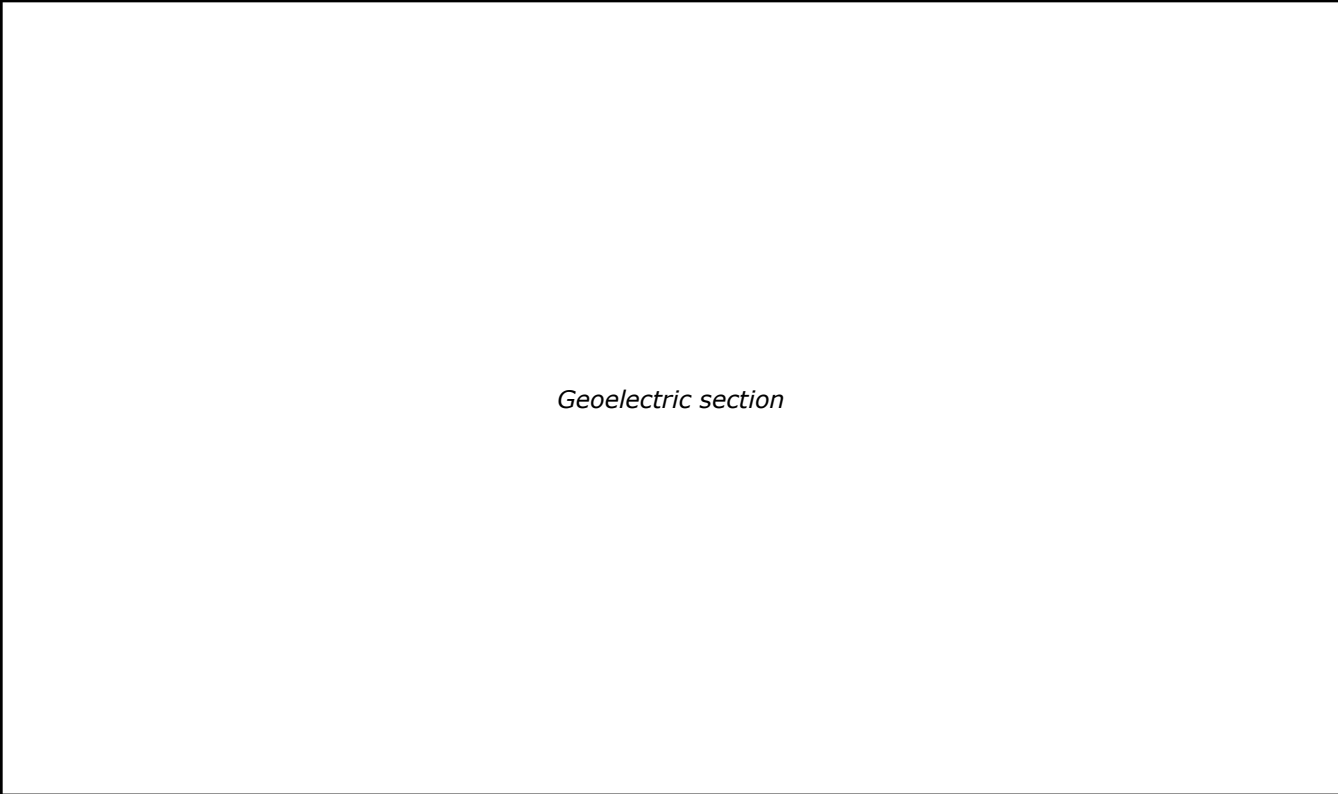
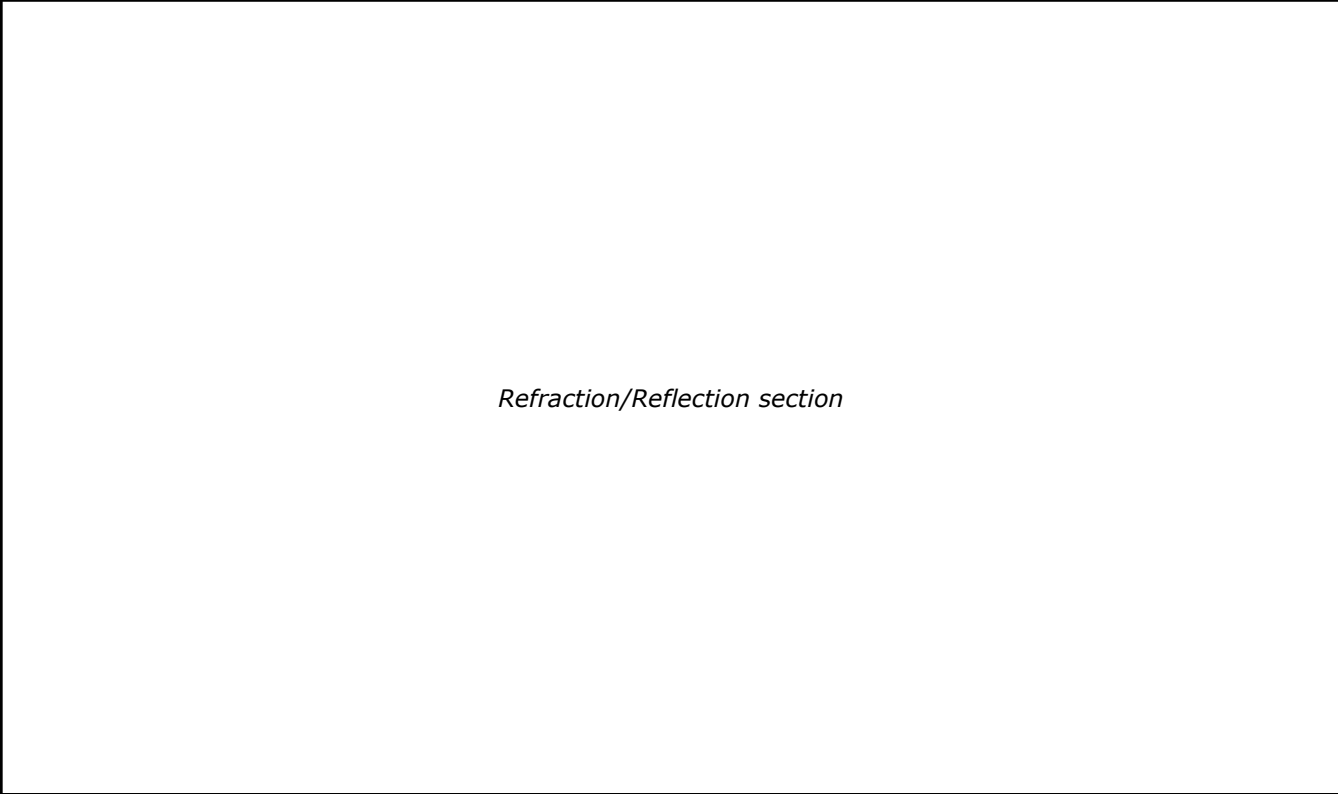
*Chart 1
Depth (m) - Vs*

Table 2

*Chart 2
Depth (m) - Vs*

Geotechnical & Geophysical Information (4)

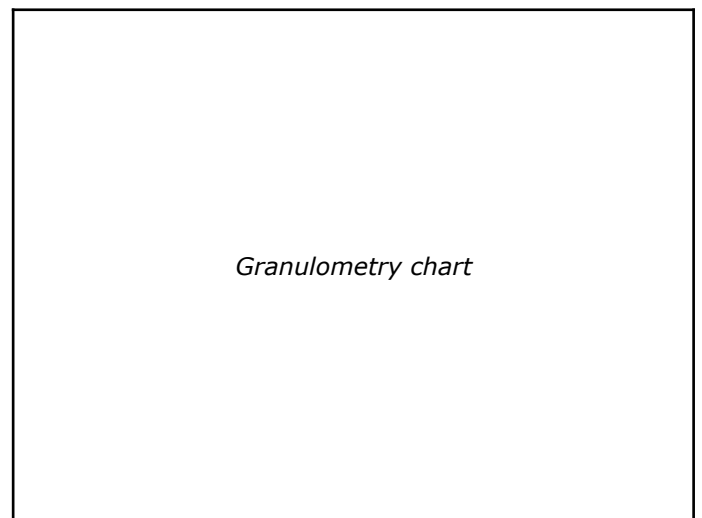
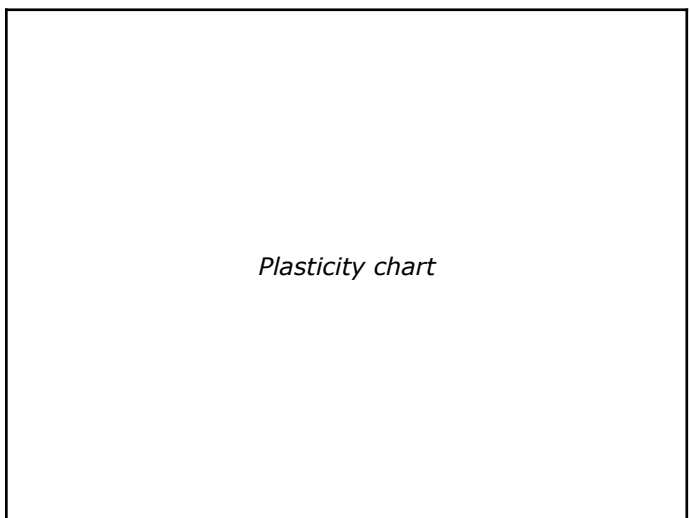
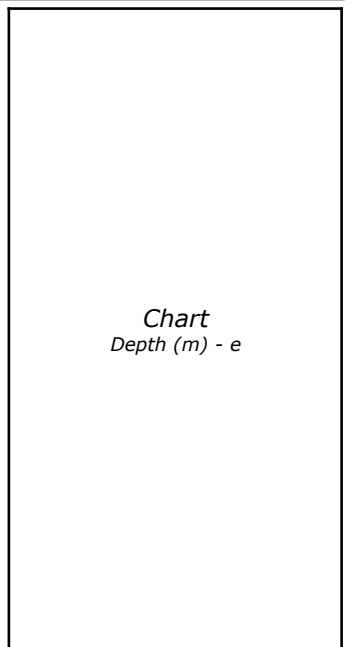
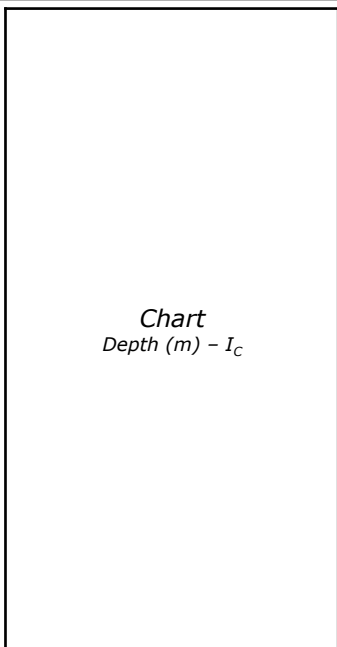
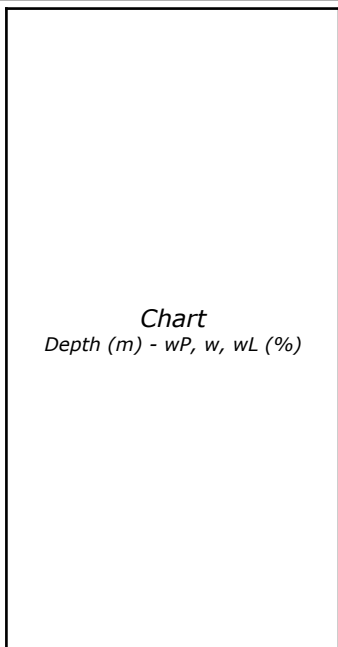
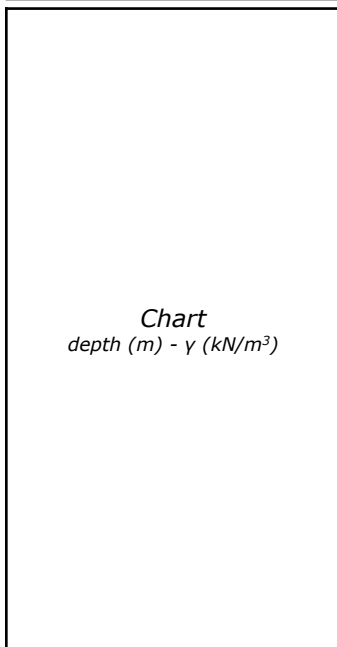
In situ Tests: Refraction/Reflection section – Geoelectric section



Geotechnical & Geophysical Information (5)

Laboratory Tests: physical properties

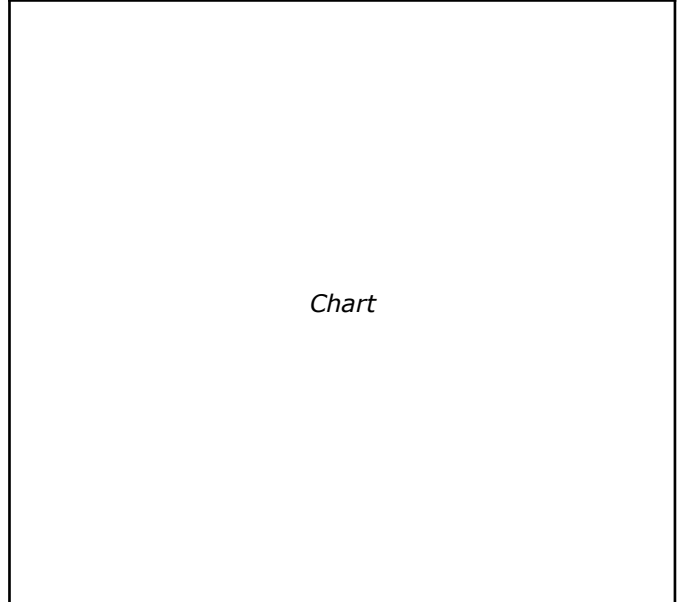
Borehole	Sample	Depth (m)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	w (%)	γ_s (kN/m ³)	γ (kN/m ³)	w_L (%)	I_p (%)	I_c	A	e



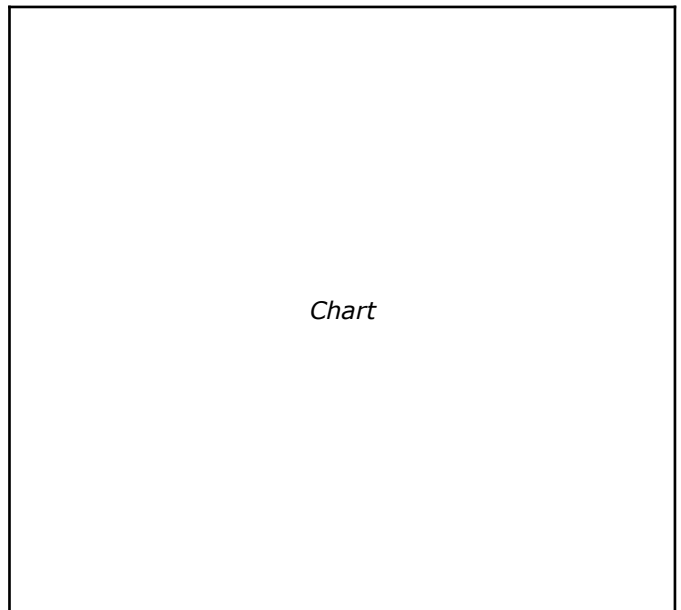
Geotechnical & Geophysical Information (6)

Laboratory Tests: Direct shear/Triaxial tests

Table



Table



Legend

DS = Direct shear

CIU = Triaxial-Consolidated Undrained

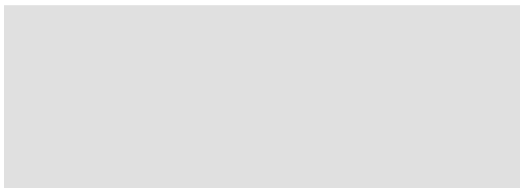
CID = Triaxial-Consolidated Drained

UU = Triaxial-Unconsolidated Undrained

Average values of mechanical parameters

Litotype	c' (kPa)	ϕ' (°)	C_{c1} (kPa)

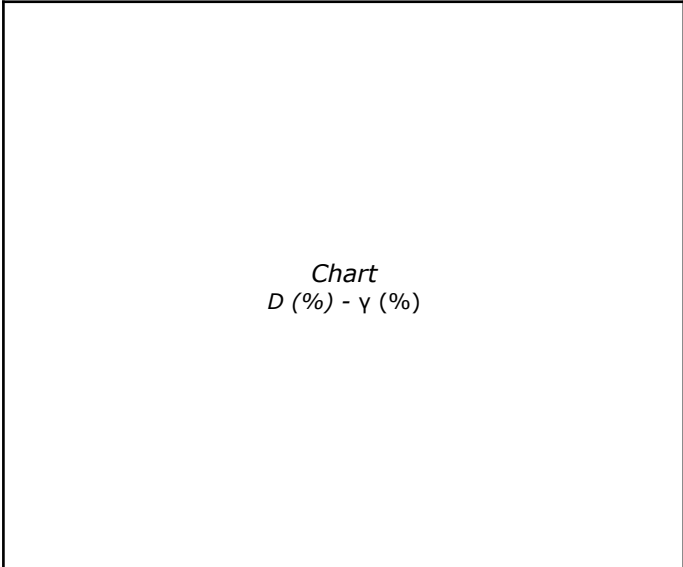
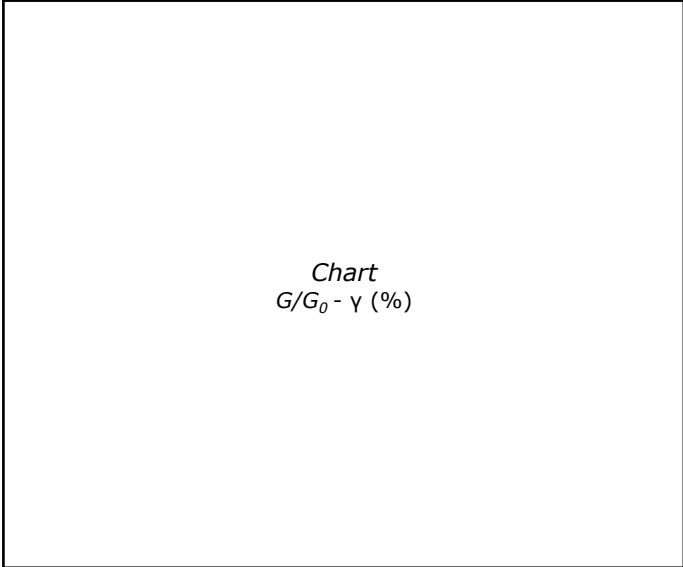
Note



Geotechnical & Geophysical Information (7)

Laboratory Tests: Resonant Column (RC)

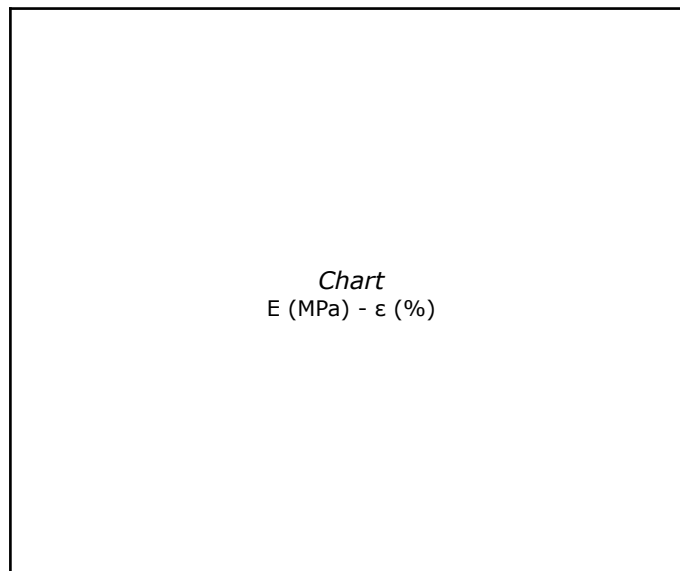
Borehole / Sample / Depth (m)													
	Y (%)												
	G/G ₀												
	D (%)												
	Y (%)												
	G/G ₀												
	D (%)												
	Y (%)												
	G/G ₀												
	D (%)												



Geotechnical & Geophysical Information (8)

Laboratory Tests: Cyclic Triaxial (CTX)

Borehole / Sample	p'_c (MPa)												
		ϵ (%)											
		E (MPa)											
		ϵ (%)											
		E (MPa)											
		ϵ (%)											
		E (MPa)											



Microtremor H/V spectral ratio

Table

Chart

f_0 (mt) (Hz)

Date of measurements

Day

Month

Year

Earthquake H/V spectral ratio

Table

Chart

f_0 (eq) (Hz)

List of selected records from ITACA

Year-Month-Day_Hour:Minute:Second

Year-Month-Day_Hour:Minute:Second

Site classification (EC8 – NTC2008)

Lithostratigraphic classification

Estimated

Method ¹	Soil class ²	Notes

Legend	1	GEO Geological data
		EC Empirical correlation
		HV H/V spectral ratio

Based on in-situ measurements

Method ³	V_{s30} (m/s)	Soil class ³

Legend	2	A	Rock or other rock-like geological formation, including at most 5 m of weaker material at the surface ($V_{s30} > 800$ m/s).	Legend	3	CH	Cross-Hole
		B	Deposits of very dense sand, gravel, or very stiff clay, at least several tens of m in thickness, characterised by a gradual increase of mechanical properties with depth ($V_{s30} = 360-800$ m/s).			DH	Down-Hole
		C	Deep deposits of dense or mediumdense sand, gravel or stiff clay with thickness from several tens to many hundreds of m ($V_{s30} = 180-360$ m/s).			MW	MASW
		D	Deposits of loose-to-medium cohesionless soil (with or without some soft cohesive layers), or of predominantly soft-to-firm coesive soil ($V_{s30} < 180$ m/s).			SH	SH-Refraction
		E	A soil profile consisting of a surface alluvium layer with V_s values of type C or D and thickness varying between about 5 m and 20 m, underlain by stiffer material with $V_s > 800$ m/s.			SW	SASW

Topographic classification

Topographic category ⁴
T1

Legend	4	T1	Flat surface, isolated slopes and cliffs with average slope angle $i \leq 15^\circ$.
		T2	Slopes with average slope angle $i > 15^\circ$.
		T3	Ridges with crest width significantly less than the base width and average slope angle $15^\circ \leq i \leq 30^\circ$.
		T4	Ridges with crest width significantly less than the base width and average slope angle $i > 30^\circ$.

Synthesis of information

Information relevant to site classification

Notes

V_{s30} (m/s)

-

Average N_{SPT} to 30m

-

Average c_u to 30m (kPa)

-

Site class (EC8 – NTC2008)

-

Topographic category (EC8 – NTC2008)

T1

Geological and geomorphological information

Lithology

Talus slope

Morphology

slope

Other information relevant to seismic site response

Depth to bedrock (m)

-

Average V_s to bedrock (m/s)

-

f_0 from H/V microtremors (Hz)

-

f_0 from H/V earthquakes (Hz)

-

Observed anomalies of station response

-

References

Geomorphology & Geology

Carta geologica d'Italia in scala 1:100.000 – Foglio n. 162 "Campobasso". Servizio Geologico Nazionale
Sito web del Progetto IFFI: http://www.mais.sinanet.apat.it/cartanetiffi/
Monografia di stazione accelerometrica (ENEL)

Geotechnical & Geophysical Information

Enclosures

List

N.	Description