






# LINEA 6 – METROPOLITANA DI NAPOLI

				(PRIMA EMISSIONE) – DICEMBRE 2013 – GENNAIO 2014	DIC 13- GEN 14																																										
Albinati	De Risi	Manferlotti	Di Luccio																																												
REDATTO	CONTROLLATO	APPROVATO	AUTORIZZATO	DESCRIZIONE REVISIONE DOCUMENTO	DATA	REV																																									
 <p><b>Ansaldo STS</b> A Finmeccanica Company CONCESSIONARIA</p>				 <p><b>COMUNE DI NAPOLI</b> CONCEDENTE</p>		<table border="1"> <tr> <td colspan="2">PROG</td> <td colspan="2">IMP</td> <td colspan="4">NUMERO</td> </tr> <tr> <td>L</td> <td>M</td> <td>6</td> <td>7</td> <td>F</td> <td>X</td> <td>2</td> <td>C</td> <td>I</td> <td>2</td> <td>8</td> </tr> <tr> <td colspan="4">CODICE PRODOTTO</td> <td colspan="2">AREA</td> <td colspan="2">TIPO</td> <td colspan="2">FASE</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td colspan="2">2</td> <td colspan="2">C</td> <td colspan="2">E</td> <td>S</td> </tr> </table>		PROG		IMP		NUMERO				L	M	6	7	F	X	2	C	I	2	8	CODICE PRODOTTO				AREA		TIPO		FASE						2		C		E		S
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A termini di legge è rigorosamente vietato riprodurre e comunicare a terzi il contenuto del presente documento	<b>TITOLO DOCUMENTO:</b> LINEA 6 METROPOLITANA DI NAPOLI PROGETTO ESECUTIVO <b>OPERE CIVILI – MONITORAGGIO GEOTECNICO GEOREFERENZIATO                  REPORT DELLE MISURE (INTERNO) – STAZIONE CHIAIA</b>																																														
	<b>EMITTENTE</b>  METROPOLITANA DI NAPOLI S.p.A. RESPONSABILE PROGETTAZIONE OPERE CIVILI				<b>A.T.I. LM6</b>			<b>CODICE ENTE</b> 																																							
	 Monitoraggio delle gallerie e prove di laboratorio per la qualifica dei materiali e loro controllo Monitoraggio opere civili e monitoraggio ambientale				<b>FORMATO</b> A4		<b>SCALA</b> /		<b>FOGLIO</b> 1 DI 138																																						

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## 1. PREMESSA

Nell'ambito della realizzazione della nuova Metropolitana di Napoli (**Linea 6, tratta Mergellina - Municipio**) è prevista una rete di monitoraggio e controllo finalizzata alla periodica registrazione delle grandezze fisiche di maggiore interesse e agli effetti legati alle attività di cantiere.

In generale, per le stazioni il sistema di monitoraggio prevede i seguenti strumenti:

- Capisaldi di livellazione, posti sul terreno e sui marciapiedi degli edifici adiacenti il pozzo di stazione;
- Staffe livellometriche, poste sugli edifici adiacenti il pozzo di stazione;
- Piezometri Casagrande o a tubo aperto, realizzati in prossimità delle paratie del pozzo di stazione;
- Piezometri elettrici, realizzati all'interno del pozzo di stazione;
- Inclinometri ed estenso-inclinometri, realizzati in prossimità delle paratie del pozzo di stazione;
- Inclinometri, realizzati nelle paratie perimetrali del pozzo di stazione;
- Mire ottiche, poste sulle paratie all'interno del pozzo di stazione
- Celle di carico, disposte sui puntoni metallici di contrasto;
- Barrette estensimetriche, disposte sui puntoni metallici di contrasto e/o all'interno delle paratie perimetrali del pozzo di stazione.

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L'installazione di tale strumentazione impiegata lungo le aree di cantiere (stazione Chiaia, S. Pasquale, Arco Mirelli e Municipio) risulta completa all'interno ed all'esterno dei pozzi di stazione; diversamente, quella relativa alla Galleria di linea è ad oggi in fase d'installazione.

Di seguito saranno restituiti i grafici frutto delle letture svolte nel cantiere, relativi alla sola strumentazione interna:

- Inclinatori, Estensimetri, Piezometri, acquisizione elaborazione restituzione dati competenza Tre Esse.
- Staffe di livellazione, Capisaldi acquisizione competenza ATI, elaborazione restituzione dati competenza Tre Esse.


## **2. DATI GENERALI**

Commessa: Linea 6 – Metropolitana Di Napoli

Impresa esecutrice: Chiaia S.c.a.r.l.

Monitoraggio: Tre Esse Engineering S.r.l.



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### 3. STRUMENTAZIONE INTERNA INSTALLATA

La nomenclatura della strumentazione di monitoraggio ha subito una variazione rispetto all'installazione, necessaria per rendere uniforme ed univoco il nome di ogni strumento installato lungo tutta la tratta.

**Esempio:**                    **CH\_P50\_S1;**

la prima serie di simboli identifica la stazione di monitoraggio (in questo caso San Pasquale),

la seconda è identificativa del numero di pannello monitorato,

la terza corrisponde al tipo di barretta estensimetrica installata (S sta per Strain gauge – corda vibrante) e al numero progressivo della barretta (1,2,...).

#### **Elenco strumentazione installata e funzionante.**

- n°4 Inclinometri

CH\_IN\_P13  
CH\_IN\_P50  
CH\_IN\_P67  
CH\_IN\_P81

- n°24 Barrette Estensimetriche a corda vibrante per metallo

CH\_P13\_S1-6  
CH\_P50\_S1-6  
CH\_P67\_S1-6  
CH\_PU1\_S1-4  
CH\_PU2\_S5-8

- n°11 Celle di Carico

Primo Ordine di Tiranti

CH\_CC1-4

Secondo Ordine di Tiranti

CH\_CC5-9

Puntoni

CH\_PU1\_CC

CH\_PU2\_CC

- n°64 Mire Ottiche

Primo Ordine

CH\_MO1-16

Secondo Ordine

CH\_MO17-32

Terzo Ordine


CH\_MO33-40

Quarto Ordine

CH\_MO36-44

Supplementari

CH\_MO45-64

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#### **4. PLANIMETRIA STRUMENTAZIONE MONITORAGGIO**

Nella figura successiva viene rappresentata la planimetria del cantiere e la disposizione degli strumenti previsti per il monitoraggio geotecnico installati internamente al pozzo stazione.

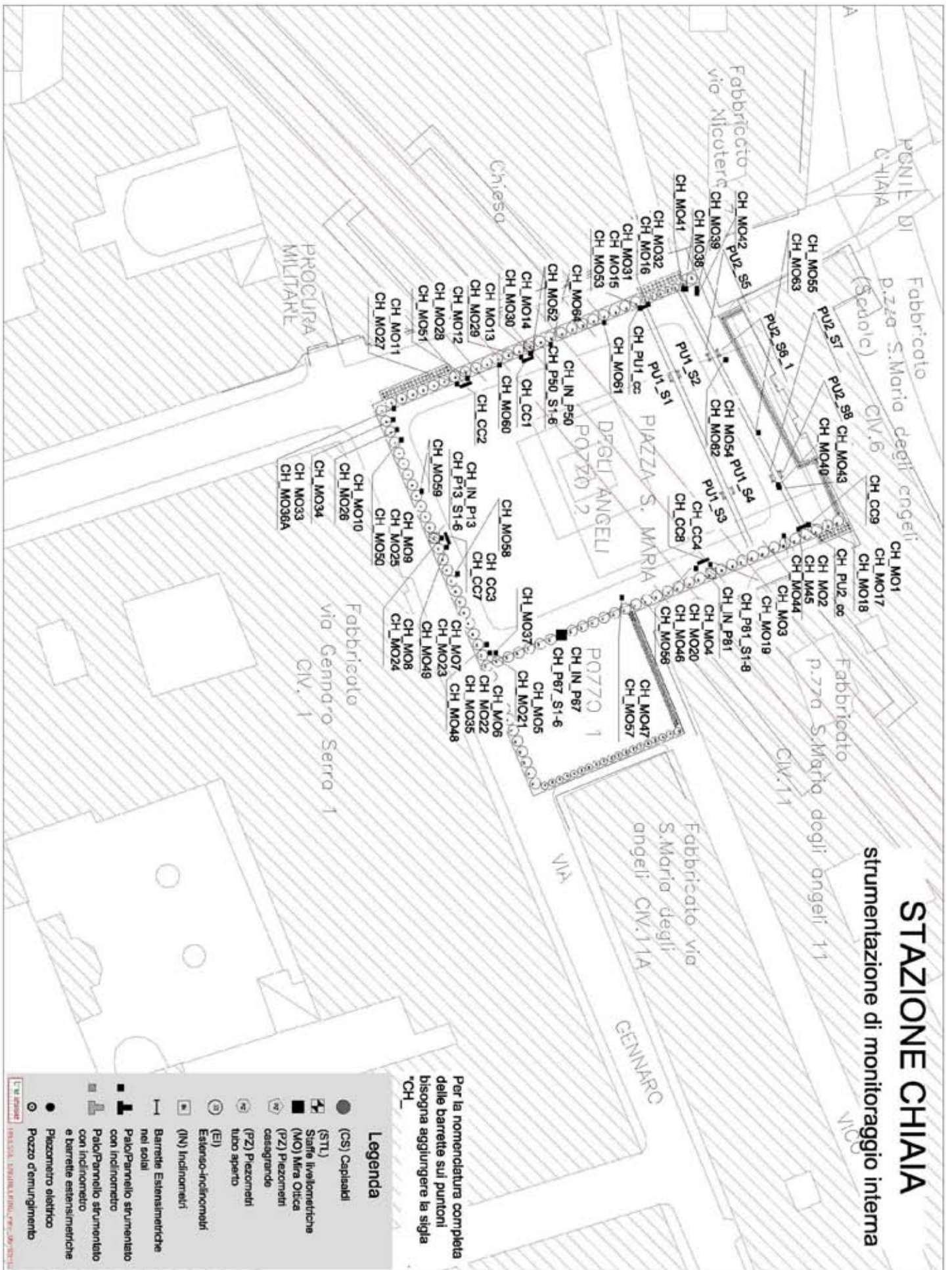



Figura 4.1.: Planimetria pozzo stazione, raffigurante la disposizione della strumentazione di monitoraggio geotecnico interno installata.

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## **5. PLANIMETRIA E SEZIONI ANDAMENTO TETTO DEL TUFO**

Nella figura 5.1 viene rappresentata la Planimetria pozzo stazione, nella quale è riportata la collocazione di alcuni sondaggi effettuati per la campagna propedeutica alla stesura del Progetto Definitivo (2005).

Nella figura 5.2 viene rappresentato l'andamento del tetto del Tufo (lato monte e lato mare) con uno stralcio tratto dall'elaborato grafico del Progetto Definitivo (Stazione Chiaia) allegato alla Relazione Geologica (cod. doc.:LM67F2C0159 – ANNO 2005).

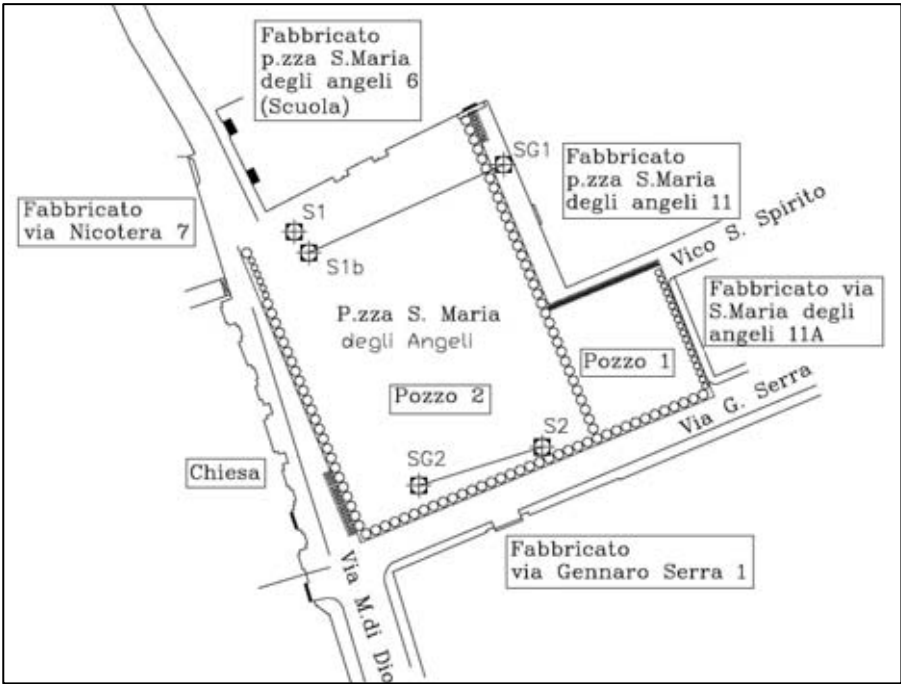


Figura 5.1.: Planimetria pozzo stazione, raffigurante la collocazione di alcuni sondaggi effettuati per la campagna propedeutica alla stesura del Progetto Definitivo (2005).

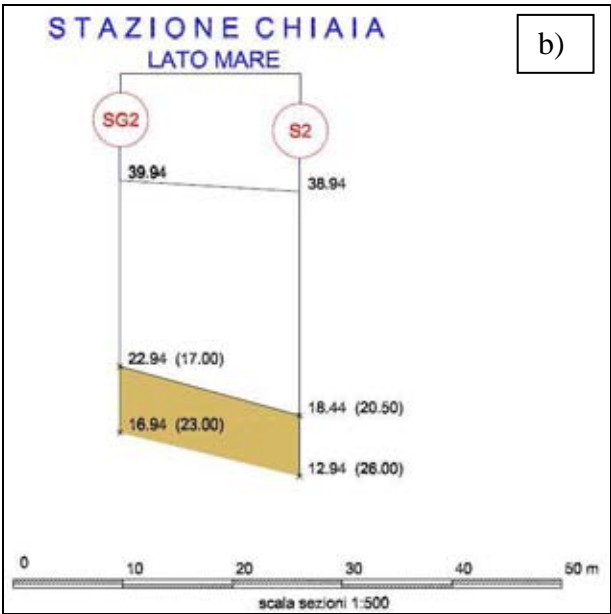
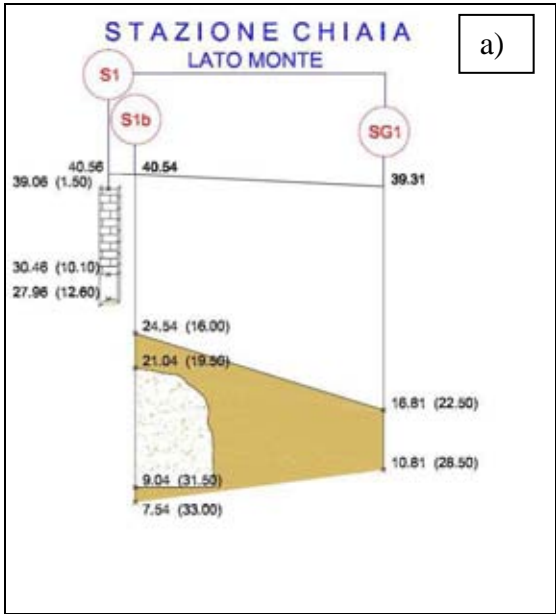



Figura 5.2a e5.2b : Andamento del tetto del Tufo (lato monte e lato mare) - Stralcio da Elaborato grafico Progetto Definitivo Stazione Chiaia allegato alla Relazione Geologica (cod. doc.: LM67F2C0159 – ANNO 2005).




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## **1. 6. FASI LAVORATIVE**

Nel presente capitolo vengono espone le principali lavorazioni in svolgimento nel cantiere di Chiaia (Metropolitana di Napoli - Linea 6).

Le indicazioni riportate, aggiornate al periodo di riferimento del presente report, sono frutto sia delle osservazioni in sito dei tecnici Tre Esse sia delle informazioni comunicateci dall'Impresa Esecutrice.

Nella planimetria e nelle sezioni realizzate dalla Scrivente, di seguito riportate, sono state individuate e stimate qualitativamente le aree interessate dalle lavorazioni ritenute significative ai fini del monitoraggio, che rispetto al periodo d'osservazione precedente non hanno subito variazioni rilevanti. La planimetria in figura 6.1 raffigura il pozzo stazione, con la suddivisione in aree di lavoro. Riferendoci alle sezioni A-A'(fig.6.2), B-B'(fig.6.3), si osserva quanto di seguito riportato. Le principali fasi lavorative hanno riguardato il proseguimento degli scavi per l'approfondimento del pozzo stazione, la conclusione dei lavori per l'allargamento della galleria lato san Pasquale e il prosieguo degli scavi per l'allargo lato Municipio. Sul lato prossimo alla scuola, longitudinalmente alla facciata principale dell'edificio sono presenti 2 puntoni in acciaio di contrasto fra le paratie di pannelli. Le paratie di pannelli sono inoltre collegate fra di loro a varie quote grazie all'utilizzo di travi in acciaio tirantate.

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La strumentazione geotecnica prossima alle sezioni è la seguente:

- tubi inclinometrici CH\_IN1, CH\_IN\_P67, tubo piezometrico (a tubo aperto) CH\_PZ2, per la sezione A-A'
- tubo estenso-inclinometrico CH\_EI1/ES1 e inclinometrico CH\_IN3, CH\_IN4, CH\_PZ3 per la sezione B-B'



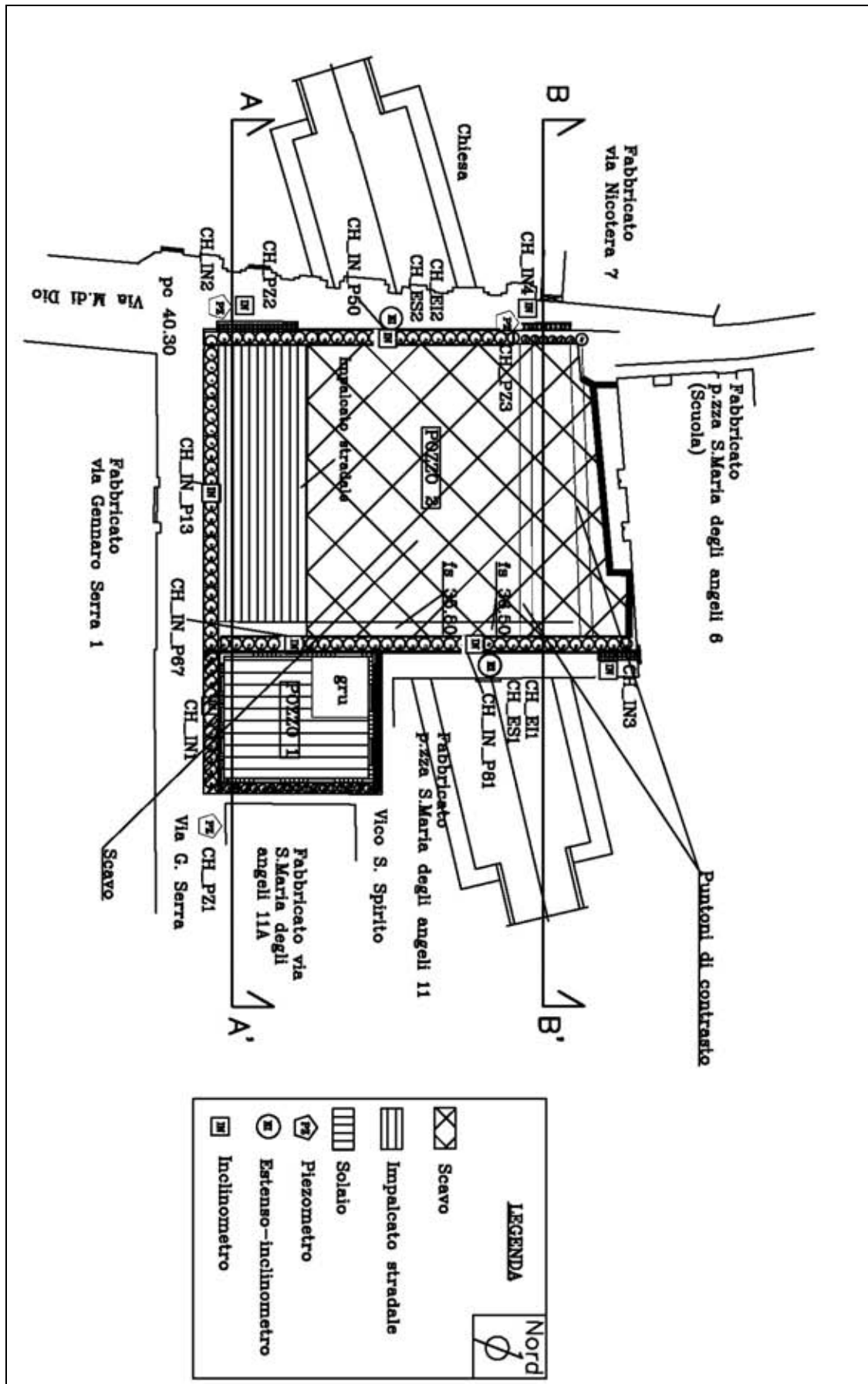


Figura 6.1.: Planimetria pozzo stazione, raffigurante la suddivisione in aree di lavoro.

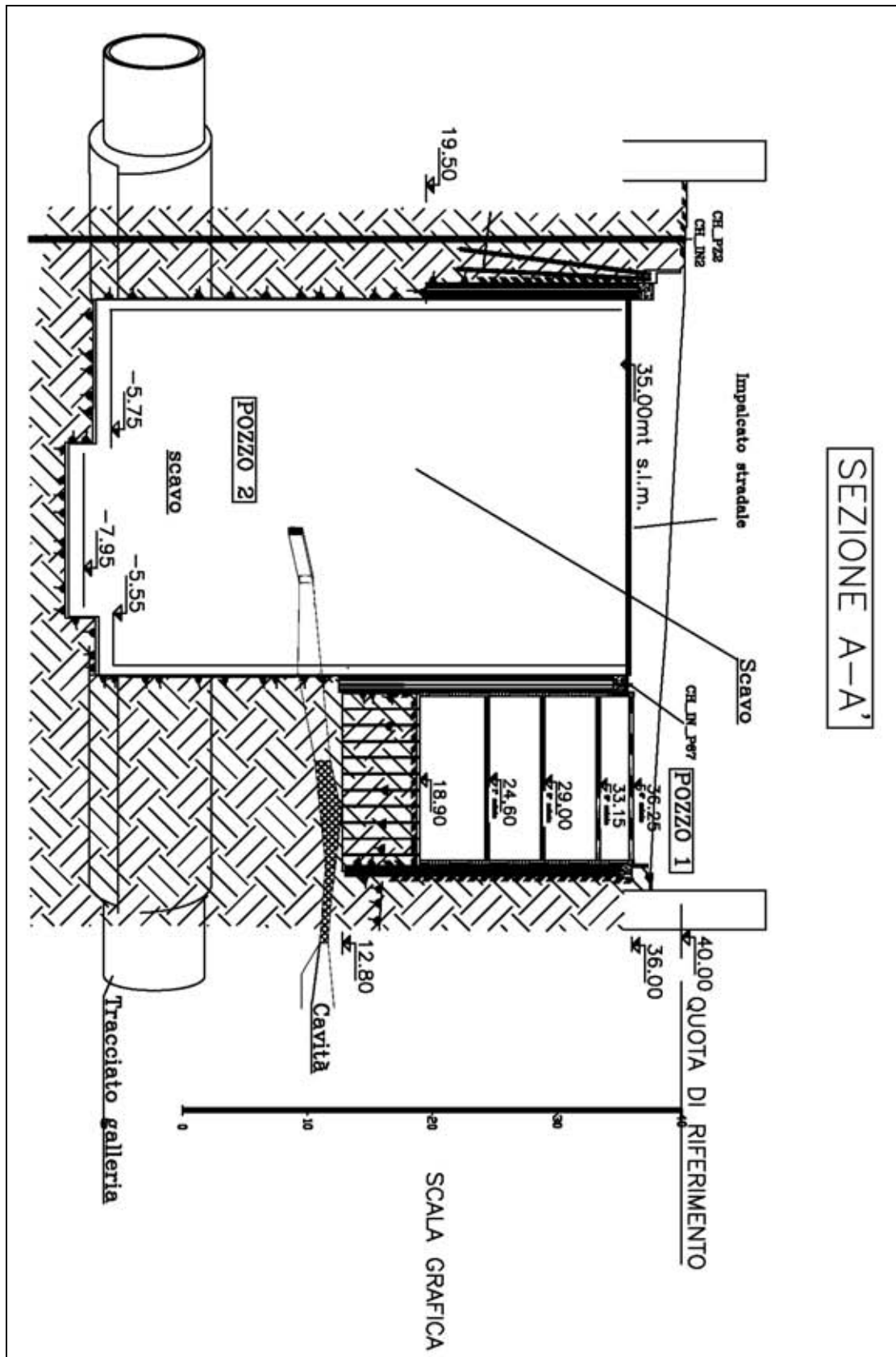


Figura 6.2.: Sezione A-A' pozzo stazione, raffigurante la suddivisione in aree di lavoro.

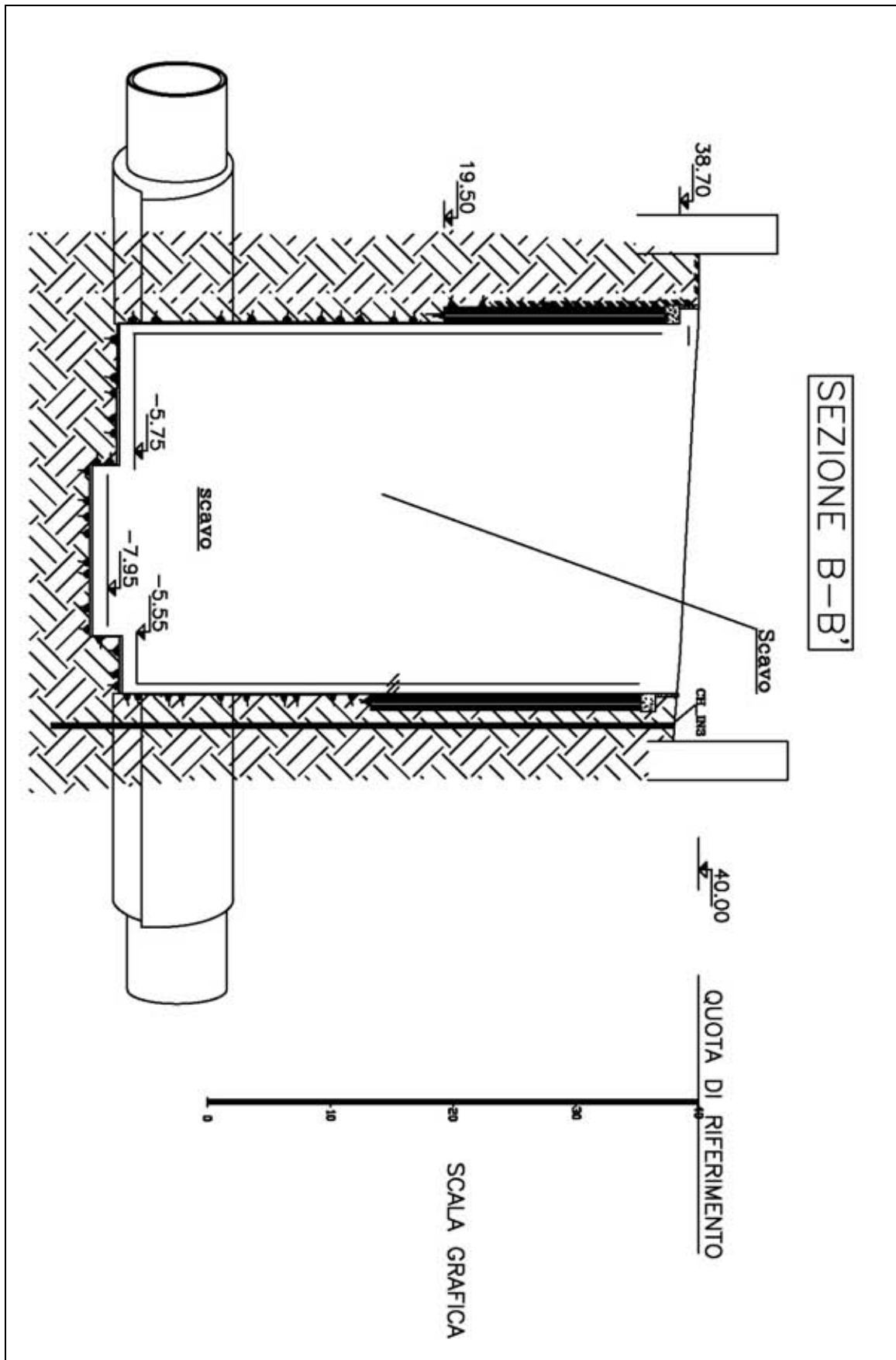



Figura 6.3.: Sezione B-B' pozzo stazione, raffigurante la suddivisione in aree di lavoro.

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## 7. MISURE GEOTECNICHE – INCLINOMETRICHE

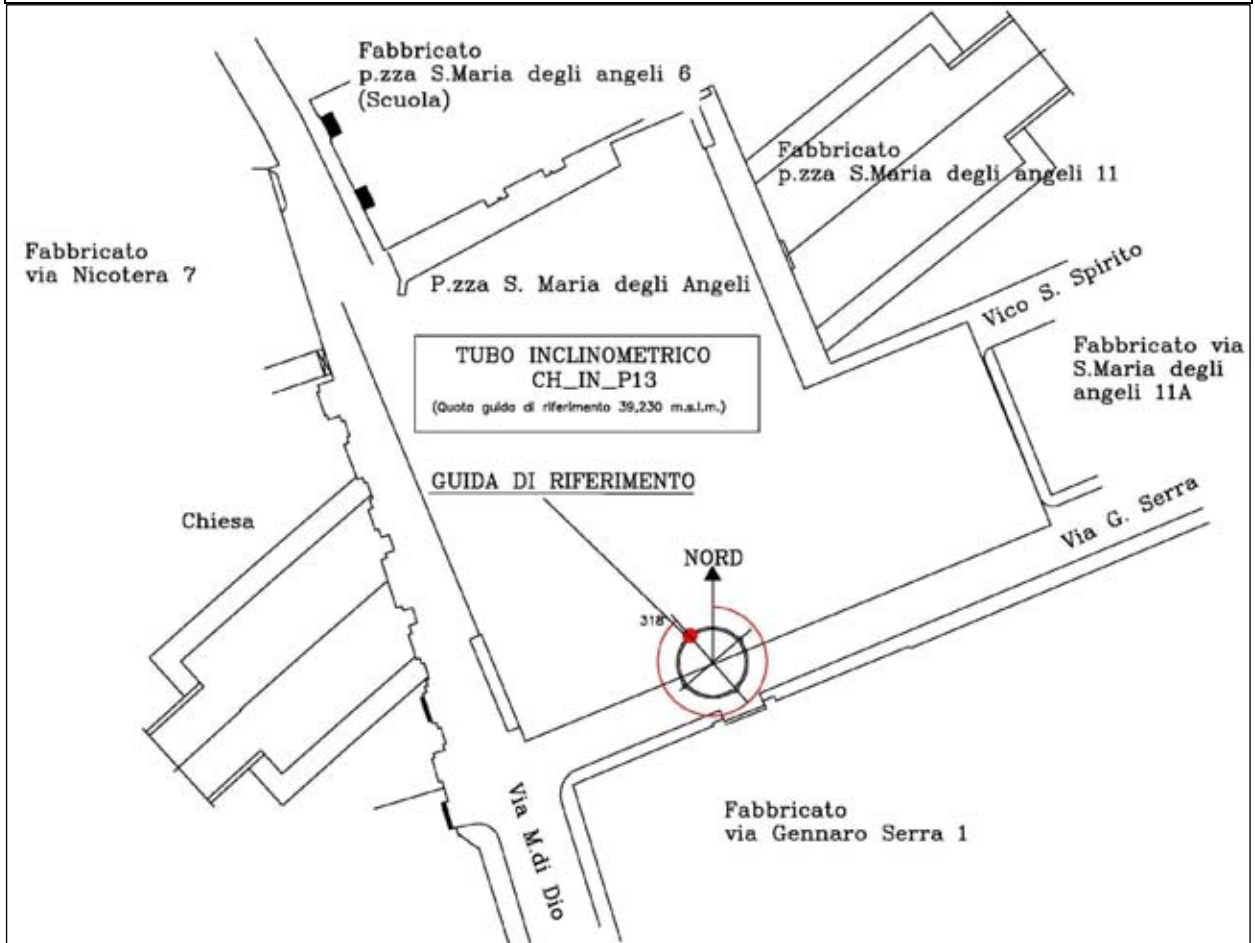
Gli inclinometri sono strumenti di controllo dei movimenti e delle deformazioni dei terreni nonché delle variazioni di assetto delle strutture. I rilievi consistono nella misura della variazione delle inclinazioni rispetto alla verticale di punti significativi, dall'inclinazione, mediante integrazione numerica si risale agli spostamenti sul piano x-y. La strumentazione di base è composta da tubo inclinometrico a sezione circolare provvisto di scanalature con funzione di guida per la sonda, sonda inclinometrica, cavo e centralina di misura.

Tabella riepilogativa per gli inclinometri installati in cantiere

NOME	TIPOLOGIA STRUMENTO	DATA INSTALLAZIONE	DISPONIBILITA' LETTURA			NOTE
			DATA LETTURA DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
CH_IN_P13	INCLINOMETRO	06/12/10	22/12/10			
CH_IN_P50	INCLINOMETRO	21/12/10	21/01/11			
CH_IN_P67	INCLINOMETRO	18/11/09	25/11/09			
CH_IN_P81	INCLINOMETRO	21/12/10	21/01/11			

Inclinometro

CH\_IN\_P13



Affidabilità strumentale  
A.T.I. LM6 – TreEsse

buono  
da rivedere  
da scartare

X

Congruenza progettuale  
C.T. ATI LM6 – C.T. Monitoraggio

congruente  
non congruente, da valutare  
non congruente con implicazioni sulla  
sicurezza


**NOTE**




MISURE INCLINOMETRICHE  
ELABORAZIONE DA FONDO FORO  
-TABULATI-

Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P13**  
 Azimut di riferimento **318**  
 Quota guida rif. (m.s.l.m.) **39,23**  
 Data lettura di zero **22/12/2010**  
 Data posa in opera **06/12/2010**

Misura **81** in data **21/01/2014 12.00**

SPOSTAMENTI LOCALI (mm)				
PROFONDITA (m.s.l.m.)	EST	NORD	RISULTANTE	AZIMUT
38,7	0,101	0,137	0,170	36,204
37,7	0,260	-0,046	0,264	100,139
36,7	0,237	-0,318	0,397	143,222
35,7	0,093	-0,225	0,244	157,672
34,7	0,092	-0,211	0,230	156,429
33,7	0,043	-0,130	0,137	161,678
32,7	0,014	-0,043	0,045	162,171
31,7	-0,050	-0,191	0,197	194,676
30,7	-0,144	-0,108	0,180	233,230
29,7	-0,263	-0,130	0,294	243,621
28,7	-0,211	0,022	0,212	276,017
27,7	-0,231	-0,017	0,231	265,781
26,7	-0,241	0,166	0,293	304,583
25,7	-0,151	-0,045	0,157	253,382
24,7	-0,359	0,324	0,483	312,063
23,7	-0,432	0,312	0,532	305,838
22,7	-0,426	0,430	0,605	315,242
21,7	-0,402	0,438	0,595	317,479
20,7	-0,480	0,525	0,712	317,557
19,7	-0,488	0,461	0,672	313,404

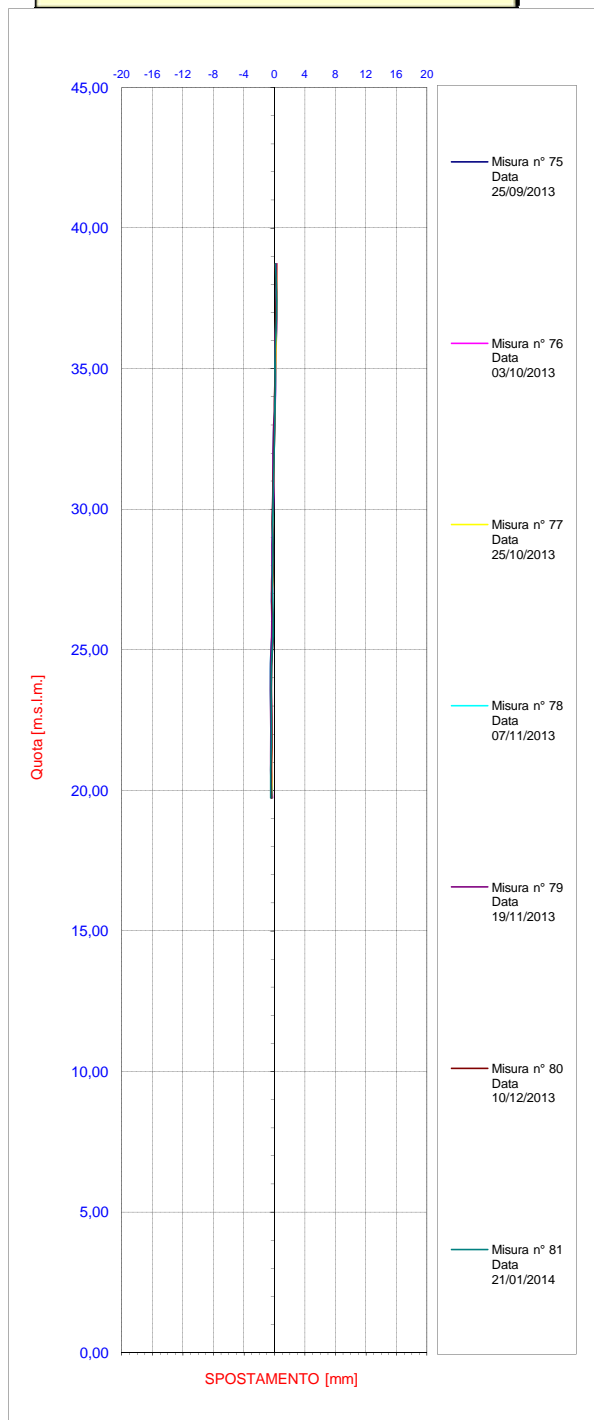
SPOSTAMENTI INTEGRALI (mm)				
PROFONDITA (m.s.l.m.)	EST	NORD	RISULTANTE	AZIMUT
38,7	-3,038	1,352	3,326	293,993
37,7	-3,139	1,215	3,366	291,160
36,7	-3,399	1,261	3,625	290,362
35,7	-3,636	1,579	3,964	293,474
34,7	-3,729	1,804	4,142	295,825
33,7	-3,820	2,015	4,319	297,810
32,7	-3,863	2,145	4,419	299,038
31,7	-3,877	2,188	4,452	299,435
30,7	-3,827	2,379	4,506	301,861
29,7	-3,683	2,486	4,444	304,022
28,7	-3,420	2,617	4,306	307,420
27,7	-3,209	2,595	4,127	308,953
26,7	-2,979	2,612	3,962	311,241
25,7	-2,738	2,445	3,671	311,771
24,7	-2,587	2,490	3,591	313,911
23,7	-2,228	2,167	3,108	314,199
22,7	-1,796	1,855	2,582	315,917
21,7	-1,370	1,425	1,977	316,124
20,7	-0,968	0,987	1,382	315,541
19,7	-0,488	0,461	0,672	313,404



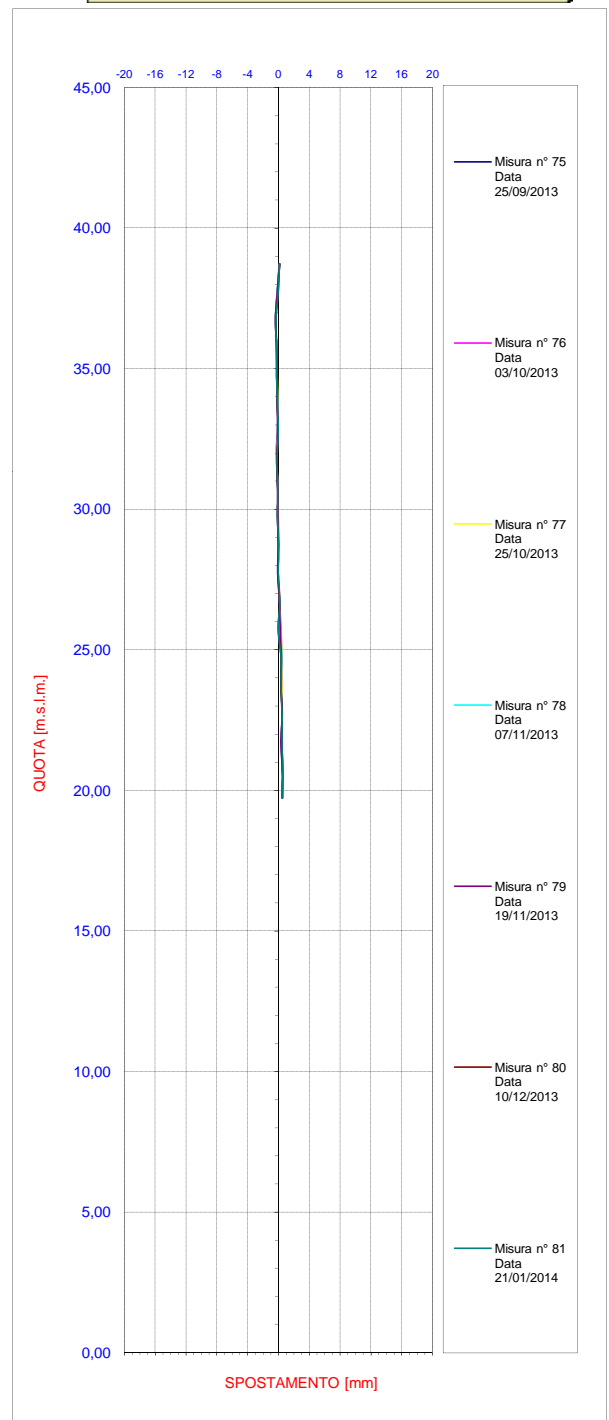
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P13**  
 Azimut di riferimento **318**  
 Quota guida rif. (m.s.l.m.) **39,23**  
 Data lettura di zero **22/12/2010**  
 Data posa in opera **06/12/2010**

Ultima Misura **81** in data **21/01/2014 12.00**

Spostamenti Differenziali Locali  
OVEST- (valori negativi) / EST + (valori positivi)

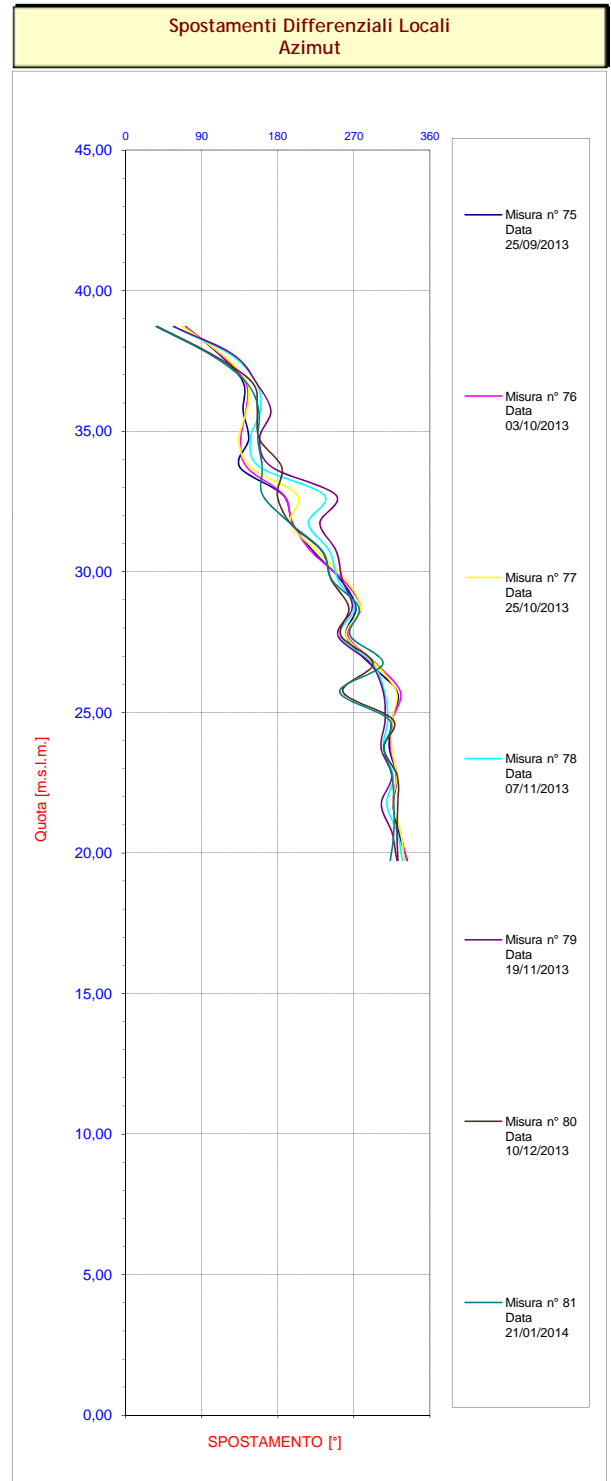
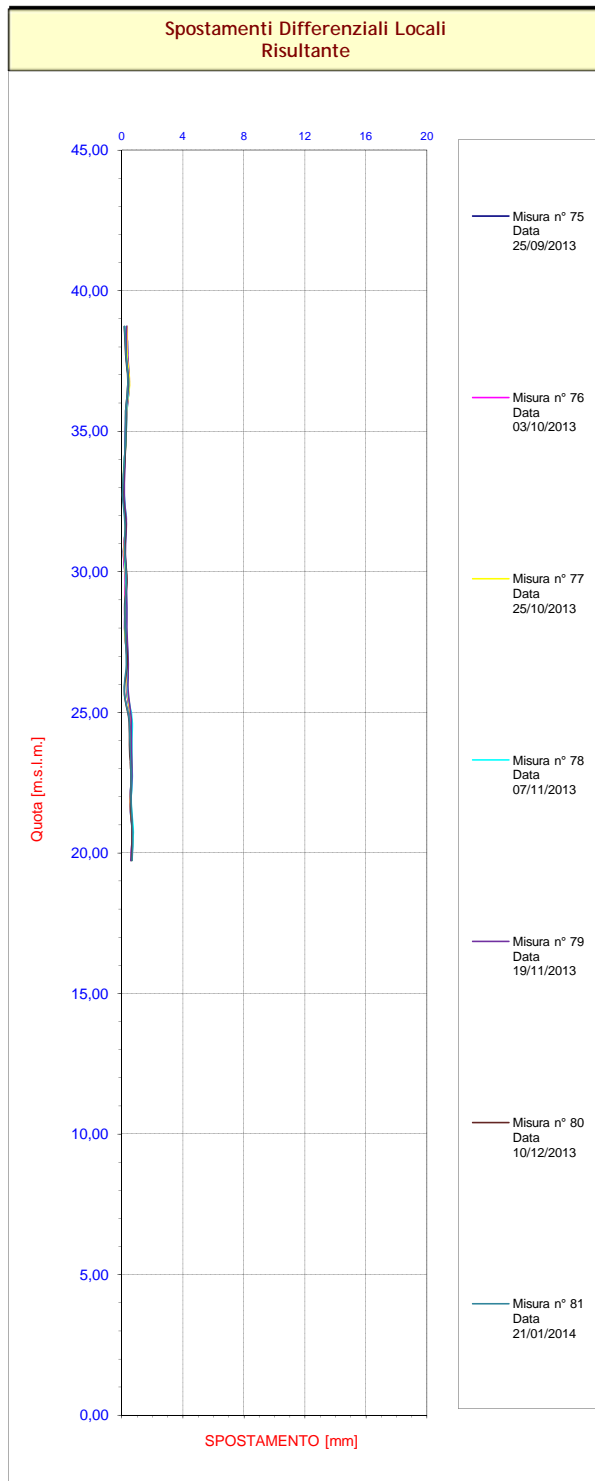


Spostamenti Differenziali Locali  
SUD - (valori negativi) / NORD + (valori positivi)



Ubicazione STAZIONE CHIAIA  
 Tipo Strumento Tubo inclinometrico  
 Nome tubo CH\_IN\_P13  
 Azimut di riferimento 318  
 Quota guida rif. (m.s.l.m.) 39,23  
 Data lettura di zero 22/12/2010  
 Data posa in opera 06/12/2010

Ultima Misura 81 in data 21/01/2014 12.00

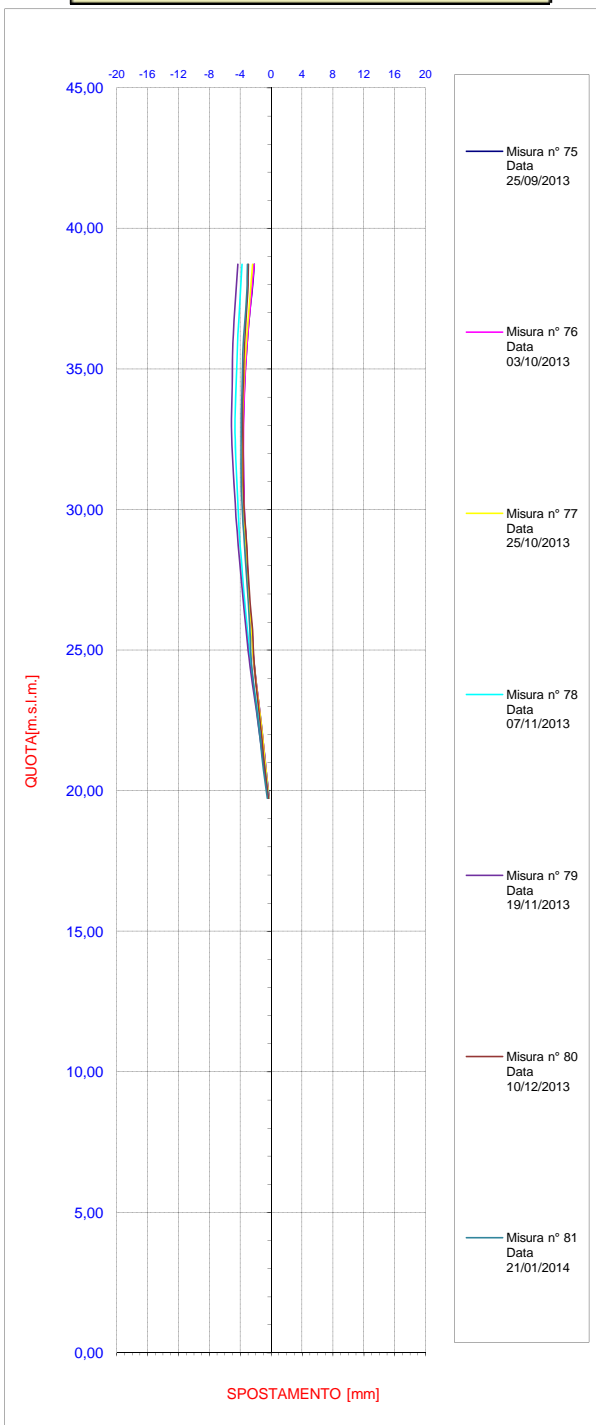




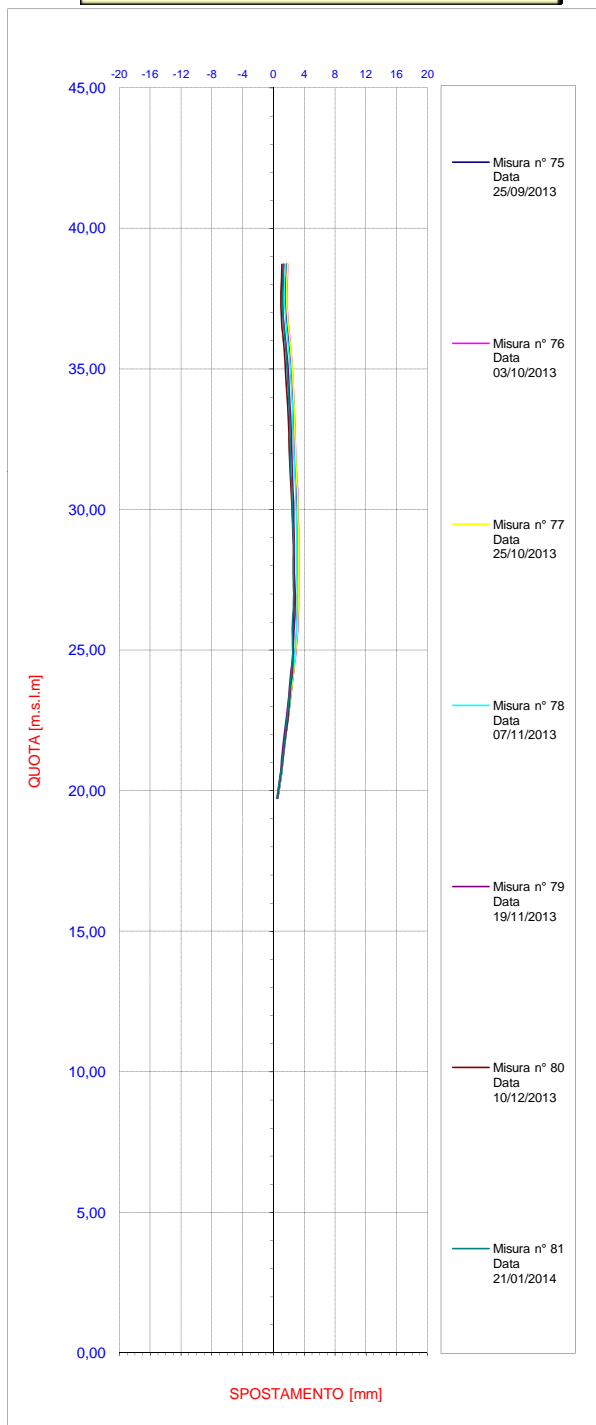
Ubicazione **STAZIONE CHIAIA**  
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Ultima Misura **81** in data **21/01/2014 12.00**

Spostamenti Differenziali Integrali  
OVEST- (valori negativi) / EST + (valori positivi)



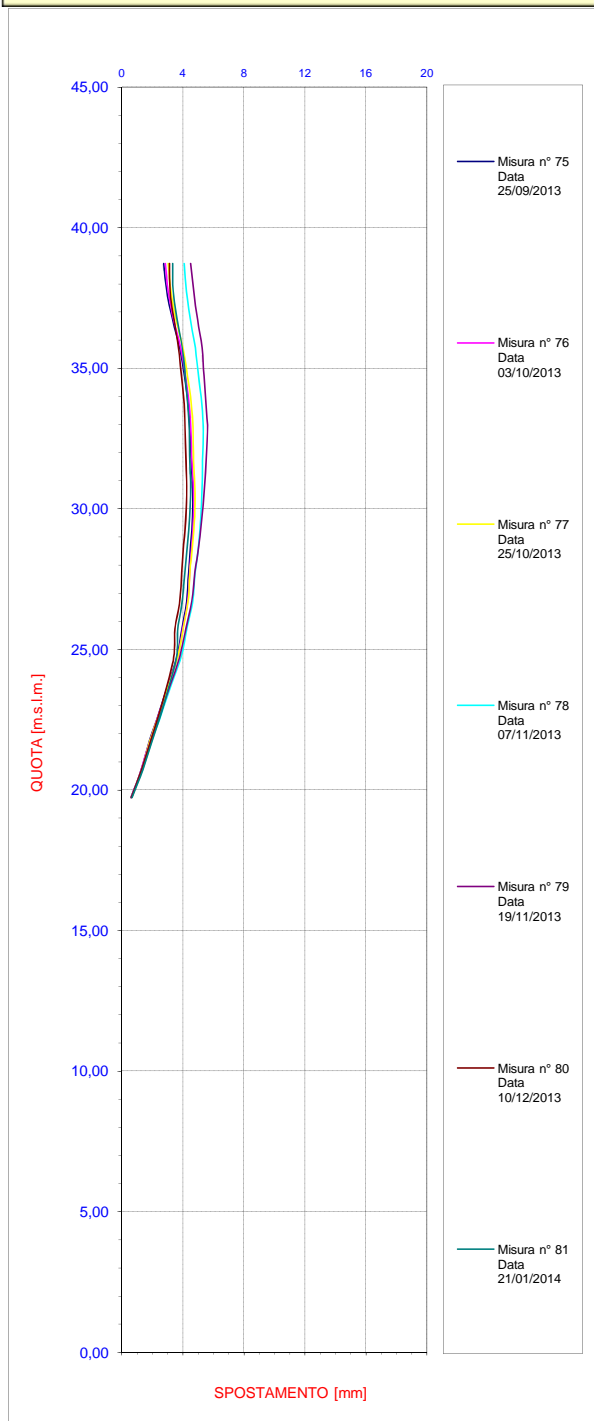
Spostamenti Differenziali Integrali  
SUD - (valori negativi) / NORD + (valori positivi)



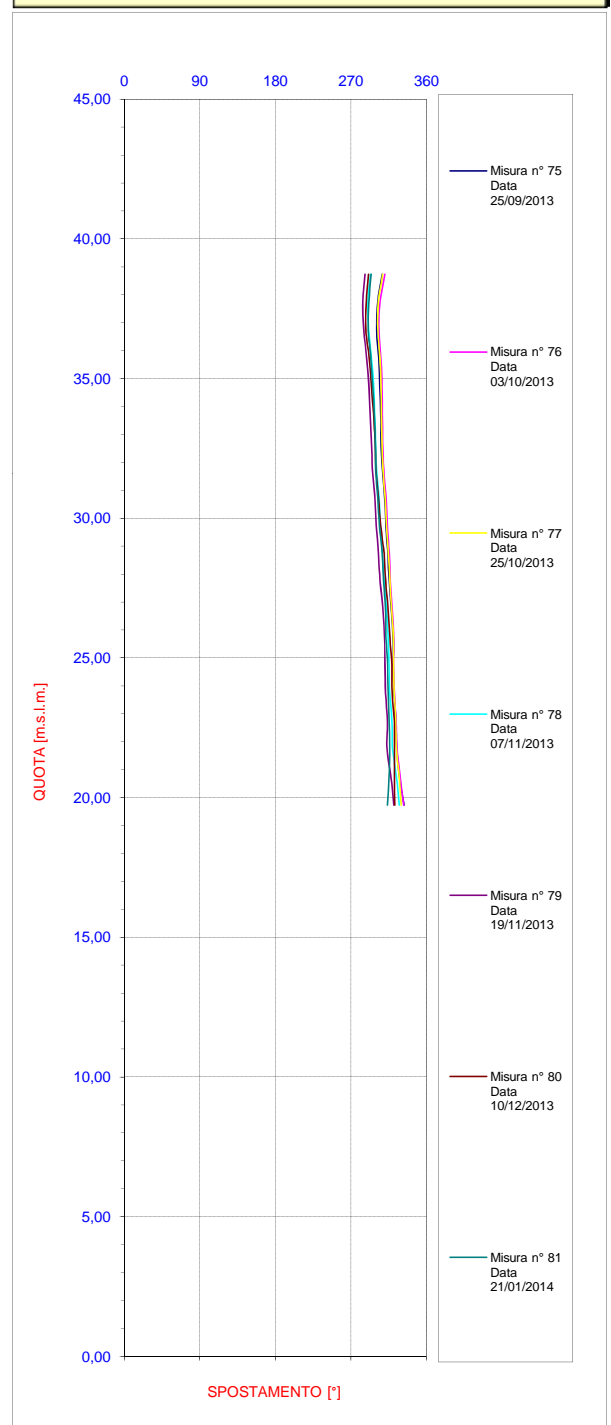
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P13**  
 Azimut di riferimento **318**  
 Quota guida rif. (m.s.l.m.) **39,23**  
 Data lettura di zero **22/12/2010**  
 Data posa in opera **06/12/2010**

Ultima Misura **81** in data **21/01/2014 12.00**

Spostamenti Differenziali Integrali Risultante



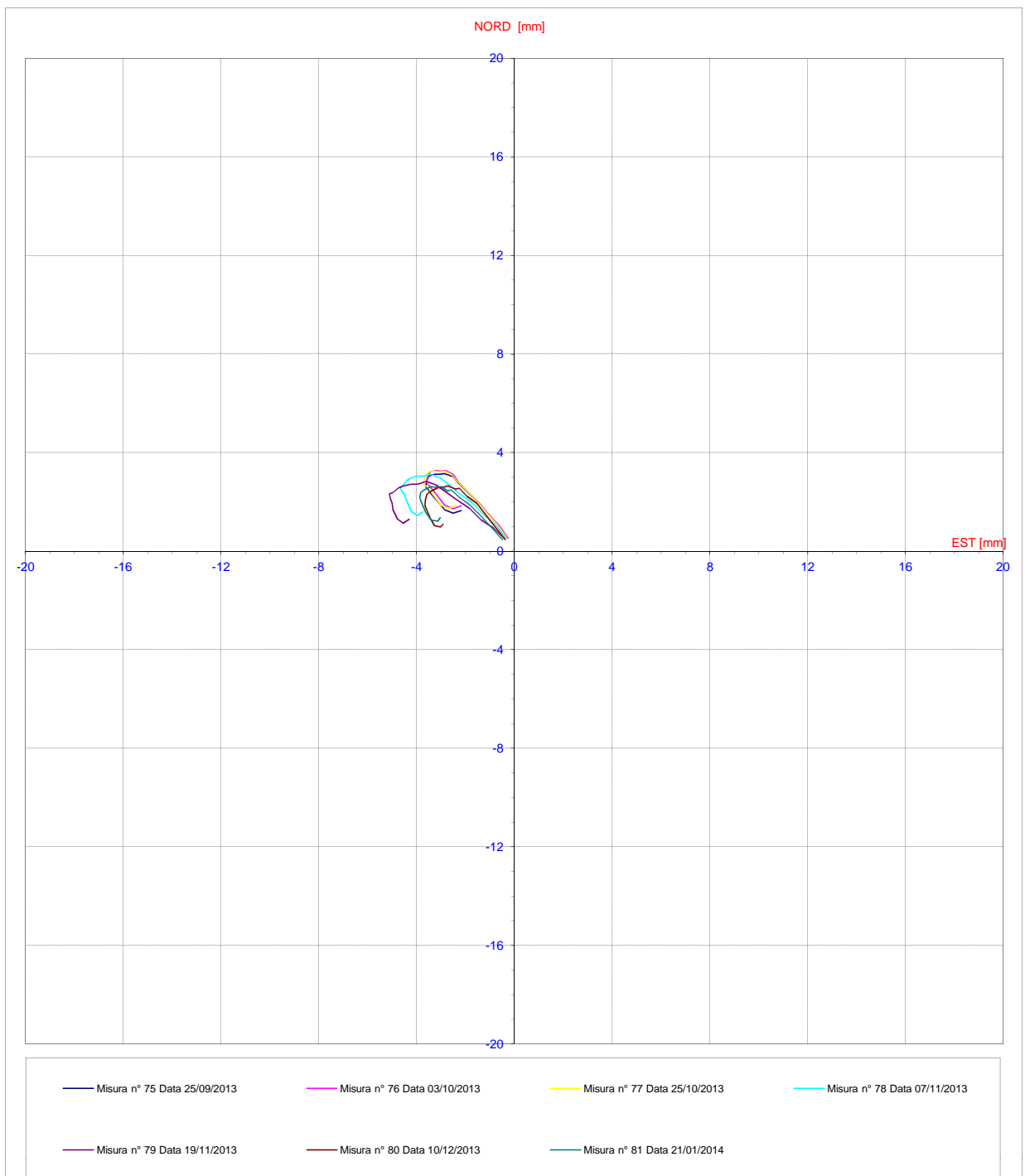
Spostamenti Differenziali Integrali Azimut



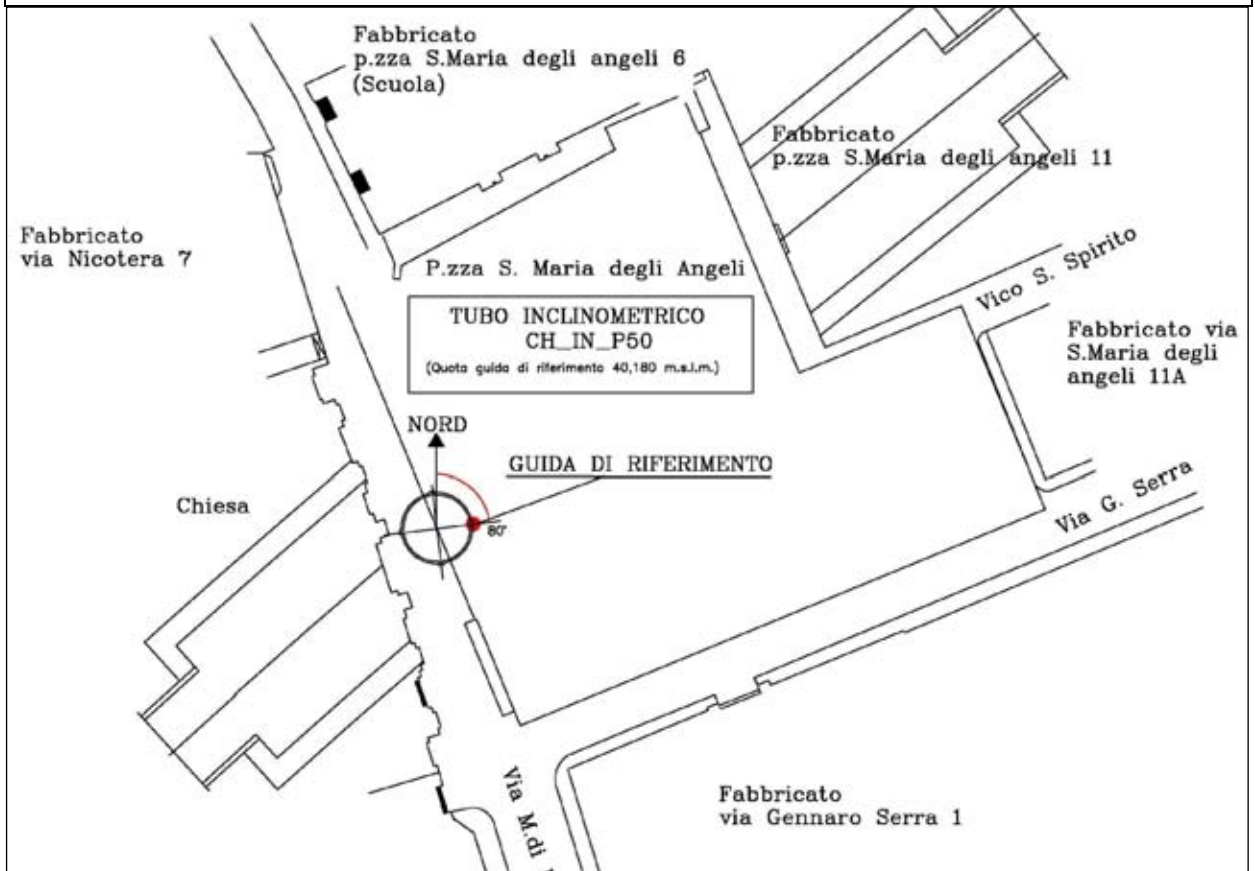
Ubicazione	STAZIONE CHIAIA
Tipo Strumento	Tubo inclinometrico
Nome tubo	CH_IN_P13
Azimut di riferimento	318
Quota guida rif. (m.s.l.m.)	39,23
Data lettura di zero	22/12/2010
Data posa in opera	06/12/2010

Ultima Misura	81	in data	21/01/2014 12.00
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Spostamenti Differenziali Integrali  
Diagramma polare



Inclinometro CH\_IN\_P50



Affidabilità strumentale  
A.T.I. LM6 – TreEsse

buono  
da rivedere  
da scartare

X

Congruenza progettuale  
C.T. ATI LM6 – C.T. Monitoraggio

congruente  
non congruente, da valutare  
non congruente con implicazioni sulla  
sicurezza


**NOTE**




MISURE INCLINOMETRICHE  
ELABORAZIONE DA FONDO FORO  
-TABULATI-

Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P50**  
 Azimut di riferimento **80**  
 Quota guida rif. (m.s.l.m.) **40,18**  
 Data lettura di zero **21/01/2011**  
 Data posa in opera **21/12/2010**

Misura **86** in data **21/01/2014 11.46**

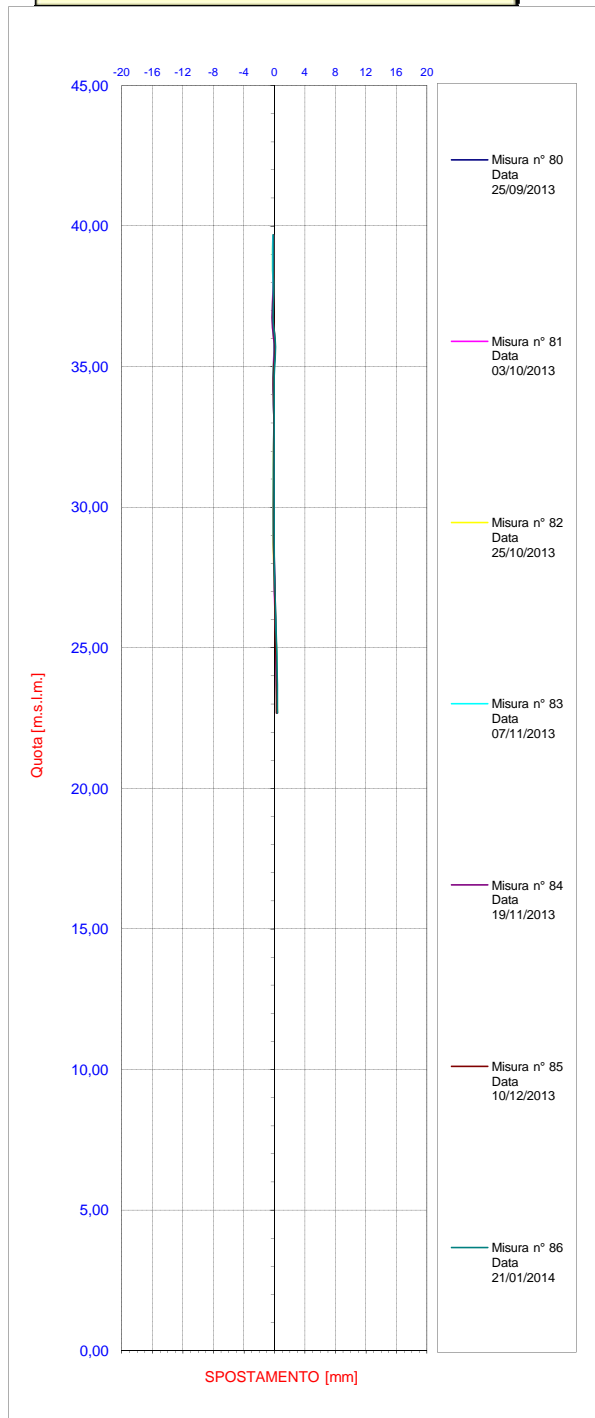
SPOSTAMENTI LOCALI (mm)				
PROFONDITA (m.s.l.m.)	EST	NORD	RISULTANTE	AZIMUT
39,7	-0,131	-0,078	0,153	239,266
38,7	-0,131	-0,095	0,161	234,119
37,7	-0,092	-0,071	0,116	232,018
36,7	-0,173	-0,066	0,186	249,050
35,7	0,118	-0,215	0,245	151,300
34,7	-0,056	-0,033	0,065	239,717
33,7	-0,034	-0,003	0,034	265,037
32,7	-0,040	-0,018	0,044	246,008
31,7	-0,043	-0,065	0,078	213,284
30,7	-0,067	-0,078	0,102	220,477
29,7	-0,028	-0,032	0,042	220,980
28,7	-0,059	-0,185	0,194	197,643
27,7	0,008	-0,002	0,008	101,487
26,7	0,101	-0,132	0,166	142,616
25,7	0,175	-0,060	0,185	108,962
24,7	0,312	-0,043	0,315	97,914
23,7	0,362	-0,058	0,367	99,066
22,7	0,348	-0,129	0,371	110,377

SPOSTAMENTI INTEGRALI (mm)				
PROFONDITA (m.s.l.m.)	EST	NORD	RISULTANTE	AZIMUT
39,7	0,570	-1,363	1,478	157,291
38,7	0,702	-1,285	1,464	151,370
37,7	0,832	-1,190	1,453	145,040
36,7	0,924	-1,119	1,451	140,457
35,7	1,097	-1,053	1,521	133,811
34,7	0,980	-0,838	1,289	130,536
33,7	1,036	-0,805	1,312	127,860
32,7	1,070	-0,802	1,337	126,862
31,7	1,110	-0,784	1,359	125,256
30,7	1,152	-0,719	1,358	121,970
29,7	1,219	-0,641	1,377	117,751
28,7	1,247	-0,609	1,387	116,051
27,7	1,305	-0,424	1,373	107,999
26,7	1,298	-0,423	1,365	108,036
25,7	1,197	-0,290	1,232	103,638
24,7	1,022	-0,230	1,048	102,701
23,7	0,710	-0,187	0,734	104,755
22,7	0,348	-0,129	0,371	110,377

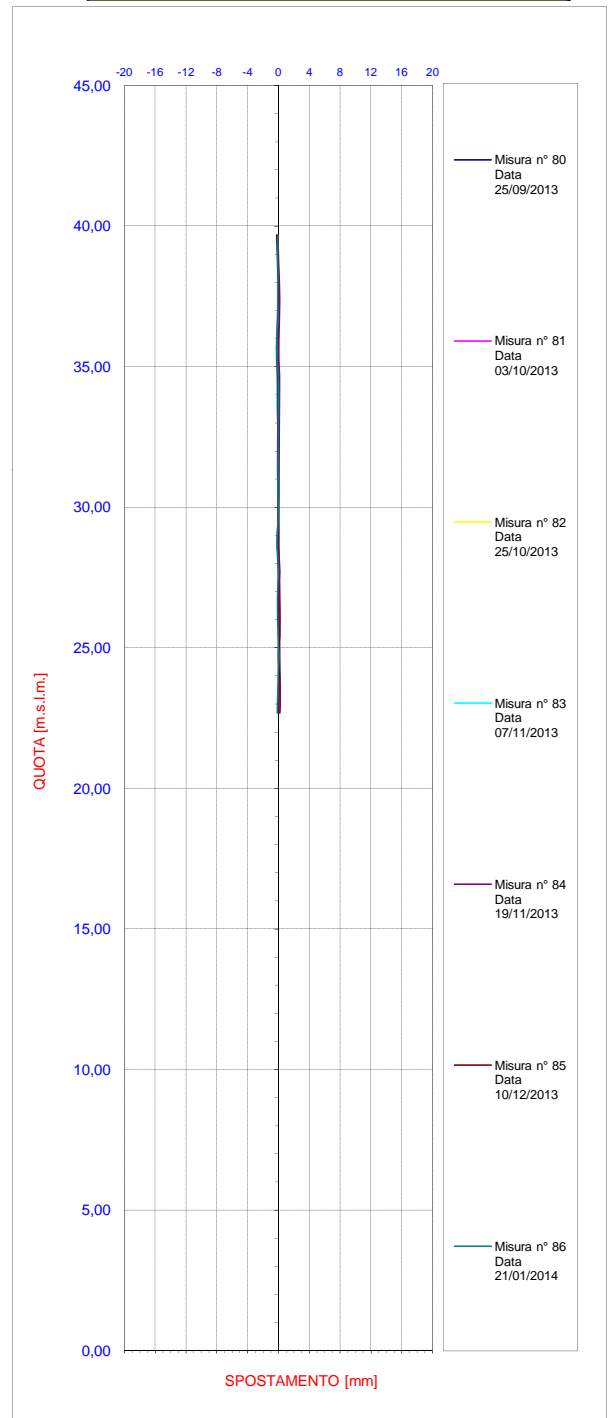
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P50**  
 Azimut di riferimento **80**  
 Quota guida rif. (m.s.l.m.) **40,18**  
 Data lettura di zero **21/01/2011**  
 Data posa in opera **21/12/2010**

Ultima Misura **86** in data **21/01/2014 11.46**

**Spostamenti Differenziali Locali  
OVEST- (valori negativi) / EST + (valori positivi)**

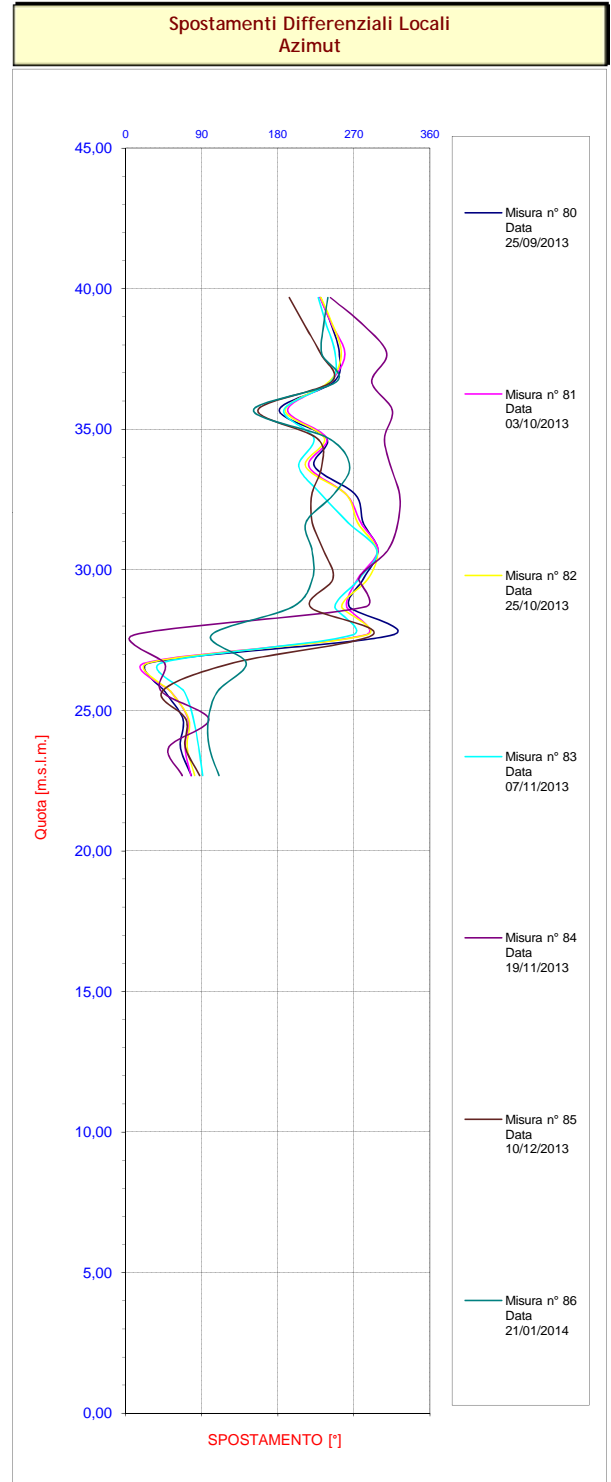
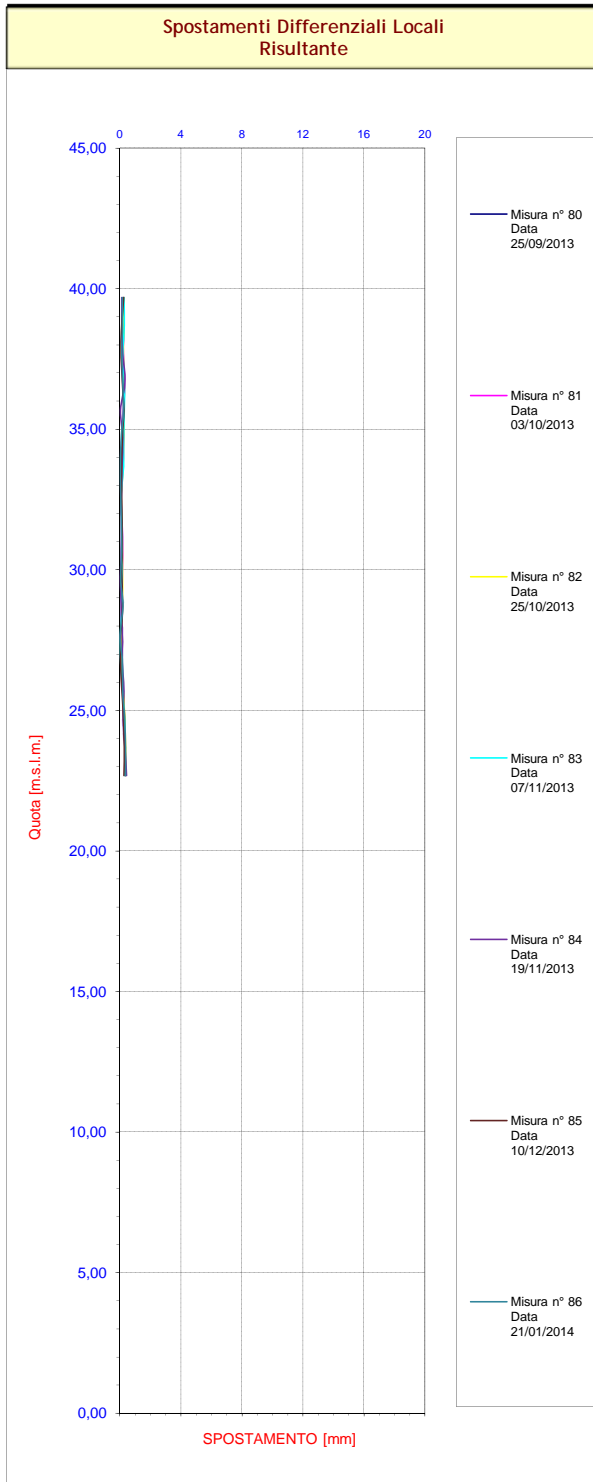


**Spostamenti Differenziali Locali  
SUD - (valori negativi) / NORD + (valori positivi)**



Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P50**  
 Azimut di riferimento **80**  
 Quota guida rif. (m.s.l.m.) **40,18**  
 Data lettura di zero **21/01/2011**  
 Data posa in opera **21/12/2010**

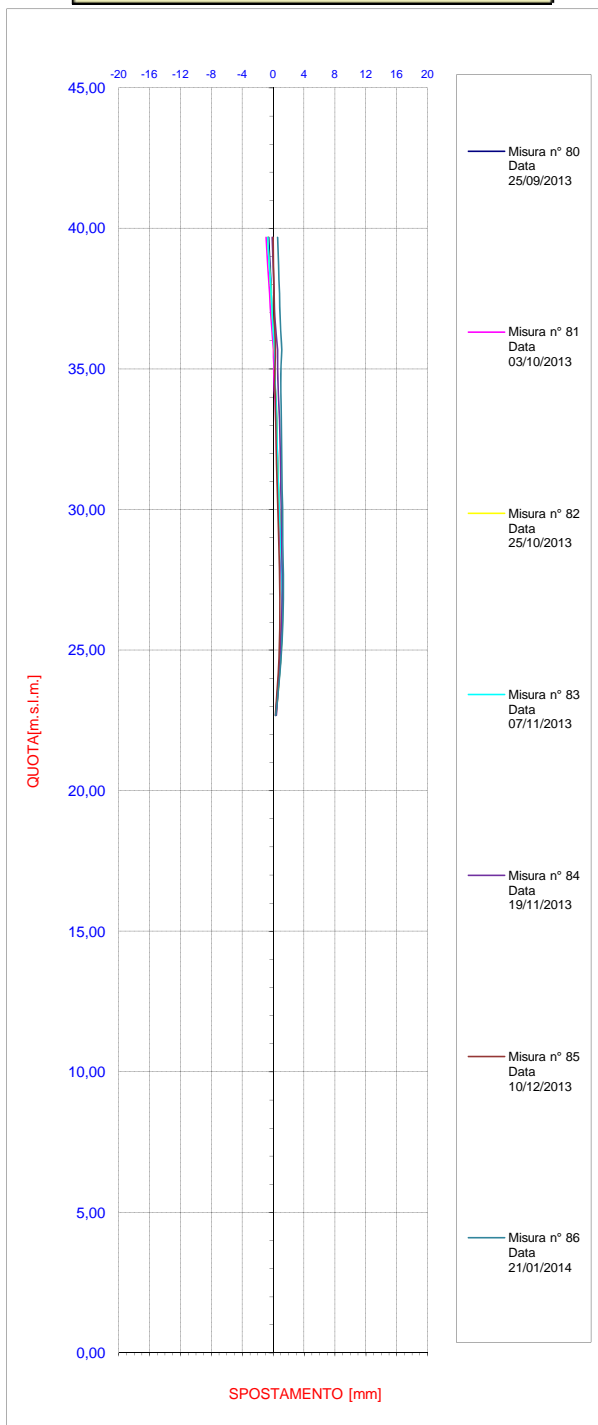
Ultima Misura **86** in data **21/01/2014 11.46**



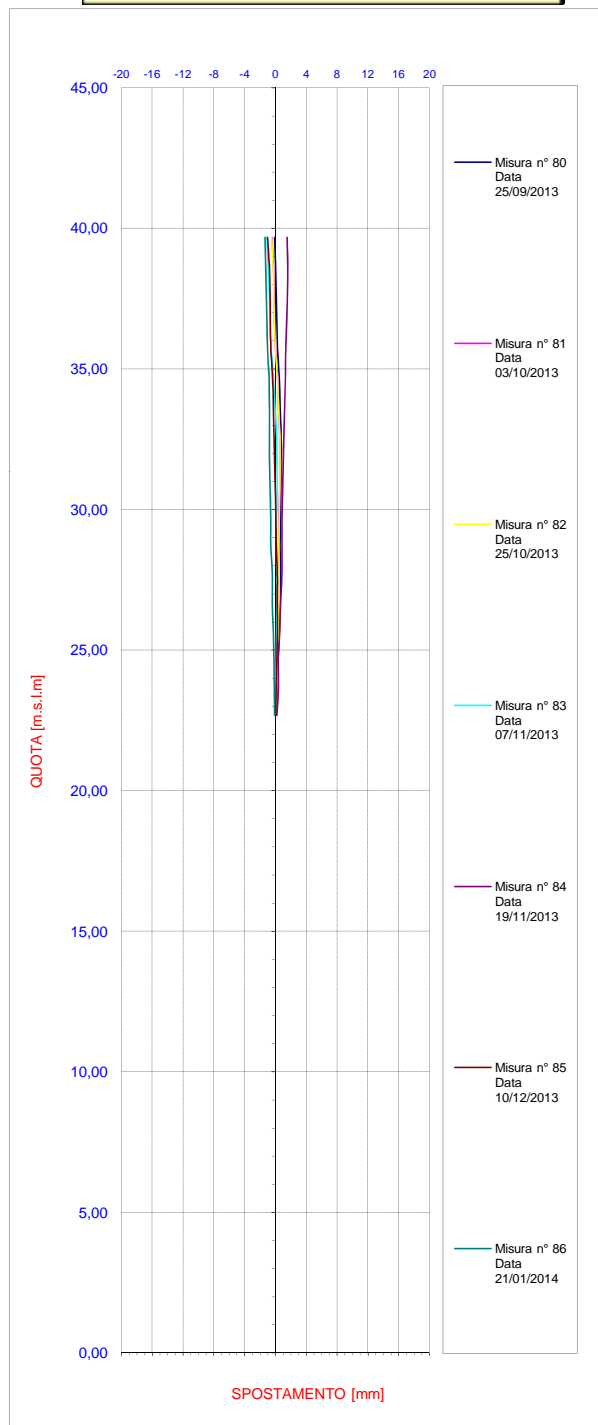
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P50**  
 Azimut di riferimento **80**  
 Quota guida rif. (m.s.l.m.) **40,18**  
 Data lettura di zero **21/01/2011**  
 Data posa in opera **21/12/2010**

Ultima Misura **86** in data **21/01/2014 11.46**

Spostamenti Differenziali Integrali  
OVEST- (valori negativi) / EST + (valori positivi)



Spostamenti Differenziali Integrali  
SUD - (valori negativi) / NORD + (valori positivi)

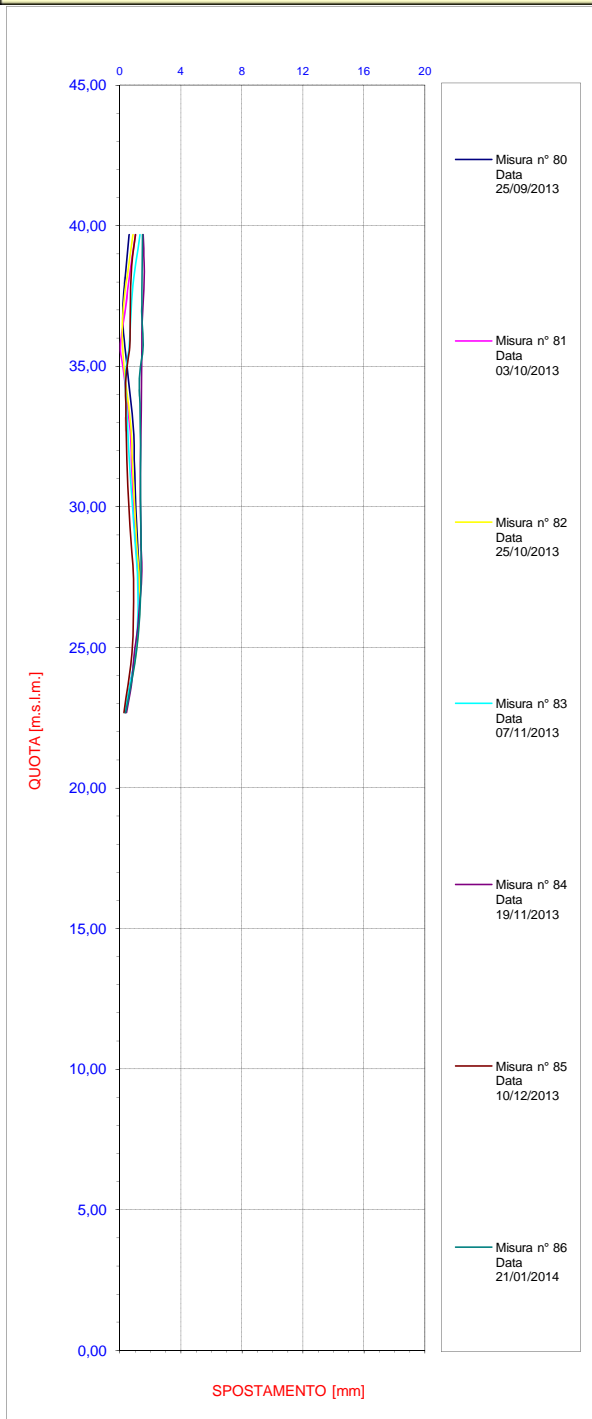




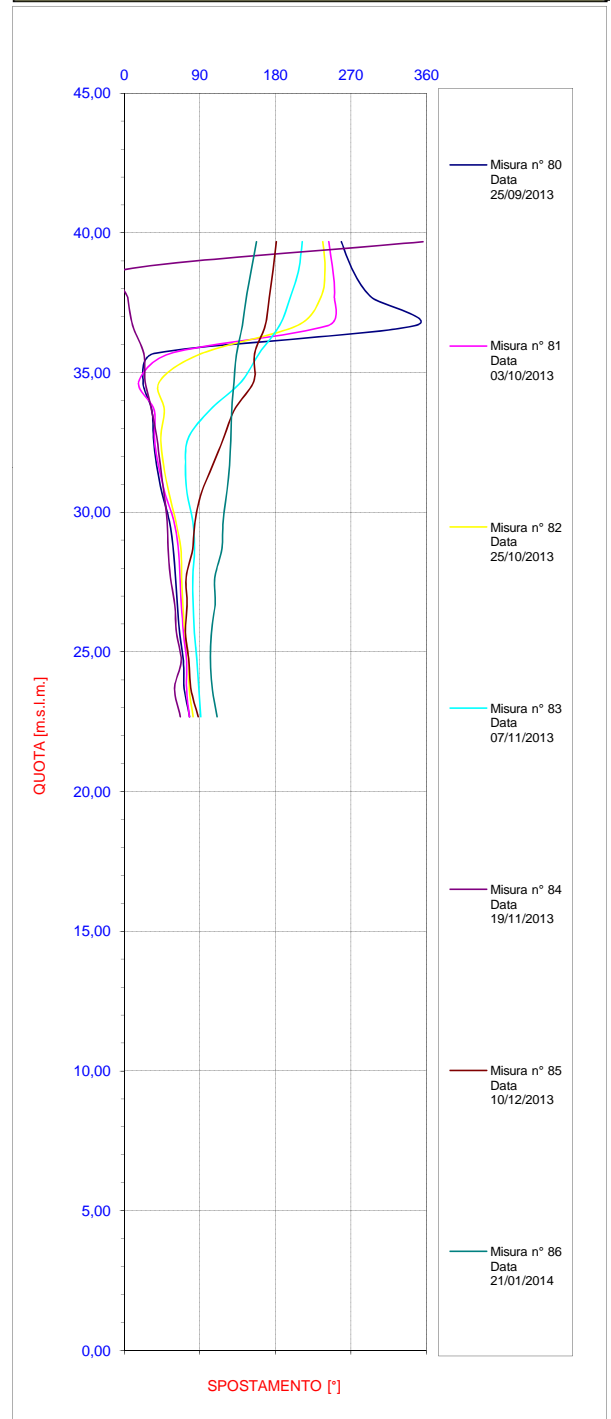
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P50**  
 Azimut di riferimento **80**  
 Quota guida rif. (m.s.l.m.) **40,18**  
 Data lettura di zero **21/01/2011**  
 Data posa in opera **21/12/2010**

Ultima Misura **86** in data **21/01/2014 11.46**

Spostamenti Differenziali Integrali Risultante



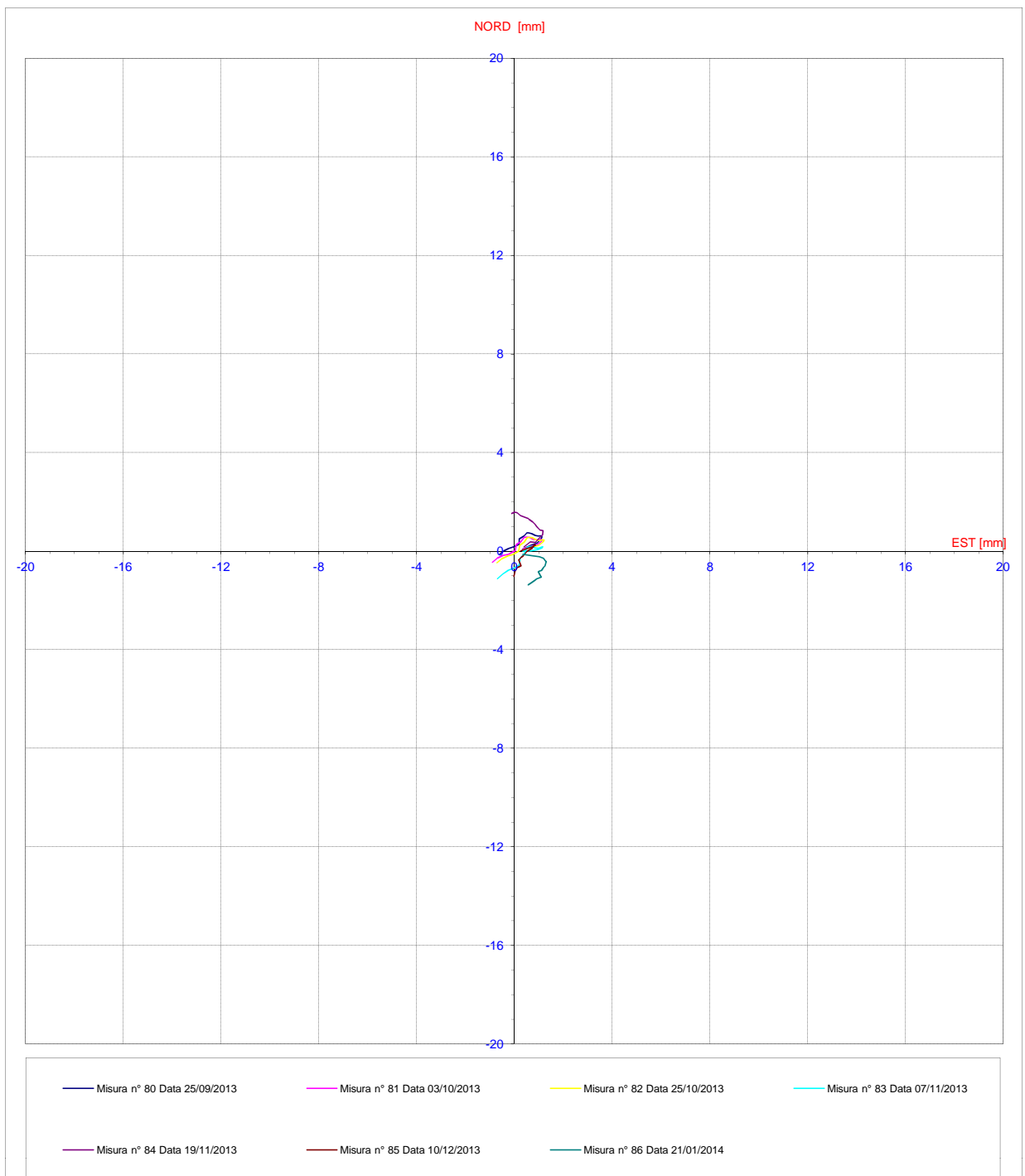
Spostamenti Differenziali Integrali Azimut



Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P50**  
 Azimut di riferimento **80**  
 Quota guida rif. (m.s.l.m.) **40,18**  
 Data lettura di zero **21/01/2011**  
 Data posa in opera **21/12/2010**

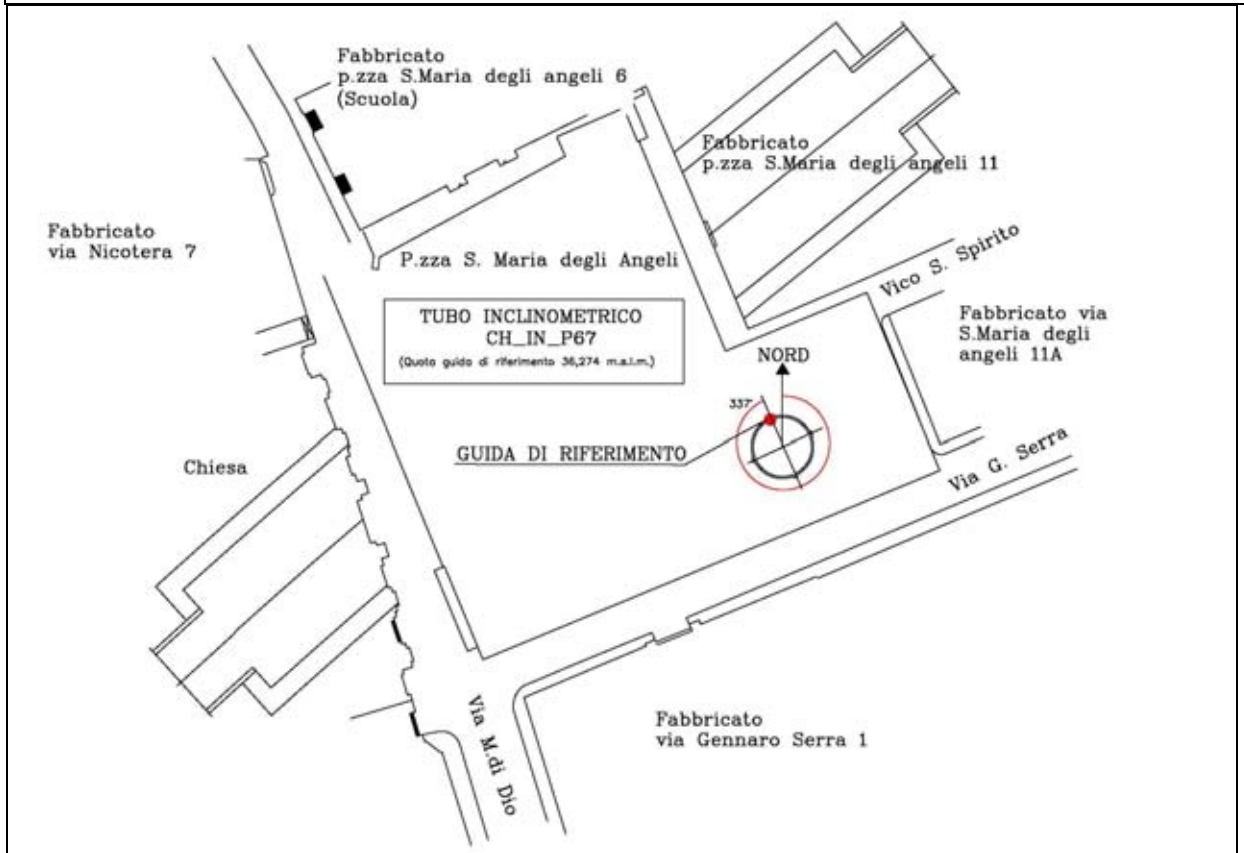
Ultima Misura **86** in data **21/01/2014 11.46**

Spostamenti Differenziali Integrali  
Diagramma polare



Inclinometro

CH\_IN\_P67



Affidabilità strumentale  
A.T.I. LM6 – TreEsse

buono  
da rivedere  
da scartare

X

Congruenza progettuale  
C.T. ATI LM6 – C.T. Monitoraggio

congruente  
non congruente, da valutare  
non congruente con implicazioni sulla  
sicurezza


**NOTE**



MISURE INCLINOMETRICHE  
ELABORAZIONE DA FONDO FORO  
-TABULATI-

Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P67**  
 Azimut di riferimento **337**  
 Quota guida rif. (m.s.l.m.) **36,274**  
 Data lettura di zero **25/11/2009**  
 Data posa in opera **18/11/2009**

Misura **138** in data **21/01/2014 11.39**

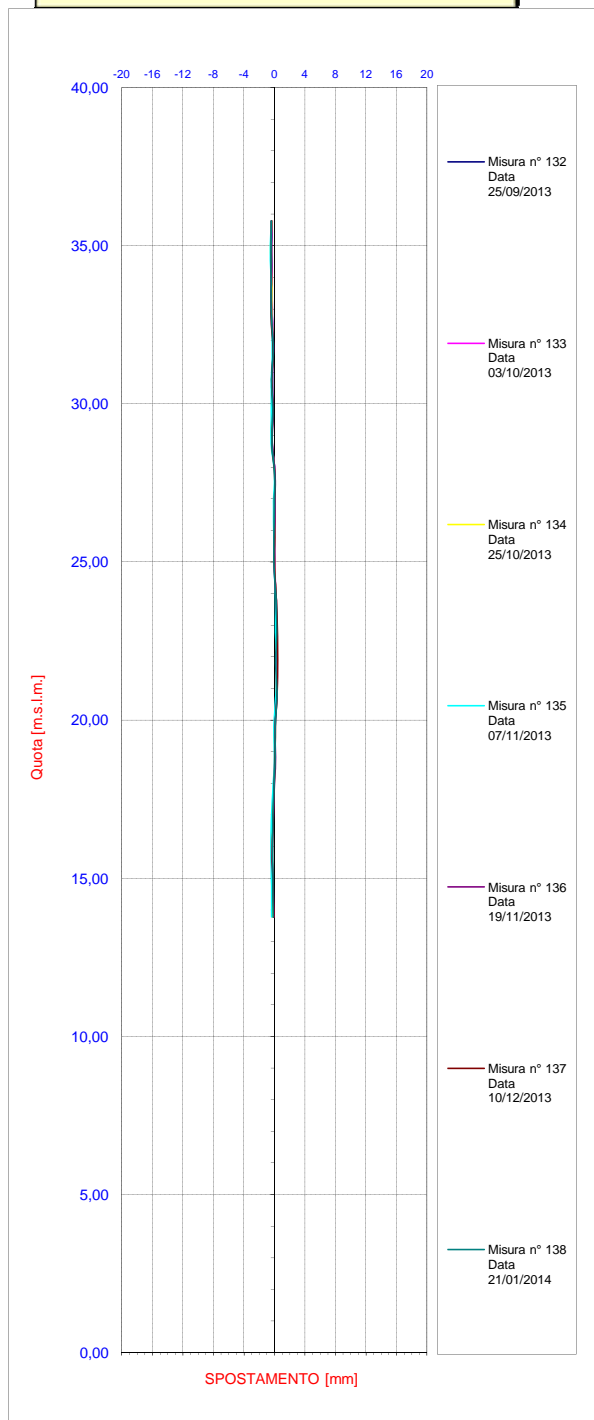
SPOSTAMENTI LOCALI (mm)				
PROFONDITA (m.s.l.m.)	EST	NORD	RISULTANTE	AZIMUT
35,8	-0,389	-0,098	0,401	255,896
34,8	-0,432	-0,052	0,435	263,080
33,8	-0,417	-0,026	0,418	266,416
32,8	-0,394	0,101	0,407	284,361
31,8	-0,140	0,161	0,213	318,927
30,8	-0,367	-0,031	0,369	265,133
29,8	-0,193	0,316	0,370	328,592
28,8	-0,327	-0,016	0,328	267,163
27,8	0,035	0,154	0,158	12,970
26,8	0,004	0,131	0,131	1,895
25,8	-0,057	0,622	0,624	354,776
24,8	-0,025	0,449	0,450	356,828
23,8	0,233	0,240	0,334	44,095
22,8	0,306	0,279	0,414	47,639
21,8	0,165	-0,383	0,417	156,733
20,8	0,348	0,136	0,374	68,643
19,8	0,101	0,293	0,310	18,995
18,8	0,115	0,209	0,239	28,938
17,8	-0,079	0,037	0,087	294,821
16,8	-0,184	0,040	0,188	282,321
15,8	-0,231	0,054	0,237	283,132
14,8	-0,167	0,006	0,167	271,900
13,8	-0,134	0,033	0,138	283,792

SPOSTAMENTI INTEGRALI (mm)				
PROFONDITA (m.s.l.m.)	EST	NORD	RISULTANTE	AZIMUT
35,8	-2,228	2,651	3,463	319,954
34,8	-1,840	2,749	3,308	326,207
33,8	-1,408	2,801	3,135	333,313
32,8	-0,991	2,827	2,996	340,692
31,8	-0,597	2,726	2,791	347,658
30,8	-0,457	2,566	2,606	349,909
29,8	-0,089	2,597	2,599	358,027
28,8	0,103	2,281	2,284	2,593
27,8	0,431	2,298	2,338	10,616
26,8	0,395	2,144	2,180	10,446
25,8	0,391	2,013	2,051	10,989
24,8	0,448	1,392	1,462	17,836
23,8	0,473	0,943	1,055	26,626
22,8	0,240	0,703	0,743	18,858
21,8	-0,066	0,424	0,429	351,204
20,8	-0,230	0,807	0,839	344,072
19,8	-0,579	0,671	0,886	319,209
18,8	-0,680	0,378	0,778	299,079
17,8	-0,795	0,169	0,813	282,008
16,8	-0,716	0,132	0,728	280,481
15,8	-0,532	0,092	0,540	279,840
14,8	-0,301	0,038	0,303	277,265
13,8	-0,134	0,033	0,138	283,792

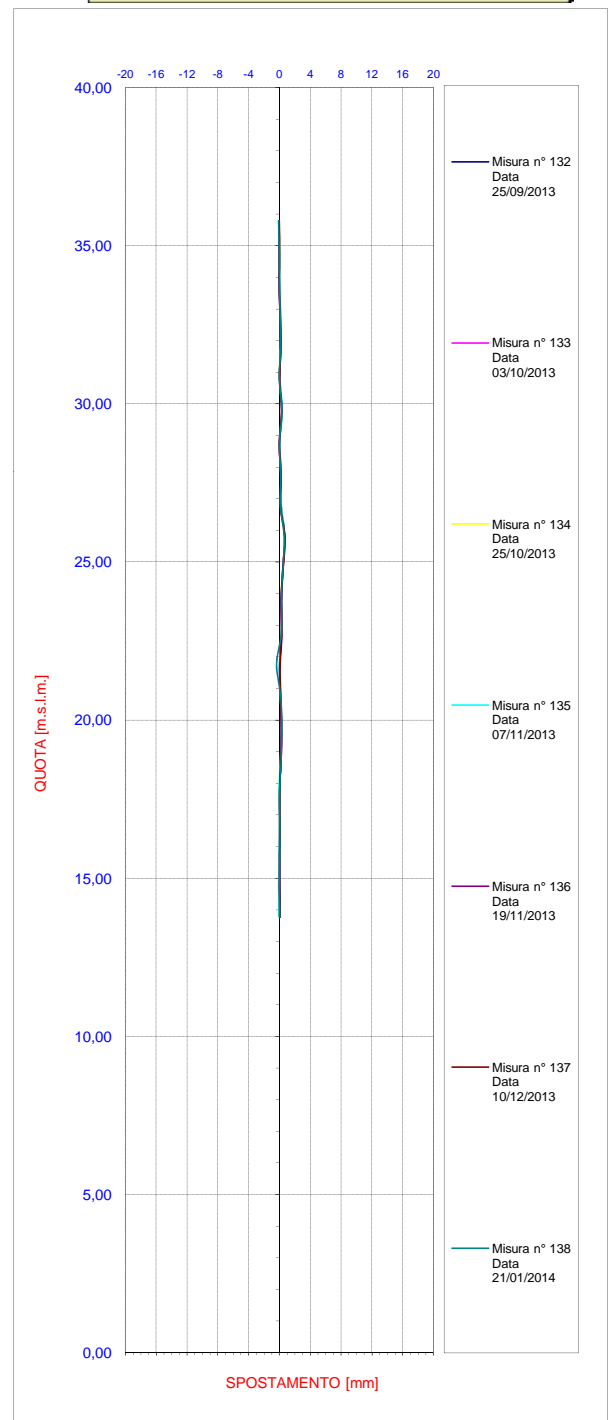
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P67**  
 Azimut di riferimento **337**  
 Quota guida rif. (m.s.l.m.) **36,274**  
 Data lettura di zero **25/11/2009**  
 Data posa in opera **18/11/2009**

Ultima Misura **138** in data **21/01/2014 11.39**

**Spostamenti Differenziali Locali**  
OVEST- (valori negativi) / EST + (valori positivi)

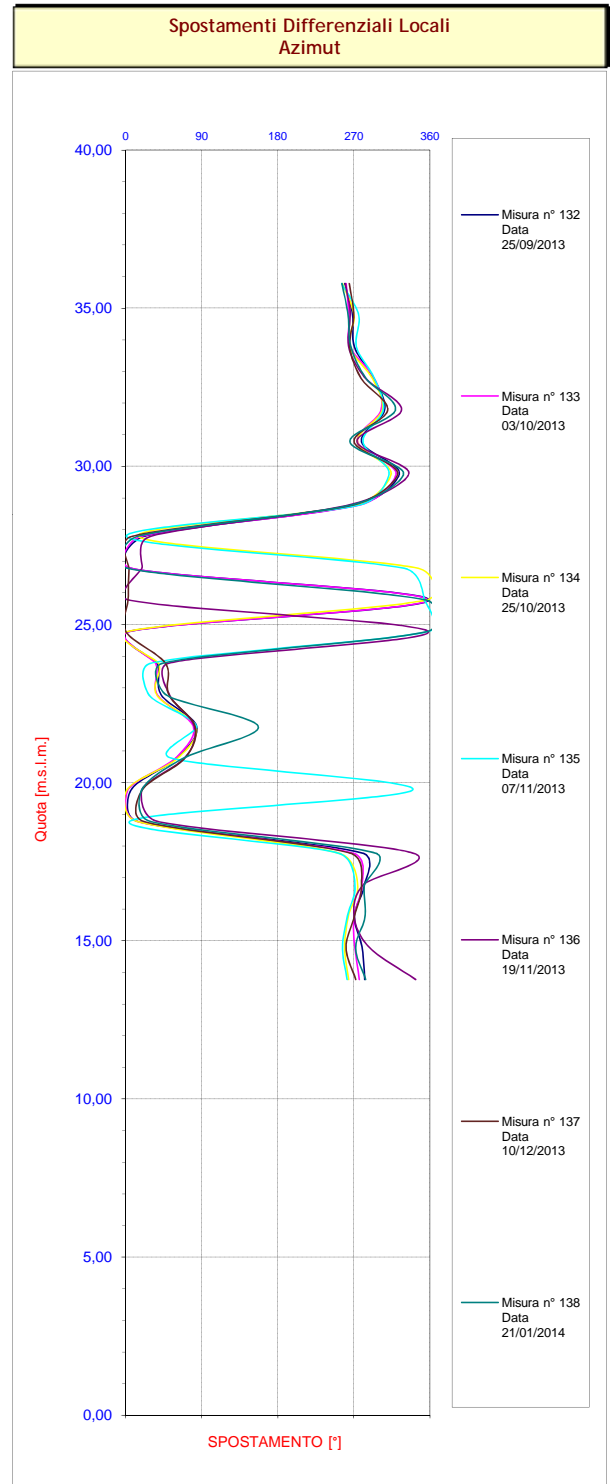
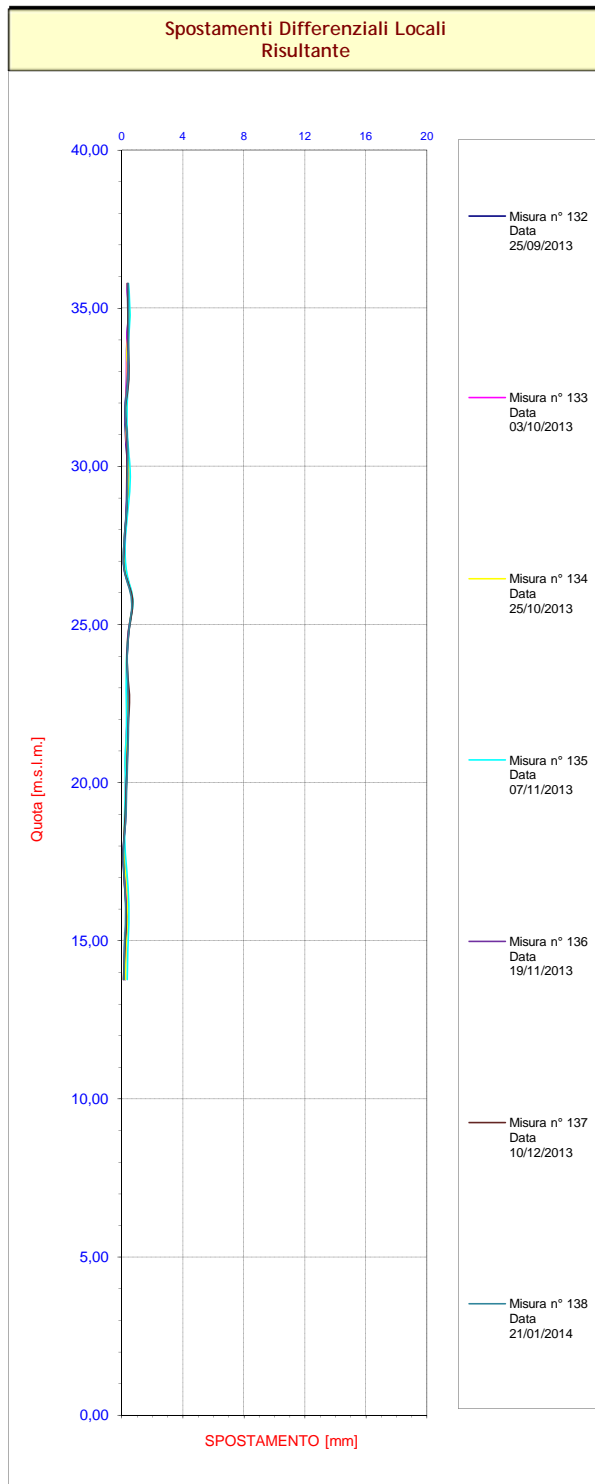


**Spostamenti Differenziali Locali**  
SUD - (valori negativi) / NORD + (valori positivi)



Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P67**  
 Azimut di riferimento **337**  
 Quota guida rif. (m.s.l.m.) **36,274**  
 Data lettura di zero **25/11/2009**  
 Data posa in opera **18/11/2009**

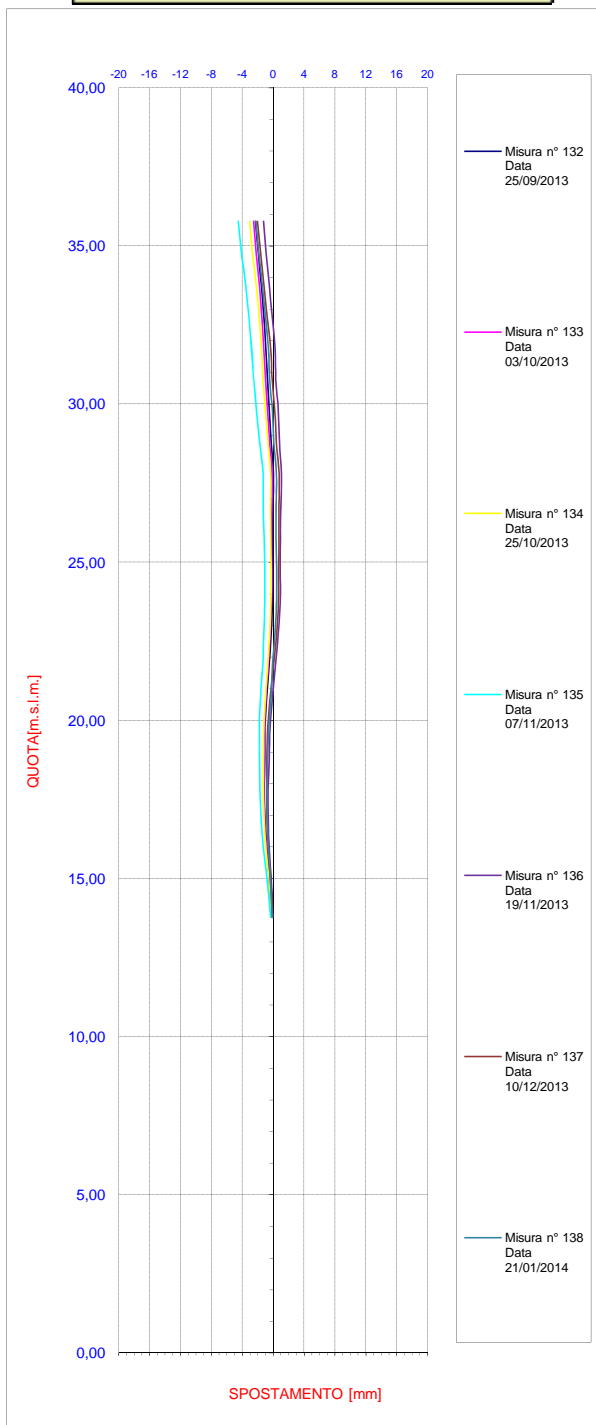
Ultima Misura **138** in data **21/01/2014 11.39**



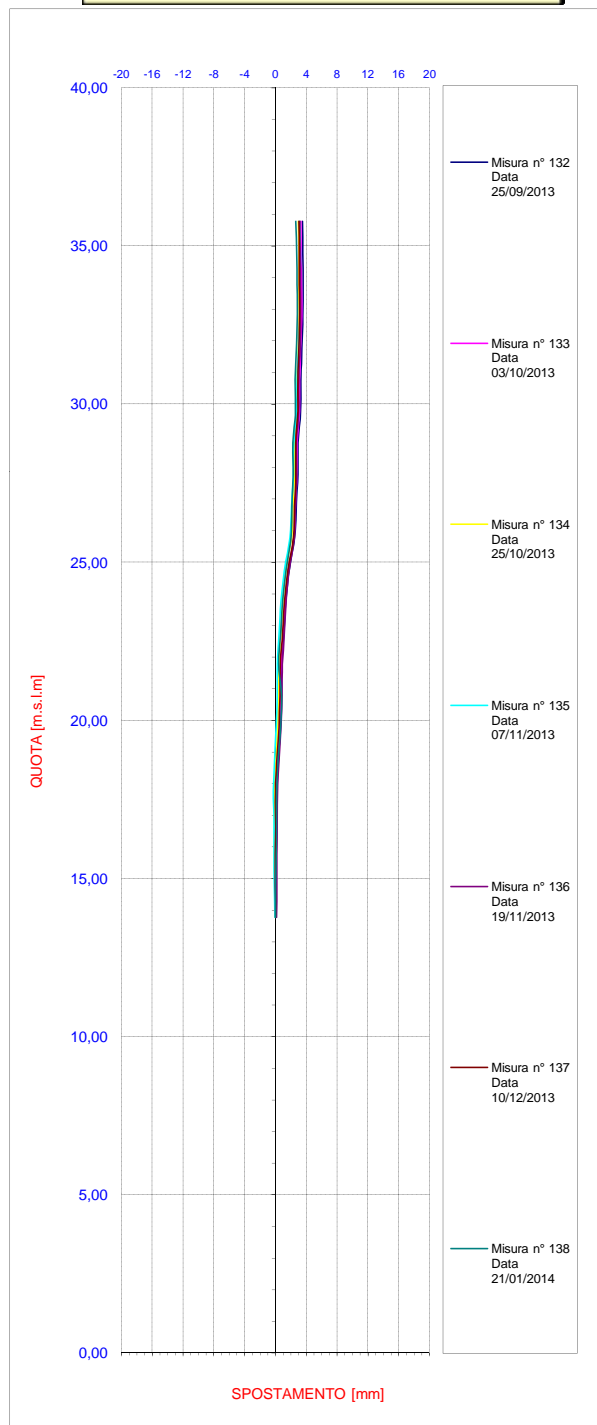
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P67**  
 Azimut di riferimento **337**  
 Quota guida rif. (m.s.l.m.) **36,274**  
 Data lettura di zero **25/11/2009**  
 Data posa in opera **18/11/2009**

Ultima Misura **138** in data **21/01/2014 11.39**

Spostamenti Differenziali Integrali  
OVEST- (valori negativi) / EST + (valori positivi)



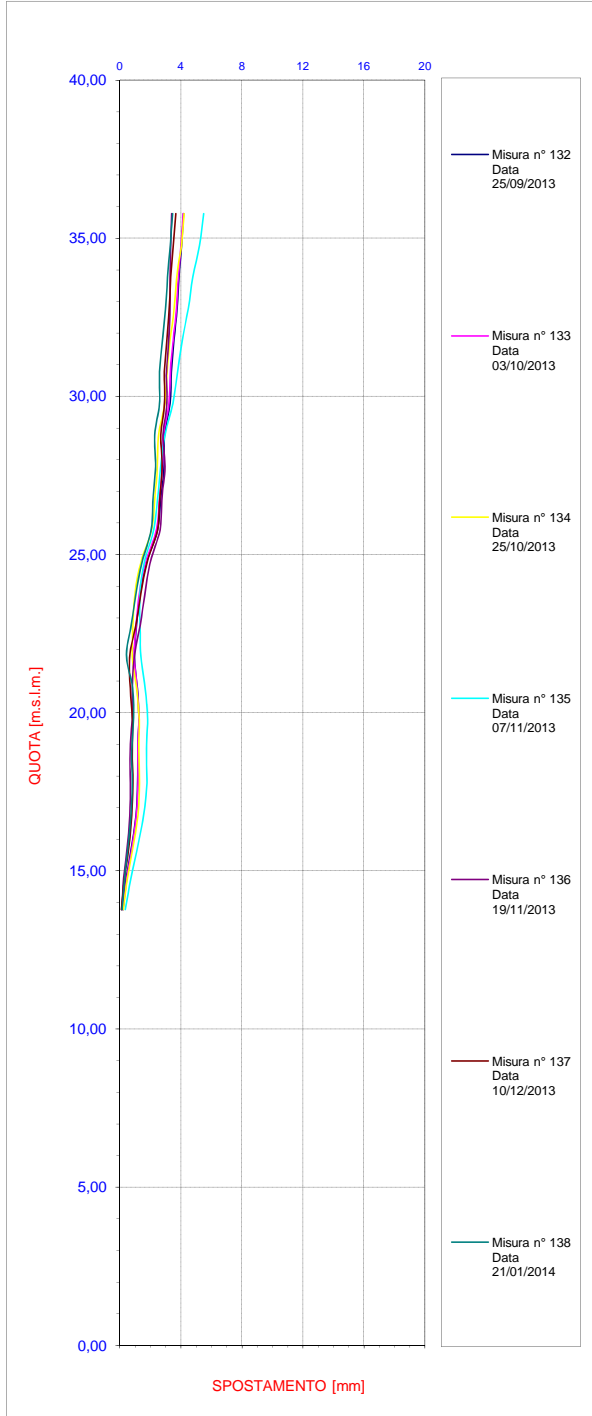
Spostamenti Differenziali Integrali  
SUD - (valori negativi) / NORD + (valori positivi)



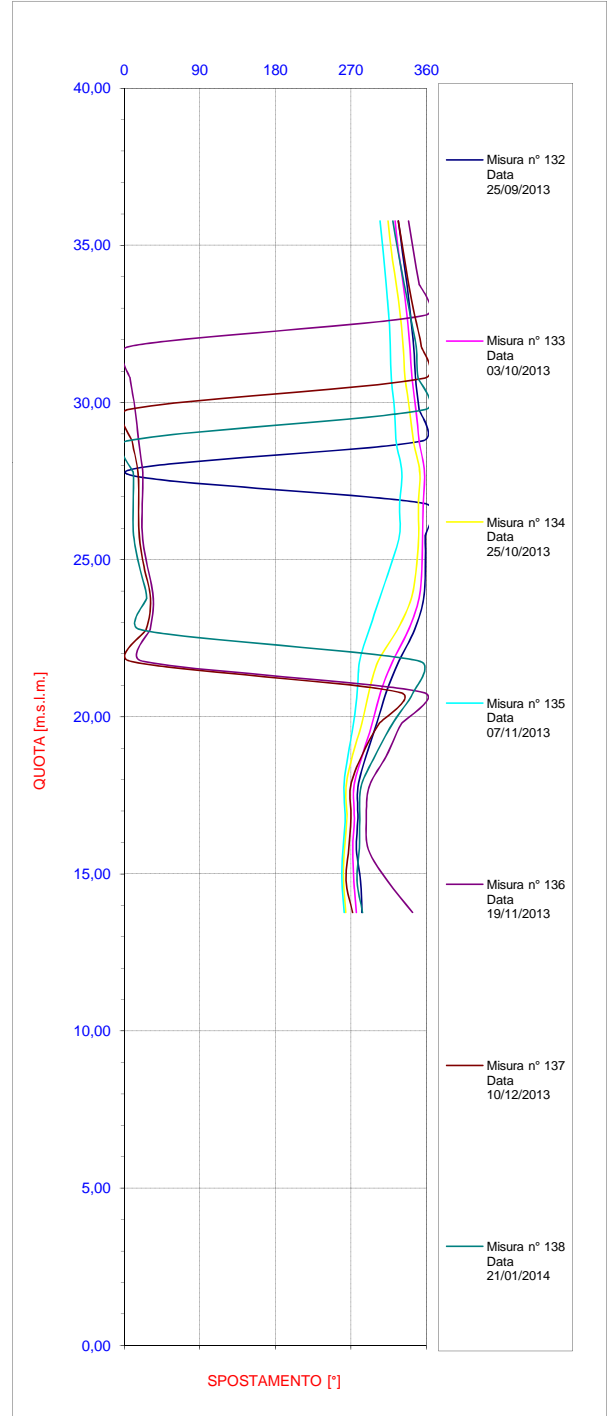
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P67**  
 Azimut di riferimento **337**  
 Quota guida rif. (m.s.l.m.) **36,274**  
 Data lettura di zero **25/11/2009**  
 Data posa in opera **18/11/2009**

Ultima Misura **138** in data **21/01/2014 11.39**

Spostamenti Differenziali Integrali Risultante



Spostamenti Differenziali Integrali Azimut

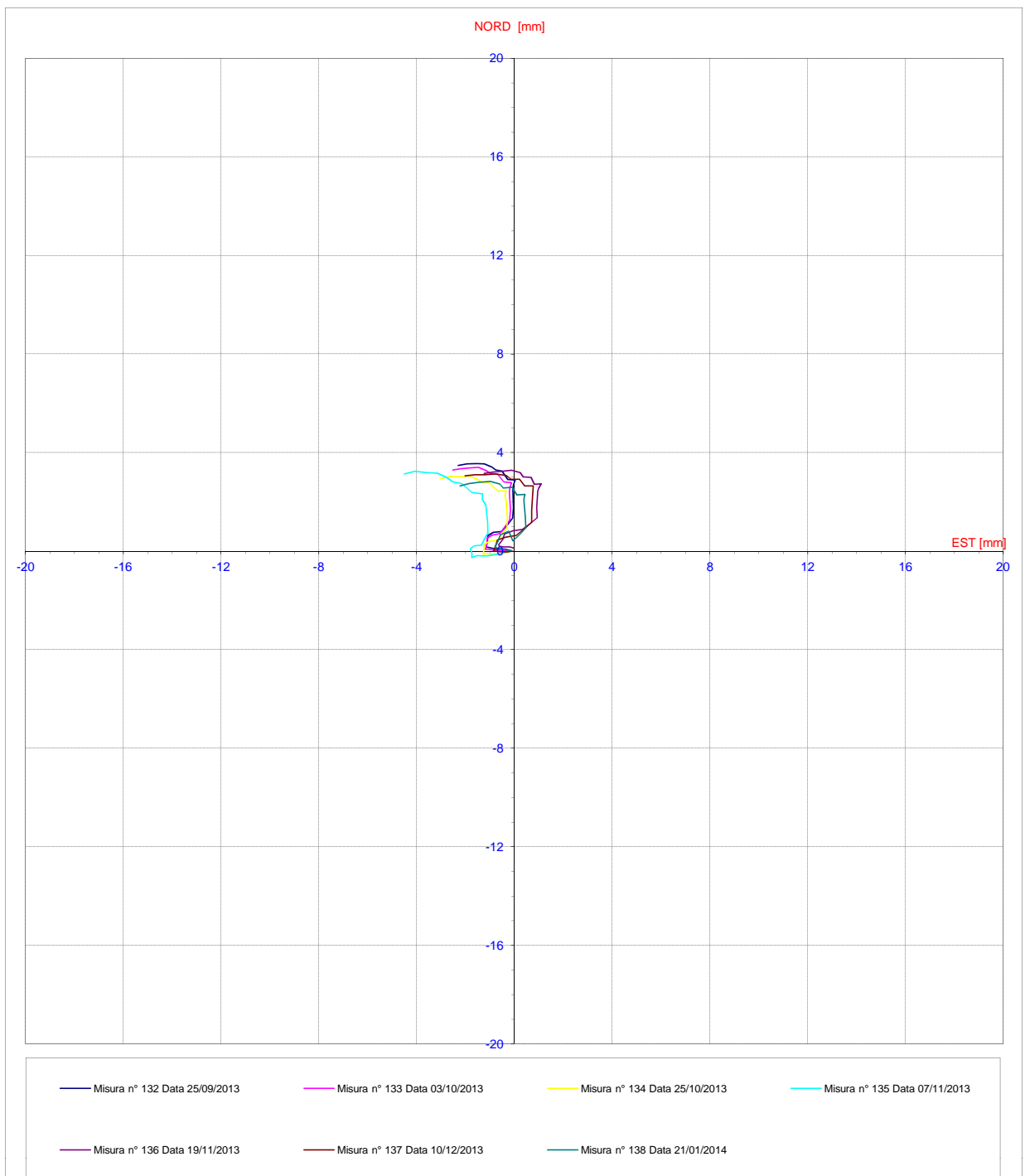


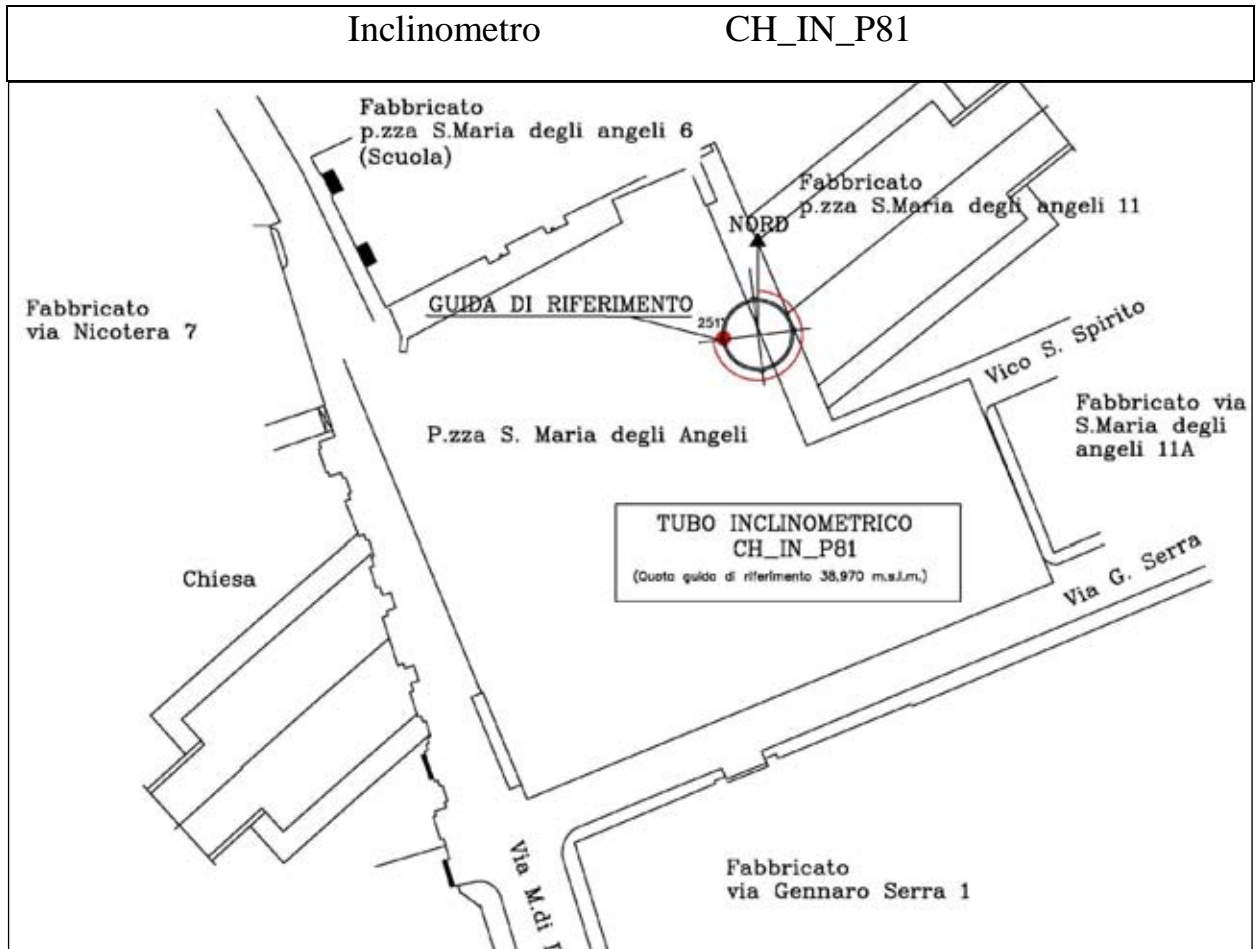


Ubicazione STAZIONE CHIAIA  
 Tipo Strumento Tubo inclinometrico  
 Nome tubo CH\_IN\_P67  
 Azimut di riferimento 337  
 Quota guida rif. (m.s.l.m.) 36,274  
 Data lettura di zero 25/11/2009  
 Data posa in opera 18/11/2009

Ultima Misura 138 in data 21/01/2014 11.39

Spostamenti Differenziali Integrali  
Diagramma polare





<b>Affidabilità strumentale</b> A.T.I. LM6 – TreEsse	<b>Congruenza progettuale</b> C.T. ATI LM6 – C.T. Monitoraggio
buono <input checked="" type="checkbox"/>	congruente <input type="checkbox"/>
da rivedere <input type="checkbox"/>	non congruente, da valutare <input type="checkbox"/>
da scartare <input type="checkbox"/>	non congruente con implicazioni sulla sicurezza <input type="checkbox"/>

<b>NOTE</b>



MISURE INCLINOMETRICHE  
ELABORAZIONE DA FONDO FORO  
-TABULATI-

Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P81**  
 Azimut di riferimento **251**  
 Quota guida rif. (m.s.l.m.) **38,97**  
 Data lettura di zero **21/01/2011**  
 Data posa in opera **21/12/2010**

Misura **85** in data **21/01/2014 11.32**

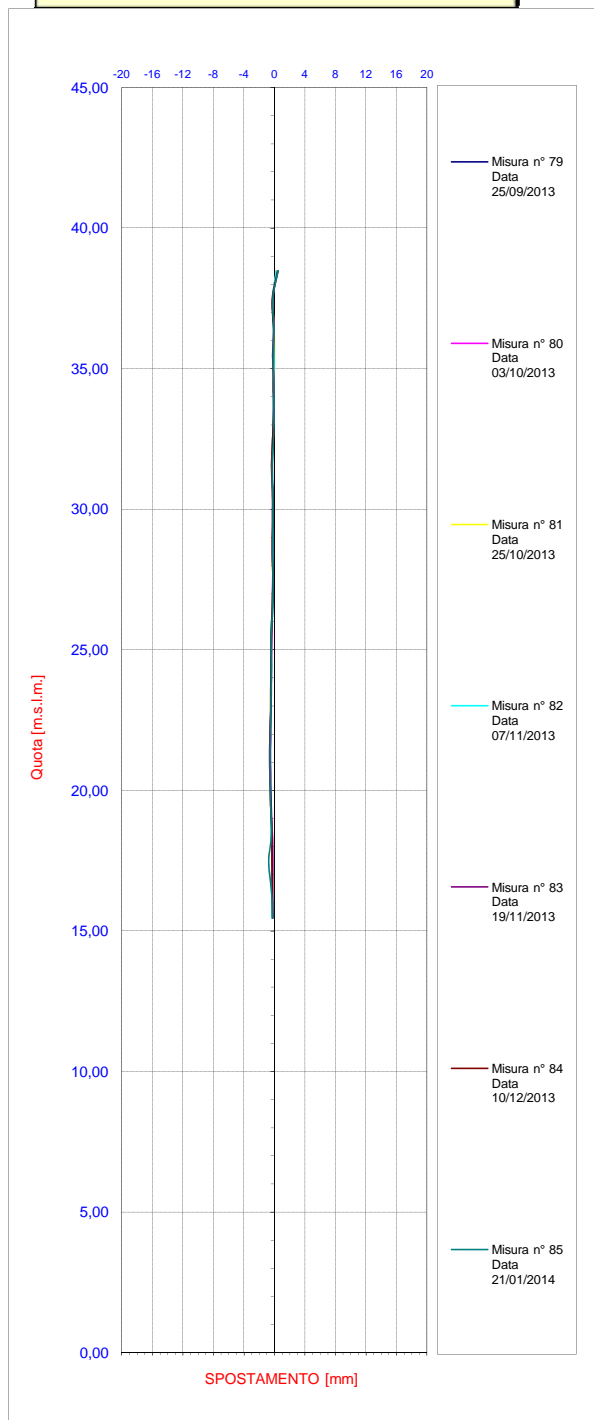
SPOSTAMENTI LOCALI (mm)				
PROFONDITA (m.s.l.m.)	EST	NORD	RISULTANTE	AZIMUT
38,5	0,472	-0,360	0,594	127,390
37,5	-0,232	-0,273	0,358	220,355
36,5	-0,093	0,161	0,186	330,101
35,5	-0,148	0,237	0,279	327,962
34,5	-0,099	0,153	0,182	327,135
33,5	-0,074	0,134	0,153	330,927
32,5	-0,134	0,081	0,157	301,062
31,5	-0,314	0,305	0,438	314,151
30,5	-0,230	0,044	0,234	280,780
29,5	-0,225	0,056	0,232	284,065
28,5	-0,254	0,007	0,254	271,551
27,5	-0,179	0,024	0,180	277,758
26,5	-0,233	-0,020	0,234	264,990
25,5	-0,436	-0,120	0,452	254,658
24,5	-0,402	-0,154	0,431	249,005
23,5	-0,451	-0,121	0,467	255,013
22,5	-0,518	-0,194	0,553	249,444
21,5	-0,592	-0,093	0,599	261,037
20,5	-0,573	-0,160	0,595	254,374
19,5	-0,498	-0,180	0,530	250,097
18,5	-0,408	-0,290	0,501	234,590
17,5	-0,757	-0,202	0,783	255,025
16,5	-0,408	-0,083	0,416	258,476
15,5	-0,229	-0,143	0,270	237,993

SPOSTAMENTI INTEGRALI (mm)				
PROFONDITA (m.s.l.m.)	EST	NORD	RISULTANTE	AZIMUT
38,5	-7,014	-1,193	7,115	260,347
37,5	-7,486	-0,833	7,532	263,654
36,5	-7,254	-0,560	7,275	265,588
35,5	-7,161	-0,721	7,197	264,249
34,5	-7,013	-0,958	7,078	262,220
33,5	-6,914	-1,111	7,003	260,870
32,5	-6,840	-1,245	6,952	259,684
31,5	-6,705	-1,326	6,835	258,814
30,5	-6,391	-1,631	6,596	255,687
29,5	-6,162	-1,674	6,385	254,797
28,5	-5,936	-1,731	6,184	253,746
27,5	-5,683	-1,738	5,942	252,997
26,5	-5,504	-1,762	5,779	252,249
25,5	-5,271	-1,742	5,551	251,716
24,5	-4,835	-1,622	5,100	251,456
23,5	-4,433	-1,468	4,670	251,681
22,5	-3,982	-1,347	4,204	251,312
21,5	-3,464	-1,153	3,651	251,595
20,5	-2,873	-1,060	3,062	249,756
19,5	-2,300	-0,899	2,469	248,644
18,5	-1,802	-0,719	1,940	248,248
17,5	-1,393	-0,429	1,458	252,902
16,5	-0,637	-0,226	0,676	250,441
15,5	-0,229	-0,143	0,270	237,993

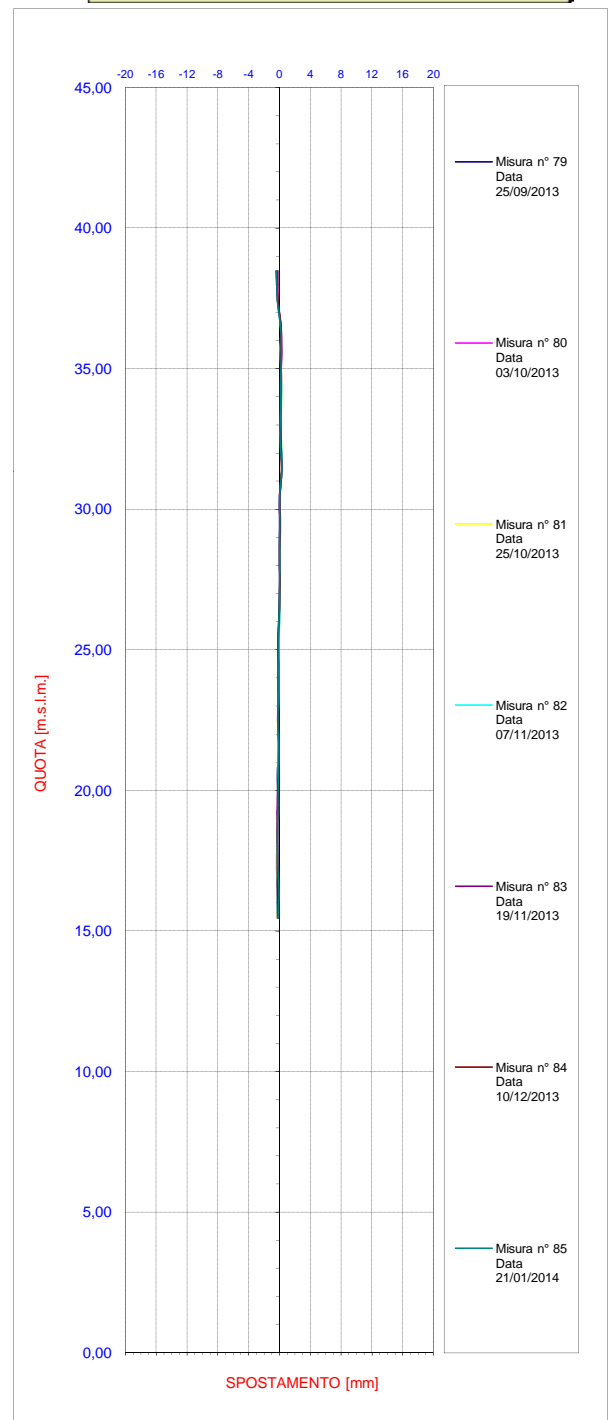
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P81**  
 Azimut di riferimento **251**  
 Quota guida rif. (m.s.l.m.) **38,97**  
 Data lettura di zero **21/01/2011**  
 Data posa in opera **21/12/2010**

Ultima Misura **85** in data **21/01/2014 11.32**

Spostamenti Differenziali Locali  
OVEST- (valori negativi) / EST + (valori positivi)

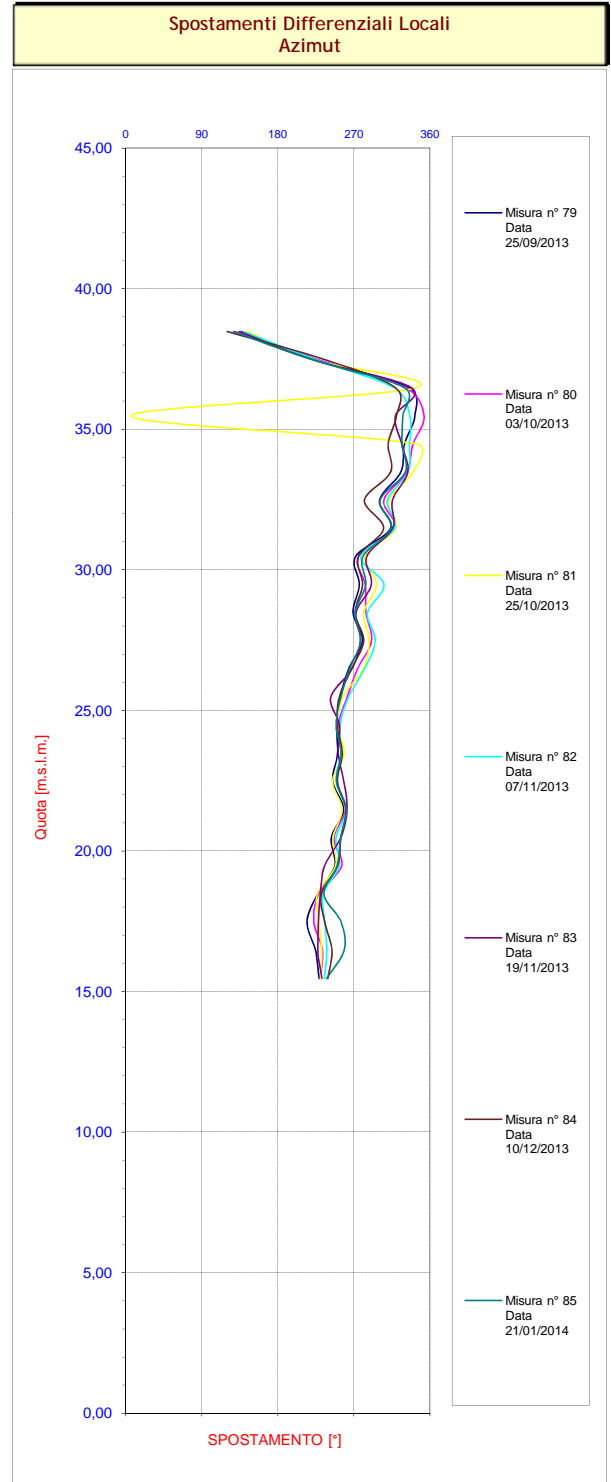
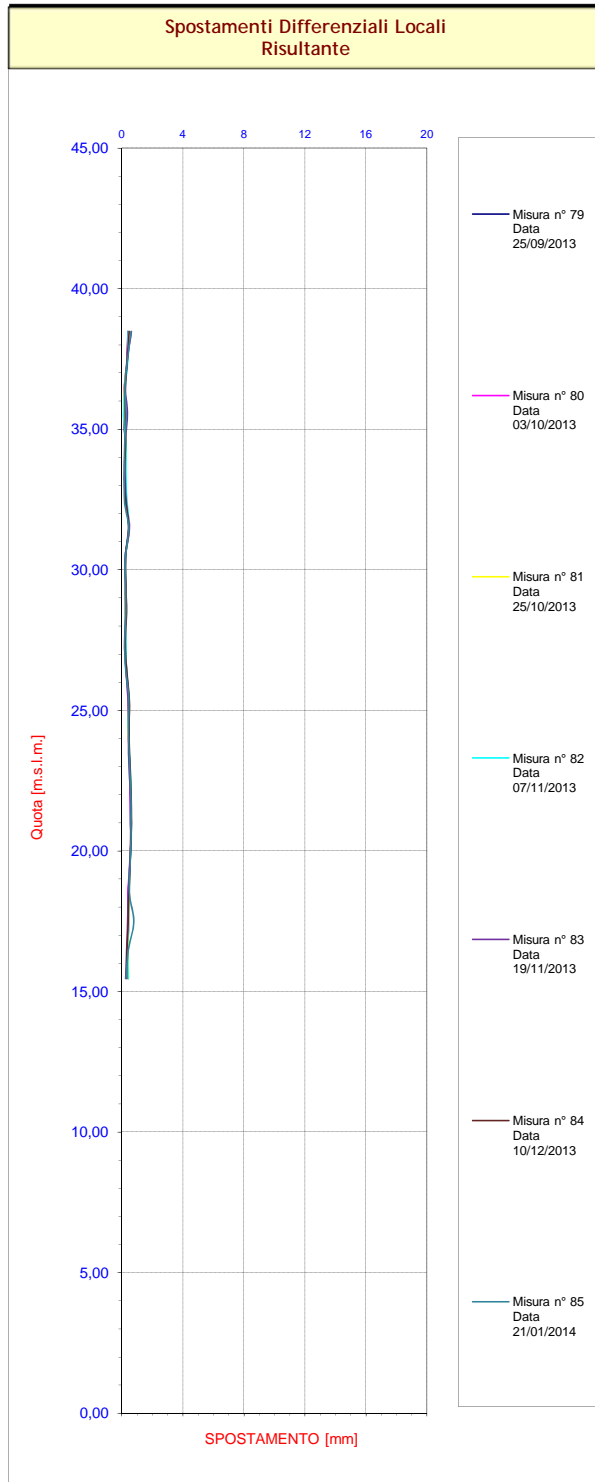


Spostamenti Differenziali Locali  
SUD - (valori negativi) / NORD + (valori positivi)



Ubicazione STAZIONE CHIAIA  
 Tipo Strumento Tubo inclinometrico  
 Nome tubo CH\_IN\_P81  
 Azimut di riferimento 251  
 Quota guida rif. (m.s.l.m.) 38,97  
 Data lettura di zero 21/01/2011  
 Data posa in opera 21/12/2010

Ultima Misura 85 in data 21/01/2014 11.32



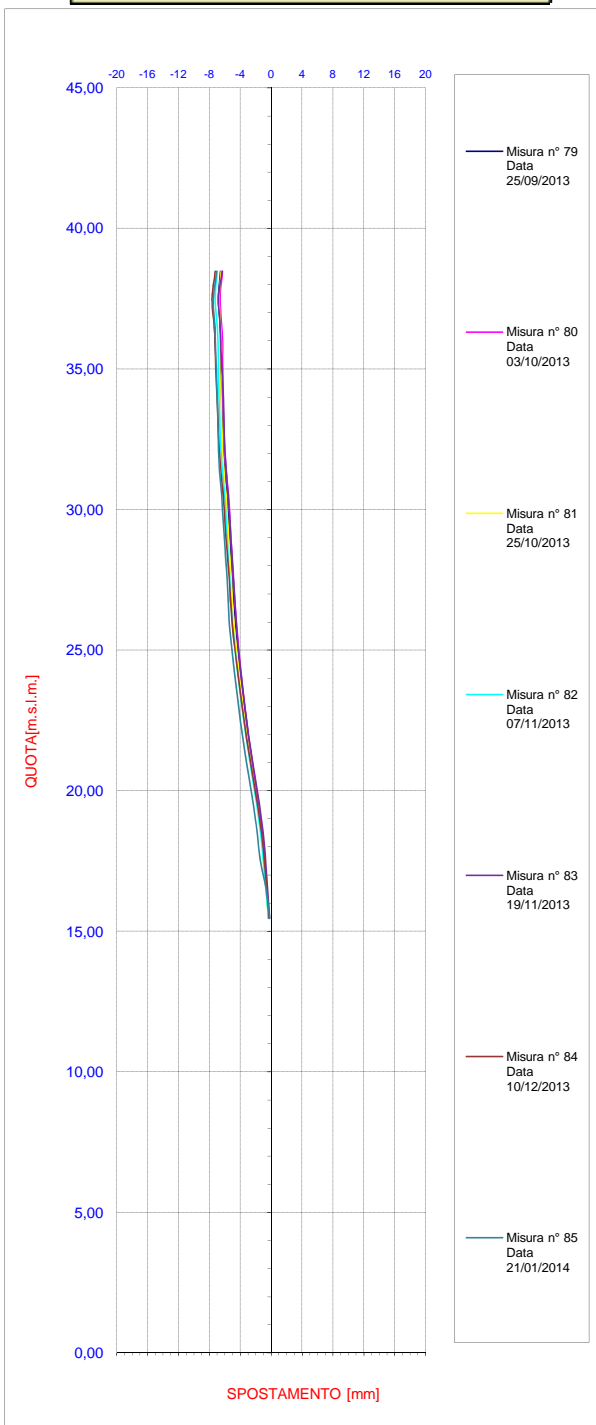


MISURE INCLINOMETRICHE  
ELABORAZIONE DA FONDO FORO  
-GRAFICI-3/5

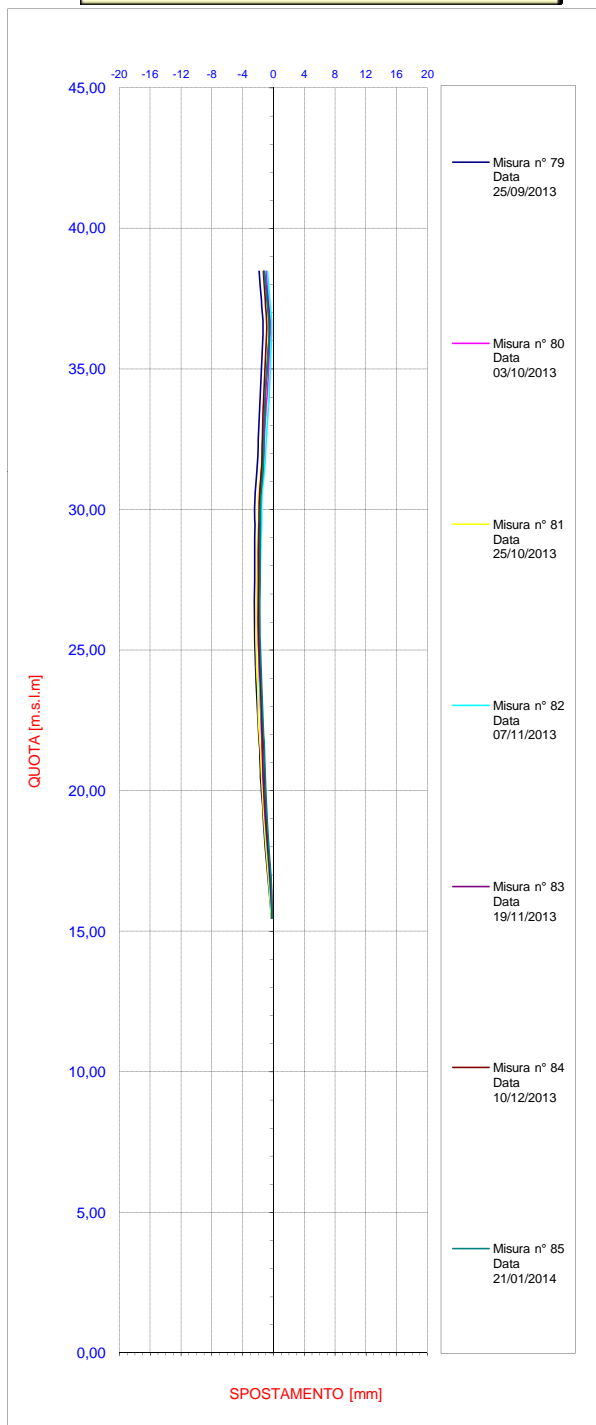
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P81**  
 Azimut di riferimento **251**  
 Quota guida rif. (m.s.l.m.) **38,97**  
 Data lettura di zero **21/01/2011**  
 Data posa in opera **21/12/2010**

Ultima Misura **85** in data **21/01/2014 11.32**

Spostamenti Differenziali Integrali  
OVEST- (valori negativi) / EST + (valori positivi)



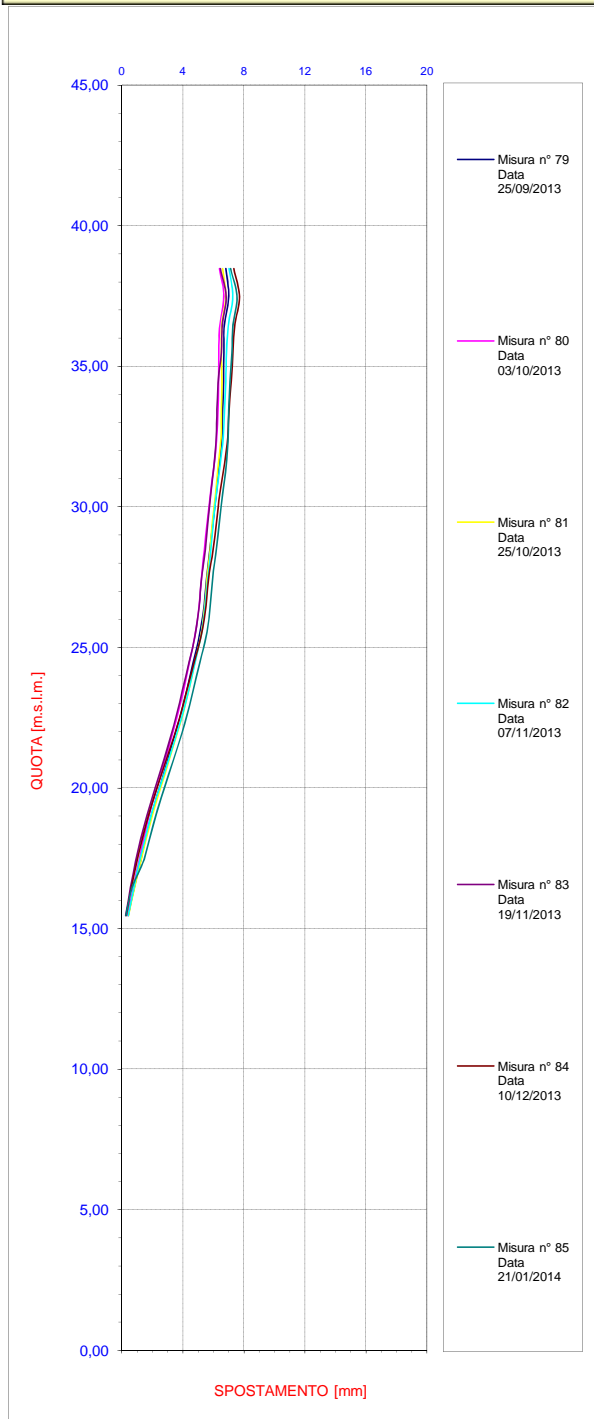
Spostamenti Differenziali Integrali  
SUD - (valori negativi) / NORD + (valori positivi)



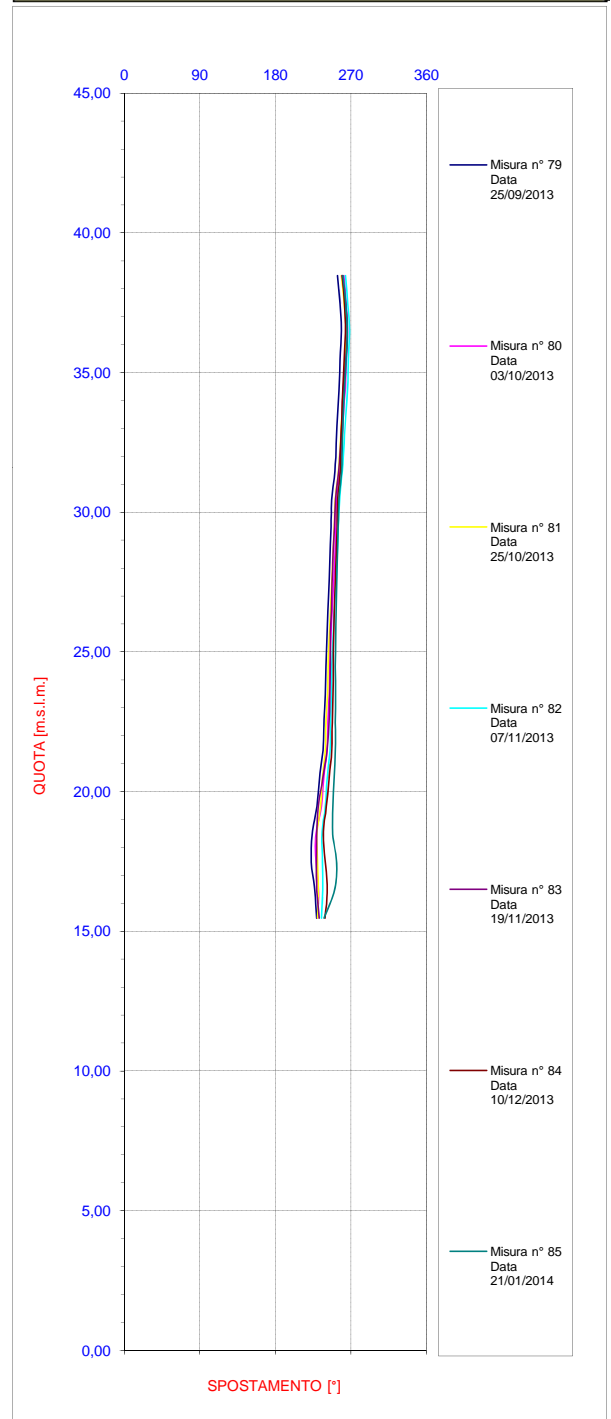
Ubicazione **STAZIONE CHIAIA**  
 Tipo Strumento **Tubo inclinometrico**  
 Nome tubo **CH\_IN\_P81**  
 Azimut di riferimento **251**  
 Quota guida rif. (m.s.l.m.) **38,97**  
 Data lettura di zero **21/01/2011**  
 Data posa in opera **21/12/2010**

Ultima Misura **85** in data **21/01/2014 11.32**

Spostamenti Differenziali Integrali Risultante



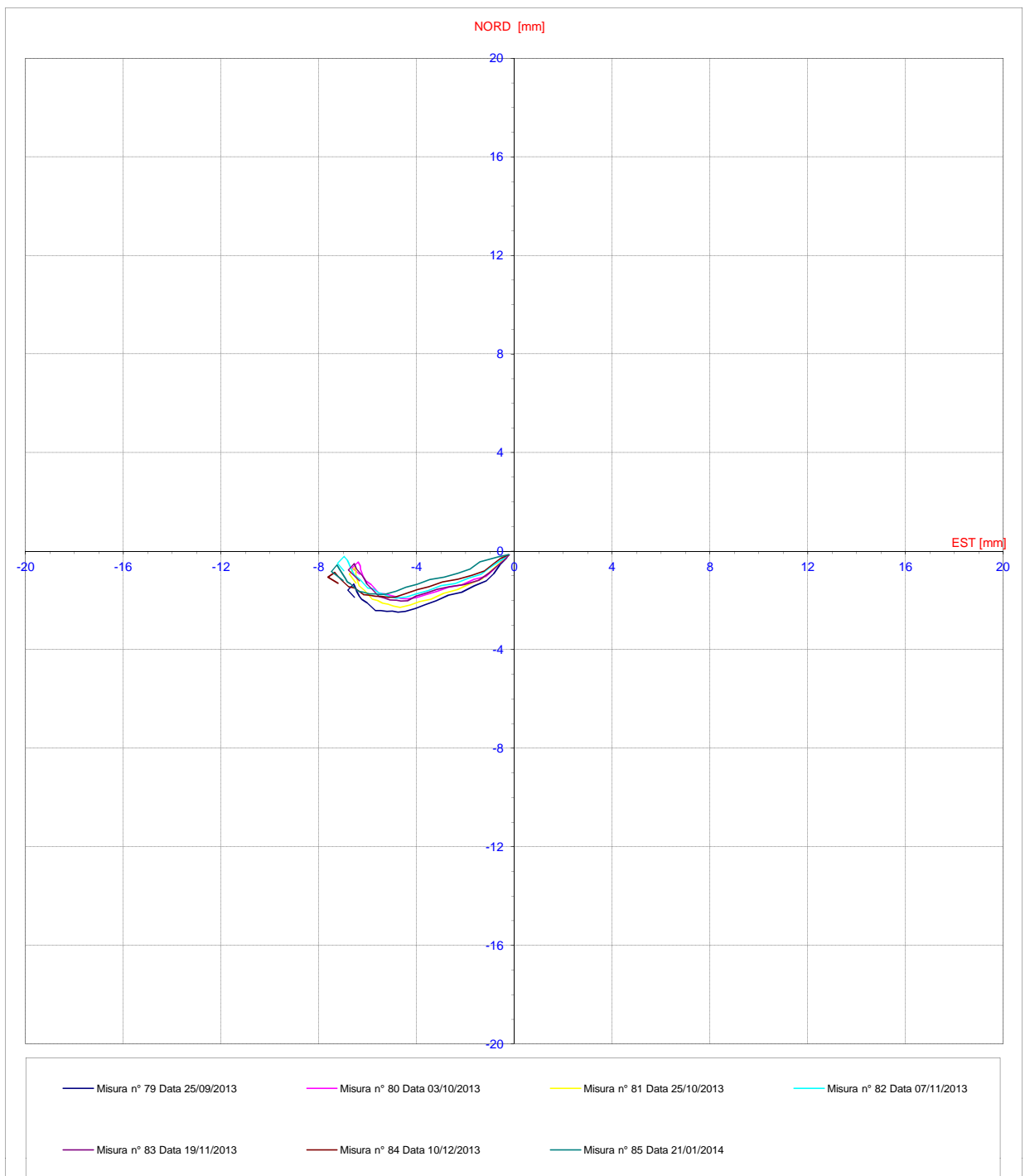
Spostamenti Differenziali Integrali Azimut




Ubicazione STAZIONE CHIAIA  
 Tipo Strumento Tubo inclinometrico  
 Nome tubo CH\_IN\_P81  
 Azimut di riferimento 251  
 Quota guida rif. (m.s.l.m.) 38,97  
 Data lettura di zero 21/01/2011  
 Data posa in opera 21/12/2010

Ultima Misura 85 in data 21/01/2014 11.32

Spostamenti Differenziali Integrali  
Diagramma polare





 <p><b>Ansaldo STS</b> A Finmeccanica Company</p>	<p><b>LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO</b></p> <p><i>OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO</i> <i>REPORT DELLE MISURE - STAZIONE CHIAIA</i></p>	<p>LM6 7FX 2C I 28 Data: 21/01/14 Metropolitana di Napoli A.T.I. LM6 TreEsse Engineering S.r.l.</p>
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## **8. MISURE GEOTECNICHE – BARRETTE ESTENSIMETRICHE A CORDA VIBRANTE**

Gli estensimetri a corda vibrante sono costituiti da un filo d'acciaio, teso tra due supporti ancorati alla struttura da monitorare e messo in vibrazione da un elettromagnete.

Le deformazioni della struttura causano un movimento dei due supporti, facendo variare il tensionamento del filo. Questa variazione di tesatura provoca un mutamento della frequenza di vibrazione della corda, che risulta proporzionale alle deformazioni agenti.

Tutte le barrette estensimetriche installate sono del tipo a corda vibrante per metallo, rese solidali alla struttura mediante saldatura.


 <p><b>Ansaldo STS</b> A Finmeccanica Company</p>	<p><b>LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO</b></p> <p><i>OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO REPORT DELLE MISURE - STAZIONE CHIAIA</i></p>	<p>LM6 7FX 2C 128 Data: 21/01/14 Metropolitana di Napoli A.T.I. LM6 TreEsse Engineering S.r.l.</p>
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Tabelle Riepilogative Per Le Barrette Estensimetriche Installate In Cantiere

Tabella Pannello N°13

NOME	TIPOLOGIA STRUMENTAZIONE	DATA INSTALL.	DISPONIBILITA' LETTURA			NOTE
			DATA LETT. DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
CH_P13_S1	BARRETTE ESTENSIMETRICHE A C.V.	07/01/09	03/09/09			
CH_P13_S2	BARRETTE ESTENSIMETRICHE A C.V.	07/01/09				Non funzionante
CH_P13_S3	BARRETTE ESTENSIMETRICHE A C.V.	07/01/09	03/09/09			
CH_P13_S4	BARRETTE ESTENSIMETRICHE A C.V.	07/01/09	03/09/09			
CH_P13_S5	BARRETTE ESTENSIMETRICHE A C.V.	07/01/09	03/09/09			
CH_P13_S6	BARRETTE ESTENSIMETRICHE A C.V.	07/01/09	03/09/09			

Tabella Pannello N°50

NOME	TIPOLOGIA STRUMENTAZIONE	DATA INSTALL.	DISPONIBILITA' LETTURA			NOTE
			DATA LETT. DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
CH_P50_S1	BARRETTE ESTENSIMETRICHE A C.V.	20/01/09	03/09/09			
CH_P50_S2	BARRETTE ESTENSIMETRICHE A C.V.	20/01/09	03/09/09			
CH_P50_S3	BARRETTE ESTENSIMETRICHE A C.V.	20/01/09	03/09/09			
CH_P50_S4	BARRETTE ESTENSIMETRICHE A C.V.	20/01/09	03/09/09			
CH_P50_S5	BARRETTE ESTENSIMETRICHE A C.V.	20/01/09	03/09/09			
CH_P50_S6	BARRETTE ESTENSIMETRICHE A C.V.	20/01/09	03/09/09			


 <b>Ansaldo STS</b> A Finmeccanica Company	<b>LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO</b> <b>OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO</b> <b>REPORT DELLE MISURE - STAZIONE CHIAIA</b>	LM6 7FX 2C 128 Data: 21/01/14 Metropolitana di Napoli A.T.I. LM6 TreEsse Engineering S.r.l.
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Tabella Pannello N°67

NOME	TIPOLOGIA STRUMENTAZIONE	DATA INSTALL.	DISPONIBILITA' LETTURA			NOTE
			DATA LETT. DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
CH_P67_S1	BARRETTE ESTENSIMETRICHE A C.V.	04/03/09	03/09/09		28/09/11	Lo strumento restituisce valore discontinuo
CH_P67_S2	BARRETTE ESTENSIMETRICHE A C.V.	04/03/09	03/09/09			
CH_P67_S3	BARRETTE ESTENSIMETRICHE A C.V.	04/03/09	03/09/09			
CH_P67_S4	BARRETTE ESTENSIMETRICHE A C.V.	04/03/09	03/09/09			
CH_P67_S5	BARRETTE ESTENSIMETRICHE A C.V.	04/03/09	03/09/09			
CH_P67_S6	BARRETTE ESTENSIMETRICHE A C.V.	04/03/09	03/09/09			

Tabella Pannello N°81

NOME	TIPOLOGIA STRUMENTAZIONE	DATA INSTALL.	DISPONIBILITA' LETTURA			NOTE
			DATA LETT. DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
CH_P81_S1	BARRETTE ESTENSIMETRICHE A C.V.	31/03/09	03/09/09		20/04/11	(*)
CH_P81_S2	BARRETTE ESTENSIMETRICHE A C.V.	31/03/09	03/09/09		20/04/11	(*)
CH_P81_S3	BARRETTE ESTENSIMETRICHE A C.V.	31/03/09	03/09/09		20/04/11	(*)
CH_P81_S4	BARRETTE ESTENSIMETRICHE A C.V.	31/03/09	03/09/09		25/03/10	(*)
CH_P81_S5	BARRETTE ESTENSIMETRICHE A C.V.	31/03/09	03/09/09		20/04/11	(*)
CH_P81_S6	BARRETTE ESTENSIMETRICHE A C.V.	31/03/09	03/09/09		20/04/11	(*)
CH_P81_S7	BARRETTE ESTENSIMETRICHE A C.V.	31/03/09				(*)
CH_P81_S8	BARRETTE ESTENSIMETRICHE A C.V.	31/03/09	03/09/09		20/04/11	(*)

(\*) Le barrette estensimetriche non restituiscono un segnale coerente pertanto non verranno più inserite nel programma di monitoraggio.


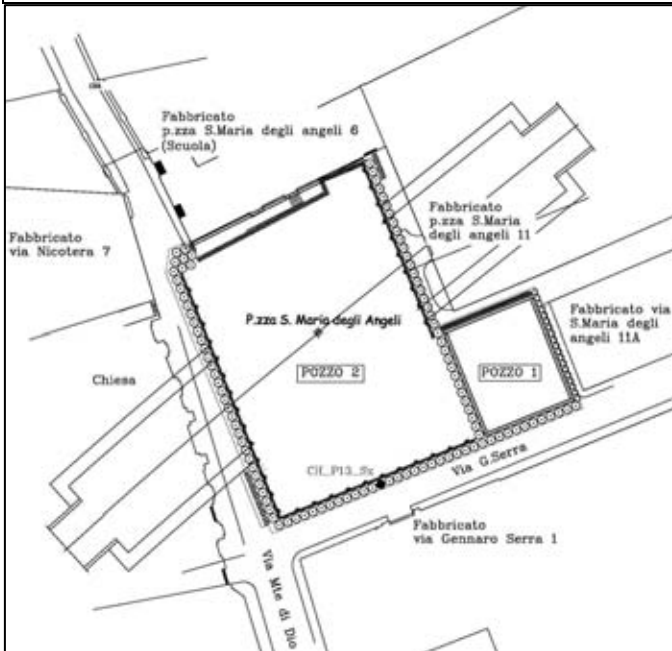
 <p><b>Ansaldo STS</b> A Finmeccanica Company</p>	<p><b>LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO</b></p> <p><i>OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO</i></p> <p><i>REPORT DELLE MISURE - STAZIONE CHIAIA</i></p>	<p>LM6 7FX 2C I 28 Data: 21/01/14 Metropolitana di Napoli A.T.I. LM6 TreEsse Engineering S.r.l.</p>
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Tabella Puntoni PU1 e PU2

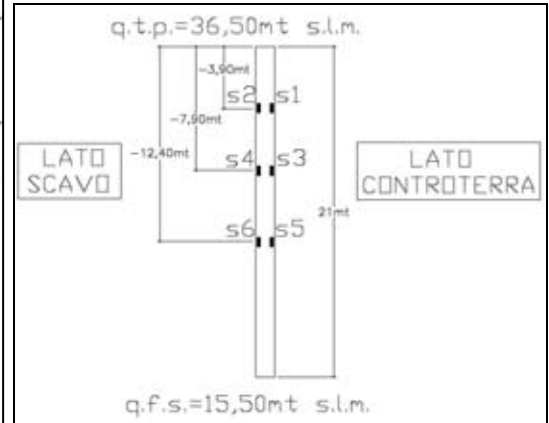
NOME	TIPOLOGIA STRUMENTAZIONE	DATA INSTALL.	DISPONIBILITA' LETTURA			NOTE
			DATA LETT. DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
CH_PU1_S1	BARRETTE ESTENSIMETRICHE A C.V.	12/09/11	14/09/11			
CH_PU1_S2	BARRETTE ESTENSIMETRICHE A C.V.	12/09/11	14/09/11			
CH_PU1_S3	BARRETTE ESTENSIMETRICHE A C.V.	12/09/11	14/09/11			
CH_PU1_S4	BARRETTE ESTENSIMETRICHE A C.V.	12/09/11	14/09/11			
CH_PU2_S5	BARRETTE ESTENSIMETRICHE A C.V.	12/09/11	14/09/11			
CH_PU2_S6	BARRETTE ESTENSIMETRICHE A C.V.	12/09/11	14/09/11		15/10/12	Danneggiata. nessun valore
CH_PU2_S6_1	BARRETTE ESTENSIMETRICHE A C.V.	19/11/12	19/11/12			Sostituisce la CH_PU2_S6
CH_PU2_S7	BARRETTE ESTENSIMETRICHE A C.V.	12/09/11	14/09/11			
CH_PU2_S8	BARRETTE ESTENSIMETRICHE A C.V.	12/09/11	14/09/11			

Pannello strumentato

CH\_P13



SCHEMA INSTALLAZIONE  
STRUMENT. GEOTECNICA  
(BECV PER METALLO)  
PALO N°13



Le barrette con numero progressivi dispari (s1,s3,s5) sono installate lato contro terra, mentre quelle con numero pari (s2,s4,s6) sono poste lato scavo; la direzione di installazione è parallela all'asse di scavo.

Affidabilità strumentale

A.T.I. LM6 – TreEsse

buono  
da rivedere  
da scartare

X

Congruenza progettuale

C.T. ATI LM6 – C.T.  
Monitoraggio

congruente  
non congruente, da valutare  
non congruente con implicazioni  
sulla sicurezza


**NOTE**

Le elaborazioni di seguito riportate includono lo storico delle misure.

La barretta estensimetrica a c.v. CH\_P13\_S2 non è funzionante.



**TABULATI**

Ubicazione STAZIONE CHIAIA

Opera \ \ P13

Strumento Barretta Est. per Metallo

Data posa in opera 03/09/2009

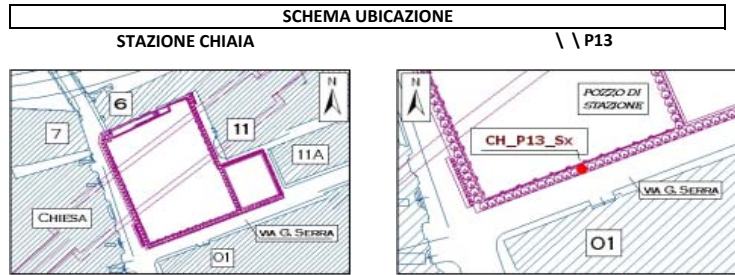
Data lettura di zero 03/09/2009

Ultima Misura 165 in data 21/01/2014

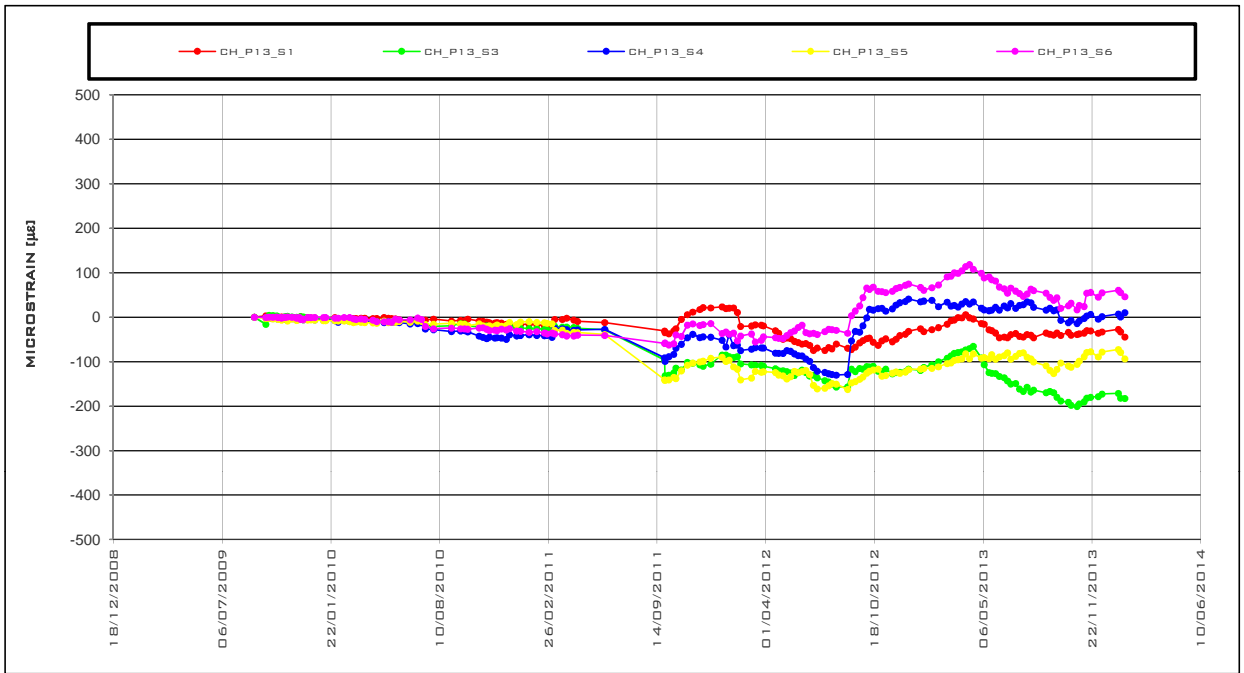
Letture n°	DATA	CH_P13_S1		CH_P13_S3		CH_P13_S4		CH_P13_S5		CH_P13_S6	
		Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]
112	8/10/12 10.00	-46,8	19,2	-111,8	17,6	17,9	24,0	-121,2	16,8	62,6	25,6
113	15/10/12 11.00	-56,1	19,1	-110,2	17,4	16,2	24,2	-118,3	16,7	67,9	25,7
114	24/10/12 11.00	-63,0	19,2	-121,1	17,5	19,5	24,8	-116,7	16,5	58,5	25,6
115	31/10/12 11.30	-52,9	18,7	-121,9	17,1	20,3	24,2	-132,5	16,2	57,7	25,2
116	7/11/12 11.00	-48,4	18,4	-116,7	17,2	13,8	24,0	-130,9	16,0	55,7	24,7
117	19/11/12 15.00	-54,9	18,2	-127,2	17,0	19,1	24,1	-125,6	16,1	58,5	24,6
118	26/11/12 11.00	-49,2	18,0	-124,0	16,6	27,6	23,8	-122,8	16,0	64,6	24,1
119	3/12/12 10.00	-41,1	18,0	-123,6	16,3	32,9	23,9	-126,1	15,4	67,4	24,0
120	13/12/12 10.30	-38,2	17,9	-122,0	16,1	35,7	23,8	-123,2	15,3	71,9	23,7
121	19/12/12 10.00	-31,7	18,1	-116,7	16,2	41,0	23,9	-117,9	15,4	74,7	23,6
122	10/1/13 10.00	-25,7	17,6	-119,5	16,3	34,9	22,4	-116,7	15,5	67,4	22,0
123	16/1/13 10.45	-32,2	17,4	-112,6	16,2	36,5	22,2	-115,1	15,3	60,9	21,8
124	31/1/13 9.30	-27,7	17,1	-106,9	16,0	38,1	22,0	-114,7	15,0	66,6	21,6
125	12/2/13 11.30	-23,2	16,8	-100,0	15,9	23,9	21,5	-111,4	14,6	72,7	21,1
126	28/2/13 11.00	-15,5	16,1	-92,3	15,2	34,1	21,0	-104,1	14,2	90,9	20,6
127	7/3/13 11.00	-7,8	15,4	-86,6	15,0	25,1	20,6	-102,5	14,0	92,6	20,4
128	13/3/13 11.30	-6,2	15,2	-80,9	14,8	26,7	20,4	-96,8	13,8	99,9	20,0
129	20/3/13 11.00	-0,5	15,0	-79,3	14,6	23,1	20,1	-95,2	13,6	99,1	19,6
130	27/3/13 12.00	-1,3	14,6	-77,7	14,4	30,0	20,0	-93,6	13,4	104,7	19,4
131	3/4/13 11.30	6,0	14,2	-73,2	14,1	35,3	19,1	-82,2	13,0	114,1	19,5
132	10/4/13 11.50	-0,9	14,3	-70,4	14,0	30,0	19,0	-93,2	13,1	118,5	19,2
133	17/4/13 11.00	-3,8	14,4	-65,1	14,1	34,4	18,7	-82,2	13,0	108,0	19,0
134	2/5/13 10.00	-13,9	14,9	-91,5	14,6	20,6	18,9	-92,0	13,2	99,1	19,6
135	7/5/13 11.30	-15,5	15,1	-106,5	14,7	16,6	18,9	-90,3	13,0	88,5	19,4
136	16/5/13 11.00	-28,1	15,4	-124,4	14,9	14,9	19,1	-93,2	13,1	90,9	19,6
137	21/5/13 11.30	-29,7	15,6	-126,0	15,1	16,2	19,2	-83,8	13,2	84,4	19,4
138	28/5/13 10.40	-35,4	15,8	-126,4	15,4	22,7	19,4	-94,4	13,0	81,6	19,5
139	4/6/13 11.00	-46,0	15,6	-132,9	15,2	16,2	19,2	-89,1	13,1	68,2	19,4
140	13/6/13 10.00	-44,4	15,4	-135,8	15,3	25,5	19,3	-86,3	13,0	64,1	19,4
141	19/6/13 11.00	-46,0	15,6	-143,1	15,7	21,0	19,6	-79,8	13,2	54,4	19,6
142	25/6/13 10.30	-39,1	15,5	-150,0	15,8	30,8	19,4	-94,4	13,0	65,7	19,2
143	4/7/13 12.00	-36,2	15,4	-148,8	15,9	20,2	19,2	-87,9	13,2	58,8	19,3
144	11/7/13 11.00	-42,7	15,2	-161,4	15,2	26,7	19,4	-81,4	13,4	53,6	19,2
145	18/7/13 10.00	-44,4	15,4	-166,7	15,1	28,4	19,2	-79,8	13,2	47,1	19,0
146	25/7/13 10.30	-38,7	15,2	-157,3	15,2	34,9	19,4	-89,5	13,4	52,3	19,1
147	1/8/13 12.30	-40,3	15,4	-167,9	15,0	32,8	17,9	-93,6	13,4	63,3	18,0
148	6/8/13 11.30	-46,0	15,6	-163,8	15,0	22,6	17,4	-100,5	13,5	60,0	17,4
149	29/8/13 11.00	-35,4	15,8	-169,5	15,2	16,1	17,2	-109,0	13,8	54,3	17,6
150	5/9/13 11.00	-38,3	15,9	-166,7	15,1	20,6	16,9	-119,2	14,3	45,0	17,5
151	12/9/13 10.00	-39,9	16,1	-169,5	15,2	14,9	17,1	-126,5	14,7	38,1	17,6
152	18/9/13 10.30	-35,4	15,8	-180,1	15,0	16,9	16,6	-117,1	14,8	43,8	17,4
153	25/9/13 10.30	-40,7	15,7	-188,2	15,0	-6,6	16,0	-102,9	14,3	20,2	16,8
154	9/10/13 10.00	-33,8	15,6	-191,0	15,1	-12,3	16,2	-109,4	14,1	25,9	16,6
155	14/10/13 10.00	-40,3	15,4	-197,9	15,2	-7,0	16,3	-112,3	14,2	31,6	16,4
156	25/10/13 11.00	-38,7	15,2	-200,4	15,0	-13,9	16,4	-105,8	14,4	17,0	16,2
157	29/10/13 11.30	-37,1	15,0	-194,7	14,8	-8,2	16,2	-98,5	14,0	26,7	16,0
158	7/11/13 11.00	-35,4	14,8	-190,2	14,5	-2,6	16,0	-88,7	13,8	24,3	15,8
159	12/11/13 10.00	-29,8	14,6	-181,7	14,2	3,1	15,8	-79,0	13,6	54,3	15,6
160	19/11/13 11.00	-30,6	14,2	-180,1	14,0	6,4	15,4	-77,3	13,4	55,9	15,4
161	3/12/13 12.00	-35,9	14,1	-178,5	13,8	-4,2	15,2	-89,1	13,1	45,4	15,2
162	10/12/13 11.00	-33,0	14,0	-172,8	13,6	1,5	15,0	-78,2	13,0	55,1	15,0
163	9/1/14 11.30	-27,3	13,8	-171,1	13,4	7,2	14,8	-72,5	12,8	60,8	14,8
164	13/1/14 10.30	-32,6	13,7	-181,7	13,2	0,7	14,6	-79,0	12,6	55,5	14,7
165	21/1/14 10.00	-44,4	13,4	-182,5	12,8	10,4	14,4	-93,6	12,4	46,2	14,6



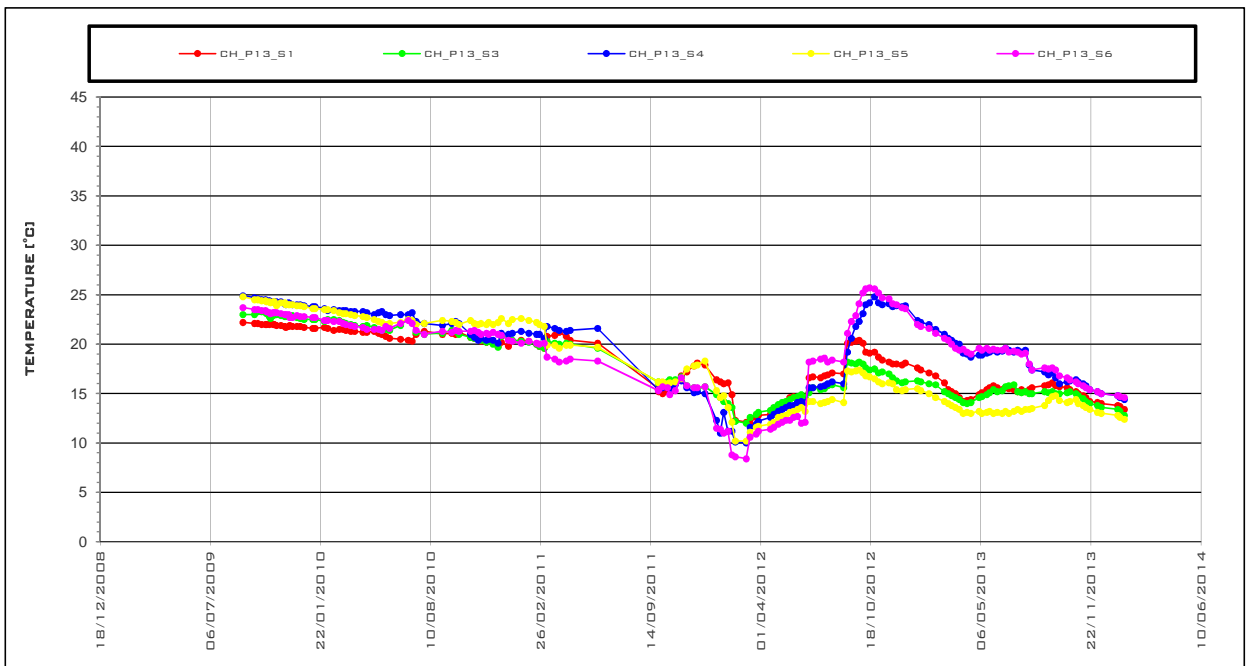
Ubicazione STAZIONE CHIAIA  
Opera \ \ P13  
Strumento Barretta Est. per Metallo  
Data posa in opera 03/09/2009  
Data lettura di zero 03/09/2009



**GRAFICO MICROSTRAIN**

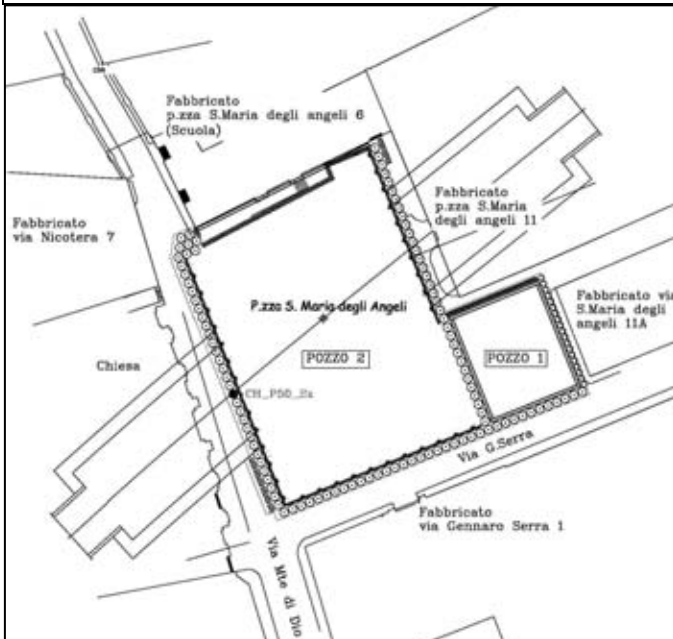


**GRAFICO TEMPERATURE**

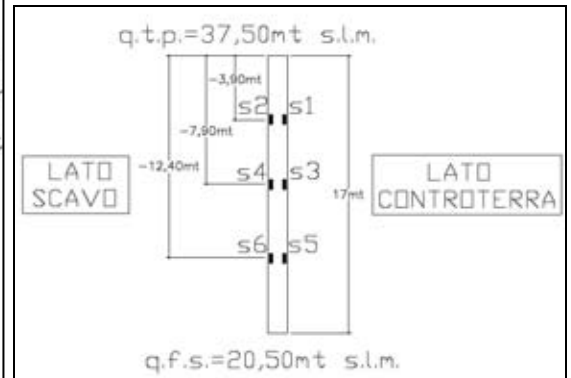


**Pannello strumentato**

**CH\_P50**



**SCHEMA INSTALLAZIONE  
STRUMENT. GEOTECNICA (BECV  
PER METALLO)  
PALO N°50**



Le barrette con numero progressivi dispari (s1,s3,s5) sono installate lato contro terra, mentre quelle con numero pari (s2,s4,s6) sono poste lato scavo; la direzione di installazione è parallela all'asse di scavo.

Affidabilità strumentale

A.T.I. LM6 – TreEsse

buono  
da rivedere  
da scartare

X

Congruenza progettuale  
C.T. ATI LM6 – C.T.  
Monitoraggio

congruente  
non congruente, da valutare  
non congruente con implicazioni  
sulla sicurezza


**NOTE**

Le elaborazioni di seguito riportate includono lo storico delle misure.






**TABULATI**

Ubicazione STAZIONE CHIAIA

Opera \ \ P50

Strumento Barretta Est. per Metallo

Data posa in opera 03/09/2009

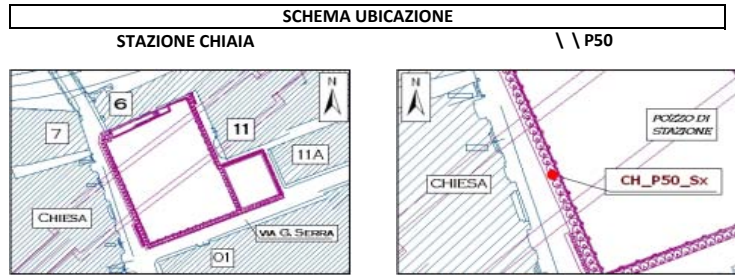
Data lettura di zero 03/09/2009

Ultima Misura 186 in data 21/01/2014

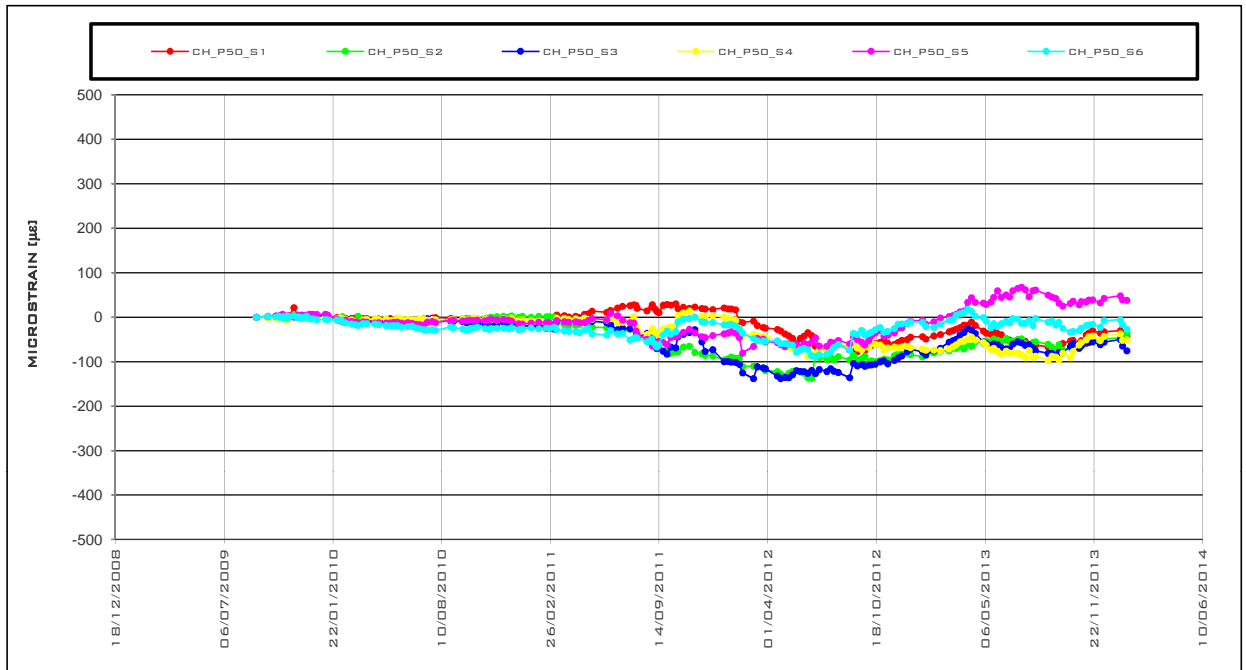
Letture n°	DATA	CH_P50_S1		CH_P50_S2		CH_P50_S3		CH_P50_S4		CH_P50_S5		CH_P50_S6	
		Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]
133	8/10/12 11.00	-63,0	18,6	-98,0	18,0	-106,9	15,8	-59,0	18,0	-41,9	18,2	-33,4	18,2
134	15/10/12 11.30	-59,0	18,6	-99,6	18,2	-105,3	15,6	-60,6	18,2	-35,4	18,4	-28,1	18,3
135	24/10/12 11.00	-56,1	18,5	-97,1	18,4	-100,0	15,7	-62,2	18,4	-30,1	18,5	-22,8	18,4
136	31/10/12 11.20	-51,7	18,2	-93,9	18,0	-98,0	15,2	-74,0	18,1	-41,9	18,2	-33,4	18,2
137	7/11/12 11.00	-58,2	18,0	-95,5	18,2	-104,5	15,0	-68,7	18,2	-40,3	18,0	-31,8	18,0
138	19/11/12 15.00	-61,0	18,1	-86,2	18,3	-96,8	15,3	-67,1	18,0	-35,0	18,1	-25,3	18,2
139	26/11/12 12.00	-56,5	17,8	-81,7	18,0	-91,1	15,1	-68,7	17,2	-24,0	18,0	-15,5	18,0
140	3/12/12 11.00	-51,7	17,2	-82,5	17,6	-86,6	14,8	-67,1	17,0	-23,6	17,7	-14,7	17,4
141	13/12/12 11.30	-50,0	17,0	-80,9	17,4	-76,9	14,6	-65,5	16,8	-13,9	17,5	-14,3	17,1
142	19/12/12 11.00	-44,8	17,1	-83,8	17,5	-71,6	14,7	-68,3	16,9	-8,6	17,6	-10,2	17,1
143	10/1/13 10.00	-43,5	17,2	-89,0	17,4	-78,1	14,5	-71,2	17,0	-7,0	17,4	-11,5	17,0
144	16/1/13 10.45	-48,8	17,1	-83,8	17,5	-85,0	14,6	-74,0	17,1	-15,9	17,0	-20,8	16,9
145	31/1/13 9.30	-41,9	17,0	-80,5	17,1	-75,3	14,4	-73,6	16,8	-10,2	16,8	-22,8	16,4
146	12/2/13 10.00	-38,7	16,6	-76,0	16,8	-69,6	14,2	-74,4	16,4	-1,3	16,2	-15,5	16,0
147	28/2/13 11.00	-32,6	16,1	-75,2	16,2	-55,8	14,0	-71,2	16,0	1,9	15,8	-6,6	15,4
148	7/3/13 11.00	-29,7	16,0	-69,6	16,0	-52,5	13,6	-66,3	15,4	3,5	15,6	-5,0	15,2
149	13/3/13 11.30	-26,5	15,6	-69,6	16,0	-49,3	13,2	-61,9	15,1	6,8	15,2	4,8	15,0
150	20/3/13 11.00	-23,3	15,2	-64,7	15,4	-39,6	13,0	-55,0	15,0	12,5	15,0	8,0	14,6
151	27/3/13 11.30	-17,6	15,0	-71,2	15,2	-34,3	13,1	-53,3	14,8	14,1	14,8	10,8	14,5
152	3/4/13 11.30	-17,6	14,0	-61,4	15,0	-25,7	12,8	-50,1	14,4	33,6	14,4	18,1	14,1
153	10/4/13 12.00	-10,7	13,9	-65,5	15,0	-28,6	12,9	-44,4	14,2	44,2	14,6	12,9	14,0
154	17/4/13 11.00	-18,4	13,6	-54,9	15,2	-36,3	12,6	-50,9	14,0	33,6	14,4	2,3	13,8
155	2/5/13 10.30	-31,0	13,9	-58,2	15,6	-55,4	12,7	-56,6	14,2	32,0	14,6	-0,5	13,9
156	7/5/13 11.00	-35,5	14,2	-52,9	15,7	-58,2	12,8	-62,3	14,4	29,1	14,7	-8,3	13,6
157	16/5/13 11.30	-38,7	14,6	-54,5	15,9	-62,7	13,1	-72,4	14,9	34,4	14,8	-23,3	13,7
158	21/5/13 11.00	-33,4	14,7	-48,8	15,7	-59,9	13,0	-69,6	14,8	45,0	15,0	-13,9	13,8
159	28/5/13 11.40	-36,3	14,8	-51,7	15,8	-61,5	13,2	-76,5	14,9	59,6	15,2	-20,9	13,9
160	4/6/13 11.00	-39,1	14,9	-54,5	15,9	-68,0	13,0	-83,0	14,7	45,0	15,0	-14,4	14,1
161	13/6/13 10.00	-49,7	14,7	-47,6	15,8	-70,8	13,1	-76,1	14,6	50,3	15,1	-9,1	14,2
162	19/6/13 11.00	-51,3	14,9	-54,5	15,9	-71,2	13,4	-80,6	14,9	45,8	15,4	-12,3	14,6
163	25/6/13 10.30	-56,6	14,8	-52,9	15,7	-60,3	13,3	-80,2	14,6	59,6	15,2	-2,6	14,4
164	4/7/13 12.30	-51,3	14,9	-50,1	15,6	-55,0	13,4	-81,0	14,2	64,9	15,3	-4,2	14,6
165	11/7/13 12.00	-57,0	15,1	-48,4	15,4	-57,4	13,2	-83,8	14,3	67,7	15,2	-13,5	14,5
166	18/7/13 10.00	-54,1	15,0	-59,0	15,2	-63,1	13,4	-90,3	14,1	62,0	15,4	-13,1	14,2
167	25/7/13 10.45	-61,4	15,4	-61,8	15,3	-61,5	13,2	-74,5	14,4	46,2	15,1	-7,4	14,0
168	1/8/13 12.45	-67,9	15,2	-56,6	15,4	-68,4	13,3	-90,3	14,1	59,6	15,2	-18,4	14,1
169	6/8/13 11.45	-62,7	15,3	-54,9	15,2	-75,3	13,4	-87,5	14,0	61,2	15,0	-2,6	14,4
170	29/8/13 11.00	-67,1	15,6	-60,6	15,4	-81,0	13,6	-97,2	14,2	49,9	15,4	-11,1	14,7
171	5/9/13 11.30	-68,7	15,8	-67,5	15,5	-81,4	13,9	-87,5	14,0	45,4	15,7	-8,3	14,6
172	12/9/13 10.00	-73,2	16,1	-72,0	15,8	-87,1	14,1	-89,1	14,2	42,5	15,8	-17,2	14,2
173	18/9/13 10.30	-68,7	15,8	-61,4	16,0	-78,9	14,1	-95,6	14,0	32,0	15,6	-11,5	14,0
174	25/9/13 11.30	-59,0	15,6	-73,6	16,0	-80,2	14,0	-80,6	13,9	25,5	15,4	-24,5	14,6
175	9/10/13 10.30	-53,3	15,4	-68,3	16,1	-65,5	14,2	-90,7	13,4	31,2	15,2	-33,4	14,2
176	14/10/13 10.00	-51,7	15,2	-63,1	16,2	-59,0	14,4	-76,9	13,2	36,4	15,3	-31,8	14,0
177	25/10/13 11.00	-58,2	15,0	-69,6	16,0	-69,6	14,2	-62,3	13,4	28,3	15,3	-30,2	13,8
178	29/10/13 11.30	-52,5	14,8	-64,7	15,4	-63,9	14,0	-56,6	13,2	35,2	15,2	-24,5	13,6
179	7/11/13 11.30	-39,9	14,5	-54,9	15,2	-58,2	13,8	-50,9	13,0	34,4	14,8	-18,8	13,4
180	12/11/13 11.00	-35,5	14,2	-49,3	15,0	-56,6	13,6	-43,6	12,6	38,9	14,5	-17,2	13,2
181	19/11/13 11.00	-29,8	14,0	-47,6	14,8	-55,0	13,4	-42,0	12,4	39,3	14,2	-15,6	13,0
182	3/12/13 12.00	-35,5	14,2	-58,2	14,6	-61,5	13,2	-52,6	12,2	32,8	14,0	-22,5	13,1
183	10/12/13 11.30	-32,6	14,1	-48,5	14,4	-55,8	13,0	-42,8	12,0	42,5	13,8	-7,5	13,0
184	9/1/14 11.00	-29,8	14,0	-46,8	14,2	-50,1	12,8	-37,1	11,8	48,2	13,6	-5,8	12,8
185	13/1/14 10.30	-36,7	14,1	-49,3	14,0	-64,7	12,6	-51,8	11,6	38,9	13,5	-16,4	12,6
186	21/1/14 11.30	-41,1	14,4	-36,3	14,4	-75,3	12,4	-50,1	11,4	38,0	13,1	-27,0	12,4



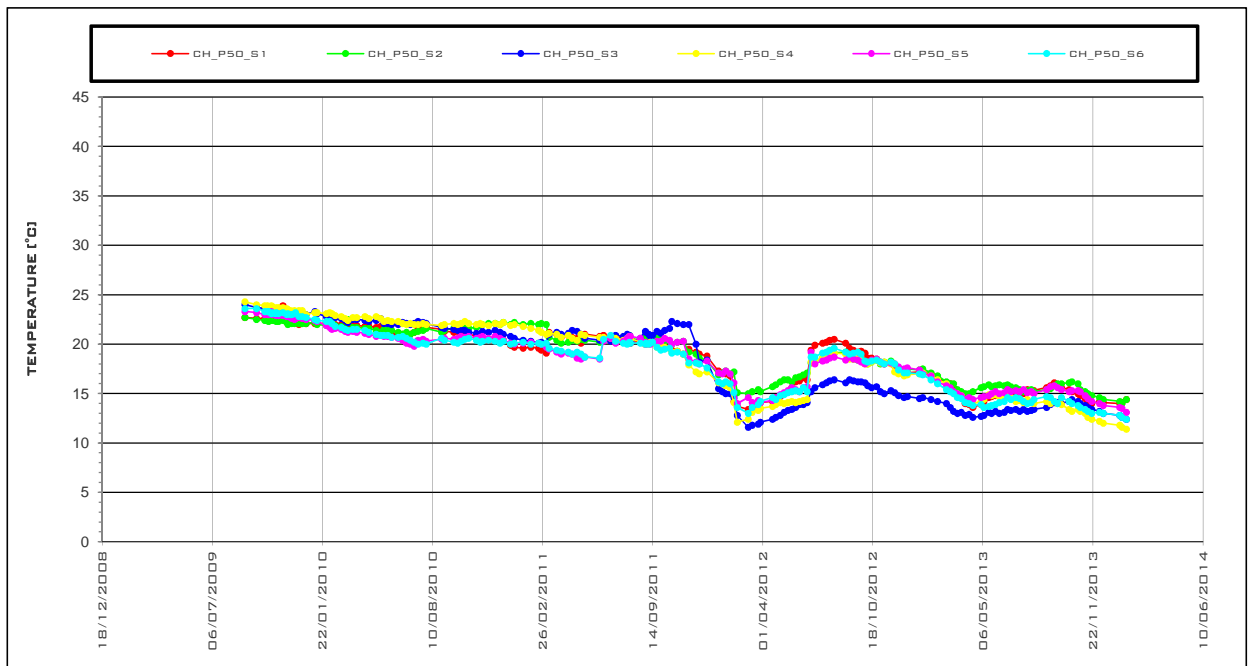
Ubicazione STAZIONE CHIAIA  
Opera \ \ P50  
Strumento Barretta Est. per Metallo  
Data posa in opera 03/09/2009  
Data lettura di zero 03/09/2009



**GRAFICO MICROSTRAIN**

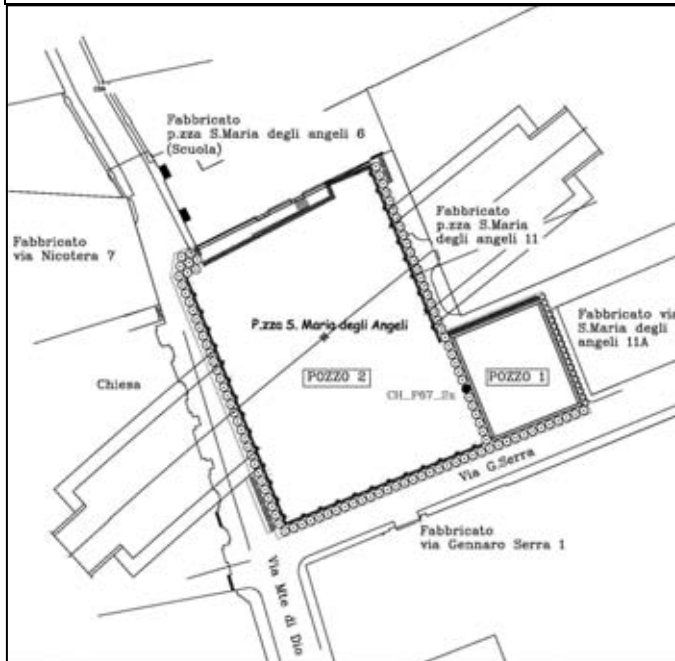


**GRAFICO TEMPERATURE**

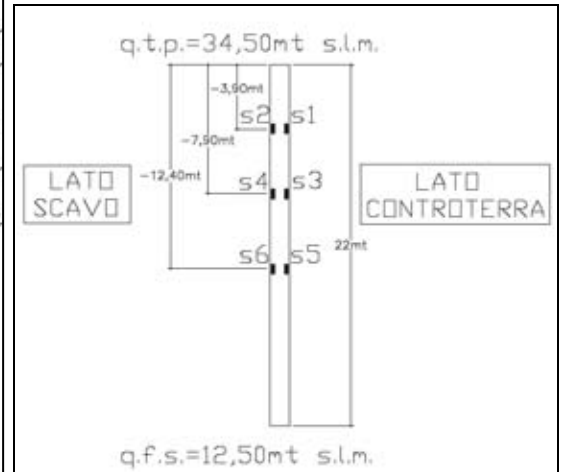


Pannello strumentato

CH\_P67



SCHEMA INSTALLAZIONE  
STRUMENT. GEOTECNICA (BECV  
PER METALLO)  
PALO N°67



Le barrette con numero progressivi dispari (s1,s3,s5) sono installate lato contro terra, mentre quelle con numero pari (s2,s4,s6) sono poste lato scavo; la direzione di installazione è parallela all'asse di scavo.

Affidabilità strumentale

A.T.I. LM6 – TreEsse

buono  
da rivedere  
da scartare

X

Congruenza progettuale  
C.T. ATI LM6 – C.T.  
Monitoraggio

congruente  
non congruente, da valutare  
non congruente con implicazioni  
sulla sicurezza


**NOTE**

Le elaborazioni di seguito riportate includono lo storico delle misure.

La barretta estensimetrica a c.v. CH\_P67\_S1 restituisce valori discontinui dal 28/09/2011.



**TABULATI**

Ubicazione STAZIONE CHIAIA

Opera \ \ P67

Strumento Barretta Est. per Metallo

Data posa in opera 03/09/2009

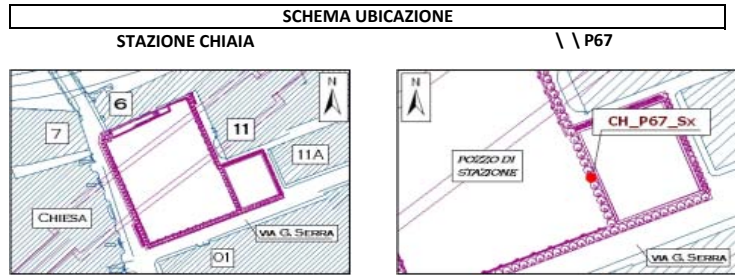
Data lettura di zero 03/09/2009

Ultima Misura 190 in data 21/01/2014

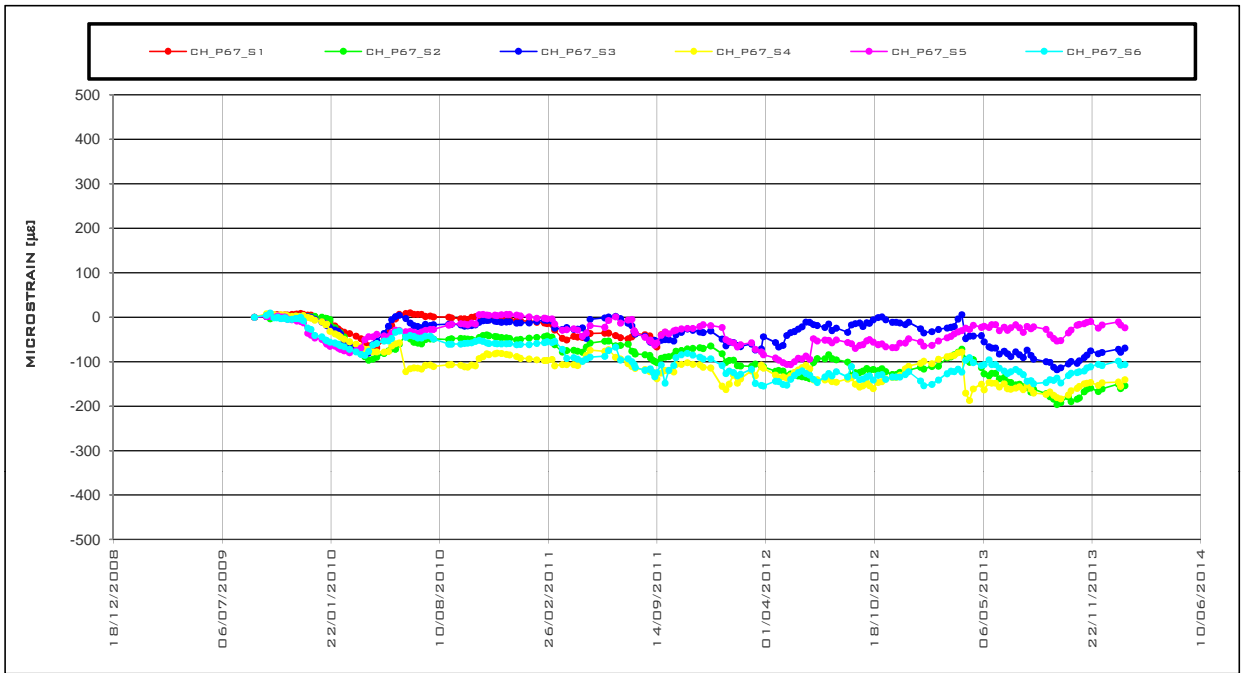
Letture n°	DATA	CH_P67_S1		CH_P67_S2		CH_P67_S3		CH_P67_S4		CH_P67_S5		CH_P67_S6	
		Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]
137	8/10/12 11.30			-119,1	18,1	-13,5	21,0	-153,6	17,8	-50,0	21,0	-131,3	21,0
138	15/10/12 11.00			-117,1	18,6	-5,8	21,3	-160,2	17,6	-55,7	21,2	-141,0	21,2
139	24/10/12 11.00			-119,9	18,7	-0,5	21,4	-146,7	17,7	-61,4	21,4	-130,4	21,4
140	31/10/12 10.30			-115,5	18,4	1,1	21,2	-144,7	17,2	-59,8	21,2	-128,8	21,2
141	7/11/12 10.00			-122,0	18,2	-5,4	21,0	-138,2	17,4	-66,3	21,0	-139,4	21,0
142	19/11/12 15.00			-128,5	18,0	-11,0	21,2	-135,4	17,3	-67,9	21,2	-134,1	21,1
143	26/11/12 12.00			-128,5	18,0	-11,0	21,2	-135,4	17,3	-67,9	21,2	-134,1	21,1
144	3/12/12 11.00			-123,6	17,4	-12,7	20,4	-130,5	16,7	-58,1	21,0	-134,5	21,4
145	13/12/12 11.30			-122,0	17,2	-16,3	20,1	-115,5	16,6	-57,7	20,7	-128,8	21,2
146	19/12/12 11.00			-119,1	17,1	-11,1	20,2	-110,2	16,7	-48,4	20,8	-122,3	21,4
147	10/1/13 10.00			-112,2	17,0	-25,7	18,0	-103,3	16,6	-55,3	19,9	-143,1	18,7
148	16/1/13 10.45			-116,3	17,0	-35,1	17,9	-98,8	16,3	-64,7	19,8	-153,6	18,5
149	31/1/13 9.30			-110,6	16,8	-32,2	17,8	-104,1	16,2	-63,0	19,6	-150,8	18,4
150	12/2/13 10.30			-109,8	16,2	-27,3	17,2	-94,4	16,0	-53,3	19,4	-141,1	18,2
151	28/2/13 10.00			-91,5	15,7	-24,1	16,8	-88,7	15,8	-46,0	19,0	-126,8	17,7
152	7/3/13 11.00			-88,7	15,6	-22,5	16,6	-87,1	15,6	-42,7	18,6	-121,2	17,5
153	13/3/13 11.30			-84,2	15,3	-20,9	16,4	-85,4	15,4	-37,1	18,4	-122,0	17,1
154	20/3/13 11.00			-78,5	15,1	-3,8	16,8	-79,8	15,2	-32,6	18,1	-116,7	17,2
155	27/3/13 11.30			-71,6	15,0	6,0	16,6	-78,1	15,0	-29,8	18,0	-123,2	17,0
156	3/4/13 11.00			-94,4	12,8	-47,7	13,2	-170,4	12,1	-24,5	15,1	-96,4	14,2
157	10/4/13 12.00			-100,9	12,6	-42,4	13,3	-187,0	12,4	-27,4	15,2	-90,7	14,0
158	17/4/13 11.00			-95,2	12,4	-42,0	13,0	-161,0	12,2	-18,0	15,3	-101,7	14,1
159	2/5/13 11.30			-113,1	12,6	-41,2	13,4	-150,5	12,4	-22,5	15,6	-108,6	14,2
160	7/5/13 11.00			-126,9	12,8	-55,0	13,6	-163,1	12,7	-20,0	15,8	-106,2	14,4
161	16/5/13 11.30			-131,4	13,1	-66,4	14,0	-146,4	12,4	-22,9	15,9	-95,6	14,6
162	21/5/13 11.00			-126,1	13,2	-69,2	14,1	-148,0	12,6	-16,4	16,1	-106,2	14,4
163	28/5/13 11.00			-126,1	13,2	-69,2	14,1	-148,0	12,6	-16,4	16,1	-106,2	14,4
164	4/6/13 11.30			-138,3	13,2	-82,6	14,0	-156,6	12,9	-29,8	16,0	-114,3	14,4
165	13/6/13 11.00			-135,4	13,1	-76,1	14,2	-149,7	12,8	-22,1	16,3	-120,8	14,2
166	19/6/13 10.30			-145,2	13,3	-81,8	14,4	-160,6	12,9	-29,0	16,4	-126,5	14,4
167	25/6/13 10.30			-146,4	13,2	-88,3	14,2	-161,8	12,8	-23,3	16,2	-122,4	14,4
168	4/7/13 12.30			-152,1	13,4	-77,8	14,4	-159,0	12,7	-16,8	16,4	-117,1	14,5
169	11/7/13 12.00			-150,5	13,2	-84,3	14,2	-156,2	12,6	-23,3	16,2	-122,4	14,4
170	18/7/13 10.00			-156,1	13,4	-90,8	14,0	-162,7	12,4	-33,8	16,0	-128,9	14,2
171	25/7/13 10.30			-157,8	13,6	-73,7	14,4	-152,1	12,6	-20,4	16,1	-143,5	14,0
172	1/8/13 12.30			-168,3	13,4	-85,5	14,1	-161,8	12,8	-25,7	16,0	-142,3	14,1
173	6/8/13 11.30			-161,8	13,6	-94,0	14,4	-170,4	13,1	-21,3	15,7	-149,2	14,2
174	29/8/13 11.00			-171,6	13,8	-99,7	14,6	-173,2	13,2	-26,9	15,9	-146,8	14,4
175	5/9/13 11.30			-178,5	13,9	-101,3	14,8	-167,9	13,3	-39,1	15,9	-140,3	14,6
176	12/9/13 10.00			-184,2	14,1	-112,3	14,9	-175,2	13,7	-47,7	16,2	-141,9	14,8
177	18/9/13 10.30			-196,0	13,8	-118,0	15,1	-180,5	13,6	-53,3	16,4	-136,6	14,9
178	25/9/13 11.00			-191,9	13,8	-113,5	14,8	-183,4	13,7	-52,1	16,5	-147,6	15,0
179	9/10/13 11.00			-178,9	13,2	-104,6	14,2	-174,4	13,1	-35,1	15,9	-130,9	14,7
180	14/10/13 10.00			-189,5	13,0	-99,3	14,3	-165,1	13,2	-28,6	16,1	-125,7	14,8
181	25/10/13 11.00			-184,2	13,1	-103,3	14,3	-159,8	13,3	-17,6	16,0	-124,0	14,6
182	29/10/13 11.30			-181,3	13,0	-97,7	14,1	-155,3	13,0	-16,0	15,8	-122,4	14,4
183	7/11/13 11.00			-167,5	12,8	-90,8	14,0	-149,7	12,8	-14,4	15,6	-120,8	14,2
184	12/11/13 11.30			-161,8	12,6	-85,1	13,8	-148,0	12,6	-11,1	15,2	-113,9	14,1
185	19/11/13 11.00			-159,0	12,5	-75,3	13,6	-146,4	12,4	-9,5	15,0	-111,1	14,0
186	3/12/13 12.00			-166,7	12,2	-81,8	13,4	-152,9	12,2	-24,1	14,8	-105,8	14,1
187	10/12/13 11.45			-161,0	12,0	-79,0	13,3	-147,2	12,0	-17,2	14,7	-108,2	13,9
188	9/1/14 11.00			-150,5	12,2	-72,1	13,2	-145,6	11,8	-10,3	14,6	-98,5	13,7
189	13/1/14 11.30			-160,2	12,4	-78,6	13,0	-155,0	11,7	-16,8	14,4	-107,8	13,6
190	21/1/14 11.00			-153,7	12,6	-69,2	13,1	-140,3	11,9	-23,3	14,2	-106,2	13,4



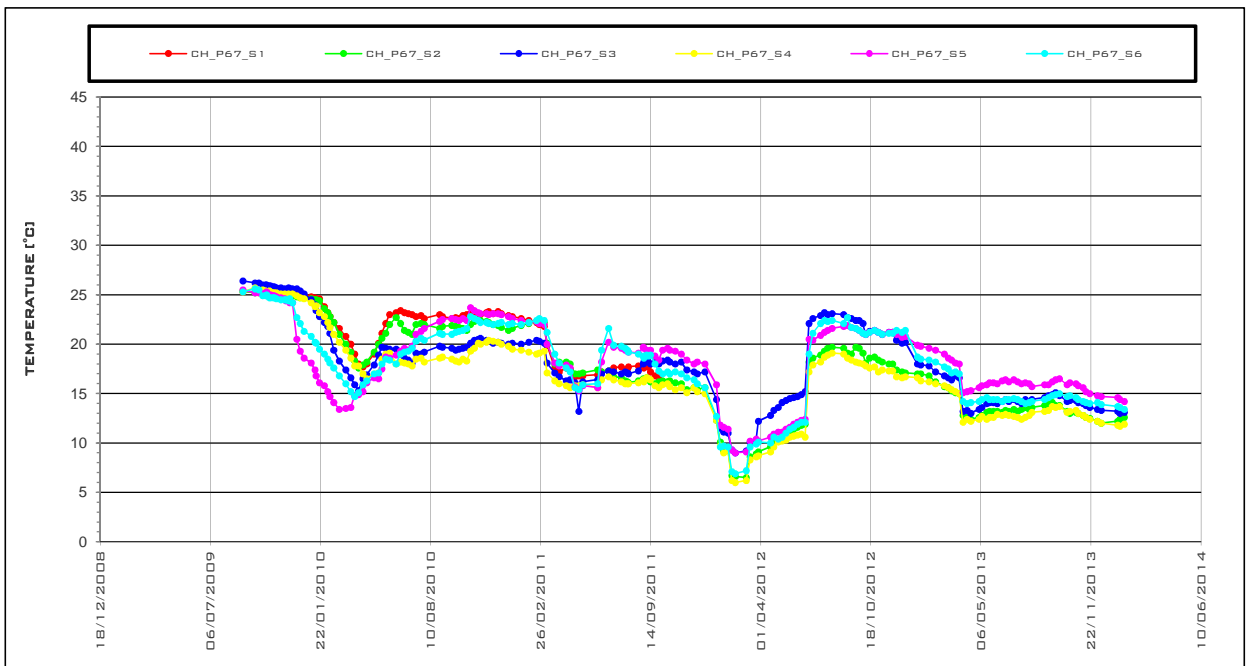
Ubicazione STAZIONE CHIAIA  
Opera \ \ P67  
Strumento Barretta Est. per Metallo  
Data posa in opera 03/09/2009  
Data lettura di zero 03/09/2009



**GRAFICO MICROSTRAIN**

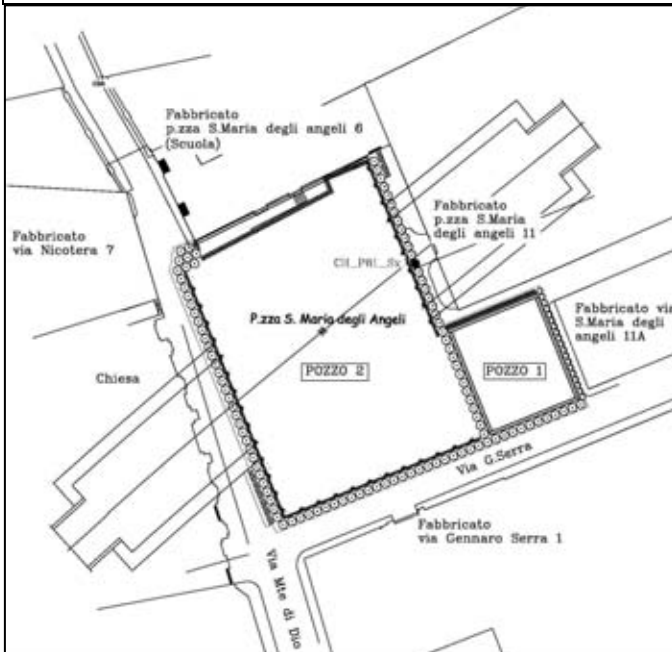


**GRAFICO TEMPERATURE**

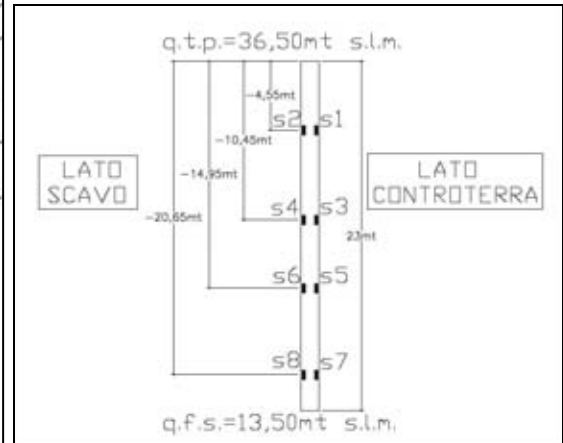


Pannello strumentato

CH\_P81



SCHEMA INSTALLAZIONE  
STRUMENT. GEOTECNICA (BECV  
PER METALLO)  
PALO N°81



Le barrette con numero progressivi dispari (s1,s3,s5,s7) sono installate lato contro terra, mentre quelle con numero pari (s2,s4,s6,s8) sono poste lato scavo; la direzione di installazione è parallela all'asse di scavo.

Affidabilità strumentale

A.T.I. LM6 – TreEsse

buono  
da rivedere

da scartare

X

Congruenza progettuale

C.T. ATI LM6 – C.T.

Monitoraggio

congruente  
non congruente, da valutare  
non congruente con implicazioni  
sulla sicurezza


**NOTE**

La barretta estensimetrica a c.v. CH\_P81\_S7 non è funzionante.

La barretta estensimetrica a c.v. CH\_P81\_S4 dalla data 25/03/10 non restituisce segnale

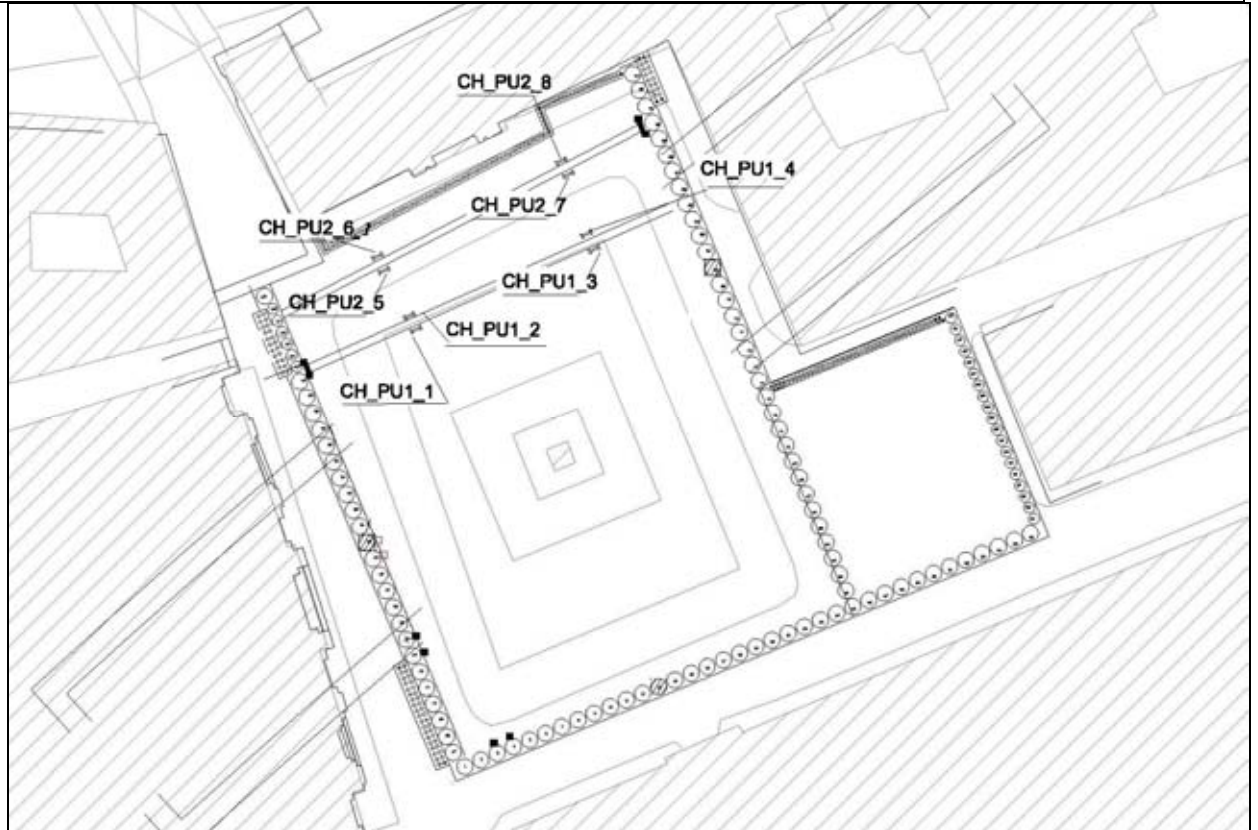
Le restanti barrette estensimetriche restituiscono valore discontinuo dal 20/04/2011

L'ultima misura disponibile è riportata nel report APR 2011 con codifica: LM6 7FX 2C I 00



Puntoni strumentati

CH\_PU1 CH\_PU2



Affidabilità strumentale

A.T.I. LM6 – TreEsse

buono  
da rivedere  
da scartare

X

Congruenza progettuale

C.T. ATI LM6 – C.T.  
Monitoraggio

congruente  
non congruente, da valutare  
non congruente con implicazioni  
sulla sicurezza


**NOTE**

La Barretta estensimetrica CH\_PU2\_6 risulta danneggiata e non restituisce valore.

La Barretta estensimetrica CH\_PU2\_6\_1 sostituisce la CH\_PU2\_6\_1



**TABULATI**

Ubicazione **STAZIONE CHIAIA**

Opera \ \ **Puntone 1**

Strumento **Barretta Est. per Metallo**

Data posa in opera **14/09/2011**

Data lettura di zero **14/09/2011**

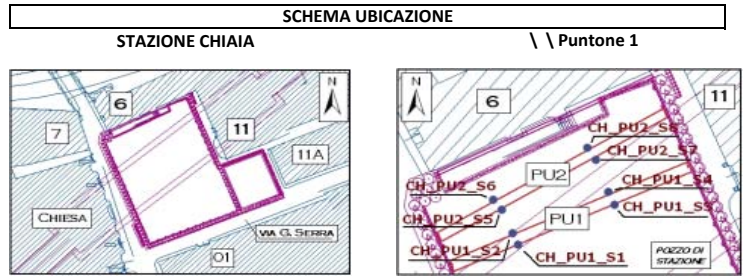
Ultima Misura 100 in data 21/01/2014

Letture n°	DATA	CH_PU1_S1		CH_PU1_S2		CH_PU1_S3		CH_PU1_S4	
		Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]
50	7/11/12 11.00	179,3	31,2	106,2	27,0	36,2	21,8	12,2	20,3
51	19/11/12 15.00	176,9	31,0	87,1	26,1	35,8	21,1	-6,5	19,1
52	26/11/12 11.00	159,8	29,6	66,7	24,1	19,5	20,1	-16,2	18,3
53	3/12/12 10.00	159,0	29,2	70,8	24,1	17,9	19,3	-28,0	17,0
54	13/12/12 10.00	164,7	29,0	73,6	24,0	22,4	19,0	-27,6	16,7
55	19/12/12 11.00	170,0	29,1	75,2	23,8	20,3	18,5	-45,1	15,6
56	10/1/13 9.30	89,8	21,2	-6,5	18,1	-2,1	16,0	-45,9	15,2
57	16/1/13 10.30	69,9	18,9	5,3	17,4	10,5	15,7	-40,2	15,0
58	31/1/13 9.30	48,3	16,8	28,0	16,6	-21,6	15,4	-45,1	14,6
59	7/2/13 10.30	50,0	16,6	33,7	16,4	-14,3	15,0	-41,9	14,2
60	13/2/13 10.00	32,9	14,2	38,2	16,1	-11,0	14,6	-32,1	14,0
61	28/2/13 10.30	32,8	12,2	48,3	15,6	-3,7	14,2	-19,5	13,7
62	7/3/13 11.00	34,5	12,0	51,6	15,2	2,0	14,0	-15,1	13,4
63	13/3/13 11.30	40,1	11,8	61,3	15,0	1,2	13,6	-11,8	13,0
64	20/3/13 10.30	44,6	11,5	65,8	14,7	8,5	13,2	2,8	13,2
65	27/3/13 11.00	47,4	11,4	68,6	14,6	10,1	13,0	2,0	12,8
66	3/4/13 10.30	19,5	15,1	-12,6	16,6	-24,8	15,8	-41,1	14,6
67	10/4/13 11.00	3,2	17,1	-35,3	17,4	-32,5	18,5	-45,5	16,9
68	17/4/13 11.30	-19,1	17,6	-32,1	17,0	-29,6	18,4	-41,4	17,9
69	2/5/13 11.00	-11,4	17,9	-38,6	17,8	-30,0	18,7	-60,9	18,3
70	7/5/13 11.30	-14,6	18,3	-50,0	18,2	-42,6	19,0	-36,9	18,6
71	16/5/13 11.00	-23,1	18,6	-55,6	18,4	-66,2	18,4	-45,5	18,9
72	21/5/13 10.30	-26,0	18,7	-51,6	18,4	-62,1	19,4	-39,0	19,1
73	28/5/13 10.40	-31,7	18,9	-61,3	18,6	-67,8	19,6	-43,4	19,4
74	4/6/13 11.00	-37,3	19,1	-71,9	18,4	-70,6	19,7	-49,9	19,2
75	13/6/13 11.30	-32,1	19,2	-66,6	18,5	-67,8	19,6	-39,4	19,4
76	19/6/13 11.00	-41,8	19,4	-72,3	18,7	-72,3	19,9	-41,0	19,6
77	25/6/13 11.45	-47,9	20,9	-71,9	20,4	-70,6	20,7	-84,5	17,7
78	4/7/13 12.15	-41,0	20,8	-70,2	20,2	-63,7	20,6	-79,2	17,8
79	11/7/13 11.00	-47,5	20,6	-76,7	20,0	-70,2	20,4	-77,6	17,6
80	18/7/13 10.00	-49,1	20,8	-67,4	20,1	-76,7	20,2	-83,3	17,8
81	25/7/13 10.50	-15,3	24,9	-35,3	23,4	-66,1	22,4	-55,2	19,1
82	1/8/13 12.45	5,8	27,3	-8,8	26,9	54,6	28,3	24,9	26,0
83	6/8/13 11.45	16,0	28,8	-1,1	28,2	70,0	28,9	41,2	28,0
84	29/8/13 11.00	9,1	28,9	-6,8	28,4	45,2	28,2	47,7	28,2
85	5/9/13 11.00	16,0	30,8	-0,2	30,6	63,2	31,0	56,2	30,9
86	12/9/13 11.30	1,0	28,9	4,6	29,0	47,3	28,7	42,0	28,4
87	18/9/13 11.00	3,8	26,8	1,8	27,1	39,9	27,1	61,9	26,7
88	25/9/13 10.00	-30,4	24,0	-32,0	24,0	29,3	23,9	46,8	23,8
89	9/10/13 11.00	-37,3	23,1	-38,9	22,1	31,8	23,1	51,7	22,2
90	14/10/13 11.30	-30,4	23,0	-39,3	22,4	38,7	23,0	53,3	22,0
91	25/10/13 11.00	-19,0	22,6	-19,8	22,0	43,5	22,4	68,7	21,6
92	29/10/13 11.30	-33,2	22,1	-18,2	21,8	50,8	22,0	72,0	21,2
93	7/11/13 11.00	-46,2	21,7	-17,8	21,5	58,1	21,6	74,0	20,7
94	12/11/13 11.30	-43,0	21,3	-14,6	21,1	57,3	21,2	78,4	20,4
95	19/11/13 11.00	-42,6	21,0	-11,7	21,0	58,9	21,0	91,0	20,1
96	5/12/13 14.00	-30,8	20,3	-4,4	20,6	71,9	20,4	101,2	19,6
97	10/12/13 12.30	-26,4	20,0	2,9	20,2	80,9	19,8	108,5	19,2
98	9/1/14 12.30	-41,4	18,1	13,4	19,4	92,6	19,1	123,1	18,4
99	13/1/14 12.00	-53,2	17,8	0,4	19,0	83,3	19,0	100,3	18,2
100	21/1/14 11.30	-72,7	15,2	-124,3	15,1	-6,5	17,3	4,0	16,3

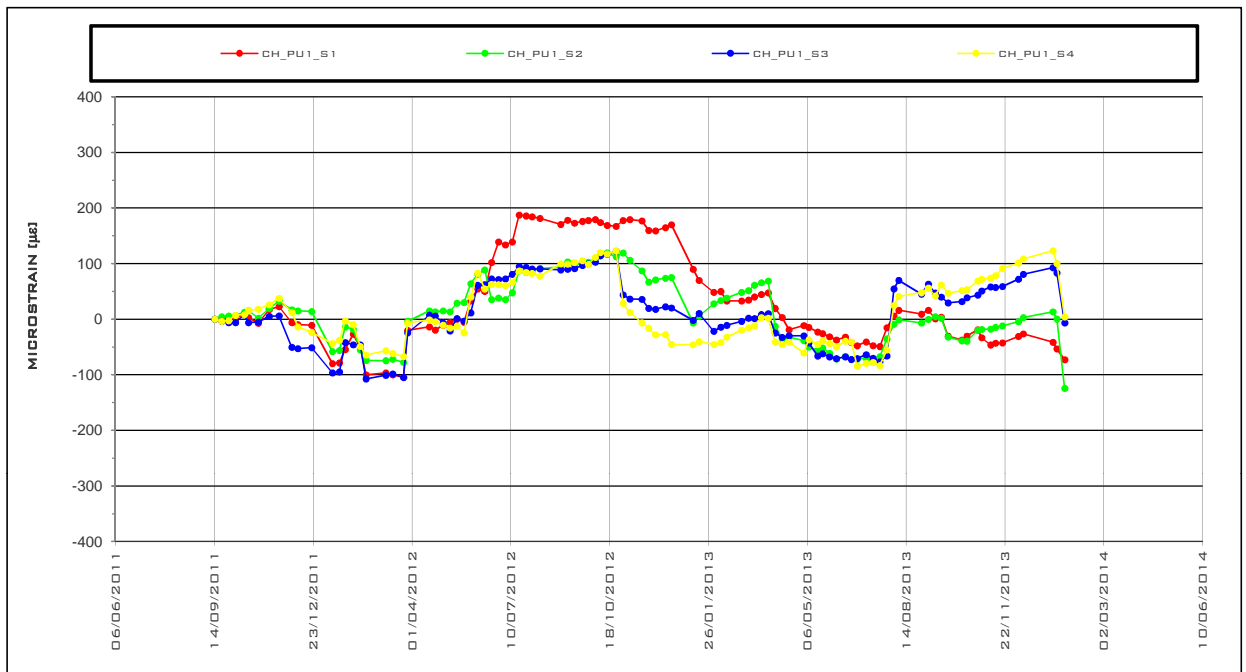




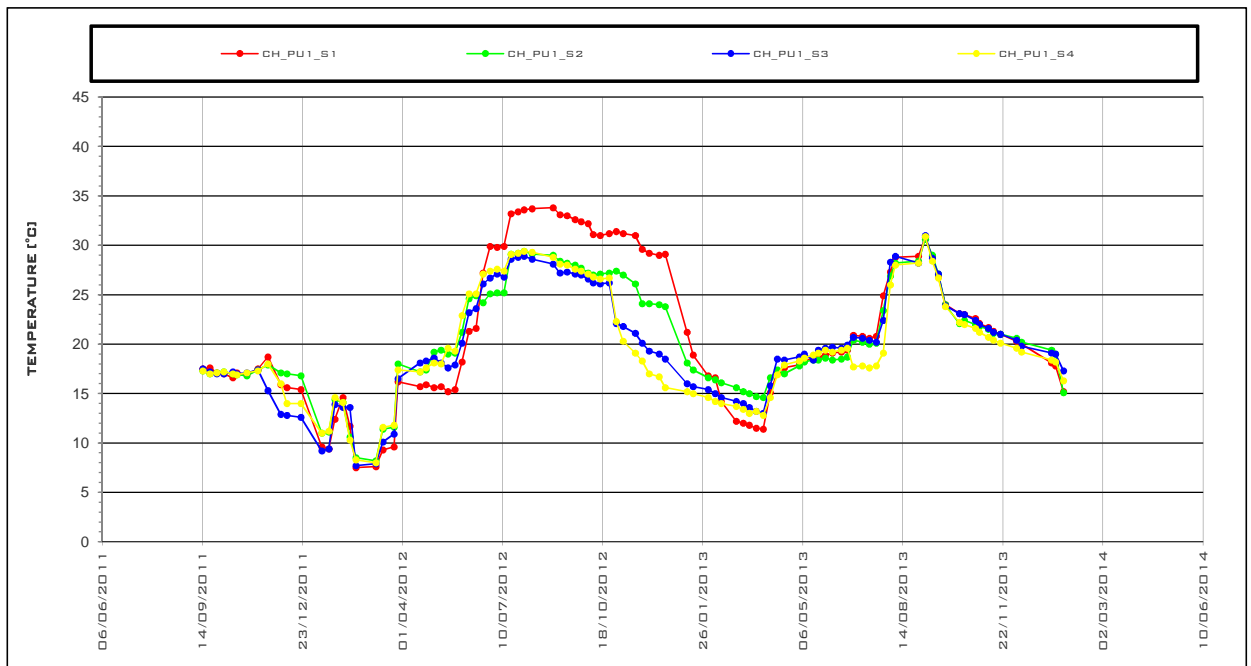
Ubicazione STAZIONE CHIAIA  
Opera \ \ Puntone 1  
Strumento Barretta Est. per Metallo  
Data posa in opera 14/09/2011  
Data lettura di zero 14/09/2011



**GRAFICO MICROSTRAIN**



**GRAFICO TEMPERATURE**





**TABULATI**

Ubicazione STAZIONE CHIAIA

Opera \ \ Puntone 2

Strumento Barretta Est. per Metallo

Data posa in opera 14/09/2011

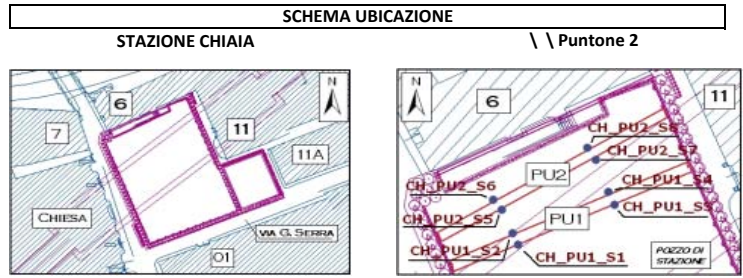
Data lettura di zero 14/09/2011

Ultima Misura 101 in data 21/01/2014

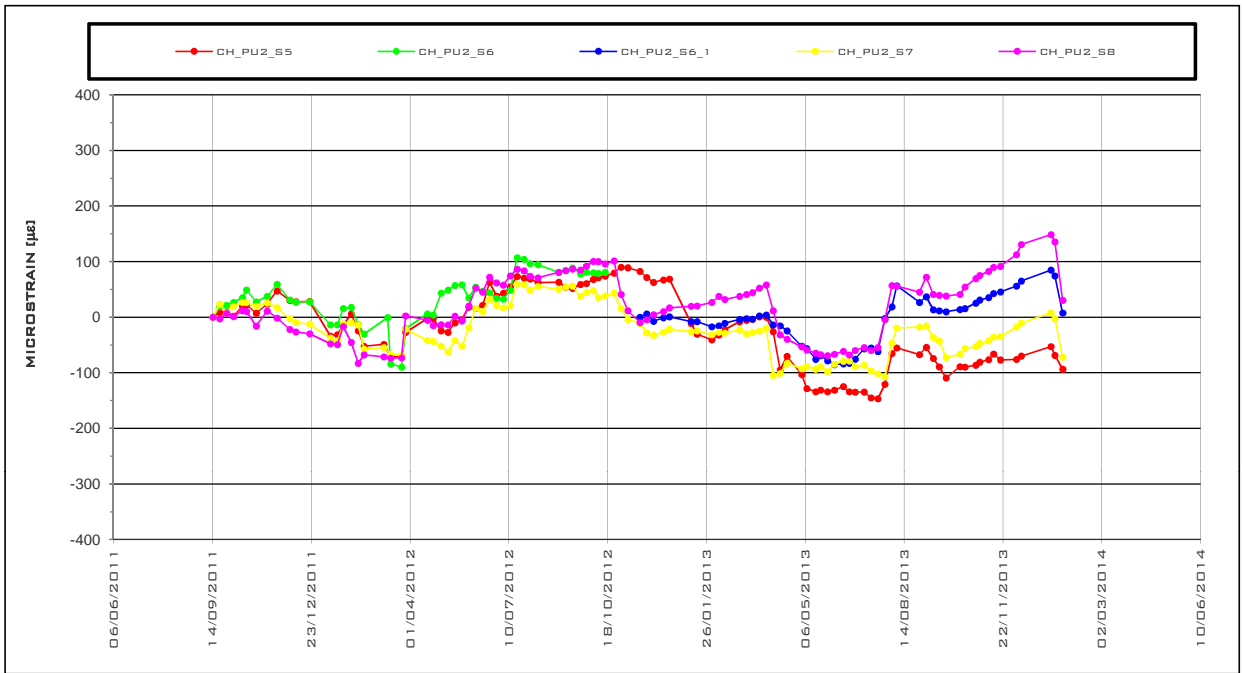
Letture n°	DATA	CH_PU2_S5		CH_PU2_S6		CH_PU2_S6_1		CH_PU2_S7		CH_PU2_S8	
		Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]	Micro strain [µε]	Temp. [°C]
51	7/11/12 11.00	89,1	27,4					-4,0	21,2	11,8	21,2
52	19/11/12 15.00	82,6	27,2			0,0	18,6	-10,9	20,3	-9,7	20,1
53	26/11/12 11.00	71,6	25,3			6,1	18,1	-28,0	18,9	-4,4	19,2
54	3/12/12 10.00	62,7	24,9			-7,3	18,0	-32,5	18,2	4,5	18,6
55	13/12/12 10.00	67,1	24,6			-0,8	18,2	-26,8	18,0	10,2	18,4
56	19/12/12 11.00	68,7	24,4			0,8	18,0	-21,5	18,1	17,1	18,3
57	10/1/13 9.30	-11,4	19,5			-7,8	16,3	-26,0	17,4	19,9	17,2
58	16/1/13 10.30	-30,5	16,6			-7,8	15,3	-24,4	16,2	20,3	15,9
59	31/1/13 9.30	-40,7	15,1			-17,1	15,2	-31,3	16,3	26,8	16,1
60	7/2/13 10.30	-32,1	14,8			-15,5	15,0	-26,8	16,0	37,8	16,0
61	13/2/13 10.00	-22,4	14,6			-11,0	14,7	-28,5	15,2	32,1	15,2
62	28/2/13 10.30	-8,2	14,1			-4,1	14,6	-22,8	15,0	37,7	15,0
63	7/3/13 11.00	-5,3	14,0			-2,5	14,4	-29,7	15,1	41,0	14,6
64	13/3/13 11.30	-3,7	13,8			-3,3	14,0	-27,7	14,6	44,2	14,2
65	20/3/13 10.30	0,7	13,5			2,4	13,8	-24,8	14,5	52,3	14,2
66	27/3/13 11.00	-0,1	13,1			4,0	13,6	-19,5	14,6	58,0	14,0
67	3/4/13 10.30	-26,0	16,3			-13,8	16,8	-104,4	16,3	11,8	16,2
68	10/4/13 11.00	-94,6	18,0			-15,5	17,0	-101,1	17,9	-31,7	17,3
69	17/4/13 11.30	-70,3	19,0			-24,4	16,6	-82,9	18,4	-39,4	17,0
70	2/5/13 11.00	-103,2	19,3			-52,0	17,0	-92,6	18,6	-53,2	17,2
71	7/5/13 11.30	-128,3	19,9			-56,5	17,3	-88,9	18,9	-58,9	17,4
72	16/5/13 11.00	-134,0	20,1			-75,6	17,4	-93,4	19,2	-64,6	17,6
73	21/5/13 10.30	-131,2	20,0			-69,1	17,6	-89,4	19,2	-67,4	17,7
74	28/5/13 10.40	-134,0	20,1			-78,4	17,5	-97,9	19,5	-69,1	17,9
75	4/6/13 11.00	-131,2	20,0			-85,3	17,6	-84,5	19,6	-66,6	18,1
76	13/6/13 11.30	-124,7	20,2			-83,7	17,4	-79,2	19,7	-61,3	18,2
77	19/6/13 11.00	-134,0	20,1			-82,9	17,8	-78,8	19,4	-67,8	18,0
78	25/6/13 11.45	-134,8	20,7			-75,5	20,4	-88,9	19,9	-59,7	20,0
79	4/7/13 12.15	-134,4	20,4			-56,8	20,6	-86,1	19,8	-54,4	20,1
80	11/7/13 11.00	-145,0	20,2			-55,2	20,4	-96,7	19,6	-59,7	20,0
81	18/7/13 10.00	-146,6	20,4			-61,7	20,2	-101,9	19,5	-54,4	20,1
82	25/7/13 10.50	-120,6	23,2			-2,4	24,4	-107,2	20,4	-4,4	23,2
83	1/8/13 12.45	-65,3	27,4			18,8	26,8	-46,6	25,7	57,0	27,9
84	6/8/13 11.45	-55,1	28,9			56,6	28,9	-19,4	28,6	55,8	28,8
85	29/8/13 11.00	-67,3	28,9			26,6	29,1	-17,7	28,4	45,2	28,6
86	5/9/13 11.00	-54,2	31,3			36,7	31,6	-15,2	31,6	72,1	31,8
87	12/9/13 11.30	-74,2	29,0			13,5	28,7	-36,4	28,2	41,2	28,6
88	18/9/13 11.00	-89,2	27,1			11,5	26,2	-42,9	26,0	39,5	26,8
89	25/9/13 10.00	-109,2	23,8			9,8	23,4	-72,6	22,9	38,3	23,7
90	9/10/13 11.00	-88,9	22,8			13,9	22,4	-66,6	21,4	41,1	22,6
91	14/10/13 11.30	-89,7	22,4			15,5	22,2	-56,0	21,6	54,5	22,7
92	25/10/13 11.00	-86,5	22,0			25,2	22,0	-52,8	21,2	69,5	22,6
93	29/10/13 11.30	-80,8	21,8			30,9	21,8	-47,1	21,0	75,2	22,4
94	7/11/13 11.00	-76,3	21,5			35,4	21,5	-42,6	20,7	82,5	22,0
95	12/11/13 11.30	-66,2	21,0			42,7	21,1	-35,3	20,3	89,8	21,6
96	19/11/13 11.00	-76,7	20,8			45,5	21,0	-34,9	20,0	91,4	21,4
97	5/12/13 14.00	-75,9	20,2			56,1	20,2	-17,9	19,4	112,6	20,8
98	10/12/13 12.30	-69,8	19,7			65,0	19,6	-10,6	19,0	130,8	20,3
99	9/1/14 12.30	-52,8	19,1			84,9	18,9	8,1	18,2	148,7	19,1
100	13/1/14 12.00	-68,6	18,8			74,3	18,7	-2,4	18,0	135,7	18,7
101	21/1/14 11.30	-93,5	16,1			7,7	16,9	-71,9	16,3	30,4	16,4



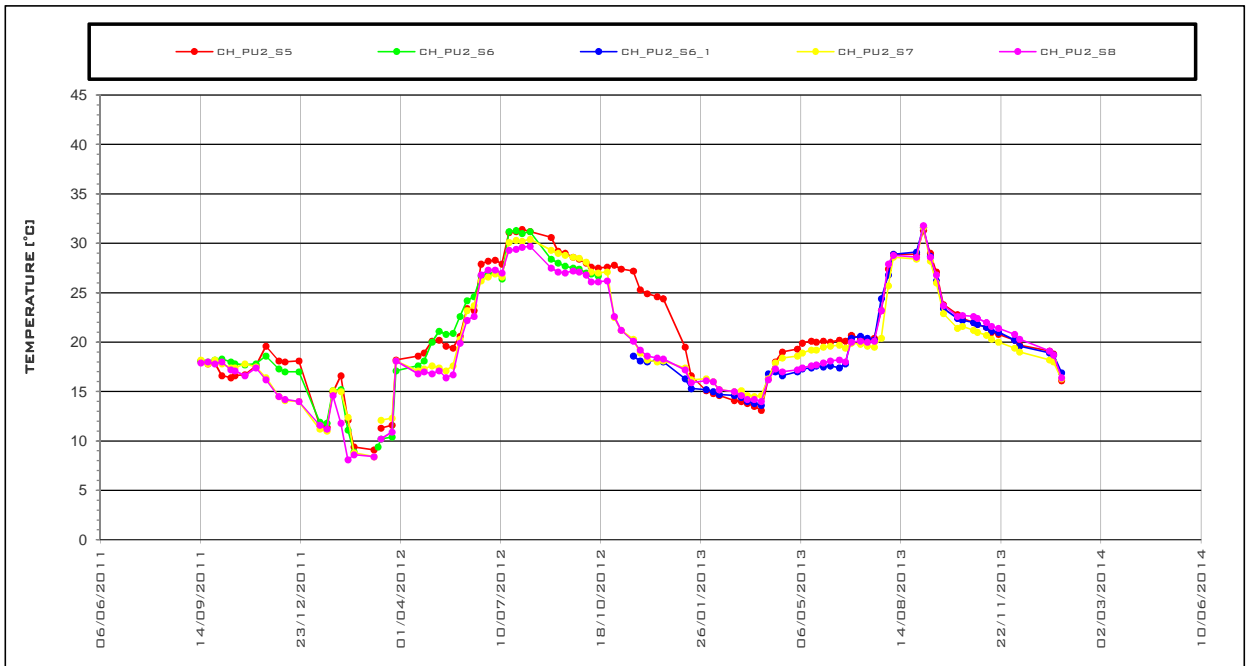
Ubicazione STAZIONE CHIAIA  
Opera \ \ Puntone 2  
Strumento Barretta Est. per Metallo  
Data posa in opera 14/09/2011  
Data lettura di zero 14/09/2011




**GRAFICO MICROSTRAIN**



**GRAFICO TEMPERATURE**



 <p><b>Ansaldo STS</b> A Finmeccanica Company</p>	<p><b>LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO</b></p> <p><i>OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO</i></p> <p><i>REPORT DELLE MISURE - STAZIONE CHIAIA</i></p>	<p>LM6 7FX 2C I 28 Data: 21/01/14 Metropolitana di Napoli A.T.I. LM6 TreEsse Engineering S.r.l.</p>
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## **9. MISURE GEOTECNICHE – CELLE DI CARICO TOROIDALI**

Le celle di carico toroidali a compressione, costituite da un anello di acciaio di diverso diametro in funzione alla tipologia di utilizzo, trovano applicazione nel controllo della tesatura di tiranti o di bulloni per chiodature in roccia o nel terreno; servono inoltre per tenere sotto controllo gli stessi durante il servizio evidenziando eventuali rilasci o sovraccarichi tensionali.

Le celle, sottoposte ad un carico, subiscono una deformazione che viene rilevata dagli estensimetri, i quali variando il loro valore di resistenza, generano in uscita un segnale elettrico proporzionale al carico applicato.


 <p><b>Ansaldo STS</b> A Finmeccanica Company</p>	<p><b>LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO</b></p> <p><i>OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO REPORT DELLE MISURE - STAZIONE CHIAIA</i></p>	<p>LM6 7FX 2C I 28 Data: 21/01/14 Metropolitana di Napoli A.T.I. LM6 TreEsse Engineering S.r.l.</p>
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Tabelle riepilogative per le Celle di Carico toroidali installate in cantiere.

Tabella Celle di Carico Primo Ordine di Tiranti

NOME	TIPOLOGIA STRUMENTO	DATA INSTALLAZIONE	DISPONIBILITA' LETTURA			NOTE
			DATA LETTURA DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
CH_CC1	CC.TOROIDALI	16/05/11	16/05/11			
CH_CC2	CC.TOROIDALI	16/05/11	16/05/11			
CH_CC3	CC.TOROIDALI	16/05/11	16/05/11			
CH_CC4	CC.TOROIDALI	16/05/11	16/05/11			

Tabella Celle di Carico Secondo Ordine di Tiranti

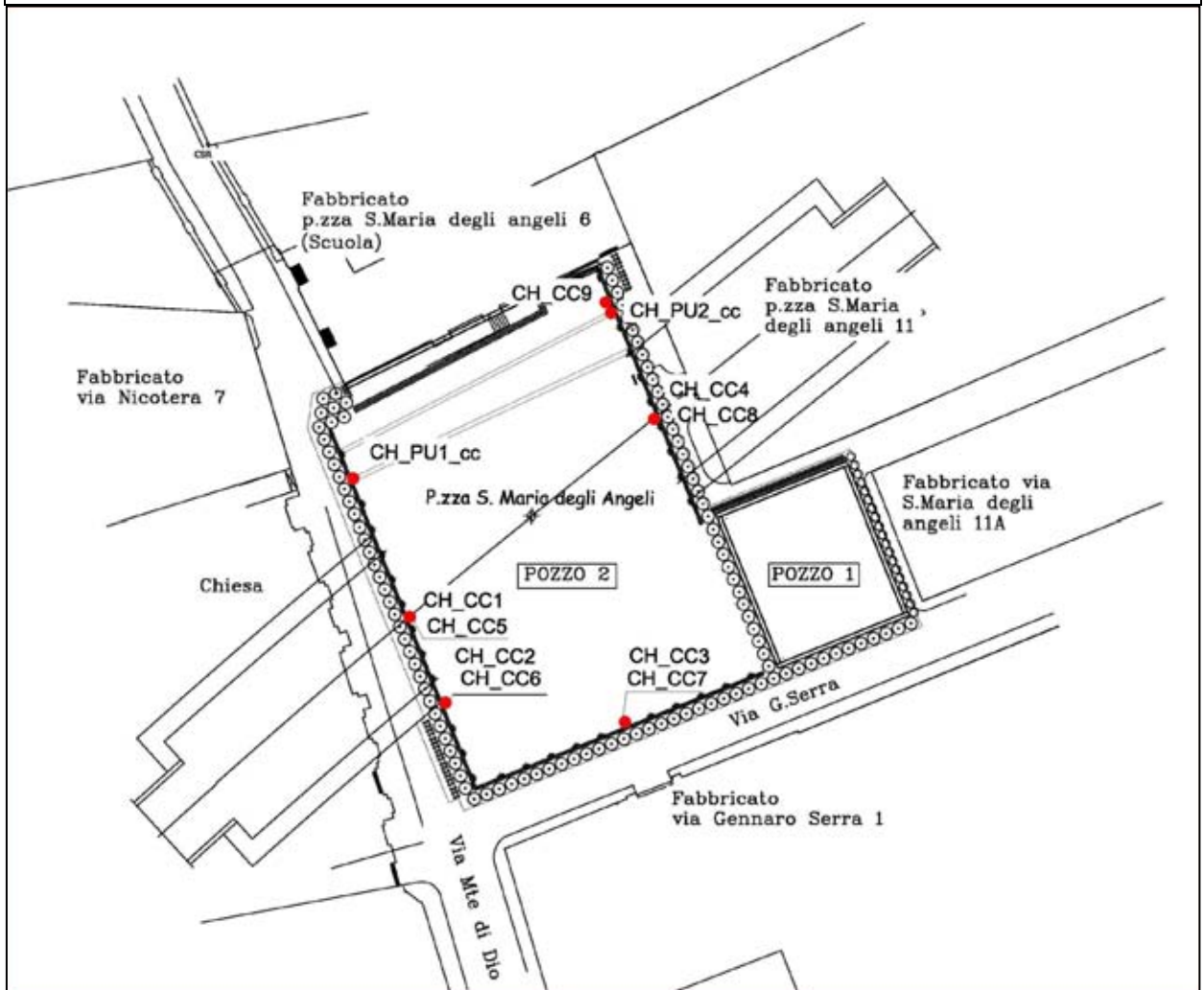
NOME	TIPOLOGIA STRUMENTO	DATA INSTALLAZIONE	DISPONIBILITA' LETTURA			NOTE
			DATA LETTURA DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
<b>SECONDO ORDINE DI TIRANTI</b>						
CH_CC5	CC. TOROIDALI	02/08/11	02/08/11			
CH_CC6	CC. TOROIDALI	02/08/11	02/08/11			
CH_CC7	CC. TOROIDALI	16/05/11	19/07/11			
CH_CC8	CC. TOROIDALI	16/05/11	19/07/11			
CH_CC9	CC. TOROIDALI	02/04/12	02/04/12			

Tabella Celle di Carico Puntoni

NOME	TIPOLOGIA STRUMENTO	DATA INSTALLAZIONE	DISPONIBILITA' LETTURA			NOTE
			DATA LETTURA DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
<b>PUNTONI</b>						
CH_PU1_CC	CC. TOROIDALI	14/09/11	14/09/11			
CH_PU2_CC	CC. TOROIDALI	14/09/11	14/09/11			

Celle di Carico

CH\_CC1-9 / CH\_PU1-2\_CC



Affidabilità strumentale  
A.T.I. LM6 – TreEsse

buono  
da rivedere  
da scartare

X

Congruenza progettuale  
C.T. ATI LM6 – C.T. Monitoraggio

congruente  
non congruente, da valutare  
non congruente con implicazioni sulla  
sicurezza


**NOTE**


**TABULATI**
**Ubicazione** STAZIONE CHIAIA

**Tipo Strumento** Cella di Carico

**Posizione** \ \ 1° Ordine Di Tiranti

**Data posa in opera** 16/05/2011

**Data lettura di zero** 16/06/2011

**Ultima  
misura**

129

**in data**

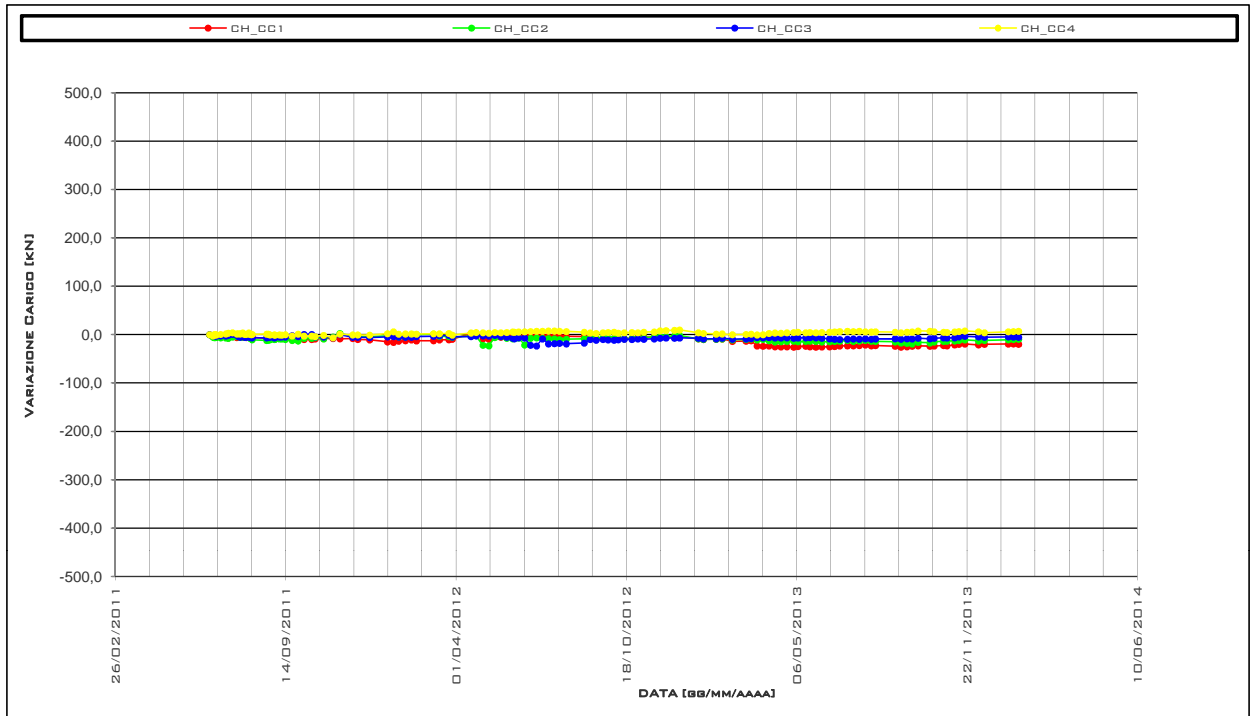
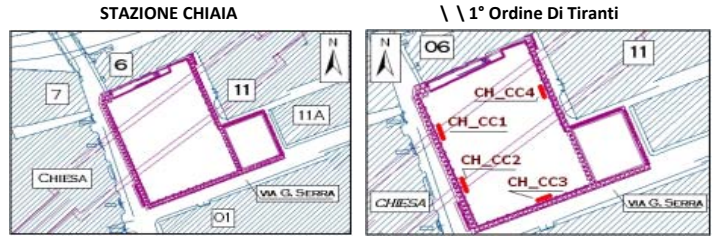
21/01/2014

Letture n°	DATA	CH_CC1		CH_CC2		CH_CC3		CH_CC4	
		Δ Carico [kN]	Carico [kN]	Δ Carico [kN]	Carico [kN]	Δ Carico [kN]	Carico [kN]	Δ Carico [kN]	Carico [kN]
75	08/10/2012 10.00	-9,00	291,97	-9,00	291,08	-10,50	319,03	3,00	288,88
76	15/10/2012 11.00	-8,50	292,47	-8,50	291,58	-9,50	320,03	4,00	289,88
77	24/10/2012 11.00	-8,00	292,97	-8,00	292,08	-10,00	319,53	4,50	290,38
78	31/10/2012 10.00	-6,00	294,97	-7,50	292,58	-9,00	320,53	4,00	289,88
79	07/11/2012 11.00	-5,50	295,47	-6,50	293,58	-9,50	320,03	5,00	290,88
80	19/11/2012 15.00	-4,50	296,47	-5,00	295,08	-9,00	320,53	5,50	291,38
81	26/11/2012 12.00	-4,00	296,97	-4,00	296,08	-7,50	322,03	8,00	293,88
82	03/12/2012 11.00	-5,00	295,97	-4,00	296,08	-7,00	322,53	8,50	294,38
83	13/12/2012 10.00	-4,50	296,47	-3,00	297,08	-7,50	322,03	9,00	294,88
84	19/12/2012 10.00	-4,00	296,97	-2,00	298,08	-7,00	322,53	9,50	295,38
85	10/01/2013 10.30	-8,50	292,47	-8,50	291,58	-7,50	322,03	4,00	289,88
86	16/01/2013 10.00	-10,00	290,97	-10,01	290,08	-9,00	320,53	2,50	288,38
87	31/01/2013 10.00	-9,50	291,47	-9,51	290,58	-8,50	321,03	1,00	286,88
88	07/02/2013 11.00	-9,00	291,97	-9,00	291,08	-7,50	322,03	1,50	287,38
89	19/02/2013 10.00	-14,00	286,97	-11,01	289,08	-9,50	320,03	0,00	285,88
90	07/03/2013 11.00	-13,50	287,47	-10,01	290,08	-9,00	320,53	0,50	286,38
91	13/03/2013 11.30	-12,50	288,47	-9,00	291,08	-8,00	321,53	1,00	286,88
92	20/03/2013 10.00	-23,50	277,47	-11,01	289,08	-6,00	323,53	-0,50	285,38
93	27/03/2013 10.30	-24,00	276,97	-10,01	290,08	-6,50	323,03	0,00	285,88
94	03/04/2013 10.00	-23,50	277,47	-12,51	287,58	-6,00	323,53	2,50	288,38
95	10/04/2013 10.15	-25,00	275,97	-15,01	285,07	-7,00	322,53	3,50	289,38
96	17/04/2013 10.00	-25,50	275,47	-14,51	285,57	-7,00	322,53	3,00	288,88
97	24/04/2013 11.30	-25,00	275,97	-14,01	286,07	-6,50	323,03	4,00	289,88
98	02/05/2013 10.30	-26,00	274,97	-13,51	286,58	-7,50	322,03	4,50	290,38
99	07/05/2013 10.30	-24,50	276,47	-14,51	285,57	-7,00	322,53	5,00	290,88
100	16/05/2013 11.30	-24,00	276,97	-14,01	286,07	-6,50	323,03	4,00	289,88
101	21/05/2013 10.30	-25,00	275,97	-13,51	286,58	-6,00	323,53	4,50	290,38
102	28/05/2013 11.30	-26,00	274,97	-14,01	286,07	-6,50	323,03	4,00	289,88
103	04/06/2013 11.00	-25,50	275,47	-15,01	285,07	-7,50	322,03	4,50	290,38
104	13/06/2013 11.30	-25,00	275,97	-14,51	285,57	-8,50	321,03	5,00	290,88
105	19/06/2013 11.00	-24,50	276,47	-14,01	286,07	-9,50	320,03	5,50	291,38
106	25/06/2013 11.30	-23,50	277,47	-13,51	286,58	-10,00	319,53	6,50	292,38
107	04/07/2013 12.00	-23,00	277,97	-12,01	288,08	-9,50	320,03	7,00	292,88
108	11/07/2013 11.00	-23,00	277,97	-14,01	286,07	-9,00	320,53	6,50	292,38
109	18/07/2013 10.30	-22,50	278,47	-13,01	287,08	-9,50	320,03	7,00	292,88
110	25/07/2013 11.30	-21,50	279,47	-12,01	288,08	-8,50	321,03	6,00	291,88
111	01/08/2013 12.30	-23,00	277,97	-13,51	286,58	-9,50	320,03	5,50	291,38
112	06/08/2013 12.30	-22,50	278,47	-14,01	286,07	-9,00	320,53	6,00	291,88
113	29/08/2013 12.30	-24,00	276,97	-15,01	285,07	-8,50	321,03	5,00	290,88
114	05/09/2013 10.30	-26,00	274,97	-17,01	283,07	-9,50	320,03	4,00	289,88
115	12/09/2013 11.00	-25,00	275,97	-18,01	282,07	-8,50	321,03	5,00	290,88
116	18/09/2013 11.30	-24,00	276,97	-19,01	281,07	-9,00	320,53	5,50	291,38
117	25/09/2013 11.30	-23,00	277,97	-16,01	284,07	-7,50	322,03	7,50	293,38
118	09/10/2013 10.30	-24,00	276,97	-17,01	283,07	-8,50	321,03	7,00	292,88
119	14/10/2013 10.30	-23,50	277,47	-15,01	285,07	-7,50	322,03	6,00	291,88
120	25/10/2013 11.30	-22,50	278,47	-14,01	286,07	-6,50	323,03	5,00	290,88
121	29/10/2013 11.00	-23,00	277,97	-13,51	286,58	-7,00	322,53	4,50	290,38
122	07/11/2013 11.00	-21,00	279,97	-13,01	287,08	-6,50	323,03	5,50	291,38
123	12/11/2013 10.30	-20,00	280,97	-12,01	288,08	-4,50	325,03	6,50	292,38
124	19/11/2013 11.00	-19,50	281,47	-11,01	289,08	-3,50	326,03	7,50	293,38
125	05/12/2013 11.00	-21,00	279,97	-13,01	287,08	-4,50	325,03	6,00	291,88
126	12/12/2013 10.30	-20,00	280,97	-12,01	288,08	-5,50	324,03	4,00	289,88
127	09/01/2014 11.00	-19,50	281,47	-10,51	289,58	-4,50	325,03	6,00	291,88
128	15/01/2014 10.30	-19,00	281,97	-10,01	290,08	-5,00	324,53	6,50	292,38
129	21/01/2014 11.00	-20,00	280,97	-9,51	290,58	-5,50	324,03	7,00	292,88



**SCHEMA UBICAZIONE**

**Ubicazione** STAZIONE CHIAIA  
**Tipo Strumento** Cella di Carico  
**Posizione** \ \ 1° Ordine Di Tiranti  
**Data posa in opera** 16/05/2011  
**Data lettura di zero** 16/06/2011






**TABULATI**
**Ubicazione** STAZIONE CHIAIA

**Tipo Strumento** Cella di Carico

**Posizione** \ \ 2° Ordine Di Tiranti

**Data posa in opera** 02/08/2011

**Data lettura di zero** 02/08/2011

**Ultima  
misura**

118

**in data**

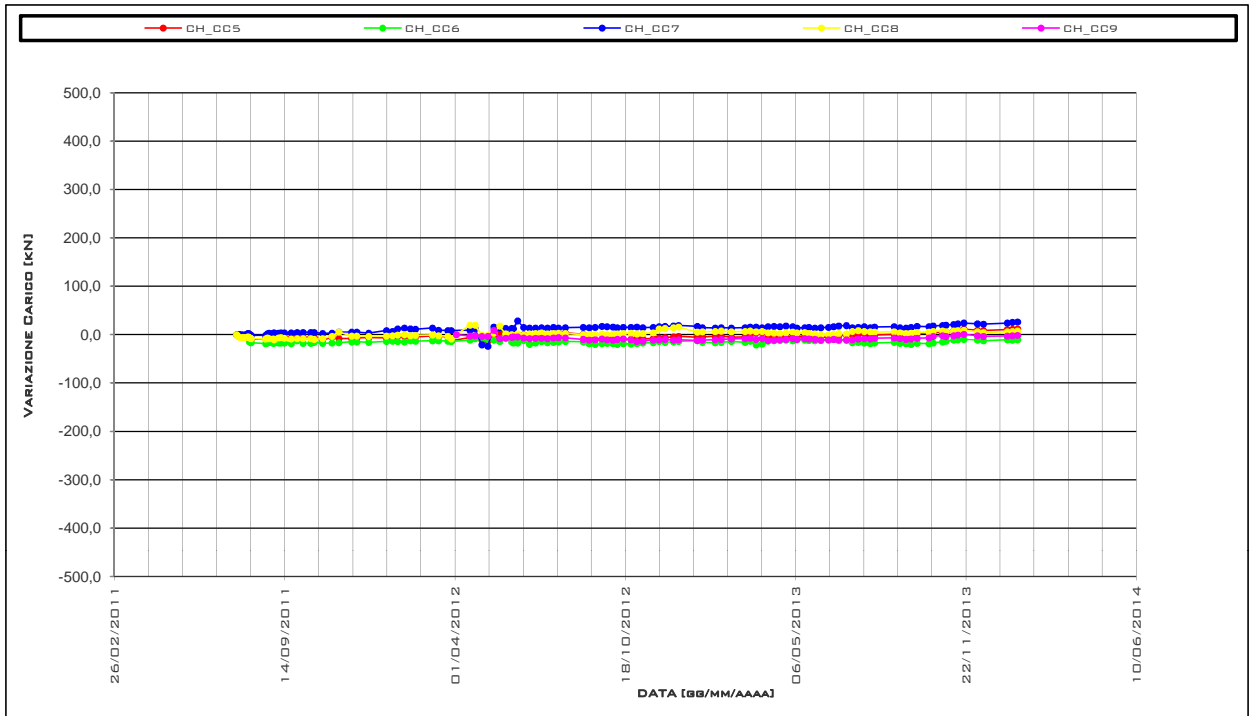
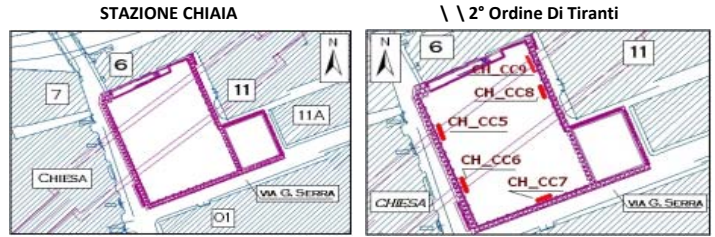
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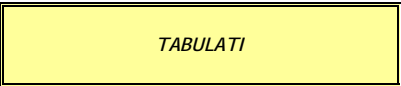
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		Δ Carico [kN]	Carico [kN]	Δ Carico [kN]	Carico [kN]	Δ Carico [kN]	Carico [kN]	Δ Carico [kN]	Carico [kN]	Δ Carico [kN]	Carico [kN]
64	08/10/2012 11.00	-9,75	529,31	-20,25	502,71	14,25	495,68	1,50	362,84	-9,75	391,50
65	15/10/2012 11.00	-9,00	530,06	-18,75	504,21	15,00	496,43	2,25	363,59	-9,00	392,25
66	24/10/2012 11.00	-9,75	529,31	-19,50	503,46	15,00	496,43	3,00	364,34	-10,50	390,75
67	31/10/2012 10.00	-8,25	530,81	-18,75	504,21	15,75	497,18	1,50	362,84	-14,25	387,00
68	07/11/2012 11.00	-9,00	530,06	-17,25	505,71	14,25	495,68	2,25	363,59	-13,50	387,75
69	19/11/2012 15.00	-8,25	530,81	-16,50	506,46	15,00	496,43	3,75	365,09	-11,25	390,00
70	26/11/2012 12.00	-6,75	532,31	-14,25	508,71	16,50	497,93	12,00	373,34	-10,50	390,75
71	03/12/2012 11.00	-6,00	533,06	-15,75	507,21	17,25	498,68	12,75	374,08	-9,75	391,50
72	13/12/2012 10.00	-4,50	534,56	-15,00	507,96	18,00	499,43	14,25	375,58	-11,25	390,00
73	19/12/2012 10.00	-3,75	535,31	-14,25	508,71	18,75	500,18	15,75	377,08	-10,50	390,75
74	10/01/2013 10.30	-5,25	533,81	-12,75	510,21	17,25	498,68	5,25	366,59	-12,00	389,25
75	16/01/2013 10.00	-4,50	534,56	-15,75	507,21	14,25	495,68	6,00	367,34	-11,25	390,00
76	31/01/2013 10.00	-3,75	535,31	-16,50	506,46	13,50	494,93	6,75	368,09	-10,50	390,75
77	07/02/2013 10.30	-3,00	536,06	-15,75	507,21	14,25	495,68	7,50	368,84	-9,75	391,50
78	19/02/2013 10.00	-5,25	533,81	-14,25	508,71	13,50	494,93	6,00	367,34	-9,00	392,25
79	07/03/2013 11.00	-4,50	534,56	-15,75	507,21	14,25	495,68	6,75	368,09	-8,25	393,00
80	13/03/2013 11.30	-3,00	536,06	-13,50	509,46	15,75	497,18	7,50	368,84	-7,50	393,75
81	20/03/2013 10.00	3,75	542,81	-21,00	501,96	15,75	497,18	6,00	367,34	-9,75	391,50
82	27/03/2013 10.30	4,50	543,56	-19,50	503,46	14,25	495,68	6,75	368,09	-8,25	393,00
83	03/04/2013 10.00	-5,25	533,81	-13,50	509,46	16,50	497,93	3,75	365,09	-12,00	389,25
84	10/04/2013 10.15	-5,25	533,81	-12,75	510,21	17,25	498,68	3,00	364,34	-11,25	390,00
85	17/04/2013 10.00	-4,50	534,56	-12,00	510,96	16,50	497,93	2,25	363,59	-10,50	390,75
86	24/04/2013 11.00	-3,75	535,31	-11,25	511,71	18,00	499,43	3,75	365,09	-9,75	391,50
87	02/05/2013 10.30	-5,25	533,81	-12,75	510,21	16,50	497,93	5,25	366,59	-8,25	393,00
88	07/05/2013 10.30	-4,50	534,56	-10,50	512,46	13,50	494,93	3,75	365,09	-9,75	391,50
89	16/05/2013 11.30	-3,75	535,31	-11,25	511,71	14,25	495,68	4,50	365,84	-8,25	393,00
90	21/05/2013 10.30	-5,25	533,81	-12,00	510,96	15,00	496,43	2,25	363,59	-9,00	392,25
91	28/05/2013 11.30	-6,75	532,31	-12,75	510,21	13,50	494,93	1,50	362,84	-9,75	391,50
92	04/06/2013 11.00	-6,00	533,06	-12,00	510,96	14,25	495,68	-0,75	360,59	-11,25	390,00
93	13/06/2013 11.30	-4,50	534,56	-11,25	511,71	15,00	496,43	0,00	361,34	-10,50	390,75
94	19/06/2013 11.00	-3,75	535,31	-9,75	513,21	16,50	497,93	0,75	362,09	-9,75	391,50
95	25/06/2013 11.30	-2,25	536,81	-11,25	511,71	18,00	499,43	2,25	363,59	-11,25	390,00
96	04/07/2013 12.30	-0,75	538,31	-12,00	510,96	18,75	500,18	1,50	362,84	-10,50	390,75
97	11/07/2013 11.00	0,00	539,06	-16,50	506,46	14,25	495,68	6,75	368,09	-10,50	390,75
98	18/07/2013 10.00	0,75	539,81	-15,75	507,21	15,00	496,43	8,25	369,59	-9,00	392,25
99	25/07/2013 11.00	1,50	540,56	-17,25	505,71	16,50	497,93	6,75	368,09	-8,25	393,00
100	01/08/2013 12.30	-0,75	538,31	-18,75	504,21	14,25	495,68	6,00	367,34	-9,00	392,25
101	06/08/2013 12.30	-0,75	538,31	-17,25	505,71	15,75	497,18	5,25	366,59	-7,50	393,75
102	29/08/2013 12.30	0,75	539,81	-15,75	507,21	16,50	497,93	6,00	367,34	-6,75	394,50
103	05/09/2013 10.30	0,00	539,06	-18,00	504,96	14,25	495,68	3,75	365,09	-8,25	393,00
104	12/09/2013 11.00	-0,75	538,31	-18,75	504,21	13,50	494,93	2,25	363,59	-9,75	391,50
105	18/09/2013 10.30	0,00	539,06	-20,25	502,71	15,00	496,43	3,00	364,34	-9,00	392,25
106	25/09/2013 10.30	2,25	541,31	-18,00	504,96	17,25	498,68	4,50	365,84	-7,50	393,75
107	09/10/2013 10.30	3,75	542,81	-18,75	504,21	16,50	497,93	5,25	366,59	-6,75	394,50
108	14/10/2013 10.00	5,25	544,31	-17,25	505,71	18,00	499,43	6,75	368,09	-3,75	397,50
109	25/10/2013 10.00	4,50	543,56	-15,00	507,96	18,75	500,18	7,50	368,84	-2,25	399,00
110	29/10/2013 10.30	5,25	544,31	-13,50	509,46	19,50	500,93	6,00	367,34	-3,75	397,50
111	07/11/2013 10.30	8,25	547,31	-11,25	511,71	21,00	502,43	7,50	368,84	-2,25	399,00
112	12/11/2013 10.30	9,75	548,81	-10,50	512,46	22,50	503,93	8,25	369,59	-0,75	400,50
113	19/11/2013 11.00	11,25	550,31	-9,75	513,21	24,00	505,43	9,00	370,34	0,75	402,00
114	05/12/2013 10.00	9,00	548,06	-11,25	511,71	22,50	503,93	6,00	367,34	-2,25	399,00
115	12/12/2013 10.30	8,25	547,31	-12,75	510,21	21,75	503,18	4,50	365,84	-3,75	397,50
116	09/01/2014 11.00	10,50	549,56	-10,50	512,46	24,00	505,43	6,00	367,34	-3,00	398,25
117	15/01/2014 10.30	11,25	550,31	-11,25	511,71	25,50	506,93	6,75	368,09	-2,25	399,00
118	21/01/2014 11.30	12,00	551,06	-10,50	512,46	26,25	507,68	7,50	368,84	-1,50	399,75



**SCHEMA UBICAZIONE**

**Ubicazione** STAZIONE CHIAIA  
**Tipo Strumento** Cella di Carico  
**Posizione** \ \ 2° Ordine Di Tiranti  
**Data posa in opera** 02/08/2011  
**Data lettura di zero** 02/08/2011





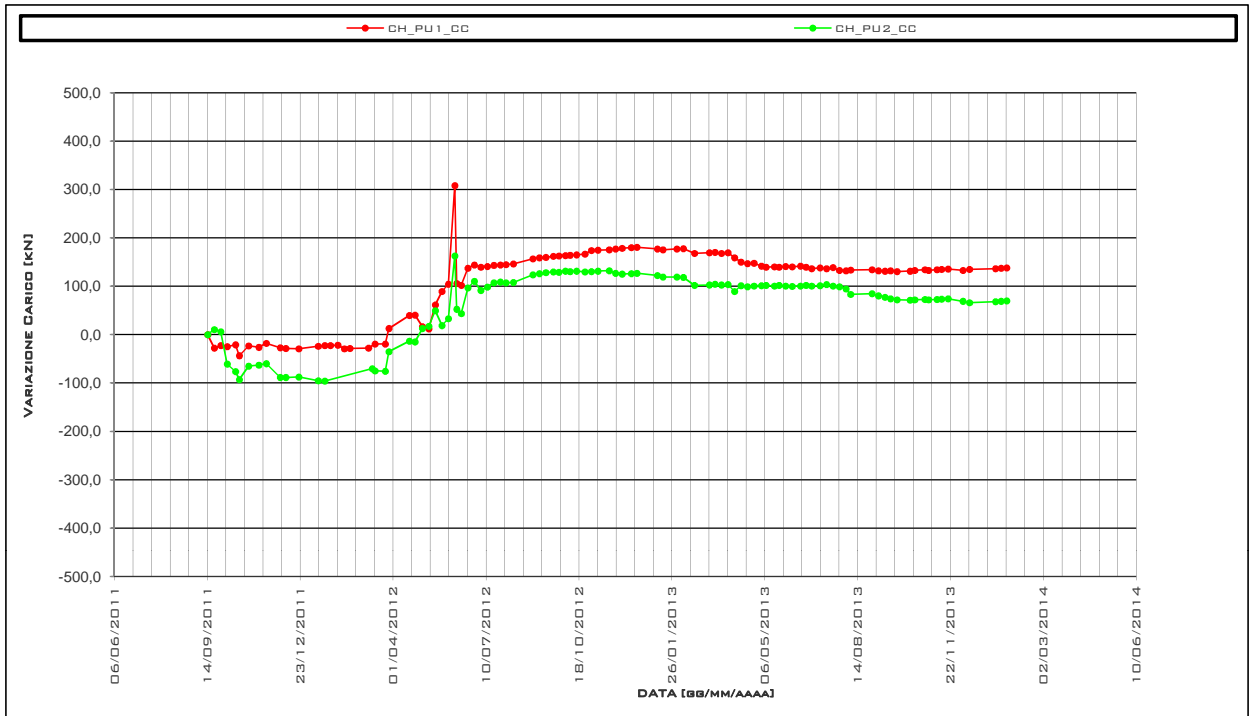
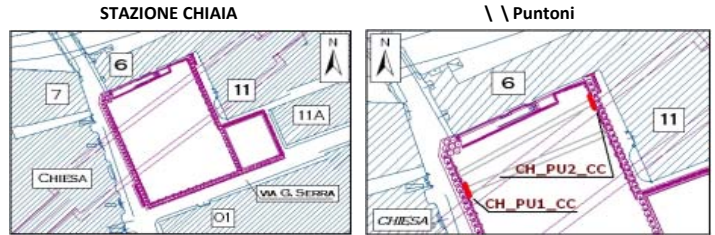
<b>Ubicazione</b> STAZIONE CHIAIA <b>Tipo Strumento</b> Cella di Carico <b>Posizione</b> \ \ Puntoni <b>Data posa in opera</b> 14/09/2011 <b>Data lettura di zero</b> 14/09/2011	<b>Ultima misura</b> 102 <b>in data</b> 21/01/2014
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Letture n°	DATA	CH_PU1_CC		CH_PU2_CC	
		Δ Carico [kN]	Carico [kN]	Δ Carico [kN]	Carico [kN]
48	08/10/2012 11.00	164,22	467,43	130,50	706,54
49	15/10/2012 11.00	164,97	468,18	131,25	707,29
50	24/10/2012 11.00	166,47	469,68	129,75	705,79
51	31/10/2012 10.00	173,97	477,18	130,50	706,54
52	07/11/2012 11.00	174,72	477,93	131,25	707,29
53	19/11/2012 15.00	175,47	478,68	132,00	708,04
54	26/11/2012 11.00	176,97	480,18	126,75	702,79
55	03/12/2012 11.00	178,47	481,68	125,25	701,29
56	13/12/2012 10.30	179,97	483,18	126,00	702,04
57	19/12/2012 10.00	180,72	483,93	126,75	702,79
58	10/01/2013 10.30	176,97	480,18	122,25	698,29
59	16/01/2013 10.00	175,47	478,68	119,25	695,29
60	31/01/2013 10.00	176,97	480,18	119,25	695,29
61	07/02/2013 10.30	177,72	480,93	118,50	694,54
62	19/02/2013 10.00	167,97	471,18	102,00	678,04
63	07/03/2013 11.00	169,47	472,68	102,75	678,79
64	13/03/2013 11.00	170,22	473,43	104,25	680,29
65	20/03/2013 10.00	167,97	471,18	102,75	678,79
66	27/03/2013 11.00	169,47	472,68	103,50	679,54
67	03/04/2013 11.00	158,97	462,18	89,25	665,29
68	10/04/2013 10.30	149,97	453,19	101,25	677,29
69	17/04/2013 10.00	146,97	450,19	99,00	675,04
70	24/04/2013 11.00	147,72	450,94	100,50	676,54
71	02/05/2013 10.30	141,72	444,94	101,25	677,29
72	07/05/2013 10.30	139,47	442,69	102,00	678,04
73	16/05/2013 10.30	140,22	443,44	100,50	676,54
74	21/05/2013 10.30	139,47	442,69	102,00	678,04
75	28/05/2013 11.30	140,97	444,19	100,50	676,54
76	04/06/2013 12.00	140,22	443,44	99,75	675,79
77	13/06/2013 11.00	141,72	444,94	100,50	676,54
78	19/06/2013 11.00	139,47	442,69	102,00	678,04
79	25/06/2013 11.30	136,47	439,69	100,50	676,54
80	04/07/2013 12.30	137,97	441,19	101,25	677,29
81	11/07/2013 12.30	136,47	439,69	103,50	679,54
82	18/07/2013 11.30	138,72	441,94	100,50	676,54
83	25/07/2013 11.00	132,73	435,94	99,00	675,04
84	01/08/2013 12.30	131,98	435,19	94,50	670,54
85	06/08/2013 12.30	133,48	436,69	83,25	659,29
86	29/08/2013 12.30	134,22	437,44	84,75	660,79
87	05/09/2013 10.30	131,98	435,19	80,25	656,29
88	12/09/2013 11.00	131,23	434,44	77,25	653,29
89	18/09/2013 10.30	131,98	435,19	74,25	650,29
90	25/09/2013 10.30	130,48	433,69	72,00	648,04
91	09/10/2013 11.30	131,23	434,44	71,25	647,29
92	14/10/2013 11.30	132,73	435,94	72,00	648,04
93	25/10/2013 11.30	134,22	437,44	72,75	648,79
94	29/10/2013 11.00	132,73	435,94	72,00	648,04
95	07/11/2013 10.00	134,22	437,44	72,75	648,79
96	12/11/2013 10.00	134,97	438,19	73,50	649,54
97	19/11/2013 11.00	135,72	438,94	74,25	650,29
98	05/12/2013 10.00	132,73	435,94	69,00	645,04
99	12/12/2013 10.30	134,97	438,19	66,00	642,04
100	09/01/2014 11.00	136,47	439,69	68,25	644,29
101	15/01/2014 10.30	137,22	440,44	69,00	645,04
102	21/01/2014 11.30	137,97	441,19	69,75	645,79



**SCHEMA UBICAZIONE**

**Ubicazione** STAZIONE CHIAIA  
**Tipo Strumento** Cella di Carico  
**Posizione** \ \ Puntoni  
**Data posa in opera** 14/09/2011  
**Data lettura di zero** 14/09/2011



 <p><b>Ansaldo STS</b> A Finmeccanica Company</p>	<p><b>LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO</b></p> <p><i>OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO</i> <i>REPORT DELLE MISURE - STAZIONE CHIAIA</i></p>	<p>LM6 7FX 2C 1 28 Data: 21/01/14 Metropolitana di Napoli A.T.I. LM6 TreEsse Engineering S.r.l.</p>
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## **10. MISURE TOPOGRAFICHE – MIRE OTTICHE**

Le Mire Ottiche, installate in prossimità delle travi di distribuzione dei carichi, che collegano i tiranti in testa, permettono di controllare in tali aree l'influenza delle lavorazioni, registrando eventuali variazioni di quota e spostamenti sul piano orizzontale. La misurazione verrà effettuata tramite Teodolite dall'ATI.


 <p><b>Ansaldo STS</b> A Finmeccanica Company</p>	<p><b>LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO</b></p> <p><i>OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO</i></p> <p><i>REPORT DELLE MISURE - STAZIONE CHIAIA</i></p>	<p>LM6 7FX 2C I 28 Data: 21/01/14 Metropolitana di Napoli A.T.I. LM6 TreEsse Engineering S.r.l.</p>
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Tabelle riepilogative per le Mire Ottiche installate in cantiere. Tabella Mire Ottiche Primo Ordine di Tiranti

NOME	TIPOLOGIA STRUMENTO	DATA INSTALLAZIONE	DISPONIBILITA' LETTURA			NOTE
			DATA LETTURA DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
CH_MO1	M. OTTICHE		13/09/11			
CH_MO2	M. OTTICHE		13/09/11			
CH_MO3	M. OTTICHE		15/07/11			
CH_MO4	M. OTTICHE		15/07/11			
CH_MO5	M. OTTICHE		15/07/11			
CH_MO6	M. OTTICHE		15/07/11			
CH_MO7	M. OTTICHE		15/07/11			
CH_MO8	M. OTTICHE		15/07/11			
CH_MO9	M. OTTICHE		15/07/11			
CH_MO10	M. OTTICHE		15/07/11			
CH_MO11	M. OTTICHE		15/07/11			
CH_MO12	M. OTTICHE		15/07/11			
CH_MO13	M. OTTICHE		15/07/11			
CH_MO14	M. OTTICHE		19/07/11			
CH_MO15	M. OTTICHE		06/09/11			
CH_MO16	M. OTTICHE		06/09/11			

Tabella Mire Ottiche Secondo Ordine di Tiranti

NOME	TIPOLOGIA STRUMENTO	DATA INSTALLAZIONE	DISPONIBILITA' LETTURA			NOTE
			DATA LETTURA DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
CH_MO17	M. OTTICHE		17/04/12			
CH_MO18	M. OTTICHE		17/04/12			
CH_MO19	M. OTTICHE		15/11/11			
CH_MO20	M. OTTICHE		15/11/11			
CH_MO21	M. OTTICHE		02/08/11			
CH_MO22	M. OTTICHE		02/08/11			
CH_MO23	M. OTTICHE		02/08/11			
CH_MO24	M. OTTICHE		02/08/11			
CH_MO25	M. OTTICHE		25/07/11			
CH_MO26	M. OTTICHE		25/07/11			
CH_MO27	M. OTTICHE		24/08/11			
CH_MO28	M. OTTICHE		24/08/11			
CH_MO29	M. OTTICHE		24/08/11			
CH_MO30	M. OTTICHE		24/08/11			
CH_MO31	M. OTTICHE		29/11/11			
CH_MO32	M. OTTICHE		29/11/11			


 <p><b>Ansaldo STS</b> A Finmeccanica Company</p>	<p><b>LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO</b></p> <p><i>OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO REPORT DELLE MISURE - STAZIONE CHIAIA</i></p>	<p>LM6 7FX 2C I 28 Data: 21/01/14 Metropolitana di Napoli A.T.I. LM6 TreEsse Engineering S.r.l.</p>
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Tabella Mire Ottiche Terzo e Quarto Ordine - Tufo

NOME	TIPOLOGIA STRUMENTO	DATA INSTALLAZIONE	DISPONIBILITA' LETTURA			NOTE
			DATA LETTURA DI ZERO	PERIODO INTERRUZIONE	DATA FINE ATTIVITA'	
CH_MO33	M. OTTICHE		12/07/12			
CH_MO34	M. OTTICHE		18/07/12			
CH_MO35	M. OTTICHE		13/09/12			
CH_MO36	M. OTTICHE		13/09/12		27/02/13	
CH_MO36A	M. OTTICHE		28/03/13			Sostituisce CH_MO36
CH_MO37	M. OTTICHE		18/09/12		13/06/13	
CH_MO37A	M. OTTICHE		01/07/13			Sostituisce CH_MO37
CH_MO38	M. OTTICHE		07/02/13			
CH_MO39	M. OTTICHE		07/02/13			
CH_MO40	M. OTTICHE		14/02/13			
CH_MO41	M. OTTICHE		05/03/13			
CH_MO42	M. OTTICHE		05/03/13			
CH_MO43	M. OTTICHE		05/03/13		31/10/13	DIVELTA
CH_MO44	M. OTTICHE		05/03/13		28/08/13	DIVELTA
CH_MO45	M. OTTICHE		28/03/13			
CH_MO46	M. OTTICHE		28/03/13			
CH_MO47	M. OTTICHE		28/03/13			
CH_MO48	M. OTTICHE		28/03/13			
CH_MO49	M. OTTICHE		28/03/13			
CH_MO50	M. OTTICHE		28/03/13			
CH_MO51	M. OTTICHE		03/04/13			
CH_MO52	M. OTTICHE		28/03/13			
CH_MO53	M. OTTICHE		28/03/13			
CH_MO54	M. OTTICHE		28/03/13			
CH_MO55	M. OTTICHE		28/03/13			
CH_MO56	M. OTTICHE		28/03/13			
CH_MO57	M. OTTICHE		28/03/13			
CH_MO58	M. OTTICHE		28/03/13			
CH_MO59	M. OTTICHE		28/03/13			
CH_MO60	M. OTTICHE		28/03/13			
CH_MO61	M. OTTICHE		28/03/13			
CH_MO62	M. OTTICHE		28/03/13			
CH_MO63	M. OTTICHE		28/03/13			
CH_MO64	M. OTTICHE		28/03/13			







LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO

OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO

REPORT DELLE MISURE - STAZIONE CHIAIA

LM6 7FX 2C I 28
Data: 21/01/14
Metropolitana di Napoli A.T.I. LM6
TreEsse Engineering S.r.l.



Ubicazione STAZIONE CHIAIA

Opera \ \ Ordine di Tiranti \ 01-04

Tipo Strumento Mire Ottiche

Data posa in opera 13/09/2011

Data lettura di zero 13/09/2011

Ultima Misura 106 in data 15/01/2014

Table with columns: Lett. n°, DATA, CH\_M01, CH\_M02, CH\_M03, CH\_M04. Each CH column contains sub-columns for Temp. Media, Quota, Quota Spost., Est Spost., and Nord Spost.



UBICAZIONE

STAZIONE CHIAIA

\ | Ordine di Tiranti \ 01-04

Ubicazione STAZIONE CHIAIA  
Opera \ | Ordine di Tiranti \ 01-  
Tipo Strumento Mire Ottiche  
Data posa in opera 13/09/2011  
Data lettura di zero 13/09/2011

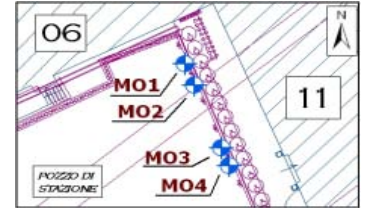


GRAFICO QUOTA

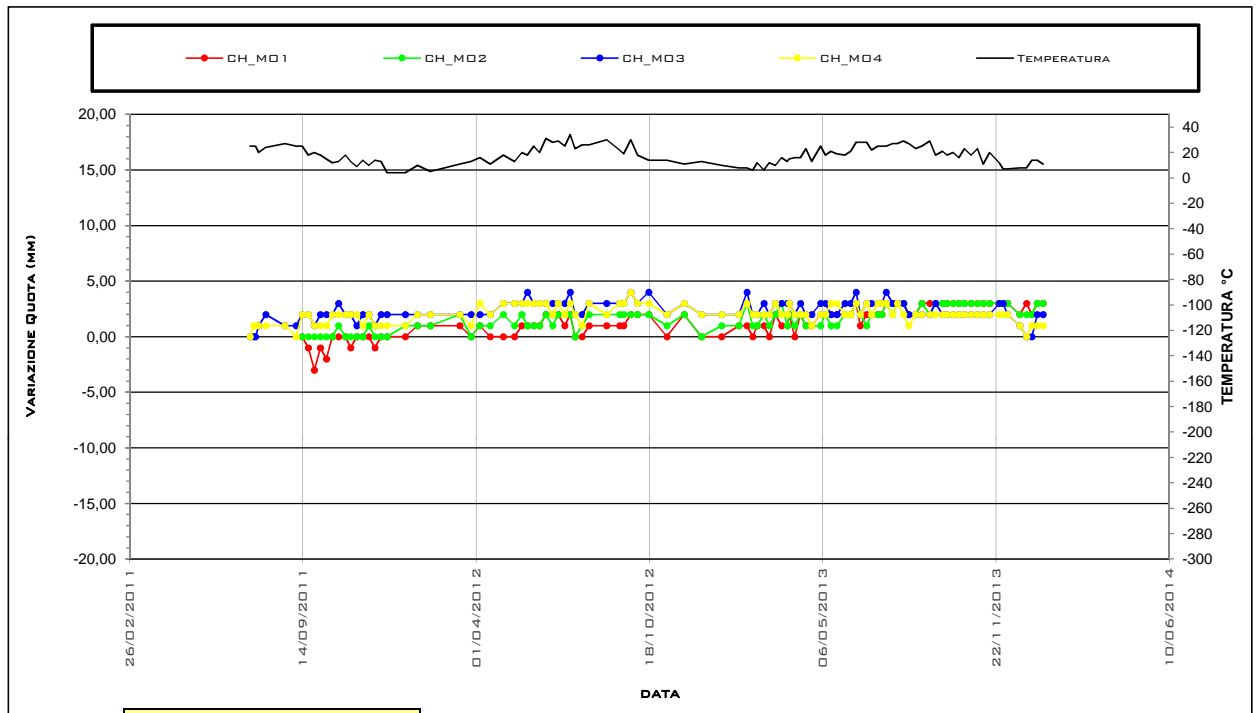
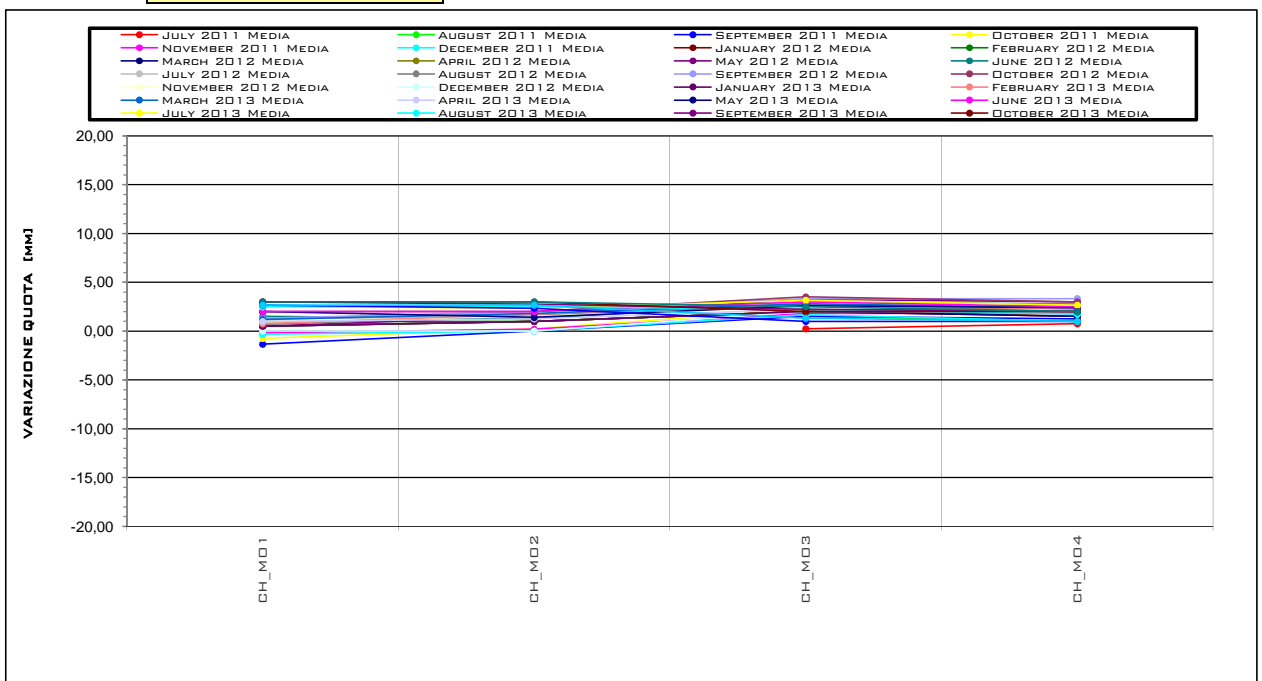
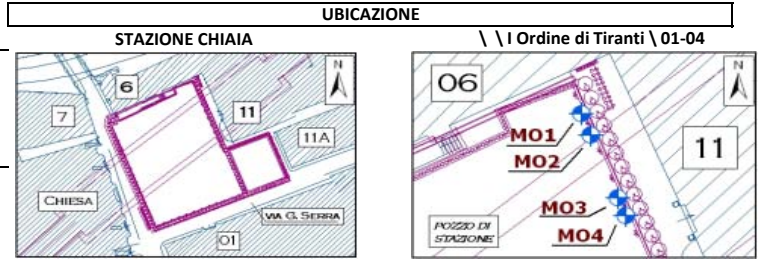


GRAFICO ISOCRONE

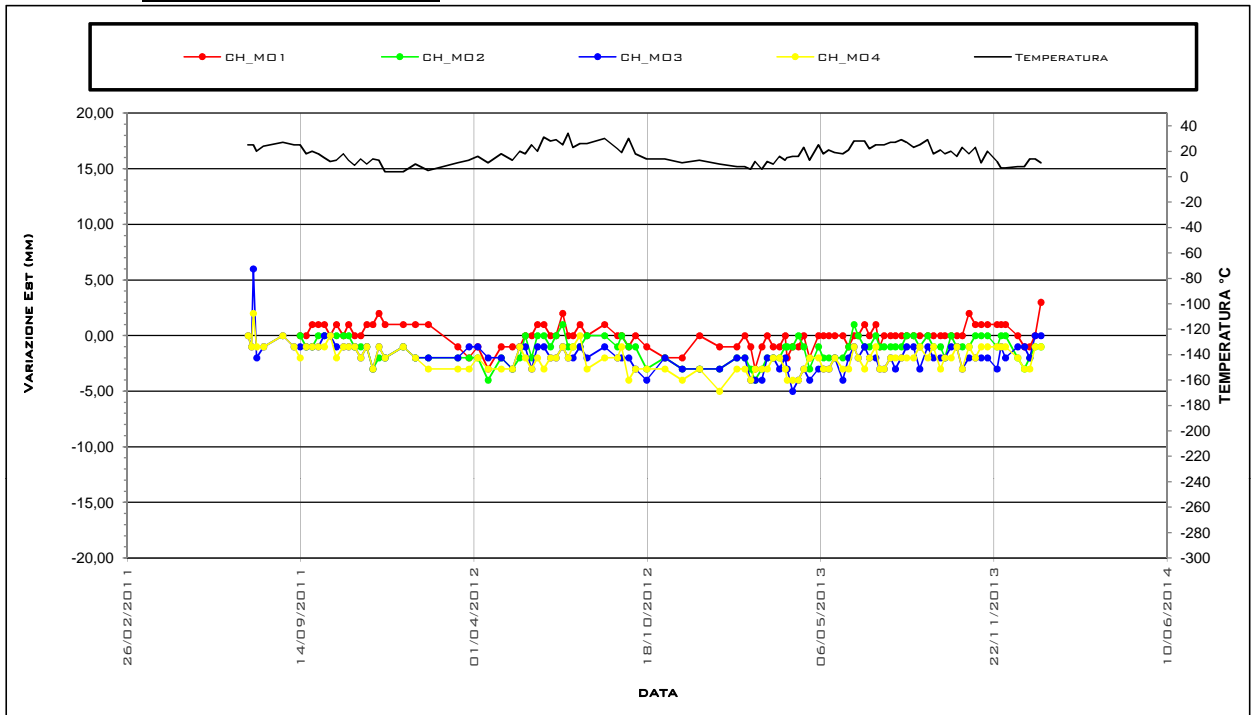




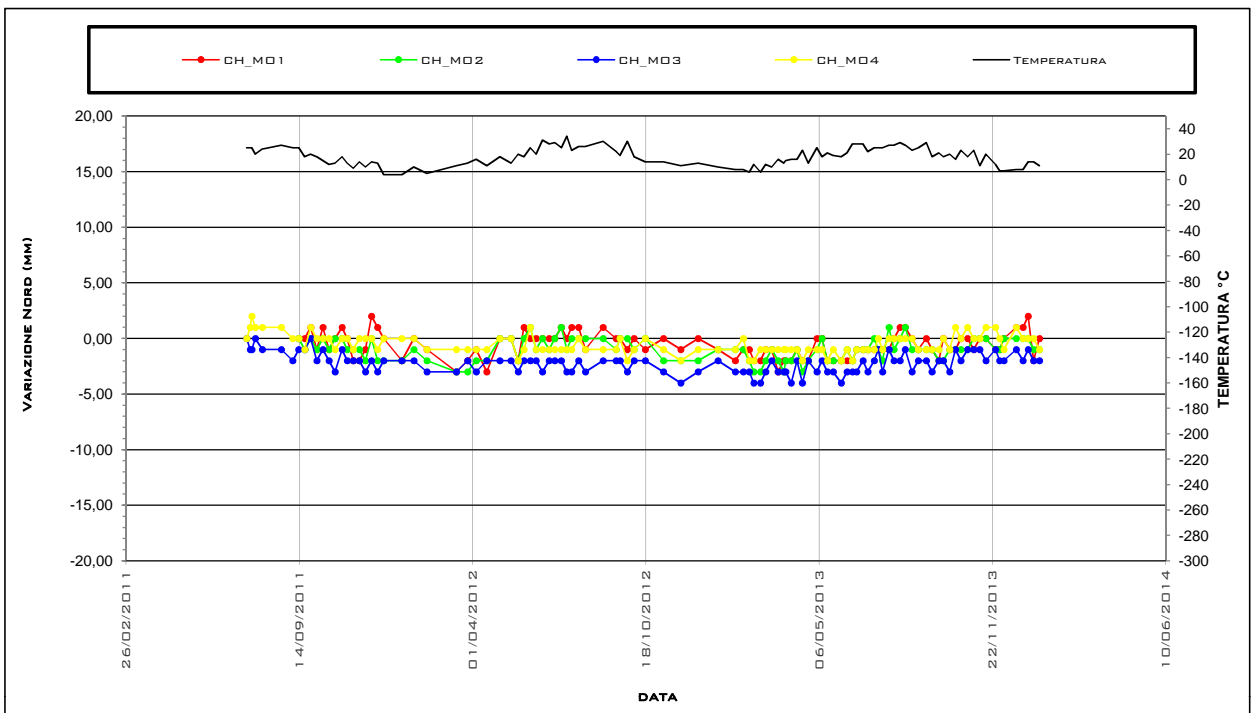
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ I Ordine di Tiranti \ 01-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 13/09/2011  
**Data lettura di zero** 13/09/2011



**GRAFICO EST**



**GRAFICO NORD**





LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO

OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO
REPORT DELLE MISURE - STAZIONE CHIAIA

LM6 7FX 2C I 28
Data: 21/01/14
Metropolitana di Napoli A.T.I. LM6
TreEsse Engineering S.r.l.



Ubicazione STAZIONE CHIAIA

Opera \ \ Ordine di Tiranti \ 05-08

Tipo Strumento Mire Ottiche

Data posa in opera 15/07/2011

Data lettura di zero 15/07/2011

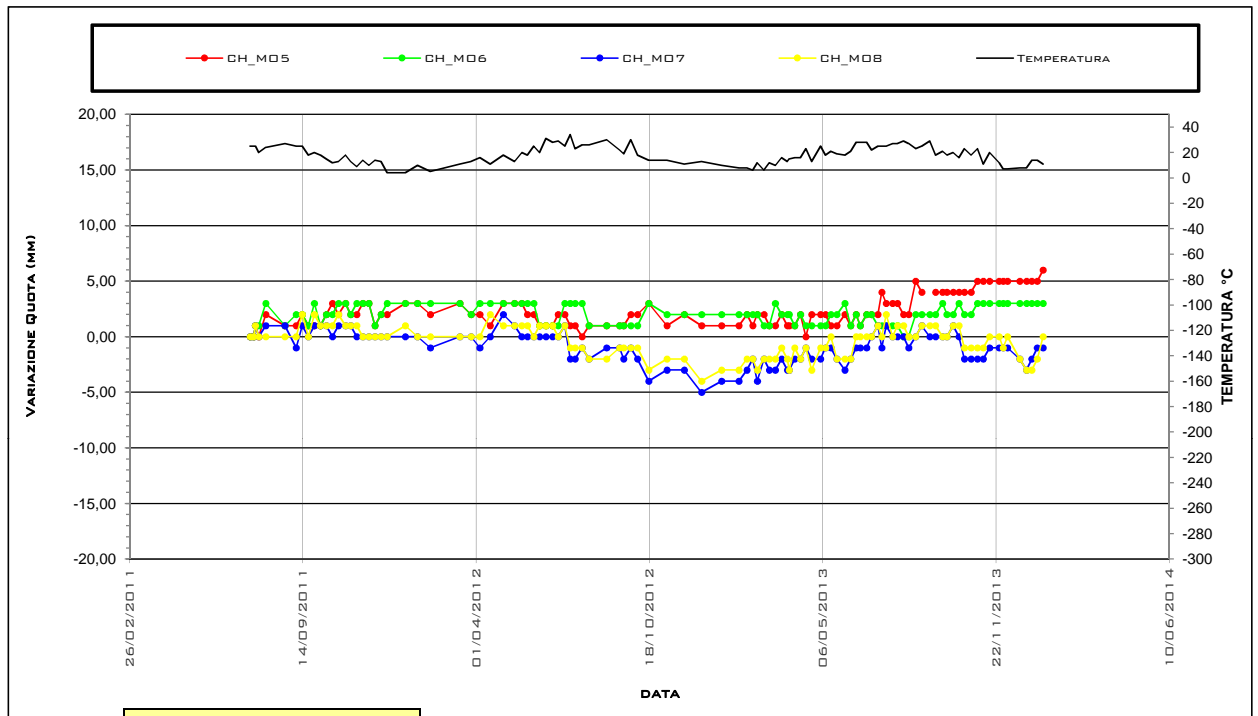
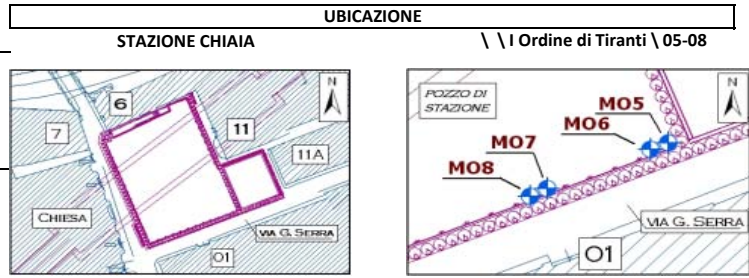
Ultima Misura 105 in data 15/01/2014

Table with columns: Lett. n°, DATA, CH\_M05, CH\_M06, CH\_M07, CH\_M08. Each column contains sub-columns for Temp. Media, Quota, Quota Spost., Est. Spost., and Nord Spost. The table contains 105 rows of measurement data.

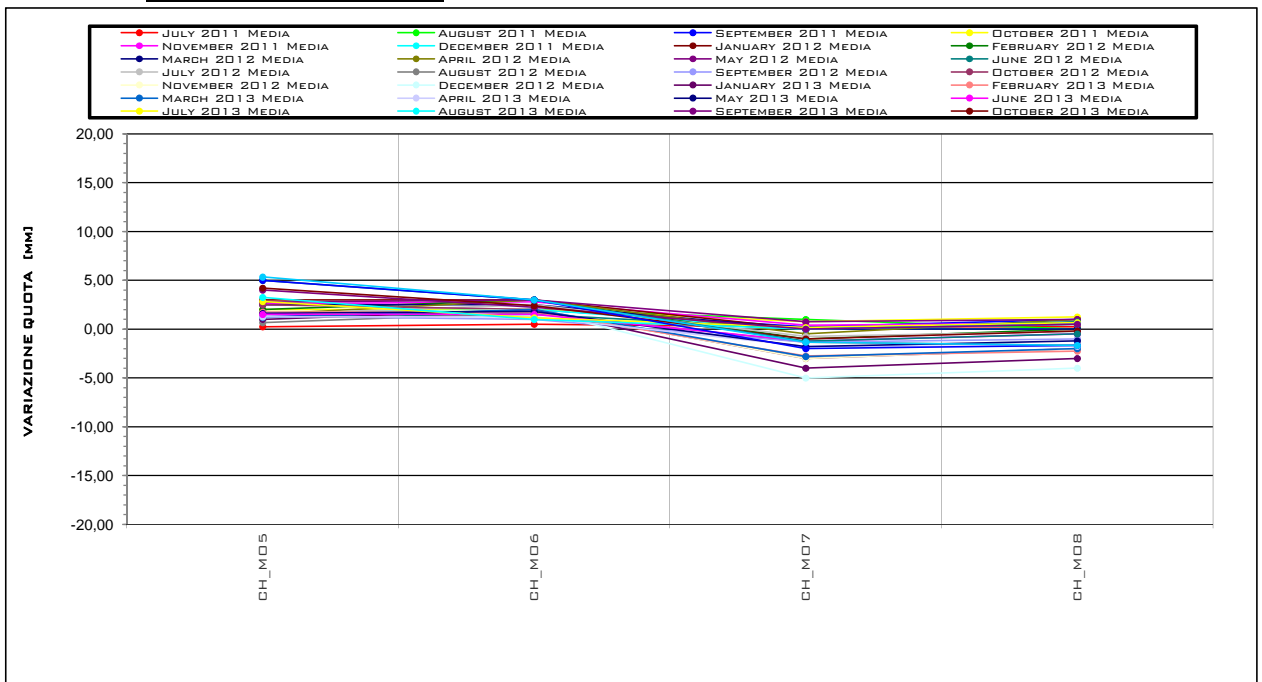


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ 1 Ordine di Tiranti \ 05-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 15/07/2011  
**Data lettura di zero** 15/07/2011

**GRAFICO QUOTA**

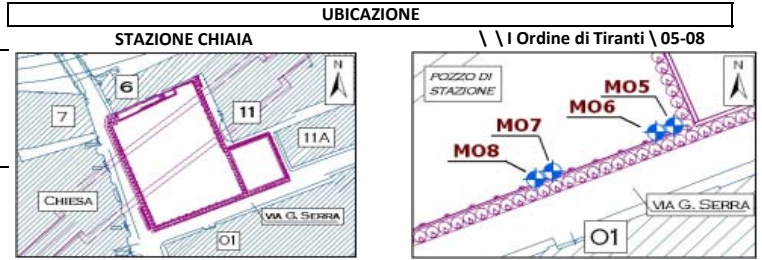


**GRAFICO ISOCRONE**

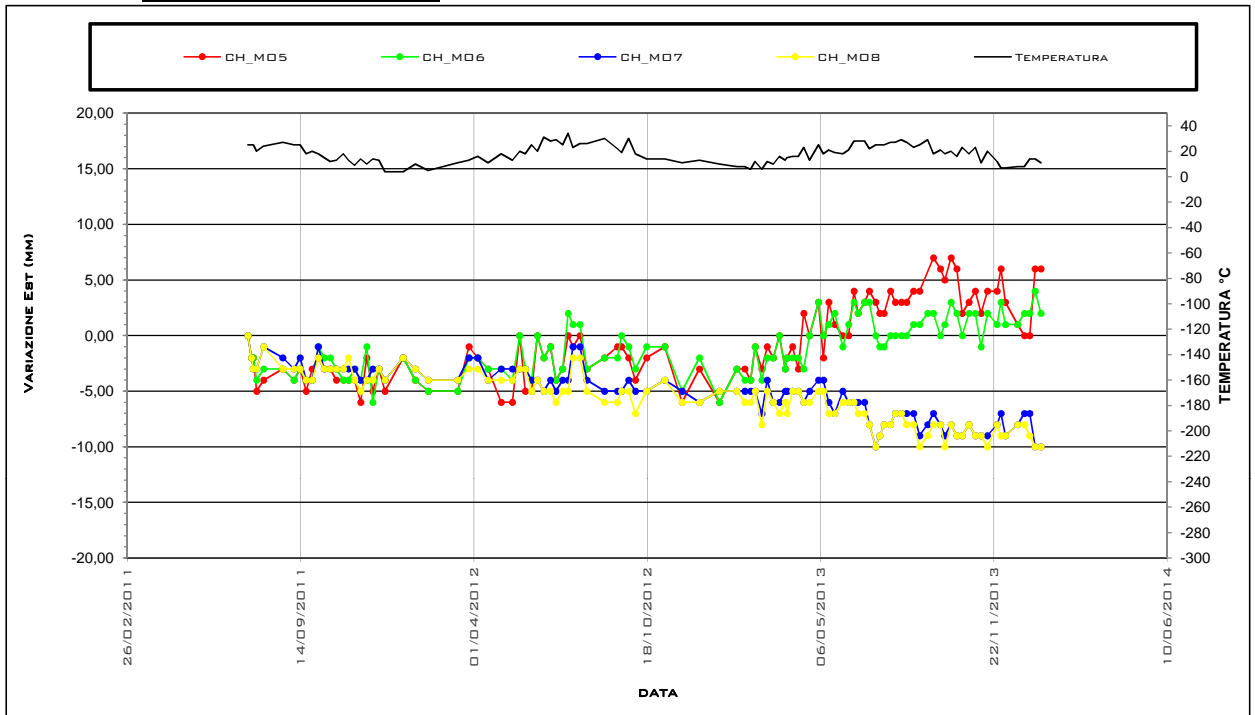




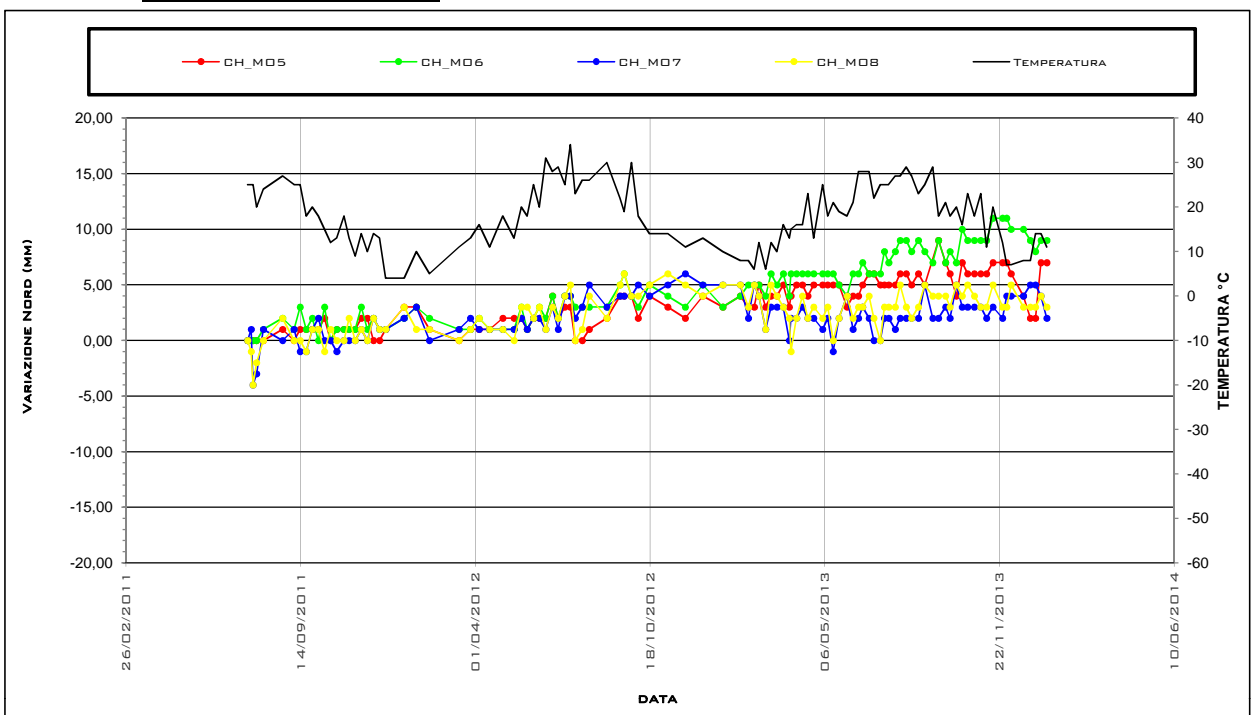
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ I Ordine di Tiranti \ 05-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 15/07/2011  
**Data lettura di zero** 15/07/2011



**GRAFICO EST**



**GRAFICO NORD**







LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO

OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO

REPORT DELLE MISURE - STAZIONE CHIAIA

LM6 7FX 2C I 28
Data: 21/01/14
Metropolitana di Napoli A.T.I. LM6
TreEsse Engineering S.r.l.



Ubicazione STAZIONE CHIAIA

Opera \ \ Ordine di Tiranti \ 09-12

Tipo Strumento Mire Ottiche

Data posa in opera 15/07/2011

Data lettura di zero 15/07/2011

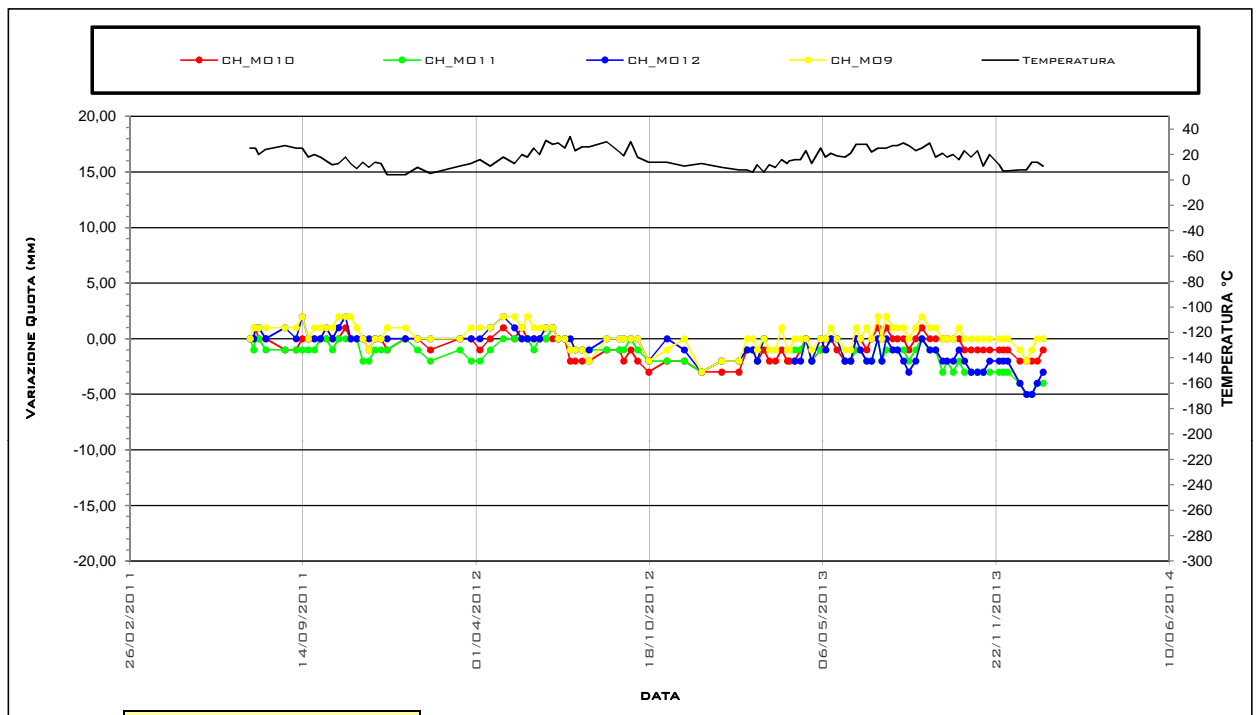
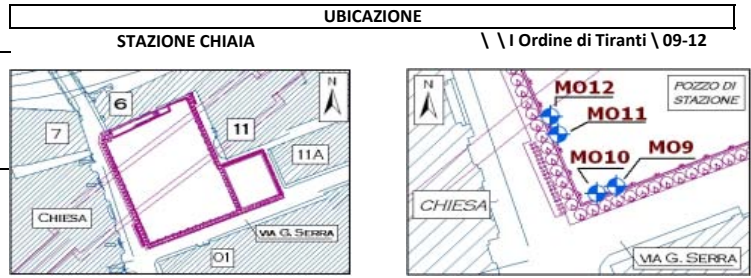
Ultima Misura 105 in data 15/01/2014

Table with columns: Lett. n°, DATA, CH\_M010, CH\_M011, CH\_M012, CH\_M09. Each column contains sub-columns for Temp. Media, Quota, Quota Spost., Est Spost., and Nord Spost. The table contains 105 rows of measurement data.

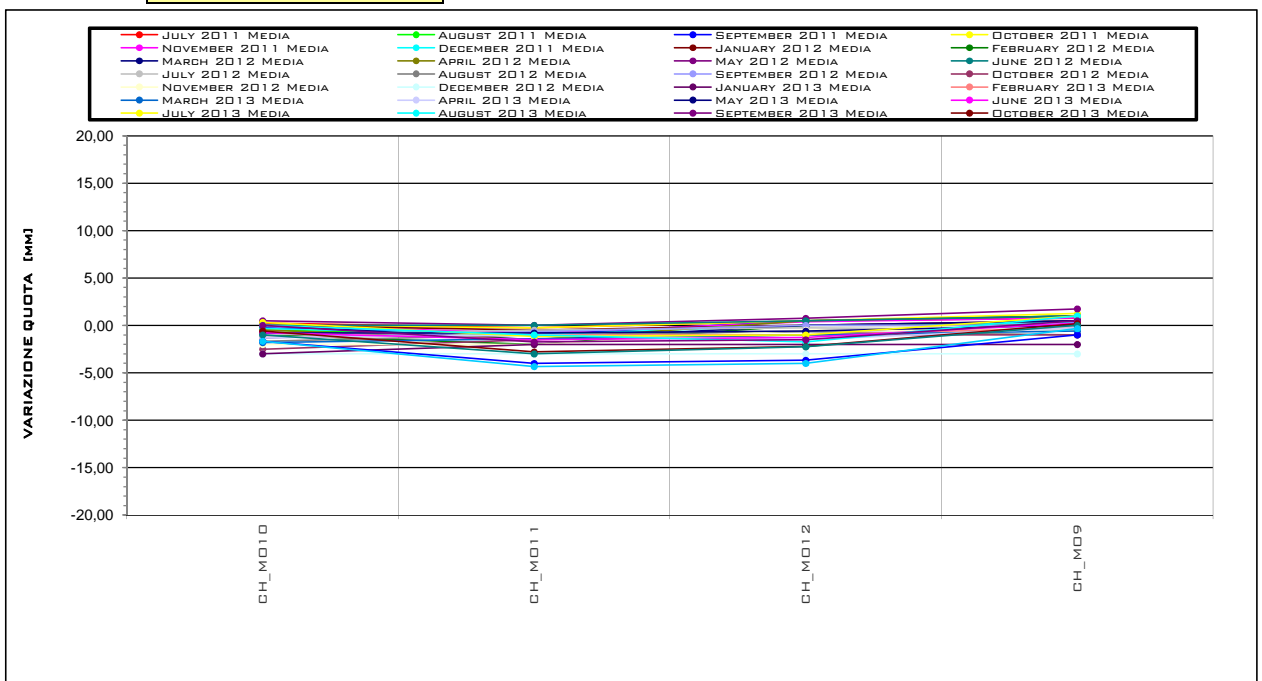


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ I Ordine di Tiranti \ 09-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 15/07/2011  
**Data lettura di zero** 15/07/2011

**GRAFICO QUOTA**



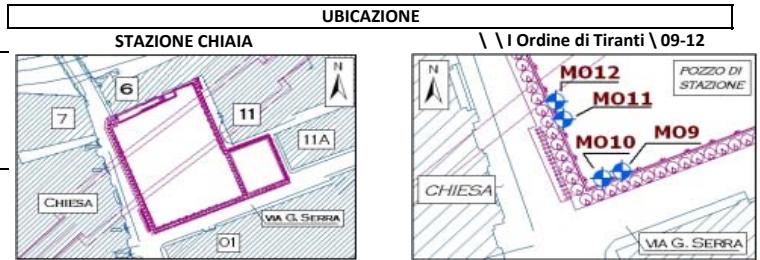
**GRAFICO ISOCRONE**



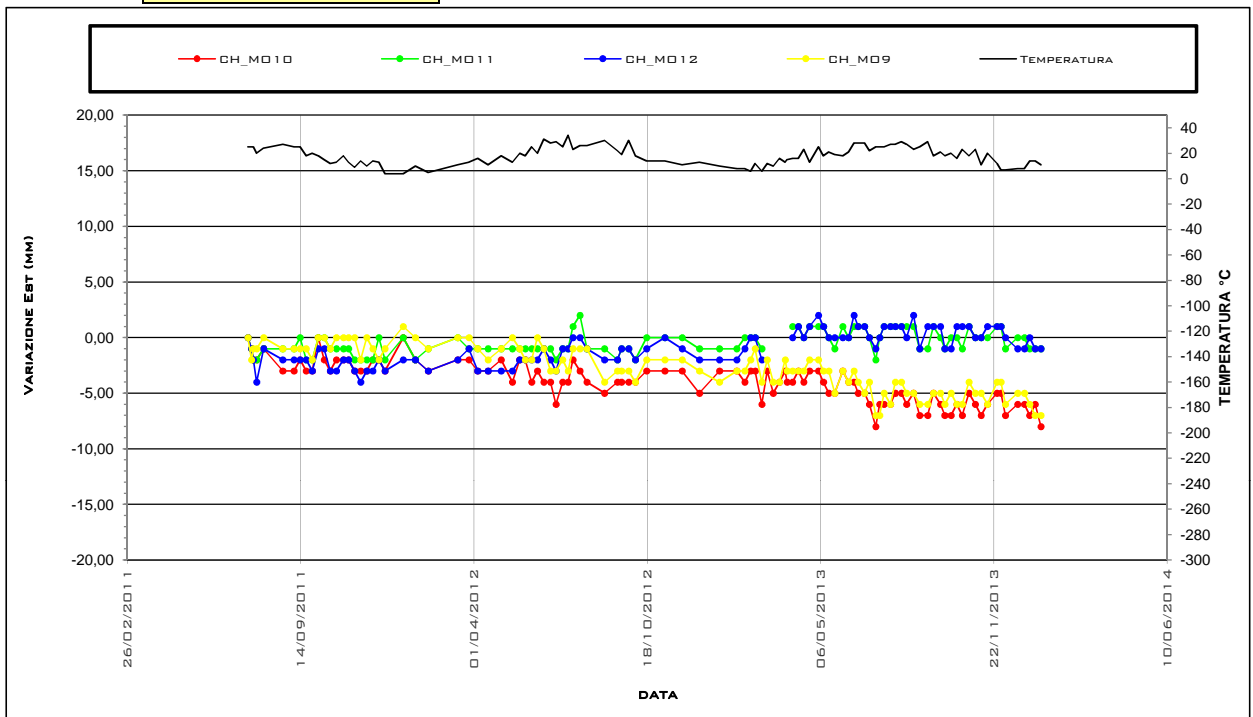




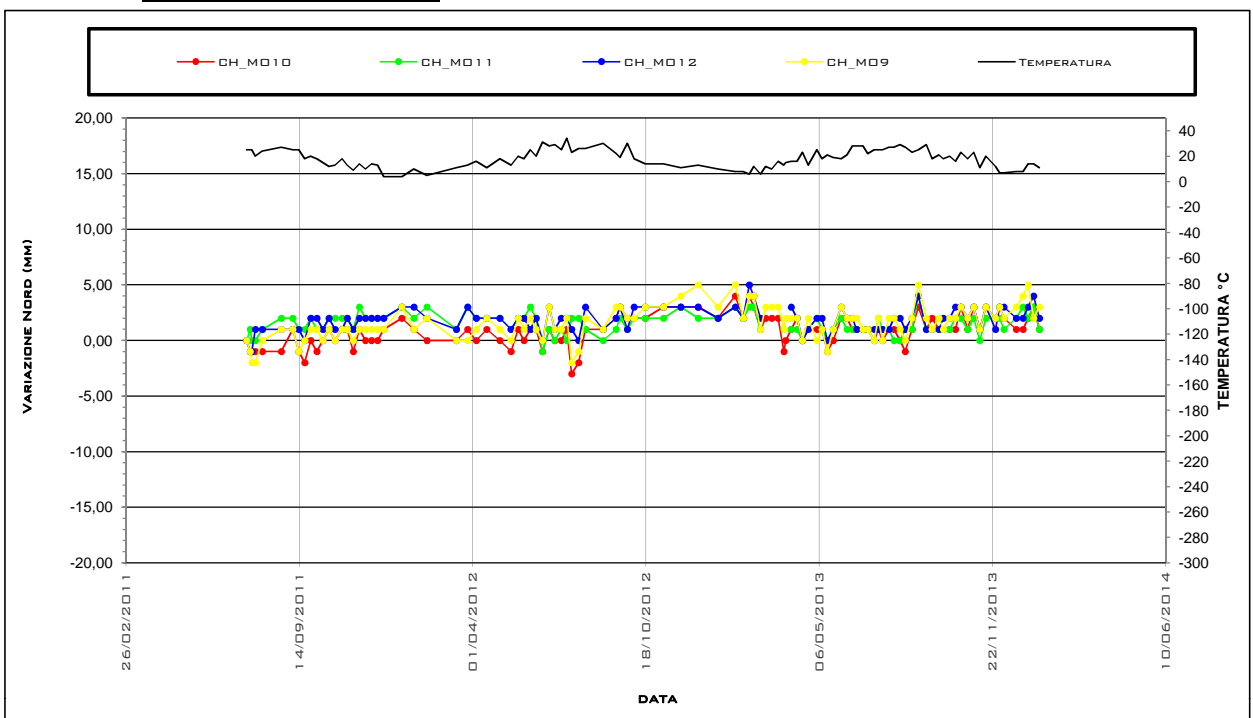
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ I Ordine di Tiranti \ 09-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 15/07/2011  
**Data lettura di zero** 15/07/2011



**GRAFICO EST**



**GRAFICO NORD**





LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO

OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO  
REPORT DELLE MISURE - STAZIONE CHIAIA

LM6 7FX 2C I 28  
Data: 21/01/14  
Metropolitana di Napoli A.T.I. LM6  
TreEsse Engineering S.r.l.



Ubicazione STAZIONE CHIAIA

Opera \ \ Ordine di Tiranti \ 13-16

Tipo Strumento Mire Ottiche

Data posa in opera 15/07/2011

Data lettura di zero 15/07/2011

Ultima Misura 107 in data 15/01/2014

Lett. n°	DATA	CH_M013					CH_M014					CH_M015					CH_M016				
		Temp. Media[°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media[°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media[°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media[°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]
16	25/10/2011 08.00	13.0	34.0	0.0	-1.0	-1.0	13.0	34.0	2.0	0.0	1.0	13.0	34.6	0.0	0.0	2.0	13.0	34.6	0.0	1.0	2.0
17	02/11/2011 10.00	18.0	34.0	0.0	1.0	1.0	18.0	34.0	1.0	0.0	1.0	18.0	34.6	1.0	1.0	1.0	18.0	34.6	1.0	3.0	1.0
18	08/11/2011 08.00	13.0	34.0	-1.0	-1.0	0.0	13.0	34.0	1.0	-1.0	-1.0	13.0	34.6	0.0	0.0	1.0	13.0	34.6	1.0	3.0	2.0
19	15/11/2011 08.00	9.0	34.0	0.0	-1.0	-1.0	9.0	34.0	1.0	-1.0	0.0	9.0	34.6	0.0	1.0	1.0	9.0	34.6	1.0	2.0	1.0
20	22/11/2011 08.00	14.0	34.0	-1.0	-1.0	1.0	14.0	34.0	0.0	-2.0	1.0	14.0	34.6	-1.0	0.0	2.0	14.0	34.6	-1.0	2.0	2.0
21	29/11/2011 08.00	10.0	34.0	-1.0	-2.0	0.0	10.0	34.0	1.0	-1.0	1.0	10.0	34.6	0.0	1.0	2.0	10.0	34.6	0.0	2.0	1.0
22	06/12/2011 08.00	14.0	34.0	-1.0	0.0	0.0	14.0	34.0	1.0	0.0	1.0	14.0	34.6	1.0	2.0	1.0	14.0	34.6	1.0	2.0	1.0
23	13/12/2011 08.00	13.0	34.0	0.0	0.0	-1.0	13.0	34.0	1.0	0.0	0.0	13.0	34.6	0.0	0.0	0.0	13.0	34.6	1.0	2.0	1.0
24	20/12/2011 08.00	4.0	34.0	-1.0	-1.0	0.0	4.0	34.0	0.0	-1.0	1.0	4.0	34.6	0.0	0.0	2.0	4.0	34.6	0.0	0.0	3.0
25	10/01/2012 08.00	4.0	34.0	0.0	1.0	1.0	4.0	34.0	1.0	1.0	2.0	4.0	34.6	1.0	1.0	2.0	4.0	34.6	1.0	3.0	1.0
26	24/01/2012 08.00	10.0	34.0	-2.0	0.0	0.0	10.0	34.0	0.0	0.0	1.0	10.0	34.6	-1.0	1.0	1.0	10.0	34.6	-1.0	3.0	2.0
27	08/02/2012 08.00	5.0	34.0	-1.0	-1.0	0.0	5.0	34.0	0.0	-1.0	1.0	5.0	34.6	-1.0	1.0	2.0	5.0	34.6	-1.0	4.0	3.0
28	13/03/2012 08.00	11.0	34.0	0.0	1.0	-1.0	11.0	34.0	1.0	1.0	-1.0	11.0	34.6	0.0	2.0	1.0	11.0	34.6	1.0	3.0	1.0
29	26/03/2012 08.00	13.0	34.0	-1.0	-1.0	1.0	13.0	34.0	0.0	1.0	0.0	13.0	34.6	0.0	0.0	1.0	13.0	34.6	0.0	3.0	1.0
30	05/04/2012 08.00	16.0	34.0	-1.0	0.0	0.0	16.0	34.0	0.0	1.0	1.0	16.0	34.6	0.0	0.0	0.0	16.0	34.6	0.0	2.0	0.0
31	17/04/2012 08.00	11.0	34.0	-1.0	0.0	0.0	11.0	34.0	1.0	0.0	2.0	11.0	34.6	0.0	1.0	2.0	11.0	34.6	1.0	2.0	2.0
32	02/05/2012 10.30	18.0	34.0	0.0	-1.0	-2.0	18.0	34.0	2.0	0.0	0.0	18.0	34.6	2.0	1.0	0.0	18.0	34.6	1.0	1.0	0.0
33	15/05/2012 08.30	13.0	34.0	0.0	-1.0	-1.0	13.0	34.0	1.0	-1.0	-1.0	13.0	34.6	1.0	1.0	1.0	13.0	34.6	0.0	1.0	0.0
34	23/05/2012 17.30	20.0	34.0	-1.0	0.0	-1.0	20.0	34.0	1.0	1.0	1.0	20.0	34.6	1.0	0.0	2.0	20.0	34.6	1.0	1.0	1.0
35	30/05/2012 08.30	18.0	34.0	0.0	0.0	0.0	18.0	34.0	0.0	0.0	0.0	18.0	34.6	1.0	0.0	1.0	18.0	34.6	2.0	2.0	1.0
36	06/06/2012 16.30	25.0	34.0	0.0	-1.0	0.0	25.0	34.0	1.0	0.0	0.0	25.0	34.6	2.0	0.0	1.0	25.0	34.6	2.0	2.0	1.0
37	13/06/2012 08.30	20.0	34.0	0.0	0.0	0.0	20.0	34.0	1.0	0.0	1.0	20.0	34.6	2.0	1.0	2.0	20.0	34.6	2.0	2.0	1.0
38	20/06/2012 16.30	31.0	34.0	1.0	1.0	-2.0	31.0	34.0	2.0	1.0	-1.0	31.0	34.6	3.0	0.0	0.0	31.0	34.6	2.0	0.0	-1.0
39	28/06/2012 08.30	28.0	34.0	1.0	1.0	1.0	28.0	34.0	2.0	2.0	2.0	28.0	34.6	3.0	1.0	1.0	28.0	34.6	2.0	2.0	1.0
40	04/07/2012 19.30	29.0	34.0	0.0	1.0	0.0	29.0	34.0	0.0	0.0	0.0	29.0	34.6	2.0	0.0	1.0	29.0	34.6	2.0	0.0	0.0
41	12/07/2012 08.30	25.0	34.0	0.0	1.0	1.0	25.0	34.0	2.0	1.0	1.0	25.0	34.6	3.0	0.0	0.0	25.0	34.6	2.0	2.0	1.0
42	18/07/2012 16.30	34.0	34.0	0.0	1.0	-1.0	34.0	34.0	0.0	2.0	0.0	34.0	34.6	2.0	0.0	0.0	34.0	34.6	1.0	1.0	0.0
43	24/07/2012 09.00	23.0	34.0	-1.0	2.0	1.0	23.0	34.0	1.0	3.0	2.0	23.0	34.6	2.0	0.0	1.0	23.0	34.6	1.0	2.0	2.0
44	01/08/2012 09.00	26.0	34.0	-1.0	2.0	0.0	26.0	34.0	0.0	2.0	1.0	26.0	34.6	1.0	0.0	1.0	26.0	34.6	1.0	1.0	1.0
45	09/08/2012 08.30	26.0	34.0	-1.0	1.0	-1.0	26.0	34.0	0.0	1.0	1.0	26.0	34.6	2.0	-1.0	0.0	26.0	34.6	1.0	1.0	0.0
46	29/08/2012 16.00	30.0	34.0	-1.0	2.0	-1.0	30.0	34.0	0.0	1.0	1.0	30.0	34.6	1.0	0.0	0.0	30.0	34.6	1.0	2.0	0.0
47	13/09/2012 08.30	22.0	34.0	0.0	1.0	1.0	22.0	34.0	1.0	2.0	2.0	22.0	34.6	2.0	-1.0	-1.0	22.0	34.6	1.0	1.0	1.0
48	18/09/2012 08.00	19.0	34.0	-1.0	0.0	1.0	19.0	34.0	0.0	1.0	1.0	19.0	34.6	2.0	-1.0	0.0	19.0	34.6	1.0	1.0	0.0
49	26/09/2012 15.00	30.0	34.0	0.0	2.0	0.0	30.0	34.0	1.0	1.0	1.0	30.0	34.6	2.0	0.0	0.0	30.0	34.6	2.0	2.0	0.0
50	04/10/2012 09.00	18.0	34.0	-1.0	1.0	1.0	18.0	34.0	0.0	0.0	1.0	18.0	34.6	2.0	-1.0	1.0	18.0	34.6	2.0	1.0	0.0
51	17/10/2012 08.30	14.0	34.0	-2.0	2.0	2.0	14.0	34.0	-1.0	1.0	1.0	14.0	34.6	0.0	0.0	2.0	14.0	34.6	0.0	2.0	1.0
52	07/11/2012 08.30	14.0	34.0	-1.0	2.0	2.0	14.0	34.0	0.0	2.0	2.0	14.0	34.6	1.0	1.0	2.0	14.0	34.6	1.0	3.0	1.0
53	27/11/2012 08.30	11.0	34.0	-1.0	1.0	1.0	11.0	34.0	0.0	1.0	1.0	11.0	34.6	0.0	0.0	2.0	11.0	34.6	0.0	1.0	2.0
54	17/12/2012 08.30	13.0	34.0	-3.0	1.0	2.0	13.0	34.0	-3.0	1.0	2.0	13.0	34.6	0.0	1.0	2.0	13.0	34.6	-1.0	2.0	1.0
55	09/01/2013 08.30	10.0	34.0	-2.0	1.0	1.0	10.0	34.0	-1.0	1.0	2.0	10.0	34.6	1.0	1.0	2.0	10.0	34.6	-1.0	2.0	1.0
56	29/01/2013 08.30	8.0	34.0	-3.0	1.0	1.0	8.0	34.0	-2.0	1.0	3.0	8.0	34.6	0.0	-1.0	2.0	8.0	34.6	0.0	2.0	2.0
57	07/02/2013 15.00	8.0	34.0	-2.0	2.0	0.0	8.0	34.0	-1.0	2.0	0.0	8.0	34.6	1.0	2.0	-1.0	8.0	34.6	0.0	2.0	-1.0
58	14/02/2013 08.30	6.0	34.0	-2.0	3.0	2.0	6.0	34.0	-1.0	3.0	2.0	6.0	34.6	0.0	0.0	2.0	6.0	34.6	0.0	4.0	2.0
59	19/02/2013 15.30	12.0	34.0	-3.0	1.0	1.0	12.0	34.0	-1.0	3.0	2.0	12.0	34.6	-1.0	1.0	2.0	12.0	34.6	-1.0	3.0	1.0
60	27/02/2013 08.30	6.0	34.0	-2.0	1.0	1.0	6.0	34.0	0.0	2.0	1.0	6.0	34.6	1.0	2.0	1.0	6.0	34.6	1.0	2.0	-2.0
61	05/03/2013 10.30	12.0	34.0	-2.0	3.0	0.0	12.0	34.0	-1.0	3.0	1.0	12.0	34.6	0.0	0.0	-1.0	12.0	34.6	0.0	2.0	0.0
62	12/03/2013 08.30	10.0	34.0	-2.0	2.0	1.0	10.0	34.0	-1.0	2.0	2.0	10.0	34.6	0.0	0.0	1.0	10.0	34.6	0.0	2.0	1.0
63	19/03/2013 16.00	16.0	34.0	-2.0	2.0	1.0	16.0	34.0	0.0	3.0	2.0	16.0	34.6	0.0	0.0	0.0	16.0	34.6	0.0	2.0	0.0
64	26/03/2013 08.30	13.0	34.0	-3.0	4.0	-1.0	13.0	34.0	-2.0	4.0	0.0	13.0	34.6	0.0	1.0	-2.0	13.0	34.6	0.0	3.0	-2.0
65	28/03/2013 11.00	15.0	34.0	-3.0	4.0	-1.0	15.0	34.0	-2.0	4.0	0.0	15.0	34.6	-1.0	2.0	-2.0	15.0	34.6	0.0	3.0	-1.0
66	03/04/2013 17.30	16.0	34.0	-3.0	3.0	0.0	16.0	34.0	-1.0	4.0	2.0	16.0	34.6	0.0	0.0	-2.0	16.0	34.6	1.0	2.0	-1.0
67	10/04/2013 10.30	16.0	34.0	-2.0	4.0	1.0	16.0	34.0	-1.0	3.0	1.0	16.0	34.6	0.0	1.0	0.0	16.0	34.6	0.0	2.0	1.0
68	16/04/2013 15.00	23.0	34.0	-1.0	3.0	0.0	23.0	34.0	0.0	3.0	0.0	23.0	34.6	1.0	0.0	-1.0	23.0	34.6	1.0	1.0	-2.0
69	23/04/2013 08.30	13.0	34.0	-3.0	3.0	0.0	13.0	34.0	-2.0	4.0	0.0	13.0	34.6	0.0	2.0	-1.0	13.0	34.6	-1.0	2.0	-1.0
70	03/05/2013 14.30	25.0	34.0	-2.0	4.0	0.0	25.0	34.0	0.0	5.0	0.0	25.0	34.6	1.0	2.0	0.0	25.0	34.6	1.0	3.0	0.0
71	09/05/2013 08.30	18.0	34.0	-2.0	3.0	1.0	18.0	34.0	-1.0	4.0	1.0	18.0	34.6	1.0	1.0	0.0	18.0	34.6	1.0	3.0	0.0
72	15/05/2013 14.30	21.0	34.0	-1.0	3.0	-2.0	21.0	34.0	0.0	3.0	-1.0	21.0	34.6	2.0	1.0	-1.0	21.0	34.6	1.0	2.0	-2.0
73	22/05/2013 08.30	19.0	34.0	-2.0	3.0	0.0	19.0	34.0	0.0	3.0	0.0	19.0	34.6								

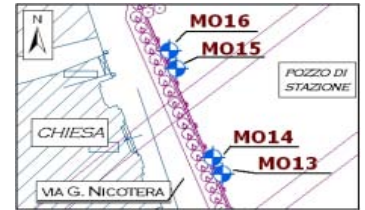


**UBICAZIONE**

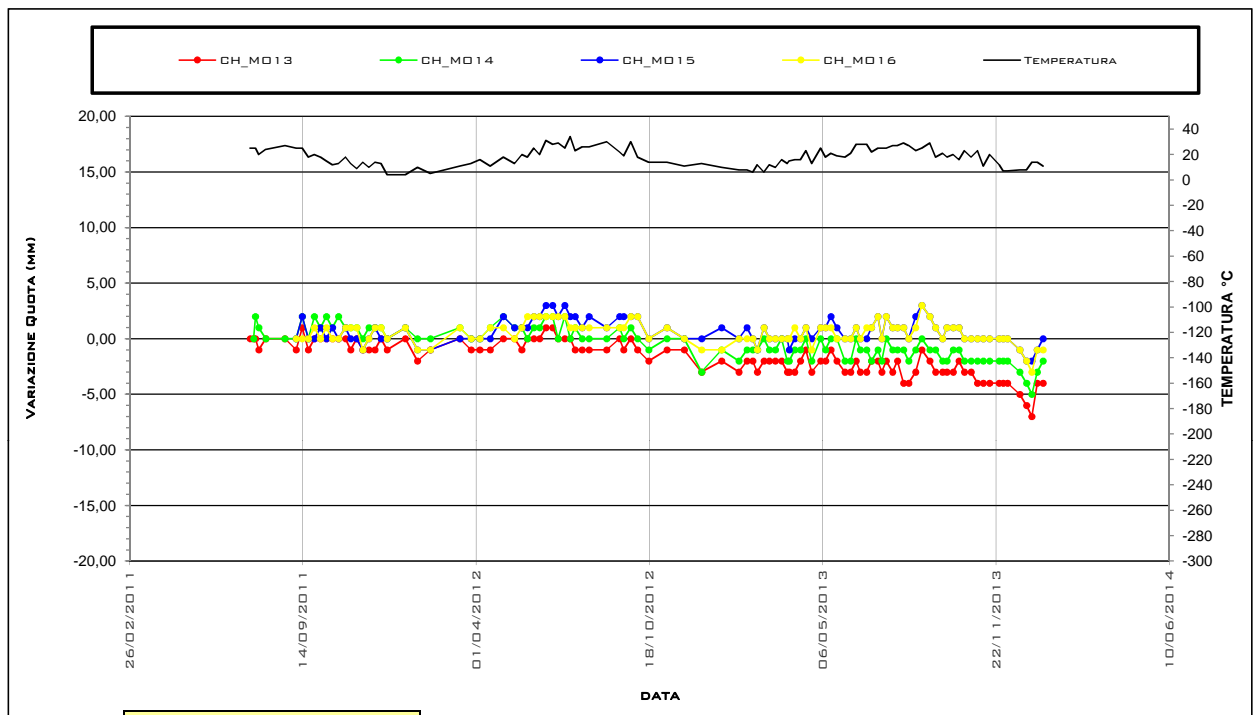
**STAZIONE CHIAIA**

**\ \ | Ordine di Tiranti \ 13-16**

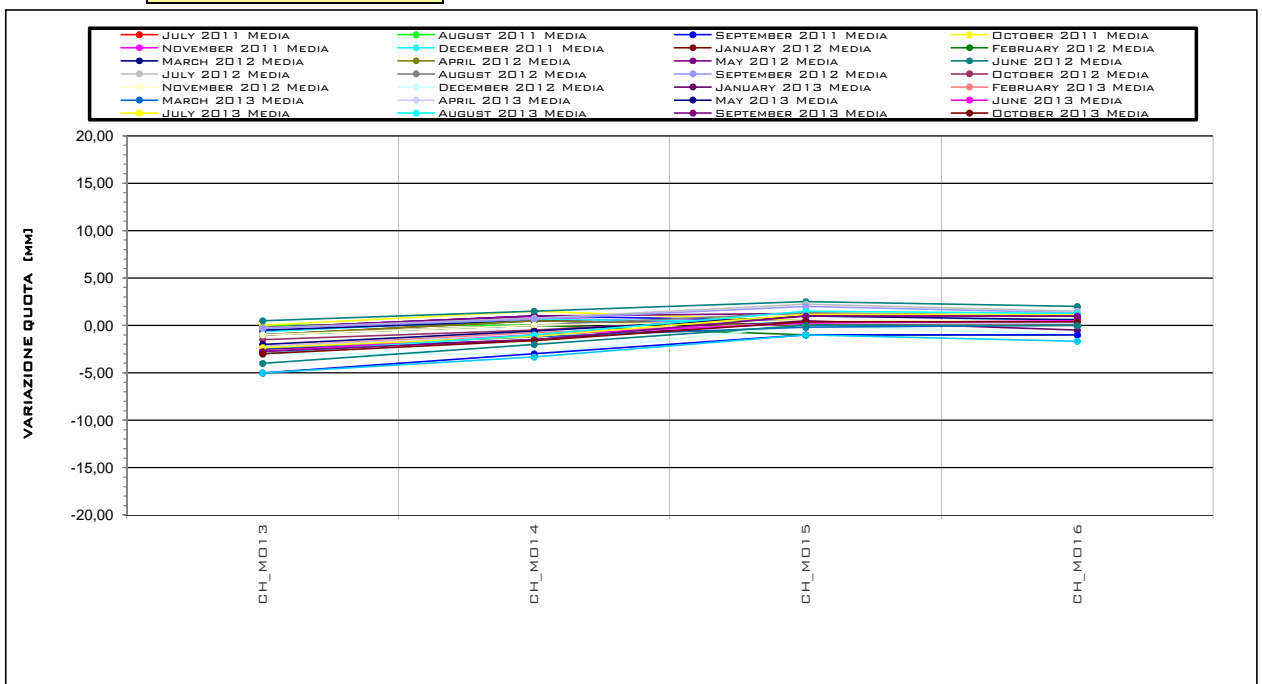
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ | Ordine di Tiranti \ 13-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 15/07/2011  
**Data lettura di zero** 15/07/2011



**GRAFICO QUOTA**

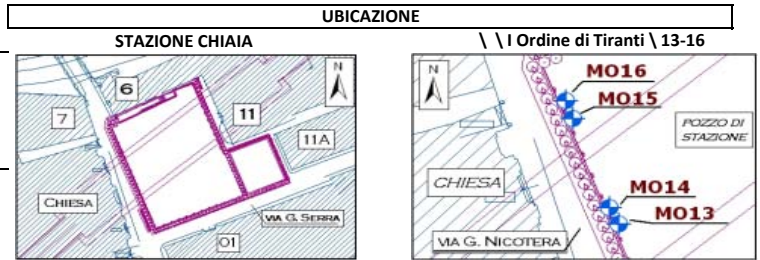


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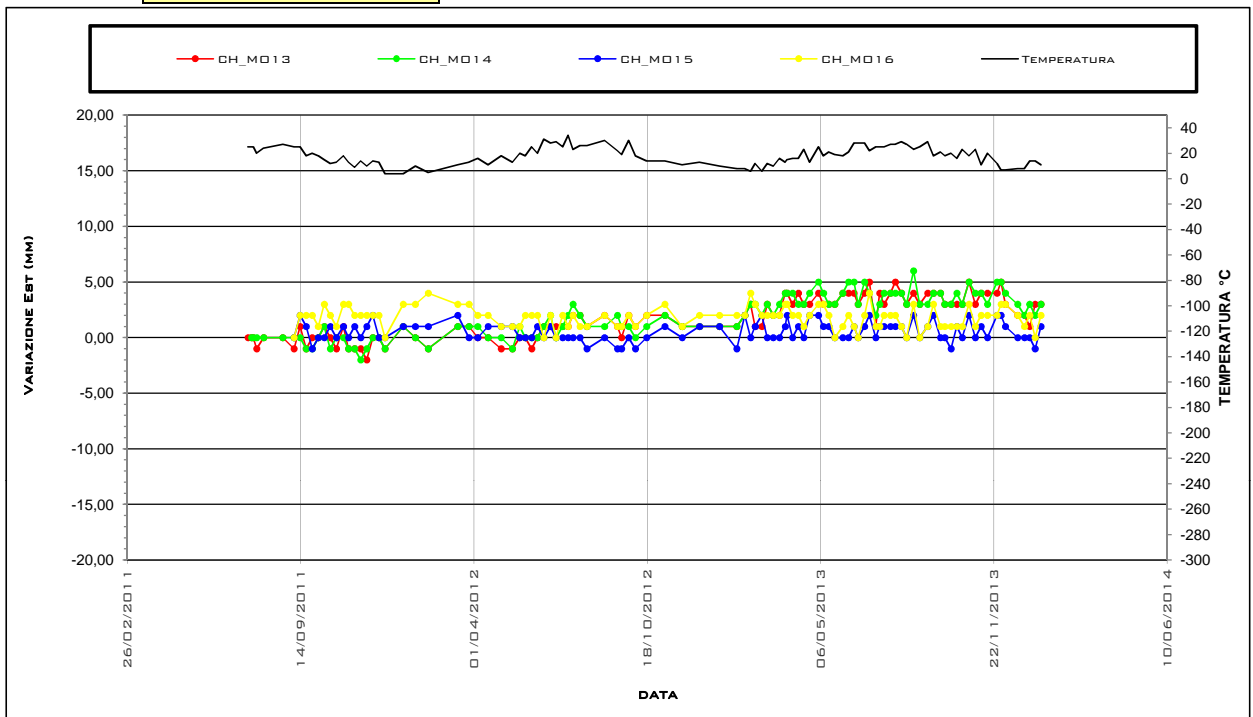




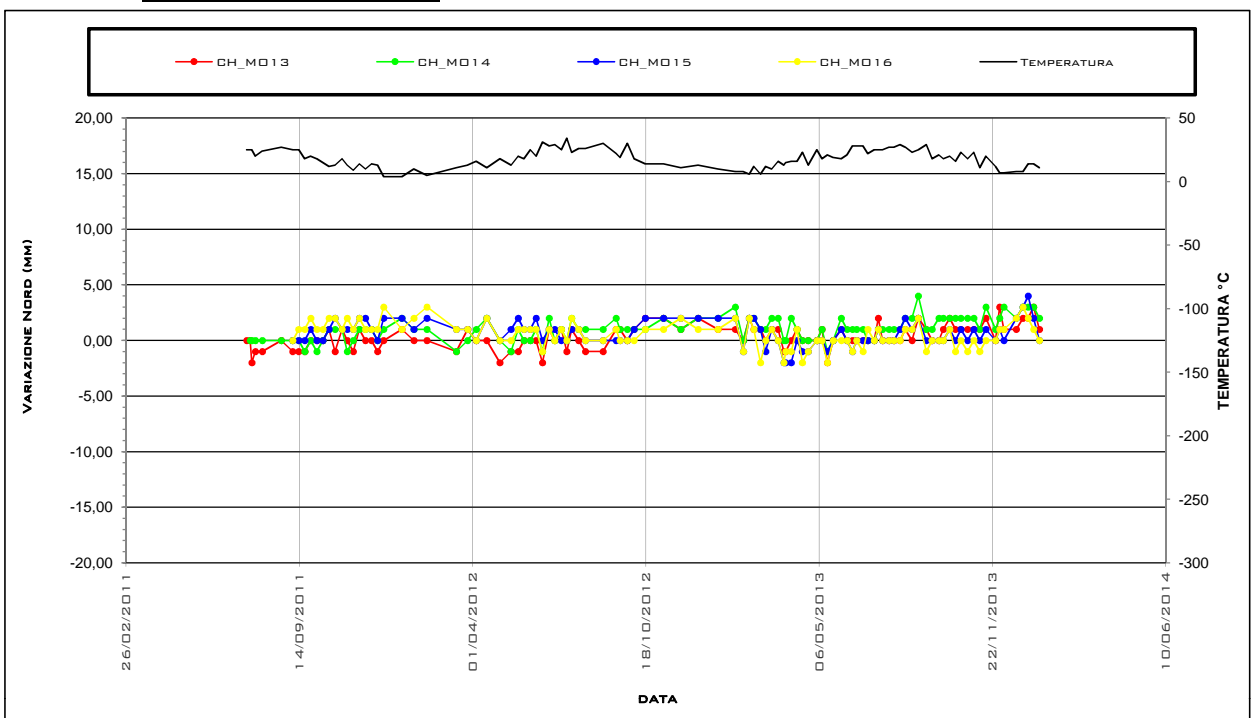
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ I Ordine di Tiranti \ 13-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 15/07/2011  
**Data lettura di zero** 15/07/2011



**GRAFICO EST**



**GRAFICO NORD**





LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO

OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO  
REPORT DELLE MISURE - STAZIONE CHIAIA

LM6 7FX 2C I 28  
Data: 21/01/14  
Metropolitana di Napoli A.T.I. LM6  
TreEsse Engineering S.r.l.



Ubicazione STAZIONE CHIAIA

Opera \ \ II Ordine di Tiranti \ 17-20

Tipo Strumento Mire Ottiche

Data posa in opera 17/04/2012

Data lettura di zero 17/04/2012

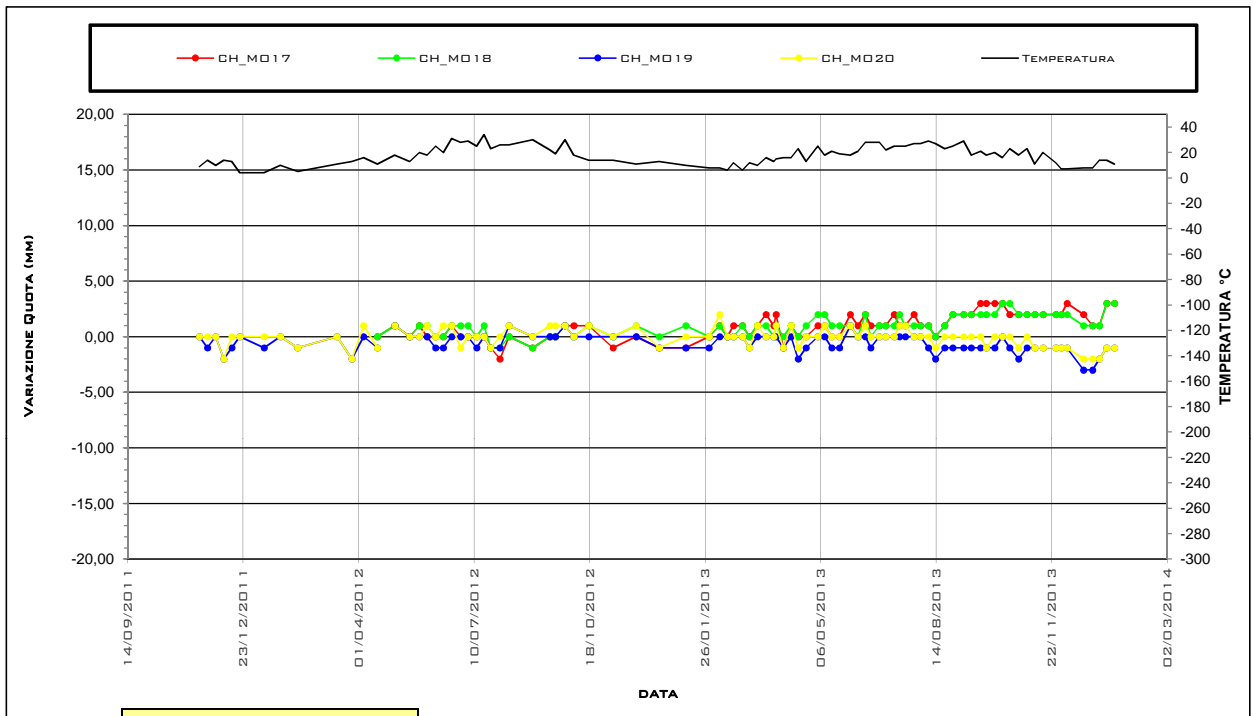
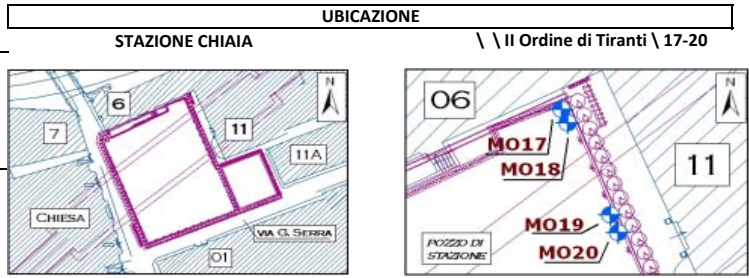
Ultima Misura 90 in data 15/01/2014

Table with columns: Lett. n°, DATA, CH\_M017, CH\_M018, CH\_M019, CH\_M020. Each column contains sub-columns for Temp. Media, Quota, Quota Spost., Est. Spost., Nord Spost. The table contains 90 rows of measurement data.

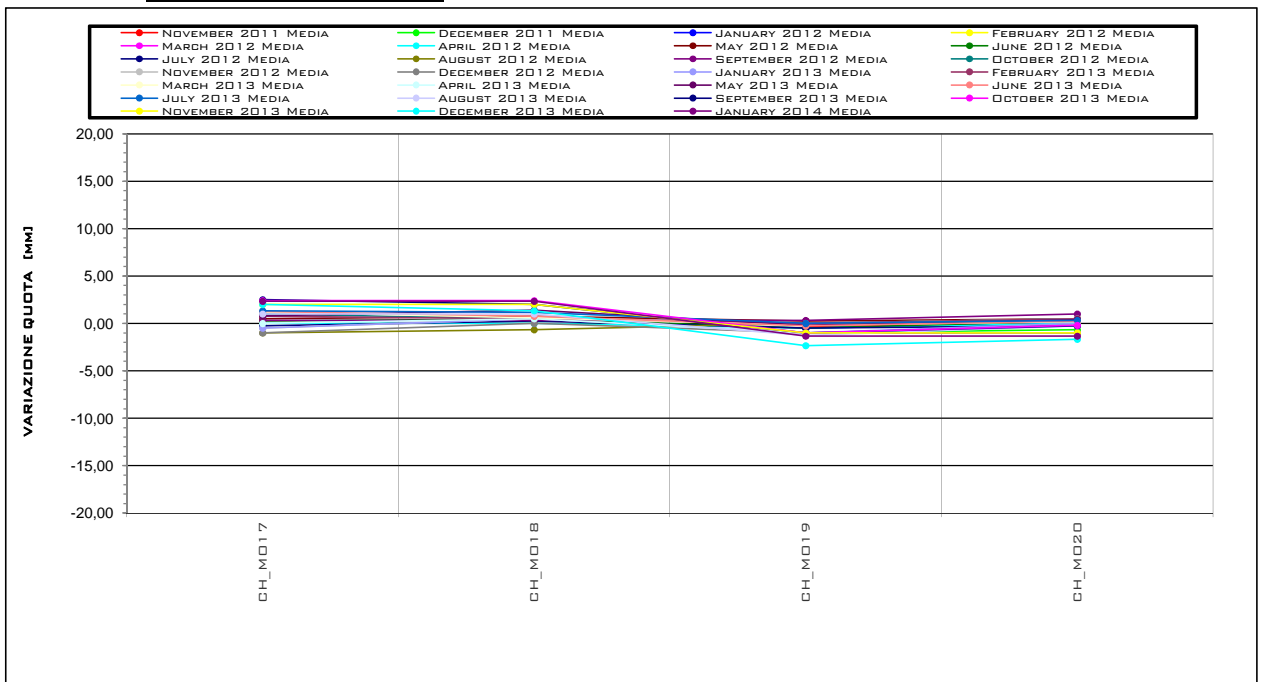


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Il Ordine di Tiranti \ 17-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 17/04/2012  
**Data lettura di zero** 17/04/2012

**GRAFICO QUOTA**



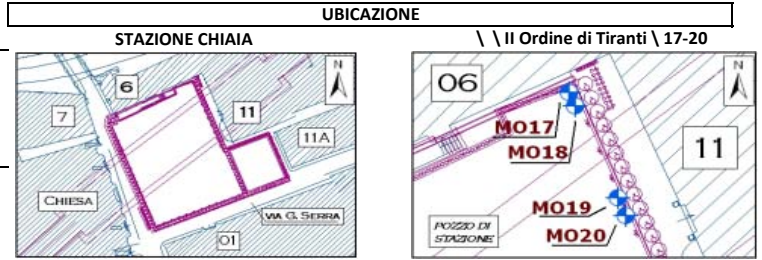
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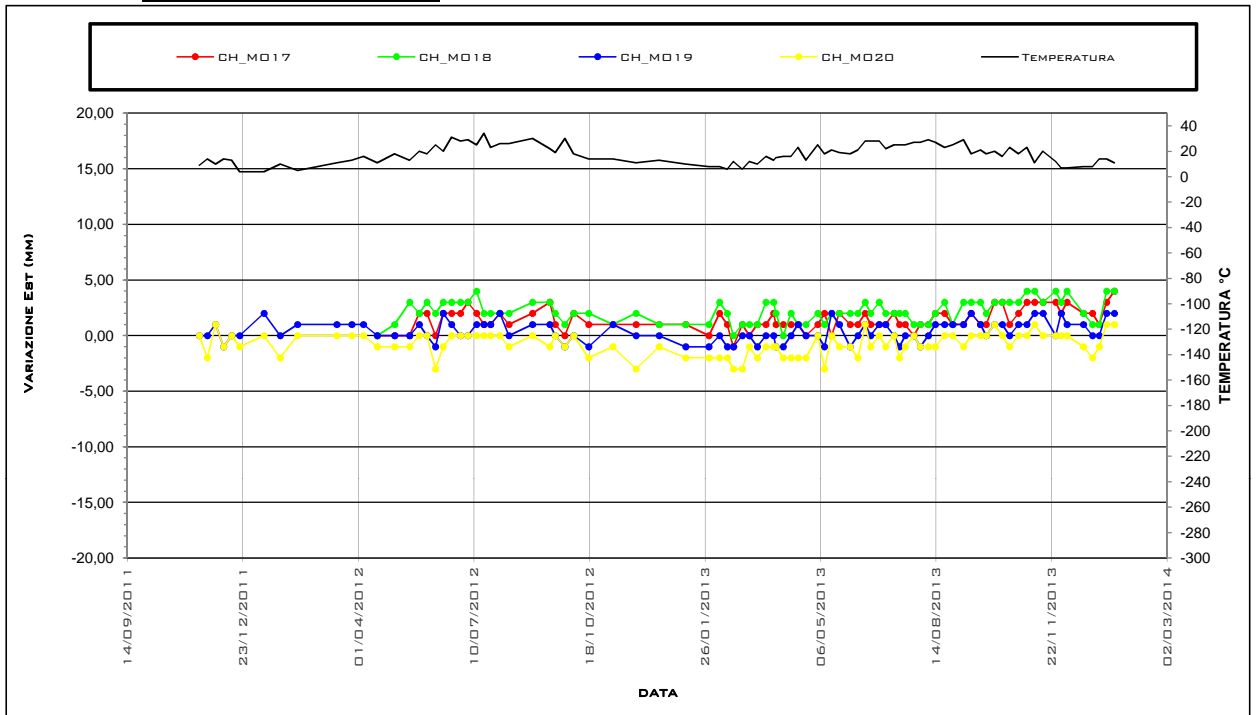




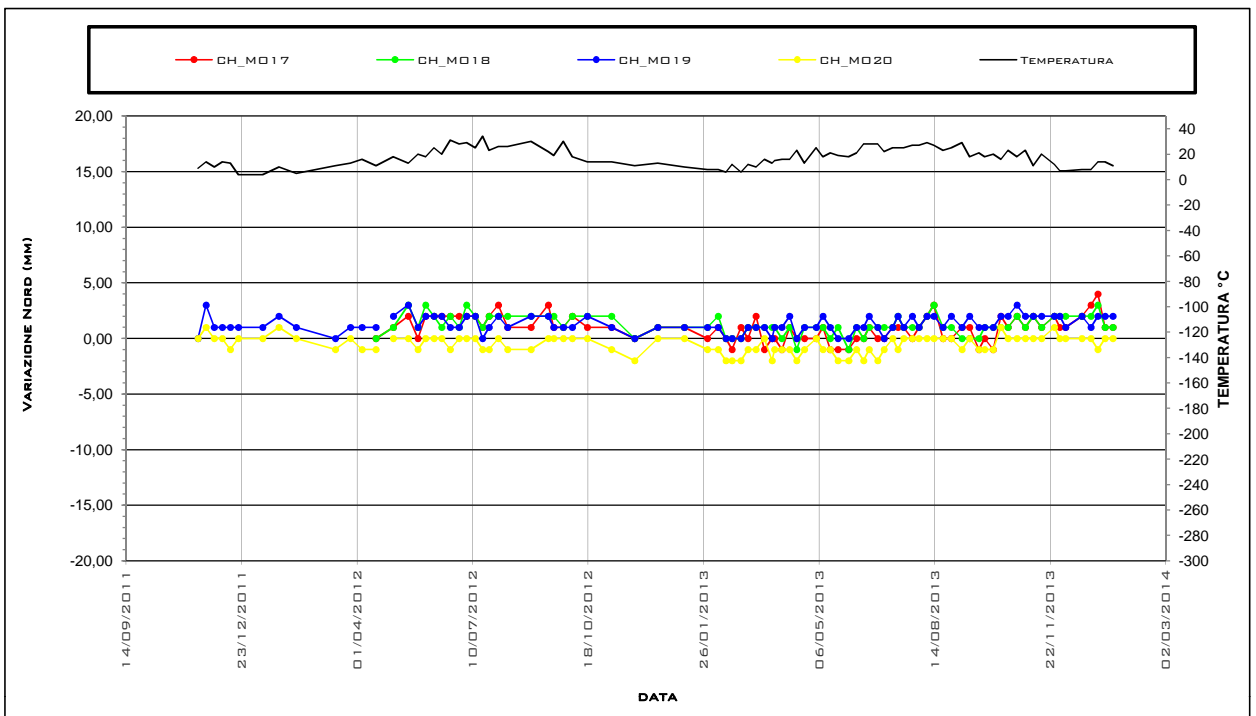
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Il Ordine di Tiranti \ 17-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 17/04/2012  
**Data lettura di zero** 17/04/2012



**GRAFICO EST**



**GRAFICO NORD**





LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO

OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO  
REPORT DELLE MISURE - STAZIONE CHIAIA

LM6 7FX 2C I 28  
Data: 21/01/14  
Metropolitana di Napoli A.T.I. LM6  
TreEsse Engineering S.r.l.



Ubicazione STAZIONE CHIAIA

Opera \ \ II Ordine di Tiranti \ 21-24

Tipo Strumento Mire Ottiche

Data posa in opera 02/08/2011

Data lettura di zero 02/08/2011

Ultima Misura 101 in data 15/01/2014

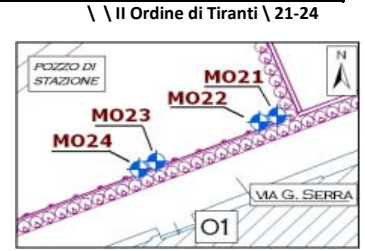
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		Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]
10	25/10/2011 08.00	13.0	28.9	1.0	1.0	0.0	13.0	28.9	0.0	-1.0	0.0	13.0	28.8	0.0	-3.0	1.0	13.0	28.8	0.0	-3.0	1.0
11	02/11/2011 10.00	18.0	28.9	1.0	0.0	0.0	18.0	28.9	-1.0	0.0	0.0	18.0	28.8	0.0	-3.0	2.0	18.0	28.8	0.0	-1.0	1.0
12	08/11/2011 08.00	13.0	28.9	0.0	-1.0	0.0	13.0	28.9	0.0	-1.0	0.0	13.0	28.8	0.0	-2.0	2.0	13.0	28.8	-1.0	-2.0	2.0
13	15/11/2011 08.00	9.0	28.9	-1.0	1.0	0.0	9.0	28.9	0.0	0.0	0.0	9.0	28.8	0.0	-3.0	1.0	9.0	28.8	0.0	-3.0	1.0
14	22/11/2011 08.00	14.0	28.9	2.0	0.0	2.0	14.0	28.9	1.0	-2.0	2.0	14.0	28.8	-1.0	-5.0	1.0	14.0	28.8	-1.0	-4.0	2.0
15	29/11/2011 08.00	10.0	28.9	1.0	3.0	1.0	10.0	28.9	0.0	2.0	0.0	10.0	28.8	0.0	-3.0	2.0	10.0	28.8	0.0	-2.0	2.0
16	06/12/2011 08.00	14.0	28.9	0.0	-1.0	0.0	14.0	28.9	-1.0	-2.0	1.0	14.0	28.8	0.0	-3.0	3.0	14.0	28.8	0.0	-2.0	3.0
17	13/12/2011 08.00	13.0	28.9	0.0	1.0	0.0	13.0	28.9	-1.0	-1.0	0.0	13.0	28.8	1.0	-2.0	3.0	13.0	28.8	0.0	-2.0	3.0
18	20/12/2011 08.00	4.0	28.9	1.0	0.0	0.0	4.0	28.9	1.0	-3.0	1.0	4.0	28.8	0.0	-3.0	4.0	4.0	28.8	-1.0	-3.0	2.0
19	10/01/2012 08.00	4.0	28.9	1.0	2.0	1.0	4.0	28.9	1.0	1.0	1.0	4.0	28.8	1.0	-2.0	5.0	4.0	28.8	0.0	-1.0	4.0
20	24/01/2012 08.00	10.0	28.9	1.0	0.0	2.0	10.0	28.9	0.0	-1.0	2.0	10.0	28.8	-1.0	-2.0	4.0	10.0	28.8	-1.0	-2.0	3.0
21	08/02/2012 08.00	5.0	28.9	1.0	0.0	0.0	5.0	28.9	0.0	-1.0	0.0	5.0	28.8	-1.0	-3.0	3.0	5.0	28.8	-1.0	-3.0	2.0
22	13/03/2012 08.00	11.0	28.9	2.0	-1.0	-1.0	11.0	28.9	1.0	-3.0	-1.0	11.0	28.8	1.0	-2.0	2.0	11.0	28.8	0.0	-2.0	2.0
23	26/03/2012 08.00	13.0	28.9	0.0	2.0	1.0	13.0	28.9	-1.0	2.0	1.0	13.0	28.8	-1.0	-3.0	3.0	13.0	28.8	0.0	-2.0	3.0
24	05/04/2012 08.00	16.0	28.9	1.0	1.0	1.0	16.0	28.9	0.0	0.0	1.0	16.0	28.8	-1.0	-2.0	2.0	16.0	28.8	-1.0	-2.0	3.0
25	17/04/2012 08.00	11.0	28.9	0.0	1.0	0.0	11.0	28.9	0.0	0.0	0.0	11.0	28.8	0.0	-4.0	3.0	11.0	28.8	0.0	-3.0	3.0
26	02/05/2012 10.30	18.0	28.9	1.0	1.0	2.0	18.0	28.9	1.0	-1.0	2.0	18.0	28.8	1.0	-3.0	3.0	18.0	28.8	1.0	-2.0	2.0
27	15/05/2012 08.30	13.0	28.9	2.0	-1.0	2.0	13.0	28.9	1.0	-2.0	1.0	13.0	28.8	1.0	-4.0	2.0	13.0	28.8	0.0	-3.0	2.0
28	23/05/2012 17.30	20.0	28.9	1.0	5.0	2.0	20.0	28.9	-1.0	3.0	2.0	20.0	28.8	0.0	-3.0	4.0	20.0	28.8	-1.0	-3.0	4.0
29	30/05/2012 08.30	18.0	28.9	0.0	1.0	2.0	18.0	28.9	-2.0	0.0	2.0	18.0	28.8	0.0	-4.0	4.0	18.0	28.8	0.0	-3.0	3.0
30	06/06/2012 16.30	25.0	28.9	0.0	-1.0	2.0	25.0	28.9	-2.0	-2.0	2.0	25.0	28.8	-1.0	-4.0	5.0	25.0	28.8	-1.0	-4.0	4.0
31	13/06/2012 08.30	20.0	28.9	0.0	4.0	4.0	20.0	28.9	-2.0	3.0	5.0	20.0	28.8	-1.0	-4.0	5.0	20.0	28.8	0.0	-4.0	4.0
32	20/06/2012 16.30	31.0	28.9	-1.0	3.0	2.0	31.0	28.9	-2.0	1.0	2.0	31.0	28.8	-1.0	-4.0	3.0	31.0	28.8	0.0	-4.0	2.0
33	28/06/2012 08.30	28.0	28.9	-2.0	3.0	3.0	28.0	28.9	-2.0	2.0	4.0	28.0	28.8	0.0	-5.0	6.0	28.0	28.8	-1.0	-4.0	5.0
34	04/07/2012 19.30	29.0	28.9	-1.0	1.0	3.0	29.0	28.9	-2.0	-1.0	3.0	29.0	28.8	-1.0	-6.0	4.0	29.0	28.8	-2.0	-5.0	3.0
35	12/07/2012 08.30	25.0	28.9	-1.0	2.0	3.0	25.0	28.9	-2.0	0.0	4.0	25.0	28.8	-1.0	-4.0	6.0	25.0	28.8	-1.0	-3.0	6.0
36	18/07/2012 16.30	34.0	28.9	0.0	4.0	4.0	34.0	28.9	-2.0	3.0	4.0	34.0	28.8	-2.0	-4.0	5.0	34.0	28.8	-3.0	-4.0	5.0
37	24/07/2012 09.00	23.0	28.9	-1.0	3.0	1.0	23.0	28.9	-3.0	3.0	2.0	23.0	28.8	-3.0	-1.0	4.0	23.0	28.8	-4.0	-1.0	4.0
38	01/08/2012 09.00	26.0	28.9	-1.0	4.0	2.0	26.0	28.9	-2.0	4.0	3.0	26.0	28.8	-3.0	-1.0	4.0	26.0	28.8	-4.0	-1.0	3.0
39	09/08/2012 08.30	26.0	28.9	-2.0	2.0	2.0	26.0	28.9	-2.0	-1.0	3.0	26.0	28.8	-3.0	-5.0	7.0	26.0	28.8	-4.0	-4.0	6.0
40	29/08/2012 16.00	30.0	28.9	-2.0	3.0	2.0	30.0	28.9	-2.0	0.0	4.0	30.0	28.8	-2.0	-5.0	6.0	30.0	28.8	-3.0	-4.0	5.0
41	13/09/2012 15.00	22.0	28.9	0.0	3.0	4.0	22.0	28.9	-2.0	1.0	6.0	22.0	28.8	-3.0	-6.0	6.0	22.0	28.8	-3.0	-5.0	6.0
42	18/09/2012 08.00	19.0	28.9	0.0	5.0	5.0	19.0	28.9	-2.0	1.0	6.0	19.0	28.8	-2.0	-5.0	7.0	19.0	28.8	-3.0	-5.0	7.0
43	26/09/2012 15.00	30.0	28.9	0.0	2.0	5.0	30.0	28.9	-1.0	0.0	6.0	30.0	28.8	-1.0	-4.0	7.0	30.0	28.8	-2.0	-3.0	6.0
44	04/10/2012 09.00	18.0	28.9	0.0	2.0	4.0	18.0	28.9	0.0	-1.0	5.0	18.0	28.8	-2.0	-6.0	6.0	18.0	28.8	-3.0	-6.0	5.0
45	17/10/2012 08.30	14.0	28.9	0.0	2.0	5.0	14.0	28.9	-1.0	0.0	6.0	14.0	28.8	-4.0	-5.0	7.0	14.0	28.8	-4.0	-5.0	7.0
46	07/11/2012 08.30	14.0	28.9	-1.0	3.0	4.0	14.0	28.9	-2.0	1.0	5.0	14.0	28.8	-3.0	-4.0	8.0	14.0	28.8	-4.0	-3.0	7.0
47	27/11/2012 08.30	11.0	28.9	0.0	-2.0	2.0	11.0	28.9	-1.0	-3.0	3.0	11.0	28.8	-3.0	-5.0	8.0	11.0	28.8	-4.0	-5.0	8.0
48	17/12/2012 08.30	13.0	28.9	-1.0	1.0	5.0	13.0	28.9	-2.0	-1.0	5.0	13.0	28.8	-6.0	-6.0	8.0	13.0	28.8	-6.0	-5.0	7.0
49	09/01/2013 08.30	10.0	28.9	-1.0	-1.0	3.0	10.0	28.9	-2.0	-4.0	5.0	10.0	28.8	-4.0	-6.0	6.0	10.0	28.8	-4.0	-5.0	7.0
50	29/01/2013 08.30	8.0	28.9	0.0	1.0	4.0	8.0	28.9	-1.0	0.0	6.0	8.0	28.8	-4.0	-5.0	9.0	8.0	28.8	-5.0	-4.0	8.0
51	07/02/2013 15.00	8.0	28.9	1.0	0.0	5.0	8.0	28.9	0.0	-1.0	6.0	8.0	28.8	-3.0	-5.0	7.0	8.0	28.8	-3.0	-5.0	6.0
52	14/02/2013 08.30	6.0	28.9	0.0	0.0	3.0	6.0	28.9	-2.0	-2.0	4.0	6.0	28.8	-2.0	-5.0	9.0	6.0	28.8	-3.0	-4.0	9.0
53	19/02/2013 15.30	12.0	28.9	0.0	2.0	5.0	12.0	28.9	-1.0	1.0	6.0	12.0	28.8	-3.0	-5.0	8.0	12.0	28.8	-4.0	-5.0	7.0
54	21/02/2013 08.30	6.0	28.9	1.0	0.0	4.0	6.0	28.9	-1.0	-2.0	5.0	6.0	28.8	-2.0	-6.0	5.0	6.0	28.8	-4.0	-5.0	4.0
55	05/03/2013 10.30	12.0	28.9	0.0	2.0	6.0	12.0	28.9	-2.0	1.0	6.0	12.0	28.8	-3.0	-4.0	8.0	12.0	28.8	-3.0	-4.0	7.0
56	12/03/2013 08.30	10.0	28.9	1.0	3.0	5.0	10.0	28.9	-1.0	2.0	6.0	10.0	28.8	-3.0	-6.0	7.0	10.0	28.8	-3.0	-5.0	7.0
57	19/03/2013 16.00	16.0	28.9	1.0	4.0	7.0	16.0	28.9	-1.0	2.0	8.0	16.0	28.8	-2.0	-7.0	8.0	16.0	28.8	-3.0	-7.0	7.0
58	26/03/2013 08.30	13.0	28.9	0.0	1.0	4.0	13.0	28.9	-1.0	-1.0	5.0	13.0	28.8	-2.0	-5.0	5.0	13.0	28.8	-3.0	-4.0	5.0
59	28/03/2013 11.00	15.0	28.9	0.0	3.0	5.0	15.0	28.9	-1.0	1.0	7.0	15.0	28.8	-2.0	-5.0	6.0	15.0	28.8	-3.0	-5.0	5.0
60	03/04/2013 17.30	16.0	28.9	-1.0	2.0	6.0	16.0	28.9	-2.0	0.0	7.0	16.0	28.8	-1.0	-4.0	6.0	16.0	28.8	-2.0	-4.0	6.0
61	10/04/2013 10.30	16.0	28.9	0.0	2.0	6.0	16.0	28.9	0.0	0.0	7.0	16.0	28.8	-2.0	-4.0	8.0	16.0	28.8	-3.0	-5.0	6.0
62	16/04/2013 15.00	23.0	28.9	0.0	6.0	5.0	23.0	28.9	-2.0	3.0	7.0	23.0	28.8	-2.0	-6.0	6.0	23.0	28.8	-2.0	-5.0	4.0
63	23/04/2013 08.30	13.0	28.9	0.0	3.0	8.0	13.0	28.9	-2.0	3.0	7.0	13.0	28.8	-2.0	-5.0	6.0	13.0	28.8	-3.0	-5.0	5.0
64	03/05/2013 14.30	25.0	28.9	0.0	7.0	7.0	25.0	28.9	-1.0	5.0	7.0	25.0	28.8	-1.0	-4.0	7.0	25.0	28.8	-2.0	-4.0	6.0
65	09/05/2013 08.30	18.0	28.9	0.0	3.0	7.0	18.0	28.9	-2.0	2.0	8.0	18.0	28.8	-1.0	-4.0	8.0	18.0	28.8	-2.0	-5.0	7.0
66	15/05/2013 14.30	21.0	28.9	0.0	6.0	6.0	21.0	28.9	-1.0	4.0	6.0	21.0	28.8	-1.0	-7.0	3.0	21.0	28.8	-2.0	-6.0	3.0



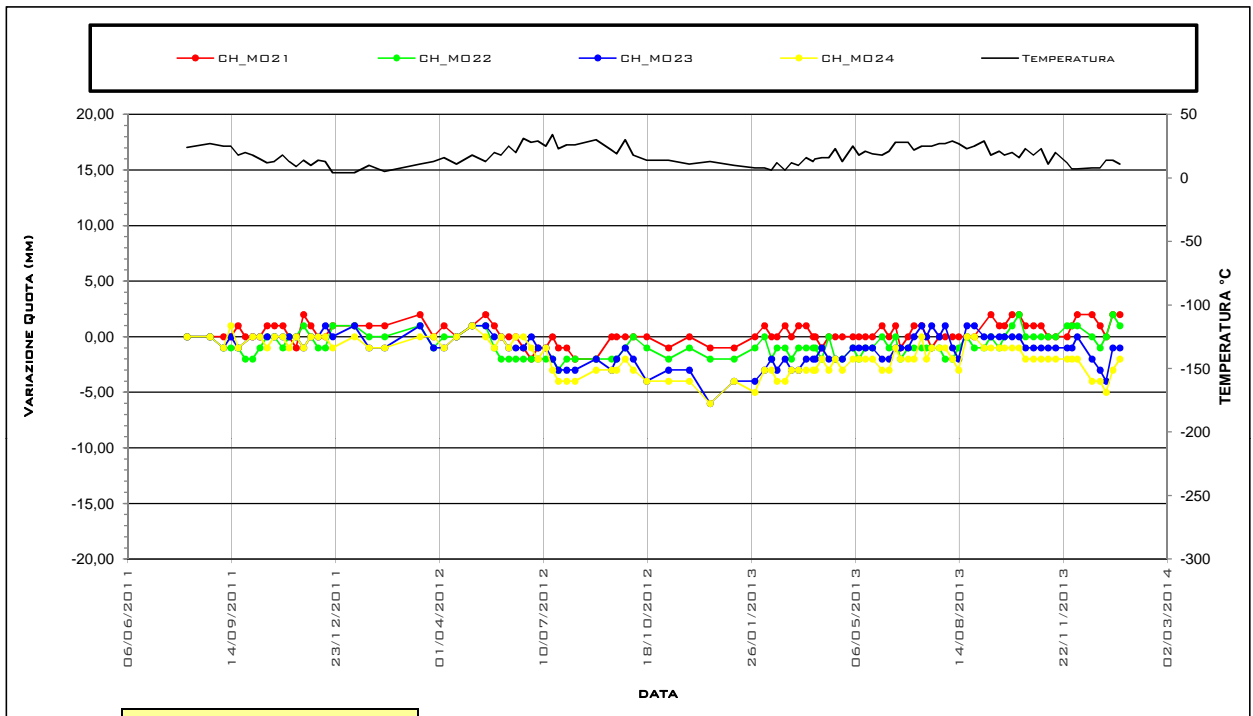


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Il Ordine di Tiranti \ 21-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 02/08/2011  
**Data lettura di zero** 02/08/2011

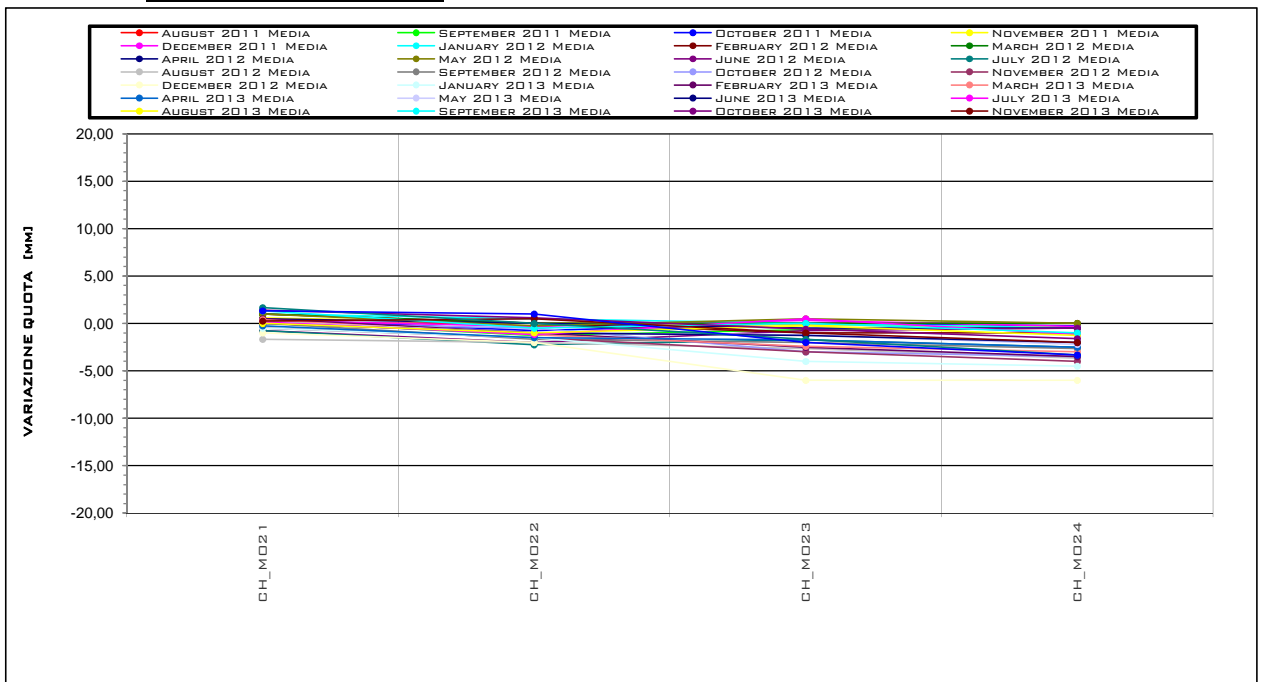
**UBICAZIONE**



**GRAFICO QUOTA**

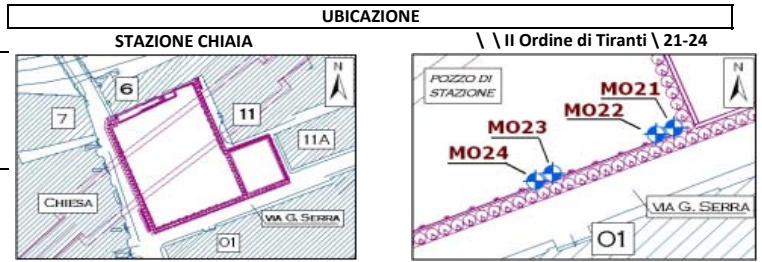


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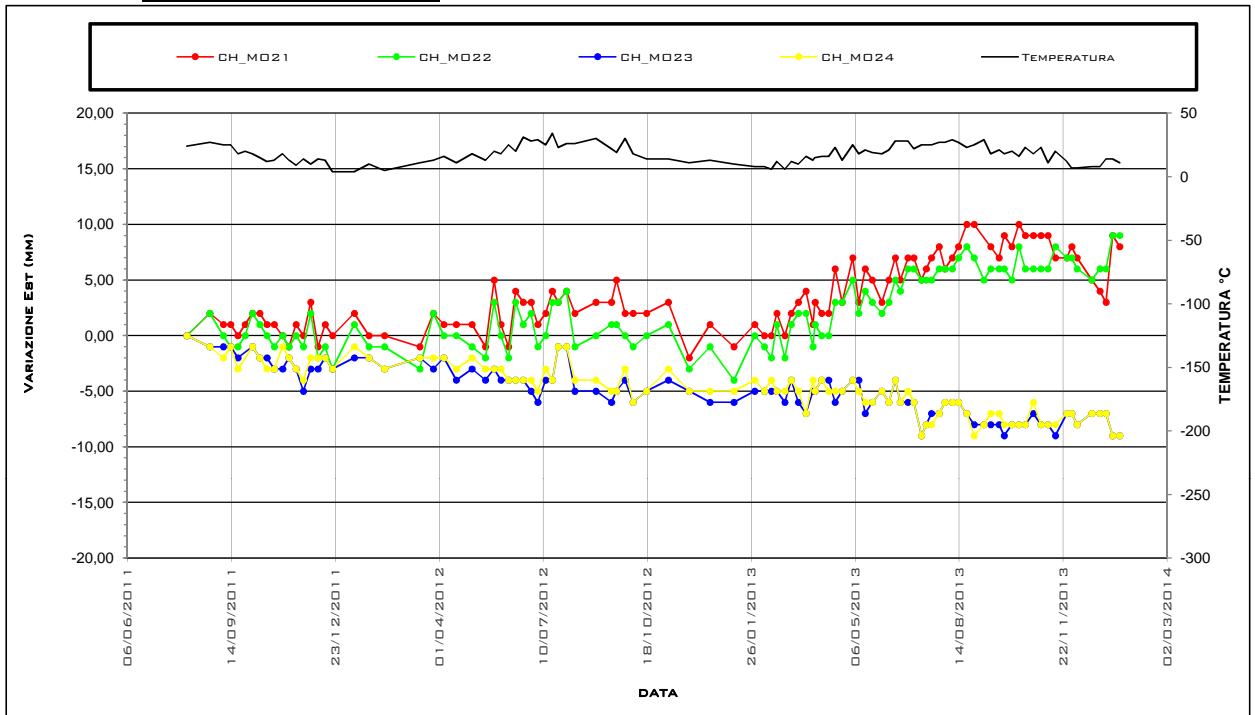




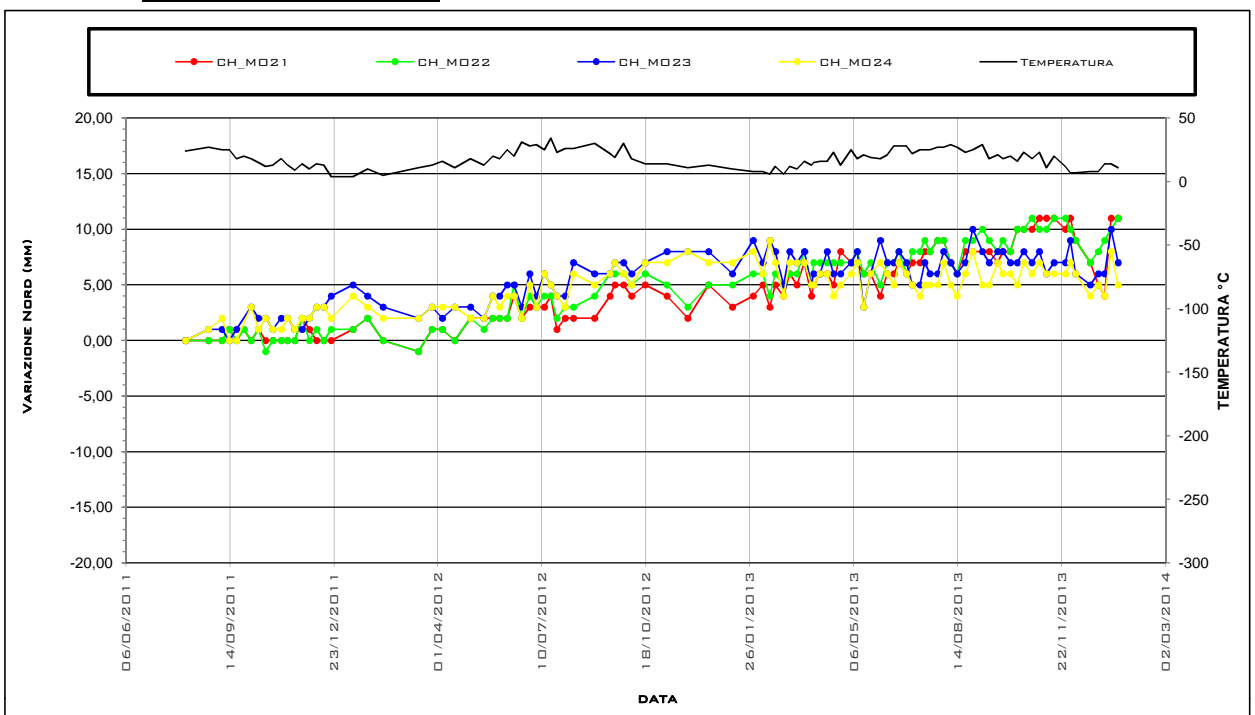
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Il Ordine di Tiranti \ 21-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 02/08/2011  
**Data lettura di zero** 02/08/2011



**GRAFICO EST**



**GRAFICO NORD**





Ubicazione STAZIONE CHIAIA

Opera \ \ Il Ordine di Tiranti \ 25-28

Tipo Strumento Mire Ottiche

Data posa in opera 25/07/2011

Data lettura di zero 25/07/2011

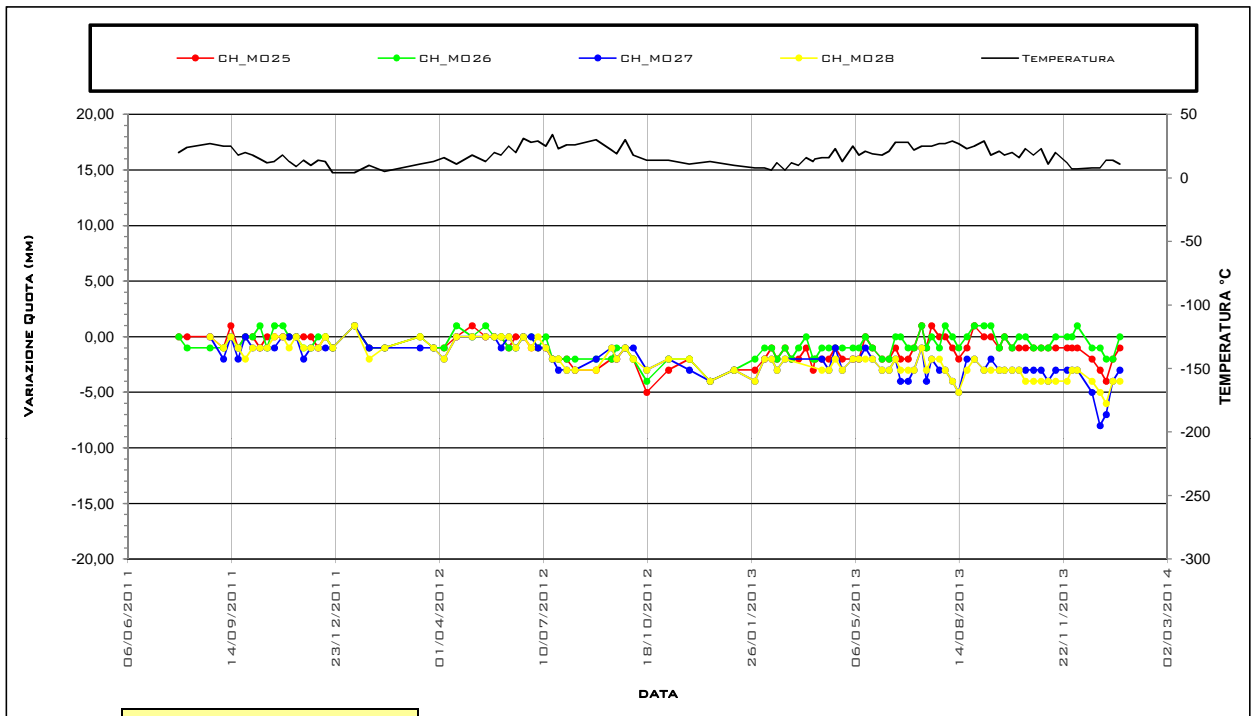
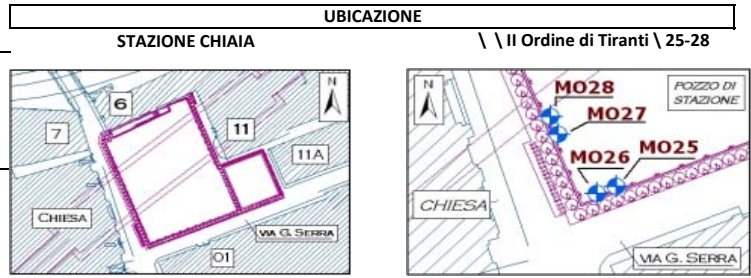
Ultima Misura 103 in data 15/01/2014

Lett. n°	DATA	CH_M025					CH_M026					CH_M027					CH_M028				
		Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est. Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est. Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est. Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est. Spost. [mm]	Nord Spost. [mm]
12	25/10/2011 08.00	13.0	29.9	0.0	1.0	2.0	13.0	30.0	1.0	0.0	2.0	13.0	29.8	-1.0	-2.0	-1.0	13.0	29.8	0.0	0.0	0.0
13	02/11/2011 10.00	18.0	29.9	0.0	2.0	3.0	18.0	30.0	1.0	1.0	2.0	18.0	29.8	0.0	0.0	0.0	18.0	29.8	0.0	0.0	0.0
14	08/11/2011 08.00	13.0	29.9	0.0	1.0	3.0	13.0	30.0	0.0	1.0	3.0	13.0	29.8	0.0	-1.0	-1.0	13.0	29.8	-1.0	-1.0	-1.0
15	15/11/2011 08.00	9.0	29.9	0.0	1.0	3.0	9.0	30.0	0.0	0.0	0.0	9.0	29.8	0.0	-2.0	-1.0	9.0	29.8	0.0	-1.0	0.0
16	22/11/2011 08.00	14.0	29.9	0.0	-1.0	3.0	14.0	30.0	-1.0	0.0	2.0	14.0	29.8	-2.0	-2.0	0.0	14.0	29.8	-1.0	-2.0	2.0
17	29/11/2011 08.00	10.0	29.9	0.0	1.0	3.0	10.0	30.0	-1.0	0.0	2.0	10.0	29.8	-1.0	-1.0	0.0	10.0	29.8	-1.0	-2.0	0.0
18	06/12/2011 08.00	14.0	29.9	-1.0	1.0	3.0	14.0	30.0	0.0	0.0	2.0	14.0	29.8	-1.0	-2.0	0.0	14.0	29.8	-1.0	-1.0	0.0
19	13/12/2011 08.00	13.0	29.9	0.0	1.0	3.0	13.0	30.0	0.0	1.0	2.0	13.0	29.8	-1.0	0.0	1.0	13.0	29.8	0.0	0.0	-1.0
20	20/12/2011 08.00	4.0	29.9	-1.0	1.0	3.0	4.0	30.0	-1.0	0.0	3.0	4.0	29.8	-1.0	-1.0	0.0	4.0	29.8	-1.0	-3.0	0.0
21	10/01/2012 08.00	4.0	29.9	1.0	2.0	4.0	4.0	30.0	1.0	2.0	4.0	4.0	29.8	1.0	0.0	3.0	4.0	29.8	1.0	0.0	2.0
22	24/01/2012 08.00	10.0	29.9	-1.0	1.0	3.0	10.0	30.0	-1.0	1.0	3.0	10.0	29.8	-1.0	-2.0	1.0	10.0	29.8	-2.0	0.0	0.0
23	08/02/2012 08.00	5.0	29.9	-1.0	1.0	3.0	5.0	30.0	-1.0	-1.0	4.0	5.0	29.8	-1.0	-2.0	1.0	5.0	29.8	-1.0	-1.0	0.0
24	13/03/2012 08.00	11.0	29.9	0.0	2.0	2.0	11.0	30.0	0.0	1.0	2.0	11.0	29.8	-1.0	0.0	-1.0	11.0	29.8	0.0	-1.0	-1.0
25	26/03/2012 08.00	13.0	29.9	-1.0	1.0	3.0	13.0	30.0	-1.0	1.0	3.0	13.0	29.8	-1.0	0.0	2.0	13.0	29.8	-1.0	0.0	0.0
26	05/04/2012 08.00	16.0	29.9	-1.0	1.0	3.0	16.0	30.0	-1.0	1.0	3.0	16.0	29.8	-2.0	-2.0	0.0	16.0	29.8	-2.0	-1.0	0.0
27	17/04/2012 08.00	11.0	29.9	0.0	1.0	4.0	11.0	30.0	1.0	-1.0	3.0	11.0	29.8	0.0	-2.0	1.0	11.0	29.8	0.0	-2.0	1.0
28	02/05/2012 10.30	18.0	29.9	1.0	1.0	3.0	18.0	30.0	0.0	0.0	2.0	18.0	29.8	0.0	-1.0	0.0	18.0	29.8	0.0	-1.0	-1.0
29	15/05/2012 08.30	13.0	29.9	0.0	1.0	4.0	13.0	30.0	1.0	0.0	2.0	13.0	29.8	0.0	-2.0	-1.0	13.0	29.8	0.0	-2.0	-1.0
30	23/05/2012 17.30	20.0	29.9	0.0	1.0	4.0	20.0	30.0	0.0	0.0	3.0	20.0	29.8	0.0	0.0	0.0	20.0	29.8	0.0	0.0	0.0
31	30/05/2012 08.30	18.0	29.9	0.0	0.0	4.0	18.0	30.0	0.0	0.0	2.0	18.0	29.8	-1.0	0.0	0.0	18.0	29.8	0.0	0.0	0.0
32	06/06/2012 16.30	25.0	29.9	-1.0	0.0	5.0	25.0	30.0	-1.0	-1.0	2.0	25.0	29.8	0.0	1.0	1.0	25.0	29.8	0.0	1.0	0.0
33	13/06/2012 08.30	20.0	29.9	0.0	0.0	5.0	20.0	30.0	-1.0	-1.0	4.0	20.0	29.8	-1.0	0.0	0.0	20.0	29.8	-1.0	0.0	0.0
34	20/06/2012 16.30	31.0	29.9	0.0	0.0	3.0	31.0	30.0	0.0	-1.0	2.0	31.0	29.8	0.0	1.0	-2.0	31.0	29.8	0.0	1.0	-1.0
35	28/06/2012 08.30	28.0	29.9	-1.0	0.0	6.0	28.0	30.0	0.0	-1.0	5.0	28.0	29.8	0.0	1.0	1.0	28.0	29.8	-1.0	1.0	1.0
36	04/07/2012 19.30	29.0	29.9	-1.0	-2.0	4.0	29.0	30.0	-1.0	-4.0	3.0	29.0	29.8	-1.0	-1.0	0.0	29.0	29.8	0.0	0.0	0.0
37	12/07/2012 08.30	25.0	29.9	-1.0	1.0	6.0	25.0	30.0	0.0	4.0	4.0	25.0	29.8	-1.0	1.0	0.0	25.0	29.8	-1.0	0.0	1.0
38	18/07/2012 16.30	34.0	29.9	-2.0	0.0	6.0	34.0	30.0	-2.0	-2.0	5.0	34.0	29.8	-2.0	1.0	0.0	34.0	29.8	-2.0	2.0	-1.0
39	24/07/2012 09.00	23.0	29.9	-2.0	2.0	4.0	23.0	30.0	-2.0	1.0	2.0	23.0	29.8	-3.0	1.0	0.0	23.0	29.8	-2.0	2.0	-1.0
40	01/08/2012 09.00	26.0	29.9	-2.0	1.0	3.0	26.0	30.0	-2.0	0.0	3.0	26.0	29.8	-3.0	1.0	0.0	26.0	29.8	-3.0	2.0	0.0
41	09/08/2012 08.30	26.0	29.9	-3.0	-1.0	7.0	26.0	30.0	-2.0	-1.0	5.0	26.0	29.8	-3.0	0.0	1.0	26.0	29.8	-3.0	1.0	1.0
42	29/08/2012 16.00	30.0	29.9	-3.0	0.0	5.0	30.0	30.0	-2.0	-2.0	4.0	30.0	29.8	-2.0	1.0	0.0	30.0	29.8	-3.0	2.0	0.0
43	13/09/2012 15.00	22.0	29.9	-2.0	-2.0	7.0	22.0	30.0	-2.0	-2.0	5.0	22.0	29.8	-1.0	1.0	1.0	22.0	29.8	-1.0	0.0	2.0
44	18/09/2012 08.00	19.0	29.9	-2.0	-1.0	7.0	19.0	30.0	-1.0	-1.0	5.0	19.0	29.8	-2.0	0.0	0.0	19.0	29.8	-2.0	1.0	1.0
45	26/09/2012 15.00	30.0	29.9	-1.0	0.0	6.0	30.0	30.0	-1.0	-2.0	4.0	30.0	29.8	-1.0	1.0	1.0	30.0	29.8	-1.0	0.0	1.0
46	04/10/2012 09.00	18.0	29.9	-2.0	-2.0	7.0	18.0	30.0	-2.0	-3.0	5.0	18.0	29.8	-1.0	0.0	2.0	18.0	29.8	-2.0	0.0	1.0
47	17/10/2012 08.30	14.0	29.9	-5.0	0.0	6.0	14.0	30.0	-4.0	-2.0	6.0	14.0	29.8	-3.0	1.0	2.0	14.0	29.8	-3.0	1.0	1.0
48	07/11/2012 08.30	14.0	29.9	-3.0	-1.0	7.0	14.0	30.0	-2.0	-1.0	7.0	14.0	29.8	-2.0	2.0	3.0	14.0	29.8	-2.0	1.0	2.0
49	27/11/2012 08.30	11.0	29.9	-2.0	-1.0	8.0	11.0	30.0	-2.0	-2.0	6.0	11.0	29.8	-3.0	1.0	1.0	11.0	29.8	-2.0	1.0	1.0
50	17/12/2012 08.30	13.0	29.9	-4.0	-2.0	7.0	13.0	30.0	-4.0	-2.0	6.0	13.0	29.8	-4.0	1.0	2.0	13.0	29.8	-4.0	0.0	1.0
51	09/01/2013 08.30	10.0	29.9	-3.0	-1.0	8.0	10.0	30.0	-3.0	-2.0	5.0	10.0	29.8	-3.0	1.0	1.0	10.0	29.8	-3.0	0.0	1.0
52	29/01/2013 08.30	8.0	29.9	-3.0	-1.0	8.0	8.0	30.0	-2.0	-3.0	5.0	8.0	29.8	-4.0	0.0	2.0	8.0	29.8	-4.0	1.0	2.0
53	07/02/2013 15.00	8.0	29.9	-2.0	0.0	6.0	8.0	30.0	-1.0	-1.0	5.0	8.0	29.8	-2.0	0.0	0.0	8.0	29.8	-2.0	1.0	0.0
54	14/02/2013 08.30	6.0	29.9	-1.0	-1.0	8.0	6.0	30.0	-1.0	0.0	8.0	6.0	29.8	-2.0	1.0	1.0	6.0	29.8	-2.0	2.0	3.0
55	19/02/2013 15.30	12.0	29.9	-2.0	0.0	8.0	12.0	30.0	-2.0	-1.0	6.0	12.0	29.8	-3.0	1.0	1.0	12.0	29.8	-3.0	1.0	1.0
56	27/02/2013 08.30	6.0	29.9	-1.0	-2.0	5.0	6.0	30.0	-1.0	-3.0	4.0	6.0	29.8	-2.0	-1.0	0.0	6.0	29.8	-2.0	0.0	0.0
57	05/03/2013 10.30	12.0	29.9	-2.0	0.0	7.0	12.0	30.0	-2.0	0.0	6.0										
58	12/03/2013 08.30	10.0	29.9	-2.0	-2.0	7.0	10.0	30.0	-1.0	-2.0	5.0										
59	19/03/2013 16.00	16.0	29.9	-1.0	-1.0	7.0	16.0	30.0	0.0	-2.0	5.0										
60	26/03/2013 08.30	13.0	29.9	-3.0	-1.0	4.0	13.0	30.0	-2.0	-1.0	3.0										
61	28/03/2013 11.00	15.0	29.9	-2.0	0.0	6.0	15.0	30.0	-2.0	-1.0	3.0										
62	03/04/2013 17.30	16.0	29.9	-2.0	0.0	5.0	16.0	30.0	-1.0	-1.0	5.0	16.0	29.8	-2.0	2.0	0.0	16.0	29.8	-3.0	3.0	1.0
63	10/04/2013 10.30	16.0	29.9	-2.0	-2.0	5.0	16.0	30.0	-1.0	-2.0	5.0	16.0	29.8	-3.0	1.0	0.0	16.0	29.8	-3.0	3.0	0.0
64	16/04/2013 15.00	23.0	29.9	-1.0	-1.0	4.0	23.0	30.0	-1.0	-2.0	3.0	23.0	29.8	-1.0	1.0	-1.0	23.0	29.8	-2.0	2.0	0.0
65	23/04/2013 08.30	13.0	29.9	-2.0	0.0	5.0	13.0	30.0	-1.0	-1.0	4.0	13.0	29.8	-3.0	2.0	-1.0	13.0	29.8	-3.0	3.0	0.0
66	03/05/2013 14.30	25.0	29.9	-2.0	-1.0	5.0	25.0	30.0	-1.0	0.0	5.0	25.0	29.8	-2.0	3.0	1.0	25.0	29.8	-2.0	4.0	0.0
67	09/05/2013 08.30	18.0	29.9	-2.0	0.0	5.0	18.0	30.0	-1.0	-1.0	4.0	18.0	29.8	-2.0	3.0	-1.0	18.0	29.8	-2.0	3.0	0.0
68	15/05/2013 14.30	21.0	29.9	0.0	-2.0	3.0	21.0	30.0	0.0	-3.0	2.0	21.0	29.8	-1.0	1.0	-1.0	21.0	29.8	-2.0	1.0	-2.0
69	22/05/2013 08.30	19.0	29.9	-1.0	-2.0	6.0	19.0	30.0	-1.0	-3.0	4.0	19.0	29.8	-2.0	1.0	0.0	19.0	29.8	-2.0	1.0	

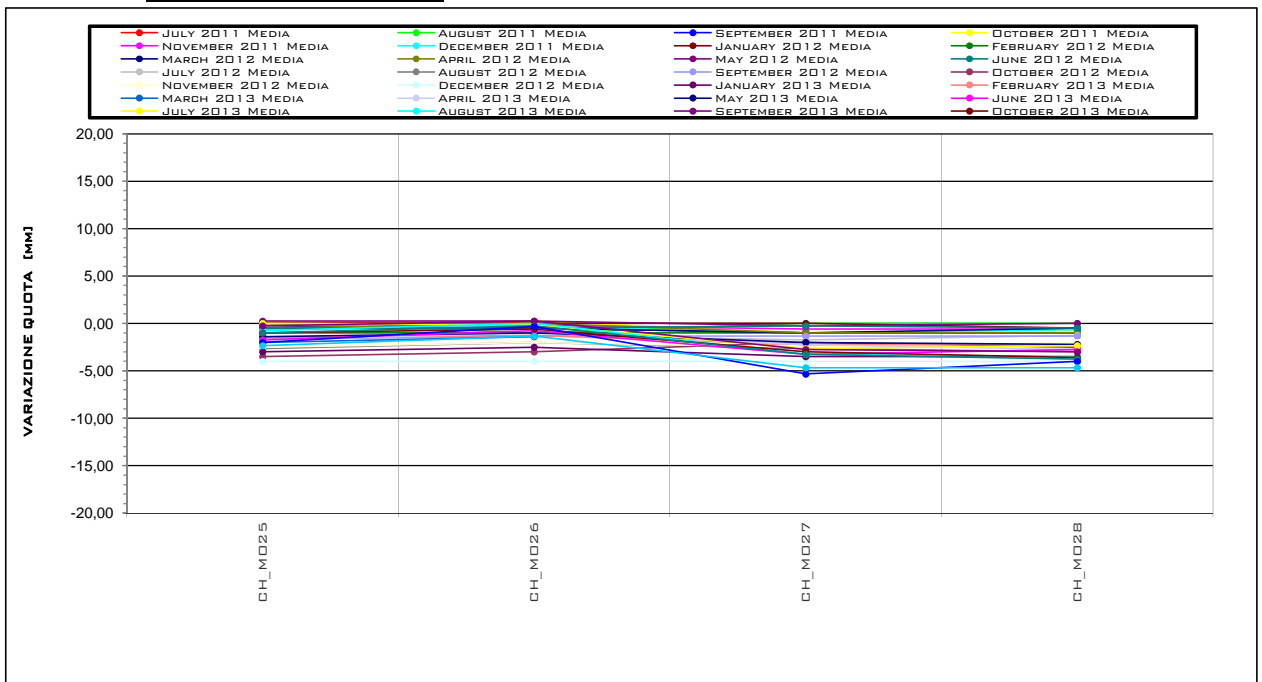


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Il Ordine di Tiranti \ 25-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 25/07/2011  
**Data lettura di zero** 25/07/2011

**GRAFICO QUOTA**

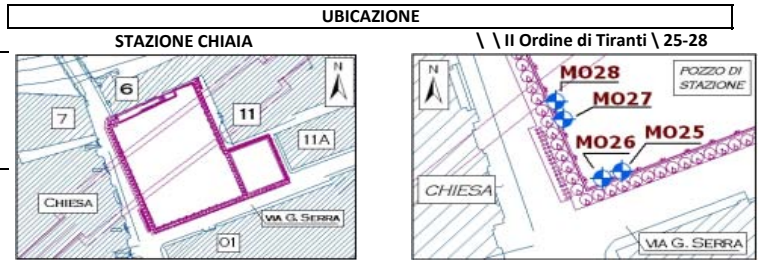


**GRAFICO ISOCRONE**

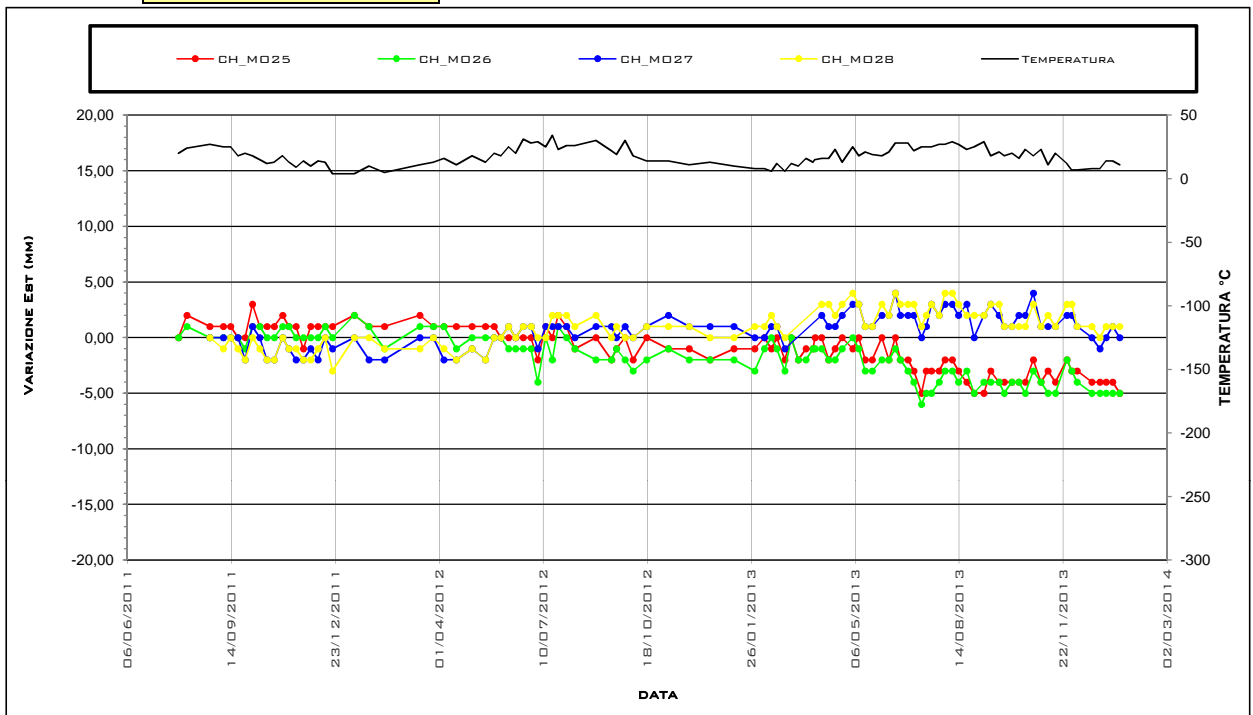




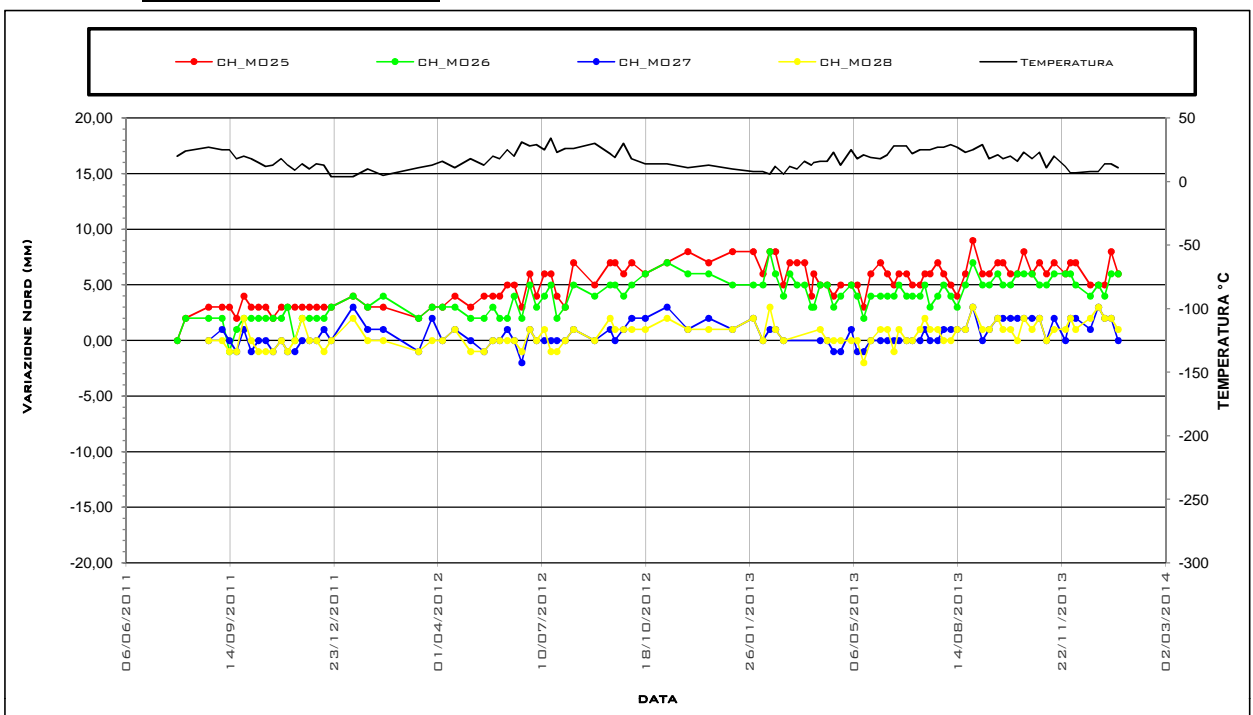
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Il Ordine di Tiranti \ 25-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 25/07/2011  
**Data lettura di zero** 25/07/2011



**GRAFICO EST**



**GRAFICO NORD**





LINEA 6 METROPOLITANA DI NAPOLI - PROGETTO ESECUTIVO

OPERE CIVILI - MONITORAGGIO GEOTECNICO GEOREFERENZIATO  
REPORT DELLE MISURE - STAZIONE CHIAIA

LM6 7FX 2C I 28  
Data: 21/01/14  
Metropolitana di Napoli A.T.I. LM6  
TreEsse Engineering S.r.l.



Ubicazione STAZIONE CHIAIA

Opera \ \ II Ordine di Tiranti \ 29-32

Tipo Strumento Mire Ottiche

Data posa in opera 24/08/2011

Data lettura di zero 24/08/2011

Ultima Misura 101 in data 15/01/2014

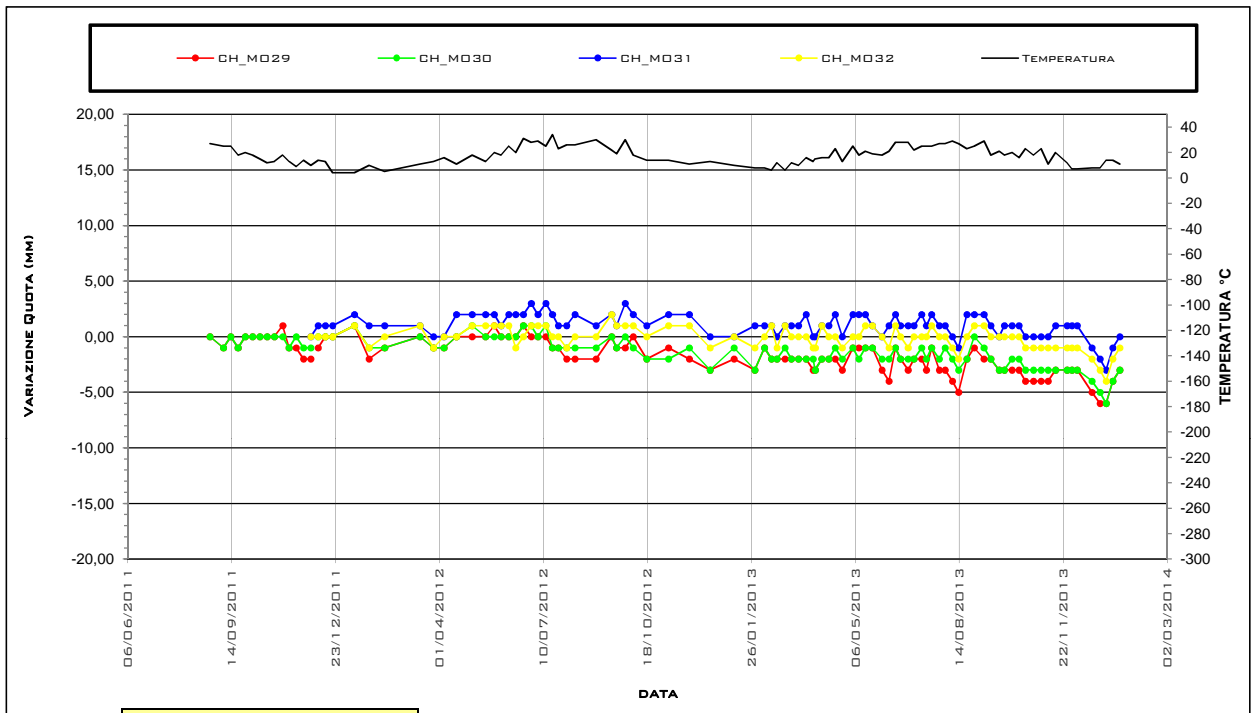
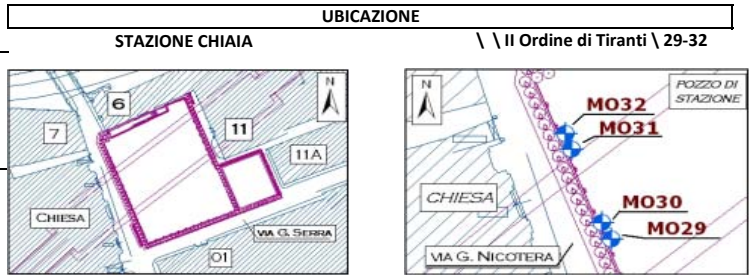
Table with 20 columns: Lett. n°, DATA, CH\_M029 (Temp. Media, Quota, Quota Spost., Est. Spost., Nord Spost.), CH\_M030 (Temp. Media, Quota, Quota Spost., Est. Spost., Nord Spost.), CH\_M031 (Temp. Media, Quota, Quota Spost., Est. Spost., Nord Spost.), CH\_M032 (Temp. Media, Quota, Quota Spost., Est. Spost., Nord Spost.). Rows 10-101.



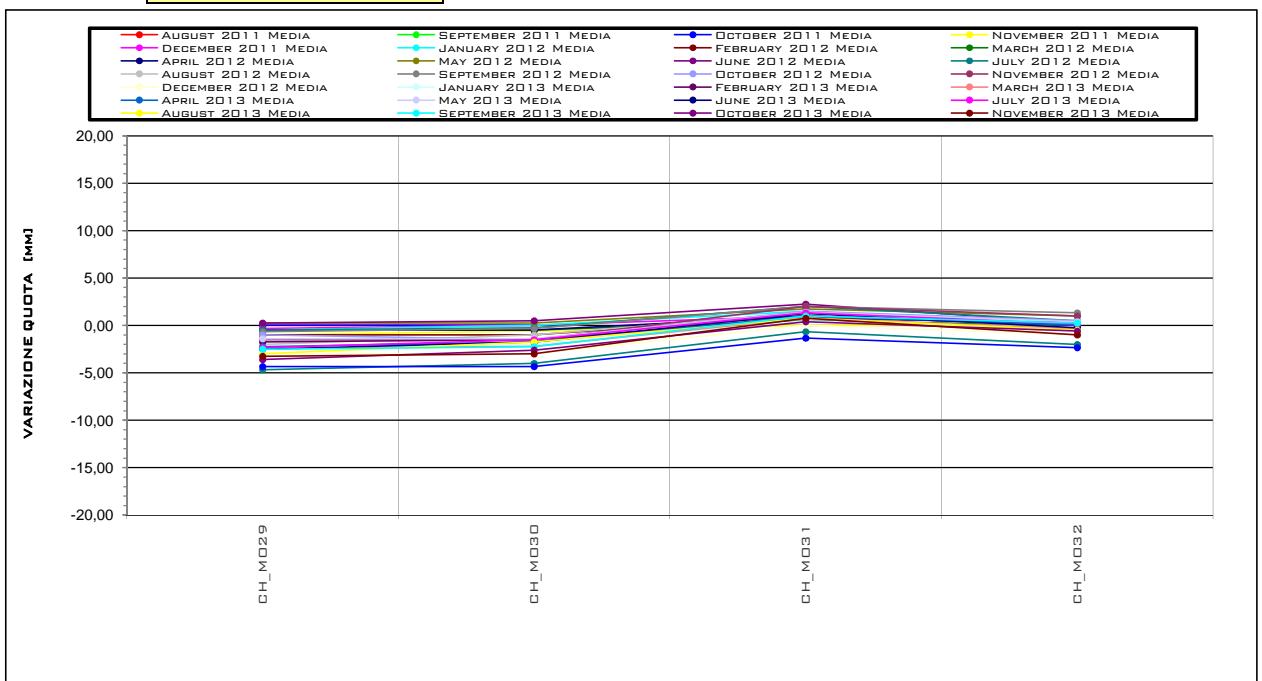


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Il Ordine di Tiranti \ 29-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 24/08/2011  
**Data lettura di zero** 24/08/2011

**GRAFICO QUOTA**

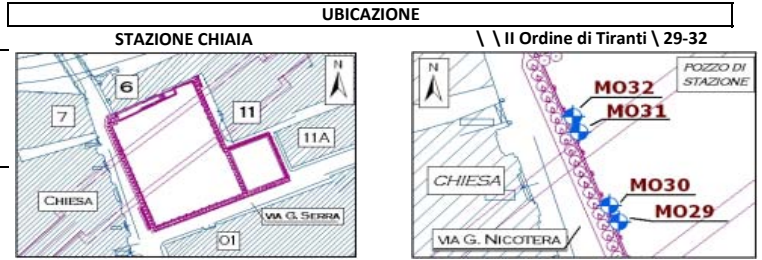


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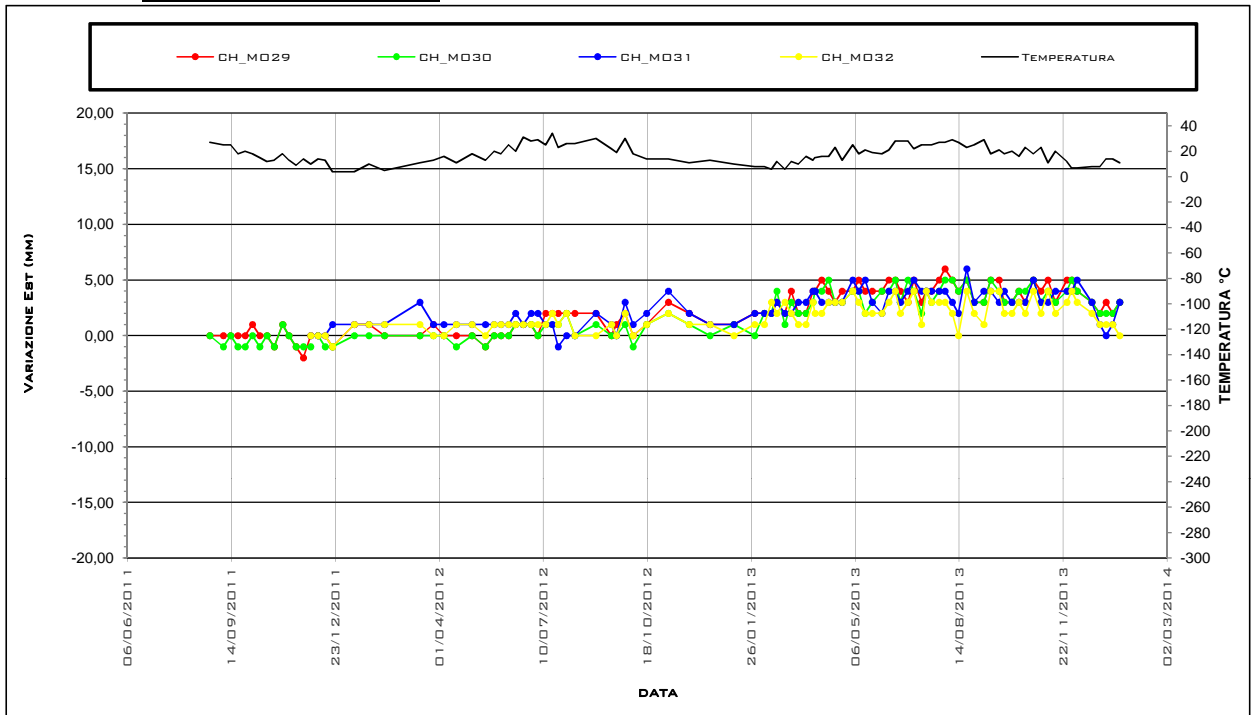




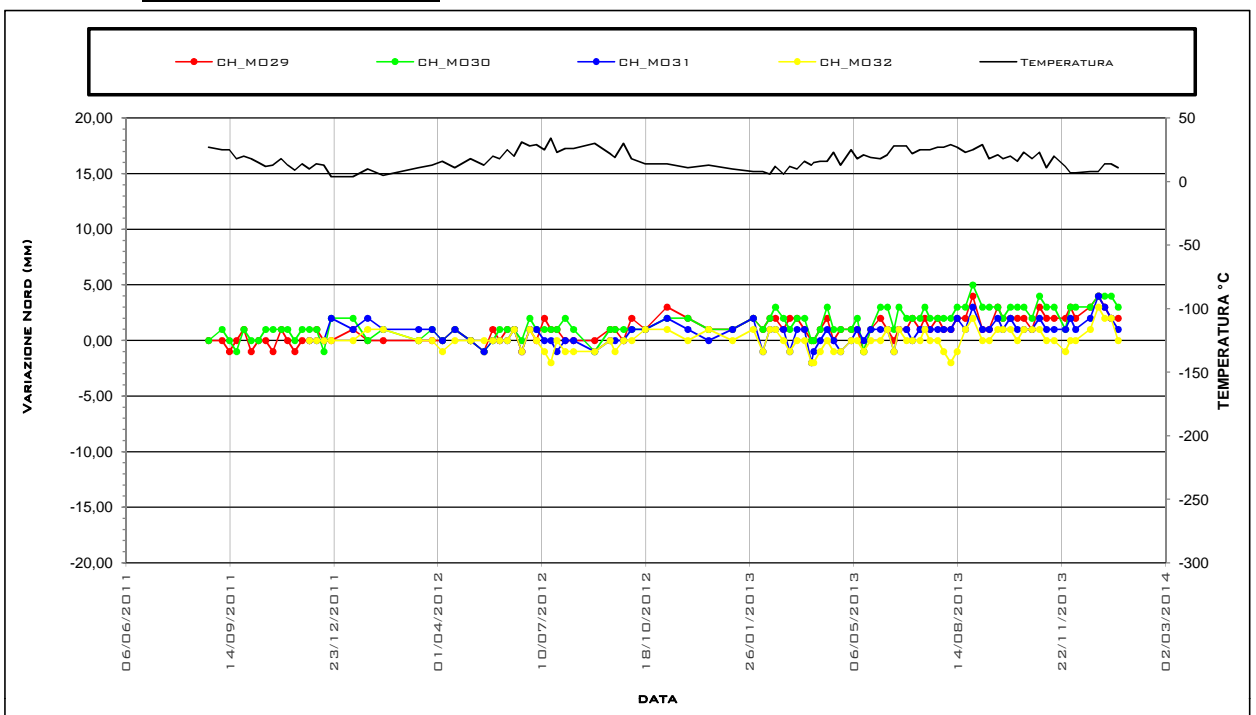
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Il Ordine di Tiranti \ 29-  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 24/08/2011  
**Data lettura di zero** 24/08/2011



**GRAFICO EST**



**GRAFICO NORD**







Ubicazione STAZIONE CHIAIA

Opera \ \ III Ordine - Tufo \ 33-37

Tipo Strumento Mire Ottiche

Data posa in opera 12/07/2012

Data lettura di zero 12/07/2012

Ultima Misura 67 in data 15/01/2014

Lett. n°	DATA	CH_M033					CH_M034					CH_M035					CH_M037					CH_M037A						
		Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]		
1	12/07/2012 08.30	25.0	14.4	0.0	0.0	0.0																						
2	18/07/2012 16.30	34.0	14.4	-1.0	-1.0	-1.0	34.0	11.6	0.0	0.0	0.0																	
3	24/07/2012 09.00	23.0	14.4	-1.0	1.0	-2.0	23.0	11.6	-2.0	1.0	-1.0																	
4	01/08/2012 09.00	26.0	14.4	-2.0	1.0	-3.0	26.0	11.6	-3.0	1.0	-2.0																	
5	09/08/2012 08.30	26.0	14.4	-2.0	-1.0	0.0	26.0	11.6	-1.0	0.0	1.0																	
6	29/08/2012 16.00	30.0	14.4	-2.0	-1.0	-1.0	30.0	11.6	-3.0	0.0	0.0																	
7	13/09/2012 15.00	22.0	14.4	-2.0	-1.0	-2.0	22.0	11.6	0.0	0.0	3.0	22.0	11.8	0.0	0.0	0.0												
8	18/09/2012 08.00	19.0	14.4	0.0	0.0	0.0	19.0	11.6	0.0	-1.0	2.0	19.0	11.8	0.0	0.0	0.0	19.0	10.2	0.0	0.0	0.0							
9	26/09/2012 15.00	30.0	14.4	-1.0	-1.0	0.0	30.0	11.6	0.0	-1.0	2.0	30.0	11.8	-1.0	0.0	0.0	30.0	10.2	-1.0	-1.0	-1.0							
10	04/10/2012 09.00	18.0	14.4	-2.0	-3.0	-1.0	18.0	11.6	1.0	-1.0	3.0	18.0	11.8	0.0	-2.0	-1.0	18.0	10.2	0.0	-4.0	-4.0							
11	17/10/2012 08.30	14.0	14.4	-1.0	-1.0	-1.0	14.0	11.6	-1.0	-1.0	2.0	14.0	11.8	0.0	0.0	0.0	14.0	10.2	1.0	-1.0	-1.0							
12	07/11/2012 08.30	14.0	14.4	0.0	-1.0	0.0	14.0	11.6	-1.0	1.0	3.0	14.0	11.8	-1.0	1.0	0.0	14.0	10.2	-1.0	1.0	-1.0							
13	27/11/2012 08.30	11.0	14.4	0.0	-2.0	0.0	11.0	11.6	0.0	0.0	3.0	11.0	11.8	-1.0	-3.0	-2.0	11.0	10.2	2.0	-5.0	-3.0							
14	17/12/2012 08.30	13.0	14.4	-2.0	-1.0	0.0	13.0	11.6	-3.0	-1.0	3.0	13.0	11.8	-1.0	0.0	0.0	13.0	10.2	0.0	-1.0	-1.0							
15	09/01/2013 08.30	10.0	14.4	-1.0	-2.0	-1.0	10.0	11.6	-1.0	-2.0	3.0	10.0	11.8	-1.0	-3.0	-1.0	10.0	10.2	0.0	-5.0	-2.0							
16	29/01/2013 08.30	8.0	14.4	-1.0	-1.0	-1.0	8.0	11.6	-1.0	0.0	1.0	8.0	11.8	0.0	0.0	0.0	8.0	10.2	0.0	-1.0	-1.0							
17	07/02/2013 15.00	8.0	14.4	0.0	-1.0	-2.0	8.0	11.6	0.0	-1.0	-1.0	8.0	11.8	1.0	-1.0	1.0	8.0	10.2	1.0	-1.0	-1.0							
18	14/02/2013 08.30	6.0	14.4	-1.0	0.0	-1.0	6.0	11.6	0.0	-1.0	0.0	6.0	11.8	-1.0	-1.0	0.0	6.0	10.2	0.0	-1.0	-3.0							
19	19/02/2013 15.30	12.0	14.4	-2.0	-1.0	-1.0	12.0	11.6	-1.0	-1.0	1.0	12.0	11.8	0.0	1.0	0.0	12.0	10.2	1.0	0.0	0.0							
20	27/02/2013 08.30	6.0	14.4	-1.0	-4.0	-4.0	6.0	11.6	0.0	-2.0	0.0	6.0	11.8	-1.0	-1.0	0.0	6.0	10.2	0.0	-2.0	-2.0							
21	06/03/2013 10.30	12.0	14.4	-1.0	-2.0	-1.0	12.0	11.6	1.0	-2.0	2.0	12.0	11.8	-1.0	0.0	0.0	12.0	10.2	0.0	0.0	0.0							
22	12/03/2013 08.30	10.0	14.4	0.0	-1.0	-2.0	10.0	11.6	1.0	-1.0	2.0	10.0	11.8	2.0	0.0	1.0	10.0	10.2	2.0	-1.0	-1.0							
23	19/03/2013 16.00	16.0	14.4	0.0	-3.0	-3.0	16.0	11.6	1.0	-2.0	1.0	16.0	11.8	0.0	3.0	1.0	16.0	10.2	1.0	0.0	0.0							
24	26/03/2013 08.30	13.0	14.4	-1.0	0.0	-4.0	13.0	11.6	0.0	0.0	-1.0	13.0	11.8	0.0	0.0	0.0	13.0	10.2	2.0	-2.0	-1.0							
25	28/03/2013 11.00	15.0	14.4	-2.0	-1.0	-4.0	15.0	11.6	-1.0	0.0	-1.0	15.0	11.8	1.0	1.0	1.0	15.0	10.2	2.0	-1.0	-1.0							
26	03/04/2013 17.30	16.0	14.4	1.0	1.0	-3.0	16.0	11.6	0.0	0.0	-1.0	16.0	11.8	-1.0	1.0	2.0	16.0	10.2	0.0	-1.0	-1.0							
27	10/04/2013 10.30	16.0	14.4	0.0	0.0	-2.0	16.0	11.6	0.0	0.0	1.0	16.0	11.8	0.0	0.0	1.0	16.0	10.2	0.0	0.0	-1.0							
28	16/04/2013 15.00	23.0	14.4	0.0	-2.0	-3.0	23.0	11.6	1.0	-2.0	-1.0	23.0	11.8	0.0	3.0	0.0	23.0	10.2	0.0	3.0	-1.0							
29	23/04/2013 08.30	13.0	14.4	-1.0	0.0	-2.0	13.0	11.6	0.0	0.0	-1.0	13.0	11.8	0.0	2.0	2.0	13.0	10.2	-1.0	1.0	2.0							
30	03/05/2013 14.30	25.0	14.4	1.0	1.0	-3.0	25.0	11.6	1.0	1.0	1.0	25.0	11.8	0.0	4.0	3.0	25.0	10.2	1.0	2.0	1.0							
31	09/05/2013 08.30	18.0	14.4	1.0	1.0	-2.0	18.0	11.6	1.0	0.0	1.0	18.0	11.8	-1.0	2.0	2.0	18.0	10.2	1.0	-1.0	1.0							
32	15/05/2013 14.30	21.0	14.4	2.0	-2.0	-3.0	21.0	11.6	1.0	-1.0	-2.0	21.0	11.8	-1.0	4.0	1.0	21.0	10.2	1.0	3.0	0.0							
33	22/05/2013 08.30	19.0	14.4	1.0	-1.0	-2.0	19.0	11.6	0.0	-1.0	0.0	19.0	11.8	-1.0	3.0	1.0	19.0	10.2	1.0	3.0	-1.0							
34	31/05/2013 15.30	18.0	14.4	-1.0	1.0	0.0	18.0	11.6	0.0	1.0	1.0	18.0	11.8	1.0	1.0	0.0	18.0	10.2	1.0	1.0	-2.0							
35	07/06/2013 08.30	21.0	14.4	0.0	-2.0	-2.0	21.0	11.6	0.0	-1.0	1.0	21.0	11.8	-1.0	2.0	2.0	21.0	10.2	2.0	1.0	0.0							
36	13/06/2013 14.30	28.0	14.4	1.0	0.0	-3.0	28.0	11.6	2.0	2.0	0.0	28.0	11.8	1.0	3.0	1.0	28.0	10.2	2.0	3.0	1.0							
37	18/06/2013 09.00	28.0	14.4	1.0	-1.0	-1.0	28.0	11.6	1.0	-1.0	1.0	28.0	11.8	0.0	1.0	2.0												
38	25/06/2013 18.00	28.0	14.4	1.0	-1.0	-1.0	28.0	11.6	0.0	-2.0	0.0																	
39	01/07/2013 07.30	22.0	14.4	0.0	-2.0	-1.0	22.0	11.6	0.0	-2.0	1.0	22.0	11.8	1.0	4.0	3.0						22.0	10.6	0.0	6378.2	0.0	769.3	0.0
40	08/07/2013 17.30	25.0	14.4	0.0	-5.0	-2.0	25.0	11.6	1.0	-5.0	-1.0	25.0	11.8	2.0	4.0	4.0						25.0	10.6	-1.0	6378.2	-2.0	769.3	0.0
41	13/07/2013 07.30	25.0	14.4	-1.0	-3.0	-1.0	25.0	11.6	0.0	-4.0	2.0	25.0	11.8	0.0	4.0	3.0						25.0	10.6	-1.0	6378.2	0.0	769.3	2.0
42	18/07/2013 07.30	25.0	14.4	1.0	-3.0	-1.0	25.0	11.6	1.0	-3.0	0.0	25.0	11.8	0.0	4.0	3.0						25.0	10.6	-1.0	6378.2	-1.0	769.3	1.0
43	25/07/2013 18.00	27.0	14.4	0.0	-2.0	-1.0	27.0	11.6	0.0	-3.0	-1.0	27.0	11.8	1.0	5.0	4.0						27.0	10.6	-1.0	6378.2	1.0	769.3	2.0
44	31/07/2013 09.00	27.0	14.4	0.0	0.0	-1.0	27.0	11.6	1.0	-1.0	0.0	27.0	11.8	-1.0	4.0	5.0						27.0	10.6	-2.0	6378.2	-1.0	769.3	2.0
45	07/08/2013 09.00	29.0	14.4	-1.0	0.0	-2.0	29.0	11.6	0.0	-1.0	-1.0	29.0	11.8	-1.0	4.0	3.0						29.0	10.6	-3.0	6378.2	1.0	769.3	0.0
46	13/08/2013 09.00	27.0	14.4	-2.0	-1.0	-3.0	27.0	11.6	-1.0	-2.0	-2.0	27.0	11.8	0.0	5.0	2.0						27.0	10.6	-3.0	6378.2	2.0	769.3	-1.0
47	21/08/2013 07.30	23.0	14.4	1.0	-2.0	0.0	23.0	11.6	1.0	-1.0	2.0	23.0	11.8	1.0	7.0	3.0						23.0	10.6	-1.0	6378.2	2.0	769.3	2.0
48	28/08/2013 10.30	25.0	14.4	1.0	-3.0	1.0	25.0	11.6	2.0	-4.0	4.0	25.0	11.8	1.0	6.0	4.0						25.0	10.6	-1.0	6378.2	3.0	769.3	3.0
49	06/09/2013 17.30	29.0	14.4	1.0	-3.0	-1.0	29.0	11.6	0.0	-3.0	1.0	29.0	11.8	2.0	6.0	3.0												
50	13/09/2013 07.30	18.0	14.4	0.0	-2.0	-2.0	18.0	11.6	0.0	-2.0	0.0	18.0	11.8	1.0	6.0	4.0						18.0	10.6	1.0	6378.2	-1.0	769.3	2.0
51	21/09/2013 09.30	21.0	14.4	-1.0	-2.0	0.0	21.0	11.6	1.0	-2.0	2.0	21.0	11.8	2.0	7.0	3.0						21.0	10.6	-1.0	6378.2	2.0	769.3	0.0
52	26/09/201																											



**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ III Ordine - Tufo \ 33-37  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 12/07/2012  
**Data lettura di zero** 12/07/2012

**UBICAZIONE**

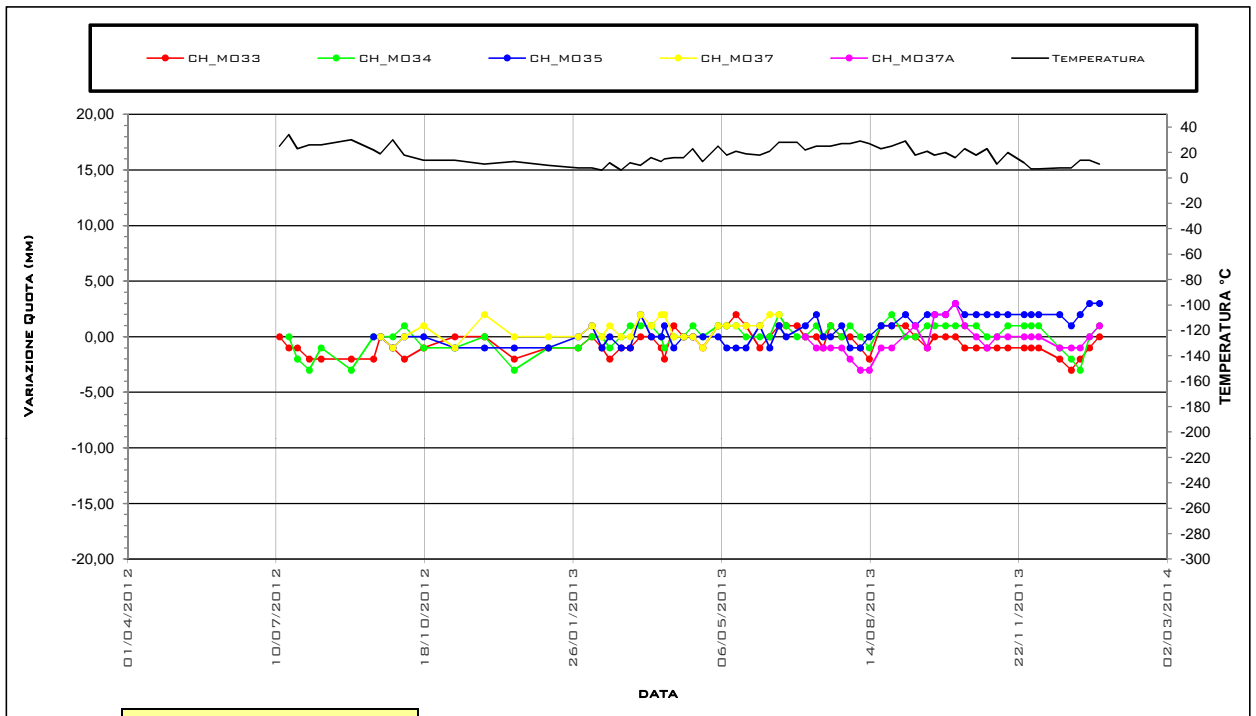
**STAZIONE CHIAIA**



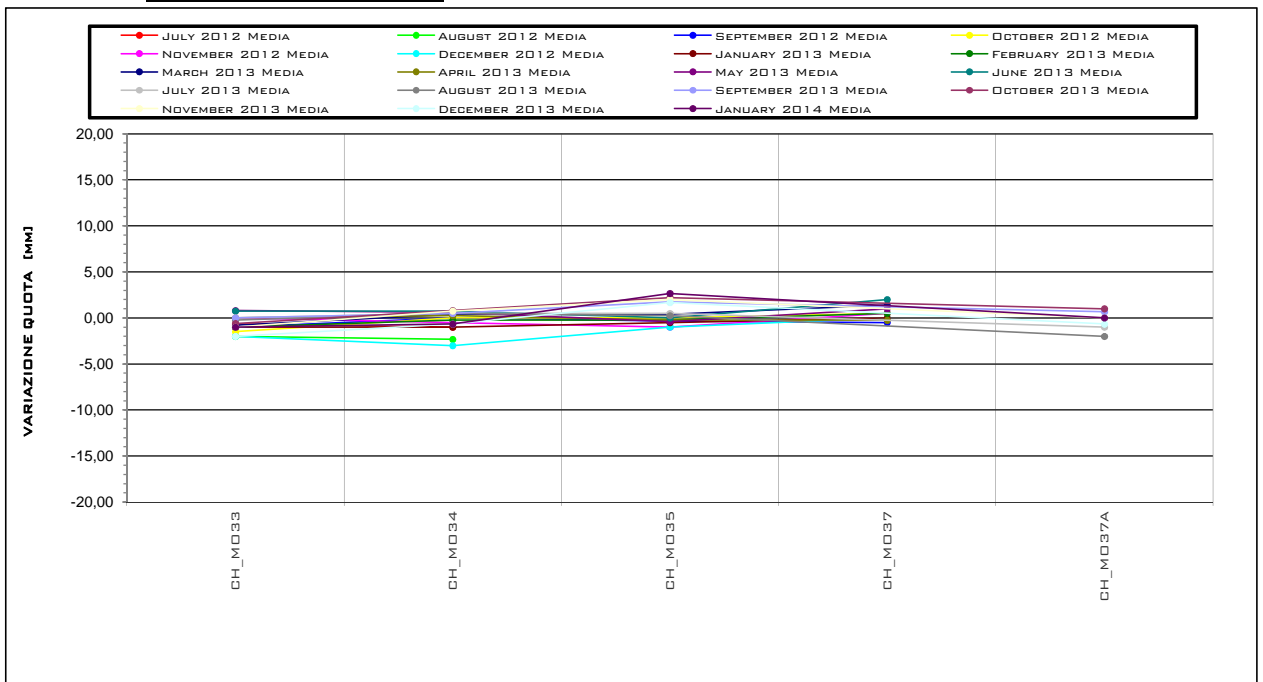
**\ \ III Ordine - Tufo \ 33-37**



**GRAFICO QUOTA**

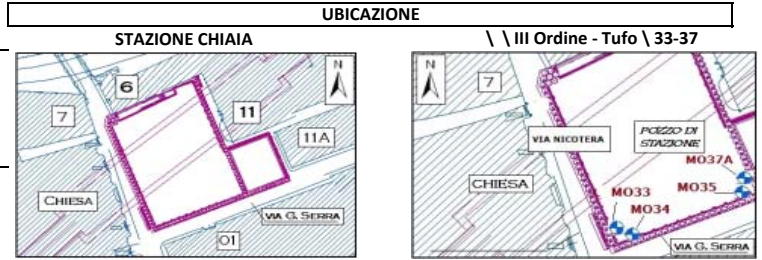


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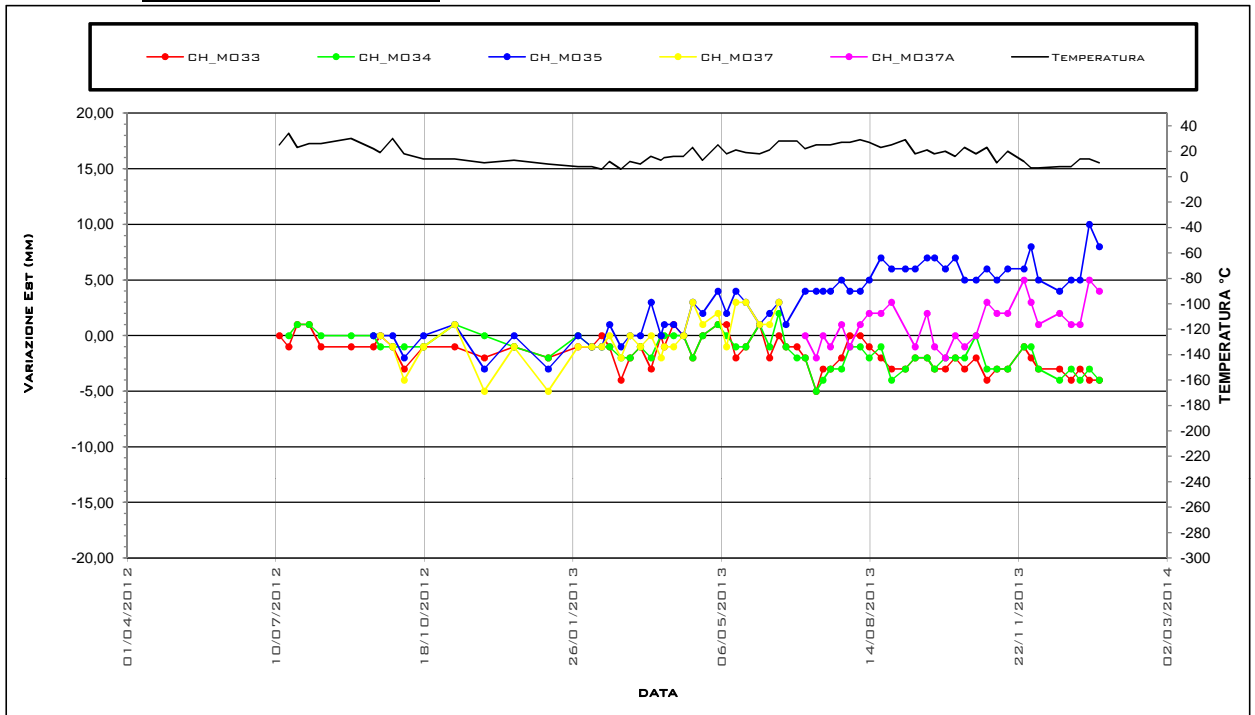




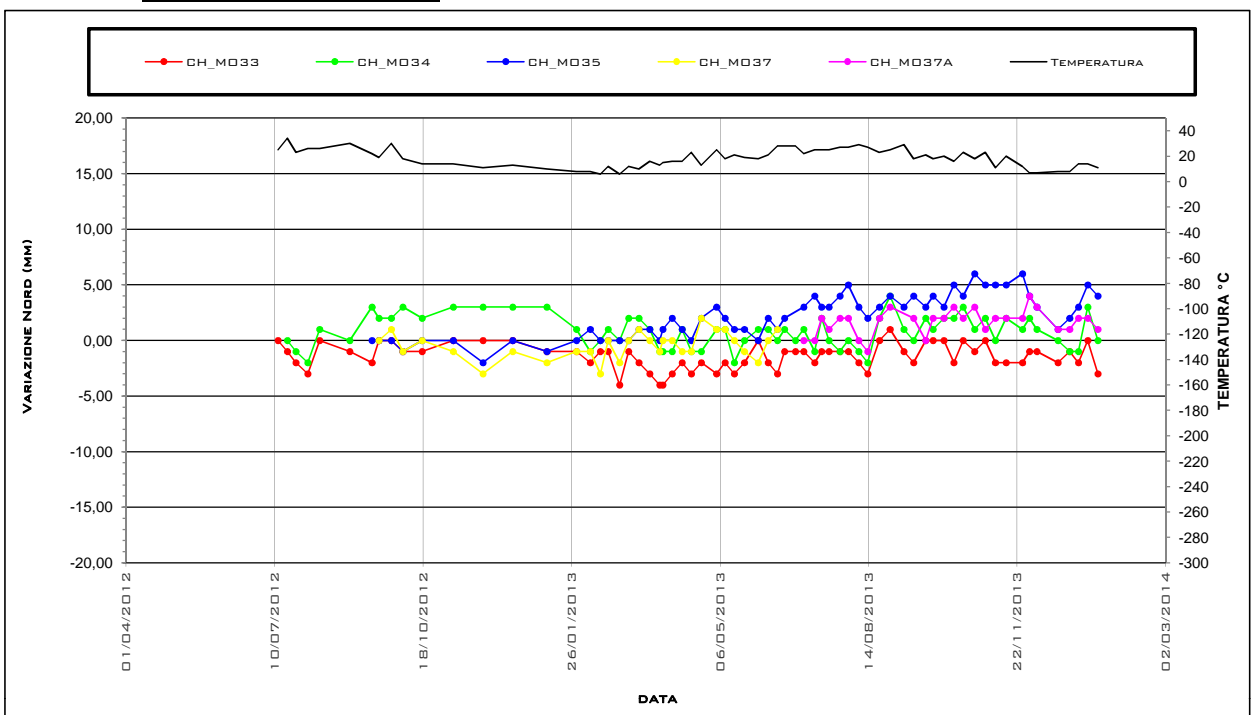
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ III Ordine - Tufo \ 33-37  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 12/07/2012  
**Data lettura di zero** 12/07/2012



**GRAFICO EST**



**GRAFICO NORD**





Ubicazione STAZIONE CHIAIA

Opera \ \ IV Ordine - Tufo \ 36A

Tipo Strumento Mire Ottiche

Data posa in opera 13/09/2012

Data lettura di zero 13/09/2012

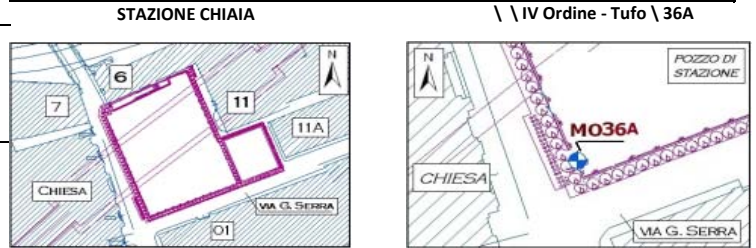
Ultima Misura 56 in data 15/01/2014

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2	18/09/2012 08.00	19,0	7,6	-1,0	0,0	0,0					
3	26/09/2012 15.00	30,0	7,6	0,0	1,0	2,0					
4	04/10/2012 09.00	18,0	7,6	-1,0	-2,0	0,0					
5	17/10/2012 08.30	14,0	7,6	-2,0	0,0	1,0					
6	07/11/2012 08.30	14,0	7,6	-1,0	1,0	2,0					
7	27/11/2012 08.30	11,0	7,6	0,0	1,0	1,0					
8	17/12/2012 08.30	13,0	7,6	-2,0	0,0	2,0					
9	09/01/2013 08.30	10,0	7,6	-1,0	-1,0	0,0					
10	29/01/2013 08.30	8,0	7,6	-2,0	0,0	0,0					
11	07/02/2013 15.00	8,0	7,6	0,0	-1,0	-1,0					
12	14/02/2013 08.30	6,0	7,6	-1,0	0,0	1,0					
13	19/02/2013 15.30	12,0	7,6	-1,0	0,0	1,0					
14	28/03/2013 11.00						15,0	9,3	0,0	0,0	0,0
15	03/04/2013 17.30						16,0	9,3	0,0	3,0	-1,0
16	10/04/2013 10.30						16,0	9,3	0,0	1,0	1,0
17	16/04/2013 15.00						23,0	9,3	0,0	2,0	-1,0
18	23/04/2013 08.30						13,0	9,3	-1,0	3,0	-1,0
19	03/05/2013 14.30						25,0	9,3	-1,0	5,0	0,0
20	09/05/2013 08.30						18,0	9,3	-2,0	4,0	-1,0
21	15/05/2013 14.30						21,0	9,3	-1,0	2,0	-2,0
22	22/05/2013 08.30						19,0	9,3	-1,0	1,0	-1,0
23	31/05/2013 15.30						18,0	9,3	-2,0	3,0	0,0
24	07/06/2013 08.30						21,0	9,3	-2,0	2,0	-1,0
25	13/06/2013 14.30						28,0	9,3	-1,0	4,0	-2,0
26	18/06/2013 09.00						28,0	9,3	0,0	2,0	0,0
27	25/06/2013 18.00						28,0	9,3	-2,0	3,0	-1,0
28	01/07/2013 07.30						22,0	9,3	-1,0	2,0	-1,0
29	08/07/2013 17.30						25,0	9,3	-1,0	-1,0	-1,0
30	13/07/2013 07.30						25,0	9,3	-2,0	-1,0	2,0
31	18/07/2013 07.30						25,0	9,3	-1,0	0,0	1,0
32	25/07/2013 18.00						27,0	9,3	-1,0	0,0	1,0
33	31/07/2013 09.00						27,0	9,3	-1,0	3,0	2,0
34	07/08/2013 09.00						29,0	9,2	-3,0	2,0	0,0
35	13/08/2013 09.00						27,0	9,2	-4,0	1,0	-1,0
36	21/08/2013 07.30						23,0	9,3	-1,0	1,0	2,0
37	28/08/2013 10.30						25,0	9,3	1,0	0,0	4,0
38	06/09/2013 17.30						29,0	9,3	-1,0	0,0	0,0
39	13/09/2013 07.30						18,0	9,3	-1,0	0,0	1,0
40	21/09/2013 09.30						21,0	9,3	-2,0	1,0	2,0
41	26/09/2013 09.30						18,0	9,3	-2,0	0,0	1,0
42	03/10/2013 16.30						20,0	9,3	-2,0	1,0	2,0
43	10/10/2013 08.30						16,0	9,3	-1,0	1,0	2,0
44	16/10/2013 14.30						23,0	9,3	-2,0	1,0	2,0
45	24/10/2013 08.30						18,0	9,3	-2,0	3,0	2,0
46	31/10/2013 14.30						23,0	9,2	-3,0	0,0	3,0
47	07/11/2013 08.30						11,0	9,3	-2,0	0,0	2,0
48	14/11/2013 14.30						20,0	9,3	-2,0	0,0	1,0
49	25/11/2013 15.30						12,0	9,3	-2,0	1,0	2,0
50	30/11/2013 08.30						7,0	9,3	-2,0	1,0	3,0
51	05/12/2013 08.30						7,0	9,3	-2,0	0,0	1,0
52	19/12/2013 13.00						8,0	9,2	-4,0	-1,0	0,0
53	27/12/2013 09.00						8,0	9,2	-5,0	-2,0	1,0
54	02/01/2014 07.30						14,0	9,2	-5,0	-1,0	0,0
55	08/01/2014 14.30						14,0	9,3	-2,0	-1,0	3,0
56	15/01/2014 08.30						11,0	9,3	-1,0	-2,0	1,0

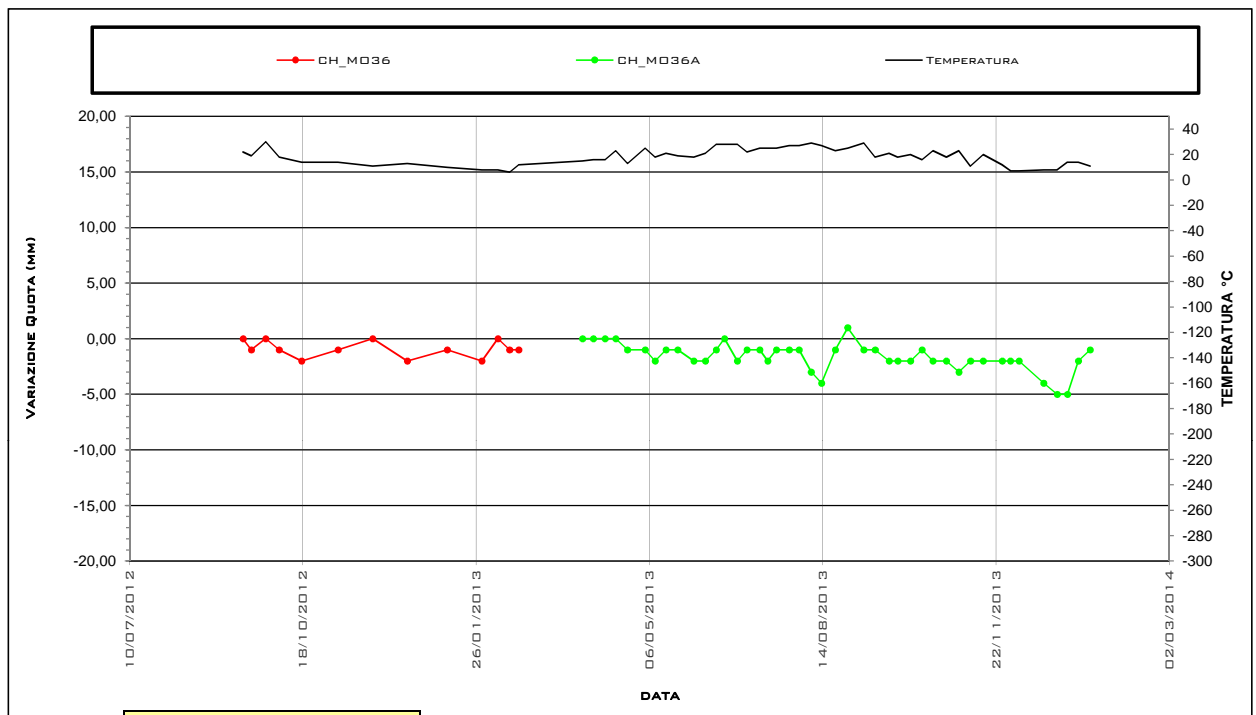


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ IV Ordine - Tufo \ 36A  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 13/09/2012  
**Data lettura di zero** 13/09/2012

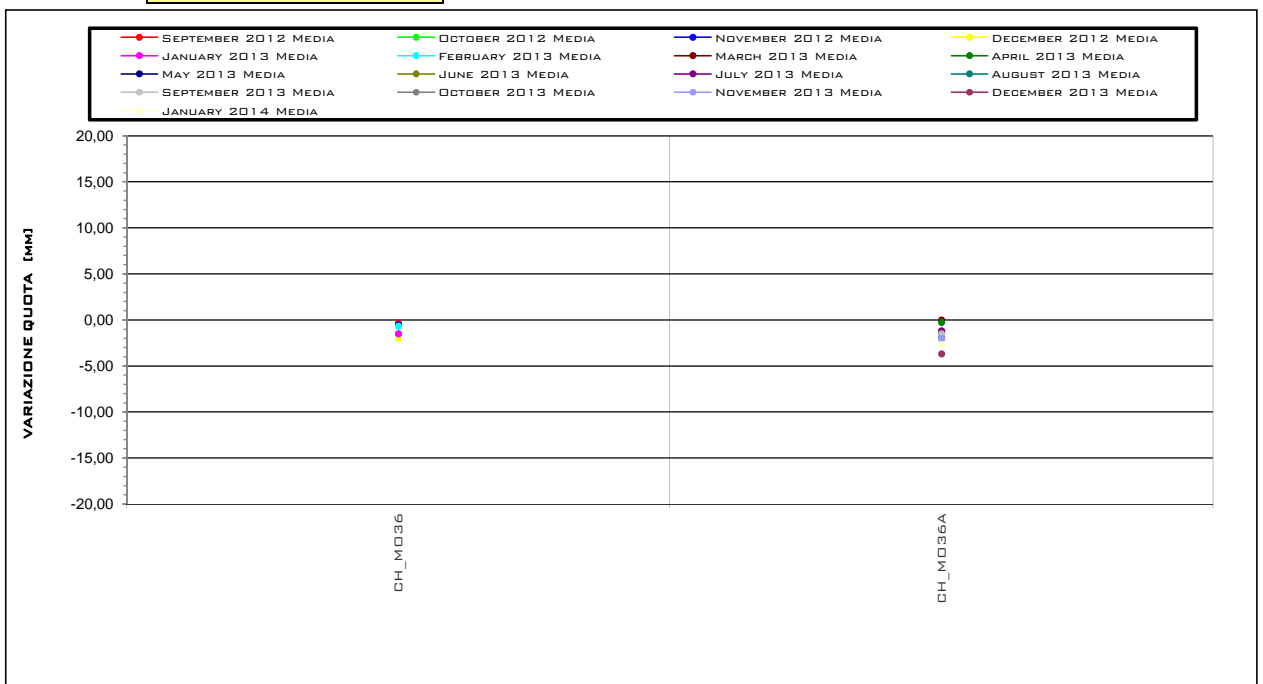
**UBICAZIONE**



**GRAFICO QUOTA**

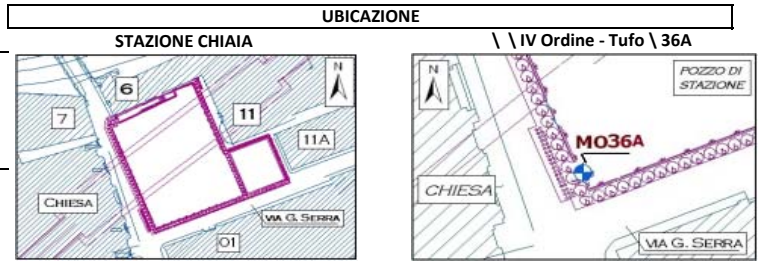


**GRAFICO ISOCRONE**

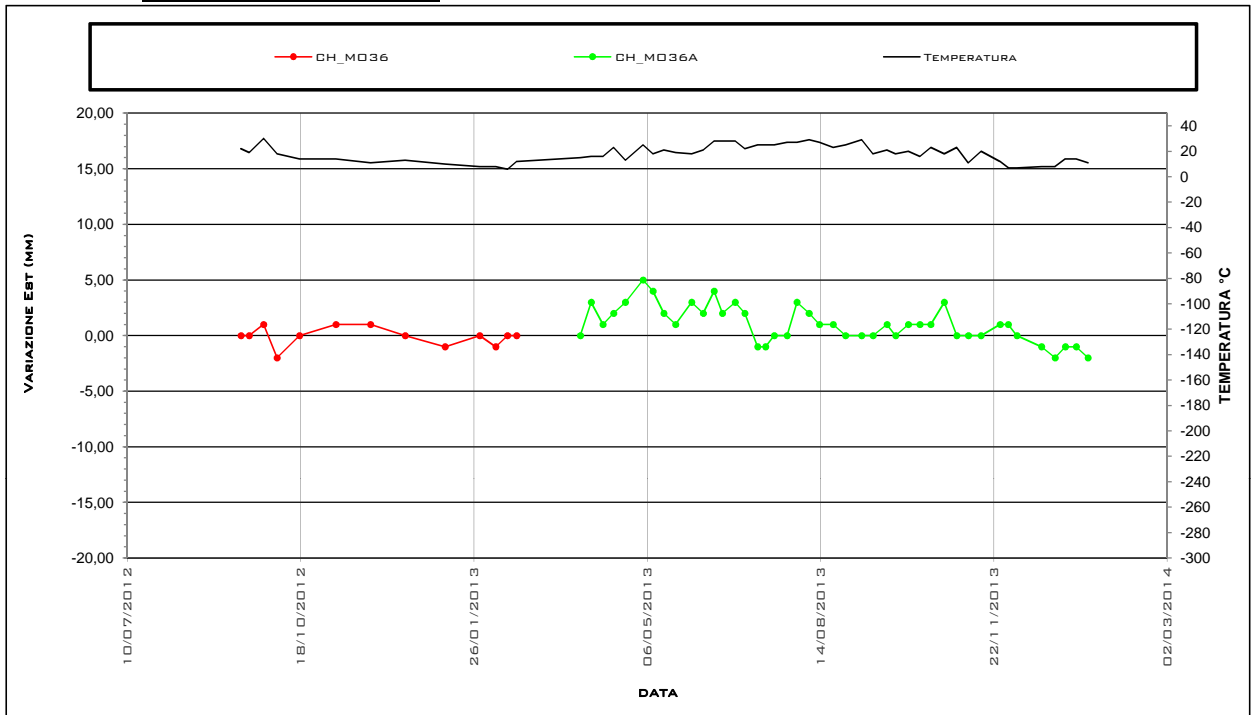




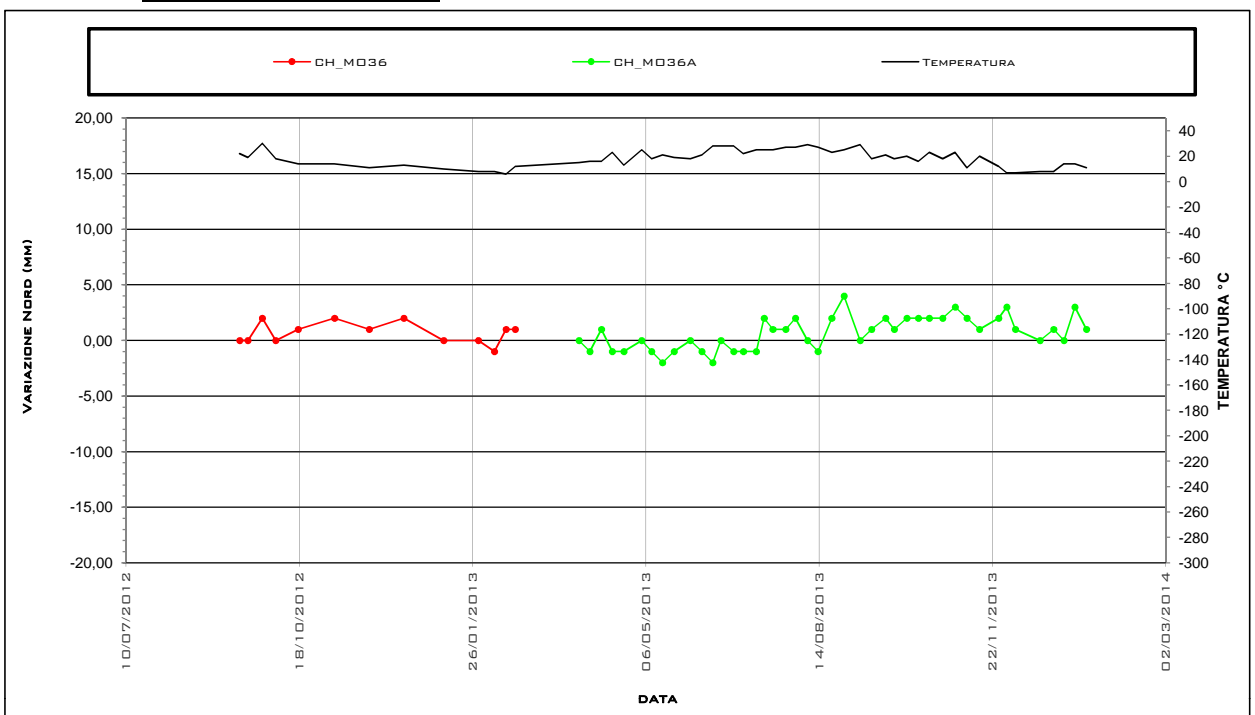
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ IV Ordine - Tufo \ 36A  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 13/09/2012  
**Data lettura di zero** 13/09/2012



**GRAFICO EST**



**GRAFICO NORD**





Ubicazione STAZIONE CHIAIA

Opera \ \ III Ordine - Tufo \ 38-40

Tipo Strumento Mire Ottiche

Data posa in opera 07/02/2013

Data lettura di zero 07/02/2013

Ultima  
Misura

52

in  
data

15/01/2014

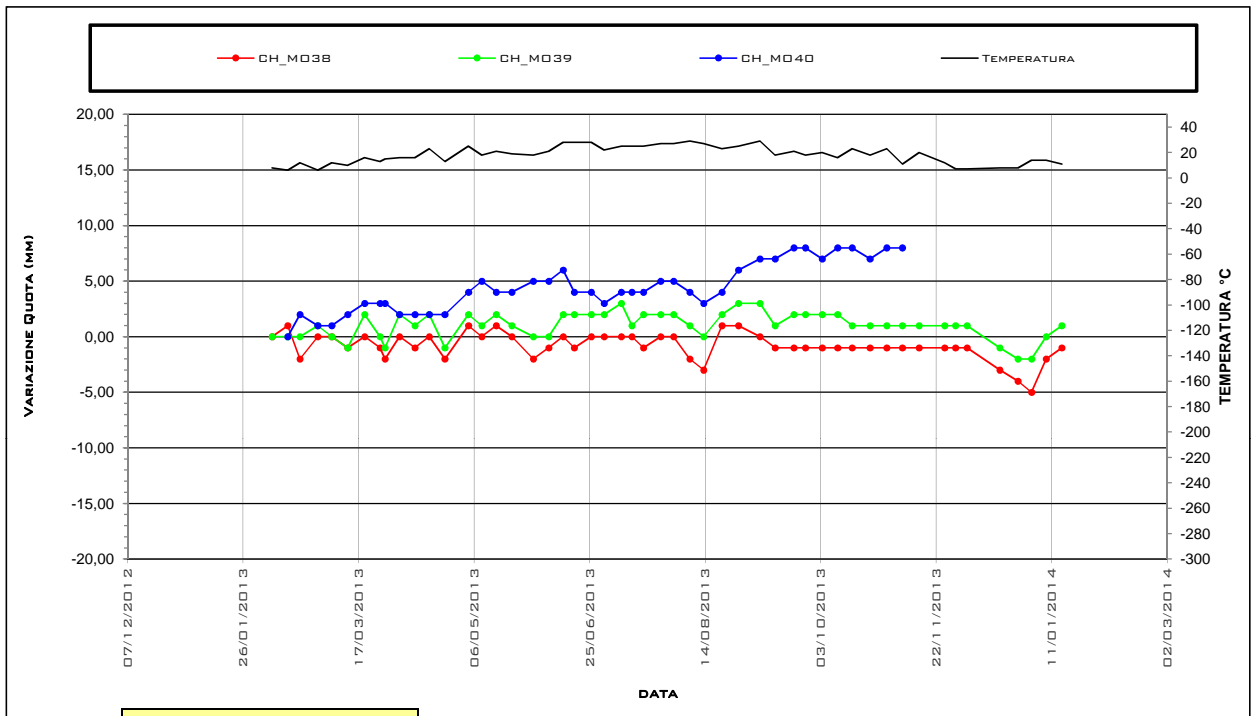
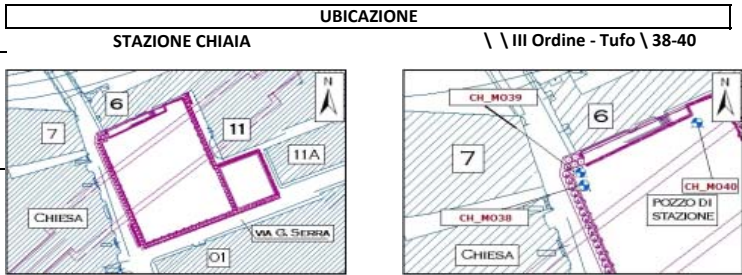
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		Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]
1	07/02/2013 15.01	6,0	14,7	0,0	0,0	0,0	6,0	14,6	0,0	0,0	0,0					
2	14/02/2013 08.30	6,0	14,7	1,0	0,0	3,0	6,0	14,6	0,0	0,0	3,0					
3	14/02/2013 08.31															
4	19/02/2013 15.30	12,0	14,7	-2,0	0,0	2,0	12,0	14,6	0,0	1,0	4,0	12,0	14,8	0,0	0,0	0,0
5	27/02/2013 08.30	6,0	14,7	0,0	-1,0	2,0	6,0	14,6	1,0	0,0	1,0	6,0	14,8	1,0	0,0	-1,0
6	05/03/2013 10.30	12,0	14,7	0,0	-1,0	3,0	12,0	14,6	0,0	-1,0	3,0	12,0	14,8	1,0	1,0	0,0
7	12/03/2013 08.30	10,0	14,7	-1,0	-1,0	3,0	10,0	14,6	-1,0	-1,0	3,0	10,0	14,8	2,0	1,0	-1,0
8	19/03/2013 16.00	16,0	14,7	0,0	-1,0	2,0	16,0	14,6	2,0	-1,0	3,0	16,0	14,8	3,0	2,0	-1,0
9	26/03/2013 08.30	13,0	14,7	-1,0	0,0	0,0	13,0	14,6	0,0	0,0	-1,0	13,0	14,8	3,0	1,0	-1,0
10	28/03/2013 11.00	15,0	14,7	-2,0	0,0	0,0	15,0	14,6	-1,0	0,0	0,0	15,0	14,8	3,0	1,0	-1,0
11	03/04/2013 17.30	16,0	14,7	0,0	-1,0	0,0	16,0	14,6	2,0	-1,0	1,0	16,0	14,8	2,0	0,0	-2,0
12	10/04/2013 10.30	16,0	14,7	-1,0	-1,0	1,0	16,0	14,6	1,0	-1,0	2,0	16,0	14,8	2,0	1,0	1,0
13	16/04/2013 15.00	23,0	14,7	0,0	-2,0	2,0	23,0	14,6	2,0	-1,0	0,0	23,0	14,8	2,0	1,0	-2,0
14	23/04/2013 08.30	13,0	14,7	-2,0	-2,0	1,0	13,0	14,6	-1,0	-1,0	0,0	13,0	14,8	2,0	-1,0	-1,0
15	03/05/2013 14.30	25,0	14,7	1,0	2,0	2,0	25,0	14,6	2,0	1,0	1,0	25,0	14,8	4,0	3,0	1,0
16	09/05/2013 08.30	18,0	14,7	0,0	-1,0	2,0	18,0	14,6	1,0	-1,0	1,0	18,0	14,8	5,0	2,0	2,0
17	15/05/2013 14.30	21,0	14,7	1,0	0,0	1,0	21,0	14,6	2,0	-1,0	0,0	21,0	14,8	4,0	3,0	0,0
18	22/05/2013 08.30	19,0	14,7	0,0	-2,0	2,0	19,0	14,6	1,0	-4,0	1,0	19,0	14,8	4,0	3,0	1,0
19	31/05/2013 15.30	18,0	14,7	-2,0	-2,0	3,0	18,0	14,6	0,0	-3,0	2,0	18,0	14,8	5,0	2,0	0,0
20	07/06/2013 08.30	21,0	14,7	-1,0	-1,0	3,0	21,0	14,6	0,0	-1,0	1,0	21,0	14,8	5,0	3,0	0,0
21	13/06/2013 14.30	28,0	14,7	0,0	0,0	1,0	28,0	14,6	2,0	0,0	-1,0	28,0	14,8	6,0	4,0	-1,0
22	18/06/2013 09.00	28,0	14,7	-1,0	-2,0	3,0	28,0	14,6	2,0	-2,0	1,0	28,0	14,8	4,0	2,0	1,0
23	25/06/2013 18.00	28,0	14,7	0,0	-1,0	2,0	28,0	14,6	2,0	-1,0	1,0	28,0	14,8	4,0	4,0	0,0
24	01/07/2013 07.30	22,0	14,7	0,0	0,0	3,0	22,0	14,6	2,0	-1,0	2,0	22,0	14,8	3,0	3,0	-1,0
25	08/07/2013 17.30	25,0	14,7	0,0	-1,0	2,0	25,0	14,6	3,0	-2,0	0,0	25,0	14,8	4,0	4,0	1,0
26	13/07/2013 07.30	25,0	14,7	0,0	0,0	2,0	25,0	14,6	1,0	-2,0	2,0	25,0	14,8	4,0	2,0	1,0
27	18/07/2013 07.30	25,0	14,7	-1,0	-2,0	2,0	25,0	14,6	2,0	-3,0	1,0	25,0	14,8	4,0	2,0	0,0
28	25/07/2013 18.00	27,0	14,7	0,0	-1,0	2,0	27,0	14,6	2,0	-1,0	1,0	27,0	14,8	5,0	2,0	0,0
29	31/07/2013 09.00	27,0	14,7	0,0	-1,0	2,0	27,0	14,6	2,0	-1,0	0,0	27,0	14,8	5,0	3,0	-1,0
30	07/08/2013 09.00	29,0	14,7	-2,0	-2,0	3,0	29,0	14,6	1,0	-3,0	1,0	29,0	14,8	4,0	4,0	1,0
31	13/08/2013 09.00	27,0	14,7	-3,0	-3,0	4,0	27,0	14,6	0,0	-4,0	2,0	27,0	14,8	3,0	4,0	2,0
32	21/08/2013 07.30	23,0	14,7	1,0	2,0	4,0	23,0	14,6	2,0	0,0	2,0	23,0	14,8	4,0	4,0	0,0
33	28/08/2013 10.30	25,0	14,7	1,0	-1,0	4,0	25,0	14,6	3,0	-2,0	4,0	25,0	14,8	6,0	3,0	-1,0
34	06/09/2013 17.30	29,0	14,7	0,0	-2,0	2,0	29,0	14,6	3,0	-3,0	0,0	29,0	14,8	7,0	1,0	-2,0
35	13/09/2013 07.30	18,0	14,7	-1,0	-1,0	3,0	18,0	14,6	1,0	-2,0	0,0	18,0	14,8	7,0	1,0	-2,0
36	21/09/2013 09.30	21,0	14,7	-1,0	-2,0	2,0	21,0	14,6	2,0	-2,0	2,0	21,0	14,8	8,0	0,0	-3,0
37	26/09/2013 09.30	18,0	14,7	-1,0	-2,0	2,0	18,0	14,6	2,0	-3,0	0,0	18,0	14,8	8,0	0,0	-2,0
38	03/10/2013 16.30	20,0	14,7	-1,0	-1,0	3,0	20,0	14,6	2,0	-2,0	2,0	20,0	14,8	7,0	1,0	-2,0
39	10/10/2013 08.30	16,0	14,7	-1,0	-2,0	2,0	16,0	14,6	2,0	-3,0	0,0	16,0	14,8	8,0	2,0	-1,0
40	16/10/2013 14.30	23,0	14,7	-1,0	-2,0	3,0	23,0	14,6	1,0	-3,0	2,0	23,0	14,8	8,0	0,0	-1,0
41	24/10/2013 08.30	18,0	14,7	-1,0	0,0	2,0	18,0	14,6	1,0	-1,0	0,0	18,0	14,8	7,0	1,0	-1,0
42	31/10/2013 14.30	23,0	14,7	-1,0	-2,0	3,0	23,0	14,6	1,0	-2,0	2,0	23,0	14,8	8,0	2,0	-1,0
43	07/11/2013 08.30	11,0	14,7	-1,0	-2,0	1,0	11,0	14,6	1,0	-2,0	0,0	11,0	14,8	8,0	1,0	0,0
44	14/11/2013 14.30	20,0	14,7	-1,0	-3,0	2,0	20,0	14,6	1,0	-4,0	0,0					
45	25/11/2013 15.30	12,0	14,7	-1,0	-2,0	1,0	12,0	14,6	1,0	-1,0	0,0					
46	30/11/2013 08.30	7,0	14,7	-1,0	-1,0	2,0	7,0	14,6	1,0	-1,0	2,0					
47	05/12/2013 08.30	7,0	14,7	-1,0	-1,0	3,0	7,0	14,6	1,0	-2,0	1,0					
48	19/12/2013 13.00	8,0	14,7	-3,0	-3,0	5,0	8,0	14,6	-1,0	-4,0	3,0					
49	27/12/2013 09.00	8,0	14,7	-4,0	-4,0	6,0	8,0	14,6	-2,0	-5,0	6,0					
50	02/01/2014 07.30	14,0	14,7	-5,0	-5,0	7,0	14,0	14,6	-2,0	-5,0	5,0					
51	08/01/2014 14.30	14,0	14,7	-2,0	-3,0	3,0	14,0	14,6	0,0	-5,0	3,0					
52	15/01/2014 08.30	11,0	14,7	-1,0	-2,0	2,0	11,0	14,6	1,0	-5,0	2,0					



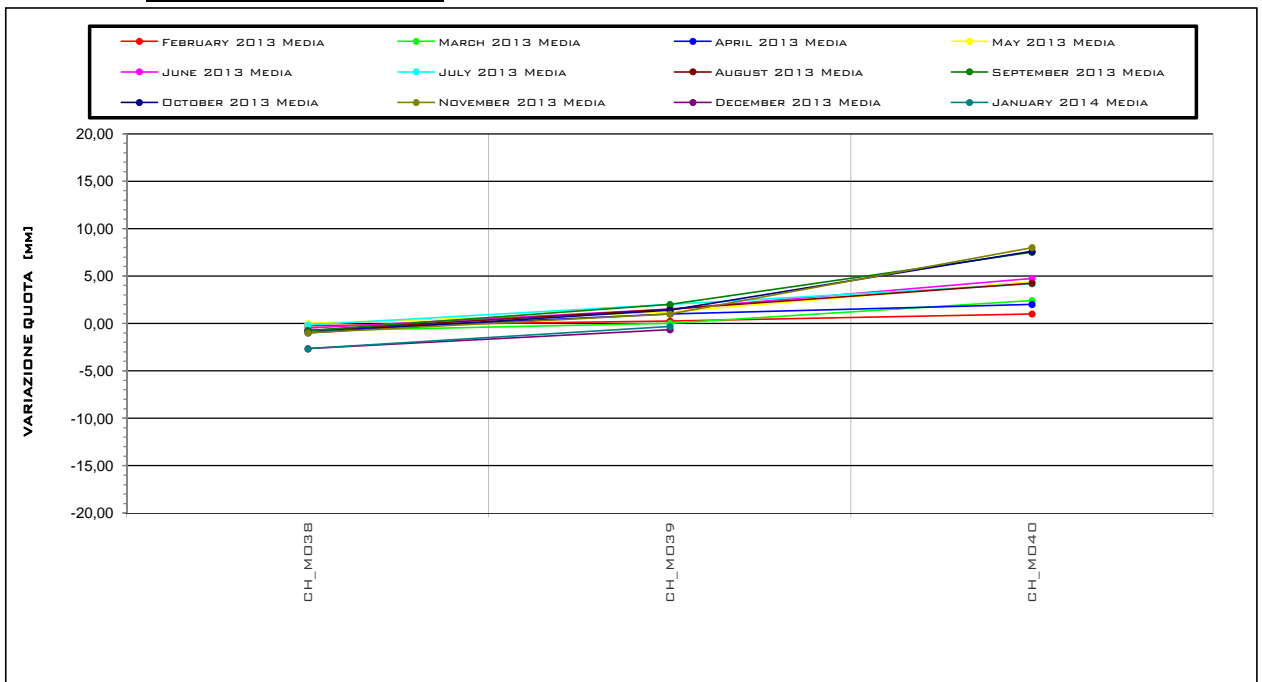


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ III Ordine - Tufo \ 38-40  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 07/02/2013  
**Data lettura di zero** 07/02/2013

**GRAFICO QUOTA**



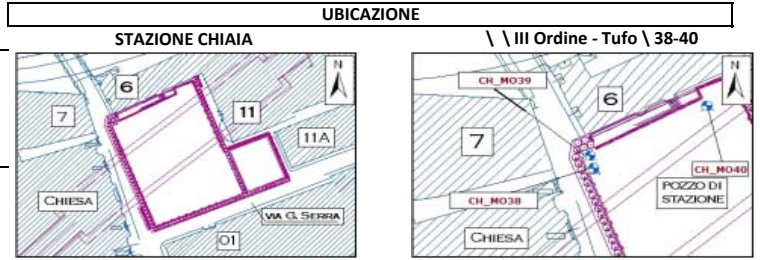
**GRAFICO ISOCRONE**



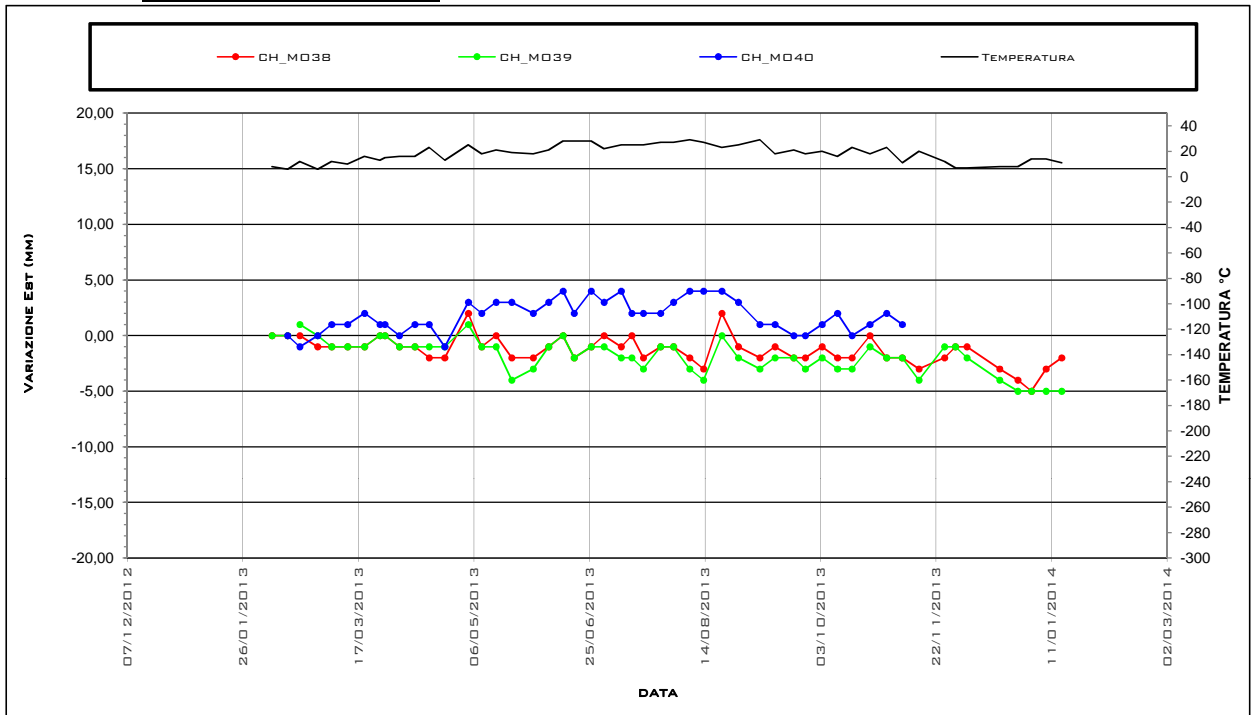




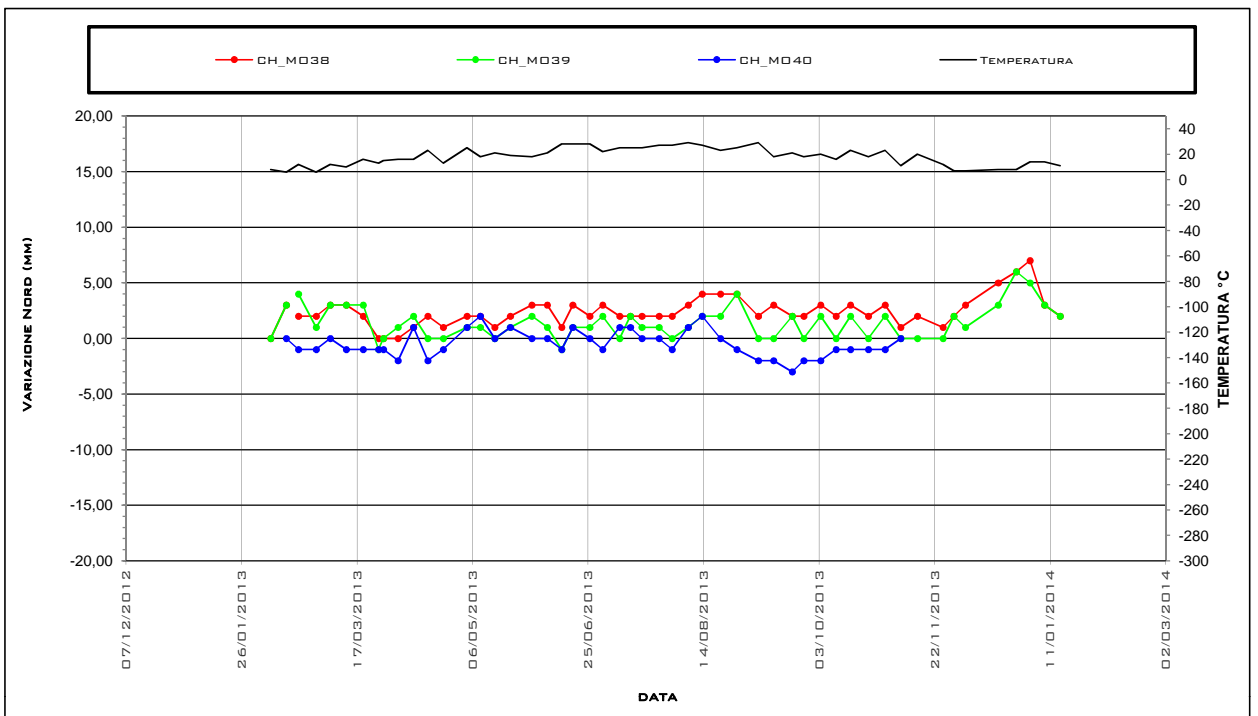
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ III Ordine - Tufo \ 38-40  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 07/02/2013  
**Data lettura di zero** 07/02/2013



**GRAFICO EST**



**GRAFICO NORD**





Ubicazione STAZIONE CHIAIA

Opera \ \ IV Ordine - Tufo \ 41-44

Tipo Strumento Mire Ottiche

Data posa in opera 05/03/2013

Data lettura di zero 05/03/2013

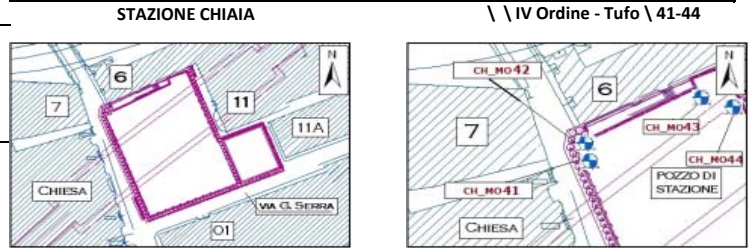
Ultima Misura 47 in data 15/01/2014

Letto. n°	DATA	CH_M041					CH_M042					CH_M043					CH_M044				
		Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]
1	05/03/2013 10.30	12.0	9.5	0.0	0.0	0.0	12.0	9.4	0.0	0.0	0.0	12.0	9.7	0.0	0.0	0.0	12.0	10.2	0.0	0.0	0.0
2	12/03/2013 08.30	10.0	9.5	1.0	1.0	3.0	10.0	9.4	-1.0	-1.0	2.0	10.0	9.7	1.0	1.0	-2.0	10.0	10.2	0.0	-1.0	-2.0
3	19/03/2013 16.00	16.0	9.5	0.0	0.0	4.0	16.0	9.4	1.0	-1.0	2.0	16.0	9.7	1.0	2.0	-2.0	16.0	10.2	1.0	0.0	-2.0
4	26/03/2013 08.30	13.0	9.5	0.0	2.0	0.0	13.0	9.4	0.0	2.0	-2.0	13.0	9.7	0.0	1.0	-2.0	13.0	10.2	0.0	0.0	-3.0
5	28/03/2013 11.00	15.0	9.5	-2.0	0.0	1.0	15.0	9.4	0.0	0.0	0.0	15.0	9.7	1.0	1.0	-2.0	15.0	10.2	0.0	0.0	-2.0
6	03/04/2013 17.30	16.0	9.5	-3.0	0.0	2.0	16.0	9.4	1.0	0.0	0.0	16.0	9.7	-1.0	1.0	-4.0	16.0	10.2	-2.0	-1.0	-3.0
7	10/04/2013 10.30	16.0	9.5	-1.0	-1.0	2.0	16.0	9.4	0.0	0.0	2.0	16.0	9.7	1.0	1.0	-2.0	16.0	10.2	1.0	0.0	-1.0
8	16/04/2013 15.00	23.0	9.5	0.0	0.0	1.0	23.0	9.4	2.0	0.0	0.0	23.0	9.7	1.0	1.0	-4.0	23.0	10.2	-2.0	-1.0	-3.0
9	23/04/2013 08.30	13.0	9.5	0.0	0.0	0.0	13.0	9.4	0.0	0.0	0.0	13.0	9.7	0.0	0.0	-2.0	13.0	10.2	-1.0	-1.0	-1.0
10	03/05/2013 14.30	25.0	9.5	0.0	1.0	1.0	25.0	9.4	0.0	1.0	0.0	25.0	9.7	0.0	5.0	-3.0	25.0	10.2	-2.0	1.0	-2.0
11	09/05/2013 08.30	18.0	9.5	-1.0	-1.0	2.0	18.0	9.4	1.0	-1.0	1.0	18.0	9.7	0.0	3.0	-2.0	18.0	10.2	-1.0	-2.0	-2.0
12	15/05/2013 14.30	21.0	9.5	-1.0	0.0	2.0	21.0	9.4	1.0	1.0	0.0	21.0	9.7	1.0	4.0	-4.0	21.0	10.2	-1.0	0.0	-4.0
13	22/05/2013 08.30	19.0	9.5	0.0	-1.0	3.0	19.0	9.4	0.0	-1.0	0.0	19.0	9.7	1.0	4.0	-5.0	19.0	10.2	-1.0	0.0	-3.0
14	31/05/2013 15.30	18.0	9.5	-1.0	-1.0	3.0	18.0	9.4	-1.0	-2.0	1.0	18.0	9.7	1.0	4.0	-4.0	18.0	10.2	0.0	-1.0	-3.0
15	07/06/2013 08.30	21.0	9.5	-1.0	-1.0	2.0	21.0	9.4	-1.0	-1.0	2.0	21.0	9.7	1.0	4.0	-5.0	21.0	10.2	1.0	0.0	-4.0
16	13/06/2013 14.30	28.0	9.5	0.0	0.0	0.0	28.0	9.4	1.0	-1.0	0.0	28.0	9.7	2.0	5.0	-5.0	28.0	10.2	1.0	1.0	-4.0
17	18/06/2013 09.00	28.0	9.5	0.0	0.0	2.0	28.0	9.4	0.0	-2.0	1.0	28.0	9.7	1.0	3.0	-4.0	28.0	10.2	-1.0	0.0	-2.0
18	25/06/2013 18.00	28.0	9.5	0.0	0.0	2.0	28.0	9.4	0.0	0.0	1.0					28.0	10.2	0.0	0.0	-4.0	
19	01/07/2013 07.30	22.0	9.5	1.0	0.0	2.0	22.0	9.4	0.0	-1.0	1.0	22.0	9.7	1.0	4.0	-5.0	22.0	10.2	0.0	0.0	-3.0
20	08/07/2013 17.30	25.0	9.5	1.0	0.0	3.0	25.0	9.4	3.0	-1.0	0.0	25.0	9.7	2.0	5.0	-3.0	25.0	10.2	0.0	1.0	-1.0
21	13/07/2013 07.30	25.0	9.5	0.0	0.0	3.0	25.0	9.4	1.0	-2.0	0.0	25.0	9.7	2.0	3.0	-3.0	25.0	10.2	0.0	0.0	-3.0
22	18/07/2013 07.30	25.0	9.5	-1.0	-1.0	2.0	25.0	9.4	2.0	-2.0	0.0	25.0	9.7	1.0	3.0	-4.0	25.0	10.2	-1.0	-1.0	-2.0
23	25/07/2013 18.00	27.0	9.5	1.0	1.0	2.0	27.0	9.4	1.0	-1.0	1.0	27.0	9.7	2.0	4.0	-4.0	27.0	10.2	0.0	-1.0	-2.0
24	31/07/2013 09.00	27.0	9.5	1.0	-1.0	2.0	27.0	9.4	2.0	-2.0	0.0	27.0	9.7	2.0	3.0	-4.0	27.0	10.2	0.0	-1.0	-1.0
25	07/08/2013 09.00	29.0	9.5	0.0	-1.0	3.0	29.0	9.4	0.0	-4.0	1.0	29.0	9.7	1.0	4.0	-3.0	29.0	10.2	-1.0	-3.0	-1.0
26	13/08/2013 09.00	27.0	9.5	-1.0	-2.0	4.0	27.0	9.4	-1.0	-5.0	2.0	27.0	9.7	0.0	5.0	-2.0	27.0	10.2	-1.0	-2.0	-1.0
27	21/08/2013 07.30	23.0	9.5	1.0	1.0	3.0	23.0	9.4	2.0	0.0	1.0	23.0	9.7	2.0	5.0	-5.0	23.0	10.2	-1.0	1.0	-2.0
28	28/08/2013 10.30	25.0	9.5	2.0	-2.0	4.0	25.0	9.4	5.0	-1.0	2.0	25.0	9.7	3.0	4.0	-5.0	25.0	10.2	-1.0	1.0	-1.0
29	06/09/2013 17.30	29.0	9.5	1.0	-2.0	2.0	29.0	9.4	3.0	-1.0	0.0										
30	13/09/2013 07.30	18.0	9.5	0.0	0.0	2.0	18.0	9.4	3.0	0.0	0.0										
31	21/09/2013 09.30						21.0	9.4	3.0	-1.0	1.0										
32	26/09/2013 09.30	18.0	9.5	3.0	-1.0	4.0	18.0	9.4	3.0	-1.0	1.0										
33	03/10/2013 16.30	20.0	9.5	3.0	-1.0	5.0	20.0	9.4	3.0	-1.0	2.0										
34	10/10/2013 08.30	16.0	9.5	3.0	-3.0	3.0	16.0	9.4	3.0	-2.0	0.0										
35	16/10/2013 14.30	23.0	9.5	1.0	-3.0	4.0	23.0	9.4	2.0	-1.0	2.0										
36	24/10/2013 08.30	18.0	9.5	1.0	-1.0	4.0	18.0	9.4	2.0	1.0	0.0										
37	31/10/2013 14.30	23.0	9.5	0.0	-2.0	5.0	23.0	9.4	2.0	-1.0	1.0	23.0	9.7	5.0	5.0	-5.0					
38	07/11/2013 08.30	11.0	9.5	0.0	-1.0	3.0	11.0	9.4	2.0	0.0	0.0										
39	14/11/2013 14.30	20.0	9.5	1.0	-3.0	4.0	20.0	9.4	2.0	-2.0	0.0										
40	25/11/2013 15.30	12.0	9.5	1.0	-1.0	3.0	12.0	9.4	2.0	-1.0	0.0										
41	30/11/2013 08.30	7.0	9.5	1.0	0.0	5.0	7.0	9.4	1.0	1.0	1.0										
42	05/12/2013 08.30	7.0	9.5	1.0	-3.0	4.0	7.0	9.4	2.0	0.0	1.0										
43	19/12/2013 13.00	8.0	9.5	-1.0	-4.0	6.0	8.0	9.4	-11.0	-3.0	2.0										
44	27/12/2013 09.00	8.0	9.5	-2.0	-5.0	7.0	8.0	9.4	-1.0	-5.0	4.0										
45	02/01/2014 07.30	14.0	9.5	-2.0	-6.0	8.0	14.0	9.4	-3.0	-6.0	4.0										
46	08/01/2014 14.30	14.0	9.5	0.0	-4.0	5.0	14.0	9.4	1.0	-3.0	2.0										
47	15/01/2014 08.30	11.0	9.5	1.0	-2.0	4.0	11.0	9.4	2.0	-2.0	1.0										

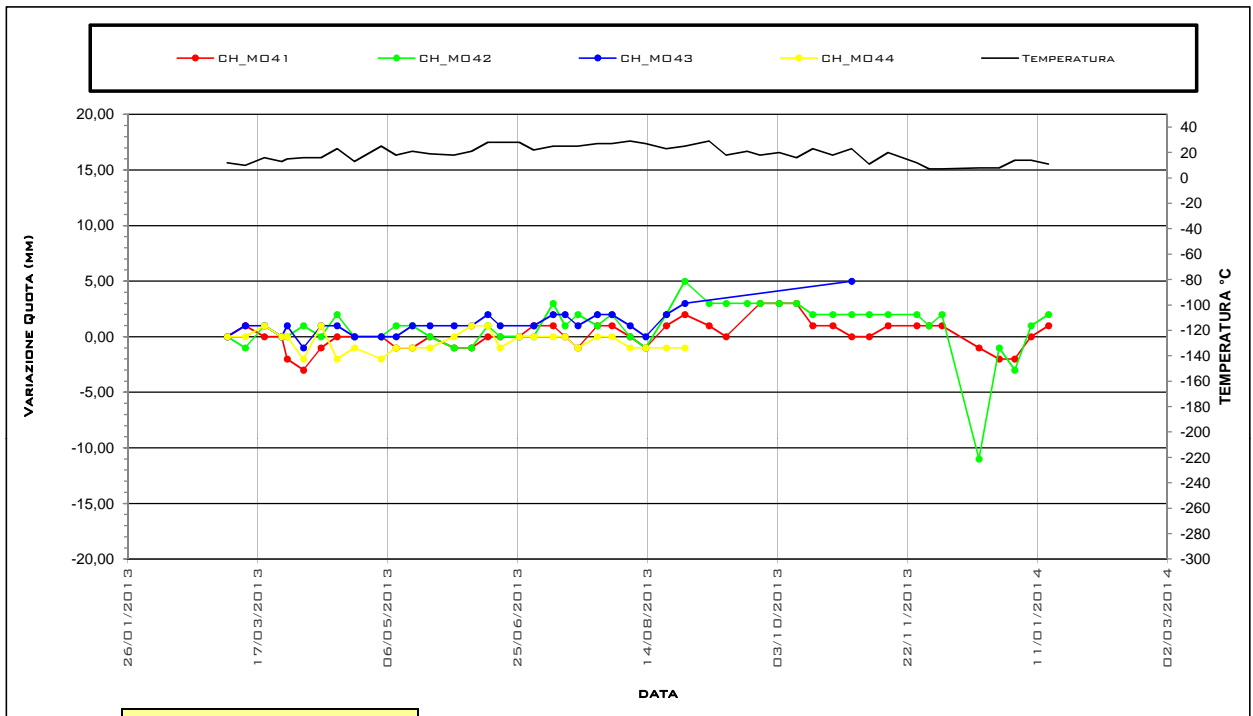


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ IV Ordine - Tufo \ 41-44  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 05/03/2013  
**Data lettura di zero** 05/03/2013

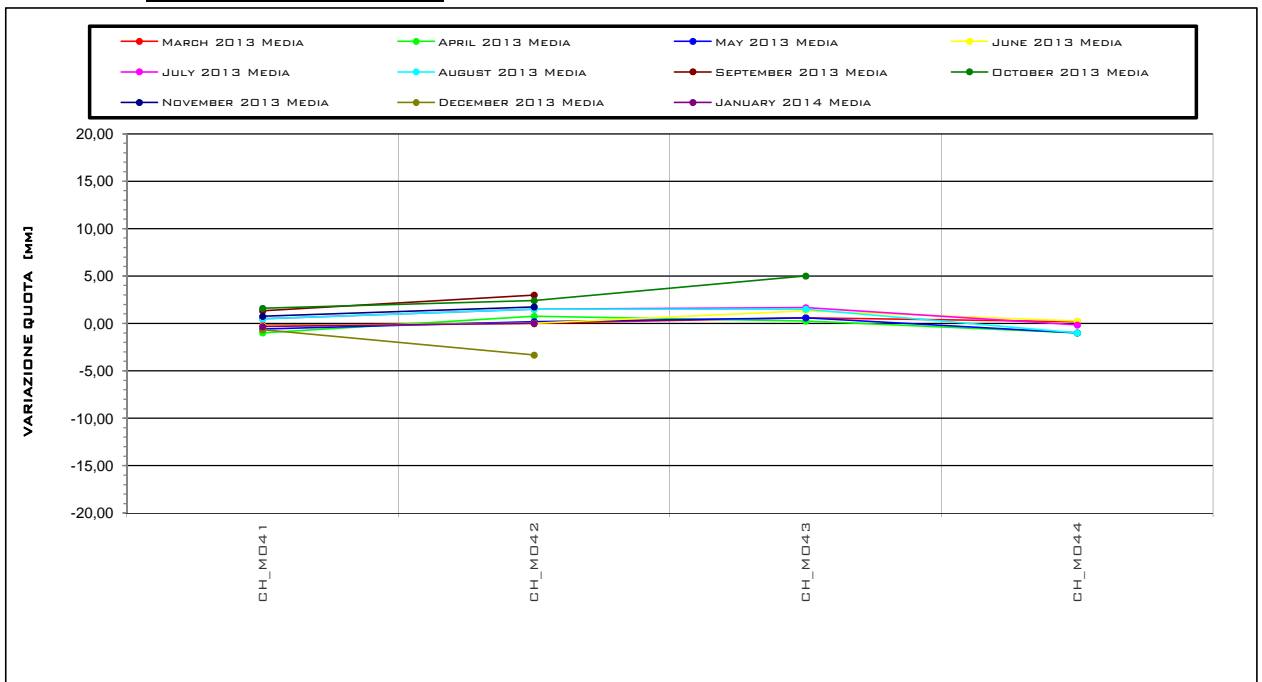
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**GRAFICO QUOTA**

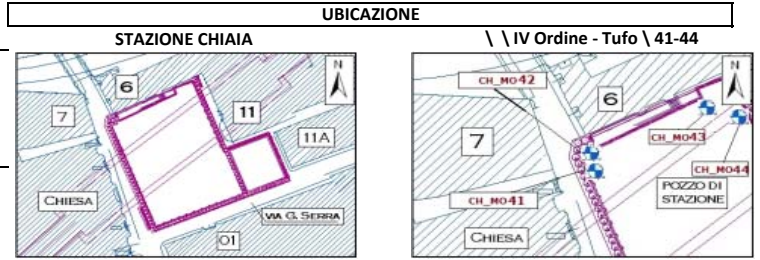


**GRAFICO ISOCRONE**

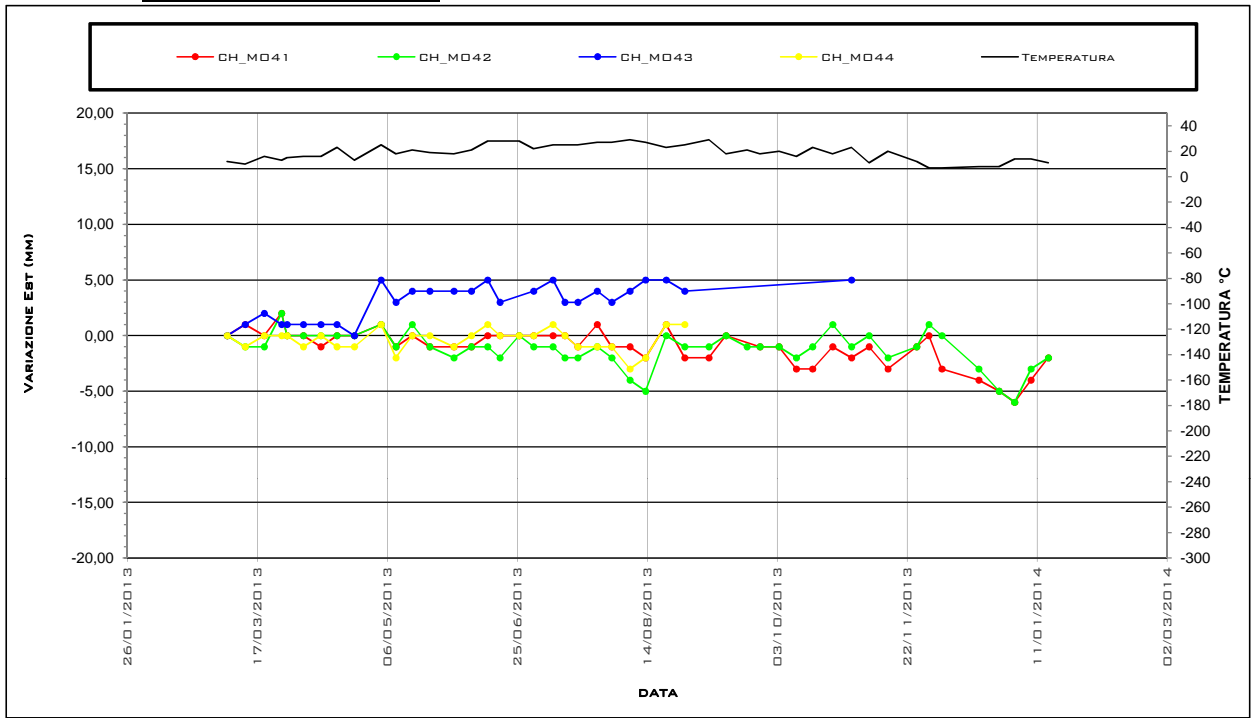




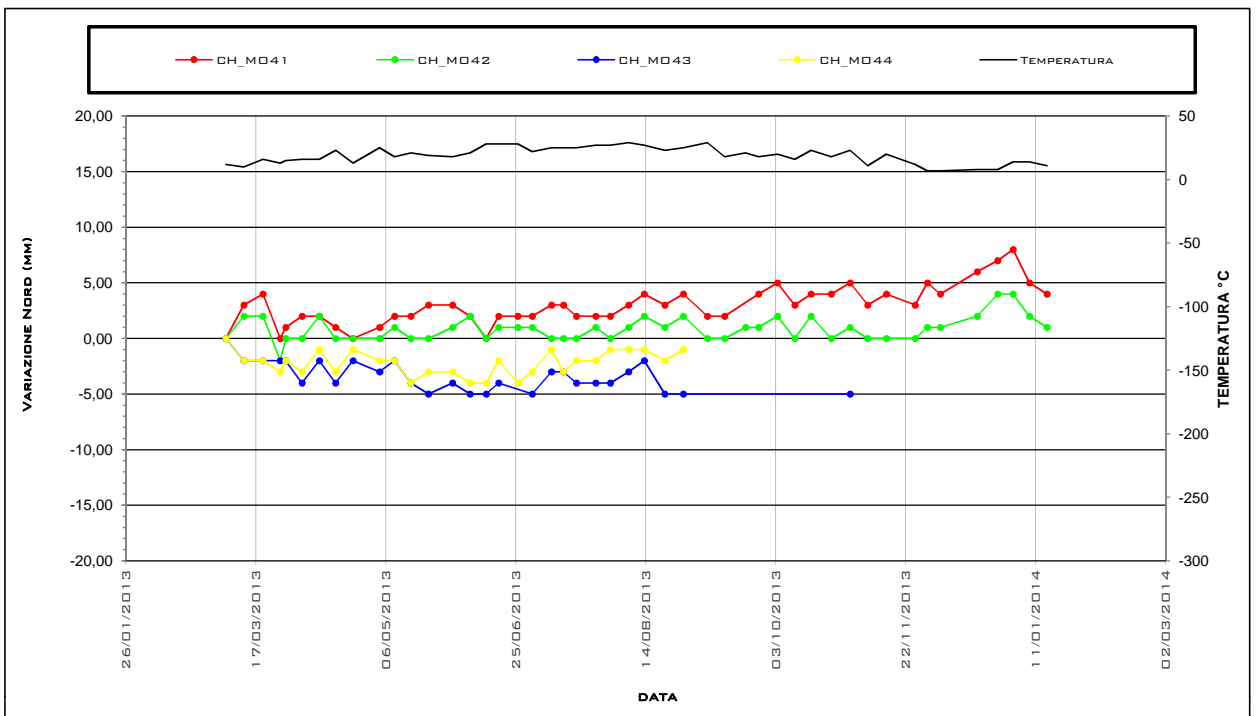
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ IV Ordine - Tufo \ 41-44  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 05/03/2013  
**Data lettura di zero** 05/03/2013



**GRAFICO EST**



**GRAFICO NORD**





Ubicazione STAZIONE CHIAIA

Opera \ \ Supplementari \ 45-47

Tipo Strumento Mire Ottiche

Data posa in opera 28/03/2013

Data lettura di zero 28/03/2013

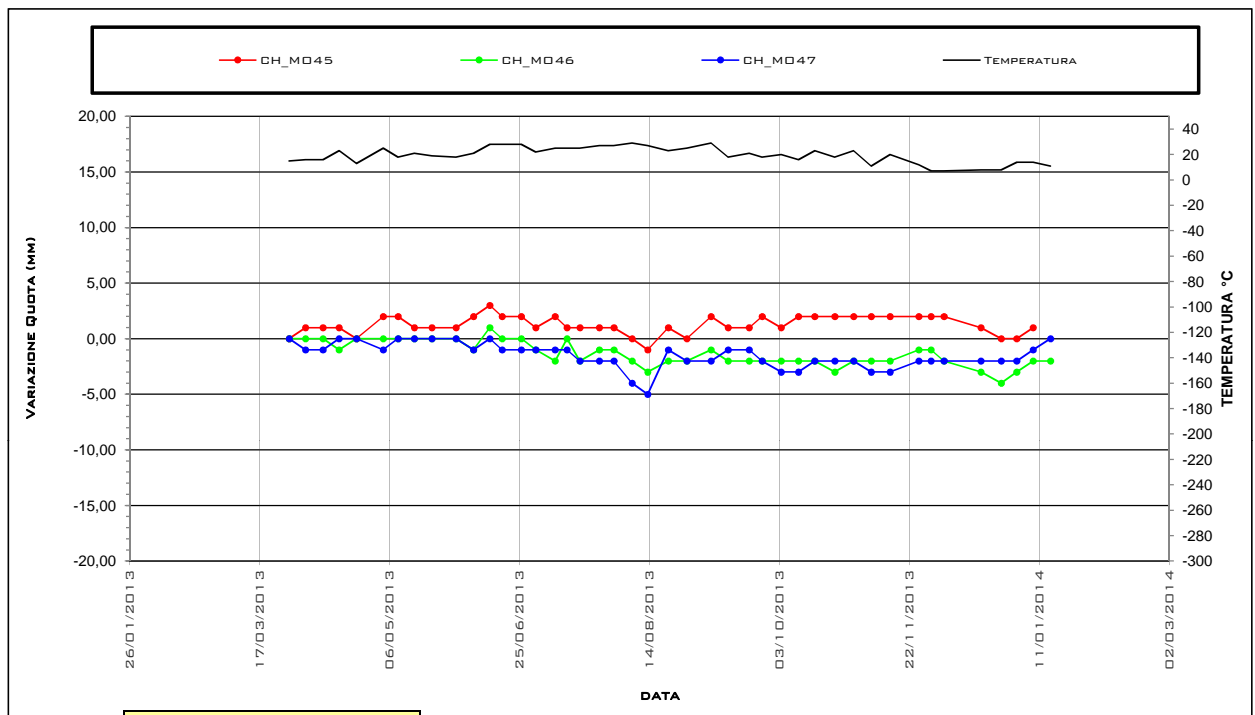
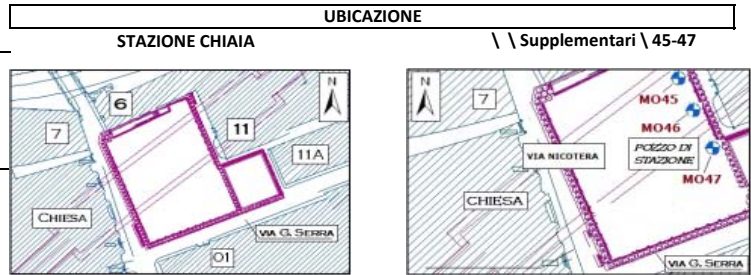
Ultima Misura 43 in data 15/01/2014

Letto. n°	DATA	CH_M045					CH_M046					CH_M047				
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1	28/03/2013 11.00	15,0	14,8	0,0	0,0	0,0	15,0	15,1	0,0	0,0	0,0	15,0	15,3	0,0	0,0	0,0
2	03/04/2013 17.30	16,0	14,8	1,0	0,0	-1,0	16,0	15,1	0,0	-1,0	0,0	16,0	15,3	-1,0	-1,0	0,0
3	10/04/2013 10.30	16,0	14,8	1,0	2,0	2,0	16,0	15,1	0,0	0,0	2,0	16,0	15,3	-1,0	-1,0	2,0
4	16/04/2013 15.00	23,0	14,8	1,0	0,0	0,0	23,0	15,1	-1,0	0,0	0,0	23,0	15,3	0,0	0,0	1,0
5	23/04/2013 08.30	13,0	14,8	0,0	-2,0	2,0	13,0	15,1	0,0	-1,0	2,0	13,0	15,3	0,0	0,0	2,0
6	03/05/2013 14.30	25,0	14,8	2,0	0,0	0,0	25,0	15,1	0,0	1,0	0,0	25,0	15,3	-1,0	1,0	2,0
7	09/05/2013 08.30	18,0	14,8	2,0	-1,0	2,0	18,0	15,1	0,0	0,0	1,0	18,0	15,3	0,0	-1,0	3,0
8	15/05/2013 14.30	21,0	14,8	1,0	0,0	0,0	21,0	15,1	0,0	1,0	0,0	21,0	15,3	0,0	2,0	2,0
9	22/05/2013 08.30	19,0	14,8	1,0	0,0	0,0	19,0	15,1	0,0	1,0	0,0	19,0	15,3	0,0	1,0	2,0
10	31/05/2013 15.30	18,0	14,8	1,0	1,0	0,0	18,0	15,1	0,0	0,0	0,0	18,0	15,3	0,0	1,0	1,0
11	07/06/2013 08.30	21,0	14,8	2,0	0,0	-1,0	21,0	15,1	-1,0	1,0	1,0	21,0	15,3	-1,0	2,0	1,0
12	13/06/2013 14.30	28,0	14,8	3,0	3,0	0,0	28,0	15,1	1,0	3,0	-1,0	28,0	15,3	0,0	3,0	1,0
13	18/06/2013 09.00	28,0	14,8	2,0	0,0	1,0	28,0	15,1	0,0	1,0	1,0	28,0	15,3	-1,0	1,0	2,0
14	25/06/2013 18.00	28,0	14,8	2,0	1,0	1,0	28,0	15,1	0,0	1,0	0,0	28,0	15,3	-1,0	1,0	1,0
15	01/07/2013 07.30	22,0	14,8	1,0	0,0	0,0	22,0	15,1	-1,0	1,0	0,0	22,0	15,3	-1,0	1,0	2,0
16	08/07/2013 17.30	25,0	14,8	2,0	2,0	1,0	25,0	15,1	-2,0	2,0	1,0	25,0	15,3	-1,0	2,0	2,0
17	13/07/2013 07.30	25,0	14,8	1,0	1,0	1,0	25,0	15,1	0,0	0,0	0,0	25,0	15,3	-1,0	1,0	3,0
18	18/07/2013 07.30	25,0	14,8	1,0	1,0	1,0	25,0	15,1	-2,0	2,0	1,0	25,0	15,3	-2,0	3,0	3,0
19	25/07/2013 18.00	27,0	14,8	1,0	1,0	1,0	27,0	15,1	-1,0	2,0	1,0	27,0	15,3	-2,0	3,0	3,0
20	31/07/2013 09.00	27,0	14,8	1,0	0,0	1,0	27,0	15,1	-1,0	1,0	1,0	27,0	15,3	-2,0	1,0	4,0
21	07/08/2013 09.00	29,0	14,8	0,0	2,0	2,0	29,0	15,1	-2,0	2,0	1,0	29,0	15,2	-4,0	2,0	3,0
22	13/08/2013 09.00	27,0	14,8	-1,0	3,0	3,0	27,0	15,1	-3,0	2,0	0,0	27,0	15,2	-5,0	3,0	2,0
23	21/08/2013 07.30	23,0	14,8	1,0	1,0	1,0	23,0	15,1	-2,0	3,0	1,0	23,0	15,3	-1,0	3,0	3,0
24	28/08/2013 10.30	25,0	14,8	0,0	2,0	1,0	25,0	15,1	-2,0	3,0	1,0	25,0	15,3	-2,0	3,0	4,0
25	06/09/2013 17.30	29,0	14,8	2,0	2,0	1,0	29,0	15,1	-1,0	2,0	1,0	29,0	15,3	-2,0	2,0	2,0
26	13/09/2013 07.30	18,0	14,8	1,0	2,0	1,0	18,0	15,1	-2,0	2,0	1,0	18,0	15,3	-1,0	1,0	2,0
27	21/09/2013 09.30	21,0	14,8	1,0	2,0	0,0	21,0	15,1	-2,0	2,0	1,0	21,0	15,3	-1,0	2,0	2,0
28	26/09/2013 09.30	18,0	14,8	2,0	1,0	1,0	18,0	15,1	-2,0	2,0	1,0	18,0	15,3	-2,0	3,0	3,0
29	03/10/2013 16.30	20,0	14,8	1,0	2,0	1,0	20,0	15,1	-2,0	3,0	1,0	20,0	15,3	-3,0	3,0	2,0
30	10/10/2013 08.30	16,0	14,8	2,0	2,0	2,0	16,0	15,1	-2,0	2,0	3,0	16,0	15,3	-3,0	4,0	4,0
31	16/10/2013 14.30	23,0	14,8	2,0	1,0	1,0	23,0	15,1	-2,0	2,0	2,0	23,0	15,3	-2,0	2,0	3,0
32	24/10/2013 08.30	18,0	14,8	2,0	2,0	1,0	18,0	15,1	-3,0	3,0	1,0	18,0	15,3	-2,0	3,0	4,0
33	31/10/2013 14.30	23,0	14,8	2,0	3,0	0,0	23,0	15,1	-2,0	2,0	1,0	23,0	15,3	-2,0	3,0	4,0
34	07/11/2013 08.30	11,0	14,8	2,0	3,0	2,0	11,0	15,1	-2,0	3,0	1,0	11,0	15,3	-3,0	4,0	4,0
35	14/11/2013 14.30	20,0	14,8	2,0	3,0	1,0	20,0	15,1	-2,0	2,0	1,0	20,0	15,3	-3,0	3,0	4,0
36	25/11/2013 15.30	12,0	14,8	2,0	2,0	2,0	12,0	15,1	-1,0	3,0	3,0	12,0	15,3	-2,0	3,0	4,0
37	30/11/2013 08.30	7,0	14,8	2,0	3,0	2,0	7,0	15,1	-1,0	3,0	1,0	7,0	15,3	-2,0	3,0	4,0
38	05/12/2013 08.30	7,0	14,8	2,0	3,0	0,0	7,0	15,1	-2,0	3,0	1,0	7,0	15,3	-2,0	3,0	2,0
39	19/12/2013 13.00	8,0	14,8	1,0	2,0	1,0	8,0	15,1	-3,0	2,0	1,0	8,0	15,3	-2,0	2,0	2,0
40	27/12/2013 09.00	8,0	14,8	0,0	1,0	2,0	8,0	15,1	-4,0	1,0	2,0	8,0	15,3	-2,0	1,0	3,0
41	02/01/2014 07.30	14,0	14,8	0,0	0,0	4,0	14,0	15,1	-3,0	2,0	1,0	14,0	15,3	-2,0	1,0	4,0
42	08/01/2014 14.30	14,0	14,8	1,0	4,0	3,0	14,0	15,1	-2,0	4,0	1,0	14,0	15,3	-1,0	5,0	3,0
43	15/01/2014 08.30						11,0	15,1	-2,0	4,0	1,0	11,0	15,3	0,0	2,0	3,0

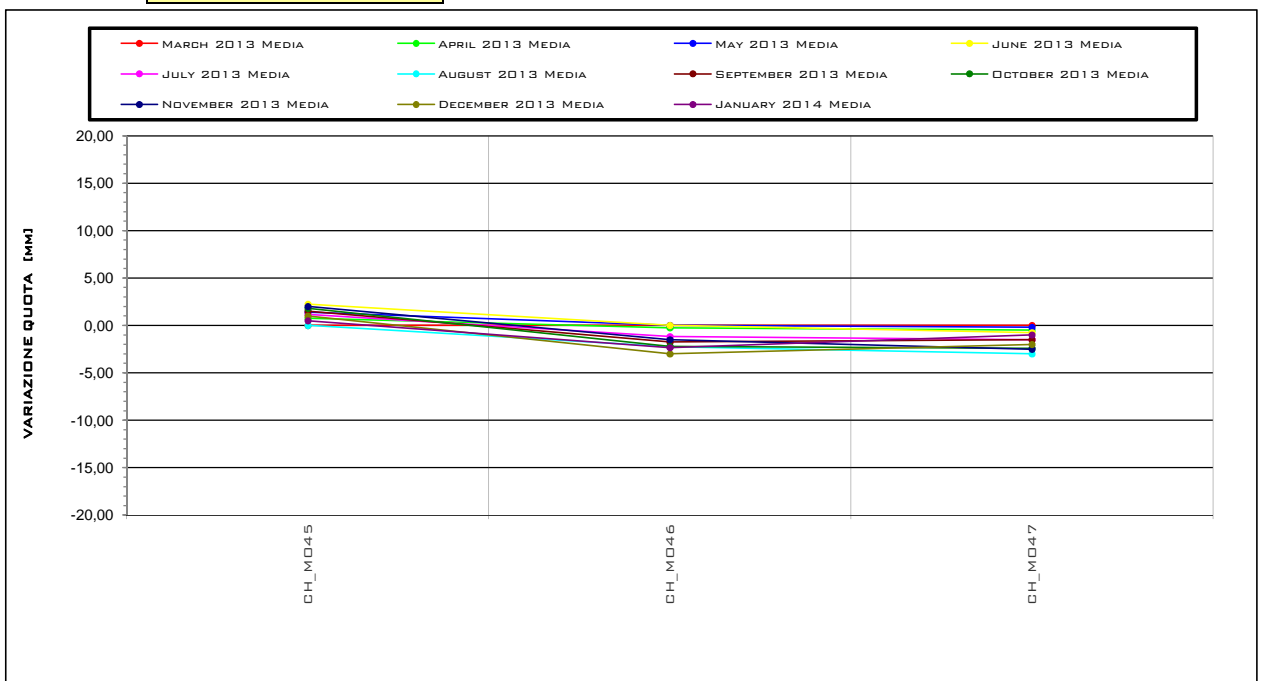


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 45-47  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013

**GRAFICO QUOTA**

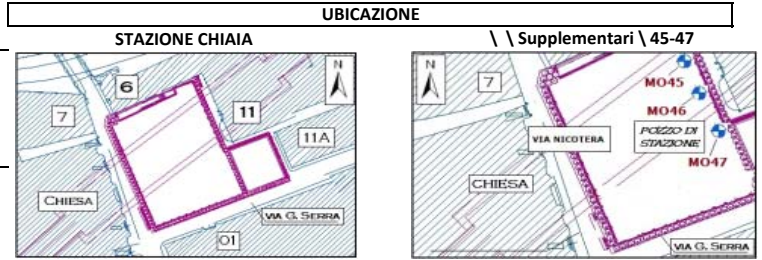


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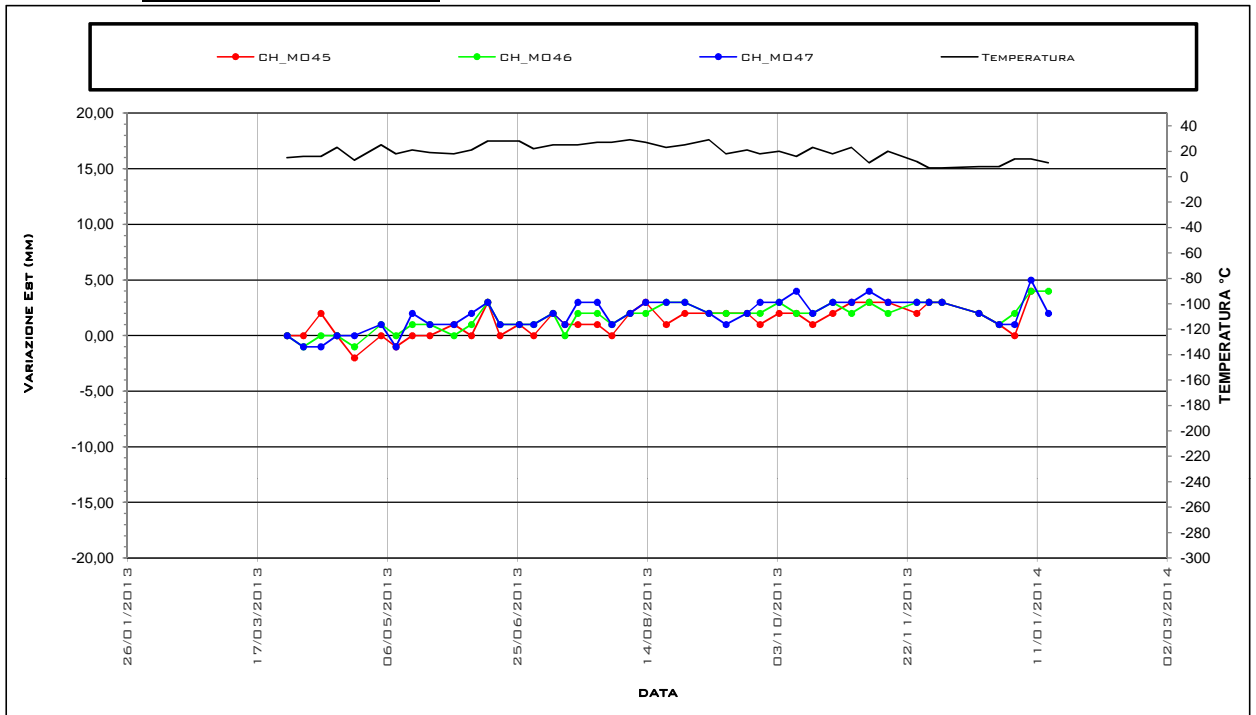




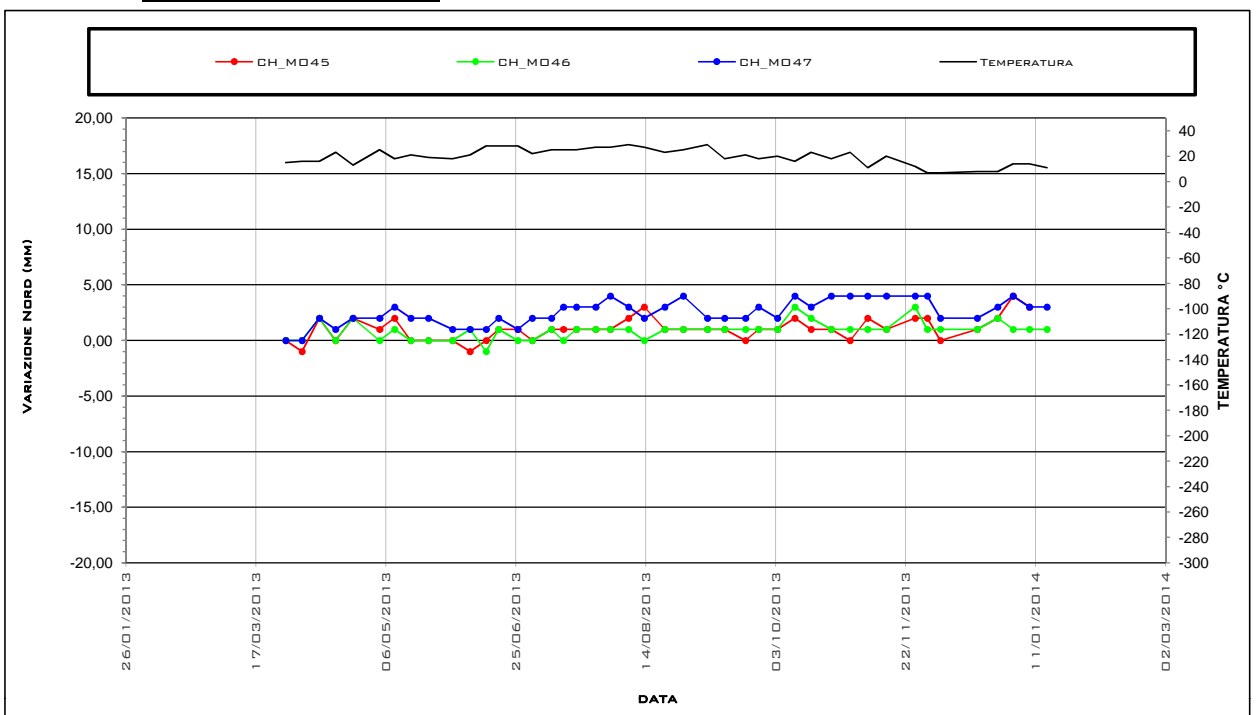
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 45-47  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013



**GRAFICO EST**



**GRAFICO NORD**







**Ubicazione STAZIONE CHIAIA**

**Opera \ \ Supplementari \ 48-50**

**Tipo Strumento Mire Ottiche**

**Data posa in opera 28/03/2013**

**Data lettura di zero 28/03/2013**

**Ultima  
Misura**

43

**in  
data**

15/01/2014

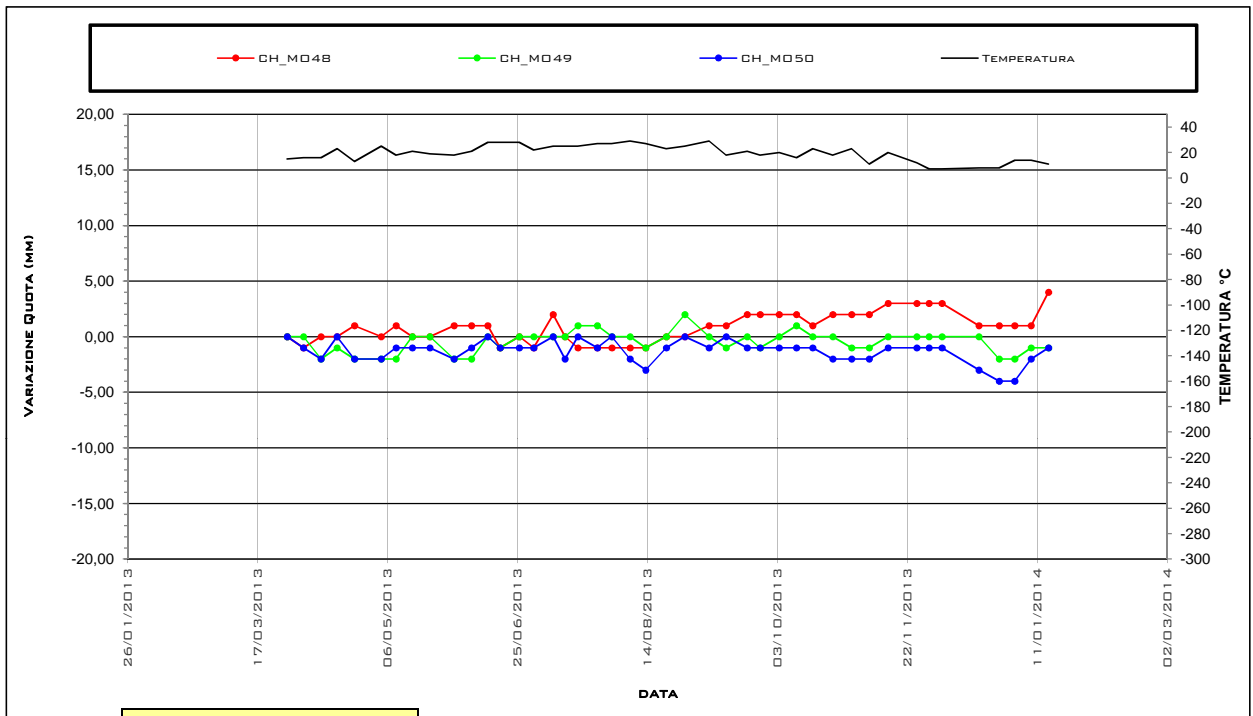
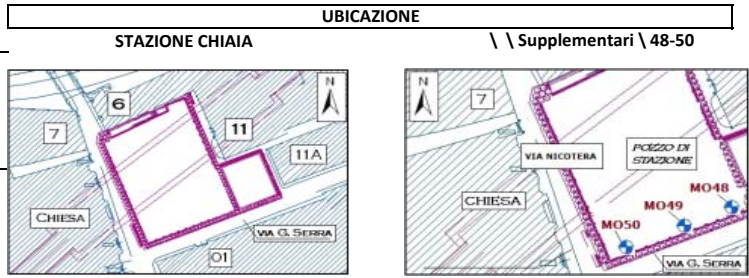
Letto. n°	DATA	CH_M048					CH_M049					CH_M050				
		Temp. Media[° C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media[° C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media[° C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]
1	28/03/2013 11.00	15.0	16,1	0,0	0,0	0,0	15,0	17,4	0,0	0,0	0,0	15,0	20,6	0,0	0,0	0,0
2	03/04/2013 17.30	16,0	16,1	-1,0	-1,0	0,0	16,0	17,4	0,0	-3,0	1,0	16,0	20,6	-1,0	1,0	0,0
3	10/04/2013 10.30	16,0	16,1	0,0	0,0	0,0	16,0	17,4	-2,0	1,0	2,0	16,0	20,6	-2,0	2,0	0,0
4	16/04/2013 15.00	23,0	16,1	0,0	2,0	0,0	23,0	17,4	-1,0	0,0	-1,0	23,0	20,6	0,0	1,0	-1,0
5	23/04/2013 08.30	13,0	16,1	1,0	1,0	2,0	13,0	17,4	-2,0	1,0	-1,0	13,0	20,6	-2,0	2,0	0,0
6	03/05/2013 14.30	25,0	16,1	0,0	4,0	1,0	25,0	17,4	-2,0	2,0	-1,0	25,0	20,6	-2,0	3,0	-1,0
7	09/05/2013 08.30	18,0	16,1	1,0	1,0	2,0	18,0	17,4	-2,0	1,0	1,0	18,0	20,6	-1,0	3,0	-1,0
8	15/05/2013 14.30	21,0	16,1	0,0	3,0	0,0	21,0	17,4	0,0	-1,0	-2,0	21,0	20,6	-1,0	0,0	-2,0
9	22/05/2013 08.30	19,0	16,1	0,0	3,0	-1,0	19,0	17,4	0,0	0,0	-1,0	19,0	20,6	-1,0	0,0	-1,0
10	31/05/2013 15.30	18,0	16,1	1,0	1,0	-1,0	18,0	17,4	-2,0	0,0	2,0	18,0	20,6	-2,0	2,0	1,0
11	07/06/2013 08.30	21,0	16,1	1,0	2,0	0,0	21,0	17,4	-2,0	0,0	0,0	21,0	20,6	-1,0	1,0	0,0
12	13/06/2013 14.30	28,0	16,1	1,0	3,0	-1,0	28,0	17,4	0,0	2,0	0,0	28,0	20,6	0,0	4,0	-1,0
13	18/06/2013 09.00	28,0	16,1	-1,0	2,0	2,0	28,0	17,4	-1,0	-1,0	1,0	28,0	20,6	-1,0	1,0	0,0
14	25/06/2013 18.00	28,0	16,1	0,0	4,0	0,0	28,0	17,4	0,0	0,0	0,0	28,0	20,6	-1,0	1,0	1,0
15	01/07/2013 07.30	22,0	16,1	-1,0	4,0	1,0	22,0	17,4	0,0	-1,0	1,0	22,0	20,6	-1,0	0,0	0,0
16	08/07/2013 17.30	25,0	16,1	2,0	3,0	2,0	25,0	17,4	0,0	-3,0	-1,0	25,0	20,6	0,0	-3,0	0,0
17	13/07/2013 07.30	25,0	16,1	0,0	4,0	3,0	25,0	17,4	0,0	-2,0	0,0	25,0	20,6	-2,0	-1,0	1,0
18	18/07/2013 07.30	25,0	16,1	-1,0	3,0	2,0	25,0	17,4	1,0	-2,0	0,0	25,0	20,6	0,0	0,0	0,0
19	25/07/2013 18.00	27,0	16,1	-1,0	4,0	3,0	27,0	17,4	1,0	-1,0	1,0	27,0	20,6	-1,0	0,0	0,0
20	31/07/2013 09.00	27,0	16,1	-1,0	4,0	4,0	27,0	17,4	0,0	0,0	1,0	27,0	20,6	0,0	2,0	1,0
21	07/08/2013 09.00	29,0	16,1	-1,0	4,0	4,0	29,0	17,4	0,0	0,0	1,0	29,0	20,6	-2,0	2,0	-1,0
22	13/08/2013 09.00	27,0	16,1	-1,0	3,0	3,0	27,0	17,4	-1,0	-1,0	1,0	27,0	20,6	-3,0	1,0	-2,0
23	21/08/2013 07.30	23,0	16,1	0,0	7,0	2,0	23,0	17,4	0,0	-1,0	1,0	23,0	20,6	-1,0	-1,0	0,0
24	28/08/2013 10.30	25,0	16,1	0,0	5,0	3,0	25,0	17,4	2,0	-3,0	3,0	25,0	20,6	0,0	-2,0	3,0
25	06/09/2013 17.30	29,0	16,1	1,0	5,0	1,0	29,0	17,4	0,0	-2,0	1,0	29,0	20,6	-1,0	-1,0	0,0
26	13/09/2013 07.30	18,0	16,1	1,0	5,0	2,0	18,0	17,4	-1,0	-3,0	0,0	18,0	20,6	0,0	0,0	0,0
27	21/09/2013 09.30	21,0	16,1	2,0	4,0	1,0	21,0	17,4	0,0	-2,0	0,0	21,0	20,6	-1,0	-1,0	1,0
28	26/09/2013 09.30	18,0	16,1	2,0	6,0	3,0	18,0	17,4	-1,0	-3,0	0,0	18,0	20,6	-1,0	-2,0	0,0
29	03/10/2013 16.30	20,0	16,1	2,0	4,0	3,0	20,0	17,4	0,0	-1,0	1,0	20,0	20,6	-1,0	0,0	0,0
30	10/10/2013 08.30	16,0	16,1	2,0	7,0	3,0	16,0	17,4	1,0	-2,0	0,0	16,0	20,6	-1,0	-1,0	1,0
31	16/10/2013 14.30	23,0	16,1	1,0	5,0	3,0	23,0	17,4	0,0	-2,0	2,0	23,0	20,6	-1,0	0,0	3,0
32	24/10/2013 08.30	18,0	16,1	2,0	4,0	2,0	18,0	17,4	0,0	0,0	1,0	18,0	20,6	-2,0	0,0	0,0
33	31/10/2013 14.30	23,0	16,1	2,0	5,0	4,0	23,0	17,4	-1,0	-3,0	2,0	23,0	20,6	-2,0	-1,0	1,0
34	07/11/2013 08.30	11,0	16,1	2,0	6,0	3,0	11,0	17,4	-1,0	-2,0	0,0	11,0	20,6	-2,0	-1,0	-1,0
35	14/11/2013 14.30	20,0	16,1	3,0	5,0	4,0	20,0	17,4	0,0	-3,0	2,0	20,0	20,6	-1,0	-1,0	1,0
36	25/11/2013 15.30	12,0	16,1	3,0	5,0	4,0	12,0	17,4	0,0	-2,0	0,0	12,0	20,6	-1,0	0,0	1,0
37	30/11/2013 08.30	7,0	16,1	3,0	6,0	3,0	7,0	17,4	0,0	0,0	1,0	7,0	20,6	-1,0	1,0	2,0
38	05/12/2013 08.30	7,0	16,1	3,0	3,0	2,0	7,0	17,4	0,0	-2,0	0,0	7,0	20,6	-1,0	-1,0	1,0
39	19/12/2013 13.00	8,0	16,1	1,0	4,0	0,0	8,0	17,4	0,0	-3,0	-1,0	8,0	20,6	-3,0	-1,0	-1,0
40	27/12/2013 09.00	8,0	16,1	1,0	5,0	1,0	8,0	17,4	-2,0	-2,0	-2,0	8,0	20,6	-4,0	-2,0	0,0
41	02/01/2014 07.30	14,0	16,1	1,0	6,0	1,0	14,0	17,4	-2,0	-2,0	-2,0	14,0	20,6	-4,0	-2,0	-1,0
42	08/01/2014 14.30	14,0	16,1	1,0	9,0	2,0	14,0	17,4	-1,0	-3,0	3,0	14,0	20,6	-2,0	-1,0	1,0
43	15/01/2014 08.30	11,0	16,1	4,0	7,0	1,0	11,0	17,4	-1,0	-4,0	-1,0	11,0	20,6	-1,0	-3,0	0,0



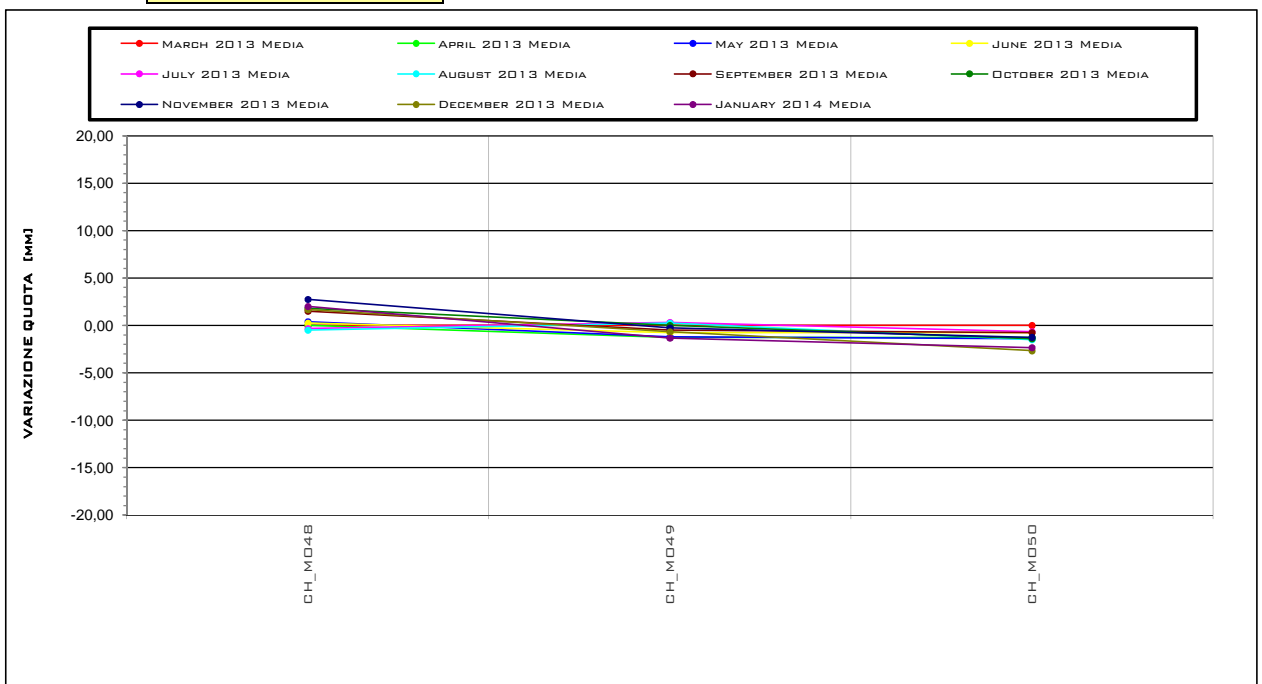


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 48-50  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013

**GRAFICO QUOTA**

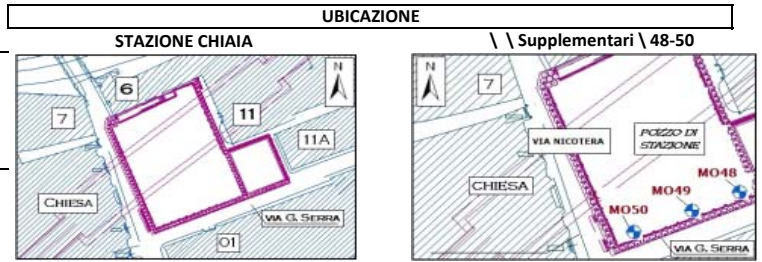


**GRAFICO ISOCRONE**

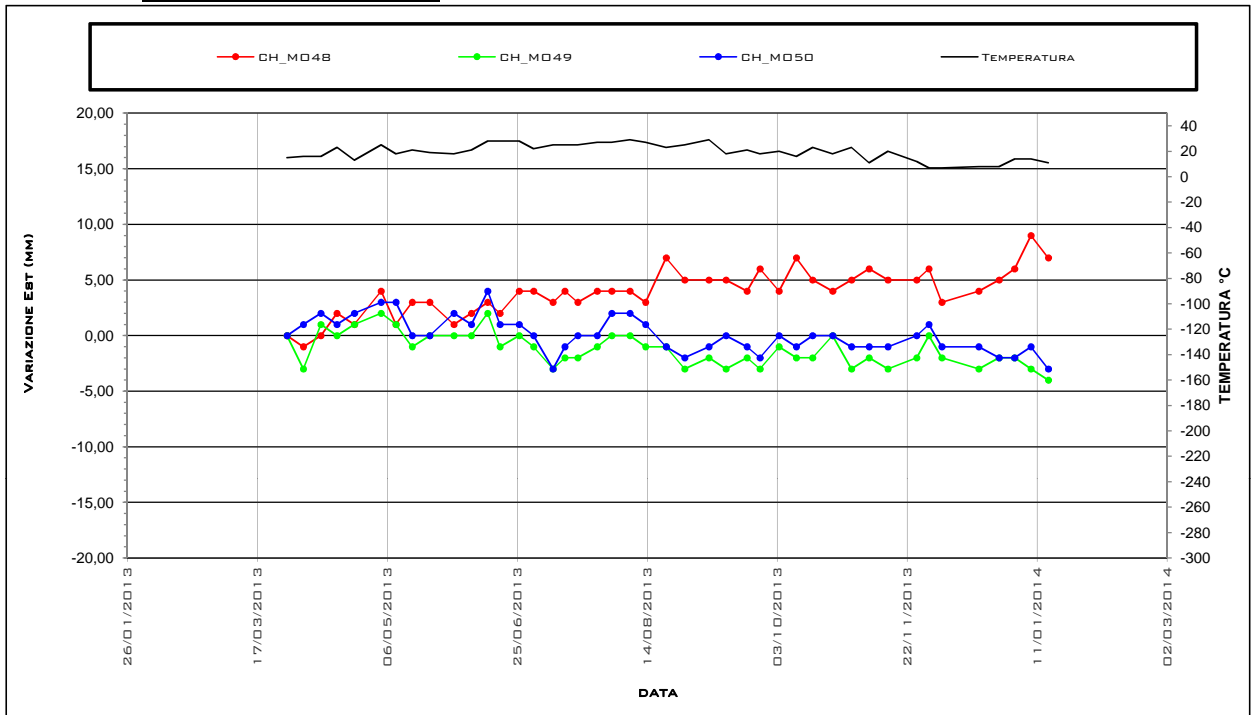




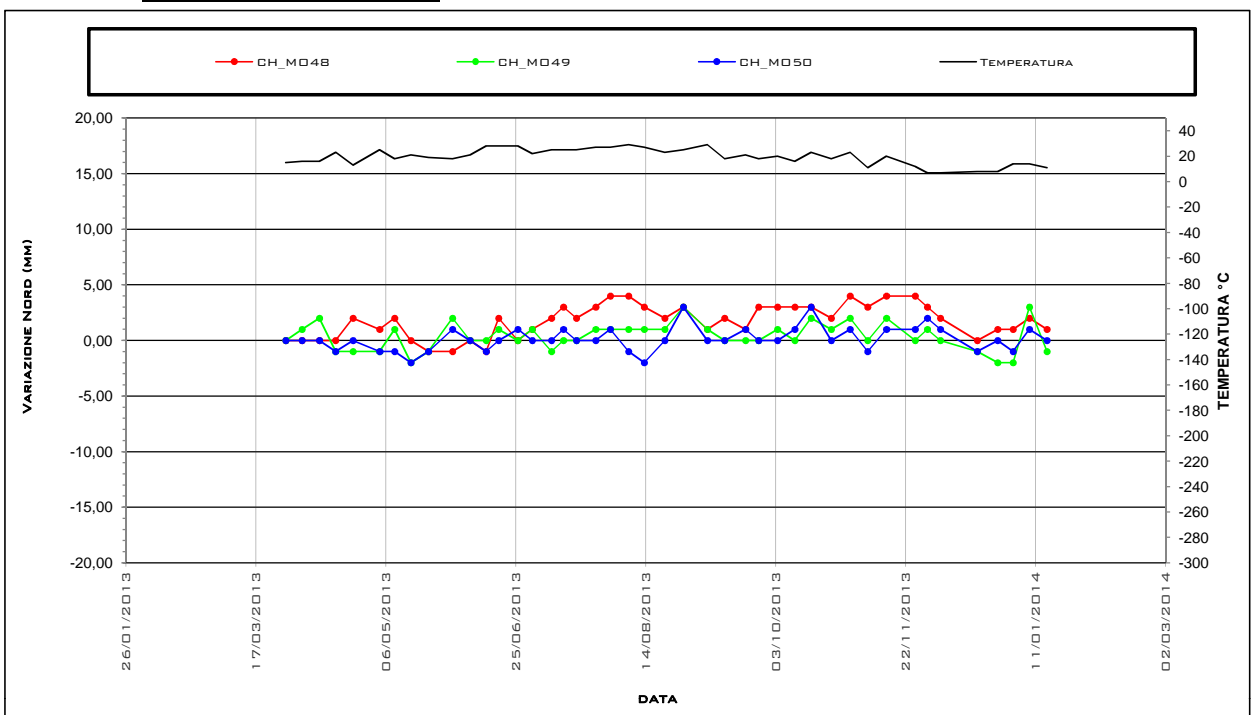
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 48-50  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013



**GRAFICO EST**



**GRAFICO NORD**





**Ubicazione STAZIONE CHIAIA**

**Opera \ \ Supplementari \ 51-53**

**Tipo Strumento Mire Ottiche**

**Data posa in opera 03/04/2013**

**Data lettura di zero 03/04/2013**

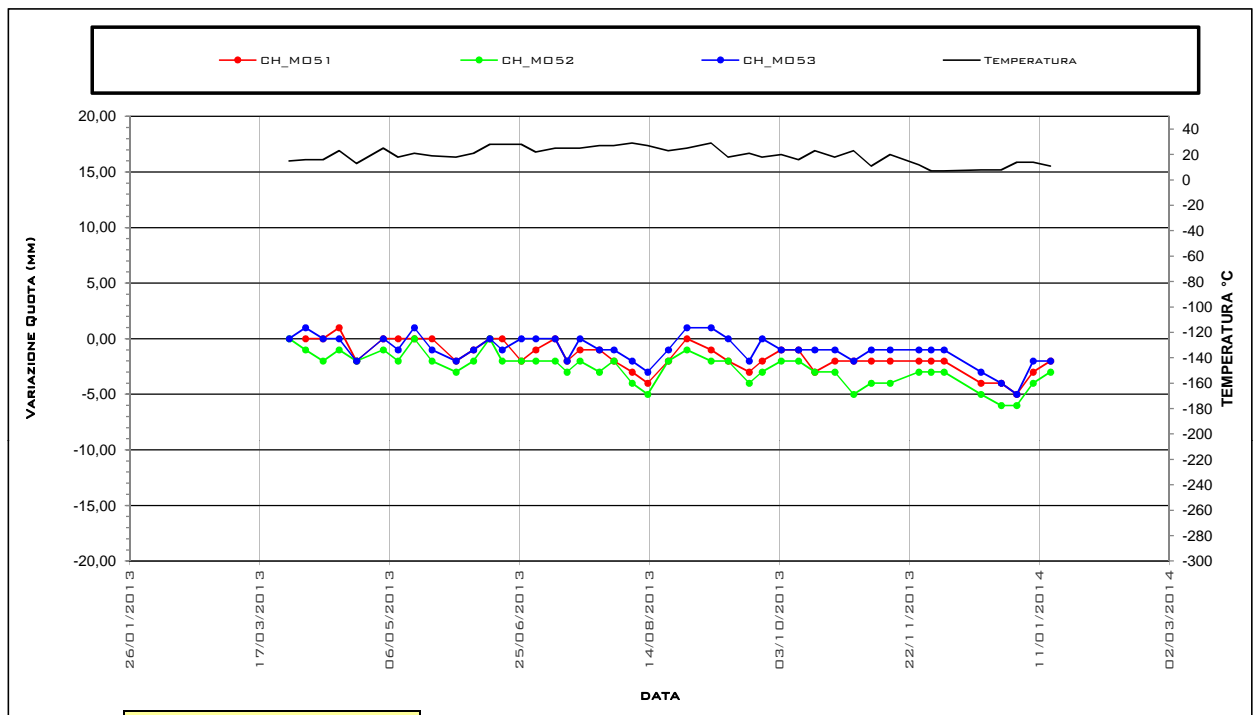
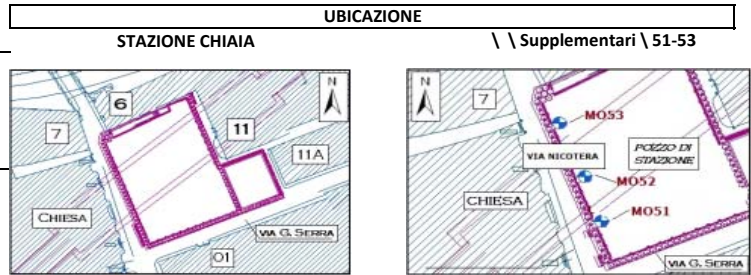
**Ultima Misura** 43 **in data** 15/01/2014

Letto. n°	DATA	CH_M051					CH_M052					CH_M053				
		Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]
1	28/03/2013 11.00						15.0	21.9	0.0	0.0	0.0	15.0	22.3	0.0	0.0	0.0
2	03/04/2013 17.30	16.0	21.6	0.0	0.0	0.0	16.0	21.9	-1.0	1.0	0.0	16.0	22.3	1.0	0.0	-1.0
3	10/04/2013 10.30	16.0	21.6	0.0	1.0	0.0	16.0	21.9	-2.0	1.0	1.0	16.0	22.3	0.0	-1.0	0.0
4	16/04/2013 15.00	23.0	21.6	1.0	0.0	0.0	23.0	21.9	-1.0	1.0	0.0	23.0	22.3	0.0	0.0	-1.0
5	23/04/2013 08.30	13.0	21.6	-2.0	0.0	0.0	13.0	21.9	-2.0	2.0	0.0	13.0	22.3	-2.0	0.0	-2.0
6	03/05/2013 14.30	25.0	21.6	0.0	2.0	0.0	25.0	21.9	-1.0	3.0	0.0	25.0	22.3	0.0	1.0	-1.0
7	09/05/2013 08.30	18.0	21.6	0.0	2.0	0.0	18.0	21.9	-2.0	2.0	0.0	18.0	22.3	-1.0	-1.0	0.0
8	15/05/2013 14.30	21.0	21.6	0.0	1.0	-1.0	21.0	21.9	0.0	2.0	0.0	21.0	22.3	1.0	1.0	-2.0
9	22/05/2013 08.30	19.0	21.6	0.0	0.0	0.0	19.0	21.9	-2.0	1.0	0.0	19.0	22.3	-1.0	-1.0	0.0
10	31/05/2013 15.30	18.0	21.6	-2.0	1.0	1.0	18.0	21.9	-3.0	2.0	1.0	18.0	22.3	-2.0	0.0	0.0
11	07/06/2013 08.30	21.0	21.6	-1.0	1.0	1.0	21.0	21.9	-2.0	1.0	1.0	21.0	22.3	-1.0	0.0	0.0
12	13/06/2013 14.30	28.0	21.6	0.0	4.0	-1.0	28.0	21.9	0.0	4.0	-1.0	28.0	22.3	0.0	1.0	-2.0
13	18/06/2013 09.00	28.0	21.6	0.0	2.0	1.0	28.0	21.9	-2.0	2.0	2.0	28.0	22.3	-1.0	-1.0	0.0
14	25/06/2013 18.00	28.0	21.6	-2.0	1.0	2.0	28.0	21.9	-2.0	2.0	2.0	28.0	22.3	0.0	0.0	0.0
15	01/07/2013 07.30	22.0	21.6	-1.0	2.0	2.0	22.0	21.9	-2.0	3.0	2.0	22.0	22.3	0.0	2.0	0.0
16	08/07/2013 17.30	25.0	21.6	0.0	-1.0	1.0	25.0	21.9	-2.0	-1.0	0.0	25.0	22.3	0.0	0.0	0.0
17	13/07/2013 07.30	25.0	21.6	-2.0	1.0	3.0	25.0	21.9	-3.0	2.0	1.0	25.0	22.3	-2.0	0.0	0.0
18	18/07/2013 07.30	25.0	21.6	-1.0	1.0	1.0	25.0	21.9	-2.0	1.0	1.0	25.0	22.3	0.0	0.0	0.0
19	25/07/2013 18.00	27.0	21.6	-1.0	1.0	1.0	27.0	21.9	-3.0	2.0	1.0	27.0	22.3	-1.0	1.0	0.0
20	31/07/2013 09.00	27.0	21.6	-2.0	1.0	1.0	27.0	21.9	-2.0	2.0	1.0	27.0	22.3	-1.0	0.0	0.0
21	07/08/2013 09.00	29.0	21.6	-3.0	1.0	1.0	29.0	21.9	-4.0	1.0	1.0	29.0	22.3	-2.0	0.0	0.0
22	13/08/2013 09.00	27.0	21.6	-4.0	0.0	1.0	27.0	21.9	-5.0	0.0	1.0	27.0	22.3	-3.0	-1.0	1.0
23	21/08/2013 07.30	23.0	21.6	-2.0	1.0	1.0	23.0	21.9	-2.0	3.0	2.0	23.0	22.3	-1.0	2.0	0.0
24	28/08/2013 10.30	25.0	21.6	0.0	0.0	4.0	25.0	21.9	-1.0	1.0	3.0	25.0	22.3	1.0	1.0	3.0
25	06/09/2013 17.30	29.0	21.6	-1.0	0.0	0.0	29.0	21.9	-2.0	1.0	2.0	29.0	22.3	1.0	0.0	0.0
26	13/09/2013 07.30	18.0	21.6	-2.0	1.0	1.0	18.0	21.9	-2.0	1.0	1.0	18.0	22.3	0.0	0.0	0.0
27	21/09/2013 09.30	21.0	21.6	-3.0	0.0	2.0	21.0	21.9	-4.0	2.0	1.0	21.0	22.3	-2.0	0.0	1.0
28	26/09/2013 09.30	18.0	21.6	-2.0	0.0	2.0	18.0	21.9	-3.0	1.0	1.0	18.0	22.3	0.0	0.0	0.0
29	03/10/2013 16.30	20.0	21.6	-1.0	1.0	2.0	20.0	21.9	-2.0	2.0	3.0	20.0	22.3	-1.0	0.0	1.0
30	10/10/2013 08.30	16.0	21.6	-1.0	1.0	2.0	16.0	21.9	-2.0	2.0	1.0	16.0	22.3	-1.0	0.0	0.0
31	16/10/2013 14.30	23.0	21.6	-3.0	0.0	3.0	23.0	21.9	-3.0	2.0	3.0	23.0	22.3	-1.0	-1.0	0.0
32	24/10/2013 08.30	18.0	21.6	-2.0	1.0	2.0	18.0	21.9	-3.0	4.0	1.0	18.0	22.3	-1.0	1.0	0.0
33	31/10/2013 14.30	23.0	21.6	-2.0	0.0	2.0	23.0	21.9	-5.0	1.0	1.0	23.0	22.3	-2.0	-1.0	1.0
34	07/11/2013 08.30	11.0	21.6	-2.0	0.0	1.0	11.0	21.9	-4.0	1.0	1.0	11.0	22.3	-1.0	0.0	0.0
35	14/11/2013 14.30	20.0	21.6	-2.0	0.0	2.0	20.0	21.9	-4.0	1.0	1.0	20.0	22.3	-1.0	-1.0	0.0
36	25/11/2013 15.30	12.0	21.6	-2.0	1.0	1.0	12.0	21.9	-3.0	3.0	2.0	12.0	22.3	-1.0	0.0	0.0
37	30/11/2013 08.30	7.0	21.6	-2.0	2.0	2.0	7.0	21.9	-3.0	3.0	2.0	7.0	22.3	-1.0	1.0	0.0
38	05/12/2013 08.30	7.0	21.6	-2.0	0.0	0.0	7.0	21.9	-3.0	2.0	1.0	7.0	22.3	-1.0	0.0	0.0
39	19/12/2013 13.00	8.0	21.6	-4.0	0.0	0.0	8.0	21.9	-5.0	1.0	2.0	8.0	22.3	-3.0	-2.0	1.0
40	27/12/2013 09.00	8.0	21.6	-4.0	-1.0	2.0	8.0	21.9	-6.0	0.0	3.0	8.0	22.3	-4.0	-2.0	3.0
41	02/01/2014 07.30	14.0	21.6	-5.0	0.0	1.0	14.0	21.9	-6.0	-1.0	2.0	14.0	22.3	-5.0	-3.0	3.0
42	08/01/2014 14.30	14.0	21.6	-3.0	0.0	2.0	14.0	21.9	-4.0	1.0	4.0	14.0	22.3	-2.0	-2.0	2.0
43	15/01/2014 08.30	11.0	21.6	-2.0	0.0	0.0	11.0	21.9	-3.0	1.0	0.0	11.0	22.3	-2.0	-1.0	0.0

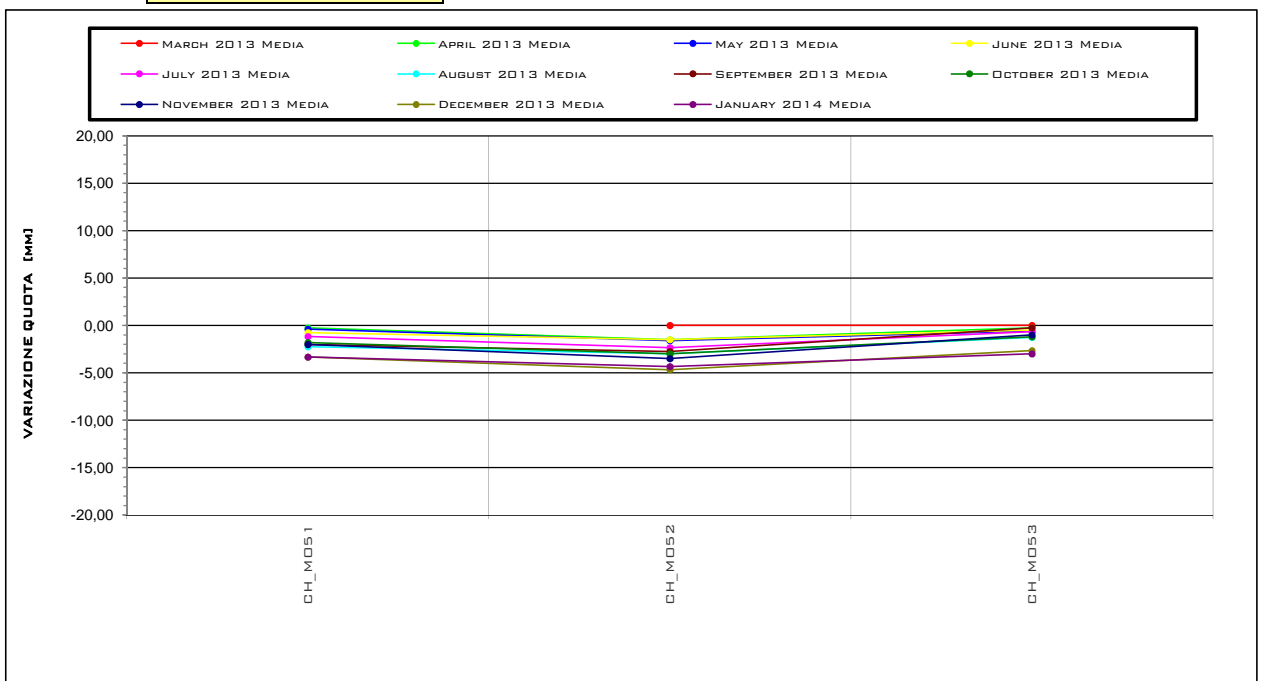


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 51-53  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 03/04/2013  
**Data lettura di zero** 03/04/2013

**GRAFICO QUOTA**

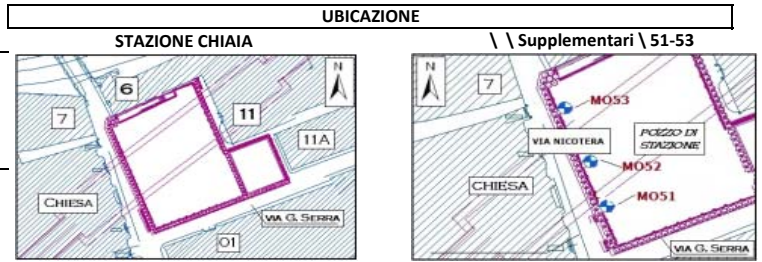


**GRAFICO ISOCRONE**

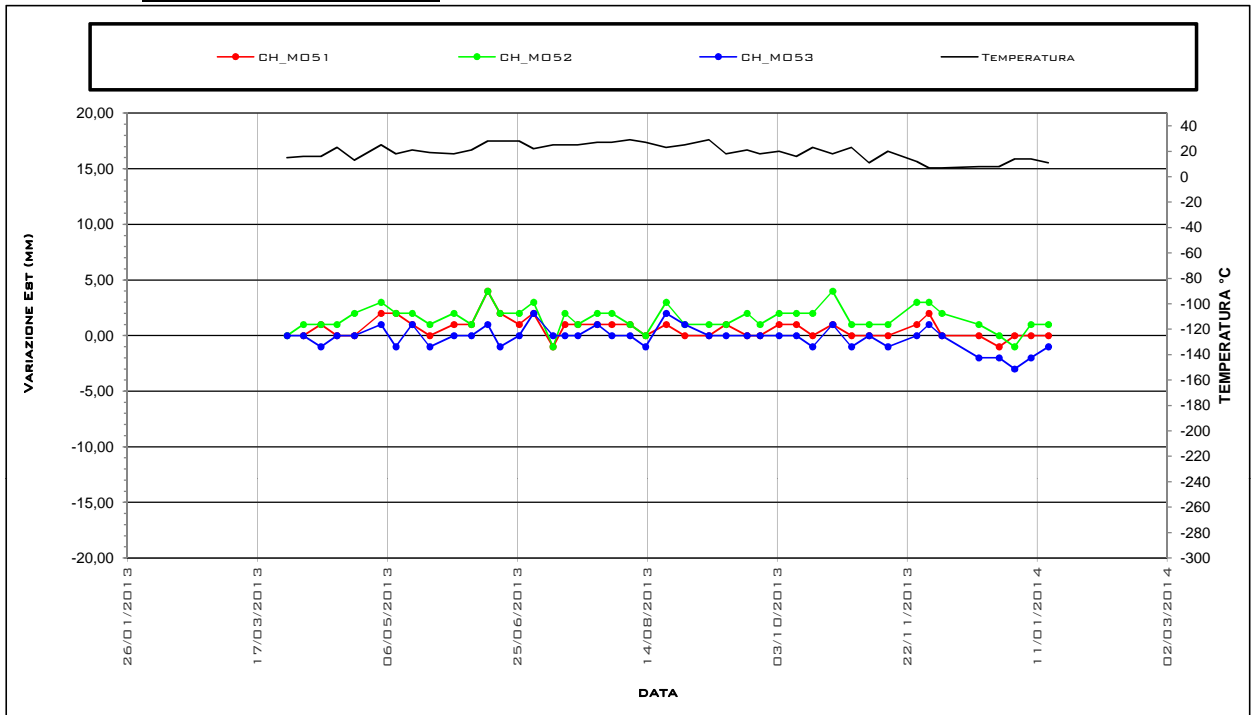




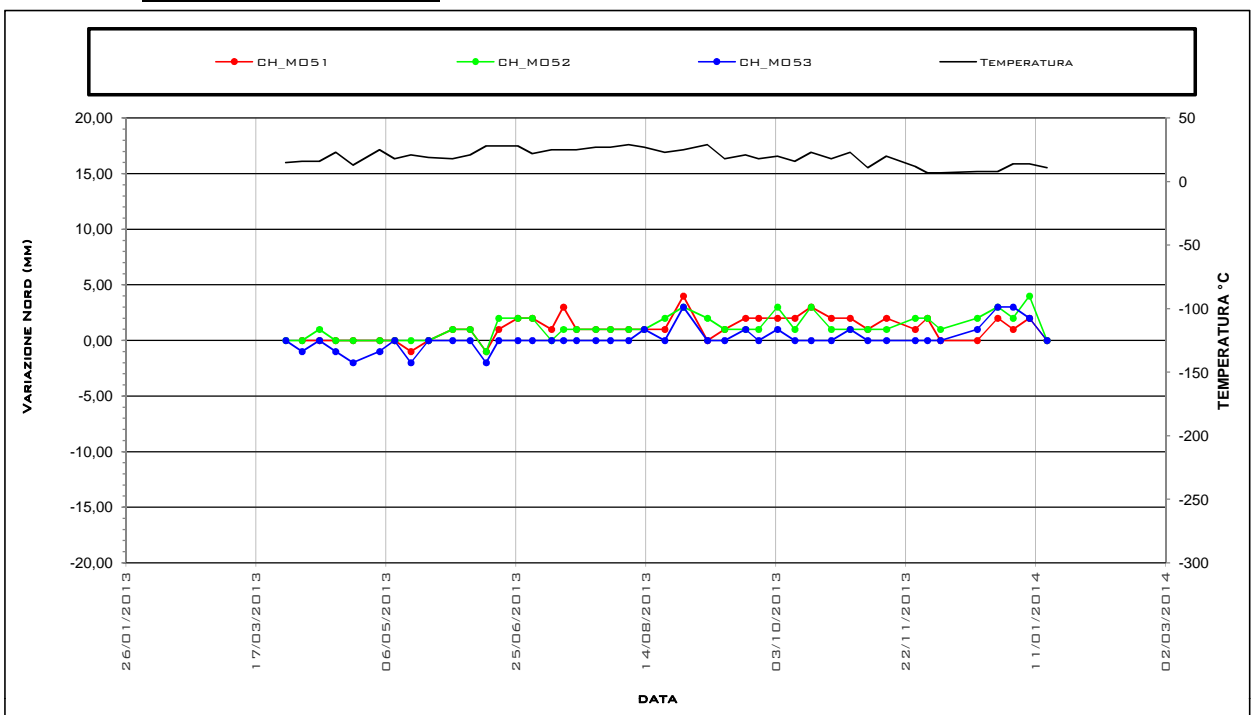
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 51-53  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 03/04/2013  
**Data lettura di zero** 03/04/2013



**GRAFICO EST**



**GRAFICO NORD**





**Ubicazione STAZIONE CHIAIA**

**Opera \ \ Supplementari \ 54-55**

**Tipo Strumento Mire Ottiche**

**Data posa in opera 28/03/2013**

**Data lettura di zero 28/03/2013**

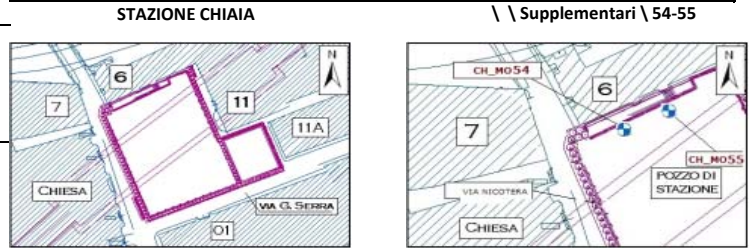
**Ultima** 43 **in**  
**Misura** **data** 15/01/2014

Letto. n°	DATA	CH_M054					CH_M055				
		Temp. Media[° C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media[° C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]
1	28/03/2013 11.00	15,0	14,4	0,0	0,0	0,0	15,0	14,5	0,0	0,0	0,0
2	03/04/2013 17.30	16,0	14,4	-2,0	-2,0	0,0	16,0	14,5	0,0	0,0	0,0
3	10/04/2013 10.30	16,0	14,4	-2,0	-2,0	0,0	16,0	14,5	0,0	1,0	2,0
4	16/04/2013 15.00	23,0	14,4	-1,0	-1,0	-1,0	23,0	14,5	0,0	1,0	-1,0
5	23/04/2013 08.30	13,0	14,4	-2,0	-2,0	-1,0	13,0	14,5	-1,0	0,0	1,0
6	03/05/2013 14.30	25,0	14,4	0,0	-1,0	-1,0	25,0	14,5	0,0	2,0	1,0
7	09/05/2013 08.30	18,0	14,4	-1,0	-3,0	-1,0	18,0	14,5	0,0	1,0	3,0
8	15/05/2013 14.30	21,0	14,4	0,0	0,0	-2,0	21,0	14,5	0,0	2,0	0,0
9	22/05/2013 08.30	19,0	14,4	-1,0	-3,0	-1,0	19,0	14,5	0,0	2,0	0,0
10	31/05/2013 15.30	18,0	14,4	-2,0	-3,0	0,0	18,0	14,5	1,0	1,0	0,0
11	07/06/2013 08.30	21,0	14,4	-2,0	-2,0	-1,0	21,0	14,5	1,0	2,0	1,0
12	13/06/2013 14.30	28,0	14,4	0,0	-2,0	-3,0	28,0	14,5	2,0	4,0	-1,0
13	18/06/2013 09.00	28,0	14,4	-2,0	-3,0	0,0	28,0	14,5	1,0	1,0	0,0
14	25/06/2013 18.00	28,0	14,4	-1,0	-2,0	0,0	28,0	14,5	1,0	3,0	0,0
15	01/07/2013 07.30	22,0	14,4	0,0	-2,0	-1,0	22,0	14,5	1,0	2,0	0,0
16	08/07/2013 17.30	25,0	14,4	1,0	-3,0	-1,0	25,0	14,5	0,0	2,0	1,0
17	13/07/2013 07.30	25,0	14,4	0,0	-2,0	0,0	25,0	14,5	0,0	1,0	0,0
18	18/07/2013 07.30	25,0	14,4	1,0	-3,0	0,0	25,0	14,5	0,0	2,0	-1,0
19	25/07/2013 18.00	27,0	14,4	0,0	-2,0	-1,0	27,0	14,5	0,0	2,0	-1,0
20	31/07/2013 09.00	27,0	14,4	0,0	-4,0	-1,0	27,0	14,5	2,0	2,0	-1,0
21	07/08/2013 09.00	29,0	14,4	-2,0	-4,0	0,0	29,0	14,5	2,0	2,0	-1,0
22	13/08/2013 09.00	27,0	14,4	-3,0	-5,0	1,0	27,0	14,5	2,0	1,0	-1,0
23	21/08/2013 07.30	23,0	14,4	0,0	-1,0	-1,0	23,0	14,5	1,0	3,0	-1,0
24	28/08/2013 10.30	25,0	14,4	1,0	-3,0	1,0	25,0	14,5	2,0	3,0	0,0
25	06/09/2013 17.30	29,0	14,4	0,0	-4,0	-1,0	29,0	14,5	3,0	3,0	0,0
26	13/09/2013 07.30	18,0	14,4	0,0	-3,0	-2,0	18,0	14,5	2,0	3,0	-2,0
27	21/09/2013 09.30	21,0	14,4	-1,0	-4,0	-1,0	21,0	14,5	3,0	3,0	-1,0
28	26/09/2013 09.30	18,0	14,4	0,0	-4,0	-1,0	18,0	14,5	3,0	3,0	-1,0
29	03/10/2013 16.30	20,0	14,4	0,0	-3,0	0,0	20,0	14,5	3,0	2,0	0,0
30	10/10/2013 08.30	16,0	14,4	0,0	-4,0	-1,0	16,0	14,5	2,0	4,0	1,0
31	16/10/2013 14.30	23,0	14,4	0,0	-5,0	0,0	23,0	14,5	3,0	4,0	1,0
32	24/10/2013 08.30	18,0	14,4	-1,0	-3,0	-1,0	18,0	14,5	2,0	4,0	2,0
33	31/10/2013 14.30	23,0	14,4	-2,0	-5,0	0,0	23,0	14,5	3,0	4,0	0,0
34	07/11/2013 08.30	11,0	14,4	-2,0	-4,0	-1,0	11,0	14,5	3,0	5,0	2,0
35	14/11/2013 14.30	20,0	14,4	-2,0	-5,0	-1,0	20,0	14,5	2,0	4,0	1,0
36	25/11/2013 15.30	12,0	14,4	-1,0	-3,0	-2,0	12,0	14,5	2,0	5,0	2,0
37	30/11/2013 08.30	7,0	14,4	-1,0	-3,0	0,0	7,0	14,5	3,0	4,0	0,0
38	05/12/2013 08.30	7,0	14,4	-1,0	-4,0	0,0	7,0	14,5	3,0	5,0	1,0
39	19/12/2013 13.00	8,0	14,4	-3,0	-5,0	1,0	8,0	14,5	3,0	5,0	0,0
40	27/12/2013 09.00	8,0	14,4	-4,0	-6,0	3,0	8,0	14,5	3,0	3,0	1,0
41	02/01/2014 07.30	14,0	14,4	-5,0	-7,0	3,0	14,0	14,5	3,0	3,0	1,0
42	08/01/2014 14.30	14,0	14,4	-1,0	-6,0	1,0	14,0	14,5	2,0	6,0	1,0
43	15/01/2014 08.30	11,0	14,4	-1,0	-6,0	0,0	11,0	14,5	2,0	4,0	0,0

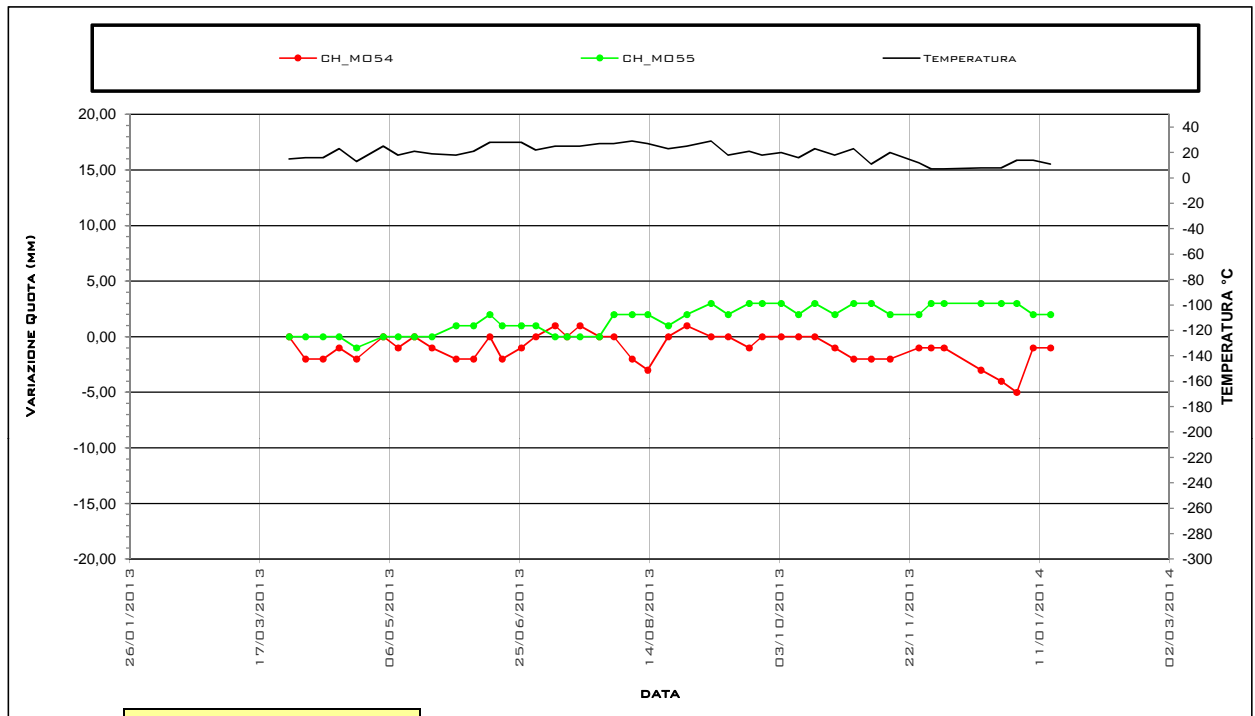


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 54-55  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013

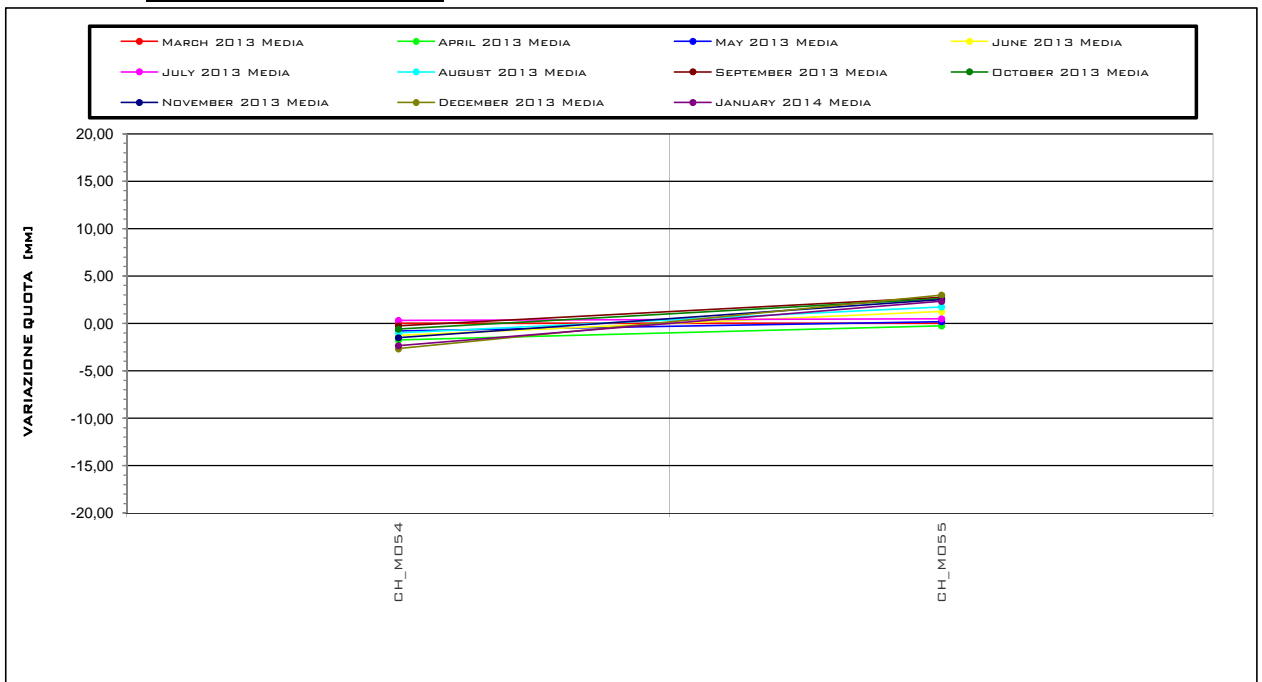
**UBICAZIONE**



**GRAFICO QUOTA**



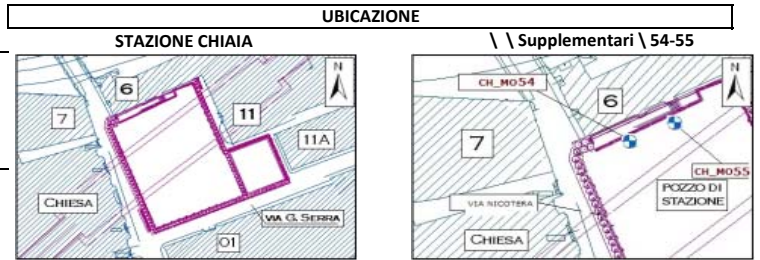
**GRAFICO ISOCRONE**



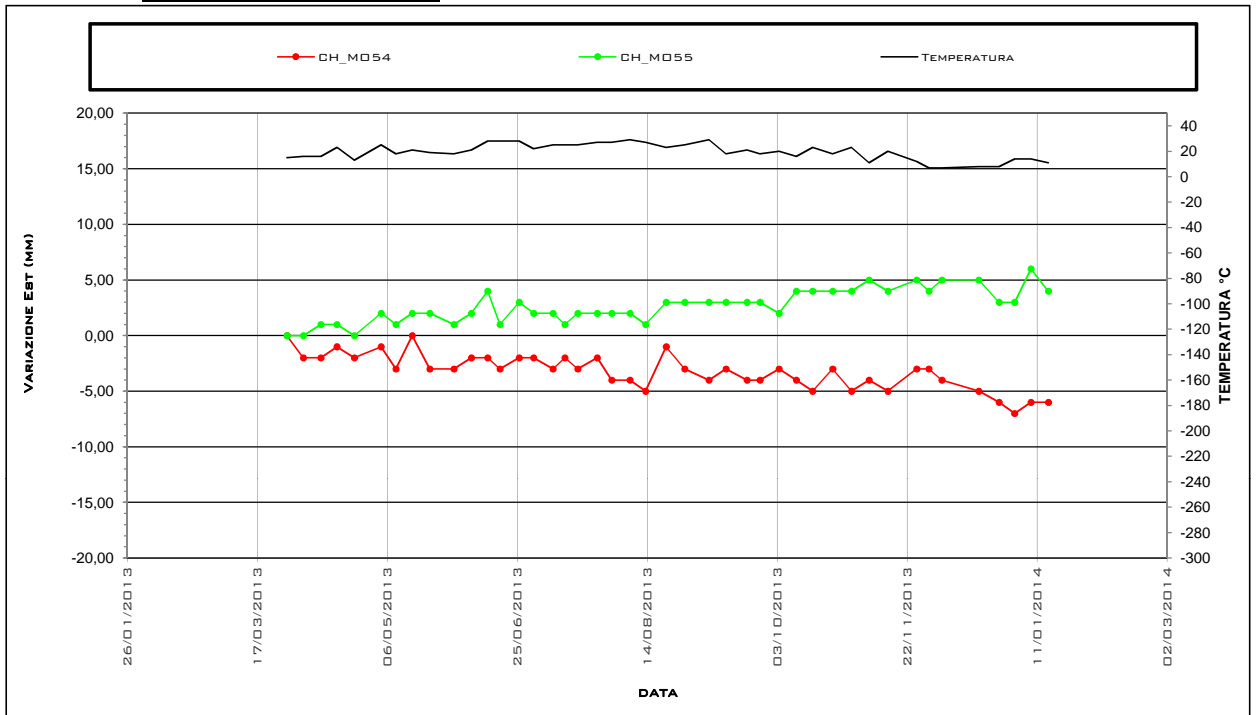




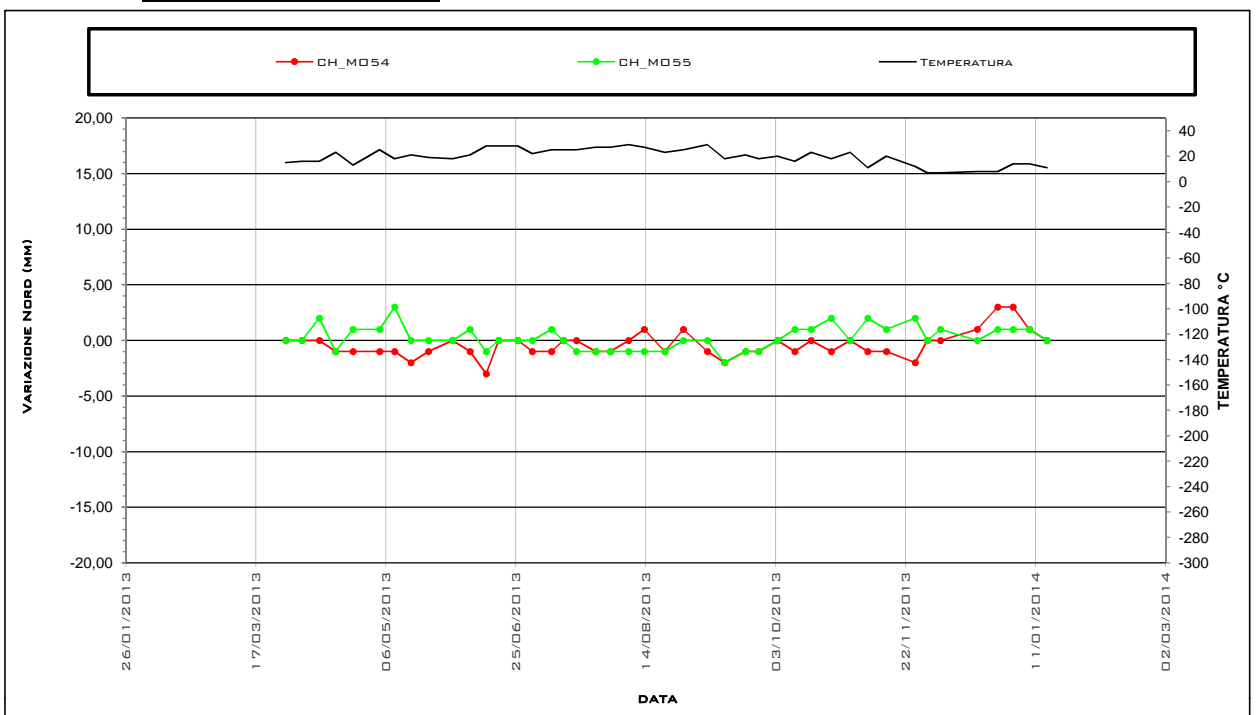
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 54-55  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013



**GRAFICO EST**



**GRAFICO NORD**







Ubicazione STAZIONE CHIAIA

Opera \ \ Supplementari \ 56-59

Tipo Strumento Mire Ottiche

Data posa in opera 28/03/2013

Data lettura di zero 28/03/2013

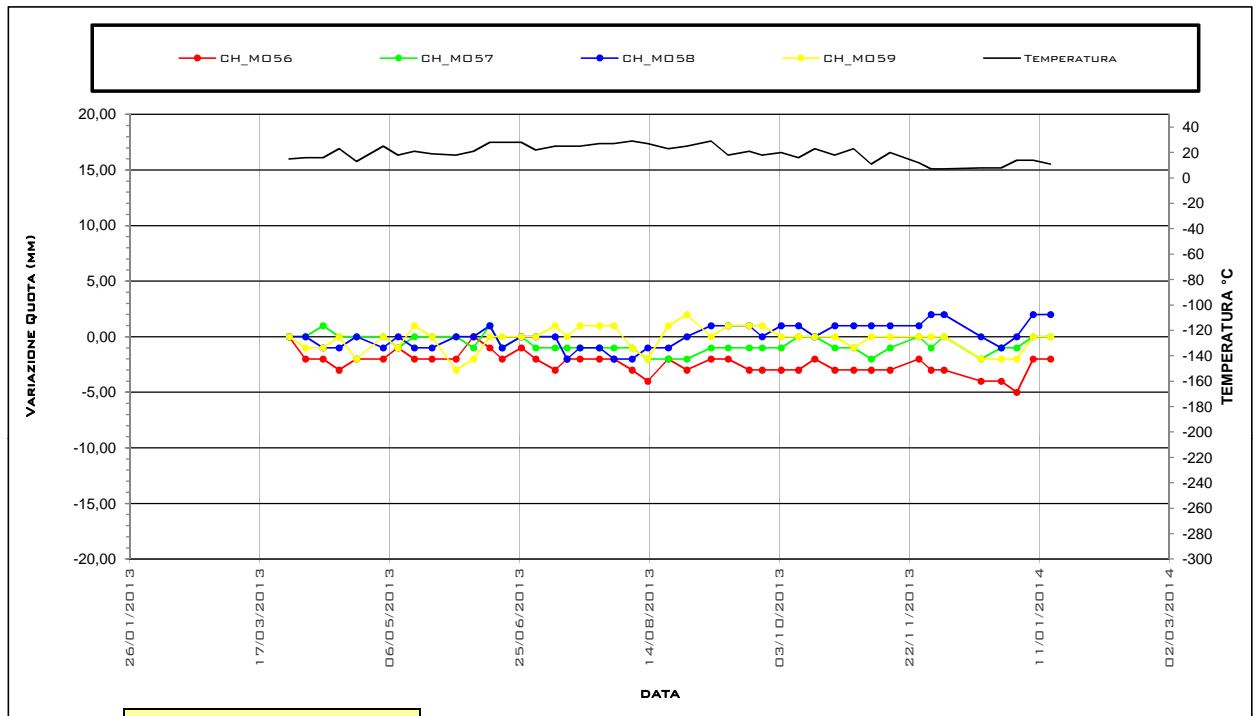
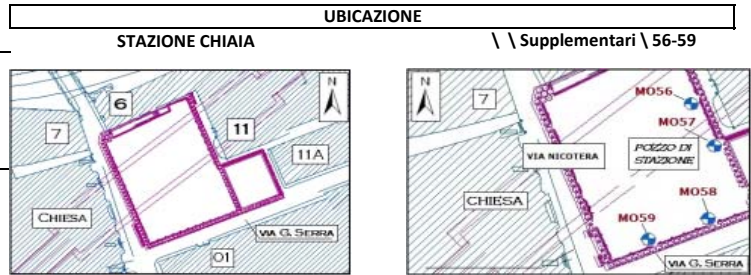
Ultima Misura 43 in data 15/01/2014

Letto. n°	DATA	CH_M056					CH_M057					CH_M058					CH_M059				
		Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]
1	28/03/2013 11.00	15.0	9.4	0.0	0.0	0.0	15.0	9.6	0.0	0.0	0.0	15.0	11.3	0.0	0.0	0.0	15.0	11.3	0.0	0.0	0.0
2	03/04/2013 17.30	16.0	9.4	-2.0	0.0	0.0	16.0	9.6	0.0	-2.0	0.0	16.0	11.3	0.0	-3.0	2.0	16.0	11.3	-1.0	1.0	2.0
3	10/04/2013 10.30	16.0	9.4	-2.0	1.0	0.0	16.0	9.6	1.0	-1.0	1.0	16.0	11.3	-1.0	-2.0	1.0	16.0	11.3	-1.0	1.0	3.0
4	16/04/2013 15.00	23.0	9.4	-3.0	2.0	0.0	23.0	9.6	0.0	1.0	0.0	23.0	11.3	-1.0	3.0	0.0	23.0	11.3	0.0	0.0	1.0
5	23/04/2013 08.30	13.0	9.4	-2.0	2.0	1.0	13.0	9.6	0.0	-1.0	1.0	13.0	11.3	0.0	1.0	2.0	13.0	11.3	-2.0	2.0	2.0
6	03/05/2013 14.30	25.0	9.4	-2.0	3.0	0.0	25.0	9.6	0.0	2.0	1.0	25.0	11.3	-1.0	4.0	1.0	25.0	11.3	0.0	2.0	2.0
7	09/05/2013 08.30	18.0	9.4	-1.0	1.0	2.0	18.0	9.6	-1.0	1.0	3.0	18.0	11.3	0.0	2.0	3.0	18.0	11.3	-1.0	2.0	2.0
8	15/05/2013 14.30	21.0	9.4	-2.0	3.0	0.0	21.0	9.6	0.0	2.0	1.0	21.0	11.3	-1.0	3.0	1.0	21.0	11.3	1.0	0.0	0.0
9	22/05/2013 08.30	19.0	9.4	-2.0	1.0	-1.0	19.0	9.6	0.0	0.0	0.0	19.0	11.3	-1.0	3.0	2.0	19.0	11.3	0.0	0.0	1.0
10	31/05/2013 15.30	18.0	9.4	-2.0	2.0	-1.0	18.0	9.6	0.0	0.0	0.0	18.0	11.3	0.0	0.0	0.0	18.0	11.3	-3.0	1.0	3.0
11	07/06/2013 08.30	21.0	9.4	0.0	1.0	-1.0	21.0	9.6	-1.0	1.0	0.0	21.0	11.3	0.0	2.0	1.0	21.0	11.3	-2.0	1.0	2.0
12	13/06/2013 14.30	28.0	9.4	-1.0	3.0	-2.0	28.0	9.6	1.0	3.0	-1.0	28.0	11.3	1.0	3.0	2.0	28.0	11.3	0.0	3.0	2.0
13	18/06/2013 09.00	28.0	9.4	-2.0	1.0	1.0	28.0	9.6	-1.0	1.0	1.0	28.0	11.3	-1.0	2.0	3.0	28.0	11.3	0.0	1.0	2.0
14	25/06/2013 18.00	28.0	9.4	-1.0	2.0	-1.0	28.0	9.6	0.0	2.0	0.0	28.0	11.3	0.0	4.0	2.0	28.0	11.3	0.0	1.0	3.0
15	01/07/2013 07.30	22.0	9.4	-2.0	3.0	-1.0	22.0	9.6	-1.0	1.0	0.0	22.0	11.3	0.0	5.0	2.0	22.0	11.3	0.0	0.0	1.0
16	08/07/2013 17.30	25.0	9.4	-3.0	3.0	1.0	25.0	9.6	-1.0	2.0	1.0	25.0	11.3	0.0	3.0	2.0	25.0	11.3	1.0	-2.0	2.0
17	13/07/2013 07.30	25.0	9.4	-2.0	1.0	0.0	25.0	9.6	-1.0	1.0	2.0	25.0	11.3	-2.0	4.0	3.0	25.0	11.3	0.0	-1.0	2.0
18	18/07/2013 07.30	25.0	9.4	-2.0	1.0	1.0	25.0	9.6	-1.0	1.0	2.0	25.0	11.3	-1.0	4.0	3.0	25.0	11.3	1.0	0.0	3.0
19	25/07/2013 18.00	27.0	9.4	-2.0	2.0	1.0	27.0	9.6	-1.0	1.0	3.0	27.0	11.3	-1.0	6.0	4.0	27.0	11.3	1.0	0.0	1.0
20	31/07/2013 09.00	27.0	9.4	-2.0	0.0	0.0	27.0	9.6	-1.0	1.0	3.0	27.0	11.3	-2.0	5.0	5.0	27.0	11.3	1.0	1.0	3.0
21	07/08/2013 09.00	29.0	9.4	-3.0	2.0	0.0	29.0	9.6	-1.0	2.0	2.0	29.0	11.3	-2.0	5.0	5.0	29.0	11.3	-1.0	1.0	1.0
22	13/08/2013 09.00	27.0	9.4	-4.0	3.0	1.0	27.0	9.6	-2.0	3.0	1.0	27.0	11.3	-1.0	4.0	5.0	27.0	11.3	-2.0	1.0	2.0
23	21/08/2013 07.30	23.0	9.4	-2.0	3.0	1.0	23.0	9.6	-2.0	3.0	2.0	23.0	11.3	-1.0	8.0	4.0	23.0	11.3	1.0	0.0	2.0
24	28/08/2013 10.30	25.0	9.4	-3.0	3.0	1.0	25.0	9.6	-2.0	2.0	3.0	25.0	11.3	0.0	6.0	4.0	25.0	11.3	2.0	-3.0	5.0
25	06/09/2013 17.30	29.0	9.4	-2.0	3.0	1.0	29.0	9.6	-1.0	2.0	2.0	29.0	11.3	1.0	6.0	3.0	29.0	11.3	0.0	-2.0	1.0
26	13/09/2013 07.30	18.0	9.4	-2.0	2.0	1.0	18.0	9.6	-1.0	2.0	1.0	18.0	11.3	1.0	5.0	3.0	18.0	11.3	1.0	0.0	1.0
27	21/09/2013 09.30	21.0	9.4	-3.0	3.0	-1.0	21.0	9.6	-1.0	2.0	1.0	21.0	11.3	1.0	5.0	2.0	21.0	11.3	1.0	0.0	3.0
28	26/09/2013 09.30	18.0	9.4	-3.0	3.0	0.0	18.0	9.6	-1.0	2.0	2.0	18.0	11.3	0.0	7.0	3.0	18.0	11.3	1.0	-1.0	3.0
29	03/10/2013 16.30	20.0	9.4	-3.0	3.0	0.0	20.0	9.6	-1.0	4.0	1.0	20.0	11.3	1.0	6.0	2.0	20.0	11.3	0.0	-1.0	4.0
30	10/10/2013 08.30	16.0	9.4	-3.0	4.0	1.0	16.0	9.6	0.0	3.0	3.0	16.0	11.3	1.0	8.0	3.0	16.0	11.3	0.0	-1.0	2.0
31	16/10/2013 14.30	23.0	9.4	-2.0	3.0	1.0	23.0	9.6	0.0	2.0	2.0	23.0	11.3	0.0	5.0	4.0	23.0	11.3	0.0	-2.0	3.0
32	24/10/2013 08.30	18.0	9.4	-3.0	3.0	1.0	18.0	9.6	-1.0	2.0	3.0	18.0	11.3	1.0	5.0	4.0	18.0	11.3	0.0	0.0	1.0
33	31/10/2013 14.30	23.0	9.4	-3.0	3.0	1.0	23.0	9.6	-1.0	2.0	2.0	23.0	11.3	1.0	7.0	4.0	23.0	11.3	-1.0	-2.0	3.0
34	07/11/2013 08.30	11.0	9.4	-3.0	3.0	1.0	11.0	9.6	-2.0	4.0	2.0	11.0	11.3	1.0	6.0	4.0	11.0	11.3	0.0	-1.0	1.0
35	14/11/2013 14.30	20.0	9.4	-3.0	2.0	1.0	20.0	9.6	-1.0	3.0	3.0	20.0	11.3	1.0	7.0	3.0	20.0	11.3	0.0	-1.0	2.0
36	25/11/2013 15.30	12.0	9.4	-2.0	3.0	1.0	12.0	9.6	0.0	3.0	4.0	12.0	11.3	1.0	8.0	4.0	12.0	11.3	0.0	0.0	1.0
37	30/11/2013 08.30	7.0	9.4	-3.0	3.0	1.0	7.0	9.6	-1.0	4.0	4.0	7.0	11.3	2.0	8.0	4.0	7.0	11.3	0.0	1.0	2.0
38	05/12/2013 08.30	7.0	9.4	-3.0	3.0	1.0	7.0	9.6	0.0	3.0	2.0	7.0	11.3	2.0	6.0	3.0	7.0	11.3	0.0	-1.0	2.0
39	19/12/2013 13.00	8.0	9.4	-4.0	3.0	0.0	8.0	9.6	-2.0	3.0	1.0	8.0	11.3	0.0	5.0	1.0	8.0	11.3	-2.0	-2.0	0.0
40	27/12/2013 09.00	8.0	9.4	-4.0	1.0	1.0	8.0	9.6	-1.0	2.0	2.0	8.0	11.3	-1.0	6.0	1.0	8.0	11.3	-2.0	-1.0	0.0
41	02/01/2014 07.30	14.0	9.4	-5.0	1.0	3.0	14.0	9.6	-1.0	2.0	3.0	14.0	11.3	0.0	5.0	1.0	14.0	11.3	-2.0	-1.0	0.0
42	08/01/2014 14.30	14.0	9.4	-2.0	5.0	2.0	14.0	9.6	0.0	5.0	2.0	14.0	11.3	2.0	8.0	3.0	14.0	11.3	0.0	-2.0	3.0
43	15/01/2014 08.30	11.0	9.4	-2.0	5.0	2.0	11.0	9.6	0.0	6.0	3.0	11.0	11.3	2.0	9.0	2.0	11.0	11.3	0.0	-2.0	1.0

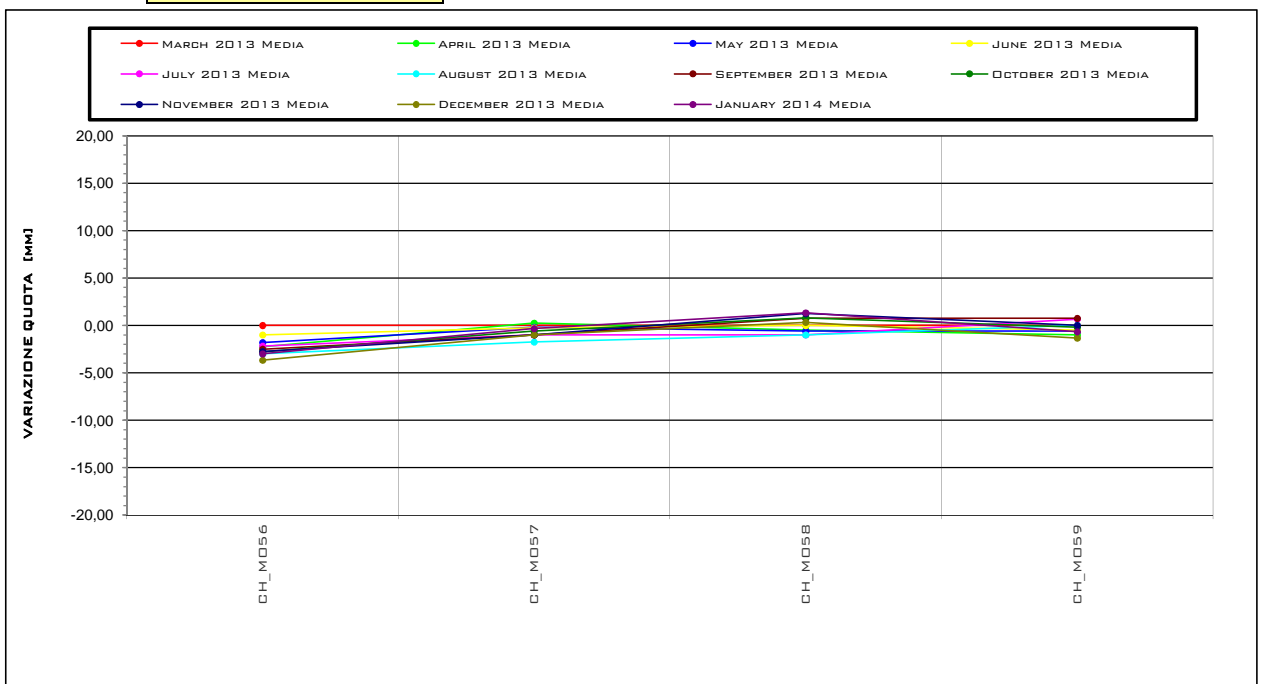


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 56-59  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013

**GRAFICO QUOTA**

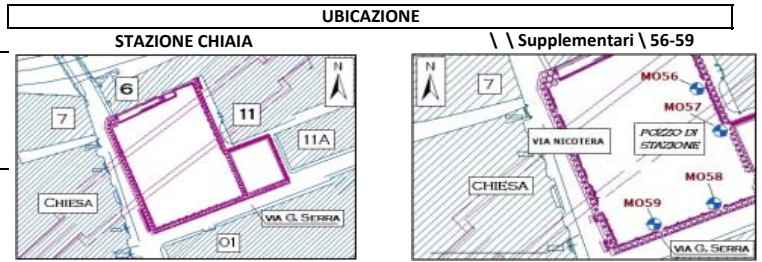


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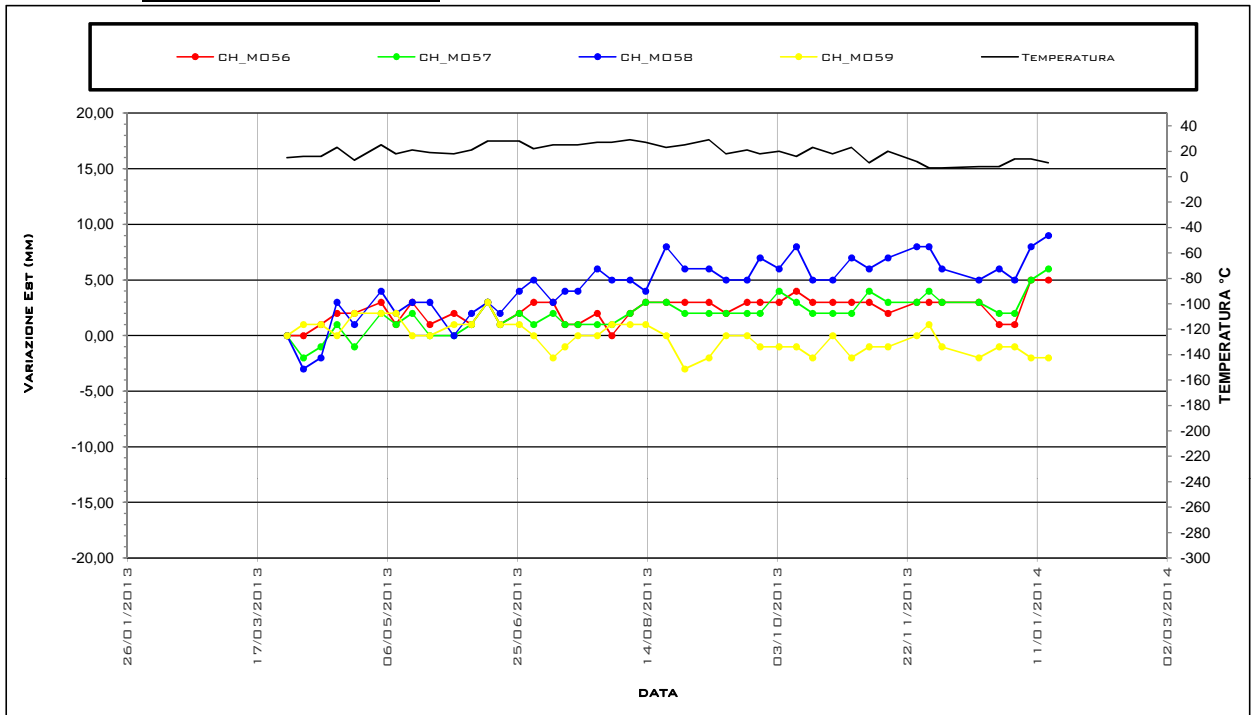




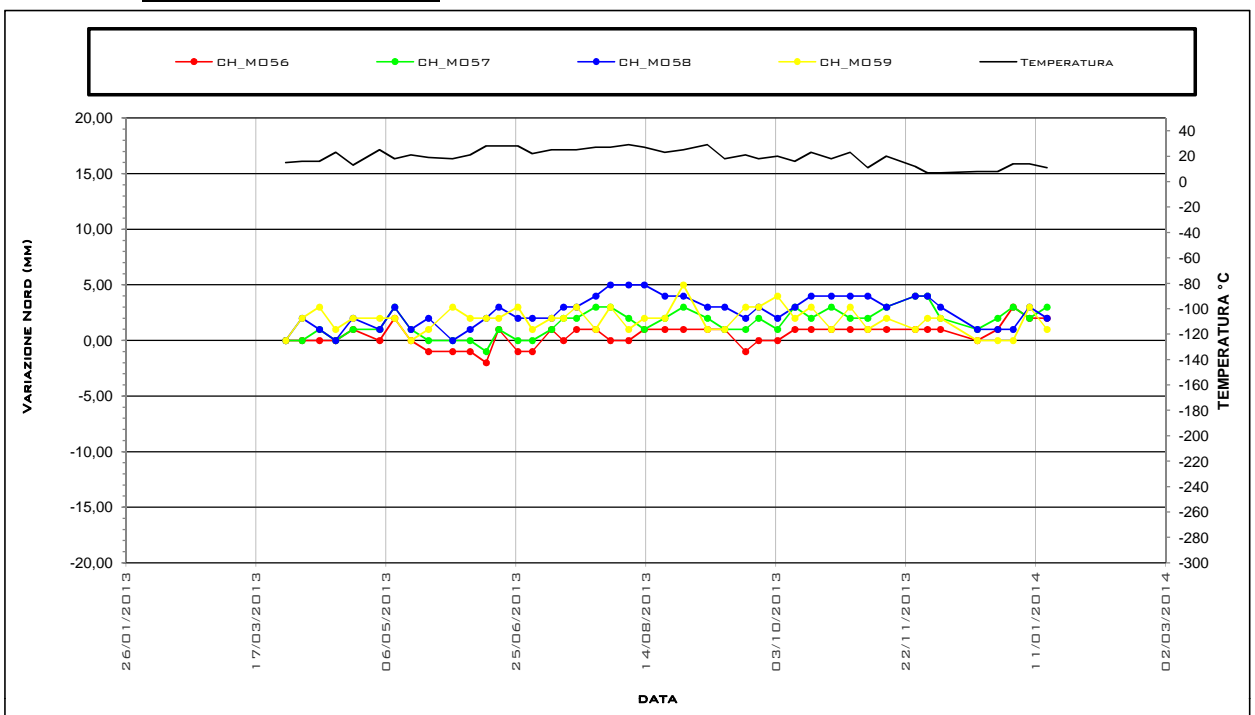
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 56-59  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013



**GRAFICO EST**



**GRAFICO NORD**





**Ubicazione STAZIONE CHIAIA**

**Opera \ \ Supplementari \ 60-61**

**Tipo Strumento Mire Ottiche**

**Data posa in opera 28/03/2013**

**Data lettura di zero 28/03/2013**

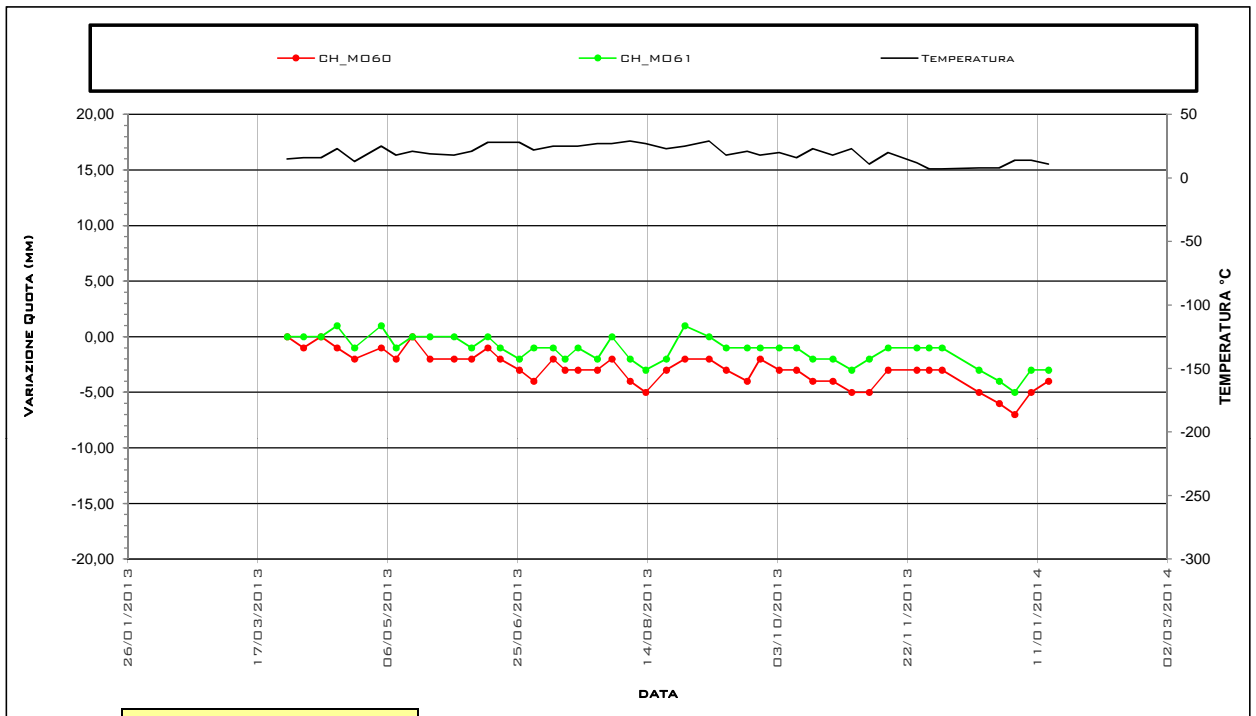
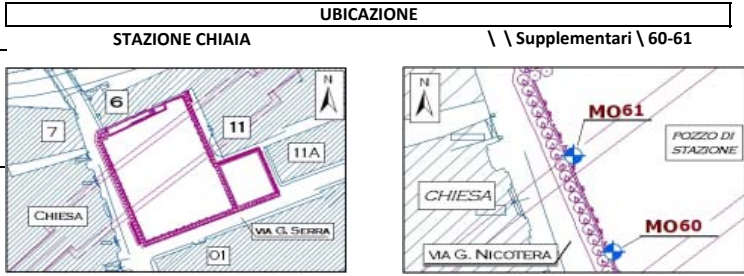
**Ultima Misura** 43 **in data** 15/01/2014

Letto. n°	DATA	CH_M060					CH_M061				
		Temp. Media[° C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media[° C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]
1	28/03/2013 11.00	15,0	14,3	0,0	0,0	0,0	15,0	14,5	0,0	0,0	0,0
2	03/04/2013 17.30	16,0	14,3	-1,0	0,0	0,0	16,0	14,5	0,0	0,0	0,0
3	10/04/2013 10.30	16,0	14,3	0,0	1,0	1,0	16,0	14,5	0,0	-1,0	1,0
4	16/04/2013 15.00	23,0	14,3	-1,0	-1,0	0,0	23,0	14,5	1,0	-1,0	0,0
5	23/04/2013 08.30	13,0	14,3	-2,0	1,0	1,0	13,0	14,5	-1,0	0,0	0,0
6	03/05/2013 14.30	25,0	14,3	-1,0	2,0	-1,0	25,0	14,5	1,0	0,0	0,0
7	09/05/2013 08.30	18,0	14,3	-2,0	1,0	1,0	18,0	14,5	-1,0	-1,0	-1,0
8	15/05/2013 14.30	21,0	14,3	0,0	0,0	0,0	21,0	14,5	0,0	0,0	0,0
9	22/05/2013 08.30	19,0	14,3	-2,0	0,0	0,0	19,0	14,5	0,0	-1,0	1,0
10	31/05/2013 15.30	18,0	14,3	-2,0	1,0	1,0	18,0	14,5	0,0	-1,0	1,0
11	07/06/2013 08.30	21,0	14,3	-2,0	1,0	1,0	21,0	14,5	-1,0	1,0	2,0
12	13/06/2013 14.30	28,0	14,3	-1,0	4,0	-1,0	28,0	14,5	0,0	2,0	-1,0
13	18/06/2013 09.00	28,0	14,3	-2,0	2,0	2,0	28,0	14,5	-1,0	0,0	2,0
14	25/06/2013 18.00	28,0	14,3	-3,0	1,0	1,0	28,0	14,5	-2,0	0,0	1,0
15	01/07/2013 07.30	22,0	14,3	-4,0	0,0	1,0	22,0	14,5	-1,0	0,0	1,0
16	08/07/2013 17.30	25,0	14,3	-2,0	-2,0	0,0	25,0	14,5	-1,0	-1,0	1,0
17	13/07/2013 07.30	25,0	14,3	-3,0	0,0	2,0	25,0	14,5	-2,0	0,0	2,0
18	18/07/2013 07.30	25,0	14,3	-3,0	1,0	1,0	25,0	14,5	-1,0	-1,0	1,0
19	25/07/2013 18.00	27,0	14,3	-3,0	0,0	2,0	27,0	14,5	-2,0	0,0	1,0
20	31/07/2013 09.00	27,0	14,3	-2,0	1,0	1,0	27,0	14,5	0,0	0,0	2,0
21	07/08/2013 09.00	29,0	14,3	-4,0	0,0	1,0	29,0	14,5	-2,0	-2,0	2,0
22	13/08/2013 09.00	27,0	14,3	-5,0	-1,0	1,0	27,0	14,5	-3,0	-3,0	2,0
23	21/08/2013 07.30	23,0	14,3	-3,0	0,0	2,0	23,0	14,5	-2,0	0,0	2,0
24	28/08/2013 10.30	25,0	14,3	-2,0	-1,0	5,0	25,0	14,5	1,0	-2,0	4,0
25	06/09/2013 17.30	29,0	14,3	-2,0	0,0	2,0	29,0	14,5	0,0	-1,0	2,0
26	13/09/2013 07.30	18,0	14,3	-3,0	0,0	0,0	18,0	14,5	-1,0	0,0	0,0
27	21/09/2013 09.30	21,0	14,3	-4,0	-1,0	3,0	21,0	14,5	-1,0	-1,0	2,0
28	26/09/2013 09.30	18,0	14,3	-2,0	-1,0	1,0	18,0	14,5	-1,0	-2,0	1,0
29	03/10/2013 16.30	20,0	14,3	-3,0	0,0	2,0	20,0	14,5	-1,0	-2,0	2,0
30	10/10/2013 08.30	16,0	14,3	-3,0	-1,0	1,0	16,0	14,5	-1,0	-1,0	1,0
31	16/10/2013 14.30	23,0	14,3	-4,0	-1,0	2,0	23,0	14,5	-2,0	-2,0	2,0
32	24/10/2013 08.30	18,0	14,3	-4,0	1,0	1,0	18,0	14,5	-2,0	-1,0	0,0
33	31/10/2013 14.30	23,0	14,3	-5,0	-1,0	2,0	23,0	14,5	-3,0	-2,0	2,0
34	07/11/2013 08.30	11,0	14,3	-5,0	-1,0	0,0	11,0	14,5	-2,0	-1,0	0,0
35	14/11/2013 14.30	20,0	14,3	-3,0	-1,0	2,0	20,0	14,5	-1,0	-1,0	1,0
36	25/11/2013 15.30	12,0	14,3	-3,0	1,0	1,0	12,0	14,5	-1,0	-1,0	0,0
37	30/11/2013 08.30	7,0	14,3	-3,0	1,0	2,0	7,0	14,5	-1,0	1,0	1,0
38	05/12/2013 08.30	7,0	14,3	-3,0	-1,0	1,0	7,0	14,5	-1,0	-2,0	1,0
39	19/12/2013 13.00	8,0	14,3	-5,0	-2,0	2,0	8,0	14,5	-3,0	-3,0	2,0
40	27/12/2013 09.00	8,0	14,3	-6,0	-3,0	3,0	8,0	14,5	-4,0	-4,0	4,0
41	02/01/2014 07.30	14,0	14,3	-7,0	-2,0	2,0	14,0	14,5	-5,0	-4,0	3,0
42	08/01/2014 14.30	14,0	14,3	-5,0	-2,0	2,0	14,0	14,5	-3,0	-3,0	2,0
43	15/01/2014 08.30	11,0	14,3	-4,0	-2,0	1,0	11,0	14,5	-3,0	-3,0	1,0

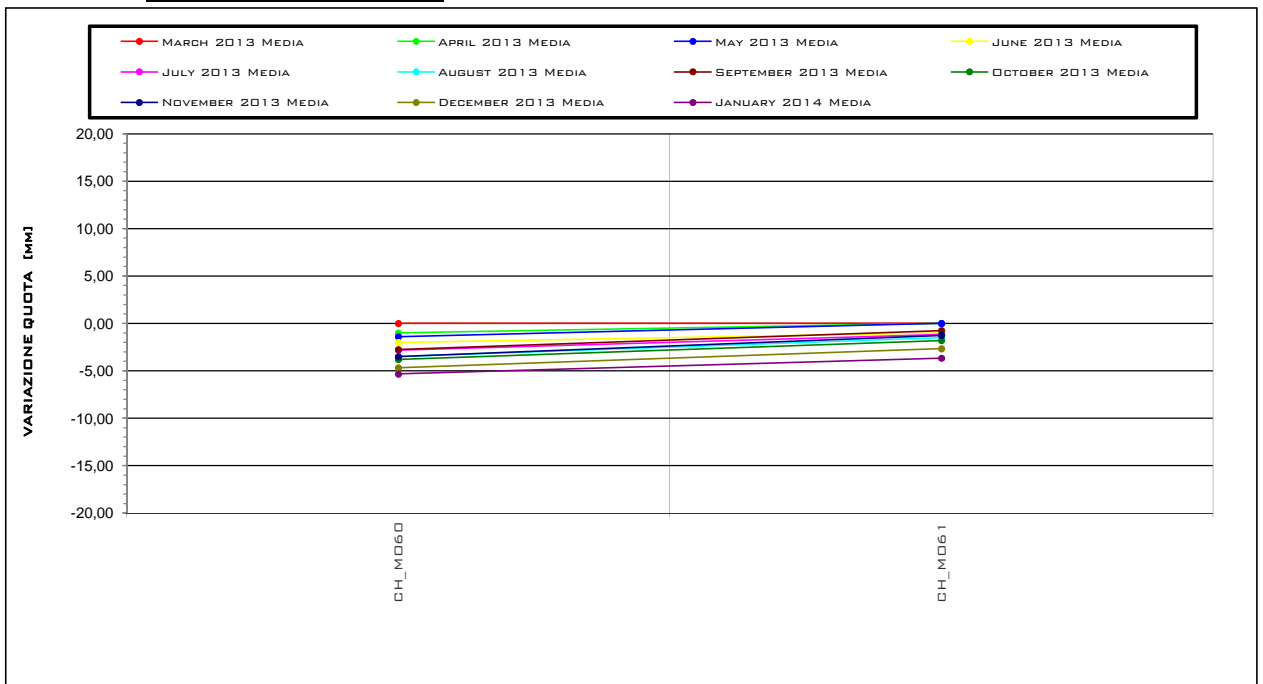


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 60-61  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013

**GRAFICO QUOTA**

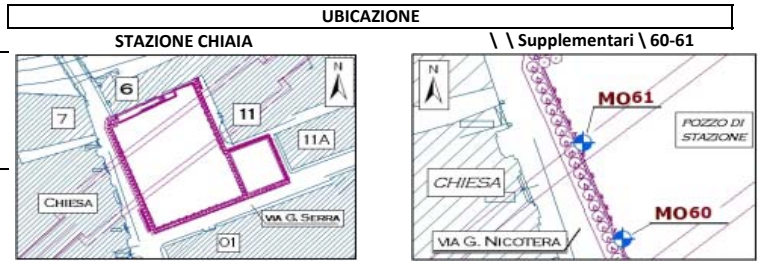


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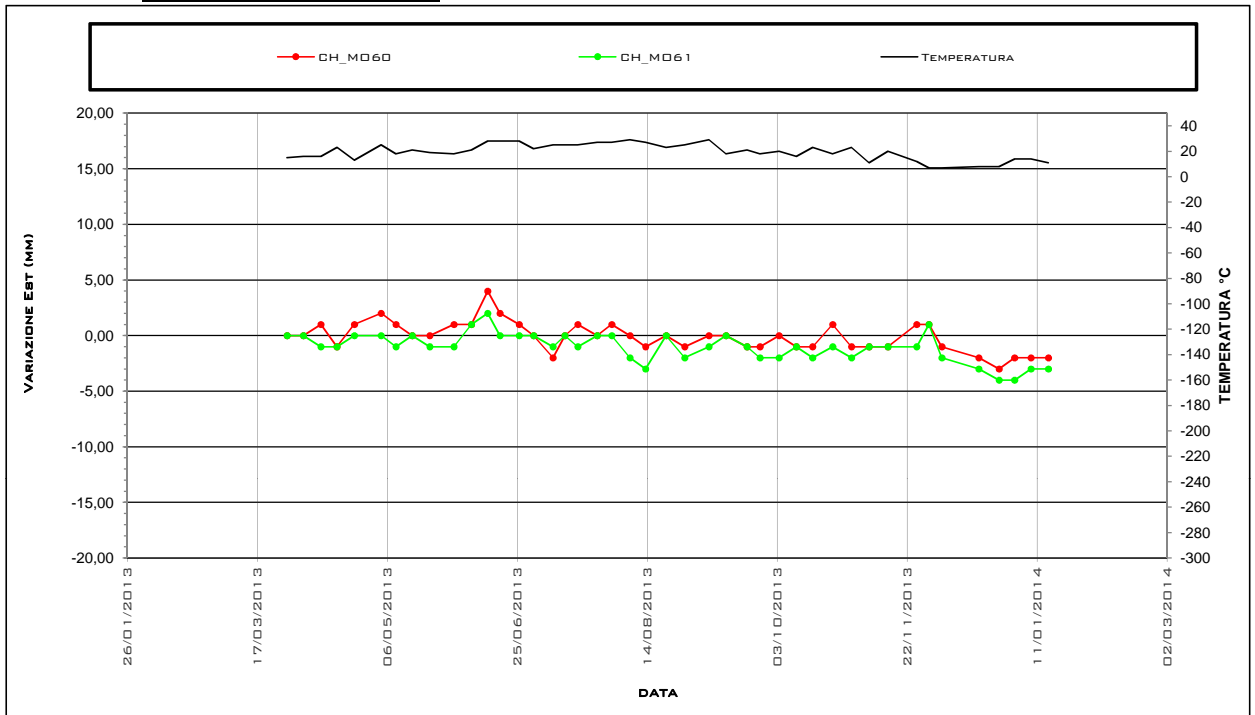




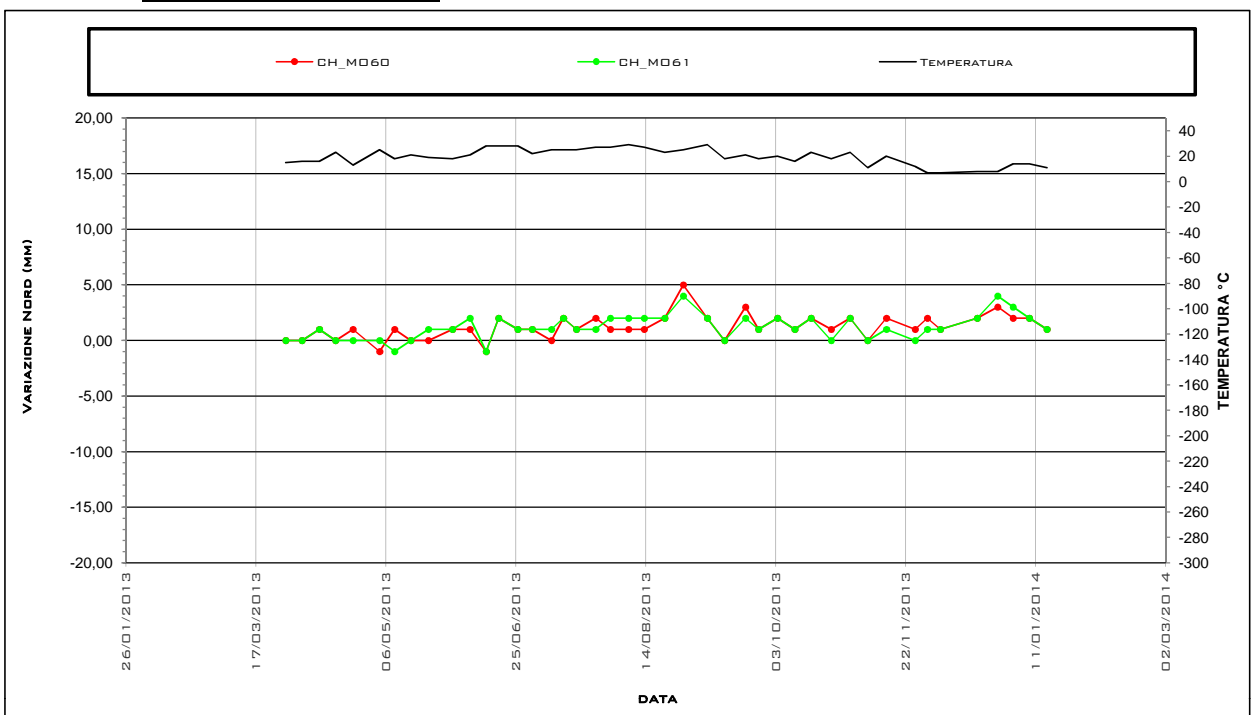
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 60-61  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013



**GRAFICO EST**



**GRAFICO NORD**





Ubicazione STAZIONE CHIAIA

Opera \ \ Supplementari \ 62-64

Tipo Strumento Mire Ottiche

Data posa in opera 28/03/2013

Data lettura di zero 28/03/2013

Ultima Misura 43 in data 15/01/2014

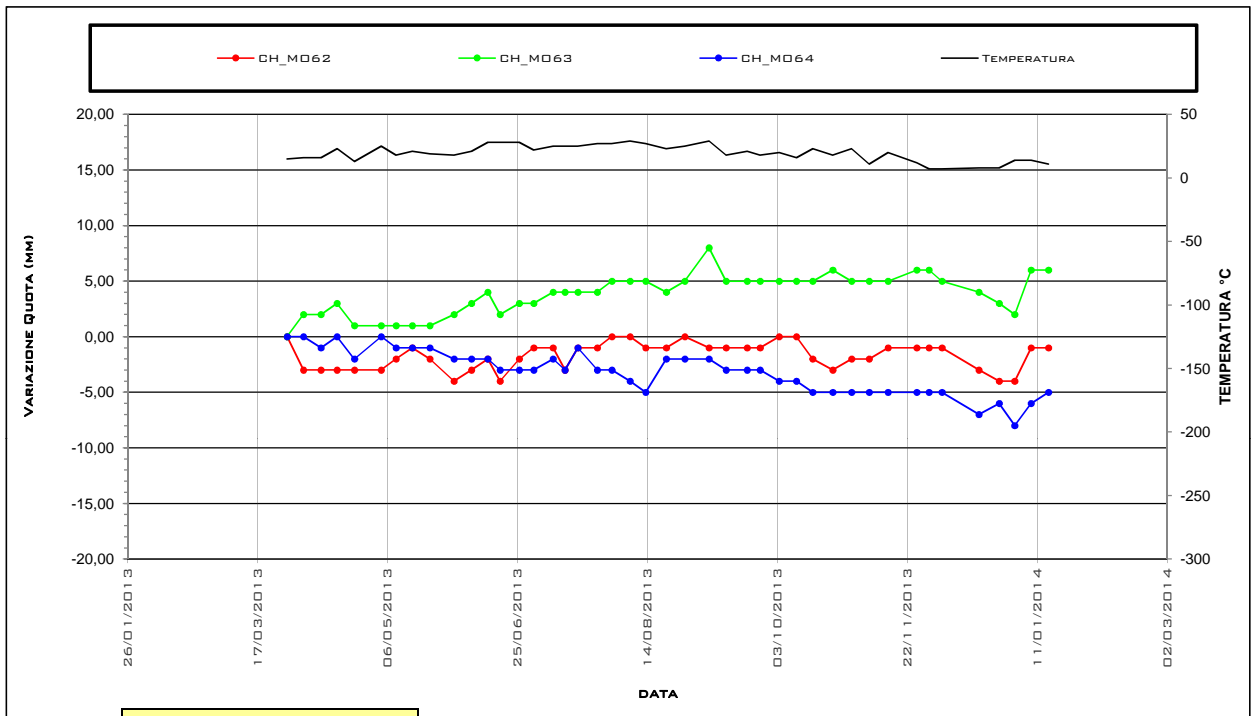
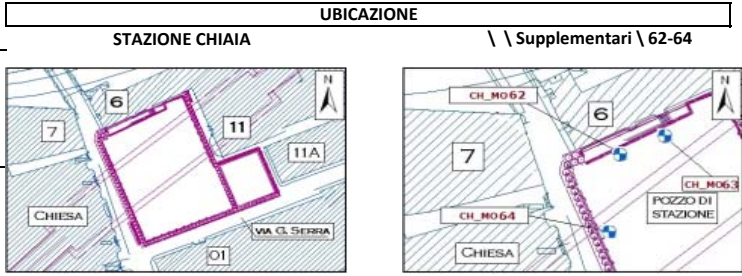
Letto. n°	DATA	CH_M062					CH_M063					CH_M064				
		Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]	Temp. Media [°C]	Quota [m]	Quota Spost. [mm]	Est Spost. [mm]	Nord Spost. [mm]
1	28/03/2013 11.00	15.0	9,4	0,0	0,0	0,0	15,0	9,4	0,0	0,0	0,0	15,0	9,0	0,0	0,0	0,0
2	03/04/2013 17.30	16,0	9,4	-3,0	-2,0	0,0	16,0	9,4	2,0	-1,0	-1,0	16,0	9,0	0,0	-1,0	1,0
3	10/04/2013 10.30	16,0	9,4	-3,0	-2,0	0,0	16,0	9,4	2,0	0,0	1,0	16,0	9,0	-1,0	-1,0	2,0
4	16/04/2013 15.00	23,0	9,4	-3,0	0,0	-1,0	23,0	9,4	3,0	0,0	-3,0	23,0	9,0	0,0	-1,0	1,0
5	23/04/2013 08.30	13,0	9,4	-3,0	-2,0	0,0	13,0	9,4	1,0	0,0	-1,0	13,0	9,0	-2,0	1,0	1,0
6	03/05/2013 14.30	25,0	9,4	-3,0	-1,0	-2,0	25,0	9,4	1,0	1,0	-2,0	25,0	9,0	0,0	0,0	0,0
7	09/05/2013 08.30	18,0	9,4	-2,0	-2,0	0,0	18,0	9,4	1,0	0,0	0,0	18,0	9,0	-1,0	0,0	2,0
8	15/05/2013 14.30	21,0	9,4	-1,0	0,0	-1,0	21,0	9,4	1,0	1,0	-2,0	21,0	9,0	-1,0	0,0	0,0
9	22/05/2013 08.30	19,0	9,4	-2,0	-3,0	0,0	19,0	9,4	1,0	0,0	-2,0	19,0	9,0	-1,0	-1,0	1,0
10	31/05/2013 15.30	18,0	9,4	-4,0	-3,0	0,0	18,0	9,4	2,0	1,0	-1,0	18,0	9,0	-2,0	-1,0	2,0
11	07/06/2013 08.30	21,0	9,4	-3,0	-2,0	0,0	21,0	9,4	3,0	0,0	-2,0	21,0	9,0	-2,0	0,0	2,0
12	13/06/2013 14.30	28,0	9,4	-2,0	-2,0	-1,0	28,0	9,4	4,0	3,0	-2,0	28,0	9,0	-2,0	3,0	0,0
13	18/06/2013 09.00	28,0	9,4	-4,0	-3,0	0,0	28,0	9,4	2,0	1,0	0,0	28,0	9,0	-3,0	0,0	2,0
14	25/06/2013 18.00	28,0	9,4	-2,0	-3,0	0,0	28,0	9,4	3,0	2,0	-3,0	28,0	9,0	-3,0	0,0	2,0
15	01/07/2013 07.30	22,0	9,4	-1,0	-2,0	-1,0	22,0	9,4	3,0	1,0	-2,0	22,0	9,0	-3,0	1,0	0,0
16	08/07/2013 17.30	25,0	9,4	-1,0	-3,0	-1,0	25,0	9,4	4,0	1,0	-2,0	25,0	9,0	-2,0	-3,0	2,0
17	13/07/2013 07.30	25,0	9,4	-3,0	-2,0	0,0	25,0	9,4	4,0	-1,0	-2,0	25,0	9,0	-3,0	-1,0	3,0
18	18/07/2013 07.30	25,0	9,4	-1,0	-3,0	-1,0	25,0	9,4	4,0	-1,0	-2,0	25,0	9,0	-1,0	-1,0	3,0
19	25/07/2013 18.00	27,0	9,4	-1,0	-1,0	-1,0	27,0	9,4	4,0	0,0	-3,0	27,0	9,0	-3,0	0,0	2,0
20	31/07/2013 09.00	27,0	9,4	0,0	-3,0	-2,0	27,0	9,4	5,0	0,0	-3,0	27,0	9,0	-3,0	0,0	3,0
21	07/08/2013 09.00	29,0	9,4	0,0	-3,0	-2,0	29,0	9,4	5,0	0,0	-3,0	29,0	9,0	-4,0	-1,0	3,0
22	13/08/2013 09.00	27,0	9,4	-1,0	-3,0	-3,0	27,0	9,4	5,0	-1,0	-3,0	27,0	9,0	-5,0	-2,0	3,0
23	21/08/2013 07.30	23,0	9,4	-1,0	-2,0	0,0	23,0	9,4	4,0	2,0	-5,0	23,0	9,0	-2,0	1,0	3,0
24	28/08/2013 10.30	25,0	9,4	0,0	-3,0	0,0	25,0	9,4	5,0	1,0	-5,0	25,0	9,0	-2,0	-2,0	4,0
25	06/09/2013 17.30	29,0	9,4	-1,0	-4,0	-1,0	29,0	9,4	8,0	0,0	-5,0	29,0	9,0	-2,0	-2,0	3,0
26	13/09/2013 07.30	18,0	9,4	-1,0	-3,0	-2,0	18,0	9,4	5,0	3,0	-2,0	18,0	9,0	-3,0	-1,0	2,0
27	21/09/2013 09.30	21,0	9,4	-1,0	-2,0	0,0	21,0	9,4	5,0	1,0	-4,0	21,0	9,0	-3,0	0,0	4,0
28	26/09/2013 09.30	18,0	9,4	-1,0	-4,0	0,0	18,0	9,4	5,0	0,0	-5,0	18,0	9,0	-3,0	-2,0	3,0
29	03/10/2013 16.30	20,0	9,4	0,0	-3,0	0,0	20,0	9,4	5,0	1,0	-4,0	20,0	9,0	-4,0	-2,0	3,0
30	10/10/2013 08.30	16,0	9,4	0,0	-3,0	-1,0	16,0	9,4	5,0	2,0	-2,0	16,0	9,0	-4,0	-2,0	3,0
31	16/10/2013 14.30	23,0	9,4	-2,0	-4,0	0,0	23,0	9,4	5,0	1,0	-3,0	23,0	9,0	-5,0	-2,0	3,0
32	24/10/2013 08.30	18,0	9,4	-3,0	-3,0	-1,0	18,0	9,4	6,0	2,0	-2,0	18,0	9,0	-5,0	-1,0	2,0
33	31/10/2013 14.30	23,0	9,4	-2,0	-3,0	0,0	23,0	9,4	5,0	3,0	-3,0	23,0	9,0	-5,0	-2,0	3,0
34	07/11/2013 08.30	11,0	9,4	-2,0	-3,0	-2,0	11,0	9,4	5,0	3,0	-2,0	11,0	9,0	-5,0	-3,0	1,0
35	14/11/2013 14.30	20,0	9,4	-1,0	-4,0	0,0	20,0	9,4	5,0	2,0	-4,0	20,0	9,0	-5,0	-5,0	2,0
36	25/11/2013 15.30	12,0	9,4	-1,0	-3,0	0,0	12,0	9,4	6,0	3,0	-2,0	12,0	9,0	-5,0	-2,0	2,0
37	30/11/2013 08.30	7,0	9,4	-1,0	-3,0	0,0	7,0	9,4	6,0	2,0	-2,0	7,0	9,0	-5,0	-2,0	3,0
38	05/12/2013 08.30	7,0	9,4	-1,0	-3,0	0,0	7,0	9,4	5,0	3,0	-3,0	7,0	9,0	-5,0	-4,0	2,0
39	19/12/2013 13.00	8,0	9,4	-3,0	-3,0	0,0	8,0	9,4	4,0	3,0	-4,0	8,0	9,0	-7,0	-6,0	3,0
40	27/12/2013 09.00	8,0	9,4	-4,0	-2,0	1,0	8,0	9,4	3,0	2,0	-3,0	8,0	9,0	-6,0	-7,0	5,0
41	02/01/2014 07.30	14,0	9,4	-4,0	-1,0	1,0	14,0	9,4	2,0	2,0	-3,0	14,0	9,0	-8,0	-6,0	4,0
42	08/01/2014 14.30	14,0	9,4	-1,0	-6,0	1,0	14,0	9,4	6,0	2,0	-3,0	14,0	9,0	-6,0	-6,0	4,0
43	15/01/2014 08.30	11,0	9,4	-1,0	-4,0	0,0	11,0	9,4	6,0	1,0	-3,0	11,0	9,0	-5,0	-5,0	2,0



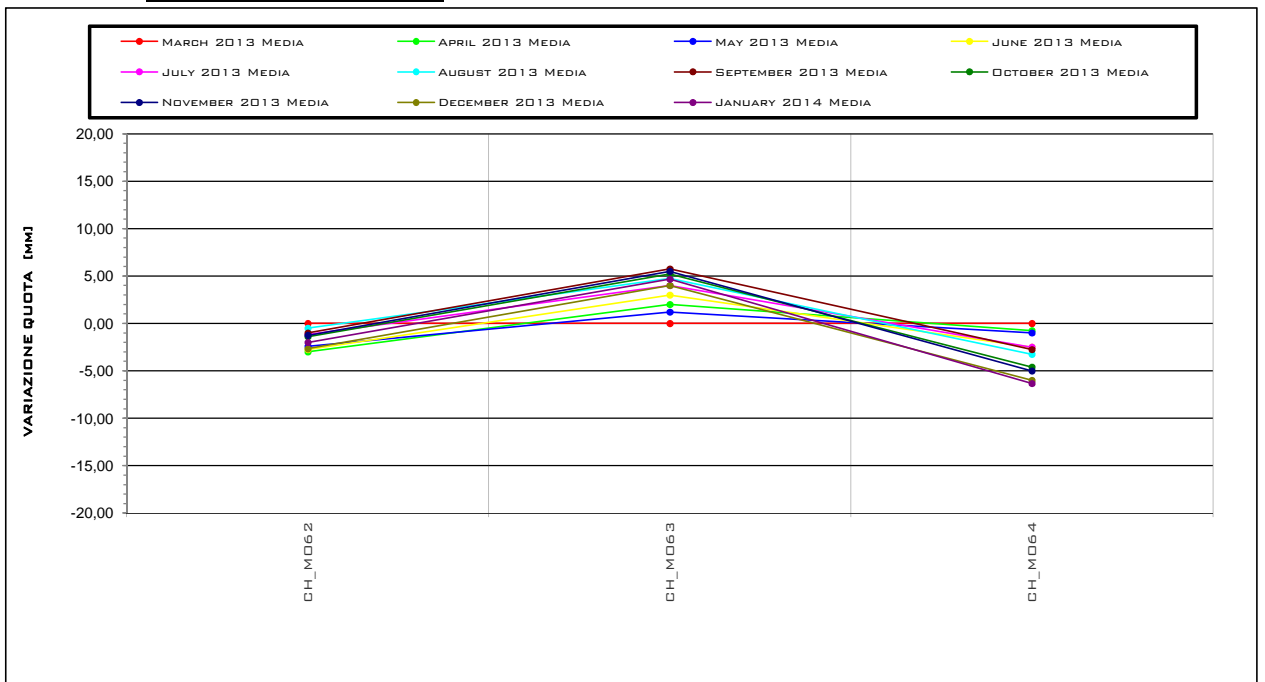


**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 62-64  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013

**GRAFICO QUOTA**



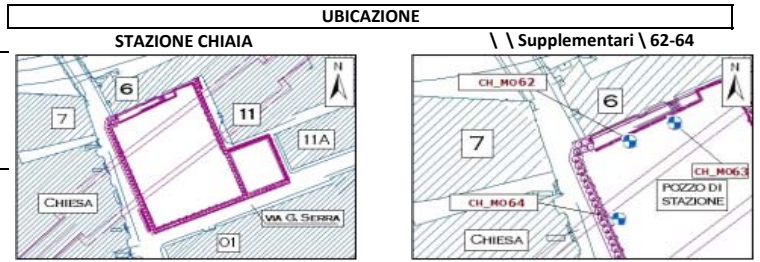
**GRAFICO ISOCRONE**



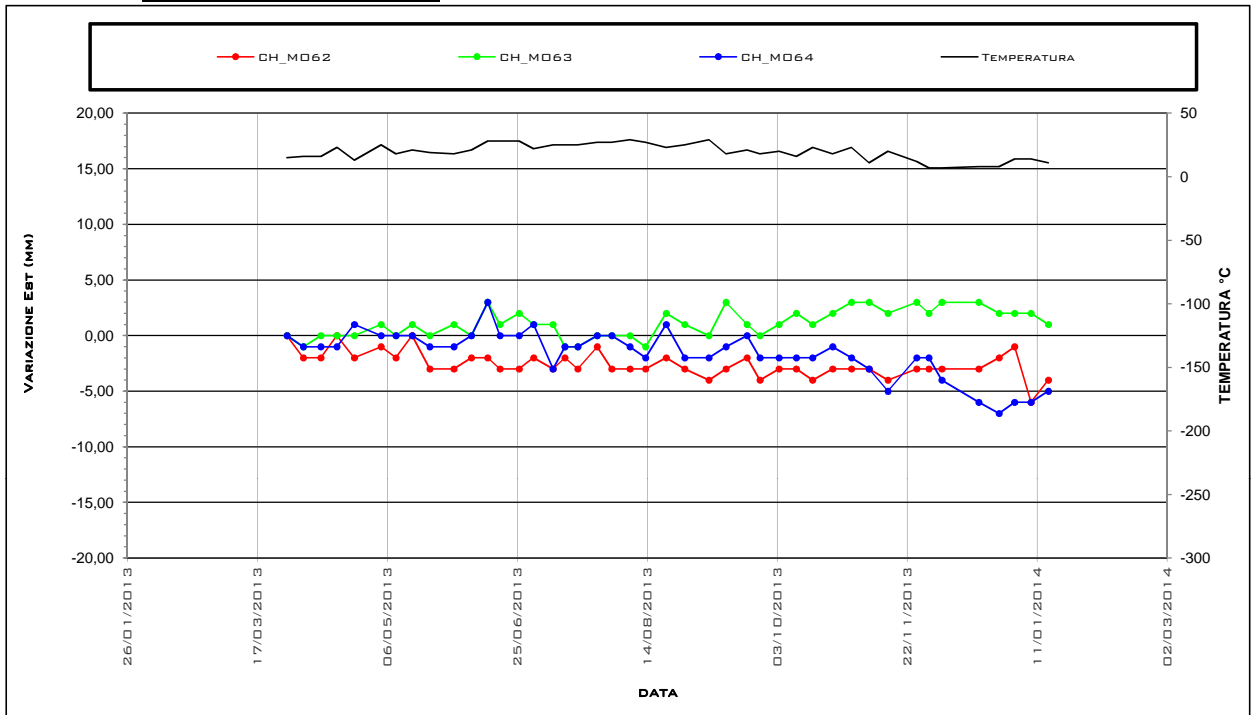




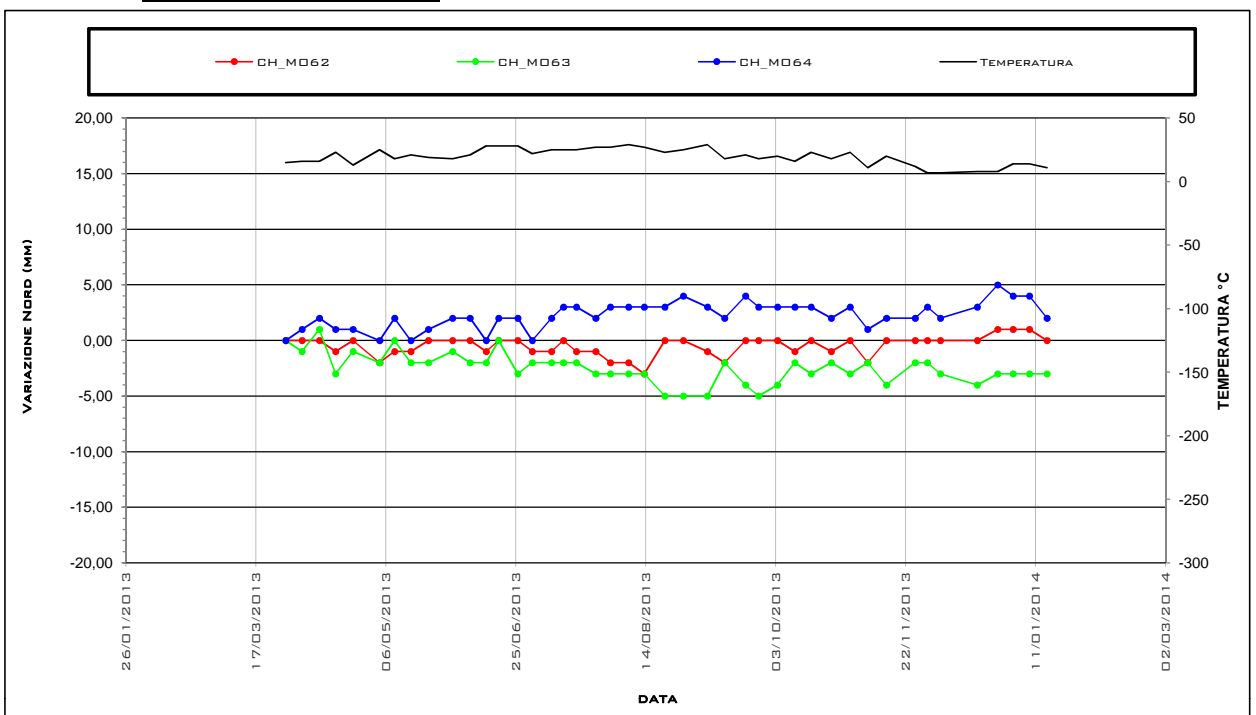
**Ubicazione** STAZIONE CHIAIA  
**Opera** \ \ Supplementari \ 62-64  
**Tipo Strumento** Mire Ottiche  
**Data posa in opera** 28/03/2013  
**Data lettura di zero** 28/03/2013



**GRAFICO EST**



**GRAFICO NORD**



METROPOLITANA LINEA 6 - RESOCONTO MANUTENZIONE TREESSE ENGINEERING S.R.L.



ott-13

SAN PASQUALE




COD.STAZIONE	COD. STRUM.	TIPOLOGIA STRUM.	METRI da p.c.	7/10	8/10	9/10	10/10	11/10	Esito	TOT MESE	TOTALE
SP	SP_PZ1_S	PIEZ. CASAGRANDE	15							0	2
	SP_PZ1_P	PIEZ. CASAGRANDE	30							0	1
SP (nuova installazione)	SP_PZ1_S	PIEZ. CASAGRANDE	15							0	3
	SP_PZ1_P	PIEZ. CASAGRANDE	30							0	3
SP	SP_PZ2_S	PIEZ. CASAGRANDE	15							0	5
	SP_PZ2_P	PIEZ. CASAGRANDE	30							0	5
SP	SP_PZ3_S	PIEZ. CASAGRANDE	15							0	6
	SP_PZ3_P	PIEZ. CASAGRANDE	30							0	6
SP	SP_PZ4_S	PIEZ. CASAGRANDE	15							0	4
	SP_PZ4_P	PIEZ. CASAGRANDE	30							0	4
SP	SP_PZ5_S	PIEZ. CASAGRANDE	15							0	4
	SP_PZ5_P	PIEZ. CASAGRANDE	30							0	4
SP	SP_PZ6_S	PIEZ. CASAGRANDE	15							0	3
	SP_PZ6_P	PIEZ. CASAGRANDE	30							0	3
SP	SP_PZ7_S	PIEZ. CASAGRANDE	15							0	2
	SP_PZ7_P	PIEZ. CASAGRANDE	30							0	2
SP	SP_PZ8_S	PIEZ. CASAGRANDE	40							0	2
	SP_PZ8_P	PIEZ. CASAGRANDE	43							0	2
SP	SP_PZ9_S	PIEZ. CASAGRANDE	15							0	2
	SP_PZ9_P	PIEZ. CASAGRANDE	30							0	2
SP	SP_PZ10_S	PIEZ. CASAGRANDE	40							0	2
	SP_PZ10_P	PIEZ. CASAGRANDE	43							0	2
SP	SP_PZ11_S	PIEZ. CASAGRANDE	40							0	2
	SP_PZ11_P	PIEZ. CASAGRANDE	43							0	2
SP	SP_PZ12_S	PIEZ. CASAGRANDE	15							0	2
	SP_PZ12_P	PIEZ. CASAGRANDE	30							0	2
SP	SP_PZ13_S	PIEZ. CASAGRANDE	15							0	2
	SP_PZ13_P	PIEZ. CASAGRANDE	30							0	2
SP	SP_PZ14_S	PIEZ. CASAGRANDE	40							0	2
	SP_PZ14_P	PIEZ. CASAGRANDE	43							0	2
SP	SP_PZ15_S	PIEZ. CASAGRANDE	22,5							0	1
	SP_PZ15_P	PIEZ. CASAGRANDE	45,5							0	1
SP	SP_PZ16_S	PIEZ. CASAGRANDE	22					1	P	1	2
	SP_PZ16_P	PIEZ. CASAGRANDE	39,5					1	P	1	2
SP	SP_IN1	INCLINOMETRO	20/54							0	2
SP	SP_IN1_1	INCLINOMETRO	44/44							0	4
SP	SP_EI2/ES2	ESTENSO-INCLINOMETRO	54/54							0	4
SP	SP_IN3	INCLINOMETRO	45/45							0	5
SP	SP_IN4	INCLINOMETRO	0/54							0	0
SP	SP_IN4_1	INCLINOMETRO	50/50					1	P	1	4
SP	SP_EI5/ES5	ESTENSO-INCLINOMETRO	54/54							0	2
SP	SP_IN6	INCLINOMETRO	35/54							0	2
SP	SP_IN6_1	INCLINOMETRO	48/48	1					P	1	4
SP	SP_IN_P3	INCLINOMETRO	0/43							0	0
SP	SP_IN_P3_1	INCLINOMETRO	16/33							0	5
SP	SP_IN_P5	INCLINOMETRO	48/48							0	6
SP	SP_IN_P12	INCLINOMETRO	37/45							0	1
SP	SP_IN_P12_1	INCLINOMETRO	43/43							0	2
SP	SP_IN_P13	INCLINOMETRO	49/49							0	6
SP	SP_IN_P25	INCLINOMETRO	0/51							0	0
SP	SP_IN_P26	INCLINOMETRO	45/45							0	9
SP	SP_IN_P61	INCLINOMETRO	0/51							0	0
SP	SP_IN_P64	INCLINOMETRO	28/46							0	6
SP	SP_IN_P74	INCLINOMETRO	42/42		1				P	1	6
SP	SP_IN_P75	INCLINOMETRO	47/47		1				P	1	6
SP	SP_IN_P83	INCLINOMETRO	47/47		1				P	1	6
SP	SP_IN_P84	INCLINOMETRO	35/51							0	1
SP	SP_IN_P84_1	INCLINOMETRO	47/47		1				P	1	5







**LEGENDA**

	IN ROSSO STRUMENTO FUORI USO (per il quale è inutile programmare attività di manutenzione e monitoraggio)
	IN GIALLO STRUMENTO A FUNZIONALITA' RIDOTTA
	IN VERDE STRUMENTO SOSTITUITO
<b>P</b>	ESITO POSITIVO
<b>N</b>	ESITO NEGATIVO
<b>Video</b>	VIDEOISPEZIONE ESEGUITA

**NOTE**

Gli strumenti sottoposti a manutenzione nel periodo indicato, dopo il trattamento di spurgo, lavaggio a pressione, verifica dell'accessibilità tubi di misura, hanno migliorato la loro funzionalità. Superando le prove con esito positivo.

GL\_MA\_PZ1

Per i piezometri tipo Casagrande sotto riportati, si evince la scarsa comunicazione fra i tubi di misura, che indica un ridotto ricircolo dell'acqua all'interno della cella. Dalla risposta strumentale ottenuta durante le fasi di manutenzione, si suppone un funzionamento assimilabile più a piezometri tubo aperto che non a celle tipo Casagrande, ciò potrebbe comportare tempi di risposta più lunghi. Tuttavia questi strumenti continuano a fornire misure correlabili con gli altri strumenti funzionanti, continueranno ad essere regolarmente inseriti nel programma di monitoraggio e di manutenzione.

Cantiere San Pasquale

SP\_PZ1\_P

SP\_PZ1\_S

Cantiere Arco Mirelli

AM\_PZ6\_S

AM\_PZ5\_S

Tratta Mergellina-Arco Mirelli

GL\_MA\_PZ4