

Comune di Faenza

Provincia di Ravenna

PROCEDIMENTO UNICO AI SENSI DELL'ART. 53, COMMA 1,
LETTERA B) DELLA DISCIPLINA REGIONALE SULLA TUTELA E L'USO DEL
TERRITORIO 24/2017 PER L'APPROVAZIONE DEL PROGETTO DI
AMPLIAMENTO DELL'INSEDIAMENTO PRODUTTIVO SCUDERIA ALPHA
TAURI S.P.A.

Area compresa tra via Convertite e via della Boaria,
a Faenza (RA)

LA COMMITTENZA

SPAZIO PER PROTOCOLLO U.T.



Scuderia AlphaTauri S.p.A
Via Boaria n. 229
48018 Faenza (RA) – Italy
P.IVA IT00212230395

Tel: +39 0546 696111

PROGETTO INTEGRATO



PROGETTAZIONE IMPIANTI ELETTRICI

E.S.I. Project Studio tecnico Associato

PROGETTAZIONE IMPIANTI MECCANICI

Studio INGCLIMA S.r.l.

VALUTAZIONE DI SOSTENIBILITÀ AMBIENTALE

Studio AIRIS S.r.l.

Ing. Stefano Neri

Per. Ind. Marco Samorini

Ing. Filippo Borrini

Dott. Geol. Valeriano Franchi

ART.53 DELLA L.R. 24/2017

TITOLO ELABORATO

RELAZIONE GEOLOGICA E SISMICA

REV	DATA	DESCRIZIONE	REDAZIONE	CONTROLLATO	APPROVATO
00	15.09.2023	EMISSIONE	EM	SR	SN

SCALA

TAVOLA

PU.RT.06

RELAZIONE GEOLOGICA- SISMICA E GEOTECNICA

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Allegato 1: Prove penetrometriche statiche con punta elettrica e piezocono CPTu

Allegato 2: Indagini geofisiche

Allegato 3: Analisi di liquefazione

RELAZIONE GEOLOGICA E SISMICA

PREMESSA

Il presente studio geologico, geomorfologico geotecnico e sismico è stato realizzato per verificare l'idoneità di un'area interessata dal progetto per la realizzazione di un parcheggio, ubicato in un lotto di terreno in via della Boaria nel Comune di Faenza (RA), con un procedimento ai sensi dell'art.53 della L.R. 24/2017.

In questa sede verranno considerati tutti quegli elementi geologici, geotecnici, idrogeologici e sismici necessari per una valutazione del progetto proposto.

L'indagine è stata finalizzata alla definizione dei caratteri geologico-ambientali della zona in oggetto, con particolare riferimento alle caratteristiche geologiche, litostratigrafiche, geotecniche, morfologiche ed idrogeologiche, al fine di stabilire la compatibilità geologica del progetto proposto.

Lo studio è stato condotto nel rispetto delle normative vigenti in materia, L.R. 24/2017 e seguenti, con specifico riferimento agli aspetti di microzonazione sismica come da DGR 630/2019 e seguenti; DM 11.03.1988, con riferimento specifico agli aspetti sismici come da DM 17.01.2018.

Ai fini della realizzazione del presente studio, per l'adempimento delle specifiche normative è stato effettuato un sopralluogo sull'area in data 08/08/2023 al fine di verificarne l'assetto geologico e geomorfologico. Per la caratterizzazione litostratigrafica e geotecnica dei terreni presenti nel sottosuolo, si è fatto riferimento sia a dati e cartografie desunti dalla bibliografia che a quelli relativi dell'apposita campagna geognostica, eseguita in data 08/08/2023, espletata mediante l'esecuzione di n. 2 prove penetrometriche statiche con punta elettrica e piezocono (CPTu), spinte fino alla profondità massima di 20 metri dal piano campagna.

Per la classificazione sismica del terreno di sottofondazione sono stati utilizzati i risultati di un'indagine a sismica attiva (MASW) e di un'indagine a sismica passiva (HVSR), entrambe eseguite sul terreno naturale dell'area in esame. È stato così possibile interpretare il profilo con la profondità delle velocità delle onde S, permettendo di calcolare il parametro di normativa V_{s30} , funzionale alla definizione della categoria di suolo di fondazione come da NTC18, nonché all'ottenimento dei parametri sismici mediante approccio semplificato.

L'HVSR ha permesso anche di identificare la frequenza di vibrazione fondamentale del terreno.

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SIMBOLOGIA			
	QUOTA ALTIMETRICA		POZZETTO A CANTONI A BOCCA DI LUPO ESISTENTE
	RECINZIONE ESISTENTE		POZZETTO CANTONI ESISTENTE
	FASCE DI RISPETTO METANOODOTTO SWM		POZZETTO DI ISPEZIONE PREFABBRICATO CON CHIUSINO
	PAVIMENTAZIONE TERRENO E PIETRE		SIEPE ESISTENTE
	FOSSE/CANALE DI SCOLDO		PALEGGIATA LINEA ENEL/TELECOMUNICAZIONI
	AREA DI INTERVENTO (PERIMETRO ART.53)		AREE VERDI MODIFICARE
	AREE LOTTI PRIVATI/PUBBLICI		MARCIAPIEDE PEDONALE ESISTENTE
	AREE NON SOGGETTE DI INTERVENTO		CARREGGIATA ESISTENTE
	IN CORSO DI ESECUZIONE Prot. DILA 48073/2023		AREA FUEL CELL IN CHIAVI
	AREA OPERE PUBBLICHE		INGRESSO AREA PRIVATA
	AREA OPERE EXTRA AMBITO		ALBERATURA ESISTENTE
	AREA OPERE PRIVATE		FONDAZIONE PEDONALE CON COPERTURA FOTOVOLTAICA
			LAMPIONE ILLUMINAZIONE PUBBLICA ESISTENTE
			MODULO PANNELLO FOTOVOLTAICO DILA 48073/2023

Figura 2 – Planimetria generale di progetto del parcheggio privato oggetto dell'Art. 53

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2. INQUADRAMENTO GEOGRAFICO

L'area oggetto del presente studio ricade nel territorio comunale di Faenza e si colloca a nordovest del capoluogo, a una quota di circa 29 m slm ed è delimitata a ovest dal Torrente Senio e a sudest dal Fiume Lamone. In particolare, si colloca su un sedime confinato dalla viabilità ordinaria di via della Boaria sul lato Est, dalla viabilità privata del civico 58 di via Della Boaria sul lato Ovest, dalla viabilità ordinaria di via Convertite sul lato Sud e da campi coltivati sul lato Nord. Sui confini Est e Sud il sedime interessato confina con il tessuto industriale del Comune di Faenza.

Da un punto di vista cartografico, l'area in esame è compresa nella Cartografia Tecnica Regionale nella Tavola a scala 1:25.000 n. 239NE denominata "Cotignola", nella Sezione a scala 1:10.000 n. 239070 denominata "Cassanigo" e nell'Elemento a scala 1:5.000 n. 239073 denominato "Palazzo del Pane" (Figure 3 e 4).

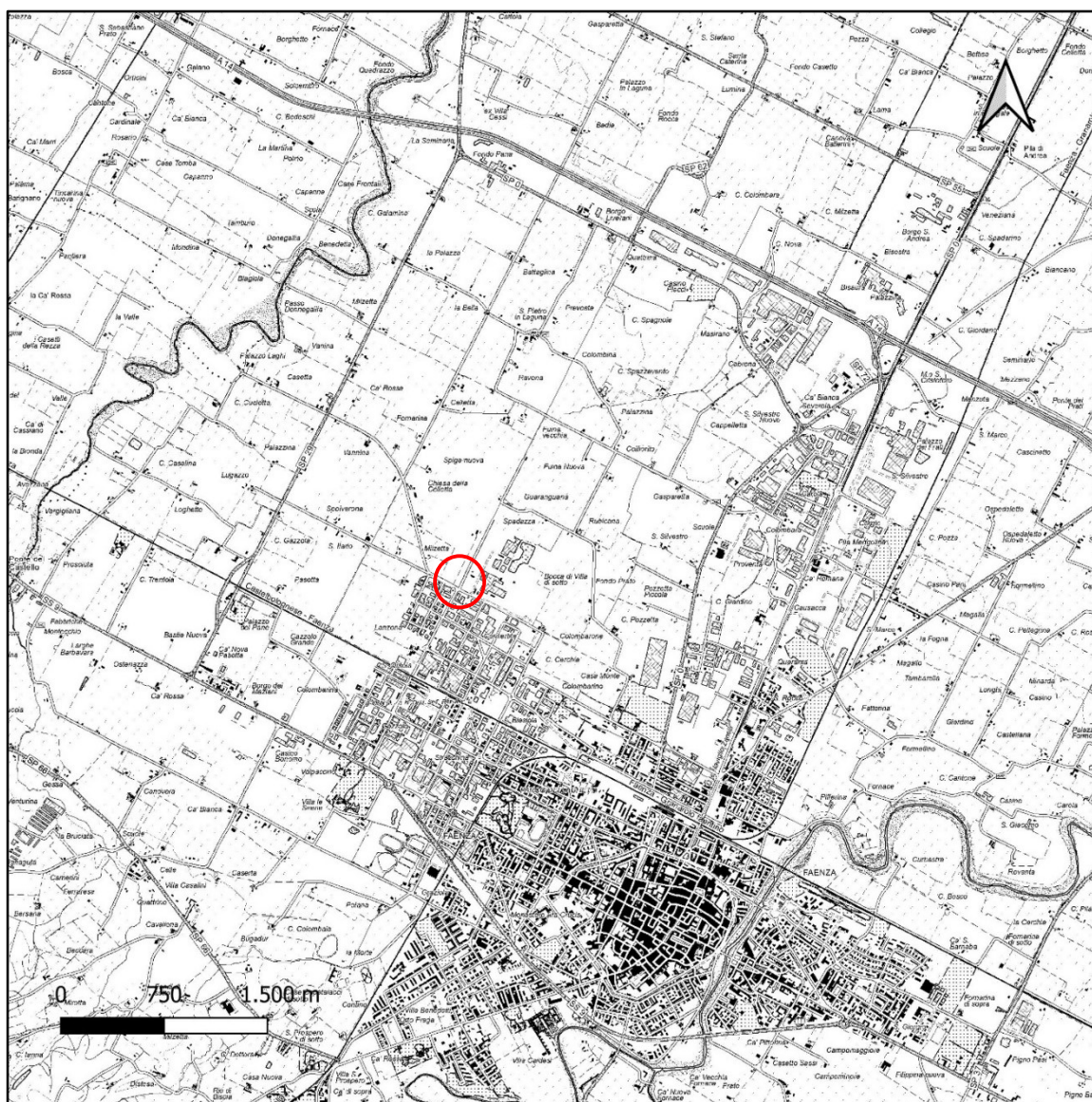


Figura 3 – Corografia. Area in esame su CTR a scala 1:25.000 Tav. 239 NE denominata "Cotignola"

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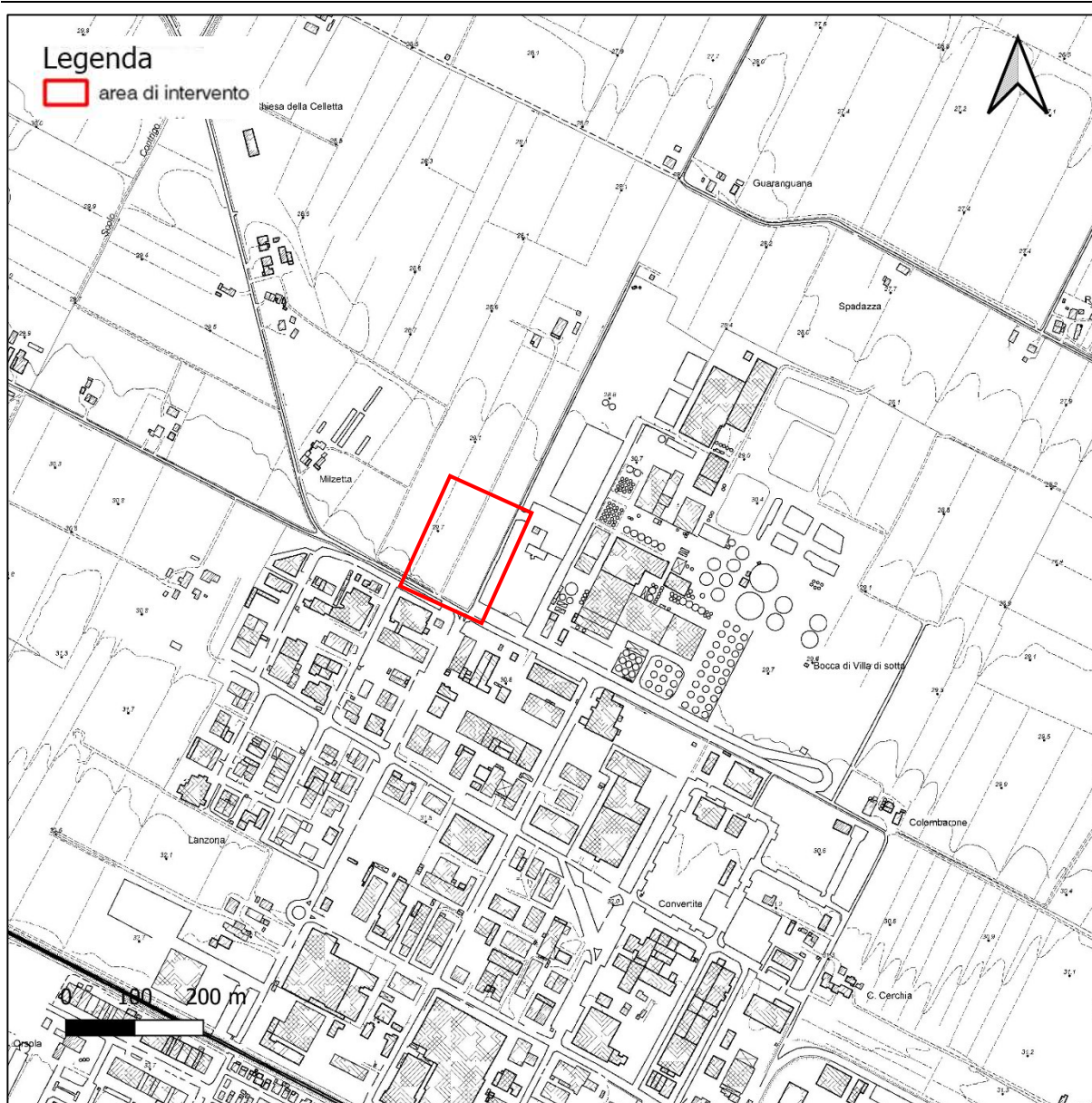


Figura 4: Inquadramento area di intervento su CTR a scala 1:5.000 Elemento Nr. 239073 "Palazzo del Pane".

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3. GEOLOGIA E GEOMORFOLOGIA DELL'AREA

L'area di studio risulta interamente impostata sui depositi alluvionali di pianura appartenenti al Subsistema di Ravenna (AES8).

Nei settori intravallivi e allo sbocco delle valli appenniniche, tale Unità è costituita da depositi di terrazzo alluvionale, i cui ordini sono separati da scarpate di pochi metri. I depositi di terrazzo sono in genere caratterizzati da circa 2 m di ghiaie, sovrastati da una copertura limoso-sabbiosa, la quale presenta un profilo di alterazione pedogenetica che può raggiungere un metro di spessore.

In posizione più distale rispetto allo sbocco delle valli appenniniche il Subsistema di Ravenna affiora estesamente ed è costituito da sabbie, limi e argille; il limite superiore è dato da suoli variabili da non calcarei a calcarei. I suoli non calcarei e scarsamente calcarei hanno colore bruno scuro e bruno scuro giallastro, con spessore dell'alterazione da 0,5 ad 1,5 m, contengono frequenti reperti archeologici di età del Bronzo, del Ferro e Romana. I suoli calcarei appartengono all'unità AES8a. Limite inferiore erosivo sui depositi marini e alluvionali sottostanti. Il Subsistema di Ravenna contiene un'unità a limiti inconformi di rango gerarchico inferiore (AES8a) che, dove presente, ne costituisce il tetto stratigrafico. Spessore massimo in pianura di 25 metri circa. Pleistocene sup. - Olocene (14 ka - attuale; datazione ¹⁴C).

RELAZIONE GEOLOGICA E SISMICA

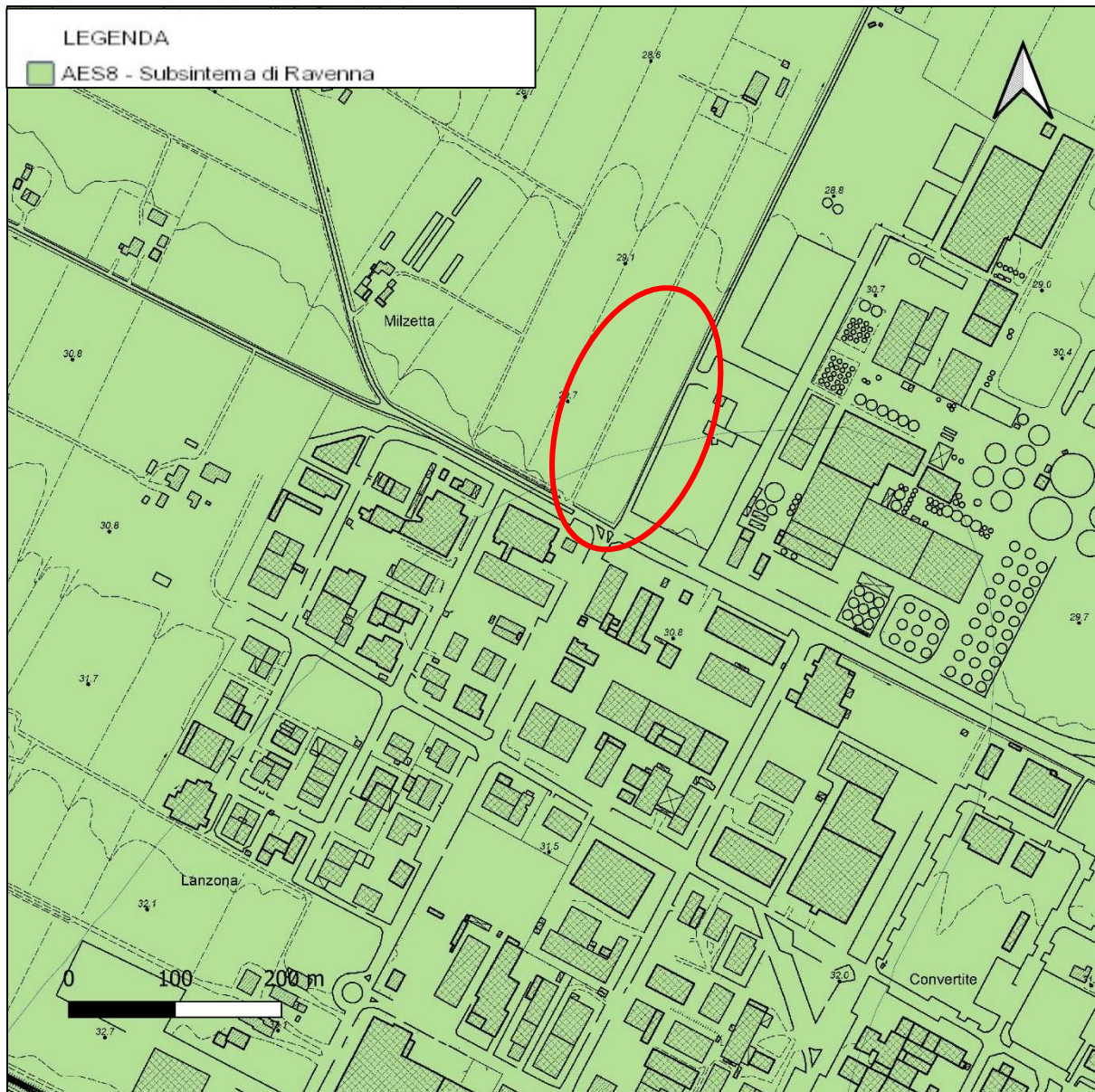


Figura 5: Estratto della "Carta Geologica della Regione Emilia-Romagna" – Scala 1:5.000

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4. INDAGINI GEOGNOSTICHE

Al fine di analizzare le caratteristiche litostratigrafiche, sismiche e geotecniche dei terreni presenti nell'area oggetto di studio, nel mese di agosto 2023 è stata eseguita una campagna geognostica nell'area stessa, i cui dettagli per quanto riguarda la strumentazione utilizzata, le procedure di acquisizione ed elaborazione dei dati e i risultati, sono riportati integralmente nei paragrafi successivi e nei relativi report allegati. La campagna è stata condotta mediante l'esecuzione delle seguenti indagini:

- n. 2 prove penetrometriche statiche con punta elettrica e piezocono (CPTu);

L'ubicazione delle prove è mostrata nella planimetria riportata in Figura 6, in cui vengono identificate anche le ubicazioni delle indagini geofisiche HVSR e MASW, a cui si rimanda nell'Allegato 2.

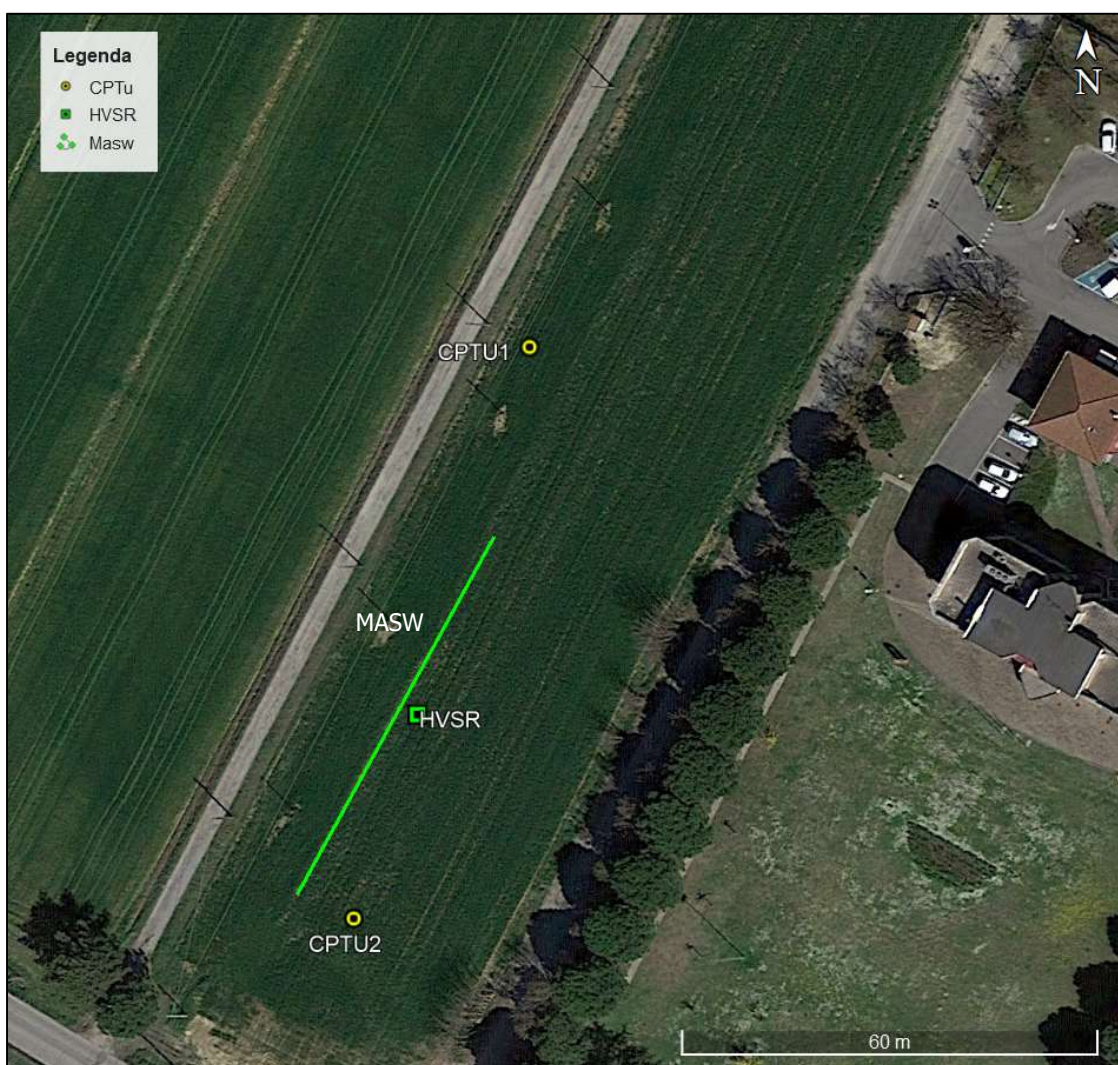


Figura 6: Ubicazione delle indagini geognostiche e geofisiche.

RELAZIONE GEOLOGICA E SISMICA

4.1. Prove penetrometriche statiche con punta elettrica e piezocono (CPTu)

Per l'esecuzione delle prove penetrometriche statiche è stato utilizzato un penetrometro tipo Pagani Tg-63 da 100 kN; la perforazione è stata effettuata mediante un piezocono Pagani MKS988, con le seguenti caratteristiche tecniche:

Area di punta	10.00 cm ²
Diametro	35.80 mm
Superficie manicotto	150.00 cm ²
Resistenza di punta (qc):	50; 100 MPa
Attrito laterale (fs):	1.6 MPa (titanio)
Pressione nei pori (U):	2.5 MPa
Inclinazione:	0-20°
Tip area factor (a):	0.80
Sleeve area factor (b):	0
Angolo di apertura cono:	60°
Diametro:	35.8 mm
Sezione di spinta:	10 cm ²
Superficie laterale:	150 cm ²
Peso:	1.66 kg
Lunghezza:	290 mm

I dati ottenuti dalla prova CPTu sono stati interpretati in modo da risalire alla natura litologica dei terreni indagati mediante il diagramma Soil Behaviour Type (SBT) di ROBERTSON (1990), basato sui valori di Q_t (*total cone resistance*) e $R_f\%$ (*friction ratio*) e su I_c (Indice di comportamento, o *Soil Behaviour Type Index*) di ROBERTSON (2010). Si sono inoltre stimati i principali parametri geotecnici in condizioni non drenate tramite l'applicazione di correlazioni empiriche comunemente usate.

Riprese fotografiche delle prove penetrometriche eseguite



Al termine delle prove penetrometriche è stata eseguita la misura della soggiacenza della falda freatica all'interno dei fori di sondaggio. Le profondità raggiunte da ciascuna prova e i risultati delle misure di soggiacenza eseguite sono riportati nella tabella seguente.

RELAZIONE GEOLOGICA E SISMICA

Profondità di indagine e valori di soggiacenza nei fori di sondaggio delle prove CPTu

PROVA	Profondità di indagine	Soggiacenza (*)
CPTu-1	-19.86 m da p.c.	-2.7 m da p.c.
CPTu-2	-19.12 m da p.c.	-3.3 m da p.c.
(*) data delle misurazioni: 08/08/2023		

I tabulati, i diagrammi e l'interpretazione litologica ottenuti dalle prove penetrometriche CPTu eseguite in sito sono illustrati integralmente nel report presente in allegato 1.

Nelle tabelle seguenti sono riassunti l'interpretazione litologica e la stima dei parametri geotecnici del terreno per strati discreti basati sui dati ottenuti dalle prove penetrometriche CPTu eseguite in sito.

Stima parametri geotecnici prova CPTu-1

Strato		Parametri geotecnici						Litologia
Da m	a m	Cu [kPa]	ϕ [°]	M [Mpa]	Es [Mpa]	γ [kN/m3]	Dr [%]	
1.1	2.0	-	36.6	36.8	38.7	17.9	36.8	Sabbia limosa/limo sabbioso
2.0	4.6	103.5	-	20.7	-	17.3	-	Argilla/argilla limosa
4.6	9.3	-	34.4	39.7	39.7	17.4	32.3	Sabbia limosa/limo sabbioso
9.3	11.7	90.6	-	2.5	-	13.9	-	Terreni sensitivi
11.7	15.8	-	32.0	10.2	24.0	14.7	19.2	Sabbia limosa/terreni sensitivi
15.8	17.5	-	32.5	24.9	41.7	16.6	25.5	Sabbia/argilla limosa
17.5	19.4	-	36.4	149.4	75.0	18.5	49.0	Sabbia
19.4	19.9	118.4	-	21.4	-	17.6	-	Argilla

Stima parametri geotecnici prova CPTu-2

Strato		Parametri geotecnici						Litologia
Da m	a m	Cu [kPa]	ϕ [°]	M [Mpa]	Es [Mpa]	γ [kN/m3]	Dr [%]	
0.9	4.3	111.3	-	22.3	-	17.8	-	Argilla/argilla limosa
4.3	5.2	70.7	-	12.8	-	17.2	-	Argilla
5.2	7.0	108.1	-	26.1	-	17.5	-	Argilla/argilla limosa
7.0	12.7	-	33.8	58.2	47.5	17.6	31.8	Sabbia limosa/limo sabbioso
12.7	14.2	-	34.5	123.9	62.8	18.1	38.7	Sabbia
14.2	17.9	95.0	-	8.6	-	16.6	-	Argilla
17.9	19.1	-	37.8	123.7	106.2	19.3	48.1	Sabbia limosa/limo sabbioso

Legenda

- ϕ [°]** Angolo di attrito per terreni granulari
Cu [kPa] Coesione non drenata per terreni coesivi

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M [MPa]	Modulo confinato
Es [MPa]	Modulo di Young
γ [kN/m³]	Peso di volume naturale
Dr [%]	Densità relativa

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5. MODELLO GEOLOGICO E GEOTECNICO

Dai dati ottenuti dalle prove CPTu eseguite in sito, spinte fino alla profondità massima di -19.86 m da p.c., si evince che, nell'area in oggetto, il sottosuolo risulta caratterizzato da terreni a granulometria fine, con prevalenza di terreni coesivi argillosi e argilloso-limosi nei primi 5 metri di profondità e tra -14 e -17,5 m dal p.c. Si rileva inoltre la presenza di terreni sensitivi tra -9 e -14 m di profondità dal p.c, a cui è associabile un drastico decremento dei valori di resistenza. Nella restante parte del sottosuolo indagato risultano predominanti i terreni granulari sabbioso-limosi e limoso sabbiosi fino alla massima profondità investigata con un progressivo miglioramento dei parametri di resistenza con la profondità.

Nella tabella seguente si riporta il modello geotecnico schematico rappresentativo del sottosuolo indagato e basato sulle indagini geognostiche eseguite in sito.

Modello geologico e geotecnico del sottosuolo

Da m	a m	Tipo	Litologia	Cu [kg/cm ²]	C' [kg/cm ²]	φ [°]	M [kg/cm ²]	Y _d [t/m ³]	Y _s [t/m ³]
0.9	4.6	Coesivo e incoerente	Argille e argille limose consistenti	1.1	0.11	--	219	1,8	1,9
4.6	9.3	Coesivo e incoerente	Sabbie limose e limi sabbiosi	--	--	34	499	1,8	1,9
9.3	14.2	Coesivo e incoerente	Terreni sensitivi e sabbie limose	--	--	33	65	1,7	1,8
14.2	17.5	Coesivo e incoerente	Argille e argille limose consistenti con presenza di lenti sabbiose	1,0	0,10	32	171	1,7	1,8
17.5	20.0	Coesivo e incoerente	Sabbie e sabbie limose	--	--	37	1392	1,9	2,0

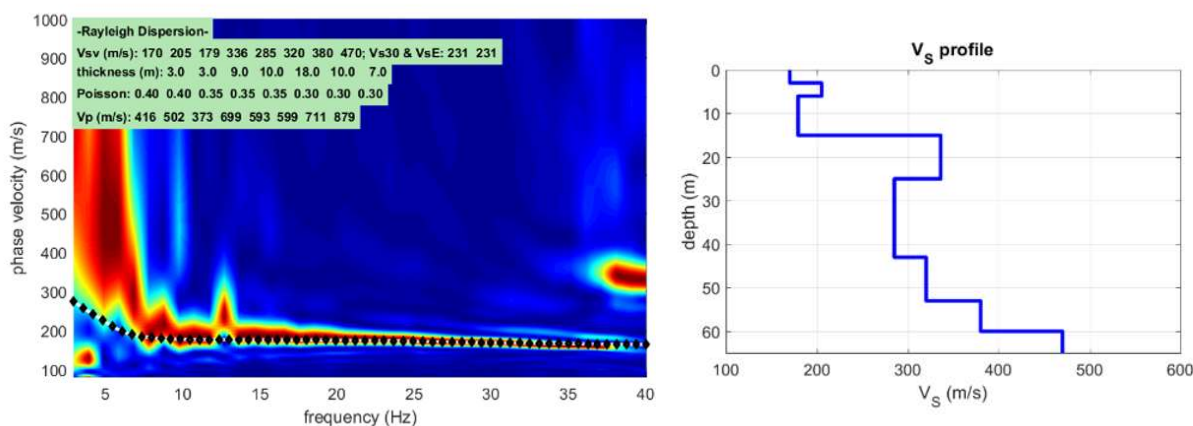
Y_d: Peso di volume secco; Y_s peso di volume saturo; Cu: coesione non drenata; C': coesione efficace; M: modulo confinato; φ: angolo d'attrito.

Il valore di C' è stato calcolato considerando C'=Cu/10.

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6. INDAGINE SISMICA

Per la classificazione sismica dei terreni e per ottenere i dati necessari per lo studio di Microzonazione Sismica dell'area in esame, sono stati utilizzati i dati ricavati da un'indagine a sismica attiva (MASW) e da un'indagine a sismica passiva (HVSr) eseguite all'interno dell'area di studio su terreno naturale. L'indagine congiunta delle due prove geofisiche ha permesso di interpretare il profilo di velocità delle onde S con la profondità e di ricavare il parametro di Normativa Vs30, risultato pari a **231 m/s**, che, grazie anche all'aumento progressivo della rigidità del terreno con la profondità (Figura 7), permette di inserire il terreno stesso all'interno della classe **C** - *Depositi di terreni a grana grossa mediamente addensati o terreni a grana fina mediamente consistenti con profondità del substrato superiori a 30 m, caratterizzati da un miglioramento delle proprietà meccaniche con la profondità e da valori di velocità equivalente compresi tra 180 m/s e 360 m/s.*



Profondità da p.c. (m)	Spessore (m)	Velocità onde S (m/sec)
3,0	3,0	170
6,0	3,0	205
15,0	9,0	179
25,0	10,0	336
43,0	18,0	285
53,0	10,0	320
60,0	7,0	380
65,0	5,0	470

Figura 7 - Sismogramma acquisito dalla MASW eseguita per questo studio, la curva di dispersione e il profilo Vs/profondità.

L'indagine a sismica passiva (HVSr) ha identificato un picco dei rapporti H/V intorno a **1,2 Hz**, con ampiezza del rapporto prossima a 1,5 (Figura 8).

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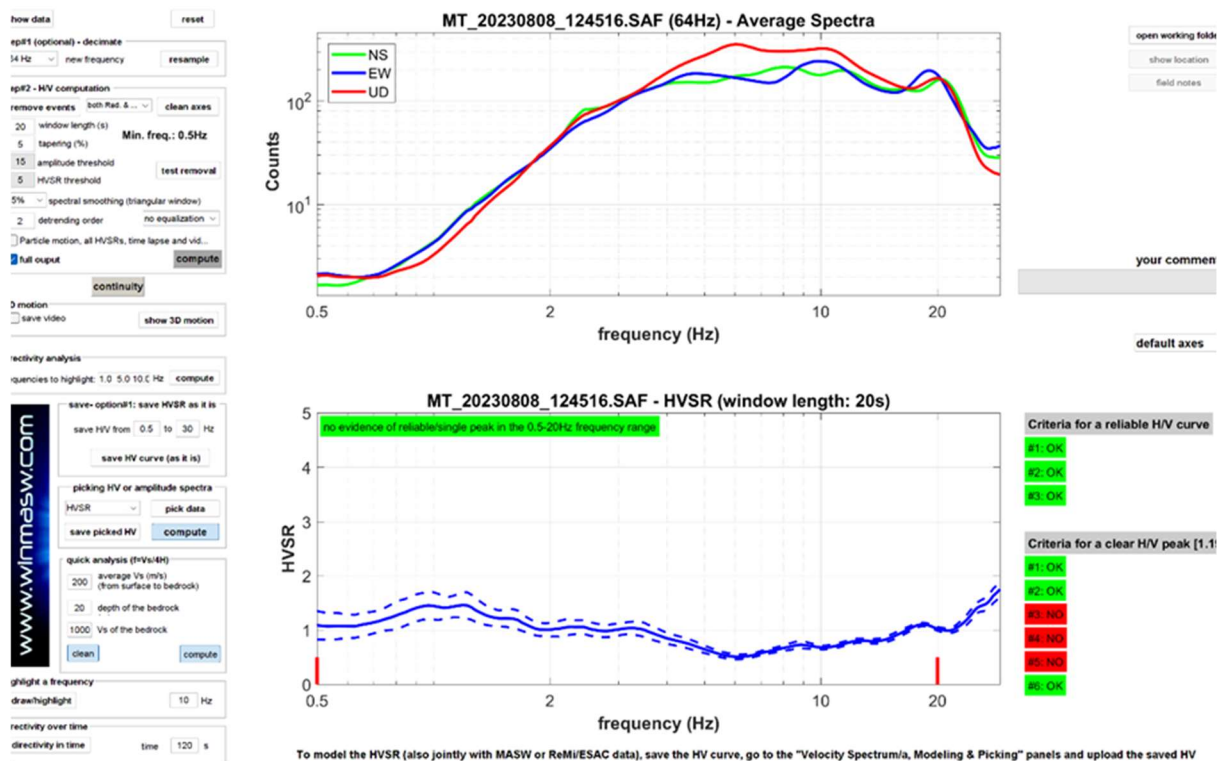


Figura 8 – Spettri medi nelle tre direzioni (sopra) e curve dei rapporti H/V (sotto) ricavate dall’indagine a sismica passiva (HVSR) eseguita per questo studio.

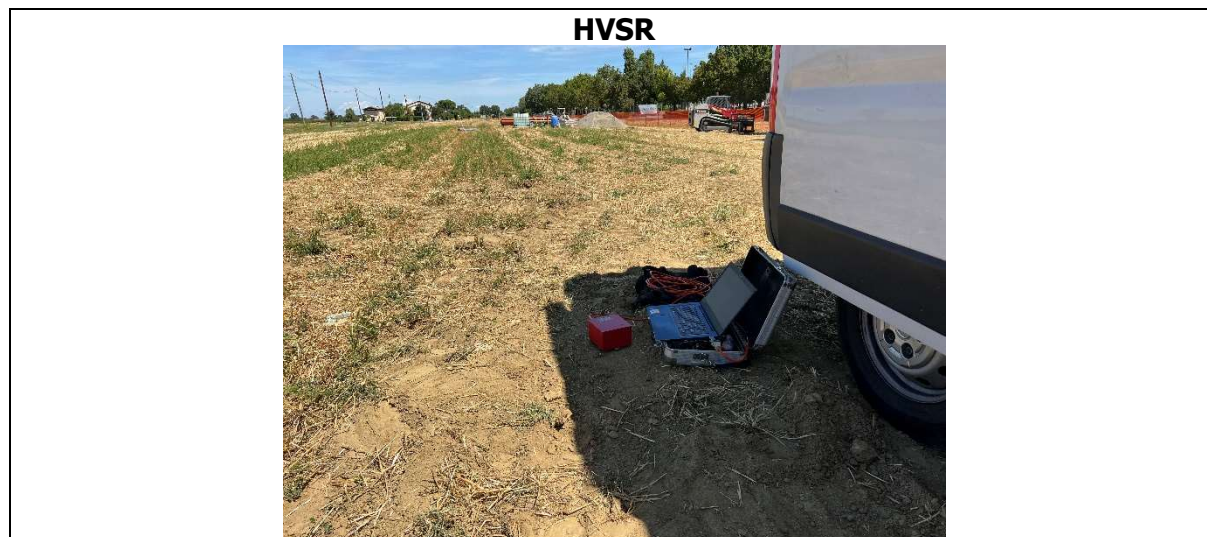


Figura 9 – Piazzamento della strumentazione per la prova sismica HVSR.

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7. RELAZIONE SISMICA

7.1. Sorgenti sismogenetiche e pericolosità sismica di base

In riferimento alla zonazione sismogenetica ZS9 realizzata da INGV (marzo 2004) che riassume il quadro sismotettonico del territorio italiano, l'area in oggetto risulta ricadente nella **zona sismogenetica 914** (Forlivese), la cui magnitudo di riferimento M_w (max) corrisponde a un valore di **6.14** (*Gruppo di Lavoro (2004). Redazione della Mappa di pericolosità sismica prevista dall'Ordinanza PCM 3274 del 20 marzo 2003. Rapporto conclusivo per il Dipartimento della Protezione Civile, INGV, Milano-Roma, aprile 2004, 65 pp + 5 appendici; Zonazione sismogenetica ZS9 – App. 2 al Rapporto Conclusivo*).

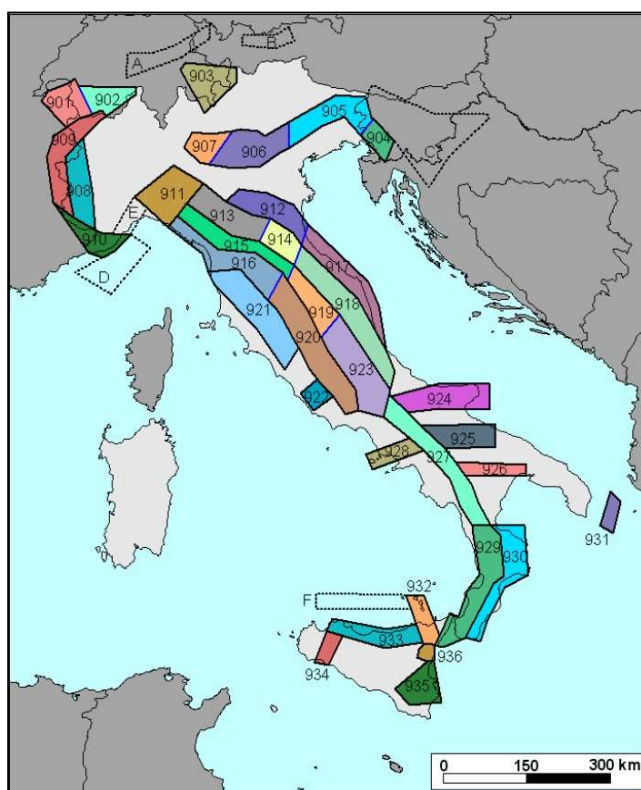


Figura 10: Zonazione sismogenetica ZS9 (*Gruppo di Lavoro (2004), Redazione della mappa di pericolosità sismica prevista dall'Ordinanza PCM 3274 del 20 marzo 2003. Rapporto Conclusivo per il Dipartimento della Protezione Civile, INGV, Milano-Roma, aprile 2004, appendice 2*).

Dalla consultazione della banca dati delle sorgenti sismogenetiche del territorio italiano DISS a cura di INGV (*Database of Individual Seismogenic Sources*, versione 3.3.0, <http://diss.rm.ingv.it/diss/>), si evidenzia che l'area in oggetto ricade tra la sorgente sismogenetica composita ITCS001 "Castel San Pietro Terme-Meldola" e la sorgente sismogenetica composita ITCS011 "Ascensione-Armaia". Alla prima è attribuita una magnitudo massima $M_w=6.5$, mentre alla seconda è attribuita una magnitudo massima $M_w=7.0$. Alla sorgente sismogenetica individuale ITIS093 "Faenza" è attribuita una magnitudo massima $M_w=5.8$.

RELAZIONE GEOLOGICA E SISMICA

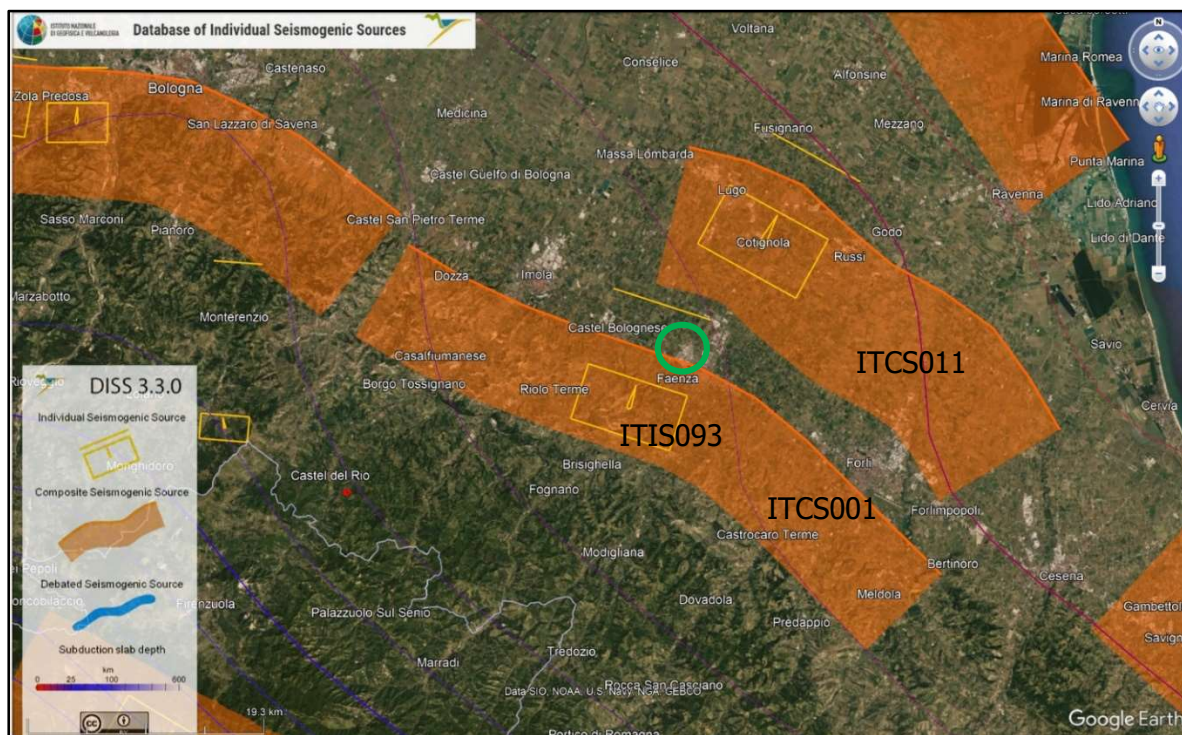


Figura 11: Distribuzione delle sorgenti sismogenetiche nell'area di studio (Fonte DISS 3.3.0, INGV).

Con pericolosità sismica si intende lo scuotimento del suolo atteso in un sito a causa di un terremoto. Essendo prevalentemente un'analisi di tipo probabilistico, si può definire un certo scuotimento solo associato alla probabilità di accadimento nel prossimo futuro. Pertanto, non si tratta di una previsione deterministica dei terremoti, obiettivo lungi dal poter essere raggiunto ancora in tutto il mondo, né del massimo terremoto possibile in un'area, in quanto il terremoto massimo ha comunque probabilità di verificarsi molto basse. Nel 2004 è stata rilasciata la mappa della pericolosità sismica (<http://zonesismiche.mi.ingv.it>) che fornisce un quadro delle aree più pericolose in Italia (GdL MPS, 2004; rif. Ordinanza PCM del 28 aprile 2006, n. 3519, All. 1b). La pericolosità è espressa in termini di accelerazione orizzontale al suolo con probabilità di eccedenza del 10% in 50 anni, riferita a suoli rigidi ($V_{s30} > 800$ m/s; cat. A, punto 3.2.1 del D.M. 14.09.2005). In riferimento a tale mappa di pericolosità sismica, di cui si riporta un estratto in Figura 12, si evince che per il territorio del Comune di Faenza il valore di accelerazione orizzontale attesa al suolo è compreso tra 0.200 e 0.225 g.

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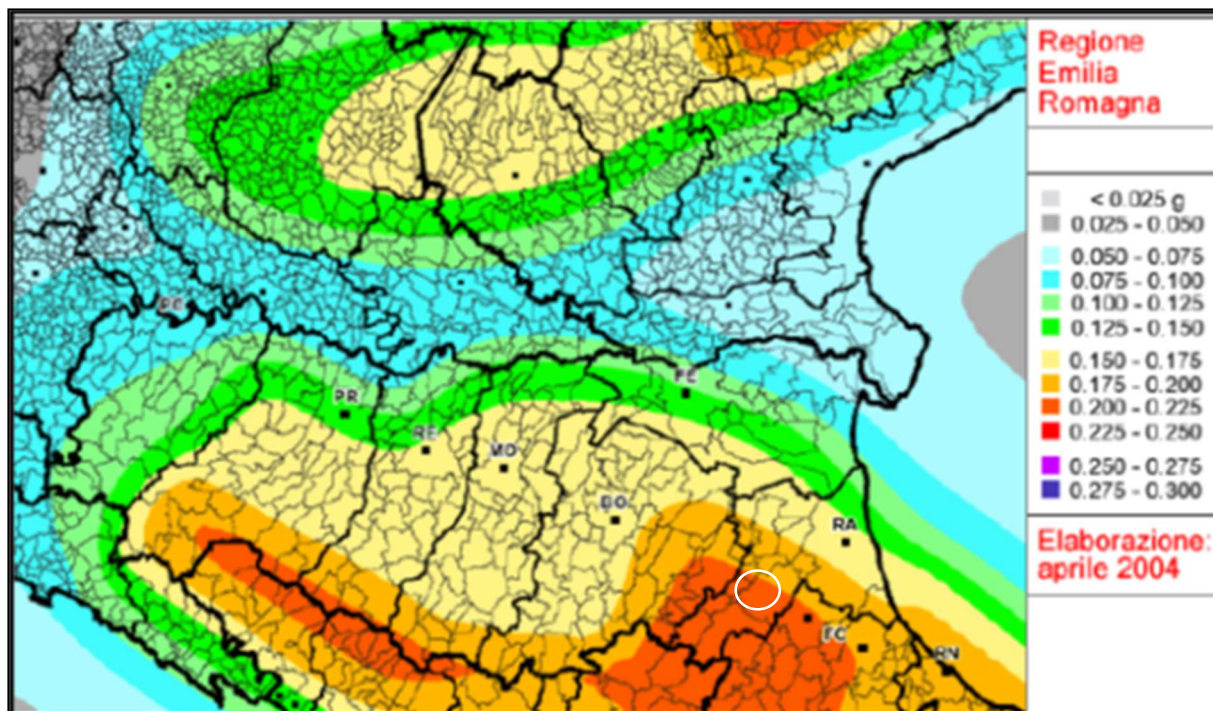


Figura 12: Mappa di pericolosità sismica espressa in termini di accelerazione massima al suolo con probabilità di eccedenza del 10% in 50 anni riferita ai suoli molto rigidi ($V_{s30} > 800$ m/s; cat. A) (INGV, 2004).

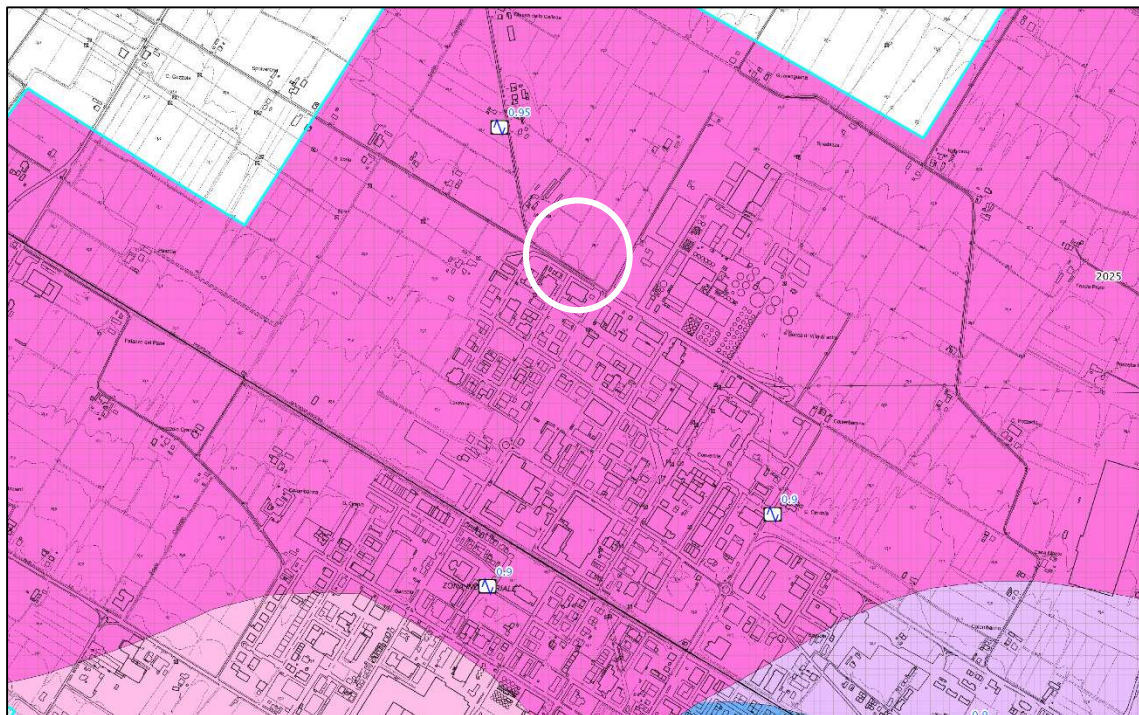
7.2. Rischio sismico ed effetti attesi

Per quanto riguarda il rischio sismico, la cartografia prodotta nell'ambito dello Studio di Microzonazione Sismica eseguito in ottemperanza all'Ordinanza del Commissario Delegato per la Ricostruzione n. 70 del 13 novembre 2012, in riferimento alla Carta delle Microzone Omogenee in Prospettiva Sismica del territorio di Faenza (estratto in Figura 13) l'area oggetto del presente studio è classificata come *zona di attenzione per liquefazione (2025)*, caratterizzata da *Media e bassa pianura con successioni di alluvioni prevalentemente fini (AES8, AES8a), con locali intervalli di sabbie e/o sabbie ghiaiose sature nei primi 25 m. Substrato sismico alluvionale "non rigido" a profondità ≥ 120 m (Pianura 2)*. Sempre in riferimento alla cartografia prodotta nell'ambito dello Studio di Microzonazione Sismica eseguito secondo l'Ordinanza del Commissario Delegato per la Ricostruzione n. 70 del 13 novembre 2012, nelle Figura 14 e seguenti sono raffigurate le carte di microzonazione sismica di livello 2 del Comune di Faenza che riportano i fattori di amplificazione del moto sismico calcolati (secondo l'approfondimento di II livello basato sugli abachi della D.A.L. 112/2007).

In particolare, per l'area di interesse, che ricade tra le zone cartografate con un indice del potenziale di liquefazione $IL > 2$ e ≤ 5 , sono stati individuati i seguenti valori di amplificazione:

FPGA (Figura 14)	1.3-1.4
FH 0.1-0.5 (Figura 15)	1.3-1.4
FH 0.5-1.0 (Figura 16)	>2.5

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ZA.LQ1 - Zona di attenzione per liquefazione.

2025

Zona 2025 - Media e bassa pianura con successioni di alluvioni prevalentemente fini (AES8, AES8a), con locali intervalli di sabbie e/o sabbie ghiaiose sature nei primi 25 m. Substrato sismico alluvionale "non rigido" a profondità ≥ 120 m (Pianura 2).

Figura 13: Estratto dalla Carta delle Microzone Omogenee in Prospettiva Sismica (MOPS) del territorio di Faenza (Tavola 4d1).

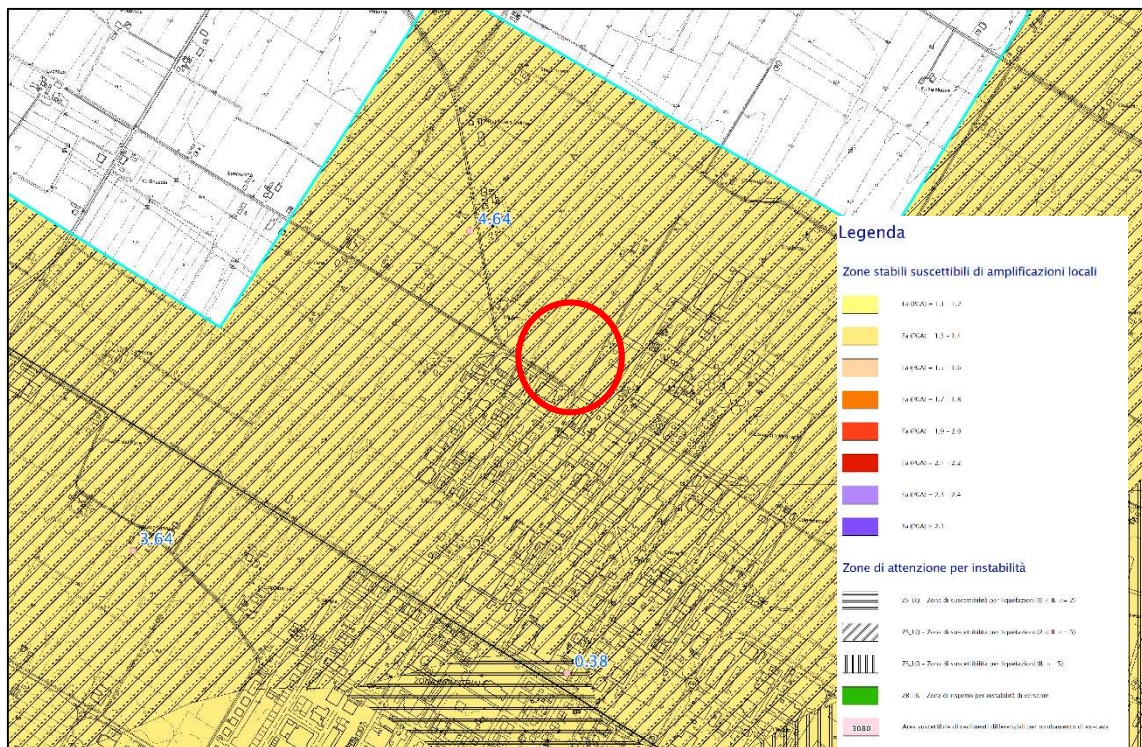


Figura 14: Estratto della Carta del fattore di amplificazione FPGA dello studio di Microzonazione Sismica del Comune di Faenza (Tavola 6d1).

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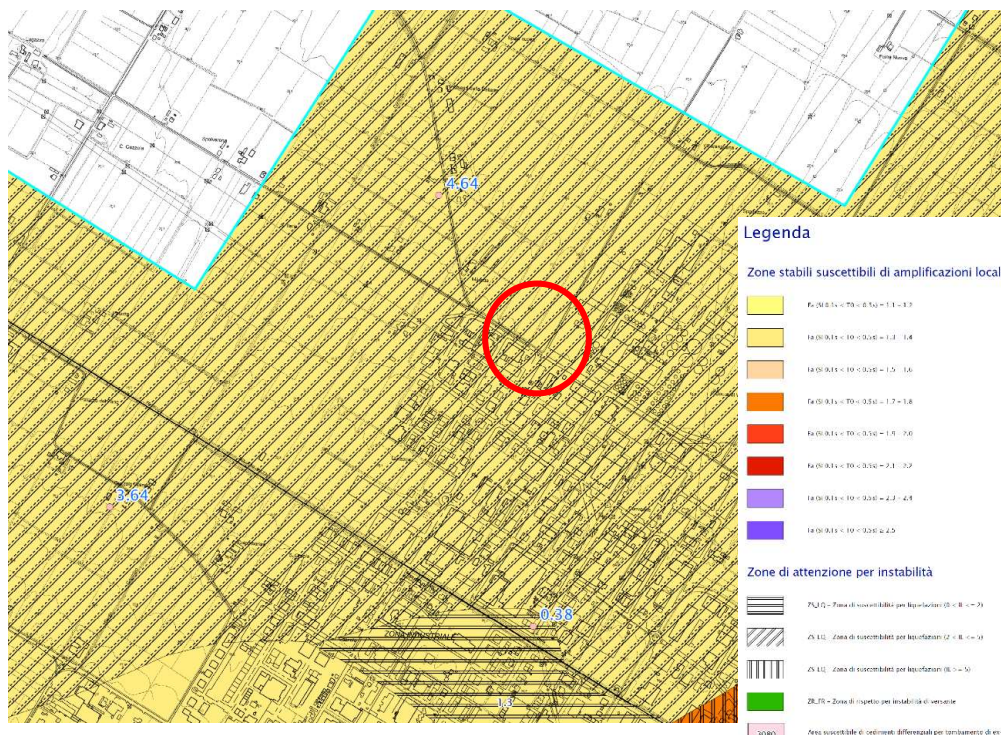


Figura 15 - Estratto della Carta del fattore di amplificazione r_1 nel periodo $0,1 - 0,5$ s dello studio di Microzonazione Sismica del Comune di Faenza (Tavola 7d1).

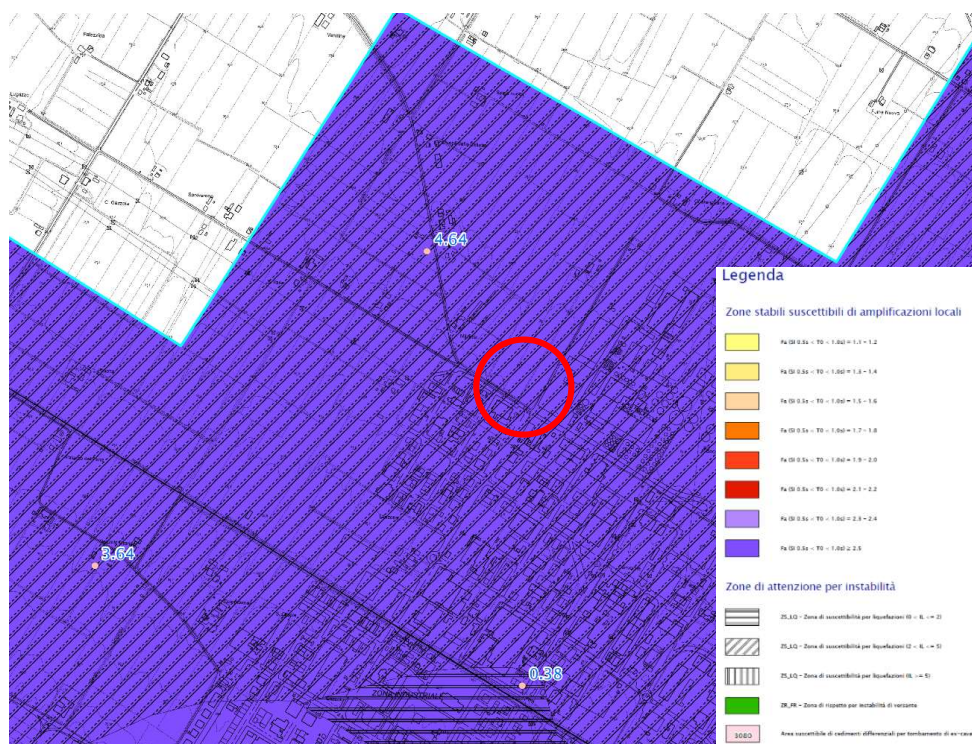


Figura 16 - Estratto della Carta del fattore di amplificazione F_H nel periodo $0,5 - 1,0$ s dello studio di Microzonazione Sismica del Comune di Faenza (Tavola 8d1).

7.3. Fattori di amplificazione sismica

Per l'adeguamento alla normativa DGR 630/2019 dello studio di Microzonazione Sismica di secondo livello dell'area in studio, attraverso un approccio semplificato,

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sono stati stimati i valori dei fattori di amplificazione facendo riferimento ai dati tabellari presenti all'interno di tale testo, secondo la procedura descritta all'interno dell'Allegato A2.1.

L'ambito scelto per l'uso delle tabelle è stato A2.1.2 – Pianura Adriatica e Costa Adriatica – Pianura 2, ossia: *settore di pianura con sedimenti alluvionali prevalentemente fini, alternanze di limi, argille e sabbie, caratterizzato dalla presenza di una importante discontinuità stratigrafica responsabile di un significativo contrasto di impedenza a circa 100 m da p.c. e dal tetto del substrato rigido a circa 150 m da p.c.*

Sulla base della V_{s30} ricavata dall'indagine geofisica (231 m/s) svolta sull'area di indagine, sono stati ottenuti i seguenti fattori di amplificazione facendo riferimento al valore di V_{s30} tabellare più prossimo, pari a 250 m/s:

Fattore di amplificazione	Valore
F_{PGA}	1.7
$F_A 0.1 - 0.5$	1.8
$F_A 0.4 - 0.8$	2.4
$F_A 0.7 - 1.1$	2.8
$F_A 0.5 - 1.5$	2.7
$F_H 0.1 - 0.5$	1.9
$F_H 0.5 - 1.0$	2.7
$F_H 0.5 - 1.5$	2.9
$H_{SM} (cm/s^2)$	784

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8. DEFINIZIONE DELL'AZIONE SISMICA DI BASE

La pericolosità sismica di base è quella componente di pericolosità dovuta alle caratteristiche sismologiche dell'area. Essa fornisce, in termini probabilistici, per una certa regione e per un determinato periodo di tempo, i valori, corrispondenti a prefissate probabilità di eccedenza, dei parametri che descrivono lo scuotimento prodotto dal terremoto. Si riferisce a condizioni ideali di suolo roccioso affiorante e privo di irregolarità morfologiche e fornisce le caratteristiche del terremoto di riferimento atteso al sito.

Tali caratteristiche sono definite¹ quando sono noti l'accelerazione di picco orizzontale ed il corrispondente spettro di risposta elastico in accelerazione, entrambi riferiti a condizioni di suolo rigido e superficie topografica orizzontale.

La possibilità di descrivere l'azione sismica in forma di accelerogrammi è ammessa solo a condizione che essi siano compatibili con le predette caratteristiche del moto sismico.

La pericolosità sismica di base è definita secondo una procedura basata sui risultati dello studio dell'INGV, disponibili sul sito web² nella sezione "Mappe interattive della pericolosità sismica". In tali mappe, la pericolosità si sgancia dalle divisioni amministrative e viene distribuita sui 10751 nodi, a distanza reciproca non superiore a 10 km, di un reticolo geografico regolare. Ogni nodo è caratterizzato da specifiche curve di pericolosità che definiscono la frequenza media annua di occorrenza di una serie di terremoti caratterizzati da diversi livelli di severità, espressa, ad esempio, in termini di a_g .

Anche la definizione di spettro elastico (attraverso 3 parametri di controllo) varia da punto a punto del reticolo e in funzione del periodo di ritorno dell'azione sismica.

Dal punto di vista temporale, la pericolosità non è più definita con riferimento ad un singolo valore del *periodo di ritorno*, $T_R = 475$ anni³, ma in corrispondenza di 9 valori, ovvero $T_R = 30, 50, 72, 101, 140, 201, 475, 975$ e 2475 anni. Questo coerentemente con un *approccio prestazionale alla progettazione*, basato sull'assunzione che, a fronte di un'azione sismica di intensità variabile e pertanto caratterizzata da un periodo di ritorno variabile, si richiedano alle strutture livelli di prestazione diversi.

¹ Per una prefissata P_{VR} .

² <http://esse1.mi.ingv.it/>

³ Considerato internazionalmente come il livello di pericolosità di riferimento per la progettazione di edifici ordinari allo stato limite ultimo.

I 3 parametri che definiscono la pericolosità sismica di base, in condizioni ideali di sito di riferimento, sono a_g , F_0 e T^*_c , rispettivamente definiti come: *accelerazione orizzontale massima del terreno, valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale, periodo di inizio del tratto a velocità costante dello spettro in accelerazione orizzontale.*

Essi sono necessari per la definizione dello spettro di risposta elastico rispetto ad uno specifico periodo di ritorno. Per ogni nodo del reticolo INGV sono forniti i grafici relativi alle curve di pericolosità e gli spettri di risposta a pericolosità uniforme (isoprobabili), corrispondenti alle diverse probabilità di eccedenza in 50 anni.

Si fa notare che, qualora il periodo di ritorno calcolato nell'approccio prestazionale fosse inferiore al valore minimo nello studio di pericolosità sismica dell'INGV (30 anni) o superiore al valore massimo considerato (2475 anni), si porrà pari a 30 anni nel primo caso e pari a 2475 anni nel secondo caso.

8.1. Definizione dell'azione sismica di base per l'area di studio

I parametri di pericolosità sismica possono essere automaticamente ricavati, dal software "Azioni sismiche – Spettri di risposta" scaricabile dal sito web⁴ del Consiglio Superiore dei Lavori Pubblici, che effettua le operazioni di interpolazione sia geografica, sia temporale richieste per la valutazione dell'azione sismica. Come risultato, il software restituisce i 9 spettri di risposta elastici delle NTC18 (su roccia) e i 9 spettri a pericolosità uniforme dai quali sono stati derivati, per il sito in questione⁵ e per i 9 periodi di ritorno considerati. Si riportano, di seguito, i valori dei parametri di riferimento che definiscono gli spettri di risposta elastici caratteristici del sito in esame per i 9 periodi di ritorno di riferimento (Tabella 1).

⁴ <http://www.cslp.it/>

⁵ Coordinate geografiche del sito: (**LAT: 44.308981; LONG: 11.865153**)

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T_R [anni]	a_g [g]	F_0 [-]	T_C^* [s]
30	0,066	2,403	0,261
50	0,085	2,395	0,270
72	0,100	2,390	0,276
101	0,115	2,406	0,280
140	0,131	2,428	0,281
201	0,151	2,434	0,286
475	0,205	2,443	0,303
975	0,256	2,499	0,315
2475	0,333	2,581	0,328

Tabella 1 - Valori dei parametri a_g , F_0 e T^*c per i periodi di ritorno T_R di riferimento.



Figura 17 - Coordinate geografiche dei 4 punti della griglia INGV entro i quali ricade il sito in esame e distanza, in km, del sito da essi.

8.2. Scelta della strategia di progettazione

L'associazione tra i livelli prestazionale definiti per una data struttura e la severità dello scuotimento sismico dipende dall'importanza dell'opera considerata.

In particolare, le NTC18 prevedono che l'azione sismica sia associata a un *periodo di riferimento* (V_R) dell'opera e ad una prefissata probabilità di eccedenza, cui è abbinato un periodo di ritorno T_R . V_R definisce il periodo di osservazione per l'accadimento di terremoti di severità prefissata in base a T_R , mentre *allo stato limite* è associata la *probabilità di eccedenza*, durante tale periodo, dell'azione sismica da considerare.

Per ogni tipo di costruzione, V_R è ottenuto come prodotto della *vita nominale dell'opera* (V_N) per il *coefficiente della classe d'uso* (C_U) della stessa e non può essere inferiore a 35 anni.

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La V_N è indicata espressamente negli elaborati di progetto e, per il caso in esame risulta essere pari a $V_N = 50$ anni⁶. Essa definisce la durata della vita di progetto della struttura.

Le diverse strutture sono suddivise in *classi d'uso*, sulla base del livello di affollamento tipicamente presente nell'opera e delle possibili conseguenze, in termini sia di vittime, sia di rischi per l'ambiente, derivabili da un eventuale collasso o, comunque, da un'interruzione d'uso. A ciascuna classe d'uso è associato un valore del *coefficiente d'uso* C_u .

Nel caso in esame, la classe d'uso è la **II**⁷, corrispondente ad un coefficiente d'uso C_u pari a **1**.

Da qui deriva, per la struttura in esame, un V_R pari a **50**.

Da un punto di vista prestazionale, la filosofia che sta alla base della definizione degli stati limite prevede che la struttura rimanga operativa, o comunque subisca danni tali da non comprometterne significativamente la resistenza, nel caso di terremoti meno severi e pertanto con una più elevata probabilità di verificarsi nel periodo di riferimento della struttura (superiore al 63%). Per contro, si accettano danni più significativi, sempre però garantendo la salvaguardia della vita degli occupanti, nel caso si verifichi un terremoto più severo, cui è associata una probabilità di occorrenza significativamente più bassa (5-10%) durante il periodo di riferimento dell'opera.

Per questo, ad ogni SL è associata una *probabilità di eccedenza* P_{VR} che rappresenta la probabilità di accadimento, nel periodo di riferimento V_R , di almeno un sisma avente periodo di ritorno T_R :

Stato Limite di Operatività	(SLO) - 81%
Stato Limite di Danno	(SLD) - 63%
Stato Limite di salvaguardia della Vita	(SLV) - 10%
Stato Limite di prevenzione del Collasso	(SLC) - 5%

⁶ Costruzioni con livelli di prestazioni ordinari.

⁷ Costruzioni il cui uso preveda normali affollamenti, senza contenuti pericolosi per l'ambiente e senza funzioni pubbliche e sociali essenziali. Industrie con attività non pericolose per l'ambiente. Ponti, opere infrastrutturali, reti viarie non ricadenti in Classe d'uso III o in Classe d'uso IV, reti ferroviarie la cui interruzione non provochi situazioni di emergenza. Dighe il cui collasso non provochi conseguenze rilevanti.

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Identificati V_R e P_{VR} , il periodo di ritorno dell'azione sismica, da considerare per l'opera in esame e per i diversi SL, può essere calcolato sulla base della relazione biunivoca riportata di seguito:

$$T_R = - \frac{V_R}{\ln(1-P_{VR})}$$

Dall'equazione di cui sopra si ottengono le relazioni tra il periodo di ritorno e il periodo di riferimento per i 4 SL e i rispettivi parametri d'azione.

Per il sito in esame si riportano di seguito la tabella dei parametri d'azione e gli spettri elastici per i 4 periodi di ritorno e per i 4 SL:

STATO LIMITE		PVR [%]	TR [anni]	a_g [g]	F_0 [-]	T_C^* [s]
STATI LIMITE DI ESERCIZIO	SLO	81	30	0,067	2,403	0,261
	SLD	63	50	0,085	2,395	0,270
STATI LIMITE ULTIMI	SLV	10	475	0,204	2,443	0,303
	SLC	5	975	0,256	2,499	0,315

Tabella 2 - Valori dei parametri a_g , F_0 e T_C^* per i periodi di ritorno TR di riferimento associati a ciascun SL.

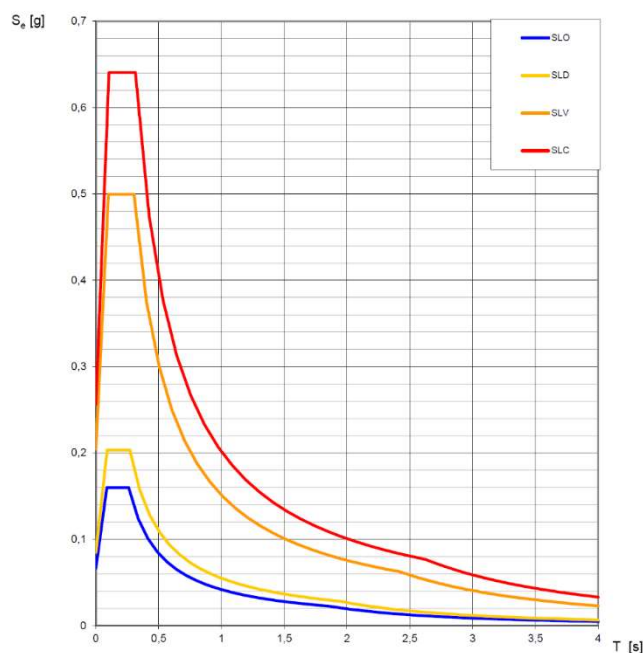


Figura 18 – Spettri di risposta elastici per i 4 Stati Limite

9. AZIONE SISMICA DI PROGETTO

L'utilizzo degli spettri di risposta elastici precedentemente descritti corrisponde ad esigere che, durante un terremoto di prefissata severità, la struttura in progetto (o esistente) mantenga un comportamento elastico lineare, evitando in tal modo qualsiasi alterazione della sua integrità. Questa filosofia, evidentemente molto gravosa dal punto di vista economico, viene di fatto utilizzata soltanto nel caso di strutture particolari, il cui danneggiamento anche lieve può provocare conseguenze molto gravi alla società. A parte questi casi di strutture particolari, tipicamente si ammette che, sotto l'azione del terremoto, la struttura possa uscire dal campo elastico e sia in grado di sfruttare le proprie risorse in campo inelastico. In altre parole, è consentito progettare una struttura per un livello di azione sismica più moderata rispetto a quella corrispondente ad un comportamento puramente elastico, ammettendo che, oltre il limite elastico, la struttura abbia un comportamento duttile e dissipativo.

Per *duttilità* si intende la capacità di una struttura di deformarsi anche dopo la plasticizzazione del primo elemento, senza raggiungere la rottura in modo fragile. A parità di duttilità, le strutture possono tuttavia rispondere in modo diverso, in relazione alla loro capacità di dissipare l'energia di deformazione accumulata nei cicli di carico e scarico indotti dal terremoto.

La filosofia delle normative più recenti, incluse le NTC18, è di mirare alla realizzazione di strutture con un prefissato livello di duttilità e con un'opportuna capacità dissipativa, grazie alla quale la struttura sia in grado di esibire riserve di resistenza oltre il limite di plasticizzazione del primo elemento, prima che si formi un meccanismo di collasso controllato, in accordo al criterio di gerarchia delle resistenze. Poiché dunque tali strutture, se correttamente progettate, possono attingere a risorse ulteriori una volta raggiunta la resistenza massima, per le strutture con adeguato comportamento dissipativo, le forze corrispondenti ad una risposta puramente elastica (risultati perciò dall'applicazione dello spettro di risposta elastico) possono essere ridotte.

In particolare, si dividono le ordinate dello spettro di risposta elastico per un coefficiente, detto *fattore di comportamento* (q), il cui valore varia in funzione del comportamento strutturale (dissipativo o non dissipativo) e dello stato limite considerati, legandosi all'entità delle plasticizzazioni, che a ciascuno stato limite si accompagnano.

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Gli spettri di risposta di progetto in accelerazione per le componenti orizzontali e verticali, da utilizzare per la verifica agli stati limite di danno, di salvaguardia della vita e di prevenzione al collasso, possono essere pertanto definiti solo qualora il progettista abbia calcolato il *fattore di comportamento* (q), definito nel capitolo 7 delle NTC18 (capitolo 7, Tabella 7.3.I), per le strutture dissipative.

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10. EFFETTI DI SITO

L'influenza del profilo stratigrafico sulla risposta sismica locale può essere valutata in prima approssimazione con riferimento alle categorie di sottosuolo di cui al paragrafo § 3.2.2. delle NTC18. Il moto sismico alla superficie di un sito, associato a ciascuna categoria di sottosuolo, è definito mediante l'accelerazione massima (a_{max}) attesa in superficie ed una forma spettrale ancorata ad essa. Il valore di a_{max} può essere ricavato dalla relazione $a_{max} = S_s \cdot a_g$ dove a_g è l'accelerazione massima su sito di riferimento rigido ed S_s è il coefficiente di amplificazione stratigrafica.

Per qualsiasi condizione di sottosuolo non classificabile nelle categorie precedenti, è necessario predisporre specifiche analisi di risposta locale per la definizione delle azioni sismiche.

Per sottosuolo di categoria **A** i coefficienti S_s e C_c valgono 1. Per le categorie di sottosuolo **B, C, D** ed **E** i coefficienti S_s e C_c possono essere calcolati, in funzione dei valori di F_0 e T^*_c relativi al sottosuolo di categoria **A**, mediante le espressioni fornite nella Tab. 3.2.IV (§3.2.3.2.1. delle NTC18), nelle quali g è l'accelerazione di gravità ed il tempo è espresso in secondi.

Tab. 3.2.IV – Espressioni di S_s e di C_c

Categoria sottosuolo	S_s	C_c
A	1,00	1,00
B	$1,00 \leq 1,40 - 0,40 \cdot F_0 \cdot \frac{a_g}{g} \leq 1,20$	$1,10 \cdot (T_c^*)^{-0,20}$
C	$1,00 \leq 1,70 - 0,60 \cdot F_0 \cdot \frac{a_g}{g} \leq 1,50$	$1,05 \cdot (T_c^*)^{-0,33}$
D	$0,90 \leq 2,40 - 1,50 \cdot F_0 \cdot \frac{a_g}{g} \leq 1,80$	$1,25 \cdot (T_c^*)^{-0,50}$
E	$1,00 \leq 2,00 - 1,10 \cdot F_0 \cdot \frac{a_g}{g} \leq 1,60$	$1,15 \cdot (T_c^*)^{-0,40}$

Tabella 3 - Tab. 3.2.IV - § 3.2.3.2.1. delle NTC18.

Di seguito si riportano i valori del fattore di amplificazione stratigrafica S_s per il sito in esame, per la categoria di suolo "C" e per ogni Stato Limite, calcolati con l'approccio semplificato consentito dalle NTC18.

COMPONENTE ORIZZONTALE	
Parametri indipendenti	
Stato limite - SLO	
a_g	0,067 g
F_0	2,403
T^*_c	0,261 s
S_s	1,500
C_c	1,635
S_T	1

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COMPONENTE ORIZZONTALE	
Parametri indipendenti	
Stato limite - SLD	
a_g	0,085 g
F_0	2,395
T^*_c	0,270 s
S_s	1,500
C_c	1,618
S_T	1

COMPONENTE ORIZZONTALE	
Parametri indipendenti	
Stato limite - SLV	
a_g	0,204 g
F_0	2,443
T^*_c	0,303 s
S_s	1,400
C_c	1,558
S_T	1

COMPONENTE ORIZZONTALE	
Parametri indipendenti	
Stato limite - SLC	
a_g	0,256 g
F_0	2,499
T^*_c	0,315 s
S_s	1,316
C_c	1,538
S_T	1

10.1. Amplificazione topografica

Considerando le condizioni topografiche e morfologiche dell'area di studio (pianura, superficie topografica sub-orizzontale), il coefficiente di amplificazione topografica S_T può essere assunto pari ad 1, sulla base delle categorie individuate dalle NTC18 (Tabella 4).

Tabella 3.2.IV – Categorie topografiche

Categoria	Caratteristiche della superficie topografica
T1	Superficie pianeggiante, pendii e rilievi isolati con inclinazione media $i \leq 15^\circ$
T2	Pendii con inclinazione media $i > 15^\circ$
T3	Rilievi con larghezza in cresta molto minore che alla base e inclinazione media $15^\circ \leq i \leq 30^\circ$
T4	Rilievi con larghezza in cresta molto minore che alla base e inclinazione media $i > 30^\circ$

Le suesposte categorie topografiche si riferiscono a configurazioni geometriche prevalentemente bidimensionali, creste o dorsali allungate, e devono essere considerate nella definizione dell'azione sismica se di altezza maggiore di 30 m.

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Amplificazione topografica

Per tener conto delle condizioni topografiche e in assenza di specifiche analisi di risposta sismica locale, si utilizzano i valori del coefficiente topografico S_T riportati nella Tab. 3.2.V, in funzione delle categorie topografiche definite nel § 3.2.2 e dell'ubicazione dell'opera o dell'intervento.

Tab. 3.2.V – Valori massimi del coefficiente di amplificazione topografica S_T

Categoria topografica	Ubicazione dell'opera o dell'intervento	S_T
T1	-	1,0
T2	In corrispondenza della sommità del pendio	1,2
T3	In corrispondenza della cresta di un rilievo con pendenza media minore o uguale a 30°	1,2
T4	In corrispondenza della cresta di un rilievo con pendenza media maggiore di 30°	1,4

La variazione spaziale del coefficiente di amplificazione topografica è definita da un decremento lineare con l'altezza del pendio o del rilievo, dalla sommità o dalla cresta, dove S_T assume il valore massimo riportato nella Tab. 3.2.V, fino alla base, dove S_T assume valore unitario.

Tabella 4 – Tabelle 3.2.IV e 3.2.V – NTC18.

10.2. Accelerazione sismica orizzontale al suolo

La determinazione dell'**accelerazione massima orizzontale al sito**, per i 4 stati limite, sarà data dalla formula:

$$a_{\max} = S_S \cdot S_T \cdot a_g \cdot 9,81$$

e sarà rispettivamente pari a:

SLO: 0,98 m/sec²

SLD: 1,25 m/sec²

SLV: 2,81 m/sec²

SLC: 3,31 m/sec²

I **coefficienti sismici orizzontale e verticale**, per il sito in esame, sono dati rispettivamente dalle seguenti formule:

$$k_h = \frac{\beta_s \cdot a_{\max}}{g}$$

dove: β_s è il coefficiente di riduzione dell'accelerazione massima attesa al sito ricavabile dalla sottostante tabella:

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	Categoria di sottosuolo	
	A	B, C, D, E
	β_s	β_s
$0,2 < a_g (g) \leq 0,4$	0.30	0.28
$0,1 < a_g (g) \leq 0,2$	0.27	0.24
$a_g (g) \leq 0,1$	0.20	0.20

$$K_v = \pm 0.5 \cdot k_h$$

Pertanto, i coefficienti sismici orizzontali e verticali per i 4 stati limite saranno:

Stato limite	k_h	k_v
SLO	0,020	$\pm 0,010$
SLD	0,025	$\pm 0,013$
SLV	0,080	$\pm 0,040$
SLC	0,094	$\pm 0,047$

10.3. Stabilità del sito nei confronti della liquefazione

È stata svolta la verifica della stabilità del sito nei confronti del fenomeno della liquefazione secondo il metodo di Boulanger & Idriss (2014), basato su prove penetrometriche statiche CPTu.

Il coefficiente di sicurezza calcolato (FS) è dato dal rapporto fra la resistenza alla liquefazione del terreno (CRR) e lo sforzo di taglio ciclico indotto dal sisma (CSR):

$$FS = \frac{CRR}{CSR}$$

Per la stima di CSR è stata considerata una magnitudo di riferimento pari a 6.14, mentre per il calcolo dell'accelerazione massima attesa al suolo a_{max} si è utilizzato il valore del fattore di amplificazione stratigrafico S_s calcolato secondo l'approccio semplificato previsto dalle NTC 2018:

$$a_{max} = 0.204g * 1.400 = 0.286g$$

Per la stima di CRR si sono utilizzati i parametri del terreno desunti dalle prove penetrometriche CPTu eseguite in sito.

È stato calcolato l'indice del potenziale di liquefazione (LPI) secondo Iwasaki & al. (1982) e Sonmez (2003).

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Classi del rischio di liquefazione secondo Sonmez (2003)

LPI	Rischio di liquefazione
0	Non liquefacibile (FSL > 1.2)
0 < LPI < 2	Basso
2 < LPI ≤ 5	Moderato
5 < LPI ≤ 15	Alto
15 < LPI	Molto alto

I calcoli così eseguiti per tutte le prove CPTu hanno restituito valori di LPI corrispondenti a un **rischio di liquefazione molto alto**. Nella tabella e nell'immagine seguenti sono riassunti i risultati dell'analisi di liquefazione. I dati di input e i risultati ottenuti sono riportati in dettaglio nel report presente in allegato (allegato 3).

Risultati dell'analisi di liquefazione

Prova	LPI	Rischio di Liquefazione (Somnez, 2003)
CPTu-1	16.75	Molto alto
CPTu-2	15.28	Molto alto

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11. SINTESI DELL'ANALISI DEI DATI RACCOLTI E CONCLUSIONI

Dall'analisi integrata dei dati disponibili in bibliografia, delle osservazioni di campagna effettuate durante il sopralluogo e dei dati acquisiti ed elaborati grazie alle prove geognostiche e geofisiche eseguite, è stato possibile caratterizzare il terreno in esame dai punti di vista litostratigrafico, geotecnico e sismico e attribuire un giudizio sulla fattibilità sul progetto per la realizzazione di un parcheggio in via della Boaria a Faenza (RA). È stato inoltre possibile stimare i fattori di amplificazione per la microzonazione sismica di secondo livello secondo DGR 630/2019. A questo scopo, sulla base dei risultati ottenuti grazie all'esecuzione delle indagini geofisiche e grazie ai dati desunti da bibliografia, si è scelto l'ambito *Pianura Padana e Costa Adriatica - Pianura 2* per l'utilizzo dei dati tabellari dell'Allegato 2 del DGR 630/2019. I fattori di amplificazione sismica ottenuti mediante un approccio semplificato per l'area in esame sono stati i seguenti:

Fattore di amplificazione	Valore
F_{PGA}	1.7
$F_A 0.1 - 0.5$	1.8
$F_A 0.4 - 0.8$	2.4
$F_A 0.7 - 1.1$	2.8
$F_A 0.5 - 1.5$	2.7
$F_H 0.1 - 0.5$	1.9
$F_H 0.5 - 1.0$	2.7
$F_H 0.5 - 1.5$	2.9
$H_{SM} (cm/s^2)$	784

Ai fini della realizzazione del presente studio, per l'adempimento delle specifiche normative è stato effettuato un sopralluogo sull'area al fine di verificarne l'assetto geologico e geomorfologico; per la definizione delle caratteristiche litostratigrafiche, geotecniche e sismiche dei terreni che saranno interessati dall'intervento in progetto, in data 8 agosto 2023 è stata eseguita una campagna geognostica in corrispondenza dell'area in cui sarà realizzato l'intervento oggetto del presente studio. Tale campagna geognostica è stata espletata mediante l'esecuzione delle seguenti indagini:

- n. 2 prove penetrometriche statiche con punta elettrica e piezocono (CPTu).
- n. 1 acquisizione sismica passiva a stazione singola di microtremore ambientale e analisi HVSR.
- n. 1 indagine sismica a rifrazione con metodo Masw.

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Dai dati ottenuti dalle prove CPTu eseguite in sito, spinte fino alla profondità massima di -19.86 m da p.c., si evince che, nell'area in oggetto, il sottosuolo risulta caratterizzato da terreni a granulometria fine, con prevalenza di terreni coesivi argillosi e argilloso-limosi nei primi 5 metri di profondità e tra -14 e -17,5 m dal p.c. Si rileva inoltre la presenza di terreni sensitivi tra -9 e -14 m di profondità dal p.c, a cui è associabile un drastico decremento dei valori di resistenza. Nella restante parte del sottosuolo indagato risultano predominanti i terreni granulari sabbioso-limosi e limoso sabbiosi fino alla massima profondità investigata. All'aumentare della profondità, si registrano parametri di resistenza in progressivo miglioramento.

Sulla base dei dati ottenuti dalle prove penetrometriche sono stati stimati i principali parametri geotecnici del terreno ed è stato individuato il modello geotecnico medio rappresentativo del sottosuolo indagato (capitolo 5 della presente relazione).

La soggiacenza della falda, misurata durante l'esecuzione delle prove penetrometriche in sito, è risultata compresa tra le quote di -2.7 e -3.3 m da p.c. Tali valori sono da ritenersi rappresentativi del momento in cui è stata eseguita la misura poiché sono strettamente legati all'andamento della piovosità stagionale; pertanto, sono da considerarsi possibili delle oscillazioni annuali della soggiacenza, anche verso profondità minori.

L'indagine sismica HVSR ha permesso di interpretare il profilo di velocità delle onde S con la profondità e di ricavare il parametro di Normativa $V_{S,eq}$, risultato pari a **231 m/s**, e permette di inserire il terreno stesso all'interno della classe **C** - *Depositi di terreni a grana grossa mediamente addensati o terreni a grana fina mediamente consistenti con profondità del substrato superiori a 30 m, caratterizzati da un miglioramento delle proprietà meccaniche con la profondità e da valori di velocità equivalente compresi tra 180 m/s e 360 m/s.*

L'indagine HVSR ha permesso di calcolare per l'area una frequenza di vibrazione fondamentale del terreno pari a circa **1,2 Hz**.

Tramite l'analisi della pericolosità di sismica di sito, ottenuta con approccio semplificato, si è ottenuta una accelerazione massima per la salvaguardia della vita SLV a_{max} pari a **2,81 m/sec²**.

È stata verificata, infine, la stabilità del sito nei confronti della liquefazione mediante un'analisi del rischio di liquefazione secondo il metodo di BOULANGER & IDRIS (2014), basato sulle prove penetrometriche CPTu eseguite in sito. Dall'analisi eseguita sono risultati valori di LPI (Indice del Potenziale di Liquefazione) indicativi di un **rischio di liquefazione molto alto**, secondo la classificazione di SONMEZ (2003).

Ciò nonostante, tenuto conto del tipo di progetto previsto, per il quale non si prevede la realizzazione di strutture, si è ritenuto non necessario svolgere un'analisi di risposta sismica locale ed è possibile affermare che non sussistono

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criticità di tipo geologico, geomorfologico, idrogeologico e sismico che compromettano la fattibilità dell'intervento in progetto.

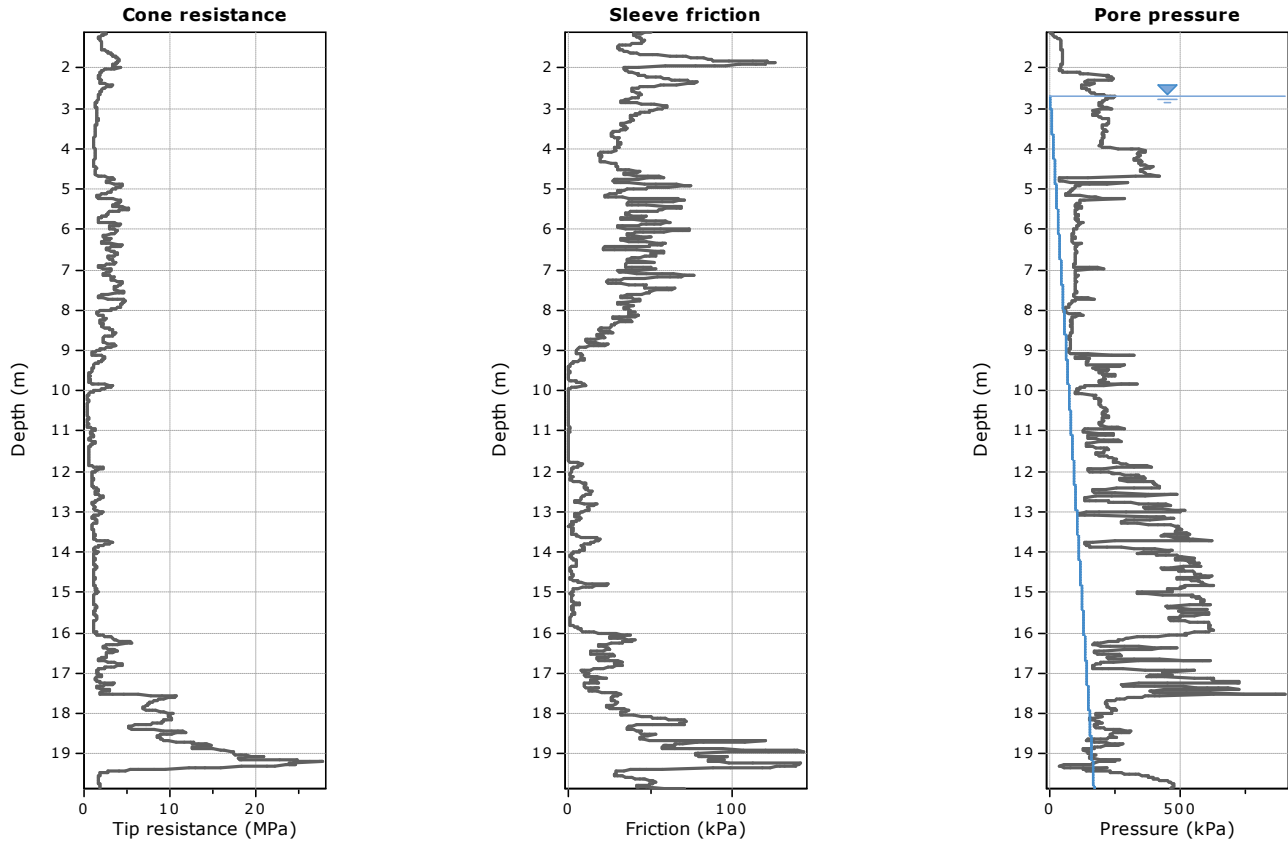
Modena, 20/09/2023

Dott. Geol. Valeriano Franchi

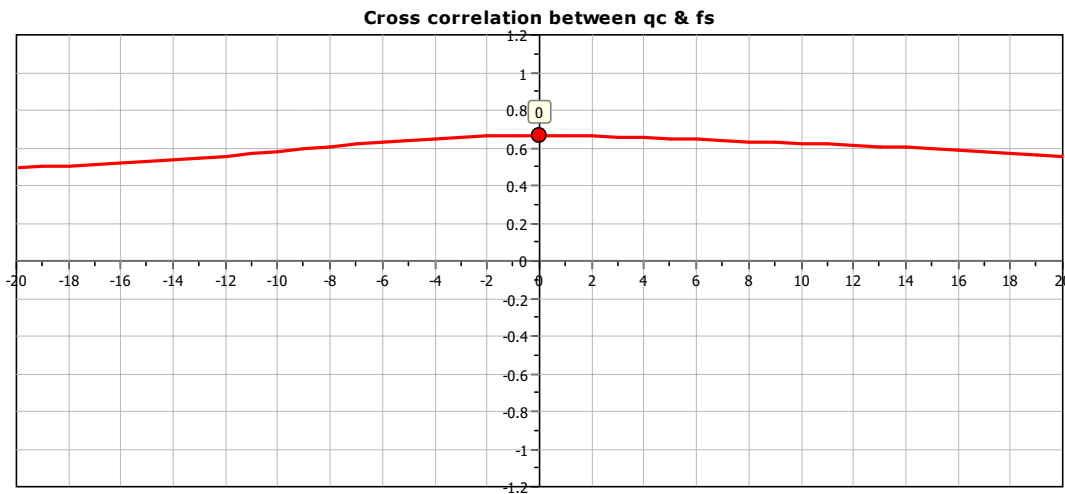


Allegato 1

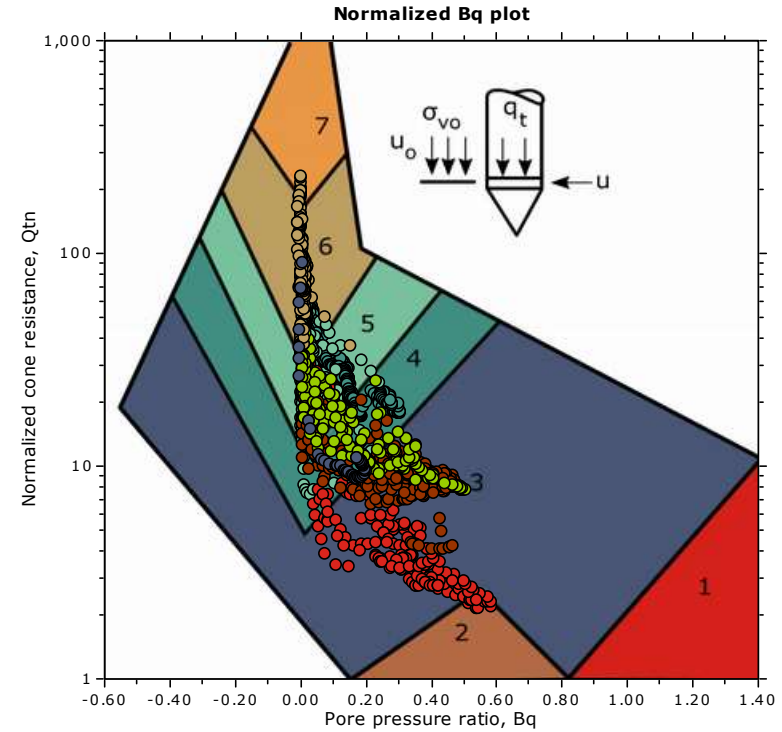
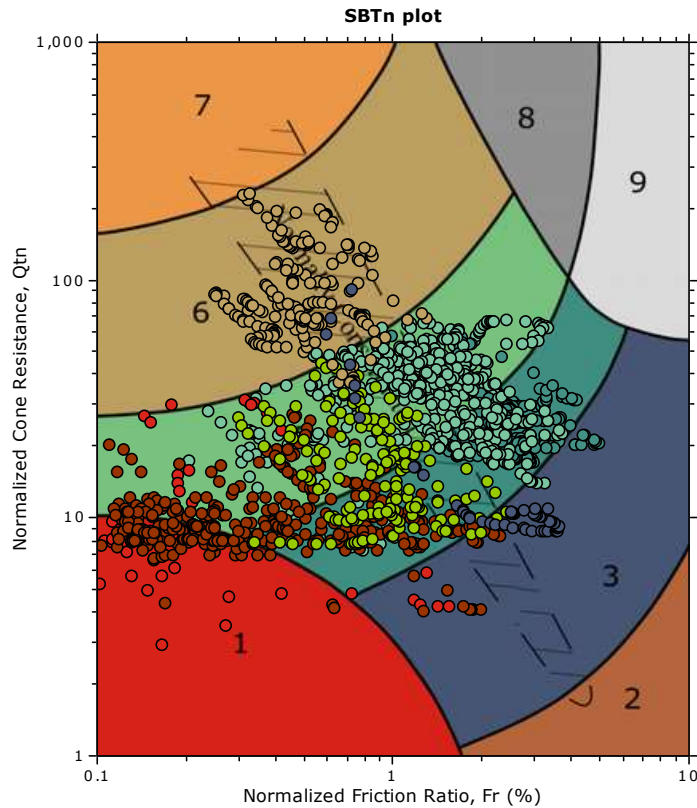
Prove Penetrometriche Statiche con punta elettrica e piezocono (CPTu)



The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

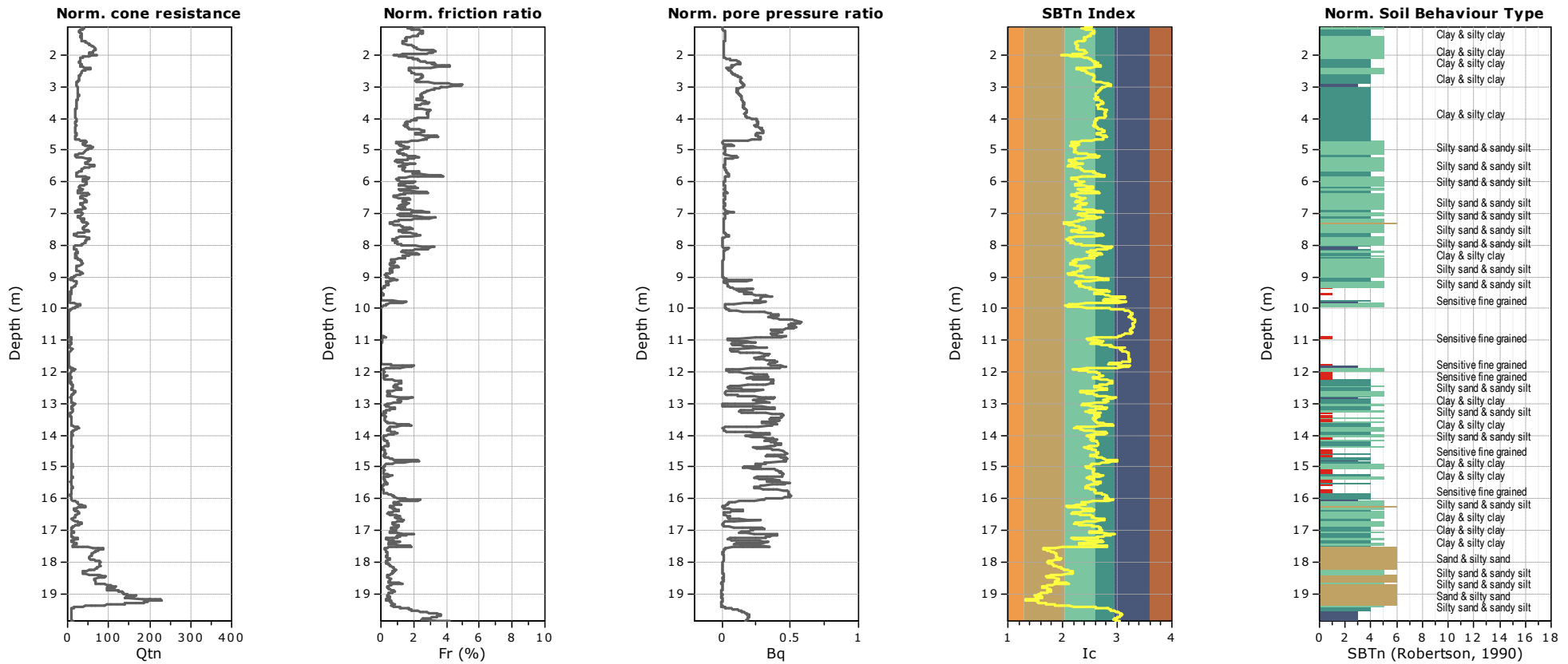


SBT - Bq plots (normalized)



SBTn legend

- | | | |
|--------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|
| ■ 1. Sensitive fine grained | ■ 4. Clayey silt to silty clay | ■ 7. Gravelly sand to sand |
| ■ 2. Organic material | ■ 5. Silty sand to sandy silt | ■ 8. Very stiff sand to clayey sand |
| ■ 3. Clay to silty clay | ■ 6. Clean sand to silty sand | ■ 9. Very stiff fine grained |

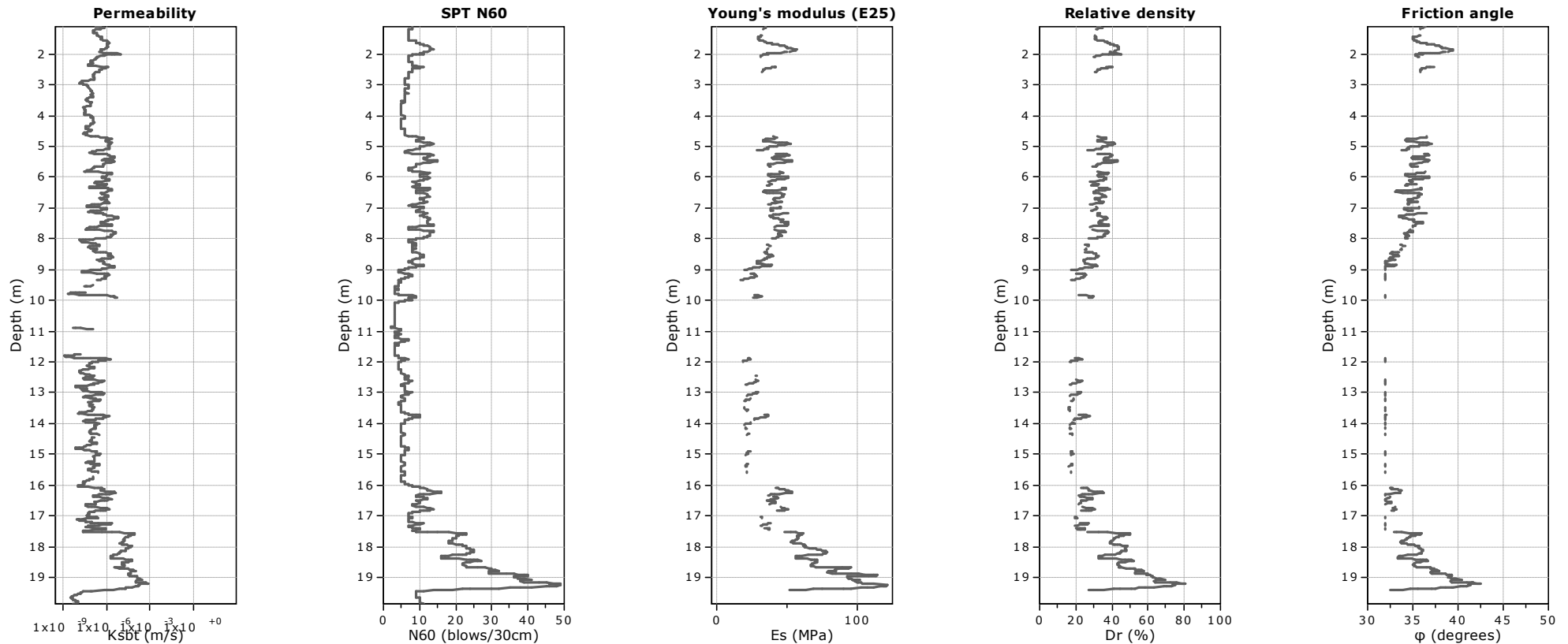


SBTn legend

- | | | |
|--------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|
| ■ 1. Sensitive fine grained | ■ 4. Clayey silt to silty clay | ■ 7. Gravely sand to sand |
| ■ 2. Organic material | ■ 5. Silty sand to sandy silt | ■ 8. Very stiff sand to clayey sand |
| ■ 3. Clay to silty clay | ■ 6. Clean sand to silty sand | ■ 9. Very stiff fine grained |

Project: art.53 ALPHATAURI

Location: Faenza (RA)



Calculation parameters

Permeability: Based on SBT_n

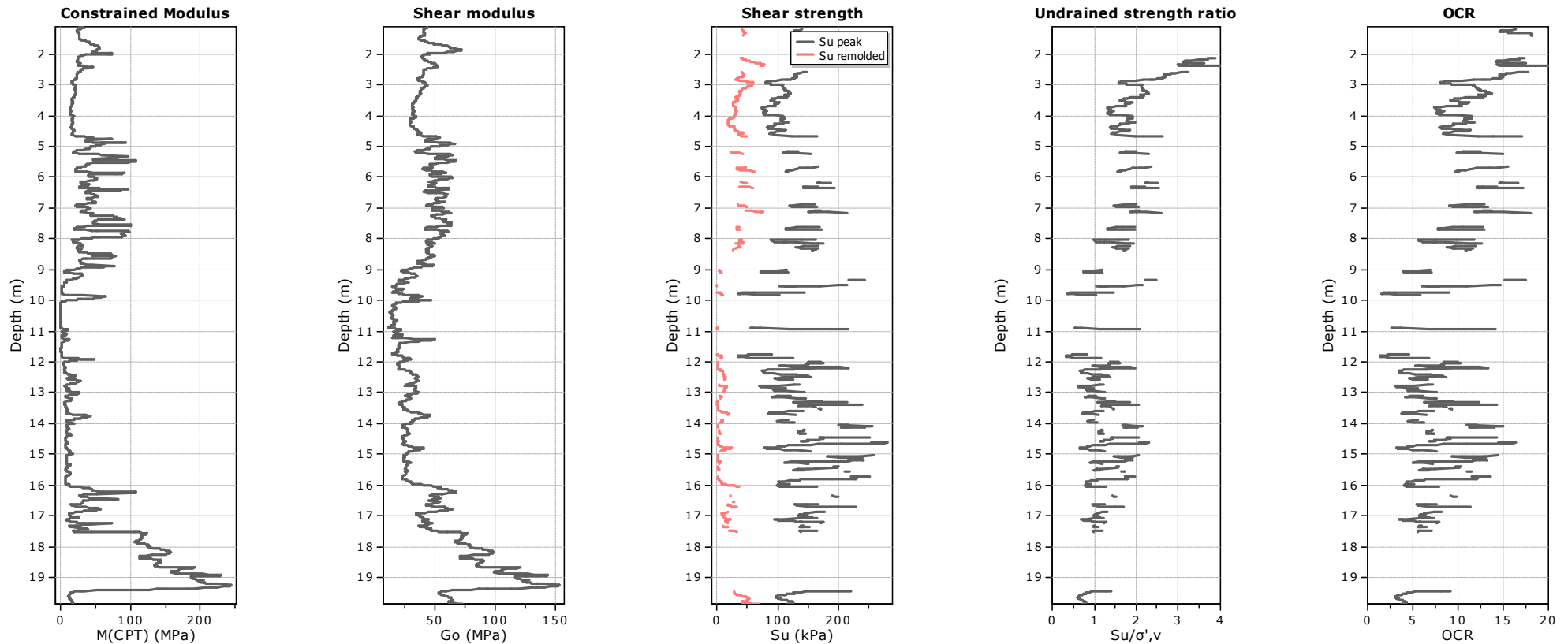
SPT N_{60} : Based on I_c and q_t

Young's modulus: Based on variable alpha using I_c (Robertson, 2009)

Relative density constant, C_{Dr} : 350.0

Phi: Based on Kulhawy & Mayne (1990)

● — User defined estimation data



Calculation parameters

Constrained modulus: Based on variable *alpha* using I_c and Q_{tn} (Robertson, 2009)

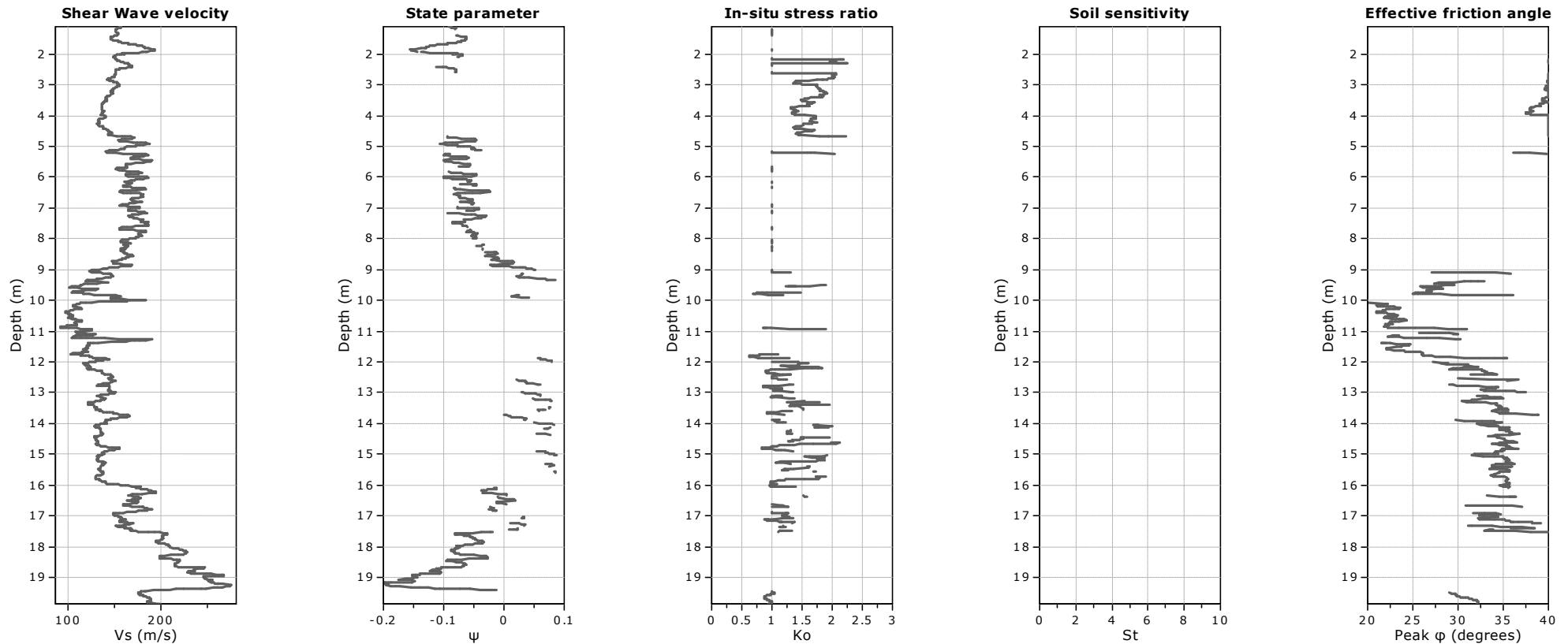
Go: Based on variable *alpha* using I_c (Robertson, 2009)

Undrained shear strength cone factor for clays, N_{kt} : Auto

OCR factor for clays, N_{kt} : Auto

● User defined estimation data

● Flat Dilatometer Test data



Calculation parameters

Soil Sensitivity factor, N_s : 350.00

—●— User defined estimation data

Dott. Geol. Valeriano Franchi

V.le Caduti in Guerra, 1
41125 Modena
valerianofranchi@gmail.com

CPT: CPTu-1

Total depth: 19.86 m, Date: 08/08/2023

Surface Elevation: 0.00 m

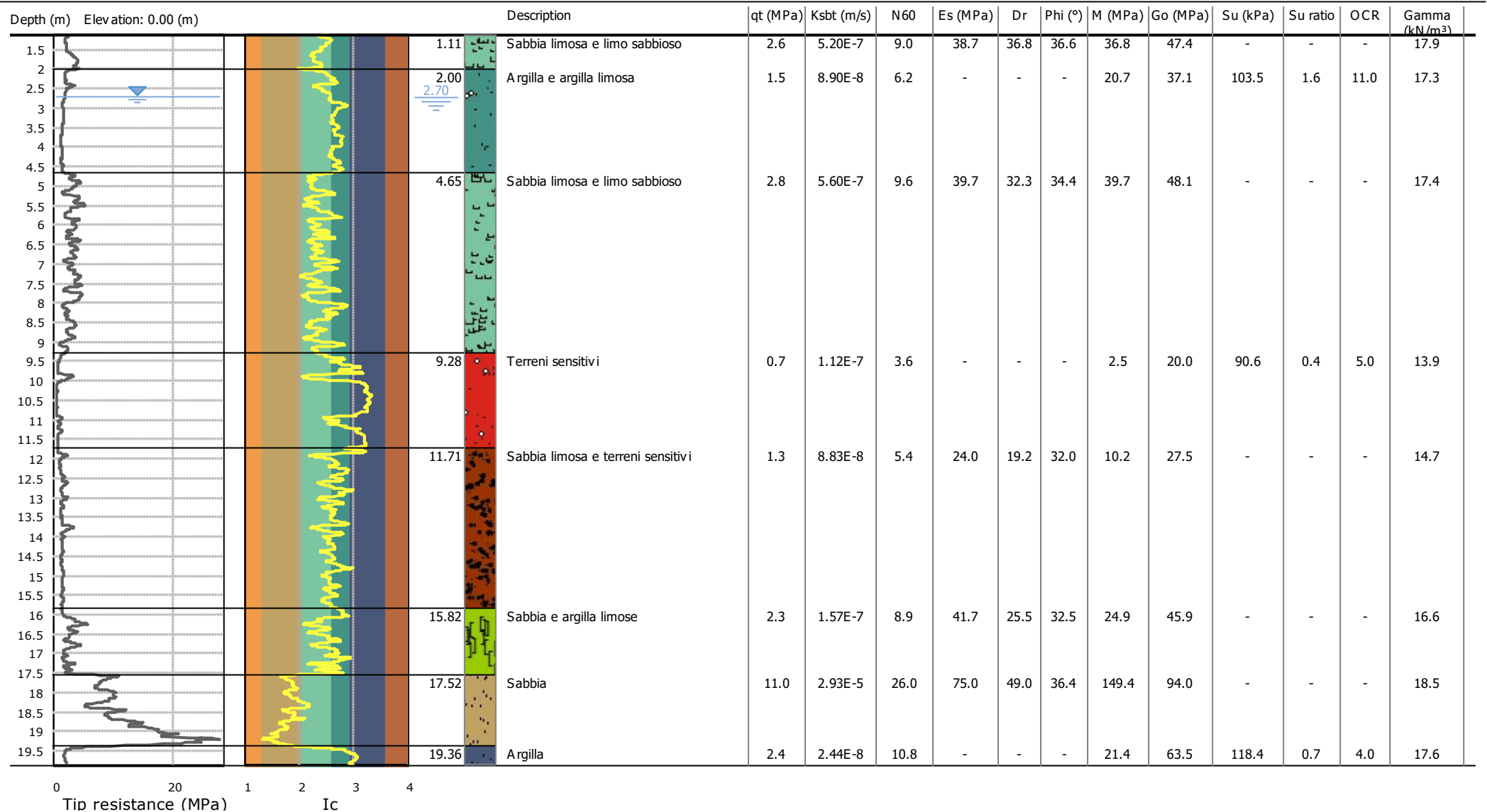
Coords: X:0.00, Y:0.00

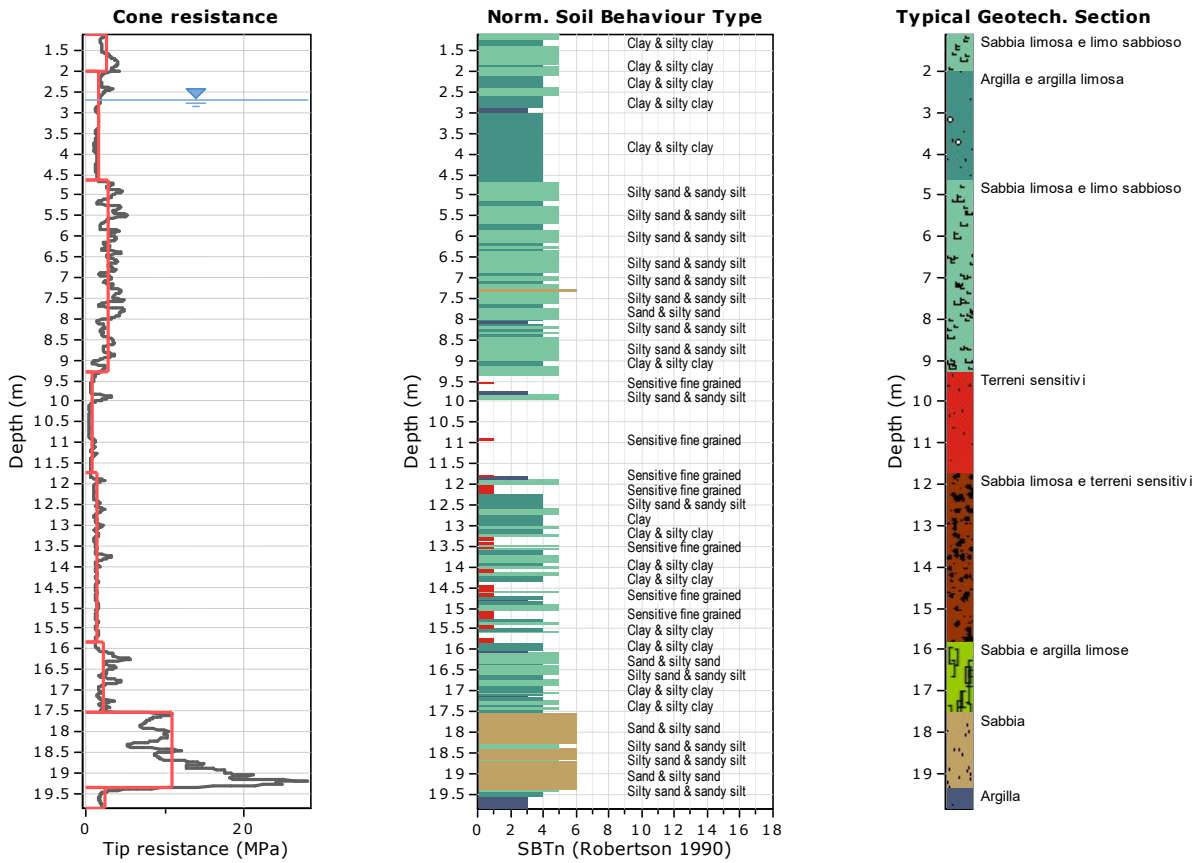
Cone Type: Pagani MKS988

Cone Operator: Dott. Geol. Benelli Christian

Project: art.53 ALPHATAURI

Location: Faenza (RA)





Tabular results

::: Layer No: 1 :::		
Code: 1	Start depth: 1.11 (m), End depth: 2.00 (m)	
Description: Sabbia limosa e limo sabbioso		
Basic results	Estimation results	
Total cone resistance: 2.62 ±0.83 MPa	Permeability: 5.20E-07 ±1.15E-06 m/s	Constrained Mod.: 36.84 ±13.46 MPa
Sleeve friction: 50.84 ±28.33 kPa	N ₆₀ : 8.98 ±2.41 blows	Go: 47.44 ±10.97 MPa
Ic: 2.38 ±0.13	Es: 38.67 ±8.95 MPa	Su: 0.00 ±0.00 kPa
SBT _n : 5	Dr (%): 36.78 ±4.98	Su ratio: 0.00 ±0.00
SBTn description: Silty sand & sandy silt	φ (degrees): 36.59 ±1.44 °	O.C.R.: 0.00 ±0.00
	Unit weight: 17.88 ±0.59 kN/m ³	

:: Layer No: 2 ::**Code: 2** **Start depth: 2.00 (m), End depth: 4.65 (m)****Description:** Argilla e argilla limosa**Basic results**

Total cone resistance: 1.53 ±0.46 MPa

Sleeve friction: 35.71 ±12.77 kPa

Ic: 2.63 ±0.13

SBT_n: 4

SBTn description: Clay & silty clay

Estimation results

Permeability: 8.90E-08 ±6.41E-07 m/s

N₆₀: 6.19 ±1.25 blows

Es: 0.00 ±0.00 MPa

Dr (%): 0.00 ±0.00

φ (degrees): 0.00 ±0.00 °

Unit weight: 17.26 ±0.43 kN/m³

Constrained Mod.: 20.69 ±7.87 MPa

Go: 37.14 ±5.54 MPa

Su: 103.48 ±19.48 kPa

Su ratio: 1.62 ±0.33

O.C.R.: 11.03 ±2.77

:: Layer No: 3 ::**Code: 3** **Start depth: 4.65 (m), End depth: 9.28 (m)****Description:** Sabbia limosa e limo sabbioso**Basic results**

Total cone resistance: 2.79 ±0.95 MPa

Sleeve friction: 31.93 ±16.74 kPa

Ic: 2.36 ±0.19

SBT_n: 5

SBTn description: Silty sand & sandy silt

Estimation results

Permeability: 5.60E-07 ±1.19E-06 m/s

N₆₀: 9.60 ±2.32 blows

Es: 39.65 ±7.15 MPa

Dr (%): 32.26 ±4.73

φ (degrees): 34.42 ±1.37 °

Unit weight: 17.37 ±0.76 kN/m³

Constrained Mod.: 39.69 ±22.63 MPa

Go: 48.06 ±9.19 MPa

Su: 0.00 ±0.00 kPa

Su ratio: 0.00 ±0.00

O.C.R.: 0.00 ±0.00

:: Layer No: 4 ::**Code: 4** **Start depth: 9.28 (m), End depth: 11.71 (m)****Description:** Terreni sensibili**Basic results**

Total cone resistance: 0.72 ±0.56 MPa

Sleeve friction: 0.05 ±2.10 kPa

Ic: 2.96 ±0.33

SBT_n: 0

SBTn description: N/A

Estimation results

Permeability: 1.12E-07 ±1.54E-06 m/s

N₆₀: 3.64 ±1.45 blows

Es: 0.00 ±0.00 MPa

Dr (%): 0.00 ±0.00

φ (degrees): 0.00 ±0.00 °

Unit weight: 13.86 ±0.45 kN/m³

Constrained Mod.: 2.52 ±12.04 MPa

Go: 20.01 ±7.57 MPa

Su: 90.62 ±70.99 kPa

Su ratio: 0.41 ±0.15

O.C.R.: 5.01 ±5.45

:: Layer No: 5 ::**Code: 5** **Start depth: 11.71 (m), End depth: 15.82 (m)****Description:** Sabbia limosa e terreni sensibili**Basic results**

Total cone resistance: 1.33 ±0.38 MPa

Sleeve friction: 3.64 ±5.16 kPa

Ic: 2.62 ±0.17

SBT_n: 5

SBTn description: Silty sand & sandy silt

Estimation results

Permeability: 8.83E-08 ±2.59E-07 m/s

N₆₀: 5.39 ±1.11 blows

Es: 24.01 ±4.53 MPa

Dr (%): 19.17 ±2.88

φ (degrees): 32.00 ±0.00 °

Unit weight: 14.72 ±0.91 kN/m³

Constrained Mod.: 10.18 ±7.13 MPa

Go: 27.55 ±5.54 MPa

Su: 0.00 ±0.00 kPa

Su ratio: 0.00 ±0.00

O.C.R.: 0.00 ±0.00

:: Layer No: 6 ::**Code:** 6 **Start depth:** 15.82 (m), **End depth:** 17.52 (m)**Description:** Sabbia e argilla limose**Basic results**

Total cone resistance: 2.31 ±1.04 MPa

Sleeve friction: 16.79 ±9.34 kPa

Ic: 2.54 ±0.22

SBT_n: 5

SBTn description: Silty sand & sandy silt

Estimation results

Permeability: 1.57E-07 ±8.48E-07 m/s

N₆₀: 8.93 ±2.56 blows

Es: 41.69 ±6.33 MPa

Dr (%): 25.52 ±3.90

φ (degrees): 32.50 ±0.56 °

Unit weight: 16.55 ±0.75 kN/m³

Constrained Mod.: 24.93 ±22.19 MPa

Go: 45.91 ±9.92 MPa

Su: 0.00 ±0.00 kPa

Su ratio: 0.00 ±0.00

O.C.R.: 0.00 ±0.00

:: Layer No: 7 ::**Code:** 7 **Start depth:** 17.52 (m), **End depth:** 19.36 (m)**Description:** Sabbia**Basic results**

Total cone resistance: 10.96 ±5.50 MPa

Sleeve friction: 53.05 ±34.14 kPa

Ic: 1.79 ±0.19

SBT_n: 6

SBTn description: Sand & silty sand

Estimation results

Permeability: 2.93E-05 ±1.26E-04 m/s

N₆₀: 26.03 ±9.20 blows

Es: 74.99 ±19.46 MPa

Dr (%): 48.98 ±11.47

φ (degrees): 36.45 ±2.32 °

Unit weight: 18.47 ±0.73 kN/m³

Constrained Mod.: 149.37 ±39.55 MPa

Go: 93.99 ±24.39 MPa

Su: 0.00 ±0.00 kPa

Su ratio: 0.00 ±0.00

O.C.R.: 0.00 ±0.00

:: Layer No: 8 ::**Code:** 8 **Start depth:** 19.36 (m), **End depth:** 19.86 (m)**Description:** Argilla**Basic results**

Total cone resistance: 2.35 ±2.62 MPa

Sleeve friction: 41.67 ±13.84 kPa

Ic: 2.79 ±0.35

SBT_n: 4

SBTn description: Clay & silty clay

Estimation results

Permeability: 2.44E-08 ±4.63E-06 m/s

N₆₀: 10.80 ±5.14 blows

Es: 0.00 ±0.00 MPa

Dr (%): 0.00 ±0.00

φ (degrees): 0.00 ±0.00 °

Unit weight: 17.61 ±0.44 kN/m³

Constrained Mod.: 21.37 ±45.49 MPa

Go: 63.51 ±13.29 MPa

Su: 118.38 ±28.79 kPa

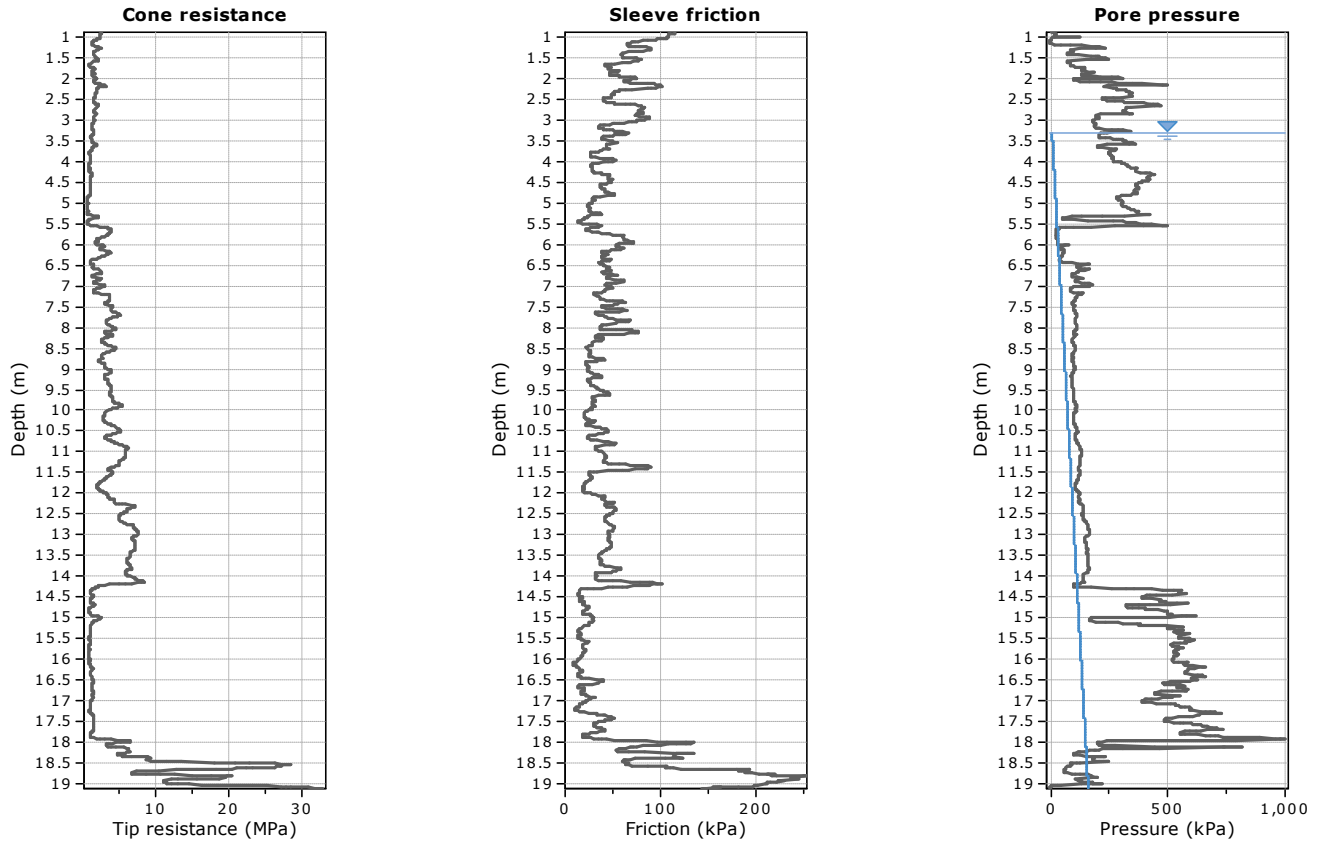
Su ratio: 0.72 ±0.12

O.C.R.: 3.99 ±1.40

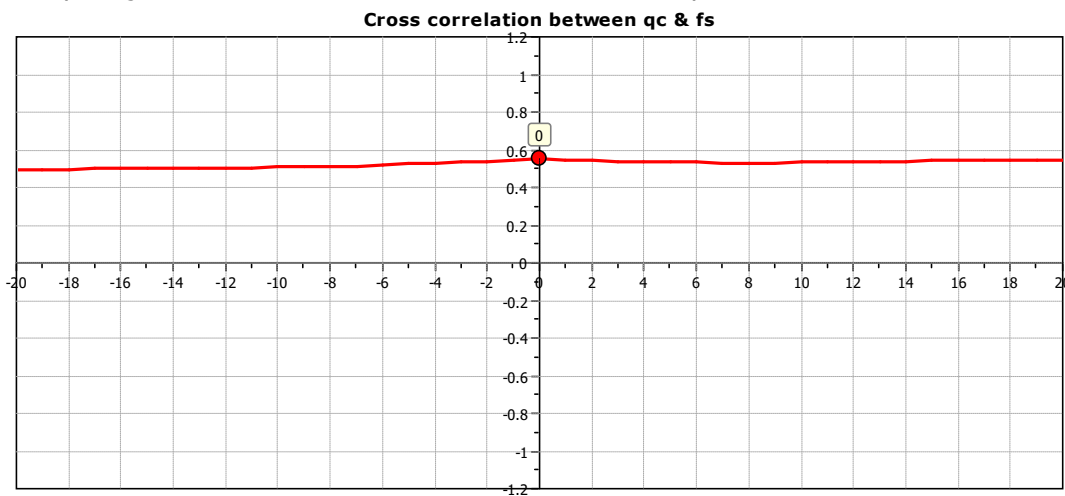
Summary table of mean values

From depth To depth (m)	Thickness (m)	Permeability (m/s)	SPT _{N60} (blows/30cm)	E _s (MPa)	D _r (%)	Friction angle	Constrained modulus, M (MPa)	Shear modulus, G ₀ (MPa)	Undrained strength, S _u (kPa)	Undrained strength ratio	OCR	Unit weight (kN/m ³)
1.11	0.89	5.20E-07	9.0	38.7	36.8	36.6	36.8	47.4	0.0	0.0	0.0	17.9
2.00		(±1.15E-06)	(±2.4)	(±8.9)	(±5.0)	(±1.4)	(±13.5)	(±11.0)	(±0.0)	(±0.0)	(±0.0)	(±0.6)
2.00	2.65	8.90E-08	6.2	0.0	0.0	0.0	20.7	37.1	103.5	1.6	11.0	17.3
4.65		(±6.41E-07)	(±1.3)	(±0.0)	(±0.0)	(±0.0)	(±7.9)	(±5.5)	(±19.5)	(±0.3)	(±2.8)	(±0.4)
4.65	4.63	5.60E-07	9.6	39.7	32.3	34.4	39.7	48.1	0.0	0.0	0.0	17.4
9.28		(±1.19E-06)	(±2.3)	(±7.2)	(±4.7)	(±1.4)	(±22.6)	(±9.2)	(±0.0)	(±0.0)	(±0.0)	(±0.8)
9.28	2.43	1.12E-07	3.6	0.0	0.0	0.0	2.5	20.0	90.6	0.4	5.0	13.9
11.71		(±1.54E-06)	(±1.4)	(±0.0)	(±0.0)	(±0.0)	(±12.0)	(±7.6)	(±71.0)	(±0.2)	(±5.5)	(±0.4)
11.71	4.11	8.83E-08	5.4	24.0	19.2	32.0	10.2	27.5	0.0	0.0	0.0	14.7
15.82		(±2.59E-07)	(±1.1)	(±4.5)	(±2.9)	(±0.0)	(±7.1)	(±5.5)	(±0.0)	(±0.0)	(±0.0)	(±0.9)
15.82	1.70	1.57E-07	8.9	41.7	25.5	32.5	24.9	45.9	0.0	0.0	0.0	16.6
17.52		(±8.48E-07)	(±2.6)	(±6.3)	(±3.9)	(±0.6)	(±22.2)	(±9.9)	(±0.0)	(±0.0)	(±0.0)	(±0.7)
17.52	1.84	2.93E-05	26.0	75.0	49.0	36.4	149.4	94.0	0.0	0.0	0.0	18.5
19.36		(±1.26E-04)	(±9.2)	(±19.5)	(±11.5)	(±2.3)	(±39.5)	(±24.4)	(±0.0)	(±0.0)	(±0.0)	(±0.7)
19.36	0.50	2.44E-08	10.8	0.0	0.0	0.0	21.4	63.5	118.4	0.7	4.0	17.6
19.86		(±4.63E-06)	(±5.1)	(±0.0)	(±0.0)	(±0.0)	(±45.5)	(±13.3)	(±28.8)	(±0.1)	(±1.4)	(±0.4)

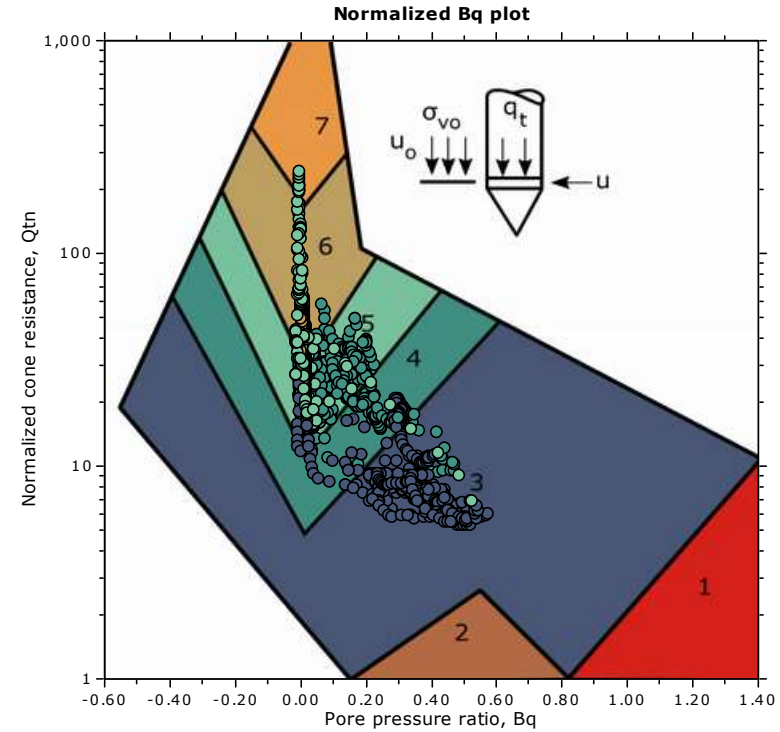
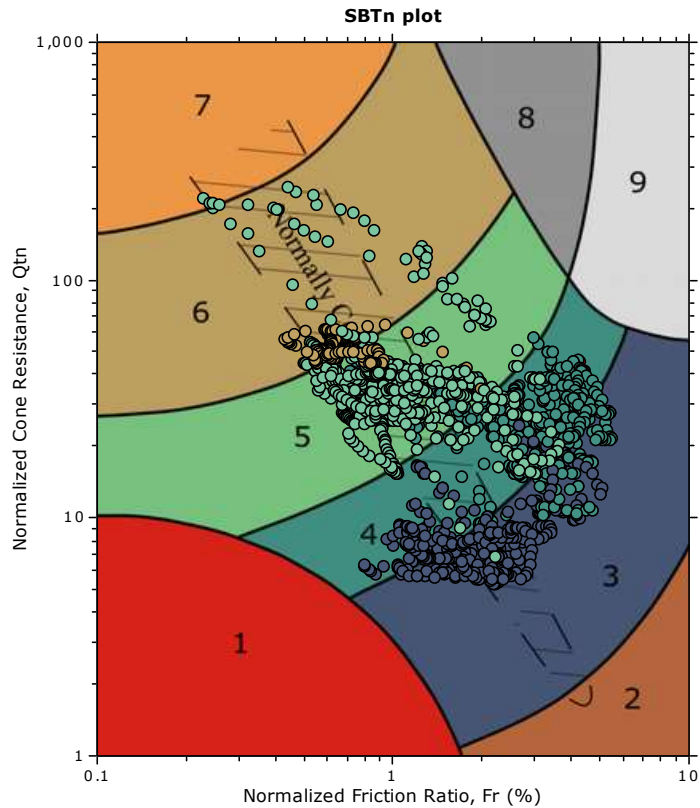
Depth values presented in this table are measured from free ground surface



The plot below presents the cross correlation coefficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).



SBT - Bq plots (normalized)

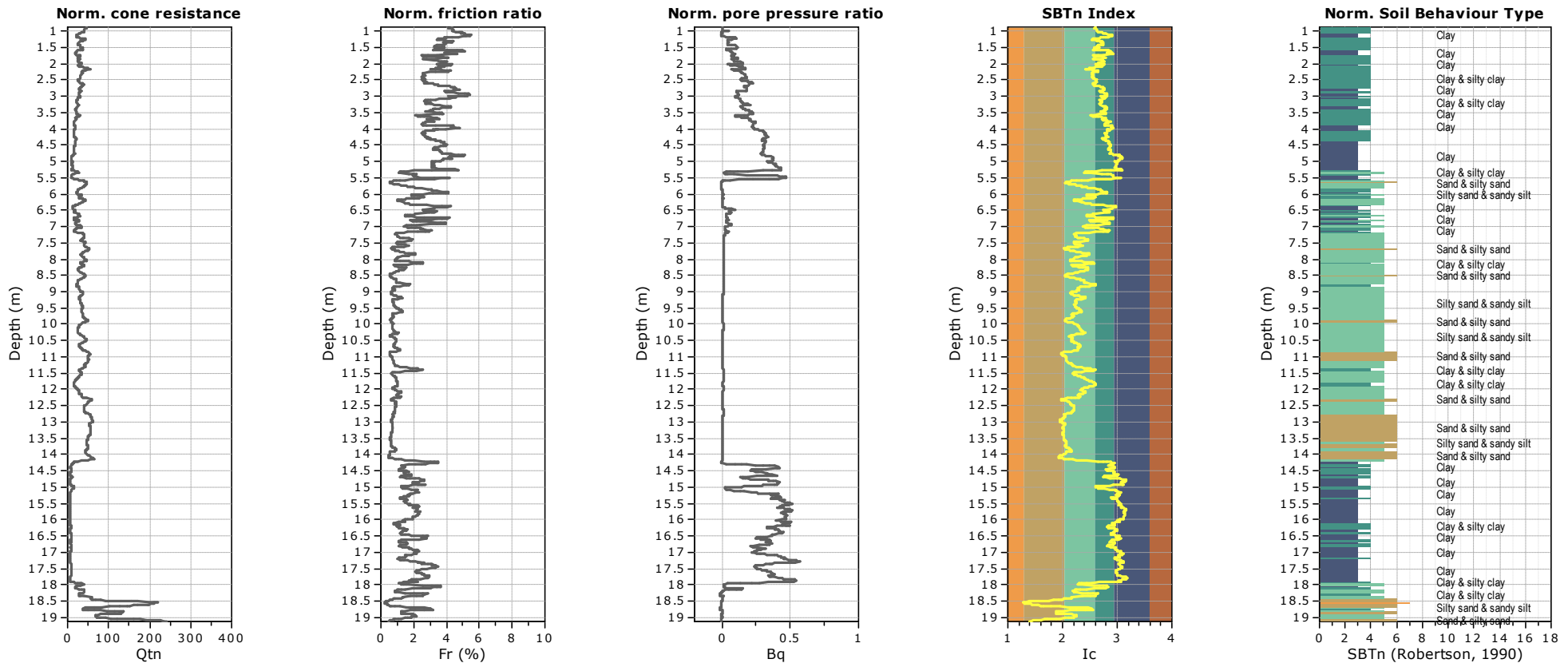


SBTn legend

- | | | |
|--------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|
| ■ 1. Sensitive fine grained | ■ 4. Clayey silt to silty clay | ■ 7. Gravelly sand to sand |
| ■ 2. Organic material | ■ 5. Silty sand to sandy silt | ■ 8. Very stiff sand to clayey sand |
| ■ 3. Clay to silty clay | ■ 6. Clean sand to silty sand | ■ 9. Very stiff fine grained |

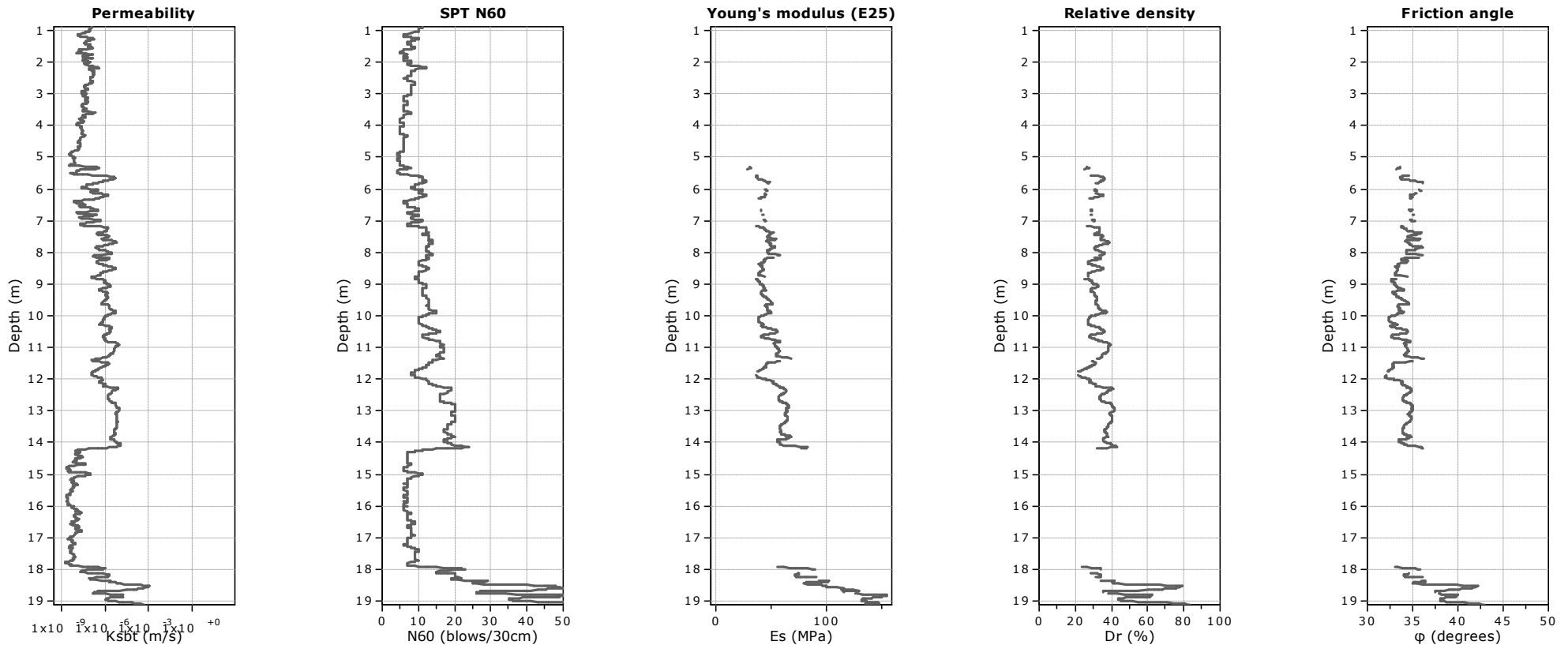
Project: art.53 ALPHATAURI

Location: Faenza (RA)



SBTn legend

- | | | |
|--------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|
| ■ 1. Sensitive fine grained | ■ 4. Clayey silt to silty clay | ■ 7. Gravely sand to sand |
| ■ 2. Organic material | ■ 5. Silty sand to sandy silt | ■ 8. Very stiff sand to clayey sand |
| ■ 3. Clay to silty clay | ■ 6. Clean sand to silty sand | ■ 9. Very stiff fine grained |



Calculation parameters

Permeability: Based on SBT_n

SPT N_{60} : Based on I_c and q_t

Young's modulus: Based on variable alpha using I_c (Robertson, 2009)

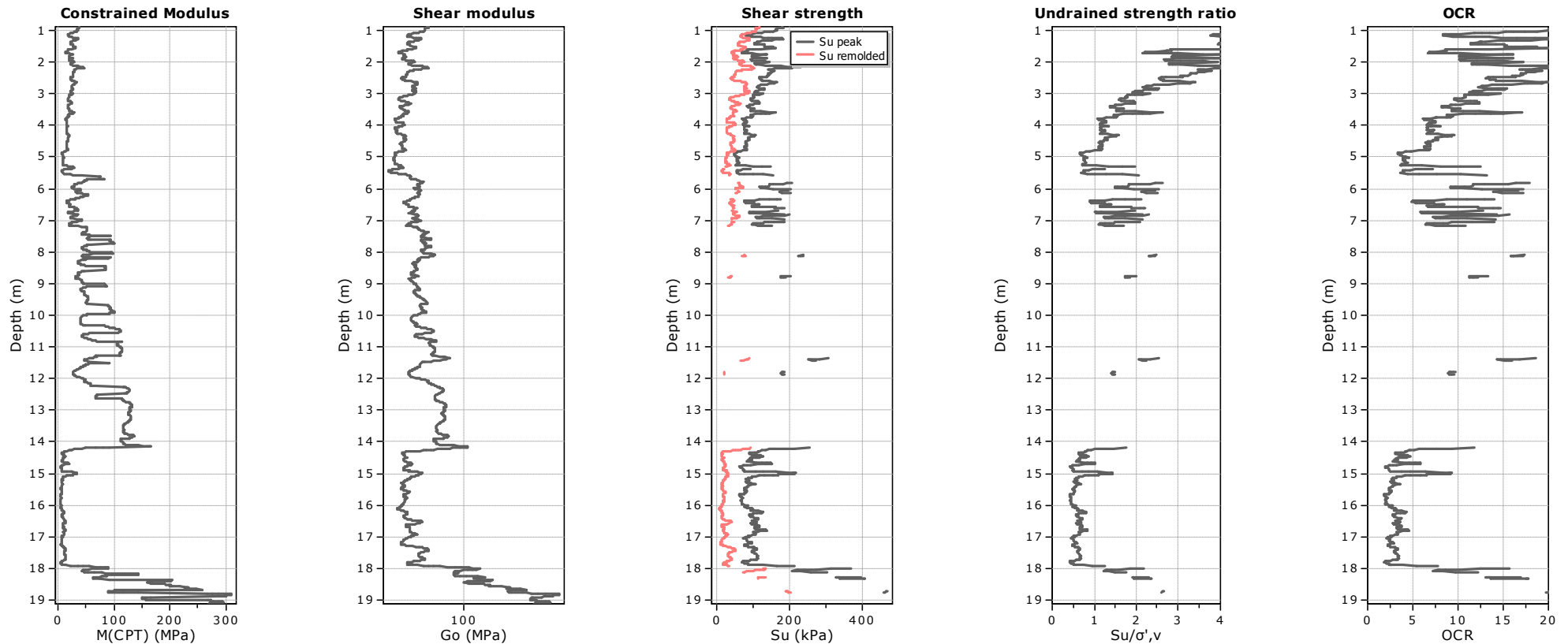
Relative density constant, C_{Dr} : 350.0

Phi: Based on Kulhawy & Mayne (1990)

● — User defined estimation data

Project: art.53 ALPHATAURI

Location: Faenza (RA)



Calculation parameters

Constrained modulus: Based on variable *alpha* using I_c and Q_{tn} (Robertson, 2009)

Go: Based on variable *alpha* using I_c (Robertson, 2009)

Undrained shear strength cone factor for clays, N_{kt} : Auto

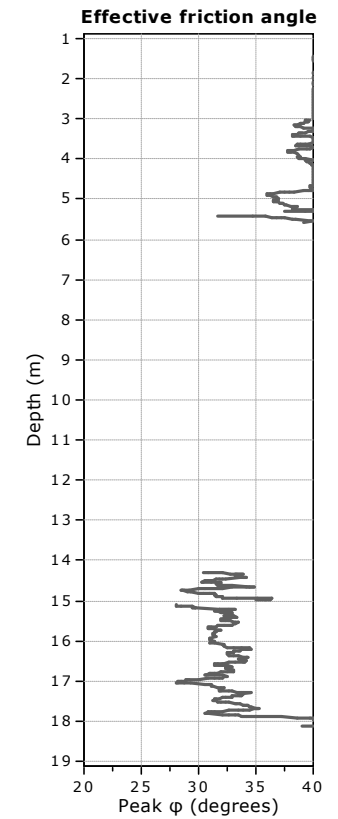
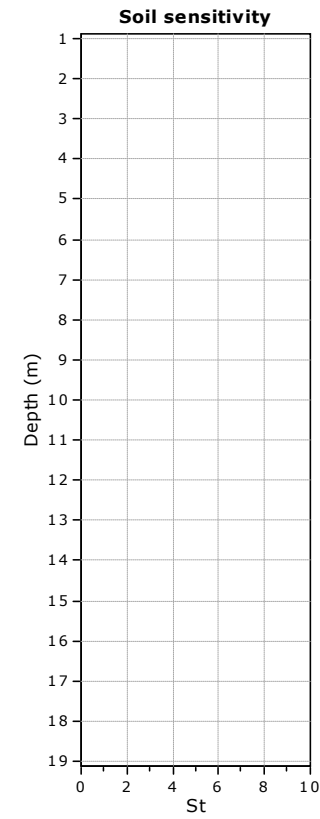
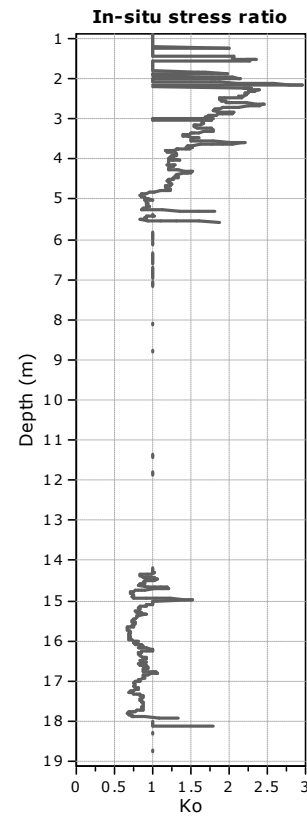
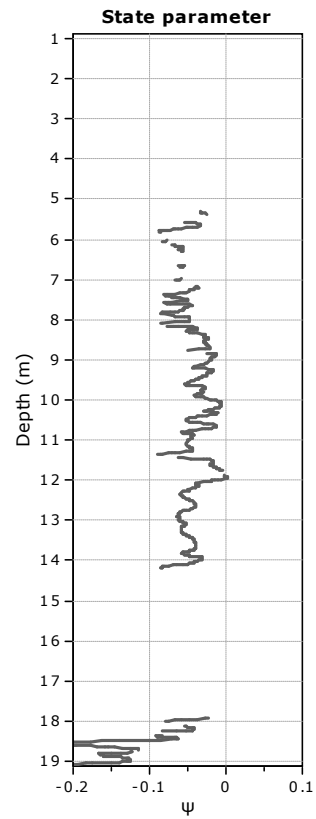
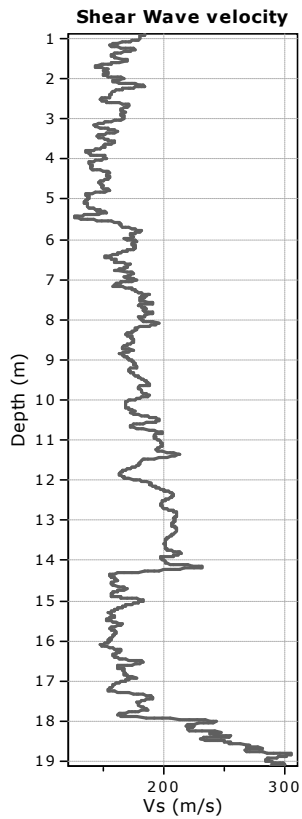
OCR factor for clays, N_{kt} : Auto

● User defined estimation data

● Flat Dilatometer Test data

Project: art.53 ALPHATAURI

Location: Faenza (RA)



Calculation parameters

Soil Sensitivity factor, N_s : 350.00

—●— User defined estimation data

Dott. Geol. Valeriano Franchi

V.le Caduti in Guerra, 1
41125 Modena
valerianofranchi@gmail.com

CPT: CPTu-2

Total depth: 19.12 m, Date: 08/08/2023

Surface Elevation: 0.00 m

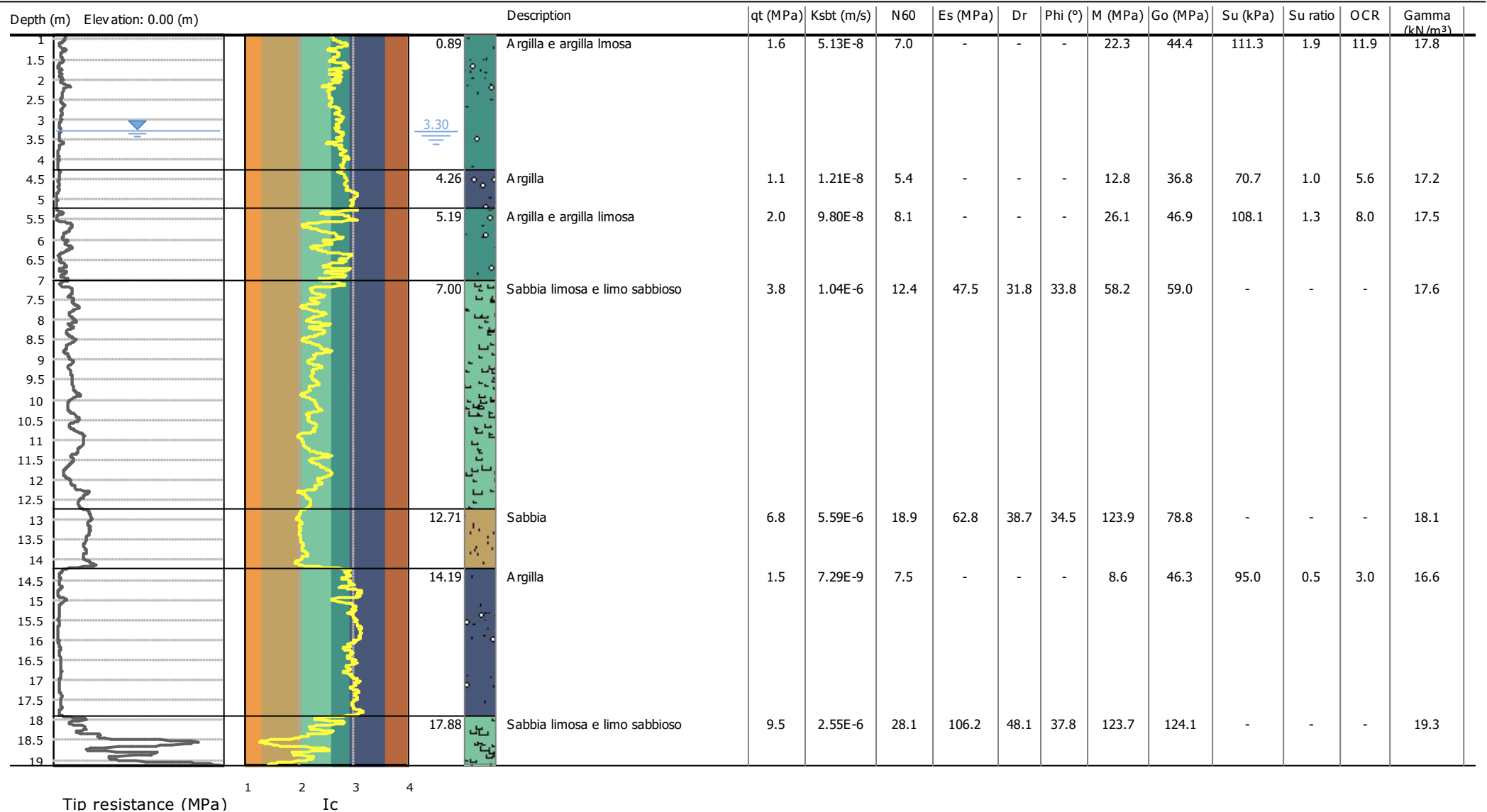
Coords: X:0.00, Y:0.00

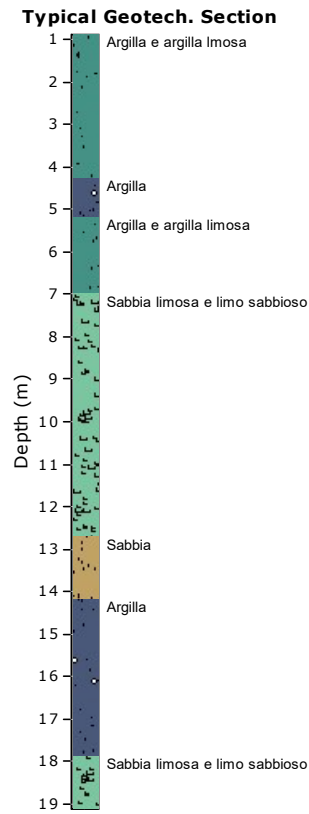
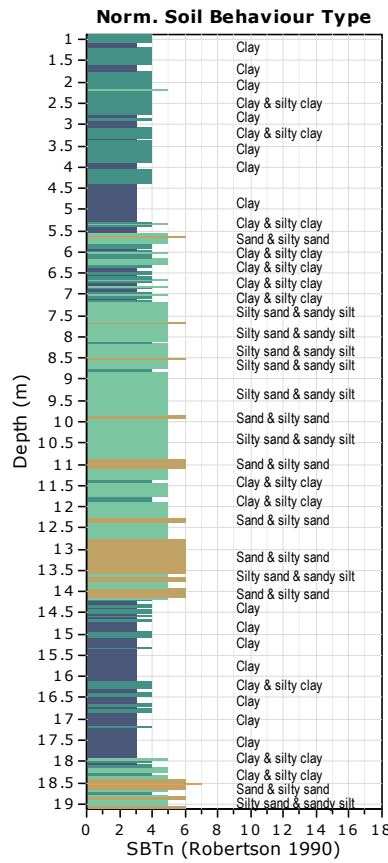
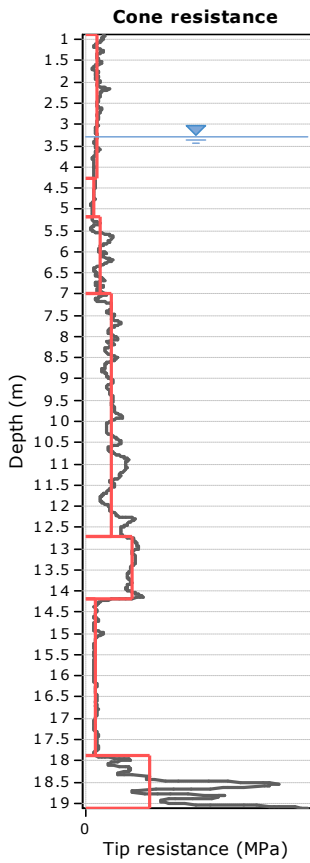
Cone Type: Pagani MKS988

Cone Operator: Dott. Geol. Benelli Christian

Project: art.53 ALPHATAURI

Location: Faenza (RA)





Tabular results

::: Layer No: 1 :::		
Code: 1	Start depth: 0.89 (m), End depth: 4.26 (m)	
Description: Argilla e argilla lmosa		
Basic results		
Total cone resistance: 1.65 ±0.45 MPa	Estimation results	
Sleeve friction: 55.73 ±22.37 kPa	Permeability: 5.13E-08 ±5.66E-08 m/s	Constrained Mod.: 22.31 ±6.44 MPa
Ic: 2.71 ±0.11	N ₆₀ : 7.02 ±1.54 blows	Go: 44.44 ±7.98 MPa
SBT _n : 4	Es: 0.00 ±0.00 MPa	Su: 111.27 ±31.17 kPa
SBTn description: Clay & silty clay	Dr (%): 0.00 ±0.00	Su ratio: 1.85 ±0.58
	φ (degrees): 0.00 ±0.00 °	O.C.R.: 11.90 ±4.69
	Unit weight: 17.80 ±0.52 kN/m ³	

::: Layer No: 2 :::**Code:** 2 **Start depth:** 4.26 (m), **End depth:** 5.19 (m)**Description:** Argilla**Basic results**

Total cone resistance: 1.10 ±0.23 MPa

Sleeve friction: 36.18 ±9.04 kPa

Ic: 2.92 ±0.10

SBT_n: 3

SBTn description: Clay

Estimation results

Permeability: 1.21E-08 ±1.01E-08 m/s

N₆₀: 5.41 ±0.85 blows

Es: 0.00 ±0.00 MPa

Dr (%): 0.00 ±0.00

φ (degrees): 0.00 ±0.00 °

Unit weight: 17.15 ±0.36 kN/m³

Constrained Mod.: 12.76 ±4.48 MPa

Go: 36.75 ±4.47 MPa

Su: 70.68 ±16.47 kPa

Su ratio: 1.02 ±0.25

O.C.R.: 5.59 ±1.78

::: Layer No: 3 :::**Code:** 3 **Start depth:** 5.19 (m), **End depth:** 7.00 (m)**Description:** Argilla e argilla limosa**Basic results**

Total cone resistance: 2.01 ±0.92 MPa

Sleeve friction: 39.83 ±14.10 kPa

Ic: 2.61 ±0.26

SBT_n: 4

SBTn description: Clay & silty clay

Estimation results

Permeability: 9.80E-08 ±1.04E-06 m/s

N₆₀: 8.14 ±2.27 blows

Es: 0.00 ±0.00 MPa

Dr (%): 0.00 ±0.00

φ (degrees): 0.00 ±0.00 °

Unit weight: 17.49 ±0.52 kN/m³

Constrained Mod.: 26.11 ±17.10 MPa

Go: 46.94 ±8.71 MPa

Su: 108.10 ±45.57 kPa

Su ratio: 1.28 ±0.46

O.C.R.: 7.97 ±4.05

::: Layer No: 4 :::**Code:** 4 **Start depth:** 7.00 (m), **End depth:** 12.71 (m)**Description:** Sabbia limosa e limo sabbioso**Basic results**

Total cone resistance: 3.83 ±1.11 MPa

Sleeve friction: 34.54 ±13.35 kPa

Ic: 2.28 ±0.16

SBT_n: 5

SBTn description: Silty sand & sandy silt

Estimation results

Permeability: 1.04E-06 ±1.84E-06 m/s

N₆₀: 12.42 ±2.54 blows

Es: 47.46 ±6.91 MPa

Dr (%): 31.79 ±3.80

φ (degrees): 33.80 ±0.89 °

Unit weight: 17.58 ±0.44 kN/m³

Constrained Mod.: 58.16 ±29.54 MPa

Go: 59.04 ±9.18 MPa

Su: 0.00 ±0.00 kPa

Su ratio: 0.00 ±0.00

O.C.R.: 0.00 ±0.00

::: Layer No: 5 :::**Code:** 5 **Start depth:** 12.71 (m), **End depth:** 14.19 (m)**Description:** Sabbia**Basic results**

Total cone resistance: 6.84 ±0.61 MPa

Sleeve friction: 44.23 ±12.18 kPa

Ic: 2.04 ±0.07

SBT_n: 6

SBTn description: Sand & silty sand

Estimation results

Permeability: 5.59E-06 ±2.41E-06 m/s

N₆₀: 18.95 ±1.37 blows

Es: 62.84 ±5.06 MPa

Dr (%): 38.69 ±2.02

φ (degrees): 34.49 ±0.55 °

Unit weight: 18.08 ±0.27 kN/m³

Constrained Mod.: 123.90 ±10.97 MPa

Go: 78.76 ±6.34 MPa

Su: 0.00 ±0.00 kPa

Su ratio: 0.00 ±0.00

O.C.R.: 0.00 ±0.00

:: Layer No: 6 ::**Code:** 6 **Start depth:** 14.19 (m), **End depth:** 17.88 (m)**Description:** Argilla**Basic results**

Total cone resistance: 1.45 ±0.38 MPa

Sleeve friction: 20.82 ±12.71 kPa

Ic: 2.99 ±0.11

SBT_n: 3SBT_n description: Clay**Estimation results**

Permeability: 7.29E-09 ±2.17E-08 m/s

N₆₀: 7.47 ±1.41 blows

Es: 0.00 ±0.00 MPa

Dr (%): 0.00 ±0.00

φ (degrees): 0.00 ±0.00 °

Unit weight: 16.62 ±0.55 kN/m³

Constrained Mod.: 8.59 ±6.74 MPa

Go: 46.26 ±8.83 MPa

Su: 95.02 ±27.34 kPa

Su ratio: 0.53 ±0.17

O.C.R.: 3.02 ±1.31

:: Layer No: 7 ::**Code:** 7 **Start depth:** 17.88 (m), **End depth:** 19.12 (m)**Description:** Sabbia limosa e limo sabbioso**Basic results**

Total cone resistance: 9.45 ±8.49 MPa

Sleeve friction: 111.07 ±70.25 kPa

Ic: 2.11 ±0.44

SBT_n: 5SBT_n description: Silty sand & sandy silt**Estimation results**

Permeability: 2.55E-06 ±2.51E-04 m/s

N₆₀: 28.13 ±13.59 blows

Es: 106.19 ±28.05 MPa

Dr (%): 48.13 ±16.27

φ (degrees): 37.75 ±2.64 °

Unit weight: 19.27 ±0.85 kN/m³

Constrained Mod.: 123.71 ±93.76 MPa

Go: 124.13 ±36.59 MPa

Su: 0.00 ±0.00 kPa

Su ratio: 0.00 ±0.00

O.C.R.: 0.00 ±0.00

Summary table of mean values

From depth To depth (m)	Thickness (m)	Permeability (m/s)	SPT _{N60} (blows/30cm)	E _s (MPa)	D _r (%)	Friction angle	Constrained modulus, M (MPa)	Shear modulus, G ₀ (MPa)	Undrained strength, S _u (kPa)	Undrained strength ratio	OCR	Unit weight (kN/m ³)
0.89	3.37	5.13E-08	7.0	0.0	0.0	0.0	22.3	44.4	111.3	1.9	11.9	17.8
4.26		(±5.66E-08)	(±1.5)	(±0.0)	(±0.0)	(±0.0)	(±6.4)	(±8.0)	(±31.2)	(±0.6)	(±4.7)	(±0.5)
4.26	0.93	1.21E-08	5.4	0.0	0.0	0.0	12.8	36.8	70.7	1.0	5.6	17.2
5.19		(±1.01E-08)	(±0.9)	(±0.0)	(±0.0)	(±0.0)	(±4.5)	(±4.5)	(±16.5)	(±0.2)	(±1.8)	(±0.4)
5.19	1.81	9.80E-08	8.1	0.0	0.0	0.0	26.1	46.9	108.1	1.3	8.0	17.5
7.00		(±1.04E-06)	(±2.3)	(±0.0)	(±0.0)	(±0.0)	(±17.1)	(±8.7)	(±45.6)	(±0.5)	(±4.0)	(±0.5)
7.00	5.71	1.04E-06	12.4	47.5	31.8	33.8	58.2	59.0	0.0	0.0	0.0	17.6
12.71		(±1.84E-06)	(±2.5)	(±6.9)	(±3.8)	(±0.9)	(±29.5)	(±9.2)	(±0.0)	(±0.0)	(±0.0)	(±0.4)
12.71	1.48	5.59E-06	18.9	62.8	38.7	34.5	123.9	78.8	0.0	0.0	0.0	18.1
14.19		(±2.41E-06)	(±1.4)	(±5.1)	(±2.0)	(±0.5)	(±11.0)	(±6.3)	(±0.0)	(±0.0)	(±0.0)	(±0.3)
14.19	3.69	7.29E-09	7.5	0.0	0.0	0.0	8.6	46.3	95.0	0.5	3.0	16.6
17.88		(±2.17E-08)	(±1.4)	(±0.0)	(±0.0)	(±0.0)	(±6.7)	(±8.8)	(±27.3)	(±0.2)	(±1.3)	(±0.6)
17.88	1.24	2.55E-06	28.1	106.2	48.1	37.8	123.7	124.1	0.0	0.0	0.0	19.3
19.12		(±2.51E-04)	(±13.6)	(±28.0)	(±16.3)	(±2.6)	(±93.8)	(±36.6)	(±0.0)	(±0.0)	(±0.0)	(±0.8)

Depth values presented in this table are measured from free ground surface

Allegato 2

Indagini geofisiche

REGIONE EMILIA ROMAGNA

PROVINCIA PARMA

COMUNE DI FAENZA

**INDAGINI SISMICA A RIFRAZIONE MASW
ACQUISIZIONE DI MICROTREMORE A STAZIONE SINGOLA
VIA DELLA BOARIA**

RELAZIONE TECNICA



GEO-V SRL
STRADA CAVEDOLE 12/C
TEL. 059 3971911 – geovsrl@gmail.com
41126 PORTILE - MODENA

AGOSTO 2023



INDAGINE SISMICA

Su incarico del Dott. Geol. Valeriano Franchi, è stata eseguita nei pressi di un'area situata in Via della Boaria a Faenza in Provincia di Parma, una campagna di indagine geofisica consistita nell'esecuzione di:

- N. 1 Indagine sismica a rifrazione con metodo Masw
- N. 1 acquisizione di microtremori a stazione singola HVSR

L'elaborazione congiunta masw-HVSR correlata con le indagini geognostiche eseguite ha permesso di ricostruire la sismostratigrafia del sito.

Di seguito si riportano la metodologia della ricerca e i risultati delle indagini eseguite.

INDAGINE MASW

Metodo d'Indagine

Per l'acquisizione dei dati è stato utilizzato un sismografo multicanale "PASI 16S24-U", dotato di 24 geofoni verticali PASI con frequenza propria di 4,5 Hz, collegati allo strumento tramite cavi elettrici schermati.

Nella campagna di indagine del lavoro in oggetto è stato eseguito uno stendimento di 24 geofoni con spaziatura tra i geofoni di 2.0 metri per una lunghezza della linea sismica di 46 metri.

L'energizzazione è stata eseguita a 2, 5 e 10 metri dal primo geofono e sono stati sommati più tiri.

L'elaborazione è stata effettuata con un software dedicato (*Winmasw 2018 – Eliosoft*) in grado di gestire le fasi di preparazione, analisi, modellizzazione e restituzione finale.

Risultati–Determinazione delle categoria del suolo di fondazione

L'analisi delle onde di taglio (V_s) tramite metodo MASW, ha consentito di determinare gli spessori dei sismostrati e le relative velocità di taglio, come riportato in tabella e relativo diagramma, permettendo di calcolare il valore V_{seq} per la sezione indagata.

INDAGINE HVSR

La tecnica HVSR permette in primo luogo di valutare la frequenza di vibrazione naturale di un sito. Successivamente, come ulteriore sviluppo, la stima del parametro normativo V_{seq} attraverso un processo di inversione del problema iniziale. Le ipotesi alla base della tecnica sono: una concentrazione del contenuto in frequenza localizzato maggiormente in quelle basse (tipicamente al di sotto dei 20 Hz); assenza di sorgenti periodiche e/o con contenuto in alte frequenze; le sorgenti di rumore sono uniformemente distribuite intorno alla stazione di registrazione. Se queste sono soddisfatte, la tecnica può essere suddivisa nelle fasi che vengono di seguito illustrate.

Si esegue una registrazione del rumore ambientale lungo tre direzioni ortogonali tra loro (x,y,z) con una singola stazione. Tale registrazione deve essere effettuata, secondo le indicazioni del progetto SESAME, per una durata non inferiore ai 20 minuti.

Si esegue un'operazione detta di windowing, in cui le tre tracce registrate vengono suddivise in finestre temporali di prefissata durata. Secondo le indicazioni del succitato progetto SESAME tale dimensione, detta Long Period, deve essere almeno pari ai 20 secondi. Si ottiene così un insieme di finestre "long", che sono sincronizzate fra le tracce.

Queste finestre vengono filtrate in base a dei criteri che permettono di individuare l'eventuale presenza di transienti (disturbi temporanei con grandi contributi nelle frequenze alte) o di fenomeni di saturazione.

Per ciascuna delle finestre rimanenti, quindi ritenute valide, viene valutato lo spettro di Fourier. Quest'ultimo viene sottoposto a tapering e/o lisciamento secondo una delle varie tecniche note in letteratura e ritenute all'uopo idonee.

Successivamente si prendono in considerazione gli spettri delle finestre relative alle tracce orizzontali in coppia. Ovvero, ogni spettro di una finestra per esempio della direzione X, ha il suo corrispettivo per le finestre nella direzione Y, vale a dire che sono relative a finestre temporali sincrone. Per ognuna di queste coppie viene eseguita una somma tra le componenti in frequenza secondo un determinato criterio che può essere, ad esempio, una semplice media aritmetica o una somma euclidea.

Per ciascuna coppia di cui sopra, esiste lo spettro nella direzione verticale Z, ovvero relativo alla finestra temporale sincrona a quelle della coppia. Ogni componente in frequenza di questo spettro viene usato come denominatore nel rapporto con quello della suddetta coppia. Questo permette quindi di ottenere il ricercato rapporto spettrale H/V per tutti gli intervalli temporali in cui viene suddivisa la registrazione durante l'operazione di windowing.

Eseguendo per ciascuna frequenza di tali rapporti spettrali una media sulle varie finestre, si ottiene il rapporto spettrale H/V medio, la cui frequenza di picco (frequenza in cui è localizzato il massimo valore assunto dal rapporto medio stesso) rappresenta la deducibile stima della frequenza naturale di vibrazione del sito.

L'ulteriore ipotesi che questo rapporto spettrale possa ritenersi una buona approssimazione dell'ellitticità del modo fondamentale della propagazione delle onde di Rayleigh, permette di confrontare questi due al fine di ottenere una stima del profilo stratigrafico. Tale procedura, detta di inversione, consente di definire il profilo sostanzialmente in termini di spessore e velocità delle onde di taglio. Avendo quindi una stima del profilo della velocità delle onde di taglio, è possibile valutarne il parametro normativo V_{seq} .

INDAGINE MASW

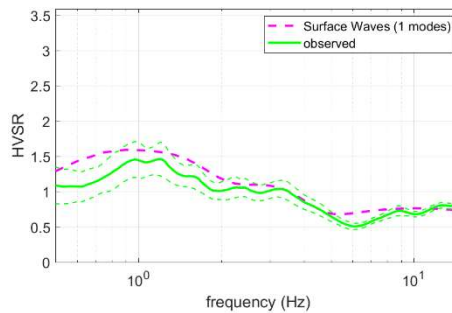
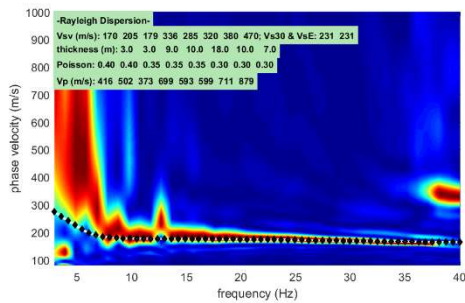
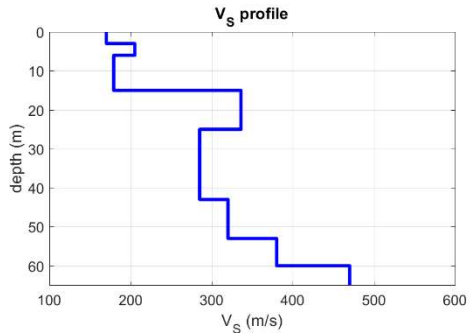
winMASW - Inversion of Surface-Wave Dispersion Curves

www.winmasw.com

Date: 15 8 2023

Time: 6 52

Dataset: faenfra#9.DAT



Subsurface Model

Vs (m/s): 170 205 179 336 285 320 380 470

Thickness (m): 3.0, 3.0, 9.0, 10.0, 18.0, 10.0, 7.0

Density (gr/cm³) (approximate values): 1.84 1.89 1.82 1.97 1.93 1.93 1.97 2.02

Shear modulus (MPa) (approximate values): 53 79 58 222 157 198 285 447

Analyzing Phase velocities

Analysis: Rayleigh Waves

Approximate values for Vp and Poisson (please, see manual)

Vp (m/s): 416 502 373 699 593 599 711 879

Poisson: 0.40 0.40 0.35 0.35 0.35 0.30 0.30 0.30

Vs30 and VsE (m/s): 231 231

INDAGINE HVSR

winMASW & HoliSurface: Horizontal-to-Vertical Spectral Ratio

Dataset: MT_20230808_124516.SAF

DATA ACQUISITION

Date and time: 2023 08 08 12 45 16.000

DATA PROCESSING

Date: 15 8 2023

Time: 6 22

Sampling frequency (Hz): 64

Window length (sec): 20

Minimum frequency soundly determined [10 cycles]: 0.5Hz

Length of analysed dataset (min): 30.0

Tapering (%): 5

Smoothing (%): 15

SESAME criteria

In the following the results considering the data in the 0.5-20.0Hz frequency range

Peak frequency (Hz): 1.2 (± 0.5)

Peak HVSR value: 1.5 (± 0.2)

==== Criteria for a reliable H/V curve =====

#1. [$f_0 > 10/Lw$]: 1.189 > 0.5 (OK)

#2. [$nc > 200$]: 4208 > 200 (OK)

#3. [$f_0 > 0.5\text{Hz}$; $\sigma_A(f) < 2$ for $0.5f_0 < f < 2f_0$] (OK)

==== Criteria for a clear H/V peak (at least 5 should be fulfilled) =====

#1. [exists f- in the range [$f_0/4, f_0$] | $AH/V(f-) < A_0/2$]: yes (considering standard deviations), at frequency 0.3Hz (OK)

#2. [exists f+ in the range [$f_0, 4f_0$] | $AH/V(f+) < A_0/2$]: yes, at frequency 4.7Hz (OK)

#3. [$A_0 > 2$]: 1.5 < 2 (NO)

#4. [$f_{\text{peak}}[A_h/v(f) \pm \sigma_A(f)] = f_0 \pm 5\%$]: (NO)

#5. [$\sigma_{\text{maf}} < \epsilon(f_0)$]: 0.516 > 0.119 (NO)

#6. [$\sigma_A(f_0) < \theta(f_0)$]: 0.411 < 1.78 (OK)

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters the results may change.

show data reset

step#1 (optional) - decimate
 84 Hz new frequency resample

step#2 - HV computation
 remove events both Red & ... clean axes
 20 window length (s)
 5 tapering (%) Min. freq.: 0.5Hz
 15 amplitude threshold
 5 HVSR threshold test removal
 15% spectral smoothing (triangular window)
 2 detrending order no equalization v.d.
 Particle motion, all HVSRs, time lapse and vid...
 full output compute

continuity

3D motion
 save video show 3D motion

directivity analysis
 frequencies to highlight: 1.0 5.0 10.0 Hz compute

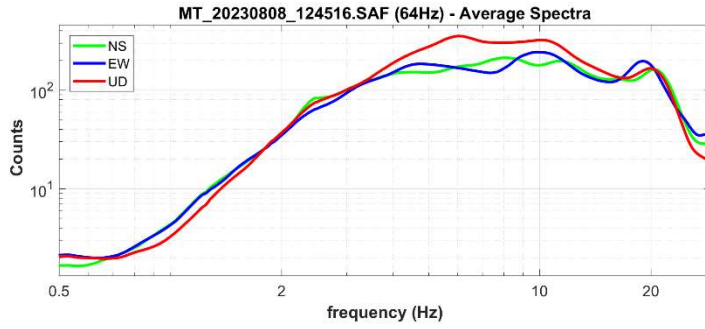
save-option#1: save HVSR as it is
 save HV from 0.5 to 30 Hz
 save HV curve (as it is)

pick HV or amplitude spectra
 HVSR pick data
 save picked HV compute

quick analysis (#Vs/#H)
 200 average Vs (m/s) (from surface to bedrock)
 20 depth of the bedrock
 1000 Vs of the bedrock
 clean compute

highlight a frequency
 draw/highlight 10 Hz

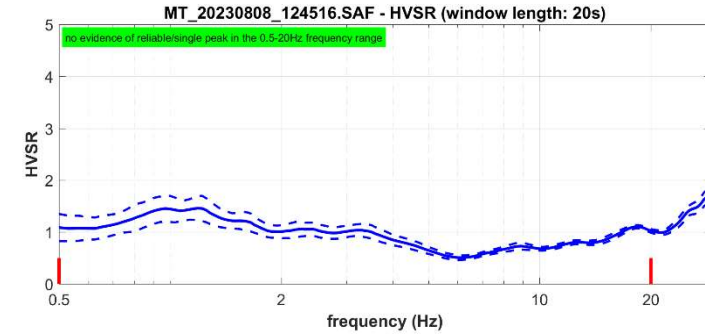
directivity over time
 directivity in time time 120 s



open working folder
 show location
 field notes

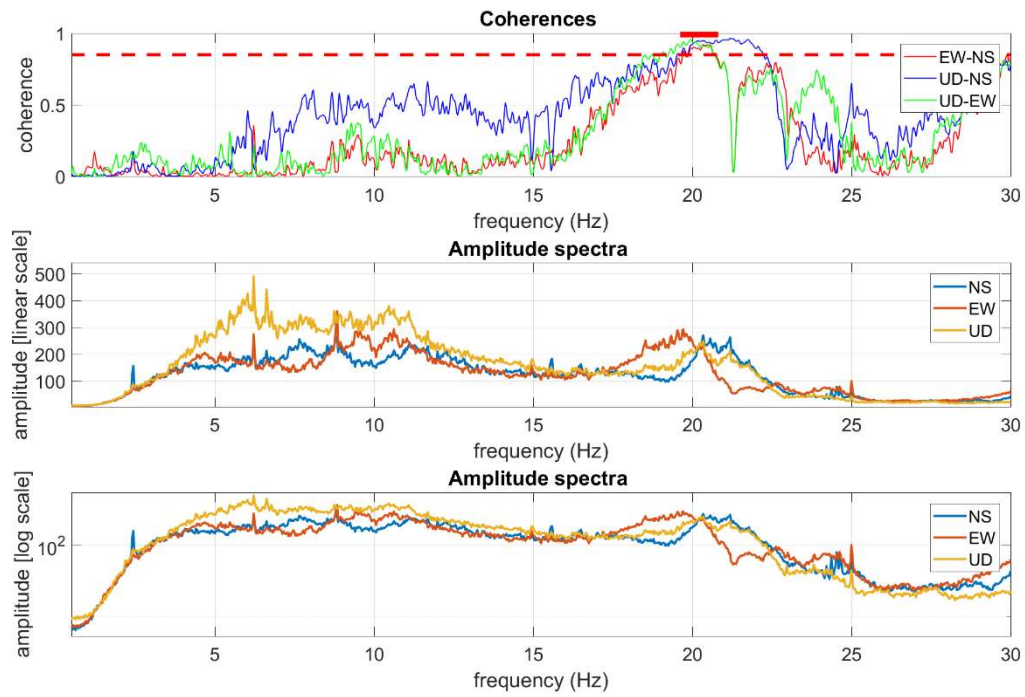
your comments

default axes

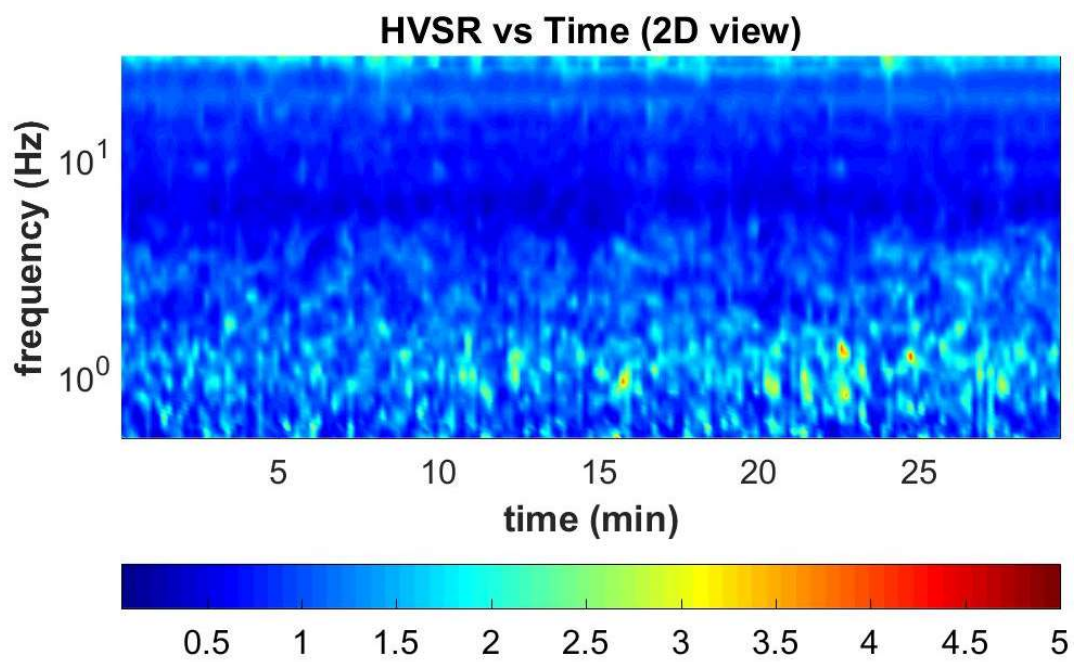
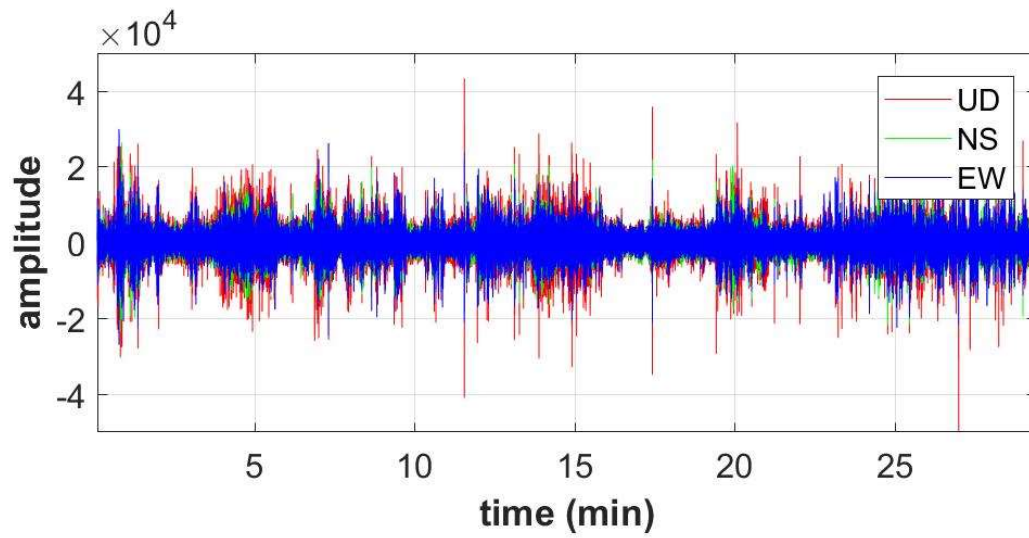


- Criteria for a reliable HV curve
- #1: OK
 - #2: OK
 - #3: OK
- Criteria for a clear HV peak [1.19 Hz]
- #1: OK
 - #2: OK
 - #3: NO
 - #4: NO
 - #5: NO
 - #6: OK

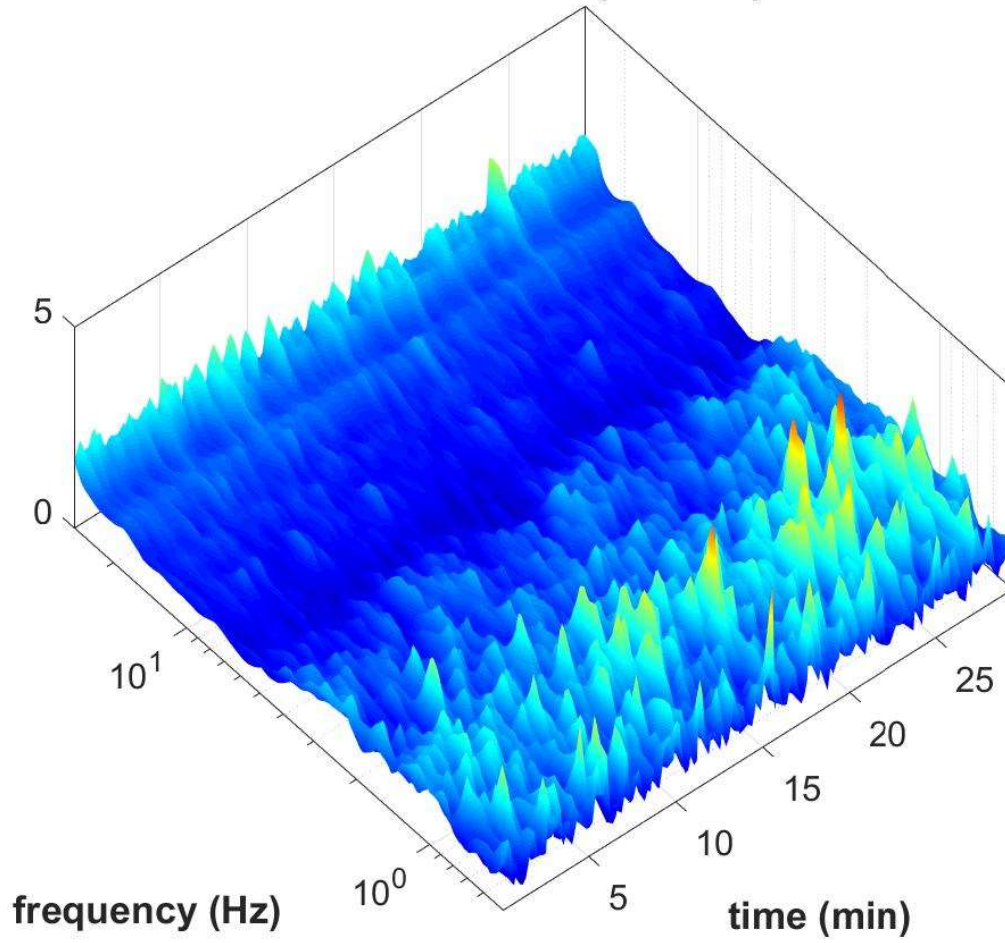
To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV



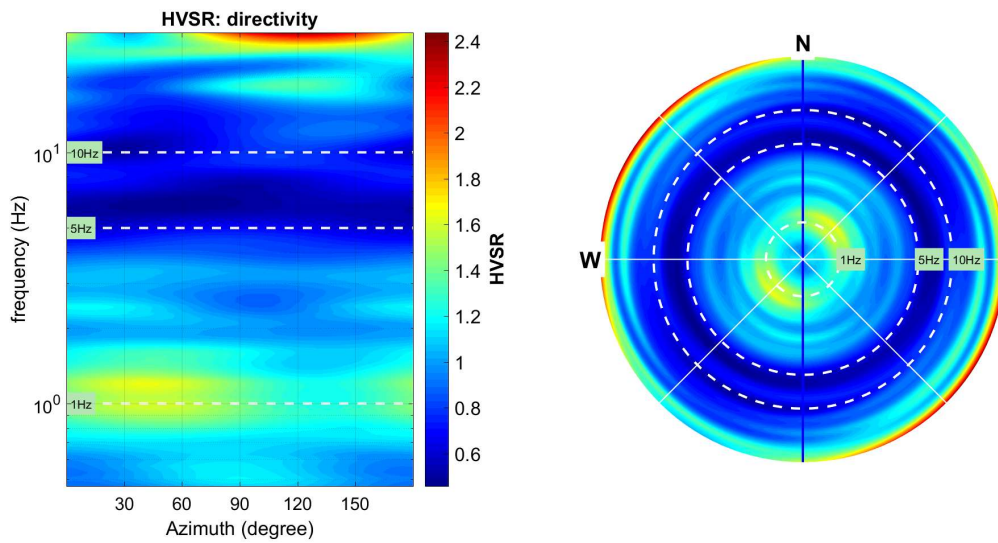
Continuity (Persistence) of the H/V Spectral Ratio



HVSR vs Time (3D view)



Directivity of the H/V Spectral Ratio



Allegato 3

Analisi di liquefazione

LIQUEFACTION ANALYSIS REPORT

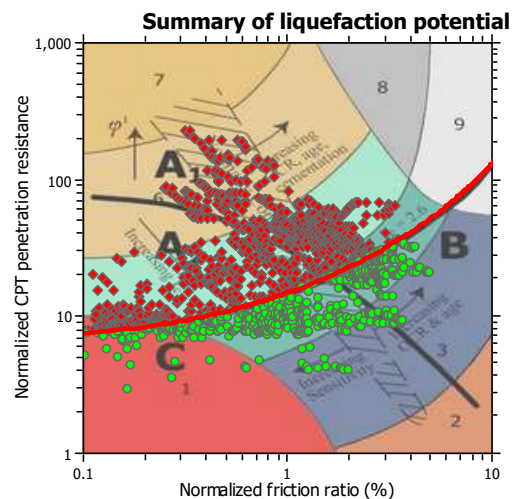
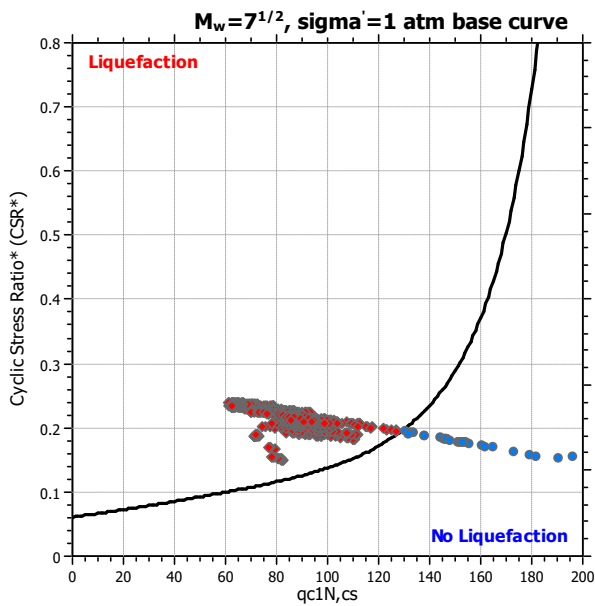
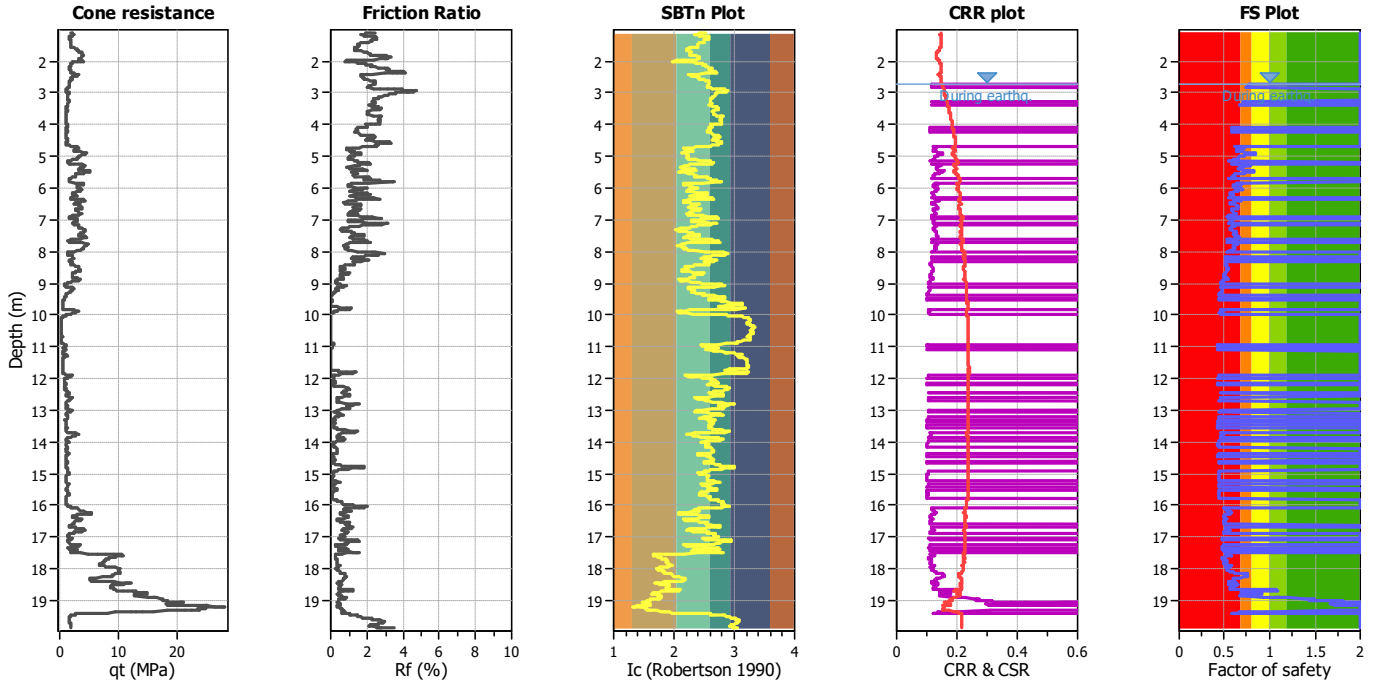
Project title : art.53 ALPHATAURI

Location : Faenza (RA)

CPT file : CPTu-1

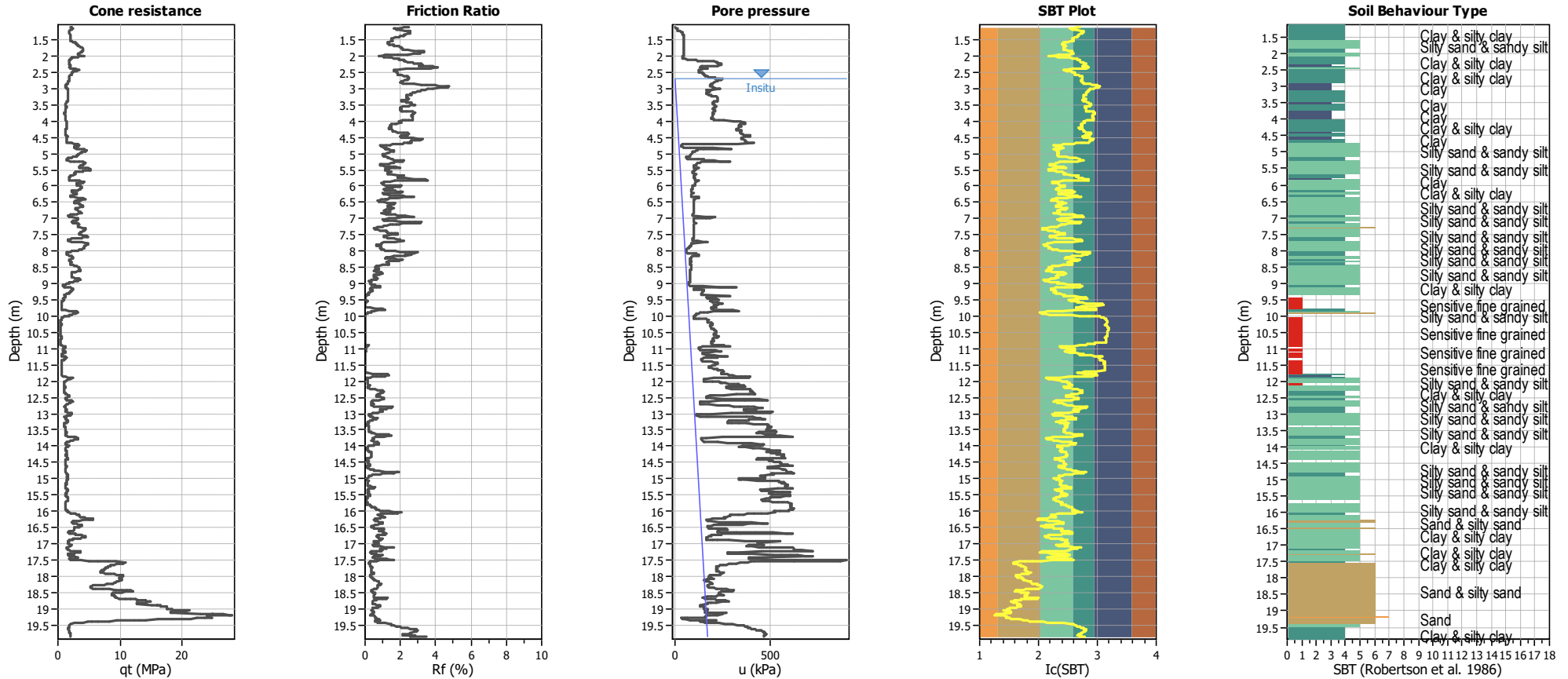
Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	2.70 m	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	2.70 m	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	20.00 m
Earthquake magnitude M_w :	6.14	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method
Peak ground acceleration:	0.28	Unit weight calculation:	Based on SBT	K_g applied:	Yes		



Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading
 Zone A₂: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
 Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
 Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



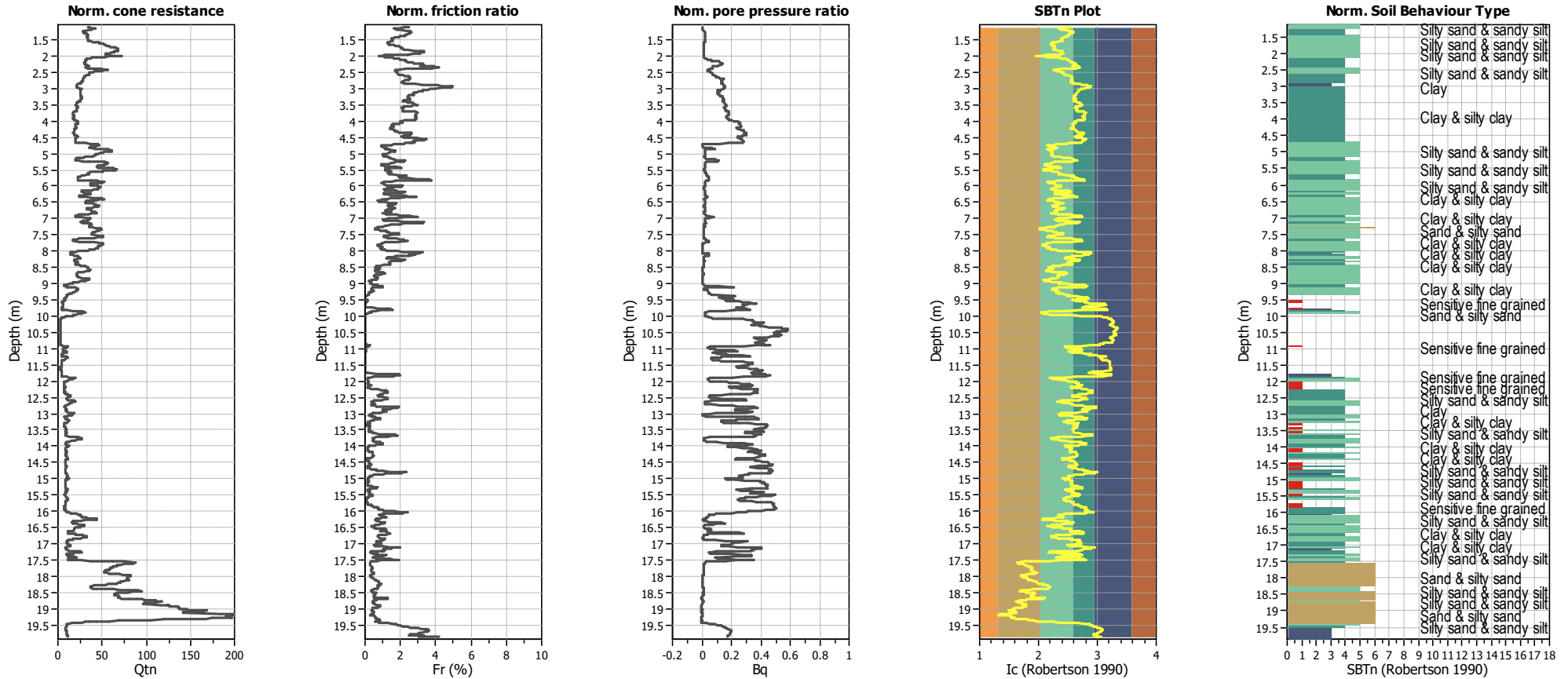
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	2.70 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K ₀ applied:	Yes
Earthquake magnitude M _w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	2.70 m	Fill height:	N/A	Limit depth:	20.00 m

SBT legend

■ 1. Sensitive fine grained	■ 4. Clayey silt to silty	■ 7. Gravely sand to sand
■ 2. Organic material	■ 5. Silty sand to sandy silt	■ 8. Very stiff sand to
■ 3. Clay to silty clay	■ 6. Clean sand to silty sand	■ 9. Very stiff fine grained

CPT basic interpretation plots (normalized)



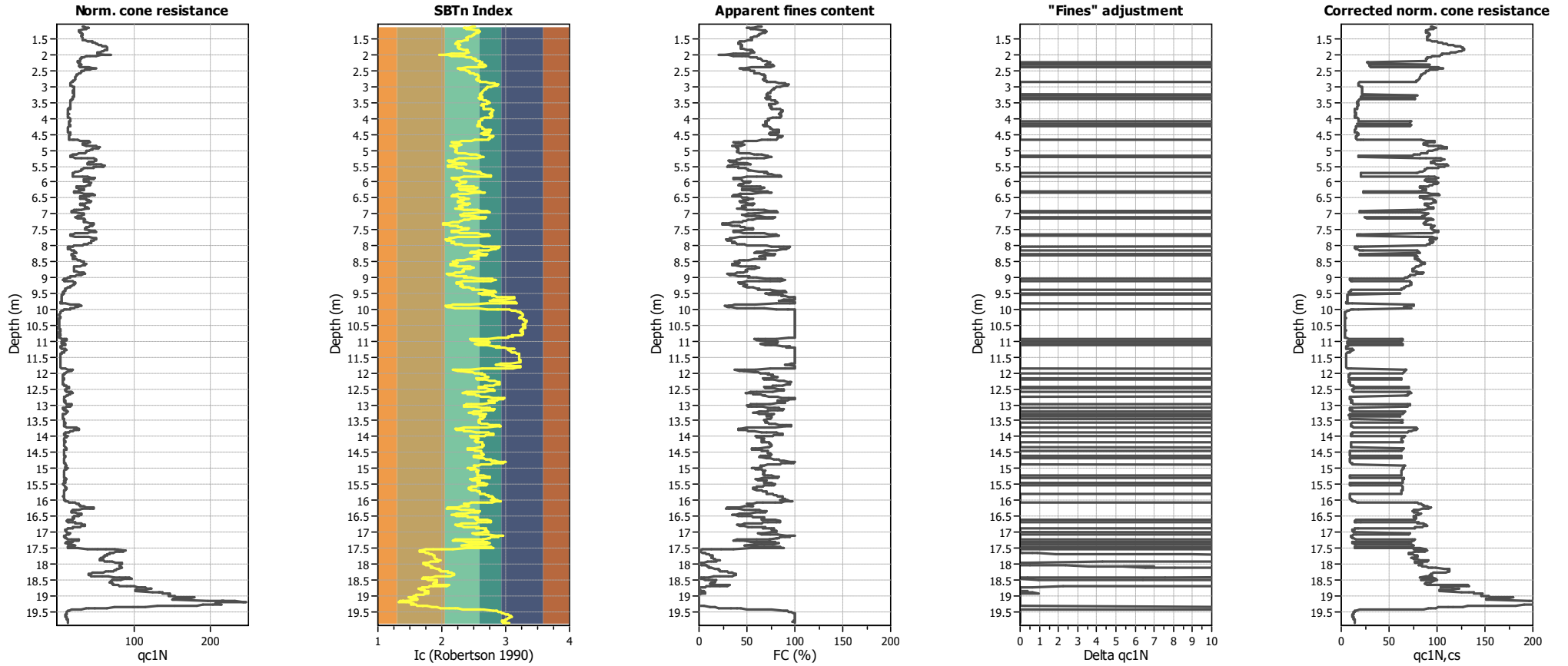
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	2.70 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K _σ applied:	Yes
Earthquake magnitude M _w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	2.70 m	Fill height:	N/A	Limit depth:	20.00 m

SBTn legend

1. Sensitive fine grained	4. Clayey silt to silty	7. Gravely sand to sand
2. Organic material	5. Silty sand to sandy silt	8. Very stiff sand to
3. Clay to silty clay	6. Clean sand to silty sand	9. Very stiff fine grained

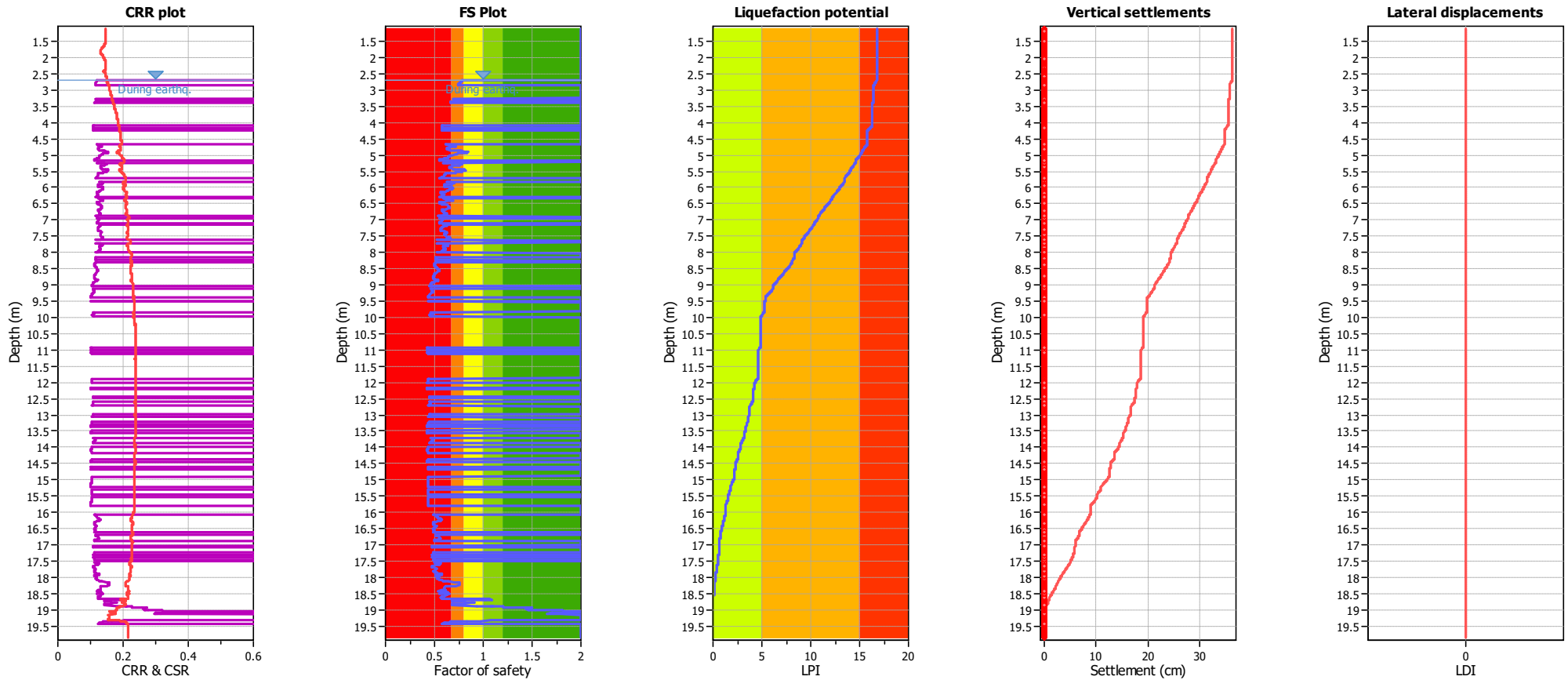
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	2.70 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K _q applied:	Yes
Earthquake magnitude M _w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	2.70 m	Fill height:	N/A	Limit depth:	20.00 m

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (earthq.):	2.70 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_{σ} applied:	Yes
Earthquake magnitude M_w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	2.70 m	Fill height:	N/A	Limit depth:	20.00 m

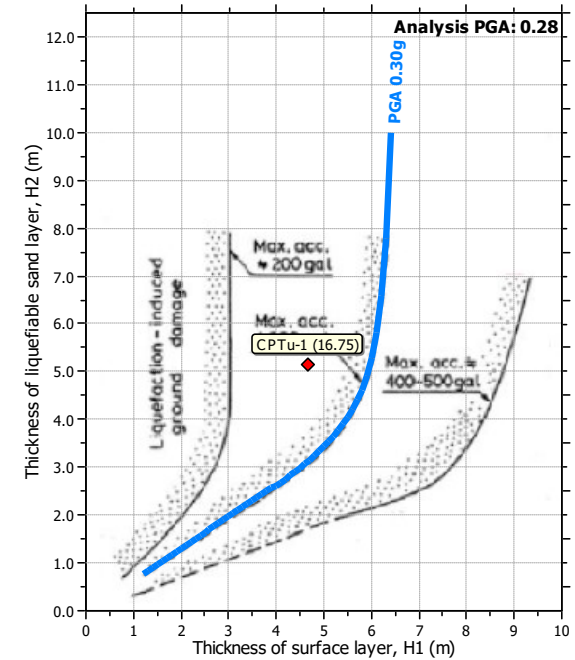
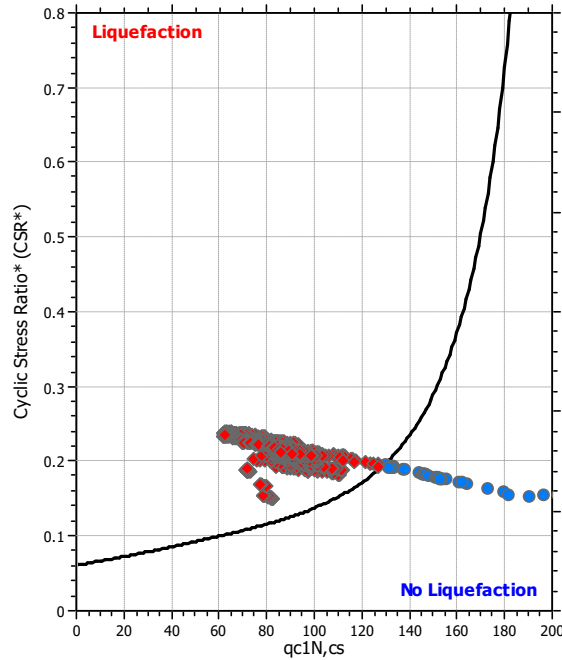
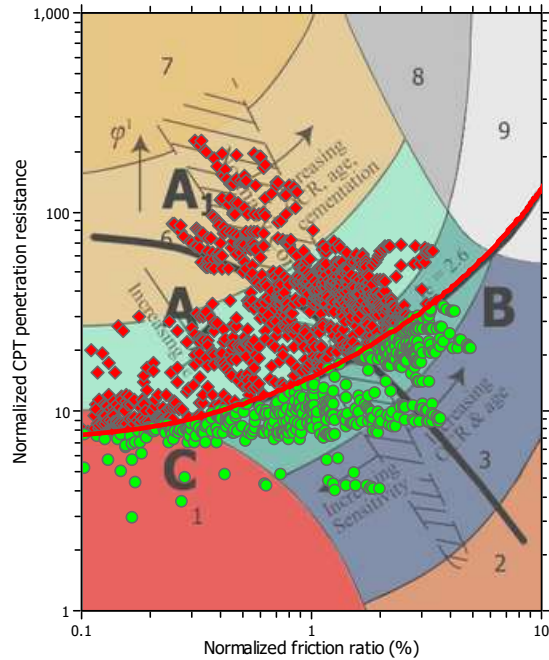
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

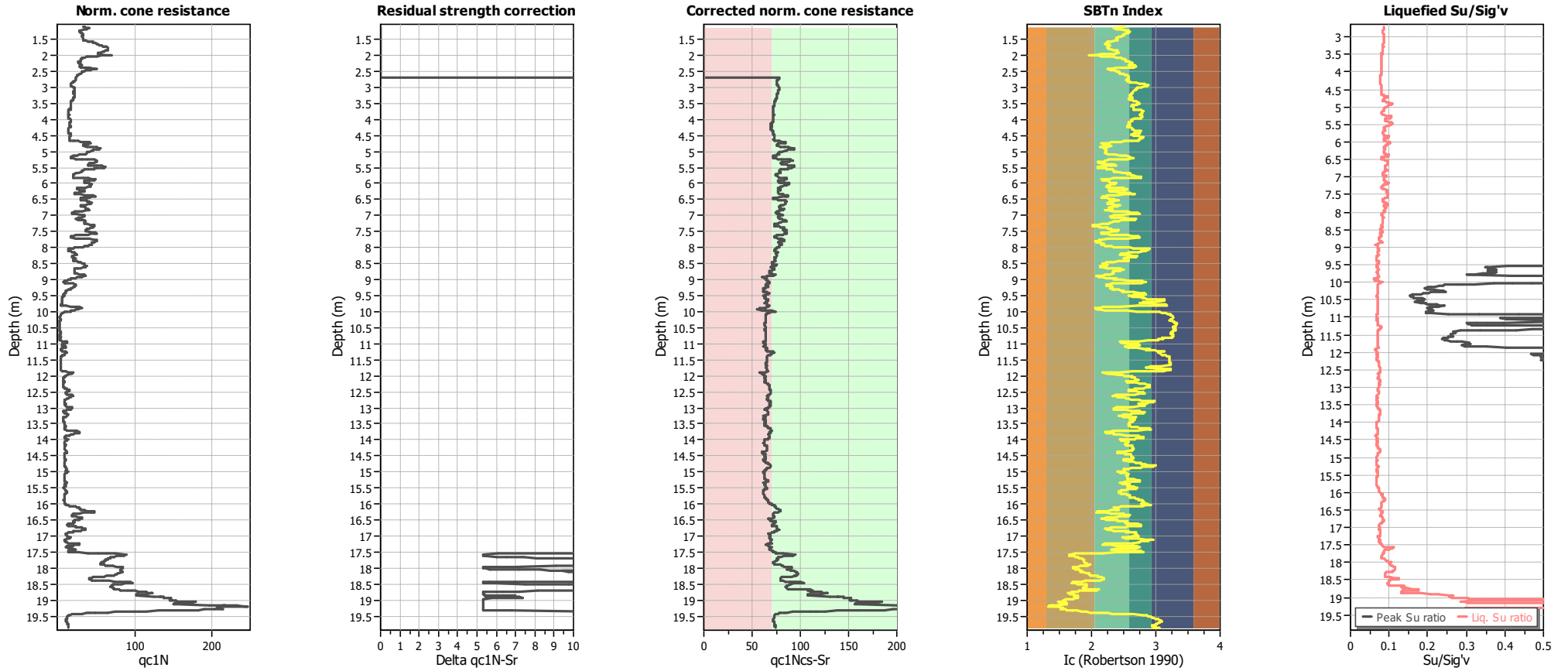
Liquefaction analysis summary plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	2.70 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_{σ} applied:	Yes
Earthquake magnitude M_w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	2.70 m	Fill height:	N/A	Limit depth:	20.00 m

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	2.70 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K _q applied:	Yes
Earthquake magnitude M _w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	2.70 m	Fill height:	N/A	Limit depth:	20.00 m

:: Liquefaction Potential Index calculation data ::											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
1.11	2.00	0.00	9.45	0.01	0.00	1.12	2.00	0.00	9.44	0.01	0.00
1.13	2.00	0.00	9.44	0.01	0.00	1.14	2.00	0.00	9.43	0.01	0.00
1.15	2.00	0.00	9.43	0.01	0.00	1.16	2.00	0.00	9.42	0.01	0.00
1.17	2.00	0.00	9.42	0.01	0.00	1.18	2.00	0.00	9.41	0.01	0.00
1.19	2.00	0.00	9.41	0.01	0.00	1.20	2.00	0.00	9.40	0.01	0.00
1.21	2.00	0.00	9.40	0.01	0.00	1.22	2.00	0.00	9.39	0.01	0.00
1.23	2.00	0.00	9.39	0.01	0.00	1.24	2.00	0.00	9.38	0.01	0.00
1.25	2.00	0.00	9.38	0.01	0.00	1.26	2.00	0.00	9.37	0.01	0.00
1.27	2.00	0.00	9.37	0.01	0.00	1.28	2.00	0.00	9.36	0.01	0.00
1.29	2.00	0.00	9.36	0.01	0.00	1.30	2.00	0.00	9.35	0.01	0.00
1.31	2.00	0.00	9.35	0.01	0.00	1.32	2.00	0.00	9.34	0.01	0.00
1.33	2.00	0.00	9.34	0.01	0.00	1.34	2.00	0.00	9.33	0.01	0.00
1.35	2.00	0.00	9.33	0.01	0.00	1.36	2.00	0.00	9.32	0.01	0.00
1.37	2.00	0.00	9.32	0.01	0.00	1.38	2.00	0.00	9.31	0.01	0.00
1.39	2.00	0.00	9.31	0.01	0.00	1.40	2.00	0.00	9.30	0.01	0.00
1.41	2.00	0.00	9.30	0.01	0.00	1.42	2.00	0.00	9.29	0.01	0.00
1.43	2.00	0.00	9.29	0.01	0.00	1.44	2.00	0.00	9.28	0.01	0.00
1.45	2.00	0.00	9.28	0.01	0.00	1.46	2.00	0.00	9.27	0.01	0.00
1.47	2.00	0.00	9.27	0.01	0.00	1.48	2.00	0.00	9.26	0.01	0.00
1.49	2.00	0.00	9.26	0.01	0.00	1.50	2.00	0.00	9.25	0.01	0.00
1.51	2.00	0.00	9.25	0.01	0.00	1.52	2.00	0.00	9.24	0.01	0.00
1.53	2.00	0.00	9.24	0.01	0.00	1.54	2.00	0.00	9.23	0.01	0.00
1.55	2.00	0.00	9.23	0.01	0.00	1.56	2.00	0.00	9.22	0.01	0.00
1.57	2.00	0.00	9.22	0.01	0.00	1.58	2.00	0.00	9.21	0.01	0.00
1.59	2.00	0.00	9.21	0.01	0.00	1.60	2.00	0.00	9.20	0.01	0.00
1.61	2.00	0.00	9.20	0.01	0.00	1.62	2.00	0.00	9.19	0.01	0.00
1.63	2.00	0.00	9.19	0.01	0.00	1.64	2.00	0.00	9.18	0.01	0.00
1.65	2.00	0.00	9.18	0.01	0.00	1.66	2.00	0.00	9.17	0.01	0.00
1.67	2.00	0.00	9.17	0.01	0.00	1.68	2.00	0.00	9.16	0.01	0.00
1.69	2.00	0.00	9.16	0.01	0.00	1.70	2.00	0.00	9.15	0.01	0.00
1.71	2.00	0.00	9.15	0.01	0.00	1.72	2.00	0.00	9.14	0.01	0.00
1.73	2.00	0.00	9.14	0.01	0.00	1.74	2.00	0.00	9.13	0.01	0.00
1.75	2.00	0.00	9.13	0.01	0.00	1.76	2.00	0.00	9.12	0.01	0.00
1.77	2.00	0.00	9.12	0.01	0.00	1.78	2.00	0.00	9.11	0.01	0.00
1.79	2.00	0.00	9.11	0.01	0.00	1.80	2.00	0.00	9.10	0.01	0.00
1.81	2.00	0.00	9.10	0.01	0.00	1.82	2.00	0.00	9.09	0.01	0.00
1.83	2.00	0.00	9.09	0.01	0.00	1.84	2.00	0.00	9.08	0.01	0.00
1.85	2.00	0.00	9.08	0.01	0.00	1.86	2.00	0.00	9.07	0.01	0.00
1.87	2.00	0.00	9.07	0.01	0.00	1.88	2.00	0.00	9.06	0.01	0.00
1.89	2.00	0.00	9.06	0.01	0.00	1.90	2.00	0.00	9.05	0.01	0.00
1.91	2.00	0.00	9.05	0.01	0.00	1.92	2.00	0.00	9.04	0.01	0.00
1.93	2.00	0.00	9.04	0.01	0.00	1.94	2.00	0.00	9.03	0.01	0.00
1.95	2.00	0.00	9.03	0.01	0.00	1.96	2.00	0.00	9.02	0.01	0.00
1.97	2.00	0.00	9.02	0.01	0.00	1.98	2.00	0.00	9.01	0.01	0.00
1.99	2.00	0.00	9.01	0.01	0.00	2.00	2.00	0.00	9.00	0.01	0.00
2.01	2.00	0.00	9.00	0.01	0.00	2.02	2.00	0.00	8.99	0.01	0.00
2.03	2.00	0.00	8.99	0.01	0.00	2.04	2.00	0.00	8.98	0.01	0.00
2.05	2.00	0.00	8.98	0.01	0.00	2.06	2.00	0.00	8.97	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
2.07	2.00	0.00	8.97	0.01	0.00	2.08	2.00	0.00	8.96	0.01	0.00
2.09	2.00	0.00	8.96	0.01	0.00	2.10	2.00	0.00	8.95	0.01	0.00
2.11	2.00	0.00	8.95	0.01	0.00	2.12	2.00	0.00	8.94	0.01	0.00
2.13	2.00	0.00	8.94	0.01	0.00	2.14	2.00	0.00	8.93	0.01	0.00
2.15	2.00	0.00	8.93	0.01	0.00	2.16	2.00	0.00	8.92	0.01	0.00
2.17	2.00	0.00	8.92	0.01	0.00	2.18	2.00	0.00	8.91	0.01	0.00
2.19	2.00	0.00	8.91	0.01	0.00	2.20	2.00	0.00	8.90	0.01	0.00
2.21	2.00	0.00	8.90	0.01	0.00	2.22	2.00	0.00	8.89	0.01	0.00
2.23	2.00	0.00	8.89	0.01	0.00	2.24	2.00	0.00	8.88	0.01	0.00
2.25	2.00	0.00	8.88	0.01	0.00	2.26	2.00	0.00	8.87	0.01	0.00
2.27	2.00	0.00	8.87	0.01	0.00	2.28	2.00	0.00	8.86	0.01	0.00
2.29	2.00	0.00	8.86	0.01	0.00	2.30	2.00	0.00	8.85	0.01	0.00
2.31	2.00	0.00	8.85	0.01	0.00	2.32	2.00	0.00	8.84	0.01	0.00
2.33	2.00	0.00	8.84	0.01	0.00	2.34	2.00	0.00	8.83	0.01	0.00
2.35	2.00	0.00	8.83	0.01	0.00	2.36	2.00	0.00	8.82	0.01	0.00
2.37	2.00	0.00	8.82	0.01	0.00	2.38	2.00	0.00	8.81	0.01	0.00
2.39	2.00	0.00	8.81	0.01	0.00	2.40	2.00	0.00	8.80	0.01	0.00
2.41	2.00	0.00	8.80	0.01	0.00	2.42	2.00	0.00	8.79	0.01	0.00
2.43	2.00	0.00	8.79	0.01	0.00	2.44	2.00	0.00	8.78	0.01	0.00
2.45	2.00	0.00	8.78	0.01	0.00	2.46	2.00	0.00	8.77	0.01	0.00
2.47	2.00	0.00	8.77	0.01	0.00	2.48	2.00	0.00	8.76	0.01	0.00
2.49	2.00	0.00	8.76	0.01	0.00	2.50	2.00	0.00	8.75	0.01	0.00
2.51	2.00	0.00	8.75	0.01	0.00	2.52	2.00	0.00	8.74	0.01	0.00
2.53	2.00	0.00	8.74	0.01	0.00	2.54	2.00	0.00	8.73	0.01	0.00
2.55	2.00	0.00	8.73	0.01	0.00	2.56	2.00	0.00	8.72	0.01	0.00
2.57	2.00	0.00	8.72	0.01	0.00	2.58	2.00	0.00	8.71	0.01	0.00
2.59	2.00	0.00	8.71	0.01	0.00	2.60	2.00	0.00	8.70	0.01	0.00
2.61	2.00	0.00	8.70	0.01	0.00	2.62	2.00	0.00	8.69	0.01	0.00
2.63	2.00	0.00	8.69	0.01	0.00	2.64	2.00	0.00	8.68	0.01	0.00
2.65	2.00	0.00	8.68	0.01	0.00	2.66	2.00	0.00	8.67	0.01	0.00
2.67	2.00	0.00	8.67	0.01	0.00	2.68	2.00	0.00	8.66	0.01	0.00
2.69	2.00	0.00	8.66	0.01	0.00	2.70	2.00	0.00	8.65	0.01	0.00
2.71	0.79	0.21	8.65	0.01	0.02	2.72	0.79	0.21	8.64	0.01	0.02
2.73	0.78	0.22	8.64	0.01	0.02	2.74	0.78	0.22	8.63	0.01	0.02
2.75	0.78	0.22	8.63	0.01	0.02	2.76	0.77	0.23	8.62	0.01	0.02
2.77	0.77	0.23	8.62	0.01	0.02	2.78	0.76	0.24	8.61	0.01	0.02
2.79	0.76	0.24	8.61	0.01	0.02	2.80	0.75	0.25	8.60	0.01	0.02
2.81	0.75	0.25	8.60	0.01	0.02	2.82	0.74	0.26	8.59	0.01	0.02
2.83	0.74	0.26	8.59	0.01	0.02	2.84	0.74	0.26	8.58	0.01	0.02
2.85	2.00	0.00	8.58	0.01	0.00	2.86	2.00	0.00	8.57	0.01	0.00
2.87	2.00	0.00	8.57	0.01	0.00	2.88	2.00	0.00	8.56	0.01	0.00
2.89	2.00	0.00	8.56	0.01	0.00	2.90	2.00	0.00	8.55	0.01	0.00
2.91	2.00	0.00	8.55	0.01	0.00	2.92	2.00	0.00	8.54	0.01	0.00
2.93	2.00	0.00	8.54	0.01	0.00	2.94	2.00	0.00	8.53	0.01	0.00
2.95	2.00	0.00	8.53	0.01	0.00	2.96	2.00	0.00	8.52	0.01	0.00
2.97	2.00	0.00	8.52	0.01	0.00	2.98	2.00	0.00	8.51	0.01	0.00
2.99	2.00	0.00	8.51	0.01	0.00	3.00	2.00	0.00	8.50	0.01	0.00
3.01	2.00	0.00	8.50	0.01	0.00	3.02	2.00	0.00	8.49	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
3.03	2.00	0.00	8.49	0.01	0.00	3.04	2.00	0.00	8.48	0.01	0.00
3.05	2.00	0.00	8.48	0.01	0.00	3.06	2.00	0.00	8.47	0.01	0.00
3.07	2.00	0.00	8.47	0.01	0.00	3.08	2.00	0.00	8.46	0.01	0.00
3.09	2.00	0.00	8.46	0.01	0.00	3.10	2.00	0.00	8.45	0.01	0.00
3.11	2.00	0.00	8.45	0.01	0.00	3.12	2.00	0.00	8.44	0.01	0.00
3.13	2.00	0.00	8.44	0.01	0.00	3.14	2.00	0.00	8.43	0.01	0.00
3.15	2.00	0.00	8.43	0.01	0.00	3.16	2.00	0.00	8.42	0.01	0.00
3.17	2.00	0.00	8.42	0.01	0.00	3.18	2.00	0.00	8.41	0.01	0.00
3.19	2.00	0.00	8.41	0.01	0.00	3.20	2.00	0.00	8.40	0.01	0.00
3.21	2.00	0.00	8.40	0.01	0.00	3.22	2.00	0.00	8.39	0.01	0.00
3.23	2.00	0.00	8.39	0.01	0.00	3.24	2.00	0.00	8.38	0.01	0.00
3.25	2.00	0.00	8.38	0.01	0.00	3.26	0.70	0.30	8.37	0.01	0.03
3.27	0.70	0.30	8.37	0.01	0.03	3.28	2.00	0.00	8.36	0.01	0.00
3.29	2.00	0.00	8.36	0.01	0.00	3.30	2.00	0.00	8.35	0.01	0.00
3.31	2.00	0.00	8.35	0.01	0.00	3.32	2.00	0.00	8.34	0.01	0.00
3.33	2.00	0.00	8.34	0.01	0.00	3.34	2.00	0.00	8.33	0.01	0.00
3.35	2.00	0.00	8.33	0.01	0.00	3.36	2.00	0.00	8.32	0.01	0.00
3.37	0.67	0.33	8.32	0.01	0.03	3.38	0.67	0.33	8.31	0.01	0.03
3.39	0.67	0.33	8.31	0.01	0.03	3.40	2.00	0.00	8.30	0.01	0.00
3.41	2.00	0.00	8.30	0.01	0.00	3.42	2.00	0.00	8.29	0.01	0.00
3.43	2.00	0.00	8.29	0.01	0.00	3.44	2.00	0.00	8.28	0.01	0.00
3.45	2.00	0.00	8.28	0.01	0.00	3.46	2.00	0.00	8.27	0.01	0.00
3.47	2.00	0.00	8.27	0.01	0.00	3.48	2.00	0.00	8.26	0.01	0.00
3.49	2.00	0.00	8.26	0.01	0.00	3.50	2.00	0.00	8.25	0.01	0.00
3.51	2.00	0.00	8.25	0.01	0.00	3.52	2.00	0.00	8.24	0.01	0.00
3.53	2.00	0.00	8.24	0.01	0.00	3.54	2.00	0.00	8.23	0.01	0.00
3.55	2.00	0.00	8.23	0.01	0.00	3.56	2.00	0.00	8.22	0.01	0.00
3.57	2.00	0.00	8.22	0.01	0.00	3.58	2.00	0.00	8.21	0.01	0.00
3.59	2.00	0.00	8.21	0.01	0.00	3.60	2.00	0.00	8.20	0.01	0.00
3.61	2.00	0.00	8.20	0.01	0.00	3.62	2.00	0.00	8.19	0.01	0.00
3.63	2.00	0.00	8.19	0.01	0.00	3.64	2.00	0.00	8.18	0.01	0.00
3.65	2.00	0.00	8.18	0.01	0.00	3.66	2.00	0.00	8.17	0.01	0.00
3.67	2.00	0.00	8.17	0.01	0.00	3.68	2.00	0.00	8.16	0.01	0.00
3.69	2.00	0.00	8.16	0.01	0.00	3.70	2.00	0.00	8.15	0.01	0.00
3.71	2.00	0.00	8.15	0.01	0.00	3.72	2.00	0.00	8.14	0.01	0.00
3.73	2.00	0.00	8.14	0.01	0.00	3.74	2.00	0.00	8.13	0.01	0.00
3.75	2.00	0.00	8.13	0.01	0.00	3.76	2.00	0.00	8.12	0.01	0.00
3.77	2.00	0.00	8.12	0.01	0.00	3.78	2.00	0.00	8.11	0.01	0.00
3.79	2.00	0.00	8.11	0.01	0.00	3.80	2.00	0.00	8.10	0.01	0.00
3.81	2.00	0.00	8.10	0.01	0.00	3.82	2.00	0.00	8.09	0.01	0.00
3.83	2.00	0.00	8.09	0.01	0.00	3.84	2.00	0.00	8.08	0.01	0.00
3.85	2.00	0.00	8.08	0.01	0.00	3.86	2.00	0.00	8.07	0.01	0.00
3.87	2.00	0.00	8.07	0.01	0.00	3.88	2.00	0.00	8.06	0.01	0.00
3.89	2.00	0.00	8.06	0.01	0.00	3.90	2.00	0.00	8.05	0.01	0.00
3.91	2.00	0.00	8.05	0.01	0.00	3.92	2.00	0.00	8.04	0.01	0.00
3.93	2.00	0.00	8.04	0.01	0.00	3.94	2.00	0.00	8.03	0.01	0.00
3.95	2.00	0.00	8.03	0.01	0.00	3.96	2.00	0.00	8.02	0.01	0.00
3.97	2.00	0.00	8.02	0.01	0.00	3.98	2.00	0.00	8.01	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
3.99	2.00	0.00	8.01	0.01	0.00	4.00	2.00	0.00	8.00	0.01	0.00
4.01	2.00	0.00	8.00	0.01	0.00	4.02	2.00	0.00	7.99	0.01	0.00
4.03	2.00	0.00	7.99	0.01	0.00	4.04	2.00	0.00	7.98	0.01	0.00
4.05	2.00	0.00	7.98	0.01	0.00	4.06	2.00	0.00	7.97	0.01	0.00
4.07	2.00	0.00	7.97	0.01	0.00	4.08	0.59	0.41	7.96	0.01	0.03
4.09	0.59	0.41	7.96	0.01	0.03	4.10	0.58	0.42	7.95	0.01	0.03
4.11	0.58	0.42	7.95	0.01	0.03	4.12	0.58	0.42	7.94	0.01	0.03
4.13	0.58	0.42	7.94	0.01	0.03	4.14	0.58	0.42	7.93	0.01	0.03
4.15	0.58	0.42	7.93	0.01	0.03	4.16	0.58	0.42	7.92	0.01	0.03
4.17	0.58	0.42	7.92	0.01	0.03	4.18	2.00	0.00	7.91	0.01	0.00
4.19	0.58	0.42	7.91	0.01	0.03	4.20	0.58	0.42	7.90	0.01	0.03
4.21	0.58	0.42	7.90	0.01	0.03	4.22	0.58	0.42	7.89	0.01	0.03
4.23	0.58	0.42	7.89	0.01	0.03	4.24	0.58	0.42	7.88	0.01	0.03
4.25	0.57	0.43	7.88	0.01	0.03	4.26	2.00	0.00	7.87	0.01	0.00
4.27	2.00	0.00	7.87	0.01	0.00	4.28	2.00	0.00	7.86	0.01	0.00
4.29	2.00	0.00	7.86	0.01	0.00	4.30	2.00	0.00	7.85	0.01	0.00
4.31	2.00	0.00	7.85	0.01	0.00	4.32	2.00	0.00	7.84	0.01	0.00
4.33	2.00	0.00	7.84	0.01	0.00	4.34	2.00	0.00	7.83	0.01	0.00
4.35	2.00	0.00	7.83	0.01	0.00	4.36	2.00	0.00	7.82	0.01	0.00
4.37	2.00	0.00	7.82	0.01	0.00	4.38	2.00	0.00	7.81	0.01	0.00
4.39	2.00	0.00	7.81	0.01	0.00	4.40	2.00	0.00	7.80	0.01	0.00
4.41	2.00	0.00	7.80	0.01	0.00	4.42	2.00	0.00	7.79	0.01	0.00
4.43	2.00	0.00	7.79	0.01	0.00	4.44	2.00	0.00	7.78	0.01	0.00
4.45	2.00	0.00	7.78	0.01	0.00	4.46	2.00	0.00	7.77	0.01	0.00
4.47	2.00	0.00	7.77	0.01	0.00	4.48	2.00	0.00	7.76	0.01	0.00
4.49	2.00	0.00	7.76	0.01	0.00	4.50	2.00	0.00	7.75	0.01	0.00
4.51	2.00	0.00	7.75	0.01	0.00	4.52	2.00	0.00	7.74	0.01	0.00
4.53	2.00	0.00	7.74	0.01	0.00	4.54	2.00	0.00	7.73	0.01	0.00
4.55	2.00	0.00	7.73	0.01	0.00	4.56	2.00	0.00	7.72	0.01	0.00
4.57	2.00	0.00	7.72	0.01	0.00	4.58	2.00	0.00	7.71	0.01	0.00
4.59	2.00	0.00	7.71	0.01	0.00	4.60	2.00	0.00	7.70	0.01	0.00
4.61	2.00	0.00	7.70	0.01	0.00	4.62	2.00	0.00	7.69	0.01	0.00
4.63	2.00	0.00	7.69	0.01	0.00	4.64	2.00	0.00	7.68	0.01	0.00
4.65	2.00	0.00	7.68	0.01	0.00	4.66	2.00	0.00	7.67	0.01	0.00
4.67	2.00	0.00	7.67	0.01	0.00	4.68	0.62	0.38	7.66	0.01	0.03
4.69	0.65	0.35	7.66	0.01	0.03	4.70	0.68	0.32	7.65	0.01	0.02
4.71	0.71	0.29	7.65	0.01	0.02	4.72	0.72	0.28	7.64	0.01	0.02
4.73	0.72	0.28	7.64	0.01	0.02	4.74	0.71	0.29	7.63	0.01	0.02
4.75	0.68	0.32	7.63	0.01	0.02	4.76	0.67	0.33	7.62	0.01	0.03
4.77	0.66	0.34	7.62	0.01	0.03	4.78	0.65	0.35	7.61	0.01	0.03
4.79	0.64	0.36	7.61	0.01	0.03	4.80	0.63	0.37	7.60	0.01	0.03
4.81	0.63	0.37	7.60	0.01	0.03	4.82	0.63	0.37	7.59	0.01	0.03
4.83	0.63	0.37	7.59	0.01	0.03	4.84	0.63	0.37	7.58	0.01	0.03
4.85	0.66	0.34	7.58	0.01	0.03	4.86	0.70	0.30	7.57	0.01	0.02
4.87	0.74	0.26	7.57	0.01	0.02	4.88	0.76	0.24	7.56	0.01	0.02
4.89	0.81	0.19	7.56	0.01	0.01	4.90	0.83	0.17	7.55	0.01	0.01
4.91	0.84	0.16	7.55	0.01	0.01	4.92	0.83	0.17	7.54	0.01	0.01
4.93	0.81	0.19	7.54	0.01	0.01	4.94	0.78	0.22	7.53	0.01	0.02

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
4.95	0.74	0.26	7.53	0.01	0.02	4.96	0.73	0.27	7.52	0.01	0.02
4.97	0.72	0.28	7.52	0.01	0.02	4.98	0.71	0.29	7.51	0.01	0.02
4.99	0.71	0.29	7.51	0.01	0.02	5.00	0.68	0.32	7.50	0.01	0.02
5.01	0.67	0.33	7.50	0.01	0.03	5.02	0.66	0.34	7.49	0.01	0.03
5.03	0.65	0.35	7.49	0.01	0.03	5.04	0.65	0.35	7.48	0.01	0.03
5.05	0.65	0.35	7.48	0.01	0.03	5.06	0.64	0.36	7.47	0.01	0.03
5.07	0.64	0.36	7.47	0.01	0.03	5.08	0.64	0.36	7.46	0.01	0.03
5.09	0.63	0.37	7.46	0.01	0.03	5.10	0.62	0.38	7.45	0.01	0.03
5.11	0.60	0.40	7.45	0.01	0.03	5.12	0.59	0.41	7.44	0.01	0.03
5.13	0.58	0.42	7.44	0.01	0.03	5.14	0.57	0.43	7.43	0.01	0.03
5.15	0.56	0.44	7.43	0.01	0.03	5.16	0.55	0.45	7.42	0.01	0.03
5.17	2.00	0.00	7.42	0.01	0.00	5.18	2.00	0.00	7.41	0.01	0.00
5.19	2.00	0.00	7.41	0.01	0.00	5.20	2.00	0.00	7.40	0.01	0.00
5.21	2.00	0.00	7.40	0.01	0.00	5.22	2.00	0.00	7.39	0.01	0.00
5.23	0.59	0.41	7.39	0.01	0.03	5.24	0.63	0.37	7.38	0.01	0.03
5.25	0.70	0.30	7.38	0.01	0.02	5.26	0.75	0.25	7.37	0.01	0.02
5.27	0.78	0.22	7.37	0.01	0.02	5.28	0.79	0.21	7.36	0.01	0.02
5.29	0.78	0.22	7.36	0.01	0.02	5.30	0.77	0.23	7.35	0.01	0.02
5.31	0.75	0.25	7.35	0.01	0.02	5.32	0.69	0.31	7.34	0.01	0.02
5.33	0.68	0.32	7.34	0.01	0.02	5.34	0.68	0.32	7.33	0.01	0.02
5.35	0.67	0.33	7.33	0.01	0.02	5.36	0.67	0.33	7.32	0.01	0.02
5.37	0.66	0.34	7.32	0.01	0.02	5.38	0.66	0.34	7.31	0.01	0.03
5.39	0.66	0.34	7.31	0.01	0.03	5.40	0.66	0.34	7.30	0.01	0.02
5.41	0.67	0.33	7.30	0.01	0.02	5.42	0.68	0.32	7.29	0.01	0.02
5.43	0.69	0.31	7.29	0.01	0.02	5.44	0.71	0.29	7.28	0.01	0.02
5.45	0.77	0.23	7.28	0.01	0.02	5.46	0.81	0.19	7.27	0.01	0.01
5.47	0.83	0.17	7.27	0.01	0.01	5.48	0.82	0.18	7.26	0.01	0.01
5.49	0.80	0.20	7.26	0.01	0.01	5.50	0.78	0.22	7.25	0.01	0.02
5.51	0.77	0.23	7.25	0.01	0.02	5.52	0.74	0.26	7.24	0.01	0.02
5.53	0.72	0.28	7.24	0.01	0.02	5.54	0.72	0.28	7.23	0.01	0.02
5.55	0.66	0.34	7.23	0.01	0.02	5.56	0.64	0.36	7.22	0.01	0.03
5.57	0.62	0.38	7.22	0.01	0.03	5.58	0.62	0.38	7.21	0.01	0.03
5.59	0.61	0.39	7.21	0.01	0.03	5.60	0.61	0.39	7.20	0.01	0.03
5.61	0.60	0.40	7.20	0.01	0.03	5.62	0.60	0.40	7.19	0.01	0.03
5.63	0.61	0.39	7.19	0.01	0.03	5.64	0.60	0.40	7.18	0.01	0.03
5.65	0.61	0.39	7.18	0.01	0.03	5.66	0.59	0.41	7.17	0.01	0.03
5.67	0.59	0.41	7.17	0.01	0.03	5.68	0.58	0.42	7.16	0.01	0.03
5.69	0.57	0.43	7.16	0.01	0.03	5.70	0.56	0.44	7.15	0.01	0.03
5.71	0.55	0.45	7.15	0.01	0.03	5.72	2.00	0.00	7.14	0.01	0.00
5.73	2.00	0.00	7.14	0.01	0.00	5.74	2.00	0.00	7.13	0.01	0.00
5.75	2.00	0.00	7.13	0.01	0.00	5.76	2.00	0.00	7.12	0.01	0.00
5.77	2.00	0.00	7.12	0.01	0.00	5.78	2.00	0.00	7.11	0.01	0.00
5.79	2.00	0.00	7.11	0.01	0.00	5.80	2.00	0.00	7.10	0.01	0.00
5.81	2.00	0.00	7.10	0.01	0.00	5.82	2.00	0.00	7.09	0.01	0.00
5.83	0.63	0.37	7.09	0.01	0.03	5.84	0.67	0.33	7.08	0.01	0.02
5.85	0.69	0.31	7.08	0.01	0.02	5.86	0.70	0.30	7.07	0.01	0.02
5.87	0.69	0.31	7.07	0.01	0.02	5.88	0.68	0.32	7.06	0.01	0.02
5.89	0.67	0.33	7.06	0.01	0.02	5.90	0.63	0.37	7.05	0.01	0.03

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
5.91	0.62	0.38	7.05	0.01	0.03	5.92	0.60	0.40	7.04	0.01	0.03
5.93	0.60	0.40	7.04	0.01	0.03	5.94	0.60	0.40	7.03	0.01	0.03
5.95	0.60	0.40	7.03	0.01	0.03	5.96	0.60	0.40	7.02	0.01	0.03
5.97	0.61	0.39	7.02	0.01	0.03	5.98	0.62	0.38	7.01	0.01	0.03
5.99	0.65	0.35	7.01	0.01	0.02	6.00	0.68	0.32	7.00	0.01	0.02
6.01	0.69	0.31	7.00	0.01	0.02	6.02	0.69	0.31	6.99	0.01	0.02
6.03	0.69	0.31	6.99	0.01	0.02	6.04	0.69	0.31	6.98	0.01	0.02
6.05	0.68	0.32	6.98	0.01	0.02	6.06	0.67	0.33	6.97	0.01	0.02
6.07	0.65	0.35	6.97	0.01	0.02	6.08	0.64	0.36	6.96	0.01	0.02
6.09	0.64	0.36	6.96	0.01	0.03	6.10	0.63	0.37	6.95	0.01	0.03
6.11	0.62	0.38	6.95	0.01	0.03	6.12	0.61	0.39	6.94	0.01	0.03
6.13	0.58	0.42	6.94	0.01	0.03	6.14	0.57	0.43	6.93	0.01	0.03
6.15	0.56	0.44	6.93	0.01	0.03	6.16	0.56	0.44	6.92	0.01	0.03
6.17	0.57	0.43	6.92	0.01	0.03	6.18	0.57	0.43	6.91	0.01	0.03
6.19	0.57	0.43	6.91	0.01	0.03	6.20	0.58	0.42	6.90	0.01	0.03
6.21	0.58	0.42	6.90	0.01	0.03	6.22	0.59	0.41	6.89	0.01	0.03
6.23	0.60	0.40	6.89	0.01	0.03	6.24	0.59	0.41	6.88	0.01	0.03
6.25	0.59	0.41	6.88	0.01	0.03	6.26	0.58	0.42	6.87	0.01	0.03
6.27	0.57	0.43	6.87	0.01	0.03	6.28	0.56	0.44	6.86	0.01	0.03
6.29	0.55	0.45	6.86	0.01	0.03	6.30	0.55	0.45	6.85	0.01	0.03
6.31	2.00	0.00	6.85	0.01	0.00	6.32	2.00	0.00	6.84	0.01	0.00
6.33	2.00	0.00	6.84	0.01	0.00	6.34	2.00	0.00	6.83	0.01	0.00
6.35	0.59	0.41	6.83	0.01	0.03	6.36	0.62	0.38	6.82	0.01	0.03
6.37	0.68	0.32	6.82	0.01	0.02	6.38	0.68	0.32	6.81	0.01	0.02
6.39	0.69	0.31	6.81	0.01	0.02	6.40	0.68	0.32	6.80	0.01	0.02
6.41	0.67	0.33	6.80	0.01	0.02	6.42	0.63	0.37	6.79	0.01	0.02
6.43	0.60	0.40	6.79	0.01	0.03	6.44	0.57	0.43	6.78	0.01	0.03
6.45	0.56	0.44	6.78	0.01	0.03	6.46	0.56	0.44	6.77	0.01	0.03
6.47	0.55	0.45	6.77	0.01	0.03	6.48	0.55	0.45	6.76	0.01	0.03
6.49	0.55	0.45	6.76	0.01	0.03	6.50	0.56	0.44	6.75	0.01	0.03
6.51	0.57	0.43	6.75	0.01	0.03	6.52	0.58	0.42	6.74	0.01	0.03
6.53	0.62	0.38	6.74	0.01	0.03	6.54	0.63	0.37	6.73	0.01	0.02
6.55	0.64	0.36	6.73	0.01	0.02	6.56	0.64	0.36	6.72	0.01	0.02
6.57	0.65	0.35	6.72	0.01	0.02	6.58	0.64	0.36	6.71	0.01	0.02
6.59	0.65	0.35	6.71	0.01	0.02	6.60	0.65	0.35	6.70	0.01	0.02
6.61	0.65	0.35	6.70	0.01	0.02	6.62	0.66	0.34	6.69	0.01	0.02
6.63	0.65	0.35	6.69	0.01	0.02	6.64	0.65	0.35	6.68	0.01	0.02
6.65	0.63	0.37	6.68	0.01	0.02	6.66	0.62	0.38	6.67	0.01	0.03
6.67	0.60	0.40	6.67	0.01	0.03	6.68	0.58	0.42	6.66	0.01	0.03
6.69	0.58	0.42	6.66	0.01	0.03	6.70	0.58	0.42	6.65	0.01	0.03
6.71	0.58	0.42	6.65	0.01	0.03	6.72	0.58	0.42	6.64	0.01	0.03
6.73	0.59	0.41	6.64	0.01	0.03	6.74	0.60	0.40	6.63	0.01	0.03
6.75	0.60	0.40	6.63	0.01	0.03	6.76	0.60	0.40	6.62	0.01	0.03
6.77	0.60	0.40	6.62	0.01	0.03	6.78	0.60	0.40	6.61	0.01	0.03
6.79	0.61	0.39	6.61	0.01	0.03	6.80	0.63	0.37	6.60	0.01	0.02
6.81	0.63	0.37	6.60	0.01	0.02	6.82	0.63	0.37	6.59	0.01	0.02
6.83	0.61	0.39	6.59	0.01	0.03	6.84	0.60	0.40	6.58	0.01	0.03
6.85	0.60	0.40	6.58	0.01	0.03	6.86	0.58	0.42	6.57	0.01	0.03

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
6.87	0.56	0.44	6.57	0.01	0.03	6.88	0.55	0.45	6.56	0.01	0.03
6.89	0.53	0.47	6.56	0.01	0.03	6.90	2.00	0.00	6.55	0.01	0.00
6.91	2.00	0.00	6.55	0.01	0.00	6.92	2.00	0.00	6.54	0.01	0.00
6.93	2.00	0.00	6.54	0.01	0.00	6.94	2.00	0.00	6.53	0.01	0.00
6.95	2.00	0.00	6.53	0.01	0.00	6.96	0.55	0.45	6.52	0.01	0.03
6.97	0.59	0.41	6.52	0.01	0.03	6.98	0.59	0.41	6.51	0.01	0.03
6.99	0.60	0.40	6.51	0.01	0.03	7.00	0.59	0.41	6.50	0.01	0.03
7.01	0.58	0.42	6.50	0.01	0.03	7.02	0.57	0.43	6.49	0.01	0.03
7.03	0.57	0.43	6.49	0.01	0.03	7.04	0.57	0.43	6.48	0.01	0.03
7.05	0.57	0.43	6.48	0.01	0.03	7.06	0.56	0.44	6.47	0.01	0.03
7.07	0.56	0.44	6.47	0.01	0.03	7.08	0.55	0.45	6.46	0.01	0.03
7.09	0.55	0.45	6.46	0.01	0.03	7.10	2.00	0.00	6.45	0.01	0.00
7.11	2.00	0.00	6.45	0.01	0.00	7.12	2.00	0.00	6.44	0.01	0.00
7.13	2.00	0.00	6.44	0.01	0.00	7.14	2.00	0.00	6.43	0.01	0.00
7.15	0.59	0.41	6.43	0.01	0.03	7.16	0.61	0.39	6.42	0.01	0.02
7.17	0.62	0.38	6.42	0.01	0.02	7.18	0.62	0.38	6.41	0.01	0.02
7.19	0.61	0.39	6.41	0.01	0.02	7.20	0.60	0.40	6.40	0.01	0.03
7.21	0.58	0.42	6.40	0.01	0.03	7.22	0.58	0.42	6.39	0.01	0.03
7.23	0.58	0.42	6.39	0.01	0.03	7.24	0.57	0.43	6.38	0.01	0.03
7.25	0.57	0.43	6.38	0.01	0.03	7.26	0.57	0.43	6.37	0.01	0.03
7.27	0.56	0.44	6.37	0.01	0.03	7.28	0.57	0.43	6.36	0.01	0.03
7.29	0.56	0.44	6.36	0.01	0.03	7.30	0.56	0.44	6.35	0.01	0.03
7.31	0.56	0.44	6.35	0.01	0.03	7.32	0.57	0.43	6.34	0.01	0.03
7.33	0.58	0.42	6.34	0.01	0.03	7.34	0.59	0.41	6.33	0.01	0.03
7.35	0.60	0.40	6.33	0.01	0.03	7.36	0.62	0.38	6.32	0.01	0.02
7.37	0.63	0.37	6.32	0.01	0.02	7.38	0.63	0.37	6.31	0.01	0.02
7.39	0.63	0.37	6.31	0.01	0.02	7.40	0.62	0.38	6.30	0.01	0.02
7.41	0.61	0.39	6.30	0.01	0.02	7.42	0.61	0.39	6.29	0.01	0.02
7.43	0.61	0.39	6.29	0.01	0.02	7.44	0.61	0.39	6.28	0.01	0.02
7.45	0.61	0.39	6.28	0.01	0.02	7.46	0.61	0.39	6.27	0.01	0.02
7.47	0.62	0.38	6.27	0.01	0.02	7.48	0.61	0.39	6.26	0.01	0.02
7.49	0.61	0.39	6.26	0.01	0.02	7.50	0.61	0.39	6.25	0.01	0.02
7.51	0.62	0.38	6.25	0.01	0.02	7.52	0.64	0.36	6.24	0.01	0.02
7.53	0.65	0.35	6.24	0.01	0.02	7.54	0.66	0.34	6.23	0.01	0.02
7.55	0.66	0.34	6.23	0.01	0.02	7.56	0.66	0.34	6.22	0.01	0.02
7.57	0.65	0.35	6.22	0.01	0.02	7.58	0.63	0.37	6.21	0.01	0.02
7.59	0.61	0.39	6.21	0.01	0.02	7.60	0.56	0.44	6.20	0.01	0.03
7.61	0.54	0.46	6.20	0.01	0.03	7.62	0.53	0.47	6.19	0.01	0.03
7.63	2.00	0.00	6.19	0.01	0.00	7.64	2.00	0.00	6.18	0.01	0.00
7.65	2.00	0.00	6.18	0.01	0.00	7.66	2.00	0.00	6.17	0.01	0.00
7.67	2.00	0.00	6.17	0.01	0.00	7.68	2.00	0.00	6.16	0.01	0.00
7.69	2.00	0.00	6.16	0.01	0.00	7.70	2.00	0.00	6.15	0.01	0.00
7.71	0.53	0.47	6.15	0.01	0.03	7.72	0.55	0.45	6.14	0.01	0.03
7.73	0.58	0.42	6.14	0.01	0.03	7.74	0.61	0.39	6.13	0.01	0.02
7.75	0.64	0.36	6.13	0.01	0.02	7.76	0.64	0.36	6.12	0.01	0.02
7.77	0.64	0.36	6.12	0.01	0.02	7.78	0.64	0.36	6.11	0.01	0.02
7.79	0.64	0.36	6.11	0.01	0.02	7.80	0.60	0.40	6.10	0.01	0.02
7.81	0.59	0.41	6.10	0.01	0.02	7.82	0.59	0.41	6.09	0.01	0.02

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
7.83	0.59	0.41	6.09	0.01	0.02	7.84	0.59	0.41	6.08	0.01	0.02
7.85	0.59	0.41	6.08	0.01	0.02	7.86	0.60	0.40	6.07	0.01	0.02
7.87	0.60	0.40	6.07	0.01	0.02	7.88	0.61	0.39	6.06	0.01	0.02
7.89	0.61	0.39	6.06	0.01	0.02	7.90	0.61	0.39	6.05	0.01	0.02
7.91	0.60	0.40	6.05	0.01	0.02	7.92	0.60	0.40	6.04	0.01	0.02
7.93	0.59	0.41	6.04	0.01	0.02	7.94	0.59	0.41	6.03	0.01	0.02
7.95	0.58	0.42	6.03	0.01	0.03	7.96	0.58	0.42	6.02	0.01	0.03
7.97	0.57	0.43	6.02	0.01	0.03	7.98	0.57	0.43	6.01	0.01	0.03
7.99	0.57	0.43	6.01	0.01	0.03	8.00	0.53	0.47	6.00	0.01	0.03
8.01	0.52	0.48	6.00	0.01	0.03	8.02	2.00	0.00	5.99	0.01	0.00
8.03	2.00	0.00	5.99	0.01	0.00	8.04	2.00	0.00	5.98	0.01	0.00
8.05	2.00	0.00	5.98	0.01	0.00	8.06	2.00	0.00	5.97	0.01	0.00
8.07	2.00	0.00	5.97	0.01	0.00	8.08	2.00	0.00	5.96	0.01	0.00
8.09	2.00	0.00	5.96	0.01	0.00	8.10	2.00	0.00	5.95	0.01	0.00
8.11	2.00	0.00	5.95	0.01	0.00	8.12	2.00	0.00	5.94	0.01	0.00
8.13	2.00	0.00	5.94	0.01	0.00	8.14	2.00	0.00	5.93	0.01	0.00
8.15	2.00	0.00	5.93	0.01	0.00	8.16	0.52	0.48	5.92	0.01	0.03
8.17	0.52	0.48	5.92	0.01	0.03	8.18	0.51	0.49	5.91	0.01	0.03
8.19	0.51	0.49	5.91	0.01	0.03	8.20	0.52	0.48	5.90	0.01	0.03
8.21	0.53	0.47	5.90	0.01	0.03	8.22	0.53	0.47	5.89	0.01	0.03
8.23	0.52	0.48	5.89	0.01	0.03	8.24	0.52	0.48	5.88	0.01	0.03
8.25	2.00	0.00	5.88	0.01	0.00	8.26	2.00	0.00	5.87	0.01	0.00
8.27	2.00	0.00	5.87	0.01	0.00	8.28	2.00	0.00	5.86	0.01	0.00
8.29	2.00	0.00	5.86	0.01	0.00	8.30	2.00	0.00	5.85	0.01	0.00
8.31	2.00	0.00	5.85	0.01	0.00	8.32	0.51	0.49	5.84	0.01	0.03
8.33	0.52	0.48	5.84	0.01	0.03	8.34	0.51	0.49	5.83	0.01	0.03
8.35	0.51	0.49	5.83	0.01	0.03	8.36	0.50	0.50	5.82	0.01	0.03
8.37	0.50	0.50	5.82	0.01	0.03	8.38	0.50	0.50	5.81	0.01	0.03
8.39	0.50	0.50	5.81	0.01	0.03	8.40	0.50	0.50	5.80	0.01	0.03
8.41	0.50	0.50	5.80	0.01	0.03	8.42	0.51	0.49	5.79	0.01	0.03
8.43	0.52	0.48	5.79	0.01	0.03	8.44	0.52	0.48	5.78	0.01	0.03
8.45	0.52	0.48	5.78	0.01	0.03	8.46	0.53	0.47	5.77	0.01	0.03
8.47	0.52	0.48	5.77	0.01	0.03	8.48	0.53	0.47	5.76	0.01	0.03
8.49	0.53	0.47	5.76	0.01	0.03	8.50	0.53	0.47	5.75	0.01	0.03
8.51	0.53	0.47	5.75	0.01	0.03	8.52	0.54	0.46	5.74	0.01	0.03
8.53	0.55	0.45	5.74	0.01	0.03	8.54	0.55	0.45	5.73	0.01	0.03
8.55	0.55	0.45	5.73	0.01	0.03	8.56	0.55	0.45	5.72	0.01	0.03
8.57	0.55	0.45	5.72	0.01	0.03	8.58	0.55	0.45	5.71	0.01	0.03
8.59	0.53	0.47	5.71	0.01	0.03	8.60	0.53	0.47	5.70	0.01	0.03
8.61	0.53	0.47	5.70	0.01	0.03	8.62	0.53	0.47	5.69	0.01	0.03
8.63	0.52	0.48	5.69	0.01	0.03	8.64	0.52	0.48	5.68	0.01	0.03
8.65	0.52	0.48	5.68	0.01	0.03	8.66	0.51	0.49	5.67	0.01	0.03
8.67	0.51	0.49	5.67	0.01	0.03	8.68	0.50	0.50	5.66	0.01	0.03
8.69	0.50	0.50	5.66	0.01	0.03	8.70	0.50	0.50	5.65	0.01	0.03
8.71	0.50	0.50	5.65	0.01	0.03	8.72	0.49	0.51	5.64	0.01	0.03
8.73	0.49	0.51	5.64	0.01	0.03	8.74	0.49	0.51	5.63	0.01	0.03
8.75	0.49	0.51	5.63	0.01	0.03	8.76	0.49	0.51	5.62	0.01	0.03
8.77	0.49	0.51	5.62	0.01	0.03	8.78	0.49	0.51	5.61	0.01	0.03

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
8.79	0.49	0.51	5.61	0.01	0.03	8.80	0.49	0.51	5.60	0.01	0.03
8.81	0.49	0.51	5.60	0.01	0.03	8.82	0.50	0.50	5.59	0.01	0.03
8.83	0.52	0.48	5.59	0.01	0.03	8.84	0.53	0.47	5.58	0.01	0.03
8.85	0.54	0.46	5.58	0.01	0.03	8.86	0.54	0.46	5.57	0.01	0.03
8.87	0.54	0.46	5.57	0.01	0.03	8.88	0.53	0.47	5.56	0.01	0.03
8.89	0.52	0.48	5.56	0.01	0.03	8.90	0.50	0.50	5.55	0.01	0.03
8.91	0.50	0.50	5.55	0.01	0.03	8.92	0.49	0.51	5.54	0.01	0.03
8.93	0.48	0.52	5.54	0.01	0.03	8.94	0.48	0.52	5.53	0.01	0.03
8.95	0.47	0.53	5.53	0.01	0.03	8.96	0.47	0.53	5.52	0.01	0.03
8.97	0.47	0.53	5.52	0.01	0.03	8.98	0.47	0.53	5.51	0.01	0.03
8.99	0.46	0.54	5.51	0.01	0.03	9.00	0.46	0.54	5.50	0.01	0.03
9.01	0.46	0.54	5.50	0.01	0.03	9.02	0.45	0.55	5.49	0.01	0.03
9.03	2.00	0.00	5.49	0.01	0.00	9.04	2.00	0.00	5.48	0.01	0.00
9.05	2.00	0.00	5.48	0.01	0.00	9.06	2.00	0.00	5.47	0.01	0.00
9.07	2.00	0.00	5.47	0.01	0.00	9.08	2.00	0.00	5.46	0.01	0.00
9.09	2.00	0.00	5.46	0.01	0.00	9.10	2.00	0.00	5.45	0.01	0.00
9.11	2.00	0.00	5.45	0.01	0.00	9.12	0.46	0.54	5.44	0.01	0.03
9.13	0.47	0.53	5.44	0.01	0.03	9.14	0.48	0.52	5.43	0.01	0.03
9.15	0.48	0.52	5.43	0.01	0.03	9.16	0.48	0.52	5.42	0.01	0.03
9.17	0.48	0.52	5.42	0.01	0.03	9.18	0.48	0.52	5.41	0.01	0.03
9.19	0.48	0.52	5.41	0.01	0.03	9.20	0.48	0.52	5.40	0.01	0.03
9.21	0.48	0.52	5.40	0.01	0.03	9.22	0.48	0.52	5.39	0.01	0.03
9.23	0.48	0.52	5.39	0.01	0.03	9.24	0.48	0.52	5.38	0.01	0.03
9.25	0.47	0.53	5.38	0.01	0.03	9.26	0.47	0.53	5.37	0.01	0.03
9.27	0.47	0.53	5.37	0.01	0.03	9.28	0.46	0.54	5.36	0.01	0.03
9.29	0.45	0.55	5.36	0.01	0.03	9.30	0.45	0.55	5.35	0.01	0.03
9.31	0.45	0.55	5.35	0.01	0.03	9.32	0.45	0.55	5.34	0.01	0.03
9.33	0.45	0.55	5.34	0.01	0.03	9.34	0.44	0.56	5.33	0.01	0.03
9.35	0.44	0.56	5.33	0.01	0.03	9.36	0.44	0.56	5.32	0.01	0.03
9.37	0.44	0.56	5.32	0.01	0.03	9.38	0.44	0.56	5.31	0.01	0.03
9.39	0.44	0.56	5.31	0.01	0.03	9.40	2.00	0.00	5.30	0.01	0.00
9.41	2.00	0.00	5.30	0.01	0.00	9.42	2.00	0.00	5.29	0.01	0.00
9.43	2.00	0.00	5.29	0.01	0.00	9.44	2.00	0.00	5.28	0.01	0.00
9.45	2.00	0.00	5.28	0.01	0.00	9.46	2.00	0.00	5.27	0.01	0.00
9.47	2.00	0.00	5.27	0.01	0.00	9.48	2.00	0.00	5.26	0.01	0.00
9.49	2.00	0.00	5.26	0.01	0.00	9.50	0.43	0.57	5.25	0.01	0.03
9.51	0.43	0.57	5.25	0.01	0.03	9.52	0.43	0.57	5.24	0.01	0.03
9.53	2.00	0.00	5.24	0.01	0.00	9.54	2.00	0.00	5.23	0.01	0.00
9.55	2.00	0.00	5.23	0.01	0.00	9.56	2.00	0.00	5.22	0.01	0.00
9.57	2.00	0.00	5.22	0.01	0.00	9.58	2.00	0.00	5.21	0.01	0.00
9.59	2.00	0.00	5.21	0.01	0.00	9.60	2.00	0.00	5.20	0.01	0.00
9.61	2.00	0.00	5.20	0.01	0.00	9.62	2.00	0.00	5.19	0.01	0.00
9.63	2.00	0.00	5.19	0.01	0.00	9.64	2.00	0.00	5.18	0.01	0.00
9.65	2.00	0.00	5.18	0.01	0.00	9.66	2.00	0.00	5.17	0.01	0.00
9.67	2.00	0.00	5.17	0.01	0.00	9.68	2.00	0.00	5.16	0.01	0.00
9.69	2.00	0.00	5.16	0.01	0.00	9.70	2.00	0.00	5.15	0.01	0.00
9.71	2.00	0.00	5.15	0.01	0.00	9.72	2.00	0.00	5.14	0.01	0.00
9.73	2.00	0.00	5.14	0.01	0.00	9.74	2.00	0.00	5.13	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
9.75	2.00	0.00	5.13	0.01	0.00	9.76	2.00	0.00	5.12	0.01	0.00
9.77	2.00	0.00	5.12	0.01	0.00	9.78	2.00	0.00	5.11	0.01	0.00
9.79	2.00	0.00	5.11	0.01	0.00	9.80	2.00	0.00	5.10	0.01	0.00
9.81	2.00	0.00	5.10	0.01	0.00	9.82	2.00	0.00	5.09	0.01	0.00
9.83	2.00	0.00	5.09	0.01	0.00	9.84	0.46	0.54	5.08	0.01	0.03
9.85	0.48	0.52	5.08	0.01	0.03	9.86	0.49	0.51	5.07	0.01	0.03
9.87	0.49	0.51	5.07	0.01	0.03	9.88	0.48	0.52	5.06	0.01	0.03
9.89	0.48	0.52	5.06	0.01	0.03	9.90	0.46	0.54	5.05	0.01	0.03
9.91	0.45	0.55	5.05	0.01	0.03	9.92	0.46	0.54	5.04	0.01	0.03
9.93	0.45	0.55	5.04	0.01	0.03	9.94	0.45	0.55	5.03	0.01	0.03
9.95	0.46	0.54	5.03	0.01	0.03	9.96	0.46	0.54	5.02	0.01	0.03
9.97	0.47	0.53	5.02	0.01	0.03	9.98	0.48	0.52	5.01	0.01	0.03
9.99	2.00	0.00	5.01	0.01	0.00	10.00	2.00	0.00	5.00	0.01	0.00
10.01	2.00	0.00	5.00	0.01	0.00	10.02	2.00	0.00	4.99	0.01	0.00
10.03	2.00	0.00	4.99	0.01	0.00	10.04	2.00	0.00	4.98	0.01	0.00
10.05	2.00	0.00	4.98	0.01	0.00	10.06	2.00	0.00	4.97	0.01	0.00
10.07	2.00	0.00	4.97	0.01	0.00	10.08	2.00	0.00	4.96	0.01	0.00
10.09	2.00	0.00	4.96	0.01	0.00	10.10	2.00	0.00	4.95	0.01	0.00
10.11	2.00	0.00	4.95	0.01	0.00	10.12	2.00	0.00	4.94	0.01	0.00
10.13	2.00	0.00	4.94	0.01	0.00	10.14	2.00	0.00	4.93	0.01	0.00
10.15	2.00	0.00	4.93	0.01	0.00	10.16	2.00	0.00	4.92	0.01	0.00
10.17	2.00	0.00	4.92	0.01	0.00	10.18	2.00	0.00	4.91	0.01	0.00
10.19	2.00	0.00	4.91	0.01	0.00	10.20	2.00	0.00	4.90	0.01	0.00
10.21	2.00	0.00	4.90	0.01	0.00	10.22	2.00	0.00	4.89	0.01	0.00
10.23	2.00	0.00	4.89	0.01	0.00	10.24	2.00	0.00	4.88	0.01	0.00
10.25	2.00	0.00	4.88	0.01	0.00	10.26	2.00	0.00	4.87	0.01	0.00
10.27	2.00	0.00	4.87	0.01	0.00	10.28	2.00	0.00	4.86	0.01	0.00
10.29	2.00	0.00	4.86	0.01	0.00	10.30	2.00	0.00	4.85	0.01	0.00
10.31	2.00	0.00	4.85	0.01	0.00	10.32	2.00	0.00	4.84	0.01	0.00
10.33	2.00	0.00	4.84	0.01	0.00	10.34	2.00	0.00	4.83	0.01	0.00
10.35	2.00	0.00	4.83	0.01	0.00	10.36	2.00	0.00	4.82	0.01	0.00
10.37	2.00	0.00	4.82	0.01	0.00	10.38	2.00	0.00	4.81	0.01	0.00
10.39	2.00	0.00	4.81	0.01	0.00	10.40	2.00	0.00	4.80	0.01	0.00
10.41	2.00	0.00	4.80	0.01	0.00	10.42	2.00	0.00	4.79	0.01	0.00
10.43	2.00	0.00	4.79	0.01	0.00	10.44	2.00	0.00	4.78	0.01	0.00
10.45	2.00	0.00	4.78	0.01	0.00	10.46	2.00	0.00	4.77	0.01	0.00
10.47	2.00	0.00	4.77	0.01	0.00	10.48	2.00	0.00	4.76	0.01	0.00
10.49	2.00	0.00	4.76	0.01	0.00	10.50	2.00	0.00	4.75	0.01	0.00
10.51	2.00	0.00	4.75	0.01	0.00	10.52	2.00	0.00	4.74	0.01	0.00
10.53	2.00	0.00	4.74	0.01	0.00	10.54	2.00	0.00	4.73	0.01	0.00
10.55	2.00	0.00	4.73	0.01	0.00	10.56	2.00	0.00	4.72	0.01	0.00
10.57	2.00	0.00	4.72	0.01	0.00	10.58	2.00	0.00	4.71	0.01	0.00
10.59	2.00	0.00	4.71	0.01	0.00	10.60	2.00	0.00	4.70	0.01	0.00
10.61	2.00	0.00	4.70	0.01	0.00	10.62	2.00	0.00	4.69	0.01	0.00
10.63	2.00	0.00	4.69	0.01	0.00	10.64	2.00	0.00	4.68	0.01	0.00
10.65	2.00	0.00	4.68	0.01	0.00	10.66	2.00	0.00	4.67	0.01	0.00
10.67	2.00	0.00	4.67	0.01	0.00	10.68	2.00	0.00	4.66	0.01	0.00
10.69	2.00	0.00	4.66	0.01	0.00	10.70	2.00	0.00	4.65	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
10.71	2.00	0.00	4.65	0.01	0.00	10.72	2.00	0.00	4.64	0.01	0.00
10.73	2.00	0.00	4.64	0.01	0.00	10.74	2.00	0.00	4.63	0.01	0.00
10.75	2.00	0.00	4.63	0.01	0.00	10.76	2.00	0.00	4.62	0.01	0.00
10.77	2.00	0.00	4.62	0.01	0.00	10.78	2.00	0.00	4.61	0.01	0.00
10.79	2.00	0.00	4.61	0.01	0.00	10.80	2.00	0.00	4.60	0.01	0.00
10.81	2.00	0.00	4.60	0.01	0.00	10.82	2.00	0.00	4.59	0.01	0.00
10.83	2.00	0.00	4.59	0.01	0.00	10.84	2.00	0.00	4.58	0.01	0.00
10.85	2.00	0.00	4.58	0.01	0.00	10.86	2.00	0.00	4.57	0.01	0.00
10.87	2.00	0.00	4.57	0.01	0.00	10.88	2.00	0.00	4.56	0.01	0.00
10.89	2.00	0.00	4.56	0.01	0.00	10.90	2.00	0.00	4.55	0.01	0.00
10.91	2.00	0.00	4.55	0.01	0.00	10.92	2.00	0.00	4.54	0.01	0.00
10.93	0.43	0.57	4.54	0.01	0.03	10.94	0.43	0.57	4.53	0.01	0.03
10.95	0.43	0.57	4.53	0.01	0.03	10.96	0.43	0.57	4.52	0.01	0.03
10.97	0.43	0.57	4.52	0.01	0.03	10.98	0.43	0.57	4.51	0.01	0.03
10.99	0.43	0.57	4.51	0.01	0.03	11.00	0.43	0.57	4.50	0.01	0.03
11.01	2.00	0.00	4.50	0.01	0.00	11.02	2.00	0.00	4.49	0.01	0.00
11.03	2.00	0.00	4.49	0.01	0.00	11.04	2.00	0.00	4.48	0.01	0.00
11.05	2.00	0.00	4.48	0.01	0.00	11.06	2.00	0.00	4.47	0.01	0.00
11.07	2.00	0.00	4.47	0.01	0.00	11.08	2.00	0.00	4.46	0.01	0.00
11.09	0.43	0.57	4.46	0.01	0.03	11.10	0.43	0.57	4.45	0.01	0.03
11.11	0.43	0.57	4.45	0.01	0.03	11.12	2.00	0.00	4.44	0.01	0.00
11.13	2.00	0.00	4.44	0.01	0.00	11.14	2.00	0.00	4.43	0.01	0.00
11.15	2.00	0.00	4.43	0.01	0.00	11.16	2.00	0.00	4.42	0.01	0.00
11.17	2.00	0.00	4.42	0.01	0.00	11.18	2.00	0.00	4.41	0.01	0.00
11.19	2.00	0.00	4.41	0.01	0.00	11.20	2.00	0.00	4.40	0.01	0.00
11.21	2.00	0.00	4.40	0.01	0.00	11.22	2.00	0.00	4.39	0.01	0.00
11.23	2.00	0.00	4.39	0.01	0.00	11.24	2.00	0.00	4.38	0.01	0.00
11.25	2.00	0.00	4.38	0.01	0.00	11.26	2.00	0.00	4.37	0.01	0.00
11.27	2.00	0.00	4.37	0.01	0.00	11.28	2.00	0.00	4.36	0.01	0.00
11.29	2.00	0.00	4.36	0.01	0.00	11.30	2.00	0.00	4.35	0.01	0.00
11.31	2.00	0.00	4.35	0.01	0.00	11.32	2.00	0.00	4.34	0.01	0.00
11.33	2.00	0.00	4.34	0.01	0.00	11.34	2.00	0.00	4.33	0.01	0.00
11.35	2.00	0.00	4.33	0.01	0.00	11.36	2.00	0.00	4.32	0.01	0.00
11.37	2.00	0.00	4.32	0.01	0.00	11.38	2.00	0.00	4.31	0.01	0.00
11.39	2.00	0.00	4.31	0.01	0.00	11.40	2.00	0.00	4.30	0.01	0.00
11.41	2.00	0.00	4.30	0.01	0.00	11.42	2.00	0.00	4.29	0.01	0.00
11.43	2.00	0.00	4.29	0.01	0.00	11.44	2.00	0.00	4.28	0.01	0.00
11.45	2.00	0.00	4.28	0.01	0.00	11.46	2.00	0.00	4.27	0.01	0.00
11.47	2.00	0.00	4.27	0.01	0.00	11.48	2.00	0.00	4.26	0.01	0.00
11.49	2.00	0.00	4.26	0.01	0.00	11.50	2.00	0.00	4.25	0.01	0.00
11.51	2.00	0.00	4.25	0.01	0.00	11.52	2.00	0.00	4.24	0.01	0.00
11.53	2.00	0.00	4.24	0.01	0.00	11.54	2.00	0.00	4.23	0.01	0.00
11.55	2.00	0.00	4.23	0.01	0.00	11.56	2.00	0.00	4.22	0.01	0.00
11.57	2.00	0.00	4.22	0.01	0.00	11.58	2.00	0.00	4.21	0.01	0.00
11.59	2.00	0.00	4.21	0.01	0.00	11.60	2.00	0.00	4.20	0.01	0.00
11.61	2.00	0.00	4.20	0.01	0.00	11.62	2.00	0.00	4.19	0.01	0.00
11.63	2.00	0.00	4.19	0.01	0.00	11.64	2.00	0.00	4.18	0.01	0.00
11.65	2.00	0.00	4.18	0.01	0.00	11.66	2.00	0.00	4.17	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
11.67	2.00	0.00	4.17	0.01	0.00	11.68	2.00	0.00	4.16	0.01	0.00
11.69	2.00	0.00	4.16	0.01	0.00	11.70	2.00	0.00	4.15	0.01	0.00
11.71	2.00	0.00	4.15	0.01	0.00	11.72	2.00	0.00	4.14	0.01	0.00
11.73	2.00	0.00	4.14	0.01	0.00	11.74	2.00	0.00	4.13	0.01	0.00
11.75	2.00	0.00	4.13	0.01	0.00	11.76	2.00	0.00	4.12	0.01	0.00
11.77	2.00	0.00	4.12	0.01	0.00	11.78	2.00	0.00	4.11	0.01	0.00
11.79	2.00	0.00	4.11	0.01	0.00	11.80	2.00	0.00	4.10	0.01	0.00
11.81	2.00	0.00	4.10	0.01	0.00	11.82	2.00	0.00	4.09	0.01	0.00
11.83	2.00	0.00	4.09	0.01	0.00	11.84	2.00	0.00	4.08	0.01	0.00
11.85	2.00	0.00	4.08	0.01	0.00	11.86	2.00	0.00	4.07	0.01	0.00
11.87	2.00	0.00	4.07	0.01	0.00	11.88	2.00	0.00	4.06	0.01	0.00
11.89	0.44	0.56	4.06	0.01	0.02	11.90	0.44	0.56	4.05	0.01	0.02
11.91	0.44	0.56	4.05	0.01	0.02	11.92	0.44	0.56	4.04	0.01	0.02
11.93	0.44	0.56	4.04	0.01	0.02	11.94	0.44	0.56	4.03	0.01	0.02
11.95	0.44	0.56	4.03	0.01	0.02	11.96	0.43	0.57	4.02	0.01	0.02
11.97	0.43	0.57	4.02	0.01	0.02	11.98	0.43	0.57	4.01	0.01	0.02
11.99	0.43	0.57	4.01	0.01	0.02	12.00	0.43	0.57	4.00	0.01	0.02
12.01	0.43	0.57	4.00	0.01	0.02	12.02	2.00	0.00	3.99	0.01	0.00
12.03	2.00	0.00	3.99	0.01	0.00	12.04	2.00	0.00	3.98	0.01	0.00
12.05	2.00	0.00	3.98	0.01	0.00	12.06	2.00	0.00	3.97	0.01	0.00
12.07	2.00	0.00	3.97	0.01	0.00	12.08	2.00	0.00	3.96	0.01	0.00
12.09	2.00	0.00	3.96	0.01	0.00	12.10	2.00	0.00	3.95	0.01	0.00
12.11	2.00	0.00	3.95	0.01	0.00	12.12	2.00	0.00	3.94	0.01	0.00
12.13	2.00	0.00	3.94	0.01	0.00	12.14	2.00	0.00	3.93	0.01	0.00
12.15	2.00	0.00	3.93	0.01	0.00	12.16	2.00	0.00	3.92	0.01	0.00
12.17	0.42	0.58	3.92	0.01	0.02	12.18	0.43	0.57	3.91	0.01	0.02
12.19	0.43	0.57	3.91	0.01	0.02	12.20	0.43	0.57	3.90	0.01	0.02
12.21	0.42	0.58	3.90	0.01	0.02	12.22	2.00	0.00	3.89	0.01	0.00
12.23	2.00	0.00	3.89	0.01	0.00	12.24	2.00	0.00	3.88	0.01	0.00
12.25	2.00	0.00	3.88	0.01	0.00	12.26	2.00	0.00	3.87	0.01	0.00
12.27	2.00	0.00	3.87	0.01	0.00	12.28	2.00	0.00	3.86	0.01	0.00
12.29	2.00	0.00	3.86	0.01	0.00	12.30	2.00	0.00	3.85	0.01	0.00
12.31	2.00	0.00	3.85	0.01	0.00	12.32	2.00	0.00	3.84	0.01	0.00
12.33	2.00	0.00	3.84	0.01	0.00	12.34	2.00	0.00	3.83	0.01	0.00
12.35	2.00	0.00	3.83	0.01	0.00	12.36	2.00	0.00	3.82	0.01	0.00
12.37	2.00	0.00	3.82	0.01	0.00	12.38	2.00	0.00	3.81	0.01	0.00
12.39	2.00	0.00	3.81	0.01	0.00	12.40	2.00	0.00	3.80	0.01	0.00
12.41	2.00	0.00	3.80	0.01	0.00	12.42	2.00	0.00	3.79	0.01	0.00
12.43	2.00	0.00	3.79	0.01	0.00	12.44	2.00	0.00	3.78	0.01	0.00
12.45	0.45	0.55	3.78	0.01	0.02	12.46	0.45	0.55	3.77	0.01	0.02
12.47	0.46	0.54	3.77	0.01	0.02	12.48	0.46	0.54	3.76	0.01	0.02
12.49	2.00	0.00	3.76	0.01	0.00	12.50	2.00	0.00	3.75	0.01	0.00
12.51	2.00	0.00	3.75	0.01	0.00	12.52	2.00	0.00	3.74	0.01	0.00
12.53	2.00	0.00	3.74	0.01	0.00	12.54	2.00	0.00	3.73	0.01	0.00
12.55	2.00	0.00	3.73	0.01	0.00	12.56	2.00	0.00	3.72	0.01	0.00
12.57	2.00	0.00	3.72	0.01	0.00	12.58	2.00	0.00	3.71	0.01	0.00
12.59	0.45	0.55	3.71	0.01	0.02	12.60	0.46	0.54	3.70	0.01	0.02
12.61	0.46	0.54	3.70	0.01	0.02	12.62	0.46	0.54	3.69	0.01	0.02

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
12.63	0.46	0.54	3.69	0.01	0.02	12.64	0.46	0.54	3.68	0.01	0.02
12.65	0.46	0.54	3.68	0.01	0.02	12.66	0.46	0.54	3.67	0.01	0.02
12.67	0.45	0.55	3.67	0.01	0.02	12.68	0.45	0.55	3.66	0.01	0.02
12.69	0.45	0.55	3.66	0.01	0.02	12.70	0.45	0.55	3.65	0.01	0.02
12.71	0.45	0.55	3.65	0.01	0.02	12.72	0.44	0.56	3.64	0.01	0.02
12.73	0.44	0.56	3.64	0.01	0.02	12.74	2.00	0.00	3.63	0.01	0.00
12.75	2.00	0.00	3.63	0.01	0.00	12.76	2.00	0.00	3.62	0.01	0.00
12.77	2.00	0.00	3.62	0.01	0.00	12.78	2.00	0.00	3.61	0.01	0.00
12.79	2.00	0.00	3.61	0.01	0.00	12.80	2.00	0.00	3.60	0.01	0.00
12.81	2.00	0.00	3.60	0.01	0.00	12.82	2.00	0.00	3.59	0.01	0.00
12.83	2.00	0.00	3.59	0.01	0.00	12.84	2.00	0.00	3.58	0.01	0.00
12.85	2.00	0.00	3.58	0.01	0.00	12.86	2.00	0.00	3.57	0.01	0.00
12.87	2.00	0.00	3.57	0.01	0.00	12.88	2.00	0.00	3.56	0.01	0.00
12.89	2.00	0.00	3.56	0.01	0.00	12.90	2.00	0.00	3.55	0.01	0.00
12.91	2.00	0.00	3.55	0.01	0.00	12.92	2.00	0.00	3.54	0.01	0.00
12.93	2.00	0.00	3.54	0.01	0.00	12.94	2.00	0.00	3.53	0.01	0.00
12.95	2.00	0.00	3.53	0.01	0.00	12.96	2.00	0.00	3.52	0.01	0.00
12.97	2.00	0.00	3.52	0.01	0.00	12.98	2.00	0.00	3.51	0.01	0.00
12.99	0.45	0.55	3.51	0.01	0.02	13.00	0.46	0.54	3.50	0.01	0.02
13.01	0.46	0.54	3.50	0.01	0.02	13.02	0.46	0.54	3.49	0.01	0.02
13.03	0.46	0.54	3.49	0.01	0.02	13.04	0.45	0.55	3.48	0.01	0.02
13.05	0.45	0.55	3.48	0.01	0.02	13.06	0.45	0.55	3.47	0.01	0.02
13.07	0.44	0.56	3.47	0.01	0.02	13.08	0.44	0.56	3.46	0.01	0.02
13.09	2.00	0.00	3.46	0.01	0.00	13.10	2.00	0.00	3.45	0.01	0.00
13.11	2.00	0.00	3.45	0.01	0.00	13.12	2.00	0.00	3.44	0.01	0.00
13.13	2.00	0.00	3.44	0.01	0.00	13.14	2.00	0.00	3.43	0.01	0.00
13.15	2.00	0.00	3.43	0.01	0.00	13.16	2.00	0.00	3.42	0.01	0.00
13.17	2.00	0.00	3.42	0.01	0.00	13.18	2.00	0.00	3.41	0.01	0.00
13.18	2.00	0.00	3.41	0.01	0.00	13.19	2.00	0.00	3.40	0.01	0.00
13.20	0.44	0.56	3.40	0.01	0.02	13.21	0.44	0.56	3.39	0.01	0.02
13.22	0.44	0.56	3.39	0.01	0.02	13.23	0.44	0.56	3.38	0.01	0.02
13.24	0.44	0.56	3.38	0.01	0.02	13.25	0.44	0.56	3.37	0.01	0.02
13.26	0.44	0.56	3.37	0.01	0.02	13.27	0.43	0.57	3.36	0.01	0.02
13.28	0.43	0.57	3.36	0.01	0.02	13.29	2.00	0.00	3.35	0.01	0.00
13.30	2.00	0.00	3.35	0.01	0.00	13.31	2.00	0.00	3.34	0.01	0.00
13.32	2.00	0.00	3.34	0.01	0.00	13.33	2.00	0.00	3.33	0.01	0.00
13.34	0.42	0.58	3.33	0.01	0.02	13.35	0.42	0.58	3.32	0.01	0.02
13.36	0.42	0.58	3.32	0.01	0.02	13.37	2.00	0.00	3.31	0.01	0.00
13.38	2.00	0.00	3.31	0.01	0.00	13.39	2.00	0.00	3.30	0.01	0.00
13.40	2.00	0.00	3.30	0.01	0.00	13.41	2.00	0.00	3.29	0.01	0.00
13.42	2.00	0.00	3.29	0.01	0.00	13.43	2.00	0.00	3.28	0.01	0.00
13.44	2.00	0.00	3.28	0.01	0.00	13.45	2.00	0.00	3.27	0.01	0.00
13.46	0.43	0.57	3.27	0.01	0.02	13.47	0.43	0.57	3.26	0.01	0.02
13.48	0.43	0.57	3.26	0.01	0.02	13.49	0.43	0.57	3.25	0.01	0.02
13.50	0.43	0.57	3.25	0.01	0.02	13.51	0.43	0.57	3.24	0.01	0.02
13.52	0.43	0.57	3.24	0.01	0.02	13.53	0.43	0.57	3.23	0.01	0.02
13.54	0.43	0.57	3.23	0.01	0.02	13.55	0.43	0.57	3.22	0.01	0.02
13.56	0.43	0.57	3.22	0.01	0.02	13.57	2.00	0.00	3.21	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
13.58	2.00	0.00	3.21	0.01	0.00	13.59	2.00	0.00	3.20	0.01	0.00
13.60	2.00	0.00	3.20	0.01	0.00	13.61	2.00	0.00	3.19	0.01	0.00
13.62	2.00	0.00	3.19	0.01	0.00	13.63	2.00	0.00	3.18	0.01	0.00
13.64	2.00	0.00	3.18	0.01	0.00	13.65	2.00	0.00	3.17	0.01	0.00
13.66	2.00	0.00	3.17	0.01	0.00	13.67	2.00	0.00	3.16	0.01	0.00
13.68	2.00	0.00	3.16	0.01	0.00	13.69	2.00	0.00	3.15	0.01	0.00
13.70	2.00	0.00	3.15	0.01	0.00	13.71	0.46	0.54	3.14	0.01	0.02
13.72	0.48	0.52	3.14	0.01	0.02	13.73	0.49	0.51	3.13	0.01	0.02
13.74	0.49	0.51	3.13	0.01	0.02	13.75	0.49	0.51	3.12	0.01	0.02
13.76	0.49	0.51	3.12	0.01	0.02	13.77	0.49	0.51	3.11	0.01	0.02
13.78	0.49	0.51	3.11	0.01	0.02	13.79	0.48	0.52	3.10	0.01	0.02
13.80	0.48	0.52	3.10	0.01	0.02	13.81	0.47	0.53	3.09	0.01	0.02
13.82	0.47	0.53	3.09	0.01	0.02	13.83	0.46	0.54	3.08	0.01	0.02
13.84	0.46	0.54	3.08	0.01	0.02	13.85	0.45	0.55	3.07	0.01	0.02
13.86	0.45	0.55	3.07	0.01	0.02	13.87	0.45	0.55	3.06	0.01	0.02
13.88	2.00	0.00	3.06	0.01	0.00	13.89	2.00	0.00	3.05	0.01	0.00
13.90	2.00	0.00	3.05	0.01	0.00	13.91	2.00	0.00	3.04	0.01	0.00
13.92	2.00	0.00	3.04	0.01	0.00	13.93	2.00	0.00	3.03	0.01	0.00
13.94	2.00	0.00	3.03	0.01	0.00	13.95	2.00	0.00	3.02	0.01	0.00
13.96	2.00	0.00	3.02	0.01	0.00	13.97	2.00	0.00	3.01	0.01	0.00
13.98	0.44	0.56	3.01	0.01	0.02	13.99	0.44	0.56	3.00	0.01	0.02
14.00	0.44	0.56	3.00	0.01	0.02	14.01	0.44	0.56	2.99	0.01	0.02
14.02	0.44	0.56	2.99	0.01	0.02	14.03	0.43	0.57	2.98	0.01	0.02
14.04	0.43	0.57	2.98	0.01	0.02	14.05	0.43	0.57	2.97	0.01	0.02
14.06	0.43	0.57	2.97	0.01	0.02	14.07	0.43	0.57	2.96	0.01	0.02
14.08	0.43	0.57	2.96	0.01	0.02	14.09	0.43	0.57	2.95	0.01	0.02
14.10	0.43	0.57	2.95	0.01	0.02	14.11	0.43	0.57	2.94	0.01	0.02
14.12	0.43	0.57	2.94	0.01	0.02	14.13	0.43	0.57	2.93	0.01	0.02
14.14	0.43	0.57	2.93	0.01	0.02	14.15	0.43	0.57	2.92	0.01	0.02
14.16	0.44	0.56	2.92	0.01	0.02	14.17	0.44	0.56	2.91	0.01	0.02
14.18	0.44	0.56	2.91	0.01	0.02	14.19	2.00	0.00	2.90	0.01	0.00
14.20	2.00	0.00	2.90	0.01	0.00	14.21	2.00	0.00	2.89	0.01	0.00
14.22	2.00	0.00	2.89	0.01	0.00	14.23	2.00	0.00	2.88	0.01	0.00
14.24	2.00	0.00	2.88	0.01	0.00	14.25	2.00	0.00	2.87	0.01	0.00
14.26	2.00	0.00	2.87	0.01	0.00	14.27	2.00	0.00	2.86	0.01	0.00
14.28	2.00	0.00	2.86	0.01	0.00	14.29	2.00	0.00	2.85	0.01	0.00
14.30	2.00	0.00	2.85	0.01	0.00	14.31	2.00	0.00	2.84	0.01	0.00
14.32	2.00	0.00	2.84	0.01	0.00	14.33	2.00	0.00	2.83	0.01	0.00
14.34	2.00	0.00	2.83	0.01	0.00	14.35	0.44	0.56	2.82	0.01	0.02
14.36	0.44	0.56	2.82	0.01	0.02	14.37	0.43	0.57	2.81	0.01	0.02
14.38	0.43	0.57	2.81	0.01	0.02	14.39	0.43	0.57	2.80	0.01	0.02
14.40	0.43	0.57	2.80	0.01	0.02	14.41	0.43	0.57	2.79	0.01	0.02
14.42	0.43	0.57	2.79	0.01	0.02	14.43	0.43	0.57	2.78	0.01	0.02
14.44	0.43	0.57	2.78	0.01	0.02	14.45	0.43	0.57	2.77	0.01	0.02
14.46	2.00	0.00	2.77	0.01	0.00	14.47	2.00	0.00	2.76	0.01	0.00
14.48	2.00	0.00	2.76	0.01	0.00	14.49	2.00	0.00	2.75	0.01	0.00
14.50	2.00	0.00	2.75	0.01	0.00	14.51	2.00	0.00	2.74	0.01	0.00
14.52	2.00	0.00	2.74	0.01	0.00	14.53	2.00	0.00	2.73	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
14.54	2.00	0.00	2.73	0.01	0.00	14.55	2.00	0.00	2.72	0.01	0.00
14.56	2.00	0.00	2.72	0.01	0.00	14.57	2.00	0.00	2.71	0.01	0.00
14.58	2.00	0.00	2.71	0.01	0.00	14.59	2.00	0.00	2.70	0.01	0.00
14.60	0.43	0.57	2.70	0.01	0.02	14.61	0.43	0.57	2.69	0.01	0.02
14.62	0.43	0.57	2.69	0.01	0.02	14.63	0.43	0.57	2.68	0.01	0.02
14.64	0.43	0.57	2.68	0.01	0.02	14.65	0.43	0.57	2.67	0.01	0.02
14.66	0.43	0.57	2.67	0.01	0.02	14.67	2.00	0.00	2.66	0.01	0.00
14.68	2.00	0.00	2.66	0.01	0.00	14.69	2.00	0.00	2.65	0.01	0.00
14.70	2.00	0.00	2.65	0.01	0.00	14.71	2.00	0.00	2.64	0.01	0.00
14.72	2.00	0.00	2.64	0.01	0.00	14.73	2.00	0.00	2.63	0.01	0.00
14.74	2.00	0.00	2.63	0.01	0.00	14.75	2.00	0.00	2.62	0.01	0.00
14.76	2.00	0.00	2.62	0.01	0.00	14.77	2.00	0.00	2.61	0.01	0.00
14.78	2.00	0.00	2.61	0.01	0.00	14.79	2.00	0.00	2.60	0.01	0.00
14.80	2.00	0.00	2.60	0.01	0.00	14.81	2.00	0.00	2.59	0.01	0.00
14.82	2.00	0.00	2.59	0.01	0.00	14.83	2.00	0.00	2.58	0.01	0.00
14.84	2.00	0.00	2.58	0.01	0.00	14.85	2.00	0.00	2.57	0.01	0.00
14.86	2.00	0.00	2.57	0.01	0.00	14.87	2.00	0.00	2.56	0.01	0.00
14.88	2.00	0.00	2.56	0.01	0.00	14.89	2.00	0.00	2.55	0.01	0.00
14.90	0.44	0.56	2.55	0.01	0.01	14.91	0.44	0.56	2.54	0.01	0.01
14.92	0.44	0.56	2.54	0.01	0.01	14.93	0.44	0.56	2.53	0.01	0.01
14.94	0.44	0.56	2.53	0.01	0.01	14.95	0.44	0.56	2.52	0.01	0.01
14.96	0.44	0.56	2.52	0.01	0.01	14.97	0.44	0.56	2.51	0.01	0.01
14.98	0.44	0.56	2.51	0.01	0.01	14.99	0.44	0.56	2.50	0.01	0.01
15.00	0.44	0.56	2.50	0.01	0.01	15.01	0.44	0.56	2.49	0.01	0.01
15.02	0.44	0.56	2.49	0.01	0.01	15.03	0.44	0.56	2.48	0.01	0.01
15.04	0.43	0.57	2.48	0.01	0.01	15.05	0.43	0.57	2.47	0.01	0.01
15.06	0.43	0.57	2.47	0.01	0.01	15.07	0.43	0.57	2.46	0.01	0.01
15.08	0.43	0.57	2.46	0.01	0.01	15.09	0.43	0.57	2.45	0.01	0.01
15.10	0.43	0.57	2.45	0.01	0.01	15.11	0.43	0.57	2.44	0.01	0.01
15.12	0.43	0.57	2.44	0.01	0.01	15.13	0.43	0.57	2.43	0.01	0.01
15.14	0.43	0.57	2.43	0.01	0.01	15.15	0.43	0.57	2.42	0.01	0.01
15.16	0.43	0.57	2.42	0.01	0.01	15.17	0.43	0.57	2.41	0.01	0.01
15.18	0.43	0.57	2.41	0.01	0.01	15.19	0.43	0.57	2.40	0.01	0.01
15.20	0.43	0.57	2.40	0.01	0.01	15.21	0.43	0.57	2.39	0.01	0.01
15.22	0.43	0.57	2.39	0.01	0.01	15.23	2.00	0.00	2.38	0.01	0.00
15.24	2.00	0.00	2.38	0.01	0.00	15.25	2.00	0.00	2.37	0.01	0.00
15.26	2.00	0.00	2.37	0.01	0.00	15.27	2.00	0.00	2.36	0.01	0.00
15.28	2.00	0.00	2.36	0.01	0.00	15.29	2.00	0.00	2.35	0.01	0.00
15.30	2.00	0.00	2.35	0.01	0.00	15.31	0.44	0.56	2.34	0.01	0.01
15.32	0.44	0.56	2.34	0.01	0.01	15.33	0.44	0.56	2.33	0.01	0.01
15.34	0.44	0.56	2.33	0.01	0.01	15.35	0.44	0.56	2.32	0.01	0.01
15.36	0.44	0.56	2.32	0.01	0.01	15.37	0.44	0.56	2.31	0.01	0.01
15.38	0.44	0.56	2.31	0.01	0.01	15.39	0.44	0.56	2.30	0.01	0.01
15.40	0.44	0.56	2.30	0.01	0.01	15.41	0.44	0.56	2.29	0.01	0.01
15.42	0.44	0.56	2.29	0.01	0.01	15.43	0.44	0.56	2.28	0.01	0.01
15.44	0.44	0.56	2.28	0.01	0.01	15.45	0.44	0.56	2.27	0.01	0.01
15.46	2.00	0.00	2.27	0.01	0.00	15.47	2.00	0.00	2.26	0.01	0.00
15.48	2.00	0.00	2.26	0.01	0.00	15.49	2.00	0.00	2.25	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
15.50	2.00	0.00	2.25	0.01	0.00	15.51	2.00	0.00	2.24	0.01	0.00
15.52	2.00	0.00	2.24	0.01	0.00	15.53	2.00	0.00	2.23	0.01	0.00
15.54	2.00	0.00	2.23	0.01	0.00	15.55	0.44	0.56	2.22	0.01	0.01
15.56	0.44	0.56	2.22	0.01	0.01	15.57	0.44	0.56	2.21	0.01	0.01
15.58	0.44	0.56	2.21	0.01	0.01	15.59	0.44	0.56	2.20	0.01	0.01
15.60	0.44	0.56	2.20	0.01	0.01	15.61	0.44	0.56	2.19	0.01	0.01
15.62	0.44	0.56	2.19	0.01	0.01	15.63	0.44	0.56	2.18	0.01	0.01
15.64	0.44	0.56	2.18	0.01	0.01	15.65	0.44	0.56	2.17	0.01	0.01
15.66	0.44	0.56	2.17	0.01	0.01	15.67	0.44	0.56	2.16	0.01	0.01
15.68	0.44	0.56	2.16	0.01	0.01	15.69	0.44	0.56	2.15	0.01	0.01
15.70	0.43	0.57	2.15	0.01	0.01	15.71	0.43	0.57	2.14	0.01	0.01
15.72	0.43	0.57	2.14	0.01	0.01	15.73	0.43	0.57	2.13	0.01	0.01
15.74	0.43	0.57	2.13	0.01	0.01	15.75	0.43	0.57	2.12	0.01	0.01
15.76	0.43	0.57	2.12	0.01	0.01	15.77	0.43	0.57	2.11	0.01	0.01
15.78	0.43	0.57	2.11	0.01	0.01	15.79	0.43	0.57	2.10	0.01	0.01
15.80	0.43	0.57	2.10	0.01	0.01	15.81	2.00	0.00	2.09	0.01	0.00
15.82	2.00	0.00	2.09	0.01	0.00	15.83	2.00	0.00	2.08	0.01	0.00
15.84	2.00	0.00	2.08	0.01	0.00	15.85	2.00	0.00	2.07	0.01	0.00
15.86	2.00	0.00	2.07	0.01	0.00	15.87	2.00	0.00	2.06	0.01	0.00
15.88	2.00	0.00	2.06	0.01	0.00	15.89	2.00	0.00	2.05	0.01	0.00
15.90	2.00	0.00	2.05	0.01	0.00	15.91	2.00	0.00	2.04	0.01	0.00
15.92	2.00	0.00	2.04	0.01	0.00	15.93	2.00	0.00	2.03	0.01	0.00
15.94	2.00	0.00	2.03	0.01	0.00	15.95	2.00	0.00	2.02	0.01	0.00
15.96	2.00	0.00	2.02	0.01	0.00	15.97	2.00	0.00	2.01	0.01	0.00
15.98	2.00	0.00	2.01	0.01	0.00	15.99	2.00	0.00	2.00	0.01	0.00
16.00	2.00	0.00	2.00	0.01	0.00	16.01	2.00	0.00	1.99	0.01	0.00
16.02	2.00	0.00	1.99	0.01	0.00	16.03	2.00	0.00	1.98	0.01	0.00
16.04	2.00	0.00	1.98	0.01	0.00	16.05	2.00	0.00	1.97	0.01	0.00
16.06	2.00	0.00	1.97	0.01	0.00	16.07	2.00	0.00	1.96	0.01	0.00
16.08	0.49	0.51	1.96	0.01	0.01	16.09	0.50	0.50	1.95	0.01	0.01
16.10	0.51	0.49	1.95	0.01	0.01	16.11	0.51	0.49	1.94	0.01	0.01
16.12	0.52	0.48	1.94	0.01	0.01	16.13	0.52	0.48	1.93	0.01	0.01
16.14	0.53	0.47	1.93	0.01	0.01	16.15	0.53	0.47	1.92	0.01	0.01
16.16	0.53	0.47	1.92	0.01	0.01	16.17	0.54	0.46	1.91	0.01	0.01
16.18	0.54	0.46	1.91	0.01	0.01	16.19	0.54	0.46	1.90	0.01	0.01
16.20	0.56	0.44	1.90	0.01	0.01	16.21	0.57	0.43	1.89	0.01	0.01
16.22	0.58	0.42	1.89	0.01	0.01	16.23	0.57	0.43	1.88	0.01	0.01
16.24	0.58	0.42	1.88	0.01	0.01	16.25	0.57	0.43	1.87	0.01	0.01
16.26	0.57	0.43	1.87	0.01	0.01	16.27	0.55	0.45	1.86	0.01	0.01
16.28	0.53	0.47	1.86	0.01	0.01	16.29	0.51	0.49	1.85	0.01	0.01
16.30	0.50	0.50	1.85	0.01	0.01	16.31	0.50	0.50	1.84	0.01	0.01
16.32	0.49	0.51	1.84	0.01	0.01	16.33	0.49	0.51	1.83	0.01	0.01
16.34	0.48	0.52	1.83	0.01	0.01	16.35	0.48	0.52	1.82	0.01	0.01
16.36	0.49	0.51	1.82	0.01	0.01	16.37	0.49	0.51	1.81	0.01	0.01
16.38	0.49	0.51	1.81	0.01	0.01	16.39	0.50	0.50	1.80	0.01	0.01
16.40	0.51	0.49	1.80	0.01	0.01	16.41	0.51	0.49	1.79	0.01	0.01
16.42	0.52	0.48	1.79	0.01	0.01	16.43	0.52	0.48	1.78	0.01	0.01
16.44	0.53	0.47	1.78	0.01	0.01	16.45	0.52	0.48	1.77	0.01	0.01

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
16.46	0.50	0.50	1.77	0.01	0.01	16.47	0.50	0.50	1.76	0.01	0.01
16.48	0.50	0.50	1.76	0.01	0.01	16.49	0.50	0.50	1.76	0.01	0.01
16.50	0.50	0.50	1.75	0.01	0.01	16.51	0.49	0.51	1.75	0.01	0.01
16.52	0.49	0.51	1.74	0.01	0.01	16.53	0.50	0.50	1.74	0.01	0.01
16.54	0.50	0.50	1.73	0.01	0.01	16.55	0.50	0.50	1.73	0.01	0.01
16.56	0.50	0.50	1.72	0.01	0.01	16.57	0.50	0.50	1.72	0.01	0.01
16.58	0.50	0.50	1.71	0.01	0.01	16.59	0.50	0.50	1.71	0.01	0.01
16.60	0.49	0.51	1.70	0.01	0.01	16.61	0.49	0.51	1.70	0.01	0.01
16.62	2.00	0.00	1.69	0.01	0.00	16.63	2.00	0.00	1.69	0.01	0.00
16.64	2.00	0.00	1.68	0.01	0.00	16.65	2.00	0.00	1.68	0.01	0.00
16.66	2.00	0.00	1.67	0.01	0.00	16.67	2.00	0.00	1.67	0.01	0.00
16.68	2.00	0.00	1.66	0.01	0.00	16.69	2.00	0.00	1.66	0.01	0.00
16.70	2.00	0.00	1.65	0.01	0.00	16.71	0.51	0.49	1.65	0.01	0.01
16.72	0.51	0.49	1.64	0.01	0.01	16.73	0.53	0.47	1.64	0.01	0.01
16.74	0.53	0.47	1.63	0.01	0.01	16.75	0.54	0.46	1.63	0.01	0.01
16.76	0.55	0.45	1.62	0.01	0.01	16.77	0.55	0.45	1.62	0.01	0.01
16.78	0.56	0.44	1.61	0.01	0.01	16.79	0.56	0.44	1.61	0.01	0.01
16.80	0.56	0.44	1.60	0.01	0.01	16.81	0.55	0.45	1.60	0.01	0.01
16.82	0.55	0.45	1.59	0.01	0.01	16.83	0.53	0.47	1.59	0.01	0.01
16.84	0.52	0.48	1.58	0.01	0.01	16.85	0.51	0.49	1.58	0.01	0.01
16.86	0.50	0.50	1.57	0.01	0.01	16.87	0.50	0.50	1.57	0.01	0.01
16.88	2.00	0.00	1.56	0.01	0.00	16.89	2.00	0.00	1.56	0.01	0.00
16.90	2.00	0.00	1.55	0.01	0.00	16.91	2.00	0.00	1.55	0.01	0.00
16.92	2.00	0.00	1.54	0.01	0.00	16.93	2.00	0.00	1.54	0.01	0.00
16.94	2.00	0.00	1.53	0.01	0.00	16.95	2.00	0.00	1.53	0.01	0.00
16.96	2.00	0.00	1.52	0.01	0.00	16.97	2.00	0.00	1.52	0.01	0.00
16.98	2.00	0.00	1.51	0.01	0.00	16.99	2.00	0.00	1.51	0.01	0.00
17.00	2.00	0.00	1.50	0.01	0.00	17.01	2.00	0.00	1.50	0.01	0.00
17.02	2.00	0.00	1.49	0.01	0.00	17.03	0.47	0.53	1.49	0.01	0.01
17.04	0.47	0.53	1.48	0.01	0.01	17.05	0.47	0.53	1.48	0.01	0.01
17.06	0.48	0.52	1.47	0.01	0.01	17.07	0.47	0.53	1.47	0.01	0.01
17.08	2.00	0.00	1.46	0.01	0.00	17.09	2.00	0.00	1.46	0.01	0.00
17.10	2.00	0.00	1.45	0.01	0.00	17.11	2.00	0.00	1.45	0.01	0.00
17.12	2.00	0.00	1.44	0.01	0.00	17.13	2.00	0.00	1.44	0.01	0.00
17.14	2.00	0.00	1.43	0.01	0.00	17.15	2.00	0.00	1.43	0.01	0.00
17.16	2.00	0.00	1.42	0.01	0.00	17.17	2.00	0.00	1.42	0.01	0.00
17.18	2.00	0.00	1.41	0.01	0.00	17.19	2.00	0.00	1.41	0.01	0.00
17.20	2.00	0.00	1.40	0.01	0.00	17.21	2.00	0.00	1.40	0.01	0.00
17.22	2.00	0.00	1.39	0.01	0.00	17.23	2.00	0.00	1.39	0.01	0.00
17.24	0.49	0.51	1.38	0.01	0.01	17.25	0.50	0.50	1.38	0.01	0.01
17.26	0.50	0.50	1.37	0.01	0.01	17.27	0.50	0.50	1.37	0.01	0.01
17.28	0.49	0.51	1.36	0.01	0.01	17.29	0.49	0.51	1.36	0.01	0.01
17.30	0.49	0.51	1.35	0.01	0.01	17.31	0.48	0.52	1.35	0.01	0.01
17.32	0.47	0.53	1.34	0.01	0.01	17.33	2.00	0.00	1.34	0.01	0.00
17.34	2.00	0.00	1.33	0.01	0.00	17.35	2.00	0.00	1.33	0.01	0.00
17.36	2.00	0.00	1.32	0.01	0.00	17.37	2.00	0.00	1.32	0.01	0.00
17.38	2.00	0.00	1.31	0.01	0.00	17.39	0.48	0.52	1.31	0.01	0.01
17.40	0.49	0.51	1.30	0.01	0.01	17.41	0.50	0.50	1.30	0.01	0.01

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
17.42	0.50	0.50	1.29	0.01	0.01	17.43	0.50	0.50	1.29	0.01	0.01
17.44	0.49	0.51	1.28	0.01	0.01	17.45	0.49	0.51	1.28	0.01	0.01
17.46	0.49	0.51	1.27	0.01	0.01	17.47	2.00	0.00	1.27	0.01	0.00
17.48	2.00	0.00	1.26	0.01	0.00	17.49	2.00	0.00	1.26	0.01	0.00
17.50	2.00	0.00	1.25	0.01	0.00	17.51	2.00	0.00	1.25	0.01	0.00
17.52	0.53	0.47	1.24	0.01	0.01	17.53	0.56	0.44	1.24	0.01	0.01
17.54	0.56	0.44	1.23	0.01	0.01	17.55	0.51	0.49	1.23	0.01	0.01
17.56	0.50	0.50	1.22	0.01	0.01	17.57	0.56	0.44	1.22	0.01	0.01
17.58	0.57	0.43	1.21	0.01	0.01	17.59	0.57	0.43	1.21	0.01	0.01
17.60	0.57	0.43	1.20	0.01	0.01	17.61	0.55	0.45	1.20	0.01	0.01
17.62	0.52	0.48	1.19	0.01	0.01	17.63	0.51	0.49	1.19	0.01	0.01
17.64	0.51	0.49	1.18	0.01	0.01	17.65	0.49	0.51	1.18	0.01	0.01
17.66	0.48	0.52	1.17	0.01	0.01	17.67	0.48	0.52	1.17	0.01	0.01
17.68	0.48	0.52	1.16	0.01	0.01	17.69	0.48	0.52	1.16	0.01	0.01
17.70	0.49	0.51	1.15	0.01	0.01	17.71	0.50	0.50	1.15	0.01	0.01
17.72	0.51	0.49	1.14	0.01	0.01	17.73	0.52	0.48	1.14	0.01	0.01
17.74	0.52	0.48	1.13	0.01	0.01	17.75	0.52	0.48	1.13	0.01	0.01
17.76	0.52	0.48	1.12	0.01	0.01	17.77	0.52	0.48	1.12	0.01	0.01
17.78	0.52	0.48	1.11	0.01	0.01	17.79	0.51	0.49	1.11	0.01	0.01
17.80	0.50	0.50	1.10	0.01	0.01	17.81	0.50	0.50	1.10	0.01	0.01
17.82	0.49	0.51	1.09	0.01	0.01	17.83	0.50	0.50	1.09	0.01	0.01
17.84	0.50	0.50	1.08	0.01	0.01	17.85	0.51	0.49	1.08	0.01	0.01
17.86	0.52	0.48	1.07	0.01	0.01	17.87	0.52	0.48	1.07	0.01	0.01
17.88	0.54	0.46	1.06	0.01	0.00	17.89	0.55	0.45	1.06	0.01	0.00
17.90	0.58	0.42	1.05	0.01	0.00	17.91	0.58	0.42	1.05	0.01	0.00
17.92	0.58	0.42	1.04	0.01	0.00	17.93	0.56	0.44	1.04	0.01	0.00
17.94	0.54	0.46	1.03	0.01	0.00	17.95	0.51	0.49	1.03	0.01	0.01
17.96	0.51	0.49	1.02	0.01	0.01	17.97	0.51	0.49	1.02	0.01	0.00
17.98	0.53	0.47	1.01	0.01	0.00	17.99	0.55	0.45	1.01	0.01	0.00
18.00	0.55	0.45	1.00	0.01	0.00	18.01	0.54	0.46	1.00	0.01	0.00
18.02	0.54	0.46	0.99	0.01	0.00	18.03	0.53	0.47	0.99	0.01	0.00
18.04	0.53	0.47	0.98	0.01	0.00	18.05	0.53	0.47	0.98	0.01	0.00
18.06	0.54	0.46	0.97	0.01	0.00	18.07	0.55	0.45	0.97	0.01	0.00
18.08	0.57	0.43	0.96	0.01	0.00	18.09	0.57	0.43	0.96	0.01	0.00
18.10	0.57	0.43	0.95	0.01	0.00	18.11	0.58	0.42	0.95	0.01	0.00
18.12	0.60	0.40	0.94	0.01	0.00	18.13	0.61	0.39	0.94	0.01	0.00
18.14	0.64	0.36	0.93	0.01	0.00	18.15	0.71	0.29	0.93	0.01	0.00
18.16	0.73	0.27	0.92	0.01	0.00	18.17	0.75	0.25	0.92	0.01	0.00
18.18	0.76	0.24	0.91	0.01	0.00	18.19	0.76	0.24	0.91	0.01	0.00
18.20	0.75	0.25	0.90	0.01	0.00	18.21	0.76	0.24	0.90	0.01	0.00
18.22	0.75	0.25	0.89	0.01	0.00	18.23	0.75	0.25	0.89	0.01	0.00
18.24	0.76	0.24	0.88	0.01	0.00	18.25	0.75	0.25	0.88	0.01	0.00
18.26	0.76	0.24	0.87	0.01	0.00	18.27	0.72	0.28	0.87	0.01	0.00
18.28	0.67	0.33	0.86	0.01	0.00	18.29	0.63	0.37	0.86	0.01	0.00
18.30	0.62	0.38	0.85	0.01	0.00	18.31	0.61	0.39	0.85	0.01	0.00
18.32	0.60	0.40	0.84	0.01	0.00	18.33	0.60	0.40	0.84	0.01	0.00
18.34	0.60	0.40	0.83	0.01	0.00	18.35	0.60	0.40	0.83	0.01	0.00
18.36	0.60	0.40	0.82	0.01	0.00	18.37	0.60	0.40	0.82	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
18.38	0.61	0.39	0.81	0.01	0.00	18.39	0.61	0.39	0.81	0.01	0.00
18.40	0.61	0.39	0.80	0.01	0.00	18.41	0.57	0.43	0.80	0.01	0.00
18.42	0.54	0.46	0.79	0.01	0.00	18.43	0.54	0.46	0.79	0.01	0.00
18.44	0.58	0.42	0.78	0.01	0.00	18.45	0.61	0.39	0.78	0.01	0.00
18.46	0.64	0.36	0.77	0.01	0.00	18.47	0.63	0.37	0.77	0.01	0.00
18.48	0.60	0.40	0.76	0.01	0.00	18.49	0.57	0.43	0.76	0.01	0.00
18.50	0.55	0.45	0.75	0.01	0.00	18.51	0.56	0.44	0.75	0.01	0.00
18.52	0.61	0.39	0.74	0.01	0.00	18.53	0.65	0.35	0.74	0.01	0.00
18.54	0.62	0.38	0.73	0.01	0.00	18.55	0.62	0.38	0.73	0.01	0.00
18.56	0.62	0.38	0.72	0.01	0.00	18.57	0.62	0.38	0.72	0.01	0.00
18.58	0.61	0.39	0.71	0.01	0.00	18.59	0.60	0.40	0.71	0.01	0.00
18.60	0.58	0.42	0.70	0.01	0.00	18.61	0.58	0.42	0.70	0.01	0.00
18.62	0.57	0.43	0.69	0.01	0.00	18.63	0.57	0.43	0.69	0.01	0.00
18.64	0.57	0.43	0.68	0.01	0.00	18.65	0.58	0.42	0.68	0.01	0.00
18.66	0.61	0.39	0.67	0.01	0.00	18.67	0.96	0.04	0.67	0.01	0.00
18.68	1.07	0.00	0.66	0.01	0.00	18.69	1.09	0.00	0.66	0.01	0.00
18.70	1.03	0.00	0.65	0.01	0.00	18.71	0.73	0.27	0.65	0.01	0.00
18.72	0.68	0.32	0.64	0.01	0.00	18.73	0.70	0.30	0.64	0.01	0.00
18.74	0.68	0.32	0.63	0.01	0.00	18.75	0.75	0.25	0.63	0.01	0.00
18.76	0.81	0.19	0.62	0.01	0.00	18.77	0.83	0.17	0.62	0.01	0.00
18.78	0.91	0.09	0.61	0.01	0.00	18.79	0.90	0.10	0.61	0.01	0.00
18.80	0.88	0.12	0.60	0.01	0.00	18.81	0.80	0.20	0.60	0.01	0.00
18.82	0.69	0.31	0.59	0.01	0.00	18.83	0.68	0.32	0.59	0.01	0.00
18.84	0.67	0.33	0.58	0.01	0.00	18.85	0.67	0.33	0.58	0.01	0.00
18.86	0.67	0.33	0.57	0.01	0.00	18.87	0.67	0.33	0.57	0.01	0.00
18.88	0.68	0.32	0.56	0.01	0.00	18.89	0.94	0.06	0.56	0.01	0.00
18.90	1.10	0.00	0.55	0.01	0.00	18.91	1.08	0.00	0.55	0.01	0.00
18.92	1.20	0.00	0.54	0.01	0.00	18.93	1.20	0.00	0.54	0.01	0.00
18.94	1.40	0.00	0.53	0.01	0.00	18.95	1.49	0.00	0.53	0.01	0.00
18.96	1.46	0.00	0.52	0.01	0.00	18.97	1.46	0.00	0.52	0.01	0.00
18.98	1.46	0.00	0.51	0.01	0.00	18.99	1.44	0.00	0.51	0.01	0.00
19.00	1.46	0.00	0.50	0.01	0.00	19.01	1.48	0.00	0.50	0.01	0.00
19.02	1.53	0.00	0.49	0.01	0.00	19.03	1.80	0.00	0.49	0.01	0.00
19.04	1.83	0.00	0.48	0.01	0.00	19.05	2.00	0.00	0.48	0.01	0.00
19.06	2.00	0.00	0.47	0.01	0.00	19.07	2.00	0.00	0.47	0.01	0.00
19.07	2.00	0.00	0.46	0.01	0.00	19.08	2.00	0.00	0.46	0.01	0.00
19.09	1.89	0.00	0.45	0.01	0.00	19.10	1.70	0.00	0.45	0.01	0.00
19.11	1.66	0.00	0.44	0.01	0.00	19.12	1.69	0.00	0.44	0.01	0.00
19.13	1.72	0.00	0.43	0.01	0.00	19.14	1.79	0.00	0.43	0.01	0.00
19.15	2.00	0.00	0.42	0.01	0.00	19.16	2.00	0.00	0.42	0.01	0.00
19.17	2.00	0.00	0.41	0.01	0.00	19.18	2.00	0.00	0.41	0.01	0.00
19.19	2.00	0.00	0.40	0.01	0.00	19.20	2.00	0.00	0.40	0.01	0.00
19.21	2.00	0.00	0.39	0.01	0.00	19.22	2.00	0.00	0.39	0.01	0.00
19.23	2.00	0.00	0.38	0.01	0.00	19.24	2.00	0.00	0.38	0.01	0.00
19.25	2.00	0.00	0.37	0.01	0.00	19.26	2.00	0.00	0.37	0.01	0.00
19.27	2.00	0.00	0.36	0.01	0.00	19.28	2.00	0.00	0.36	0.01	0.00
19.29	2.00	0.00	0.35	0.01	0.00	19.30	2.00	0.00	0.35	0.01	0.00
19.31	1.77	0.00	0.34	0.01	0.00	19.32	1.77	0.00	0.34	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
19.33	1.07	0.00	0.33	0.01	0.00	19.34	0.97	0.03	0.33	0.01	0.00
19.35	0.83	0.17	0.32	0.01	0.00	19.36	0.77	0.23	0.32	0.01	0.00
19.37	0.67	0.33	0.31	0.01	0.00	19.38	0.66	0.34	0.31	0.01	0.00
19.39	0.65	0.35	0.30	0.01	0.00	19.40	0.62	0.38	0.30	0.01	0.00
19.41	0.60	0.40	0.29	0.01	0.00	19.42	0.57	0.43	0.29	0.01	0.00
19.43	2.00	0.00	0.28	0.01	0.00	19.44	2.00	0.00	0.28	0.01	0.00
19.45	2.00	0.00	0.27	0.01	0.00	19.46	2.00	0.00	0.27	0.01	0.00
19.47	2.00	0.00	0.26	0.01	0.00	19.48	2.00	0.00	0.26	0.01	0.00
19.49	2.00	0.00	0.25	0.01	0.00	19.50	2.00	0.00	0.25	0.01	0.00
19.51	2.00	0.00	0.24	0.01	0.00	19.52	2.00	0.00	0.24	0.01	0.00
19.53	2.00	0.00	0.23	0.01	0.00	19.54	2.00	0.00	0.23	0.01	0.00
19.55	2.00	0.00	0.22	0.01	0.00	19.56	2.00	0.00	0.22	0.01	0.00
19.57	2.00	0.00	0.21	0.01	0.00	19.58	2.00	0.00	0.21	0.01	0.00
19.59	2.00	0.00	0.20	0.01	0.00	19.60	2.00	0.00	0.20	0.01	0.00
19.61	2.00	0.00	0.19	0.01	0.00	19.62	2.00	0.00	0.19	0.01	0.00
19.63	2.00	0.00	0.18	0.01	0.00	19.64	2.00	0.00	0.18	0.01	0.00
19.65	2.00	0.00	0.17	0.01	0.00	19.66	2.00	0.00	0.17	0.01	0.00
19.67	2.00	0.00	0.16	0.01	0.00	19.68	2.00	0.00	0.16	0.01	0.00
19.69	2.00	0.00	0.15	0.01	0.00	19.70	2.00	0.00	0.15	0.01	0.00
19.71	2.00	0.00	0.14	0.01	0.00	19.72	2.00	0.00	0.14	0.01	0.00
19.73	2.00	0.00	0.13	0.01	0.00	19.74	2.00	0.00	0.13	0.01	0.00
19.75	2.00	0.00	0.12	0.01	0.00	19.76	2.00	0.00	0.12	0.01	0.00
19.77	2.00	0.00	0.11	0.01	0.00	19.78	2.00	0.00	0.11	0.01	0.00
19.79	2.00	0.00	0.10	0.01	0.00	19.80	2.00	0.00	0.10	0.01	0.00
19.81	2.00	0.00	0.09	0.01	0.00	19.82	2.00	0.00	0.09	0.01	0.00
19.83	2.00	0.00	0.08	0.01	0.00	19.84	2.00	0.00	0.08	0.01	0.00
19.85	2.00	0.00	0.07	0.01	0.00	19.86	2.00	0.00	0.07	0.01	0.00

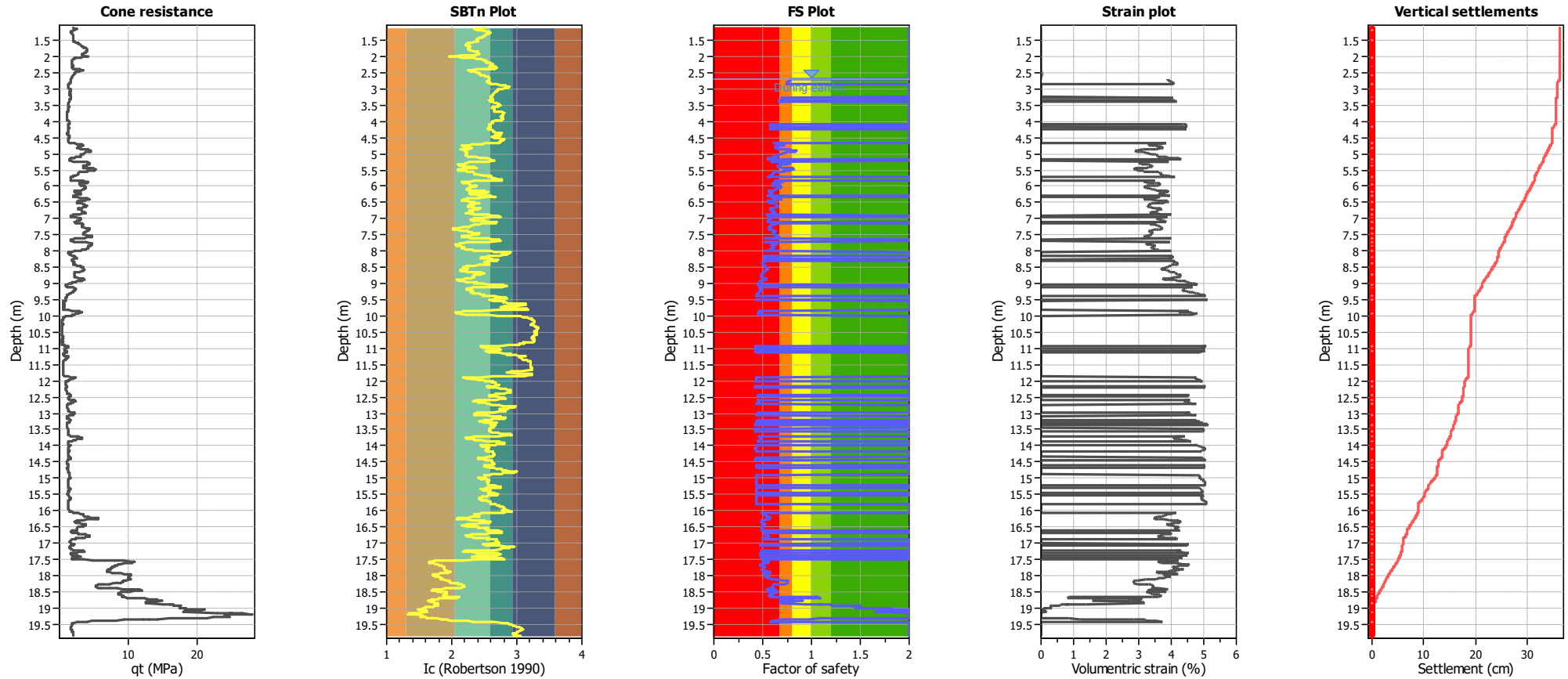
Overall liquefaction potential: 16.75

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (m)
LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

- q_t : Total cone resistance (cone resistance q_c corrected for pore water effects)
- I_c : Soil Behaviour Type Index
- FS: Calculated Factor of Safety against liquefaction
- Volumetric strain: Post-liquefaction volumetric strain

LIQUEFACTION ANALYSIS REPORT

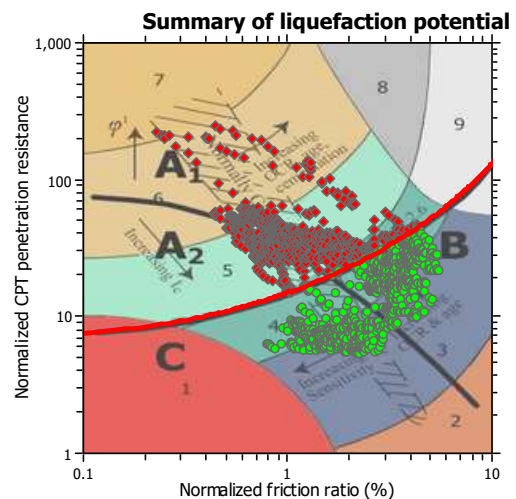
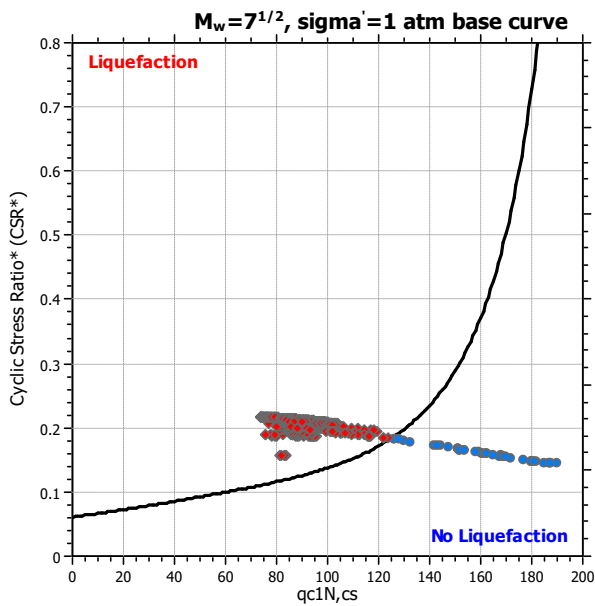
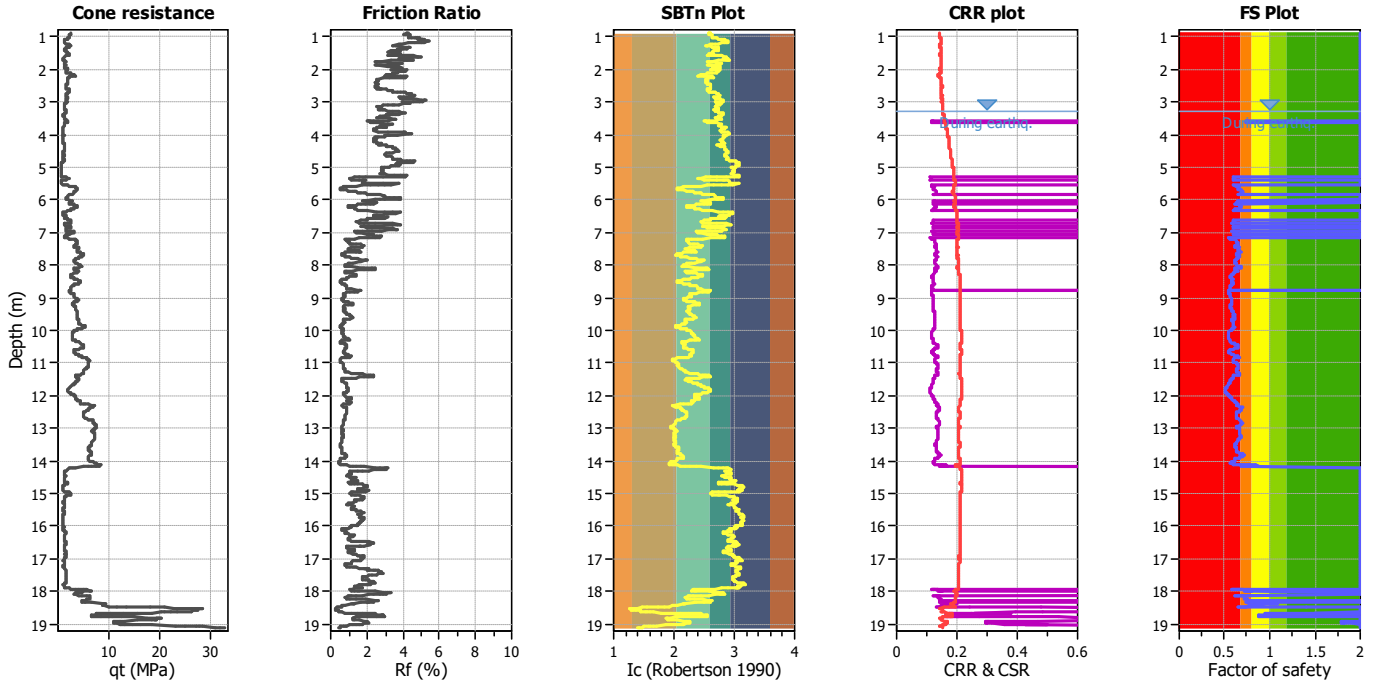
Project title : art.53 ALPHATAURI

Location : Faenza (RA)

CPT file : CPTu-2

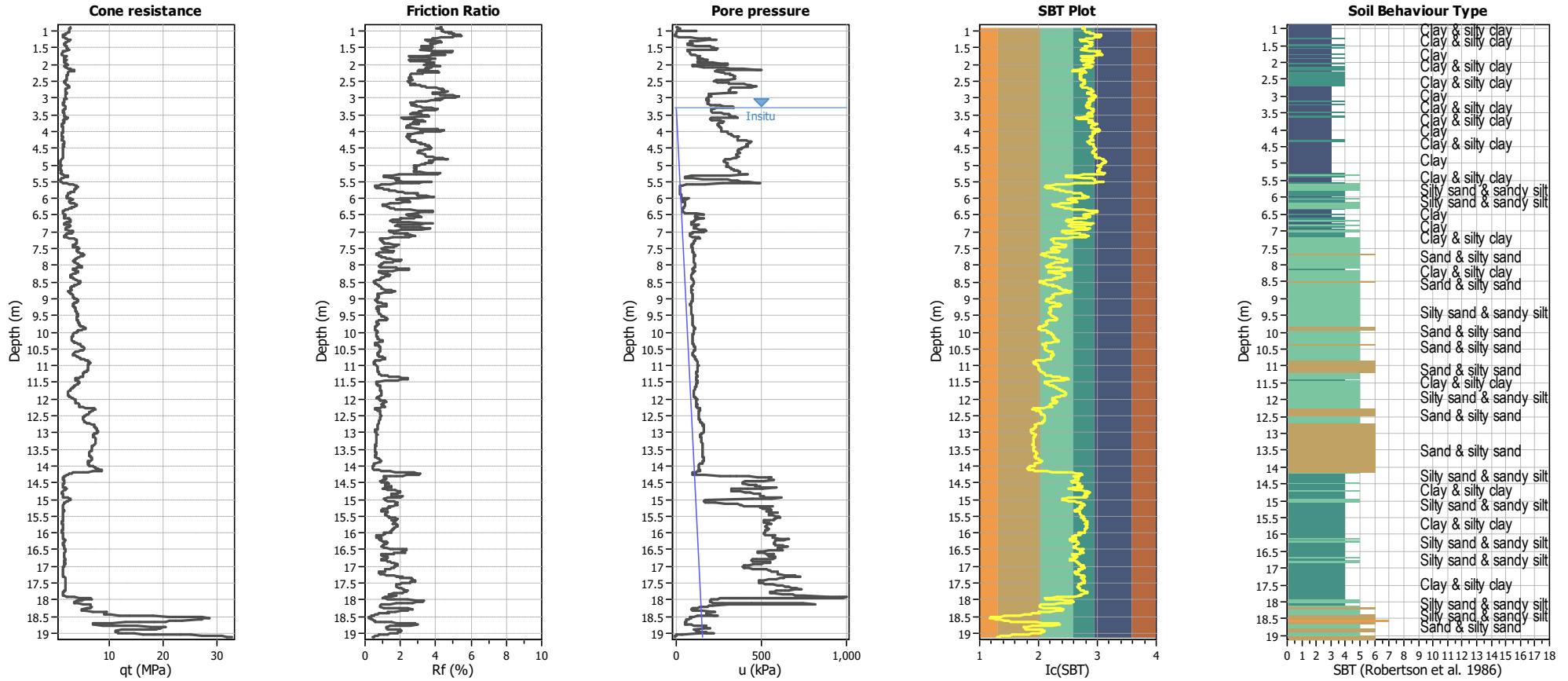
Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	3.30 m	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	3.30 m	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	20.00 m
Earthquake magnitude M_w :	6.14	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method
Peak ground acceleration:	0.28	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		



Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading
 Zone A₂: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
 Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
 Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



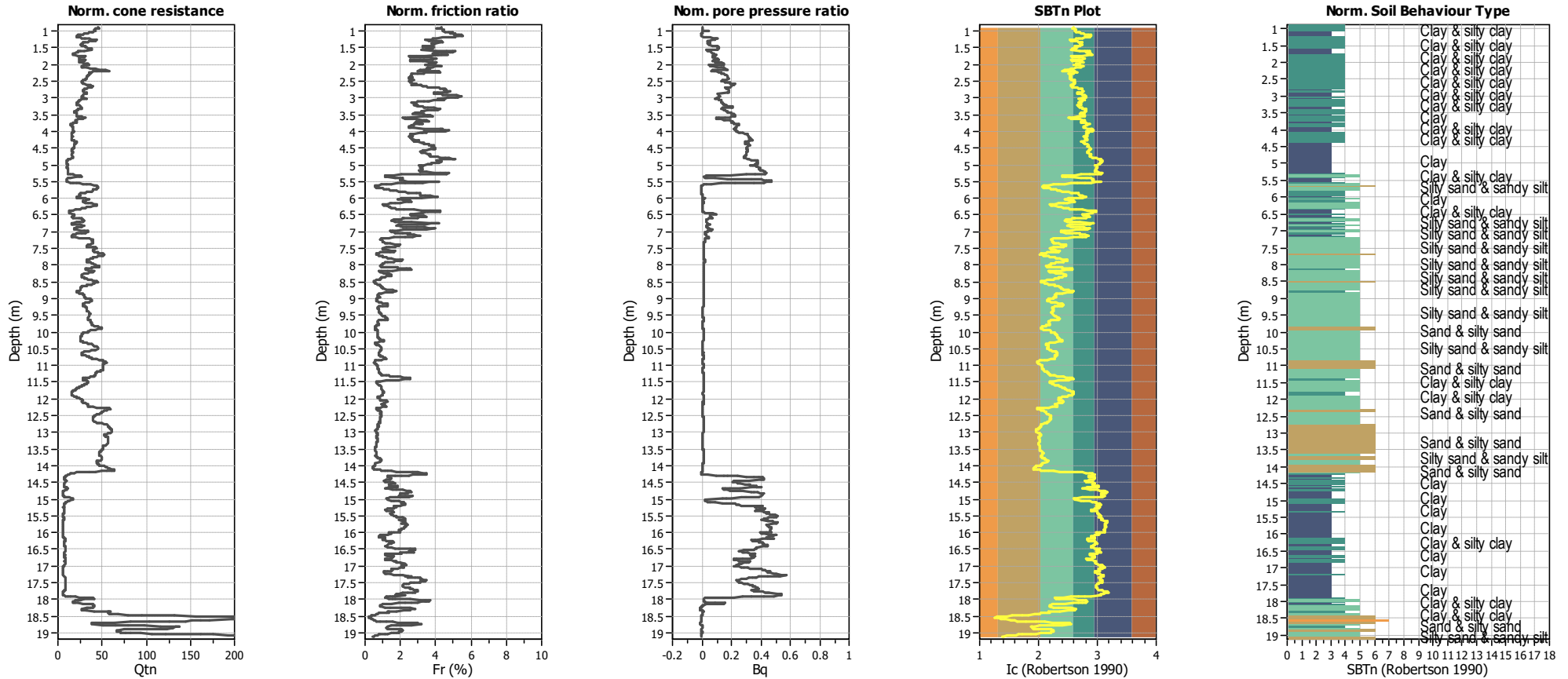
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	3.30 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K ₀ applied:	Yes
Earthquake magnitude M _w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	3.30 m	Fill height:	N/A	Limit depth:	20.00 m

SBT legend

1. Sensitive fine grained	4. Clayey silt to silty	7. Gravely sand to sand
2. Organic material	5. Silty sand to sandy silt	8. Very stiff sand to
3. Clay to silty clay	6. Clean sand to silty sand	9. Very stiff fine grained

CPT basic interpretation plots (normalized)



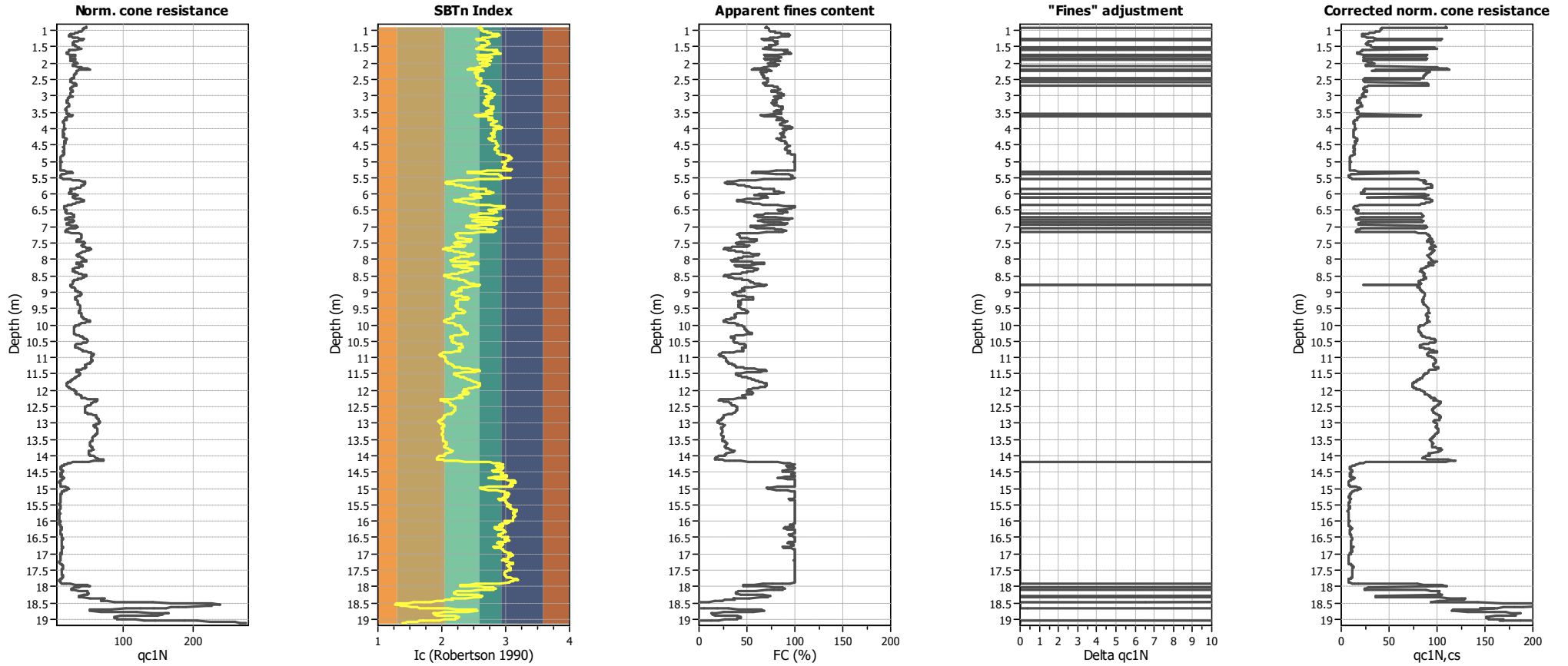
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	3.30 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_{σ} applied:	Yes
Earthquake magnitude M_w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	3.30 m	Fill height:	N/A	Limit depth:	20.00 m

SBTn legend

1. Sensitive fine grained	4. Clayey silt to silty	7. Gravely sand to sand
2. Organic material	5. Silty sand to sandy silt	8. Very stiff sand to
3. Clay to silty clay	6. Clean sand to silty sand	9. Very stiff fine grained

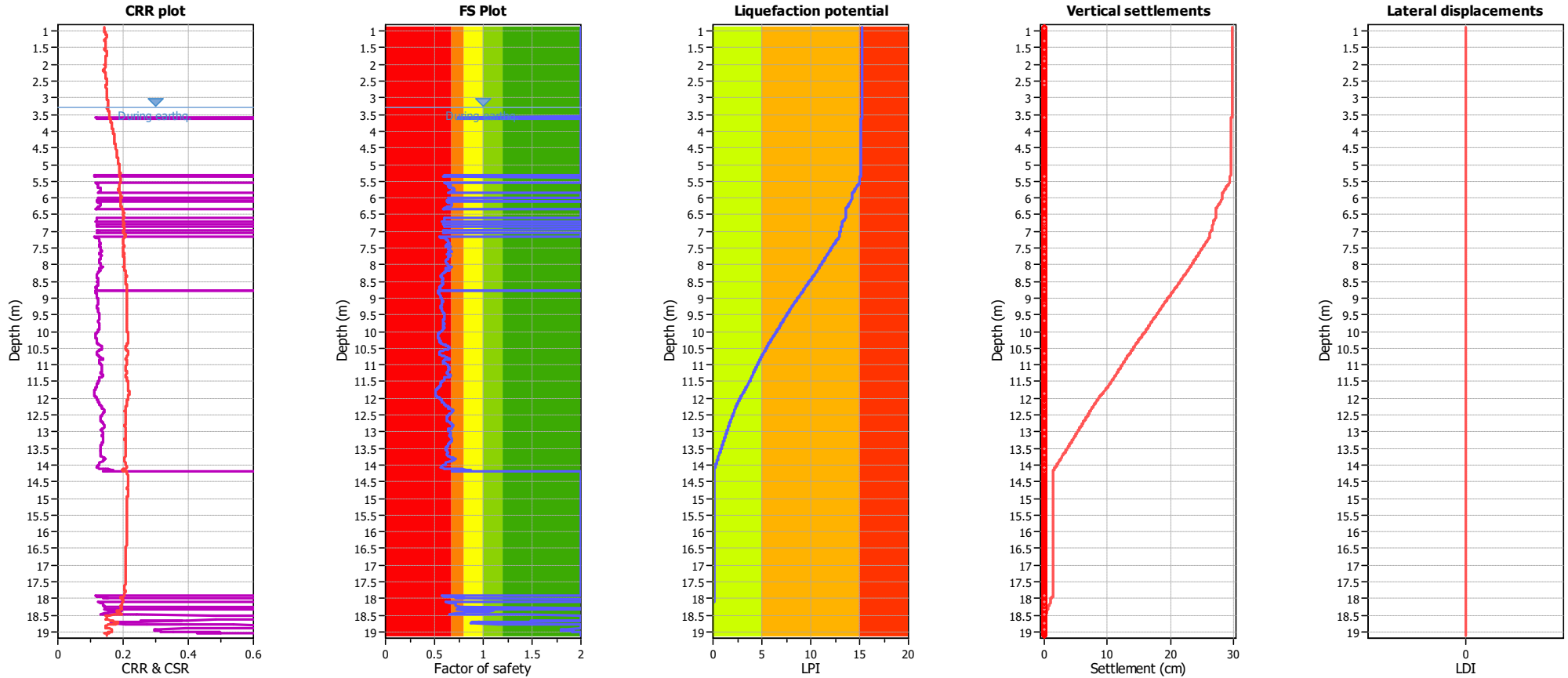
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	3.30 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K _q applied:	Yes
Earthquake magnitude M _w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	3.30 m	Fill height:	N/A	Limit depth:	20.00 m

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	3.30 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_{σ} applied:	Yes
Earthquake magnitude M_w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	3.30 m	Fill height:	N/A	Limit depth:	20.00 m

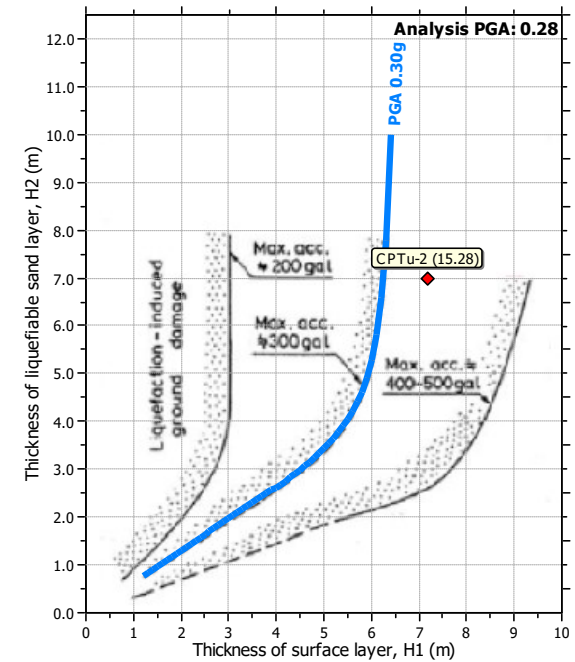
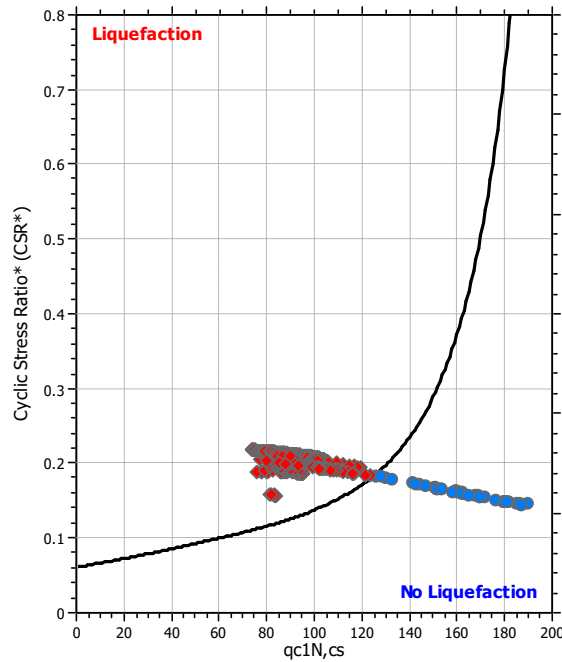
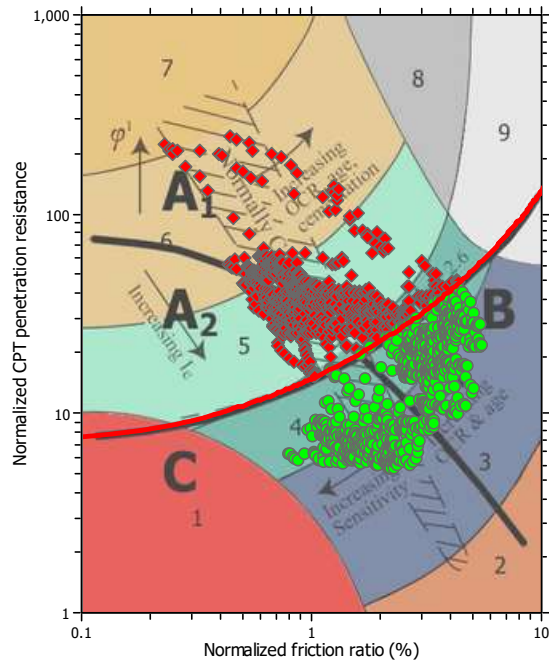
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

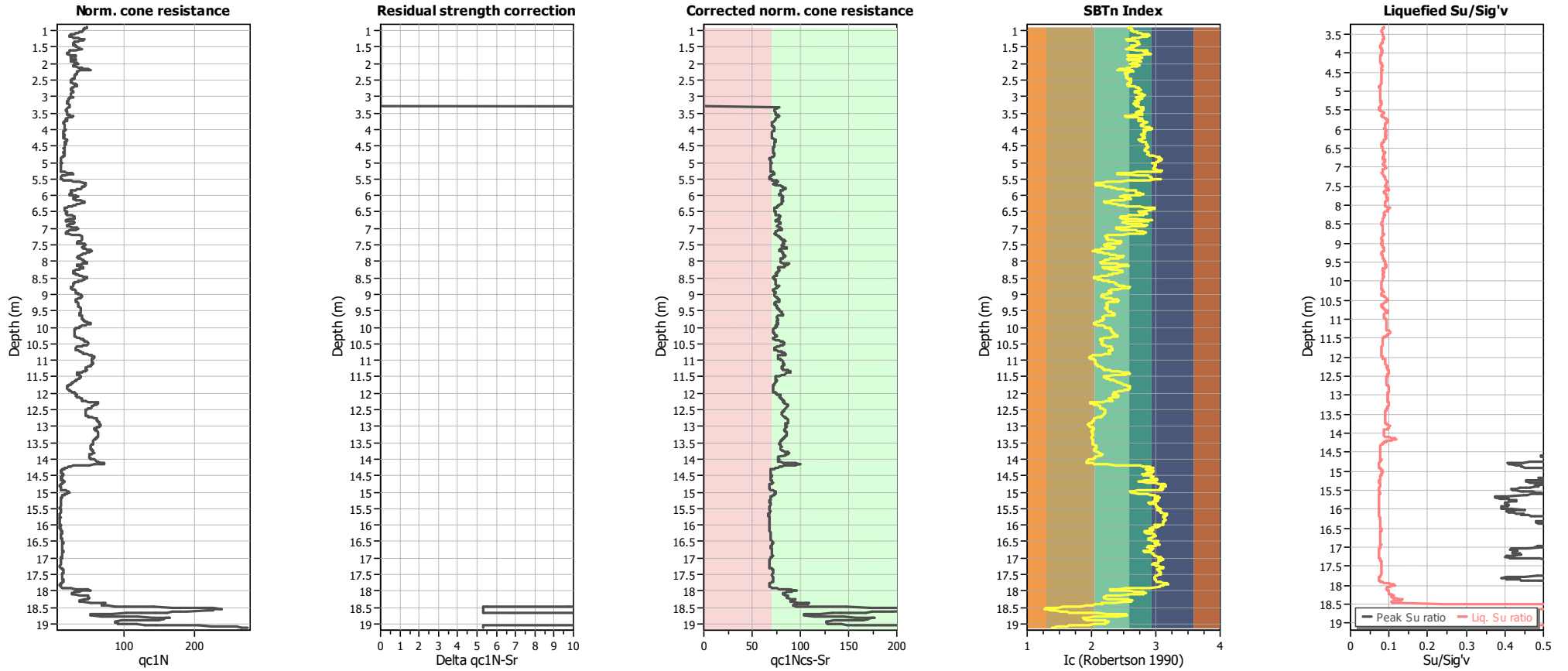
Liquefaction analysis summary plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	3.30 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on I_c value	I_c cut-off value:	2.60	K_{σ} applied:	Yes
Earthquake magnitude M_w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	3.30 m	Fill height:	N/A	Limit depth:	20.00 m

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	3.30 m	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	1	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K _q applied:	Yes
Earthquake magnitude M _w :	6.14	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.28	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	3.30 m	Fill height:	N/A	Limit depth:	20.00 m

:: Liquefaction Potential Index calculation data ::											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
0.88	2.00	0.00	9.56	0.01	0.00	0.89	2.00	0.00	9.56	0.01	0.00
0.90	2.00	0.00	9.55	0.01	0.00	0.91	2.00	0.00	9.55	0.01	0.00
0.92	2.00	0.00	9.54	0.01	0.00	0.93	2.00	0.00	9.54	0.01	0.00
0.94	2.00	0.00	9.53	0.01	0.00	0.95	2.00	0.00	9.53	0.01	0.00
0.96	2.00	0.00	9.52	0.01	0.00	0.97	2.00	0.00	9.52	0.01	0.00
0.98	2.00	0.00	9.51	0.01	0.00	0.99	2.00	0.00	9.51	0.01	0.00
1.00	2.00	0.00	9.50	0.01	0.00	1.01	2.00	0.00	9.50	0.01	0.00
1.02	2.00	0.00	9.49	0.01	0.00	1.03	2.00	0.00	9.49	0.01	0.00
1.04	2.00	0.00	9.48	0.01	0.00	1.05	2.00	0.00	9.48	0.01	0.00
1.06	2.00	0.00	9.47	0.01	0.00	1.07	2.00	0.00	9.47	0.01	0.00
1.08	2.00	0.00	9.46	0.01	0.00	1.09	2.00	0.00	9.46	0.01	0.00
1.10	2.00	0.00	9.45	0.01	0.00	1.11	2.00	0.00	9.45	0.01	0.00
1.12	2.00	0.00	9.44	0.01	0.00	1.13	2.00	0.00	9.44	0.01	0.00
1.14	2.00	0.00	9.43	0.01	0.00	1.15	2.00	0.00	9.43	0.01	0.00
1.16	2.00	0.00	9.42	0.01	0.00	1.17	2.00	0.00	9.42	0.01	0.00
1.18	2.00	0.00	9.41	0.01	0.00	1.19	2.00	0.00	9.41	0.01	0.00
1.20	2.00	0.00	9.40	0.01	0.00	1.21	2.00	0.00	9.40	0.01	0.00
1.22	2.00	0.00	9.39	0.01	0.00	1.23	2.00	0.00	9.39	0.01	0.00
1.24	2.00	0.00	9.38	0.01	0.00	1.25	2.00	0.00	9.38	0.01	0.00
1.26	2.00	0.00	9.37	0.01	0.00	1.27	2.00	0.00	9.37	0.01	0.00
1.28	2.00	0.00	9.36	0.01	0.00	1.29	2.00	0.00	9.36	0.01	0.00
1.30	2.00	0.00	9.35	0.01	0.00	1.31	2.00	0.00	9.35	0.01	0.00
1.32	2.00	0.00	9.34	0.01	0.00	1.33	2.00	0.00	9.34	0.01	0.00
1.34	2.00	0.00	9.33	0.01	0.00	1.35	2.00	0.00	9.33	0.01	0.00
1.36	2.00	0.00	9.32	0.01	0.00	1.37	2.00	0.00	9.32	0.01	0.00
1.38	2.00	0.00	9.31	0.01	0.00	1.39	2.00	0.00	9.31	0.01	0.00
1.40	2.00	0.00	9.30	0.01	0.00	1.41	2.00	0.00	9.30	0.01	0.00
1.42	2.00	0.00	9.29	0.01	0.00	1.43	2.00	0.00	9.29	0.01	0.00
1.44	2.00	0.00	9.28	0.01	0.00	1.45	2.00	0.00	9.28	0.01	0.00
1.46	2.00	0.00	9.27	0.01	0.00	1.47	2.00	0.00	9.27	0.01	0.00
1.48	2.00	0.00	9.26	0.01	0.00	1.49	2.00	0.00	9.26	0.01	0.00
1.50	2.00	0.00	9.25	0.01	0.00	1.51	2.00	0.00	9.25	0.01	0.00
1.52	2.00	0.00	9.24	0.01	0.00	1.53	2.00	0.00	9.24	0.01	0.00
1.54	2.00	0.00	9.23	0.01	0.00	1.55	2.00	0.00	9.23	0.01	0.00
1.56	2.00	0.00	9.22	0.01	0.00	1.57	2.00	0.00	9.22	0.01	0.00
1.58	2.00	0.00	9.21	0.01	0.00	1.59	2.00	0.00	9.21	0.01	0.00
1.60	2.00	0.00	9.20	0.01	0.00	1.61	2.00	0.00	9.20	0.01	0.00
1.62	2.00	0.00	9.19	0.01	0.00	1.63	2.00	0.00	9.19	0.01	0.00
1.64	2.00	0.00	9.18	0.01	0.00	1.65	2.00	0.00	9.18	0.01	0.00
1.66	2.00	0.00	9.17	0.01	0.00	1.67	2.00	0.00	9.17	0.01	0.00
1.68	2.00	0.00	9.16	0.01	0.00	1.69	2.00	0.00	9.16	0.01	0.00
1.70	2.00	0.00	9.15	0.01	0.00	1.71	2.00	0.00	9.15	0.01	0.00
1.72	2.00	0.00	9.14	0.01	0.00	1.73	2.00	0.00	9.14	0.01	0.00
1.74	2.00	0.00	9.13	0.01	0.00	1.75	2.00	0.00	9.13	0.01	0.00
1.76	2.00	0.00	9.12	0.01	0.00	1.77	2.00	0.00	9.12	0.01	0.00
1.78	2.00	0.00	9.11	0.01	0.00	1.79	2.00	0.00	9.11	0.01	0.00
1.80	2.00	0.00	9.10	0.01	0.00	1.81	2.00	0.00	9.10	0.01	0.00
1.82	2.00	0.00	9.09	0.01	0.00	1.83	2.00	0.00	9.09	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
1.84	2.00	0.00	9.08	0.01	0.00	1.85	2.00	0.00	9.08	0.01	0.00
1.86	2.00	0.00	9.07	0.01	0.00	1.87	2.00	0.00	9.07	0.01	0.00
1.88	2.00	0.00	9.06	0.01	0.00	1.89	2.00	0.00	9.06	0.01	0.00
1.90	2.00	0.00	9.05	0.01	0.00	1.91	2.00	0.00	9.05	0.01	0.00
1.92	2.00	0.00	9.04	0.01	0.00	1.93	2.00	0.00	9.04	0.01	0.00
1.94	2.00	0.00	9.03	0.01	0.00	1.95	2.00	0.00	9.03	0.01	0.00
1.96	2.00	0.00	9.02	0.01	0.00	1.97	2.00	0.00	9.02	0.01	0.00
1.98	2.00	0.00	9.01	0.01	0.00	1.99	2.00	0.00	9.01	0.01	0.00
2.00	2.00	0.00	9.00	0.01	0.00	2.01	2.00	0.00	9.00	0.01	0.00
2.02	2.00	0.00	8.99	0.01	0.00	2.03	2.00	0.00	8.99	0.01	0.00
2.04	2.00	0.00	8.98	0.01	0.00	2.05	2.00	0.00	8.98	0.01	0.00
2.06	2.00	0.00	8.97	0.01	0.00	2.07	2.00	0.00	8.97	0.01	0.00
2.08	2.00	0.00	8.96	0.01	0.00	2.09	2.00	0.00	8.96	0.01	0.00
2.10	2.00	0.00	8.95	0.01	0.00	2.11	2.00	0.00	8.95	0.01	0.00
2.12	2.00	0.00	8.94	0.01	0.00	2.13	2.00	0.00	8.94	0.01	0.00
2.14	2.00	0.00	8.93	0.01	0.00	2.15	2.00	0.00	8.93	0.01	0.00
2.16	2.00	0.00	8.92	0.01	0.00	2.17	2.00	0.00	8.92	0.01	0.00
2.18	2.00	0.00	8.91	0.01	0.00	2.19	2.00	0.00	8.91	0.01	0.00
2.20	2.00	0.00	8.90	0.01	0.00	2.21	2.00	0.00	8.90	0.01	0.00
2.22	2.00	0.00	8.89	0.01	0.00	2.23	2.00	0.00	8.89	0.01	0.00
2.24	2.00	0.00	8.88	0.01	0.00	2.25	2.00	0.00	8.88	0.01	0.00
2.26	2.00	0.00	8.87	0.01	0.00	2.27	2.00	0.00	8.87	0.01	0.00
2.28	2.00	0.00	8.86	0.01	0.00	2.29	2.00	0.00	8.86	0.01	0.00
2.30	2.00	0.00	8.85	0.01	0.00	2.31	2.00	0.00	8.85	0.01	0.00
2.32	2.00	0.00	8.84	0.01	0.00	2.33	2.00	0.00	8.84	0.01	0.00
2.34	2.00	0.00	8.83	0.01	0.00	2.35	2.00	0.00	8.83	0.01	0.00
2.36	2.00	0.00	8.82	0.01	0.00	2.37	2.00	0.00	8.82	0.01	0.00
2.38	2.00	0.00	8.81	0.01	0.00	2.39	2.00	0.00	8.81	0.01	0.00
2.40	2.00	0.00	8.80	0.01	0.00	2.41	2.00	0.00	8.80	0.01	0.00
2.42	2.00	0.00	8.79	0.01	0.00	2.43	2.00	0.00	8.79	0.01	0.00
2.44	2.00	0.00	8.78	0.01	0.00	2.45	2.00	0.00	8.78	0.01	0.00
2.46	2.00	0.00	8.77	0.01	0.00	2.47	2.00	0.00	8.77	0.01	0.00
2.48	2.00	0.00	8.76	0.01	0.00	2.49	2.00	0.00	8.76	0.01	0.00
2.50	2.00	0.00	8.75	0.01	0.00	2.51	2.00	0.00	8.75	0.01	0.00
2.52	2.00	0.00	8.74	0.01	0.00	2.53	2.00	0.00	8.74	0.01	0.00
2.54	2.00	0.00	8.73	0.01	0.00	2.55	2.00	0.00	8.73	0.01	0.00
2.56	2.00	0.00	8.72	0.01	0.00	2.57	2.00	0.00	8.72	0.01	0.00
2.58	2.00	0.00	8.71	0.01	0.00	2.59	2.00	0.00	8.71	0.01	0.00
2.60	2.00	0.00	8.70	0.01	0.00	2.61	2.00	0.00	8.70	0.01	0.00
2.62	2.00	0.00	8.69	0.01	0.00	2.63	2.00	0.00	8.69	0.01	0.00
2.64	2.00	0.00	8.68	0.01	0.00	2.65	2.00	0.00	8.68	0.01	0.00
2.66	2.00	0.00	8.67	0.01	0.00	2.67	2.00	0.00	8.67	0.01	0.00
2.68	2.00	0.00	8.66	0.01	0.00	2.69	2.00	0.00	8.66	0.01	0.00
2.70	2.00	0.00	8.65	0.01	0.00	2.71	2.00	0.00	8.65	0.01	0.00
2.72	2.00	0.00	8.64	0.01	0.00	2.73	2.00	0.00	8.64	0.01	0.00
2.74	2.00	0.00	8.63	0.01	0.00	2.75	2.00	0.00	8.63	0.01	0.00
2.76	2.00	0.00	8.62	0.01	0.00	2.77	2.00	0.00	8.62	0.01	0.00
2.78	2.00	0.00	8.61	0.01	0.00	2.79	2.00	0.00	8.61	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
2.80	2.00	0.00	8.60	0.01	0.00	2.81	2.00	0.00	8.60	0.01	0.00
2.82	2.00	0.00	8.59	0.01	0.00	2.83	2.00	0.00	8.59	0.01	0.00
2.84	2.00	0.00	8.58	0.01	0.00	2.85	2.00	0.00	8.58	0.01	0.00
2.86	2.00	0.00	8.57	0.01	0.00	2.87	2.00	0.00	8.57	0.01	0.00
2.88	2.00	0.00	8.56	0.01	0.00	2.89	2.00	0.00	8.56	0.01	0.00
2.90	2.00	0.00	8.55	0.01	0.00	2.91	2.00	0.00	8.55	0.01	0.00
2.92	2.00	0.00	8.54	0.01	0.00	2.93	2.00	0.00	8.54	0.01	0.00
2.94	2.00	0.00	8.53	0.01	0.00	2.95	2.00	0.00	8.53	0.01	0.00
2.96	2.00	0.00	8.52	0.01	0.00	2.97	2.00	0.00	8.52	0.01	0.00
2.98	2.00	0.00	8.51	0.01	0.00	2.99	2.00	0.00	8.51	0.01	0.00
3.00	2.00	0.00	8.50	0.01	0.00	3.01	2.00	0.00	8.50	0.01	0.00
3.02	2.00	0.00	8.49	0.01	0.00	3.03	2.00	0.00	8.49	0.01	0.00
3.04	2.00	0.00	8.48	0.01	0.00	3.05	2.00	0.00	8.48	0.01	0.00
3.06	2.00	0.00	8.47	0.01	0.00	3.07	2.00	0.00	8.47	0.01	0.00
3.08	2.00	0.00	8.46	0.01	0.00	3.09	2.00	0.00	8.46	0.01	0.00
3.10	2.00	0.00	8.45	0.01	0.00	3.11	2.00	0.00	8.45	0.01	0.00
3.12	2.00	0.00	8.44	0.01	0.00	3.13	2.00	0.00	8.44	0.01	0.00
3.14	2.00	0.00	8.43	0.01	0.00	3.15	2.00	0.00	8.43	0.01	0.00
3.16	2.00	0.00	8.42	0.01	0.00	3.17	2.00	0.00	8.42	0.01	0.00
3.18	2.00	0.00	8.41	0.01	0.00	3.19	2.00	0.00	8.41	0.01	0.00
3.20	2.00	0.00	8.40	0.01	0.00	3.21	2.00	0.00	8.40	0.01	0.00
3.22	2.00	0.00	8.39	0.01	0.00	3.23	2.00	0.00	8.39	0.01	0.00
3.24	2.00	0.00	8.38	0.01	0.00	3.25	2.00	0.00	8.38	0.01	0.00
3.26	2.00	0.00	8.37	0.01	0.00	3.27	2.00	0.00	8.37	0.01	0.00
3.28	2.00	0.00	8.36	0.01	0.00	3.29	2.00	0.00	8.36	0.01	0.00
3.30	2.00	0.00	8.35	0.01	0.00	3.31	2.00	0.00	8.35	0.01	0.00
3.32	2.00	0.00	8.34	0.01	0.00	3.33	2.00	0.00	8.34	0.01	0.00
3.34	2.00	0.00	8.33	0.01	0.00	3.35	2.00	0.00	8.33	0.01	0.00
3.36	2.00	0.00	8.32	0.01	0.00	3.37	2.00	0.00	8.32	0.01	0.00
3.38	2.00	0.00	8.31	0.01	0.00	3.39	2.00	0.00	8.31	0.01	0.00
3.40	2.00	0.00	8.30	0.01	0.00	3.41	2.00	0.00	8.30	0.01	0.00
3.42	2.00	0.00	8.29	0.01	0.00	3.43	2.00	0.00	8.29	0.01	0.00
3.44	2.00	0.00	8.28	0.01	0.00	3.45	2.00	0.00	8.28	0.01	0.00
3.46	2.00	0.00	8.27	0.01	0.00	3.47	2.00	0.00	8.27	0.01	0.00
3.48	2.00	0.00	8.26	0.01	0.00	3.49	2.00	0.00	8.26	0.01	0.00
3.50	2.00	0.00	8.25	0.01	0.00	3.51	2.00	0.00	8.25	0.01	0.00
3.52	2.00	0.00	8.24	0.01	0.00	3.53	2.00	0.00	8.24	0.01	0.00
3.54	2.00	0.00	8.23	0.01	0.00	3.55	2.00	0.00	8.23	0.01	0.00
3.56	2.00	0.00	8.22	0.01	0.00	3.57	0.74	0.26	8.22	0.01	0.02
3.58	0.76	0.24	8.21	0.01	0.02	3.59	0.76	0.24	8.21	0.01	0.02
3.60	0.75	0.25	8.20	0.01	0.02	3.61	0.74	0.26	8.20	0.01	0.02
3.62	2.00	0.00	8.19	0.01	0.00	3.63	2.00	0.00	8.19	0.01	0.00
3.64	2.00	0.00	8.18	0.01	0.00	3.65	2.00	0.00	8.18	0.01	0.00
3.66	2.00	0.00	8.17	0.01	0.00	3.67	2.00	0.00	8.17	0.01	0.00
3.68	2.00	0.00	8.16	0.01	0.00	3.69	2.00	0.00	8.16	0.01	0.00
3.70	2.00	0.00	8.15	0.01	0.00	3.71	2.00	0.00	8.15	0.01	0.00
3.72	2.00	0.00	8.14	0.01	0.00	3.73	2.00	0.00	8.14	0.01	0.00
3.74	2.00	0.00	8.13	0.01	0.00	3.75	2.00	0.00	8.13	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
3.76	2.00	0.00	8.12	0.01	0.00	3.77	2.00	0.00	8.12	0.01	0.00
3.78	2.00	0.00	8.11	0.01	0.00	3.79	2.00	0.00	8.11	0.01	0.00
3.80	2.00	0.00	8.10	0.01	0.00	3.81	2.00	0.00	8.10	0.01	0.00
3.82	2.00	0.00	8.09	0.01	0.00	3.83	2.00	0.00	8.09	0.01	0.00
3.84	2.00	0.00	8.08	0.01	0.00	3.85	2.00	0.00	8.08	0.01	0.00
3.86	2.00	0.00	8.07	0.01	0.00	3.87	2.00	0.00	8.07	0.01	0.00
3.88	2.00	0.00	8.06	0.01	0.00	3.89	2.00	0.00	8.06	0.01	0.00
3.90	2.00	0.00	8.05	0.01	0.00	3.91	2.00	0.00	8.05	0.01	0.00
3.92	2.00	0.00	8.04	0.01	0.00	3.93	2.00	0.00	8.04	0.01	0.00
3.94	2.00	0.00	8.03	0.01	0.00	3.95	2.00	0.00	8.03	0.01	0.00
3.96	2.00	0.00	8.02	0.01	0.00	3.97	2.00	0.00	8.02	0.01	0.00
3.98	2.00	0.00	8.01	0.01	0.00	3.99	2.00	0.00	8.01	0.01	0.00
4.00	2.00	0.00	8.00	0.01	0.00	4.01	2.00	0.00	8.00	0.01	0.00
4.02	2.00	0.00	7.99	0.01	0.00	4.03	2.00	0.00	7.99	0.01	0.00
4.04	2.00	0.00	7.98	0.01	0.00	4.05	2.00	0.00	7.98	0.01	0.00
4.06	2.00	0.00	7.97	0.01	0.00	4.07	2.00	0.00	7.97	0.01	0.00
4.08	2.00	0.00	7.96	0.01	0.00	4.09	2.00	0.00	7.96	0.01	0.00
4.10	2.00	0.00	7.95	0.01	0.00	4.11	2.00	0.00	7.95	0.01	0.00
4.12	2.00	0.00	7.94	0.01	0.00	4.13	2.00	0.00	7.94	0.01	0.00
4.14	2.00	0.00	7.93	0.01	0.00	4.15	2.00	0.00	7.93	0.01	0.00
4.16	2.00	0.00	7.92	0.01	0.00	4.17	2.00	0.00	7.92	0.01	0.00
4.18	2.00	0.00	7.91	0.01	0.00	4.19	2.00	0.00	7.91	0.01	0.00
4.20	2.00	0.00	7.90	0.01	0.00	4.21	2.00	0.00	7.90	0.01	0.00
4.22	2.00	0.00	7.89	0.01	0.00	4.23	2.00	0.00	7.89	0.01	0.00
4.24	2.00	0.00	7.88	0.01	0.00	4.25	2.00	0.00	7.88	0.01	0.00
4.26	2.00	0.00	7.87	0.01	0.00	4.27	2.00	0.00	7.87	0.01	0.00
4.28	2.00	0.00	7.86	0.01	0.00	4.29	2.00	0.00	7.86	0.01	0.00
4.30	2.00	0.00	7.85	0.01	0.00	4.31	2.00	0.00	7.85	0.01	0.00
4.32	2.00	0.00	7.84	0.01	0.00	4.33	2.00	0.00	7.84	0.01	0.00
4.34	2.00	0.00	7.83	0.01	0.00	4.35	2.00	0.00	7.83	0.01	0.00
4.36	2.00	0.00	7.82	0.01	0.00	4.37	2.00	0.00	7.82	0.01	0.00
4.38	2.00	0.00	7.81	0.01	0.00	4.39	2.00	0.00	7.81	0.01	0.00
4.40	2.00	0.00	7.80	0.01	0.00	4.41	2.00	0.00	7.80	0.01	0.00
4.42	2.00	0.00	7.79	0.01	0.00	4.43	2.00	0.00	7.79	0.01	0.00
4.44	2.00	0.00	7.78	0.01	0.00	4.45	2.00	0.00	7.78	0.01	0.00
4.46	2.00	0.00	7.77	0.01	0.00	4.47	2.00	0.00	7.77	0.01	0.00
4.48	2.00	0.00	7.76	0.01	0.00	4.49	2.00	0.00	7.76	0.01	0.00
4.50	2.00	0.00	7.75	0.01	0.00	4.51	2.00	0.00	7.75	0.01	0.00
4.52	2.00	0.00	7.74	0.01	0.00	4.53	2.00	0.00	7.74	0.01	0.00
4.54	2.00	0.00	7.73	0.01	0.00	4.55	2.00	0.00	7.73	0.01	0.00
4.56	2.00	0.00	7.72	0.01	0.00	4.57	2.00	0.00	7.72	0.01	0.00
4.58	2.00	0.00	7.71	0.01	0.00	4.59	2.00	0.00	7.71	0.01	0.00
4.60	2.00	0.00	7.70	0.01	0.00	4.61	2.00	0.00	7.70	0.01	0.00
4.62	2.00	0.00	7.69	0.01	0.00	4.63	2.00	0.00	7.69	0.01	0.00
4.64	2.00	0.00	7.68	0.01	0.00	4.65	2.00	0.00	7.68	0.01	0.00
4.66	2.00	0.00	7.67	0.01	0.00	4.67	2.00	0.00	7.67	0.01	0.00
4.68	2.00	0.00	7.66	0.01	0.00	4.69	2.00	0.00	7.66	0.01	0.00
4.70	2.00	0.00	7.65	0.01	0.00	4.71	2.00	0.00	7.65	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
4.72	2.00	0.00	7.64	0.01	0.00	4.73	2.00	0.00	7.64	0.01	0.00
4.74	2.00	0.00	7.63	0.01	0.00	4.75	2.00	0.00	7.63	0.01	0.00
4.76	2.00	0.00	7.62	0.01	0.00	4.77	2.00	0.00	7.62	0.01	0.00
4.78	2.00	0.00	7.61	0.01	0.00	4.79	2.00	0.00	7.61	0.01	0.00
4.80	2.00	0.00	7.60	0.01	0.00	4.81	2.00	0.00	7.60	0.01	0.00
4.82	2.00	0.00	7.59	0.01	0.00	4.83	2.00	0.00	7.59	0.01	0.00
4.84	2.00	0.00	7.58	0.01	0.00	4.85	2.00	0.00	7.58	0.01	0.00
4.86	2.00	0.00	7.57	0.01	0.00	4.87	2.00	0.00	7.57	0.01	0.00
4.88	2.00	0.00	7.56	0.01	0.00	4.89	2.00	0.00	7.56	0.01	0.00
4.90	2.00	0.00	7.55	0.01	0.00	4.91	2.00	0.00	7.55	0.01	0.00
4.92	2.00	0.00	7.54	0.01	0.00	4.93	2.00	0.00	7.54	0.01	0.00
4.94	2.00	0.00	7.53	0.01	0.00	4.95	2.00	0.00	7.53	0.01	0.00
4.96	2.00	0.00	7.52	0.01	0.00	4.97	2.00	0.00	7.52	0.01	0.00
4.98	2.00	0.00	7.51	0.01	0.00	4.99	2.00	0.00	7.51	0.01	0.00
5.00	2.00	0.00	7.50	0.01	0.00	5.01	2.00	0.00	7.50	0.01	0.00
5.02	2.00	0.00	7.49	0.01	0.00	5.03	2.00	0.00	7.49	0.01	0.00
5.04	2.00	0.00	7.48	0.01	0.00	5.05	2.00	0.00	7.48	0.01	0.00
5.06	2.00	0.00	7.47	0.01	0.00	5.07	2.00	0.00	7.47	0.01	0.00
5.08	2.00	0.00	7.46	0.01	0.00	5.09	2.00	0.00	7.46	0.01	0.00
5.10	2.00	0.00	7.45	0.01	0.00	5.11	2.00	0.00	7.45	0.01	0.00
5.12	2.00	0.00	7.44	0.01	0.00	5.13	2.00	0.00	7.44	0.01	0.00
5.14	2.00	0.00	7.43	0.01	0.00	5.15	2.00	0.00	7.43	0.01	0.00
5.16	2.00	0.00	7.42	0.01	0.00	5.17	2.00	0.00	7.42	0.01	0.00
5.18	2.00	0.00	7.41	0.01	0.00	5.19	2.00	0.00	7.41	0.01	0.00
5.20	2.00	0.00	7.40	0.01	0.00	5.21	2.00	0.00	7.40	0.01	0.00
5.22	2.00	0.00	7.39	0.01	0.00	5.23	2.00	0.00	7.39	0.01	0.00
5.24	2.00	0.00	7.38	0.01	0.00	5.25	2.00	0.00	7.38	0.01	0.00
5.26	2.00	0.00	7.37	0.01	0.00	5.27	2.00	0.00	7.37	0.01	0.00
5.28	2.00	0.00	7.36	0.01	0.00	5.29	2.00	0.00	7.36	0.01	0.00
5.30	2.00	0.00	7.35	0.01	0.00	5.31	0.60	0.40	7.35	0.01	0.03
5.32	0.61	0.39	7.34	0.01	0.03	5.33	0.62	0.38	7.34	0.01	0.03
5.34	0.62	0.38	7.33	0.01	0.03	5.35	0.61	0.39	7.33	0.01	0.03
5.36	0.60	0.40	7.32	0.01	0.03	5.37	0.59	0.41	7.32	0.01	0.03
5.38	2.00	0.00	7.31	0.01	0.00	5.39	2.00	0.00	7.31	0.01	0.00
5.40	2.00	0.00	7.30	0.01	0.00	5.41	2.00	0.00	7.30	0.01	0.00
5.42	2.00	0.00	7.29	0.01	0.00	5.43	2.00	0.00	7.29	0.01	0.00
5.44	2.00	0.00	7.28	0.01	0.00	5.45	2.00	0.00	7.28	0.01	0.00
5.46	2.00	0.00	7.27	0.01	0.00	5.47	2.00	0.00	7.27	0.01	0.00
5.48	2.00	0.00	7.26	0.01	0.00	5.49	2.00	0.00	7.26	0.01	0.00
5.50	2.00	0.00	7.25	0.01	0.00	5.51	2.00	0.00	7.25	0.01	0.00
5.52	2.00	0.00	7.24	0.01	0.00	5.53	2.00	0.00	7.24	0.01	0.00
5.54	2.00	0.00	7.23	0.01	0.00	5.55	2.00	0.00	7.23	0.01	0.00
5.56	0.60	0.40	7.22	0.01	0.03	5.57	0.63	0.37	7.22	0.01	0.03
5.58	0.64	0.36	7.21	0.01	0.03	5.59	0.66	0.34	7.21	0.01	0.02
5.60	0.66	0.34	7.20	0.01	0.02	5.61	0.66	0.34	7.20	0.01	0.02
5.62	0.65	0.35	7.19	0.01	0.03	5.63	0.65	0.35	7.19	0.01	0.03
5.64	0.64	0.36	7.18	0.01	0.03	5.65	0.64	0.36	7.18	0.01	0.03
5.66	0.64	0.36	7.17	0.01	0.03	5.67	0.64	0.36	7.17	0.01	0.03

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
5.68	0.66	0.34	7.16	0.01	0.02	5.69	0.67	0.33	7.16	0.01	0.02
5.70	0.69	0.31	7.15	0.01	0.02	5.71	0.69	0.31	7.15	0.01	0.02
5.72	0.70	0.30	7.14	0.01	0.02	5.73	0.70	0.30	7.14	0.01	0.02
5.74	0.69	0.31	7.13	0.01	0.02	5.75	0.70	0.30	7.13	0.01	0.02
5.76	0.70	0.30	7.12	0.01	0.02	5.77	0.70	0.30	7.12	0.01	0.02
5.78	0.71	0.29	7.11	0.01	0.02	5.79	0.70	0.30	7.11	0.01	0.02
5.80	0.69	0.31	7.10	0.01	0.02	5.81	0.67	0.33	7.10	0.01	0.02
5.82	0.66	0.34	7.09	0.01	0.02	5.83	0.65	0.35	7.09	0.01	0.02
5.84	0.64	0.36	7.08	0.01	0.03	5.85	2.00	0.00	7.08	0.01	0.00
5.86	2.00	0.00	7.07	0.01	0.00	5.87	2.00	0.00	7.07	0.01	0.00
5.88	2.00	0.00	7.06	0.01	0.00	5.89	2.00	0.00	7.06	0.01	0.00
5.90	2.00	0.00	7.05	0.01	0.00	5.91	2.00	0.00	7.05	0.01	0.00
5.92	2.00	0.00	7.04	0.01	0.00	5.93	2.00	0.00	7.04	0.01	0.00
5.94	2.00	0.00	7.03	0.01	0.00	5.95	2.00	0.00	7.03	0.01	0.00
5.96	2.00	0.00	7.02	0.01	0.00	5.97	2.00	0.00	7.02	0.01	0.00
5.98	2.00	0.00	7.01	0.01	0.00	5.99	2.00	0.00	7.01	0.01	0.00
6.00	2.00	0.00	7.00	0.01	0.00	6.01	0.64	0.36	7.00	0.01	0.03
6.02	0.65	0.35	6.99	0.01	0.02	6.03	0.66	0.34	6.99	0.01	0.02
6.04	0.67	0.33	6.98	0.01	0.02	6.05	0.66	0.34	6.98	0.01	0.02
6.06	0.64	0.36	6.97	0.01	0.03	6.07	0.63	0.37	6.97	0.01	0.03
6.08	0.62	0.38	6.96	0.01	0.03	6.09	2.00	0.00	6.96	0.01	0.00
6.10	2.00	0.00	6.95	0.01	0.00	6.11	0.62	0.38	6.95	0.01	0.03
6.12	0.62	0.38	6.94	0.01	0.03	6.13	0.64	0.36	6.94	0.01	0.03
6.14	0.65	0.35	6.93	0.01	0.02	6.15	0.66	0.34	6.93	0.01	0.02
6.16	0.67	0.33	6.92	0.01	0.02	6.17	0.68	0.32	6.92	0.01	0.02
6.18	0.68	0.32	6.91	0.01	0.02	6.19	0.68	0.32	6.91	0.01	0.02
6.20	0.68	0.32	6.90	0.01	0.02	6.21	0.68	0.32	6.90	0.01	0.02
6.22	0.68	0.32	6.89	0.01	0.02	6.23	0.68	0.32	6.89	0.01	0.02
6.24	0.66	0.34	6.88	0.01	0.02	6.25	0.66	0.34	6.88	0.01	0.02
6.26	0.65	0.35	6.87	0.01	0.02	6.27	0.63	0.37	6.87	0.01	0.03
6.28	0.63	0.37	6.86	0.01	0.03	6.29	0.62	0.38	6.86	0.01	0.03
6.30	0.61	0.39	6.85	0.01	0.03	6.31	0.60	0.40	6.85	0.01	0.03
6.32	0.60	0.40	6.84	0.01	0.03	6.33	0.59	0.41	6.84	0.01	0.03
6.34	2.00	0.00	6.83	0.01	0.00	6.35	2.00	0.00	6.83	0.01	0.00
6.36	2.00	0.00	6.82	0.01	0.00	6.37	2.00	0.00	6.82	0.01	0.00
6.38	2.00	0.00	6.81	0.01	0.00	6.39	2.00	0.00	6.81	0.01	0.00
6.40	2.00	0.00	6.80	0.01	0.00	6.41	2.00	0.00	6.80	0.01	0.00
6.42	2.00	0.00	6.79	0.01	0.00	6.43	2.00	0.00	6.79	0.01	0.00
6.44	2.00	0.00	6.78	0.01	0.00	6.45	2.00	0.00	6.78	0.01	0.00
6.46	2.00	0.00	6.77	0.01	0.00	6.47	2.00	0.00	6.77	0.01	0.00
6.48	2.00	0.00	6.76	0.01	0.00	6.49	2.00	0.00	6.76	0.01	0.00
6.50	2.00	0.00	6.75	0.01	0.00	6.51	2.00	0.00	6.75	0.01	0.00
6.52	2.00	0.00	6.74	0.01	0.00	6.53	2.00	0.00	6.74	0.01	0.00
6.54	2.00	0.00	6.73	0.01	0.00	6.55	2.00	0.00	6.73	0.01	0.00
6.56	2.00	0.00	6.72	0.01	0.00	6.57	2.00	0.00	6.72	0.01	0.00
6.58	2.00	0.00	6.71	0.01	0.00	6.59	2.00	0.00	6.71	0.01	0.00
6.60	2.00	0.00	6.70	0.01	0.00	6.61	0.60	0.40	6.70	0.01	0.03
6.62	0.60	0.40	6.69	0.01	0.03	6.63	0.60	0.40	6.69	0.01	0.03

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
6.64	0.60	0.40	6.68	0.01	0.03	6.65	0.60	0.40	6.68	0.01	0.03
6.66	0.61	0.39	6.67	0.01	0.03	6.67	0.61	0.39	6.67	0.01	0.03
6.68	0.61	0.39	6.66	0.01	0.03	6.69	0.60	0.40	6.66	0.01	0.03
6.70	0.58	0.42	6.65	0.01	0.03	6.71	2.00	0.00	6.65	0.01	0.00
6.72	2.00	0.00	6.64	0.01	0.00	6.73	2.00	0.00	6.64	0.01	0.00
6.74	2.00	0.00	6.63	0.01	0.00	6.75	2.00	0.00	6.63	0.01	0.00
6.76	2.00	0.00	6.62	0.01	0.00	6.77	2.00	0.00	6.62	0.01	0.00
6.78	2.00	0.00	6.61	0.01	0.00	6.79	2.00	0.00	6.61	0.01	0.00
6.80	0.59	0.41	6.60	0.01	0.03	6.81	0.60	0.40	6.60	0.01	0.03
6.82	0.61	0.39	6.59	0.01	0.03	6.83	0.60	0.40	6.59	0.01	0.03
6.84	0.60	0.40	6.58	0.01	0.03	6.85	2.00	0.00	6.58	0.01	0.00
6.86	2.00	0.00	6.57	0.01	0.00	6.87	2.00	0.00	6.57	0.01	0.00
6.88	2.00	0.00	6.56	0.01	0.00	6.89	2.00	0.00	6.56	0.01	0.00
6.90	2.00	0.00	6.55	0.01	0.00	6.91	2.00	0.00	6.55	0.01	0.00
6.92	2.00	0.00	6.54	0.01	0.00	6.93	2.00	0.00	6.54	0.01	0.00
6.94	2.00	0.00	6.53	0.01	0.00	6.95	2.00	0.00	6.53	0.01	0.00
6.96	0.58	0.42	6.52	0.01	0.03	6.97	0.60	0.40	6.52	0.01	0.03
6.98	0.62	0.38	6.51	0.01	0.02	6.99	0.62	0.38	6.51	0.01	0.02
7.00	0.62	0.38	6.50	0.01	0.02	7.01	0.63	0.37	6.50	0.01	0.02
7.02	0.63	0.37	6.49	0.01	0.02	7.03	0.61	0.39	6.49	0.01	0.02
7.04	0.59	0.41	6.48	0.01	0.03	7.05	2.00	0.00	6.48	0.01	0.00
7.06	2.00	0.00	6.47	0.01	0.00	7.07	2.00	0.00	6.47	0.01	0.00
7.08	2.00	0.00	6.46	0.01	0.00	7.09	2.00	0.00	6.46	0.01	0.00
7.10	2.00	0.00	6.45	0.01	0.00	7.11	2.00	0.00	6.45	0.01	0.00
7.12	2.00	0.00	6.44	0.01	0.00	7.13	2.00	0.00	6.44	0.01	0.00
7.14	2.00	0.00	6.43	0.01	0.00	7.15	2.00	0.00	6.43	0.01	0.00
7.16	2.00	0.00	6.42	0.01	0.00	7.17	0.55	0.45	6.42	0.01	0.03
7.18	0.57	0.43	6.41	0.01	0.03	7.19	0.59	0.41	6.41	0.01	0.03
7.20	0.60	0.40	6.40	0.01	0.03	7.21	0.61	0.39	6.40	0.01	0.02
7.22	0.62	0.38	6.39	0.01	0.02	7.23	0.63	0.37	6.39	0.01	0.02
7.24	0.63	0.37	6.38	0.01	0.02	7.25	0.63	0.37	6.38	0.01	0.02
7.26	0.63	0.37	6.37	0.01	0.02	7.27	0.63	0.37	6.37	0.01	0.02
7.28	0.63	0.37	6.36	0.01	0.02	7.29	0.64	0.36	6.36	0.01	0.02
7.30	0.64	0.36	6.35	0.01	0.02	7.31	0.64	0.36	6.35	0.01	0.02
7.32	0.64	0.36	6.34	0.01	0.02	7.33	0.64	0.36	6.34	0.01	0.02
7.34	0.65	0.35	6.33	0.01	0.02	7.35	0.65	0.35	6.33	0.01	0.02
7.36	0.65	0.35	6.32	0.01	0.02	7.37	0.65	0.35	6.32	0.01	0.02
7.38	0.65	0.35	6.31	0.01	0.02	7.39	0.64	0.36	6.31	0.01	0.02
7.40	0.63	0.37	6.30	0.01	0.02	7.41	0.62	0.38	6.30	0.01	0.02
7.42	0.62	0.38	6.29	0.01	0.02	7.43	0.62	0.38	6.29	0.01	0.02
7.44	0.62	0.38	6.28	0.01	0.02	7.45	0.62	0.38	6.28	0.01	0.02
7.46	0.65	0.35	6.27	0.01	0.02	7.47	0.66	0.34	6.27	0.01	0.02
7.48	0.66	0.34	6.26	0.01	0.02	7.49	0.65	0.35	6.26	0.01	0.02
7.50	0.65	0.35	6.25	0.01	0.02	7.51	0.65	0.35	6.25	0.01	0.02
7.52	0.65	0.35	6.24	0.01	0.02	7.53	0.64	0.36	6.24	0.01	0.02
7.54	0.65	0.35	6.23	0.01	0.02	7.55	0.65	0.35	6.23	0.01	0.02
7.56	0.66	0.34	6.22	0.01	0.02	7.57	0.67	0.33	6.22	0.01	0.02
7.58	0.67	0.33	6.21	0.01	0.02	7.59	0.67	0.33	6.21	0.01	0.02

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
7.60	0.67	0.33	6.20	0.01	0.02	7.61	0.68	0.32	6.20	0.01	0.02
7.62	0.64	0.36	6.19	0.01	0.02	7.63	0.65	0.35	6.19	0.01	0.02
7.64	0.64	0.36	6.18	0.01	0.02	7.65	0.64	0.36	6.18	0.01	0.02
7.66	0.64	0.36	6.17	0.01	0.02	7.67	0.64	0.36	6.17	0.01	0.02
7.68	0.63	0.37	6.16	0.01	0.02	7.69	0.65	0.35	6.16	0.01	0.02
7.70	0.66	0.34	6.15	0.01	0.02	7.71	0.66	0.34	6.15	0.01	0.02
7.72	0.67	0.33	6.14	0.01	0.02	7.73	0.67	0.33	6.14	0.01	0.02
7.74	0.66	0.34	6.13	0.01	0.02	7.75	0.65	0.35	6.13	0.01	0.02
7.76	0.65	0.35	6.12	0.01	0.02	7.77	0.65	0.35	6.12	0.01	0.02
7.78	0.65	0.35	6.11	0.01	0.02	7.79	0.64	0.36	6.11	0.01	0.02
7.80	0.64	0.36	6.10	0.01	0.02	7.81	0.64	0.36	6.10	0.01	0.02
7.82	0.64	0.36	6.09	0.01	0.02	7.83	0.64	0.36	6.09	0.01	0.02
7.84	0.63	0.37	6.08	0.01	0.02	7.85	0.63	0.37	6.08	0.01	0.02
7.86	0.62	0.38	6.07	0.01	0.02	7.87	0.62	0.38	6.07	0.01	0.02
7.88	0.62	0.38	6.06	0.01	0.02	7.89	0.62	0.38	6.06	0.01	0.02
7.90	0.62	0.38	6.05	0.01	0.02	7.91	0.62	0.38	6.05	0.01	0.02
7.92	0.62	0.38	6.04	0.01	0.02	7.93	0.62	0.38	6.04	0.01	0.02
7.94	0.62	0.38	6.03	0.01	0.02	7.95	0.63	0.37	6.03	0.01	0.02
7.96	0.63	0.37	6.02	0.01	0.02	7.97	0.63	0.37	6.02	0.01	0.02
7.98	0.63	0.37	6.01	0.01	0.02	7.99	0.63	0.37	6.01	0.01	0.02
8.00	0.64	0.36	6.00	0.01	0.02	8.01	0.64	0.36	6.00	0.01	0.02
8.02	0.64	0.36	5.99	0.01	0.02	8.03	0.64	0.36	5.99	0.01	0.02
8.04	0.64	0.36	5.98	0.01	0.02	8.05	0.66	0.34	5.98	0.01	0.02
8.06	0.68	0.32	5.97	0.01	0.02	8.07	0.68	0.32	5.97	0.01	0.02
8.08	0.66	0.34	5.96	0.01	0.02	8.09	0.66	0.34	5.96	0.01	0.02
8.10	0.62	0.38	5.95	0.01	0.02	8.11	0.62	0.38	5.95	0.01	0.02
8.12	0.62	0.38	5.94	0.01	0.02	8.13	0.62	0.38	5.94	0.01	0.02
8.14	0.62	0.38	5.93	0.01	0.02	8.15	0.62	0.38	5.93	0.01	0.02
8.16	0.63	0.37	5.92	0.01	0.02	8.17	0.65	0.35	5.92	0.01	0.02
8.18	0.63	0.37	5.91	0.01	0.02	8.19	0.62	0.38	5.91	0.01	0.02
8.20	0.61	0.39	5.90	0.01	0.02	8.21	0.61	0.39	5.90	0.01	0.02
8.22	0.61	0.39	5.89	0.01	0.02	8.23	0.60	0.40	5.89	0.01	0.02
8.24	0.60	0.40	5.88	0.01	0.02	8.25	0.60	0.40	5.88	0.01	0.02
8.26	0.59	0.41	5.87	0.01	0.02	8.27	0.58	0.42	5.87	0.01	0.02
8.28	0.57	0.43	5.86	0.01	0.02	8.29	0.57	0.43	5.86	0.01	0.03
8.30	0.57	0.43	5.85	0.01	0.03	8.31	0.57	0.43	5.85	0.01	0.03
8.32	0.57	0.43	5.84	0.01	0.03	8.33	0.57	0.43	5.84	0.01	0.03
8.34	0.57	0.43	5.83	0.01	0.03	8.35	0.56	0.44	5.83	0.01	0.03
8.36	0.56	0.44	5.82	0.01	0.03	8.37	0.57	0.43	5.82	0.01	0.03
8.38	0.57	0.43	5.81	0.01	0.02	8.39	0.57	0.43	5.81	0.01	0.02
8.40	0.58	0.42	5.80	0.01	0.02	8.41	0.59	0.41	5.80	0.01	0.02
8.42	0.59	0.41	5.79	0.01	0.02	8.43	0.59	0.41	5.79	0.01	0.02
8.44	0.59	0.41	5.78	0.01	0.02	8.45	0.59	0.41	5.78	0.01	0.02
8.46	0.58	0.42	5.77	0.01	0.02	8.47	0.58	0.42	5.77	0.01	0.02
8.48	0.58	0.42	5.76	0.01	0.02	8.49	0.58	0.42	5.76	0.01	0.02
8.50	0.58	0.42	5.75	0.01	0.02	8.51	0.58	0.42	5.75	0.01	0.02
8.52	0.58	0.42	5.74	0.01	0.02	8.53	0.59	0.41	5.74	0.01	0.02
8.54	0.59	0.41	5.73	0.01	0.02	8.55	0.59	0.41	5.73	0.01	0.02

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
8.56	0.59	0.41	5.72	0.01	0.02	8.57	0.59	0.41	5.72	0.01	0.02
8.58	0.59	0.41	5.71	0.01	0.02	8.59	0.58	0.42	5.71	0.01	0.02
8.60	0.58	0.42	5.70	0.01	0.02	8.61	0.58	0.42	5.70	0.01	0.02
8.62	0.57	0.43	5.69	0.01	0.02	8.63	0.57	0.43	5.69	0.01	0.02
8.64	0.56	0.44	5.68	0.01	0.02	8.65	0.56	0.44	5.68	0.01	0.03
8.66	0.55	0.45	5.67	0.01	0.03	8.67	0.55	0.45	5.67	0.01	0.03
8.68	0.55	0.45	5.66	0.01	0.03	8.69	0.55	0.45	5.66	0.01	0.03
8.70	0.55	0.45	5.65	0.01	0.03	8.71	0.55	0.45	5.65	0.01	0.03
8.72	0.56	0.44	5.64	0.01	0.03	8.73	0.56	0.44	5.64	0.01	0.02
8.74	0.56	0.44	5.63	0.01	0.02	8.75	0.56	0.44	5.63	0.01	0.02
8.76	0.56	0.44	5.62	0.01	0.02	8.77	0.55	0.45	5.62	0.01	0.03
8.78	2.00	0.00	5.61	0.01	0.00	8.79	0.54	0.46	5.61	0.01	0.03
8.80	0.54	0.46	5.60	0.01	0.03	8.81	0.54	0.46	5.60	0.01	0.03
8.82	0.54	0.46	5.59	0.01	0.03	8.83	0.54	0.46	5.59	0.01	0.03
8.84	0.54	0.46	5.58	0.01	0.03	8.85	0.55	0.45	5.58	0.01	0.03
8.86	0.55	0.45	5.57	0.01	0.03	8.87	0.55	0.45	5.57	0.01	0.02
8.88	0.56	0.44	5.56	0.01	0.02	8.89	0.56	0.44	5.56	0.01	0.02
8.90	0.56	0.44	5.55	0.01	0.02	8.91	0.56	0.44	5.55	0.01	0.02
8.92	0.56	0.44	5.54	0.01	0.02	8.93	0.56	0.44	5.54	0.01	0.02
8.94	0.56	0.44	5.53	0.01	0.02	8.95	0.56	0.44	5.53	0.01	0.02
8.96	0.56	0.44	5.52	0.01	0.02	8.97	0.56	0.44	5.52	0.01	0.02
8.98	0.57	0.43	5.51	0.01	0.02	8.99	0.57	0.43	5.51	0.01	0.02
9.00	0.57	0.43	5.50	0.01	0.02	9.01	0.58	0.42	5.50	0.01	0.02
9.02	0.58	0.42	5.49	0.01	0.02	9.03	0.58	0.42	5.49	0.01	0.02
9.04	0.58	0.42	5.48	0.01	0.02	9.05	0.58	0.42	5.48	0.01	0.02
9.06	0.58	0.42	5.47	0.01	0.02	9.07	0.58	0.42	5.47	0.01	0.02
9.08	0.59	0.41	5.46	0.01	0.02	9.09	0.59	0.41	5.46	0.01	0.02
9.10	0.59	0.41	5.45	0.01	0.02	9.11	0.59	0.41	5.45	0.01	0.02
9.12	0.59	0.41	5.44	0.01	0.02	9.13	0.58	0.42	5.44	0.01	0.02
9.14	0.58	0.42	5.43	0.01	0.02	9.15	0.58	0.42	5.43	0.01	0.02
9.16	0.57	0.43	5.42	0.01	0.02	9.17	0.57	0.43	5.42	0.01	0.02
9.18	0.57	0.43	5.41	0.01	0.02	9.19	0.57	0.43	5.41	0.01	0.02
9.20	0.57	0.43	5.40	0.01	0.02	9.21	0.57	0.43	5.40	0.01	0.02
9.22	0.56	0.44	5.39	0.01	0.02	9.23	0.56	0.44	5.39	0.01	0.02
9.24	0.57	0.43	5.38	0.01	0.02	9.25	0.57	0.43	5.38	0.01	0.02
9.26	0.57	0.43	5.37	0.01	0.02	9.27	0.57	0.43	5.37	0.01	0.02
9.28	0.57	0.43	5.36	0.01	0.02	9.29	0.57	0.43	5.36	0.01	0.02
9.30	0.57	0.43	5.35	0.01	0.02	9.31	0.57	0.43	5.35	0.01	0.02
9.32	0.57	0.43	5.34	0.01	0.02	9.33	0.57	0.43	5.34	0.01	0.02
9.34	0.57	0.43	5.33	0.01	0.02	9.35	0.57	0.43	5.33	0.01	0.02
9.36	0.58	0.42	5.32	0.01	0.02	9.37	0.58	0.42	5.32	0.01	0.02
9.38	0.58	0.42	5.31	0.01	0.02	9.39	0.58	0.42	5.31	0.01	0.02
9.40	0.58	0.42	5.30	0.01	0.02	9.41	0.59	0.41	5.30	0.01	0.02
9.42	0.59	0.41	5.29	0.01	0.02	9.43	0.59	0.41	5.29	0.01	0.02
9.44	0.59	0.41	5.28	0.01	0.02	9.45	0.60	0.40	5.28	0.01	0.02
9.46	0.60	0.40	5.27	0.01	0.02	9.47	0.60	0.40	5.27	0.01	0.02
9.48	0.60	0.40	5.26	0.01	0.02	9.49	0.60	0.40	5.26	0.01	0.02
9.50	0.60	0.40	5.25	0.01	0.02	9.51	0.60	0.40	5.25	0.01	0.02

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
9.52	0.61	0.39	5.24	0.01	0.02	9.53	0.60	0.40	5.24	0.01	0.02
9.54	0.61	0.39	5.23	0.01	0.02	9.55	0.61	0.39	5.23	0.01	0.02
9.56	0.61	0.39	5.22	0.01	0.02	9.57	0.60	0.40	5.22	0.01	0.02
9.58	0.60	0.40	5.21	0.01	0.02	9.59	0.60	0.40	5.21	0.01	0.02
9.60	0.60	0.40	5.20	0.01	0.02	9.61	0.61	0.39	5.20	0.01	0.02
9.62	0.61	0.39	5.19	0.01	0.02	9.63	0.61	0.39	5.19	0.01	0.02
9.64	0.61	0.39	5.18	0.01	0.02	9.65	0.60	0.40	5.18	0.01	0.02
9.66	0.59	0.41	5.17	0.01	0.02	9.67	0.59	0.41	5.17	0.01	0.02
9.68	0.59	0.41	5.16	0.01	0.02	9.69	0.59	0.41	5.16	0.01	0.02
9.70	0.59	0.41	5.15	0.01	0.02	9.71	0.59	0.41	5.15	0.01	0.02
9.72	0.59	0.41	5.14	0.01	0.02	9.73	0.59	0.41	5.14	0.01	0.02
9.74	0.59	0.41	5.13	0.01	0.02	9.75	0.60	0.40	5.13	0.01	0.02
9.76	0.60	0.40	5.12	0.01	0.02	9.77	0.60	0.40	5.12	0.01	0.02
9.78	0.60	0.40	5.11	0.01	0.02	9.79	0.59	0.41	5.11	0.01	0.02
9.80	0.59	0.41	5.10	0.01	0.02	9.81	0.59	0.41	5.10	0.01	0.02
9.82	0.59	0.41	5.09	0.01	0.02	9.83	0.59	0.41	5.09	0.01	0.02
9.84	0.60	0.40	5.08	0.01	0.02	9.85	0.59	0.41	5.08	0.01	0.02
9.86	0.60	0.40	5.07	0.01	0.02	9.87	0.60	0.40	5.07	0.01	0.02
9.88	0.60	0.40	5.06	0.01	0.02	9.89	0.61	0.39	5.06	0.01	0.02
9.90	0.61	0.39	5.05	0.01	0.02	9.91	0.61	0.39	5.05	0.01	0.02
9.92	0.59	0.41	5.04	0.01	0.02	9.93	0.59	0.41	5.04	0.01	0.02
9.94	0.59	0.41	5.03	0.01	0.02	9.95	0.59	0.41	5.03	0.01	0.02
9.96	0.58	0.42	5.02	0.01	0.02	9.97	0.58	0.42	5.02	0.01	0.02
9.98	0.58	0.42	5.01	0.01	0.02	9.99	0.57	0.43	5.01	0.01	0.02
10.00	0.57	0.43	5.00	0.01	0.02	10.01	0.56	0.44	5.00	0.01	0.02
10.02	0.55	0.45	4.99	0.01	0.02	10.03	0.55	0.45	4.99	0.01	0.02
10.04	0.55	0.45	4.98	0.01	0.02	10.05	0.55	0.45	4.98	0.01	0.02
10.06	0.55	0.45	4.97	0.01	0.02	10.07	0.54	0.46	4.97	0.01	0.02
10.08	0.54	0.46	4.96	0.01	0.02	10.09	0.54	0.46	4.96	0.01	0.02
10.10	0.54	0.46	4.95	0.01	0.02	10.11	0.54	0.46	4.95	0.01	0.02
10.12	0.54	0.46	4.94	0.01	0.02	10.13	0.54	0.46	4.94	0.01	0.02
10.14	0.54	0.46	4.93	0.01	0.02	10.15	0.54	0.46	4.93	0.01	0.02
10.16	0.54	0.46	4.92	0.01	0.02	10.17	0.54	0.46	4.92	0.01	0.02
10.18	0.54	0.46	4.91	0.01	0.02	10.19	0.54	0.46	4.91	0.01	0.02
10.20	0.54	0.46	4.90	0.01	0.02	10.21	0.54	0.46	4.90	0.01	0.02
10.22	0.55	0.45	4.89	0.01	0.02	10.23	0.55	0.45	4.89	0.01	0.02
10.24	0.55	0.45	4.88	0.01	0.02	10.25	0.55	0.45	4.88	0.01	0.02
10.26	0.55	0.45	4.87	0.01	0.02	10.27	0.56	0.44	4.87	0.01	0.02
10.28	0.56	0.44	4.86	0.01	0.02	10.29	0.56	0.44	4.86	0.01	0.02
10.30	0.56	0.44	4.85	0.01	0.02	10.31	0.56	0.44	4.85	0.01	0.02
10.32	0.56	0.44	4.84	0.01	0.02	10.33	0.56	0.44	4.84	0.01	0.02
10.34	0.56	0.44	4.83	0.01	0.02	10.35	0.56	0.44	4.83	0.01	0.02
10.36	0.57	0.43	4.82	0.01	0.02	10.37	0.58	0.42	4.82	0.01	0.02
10.38	0.58	0.42	4.81	0.01	0.02	10.39	0.60	0.40	4.81	0.01	0.02
10.40	0.60	0.40	4.80	0.01	0.02	10.41	0.61	0.39	4.80	0.01	0.02
10.42	0.62	0.38	4.79	0.01	0.02	10.43	0.62	0.38	4.79	0.01	0.02
10.44	0.63	0.37	4.78	0.01	0.02	10.45	0.64	0.36	4.78	0.01	0.02
10.46	0.65	0.35	4.77	0.01	0.02	10.47	0.65	0.35	4.77	0.01	0.02

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
10.48	0.65	0.35	4.76	0.01	0.02	10.49	0.65	0.35	4.76	0.01	0.02
10.50	0.65	0.35	4.75	0.01	0.02	10.51	0.65	0.35	4.75	0.01	0.02
10.52	0.65	0.35	4.74	0.01	0.02	10.53	0.64	0.36	4.74	0.01	0.02
10.54	0.63	0.37	4.73	0.01	0.02	10.55	0.62	0.38	4.73	0.01	0.02
10.56	0.61	0.39	4.72	0.01	0.02	10.57	0.60	0.40	4.72	0.01	0.02
10.58	0.59	0.41	4.71	0.01	0.02	10.59	0.58	0.42	4.71	0.01	0.02
10.60	0.57	0.43	4.70	0.01	0.02	10.61	0.56	0.44	4.70	0.01	0.02
10.62	0.55	0.45	4.69	0.01	0.02	10.63	0.55	0.45	4.69	0.01	0.02
10.64	0.55	0.45	4.68	0.01	0.02	10.65	0.55	0.45	4.68	0.01	0.02
10.66	0.55	0.45	4.67	0.01	0.02	10.67	0.55	0.45	4.67	0.01	0.02
10.68	0.55	0.45	4.66	0.01	0.02	10.69	0.56	0.44	4.66	0.01	0.02
10.70	0.56	0.44	4.65	0.01	0.02	10.71	0.57	0.43	4.65	0.01	0.02
10.72	0.58	0.42	4.64	0.01	0.02	10.73	0.58	0.42	4.64	0.01	0.02
10.74	0.60	0.40	4.63	0.01	0.02	10.75	0.60	0.40	4.63	0.01	0.02
10.76	0.61	0.39	4.62	0.01	0.02	10.77	0.62	0.38	4.62	0.01	0.02
10.78	0.63	0.37	4.61	0.01	0.02	10.79	0.64	0.36	4.61	0.01	0.02
10.80	0.64	0.36	4.60	0.01	0.02	10.81	0.65	0.35	4.60	0.01	0.02
10.82	0.66	0.34	4.59	0.01	0.02	10.83	0.66	0.34	4.59	0.01	0.02
10.84	0.65	0.35	4.58	0.01	0.02	10.85	0.62	0.38	4.58	0.01	0.02
10.86	0.60	0.40	4.57	0.01	0.02	10.87	0.60	0.40	4.57	0.01	0.02
10.88	0.60	0.40	4.56	0.01	0.02	10.89	0.59	0.41	4.56	0.01	0.02
10.90	0.59	0.41	4.55	0.01	0.02	10.91	0.59	0.41	4.55	0.01	0.02
10.92	0.59	0.41	4.54	0.01	0.02	10.93	0.59	0.41	4.54	0.01	0.02
10.94	0.60	0.40	4.53	0.01	0.02	10.95	0.60	0.40	4.53	0.01	0.02
10.96	0.60	0.40	4.52	0.01	0.02	10.97	0.62	0.38	4.52	0.01	0.02
10.98	0.62	0.38	4.51	0.01	0.02	10.99	0.63	0.37	4.51	0.01	0.02
11.00	0.63	0.37	4.50	0.01	0.02	11.01	0.64	0.36	4.50	0.01	0.02
11.02	0.64	0.36	4.49	0.01	0.02	11.03	0.64	0.36	4.49	0.01	0.02
11.04	0.64	0.36	4.48	0.01	0.02	11.05	0.65	0.35	4.48	0.01	0.02
11.06	0.65	0.35	4.47	0.01	0.02	11.07	0.65	0.35	4.47	0.01	0.02
11.08	0.65	0.35	4.46	0.01	0.02	11.09	0.65	0.35	4.46	0.01	0.02
11.10	0.65	0.35	4.45	0.01	0.02	11.11	0.65	0.35	4.45	0.01	0.02
11.12	0.65	0.35	4.44	0.01	0.02	11.13	0.65	0.35	4.44	0.01	0.02
11.14	0.65	0.35	4.43	0.01	0.02	11.15	0.65	0.35	4.43	0.01	0.02
11.16	0.65	0.35	4.42	0.01	0.02	11.17	0.64	0.36	4.42	0.01	0.02
11.18	0.64	0.36	4.41	0.01	0.02	11.19	0.64	0.36	4.41	0.01	0.02
11.20	0.64	0.36	4.40	0.01	0.02	11.21	0.63	0.37	4.40	0.01	0.02
11.22	0.63	0.37	4.39	0.01	0.02	11.23	0.63	0.37	4.39	0.01	0.02
11.24	0.63	0.37	4.38	0.01	0.02	11.25	0.63	0.37	4.38	0.01	0.02
11.26	0.63	0.37	4.37	0.01	0.02	11.27	0.63	0.37	4.37	0.01	0.02
11.28	0.64	0.36	4.36	0.01	0.02	11.29	0.65	0.35	4.36	0.01	0.02
11.30	0.66	0.34	4.35	0.01	0.01	11.31	0.67	0.33	4.35	0.01	0.01
11.32	0.67	0.33	4.34	0.01	0.01	11.33	0.67	0.33	4.34	0.01	0.01
11.34	0.67	0.33	4.33	0.01	0.01	11.35	0.66	0.34	4.33	0.01	0.01
11.36	0.65	0.35	4.32	0.01	0.02	11.37	0.64	0.36	4.32	0.01	0.02
11.38	0.62	0.38	4.31	0.01	0.02	11.39	0.61	0.39	4.31	0.01	0.02
11.40	0.60	0.40	4.30	0.01	0.02	11.41	0.60	0.40	4.30	0.01	0.02
11.42	0.60	0.40	4.29	0.01	0.02	11.43	0.60	0.40	4.29	0.01	0.02

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
11.44	0.60	0.40	4.28	0.01	0.02	11.45	0.60	0.40	4.28	0.01	0.02
11.46	0.60	0.40	4.27	0.01	0.02	11.47	0.59	0.41	4.27	0.01	0.02
11.48	0.58	0.42	4.26	0.01	0.02	11.49	0.58	0.42	4.26	0.01	0.02
11.50	0.57	0.43	4.25	0.01	0.02	11.51	0.57	0.43	4.25	0.01	0.02
11.52	0.57	0.43	4.24	0.01	0.02	11.53	0.57	0.43	4.24	0.01	0.02
11.54	0.57	0.43	4.23	0.01	0.02	11.55	0.57	0.43	4.23	0.01	0.02
11.56	0.57	0.43	4.22	0.01	0.02	11.57	0.57	0.43	4.22	0.01	0.02
11.58	0.56	0.44	4.21	0.01	0.02	11.59	0.56	0.44	4.21	0.01	0.02
11.60	0.56	0.44	4.20	0.01	0.02	11.61	0.56	0.44	4.20	0.01	0.02
11.62	0.56	0.44	4.19	0.01	0.02	11.63	0.56	0.44	4.19	0.01	0.02
11.64	0.55	0.45	4.18	0.01	0.02	11.65	0.55	0.45	4.18	0.01	0.02
11.66	0.55	0.45	4.17	0.01	0.02	11.67	0.54	0.46	4.17	0.01	0.02
11.68	0.54	0.46	4.16	0.01	0.02	11.69	0.54	0.46	4.16	0.01	0.02
11.70	0.53	0.47	4.15	0.01	0.02	11.71	0.53	0.47	4.15	0.01	0.02
11.72	0.53	0.47	4.14	0.01	0.02	11.73	0.53	0.47	4.14	0.01	0.02
11.74	0.52	0.48	4.13	0.01	0.02	11.75	0.52	0.48	4.13	0.01	0.02
11.76	0.52	0.48	4.12	0.01	0.02	11.77	0.51	0.49	4.12	0.01	0.02
11.78	0.51	0.49	4.11	0.01	0.02	11.79	0.51	0.49	4.11	0.01	0.02
11.80	0.51	0.49	4.10	0.01	0.02	11.81	0.51	0.49	4.10	0.01	0.02
11.82	0.51	0.49	4.09	0.01	0.02	11.83	0.51	0.49	4.09	0.01	0.02
11.84	0.51	0.49	4.08	0.01	0.02	11.85	0.51	0.49	4.08	0.01	0.02
11.86	0.51	0.49	4.07	0.01	0.02	11.87	0.51	0.49	4.07	0.01	0.02
11.88	0.51	0.49	4.06	0.01	0.02	11.89	0.51	0.49	4.06	0.01	0.02
11.90	0.52	0.48	4.05	0.01	0.02	11.91	0.52	0.48	4.05	0.01	0.02
11.92	0.52	0.48	4.04	0.01	0.02	11.93	0.52	0.48	4.04	0.01	0.02
11.94	0.52	0.48	4.03	0.01	0.02	11.95	0.53	0.47	4.03	0.01	0.02
11.96	0.53	0.47	4.02	0.01	0.02	11.97	0.53	0.47	4.02	0.01	0.02
11.98	0.54	0.46	4.01	0.01	0.02	11.99	0.55	0.45	4.01	0.01	0.02
12.00	0.55	0.45	4.00	0.01	0.02	12.01	0.56	0.44	4.00	0.01	0.02
12.02	0.56	0.44	3.99	0.01	0.02	12.03	0.57	0.43	3.99	0.01	0.02
12.04	0.57	0.43	3.98	0.01	0.02	12.05	0.57	0.43	3.98	0.01	0.02
12.06	0.58	0.42	3.97	0.01	0.02	12.07	0.58	0.42	3.97	0.01	0.02
12.08	0.58	0.42	3.96	0.01	0.02	12.09	0.58	0.42	3.96	0.01	0.02
12.10	0.58	0.42	3.95	0.01	0.02	12.11	0.58	0.42	3.95	0.01	0.02
12.12	0.58	0.42	3.94	0.01	0.02	12.13	0.59	0.41	3.94	0.01	0.02
12.14	0.59	0.41	3.93	0.01	0.02	12.15	0.60	0.40	3.93	0.01	0.02
12.16	0.60	0.40	3.92	0.01	0.02	12.17	0.61	0.39	3.92	0.01	0.02
12.18	0.61	0.39	3.91	0.01	0.02	12.19	0.61	0.39	3.91	0.01	0.02
12.20	0.61	0.39	3.90	0.01	0.02	12.21	0.61	0.39	3.90	0.01	0.02
12.22	0.62	0.38	3.89	0.01	0.01	12.23	0.62	0.38	3.89	0.01	0.01
12.24	0.63	0.37	3.88	0.01	0.01	12.25	0.64	0.36	3.88	0.01	0.01
12.26	0.65	0.35	3.87	0.01	0.01	12.27	0.65	0.35	3.87	0.01	0.01
12.28	0.64	0.36	3.86	0.01	0.01	12.29	0.64	0.36	3.86	0.01	0.01
12.30	0.63	0.37	3.85	0.01	0.01	12.31	0.64	0.36	3.85	0.01	0.01
12.32	0.64	0.36	3.84	0.01	0.01	12.33	0.66	0.34	3.84	0.01	0.01
12.34	0.68	0.32	3.83	0.01	0.01	12.35	0.69	0.31	3.83	0.01	0.01
12.36	0.69	0.31	3.82	0.01	0.01	12.37	0.69	0.31	3.82	0.01	0.01
12.38	0.69	0.31	3.81	0.01	0.01	12.39	0.69	0.31	3.81	0.01	0.01

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
12.40	0.69	0.31	3.80	0.01	0.01	12.41	0.69	0.31	3.80	0.01	0.01
12.42	0.68	0.32	3.79	0.01	0.01	12.43	0.68	0.32	3.79	0.01	0.01
12.44	0.68	0.32	3.78	0.01	0.01	12.45	0.67	0.33	3.78	0.01	0.01
12.46	0.67	0.33	3.77	0.01	0.01	12.47	0.66	0.34	3.77	0.01	0.01
12.48	0.66	0.34	3.76	0.01	0.01	12.49	0.65	0.35	3.76	0.01	0.01
12.50	0.65	0.35	3.75	0.01	0.01	12.51	0.64	0.36	3.75	0.01	0.01
12.52	0.64	0.36	3.74	0.01	0.01	12.53	0.64	0.36	3.74	0.01	0.01
12.54	0.63	0.37	3.73	0.01	0.01	12.55	0.63	0.37	3.73	0.01	0.01
12.56	0.63	0.37	3.72	0.01	0.01	12.57	0.63	0.37	3.72	0.01	0.01
12.58	0.63	0.37	3.71	0.01	0.01	12.59	0.63	0.37	3.71	0.01	0.01
12.60	0.63	0.37	3.70	0.01	0.01	12.61	0.63	0.37	3.70	0.01	0.01
12.62	0.63	0.37	3.69	0.01	0.01	12.63	0.63	0.37	3.69	0.01	0.01
12.64	0.63	0.37	3.68	0.01	0.01	12.65	0.63	0.37	3.68	0.01	0.01
12.66	0.63	0.37	3.67	0.01	0.01	12.67	0.63	0.37	3.67	0.01	0.01
12.68	0.64	0.36	3.66	0.01	0.01	12.69	0.64	0.36	3.66	0.01	0.01
12.70	0.64	0.36	3.65	0.01	0.01	12.71	0.65	0.35	3.65	0.01	0.01
12.72	0.65	0.35	3.64	0.01	0.01	12.73	0.66	0.34	3.64	0.01	0.01
12.74	0.67	0.33	3.63	0.01	0.01	12.75	0.67	0.33	3.63	0.01	0.01
12.76	0.67	0.33	3.62	0.01	0.01	12.77	0.68	0.32	3.62	0.01	0.01
12.78	0.68	0.32	3.61	0.01	0.01	12.79	0.69	0.31	3.61	0.01	0.01
12.80	0.69	0.31	3.60	0.01	0.01	12.81	0.69	0.31	3.60	0.01	0.01
12.82	0.69	0.31	3.59	0.01	0.01	12.83	0.69	0.31	3.59	0.01	0.01
12.84	0.69	0.31	3.58	0.01	0.01	12.85	0.69	0.31	3.58	0.01	0.01
12.86	0.68	0.32	3.57	0.01	0.01	12.87	0.68	0.32	3.57	0.01	0.01
12.88	0.68	0.32	3.56	0.01	0.01	12.89	0.68	0.32	3.56	0.01	0.01
12.90	0.68	0.32	3.55	0.01	0.01	12.91	0.68	0.32	3.55	0.01	0.01
12.92	0.65	0.35	3.54	0.01	0.01	12.93	0.64	0.36	3.54	0.01	0.01
12.94	0.64	0.36	3.53	0.01	0.01	12.95	0.64	0.36	3.53	0.01	0.01
12.96	0.64	0.36	3.52	0.01	0.01	12.97	0.64	0.36	3.52	0.01	0.01
12.98	0.64	0.36	3.51	0.01	0.01	12.99	0.65	0.35	3.51	0.01	0.01
13.00	0.65	0.35	3.50	0.01	0.01	13.01	0.66	0.34	3.50	0.01	0.01
13.02	0.66	0.34	3.49	0.01	0.01	13.03	0.67	0.33	3.49	0.01	0.01
13.04	0.67	0.33	3.48	0.01	0.01	13.05	0.67	0.33	3.48	0.01	0.01
13.06	0.67	0.33	3.47	0.01	0.01	13.07	0.67	0.33	3.47	0.01	0.01
13.08	0.66	0.34	3.46	0.01	0.01	13.09	0.66	0.34	3.46	0.01	0.01
13.10	0.66	0.34	3.45	0.01	0.01	13.11	0.66	0.34	3.45	0.01	0.01
13.12	0.66	0.34	3.44	0.01	0.01	13.13	0.66	0.34	3.44	0.01	0.01
13.14	0.66	0.34	3.43	0.01	0.01	13.15	0.66	0.34	3.43	0.01	0.01
13.16	0.66	0.34	3.42	0.01	0.01	13.17	0.67	0.33	3.42	0.01	0.01
13.18	0.67	0.33	3.41	0.01	0.01	13.19	0.67	0.33	3.41	0.01	0.01
13.20	0.67	0.33	3.40	0.01	0.01	13.21	0.68	0.32	3.40	0.01	0.01
13.22	0.68	0.32	3.39	0.01	0.01	13.23	0.68	0.32	3.39	0.01	0.01
13.24	0.68	0.32	3.38	0.01	0.01	13.25	0.68	0.32	3.38	0.01	0.01
13.26	0.68	0.32	3.37	0.01	0.01	13.27	0.67	0.33	3.37	0.01	0.01
13.28	0.67	0.33	3.36	0.01	0.01	13.29	0.67	0.33	3.36	0.01	0.01
13.30	0.67	0.33	3.35	0.01	0.01	13.31	0.67	0.33	3.35	0.01	0.01
13.32	0.66	0.34	3.34	0.01	0.01	13.33	0.66	0.34	3.34	0.01	0.01
13.34	0.66	0.34	3.33	0.01	0.01	13.35	0.65	0.35	3.33	0.01	0.01

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
13.36	0.65	0.35	3.32	0.01	0.01	13.37	0.65	0.35	3.32	0.01	0.01
13.38	0.65	0.35	3.31	0.01	0.01	13.39	0.65	0.35	3.31	0.01	0.01
13.40	0.64	0.36	3.30	0.01	0.01	13.41	0.64	0.36	3.30	0.01	0.01
13.42	0.64	0.36	3.29	0.01	0.01	13.43	0.64	0.36	3.29	0.01	0.01
13.44	0.63	0.37	3.28	0.01	0.01	13.45	0.63	0.37	3.28	0.01	0.01
13.46	0.63	0.37	3.27	0.01	0.01	13.47	0.62	0.38	3.27	0.01	0.01
13.48	0.62	0.38	3.26	0.01	0.01	13.49	0.62	0.38	3.26	0.01	0.01
13.50	0.62	0.38	3.25	0.01	0.01	13.51	0.62	0.38	3.25	0.01	0.01
13.52	0.62	0.38	3.24	0.01	0.01	13.53	0.62	0.38	3.24	0.01	0.01
13.54	0.62	0.38	3.23	0.01	0.01	13.55	0.62	0.38	3.23	0.01	0.01
13.56	0.62	0.38	3.22	0.01	0.01	13.57	0.62	0.38	3.22	0.01	0.01
13.58	0.63	0.37	3.21	0.01	0.01	13.59	0.63	0.37	3.21	0.01	0.01
13.60	0.63	0.37	3.20	0.01	0.01	13.61	0.64	0.36	3.20	0.01	0.01
13.62	0.64	0.36	3.19	0.01	0.01	13.63	0.63	0.37	3.19	0.01	0.01
13.64	0.64	0.36	3.18	0.01	0.01	13.65	0.63	0.37	3.18	0.01	0.01
13.66	0.63	0.37	3.17	0.01	0.01	13.67	0.63	0.37	3.17	0.01	0.01
13.68	0.63	0.37	3.16	0.01	0.01	13.69	0.63	0.37	3.16	0.01	0.01
13.70	0.63	0.37	3.15	0.01	0.01	13.71	0.63	0.37	3.15	0.01	0.01
13.72	0.63	0.37	3.14	0.01	0.01	13.73	0.64	0.36	3.14	0.01	0.01
13.74	0.65	0.35	3.13	0.01	0.01	13.75	0.65	0.35	3.13	0.01	0.01
13.76	0.66	0.34	3.12	0.01	0.01	13.77	0.67	0.33	3.12	0.01	0.01
13.78	0.68	0.32	3.11	0.01	0.01	13.79	0.70	0.30	3.11	0.01	0.01
13.80	0.71	0.29	3.10	0.01	0.01	13.81	0.71	0.29	3.10	0.01	0.01
13.82	0.71	0.29	3.09	0.01	0.01	13.83	0.71	0.29	3.09	0.01	0.01
13.84	0.70	0.30	3.08	0.01	0.01	13.85	0.69	0.31	3.08	0.01	0.01
13.86	0.69	0.31	3.07	0.01	0.01	13.87	0.68	0.32	3.07	0.01	0.01
13.88	0.68	0.32	3.06	0.01	0.01	13.89	0.67	0.33	3.06	0.01	0.01
13.90	0.67	0.33	3.05	0.01	0.01	13.91	0.67	0.33	3.05	0.01	0.01
13.92	0.61	0.39	3.04	0.01	0.01	13.93	0.61	0.39	3.04	0.01	0.01
13.94	0.61	0.39	3.03	0.01	0.01	13.95	0.61	0.39	3.03	0.01	0.01
13.96	0.61	0.39	3.02	0.01	0.01	13.97	0.61	0.39	3.02	0.01	0.01
13.98	0.61	0.39	3.01	0.01	0.01	13.99	0.61	0.39	3.01	0.01	0.01
14.00	0.62	0.38	3.00	0.01	0.01	14.01	0.61	0.39	3.00	0.01	0.01
14.02	0.59	0.41	2.99	0.01	0.01	14.03	0.58	0.42	2.99	0.01	0.01
14.04	0.58	0.42	2.98	0.01	0.01	14.05	0.58	0.42	2.98	0.01	0.01
14.06	0.57	0.43	2.97	0.01	0.01	14.07	0.57	0.43	2.97	0.01	0.01
14.08	0.57	0.43	2.96	0.01	0.01	14.09	0.58	0.42	2.96	0.01	0.01
14.10	0.60	0.40	2.95	0.01	0.01	14.11	0.68	0.32	2.95	0.01	0.01
14.12	0.72	0.28	2.94	0.01	0.01	14.13	0.78	0.22	2.94	0.01	0.01
14.14	0.84	0.16	2.93	0.01	0.00	14.15	0.87	0.13	2.93	0.01	0.00
14.16	0.85	0.15	2.92	0.01	0.00	14.17	0.81	0.19	2.92	0.01	0.01
14.18	0.75	0.25	2.91	0.01	0.01	14.19	0.69	0.31	2.91	0.01	0.01
14.20	2.00	0.00	2.90	0.01	0.00	14.21	2.00	0.00	2.90	0.01	0.00
14.22	2.00	0.00	2.89	0.01	0.00	14.23	2.00	0.00	2.89	0.01	0.00
14.24	2.00	0.00	2.88	0.01	0.00	14.25	2.00	0.00	2.88	0.01	0.00
14.26	2.00	0.00	2.87	0.01	0.00	14.27	2.00	0.00	2.87	0.01	0.00
14.28	2.00	0.00	2.86	0.01	0.00	14.29	2.00	0.00	2.86	0.01	0.00
14.30	2.00	0.00	2.85	0.01	0.00	14.31	2.00	0.00	2.85	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
14.32	2.00	0.00	2.84	0.01	0.00	14.33	2.00	0.00	2.84	0.01	0.00
14.34	2.00	0.00	2.83	0.01	0.00	14.35	2.00	0.00	2.83	0.01	0.00
14.36	2.00	0.00	2.82	0.01	0.00	14.37	2.00	0.00	2.82	0.01	0.00
14.38	2.00	0.00	2.81	0.01	0.00	14.39	2.00	0.00	2.81	0.01	0.00
14.40	2.00	0.00	2.80	0.01	0.00	14.41	2.00	0.00	2.80	0.01	0.00
14.42	2.00	0.00	2.79	0.01	0.00	14.43	2.00	0.00	2.79	0.01	0.00
14.44	2.00	0.00	2.78	0.01	0.00	14.45	2.00	0.00	2.78	0.01	0.00
14.46	2.00	0.00	2.77	0.01	0.00	14.47	2.00	0.00	2.77	0.01	0.00
14.48	2.00	0.00	2.76	0.01	0.00	14.49	2.00	0.00	2.76	0.01	0.00
14.50	2.00	0.00	2.75	0.01	0.00	14.51	2.00	0.00	2.75	0.01	0.00
14.52	2.00	0.00	2.74	0.01	0.00	14.53	2.00	0.00	2.74	0.01	0.00
14.54	2.00	0.00	2.73	0.01	0.00	14.55	2.00	0.00	2.73	0.01	0.00
14.56	2.00	0.00	2.72	0.01	0.00	14.57	2.00	0.00	2.72	0.01	0.00
14.58	2.00	0.00	2.71	0.01	0.00	14.59	2.00	0.00	2.71	0.01	0.00
14.60	2.00	0.00	2.70	0.01	0.00	14.61	2.00	0.00	2.70	0.01	0.00
14.62	2.00	0.00	2.69	0.01	0.00	14.63	2.00	0.00	2.69	0.01	0.00
14.64	2.00	0.00	2.68	0.01	0.00	14.65	2.00	0.00	2.68	0.01	0.00
14.66	2.00	0.00	2.67	0.01	0.00	14.67	2.00	0.00	2.67	0.01	0.00
14.68	2.00	0.00	2.66	0.01	0.00	14.69	2.00	0.00	2.66	0.01	0.00
14.70	2.00	0.00	2.65	0.01	0.00	14.71	2.00	0.00	2.65	0.01	0.00
14.72	2.00	0.00	2.64	0.01	0.00	14.73	2.00	0.00	2.64	0.01	0.00
14.74	2.00	0.00	2.63	0.01	0.00	14.75	2.00	0.00	2.63	0.01	0.00
14.76	2.00	0.00	2.62	0.01	0.00	14.77	2.00	0.00	2.62	0.01	0.00
14.78	2.00	0.00	2.61	0.01	0.00	14.79	2.00	0.00	2.61	0.01	0.00
14.80	2.00	0.00	2.60	0.01	0.00	14.81	2.00	0.00	2.60	0.01	0.00
14.82	2.00	0.00	2.59	0.01	0.00	14.83	2.00	0.00	2.59	0.01	0.00
14.84	2.00	0.00	2.58	0.01	0.00	14.85	2.00	0.00	2.58	0.01	0.00
14.86	2.00	0.00	2.57	0.01	0.00	14.87	2.00	0.00	2.57	0.01	0.00
14.88	2.00	0.00	2.56	0.01	0.00	14.89	2.00	0.00	2.56	0.01	0.00
14.90	2.00	0.00	2.55	0.01	0.00	14.91	2.00	0.00	2.55	0.01	0.00
14.92	2.00	0.00	2.54	0.01	0.00	14.93	2.00	0.00	2.54	0.01	0.00
14.94	2.00	0.00	2.53	0.01	0.00	14.95	2.00	0.00	2.53	0.01	0.00
14.96	2.00	0.00	2.52	0.01	0.00	14.97	2.00	0.00	2.52	0.01	0.00
14.98	2.00	0.00	2.51	0.01	0.00	14.99	2.00	0.00	2.51	0.01	0.00
15.00	2.00	0.00	2.50	0.01	0.00	15.01	2.00	0.00	2.50	0.01	0.00
15.02	2.00	0.00	2.49	0.01	0.00	15.03	2.00	0.00	2.49	0.01	0.00
15.04	2.00	0.00	2.48	0.01	0.00	15.05	2.00	0.00	2.48	0.01	0.00
15.06	2.00	0.00	2.47	0.01	0.00	15.07	2.00	0.00	2.47	0.01	0.00
15.08	2.00	0.00	2.46	0.01	0.00	15.09	2.00	0.00	2.46	0.01	0.00
15.10	2.00	0.00	2.45	0.01	0.00	15.11	2.00	0.00	2.45	0.01	0.00
15.12	2.00	0.00	2.44	0.01	0.00	15.13	2.00	0.00	2.44	0.01	0.00
15.14	2.00	0.00	2.43	0.01	0.00	15.15	2.00	0.00	2.43	0.01	0.00
15.16	2.00	0.00	2.42	0.01	0.00	15.17	2.00	0.00	2.42	0.01	0.00
15.18	2.00	0.00	2.41	0.01	0.00	15.19	2.00	0.00	2.41	0.01	0.00
15.20	2.00	0.00	2.40	0.01	0.00	15.21	2.00	0.00	2.40	0.01	0.00
15.22	2.00	0.00	2.39	0.01	0.00	15.23	2.00	0.00	2.39	0.01	0.00
15.24	2.00	0.00	2.38	0.01	0.00	15.25	2.00	0.00	2.38	0.01	0.00
15.26	2.00	0.00	2.37	0.01	0.00	15.27	2.00	0.00	2.37	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
15.28	2.00	0.00	2.36	0.01	0.00	15.29	2.00	0.00	2.36	0.01	0.00
15.30	2.00	0.00	2.35	0.01	0.00	15.31	2.00	0.00	2.35	0.01	0.00
15.32	2.00	0.00	2.34	0.01	0.00	15.33	2.00	0.00	2.34	0.01	0.00
15.34	2.00	0.00	2.33	0.01	0.00	15.35	2.00	0.00	2.33	0.01	0.00
15.36	2.00	0.00	2.32	0.01	0.00	15.37	2.00	0.00	2.32	0.01	0.00
15.38	2.00	0.00	2.31	0.01	0.00	15.39	2.00	0.00	2.31	0.01	0.00
15.40	2.00	0.00	2.30	0.01	0.00	15.41	2.00	0.00	2.30	0.01	0.00
15.42	2.00	0.00	2.29	0.01	0.00	15.43	2.00	0.00	2.29	0.01	0.00
15.44	2.00	0.00	2.28	0.01	0.00	15.45	2.00	0.00	2.28	0.01	0.00
15.46	2.00	0.00	2.27	0.01	0.00	15.47	2.00	0.00	2.27	0.01	0.00
15.48	2.00	0.00	2.26	0.01	0.00	15.49	2.00	0.00	2.26	0.01	0.00
15.50	2.00	0.00	2.25	0.01	0.00	15.51	2.00	0.00	2.25	0.01	0.00
15.52	2.00	0.00	2.24	0.01	0.00	15.53	2.00	0.00	2.24	0.01	0.00
15.54	2.00	0.00	2.23	0.01	0.00	15.55	2.00	0.00	2.23	0.01	0.00
15.56	2.00	0.00	2.22	0.01	0.00	15.57	2.00	0.00	2.22	0.01	0.00
15.58	2.00	0.00	2.21	0.01	0.00	15.59	2.00	0.00	2.21	0.01	0.00
15.60	2.00	0.00	2.20	0.01	0.00	15.61	2.00	0.00	2.20	0.01	0.00
15.62	2.00	0.00	2.19	0.01	0.00	15.63	2.00	0.00	2.19	0.01	0.00
15.64	2.00	0.00	2.18	0.01	0.00	15.65	2.00	0.00	2.18	0.01	0.00
15.66	2.00	0.00	2.17	0.01	0.00	15.67	2.00	0.00	2.17	0.01	0.00
15.68	2.00	0.00	2.16	0.01	0.00	15.69	2.00	0.00	2.16	0.01	0.00
15.70	2.00	0.00	2.15	0.01	0.00	15.71	2.00	0.00	2.15	0.01	0.00
15.72	2.00	0.00	2.14	0.01	0.00	15.73	2.00	0.00	2.14	0.01	0.00
15.74	2.00	0.00	2.13	0.01	0.00	15.75	2.00	0.00	2.13	0.01	0.00
15.76	2.00	0.00	2.12	0.01	0.00	15.77	2.00	0.00	2.12	0.01	0.00
15.78	2.00	0.00	2.11	0.01	0.00	15.79	2.00	0.00	2.11	0.01	0.00
15.80	2.00	0.00	2.10	0.01	0.00	15.81	2.00	0.00	2.10	0.01	0.00
15.82	2.00	0.00	2.09	0.01	0.00	15.83	2.00	0.00	2.09	0.01	0.00
15.84	2.00	0.00	2.08	0.01	0.00	15.85	2.00	0.00	2.08	0.01	0.00
15.86	2.00	0.00	2.07	0.01	0.00	15.87	2.00	0.00	2.07	0.01	0.00
15.88	2.00	0.00	2.06	0.01	0.00	15.89	2.00	0.00	2.06	0.01	0.00
15.90	2.00	0.00	2.05	0.01	0.00	15.91	2.00	0.00	2.05	0.01	0.00
15.92	2.00	0.00	2.04	0.01	0.00	15.93	2.00	0.00	2.04	0.01	0.00
15.94	2.00	0.00	2.03	0.01	0.00	15.95	2.00	0.00	2.03	0.01	0.00
15.96	2.00	0.00	2.02	0.01	0.00	15.97	2.00	0.00	2.02	0.01	0.00
15.98	2.00	0.00	2.01	0.01	0.00	15.99	2.00	0.00	2.01	0.01	0.00
16.00	2.00	0.00	2.00	0.01	0.00	16.01	2.00	0.00	2.00	0.01	0.00
16.02	2.00	0.00	1.99	0.01	0.00	16.03	2.00	0.00	1.99	0.01	0.00
16.04	2.00	0.00	1.98	0.01	0.00	16.05	2.00	0.00	1.98	0.01	0.00
16.06	2.00	0.00	1.97	0.01	0.00	16.07	2.00	0.00	1.97	0.01	0.00
16.08	2.00	0.00	1.96	0.01	0.00	16.09	2.00	0.00	1.96	0.01	0.00
16.10	2.00	0.00	1.95	0.01	0.00	16.11	2.00	0.00	1.95	0.01	0.00
16.12	2.00	0.00	1.94	0.01	0.00	16.13	2.00	0.00	1.94	0.01	0.00
16.14	2.00	0.00	1.93	0.01	0.00	16.15	2.00	0.00	1.93	0.01	0.00
16.16	2.00	0.00	1.92	0.01	0.00	16.17	2.00	0.00	1.92	0.01	0.00
16.18	2.00	0.00	1.91	0.01	0.00	16.19	2.00	0.00	1.91	0.01	0.00
16.20	2.00	0.00	1.90	0.01	0.00	16.21	2.00	0.00	1.90	0.01	0.00
16.22	2.00	0.00	1.89	0.01	0.00	16.23	2.00	0.00	1.89	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
16.24	2.00	0.00	1.88	0.01	0.00	16.25	2.00	0.00	1.88	0.01	0.00
16.26	2.00	0.00	1.87	0.01	0.00	16.27	2.00	0.00	1.87	0.01	0.00
16.28	2.00	0.00	1.86	0.01	0.00	16.29	2.00	0.00	1.86	0.01	0.00
16.30	2.00	0.00	1.85	0.01	0.00	16.31	2.00	0.00	1.85	0.01	0.00
16.32	2.00	0.00	1.84	0.01	0.00	16.33	2.00	0.00	1.84	0.01	0.00
16.34	2.00	0.00	1.83	0.01	0.00	16.35	2.00	0.00	1.83	0.01	0.00
16.36	2.00	0.00	1.82	0.01	0.00	16.37	2.00	0.00	1.82	0.01	0.00
16.38	2.00	0.00	1.81	0.01	0.00	16.39	2.00	0.00	1.81	0.01	0.00
16.40	2.00	0.00	1.80	0.01	0.00	16.41	2.00	0.00	1.80	0.01	0.00
16.42	2.00	0.00	1.79	0.01	0.00	16.43	2.00	0.00	1.79	0.01	0.00
16.44	2.00	0.00	1.78	0.01	0.00	16.45	2.00	0.00	1.78	0.01	0.00
16.46	2.00	0.00	1.77	0.01	0.00	16.47	2.00	0.00	1.77	0.01	0.00
16.48	2.00	0.00	1.76	0.01	0.00	16.49	2.00	0.00	1.76	0.01	0.00
16.50	2.00	0.00	1.75	0.01	0.00	16.51	2.00	0.00	1.75	0.01	0.00
16.52	2.00	0.00	1.74	0.01	0.00	16.53	2.00	0.00	1.74	0.01	0.00
16.54	2.00	0.00	1.73	0.01	0.00	16.55	2.00	0.00	1.73	0.01	0.00
16.56	2.00	0.00	1.72	0.01	0.00	16.57	2.00	0.00	1.72	0.01	0.00
16.58	2.00	0.00	1.71	0.01	0.00	16.59	2.00	0.00	1.71	0.01	0.00
16.60	2.00	0.00	1.70	0.01	0.00	16.61	2.00	0.00	1.70	0.01	0.00
16.62	2.00	0.00	1.69	0.01	0.00	16.63	2.00	0.00	1.69	0.01	0.00
16.64	2.00	0.00	1.68	0.01	0.00	16.65	2.00	0.00	1.68	0.01	0.00
16.66	2.00	0.00	1.67	0.01	0.00	16.67	2.00	0.00	1.67	0.01	0.00
16.68	2.00	0.00	1.66	0.01	0.00	16.69	2.00	0.00	1.66	0.01	0.00
16.70	2.00	0.00	1.65	0.01	0.00	16.71	2.00	0.00	1.65	0.01	0.00
16.72	2.00	0.00	1.64	0.01	0.00	16.73	2.00	0.00	1.64	0.01	0.00
16.74	2.00	0.00	1.63	0.01	0.00	16.75	2.00	0.00	1.63	0.01	0.00
16.76	2.00	0.00	1.62	0.01	0.00	16.77	2.00	0.00	1.62	0.01	0.00
16.78	2.00	0.00	1.61	0.01	0.00	16.79	2.00	0.00	1.61	0.01	0.00
16.80	2.00	0.00	1.60	0.01	0.00	16.81	2.00	0.00	1.60	0.01	0.00
16.82	2.00	0.00	1.59	0.01	0.00	16.83	2.00	0.00	1.59	0.01	0.00
16.84	2.00	0.00	1.58	0.01	0.00	16.85	2.00	0.00	1.58	0.01	0.00
16.86	2.00	0.00	1.57	0.01	0.00	16.87	2.00	0.00	1.57	0.01	0.00
16.88	2.00	0.00	1.56	0.01	0.00	16.89	2.00	0.00	1.56	0.01	0.00
16.90	2.00	0.00	1.55	0.01	0.00	16.91	2.00	0.00	1.55	0.01	0.00
16.92	2.00	0.00	1.54	0.01	0.00	16.93	2.00	0.00	1.54	0.01	0.00
16.94	2.00	0.00	1.53	0.01	0.00	16.95	2.00	0.00	1.53	0.01	0.00
16.96	2.00	0.00	1.52	0.01	0.00	16.97	2.00	0.00	1.52	0.01	0.00
16.98	2.00	0.00	1.51	0.01	0.00	16.99	2.00	0.00	1.51	0.01	0.00
17.00	2.00	0.00	1.50	0.01	0.00	17.01	2.00	0.00	1.50	0.01	0.00
17.02	2.00	0.00	1.49	0.01	0.00	17.03	2.00	0.00	1.49	0.01	0.00
17.04	2.00	0.00	1.48	0.01	0.00	17.05	2.00	0.00	1.48	0.01	0.00
17.06	2.00	0.00	1.47	0.01	0.00	17.07	2.00	0.00	1.47	0.01	0.00
17.08	2.00	0.00	1.46	0.01	0.00	17.09	2.00	0.00	1.46	0.01	0.00
17.10	2.00	0.00	1.45	0.01	0.00	17.11	2.00	0.00	1.45	0.01	0.00
17.12	2.00	0.00	1.44	0.01	0.00	17.13	2.00	0.00	1.44	0.01	0.00
17.14	2.00	0.00	1.43	0.01	0.00	17.15	2.00	0.00	1.43	0.01	0.00
17.16	2.00	0.00	1.42	0.01	0.00	17.17	2.00	0.00	1.42	0.01	0.00
17.18	2.00	0.00	1.41	0.01	0.00	17.19	2.00	0.00	1.41	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
17.20	2.00	0.00	1.40	0.01	0.00	17.21	2.00	0.00	1.40	0.01	0.00
17.22	2.00	0.00	1.39	0.01	0.00	17.23	2.00	0.00	1.39	0.01	0.00
17.24	2.00	0.00	1.38	0.01	0.00	17.25	2.00	0.00	1.38	0.01	0.00
17.26	2.00	0.00	1.37	0.01	0.00	17.27	2.00	0.00	1.37	0.01	0.00
17.28	2.00	0.00	1.36	0.01	0.00	17.29	2.00	0.00	1.36	0.01	0.00
17.30	2.00	0.00	1.35	0.01	0.00	17.31	2.00	0.00	1.35	0.01	0.00
17.32	2.00	0.00	1.34	0.01	0.00	17.33	2.00	0.00	1.34	0.01	0.00
17.34	2.00	0.00	1.33	0.01	0.00	17.35	2.00	0.00	1.33	0.01	0.00
17.36	2.00	0.00	1.32	0.01	0.00	17.37	2.00	0.00	1.32	0.01	0.00
17.38	2.00	0.00	1.31	0.01	0.00	17.39	2.00	0.00	1.31	0.01	0.00
17.40	2.00	0.00	1.30	0.01	0.00	17.41	2.00	0.00	1.30	0.01	0.00
17.42	2.00	0.00	1.29	0.01	0.00	17.43	2.00	0.00	1.29	0.01	0.00
17.44	2.00	0.00	1.28	0.01	0.00	17.45	2.00	0.00	1.28	0.01	0.00
17.46	2.00	0.00	1.27	0.01	0.00	17.47	2.00	0.00	1.27	0.01	0.00
17.48	2.00	0.00	1.26	0.01	0.00	17.49	2.00	0.00	1.26	0.01	0.00
17.50	2.00	0.00	1.25	0.01	0.00	17.51	2.00	0.00	1.25	0.01	0.00
17.52	2.00	0.00	1.24	0.01	0.00	17.53	2.00	0.00	1.24	0.01	0.00
17.54	2.00	0.00	1.23	0.01	0.00	17.55	2.00	0.00	1.23	0.01	0.00
17.56	2.00	0.00	1.22	0.01	0.00	17.57	2.00	0.00	1.22	0.01	0.00
17.58	2.00	0.00	1.21	0.01	0.00	17.59	2.00	0.00	1.21	0.01	0.00
17.60	2.00	0.00	1.20	0.01	0.00	17.61	2.00	0.00	1.20	0.01	0.00
17.62	2.00	0.00	1.19	0.01	0.00	17.63	2.00	0.00	1.19	0.01	0.00
17.64	2.00	0.00	1.18	0.01	0.00	17.65	2.00	0.00	1.18	0.01	0.00
17.66	2.00	0.00	1.17	0.01	0.00	17.67	2.00	0.00	1.17	0.01	0.00
17.68	2.00	0.00	1.16	0.01	0.00	17.69	2.00	0.00	1.16	0.01	0.00
17.70	2.00	0.00	1.15	0.01	0.00	17.71	2.00	0.00	1.15	0.01	0.00
17.72	2.00	0.00	1.14	0.01	0.00	17.73	2.00	0.00	1.14	0.01	0.00
17.74	2.00	0.00	1.13	0.01	0.00	17.75	2.00	0.00	1.13	0.01	0.00
17.76	2.00	0.00	1.12	0.01	0.00	17.77	2.00	0.00	1.12	0.01	0.00
17.78	2.00	0.00	1.11	0.01	0.00	17.79	2.00	0.00	1.11	0.01	0.00
17.80	2.00	0.00	1.10	0.01	0.00	17.81	2.00	0.00	1.10	0.01	0.00
17.82	2.00	0.00	1.09	0.01	0.00	17.83	2.00	0.00	1.09	0.01	0.00
17.84	2.00	0.00	1.08	0.01	0.00	17.85	2.00	0.00	1.08	0.01	0.00
17.86	2.00	0.00	1.07	0.01	0.00	17.87	2.00	0.00	1.07	0.01	0.00
17.88	2.00	0.00	1.06	0.01	0.00	17.89	2.00	0.00	1.06	0.01	0.00
17.90	2.00	0.00	1.05	0.01	0.00	17.91	2.00	0.00	1.05	0.01	0.00
17.92	2.00	0.00	1.04	0.01	0.00	17.93	0.57	0.43	1.04	0.01	0.00
17.94	0.60	0.40	1.03	0.01	0.00	17.95	0.64	0.36	1.03	0.01	0.00
17.96	0.70	0.30	1.02	0.01	0.00	17.97	0.74	0.26	1.02	0.01	0.00
17.98	0.78	0.22	1.01	0.01	0.00	17.99	0.79	0.21	1.01	0.01	0.00
18.00	0.80	0.20	1.00	0.01	0.00	18.01	0.71	0.29	1.00	0.01	0.00
18.02	2.00	0.00	0.99	0.01	0.00	18.03	2.00	0.00	0.99	0.01	0.00
18.04	2.00	0.00	0.98	0.01	0.00	18.05	2.00	0.00	0.98	0.01	0.00
18.06	2.00	0.00	0.97	0.01	0.00	18.07	2.00	0.00	0.97	0.01	0.00
18.08	2.00	0.00	0.96	0.01	0.00	18.09	2.00	0.00	0.96	0.01	0.00
18.10	2.00	0.00	0.95	0.01	0.00	18.11	2.00	0.00	0.95	0.01	0.00
18.12	0.62	0.38	0.94	0.01	0.00	18.13	0.66	0.34	0.94	0.01	0.00
18.14	0.70	0.30	0.93	0.01	0.00	18.15	0.72	0.28	0.93	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
18.16	0.72	0.28	0.92	0.01	0.00	18.17	0.72	0.28	0.92	0.01	0.00
18.18	0.72	0.28	0.91	0.01	0.00	18.19	0.72	0.28	0.91	0.01	0.00
18.20	0.72	0.28	0.90	0.01	0.00	18.21	0.72	0.28	0.90	0.01	0.00
18.22	0.72	0.28	0.89	0.01	0.00	18.23	0.72	0.28	0.89	0.01	0.00
18.24	0.74	0.26	0.88	0.01	0.00	18.25	0.75	0.25	0.88	0.01	0.00
18.26	0.76	0.24	0.87	0.01	0.00	18.27	0.75	0.25	0.87	0.01	0.00
18.28	2.00	0.00	0.86	0.01	0.00	18.29	2.00	0.00	0.86	0.01	0.00
18.30	2.00	0.00	0.85	0.01	0.00	18.31	2.00	0.00	0.85	0.01	0.00
18.32	2.00	0.00	0.84	0.01	0.00	18.33	0.73	0.27	0.84	0.01	0.00
18.34	0.73	0.27	0.83	0.01	0.00	18.35	0.83	0.17	0.83	0.01	0.00
18.36	1.02	0.00	0.82	0.01	0.00	18.37	1.02	0.00	0.82	0.01	0.00
18.38	1.10	0.00	0.81	0.01	0.00	18.39	1.06	0.00	0.81	0.01	0.00
18.40	0.98	0.02	0.80	0.01	0.00	18.41	0.85	0.15	0.80	0.01	0.00
18.42	0.82	0.18	0.79	0.01	0.00	18.43	0.80	0.20	0.79	0.01	0.00
18.44	0.78	0.22	0.78	0.01	0.00	18.45	0.77	0.23	0.78	0.01	0.00
18.46	0.73	0.27	0.77	0.01	0.00	18.47	0.66	0.34	0.77	0.01	0.00
18.48	0.72	0.28	0.76	0.01	0.00	18.49	1.40	0.00	0.76	0.01	0.00
18.50	2.00	0.00	0.75	0.01	0.00	18.51	2.00	0.00	0.75	0.01	0.00
18.52	2.00	0.00	0.74	0.01	0.00	18.53	2.00	0.00	0.74	0.01	0.00
18.54	2.00	0.00	0.73	0.01	0.00	18.55	2.00	0.00	0.73	0.01	0.00
18.56	2.00	0.00	0.72	0.01	0.00	18.57	2.00	0.00	0.72	0.01	0.00
18.58	2.00	0.00	0.71	0.01	0.00	18.59	2.00	0.00	0.71	0.01	0.00
18.60	2.00	0.00	0.70	0.01	0.00	18.61	2.00	0.00	0.70	0.01	0.00
18.62	2.00	0.00	0.69	0.01	0.00	18.63	2.00	0.00	0.69	0.01	0.00
18.64	2.00	0.00	0.68	0.01	0.00	18.65	2.00	0.00	0.68	0.01	0.00
18.66	1.49	0.00	0.67	0.01	0.00	18.67	2.00	0.00	0.67	0.01	0.00
18.68	2.00	0.00	0.66	0.01	0.00	18.69	1.46	0.00	0.66	0.01	0.00
18.70	0.95	0.05	0.65	0.01	0.00	18.71	0.96	0.04	0.65	0.01	0.00
18.72	0.88	0.12	0.64	0.01	0.00	18.73	0.87	0.13	0.64	0.01	0.00
18.74	0.87	0.13	0.63	0.01	0.00	18.75	0.88	0.12	0.63	0.01	0.00
18.76	0.88	0.12	0.62	0.01	0.00	18.77	1.16	0.00	0.62	0.01	0.00
18.78	1.61	0.00	0.61	0.01	0.00	18.79	2.00	0.00	0.61	0.01	0.00
18.80	2.00	0.00	0.60	0.01	0.00	18.81	2.00	0.00	0.60	0.01	0.00
18.82	2.00	0.00	0.59	0.01	0.00	18.83	2.00	0.00	0.59	0.01	0.00
18.84	2.00	0.00	0.58	0.01	0.00	18.85	2.00	0.00	0.58	0.01	0.00
18.86	2.00	0.00	0.57	0.01	0.00	18.87	2.00	0.00	0.57	0.01	0.00
18.88	2.00	0.00	0.56	0.01	0.00	18.89	2.00	0.00	0.56	0.01	0.00
18.90	2.00	0.00	0.55	0.01	0.00	18.91	2.00	0.00	0.55	0.01	0.00
18.92	1.84	0.00	0.54	0.01	0.00	18.93	1.80	0.00	0.54	0.01	0.00
18.94	1.79	0.00	0.53	0.01	0.00	18.95	1.82	0.00	0.53	0.01	0.00
18.96	1.79	0.00	0.52	0.01	0.00	18.97	1.82	0.00	0.52	0.01	0.00
18.98	1.92	0.00	0.51	0.01	0.00	18.99	1.91	0.00	0.51	0.01	0.00
19.00	2.00	0.00	0.50	0.01	0.00	19.01	2.00	0.00	0.50	0.01	0.00
19.02	2.00	0.00	0.49	0.01	0.00	19.03	2.00	0.00	0.49	0.01	0.00
19.04	2.00	0.00	0.48	0.01	0.00	19.05	2.00	0.00	0.48	0.01	0.00
19.06	2.00	0.00	0.47	0.01	0.00	19.07	2.00	0.00	0.47	0.01	0.00
19.08	2.00	0.00	0.46	0.01	0.00	19.09	2.00	0.00	0.46	0.01	0.00
19.10	2.00	0.00	0.45	0.01	0.00	19.11	2.00	0.00	0.45	0.01	0.00

:: Liquefaction Potential Index calculation data :: (continued)											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
19.12	2.00	0.00	0.44	0.01	0.00						

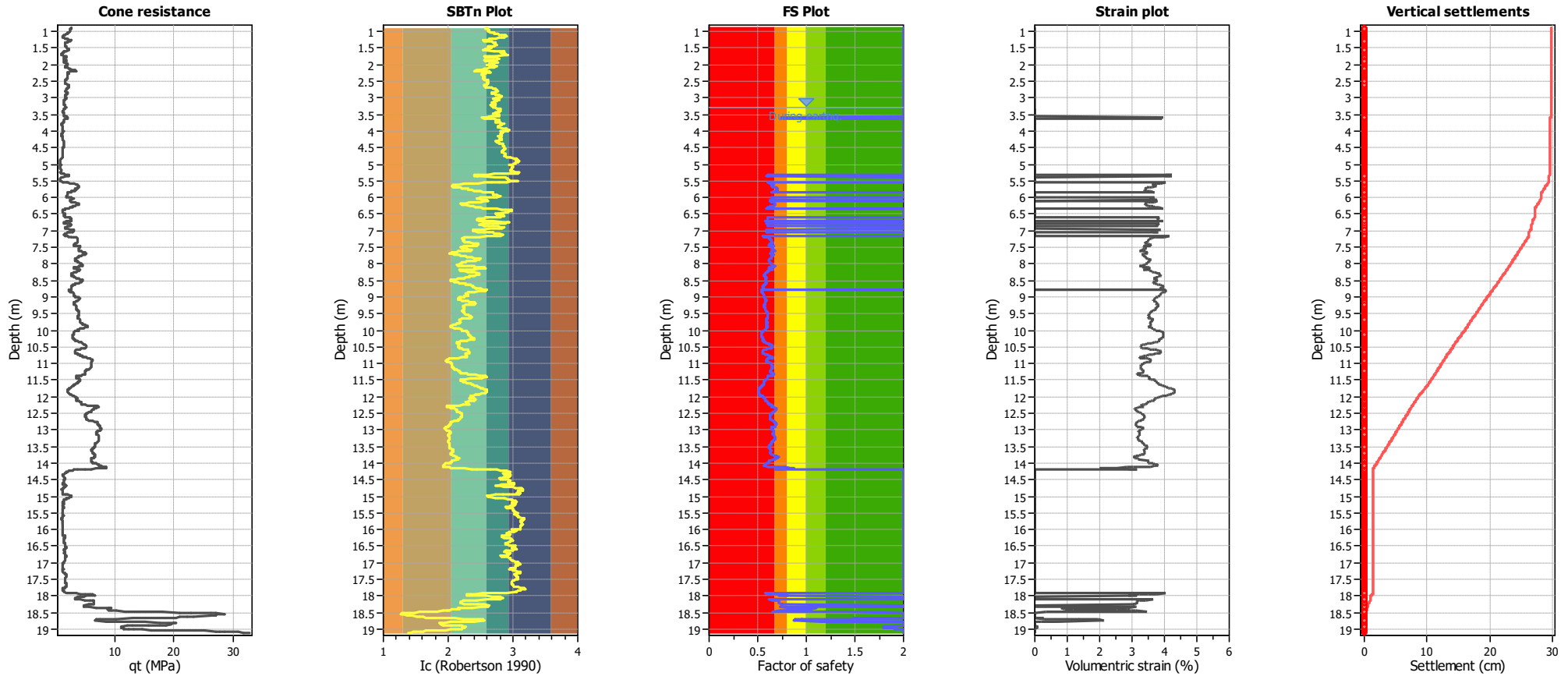
Overall liquefaction potential: 15.28

LPI = 0.00 - Liquefaction risk very low
 LPI between 0.00 and 5.00 - Liquefaction risk low
 LPI between 5.00 and 15.00 - Liquefaction risk high
 LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
 F_L: 1 - FS
 w_z: Function value of the extend of soil liquefaction according to depth
 d_z: Layer thickness (m)
 LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

- qt: Total cone resistance (cone resistance q_c corrected for pore water effects)
- I_c: Soil Behaviour Type Index
- FS: Calculated Factor of Safety against liquefaction
- Volumetric strain: Post-liquefaction volumetric strain