

SINCLAIR KNIGHT MERZ

Principal:

GREATER TAREE CITY COUNCIL

Project:

PITT ST, WATERFRONT PRECINCT, TAREE

Borehole No.

BH 10

Sheet

1 of 2

Project No:

GEOTTUNC01736AB 14.3.2008

Date started: Date completed:

14.3.2008

Logged by:

	nodel		mou				AILER		Easting: 451371 slope: -90°		***************************************	R.L	Surface: 2.18
	diame ling i		rma		100 m	m		! - 1	Northing 6470247 bearing:			dat	tum: AHD
	2 penetration	support	water	notes samples, tests, etc	RL	depth metres	aphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	200 x pocket 200 d penetro- 300 m meter	structure and additional observations
		N			_2	-		CL	TOPSOIL Silty CLAY, low plasticity, brown, some organics (rootlets).	M>Wp	S		TOPSOIL
				SPT 0,0,2	_1	1 1 -		ML	Sandy SILT low plasticity, brown, trace of organics (rootlets).	M>Wp	S	×	ALLUVIAL
			▼-	N*=2	_0	2		SM	Silty SAND fine to medium, dark grey.	W	VL-L		ALLUVIAL
			-	SPT 0,1,1 N*=2	1	3 4		ML	Sandy SILT low plasticity, dark grey, trace organic (rootlets).	M>Wp	S	×	MARINE
				SPT 0,0,4 N*=4	2	- - 5		SP	SAND fine to medium, dark grey, some Silt, fine Gravel and coarse Sand.	W	L		ALLUVIAL
				SPT	4	6		SP	SAND fine to medium, dark grey, some Silt, fine Gravel and coarse Sand.	W	L-MD		ALLUVIAL
				2,3,5 N*=8 SPT 6,3,4 N*=7	5	- 7 -	0 0	GP SP	GRAVEL medium, grey. SAND fine to medium, dark grey, fine Gravel and coarse Sand, trace of Silt.		L-MD L-MD		ALLUVIAL
hc		roll	ger dri er/tric	one	M C per	8 pport mud casing etration		nil	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter soil desc U ₅₃ undisturbed sample 63mm diameter based on 50 disturbed sample system	ription			consistency/density index VS very soft S soft F firm
		hai dia bla V b	shbor ole too nd aug tube nk bit oit bit	ol	wat	er 10/1/98	o resistar anging to efusal B water lo e shown		P pressuremeter W we	/ pist			St stiff VSt very stiff H hard Fb friable VL very loose L loose



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BH 10

Sheet

2 of 2

Project No:

GEOTTUNC01736AB 14.3.2008

Date started: Date completed:

14.3.2008

Logged by:

H 17.6-1	and the last	175-77		on: SEE		-	-						(Checke	ed by:	SR	VI
						RO TR	AILER		Easting:	451371	slope:	-90°			R	R.L. Surface:	2.18
_	diame		-		100 m	im	mate	orial e	Northing ubstance	6470247	bearing	:			d	latum:	AHD
method	no penetration	upport		notes samples, tests, etc	RL	depth metres	aphic log	classification symbol	soil typ	mate e: plasticity or par r, secondary and	irticle characteris	stics,	moisture condition	consistency/ density index	200 x pocket 300 d penetro-		structure and itional observations
AST		N		SPT 1,1,3 N*=4 SPT 1,0,1 N*=1 SPT 2,1,2 N*=3	6	9 9 10 111		SP	SAND fine to coarse Sand CLAY high Gravel.	o medium, dark ; d, trace of Silt. (c	grey, fine Gravel ontinued) Silt, trace fine Sa	and	W M>Wp	L-MD St-VSt		MARINE NOTE: C RESIDUA NOTE: S COLLAP: NOTE: B	PT SAMPLE AT
				N =3	10	1 <u>2</u>			bolenole br	1 10 terminated a	it 11.25m						
					12	1 <u>4</u>											
neth S.D.R.V T.T.IA	hown b	au ro wa ca ha di bl V T(lger d ller/tri ashbo able to and au atube ank b bit C bit	ore ool uger	M C per 1 2	ter 10/1/98	no resistar anging to efusal 3 water le shown		U ₆₃ un D dis N sta N* SF NC SF V va P pre Bs bu E en	les, tests Idisturbed sample sturbed sample sturbed sample andard penetration T - sample recove T with solid cone ine shear (kPa) essuremeter Ilk sample wironmental sampl	3mm diameter test (SPT) red	soil des based of system moistur D di M m W w Wp pl	cription n unified of e ry poist	mbols an		consis VS S F St VSt H Fb VL L MD D VD	very soft soft firm stiff very stiff hard friable very loose loose medium dense dense very dense



Client: SINCLAIR KNIGHT MERZ

Principal: GREATER TAREE CITY COUNCIL

Project:

PITT ST, WATERFRONT PRECINCT, TAREE

Borehole No. BH 11

Sheet

1 of 2

Project No: **GEOTTUNC01736AB**

Date started:

14.3.2008

Date completed: 14.3.2008

Logged by:

Bor	ehole	Lo	catio	on: SEE										hecke			SRM	
	model		mou				AILER		Easting:	451530	slope:	-90°				R.L.'S	urface:	1.1
-	diame	-	rma		100 m	m	mata	wiel er	Northing	6470340	bearing	:				datum	:	AHD
method	2 penetration	support		notes samples, tests, etc	RL	depth metres	raphic log	classification symbol	soil typ	mate be: plasticity or part, secondary and	erial article characteris d minor compone	stics,	moisture condition	consistency/ density index	200 x pocket	a		tructure and onal observations
AST		N			-1	_	} }	ML	TOPSOIL C	layey SILT, dark ace fine Sand.	c brown, some or	ganics	M>Wp	St	П	1	OPSOIL	
					_0	- - 1 -		СН	Silty CLAY trace organi	medium to high ics (rootlets).	ı plasticity, dark g	rey,	M>Wp	S		N	IARINE	
				SPT 0,0,0 N*=0	1	2 2		CL	Silty CLAY	low plasticity, da	ark grey, some fir	ne sand.	M>Wp	S		Н	PT FELL U IAMMER @	NDER WEIGHT C
				SPT 0,0,1 N*=1	2	3		ML		low plasticity, of			M>Wp	S	×		MARINE	
					3	4												
				SPT 1,3,5 N*=8	4	5	0 0	GP		AVEL fine, grey,			W	MD			LLUVIAL	
				SPT 2,3,7 N*=10	5	6		SM		fine to medium, fine to medium	dark grey, some Gravel.	coarse	W	MD-D		A	ALLUVIAL	
				SPT	6	7	0 0	SP	Gravelly SA	AND fine to medi	ium, grey, some	Silt.	W	D-VD		Ā	ALLUVIAL	
				3,7,11 N*=18		8		ML			n plasticity, brown	1.	M <wp< td=""><td>Н</td><td></td><td>550</td><td>RESIDUAL</td><td></td></wp<>	Н		550	RESIDUAL	
metI AS AD RR W CT HA DT B V T	nod shown b	au ro ca ha di bl V To	uger of aller/tri ashbotable to and a atube ank bit C bit	ool uger	M C pe 1	ter 10/1/9	n resistar anging to refusal 8 water le e shown	evel	U ₆₃	ples, tests ndisturbed sample ndisturbed sample sturbed sample tandard penetration PT - sample recov PT with solid cone ane shear (kPa) ressuremeter ulk sample nvironmental samp efusal	e3mm diameter n test (SPT) ered	soil des based or system moistur D dr M m W w Wp pl	e n unified o	classifica			consisten VS S F St VSt H Fb VL L MD D VD	cy/density index very soft soft firm stiff very stiff hard friable very loose loose medium dense dense very dense



SINCLAIR KNIGHT MERZ

Principal:

GREATER TAREE CITY COUNCIL

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PITT ST, WATERFRONT PRECINCT, TAREE

Borehole No.

BH 11

Sheet

2 of 2

Project No:

GEOTTUNC01736AB

Date started:

14.3.2008 14.3.2008

Date completed:

P.E

Logged by:

	-		and the same	-	on: SEE	THE SALES	-	THE REAL PROPERTY.					(Checke	ed by:	SRM	
				mou			RO TR	AILER		Easting: 451530	slope:	-90°			R.L. S	urface:	1.1
	e diar			rma	tion	100 m	m	mat	oriel e	Northing 6470340 ubstance	bearing:				datum	1:	AHD
-	STATE OF THE PERSON.	-		IIIa	notes			-	-			ACTION AND ADDRESS OF THE PARTY		××××	r fo		
method	1 penetration	- 1	support	water	samples, tests, etc	RL	depth metres	graphic log	classification symbol	mater soil type: plasticity or pa colour, secondary and	ticle characteristics	·,	moisture condition	consistency/ density index	100 pocket 200 do penetro- 300 meter 400 meter		tructure and onal observations
ASI			N			/	9		ML	Clayey SILT low to medium (continued)	olasticity, brown.		M <wp< td=""><td>S</td><td></td><td>y</td><td></td></wp<>	S		y	
					SPT 1,8,9	8	- - 1 <u>0</u>						M <wp< td=""><td>Н</td><td>60Ç_k</td><td></td><td></td></wp<>	Н	60Ç _k		
-		\mathbb{H}	+	\dashv	N*=17		-	2222		Borehole BH 11 terminated a	t 10.25m				++++		
							11			Boroliole Bit 11 terminated a	10.25111						
						10											
						11	1 <u>2</u> -										
						12	1 <u>3</u>										
						13	1 <u>4</u> -										
						14	1 <u>5</u>										
							_ 16										
AS AD RR W CT HA DT B V	hod	by by	rolle was cab har dia blai V b	ger di er/tric shboi ole to nd au tube nk bit it bit x	re ol ger	M C per 1.2	mud casing netration 2 3 4	no resista anging to efusal 3 water e shown	evel	notes, samples, tests U ₅₀ undisturbed sample 5 U ₆₃ undisturbed sample 6 N standard penetration 1 N* SPT - sample recover NC SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R	Omm diameter s 3mm diameter b sest (SPT) ed n C N V V	oil designated or system moisture of drawn moisture No with the point of the poi	ry ioist	classificat		consisten VS S F St VSt H Fb VL L MD D VD	very soft soft firm stiff very stiff hard friable very loose loose medium dense dense very dense

BOREHOLE GEOTTUNC01736AB.GPJ COFFEY.GDT 14.4.08



SINCLAIR KNIGHT MERZ

Principal:

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Project:

PITT ST, WATERFRONT PRECINCT, TAREE

Borehole No.

BH 12 1 of 1

Sheet

GEOTTUNC01736AB

Project No:

14.3.2008

Date started: Date completed:

14.3.2008

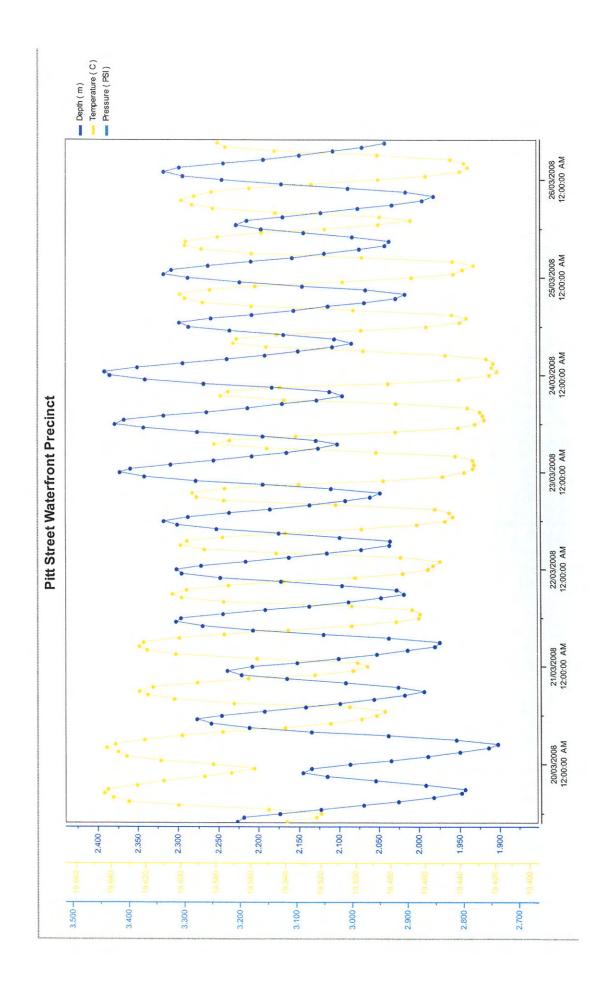
Logged by:

rill n	nodel	and	mou	nting:	JACKI	RO TR	AILER		Easting: 451606	slope:	-90°		Checke		SRM Surface:	4.3
-	diame	-		The second second second	100 m	ım			Northing 6470385	bearing:				dati	um:	AHD
dril	ling i	nfo	rma	tion	-		mate	rial s	ubstance							
poinelli	b penetration	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	materi soil type: plasticity or par colour, secondary and n	ticle characteristics,		moisture condition	consistency/ density index	100 x pocket 200 x penetro- 300 meter		ructure and nal observations
2		N				_		ML	TOPSOILClayey Silt, low plast			M+Wp	F		TOPSOIL	
A				SPT 0,1,1 N*=2	_3 _2 _1 _0	1 1 2 2 3 3 4 4		CL CL	Silty Clay low to medium, gre Sandstone Gravel. Sandy Silt low plasticity, grey, rootlets	Sand. wn and red, some i. y- some mottled gre , trace of organic	een,	M+Wp M+WI	St-F VS	. *x	ALLUVIAL	
				SPT 3 N'=R	1	5		ML	Sandstone/ Sandstone low pale brown, extremly weather Sandstone/ Sandstone fine moderately weathered, highly Borehole BH 12 terminated at	grained, pale brown, fractured.		D	L	-	RESIDUAL F	RELIC ROCK
					2	7			Solition St. 12 terminated a							
neth S D R V T HA OT S bit s	hown b	au ro w ca ha di bl V To	lger of ller/tri ashbo able to and a atube ank b bit C bit	ool uger	M C pee 1	mud casing enetration 2 3 4 ater	no resista ranging to refusal 8 water te showr	level	notes, samples, tests U ₅₀ undisturbed sample 5t U ₆₃ undisturbed sample 6t D disturbed sample 6t N standard penetration t N* SPT - sample recover NC SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	Omm diameter so so same diameter bases sy test (SPT) m D M W W W	oil description as ed on ystem noisture dry dry we	unified of the state of the sta	mbols al		consistence VS S F St VSt H Fb VL L MD D VD	cy/density index very soft soft firm stiff very stiff hard friable very loose loose medium dense dense very dense

GREATER TAREE CITY COUNCIL - PITT STREET WATERFRONT PRECINCT GEOTECHNICAL ASSESSMENT - FINAL REPORT

Appendix B

Results of groundwater monitoring



Report Date: 27/03/2008 8:58:36 AM Report User Name: paul_edmed Report Computer Name: CFFXQ1S

Log File Properties:

File Name: Borehole 1A 2008-03-27 08-58-32.wsl Create Date: 27/03/2008 8:58:25 AM

Device Properties:

Device: Level TROLL $^{\otimes}$ 500 Site: Pitt Street Waterfront Precinct

TROLL 1 Device Name:

Serial Number: 105828

Firmware Version: 2.02

Log Configuration

Log Name: Borehole 1A

Created By: paul_edmed

Application: WinSitu.exe

Create Date: 18/03/2008 4:55:09 PM 5.6.0.0 Application Version:

Notes Size(bytes): 4096

Type: Linear

Overwrite when full: Disabled

Scheduled Start: 19/03/2008 11:00:00 AM

Scheduled Stop: 26/03/2008 11:00:00 AM
Duration: Days: 7 Hours: 00 Mins: 00 Secs: 00
Interval: Days: 0 Hours: 01 Mins: 00 Secs: 00

Level Reference Settings At Log Creation Level Measurement Mode: Depth

Specific Gravity: 1.012

Log Data:				
Record Count: 169		Sensor. Pres 30G	Sensor: Pres 30G	Sensor: Pres 30G
	Elapsed Time	SN#: 105828	SN#: 105828	SN#: 105828
Date and Time	Seconds	Depth (m)	Temperature (C)	Pressure (PSI)
1	1 1 1 1 1 1		40 40 40 40 40 40 40 40 40 40 40 40 40 4	
	1			
19/03/2008 11:00:00 AM	0.00.0	2.226	19.539	
3.204				
19/03/2008 12:00:00 PM	3600.001	2.218	19.522	
3.192				
19/03/2008 1:00:00 PM	7200.000	2.173	19.519	

19.549	19.601	19.629	19.639	19.643	19.642	19.625	19.609	19.586	19.571	19.557	19.581	19.611	19.631	19.636	19.642	19.637	19.620	19.599	19.576	19.540	19.514	19.496	19.487	19.482
2.122	2.069	2.025	1.982	1.947	1.943	1.992	2.054	2.114	2.145	2.134	2.085	2.034	1.988	1.948	1.914	1.902	1.953	2.037	2.134	2.210	2.259	2.276	2.246	2.191
10800.000	14400.001	18000.001	21600.001	25200.001	28800.000	32400.000	36000.001	39600.001	43200.001	46800.001	50400.000	54000.001	57600.001	61200.001	64800.001	68400.001	72000.001	75600.000	79200.000	82800.000	86400.000	90000.001	93600.001	97200.001
9/6	20.6	7,0		200	9 C	,	0 / 0	0/6	2 0 0	0 0 0	> 0	200	200	000	201	0 / 0 /	0 7	70°	000	0/0/	0/(0/0/0	70/0	3.232 20/03/2008 2:00:00 PM 3.154

19.503	19.569	19.603	19.618	19.623	19.615	19.590	19.561	19.523	19.501	19.493	19.498	19.556	19.602	19.619	19.623	19.621	19.601	19.575	19.538	19.502	19.476	19.463	19.462	19.467	19.502
2.141	2.098	2.055	2.017	1.993	2.025	2.092	2.164	2.220	2.238	2.207	2.152	2.100	2.052	2.013	1.980	1.973	2.037	2.118	2.206	2.269	2.302	2.296	2.243	2.190	2.137
100800.000	104400.000	108000.001	111600.001	115200.000	118800.000	122400.001	126000.000	129600.000	133200.000	136800.000	140400.000	144000.001	147600.000	151200.000	154800.001	158400.000	162000.000	165600.001	169200.000	172800.001	176400.001	180000.001	183600.000	187200.000	190800.001
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C	4400.001	2.01600.000 2.018 19.604	205200.000 2.027 19.596	208800.001 2.096 2.096	212400.000 2.171 2.171 19.541	216000.000 2.247 19.49	219600.000 2.295 19.47	223200.001 2.301 2.458	226800.001 2.271 19.45	230400.001 2.215 2.215	234000.000 2.161 19.47	237600.001 2.114 19.54	241200.000 2.072 19.58	244800.000 2.036 2.036 19.600	248400.001 2.035 19.59	252000.000 2.098 19.570	255600.000 2.174 19.540	259200.000 2.251 2.496	262800.000 2.301 19.46	266400.001 2.318 19.44	270000.000 2.287 19.44	273600.000 2.235 2.235	
	./03/2008 5:00:00 PM .006 ./03/2008 6:00:00 PM	16 33/2008 7:00:00 PM	33/2008 8:00:00 PM	.8)3/2008 9:00:00 PM	.5 33/2008 10:00:00 PM	23/2008 11:00:00 PM	3/2008 12:00:00 AM)3/2008 1:00:00 AM	3/2008 2:00:00 AM	33/2008 3:00:00 AM	88)3/2008 4:00:00 AM	.1 3/2008 5:00:00 AM	:3/2008 6:00:00 AM	13/2008 7:00:00 AM	13/2008 8:00:00 AM	:9 33/2008 9:00:00 AM	11 13/2008 10:00:00 AM	3/2008 11:00:00 AM	:0 13/2008 12:00:00 PM	.2 13/2008 1:00:00 PM	.6 13/2008 2:00:00 PM	3/2008 3:00:00 PM	8 3/2008 4:00:00 PM

19.575	19.590	19.593	19.574	19.532	19.483	19.449	19.437	19.432	19.431	19.432	19.442	19.487	19.550	19.580	19.571	19.534	19.476	19.440	19.430	19.425	19.426	19.428	19.435	19.476	19.540
2.091	2.060	2.048	2.109	2.194	2.277	2.341	2.373	2.359	2.309	2.255	2.207	2.165	2.125	2.101	2.128	2.194	2.276	2.343	2.379	2.367	2.317	2.264	2.212	2.170	2.127
284400.000	288000.000	291600.001	295200.000	298800.000	302400.000	306000.001	309600.001	313200.000	316800.001	320400.001	324000.001	327600.000	331200.001	334800.000	338400.001	342000.000	345600.001	349200.001	352800.000	356400.000	360000.000	363600.001	367200.001	370800.000	374400.001
2/0	.01 2/c	2/0 2/0	. 94 9. 2 9. 5	- 03 2/0	2 / 0 2 / 0	3/0/2	3/0/2	.41 3/0	8. 3. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	3/0	3/0 10/6	3/0 3/0	.11 3/0	. 05 3/0	3/02	90. 3/0	3/0	3/0	37	. 42 3/0	. 40 3/0	.33 3/0	3/0	3.184 23/03/2008 6:00:00 PM	3/0

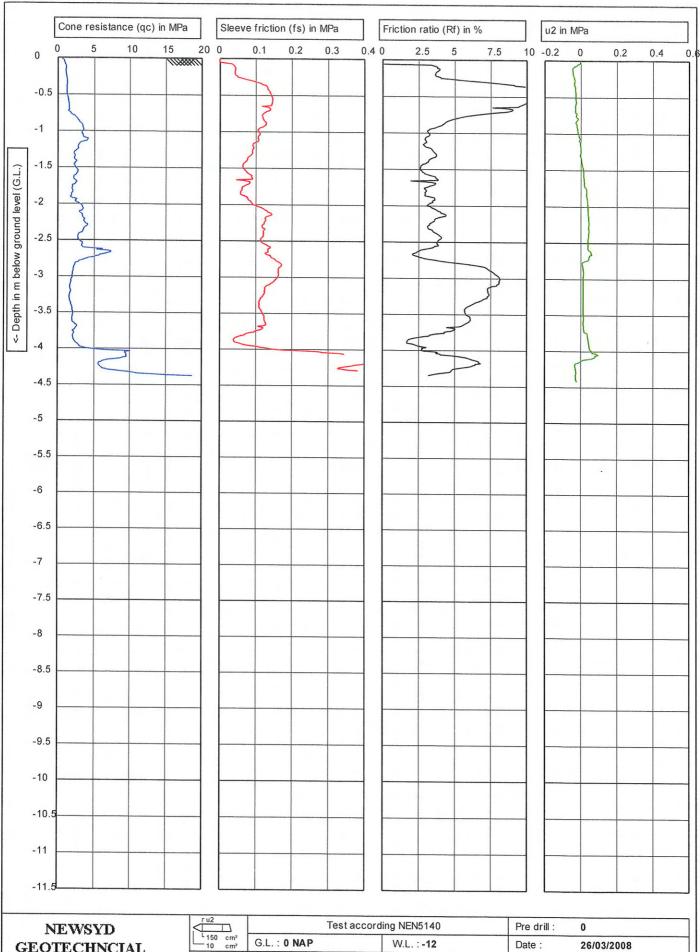
v	O)	æ	0		01	m	1				10													
19.57	19.572	19.54	19.48	19.440	19.422	19.418	19.421	19.420	19.424	19.447	19.495	19.550	19.569	19.567	19.544	19.496	19.458	19.439	19.436	19.444	19.500	19.559	19.587	19.597
2.095	2.111	2.182	2.267	2.341	2.385	2.391	2.350	2.293	2.238	2.191	2.150	2.107	2.083	2.104	2.168	2.235	2.286	2.297	2.258	2.207	2.155	2.112	2.067	2.028
378000.001	381600.000	385200.001	388800.001	392400.001	396000.001	399600.000	403200.000	406800.000	410400.000	414000.001	417600.001	421200.000	424800.001	428400.001	432000.000	435600.000	439200.001	442800.000	446400.001	450000.001	453600.001	457200.001	460800.001	464400.001
3/08	5 %	3/0.	3/6	7 7	٠. م / 4.		4 /4 0 /	0 / 4)) (7 C	0/t	20.4	20.0	y - 4	201	127	107	0 7	0 7	0 2 6	/ T / O / T	0 / 1	40 40 10	2.976 24/03/2008 8:00:00 PM 2.919

. 600	. 583	.557	.507	.467	.443	.438	.431	.443	.495	.559	588	.597	.597	.578	. 553	.517	486	468	.485	545	.581	593	599	592	582
19	19	19	19	19	19	19	19	19	19	19	19	139	19	19.	1.9	10	91	19.	19.	19.	.61	19.	19.	о П	19.
2.016	2.065	2.144	2.222	2.287	2.318	2.308	2.262	2.208	2.157	2.117	2.073	2.042	2.036	2.083	2.143	2.196	2.227	2.214	2.169	2.122	2.075	2.032	1.995	1.981	2.015
468000.001	471600.000	475200.000	478800.001	482400.000	486000.000	489600.000	493200.000	496800.000	500400.000	504000.001	507600.000	511200.000	514800.000	518400.001	522000.000	525600.001	529200.001	532800.000	536400.000	540000.001	543600.001	547200.000	550800.000	554400.001	558000.000
4,	. 4	4	. <u>``</u>	. w	, ru	. 10	3.322 25/03/2008 4:00:00 AM	, 10 L	. 10	-10	. <u>10</u>) <u> </u>) \ \), <u> </u>) <u> </u>	ر د کر	7 / 1	$\gamma \sim \epsilon$	7 7	7 \) <u>/</u> ($\nu \sim 0$	رد ا 🗸 رد	$\infty \geq 0$	2.851 25/03/2008 10:00:00 PM

GREATER TAREE CITY COUNCIL - PITT STREET WATERFRONT PRECINCT GEOTECHNICAL ASSESSMENT - FINAL REPORT

Appendix C

Cone penetration test results



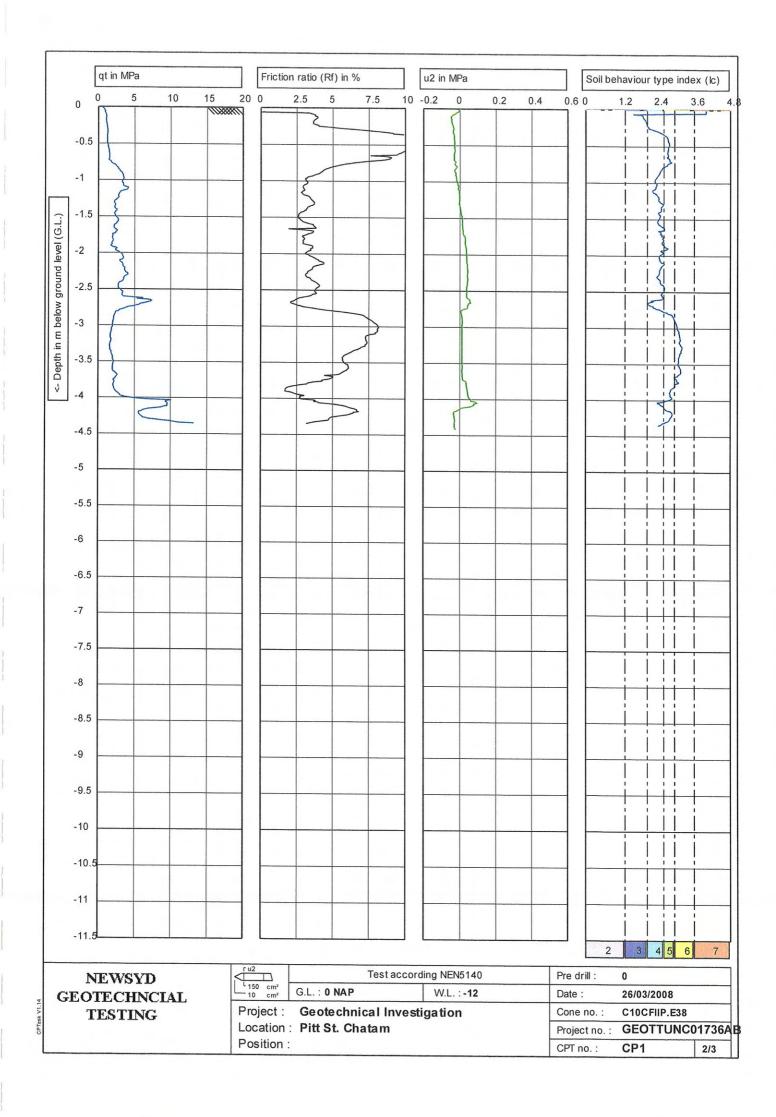
GEOTECHNCIAL TESTING

G.L.: 0 NAP W.L.: -12 Date:

Project: Geotechnical Investigation

Location: Pitt St. Chatam Position:

Cone no.: C10CFIIP.E38 GEOTTUNC01736AB Project no.: CP1 CPT no.: 1/3



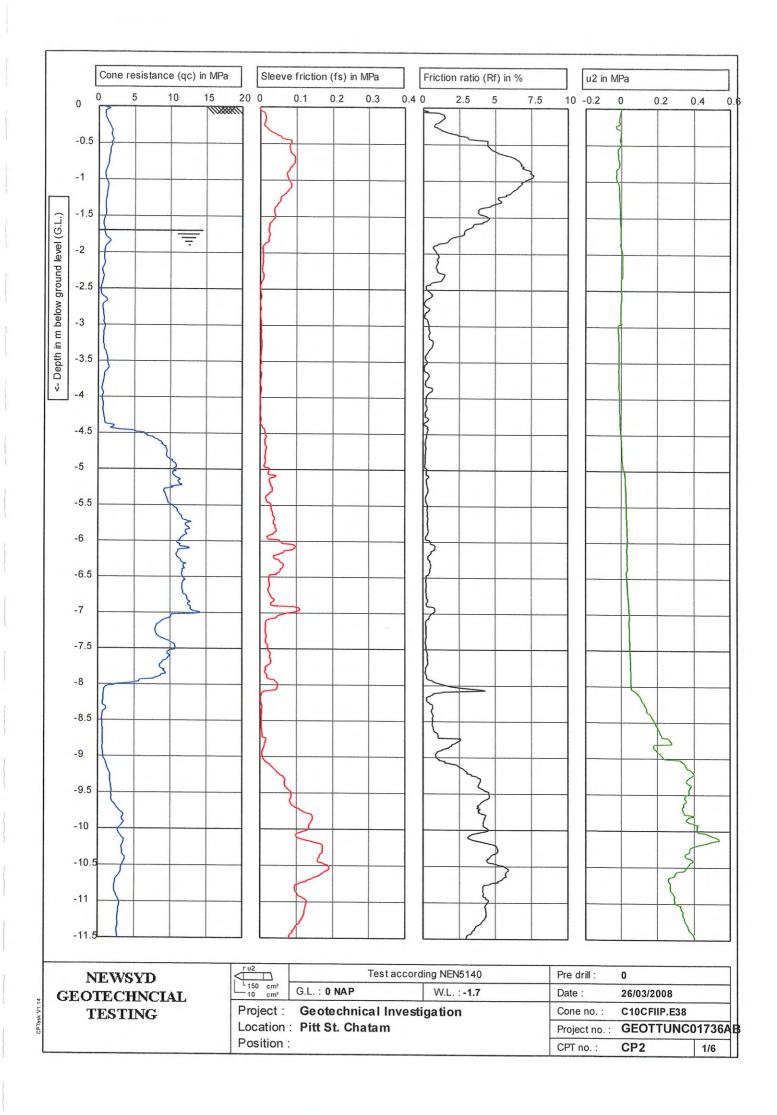
(3) Sand clean to silty

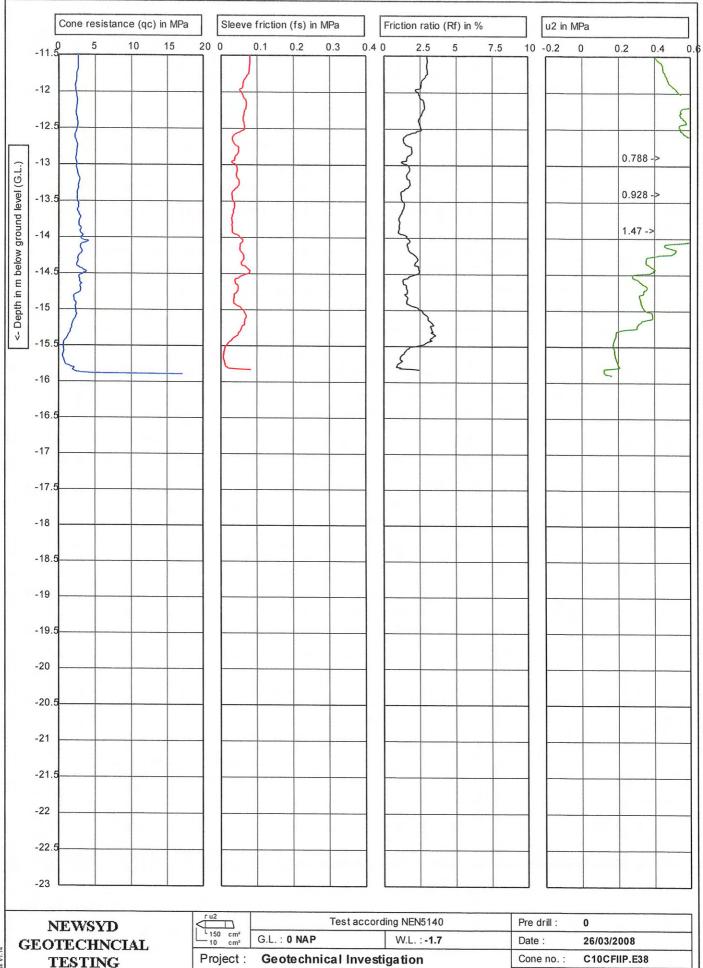
NEWSYD GEOTECHNCIAL TESTING

\	Test	according NEN5140	Pre drill:	0			
150 cm ²	G.L.: 0 NAP	W.L. : -12	Date :	26/03/2008			
Project :	Ge ote chnical Ir)	C10CFIIP.E38				
Location	: Pitt St. Chatam		Project no :	GEOTTI INCO1736A			

Position:

CPT no. : CP1 3





Location: Pitt St. Chatam

Position:

GEOTTUNC01736AB

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CP2

Project no.:

CPT no.:

CPTask V1.14

