

File No.: 04-1000-20-2025-558

October 10, 2025

Jon Girard

By Email:

Dear Jon:

Re: Request for Access to Records under the Freedom of Information and Protection of Privacy Act (the "Act")

I am responding to your request of August 20, 2025 under the *Freedom of Information and Protection of Privacy Act* for:

Record of the following reports in regards to the Vancouver Aquatic Centre Project:

- 1. Archaeologic impact assessments;
- 2. Geotechnical bore-hole logs;
- 3. Shoring engineering reports; and
- 4. Class B cost comparisons for 50 m versus 25 m options.

Date range: August 1, 2023 to February 28, 2025.

All responsive records are attached*.

*Please note, Real Estate & Facilities Management staff have advised our office that there are no records responsive to points one, three, and four.

Under Part 5 of the Act, you may ask the Information & Privacy Commissioner to review any matter related to the City's response to your FOI request by writing to: Office of the Information & Privacy Commissioner, info@oipc.bc.ca or by phoning 250-387-5629.

If you request a review, please provide the Commissioner's office with: 1) the request number (2025-558); 2) a copy of this letter; 3) a copy of your original request; and 4) detailed reasons why you are seeking the review.



Yours truly,

[Signed by Cobi Falconer]

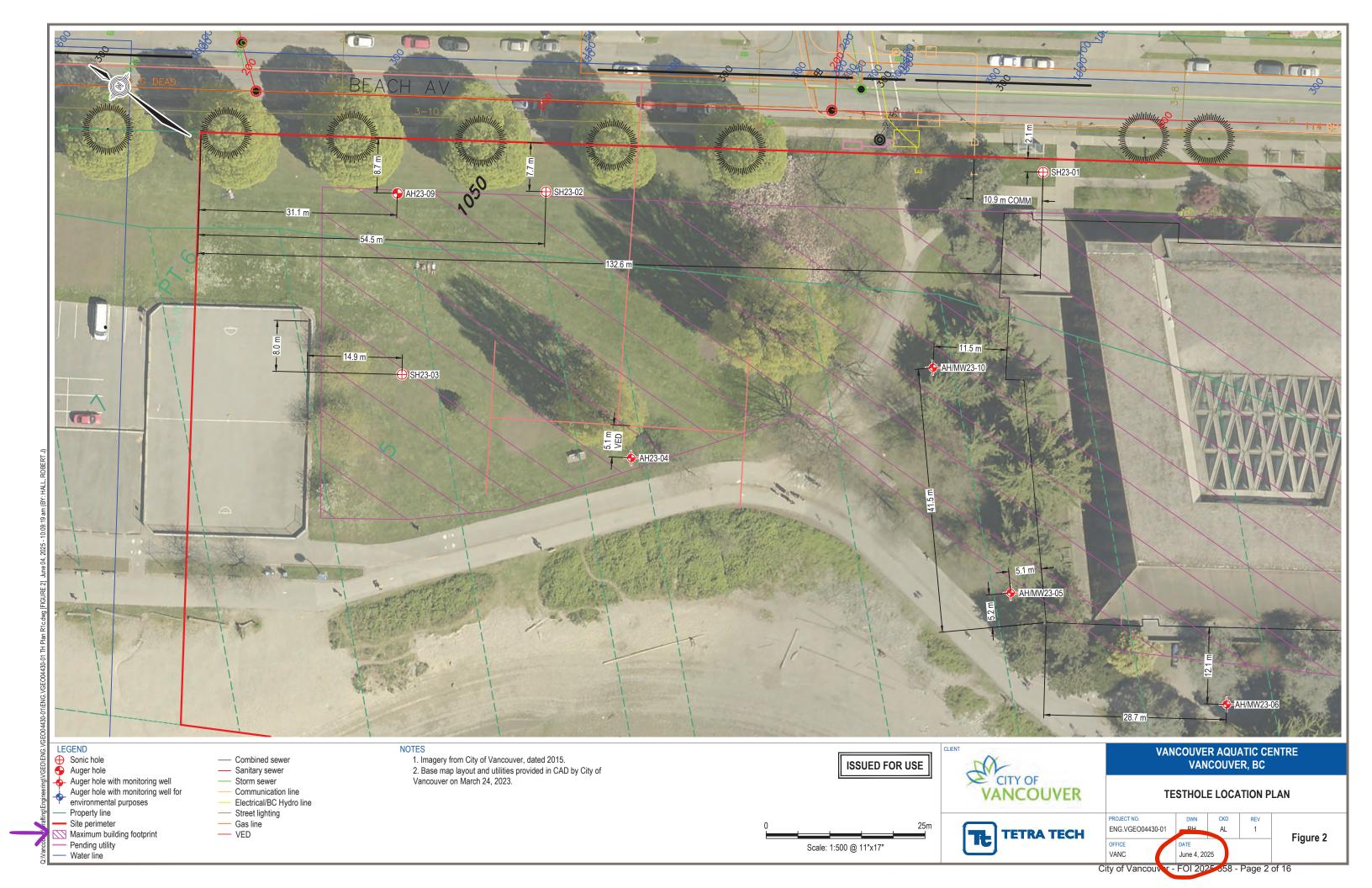
Cobi Falconer, MAS, MLIS, CIPP/C Director, Access to Information & Privacy

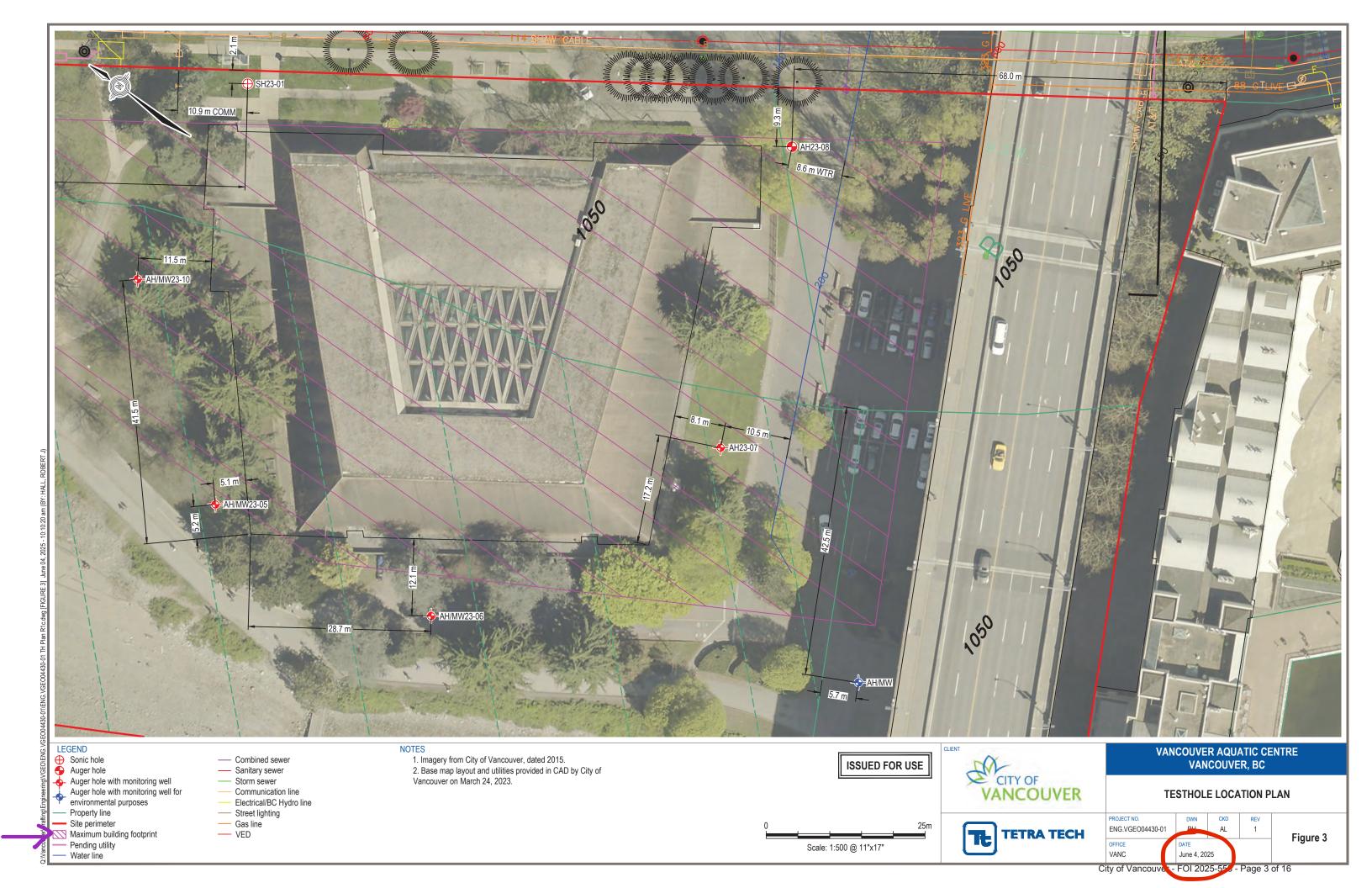
If you have any questions, please email us at foi@vancouver.ca and we will respond to you as soon as possible. You may also contact 3-1-1 (604-873-7000) if you require accommodation or do not have access to email.

Encl. (Response Package)

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Project: VAC Geotechnical Engineering Services Project No: 704-ENG.VGEO04430-01

Location: Beach Avenue & Burrad Street

Vancouver, BC

LITM: 490158 E: 5458283 N: 7

TOPSOIL, sandy, loose, brovegetation. SAND (FILL), silty, some gracompact, brown; fine to not 19 mm diameter. - presence of brick fragment - SPT-01 (11/50) at 1.5 m dedepth. SAND (FILL), silty, some gracompact, brown; fine to not 19 mm diameter.	ravel, wet, poorly graded, medium sand; fine gravel unts below 0.6 m depth. depth; Refusal at 6.03 m ravel, poorly graded, dampey; fine to coarse sand; fine	E Graph	GS SP	S-01	Gravel (%)	istrib (%) p	e Size pution Silt (Clay ((%) ##S	Š.	(b		lowco 300 m		1 Plas Lim	st-Peak O 20 stic Mo nit Co		Pa) Peak 40 Liquid Limit 80	SH23-01	Depth
TOPSOIL, sandy, loose, brovegetation. SAND (FILL), silty, some gracompact, brown; fine to n to 19 mm diameter. - presence of brick fragment - SPT-01 (11/50) at 1.5 m dedepth. SAND (FILL), silty, some gradense, dark brown to grecoarse gravel up to 80 m brick fragments.	ravel, wet, poorly graded, medium sand; fine gravel unts below 0.6 m depth. depth; Refusal at 6.03 m ravel, poorly graded, dampey; fine to coarse sand; fine	d	SP		14	57	29		20	40	60	80	2	40	00	80		
depth. SAND (FILL), silty, some gradense, dark brown to grecoarse gravel up to 80 m brick fragments.	ravel, poorly graded, damp ey; fine to coarse sand; fine	o, e to																
_ SPT_02 (21/39/25) at 3.0 n				PT-01 >50						[•				500000000000000000000000000000000000000
SAND, silty, some gravel, w	well graded, wet, dense, gr gravel, angular to	rey;	\square N:	PT-02 >50 S-02									•					0.0000000000000000000000000000000000000
sub-rounded, up to 3 mm - SPT-03 (10/16/27) at 4.6 n SILT, sandy, trace gravel, p stiff, damp; fine to mediu gravel, sub-rounded, up t	m depth poorly graded, stiff to very um sand; fine to coarse		\square N	PT-03 =43 S-03	5	35	60						•					20.00.00.00.00.00
grey; fine sand; coarse g	E), occasional gravel and wet, dense to very dense, gravel, sub-angular, spherio	cal	N:	PT-04 >50 S-04								[M) 1 2
- boulder, 600 mm diameter			G\$	S-05	0	51	49						•					2023-10-11 (8:40 AN
- SPT-05 (49/50) at 9.1 m; F SAND (TILL-LIKE), silty to s poorly graded, damp, ver fine sand; fine gravel up	some silt, occasional grave	el, y;	N:	PT-05 >50 S-06						[.000.00



Project: VAC Geotechnical Engineering Services Project No: 704-ENG.VGEO04430-01

Location: Beach Avenue & Burrad Street

Vancouver, BC UTM: 490158 E; 5458283 N; Z

	(m		ntation		5			le Siz	n	F:			F.	.1.177	// 5) - \		
(m) Method	Core Diameter (mm)	Soil Description	Graphical Representation	Sample Type	Sample Number	Gravel (%)	Sand (%)	Clav	Clay (%) 8 t	□ SPT	300 n	nm)	Post-Pe 10 Plastic Limit	20 Mois Cor	30 sture	Peak 40 Liquid Limit	SH23-01	Depth
o 1 2 Dulling Source Source Source Dulling Source S		SANDSTONE, highly weathered, extremely weak, very thinly bedded, grey, medium grained, grey. - bedrock recovered as pulverized rock due to drilling effort at 11.0 m depth. - moderately weathered, very weak rock below 12.2 m depth. - slightly weathered rock below, weak rock below 13.7 m depth.			GS-077					20 40	60	80	20	40	60	80		
6 7 8		END OF SONIC HOLE AT 15.2 m DEPTH. - Soil descriptions, consistency, and density are based on visual classifications, field observations and testing, drill performance, and laboratory testing. Some variation through the interpreted soil layers is expected. - Upon completion of drilling, a PVC casing consisting of a 50 mm diameter Schedule 40 PVC pipe was installed to the bottom of the testhole for completing Downhole Seismic Test. - Water level measured in drill casing before the PVC casing installation. - UTM coordinates are approximate (+/- 5 m) and were collected using a handheld GPS.	of);,.o	





Project: VAC Geotechnical Engineering Services Project No: 704-ENG.VGEO04430-01

Location: Beach Avenue & Burrad Street

Vancouver, BC UTM: 490105 E; 5458351 N; Z

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(III) Method Core Diameter (mm)		Soil Description	Graphical Representation	Sample Type	Sample Number	Gravel (%)			t & / (%)	Field Blowcou (blows/300 mr		Fie Post-Pe	eld Vane (kl eak 20 30	Peak 40	SH23-02	
Core	200	'			Sam	Grav	San	Silt (%)	Clay (%)		80	Plastic Limit L 20	Moisture Content 40 60	Liquid Limit 80		_
	\wedge	TOPSOIL, some sand, loose, very wet, brown; presence of roots and vegetation. SAND (FILL), some gravel, trace fines to silty, wet, poorly graded, very loose, grey to brown; fine to coarse sand; fine to coarse gravel, sub-angular to sub-rounded, up to 25 mm diameter.			GS-01											0 0 0 0 0 0 0 0 0 0 0 0
lling		- SPT-01 (4/4/4) at 3.0 m depth - presence of brick fragments and wood debris detected below 3.4 m depth. SAND and SILT, gravelly to some gravel, well graded, wet, compact, grey to light brown; fine to medium sand; fine gravel, sub-angular, up to 19 mm diameter.			SPT-0 ⁻ N=8 GS-02 GS-03	6	67	2	77		•	•				0.0
Sonic drilling		SILT and SAND (TILL-LIKE), some silt to silty, trace to some gravel, occasional cobbles, poorly graded, damp, dense, brown to grey; fine to coarse sand; fine to coarse gravel, sub-rounded to sub-angular, up to 50 mm diameter SPT-02 (11/21/27) at 6.1 m depth			GS-04 SPT-02 N=48 GS-05		42).3			•				0.
2023-10-04 \triangleright 101 6		- SPT-03 (14/50) at 9.1 m depth; Refusal at 9.40 m depth		X	GS-06 SPT-03 N>50 GS-07							•				0 0 0 0 0 0 0 0 0 0 0 0 0 0



Project: VAC Geotechnical Engineering Services Project No: 704-ENG.VGEO04430-01

Location: Beach Avenue & Burrad Street

Vancouver BC

LITM: 490105 F: 5458351 N: 7

	VAIVEGOVER	Vanco	uver	, BC							UTM:	490105 E	=; 5458351	N; Z		
Core Diameter (mm)	Soil Description	Granhical Denrecentation	Sample Type	Sample Number		Distri	Sil Clav	n t &		/300 mm	1)		eak 20 30		SH23-02	Depth (#)
	depth recovered pulverized rock due to drilling effort between 10.7 m and 11.1 m depth SANDSTONE, highly weathered, extremely weak, thin bedded, grey, fine to medium grained, grey bedrock recovered as pulverized rock due to drilling effort at 11.1 m depth - moderately weathered, very weak rock below 12.2 m depth - slightly weathered to fresh rock, weak rock below 13. m depth	en														33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 54 55 56 57 58 58 58 58 58 58 58 58 58 58
	 Soil descriptions, consistency, and density are based on visual classifications, field observations and testing, drill performance, and laboratory testing. Some variation through the interpreted soil layers is expected. Upon completion of drilling, a PVC casing consisting a 50 mm diameter Schedule 40 PVC pipe was installed to the bottom of the testhole for completing Downhole Seismic Test. Water level measured in drill casing before the PVC casing installation. 	of g														54 55 56 57 58 59 60 61 62 63 64 65
	*	- contains cobbles up to 250 mm diameter below 10.7 depth recovered pulverized rock due to drilling effort betwee 10.7 m and 11.1 m depth SANDSTONE, highly weathered, extremely weak, thir bedded, grey, fine to medium grained, grey bedrock recovered as pulverized rock due to drilling effort at 11.1 m depth - moderately weathered, very weak rock below 12.2 m depth - slightly weathered to fresh rock, weak rock below 13. m depth - soil descriptions, consistency, and density are based on visual classifications, field observations and testing, drill performance, and laboratory testing. Some variation through the interpreted soil layers is expected Upon completion of drilling, a PVC casing consisting a 50 mm diameter Schedule 40 PVC pipe was installed to the bottom of the testhole for completin Downhole Seismic Test Water level measured in drill casing before the PVC casing installation UTM coordinates are approximate (+/- 5 m) and were	Soil Description - contains cobbles up to 250 mm diameter below 10.7 m depth recovered pulverized rock due to drilling effort between 10.7 m and 11.1 m depth SANDSTONE, highly weathered, extremely weak, thinly bedded, grey, fine to medium grained, grey bedrock recovered as pulverized rock due to drilling effort at 11.1 m depth - moderately weathered, very weak rock below 12.2 m depth - slightly weathered to fresh rock, weak rock below 13.4 m depth - slightly weathered to fresh rock, weak rock below 13.4 m depth - slightly owen and laboratory testing. Some variation through the interpreted soil layers is expected Upon completion of drilling, a PVC casing consisting of a 50 mm diameter Schedule 40 PVC pipe was installed to the bottom of the testhole for completing Downhole Seismic Test Water level measured in drill casing before the PVC casing installation UTM coordinates are approximate (+/- 5 m) and were	Soil Description - contains cobbles up to 250 mm diameter below 10.7 m depth recovered pulverized rock due to drilling effort between 10.7 m and 11.1 m depth SANDSTONE, highly weathered, extremely weak, thinly bedded, grey, fine to medium grained, grey bedrock recovered as pulverized rock due to drilling effort at 11.1 m depth - moderately weathered, very weak rock below 12.2 m depth - slightly weathered to fresh rock, weak rock below 13.4 m depth - slightly weathered to fresh rock, weak rock below 13.4 m depth - slightly meathered to fresh rock, weak rock below 13.4 m depth - slightly meathered to fresh rock, weak rock below 13.4 m depth - slightly meathered to fresh rock, weak rock below 13.4 m depth	- contains cobbles up to 250 mm diameter below 10.7 m depth recovered pulverized rock due to drilling effort between 10.7 m and 11.1 m depth SANDSTONE, highly weathered, extremely weak, thinly bedded, grey, fine to medium grained, grey bedrock recovered as pulverized rock due to drilling effort at 11.1 m depth - moderately weathered, very weak rock below 12.2 m depth - soil descriptions, consistency, and density are based on visual classifications, field observations and testing, drill performance, and laboratory testing. 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Soil Description Soil Description - contains cobbles up to 250 mm diameter below 10.7 m depth - recovered pulverized rock due to drilling effort between 10.7 m and 11.1 m depth SANDSTONE, highly weathered, extremely weak, thinly bedded, grey, fine to medium grained, grey, - bedrock recovered as pulverized rock due to drilling effort at 11.1 m depth - moderately weathered, very weak rock below 12.2 m depth Selightly weathered to fresh rock, weak rock below 13.4 m depth Soil descriptions, consistency, and density are based on visual classifications, field observations and testing, drill performance, and laboratory testing. Some variation through the interpreted soil layers is expected. Upon completion of drilling, a PVC casing consisting of a 50 mm diameter Schedule 40 PVC pipe was installed to the bottom of the testhole for completing Downhole Seismic Test. Water level measured in drill casing before the PVC casing installation UTM coordinates are approximate (+/- 5 m) and were	Soil Description Soil Description Soil Description - contains cobbles up to 250 mm diameter below 10.7 m depth depth recovered pulverized rock due to drilling effort between 10.7 m and 11.1 m depth SANDSTONE, highly weathered, extremely weak, thirtly bedded, grey, fine to medium grained, grey bedrock recovered as pulverized rock due to drilling effort at 11.1 m depth - moderately weathered, very weak rock below 12.2 m depth - soil descriptions, consistency, and density are based on visual classifications, field observations and testing, drill performance, and laboratory testing. 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Some variation through the interpreted soil layers is expected Upon completion of drilling, a PVC casing consisting of a 50 mm diameter Schedule 40 PVC pipe was installed to the bottom of the testhole for completing Downhole Seismic Test Water level measured in drill casing before the PVC casing installation UTM coordinates are approximate (+/- 5 m) and were	Soil Description Soil Description Sit & Clay (%)	Soil Description Particle Size Distribution Silt & Clay (%) Silt & Clay (%) Silt & Clay (%) Silt & Clay (%) Soll Description SPT Soil Description - contains cobbles up to 250 mm diameter below 10.7 m depth. - recovered pulverized rock due to drilling effort between 10.7 m and 11.1 m depth SANDSTONE. highly weathered, extremely weak, thinly bedded, grey, fine to medium grained, grey bedrook recovered as pulverized rock due to drilling effort at 11.1 m depth - moderately weathered, very weak rock below 12.2 m depth - sightly weathered to fresh rock, weak rock below 13.4 m depth - sightly weathered to fresh rock, weak rock below 13.4 m depth - soil descriptions, consistency, and density are based on visual classifications, field observations and testing, drill performance, and laboratory testing. Some variation through the interpreted soil layers is expected. - Upon completion of drilling, a PVC casing consisting of a 50 mm diameter Schedule 40 PVC, pipe was installed to the bottom of the testhole for completing Downhole Seismic Test Water level measured in drill casing before the PVC casing installation UTM coordinates are approximate (+/- 5 m) and were	Soil Description Soil Description Soil Description Page 1	Soil Description Soil Description Sit & Clay (%) Sit & Clay (%) Sit & Clay (%) Plastic Limit 20 40 60 80 Plastic Limit 20 40 60 80 Solid Sit & Clay (%) Plastic Limit 20 40 60 80 Solid Solid Sit & Clay (%) Plastic Limit 20 40 60 80 Solid Solid Sit & Clay (%) Plastic Limit 20 40 60 80 Solid Solid Solid Sit & Clay (%) Plastic Limit 20 40 60 80 Solid Solid Solid Sit & Clay (%) Plastic Limit 20 40 60 80 Solid Solid Solid Sit & Clay (%) Plastic Limit 20 40 60 80 Solid Solid Solid Sit & Clay (%) Plastic Limit 3A DISTONE, highly weathered, externely weak, thinly bedded gray fire to medium gained, gray, solid Soli	Particle Size Distribution Sit & Clay (%) Description Sit & Clay (%) Description Sit & Clay (%) Description Sit & Clay (%) Sit & Clay (%) Description Sit & Clay (%) Sit & Clay (%) Description Sit & Clay (%) Descr	Soil Description Soil Soil Description Soil Description Soil Soil Description Contains cobbies up to 250 mm diameter below 10.7 m description and 11.1 m depth resourced pulserized rock due to drilling effort between 16.7 m and 11.1 m depth rockerately weathered, very weak rock below 12.2 m depth addition of the soil Description Soil Descripti	Soil Description Sil & Clay (%) Description Sil & Clay (%) Sil & Clay (%) Description Sil & Clay (%) Si





Project: VAC Geotechnical Engineering Services Project No: 704-ENG.VGEO04430-01

Location: Beach Avenue & Burrad Street

Sonic drilling 101.6	Soil Description	oots Prily to 8 mm th.	Graphical Representation Sample Type	Sample Number	Gravel (%)	Distrik	le Siz bution Silti Clay	Clay (%) (%) 8 4 (%) (%) 8 4 (%)	(b	ield Blolows/			Post-	c Moist Conte	30 ure	a) eak 40 Liquid Limit 80	SH23-03	Depth
Sonic drilling 101.6	and vegetation. AND (FILL), some silt, some gravel, very wet, poorl graded, very loose to loose, grey to brown; fine to coarse sand; coarse gavel, sub-angular, up to 38 diameter. BPT-01 (2/2/3) at 1.5 m depth AND (FILL), some silt, some gravel, damp, loose to compact, yellow to brown; fine to coarse sand; fine coarse gravel up to 50 mm diameter; presence of concrete, asphalt and brick fragments. AND, trace fines, trace gravel, contains shell fragments, well graded, moist to wet, loose to compact, dark brown; medium to coarse sand; coargravel, elongated, sub-rounded, up to 25 mm diameter. BPT-02 (6/7/7) at 3.0 m depth AND (TILL-LIKE), silty, some gravel, well graded, damp, dense to very dense, grey; fine to coarse si	oots Prily to 8 mm th.	_	N=5						40	60	80	20	40	60	80		
	SPT-03 (50) at 4.57 m depth; Refusal at 4.60 m	epth thinly		SPT-02 N=14 GS-02 GS-03 SPT-03 N>50 GS-04	6	66							•					7
-S	ND OF SOME HOLE AT 9.7 M DEPTH																	3
	Soil descriptions, consistency, and density are base on visual classifications, field observations and testing, drill performance, and laboratory testing. Some variation through the interpreted soil layers	s is	tractor:	D								1 ~	l0 ==	epth: 9.2				





Project: VAC Geotechnical Engineering Services Project No: 704-ENG.VGE004430-01

Location: Beach Avenue & Burrad Street

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Depth (m)	Method	neter (mn	Soil	epresent	Sample Type	Sample Number	(%)	(%	Clav	It & / (%)	Field Blo (blows/3			Fi Post-Pi \$\frac{10}{10}	eld Vane (kl	Peak	SH23-03	Depth
а <u>-</u>	Me	Core Diameter (mm)	Description	Graphical Representation	Samp	Sample	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	☐ SPT				20 30 Moisture Content	Liquid Limit	SH2	De
10		Н	expected.	ŋ	╄				0)		20 40	60	80	20	40 60	⊣ 80		33
			 Upon completion of drilling, a PVC casing consisting of a 50 mm diameter Schedule 40 PVC pipe was 	of														34
			installed to the bottom of the testhole for completing Downhole Seismic Test.															344 353 363 373 383 3940 4142 433 44445 46647 48849 500 511 522 533 54455 56657 5758 5960 611 622 633 64465
11			 - UTM coordinates are approximate (+/- 5 m) and were collected using a handheld GPS. 															36
			collected using a handred of 5.															37
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Project: VAC Geotechnical Engineering Services

Project No: 704-ENG.VGEO04430-01

Location: Beach Avenue & Burrad Street

Vancouver. BC

UTM: 490083 E: 5458316 N: Z

			Vancouv	er, BC)							UTM: 49008	3 E; 5458316 N; Z	
				tion					le Siz butio					
Depth (m)	Method	Core Diameter (mm)	Soil	epresental	Sample Type	Sample Number			Sil	It & / (%)	Field Blo (blows/3		Field Vane (kPa) Post-Peak Peak 10 20 30 40	Depth (ft)
۵	Me	Core Dia	Description	Graphical Representation	Samp	Sample	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	O DCPT		Plastic Moisture Liquid Limit Content Limit	۵
0		Н	TOPSOIL, very loose, brown, presence of roots and vegetation.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\							20 40	60 80	20 40 60 80	0
- - - - - - - 1 - - - -	Stem Auger)	SAND (FILL), some silt to silty, some gravel, occasional brick fragments, well graded, dry to damp, loose to compact, dark brown; fine to coarse sand; fine to coarse gravel, up to 50 mm diameter. - presence of brick and asphalt fragments below 0.9 m depth.			GS-01 GS-02							•	1- 2- 3- 4- 5-
- - - - 2 - - - - - - -	Solid St	1	 - becomes damp below 1.5 m depth. - silty, poorly graded, loose below 2.1 m depth. 			GS-03	17	55	2	28			•	1 2 3 4 5 6 7 8 9 10 11 12
- 3 - 3 - 4 - 4 - 5 - 6 - 7 - 7 - 8 - 9			END OF AUGER HOLE AT 3.0 m DEPTH. DCPT completed at a depth of 4.7 m. - Target depth not achieved due to conflict with metal pipe (debris/inactive pipe) on site of the auger hole. - Soil descriptions, consistency and density are based on visual classification, field observations and testing, drill performance, and laboratory testing. Some variation through the interpreted soil layers is expected. - Auger hole dry at the bottom drilling depth. - Upon completion of drilling the testhole was backfilled with drilling cuttings and bentonite pellets. - UTM coordinates are approximate (+/- 5 m) and were collected using a handheld GPS.											10 11 12 13 14 14 15 16 17 17 18 19 17 17 17 17 17 17 17 17 17 17 17 17 17
10			Contract	or: Do	wnr	ite Dri	lling					Completion I	Depth: 3 m	

			NA	E	30	ore	eh	0	le	1	No: AH/MW	/23-05
		5	CITY OF	Pr	oje	ct: VA	C Ge	eotec	chnic	al E	ngineering Services	Project No: 704-ENG.VGEO04430-01
		1.	VANCOUVER	Lo	cat	ion: B	each	Ave	nue	& B	urrard Street	
				Va	anco	ouver,) - uti -	le Si	:	T	UTM: 490096 E; 5458251 N; Z
o Depth (m)	Method	Core Diameter (mm)	Soil Description	Graphical Representation	Sample Type	Sample Number		Distri	ibutio Si Cla	on ilt & y (%	(5.5.1.5,555)	Field Vane (kPa) Post-Peak Peak 10 20 30 40 Plastic Moisture Liquid Limit Content Limit 20 40 60 80
- 1 - 2 - 3	Solid stem auger	152	TOPSOIL, very loose, brown, presence of roots and vegetation. SAND (FILL), some silt, some gravel, well graded, dry, compact, light brown to light yellow; fine to coarse sand; fine to coarse gravel, elongated, sub-rounded, up to 50mm diameter. - presence of cobbles, occasional brick fragments below 1.4m depth. SAND (FILL), some silt, some gravel, poorly graded, dry, compact, brown, occasional brick fragments and wood debris; fine to coarse sand; fine gravel, spherical, subrounded, up to 2.5 mm diameter. SAND, silty, occasional gravel, loose to compact, moist, grey, hydrocarbon odour; fine to medium sand; coarse gravel, sub-rounded, spherical gravel, up to 30 mm diameter. SAND (TILL-LIKE), silty, some gravel, poorly graded, wet, compact, hydrocarbon odour; fine to medium sand; silt, low plastic, dark grey, firm; fine gravel, sub-rounded, spherical, 10 mm to 20 mm diameter.			GS-01 GS-02 GS-03 GS-04	3 4 6	59		335		
5 6 8			END OF AUGER HOLE AT 4.3 m DEPTH. DCPT completed to a depth of 4.3 m Soil descriptions, consistency and density are based on visual classification, field observations and testing, drill performance, and laboratory testing. Some variation through the interpreted soil layers is expected Upon completion of drilling, a nested monitoring well was installed at this location consisting of a 50 mm diameter Schedule 40 PVC pipe with a 1.5 m slotted screen between 2.7 m and 4.3 m, and a vapor probe installed at 1.4 m depth. The well was completed at surface with a flush mount cover No water level observed upon installation of monitoring wellUTM coordinates are approximate (+/- 5 m) and were collected using a handheld GPS.									
10	1		TETRA TECH	Ec	quip	actor:	Туре) Prill	Completion Depth: 4.3 m Start Date: 2023 October 4
			The state of the s			ed By: wed E		1				Completion Date: 2023 October 4 Page 1 of 1

			NA	E	30	ore	h	0	le	1	lo: AH/MW	/23-06		
		5	CITY OF	_							ngineering Services	Project No: 704-ENG.VGEO04	4430-01	
		1	VANCOUVER	Lo	cati	on: Be	each	Ave	nue	& Bı	ırrard Street			
				Va	anco	ouver,		artic	la Ci		T	UTM: 490105 E; 5458217 N; 2	<u>Z</u>	
o Depth (m)	Method	Core Diameter (mm)		Graphical Representation	Sample Type	Sample Number		Distri	Si Clay	on It & y (%)	(2.0.0.0,000)	Field Vane (kPa) Post-Peak Peak 10 20 30 40 Plastic Moisture Liquid Limit Content Limit 20 40 60 80	_ _ MW23-06	Depth (ft)
1 2 2032 10-03 (28:2)	Solid stem auger	152	ASPHALT (150 mm). SAND (FILL), silty, some gravel, well graded, moist to wet, compact, black to brown, hydrocarbon odour; fine to coarse sand; coarse gravel, rounded, elongated, 25 mm to 40 mm diameter. SAND (FILL), silty, some gravel, poorly graded, wet to very wet, loose to compact, grey to brown; fine to coarse sand; coarse gravel up to 50 mm diameter. - hydrocarbon odour detected below 1.5 m depth.			GS-01 GS-02 GS-03	15	50	2	226				2002-01-03 (2:32 PM) 4 2003-01-03 (2:32 PM) 4 5 6 6 7 7 7 7 7 7 7 7 7 7 7
- 4 4	S		SAND and SILT, some gravel, quartz fragments, very wet, well graded, compact to dense, grey to dark grey, hydrocarbon odour; fine to medium sand; coarse gravel, sub-angular, spherical, up to 50 mm diameter. SAND, some silt, occasional gravel, well graded, very wet, dense, grey to dark grey, hydrocarbon odour; fine to coarse sand; fine gravel, sub-angular, elongated, up to 12 mm diameter.			GS-04 GS-05	13	45	2	14		•		12 13 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16
5 - 6 - 7 - 8 9 10			END OF AUGER HOLE AT 4.9 m DEPTH. DCPT completed to a depth of 5.2 m Soil descriptions, consistency and density are based on visual classification, field observations and testing, drill performance, and laboratory testing. Some variation through the interpreted soil layers is expected Upon completion of drilling, a nested monitoring well was installed at this location consisting of a 50 mm diameter Schedule 40 PVC pipe with a 1.5 m slotted screen between 1.6 m and 3.1 m, and a vapor probe installed at 1.2 m depth. The well was completed at surface with a flush mount coverUTM coordinates are approximate (+/- 5 m) and were collected using a handheld GPS.											17-11-11-11-11-11-11-11-11-11-11-11-11-1
10				Co	ontra	actor:	L Dow	/nrite	Drill	l ling	l	Completion Depth: 4.9 m		
			TETRA TECH	-		ment					rill	Start Date: 2023 October 3		
	U	1	TETRA TECH	Lo	gge	d By:	FH					Completion Date: 2023 Octob	er 4	
				Re	evie	wed E	v. Al	l				Page 1 of 1		



Project: VAC Geotechnical Engineering Services Project No: 704-ENG.VGEO04430-01

Location: Beach Avenue & Burrard Street

Vancouver, BC.

LITM: 490154 F: 5458192 N: 7

			Vancouve	er, BC)							UTM: 49015	64 E; 5458	3192 N; Z		
				tion				articl Distril								
(m) Method	Core Diameter (mm)	Soil		epresenta	Sample Type	Sample Number			Sil	t & ′ (%)	Field Blo (blows/3		Post-P		kPa) Peak 40	Depth
Me	Core Dia	Description		Graphical Representation	Samp	Sample	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	O DCPT			Moisture	Liquid Limit	۵
0 <u>e</u>	+	TOPSOIL, some sand, loose, dark brown, presence of	roots and								20 40	60 80	20	40 60	80	
st (152	vegetation. SAND (FILL), some silt, occasional gravel, well graded compact to dense, brown; fine to coarse gravel, sub to sub-angular, up to 30 mm diameter.	, moist, -rounded		1 1	GS-01										1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 Solid	_	END OF AUGER HOLE AT 1.2 m DEPTH		\bowtie												
		DCPT completed to a depth of 4.7 m. - Target depth not achieved due to presence of cobblet depth.	s at 1.2 m													
2		 Auger hole dry at the bottom drilling depth. -UTM coordinates are approximate (+/- 5 m) and were using a handheld GPS. 	collected								\$					
											φ					
											6					
											\$					
											l f					
											9					
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Project: VAC Geotechnical Engineering Services Project No: 704-ENG.VGEO04430-01

Location: Beach Avenue & Burrad Street

Vancouver, BC

LITM: 490206 F: 5458167 N: 7

			Var	ncouver	, BC								UTM: 49020	6 E; 5458	3167 N;	Z		
					tion				articl Distril									
(m)	Method	Core Diameter (mm)	Soil Description		Graphical Representation	Sample Type	Sample Number	Gravel (%)	Sand (%)	Sil	It & / (%)			Post-Po			a) Peak ◆ 40	Depth
	_	Core	•		Graphical	Sar	Sam	Grav	San	Silt (%)	Clay (%)	O DCPT 20 40	60 80	Plastic Limit I– 20	Conte		Liquid Limit -1 80	
2	Solid stem auger	152	TOPSOIL, sandy, some gravel, damp, loose, brown; prese of roots. SAND (FILL), silty, some gravel, contains cobbles, poorly graded, dry to damp, compact, brown to yellow; fine to coarse sand; cobbles, sub-rounded, up to 80 mm diame. - presence of cobbles, up to 120 mm diameter below 1.8m depth. SAND (FILL), silty, some gravel, contains cobbles, damp, compact, yellow to light brown and grey; fine to coarse fine gravel, sub-rounded, up to 20 mm.	eter.			GS-01 GS-02 GS-03		60	2	27		0.00	•				
			SILT and SAND, occassional gravel, damp, yellow to light brown, firm to stiff, non-plastic; fine to medium sand. SAND, some gravel, occasional silt, grey, very dense, moi				GS-05		46	5	50		9	•				
_			fine to coarse sand; fine gravel, angular, up to 20 mm diameter. SAND (TILL-LIKE), occasional silty lenses, grey to dark gr well graded, very dense, damp; coarse sand. END OF AUGER HOLE AT 5.6 m DEPTH. DCPT completed at a depth of 5.4 m.	ey,	7,777		<u>3S-07</u>											-
			 Soil descriptions, consistency and density are based on values classification, field observations and testing, drill performance, and laboratory testing. Some variation that the interpreted soil layers is expected. Upon completion of drilling the testhole was backfilled with drilling cuttings and bentonite pellets. Auger hole dry at the bottom drilling depth. UTM coordinates are approximate (+/- 5 m) and were colusing a handheld GPS. 	ough th														
0			Cor	ntractor	: Dov	vnrii	te Dril	ling	<u> </u>				Completion I	L Depth: 5.0	64 m			
		٦		ipment					rill				Start Date: 2					



Project: VAC Geotechnical Engineering Services Project No: 704-ENG.VGEO04430-01

Location: Beach Avenue & Burrad Street

•	Soil Description TOPSOIL, sandy, some gravel, loose, brown, presence SAND (FILL), some silt, some gravel, contains cobbles compact, dry, yellow; fine to medium sand; coarse angular, elongated, up to 50 mm diameter; cobbles mm. - presence of brick fragments, presence of organic ma 1.2 m to 2.0 m in depth.	s, gravel, s up to 100	Graphical Representation	Sample Type			ributio S Cla	on ilt & y (%)		lowcoun 300 mm		Post-Pe 10 Plastic Limit	20 30 Moisture Content	Peak	Depth
	Description TOPSOIL, sandy, some gravel, loose, brown, presence SAND (FILL), some silt, some gravel, contains cobbles compact, dry, yellow; fine to medium sand; coarse angular, elongated, up to 50 mm diameter; cobbles mm. - presence of brick fragments, presence of organic ma	s, gravel, s up to 100		Sample Number	Gravel (%)		S	ilt & y (%)	(blows/	300 mm)	Post-Pe 10 Plastic Limit	20 30 Moisture Content	Peak 40 Liquid	Depth
	TOPSOIL, sandy, some gravel, loose, brown, presence SAND (FILL), some silt, some gravel, contains cobbles compact, dry, yellow; fine to medium sand; coarse angular, elongated, up to 50 mm diameter; cobbles mm.	s, gravel, s up to 100		Sample		Sand	Silt (%)	Clay (%)		60 8	30	Plastic Limit	Moisture Content	Liquid	۵
	SAND (FILL), some silt, some gravel, contains cobbles compact, dry, yellow; fine to medium sand; coarse angular, elongated, up to 50 mm diameter; cobbles mm. - presence of brick fragments, presence of organic ma	s, gravel, s up to 100					-		20 40	60 8	a∩ I				
•	SAND (FILL), some silt, some gravel, contains cobbles compact, dry, yellow; fine to medium sand; coarse angular, elongated, up to 50 mm diameter; cobbles mm. - presence of brick fragments, presence of organic ma	s, gravel, s up to 100								:	:	20	40 60	80	┾
	1.2 m to 2.0 m in depth.	atter from		GS-0	01										
				GS-(•			
auger	- sand and silt, loose below 2.5 m depth.			GS-(04 1	I 61		38	0			•			
Solids				GS-(05				0						
	SILT and SAND, trace gravel, poorly graded, very loos loose, damp, green to grey, low plastic to non-plast medium sand; coarse gravel, angular, up to 40 mm	tic; fine to		GS-(06 8	3 42	2	50 	0			•			
	- sand and silt, occasional gravel, compact to dense, li brown; fine to coarse sand below 6.1m depth.			GS-(07		4	5.1				•			**
	SAND (TILL-LIKE), some silt, well graded, very dense dark grey; fine to coarse sand. END OF AUGER HOLE AT 7.0 m DEPTH. DCPT completed at a depth of 7.9 m. - Soil descriptions, consistency and density are based classification, field observations and testing, drill performance, and laboratory testing. Some variation the interpreted soil layers is expected. - Upon completion of drilling the testhole was backfilled drilling cuttings and bentonite pellets. - Auger hole dry at the bottom drilling depth. - UTM coordinates are approximate (+/- 5 m) and were using a handheld GPS.	on visual on through ed with		GS-C	08))			-
		Contracto			_							1			1





Project: VAC Geotechnical Engineering Services Project No: 704-ENG.VGEO04430-01

Location: Beach Avenue & Burrad Street

Vancouver, BC

LITM: 490128 F: 5458270 N: 7

			Vanc	ouve	r, BC	2							UTM:	490128 E	E; 5458270	N; Z		
			:	tion			Particle Size Distribution											
(m) Method	Core Diameter (mm)	Soil Description	doite transfer of legitudes of	ical Representa	le lype	Sample Number	Gravel (%)	Silt Clay			Field Blo (blows/3		Field Vane (kPa) Post-Peak Peak 10 20 30 40			1	Depth	
Me	Core Dia			Graphical F	Odilik	Sample		Sand (%)	Silt (%)	Clay (%)	O DCPT			Plastic Limit	Moisture Content	Liquid Limit	_	۵
Solid stem auger	(152	TOPSOIL, sandy, very loose, brown, presence of roots and vegetation. SAND (FILL), some silt, occasional brick fragments an wood debris, poorly graded, dry to damp, loose to compact, light brown; fine to coarse sand; fine gravelongated, subrounded, up to 10 mm diameter. - becomes damp, compact, yellow below 1.5 m depth. - becomes damp, compact, yellow below 1.5 m depth. SAND (FILL), some gravel, poorly graded, dry, loose, grey to yellow; fine to coarse sand, compact, grey; fine gravel, up to 10 mm diameter. SAND (FILL), some silt, occasional brick fragments, poorly graded, damp, compact, yellow to light brow fine to coarse sand. - presence of concrete fragments, wood debris at 3.9 r depth. SAND, some silt, some gravel, well graded, damp, compact, grey to dark brown; fine to coarse sand; fine gravel, sub-rounded, up to 20 mm diameter. SAND (TILL-LIKE), silty, some gravel, well graded, damp, dense, light grey to yellow; fine to coarse san fine gravel, sub-rounded, up to 50 mm diameter. END OF AUGER HOLE AT 5.2 m DEPTH. DCPT completed to a depth of 4.3 m depth. - Soil descriptions, consistency and density are based visual classification, field observations and testing, drill performance, and laboratory testing. Some variation through the interpreted soil layers is expected. - Upon completion of drilling, a vapour probe was installed at this location at 1.4 m depth. The well we completed at surface with a flush mount cover. - Auger hole dry at the bottom drilling depth. - UTM coordinates are approximate (+/- 5 m) and were collected using a handheld GPS	n; n on		GS GS GS GS	S-01 S-02 S-03 S-04 S-05 S-06 S-07	12	73		5	20 40	60	80		40 60	80		
10			Conti	racto	r: Do	ownri	te D	rillin	g				Comp	letion De	pth: 5.18 m			

