APPENDIX B
SITE WORKS

Style: APPENDIX B File: P:\GINTW\PROJECTS\26491.GPJ Printed: 19/11/2023 11:27:18 Raeburn Drilling and Geotechnical, Whisteberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

Boring

The standard method of boring in soil for ground investigation is known as the cable tool method. It uses various tools worked on a wire cable, typically a shell in non-cohesive soils such as sand and gravel, and a clay cutter in cohesive soils such as clay. Very dense soils, boulders or other hard obstructions are disturbed or broken up by chiselling and the fragments removed with the shell. Where the ground conditions require, the borehole is lined with driven steel casings of such sizes that the bottom of the borehole is not less than 125mm diameter.

Where there are constraints upon access, alternative methods of soft ground boring are available. However, each has limitations that need to be taken into account when assessing their suitability and the ground conditions inferred from their results.

Rotary Drilling

Rotary drilling is employed to extend ground investigation beyond the practical limit of cable tool boring in hard formations, commonly rock. Core drilling is used to obtain continuous intact samples of the formation and is generally undertaken with double tube swivel type core barrels fitted with tungsten or diamond bits as appropriate to formation type and hardness. Open-hole rotary drilling using tricone rock roller bits or tungsten insert drag bits, or down-the-hole hammers, is carried out where more limited information is sufficient, strata identification being made from cuttings only. Open-hole rotary drilling methods may also be employed for fast penetration of soils where detailed sampling is not required, prior to coring at depth. Air or water is the flushing medium normally used with rotary drilling methods. Where the ground conditions require, the borehole is lined with inserted or drilled-in casing. Rotary percussion allows dynamic sampling within soils.

Sonic Drilling

Sonic drilling is employed as an alternative boring method for soft ground and rock. The sonic rig operates much like any conventional top-drive rotary rig. The main difference is that a sonic drill rig has a specially designed hydraulically powered drill head or oscillator which produces adjustable high frequency vibratory forces. Sonic samples are extruded direct to plastic liner bags or semi-rigid plastic liners for rapid inspection. Bulk and small disturbed samples are then taken from the plastic liner bags.

Trial Pits

Trial pits are excavated by hand or machine for a number of purposes such as avoiding services, exposing foundations or obtaining a better view of shallow ground conditions.

Samples and In-situ Tests

Tube samples of cohesive soils are generally taken with a 100mm internal diameter open drive sampler known as a U100, with an area ratio of 30%. The sampler is driven into the soil at the bottom of the borehole by a sliding hammer. After a sample is taken, the drive head and cutting shoe are unscrewed from the sample tube and any wet or disturbed soil removed from either end. The sample tube is then sealed with wax and fitted with plastic end caps.

A range of more specialised equipment, e.g. thin walled open drive sampler (UT100), piston or foil samplers, may be used to obtain higher quality samples in conditions where conventional open drive sampling is impracticable or unsatisfactory. The UT100 sampler is specifically utilised to obtain class 1 samples of cohesive soils as required under BS EN1997-2.

Disturbed samples are taken from the boring tools or trial pits at regular intervals. The samples are sealed in airtight containers. Bulk samples are large disturbed samples from the boring tools, or from trial pits, generally where tube samples are unavailable.

The Standard Penetration Test, SPT, in accordance with BS EN ISO 22476-3, determines the resistance of soil to the penetration of a split barrel sampler. A 50mm diameter split barrel sampler is driven 450mm into the soil using a 63.5kg hammer with a 760mm drop, and the penetration resistance, the "N" value, is expressed as the number of blows required to achieve 300mm penetration below an initial penetration of 150mm, the seating drive, through any disturbed soil at the bottom of the borehole.

In coarse soils, the Cone Penetration Test (CPT) is conducted in the same manner as the SPT but using a 50mm diameter 60 degree apex solid cone point to replace the split barrel sampler.

Peat Probing

Generally, peat probing is carried out using a Mackintosh Probe. The probe is pushed through the peat until resistance is met then the depth at which this occurred is recorded.

Groundwater

Borehole water levels are recorded, together with the depths at which seepages or inflows of groundwater are detected and the observations noted on the borehole or trial pit records. These observations may not give an accurate indication of groundwater conditions, for the following reasons:

(a) The trial pit or borehole is rarely left standing at the relevant depth for sufficient time for the water level to reach equilibrium.
(b) A permeable stratum may have been sealed off by the borehole casing.
(c) It may have been necessary to add water to the borehole to facilitate progress.
(d) There may be seasonal, tidal or other effects at the site.

A more accurate record of groundwater behaviour may be obtained from standpipes or standpipe piezometers.

Gases

Determination and measurement of gases in the ground, commonly in relation to landfills, may be made directly from the ground surface, where a hole is formed by driving a solid and rigid steel spike to depths normally in the range 1.0 to 1.5m. Gas emissions are analysed using an appropriate portable analyser. However, research has shown that the small sample hole size and smearing effects can give a false negative result.

Where more accurate or longer term measurement of emissions is required, gas monitoring standpipes are installed in boreholes.

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Engineer: Jacobs

The following site tests are carried out following procedures set out in the listed standards.

TEST	STANDARD
CBR	BS 1377 : 1990
Data Loggers	BS EN ISO 22282
Ground Water Sampling	BS ISO 5667-1 : 2009
Hand Vanes	BS 1377 : 1990
Permeability Tests	BS EN ISO 22282-2-2012
Slug Tests	BS EN ISO 22282
Soakaway Tests	BRE Digest 365
Surface Water Sampling	BS ISO 5667-6 : 2009

Style: NOTES FIELDWORD ADDITIONAL File: P:\GINTW\PROJECTS\26491.GPJ Printed: 19/11/2023 11:29:48 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Engineer: Jacobs

SOIL SAMPLES

U (X)	General purpose tube sample; X No of blows to drive sampler
Piston	Piston sample
	NOTE: Tube samples are 100mm diameter unless otherwise specified in the remarks. Suffix 'a' indicates sample not recovered; suffix 'b' indicates full penetration of sampler not obtained; suffix 'c' indicates full penetration of sampler but limited recovery
D/J/T/V	Small Disturbed/Jar/Tub/Vial sample
B/LB	Bag/Large Bag sample
UT (X)	Thin walled push in sampler (type OS-T/W); X No of blows to drive sampler
ET	Sample appropriate for geochemical analyses (tub)

CORE RECOVERY AND ROCK QUALITY

C	Core Sample
TCR	Total Core Recovery: The total core recovered expressed as a percentage of the core run length
SCR	Solid Core Recovery: The core recovered as solid cylinders expressed as a percentage of the core run length
RQD	Rock Quality Designation: The core recovered as solid cylinders of length 100mm or more expressed as a percentage of core run length.
RO-S/RO-R	Rotary Open Hole Drilling through Soil / Rotary Open Hole Drilling through Rock
FI	Fracture Index: The number of discontinuities expressed as fractures per metre
Flush	"Depth" indicates depth down to which recorded "Returns" relate
NI	Non Intact
NR	No Recovery (assumed)

GROUND-WATER

W	Water Sample
▼	Ground-water encountered
▼	Depth to which ground-water rose
▽	Ground-water cut off by the casing
WS	Water Sample from Standpipe

IN SITU AND FIELD TESTS

SPT=X a/b (pen) or CPT=X a/b (pen)	Standard penetration test (split barrel sampler(SPT)or cone (CPT)); X is the penetration (N) value; 'a' is blow/75mm for seating drive; 'b' is blows/75mm for test drive; (pen) is test drive penetration if less than 300mm.
CBR	California bearing ratio test
MCV	Moisture condition value test
K	Permeability test
HP	Hand penetrometer test
FV	Field vane test
HV	Hand vane test (I = Initial, R = Residual)
ID	Density test
PID	Photo Ionisation Detector (ppm)

LEGENDS

Material legends are in accordance with ISO 710-1 and 710-2

before a description indicates that it is based on the Driller's record.

INSTALLATIONS (BACKFILL)


Concrete


Bentonite


Spoil


Bentonite/cement grout


Sand


Solid pipe


Gravel


Slotted pipe


Porous element


Wooden plug


Asphalt

ROTARY DRILLING SIZES

Letter	Nominal Diameter (mm)	
	Borehole	Core
Standard		
N	76	54
H	100	76
P	121	92
S	146	113
Non-standard		
412	108	75

Other casing and borehole diameter sizes are available and may be used where required. Details will be on the individual BH logs.

DIMENSIONS

All dimensions in metres unless otherwise stated.

KEY TO BOREHOLE AND TRIAL PIT RECORDS

Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

Style: BH TP KEY File: P:\GINT\WPROJECTS\26491.GPJ Printed: 19/11/2023 11:29:08

Activity Type/Method Key

CC	Concrete Coring
COM	Rotary Percussion
CP	Cable Percussion (Shell and Auger)
CPT	Static Cone Penetration Test
DCP	Dynamic Cone Penetrometer
DP	Dynamic Cone Sampling
GBS	Geobor-S
HP	Hand Excavated Trial Pit
ICBR	In Situ CBR Test
IDEN	In Situ Density Test
IP	Inspection Pit
IRES	In Situ Resistivity Test
IVAN	In Situ Vane Test
MOSTAP	Monster Steek Apparaat
MP	Mackintosh Probe
PP	Peat Probe
RC	Rotary Coring
RO	Rotary Open Hole
RO-R	Rotary Open in Rock
RO-S	Rotary Open in Soils
SB	Sonic Boring
SC	Sonic Coring
SCP	Static Cone Penetrometer
SL	Sampling Location
SO	Sonic Open Holing
TP	Trial Pit/Trench
WLS	Dynamic (Windowless) Sampler
WS	Window Sampler

Style: BH TP KEY PART 2 File: P:\GINTW\PROJECTS\26491.GPJ Printed: 19/11/2023 11:29:19 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Engineer: Jacobs

Exploration Point	Co-ordinates		Ground Level (mO.D.)	Method	Figure No	Installation	Remarks
	Easting (m)	Northing (m)					
FAB01	235753.9	808483.0	42.02	IP+SB	B1	1	
FAB02	235702.6	808484.6	41.73	IP+SB	B2		
FAB03	235735.9	808437.7	40.38	IP+SB	B3	1	
FAB04	235833.7	808419.4	40.19	IP+SB	B4		
FAB05	235781.0	808397.9	40.57	IP+SB	B5	1	
FAB06	235839.2	808374.1	39.71	IP+SB	B6		
FAB07	235789.2	808329.7	40.14	IP+SB	B7	1	
FAB08	235745.7	808341.7	39.99	IP+SB	B8		
FAB09	235883.6	808336.0	38.98	IP+SB	B9		
FAB10	235807.5	808270.3	39.05	IP+SB	B10	1	
FAB11	235859.7	808200.5	38.80	IP+SB	B11	1	
FAB12	235678.8	808080.9	38.02	IP+SB	B12	1	
FATP01	235723.2	808507.5	42.55	TP	B13		
FATP02	235765.0	808475.7	41.73	TP	B14		
FATP03	235873.0	808406.3	39.85	TP	B15		
FATP04	235748.2	808459.9	41.30	TP	B16		
FATP05	235798.5	808415.8	40.17	TP	B17		
FATP06	235819.1	808371.7	39.69	TP	B18		
FATP07	235707.1	808423.5	40.54	TP	B19		
FATP08	235757.0	808387.3	39.63	TP	B20		
FATP08A	235759.3	808390.7	39.73	TP	B21		
FATP08B	235757.0	808391.8	39.79	TP	B22		
FATP08C	235753.7	808392.9	39.82	TP	B23		
FATP09	235896.2	808337.3	39.50	TP	B23		
FATP10	235844.7	808300.5	38.94	TP	B25		
FATP11	235770.9	808270.8	39.32	TP	B26		
FATP12	235816.7	808221.0	38.32	TP	B27		
FATP13	235652.1	808039.2	38.08	TP	B28		
FATP14	235734.3	808305.9	39.51	TP	B29		
FATP15	235762.5	808188.7	38.83	TP	B30		
FATP16	235743.2	808150.7	39.74	TP	B31		
FATP17	235725.6	808146.6	39.69	TP	B32		
FATP18	235706.1	808128.2	39.61	TP	B33		

Style: SCHEDULE OF BH & TP File: P:\GINTW\PROJECTS\26491.GPJ Printed: 20/11/2023 09:16:39 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

	Originator	Title:		Fig No:
	SS	SCHEDULE OF SITE WORKS	RAEBURN	B0
Chk & App	Status			Sheet 1 of 1
FMR	Final			

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB01

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.50m

Location: E 235753.9 N 808483.0

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						42.02						
16/8 2023	0.00	B, D				41.82	0.20	TOPSOIL (dark brown slightly gravelly fine to coarse sand with cobbles. Gravel is fine to coarse subangular and subrounded of granite and psammite. Cobbles are subrounded of granite and psammite)				
	0.20	B, D						Brown medium to coarse SAND and fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Cobbles are subangular and subrounded of granite and psammite				0.50
	0.50	ES				41.32	0.70					
	0.70	B, D						Brown slightly silty fine and medium SAND				
	1.00	ES				40.82	1.20					
	1.20	B, D	1.20	CPT=43 2.6 /7.10.12.14	1.20			Medium dense becoming dense greyish orange brown very sandy silty fine to coarse angular to subrounded GRAVEL of psammite and granite with cobbles. Sand is medium and coarse. Cobbles are angular to subrounded of psammite and granite		Dry		
	1.50	B, ES	1.50	CPT=17 2.2 /3.3.3.8	1.50							
	2.00	D, D				39.82	2.20					2.00
	2.20	B						Dark brown slightly gravelly slightly silty fine to coarse SAND with cobbles. Gravel is fine to coarse angular to subrounded of psammite and granite. Cobbles are subangular and subrounded of psammite and granite				2.10
						39.42	2.60	Medium dense brown slightly gravelly very silty fine to coarse SAND. Gravel is fine to coarse subangular and rounded of various lithologies including granite and psammite				
	3.00	B, B	3.00	CPT=25 2.6 /7.7.5.6	3.00							
						38.72	3.30					
	3.50	D						Medium dense light brown slightly silty fine and medium SAND				4.00
	4.50	B, B, D, D	4.50	SPT>50 10.14 /21.22.7 (175)	4.50	37.52	4.50	Very dense greyish brown gravelly slightly silty fine and medium SAND with cobbles. Gravel is fine to coarse angular to subrounded of psammite and granite. Cobbles are subangular and subrounded of psammite and granite				
	5.00	D										
	5.50	D										
	6.00	B, B	6.00	CPT>50 15.10 (135)/18.25.7 (175)	6.00	36.02	6.00	Very dense orange brown sandy slightly silty fine to coarse angular to subrounded GRAVEL of psammite and granite with cobbles. Sand is medium and coarse. Cobbles are angular to subrounded of psammite and granite				
	6.50	D										
	7.00	D										
	7.50	B	7.50	CPT>50 4.12 /15.18.13.4 (285)	7.50							
	8.00	D										
	8.50	D										
	9.00	B, B	9.00	CPT>50 25.20 /13.17 (145)	9.00							
	9.50	D										

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
A 50mm diameter perforated standpipe was installed to a depth of 4.00m.
The borehole was terminated at 10.50m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	1.50	1.50
150	10.50	10.50

Driller	Originator
SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.50

Fig No: B1
Sheet 1 of 2
Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:04:47 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB01

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.50m

Location: E 235753.9
N 808483.0

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	10.00	D				42.02						
17/08						31.52	10.50					10.50
			10.50	CPT>50 9.16 (145)/21.22.7 (190)	10.50			END OF BOREHOLE				

Remarks:
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
A 50mm diameter perforated standpipe was installed to a depth of 4.00m.
The borehole was terminated at 10.50m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	1.50	1.50
150	10.50	10.50

Driller	Originator
SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.50

Fig No: B1
Sheet 2 of 2
Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:04:48 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

FAB02

Inspection Pit to 0.50m
Sonic Boring to 15.00m

Location: E 235702.6 N 808484.6

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
22/8/2023						41.73		MADE GROUND (brown fine to coarse sand and fine to coarse subangular and subrounded gravel of various lithologies including granite and psammite with cobbles. Cobbles are subangular and subrounded of granite and psammite)				0.20
						41.23	0.50					
	0.50	B						Very dense brown very sandy silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is medium and coarse. Cobbles are subangular and subrounded of granite and psammite				
	1.00	D										
	1.50	B, B	1.50	CPT>50 7.9 /16.19.15 (215)	1.50							
	2.00	D										
	2.50	D										
						38.73	3.00					
	3.00	B, B	3.00	CPT>50 10.15 /38.10.2 (155)	3.00			Very dense greyish brown silty medium and coarse SAND and fine to coarse subangular and subrounded GRAVEL of granite and psammite with cobbles. Cobbles are subangular and subrounded of granite and psammite				
	3.50	D										
	4.00	D										
						37.23	4.50					
	4.50	B, B	4.50	CPT=28 8.9 /11.6.5.6	4.50			Medium dense brown sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is fine to coarse. Cobbles are subangular and subrounded of granite and psammite				
	5.00	D										
	6.00	B, B, D	6.00	CPT>50 25.50 (5)/	6.00			....below 6.00m: very dense				
	6.50	D										
	7.50	B, D	7.50	CPT>50 16.9 (75)/30.20 (125)	7.50							
	8.00	D										
	9.00	B, B, D	9.00	CPT>50 7.9 /15.25.10 (185)	9.00							
	9.50	D										

Remarks:

An inspection pit was excavated by hand to a depth of 0.50m to clear services. Exemption number (58/2023)
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD48.
The borehole was terminated at 15.00m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	15.00	15.00

Driller	Originator
DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	0.50	15.00

Fig No: B2

Sheet 1 of 2

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB02

Engineer: Jacobs

Inspection Pit to 0.50m
Sonic Boring to 15.00m

Location: E 235702.6
N 808484.6

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						41.73						
	10.50	B, B, D	10.50	CPT>50 10.14 /30.20 (135)	10.50							
	11.00	D										
						29.73	12.00					
	12.00	B, B, D	12.00	CPT=47 9.12 /26.6.6.9	12.00			Dense brown slightly gravelly very silty coarse SAND with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
	12.50	D										
	13.00	D										
						28.23	13.50					
	13.50	B	13.50	CPT=33 10.9 /9.9.7.8	13.50			Dense brown silty fine to coarse SAND				
	14.00	D				27.53	14.20					
								brown slightly silty fine and medium SAND				
	14.50	B										
22/08					15.00	26.73	15.00			12.10m		15.00
	15.00	D, D	15.00	SPT=47 6.6 /7.9.16.15	15.00			END OF BOREHOLE				

Remarks:
An inspection pit was excavated by hand to a depth of 0.50m to clear services. Exemption number (58/2023)
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD48.
The borehole was terminated at 15.00m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	15.00	15.00

Driller	Originator
DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	0.50	15.00

Fig No: B2
Sheet 2 of 2
Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:04:50 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

FAB03

Inspection Pit to 0.90m
Sonic Boring to 16.50m

Location: E 235735.9 N 808437.7

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						40.38						
13/8/2023	0.00	B, D						MADE GROUND (brownish grey angular cobbles of basalt HARDCORE)				
						40.08	0.30					0.50
	0.30	B, D						Very dense light brown very sandy silty fine to coarse subangular and subrounded GRAVEL of psammite and granite with cobbles. Sand is medium and coarse. Cobbles are subangular and subrounded of granite and psammite				
	0.50	ES										
	0.70	B, D										
	0.90	B										
	1.00	D, ES										
	1.50	B, B, D, ES	1.50	SPT>50 2.5 /10.18.16.6 (245)	1.50							
	2.00	D										2.00
												2.10
	3.00	B, B, D, D	3.00	SPT>50 4.6 /8.13.10.19 (285)	3.00							
	3.50	D										
	4.00	D										
	4.50	B, D	4.50	CPT>50 2.1 /9.29.12 (190)	4.50			....below 4.50m: becomes sandy slightly silty				
						35.38	5.00					
	5.00	B						Very dense brown silty coarse SAND and fine to coarse subangular and subrounded GRAVEL of granite and psammite with cobbles. Cobbles are subangular and subrounded of granite and psammite				
	5.50	D										
	6.00	B, B	6.00	CPT>50 2.7 /24.24.2 (155)	6.00							
	6.50	D										
	7.00	D										
	7.50	B, B	7.50	CPT>50 4.11 /10.12.14.16 (285)	7.50							
	8.00	D										
	9.00	B, B	9.00	CPT=49 6.12 /11.14.15.9	9.00			....below 9.00m: cobble content decreases ....below 9.00m: dense ....below 9.00m: becomes slightly silty				
	9.50	D, D										10.00

Remarks:

An inspection pit was excavated by hand to a depth of 0.90m to clear services. Exemption number 56/2023.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
A 50mm diameter perforated standpipe was installed to a depth of 10.0m.
The borehole was terminated at 16.50m on the instruction of the investigation supervisor.

Hole Diam.	To Depth Boring	To Depth Casing
150	10.50	10.50
150	16.50	16.50

Driller	Originator
SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	0.90	16.50

Fig No: B3

Sheet 1 of 2

Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:04:52 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB03

Engineer: Jacobs

Inspection Pit to 0.90m
Sonic Boring to 16.50m

Location: E 235735.9 N 808437.7

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	10.00	D				40.38						
	10.50	B, D, D	10.50	SPT>50 6.9 /11.16.23 (220)	10.50	29.88	10.50	Very dense brown slightly gravelly slightly silty medium SAND with cobbles. Gravel is fine and medium subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
	11.00	B				29.38	11.00	Dense brown slightly silty coarse SAND and fine to coarse subangular and subrounded GRAVEL of granite and psammite with cobbles. Cobbles are subangular and subrounded of granite and psammite				
	11.50	D										
	12.00	B	12.00	CPT=40 2.7 /9.10.11.10	12.00							
	12.50	D				27.78	12.60					
	12.60	B						Dense light brown slightly gravelly silty fine and medium SAND. Gravel is fine and medium subangular and subrounded of psammite and granite				
	13.00	D										
	13.50	B, B, D	13.50	SPT=33 2.4 /5.7.9.12	13.50	26.88	13.50	Dense light brown silty fine SAND				
	14.00	D										
	14.50	D										
	15.00	B, B	15.00	SPT>50 4.9 /11.14.16.9 (250)	15.00			....below 15.00m: very dense				
	15.50	D										
	16.00	D										
16/08					16.50	23.88	16.50					16.50
			16.50	SPT>50 10.15 (145)/32.18 (125)	16.30			END OF BOREHOLE				

Remarks:

An inspection pit was excavated by hand to a depth of 0.90m to clear services. Exemption number 56/2023.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
A 50mm diameter perforated standpipe was installed to a depth of 10.0m.
The borehole was terminated at 16.50m on the instruction of the investigation supervisor.

Hole Diam.	To Depth Boring	To Depth Casing
150	10.50	10.50
150	16.50	16.50

Driller	Originator	Chk & App	Status
SW	SS	FMR	PRELIM

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	0.90	16.50

Fig No: B3

Sheet 2 of 2

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB04

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.50m

Location: E 235833.7 N 808419.4

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						40.19						
18/8/2023	0.00	B, D						TOPSOIL (dark brown slightly gravelly fine to coarse sand with cobbles. Gravel is fine to coarse subangular and subrounded of granite and psammite. Cobbles are subrounded of granite and psammite)				
	0.40	B, D										
	0.50	ES										
	0.70	B, D										
	1.00	ES				38.99	1.20					
	1.20	B, D	1.20	CPT=31 3.4 /5.8.9.9				Dense brown gravelly slightly silty coarse SAND with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
	1.50	B, B, ES	1.50	CPT>50 5.10 /16.16.19 (220)	1.50	38.69	1.50	Very dense brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is coarse. Cobbles are subangular and subrounded of granite and psammite				
	2.00	D										
	2.50	D										
	3.00	B	3.00	CPT=45 17.8 (130)/9.9.12.15	3.00			....below 3.00m: dense				
	3.50	D										
	4.00	B				36.19	4.00	Very dense greyish brown very sandy silty fine to coarse subangular and sub rounded GRAVEL of granite and psammite with cobbles. Sand is medium and coarse. Cobbles are subangular and subrounded of granite and psammite				
	4.50	B, D	4.50	CPT>50 25.33 (110)/10.7 (115)	4.50							
	5.00	D										
	5.40	B				34.79	5.40	Very dense light brown very sandy silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is fine and medium. Cobbles are subangular of granite and psammite				
	6.00	B, D	6.00	CPT>50 13.12 (115)/20.25.5 (155)	6.00							
	6.50	D										
	7.00	B										
	7.50	B, D	7.50	CPT>50 15.10 (105)/30.20 (145)	7.50							
	8.00	D										
	8.10	B										
	9.00	B, B, D	9.00	CPT>50 13.12 (115)/37.13 (105)	9.00							
	9.50	D										

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
The borehole was terminated at 10.50m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	6.00	6.00
150	10.50	10.50

Driller	Originator
SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.50

Fig No: B4
Sheet 1 of 2
Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB04

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.50m

Location: E 235833.7
N 808419.4

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD) 40.19	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	10.00	D										
21/08					10.50	29.69	10.50					10.50
			10.50	CPT>50 5.18 /16.15.19 (225)	10.50			END OF BOREHOLE				

Remarks:
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
The borehole was terminated at 10.50m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	6.00	6.00
150	10.50	10.50

Driller	Originator
SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.50

Fig No: B4
Sheet 2 of 2
Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB05

Engineer: Jacobs

Inspection Pit to 0.10m
Sonic Boring to 15.00m

Location: E 235781.0 N 808397.9

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
16/8/2023	0.10	B				40.57		MADE GROUND (grey gravelly slightly silty fine to coarse sand with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including psammite and basalt. Cobbles are subangular and subrounded of psammite)				
	0.50	D										0.50
						39.77	0.80					
	0.80	B						Brown gravelly slightly silty fine to coarse SAND with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
	1.00	D										
						39.07	1.50					
	1.50	B, B	1.50	CPT>50 7.11 /20.20.10 (175)	1.50			Very dense brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is fine to coarse. Cobbles are subangular and subrounded of granite and psammite				
	2.00	D										2.10
	2.50	D										
						37.57	3.00					
	3.00	B, B	3.00	CPT>50 25.50 (0)/	3.00			Very dense grey very sandy silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is fine to coarse. Cobbles are subangular and subrounded of granite and psammite				
	3.50	D										
	4.00	D										
	4.50	B, B	4.50	CPT>50 5.14 /25.25 (135)	4.50							
	5.00	D										
						34.57	6.00					6.00
	6.00	B, B, D	6.00	CPT>50 5.20 (110)/40.10 (135)	6.00			Very dense brown sandy silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is fine to coarse. Cobbles are subangular and subrounded of granite and psammite				
	6.50	D										
	7.00	D										
	7.50	B, B	7.50	CPT>50 6.19 /50 (15)	7.50							
	8.00	D										
	9.00	B, B, D	9.00	CPT>50 8.13 /18.24.8 (150)	9.00							
	9.50	D										

Remarks:

An inspection pit was excavated by hand to a depth of 0.10m to clear services exemption number 57/2023
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD48.
A 50mm diameter perforated standpipe was installed to a depth of 6.00m.
The borehole was terminated at 15.00m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	15.00	15.00

Driller	Originator
DJ, DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	0.10	15.00

Fig No: B5
Sheet 1 of 2
Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB05

Engineer: Jacobs

Inspection Pit to 0.10m
Sonic Boring to 15.00m

Location: E 235781.0 N 808397.9

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						40.57						
	10.50	B, B, D										
	11.00	D										
						28.57	12.00					
	12.00	B, D, D	12.00	CPT>50 5.9 /18.20 (150)	12.00			Very dense brown very gravelly slightly silty coarse SAND with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
						27.87	12.70					
	12.70	B, D						Brown very gravelly silty fine SAND. Gravel is fine and medium subangular and subrounded of psammite and granite				
						27.57	13.00					
	13.00	B, B, D, D						Very dense brown very gravelly silty coarse SAND with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
	13.50	D	13.50	SPT>50 5.13 /35.15 (90)	13.50							
						26.17	14.40	....below 14.40m: becoming very dense				
	14.40	B						Brown slightly silty fine and medium SAND				
	14.50	D										
16/08					15.00	25.57	15.00			10.35m		15.00
	15.00	D	15.00	SPT>50 3.7 /14.15.21 (220)	15.00			END OF BOREHOLE				

Remarks:

An inspection pit was excavated by hand to a depth of 0.10m to clear services exemption number 57/2023
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD48.
A 50mm diameter perforated standpipe was installed to a depth of 6.00m.
The borehole was terminated at 15.00m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	15.00	15.00

Driller	Originator
DJ, DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	0.10	15.00

Fig No: B5
Sheet 2 of 2
Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB06

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.20m

Location: E 235839.2 N 808374.1

Orientation: Vertical

Equipment: Hand Tool, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						39.71						
21/8/2023	0.00	B, D						TOPSOIL (dark brown slightly gravelly fine to coarse sand with cobbles. Gravel is fine to coarse subangular and subrounded of granite and psammite. Cobbles are subrounded of granite and psammite)				
						39.21	0.50					
	0.50	B, ES						Dense brown sandy slightly silty fine to coarse subangular and subrounded GRAVEL of psammite and granite with cobbles. Sand is fine to coarse. Cobbles are subangular and subrounded of granite and psammite				
	1.00	B, D, ES										
	1.20	B, B	1.20	CPT=41 3.7 /6.11.12.12								
	1.50	D										
	2.50	D				37.01	2.70					
	2.70	B, B	2.70	CPT>50 11.14 (135)/27.23 (100)	2.70			Very dense brown slightly silty fine to coarse coarse SAND and fine to coarse subangular and subrounded GRAVEL of granite and psammite				
	3.00	D										
	4.00	D				35.51	4.20					
	4.20	B						Brown silty coarse SAND and fine to coarse subangular and subrounded GRAVEL of granite and psammite with cobbles. Cobbles are subangular and subrounded of granite and psammite				
	4.50	D										
	4.90	B				34.81	4.90					
	5.50	D						Brownish grey very sandy silty fine to coarse subangular and subrounded GRAVEL of psammite and granite with cobbles. Sand is coarse. Cobbles are subangular and subrounded of granite and psammite				
	5.70	B	5.70	CPT>50 8.17 (82)/40.10 (90)	5.70			....below 5.70m: very dense				
	6.00	D										
	6.30	B				33.41	6.30					
	7.00	D						Very dense brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of psammite and granite with cobbles. Sand is coarse. Cobbles are subangular and subrounded of granite and psammite				
	7.20	B, B	7.20	CPT>50 3.9 /23.27 (145)	7.20							
	7.50	D										
	8.50	D										
	8.70	B, B	8.70	CPT=62 3.7 /14.15.16.17	8.70							
	9.00	D										

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
The borehole was terminated at 10.20m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	10.20	10.20

Driller	Originator
SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.20

Fig No: B6
Sheet 1 of 2
Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB06

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.20m

Location: E 235839.2
N 808374.1

Orientation: Vertical

Equipment: Hand Tool, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD) 39.71	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
22/08	10.00	D			10.20	29.51	10.20			3.50m		10.20
			10.20	CPT=45 7.12 /10.11.14.10	10.20			END OF BOREHOLE				

Remarks:
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
The borehole was terminated at 10.20m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	10.20	10.20

Driller	Originator
SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.20

Fig No: B6
Sheet 2 of 2
Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:04:59 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB07

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.20m

Location: E 235789.2 N 808329.7

Orientation: Vertical

Equipment: Hand Tool, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						40.14						
23/8 2023						39.94	0.20	TOPSOIL (dark brown slightly gravelly fine to coarse sand with cobbles. Gravel is fine to coarse subangular and subrounded of granite and psammite. Cobbles are subrounded of granite and psammite)				
	0.50	B, D, ES						Brown sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is medium and coarse. Cobbles are subangular and subrounded of granite and psammite				0.50
	1.00	B, D, ES				38.94	1.20					1.10
	1.20	B, B	1.20	CPT=12 2.3 /2.3.4.3	0.00			Medium dense brown sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is coarse. Cobbles are subangular and subrounded of granite and psammite				
	1.50	D										2.10
	2.50	D				37.44	2.70					
	2.70	B, B	2.70	CPT>50 25.50 (0)/	2.70			Very dense brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is coarse. Cobbles are subangular and subrounded of granite and psammite				
	3.00	D										
	4.00	D				35.94	4.20					
	4.20	B, B	4.20	CPT>50 7.18 (75)/50 (45)	4.20			Very dense greyish brown very sandy silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is coarse. Cobbles are subangular and subrounded of granite and psammite				
	4.50	D										
	5.50	D										
	5.70	B, B	5.70	CPT>50 25.50 (0)/	5.70							
	6.00	D										6.00
	7.00	D										
	7.20	B	7.20	CPT=49 2.7 /9.16.11.13	7.20			....below 7.20m: dense				
	8.00	D						....below 8.70m: very dense				
	8.70	B	8.70	CPT>50 8.12 /27.20.3 (155)	8.70							
	9.00	D				30.84	9.30					
	9.30	B						Very dense brownish slightly silty coarse SAND and fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Cobbles are subangular and subrounded of granite and psammite				

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD48.
A 50mm diameter perforated standpipe was installed to a depth of 6.00m.
The borehole was terminated at 10.20m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	10.20	10.20

Driller	Originator
DJ, DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.20

Fig No: B7
Sheet 1 of 2
Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB07

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.20m

Location: E 235789.2
N 808329.7

Orientation: Vertical

Equipment: Hand Tool, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD) 40.14	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
23/08	10.00	D			10.20	29.94	10.20			Dry		10.20
			10.20	CPT>50 2.6 /20.30 (150)	10.20			END OF BOREHOLE				

Remarks:
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD48.
A 50mm diameter perforated standpipe was installed to a depth of 6.00m.
The borehole was terminated at 10.20m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	10.20	10.20

Driller	Originator
DJ, DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.20

Fig No: B7
Sheet 2 of 2
Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:05:01 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

FAB08

Inspection Pit to 1.20m
Sonic Boring to 15.00m

Location: E 235745.7 N 808341.7

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						39.99						
15/8 2023								MADE GROUND (dark brown slightly gravelly fine to coarse sand with cobbles. Gravel is fine to coarse subangular and subrounded of granite and psammite. Cobbles are subangular and subrounded of psammite and granite)				0.10
	0.50	B, D, ES										
						38.99	1.00					
	1.00	B, D, ES						Dense orange brown very sandy silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is medium and coarse. Cobbles are subangular to subrounded of psammite and granite				
	1.20	B	1.20	CPT=44 3.6 /7.12.11.14	0.00							
	1.50	B, B, D	1.50	CPT=46 4.10 /12.13.10.11	0.00							
						38.09	1.90					
								Grey very gravelly slightly silty fine to coarse SAND with cobbles. Gravel is fine to coarse angular to subrounded of psammite, granite and quartz. Cobbles are angular to subrounded of psammite and granite				
						37.49	2.50					
								Orange brown very gravelly slightly silty fine to coarse SAND with cobbles and boulders. Gravel is fine to coarse sub angular to rounded of psammite and granite. Cobbles are subangular to rounded of psammite and granite				
						36.99	3.00					
	3.00	B, B, D	3.00	CPT>50 20.5 (80)/25.25 (95)	3.00			Very dense greyish brown very sandy silty fine to coarse subangular and subrounded GRAVEL of psammite and granite with cobbles and boulders. Sand is fine to coarse. Cobbles are subangular to rounded of psammite and granite				
	3.60	D										
	4.00	D										
	4.50	B, B, D, D	4.50	CPT>50 25.50 (110)/	4.50							
	5.50	D										
	6.00	B, B, D	6.00	CPT>50 11.14 (105)/26.24 (125)	6.00							
	7.50	B, D	7.50	CPT>50 5.15 /24.26 (150)	7.50							
	8.00	D										
						31.49	8.50					
	8.50	B						Very dense orange brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including psammite and granite cobbles. Sand is medium and coarse. Cobbles are angular to subrounded of psammite and granite				
	9.00	B, D	9.00	CPT>50 9.16 /25.25 (145)	9.00							
						30.39	9.60					
	9.60	B						Very dense brown very gravelly slightly silty medium and coarse SAND with high cobbles. Gravel is medium and coarse angular to subrounded of psammite and granite. Cobbles are angular to subrounded of				

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD48.
The borehole was terminated at 15.00m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	15.00	15.00

Driller	Originator
DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	15.00

Fig No: B8

Sheet 1 of 2

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB08

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 15.00m

Location: E 235745.7 N 808341.7

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	10.00	D				39.99		psammite and granite				
	10.50	B, D	10.50	CPT>50 2.8 /17.23.10 (175)	10.50	29.49	10.50					
								Very dense brown slightly gravelly slightly silty medium and coarse SAND. Gravel is fine and medium subangular and subrounded of psammite and granite				
	11.10	B				28.89	11.10					
	11.50	D						Very dense greyish brown slightly silty medium and coarse SAND and fine to coarse angular to rounded GRAVEL of psammite and granite with cobbles. Cobbles are subangular to rounded of psammite and granite				
	12.00	B, B, D	12.00	CPT>50 5.11 /13.19.18 (225)	12.00							
	13.00	D				26.59	13.40					
	13.50	B, B, D	13.50	CPT>50 6.7 /10.16.20.4 (230)	13.50			Very dense brown slightly silty fine SAND.				
	14.50	D										
15/08					15.00	24.99	15.00			11.10m		15.00
			15.00	CPT=43 3.6 /9.12.11.11	15.00			END OF BOREHOLE				

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD48.
The borehole was terminated at 15.00m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	15.00	15.00

Driller	Originator
DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	15.00

Fig No: B8

Sheet 2 of 2

Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:05:03 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB09

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 15.00m

Location: E 235883.6 N 808336.0

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						38.98						
23/8/2023	0.00	B, D				38.68	0.30	TOPSOIL (dark brown slightly gravelly fine to coarse sand with cobbles. Gravel is fine to coarse subangular and subrounded of granite and psammite. Cobbles are subrounded of granite and psammite)				
	0.30	B, D						Brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of psammite and granite. Sand is coarse				
	0.50	D, ES										
	0.70	B										
	1.00	ES										
	1.20	B										
						37.48	1.50					
	1.50	B, B, B, D, ES	1.50	CPT=22 4.4 /6.5.5.6	1.50			Dense light brown slightly gravelly silty fine to coarse SAND. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite				
	2.00	D										
	3.00	B, D, D	3.00	CPT=41 2.4 /9.9.11.12	3.00							
						35.68	3.30					
	3.30	B						Dense brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of psammite and granite. Sand is fine to coarse				
	4.00	D										
	4.50	B, B	4.50	CPT=38 10.13 /12.10.8.8	4.50							
	5.00	D										
	6.00	B, B, D	6.00	CPT=34 5.9 /7.10.8.9	6.00							
	6.50	D										
	7.00	D										
						31.48	7.50					
	7.50	B	7.50	CPT=33 7.6 /7.8.8.10	7.50			Dense light brown silty fine and medium SAND and fine to coarse subangular and subrounded GRAVEL of psammite and granite				
	8.00	D										
	8.80	B										
	9.00	B, B, D	9.00	CPT=13 3.5 /3.3.4.3	9.00							
						29.48	9.50					
	9.50	D						Medium dense light brown slightly silty fine and medium SAND				

Remarks:
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
The borehole was terminated at 15.00m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	4.50	4.50
150	15.00	15.00

Driller	Originator
SW, SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	15.00

Fig No: B9
Sheet 1 of 2
Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:05:06 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

FAB09

Inspection Pit to 1.20m
Sonic Boring to 15.00m

Location: E 235883.6 N 808336.0

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	10.00	D				38.98						
						28.48	10.50					
	10.50	B, B	10.50	CPT>50 10.15 (110)/24.26 (145)	10.50			Very dense brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is fine to coarse. Cobbles are subangular and subrounded of granite and psammite				
	11.00	D										
	12.00	B, D	12.00	CPT>50 12.13 (110)/16.14.13.7 (260)	12.00							
	12.50	D										
						26.08	12.90					
	12.90	B						Light brown slightly silty fine and medium SAND				
						25.48	13.50					
	13.50	B, B, D	13.50	CPT=35 1.2 /5.8.12.10	13.50			Dense brown gravelly slightly silty coarse SAND. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite.				
	14.00	D										
24/08					15.00	23.98	15.00					15.00
	15.00	D	15.00	CPT=17 4.3 /3.4.5.5	15.00			END OF BOREHOLE				

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
The borehole was terminated at 15.00m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	4.50	4.50
150	15.00	15.00

Driller	Originator
SW, SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	15.00

Fig No: B9

Sheet 2 of 2

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

FAB10

Inspection Pit to 1.20m
Sonic Boring to 15.00m

Location: E 235807.5 N 808270.3

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
22/8/2023	0.00	B, D				39.05		TOPSOIL (dark brown slightly gravelly fine to coarse sand with cobbles. Gravel is fine to coarse subangular and subrounded of granite and psammite. Cobbles are subrounded of granite and psammite)				
	0.30	B, D										
	0.50	ES										0.50
						38.35	0.70					
	0.70	B, D						Very dense brown sandy slightly silty fine to coarse subangular and subrounded GRAVEL of psammite and granite with cobbles. Sand is coarse. Cobbles are subangular and subrounded of granite and psammite				
	1.00	ES										
	1.20	B										
	1.50	B, D, ES	1.50	CPT>50 10.15 (145)/13.16.10 (91)	1.50							
	2.00	D										2.00
												2.10
						36.55	2.50					
	2.50	B						Medium dense light brown very sandy silty fine to coarse subangular and subrounded GRAVEL of psammite and granite. Sand is medium and coarse				
	3.00	B, D	3.00	CPT=38 3.7 /6.8.11.13	3.00							
	3.50	D										
						35.05	4.00					
	4.00	B						Brown gravelly slightly silty coarse SAND with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
						34.55	4.50					
	4.50	B, D, D	4.50	CPT>50 6.9 /18.32 (145)	4.50			Very dense brown very gravelly silty fine to coarse SAND with cobbles. Gravel is fine to coarse subangular and subrounded of psammite and granite. Cobbles are subangular and subrounded of psammite and granite				
						34.25	4.80					
	4.80	B						Very dense brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of psammite and granite with cobbles. Sand is medium and coarse. Cobbles are subangular and subrounded of granite and psammite				
	5.50	D										
	6.00	B, B	6.00	CPT>50 6.11 /14.15.16.5 (245)	6.00							
	6.50	D										
						31.55	7.50					
	7.50	B, B, D	7.50	CPT>50 1.6 /14.36 (135)	7.50			Very dense greyish brown very sandy silty fine to coarse subangular and subrounded GRAVEL of psammite and granite with cobbles. Sand is coarse. Cobbles are subangular and subrounded of granite and psammite				
	8.00	D										
						30.05	9.00					
	9.00	B, B, D	9.00	CPT>50 5.50 (85)/	9.00			Very dense brown gravelly slightly silty medium and coarse SAND with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
	9.50	D										10.00

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
A 50mm diameter perforated standpipe was installed to a depth of 10.00m.
The borehole was terminated at 15.00m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	7.50	7.50
150	15.00	15.00

Driller	Originator
SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	15.00

Fig No: B10
Sheet 1 of 2
Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB10

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 15.00m

Location: E 235807.5
N 808270.3

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						39.05						
						28.55	10.50					
	10.50	B, B, D	10.50	CPT>50 12.13 (80)/50 (45)	10.50			Very dense brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite. Sand is fine to coarse				
	11.00	D										
	12.00	B, D, D	12.00	CPT>50 12.13 (140)/28.22 (135)	12.00							
						26.55	12.50					
	12.50	B						Dense brown gravelly slightly silty fine to SAND. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite				
	13.00	D										
	13.50	B, B	13.50	CPT=34 1.6 /7.9.10.8	13.50							
	14.00	D										
23/08					15.00	24.05	15.00					15.00
	15.00	D	15.00	CPT=41 5.6 /9.11.10.11	15.00			END OF BOREHOLE				

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
A 50mm diameter perforated standpipe was installed to a depth of 10.00m.
The borehole was terminated at 15.00m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	7.50	7.50
150	15.00	15.00

Driller	Originator
SW	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off

Water Added From	To

Chiselling From	To	hh:mm

Flush Returns	Type	From (m)	To (m)
100	Water	1.20	15.00

Fig No: B10
Sheet 2 of 2
Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB11

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.20m

Location: E 235859.7 N 808200.5

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
17/8/2023						38.80		TOPSOIL (dark brown slightly gravelly fine to coarse sand with cobbles. Gravel is fine to coarse subangular and subrounded of granite and psammite. Cobbles are subrounded of granite and psammite)				0.50
	0.50	B, D, ES				38.10	0.70					
	1.00	B, D, ES						Brown slightly gravelly slightly silty fine to coarse SAND with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
	1.20	B, B	1.20	CPT=42 5.7 /11.13.9.9	1.20	37.60	1.20					
	1.50	D						Dense brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is medium and coarse. Cobbles are subangular and subrounded of granite and psammite				1.50 / 1.60
	2.50	D										
	2.70	B	2.70	CPT>50 8.12 /12.18.16.4 (230)	2.70			....below 2.70m: very dense				
	3.00	D										
						35.10	3.70					
	3.70	B						Brown slightly gravelly slightly silty coarse SAND with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
	4.00	D				34.60	4.20					
	4.20	B	4.20	CPT>50 5.12 /14.18.18 (225)	4.20			Very dense greyish brown very sandy silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is fine to coarse. Cobbles are subangular and subrounded of granite and psammite				
	4.50	D										
						33.60	5.20					
	5.20	B						Very dense brown silty fine to coarse SAND and fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Cobbles are subangular of granite and psammite				
	5.50	D										
	5.70	B, B	5.70	CPT>50 25.50 (55)/	5.70							
	6.00	D										6.50
	7.00	D										
	7.20	B, B	7.20	CPT>50 6.6 /17.24.9 (160)	7.20							
	7.50	D										
	8.50	D				30.10	8.70					
	8.70	B, B	8.70	CPT>50 25.50 (10)/	8.70			Very dense brownish grey very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Sand is fine to coarse. Cobbles are subangular and subrounded of granite and psammite				
	9.00	D										

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
A 50mm diameter perforated standpipe was installed to a depth of 6.50m.
The borehole was terminated at 10.20m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	10.20	10.20

Driller	Originator
DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.20

Fig No: B11
Sheet 1 of 2
Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:05:10 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB11

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.20m

Location: E 235859.7
N 808200.5

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD) 38.80	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
21/08	10.00	D			10.20	28.60	10.20			0.00m		10.20
			10.20	CPT>50 25.50 (25)/	10.20			END OF BOREHOLE				

Remarks:
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD140.
A 50mm diameter perforated standpipe was installed to a depth of 6.50m.
The borehole was terminated at 10.20m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	10.20	10.20

Driller	Originator
DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.20

Fig No: B11
Sheet 2 of 2
Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:05:10 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB12

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.20m

Location: E 235678.8 N 808080.9

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
						38.02						
17/8 2023						37.72	0.30	TOPSOIL (brown gravelly fine to coarse sand with cobbles. Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite)				0.50
	0.50	B, D, ES						Very dense brown sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite. Sand is fine to coarse.				
	1.00	B, D, ES										
	1.20	B, B	1.20	CPT>50 5.10 /14.15.21 (225)	0.00							
	1.50	D										1.90
												2.10
	2.50	D										
	2.70	B	2.70	CPT>50 6.6 /7.9.7 (225)	2.70	35.32	2.70	Very dense brown slightly gravelly slightly silty coarse SAND with cobbles Gravel is fine to coarse subangular and subrounded of various lithologies including granite and psammite. Cobbles are subangular and subrounded of granite and psammite				
	3.40	B				34.62	3.40					
	3.50	D						Very dense brown very sandy slightly silty fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles.Sand is fine to coarse. Cobbles are subangular and subrounded of granite and psammite				
	4.00	D										
	4.20	B, B	4.20	CPT>50 12.50 (30)/	4.20							
	4.50	D										
	5.50	D										
	5.70	B, B	5.70	CPT>50 12.13 /42.8 (75)	5.70							
	6.00	D										
	7.00	D										7.00
	7.20	B, B	7.20	CPT>50 25.50 (0)/	7.20							
	7.50	D										
	8.50	D				29.32	8.70					
	8.70	B, B	8.70	CPT>50 10.15 (110)/21.20.9 (175)	8.70			Very dense brown slightly gravelly medium and coarse SAND. Gravel is fine to coarse subangular and subrounded of granite and psammite				
						28.72	9.30					
	9.50	D						Brown slightly silty medium and coarse SAND and fine to coarse subangular and subrounded GRAVEL of various lithologies including granite and psammite with cobbles. Cobbles are subangular and subrounded of granite and psammite				

Remarks:

An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD48.
A 50mm diameter perforated standpipe was installed to a depth of 7.00m.
The borehole was terminated at 10.20m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	10.20	10.20

Driller	Originator
DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.20

Fig No: B12
Sheet 1 of 2
Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:05:12 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

FAB12

Engineer: Jacobs

Inspection Pit to 1.20m
Sonic Boring to 10.20m

Location: E 235678.8
N 808080.9

Orientation: Vertical

Equipment: Hand Tools, Track Mounted Boart Longyear LS250 Mini Sonic; Water Flush

Progress	Samples Depth	Samples Type	Tests Depth	Tests Result	Casing Depth	Level (mOD) 38.02	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
17/08					10.20	27.82	10.20			5.30m		10.20
			10.20	CPT>50 5.15 /50 (45)	10.20			END OF BOREHOLE				

Remarks:
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
No groundwater observations were recorded due to the use of water flush.
The penetration tests were carried out using Trip Hammer RD48.
A 50mm diameter perforated standpipe was installed to a depth of 7.00m.
The borehole was terminated at 10.20m due to reaching the scheduled depth.

Hole Diam.	To Depth Boring	To Depth Casing
150	10.20	10.20

Driller	Originator
DJ	SS
Chk & App	Status
FMR	**PRELIM**

Ground-water Struck	Rose To	Time(min)	Cut Off	Water Added From	To	Chiselling From	To	hh:mm	Flush Returns	Type	From (m)	To (m)
									100	Water	1.20	10.20

Fig No: B12
Sheet 2 of 2
Scale 1:50

Style: BOREHOLE NEW File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 09:05:12 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP01

Engineer: Jacobs

Trial Pit to 3.50m

Location: E 235723.2 N 808507.5

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.20m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				42.55						
21/8/2023				42.15	0.40	MADE GROUND (grey slightly silty fine to coarse sand and medium to coarse angular to subrounded gravel of dolomite with low cobble content. Cobbles are of angular dolomite)				
	0.50	D, ES				Orange brown sandy slightly silty fine to coarse angular to subrounded GRAVEL of various lithologies including granite, gniess and psammite with high cobble content.Sand is fine to coarse. Cobbles angular to rounded of various lithologies including granite, psammite and gneiss				
	0.70	B								
	1.00	D, ES								
	1.50	D, ES								
	1.70	LB								
	2.00	D								
	2.50	D								
	2.70	B								
	3.00	D								
21/8	3.50	B, D		39.05	3.50	END OF TRIAL PIT		Dry		

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit stood vertical throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth 3.50 due to reaching scheduled depth.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

Fig No: B13

Sheet 1 of 1

Scale 1:50

Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP02

Engineer: Jacobs

Trial Pit to 3.50m

Location: E 235765.0 N 808475.7

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.00m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m) 41.73	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
21/8/2023	0.40	D, ES		41.23	0.50	TOPSOIL (dark brown and brown slightly gravelly slightly silty fine to medium Sand with frequent rootlets. Gravel is fine to coarse subangular to rounded of various lithologies including granite, psammite and gneiss)				
	0.80 0.90	B D, ES				Brown and light brown very sandy slightly silty fine to coarse angular to rounded GRAVEL of various lithologies including granite, gneiss and psammite with low cobble and low boulder content. Sand is fine to coarse. Cobbles angular to rounded of mixed lithology including granite, psammite and gneiss. Boulders are subangular to subrounded of various lithology including gneiss and psammite up to 400mm				
	1.40	D, ES								
	1.80 1.90	LB D				....below 1.50m: high cobble content				
	2.40	D								
	2.80 2.90	B D								
21/8	3.40 3.50	D B		38.23	3.50	END OF TRIAL PIT		Dry		

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit stood vertical throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth 3.50 due to reaching scheduled depth.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

Fig No: B14

Sheet 1 of 1

Scale 1:50

Style: TRIALPIT File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 08:28:28 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP03

Engineer: Jacobs

Trial Pit to 3.50m

Location: E 235873.0 N 808406.3

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.20m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				39.85						
23/8/2023	0.50	B, D, ES		39.05	0.80	TOPSOIL (dark brown and brown slightly gravelly slightly silty fine and medium sand with low cobble and low boulder content and frequent rootlets . Gravel is fine to coarse subangular to rounded of various lithologies including granite, psammite and gneiss. Cobbles are subrounded to rounded of various lithologies including granite, psammite and gneiss. Boulders are subrounded of various lithologies including granite, psammite and gneiss up to 350mm)		▼		
	1.00 1.10	D, ES LB				Orange brown becoming light brown very sandy slightly silty fine to coarse subrounded to rounded GRAVEL of various lithologies including granite, gneiss and psammite with low to medium cobble and low boulder content. Sand is fine to coarse. Cobbles are subrounded and rounded of various lithologies including granite, psammite and gneiss. Boulders are subrounded of various lithologies including granite, psammite and gneiss up to 350mm ....below 1.20m: becoming light brown, medium cobble content				
	1.50	D, ES								
	2.00 2.10	D B								
	2.50	D								
	3.00 3.10	D B								
23/8	3.50	D		36.35	3.50	END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit stood vertical throughout excavation.
Groundwater seepage at slow non-continuous rate was encountered at a depth of 0.80m.
Trial pit terminated at a depth of 3.50m due reaching scheduled depth.

Driller	Originator	Ground-water Struck	Rose To	Time(mins)	Cut Off
	SB	0.80			
Chk & App	Status				
CJH	**PRELIM**				

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Fig No: B15

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP04

Engineer: Jacobs

Trial Pit to 3.50m

Location: E 235748.2 N 808459.9

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 3.70m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				41.30						
21/8/2023	0.10	B				MADE GROUND (grey very gravelly fine to coarse sand. Gravel is fine to coarse of angular dolomite)				
	0.40	D, ES		40.80	0.50					
	0.70	B				Orange brown very sandy silty fine to coarse angular to subrounded GRAVEL of various lithologies including granite, gneiss and psammite with low cobble content. Sand is fine and medium. Cobbles are angular to subrounded of various lithologies including granite, psammite and gneiss				
	0.90	D, ES								
	1.20	B								
	1.40	D, ES		39.90	1.40					
	1.70	LB				Orange brown becoming light brown very gravelly silty fine to medium SAND with low cobble content. Gravel is angular to well rounded of various lithologies including granite, psammite and gneiss. Cobbles are subangular to rounded of various lithologies including granite, psammite and gneiss				
	1.90	D				....below 1.60m: becoming light brown				
	2.40	D								
	2.70	B								
	2.90	D								
	3.40	D								
21/8	3.50	B		37.80	3.50			Dry		
						END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit stood vertical throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.50m due reaching scheduled depth.
Material unsuitable for in situ Thermal Resistivity tests at 0.10m and 1.20m. Replacement samples for lab tests taken at 0.10m and 1.20m.
DCP testing done at ground level. See Figure B77 in Appendix B for results.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

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Fig No: B16

Sheet 1 of 1

Scale 1:50

Style: TRIALPIT File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 08:28:30 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP05

Engineer: Jacobs

Trial Pit to 3.50m

Location: E 235798.5 N 808415.8

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.30m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m) 40.17	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
23/8/2023				39.87	0.30	TOPSOIL (dark brown slightly gravelly slightly silty peaty fine and medium sand with frequent rootlets. Gravel is fine and medium subangular to rounded of various lithology including granite, psammite and gneiss)				
	0.50	D, ES				Brown gravelly very silty fine to medium SAND with low cobble content. Gravel is medium and coarse subangular to rounded of various lithologies including granite, psammite and gneiss. Cobbles are subangular to rounded of various lithologies including granite, psammite and gneiss				
	0.60	B								
	1.00	D, ES		39.17	1.00					
	1.20	B, D				Brown slightly silty medium and coarse SAND and fine to coarse subangular to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with low to medium cobble and low boulder content. Cobbles are subangular to well rounded of various lithologies including granite, psammite and gneiss. Boulders are subangular and subrounded of various lithologies including granite, psammite and gneiss up to 400mm				
	1.30	LB								
	1.50	D, ES								
	2.00	D								
	2.30	B								
	2.50	D								
	3.00	D								
	3.30	B								
23/8	3.50	D		36.67	3.50	END OF TRIAL PIT		Dry		

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.50m due reaching scheduled depth.
Material unsuitable for in situ Thermal Resistivity test at 0.10m. Replacement samples for lab tests taken at 0.10m
DCP testing done at ground level. See Figure B75 in Appendix B for results.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

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Fig No: B17

Sheet 1 of 1

Scale 1:50

Style: TRIALPIT File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 08:28:31 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Trial Pit No. FATP06

Trial Pit to 3.30m

Location: E 235819.1 N 808371.7

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.00m Length - 4.10m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m) 39.69	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
23/8/2023				39.49	0.20	TOPSOIL (dark brown gravelly slightly silty slightly peaty fine and medium sand with frequent rootlets. Gravel is fine and medium subangular to rounded of various lithologies including granite, psammite and gneiss)				
	0.50	B, D, ES		38.79	0.90	Orange brown very sandy silty fine to coarse subangular to rounded GRAVEL of various lithologies including granite, psammite and gneiss. Sand is fine to coarse				
	1.00	D, ES				Orange brown becoming brown silty fine to coarse SAND and fine to coarse subangular to rounded GRAVEL of various lithologies including granite, psammite and gneiss with low and medium cobble and low boulder content. Cobbles are subrounded and rounded of various lithologies including granite, psammite and gneiss. Boulders are subangular and subrounded of various lithologies including granite, psammite and gneiss up to 400mm				
	1.20	B, D, LB								
	1.50	D, ES								
	2.00	D								
	2.20	B								
	2.50	D				....from 2.5m:becoming brown				
	3.00	D								
23/8	3.20	B		36.39	3.30	....from 3.0m:high cobble content, soil becoming damp		Dry		
						END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.30m due to longwall collapse.
Material unsuitable for in situ Thermal Resistivity tests at 1.20m. Replacement samples for lab tests taken at 1.20m.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

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Fig No: B18

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP07

Engineer: Jacobs

Trial Pit to 3.60m

Location: E 235707.1 N 808423.5

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.20m Length - 4.10m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				40.54						
15/8/2023	0.10	B				MADE GROUND (brown and dark brown fine to coarse sand and fine to coarse gravel angular to rounded of various lithologies including granite, psammite and gneiss. Cobbles are very angular to rounded of granite and gneiss . Inclusions of plastic and wood. Geosynthetic layer at 0.8m bgl)				
	0.50	B, D, ES		39.84	0.70					
	1.00	B, B, D, ES				Light brown and brown very sandy silty fine to coarse subangular to rounded GRAVEL of various lithologies including quartzite, gneiss and psammite with medium cobble and low to medium boulder content. Sand is fine to coarse. Cobbles are subangular to rounded of various lithologies including schist and gneiss . Boulders subangular and subrounded are of granite and gneiss up to 1200mm				
	1.20	B								
	1.50	D, ES								
	2.00	B, D, ES								
	2.50	D								
	3.00	B, B, D				....at 2.90m: soil becoming damp				
15/8	3.50	D		36.94	3.60			Dry		
						END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.60m due to reaching scheduled depth.
Material unsuitable for in situ Thermal Resistivity tests at 0.10m and 1.20m. Replacement samples for lab tests taken at 0.10m and 1.20m.
DCP testing done at ground level. See Figure B78 in Appendix B for results.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

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Fig No: B19

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP08

Engineer: Jacobs

Trial Pit to 1.10m

Location: E 235757.0 N 808387.3

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.10m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				39.63						
15/8/2023	0.10	B				MADE GROUND (brown medium and coarse sand and fine to coarse angular to rounded gravel of various lithologies including dolomite, gneiss and psammite with high cobble content and low boulder content. Cobbles are very angular to rounded of granite and gneiss. Boulders are subangular to rounded of psammite up to 1000mm. Inclusions of metal, plastic, brick, fiberglass and wood / timber noted)		▼		
	0.50	B, D, ES								
15/8	1.00	D, ES		38.53	1.10	END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater inflow at 0.7m being continuous and at fast rate.
Trial pit terminated at a depth of 1.10m due to ground water ingress.
Material unsuitable for in situ Thermal Resistivity tests at 0.10m and 1.20m. Replacement samples for lab tests taken at 0.10m and 1.20m.

Driller	Originator	Ground-water Struck	Rose To	Time(mins)	Cut Off
	SB	0.70			
Chk & App CJH	Status **PRELIM**				

RAEBURN

Fig No: B20

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP08A

Engineer: Jacobs

Trial Pit to 1.70m

Location: E 235759.3 N 808390.7

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 3.50m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				39.73						
25/8/2023	0.50	B, D, ES				MADE GROUND (grey very gravelly slightly silty slightly clayey fine to coarse sand with low and medium cobbles and low boulder content. Inclusions of concrete, timber, fragments of brick and geomembrane noted. Cobbles are angular to rounded of granite and gneiss. Gravel is very angular to rounded of various lithologies including Dolomite granite and psammite. Boulders are subangular and subrounded of various lithologies including granite psammite up to 450mm)		▼		
	1.00	D, ES		38.73	1.00					
	1.30	B				Brown very sandy slightly silty fine to coarse angular to rounded GRAVEL of various lithologies including granite, psammite and gneiss. Sand is fine and medium				
	1.50	D, ES								
25/8				38.03	1.70	END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit stood vertical throughout excavation.
Groundwater ingress with a distinct odour was encountered at a depth of 0.30m.
Trial pit terminated at a depth of 1.70 due to presence of made ground and water ingress.
FATP08A and FATP08B were undertaken simultaneously and were separated into pit A and pit B on site due to the presence of potentially contaminated material.

Driller	Originator	Ground-water Struck	Rose To	Time(mins)	Cut Off
	SS	0.30			
Chk & App	Status				
CJH	**PRELIM**				

Fig No: B21

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP08B

Engineer: Jacobs

Trial Pit to 1.40m

Location: E 235757.0 N 808391.8

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 2.00m

Progress	Sample Depth	Samples and Tests Type	Samples and Tests Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				39.79						
25/8 2023	0.50	B, D, ES				MADE GROUND (grey very gravelly slightly silty slightly clayey fine to coarse sand with low and medium cobbles and low boulder content. Inclusions of concrete, timber, fragments of brick and geomembrane noted. Gravel is fine to coarse very angular to rounded of various lithologies including dolomite, granite and psammite. Cobbles are angular to rounded of various lithologies including dolomite, granite and psammite. Boulders are subangular to subrounded of various lithologies including granite psammite up to 450mm - Geomembrane layer noted at 0.9m)		▼		
				38.89	0.90					
	1.00	D, ES				Orange brown very sandy slightly silty fine to coarse subangular to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with low cobble content. Sand is fine to coarse. Cobbles are subangular to rounded of various lithologies including granite, psammite and gneiss				
	1.20	B								
25/8				38.39	1.40	END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit stood vertical throughout excavation.
Groundwater was encountered at a depth of 0.30m.
Trial pit terminated due at a depth of 1.40m to environmental considerations.
FATP08A and FATP08B were undertaken simultaneously and were separated into pit A and pit B on site due to the presence of potentially contaminated material.

Driller	Originator	Ground-water Struck	Rose To	Time(mins)	Cut Off
	SS	0.30			
Chk & App	Status				
CJH	**PRELIM**				

Fig No: B22

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP08C

Engineer: Jacobs

Trial Pit to 2.50m

Location: E 235753.7 N 808392.9

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.20m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				39.82						
25/8 2023	0.30	B, D, ES		39.42	0.40	MADE GROUND (grey fine to coarse sand and fine to coarse angular to rounded gravel of various lithologies including dolomite, granite and psammite with numerous metal, wood, and brick fragments)		▼		
	0.80	D, ES, LB				Orange brown very sandy slightly silty fine to coarse subangular to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with low cobble and boulder content. Sand is fine to coarse. Cobbles are subangular to rounded of various lithologies including granite, psammite and gneiss. Boulders are subrounded of granite up to 700mm				
	1.20	D								
	1.50	ES								
	1.70	D								
	1.80	B								
	2.30	D								
25/8	2.50	B		37.32	2.50			▼		
						END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit stood vertical throughout excavation.
Seepage was encountered at a depth of 0.40m.
Trial pit terminated at a depth of 2.50m due to water ingress and environmental considerations.

Driller	Originator	Ground-water			
	SS	Struck	Rose To	Time(mins)	Cut Off
		0.40 2.50			
Chk & App	Status				
CJH	**PRELIM**				

Fig No: B23

Sheet 1 of 1

Scale 1:50

Style: TRIALPIT File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 08:28:35 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP09

Engineer: Jacobs

Trial Pit to 3.50m

Location: E 235896.2 N 808337.3

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.70m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m) 39.50	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
22/8/2023				39.20	0.30	TOPSOIL (dark brown and black slightly peaty gravelly slightly silty fine and medium sand with frequent rootlets. Gravel is fine and medium subangular to rounded of various lithologies including granite, psammite and gneiss)				
	0.50	D, ES				Orange brown becoming light brown slightly silty medium to coarse SAND and fine to coarse subrounded to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with low cobble content. Cobbles subrounded to rounded of various lithologies including granite, psammite and gneiss				
	0.60	B								
	1.00	D, ES				....below 1.00m: soil becoming light brown				
	1.50	D, ES								
	1.60	LB								
	2.00	D								
	2.50	D								
	2.60	B								
	3.00	D				....at 2.80m: becoming damp				
22/8	3.50	B, D		36.00	3.50	END OF TRIAL PIT		Dry		

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit stood vertical throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.50m due to reaching scheduled depth.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

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Fig No: B23

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP10

Engineer: Jacobs

Trial Pit to 2.30m

Location: E 235844.7 N 808300.5

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 3.90m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				38.94						
22/8/2023				38.64	0.30	TOPSOIL (dark brown and black slightly peaty gravelly slightly silty fine to coarse sand with frequent rootlets. Gravel is fine to coarse subangular to rounded of various lithologies including granite, psammite and gneiss)				
	0.50	D, ES				Orange brown becoming light brown very sandy slightly silty fine to coarse subrounded to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with high cobble and low boulder content. Sand is fine to coarse. Cobbles are subrounded to rounded of various lithologies including granite, psammite and gneiss. Boulders are subrounded of various lithologies including granite, psammite and gneiss up to 350mm				
	0.60	B								
	1.00	D, ES				....below 1.00m: becoming light brown				
	1.50	D, ES								
	1.60	LB								
	2.00	D								
22/8				36.64	2.30	END OF TRIAL PIT		Dry		

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 2.30m due to longwall collapse.
Soakaway test done for 3No. runs at depth of 1.45m. See Figures B67 to B69 in Appendix B for results.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

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Fig No: B25

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Trial Pit No. FATP11

Trial Pit to 3.50m

Location: E 235770.9 N 808270.8

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.80m

Progress	Sample Depth	Samples and Tests Type	Samples and Tests Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				39.32						
18/8/2023				39.02	0.30	TOPSOIL (black slightly peaty gravelly slightly silty fine to medium sand with frequent rootlets. Gravel is fine to coarse subangular to rounded of various lithologies including granite, psammite and gneiss)				
	0.50	B, D, ES				Orange brown very sandy slightly silty fine to coarse subangular to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with low and medium cobble and low boulder content. Sand is fine to coarse. Cobbles are subangular to well rounded of various lithologies including granite, psammite and gneiss. Boulders are subangular and subrounded of various lithologies including gneiss and psammite up to 300mm				
	1.00	D, ES		38.12	1.20					
	1.50	D, ES, LB				Light brown becoming brown very gravelly slightly silty medium and coarse SAND with medium and high cobble and low boulder content. Gravel is fine to coarse subangular to well rounded of various lithologies including granite, psammite and gneiss. Cobbles are subangular to well rounded of various lithologies including granite, psammite and gneiss. Boulders are subangular and subrounded of various lithologies including gneiss and psammite up to 350mm.				
	2.00	D				....below 2.00m: becoming brown				
	2.50	B, D								
	3.00	D				....at 2.80m: becoming damp				
				36.02	3.30					
18/8	3.50	B, D		35.82	3.50	Whiteish brown fine SAND		Dry		
						END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.50m due reaching scheduled depth.
DCP testing done at ground level. See Figure B76 in Appendix B for results.

Driller	Originator	Ground-water Struck	Rose To	Time(mins)	Cut Off
	SB				
Chk & App CJH	Status **PRELIM**				

Fig No: B26

Sheet 1 of 1

Scale 1:50

Style: TRIALPIT File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 08:28:37 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Trial Pit No. FATP12

Trial Pit to 3.50m

Location: E 235816.7 N 808221.0

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.30m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m) 38.32	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
17/8/2023				38.12	0.20	TOPSOIL (black peaty slightly silty sand with frequent rootlets)				
	0.50	B, D, ES				Orange brown slightly gravelly fine to medium SAND. Gravel is fine to coarse angular to rounded of various lithologies including granite, psammite and gneiss				
				37.42	0.90					
	1.00	D, ES				Orange brown very sandy slightly silty fine to coarse subangular to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with low and medium cobble and low boulder content. Sand is fine to coarse. Cobbles are subangular to well rounded of various lithologies including granite, psammite and gneiss. Boulders are subangular and subrounded of various lithologies including gneiss and psammite up to 400mm				
	1.20 1.30	B, D LB								
	1.50	D, ES								
	2.00	D				....below 2.00m: medium in cobble content				
	2.30	B								
	2.50	D								
				35.52	2.80					
	3.00	D				Greyish light brown fine to coarse SAND and fine to coarse subangular to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with low to medium cobble and low boulder content. Cobbles are subangular to well rounded of various lithologies including granite, psammite and gneiss. Boulders are subangular and subrounded of various lithologies including gneiss and psammite up to 400mm				
	3.10	B								
17/8	3.50	D		34.82	3.50	....below 3.10m: medium cobble content		Dry		
						END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.50m due reaching scheduled depth.
Soakaway test done for 3No. runs at depth of 0.75m. See Figures B70 to B72 in Appendix B for results.
Material unsuitable for in situ Thermal Resistivity tests at 1.20m. Replacement samples for lab tests taken at 1.20m.

Driller	Originator	Ground-water Struck	Rose To	Time(mins)	Cut Off
	SB				
Chk & App CJH	Status **PRELIM**				

Fig No: B27

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP13

Engineer: Jacobs

Trial Pit to 2.80m

Location: E 235652.1 N 808039.2

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 3.90m

Progress	Sample Depth	Samples and Tests Type	Samples and Tests Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				38.08						
17/8 2023				37.68	0.40	TOPSOIL (Dark brown slightly gravelly slightly silty fine and medium Sand. Gravel is fine to coarse subangular to well rounded of various lithologies including granite, psammite and gneiss)				
	0.50	D, ES				Brown and orange brown sandy slightly silty fine to coarse subangular to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with medium cobble and low boulder content. Sand is medium and coarse. Cobbles angular to rounded of various lithologies including granite, psammite and gneiss. Boulders are angular to subrounded of various lithologies including gneiss and psammite up to 1100mm				
	0.70	LB								
	1.00	D, ES								
	1.50	D, ES		36.48	1.60					
	1.80	B				Light brown medium and coarse SAND and fine to coarse angular to well rounded GRAVEL of psammite granite and gneiss with low and medium cobble and low boulder content. Cobbles are subangular to rounded of various lithologies including granite, psammite and gneiss. Boulders are subangular and subrounded of various lithologies including gneiss and psammite up to 800mm				
	2.00	D								
	2.50	D				....below 2.20m: medium cobble content				
17/8	2.80	B		35.28	2.80			Dry		
						END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit stood vertical throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 2.80m due to hard digging.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

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Fig No: B28

Sheet 1 of 1

Scale 1:50

Style: TRIALPIT File: P:\GINTW\PROJECTS\26491.GPJ+44 (0)1698 710999 Printed: 20/11/2023 08:28:39 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Trial Pit No. FATP14

Trial Pit to 2.20m

Location: E 235734.3 N 808305.9

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.20m Length - 4.40m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				39.51						
15/8 2023	0.10	B				MADE GROUND (brown and dark brown fine to coarse sand and fine to coarse very angular to rounded gravel of various lithologies including granite, psammite and gneiss with low cobble content. Cobbles are very angular to rounded of granite and gneiss. Inclusions of plastic and wood. Geosynthetic layer at 0.8m bgl)				
	0.50	B, D, ES								
				38.71	0.80					
	1.00	ES				Light brown and brown gravelly silty medium to coarse SAND. Gravel is fine and medium subangular to well rounded of various lithologies including psammite gneiss and granite				
	1.10	B, B, D								
	1.50	ES, ET								
	1.60	D								
				37.71	1.80					
15/8	2.10	B, D		37.31	2.20	Orange brown and brown fine to coarse SAND and fine to coarse subangular to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with low and medium cobble and low boulder content. Cobbles are subangular to well rounded of various lithologies including schist and gneiss. Boulders are subangular to rounded of granite and gneiss up to 400mm		Dry		
						END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 2.20m due to long wall collapse.
Material unsuitable for in situ Thermal Resistivity tests at 0.10m. Replacement samples for lab tests taken at 0.10m.
DCP testing done at ground level. See Figure B79 in Appendix B for results.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

Fig No: B29

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Trial Pit No. FATP15

Trial Pit to 3.40m

Location: E 235762.5 N 808188.7

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.00m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				38.83						
17/8/2023						TOPSOIL (dark brown slightly gravelly slightly silty fine and medium sand with frequent rootlets)				
	0.40	D		38.33	0.50					
	0.50	ES				Light brown very sandy slightly silty fine to coarse subangular to well rounded GRAVEL of granite, psammite and gneiss with low and medium cobble and low boulder content. Sand is fine to coarse. Cobbles are subangular to well rounded of various lithologies including granite, psammite and gneiss. Boulders are subangular and subrounded of various lithologies including gneiss and psammite up to 300mm				
	0.70	B								
	0.90	D								
	1.00	ES								
	1.20	B				....below 1.20m: medium cobble content				
	1.40	D								
	1.50	ES								
	1.70	LB								
	1.90	D								
	2.40	D								
	2.70	B				....below 2.50m: coarse SAND and fine to coarse GRAVEL				
	2.90	D				....at 2.80m: becoming damp				
17/8	3.40	B, D		35.43	3.40			Dry		
						END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.40m due longwall collapse.
Material unsuitable for in situ Thermal Resistivity tests at 1.20m. Replacement samples for lab tests taken at 1.20m.
Soakaway test done for 2No. runs at depth of 1.95m. See Figures B73 and B74 in Appendix B for results.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

Fig No: B30

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP16

Engineer: Jacobs

Trial Pit to 3.50m

Location: E 235743.2 N 808150.7

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.60m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m) 39.74	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
16/8/2023						POSSIBLE MADE GROUND (dark brown and brown very gravelly very silty fine and medium sand with low and medium cobble and low boulder content with frequent rootlets. Gravel is fine to coarse subangular to rounded of various lithologies including granite, psammite and gneiss. Cobbles angular to rounded of various lithologies including granite, psammite and gneiss. Boulders are angular to subrounded of various lithologies including gneiss and psammite up to 350mm)				
	0.50	B, D, ES								
	1.00	D, ES				....below 1.00m: medium cobble content				
	1.30	LB								
	1.50	D, ES								
	2.00	D								
	2.50	B, D								
	3.00	D								
16/8	3.50	B, D		36.24	3.50	END OF TRIAL PIT		Dry		

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.50m due reaching scheduled depth.
Possible reworked material to 3.50m identified due to texture, density and inclusion of rotted grasses within soil matrix.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

RAEBURN

Fig No: B31

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP17

Engineer: Jacobs

Trial Pit to 3.60m

Location: E 235725.6 N 808146.6

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.10m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m) 39.69	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
16/8/2023						POSSIBLE MADE GROUND (dark brown and brown silty fine and medium sand and fine to coarse subangular to rounded gravel of various lithologies including granite, psammite and gneiss with low and medium cobble and low boulder content with frequent rootlets. Cobbles angular to rounded of various lithologies including granite, psammite and gneiss. Boulders are angular to subrounded of various lithologies including gneiss and psammite up to 450mm)				
	0.50	B, D, ES								
	1.00	D, ES								
	1.20	B				....from 1.00m to 1.30m: wood limbs, branches and brash				
	1.50	D, ES, LB				....below 1.40m: Medium cobble content				
	2.00	D								
	2.50	B, D				....below 2.50m: gravel content increases				
	3.00	D								
16/8	3.50	B, D		36.09	3.60			Dry		
						END OF TRIAL PIT				

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.60m due reaching scheduled depth.
Material unsuitable for in situ Thermal Resistivity tests at 1.20m. Replacement samples for lab tests taken at 1.20m.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

Fig No: B32

Sheet 1 of 1

Scale 1:50

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Trial Pit No. FATP18

Engineer: Jacobs

Trial Pit to 3.50m

Location: E 235706.1 N 808128.2

Orientation: Vertical

Equipment: 14T Tracked Excavator

Width - 1.10m Length - 4.30m

Progress	Sample Depth	Samples and Tests Type	Result	Level (m)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
				39.61						
16/8/2023	0.50	B, D, ES				POSSIBLE MADE GROUND (dark brown and brown silty fine and medium sand and fine to coarse subangular to rounded gravel of various lithologies including granite, psammite and gneiss with low and medium cobble and low boulder content with frequent rootlets. Cobbles angular to rounded of various lithologies including granite, psammite and gneiss. Boulders are angular to subrounded of various lithologies including gneiss and psammite up to 450mm)				
	1.00	D, ES								
	1.50	D, ES, LB								
	2.00	D								
	2.50	B, D		36.81	2.80					
	3.10	B, D				Greyish brown very sandy slightly silty fine to coarse angular to well rounded GRAVEL of various lithologies including granite, psammite and gneiss with low and medium cobble and low boulder content. Sand is fine to coarse. Cobbles are subangular to well rounded of various lithologies including granite, psammite and gneiss. Boulders are subangular and subrounded of mixed lithology including gneiss and psammite up to 300mm				
16/8	3.50	D		36.11	3.50	....below 3.30m: medium cobble content END OF TRIAL PIT		Dry		

Remarks:

Trial pit CAT scanned prior to excavation to check for services.
The walls of the pit collapsed throughout excavation.
Groundwater was not encountered.
Trial pit terminated at a depth of 3.50m due reaching scheduled depth.

Driller	Originator	Ground-water			
	SB	Struck	Rose To	Time(mins)	Cut Off
Chk & App	Status				
CJH	**PRELIM**				

Fig No: B33

Sheet 1 of 1

Scale 1:50

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB01





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B34
Chk & App	Status			
FMR	Final			

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Engineer: Jacobs

Borehole No.
FAB01





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B34
Chk & App	Status			
FMR	Final			

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB01





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B34
Chk & App	Status			
FMR	Final			

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.

FAB01



	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B34
Chk & App	Status			
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Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB02





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B35
Chk & App	Status			
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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB02





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B35
Chk & App	Status			
FMR	Final			

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	Client: SSEN Engineer: Jacobs	Borehole No. **FAB02**





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B35
Chk & App	Status			
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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB02





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B35
Chk & App	Status			
FMR	Final			

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Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB02





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B35
Chk & App	Status			
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Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB03





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B36
Chk & App	Status			
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Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB03





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B36
Chk & App	Status			
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Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB03





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B36
Chk & App	Status			
FMR	Final			

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

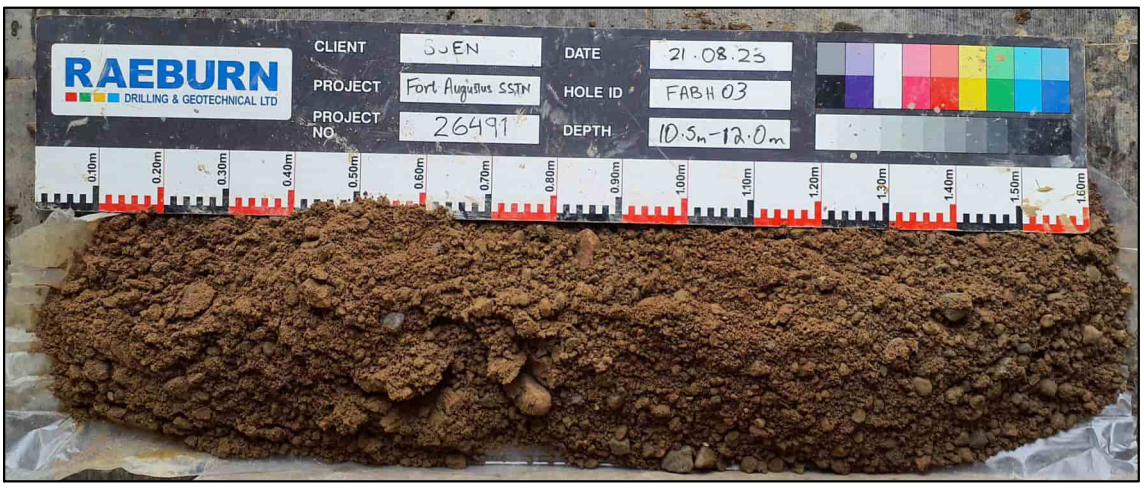
Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB03





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B36
Chk & App	Status			
FMR	Final			

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Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB03





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B36
Chk & App	Status			
FMR	Final			

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Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.

FAB03



	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B36
Chk & App	Status			
FMR	Final			

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Contract No: 26491

Client: SSEN

Engineer: Jacobs

Borehole No.
FAB04





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B37
Chk & App	Status			
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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Engineer: Jacobs

Borehole No.
FAB04





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B37
Chk & App	Status			
FMR	Final			

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB04





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B37
Chk & App	Status			
FMR	Final			

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB04



	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B37
Chk & App	Status			
FMR	Final			

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB05





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B38
Chk & App	Status			
FMR	Final			

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	Client: SSEN Engineer: Jacobs	Borehole No. **FAB05**





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B38
Chk & App	Status			
FMR	Final			

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Engineer: Jacobs

Borehole No.
FAB05





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B38
Chk & App	Status			
FMR	Final			

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB05





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B38
Chk & App	Status			
FMR	Final			

Style: CORE PHOTOS File: P:\GINTW\PROJECTS\26491.GPJ Printed: 20/11/2023 08:56:59 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Engineer: Jacobs

Borehole No.
FAB05

FAB05: 12.00m to 13.50m

No Photo Available



	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B38
Chk & App	Status			
FMR	Final			

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB06





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B39
Chk & App	Status			
FMR	Final			

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Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Engineer: Jacobs

Borehole No.
FAB06





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B39
Chk & App	Status			
FMR	Final			

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB06





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B39
Chk & App	Status			
FMR	Final			

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Client: SSEN

Engineer: Jacobs

Contract No: 26491

Borehole No.
FAB07





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B40
Chk & App	Status			
FMR	Final			

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RAEBURN DRILLING & GEOTECHNICAL LTD

Site: LT519 FORT AUGUSTUS 400KV UPGRADE

Contract No: 26491

Client: SSEN

Engineer: Jacobs

Borehole No.
FAB07





	Originator	Title:		Fig No:
	SS	PHOTOGRAPHS OF BOREHOLES	RAEBURN	B40
Chk & App	Status			
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RAEBURN DRILLING & GEOTECHNICAL LTD	Site: LT519 FORT AUGUSTUS 400KV UPGRADE	Contract No: 26491
	Client: SSEN Engineer: Jacobs	Borehole No. **FAB07**





	Originator	Title:		Fig No:
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Chk & App	Status			
FMR	Final			

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