NGL PROJECT NO. NFS09711

GEOTECHNICAL INVESTIGATION PROPOSED WASTE MANAGEMENT FACILITY CENTRAL, NL

OCTOBER 2003







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REPORT ON

GEOTECHNICAL INVESTIGATION PROPOSED WASTE MANAGEMENT FACILITY CENTRAL, NL

PREPARED FOR

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1.0 INTRODUCTION

Acting at the authorization of Mr. Wayne Manuel, P.Eng., of the BAE Newplan Group Limited (BNG), Newfoundland Geosciences Limited (NGL) has carried out a geotechnical investigation for a proposed waste management facility in the Norris Arm North area, approximately 3.5 km west of Lewisport Junction, Newfoundland. The purpose of the investigation was to determine the general subsurface conditions across the proposed site, to determine the suitability of the site for the proposed development.

The scope of the work included:

- Test pit excavations and mapping bedrock outcrops across the site. The number and location points was determined based on a four to five day time limitation as specified by BNG.
- Compilation of geotechnical data and laboratory testing of soil samples.
- A factual geotechnical report detailing the findings of the investigation.

This report has been prepared specifically and solely for the project described above. It contains all of the findings of the investigation, including the Test Pit Records, laboratory test results and a site plan.

2.0 SITE DESCRIPTION AND GEOLOGY

The proposed site is located in the Norris Arm North area, between the Lewisport Junction road and the Norris Arm North access road, approximately 45 km west of the community of Gander, NL. The area investigated is an irregular, rectangular-like shaped block of approximately 1.1 x 3.4 km (approximately 3.7 km²); see figure NFS09711-GE-01.

The site is accessed by old logging roads and trails, from the Trans Canada Highway in the south, and the Norris Arm North access road in the west. The site is undeveloped and consists of wooded (approx. 80%) and boggy (approx. 20%) areas. The site is gently sloped towards the north-northwest, with a maximum elevation difference of approximately 60 m across the site (elevation data acquired by GPS, and may vary significantly from actual elevation).

Based on existing geological mapping and previous experience in the area, the principal overburden material beneath surficial organic soils consists of glacial till which overlies bedrock. Inferred bedrock geology in the area is comprise of Late Ordovician to Early Silurian sedimentary rocks of the Badger Group, consisting of purple, grey and orange-brown sandstone to siltstone, and grey conglomerate. No surface bedrock exposure was found within the investigation area.





3.0 PROCEDURE

NGL personnel contacted the Provincial Department of Government Services and Lands, and notified the department of our planned geotechnical investigation. The Department of Government Services and Lands granted permission to access the area with certain restrictions. No stream crossings or travel on bogs were permitted.

The field work for this investigation was completed during the period of September 25 - 29, 2003. A total of thirty-eight (38) test were completed at the locations shown on the site location plan (Drawing No. NFS09711-GE-01) located in Appendix C.

The test pits were completed using a Hitachi EX200LC excavator, supplied by A and B Construction Limited, to depths ranging from approximately 2.0 to 5.5 m below ground surface. The field work was conducted under the supervision of an engineering geologist from NGL who maintained detailed logs and obtained representative samples of the various strata encountered. All soil samples were stored in moisture proof containers where they will be stored for a period of three months, at which time they will be discarded, unless instructions to the contrary are received.

Test pit locations were selected and established in the field by NGL personnel, based on a maximum, evenly-spaced coverage for a four to five day work program. The locations and elevations were provided with the aid of a Garmin 12XL GPS, aerial photographs and topographic maps. The GPS elevation and coordinate information is referenced to North American Datum 1983 (NAD83), UTM Zone 21, and location information has a probable accuracy of \pm 25 m. Elevation data provided on the Test Pit Records may vary significantly from actual elevations.

4.0 SUBSURFACE CONDITIONS

The overall subsurface conditions consist of a layer of organic soils and silty sands overlying sandy glacial till and bedrock. The subsurface conditions are described below, and in detail on the Test Pit Records located in Appendix B. Laboratory test results are presented in Figures 1 to 8 and on the Test Pit Records.

4.1 Organics/Sand/Silt

A thin layer of dark brown to black, soft compressible peat and rootmat was encountered at the surface at all test pit locations. This stratum ranged in thickness from 0.1 m (thin rootmat) to 1.2 m (peat/bog).

At most test pit locations a variable layer of silt, sand and organic material was encountered beneath surficial peat, rootmat and bog. This stratum was noted to vary in colour (orange-brown, brown, grey), and contain





occasional to some cobbles and boulders. The thickness of these materials ranged from 0.3 to 1.3 m at the test pit locations, and based on direct inspection was classed as loose to compact.

4.2 Till

A layer of silty sand to silty sand with gravel glacial till, with occasional cobbles and boulders was found at all test pit locations, and noted to extend to depths of 5.5 m. Based on direct inspection in the test pits the relative density of this stratum is classed as compact to dense, with occasional very dense sections.

Gradation analyses completed on ten (19) representative samples of the till material obtained during this investigation indicated the following average group percentages: 17.4% gravel (range 0.9 to 39.9%); 47.7% sand (range 32.8 to 59.4%); and 34.8% silt/clay (range 20.5 to 59.4%). Atterburg Limits determinations completed on five (4) samples indicate the fines portion of the material non-plastic (high silt content). The average moisture content of the samples tested was approximately 10.9%.

4.3 Bedrock

Inferred bedrock was found at 20 of the 38 test pit sites at depths ranging from 0.6 to 5.2 m below surface. Bedrock was inferred by excavation refusal; no coring of the bedrock was completed. The bedrock is comprised of sandstone, siltstone and conglomerate of the Badger Group. In general, excavation of small surficial pieces of bedrock was possible, however at test pit TP3, excavation of the bedrock was possible to approximately 1.8 m below the bedrock surface. Based on limited visual inspection within the test pit excavations, the bedrock was observed to be severely fractured to moderately jointed.

5.0 GROUNDWATER

Groundwater was encountered at 31 of the 38 test pit locations at depths ranging from 0.4 to 4.4 m below ground surface. Test pits were not left open long enough for groundwater to stabilize. Groundwater levels may fluctuate seasonally and in response to precipitation events.

6.0 CLOSURE

The purpose of this investigation was to determine the general site conditions necessary for assessing site suitability, and for preliminary planning. It is our understanding that geotechnical comments and recommendations are not required at this time. We would be pleased to provide additional assistance with this project as project planning and design proceeds.





A subsurface investigation is a limited sampling of a site. Variations throughout the site may differ significantly from data collected at the sample locations. The extent of the limited area depends on the soil and groundwater conditions, as well as the history of the site reflecting natural, construction and other activities.

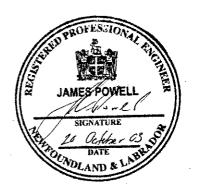
We trust that the report contains all of the information required at this time. If you have any questions please contact us at your convenience.

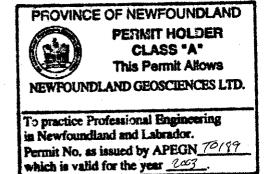
Yours truly,

NEWFOUNDLAND GEOSCIENCES LIMITED

David J. Butler, P. Geo.

James Powell, P. Eng.









APPENDIX A

Symbols and Terms Used on the Test Pit Records

SYMBOLS AND TERMS USED ON BOREHOLE AND TEST PIT RECORDS

SOIL DESCRIPTION

Terminology Describing Common Soil Genesis

Rootmat	-	vegetation, roots and moss with organic matter and topsoil typically forming a mattress
		at the ground surface
Topsoil	-	mixture of soil and humus capable of supporting good vegetative growth
Peat	-	fibrous aggregate of visible and invisible fragments of decayed organic matter
Loam	-	silty sand or sand with silt mixed with organics matter
Till	-	unstratified glacial deposit which may range from clay to boulders
Fill	-	any materials below the surface identified as placed by humans (excluding buried
		services)

Terminology Describing Soil Structure

Homogeneous	•	same colour and appearance throughout
Stratified	=	composed of alternating successions of different soil types, e.g., silt and sand
Lensed	•	inclusion of small pockets of different soils
Laminated	-	alternating layers of varying material or colour with the layers less than 6 mm thick
Layer	-	thickness > 75 mm
Seam	•	thickness between 2 mm and 75 mm
Parting	-	thickness < 2 mm

Grain Size and Plasticity

Terminology describing soils on the basis of grain size and plasticity is based on the Unified Soil Classification System (USCS) (ASTM D-2487). The classification excludes particles larger than 76 mm (3 inches). This system provides a group symbol (e.g., SM) and group name (e.g., silty SAND) for identification. Note: terminology describing materials in the absence of laboratory analysis is based on the ASTM D-2488 visual method.

Terminology describing materials outside the USCS (e.g., particles larger than 76 mm, visible organic matter, construction debris) is based on the (visually estimated) proportion of these materials present:

Trace, or occasional	Less than approximately 10%
Some	approximately 10-20%
Frequent	Greater than approximately 20%

Standard Penetration Test 'N-Value'

The performance of the Standard Penetration Test provides an 'N-value'; the number of blows of a 140 pound (64 kg) hammer falling 30 inches (760 mm), required to drive a 2 inch (51 mm) O.D. split spoon sampler one foot (305 mm) into the soil. For split spoon samples where insufficient penetration is achieved and 'N' values cannot be determined, the number of blows is reported over sampler penetration in millimetres (e.g., 50/75).

Density of Cohesionless Soils

The standard terminology to describe cohesionless soils includes the compactness (formerly "relative density"), as determined by laboratory test or by the Standard Penetration Test 'N- value'.

Density	N-Value	Compactness %
Very Loose	< 4	< 15
Loose	4-10	15-35
Compact	10-30	35-65
Dense	30-50	65-85
Very Dense	> 50	> 85

Consistency of Cohesive Soils

The standard terminology to describe cohesive soils includes the consistency, which is based on undrained shear strength as measured by *in situ* vane tests, penetrometer tests, unconfined compression tests, or occasionally by standard penetration tests.

	Undrained S	N-Value	
Consistency	ksf	kPa	14- Value
Very Soft	< 0.25	< 12.5	< 2
Very Soft Soft Firm	0.25-0.5	12.5-25	2-4
Firm	0.5-1.0	25-50	4-8
Stiff	1.0-2.0	50-100	8-15
Very Stiff	2.0-4.0	100-200	15-30
Stiff Very Stiff Hard	> 4.0	> 200	> 30



ROCK DESCRIPTION

Rock Quality Designation (RQD)

The classification is based on a modified core recovery percentage in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be due to close shearing, jointing, faulting, or weathering in the rock mass and are not counted. RQD was originally intended to be applied to NW core; however, it can be used on different core sizes if most of the fractures caused by drilling stresses are easily distinguishable from *in situ* fractures.

RQD (%)		Rock Quality
90-100	Excellent	- intact, very sound
75-90	Good	- moderately jointed, massive, sound
50-75	Fair	- fractured, blocky and seamy
25-50	Poor	 severely fractured, shattered and very seamy or blocky
0-25	Very poor	- very severely fractured, crushed

Total Core Recovery (TCR)

Total core recovery is defined as the total cumulative length of all core recovered in the core barrel divided by the length drilled and is recorded as a percentage on a per run basis.

Weathering State

Term	Description
Slight	Weathering limited to the surface of major discontinuities. Typically iron stained.
Moderate	Weathering extends throughout rock mass. Rock is not friable.
High	Weathering extends throughout rock mass. Rock is friable (crumbles naturally or broken between fingers).

Terminology Describing Rock Mass

Spacing (mm)	Bedding, Laminations, Bands	Discontinuity
2000-6000	Very Thick	Very wide
600-2000	Thick	Wide
200-600	Medium	Moderately close
60-200	Thin	Close
20-60	Very Thin	Very close
< 20	Laminated	Extremely close
< 6	Thinly Laminated	

RECORD SYMBOLS AND ABBREVIATIONS

Sample Types

SS Split spoon sample (obtained WS Wash sample ST Shelby tube or thin wall tube by performing the Standard BS Bulk sample HQ, NQ, BQ, etc. Rock core samples obtained Penetration Test) RC Rock chip sample using standard size diamond drilling bits.

Laboratory Tests

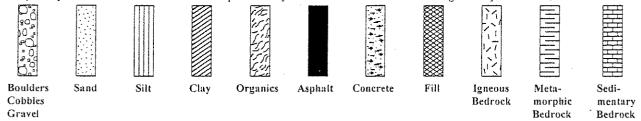
S Sieve analysis H Hydrometer analysis A Atterberg limits

Water Level Measurement

Indicates recorded water level in a borehole, test pit or standpipe.

Strata Plot

Strata plots symbolize the soil or bedrock description. They are combinations of the following basic symbols:



Solid lines between strata indicate the boundary between different strata. Dashed lines between strata indicate the boundary between strata is inferred.



APPENDIX B

Test Pit Records TP1 to TP38
Figures 1 to 8; Gradation Curves and Plasticity Charts

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		OJECT _	Proposed Waste Management Facility, Central N Norris Arm North			lland 4089	E	637010	PROJECT 1		S09711
			-dd-yy): DUG 9-28-03 WAT				N/A		DATUM 1	JTM NAD	83 Zone 21
	DEРТН (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SA!	NUMBER ST	20	NED SHEAR ST 40	6	
	- 0 -	84.00						10 20	30 40	50 6	0 70 80
***************************************		Valential I commonwood	Very loose/soft, black PEAT (PT)		and to obtain a facility of						-
	- 1	83.6	Loose to compact, brown, silty SAND (SM); occasional cobbles and boulders Compact to dense, grey, silty SAND (SM); occasional cobbles and boulders: TILL	and the state of t	and the demonstrates would associate a second associate and a second associate and a second associate a second a second associate a second associa						and the second s
	- 1 - -		occasional coopies and ooutdets. TEE				A A A A A A A A A A A A A A A A A A A				
	- 2 -						THE WAY TO SHARE THE PARTY OF T				
					solve altere crimen conversion or construction or construction or construction of construction of construction or construction						
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	- 4 -	-									
	-	79.1			1						-
	- 5 -	,,,,,	End of Test Pit Slow groundwater seepage observed at 0.5 m depth.				Annual Control of Cont				
	- 6 -		Bedrock not encountered.								
	- 7 -			All Indiana Annahia							[\\]

GE LII	OSCIEI MITED LIENT _	NDLAND NCES TEST P BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N)		TEST PIT No.	TP9	
L	ROJECT _ OCATION	Norris Arm North	V	544	3962		E	637321	PROJECT No.	NFS09711	
D	ATES (mm	-dd-yy): DUG 9-28-03 WAT	ER L	EVI	1		/A		DATUM UTM		
DЕРТН (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL		MPLE	Constitution of the Consti	UNDRAIN 20	NED SHEAR STRENG 40	6TH - kPa ★ 60 W _P W	80 WL
DEP	ELEVA		STRA	WATE	TYPE	NUMBER	OTHER TESTS	WATER CONTEN	IT & ATTERBERG LIN	IITS	-
- 0 -	87.00		77				-	10 20	30 40 50	60 70	80
	86.8	Rootmat Loose to compact, orange - brown, silty SAND			NAT FOR THE PARTY OF THE PARTY						_
_	86.3	(SM); occasional cobbles and boulders			POTENTIAL ALL REPORTS AND ALL	THE PERSON NAMED AND PARTY OF THE PE					-
L 1 -		Compact to dense, grey to yellow - grey, silty SAND (SM); occasional cobbles and boulders:	7 0	2	A-V	THE REST OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO I					-
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	A company of extracted the company of extracte						NAMES OF TAXABLE PARTY.				
- 2 -					are the state of t					1	
-	-		0.3		TRANSPORTATION AND DESCRIPTION	T TOTAL TOTA					-
- 3 -			0 0				MARKAT PARAMETERS AND				
	-		5				***************************************				
			5			A Laborator Water Street Control of Control					
- 4 -			5 5 8	4							
· -			D	2	BS	1	SA	Ö			
- 5 -	82,1	End of Test Pit					-				
		No groundwater seepage observed.				NAMES OF THE PROPERTY OF THE P					-
	1	Bedrock not encountered.	***************************************								-
6 -	<u> </u> 		Annual Control of the								
						Water Commence of the Commence					-
7						ANALYSIS OF THE PROPERTY OF TH					
7										₩ W	
GEOTE	CH. TEST PIT	IN METERS 10/17/03						<u> </u>			

GE LII CI	WFOUN OSCIEN MITED LIENT ROJECT OCATION	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N	ewf	oun) E	637180	TEST PIT		TPI NFS09	
		-dd-yy): DUG				N	/A		DATUM		AD83 Z	Cone 21
DEPTΗ (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE SY	NUMBER T	OTHER TESTS	20		0	60 W _P	* 80
- 0 -	95.00							10 20	30 4	0 50	60	70 80
-	94.7	Rootmat	1				· · · · · · · · · · · · · · · · · · ·					-
	94.2	Loose to compact, yellow - brown, silty SAND (SM); occasional cobbles and boulders		ti din di								
1 -		Compact to dense, very dense at bottom of stratum, grey to yellow - grey, silty SAND	-									
		(SM); occasional cobbles and boulders: TILL	producing and constitution of the distribution of the second of the seco									
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2 -						***************************************						
رن دی						WHILE WE WANTED						
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	monte extra monte extra constante extra consta					manufer of the same of the sam	AND THE PERSON AND TH					-
- 4 - - -												
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5 -	90.1	End of Test Pit										
		No groundwater seepage observed.										
		Bedrock not encountered.										
6-			AN ARTHUR AND A REAL PROPERTY OF THE PROPERTY									
			AND	***************************************		AA DIN TA KANAN AA						
- 7 -		IN METERS 10/17/03	***************************************			AMAGINANTON						M

	GE LII	OSCIEI MITED	NDLAND NCES TEST BAE - Newplan Group Ltd.	PIT	R	ECC	RE)									·····					
	PF	LIENT ROJECT _	Proposed Waste Management Facility, Central													ΓNo.		NT:	TP FS09	**********		
		OCATION	A +A ++	N ATER I		13376 E1	N	<u>E</u> /A	6.	370)43					T No. <u>UT</u>						
\ 			W.	TILL	, 	7	MPLE				UN	IDR/				STRE				*		_
	(m)	(m) Ni		LOT	Z/EL							2	0			40		6	0		8	0
	ОЕРТН (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER TESTS	W.A	TEF	R C	' TMC	ENT	& A*	TTER	BERG	LIMI	rs	₩ _P	— C	/ \ 	V ∟ 1
	0 -	102.00								1(0	2	0	30		40	50	6	0	70	8	0
	-	101.8	Rootmat	- // - 111	4		AND THE PROPERTY OF THE PROPER															- -
_	-	101.3	Loose to compact, orange - brown, silty SANI (SM); occasional cobbles and boulders)	evenendevenennen undernoede.		ANN CONTRACT LANGUAGE CANCELLANGE CONTRACT CONTR															-
			Compact to dense, grey - brown, silty SAND with gravel (SM); occasional cobbles and	7 6		-	PARTIE AND PARTIES OF THE PARTIES OF															- - -
	1 -		boulders: TILL		\$																	
-	,			5 5	more and the second sec	Account of the second of the s	V					A A A A A A A A A A A A A A A A A A A										- -
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-	-			2 9	and the second s	Construction Const																-
	3 -			7.6		ALL A LA L	***************************************															-
				D.																		
,	-	98.4				BS	1	s			0											_
	1	98.3	Grey sandstone/siltstone: BEDROCK End of Test Pit																			F
_	4 -	:	Very slow groundwater seepage observed at																			_
_	-		2.1 m and 3.5 m depth.																			_
	1		Refusal on probable bedrock at 3.7 m depth.				**************************************	:														-
-	5 -																					_
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	1																			LA MANAGEMENT AND		1
-	6 -						W VARIOUS AND A															-
	-	THE PROPERTY OF THE PROPERTY O					THE REAL PROPERTY AND ADDRESS OF THE PERSONS ASSESSED.															-
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	7 -	omproved compression of the comp			Name of the last o			-														-
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G	OTE	CH. TEST PIT	IN METERS 10/17/03						<u> </u>										L	V	J	

DESCRIPTION AMATER LEVATION OTHER R NUMBER	PR LC	AITED LENT OJECT _ CATION				dland 3378		E	6	366	579			PR	ST F OJE	СТ	No.		NI	TP.	71		
DESCRIPTION DESCR	DA	ATES (mm-	-dd-yy): DUG	TER L	EVE	EL _	N	/A															<u>[</u>
0 99.00 Rootmat, boggy 98.7 Loose to compact, yellow - brown, silty SAND (SM); occasional cobbles and boulders 1 Compact to dense, very dense at bottom of stratum, grey to brown, silty SAND (SM); occasional cobbles and boulders: TILL 2 End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	TH (m)	TION (m)	DESCRIPTION	A PLOT	R LEVEL						·U			ED 9	SHEA			IGTH		3			86
Rootmat, boggy 98.7 Loose to compact, yellow - brown, silty SAND (SM); occasional cobbles and boulders Compact to dense, very dense at bottom of stratum, grey to brown, silty SAND (SM); occasional cobbles and boulders: TILL End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	DEP	ELEVA		STRAT	WATE	₹ 1 1 1 1 1 1 1 1 1 1 1 1 1	NUMB	OTHE	W	ATE	R C	ONT	ENT	Γ& /	ATTE	RBE	RG L	IMITS	5	 		}	
Loose to compact, yellow - brown, silty SAND (SM); occasional cobbles and boulders 1 Compact to dense, very dense at bottom of stratum, grey to brown, silty SAND (SM); occasional cobbles and boulders: TILL 2 -	0 +	99.00	Rootmat, boggy	177						1	0	2	:0	3	0	40		50	61) ::::	70		8
(SM); occasional cobbles and boulders Compact to dense, very dense at bottom of stratum, grey to brown, silty SAND (SM); occasional cobbles and boulders: TILL End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	1	98.7					A PARTIE DAVIS DE LA CONTRACTOR DE LA CO																
Compact to dense, very dense at bottom of stratum, grey to brown, silty SAND (SM); occasional cobbles and boulders: TILL 2 44 94.7 End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	-			No. and			AND THE PROPERTY OF THE PROPER																
occasional cobbles and boulders: TILL 94.7 End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	1 1	98.0					***************************************																
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94.7 End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	1						VALUE OF THE PARTY ASSESSMENT																
Bedrock not encountered.	2 -	A LOCAL DESIGNATION OF THE PARTY OF THE PART					ALANAMA MANAGANA																_
End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	1	***************************************			X		NATURAL NATURA																
End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	ر ا ا	THE PARTY OF THE P					MANA PANTON PRANTON PANTON PAN																
End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	` 	**************************************																					
End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	-						A Control of the Cont																
End of Test Pit Moderate groundwater seepage observed at 2.4 m and 3.3 m depth. Bedrock not encountered.	4 -						AND THE PROPERTY OF THE PROPER																
m and 3.3 m depth. Bedrock not encountered.	1	94.7	End of Test Pit				A A A A A A A A A A A A A A A A A A A																
Bedrock not encountered.	-																						
6 -	5		Bedrock not encountered.	***************************************																			
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	6 -																						

GI	EWFOUI EOSCIEI MITED LIENT	BAE - Newplan Group Ltd.)					EST F	orr N			TP1	3	
1	ROJECT _ OCATION	Proposed Waste Management Facility, Centra Norris Arm North			dland 3811		E	6:	367	66		ROJE:			N	FS09'		
			ATER I				/A		2.0.7.		[DATUI	M L	JTN	INAI	083 Z	one	21
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	SA L A b E	NUMBER	OTHER 00	WA	TEF		20 	SHEA	40	tur		Pa 50 + W _P	* w	80 W _L
			S	5	Account to the same of the sam	Z			1.0	, ,	20	20	40	ď	n 4	20	70	20
-0	98.00	Rootmat	-				Average and a second	_	10	, ,	20	30	40		0 (30 	70 	80
	97.8	Loose to compact, brown to orange - brown, silty SAND (SM); occasional cobbles and				THE THREE PROPERTY OF THE SHARE PROPERTY AND ADDRESS OF THE PROPERTY OF THE PR											ALL CONTRACTOR OF THE PROPERTY	
 -1-	1	SAND (SM): TILL																
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	from from from the same from t																	
- 3 -	And the second s			Ţ														
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- 4 -	-																	
-	-			-													ANALOGO CONTRACTOR OF CONTRACT	
- 5 -	- - -																	-
	92.8	End of Test Pit															<u> </u>	
- 6 -	of transferred from the control of t	Moderate groundwater seepage observed at 2 m and 4.9 m depth.	7				***************************************											
		Bedrock not encountered.		***************************************		***************************************	Tree of the state											
7 -	OH TEST DIT	IN METERS 10/17/03		***************************************												C	Á	

G L	EWFOU EOSCIE IMITED CLIENT _ PROJECT	NDLAND NCES TEST P BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N				RE)				ST PIT			TP14	
	LOCATION	Norris Arm North	٧	544	3426		E	636	381		:OJECT			FS097	
	DATES (mn	ı-dd-yy): DUG <u>9-28-03</u> WAT	ER L	EVI			/A						1 NAD		
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER BT-	OTHER TESTS	WAT		:0 	4	10		0	* 80 W W
	106.00					ļ			10 2	20 3	30 4	10 5	50 6	0 7	0 80
F 0	105.8	Rootmat	1/	1			or an annual section of the section								-
	105.4	Loose to compact, orange - brown, silty SAND (SM); occasional cobbles and boulders					***************************************						1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		[-
		Compact to dense, very dense at bottom of stratum, grey to yellow - grey, silty SAND with gravel (SM); occasional cobbles and boulders:	13 G			AAAAA AAAA AAAA AAAA AAAA AAAA AAAAA AAAA									-
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-	1			and a constraint of the constr											- Annual Avorage
- 2					Avelance Average and Avelance a										
	4)))	XII	VALUE OF THE PROPERTY OF THE P		***************************************								_
- 3			7	7 G	BS	1	s								-
				T	ca	1	3								
-				Anticonistenminer meninten		***************************************									-
- 4	-		7 7 6												
-	101.4		7	8											
- 5		End of Test Pit Moderate groundwater seepage observed at 3.3	AVAA014444 PRODUCT A TOTAL BOOK BOOK BOOK BOOK BOOK BOOK BOOK BOO		The control of the co		A SOCIETY OF THE PARTY OF THE P								
		m depth.					***************************************								
		Bedrock not encountered.				AND THE PROPERTY OF THE PROPER									
- 6	-														
	-				ANALYSIS AND ANALYSIS ANALYSIS AND ANALYSIS ANALYSIS AND										
	1		NAMES OF TAXABLE PARTY				AMERICAN POSTERON POR PROPERTY OF THE PROPERTY								
- 7		IN METERS 10/17/03												V	A

GF LI	EWFOUN EOSCIEN MITED LIENT ROJECT	NDLAND NCES TEST F BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central P				RE)			TE	ST PIT	No.		TP15	
L	OCATION				3720	N	E // A	635	970		OJECT		<u>NI</u> I NAD	S097	
	AIES (mm	-dd-yy): DUG <u>9-28-03</u> WA	TER L	EVE		MPLE			UNDE				GTH - KF		*
Î Ê	(m) N		101	VEL	SA:	IVIPLE	3			20		10	6		80
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER TESTS	WATE	R CON	TENT &	ATTERE	ERG LI	MITS	W _P	w w _t
-0-	91.00				····				10 :	20 3	30 4	10 5	0 6	0 7	0 80
'	90.7	Rootmat	1/2												-
		Loose to compact, grey - brown, silty SAND with gravel (SM); occasional cobbles: TILL	2 2 2 2	Y		POPULA DIAN AMPLIANNA MANAGAMBANA AMBANANA MANAGAMBANA	A CANADA PARA COMPANIA PARA CANADA PARA PARA PARA CANADA PARA PARA PARA PARA PARA PARA PARA P								
-	89.5	Severely fractured, weathered, clay altered,	3 6			AND THE SECOND STREET, THE SECOND STREET, SECOND STREET, SECOND STREET, SECOND SECOND STREET, SECOND	THE PARTY OF THE P								
1 - 2 -	89.0	purple sandstone/siltstone to conglomerate: BEDROCK			BS	1	S		О						
		End of Test Pit													-
		Slow to moderate groundwater seepage observed at 0.9 m depth.				THE THE PARTY AND THE PARTY AN	A PARTICIPATION OF THE SECOND								
3 -	1	Refusal on probable bedrock at 2.0 m depth.													<u>-</u>
						THE PROPERTY OF THE PROPERTY O									
- 5 -	de contraction de con						***************************************								
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- 7		IN METERS 10/17/03	A Notice control of the Control of t			***************************************	Management American Annu							C	A

G L	EWFOUI EOSCIEI IMITED CLIENT _ PROJECT	NDLAND NCES TEST BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central)				TEST P	T No.		TP16	
ا ا	LOCATION	Norris Arm North	N	544	3423		E /A	635	5929		PROJEC	T No. 1 <u>UTN</u>		FS097	
		-dd-yy): DUG <u>9-28-03</u> WA	TER L	EVE		MPLES			UNI			R STREN		·····	*
(E)	(m) No		LOT	EVEL		1	J			20		40		30 L	80
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	ТҮРЕ	NUMBER	OTHER	WATI	ER CO	NTENT	& ATTER	BERG L	IMITS	` W _P ├──	w w≀ -⊖ -
-0	101.00								10	20	30	40	50 6	0 7	70 80
According to the contract of t		Very loose/soft, black PEAT (PT)		Annual Laboratory Communication of the Communicatio		AND THE REAL PROPERTY OF THE P									
	99.8		1//	Ţ											
L	1	Loose to compact, grey, SAND (SP)		www.mana.www.mana.ww											<u> </u>
1 – 2	99.4	Compact to dense, yellow - brown to grey, silty SAND with gravel (SM); occasional cobbles and boulders: TILL) ,	and the second s											-
		coobles and boulders. TILL	0 0												
- 3															-
-	-		Commence of the comment of the comment												
_4			G												
	96.4		0 0												-
	96.3	Grey conglomerate: BEDROCK	措												
- 5	-	End of Test Pit													-
-] - 	Moderate groundwater seepage observed at 1.2 m depth.	2												
- 6		Refusal on probable bedrock at 4.6 m depth.	PARAMETER AVERAGE STATES AND STAT												
	-		ALLEAN PROPERTY THEM AND THE STATE OF THE ST			***************************************									
 -7			VAANABAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA												au
GEOT	THE TEST DIST	IN METERS 10/17/03												V	Ŋ

GE LII CI	OSCIENT ROJECT _	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N	lewf	oun	dland			(2/22	TEST PIT PROJECT		TP17 NFS097	
	OCATION ATES (mm	-dd-yy): DUG 9-28-03 WAT			3723 EL <u> </u>	N	E /A	636236		UTM NA		***************************************
DЕРТН (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE TYPE	NUMBER BT-	OTHER G	20	NED SHEAR S	0	60	* 80 W WL
			STR	WAT	}	NON	OTI	10 20	30 4		60 7	0 80
- 0 -	90.00	Rootmat	1/	1				10 20	30 4	<i>)</i> 50	1	v 80
-	89.7 89.0	Loose to compact, brown, silty SAND (SM); occasional cobbles and boulders				A MANAGEMENT AND						
- 1 -		Compact to dense, very dense at bottom of stratum, grey to yellow - grey, silty SAND (SM); occasional cobbles and boulders: TILL		_		***************************************						
- 2 -												
- 3							MANAGEMENT AND THE PROPERTY OF					
- 4 -	85.7											-
- 5 -		End of Test Pit Slow to moderate groundwater seepage observed at 1.8 m and 2.7 m depth.										
		Bedrock not encountered.		AND		de material income à l'Adult anni esta discrite d'Adult — persona distribution de second						
6				THE RESERVE THE PROPERTY OF TH		The second secon	The state of the s					
- 7 -	OU TEST DIS	IN METERS 10/17/03		1		***************************************					(V	A

	GE LIP	WFOUI OSCIEI MITED LIENT	NDLAND NCES TEST F BAE - Newplan Group Ltd.	PIT	R	ECC	RE)								
	PF	ROJECT _	Proposed Waste Management Facility, Central									EST PIT			TP18 S097	
		DCATION		N TER I		13885 E1		E /A	636	947		ROJECT ATUM				
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	(E	(E)		101	VEL		IVIF LE	<u> </u>			20		10	6		80
	DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	ТҮРЕ	NUMBER	OTHER TESTS	WATE	ER CON	TENT 8	ATTERE	BERG LI	MITS	W _P	W W _L
	0 -	91.00						· ·		10	20	30 4	10 5	0 6	0 7	0 80
	-	90.7	Rootmat					A. American de Constantino de Consta								
_	1	90.2	Loose to compact, orange - brown, silty SAND (SM); occasional cobbles and boulders		4		NYRWYTY VILLAGA A A A A A A A A A A A A A A A A A									
	1 -		Compact to dense, very dense at bottom of stratum, grey, silty SAND with gravel (SM);	2												-
	-		occasional cobbles and boulders: TILL		ji \$											
-	1			2 2												
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	3 -			λ (δ (A) (D)	O	THE										
	-			2 2 4		**************************************										
	4 -		-	2 2 6	X	TENERS I DEBANGANANA PER PROPERTIES	=									-
		86.1		P 7		BS	1	s		φ:						
1	5 -	00.1	End of Test Pit	21.1.1									::::			
			Moderate groundwater seepage observed at 4.3 m depth.	3	***************************************	**************************************										-
	6 -		Bedrock not encountered.		***************************************	***************************************										
	1				***											
	7															
		AT LECT BIT	IN METERS 10/17/03												Y	A

GE LIN CI PF	OSCIE! MITED LIENT ROJECT _	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Cent		oun	dland	RE			TEST PIT		TP19 FS0971	1
	OCATION		N WATER I		2747 T	N	E //A	633889	PROJECT DATUM	UTM NA		
						MPLE	s	UNDRA		STRENGTH - H		*
(m)	E) N		7.01	EVEL				20	4	0	60	80
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER	WATER CONTE	NT & ATTERB	ERG LIMITS	, Mp \ } 	w 'w₁ Э— 1
- 0 -	84.00	Very loose/soft, black PEAT (PT)	1/					10 20	30 4	0 50	60 70	80
	83.8 83.6	Loose to compact, grey, silty SAND (SM);					A VALUE					
	83.0	\occasional cobbles Compact to dense, yellow - grey, silty SAN	////				or carried and an annual value.					
		(SM); occasional boulders: TILL		T			#0.000 A \$400.00					<u> </u>
- 1 -				· verning and in the contract of the contract			OLI PURROUNANA RALLER MANOR					
	-						ALGORITHAN PROPERTY OF THE PRO					
			de consequence de con									
- 2 -												
_	ACAA SEEBAAA SEEBAA A				BS	1	S	0				-
-	CONTRACTOR OF THE STATE OF THE											
- 3 -	nova nemoca.											<u> </u>
	Andropes de la mantença de des					-						
	MANAGEMENT AND THE PROPERTY OF											-
	A PRINCIPAL PARTY OF THE PARTY											-
- 4 -	THE TOTAL COMMENT											
	79.1			and the second second								F
5 -	79.0	Grey to purple, sandstone/siltstone: BEDROCK										
-		End of Test Pit										F
		Slow to moderate groundwater seepage at (m depth.).9									
- 6 -		Refusal on probable bedrock at 5.0 m depti	h.									
												F
												-
7 -												-
											M	A
GEOTE	CH TEST PIT	IN METERS 10/17/03			***************************************			<u></u>		wn	LY	

GE LIN CI PF	WFOUN OSCIEN MITED LIENT ROJECT _ DCATION	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N	lewf	oun		RE) E	634211	TEST PIT No. PROJECT No.	TP20 NFS09711
		-dd-yy): DUG <u>9-26-03</u> WAT				N	/A	VV3211		4 NAD83 Zone 21
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	A L	NUMBER	OTHER 00	20	NED SHEAR STREN 40	60 80 W _P W W _L
- 0 -	107.00		Ī,,					10 20	30 40	50 60 70 80
1 2 3	106.5	Very loose/soft, black PEAT (PT) Loose to compact, brown, silty SAND (SM); loccasional cobbles and boulders Compact to dense, grey to grey - brown, silty SAND with gravel (SM); occasional cobbles and boulders: TILL		and the second s						
- 4 -	102.7		7 3	3						-
- 5 -		End of Test Pit Slow groundwater seepage at 2.7 m and 3.4 m depth. Bedrock not encountered. Refusal on possible boulders at 4.3 m depth.	A THE REAL PROPERTY OF THE PRO							
7 -		AV		To the second se		The state of the s				(WA)

G	EOSCIE		IT	R	ECC	RE)														
	IMITED CLIENT PROJECT _	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N	lewfo	oun	dland								TES	TPI	T No.			TP		·	
	LOCATION	Norris Arm North	N	544	2708		E/A	6	34.	542	ļ.,. ".	-			TNO			FS09			
 	DATES (mm	-dd-yy): DUG <u>9-26-03</u> WAT	ER L	EVI				T			NOR				(<u>U</u>					k	<u> </u>
Ê	N (m)		101	VEL	5A	MPLE:	5			٠,		20		· ·	40	L.) *\		60 1	,	•	80
ОЕРТН (ш)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER TESTS	14/	A TE	:D C	ONIT	rent	. b v.	TTE0	BERG	` I IA.	arc.	WF	, V	۸ ۲	w.
90	ELE		STR	WAT	<u>\</u>	NON) VV.	M I C	.r. U	OI41	i etti i	O A	HIEN	DERG	3 L.11V	1113	-		.,	
	112.00		<u> </u>						1	10	2	20	30		40	50)	60	70		80
- 0	111.8	Rootmat	1/												T						
	+	Loose to compact, orange - brown, silty SAND (SM); occasional cobbles and boulders																			-
	111.4	Compact to dense, grey to yellow - grey, silty	0																		-
		SAND (SM); occasional cobbles and boulders: TILL	D																		-
		A A A A A A A A A A A A A A A A A A A	O.			:															1 1
-	-																				_
]		3																		<u> </u>
- 2	-								<u> </u>												
	1) 		BS	1	S			C											
F	1				<i>D</i> 0																L
			G																		L
- 3			8			A PRINCIPAL OF THE PRIN	A-0000000														
	108.6 108.5	-Grey, sandstone to siltstone: BEDROCK																			-
		End of Test Pit																			1
- 4	-	No groundwater seepage observed.				**************************************													_		
		Refusal on probable bedrock at 3.5 m depth.			. ,																1 1 1
-		· •																			
	1																				
- 5	1					A SALIMAN WAS ARREST OF THE SALIMAN WAS ARRE		-													
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- 7									<u> </u>												-
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GEOT	TECH TEST PIT	IN METERS 10/17/03							,						············		***************	L	V		

G L	EOSCIEI IMITED CLIENT PROJECT _	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N	Newf	oun	dland)		TEST PIT		TP22 NFS0971	1
1	LOCATION DATES (mm		N ΓER L		2728 EL	N	E I/A	634855	PROJECT DATUM	No <u>UTM NA</u>		
	T					MPLE	S	UNDRA	NED SHEAR			*
(E)	ON (m		PLOT	EVEL				20	4	0	60	80
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER	WATER CONTE	NT & ATTERB	ERG LIMITS	W _p \	W W∟ Э—1
-0	115.00	Vandania Allah DEAT (DE)	<u> </u>			1		10 20	30 4	0 50	60 70	80
	114.7	Very loose/soft, black PEAT (PT)	1//									
-	114.5	Loose to compact, brown - grey, silty SAND (SM); occasional cobbles										
		Compact to dense, grey to brown - grey, silty										
1	_	SAND (SM); occasional cobbles and boulders: TILL										-
	7											-
												-
	-			T								E
- 2	112.9											
	112.8	Weathered, rusty orange to brown: BEDROCK End of Test Pit		<u>-</u>			-					-
-												_
- 3	-	Moderate groundwater seepage observed at 1.8 m depth.										
		Refusal on probable bedrock at 2.2 m depth.										
-	1											_
												-
- 4												-
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- 5	-											
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GEO	TECH: TEST PIT	IN METERS 10/17/03								<u> </u>	LY	

GE LIN	WFOUN OSCIEN MITED LIENT	NDLAND NCES TEST P BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N)		TEST PIT No.	TP23
LC	OCATION	Norris Arm North	N	544	2977		E	635203	PROJECT No	
D/	ATES (mm	-dd-yy): DUG 9-27-03 WAT	ER L	EVE			/A			TM NAD83 Zone 21
ОЕРТН (м)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	AR LA DE	NUMBER	OTHER	20	NED SHEAR STRE	60 80 W _P W W _E
- 0 -	122.00		 					10 20	30 40	50 60 70 80
	121.8	Rootmat, very loose/soft, black PEAT (PT)								
	121.4	Loose to compact, brown, silty SAND (SM); occasional cobbles and boulders		T			ANADERS AND STREET STREET, STR			-
		Compact to dense, grey to yellow - grey, silty SAND (SM); occasional cobbles and boulders: TILL								-
		TILL .		economic contraction and contr						
- 2 -	119.3			T						
	119.1	Weathered, yellow - brown: BEDROCK	岜							
3 -		End of Test Pit Moderate groundwater seepage observed at 0.6 m and 2.1 m depth. Refusal on probable bedrock at 2.9 m depth.	Holologica de la companya del companya del companya de la companya			Viterata Novinda de Antonio de An	THE RESERVOY INTERPRETATION OF THE PARTY OF			
- 4 -				The state of the s		A TOTAL CONTRACTOR OF THE PARTY	THE PROPERTY OF THE PROPERTY O			
5			Washington and the same of the	TO THE REAL PROPERTY AND THE PERTY AND THE P		элеминий шиний шин	Administration Administration and property of the party o			
- 6 -	malesses desse desserved		And the state of t		A A	NAMES AND THE PROPERTY OF THE	THE RESERVE OF THE PROPERTY OF			
- 7 -	OH TEST DIT	IN METERS 19/17/03						3		M

DOCKTION North N S443362 F G35279 PROLET IN NES09711	GE LII CI	OSCIEI MITED LIENT ROJECT _	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central	Newf	oun	dland	RE							ST P				TP FS0	
SAMPLES UNGRAINED SHEAR STRENGTH - IP2 # 20							N		6.	352	70_								
102.8 Very loose/soft, black PEAT (PT) 102.6 Loose to compact, brown, sity SAND (SM); 102.6 Compact to dense, grey to yellow - grey, sandy SILT (ML); occasional cobbles and boulders: TILL 1	-			STRATA PLOT	WATER LEVEL			T	WA	TEF		20			40			60 	 <u> </u>
	-1	102.8 102.6	Loose to compact, brown, silty SAND (SM); \[\textstyle \text{occasional cobbles and boulders} \\ \text{Compact to dense, grey to yellow - grey, sandy SILT (ML); occasional cobbles and boulders: TILL \[\text{Grey, siltstone/sandstone: BEDROCK} \\ \text{End of Test Pit} \] Slow to moderate groundwater seepage observed at 0.9m, 2.4 m and 3.0 m depth.		¥.	BS	1	SA			5	20	3	0	40	5	0	60	80
7					THE PROPERTY OF THE PROPERTY O		MALAN MALAN MINIMAN MANAGEMENT MANAGEMENT PROPERTY OF THE					- ALL AND							

GH LI C	EWFOU! EOSCIE! MITED LIENT ROJECT _ OCATION	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Centra	al Newf	oun		RE) E	6353	304		ST PIT		N	TP25 FS097	
•			VATER L			N	/A						INAD		······································
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER OF	WATE		20		10		ea 0 W _P	* 80 W W L
1 - 3 - 4 - 5 - 6 -	97.00 96.8 96.5 92.7 92.7	Rootmat Loose to compact, orange - brown, silty SAN (SM); occasional cobbles and boulders Compact to dense, grey, silty SAND (SM); occasional cobbles and boulders: TILL Grey to purple, sandstone/siltstone: BEDROCK End of Test Pit Slow groundwater seepage observed at 3.7 n depth. Refusal on probable bedrock at 4.4 m depth.		A Control of the Cont	BS	1	S		FO	20	30	ξQ ξ	0 6	O 7	
- 7					- Andrews									C	A

	\mathbf{GE}	WFOUN OSCIEN MITED LIENT	BAE - Newplan Group Ltd.)					rre	<i>ረ</i> ጉ፣ ያሳያና	Г No.		т	P26		
		ROJECT _ DCATION	Proposed Waste Management Facility, Centra Norris Arm North	I Newf		idland 14022		E	63	525					T No.			0971	1	_
.				ATER I			N	/A							UT	M NA	D83	Zoi	ne 21	_
		()				SA	MPLE	s		ţ			D SI		STREN	IGTH -			*	
	(m)	5) NO		PLOT	EVE							20 			40 		60 -			80 -
	ОЕРТН (т)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	Edyl	NUMBER	OTHER TESTS	WAT	TER	CON	TENT	'& A'	TTER	BERG L	.imits	V	ν _р	w 0	Ψ _ι 1
	0 -	68.00		1,						10	- 1	20	30		40	50	60	7()	80
			Very loose/soft, black PEAT (PT)																	1
		67.6	Loose to compact, brown to orange - brown,																	L
	1	67.4	silty SAND (SM); occasional cobbles and	12 3																1
	,		boulders Compact to dense, grey to grey - brown, silty	_/				AVERAGE OF THE STATES												-
	1		SAND (SM); occasional cobbles and boulder	s.	d			THE CONTRACTOR OF THE CONTRACT												
	-		TILL		4			OPERATOR PROPERTY.												-
	-			7																
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	2 -																			
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	1						WAA KARININA VANA													1
	4 -			β	d											+				+
				9 9			-													
	_			2																-
	1	63.3	-Grey, siltstone: BEDROCK																	-
	5 -	63.2	End of Test Pit	$\neg \top$																
			Slow groundwater seepage observed at 3.0 m																	-
	-		and 4.3 m depth.																	
	,		Defined an ambable badas also at 4.7 as denote		7m-man															
	-		Refusal on probable bedrock at 4.7 m depth	4						AMERICAN AND PROPERTY.										-
 	6 -																			
					NAME AND ADDRESS OF THE PARTY O															
1	-				***************************************															-
	-			Water Control of the	*FORGEROUS FARESCON		TANK TO SERVICE STREET, SERVIC													
-	7 -							<u> </u>												-
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إ	nore.	out apon o	IN METERS 10/17/03						<u> </u>									V		

GE LII Cl	CWFOUL COSCIEN MITED LIENT ROJECT _ OCATION	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N Norris Arm North	lewfo	oun			E	634846	TEST PIT No. PROJECT No		
D	ATES (mm	-dd-yy): DUG <u>9-27-03</u> WAT	ER L	EVE			/A	LINDOAL	DATUM <u>UT</u>	M NAD83 Zone	
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL		MPLE		20	40	NGTH - kPa ★ 60 W _P W	80
OEP	ELEV		STRA	WATE	TYPE	NUMBER	OTHER TESTS	WATER CONTEN	NT & ATTERBERG		I
- 0 -		Rootmat	11/					10 20	30 40	50 60 70	80
-		Loose to compact, yellow - brown, silty SAND (SM); occasional cobbles and boulders				PORPARISMENT I PARISMENT AND ARROYMENT AND A	NOTE THE WAY OF THE PROPERTY O				
1 -		Compact to dense, yellow - grey to grey, silty SAND with gravel (SM); occasional cobbles and boulders: TILL	3		,						
		and sounders. Till									
2 -			0 0								
- 3 -					BS	1	S				
		Distribution of the control of the c		Ā							
-4-		Purple to grey, sandstone to siltstone: BEDROCK End of Test Pit									
		Slow groundwater seepage observed at 3.5 m depth	A T T T T T T T T T T T T T T T T T T T								
- 5 -	-	Refusal on probable bedrock at 3.8 m depth.									
	THE PROPERTY OF THE PROPERTY O			THE PARTY OF THE P							
- 6	V										
							114 mart/m hammin ham fre sammenteres — 1 1 - m - 1 1 -				
7 -		IN METERS 10/17/03	1							(Y	

GE LII	EWFOULE COSCIE LIENT								TEST PIT	`No	TP28	
' L	OCATION	Norris Arm North	N		3739	Е		634889	PROJECT	110.	FS09711	
	ATES (mm	1-dd-yy): DUG 9-27-03 WA	TER I	EVE.		N/A			***************************************	UTM NA		
(m)	(m) NO		PLOT	EVEL	SA	MPLES		UNDRAIN 20		STRENGTH - I	kPa ★ 60	80
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	TESTS	WATER CONTEN	IT & ATTERE	BERG LIMITS	W _P W ├──⊖	w _l
-0-	71.00		<u> </u>					10 20	30 4	50	60 70	80
	70.9	Rootmat Loose to compact, yellow - brown, silty SANI (SM); occasional cobbles and boulders	5	The state of the s								
- 1 -	70.2	Compact to dense, grey to yellow - grey, silty SAND with gravel (SM); occasional cobbles	× 1			WIT IN THE CAME AND ADDRESS OF				Service Control of the Control of th		-
		and boulders: TILL		anna filtration of the state of								
2 -				The state of the s								
3				insignmentaransamintojemingskaranskojematojemintojemintojemintojemintojemintojemintojemintojemintojemintojemin								
- 4	66.4			¥								
-	66.3	Purple, sandstone to siltstone: BEDROCK End of Test Pit			,							
5 6		Slow groundwater seepage observed at 4.4 m depth Refusal on probable bedrock at 4.7 m depth.					THE PROPERTY OF THE PROPERTY O					
7		IN METERS 10/17/03	NAME OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPER		***************************************						₩	

GE	EWFOUL EOSCIE MITED LIENT	BAE - Newplan Group Ltd.)		TECT DIT	N	TP29
1	ROJECT _	Proposed Waste Management Facility, Cent Norris Arm North	ral Newf N		dland 3976		E	634902	TEST PIT PROJECT		FS09711
1			WATER L			N	l/A		DATUM	UTM NAD	83 Zone 21
	(m)		10	l ii	SA	MPLE	S	UNDRAI 20	NED SHEAR S	TRENGTH - kF	
рертн (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER		NT & ATTERBI		W _P W W _L
	66.00					-		10 20	30 40) 50 6	0 70 80
-0-	65.9	Rootmat	_////								
		Loose to compact, grey - brown, silty SANI (SM); occasional cobbles and boulders)	ministration of the second							-
1 - 1 -				T							-
	64.7			animora construction							
-		Compact to dense, very dense at bottom of stratum, grey, silty SAND with gravel (SM)									-
		occasional cobbles and boulders: TILL	' []]c								
- 2 -											
-			o a								
			5								
- 3 -			þ. P. a				The forest				
							AND THE PERSON NAMED IN COLUMN 2				
							**************************************				<u> </u>
-							W. W				<u> </u>
-4-			Pu de la companya de								
	61.3	End of Test Pit									
5 -											<u> </u>
		Slow groundwater seepage observed at 0.9 and 2.7 m depth.	m								
		Bedrock not encountered.									
-						THE PARTY OF THE P					
6 -	·	Refusal on very compact, very dense till.	***************************************								
			AND THE PROPERTY OF THE PROPER					***************************************			
F -			Populari and Popul								
			-			-					
7 -		· · · · · · · · · · · · · · · · · · ·				<u> </u>	1				
GEOTE	CH TEST PIT	IN METERS 10/17/03						<u></u>			التد

GI LI	EWFOULEOSCIE MITED CLIENT ROJECT	NDLAND NCES TEST BAE - Newplan Group Ltd. Proposed Waste Management Facility, Centra)		TEST PIT No.		TP30	
' L	OCATION	Norris Arm North	N	544	3843		E	634529	PROJECT No.	***************************************	S0971	
}	<u> </u>	i-dd-yy): DUG <u>9-27-03</u> W	ATER L	EVE		MPLE	I/A	UNDRA	DATUM <u>UT</u>			<u>ne ∠1</u>
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER TESTS	20		6()	80 W W _L
	65.00							10 20	0 30 40	50 60) 7(0 80
-0	64.8	Rootmat	1//	1				10 20	30 40			J 80
	64.5	Loose to compact, orange - brown, silty SAN (SM); occasional to frequent cobbles and boulders Compact to dense, yellow - grey, silty SAND with gravel (SM); occasional cobbles and	30			THE PARTY OF THE P						
1 -	1	boulders: TILL	8									
				A COMMUNICATION OF THE PROPERTY OF THE PROPERT		The state of the s	THE					
2 -	restriction and the same department of the sa					***************************************						
- 3 -				¥								
	reference de company d					William DA Nobel and Date of Maria						
- 4 -					BS	1	S	С				-
-							***************************************					
- 5 -	Annual formation of the state o		77 07	TO THE PERSON NAMED IN COLUMN		***************************************	***************************************					
	59.8 59.7	Purple, sandstone to siltstone: BEDROCK										
-	39.1	End of Test Pit										_
- 6 -		Slow groundwater seepage observed at 3.0 m depth.										
		Refusal on probable bedrock at 5.3 m depth.					***************************************					
- 7 -	1						Total Property of Advances in Survivanies Advances in Survivanies and Advances and Advances in Survivanies and Advances and Advances and Advan					
GEOTE	CH 1FST PIT	IN METERS 16/17/03									\%	

I	GEO IM CLII PRO	OSCIE ITED ENT DJECT _	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N	Newf	oun	dland						EST PIT			TP3;	
3		CATION FES (mm	~	N ER L		3558 EL	N	E [/A	634	228		ROJEC" ATUM				one 21
DEPTH (m)		ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER T	OTHER TESTS	WATE		20		10	+	Pa 60 W _P	* 80
- 0	1	71.00	D	77						10 2	20 (30 4	10 :	60 (60	70 80
	+	70.7	Rootmat Loose to compact, yellow - brown to orange - brown, silty SAND (SM); occasional cobbles and boulders; occasional roots Compact to dense, very dense at bottom of		Transferder.			THE RESERVE THE PROPERTY OF TH								
			stratum, yellow - grey, silty SAND (SM); occasional to frequent cobbles and boulders: TILL				THE THE TAXABLE PROPERTY OF TA									
- 2																
- 3																
- 4		66.9	End of Test Pit No groundwater seepage observed. Bedrock not encountered.			BS	Parent	S								
- 6	., , , , , , , , , , , , , , , , , , ,	THE			THE PROPERTY OF THE PROPERTY O											
7																
CHO.			IN METERS 10/17/03											,	C	M

GE LII CI	COSCIENT ROJECT DCATION	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central	Newf	oun) ————————————————————————————————————	63:	3849		_ P	ROJE	IT No	0.		TP: FS09	711	
			TER L		EL _		/A						M <u>U</u>					
DEРТН (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER ET	OTHER TESTS	WAT		20)		R STR 40 H RBER		6	Pa 0 ├── W _P ├─	* ~ ~	80
	EI.E		STI	WA	F	Š	10 =											
- 0 -	81.00	Rootmat	177						10	20)	30	40	50	ε	0	70	80
-	80.8	Loose to compact, yellow to brown, fine silty SAND (SM); occasional cobbles and boulders		mana a riversifica no de constitución de const														
1 - 1 - 1 - 1	80.1	Compact to dense, very dense at bottom of stratum, yellow - grey, silty SAND with gravel (SM); occasional cobbles and boulders: TILL		emberoore family Attendings error milkes contential become														
2				anno efecumento reference correlemente communica e se														
				The state of the s														
- 3 -					ne		6.4											
	77.7	End of Test Pit No groundwater seepage observed.			BS	1	SA		Φ.									
- 4 -		Bedrock not encountered. Refusal at 3.3 m depth.	110m3 г үдэ полууумдангүмүхөлөгтүүктөлт гүү															
- 5 -			MANAGEMANIA PARAMATERIA PER MANAGEMENTA PARAMATERIA PA	MILITANIA CONTRACTOR C			***************************************											
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- 7 -		· ·	COMPANIATE PARENTAL CONTENTS IN CONTENTS	Make the State of the Control of the														
		IN METERS 10/17/03														[

' '	GEOSC LIMITE CLIENT PROJEC LOCATI	HEN ED T ION	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N Norris Arm North		E	633	854	PI	EST PIT	ľ No.	NI	TP33	11			
1	DATES	(mm-c	dd-yy): DUG <u>9-26-03</u> WAT	ER L	EVE			/A		בואור		ATUM SHEAR				me 21 ★
	(E) (E) N			LOT	VEL	SA	MPLES	S		UND	20		10 1	61 1		80
	DEFIN (III) ELEVATION (M)		DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER	WATE	ER CON	ITENT &	ATTER	I BERG LI	MITS	W _P	w w _L
-	62.0	00	D	//						10	20	30 4	10 5	0 6	7	0 80
	6	51.7	Rootmat													
-	6	51.2	Loose to compact, yellow - brown, silty SAND (SM); occasional cobbles and boulders													
-	1 -		Compact to dense, yellow - grey, silty SAND with gravel (SM); occasional cobbles and		Ţ											
-			boulders: TILL	2 G												
	2 -							**************************************								
	-							**************************************								
	3 -															

		7.7														
	5	7.6	Grey, fine grained sandstone or siltstone: BEDROCK End of Test Pit													
<u> </u>		A MATERIAL PROPERTY OF THE PRO	Slow groundwater seepage observed at 1.1 m depth		**************************************											
			Refusal on probable bedrock at 4.4 m depth.													
	5 -							AND AND THE PROPERTY OF THE PR								
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			N METERS 10/17/03		J						4			1	(V	A

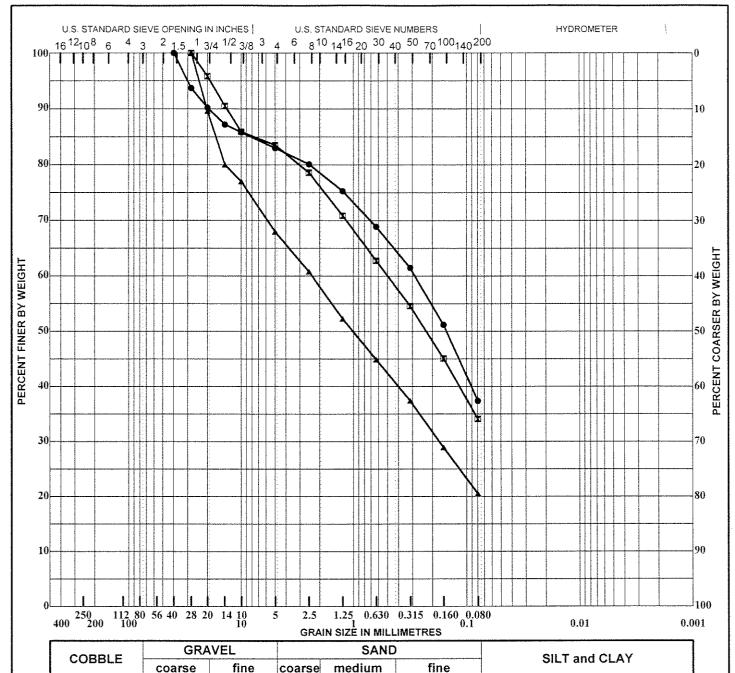
LIM CL PR LO	OSCIEN MITED MENT OJECT _ OCATION ATES (mm-	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central Norris Arm North	iewf	oun 544	dland 3110		E //A	634204	TEST PIT PROJECT DATUM	No. No.	TP34 FS09711 D83 Zone 2	
DЕРТН (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER 374W	OTHER TESTS	20	4		%Pa ★ 60 	80
	91.00							10 20	30 4	0 50	60 70	80
0 🛉	90.8	Rootmat	1//									-
. 1	A A A A A A A A A A A A A A A A A A A	Loose to compact, orange - brown to yellow - brown, silty SAND (SM); occasional gravel and cobbles; some boulders		and the standing by the standing of the standi	THE THE TAXABLE LABORATE AND A STATE OF THE TAXABLE AND A STATE OF TAXABL	A MINISTER PROPERTY OF THE PRO	A THE					
- 2 -	89.5	Compact to dense, grey, silty SAND with gravel (SM); occasional cobbles and boulders: TILL		instruction described in the second s								
- 4	86.1			A Characteristic Control of the Cont	BS		S					
- 5 -	VV - 1	End of Test Pit Slow groundwater seepage observed at 4.3 m depth					The state of the s					
- 6		Bedrock not encountered.	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA			A A A A A A A A A A A A A A A A A A A						
- 7 -											W	

(EWFOU EOSCIE IMITED CLIENT _		IT	RI	ECC	RD				anne de le de e les constantes anne met de le 144 e	
	PROJECT	Proposed Waste Management Facility, Central N							TEST PIT No	*****	***************************************
	LOCATION				3316	<u>H</u> N/.	<u>E</u>	634197	PROJECT N	₀ . <u>NF3097</u> ΓΜ NAD83 Z ₀	
\vdash	DATES (III	n-dd-yy): DUG <u>9-25-03</u> WAT	EKL	EVE		-		LINIDRA	DATUM E		*
1 2	(iii)		10	VEL.	5.4	MPLES		20	40	60	80
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, c	ELEVATION (m)		STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER	WATER CONTE	NT & ATTERBER(GLIMITS H	
-	81.00	Rootmat, peat	177					10 20	30 40	50 60 7	0 80
	80.1	·	1/								Ē
	80.6	Loose to compact, orange - brown, silty SAND (SM); occasional cobbles and boulders									<u> </u>
	1	Compact to dense, grey to yellow - grey, silty	P								
_ 1	1	SAND with gravel (SM); occasional cobbles and boulders; very dense till at base of test pit:	P								E
		TILL									
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1					BS	1					-
	76.9	End of Test Pit			•						
L	4	No groundwater seepage observed.									-
]	Bedrock not encountered.									
 5	-	Bedrock not encountered.									-
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G) LI	EOSCIEI MITED LIENT PROJECT _	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N	lewf	oun	dland							EST P				TP36		
	OCATION	Norris Arm North 1 -dd-yy): DUG 9-26-03 WAT			3045 u	N	E /A	634	546		***	ROJE:			I NAI			_
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(E)	m) NO		ZLOT	EVEL		-				20)	~~~	40	***************************************		50 	,	80
ОЕРТН (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	ТүрЕ	NUMBER	OTHER TESTS	WATE	ER C	TNC	ENT &	ATTE	RBE	ERG LI	MITS	Wp 	W - 0	W _L
-0	99.00		Ĺ.,,						10	20)	30	40	5	0 (50	70	80
	98.8	Rootmat		4														
	98.4	Loose to compact, orange - brown, silty SAND (SM); occasional cobbles and boulders					PPP INTERPRETATION OF PRINCIPE						and the second s					
_ 1 .		Compact to dense, grey to yellow - grey, silty SAND with gravel (SM); occasional cobbles and boulders: TILL	8	7														-
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- 3 -	-		0 9				***************************************											
	95.6		Þ				PARTITION OF BANKERS OF BANKERS											
-	95.5	Fine grained purple to grey, sandstone to siltstone: BEDROCK	片		***************************************								+					
		End of Test Pit	ANALEST PARTIES				A THE PROPERTY AND A SECOND											
- 4		Moderate groundwater seepage observed at 1.8 m depth																
ļ.	-		THE PERSON NAMED IN COLUMN NAM															-
		Refusal on probable bedrock at 3.5 m depth.																
- 5	-						***************************************											-
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	IMITED CLIENT PROJECT	BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N	lewf	oun	dland									ST P				TP3			
	LOCATION	Norris Arm North -dd-yy): DUG 9-27-03 WAT			3406	N	E /A	6	34:	584	<u> </u>			OJE(<u>N</u> 1 NAI	FS09 083-7		·	
			ERL	T		MPLES		_		U	NDF	RAIN					GTH - k		*		
(m)	ON (m		PLOT	EVEL							2	20			40			50 		8	30 1
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER TESTS	W	ATE	RC	ON"	TEN	T & /	ATTER	RBER	RG LI	MITS	Wp	C	/ \ }	W _L
- 0	84.00				****				1	0	2	20	3	0	40	5	i0	30	70	8	0
	83.9	Rootmat Loose to compact, yellow - brown, silty SAND	1111									The second secon									-
	1	with gravel (SM); occasional cobbles and boulders																			
- 1	82.9					***************************************															
		Compact to dense, yellow - grey, silty SAND with gravel (SM); occasional cobbles and boulders: TILL				NATIONAL PROPERTY AND															_ _ _ _
		bounders: 11LL				TANGERS AND THE PROPERTY OF TH															
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	A control of the cont																				
	i i		D C																		_
- 4	70.7			Ţ																	
	79.7 79.5	Purple sandstone: BEDROCK																			-
	4	End of Test Pit																			_
- 5	manifestion of the state of the	Moderate groundwater seepage observed at 4.0 m depth																			_
_	+	Refusal on probable bedrock at 4.5 m depth.		:																	- - -
- 6	The state of the s		***************************************																		- -
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- 7		IN METERS 10/17/03									: :							6	\ \	9	_

G.	EOSCIEN MITED CLIENT	NDLAND NCES TEST P BAE - Newplan Group Ltd. Proposed Waste Management Facility, Central N				RE)		TEST PIT No.	TP38
1	ROJECT _ OCATION	Norris Arm North	634942	PROJECT No. NFS09711 DATUM UTM NAD83 Zone 21						
I	OATES (mm	-dd-yy): DUG <u>9-27-03</u> WAT	LINDRAII	DATUM UTIV NED SHEAR STREN						
Ê	(E) 7		LOT	VEL	SAI	MPLE:	5	20	40	60 80
DEPTH (m)	ELEVATION (m)	DESCRIPTION	STRATA PLOT	WATER LEVEL	TYPE	NUMBER	OTHER	WATER CONTER	NT & ATTERBERG LI	W _P W W _L
- 0	106.00	Very loose/soft, black PEAT (PT)	1/,					10 20	30 40 5	60 60 70 80
	105.7	Loose to compact, yellow - brown, silty SAND								
-	1053	(SM); occasional cobbles								
1	105.2	Compact to dense, grey, silty SAND with gravel (SM); occasional cobbles and boulders:	2 6							-
	4	TILL	2) (MANAGANA MANAGANANA			
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1 - 2				¥						
	1		2 0	4	BS	1	S	0		
	103.1	D. J. J. J. J. J. J. DEDDOOW								
- 3	103:0	Purple, sandstone to siltstone: BEDROCK End of Test Pit								
_	1	Slow groundwater seepage observed at 1.8 m								
		and 2.6 m depth. Refusal on probable bedrock at 3.0 m depth								
	1	Refusal on probable bedrock at 3.0 in deptil				***************************************				-
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GEO	TECH TEST PI	FIN METERS 10/17/03	·····					_1		



	L	1 000		0 000.00	moutani	11114						
	Sample	Depth (m)		Desc	ription		W%	W _P	l _P			
•	TP1-BS1	3.60	S	ilty SAND w	ith gravel (SM	10.9			AAA JARRAA KAARRA			
X	TP11-BS1	3.50	S	ilty SAND w	ith gravel (SM	11.9						
•	TP14-BS1	3.00	S	Silty SAND w	ith gravel (SM	9.7						
	Sample	Depth (m)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay		
•	TP1-BS1	3.60	40.00	0.29			17.0	45.6	3′	7.4		
X	TP11-BS1	3.50	28.00	0.50			16.5	49.4	34.1			
٨	TP14-BS1	3.00	28.00	2.34	0.175		32.0	47.5	20).5		

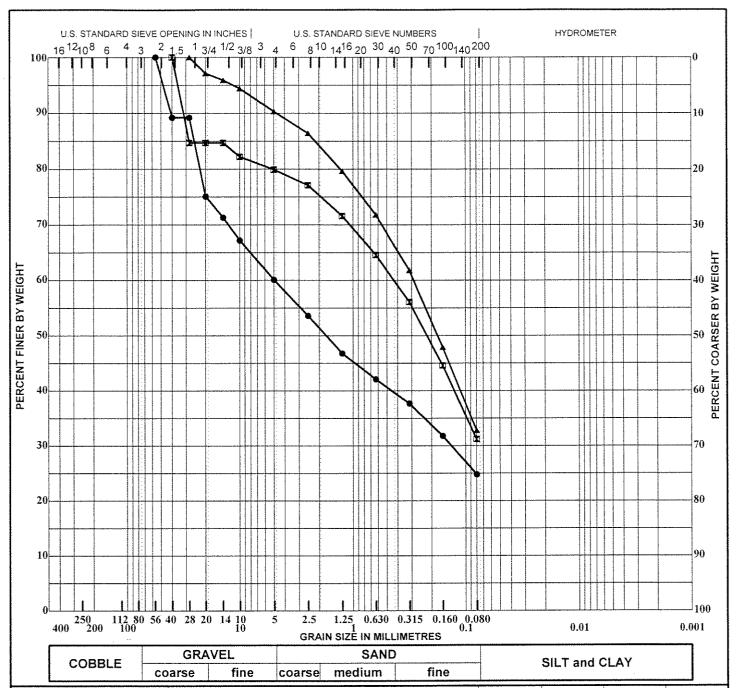
NEWFOUNDLAND GEOSCIENCES LIMITED Client: BAE - Newplan Group Ltd.

Project: Proposed Waste Management Facility, Central Newfoundland

Project No.: NFS09711 FIGURE

Location: Norris Arm North

GRADATION CURVES



	Sample	Depth (m)		Desc	ription	W %	WL	W _P	IР	
•	TP15-BS1	1.70	Si	lty GRAVEL	with sand (GN	1)	10.7			
X	TP18-BS1	4.60	S	ilty SAND w	ith gravel (SM	10.0				
A	TP19-BS1	2.40		Silty SA	ND (SM)	9.4				
Г	Sample	Depth (m)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
•	TP15-BS1	1.70	56.00	4.95	0.134		39.9	35.3	24	1.8
X	TP18-BS1	4.60	40.00	0.43			20.1	48.7	3	1.2
A	TP19-BS1	2.40	28.00	0.29			9.7	57.5	32	2.8

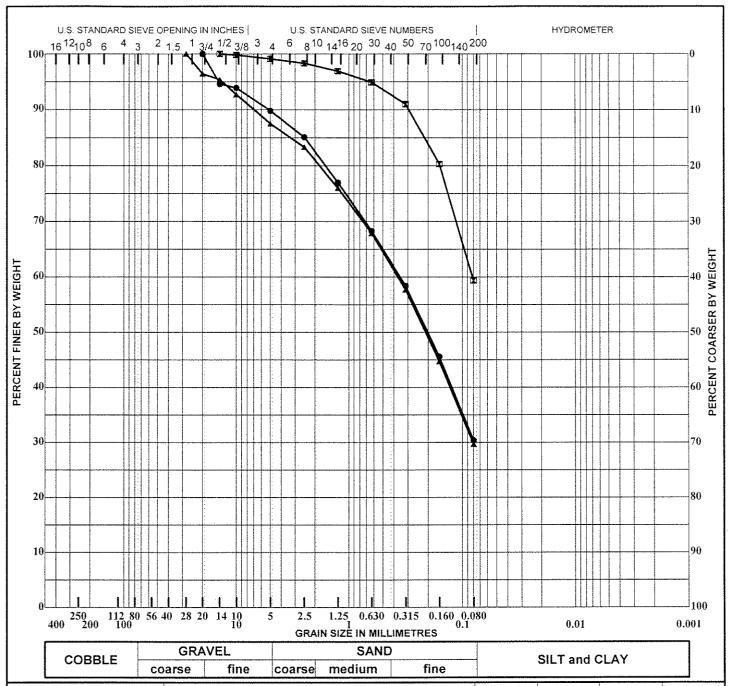


Client: BAE - Newplan Group Ltd.

Project: Proposed Waste Management Facility, Central Newfoundland

Project No.: NFS09711 FIGURE

Location: Norris Arm North 2
GRADATION CURVES



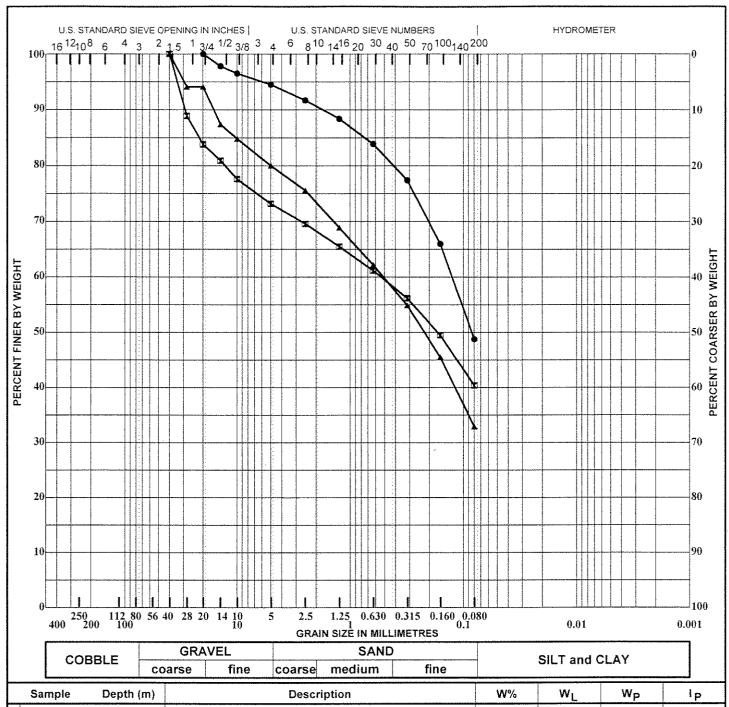
	Sample	Depth (m)		Desc	ription	W%	w_L	W _P	Iр	
•	TP21-BS1	2.40		Silty SA	.ND (SM)	13.8				
x	TP24-BS1	3.00		Sandy S	ILT (ML)	16.0	NP	NP	NP	
A	TP25-BS1	3.70	······································	Silty SA	.ND (SM)	8.9				
	Sample	Depth (m)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
٠	TP21-BS1	2.40	20.00	0.35			10.2	59.4	3().4
X	TP24-BS1	3.00	14.00	0.08			0.9	39.7	59.4	
A	TP25-BS1	3.70	28.00	0.37	0.081		12.5	57.8	29	9.7

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Project: Proposed Waste Management Facility, Central Newfoundland

Project No.: NFS09711 FIGURE
Location: Norris Arm North 3
GRADATION CURVES



L	L	1 00.	1100	11110						
	Sample	Depth (m)		Desc	ription		W%	WL	W _P	lр
•	TP26-BS1	3.40		Silty SA	ND (SM)	12.3	NP	NP	NP	
X	TP27-BS1	3.00	5	Silty SAND w	ith gravel (SN	1)	10.4			
٨	TP30-BS1	3.70	9	Silty SAND w	ith gravel (SN	9.0			Andrew Property	
Γ	Sample	Depth (m)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
•	TP26-BS1	3.40	20.00	0.13			5.5	45.7	48	3.8
X	TP27-BS1	3.00	40.00	0.53			26.8	32.8	4().4
٨	TP30-BS1	3.70	40.00	0.51			20.0	47.1	32	2.9

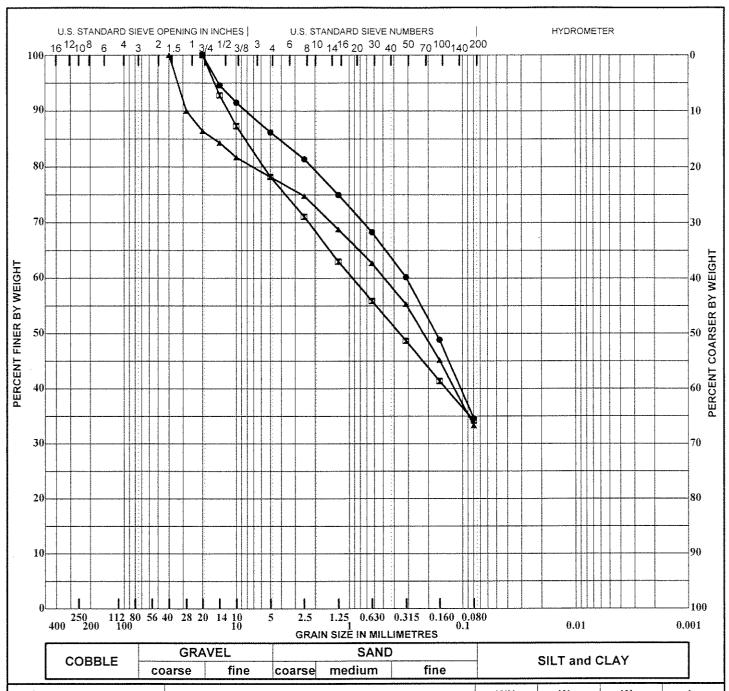
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Project: Proposed Waste Management Facility, Central Newfoundland

Project No.: NFS09711 FIGUR

Project No.: NFS09711 FIGURE
Location: Norris Arm North 4
GRADATION CURVES



	<u> </u>	000	1136 1111	HIIG						
	Sample	Depth (m)		Desci	ription	W%	WL	W _P	lр	
•	TP31-BS1	4.00		Silty SA	ND (SM)		11.1			
Œ	TP32-BS1	3.20	S	ilty SAND w	ith gravel (SM	1)	9.9	NP	NP	NP
٨	TP34-BS1	3.00	S	ilty SAND w	ith gravel (SM	10.6				
	Sample	Depth (m)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
•	TP31-BS1	4.00	20.00	0.31			13.8	51.6	34	1.6
Œ	TP32-BS1	3.20	20.00	0.94			21.8	44.0	34	1.2
•	TP34-BS1	3.00	40.00	0.49			21.8	44.9	33	3.3

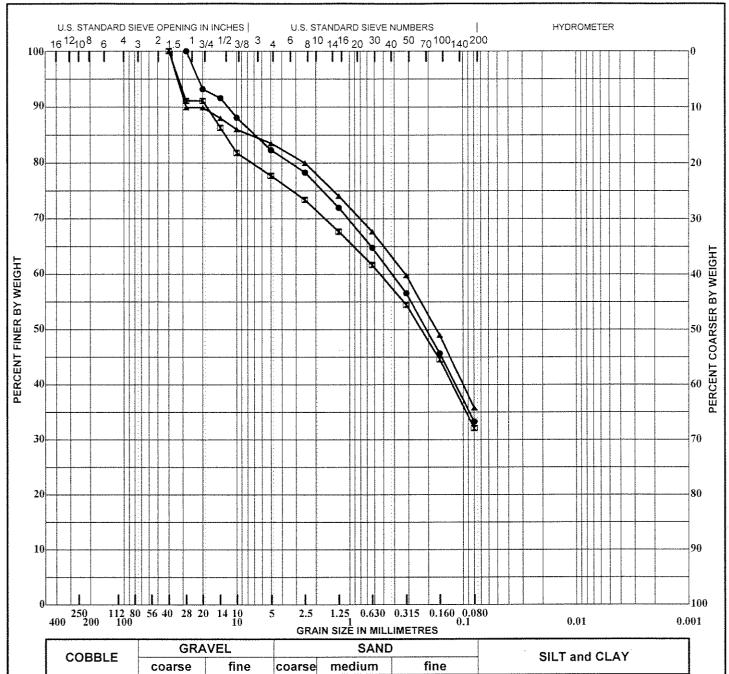
NEWFOUNDLAND GEOSCIENCES LIMITED Client: BAE - Newplan Group Ltd.

Project: Proposed Waste Management Facility, Central Newfoundland

Topect. Troposed waste management racincy, Central Newtoundland

Project No.: NFS09711 FIGURE
Location: Norris Arm North 5

GRADATION CURVES



1	L			1							
Г	Sample	Depth (m)		Desc	ription		W%	WL	W _P	Iр	
•	TP38-BS1	2.40	(Silty SAND w	ith gravel (SM	f)	10.7				
12	TP5-BS1	5.10	(Silty SAND w	rith gravel (SM	9.3					
•	TP7-BS1	3.70	(Silty SAND w	ith gravel (SM	f)	11.0				
	Sample	Depth (m)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	

	Sample	Depth (m)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Cla
•	TP38-BS1	2.40	28.00	0.42			17.7	49.0	33	3.3
12	TP5-BS1	5.10	40.00	0.53			22.3	45.6	32	2.1
	TP7-BS1	3.70	40.00	0.32			16.5	47.7	3.5	5.8

NEWFOUNDLAND GEOSCIENCES LIMITED

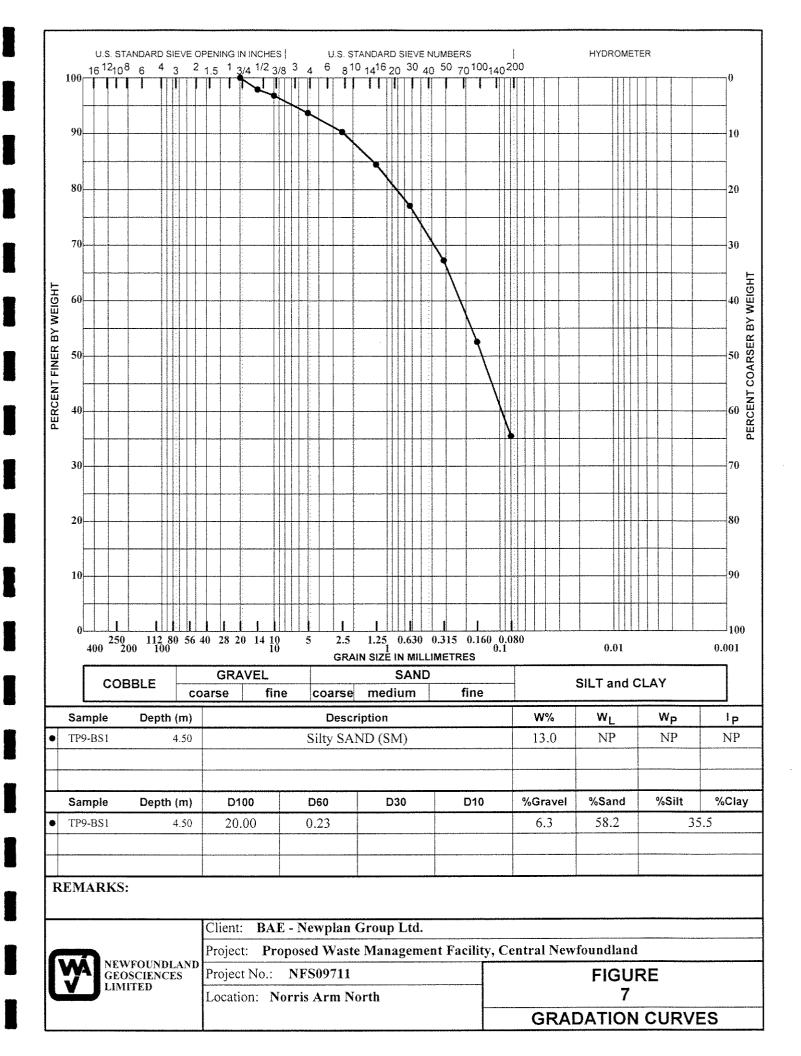
Client: BAE - Newplan Group Ltd.

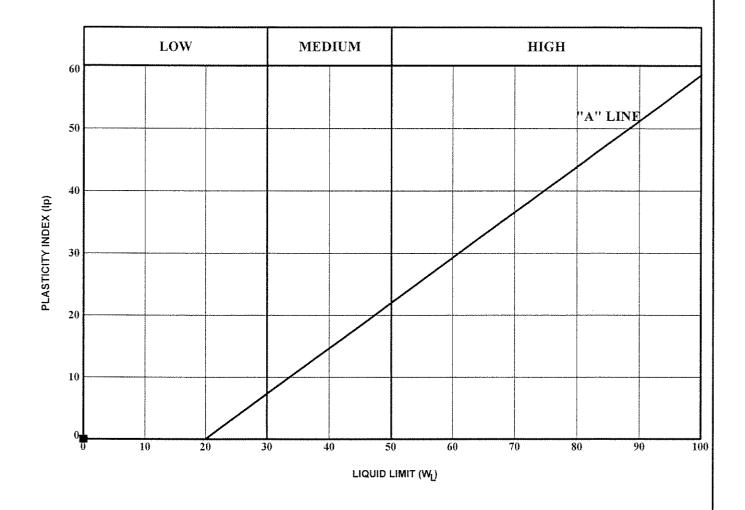
Project: Proposed Waste Management Facility, Central Newfoundland

Project No.: NFS09711 FIGUR

Location: Norris Arm North

FIGURE 6 GRADATION CURVES





	Sample	Depth (m)	Description	W%	WL	W _P	lp
•	TP24-BS1	3.00	Sandy SILT (ML)	16.0	N/A	N/A	0
I	TP26-BS1	3.40	Silty SAND (SM)	12.3	N/A	N/A	0
A	TP32-BS1	3.20	Silty SAND with gravel (SM)	9.9	N/A	N/A	0
*	TP9-BS1	4.50	Silty SAND (SM)	13.0	N/A	N/A	0
П							

REMARKS: Atterburg Limits tests indicate the fines content to be Non-Plastic.



Client: BAE - Newplan Group Ltd.

Project: Proposed Waste Management Facility, Central Newfoundland

Project No.: NFS09711 FIGURE
Location: Norris Arm North 8
PLASTICITY CHART

APPENDIX C

Drawing No. NFS09711-GE-01, Site Location Plan

