

SUBSURFACE EXPLORATION AND TEST REPORT		Silver Trail		SOURCE/TP#: 927-5580					
Midnight Sun Drilling		Mayo Airport Runway, km 52		PROJECT NO: 552-202955-5523-01-1					
Terra Sonic		Coordinates: Z08N N7054554m E457568m		ELEVATION: m					
SAMPLE TYPE		UNDISTURBED		DCPT					
		AUGER		BULK					
		SPT		CORE					
ELEV. (m)	★ Percent Fines ★		Sample Type	Sample #	SOIL SYMBOL	DCPT/SPT Blows/30cm	SOIL DESCRIPTION	Depth (m)	
	◆ Percent Sand ◆								
Plastic    M.C.    Liquid 0    20    40    60    80    100		0    20    40    60    80    100							
10.0		★	◆	■	002	GW-GM	GRAVEL, well graded with silt and sand - brown, moist, subrounded to rounded		
9.5					001		-Silty, finer gravel	1	
9.0					003	14			
8.5					004		-Saturated	2	
8.0		★	◆	■	005	GW	-Trace silt -Wet -Saturated		
7.5					006	ML	SILT -Brown, damp -Gravel lense, 20mm	3	
7.0					009				
6.5					007		SAND, Poorly graded, and SILT -Interbedded sand and silt layers at 100mm spacing -Brown, saturated, subrounded	4	
6.0					008	13			
5.5					009-2	SP	-Fine sand seam -Wet	5	
5.0		★	◆	■	010	CL	LEAN CLAY -Grey, wet	6	
4.5					011	CL	-Dark grey, moist		
4.0					012	CL		7	
3.5					013	CL	-Frozen (Nbe)	8	
3.0							-Vx, 30-40% Ice	9	
2.5							-20-30% Ice	10	

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Terra Sonic		Coordinates: Z08N N7054554m E457568m		ELEVATION: m				
SAMPLE TYPE		<input type="checkbox"/> UNDISTURBED <input type="checkbox"/> DCPT <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input checked="" type="checkbox"/> SPT <input type="checkbox"/> CORE						
ELEV. (m)	★ Percent Fines ★ ◆ Percent Sand ◆ ■ Percent Gravel ■		Sample Type	Sample #	SOIL SYMBOL	DCPT/SPT Blows/30cm	SOIL DESCRIPTION	Depth (m)
	Plastic M.C. Liquid 0 20 40 60 80 100							
							LEAN CLAY	
							-Grey, wet ( <i>continued</i> )	
							-50mm Ice lenses	11
							-VxVs, 100mm ice lenses at 600mm spacing	
							-Clear	
								12
							-100mm Ice inclusion, cloudy	
							Vs, 50mm ice lenses at 300mm spacing	
								13
							-Nbn	
							-Unfrozen	
							-Very easy drilling	
								14
								15
								16
								17
								18
								19
								20
								20
							END of HOLE	
							-Target depth reached	
							-Installed thermistor, 70' of PVC, 10 bags bentonite, 1 bag of sand, 2 caps, 1 flush mount	

SUBSURFACE EXPLORATION AND TEST REPORT		Silver Trail		SOURCE/TP#: 927-5581				
Midnight Sun Drilling		Mayo Airport Runway, km 52		PROJECT NO: 552-202955-5523-01-1				
Terra Sonic		Coordinates: Z08N N7054552m E457617m		ELEVATION: m				
SAMPLE TYPE		<input type="checkbox"/> UNDISTURBED <input type="checkbox"/> DCPT <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input checked="" type="checkbox"/> SPT <input type="checkbox"/> CORE						
ELEV. (m)	★ Percent Fines ★ ◆ Percent Sand ◆ ■ Percent Gravel ■		Sample Type	Sample #	SOIL SYMBOL	DCPT/SPT Blows/30cm	SOIL DESCRIPTION	Depth (m)
	Plastic    M.C.    Liquid 0    20    40    60    80    100    0    20    40    60    80    100							
				023		13	SAND, silty with gravel -Brown, rounded	1
				024	SM		-Rounded, wet -Subangular and subrounded	2
				025				
				026				
				027				3
				028		12		4
				029		13	GRAVEL, Well graded, with sand - grey, wet, subangular	5
				030				

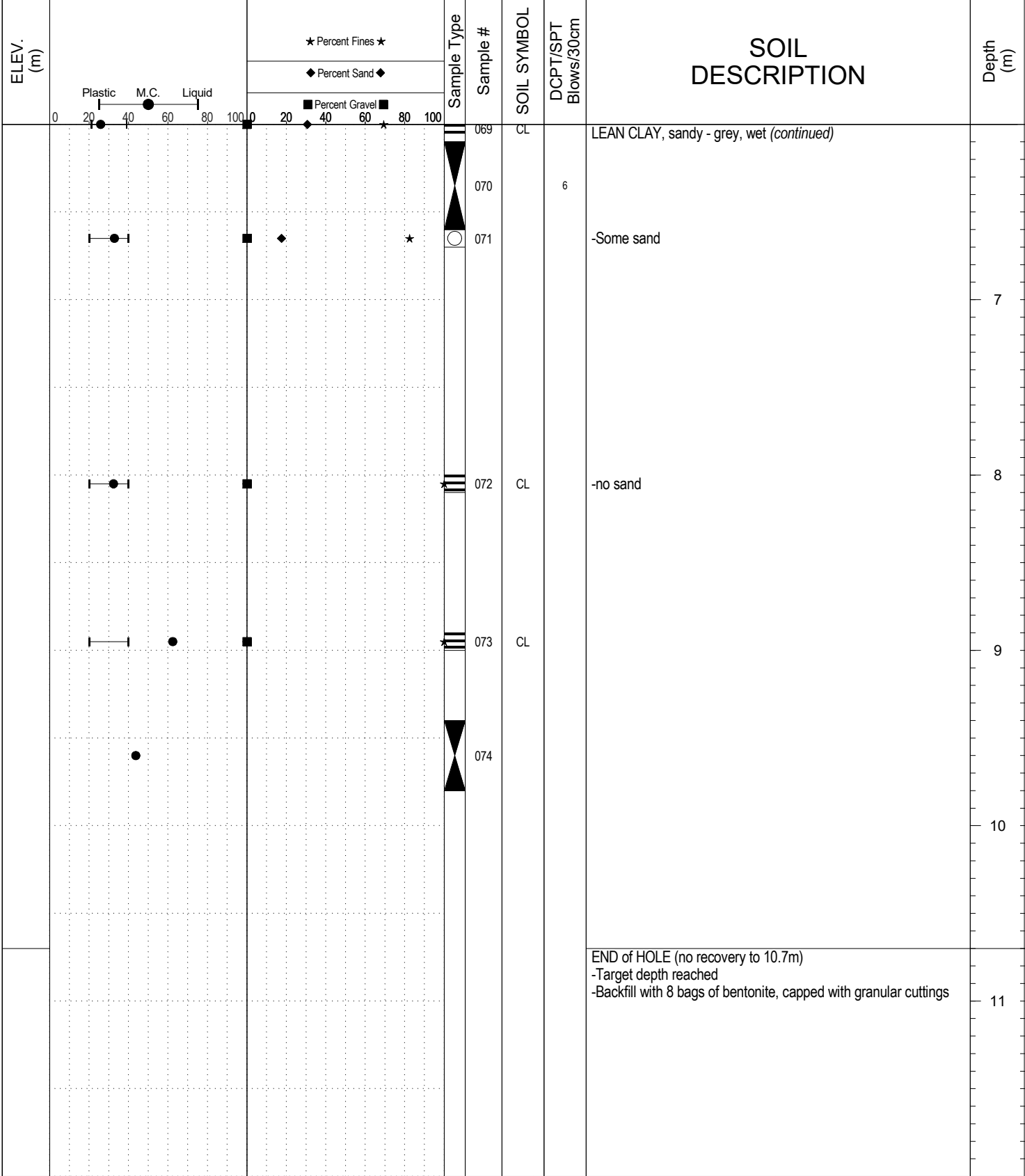
SUBSURFACE EXPLORATION AND TEST REPORT		Silver Trail		SOURCE/TP#: 927-5581						
Midnight Sun Drilling		Mayo Airport Runway, km 52		PROJECT NO: 552-202955-5523-01-1						
Terra Sonic		Coordinates: Z08N N7054552m E457617m		ELEVATION: m						
SAMPLE TYPE		UNDISTURBED	DCPT	AUGER	BULK	SPT	CORE			
ELEV. (m)	Plastic    M.C.    Liquid 0    20    40    60    80    100		★ Percent Fines ★ ◆ Percent Sand ◆ ■ Percent Gravel ■		Sample Type	Sample #	SOIL SYMBOL	DCPT/SPT Blows/30cm	SOIL DESCRIPTION	Depth (m)
					032				GRAVEL, Well graded, with sand - grey, wet, subangular (continued)	
					033	GW				
					031	SP	18		-100mm Sand seam, medium grained, brown	
									LEAN CLAY - grey, wet -Dilating from drill action	7
					034	CL				
										8
					035	CL				
										9
					036	CL			-100mm ice lense -Vs/Vr, 40-50% ice (50mm lenses)	
					037					
									END of HOLE -Target depth reached -Backfilled with 4 bags of bentonite, 4 bags of sand	10
										11

SUBSURFACE EXPLORATION AND TEST REPORT		Silver Trail		SOURCE/TP#: 927-5582				
Midnight Sun Drilling		Mayo Airport Runway, km 52		PROJECT NO: 552-202955-5523-01-1				
Terra Sonic		Coordinates: Z08N N7054603m E457615m		ELEVATION: m				
SAMPLE TYPE		<input type="checkbox"/> UNDISTURBED <input type="checkbox"/> DCPT <input type="checkbox"/> AUGER <input type="checkbox"/> BULK <input checked="" type="checkbox"/> SPT <input type="checkbox"/> CORE						
ELEV. (m)	Plastic    M.C.    Liquid 0    20    40    60    80    100		★ Percent Fines ★ ◆ Percent Sand ◆ ■ Percent Gravel ■		SOIL SYMBOL	DCPT/SPT Blows/30cm	SOIL DESCRIPTION	Depth (m)
	0    20    40    60    80    100		0    20    40    60    80    100					
0								
0.5	●		★	◆	GW-GM		GRAVEL, well graded with silt and sand -Rounded to subrounded, damp	
1.0	●		★	◆	GM		-Silty, brown, moist, rounded	1
1.5	●		★	◆	GM			
2.0	●		★	◆	SM	15	SAND, silty with gravel - brown, wet, dialating	2
2.5	●		★	◆	GW-GM		GRAVEL, well graded with silt and sand - brown, wet, subrounded to subangular	
3.0	●		★	◆	ML		-100mm SILT, grey, moist, rounded	
3.5	●		★	◆	SP-SM		SAND, poorly graded with silt and gravel - brown, wet, subrounded	3
4.0	●					16		4
4.5	●				SP		-Trace silt, trace gravel	
5.0	●		★	◆	GP		GRAVEL, poorly graded with sand -Wet, rounded	5
5.5	●		★	◆	GW		-Well graded, grey, wet, rounded	

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Terra Sonic		Coordinates: Z08N N7054603m E457615m		ELEVATION: m			
SAMPLE TYPE		<input type="checkbox"/> UNDISTURBED <input type="checkbox"/> DCPT <input checked="" type="checkbox"/> AUGER <input type="checkbox"/> BULK <input checked="" type="checkbox"/> SPT <input type="checkbox"/> CORE					
ELEV. (m)	<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>Plastic    M.C.    Liquid</p> <p>0    20    40    60    80    100</p> </div> <div style="width: 30%;"> <p>★ Percent Fines ★</p> <p>◆ Percent Sand ◆</p> <p>■ Percent Gravel ■</p> <p>0    20    40    60    80    100</p> </div> <div style="width: 30%; text-align: center;"> <p>Sample Type</p> <p>Sample #</p> <p>SOIL SYMBOL</p> <p>DCPT/SPT Blows/30cm</p> </div> </div>			SOIL DESCRIPTION		Depth (m)	
				GC		-Clayey	
				051	13	LEAN CLAY -Grey, wet, dilation on contact	
				052		CL	7
				053		CL	
				054		CL	8
				055		SC	9
				056	15	CL	
						END of HOLE -Target depth reached -Backfilled, 2 bags of bentonite, 4 bags of sand, granular cap	10
							11



SAMPLE TYPE     UNDISTURBED     DCPT     AUGER     BULK     SPT     CORE







GRAIN SIZE ANALYSIS	Mayo Airport Runway	SOURCE/TP#: 927-5580
Midnight Sun Drilling	km 52	PROJECT NO: 552-202955-5523-01-1
Terra Sonic	Coordinates:Z08N N7054554m E457568m	ELEVATION: m

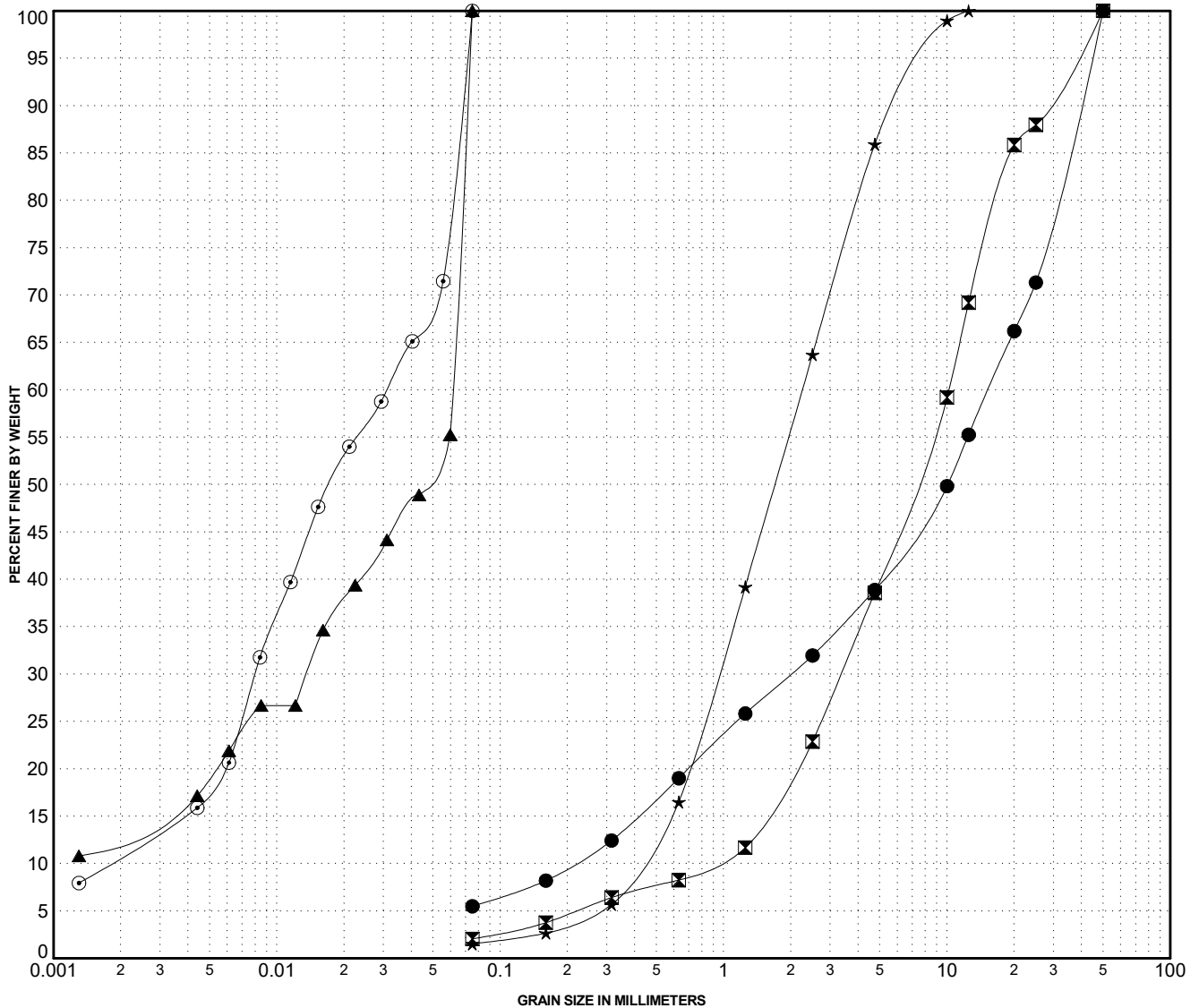
Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 002	002	0.4 to 0.6	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	2.4	NP	NP	NP	1.2	71.8	0.21
☒ 005	005	2.2 to 2.4	WELL-GRADED GRAVEL with SAND(GW)	4.2	NP	NP	NP	1.2	11.4	0.89
▲ 006	006	3.0 to 3.4	SILT(ML)	26.1	NP	NP	NP			
★ 009-2	009	5.2 to 5.4	POORLY GRADED SAND(SP)	2.9	NP	NP	NP	1.0	5.4	0.42
⊙ 010	010	5.8 to 5.9	LEAN CLAY(CL)	29.3	44	22	22	1.1	17.5	0.00

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	% Breakdown			
		% PASSING														Gravel	Sand	Silt	Clay
● 002	002	100.0	100.0	100.0	71.3	66.2	55.3	49.8	38.9	30.0	22.0	15.3	11.0	8.2	5.5	61.1	33.4	5.5	
☒ 005	005	100.0	100.0	100.0	88.0	85.8	69.2	59.2	38.6	19.3	9.8	7.2	5.5	3.8	2.0	61.4	36.5	2.0	
▲ 006	006	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	87.0	13.0
★ 009-2	009	100.0	100.0	100.0	100.0	100.0	100.0	99.0	85.9	55.8	26.4	10.4	4.6	2.7	1.5	14.1	84.4	1.5	
⊙ 010	010	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	89.3	10.7

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse
	Fine Soil		Sand			Gravel		



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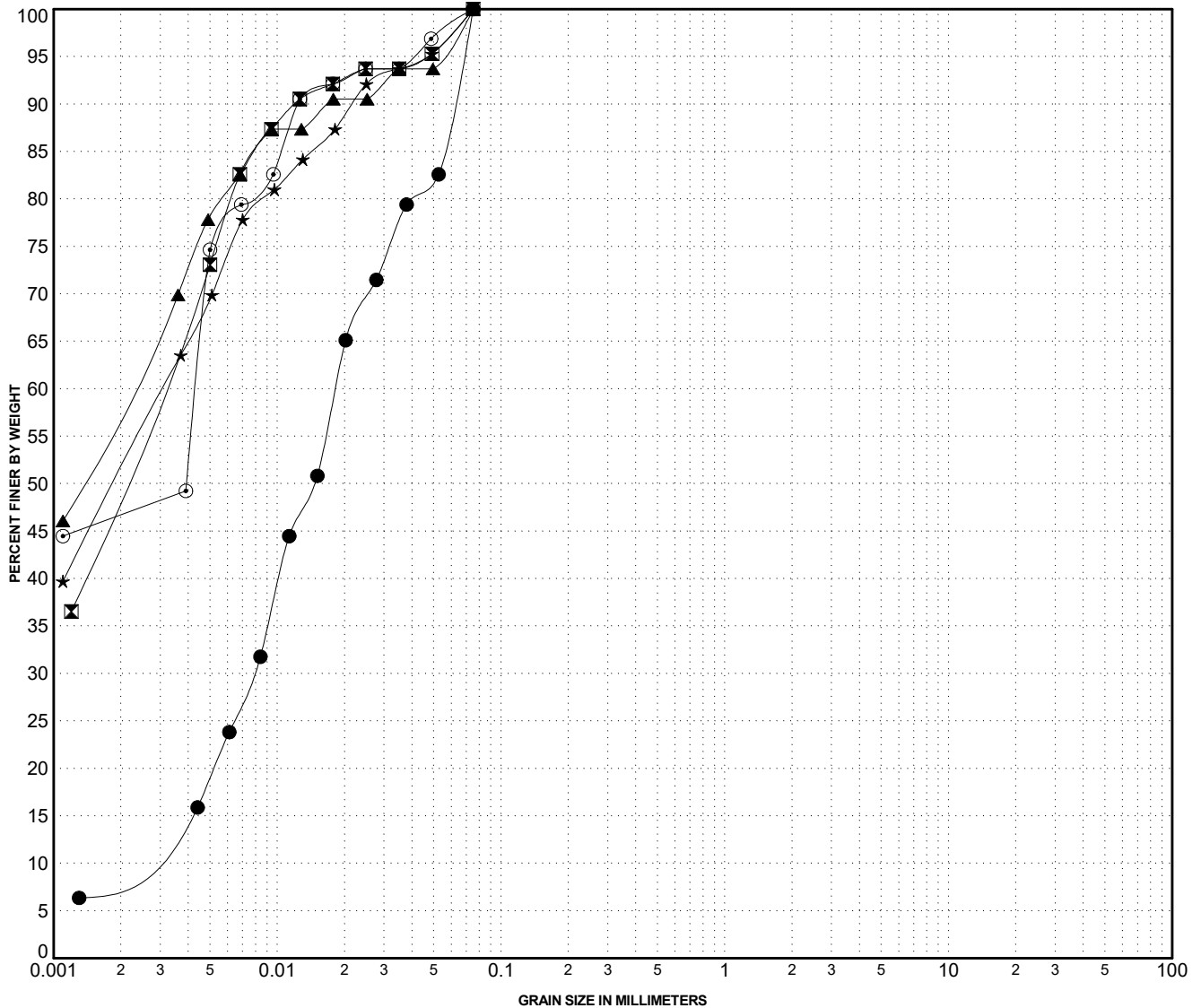
Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 011	011	7.3 to 7.4	LEAN CLAY(CL)	30.4	44	22	22	1.6	8.8	0.00
☒ 012	012	8.5 to 8.7	LEAN CLAY(CL)	37.9	44	22	22			
▲ 013	013	9.6 to 9.8	LEAN CLAY(CL)	36.2	44	22	22			
★ 014	014	11.2 to 11.3	LEAN CLAY(CL)	36.9	44	23	21			
⊙ 016	016	12.7 to 12.8	LEAN CLAY(CL)	43.7	44	23	21			

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	% Breakdown				
		% PASSING														Gravel	Sand	Silt	Clay	
● 011	011	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	90.3	9.7
☒ 012	012	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	50.4	49.6
▲ 013	013	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	41.9	58.1
★ 014	014	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	48.6	51.4
⊙ 016	016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	53.3	46.7

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse	
Fine Soil			Sand			Gravel			



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Midnight Sun Drilling	km 52	PROJECT NO: 552-202955-5523-01-1
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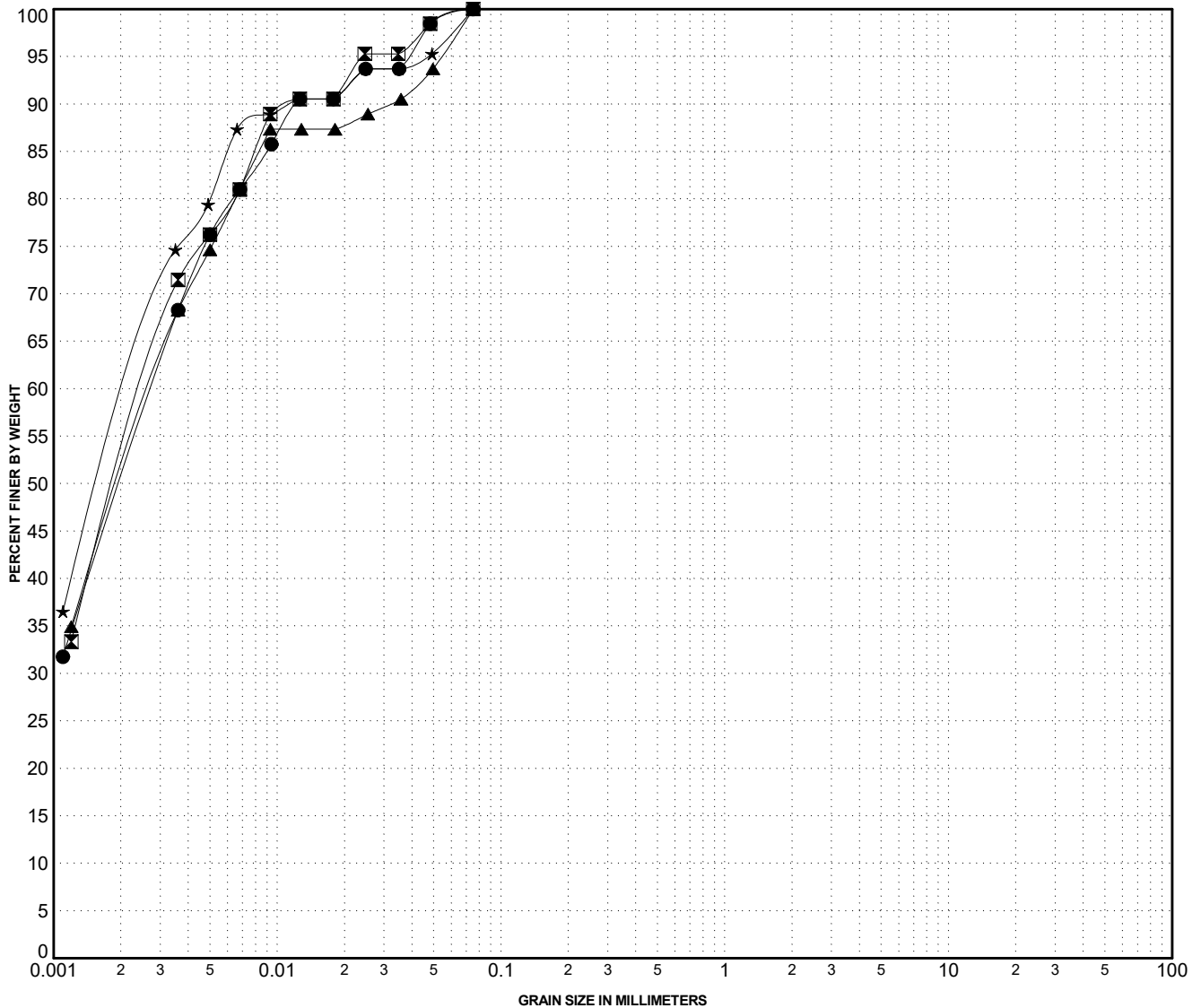
Master Revised June 2017

Field #	Lab #	Depth	Classification	%H <sub>2</sub> O	LL	PL	PI	C <sub>c</sub>	C <sub>u</sub>	D <sub>10</sub>
● 017	017	13.7 to 13.8	LEAN CLAY(CL)	30.7	44	23	21			
☒ 018	018	15.0 to 15.2	LEAN CLAY(CL)	32.1	45	23	22			
▲ 019	019	16.3 to 16.5	LEAN CLAY(CL)	28.1	45	23	22			
★ 021	021	17.7 to 17.8	LEAN CLAY(CL)	33.4	45	23	22			
⊙ 022	022	19.8 to 20.0	LEAN CLAY(CL)	34.7	45	23	22			

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	% Breakdown			
		% P A S S I N G														Gravel	Sand	Silt	Clay
● 017	017	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	49.8	50.2
☒ 018	018	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	48.9	51.1
▲ 019	019	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	49.6	50.4
★ 021	021	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	43.8	56.2
⊙ 022	022	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	100.0	

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse	
Fine Soil			Sand			Gravel			



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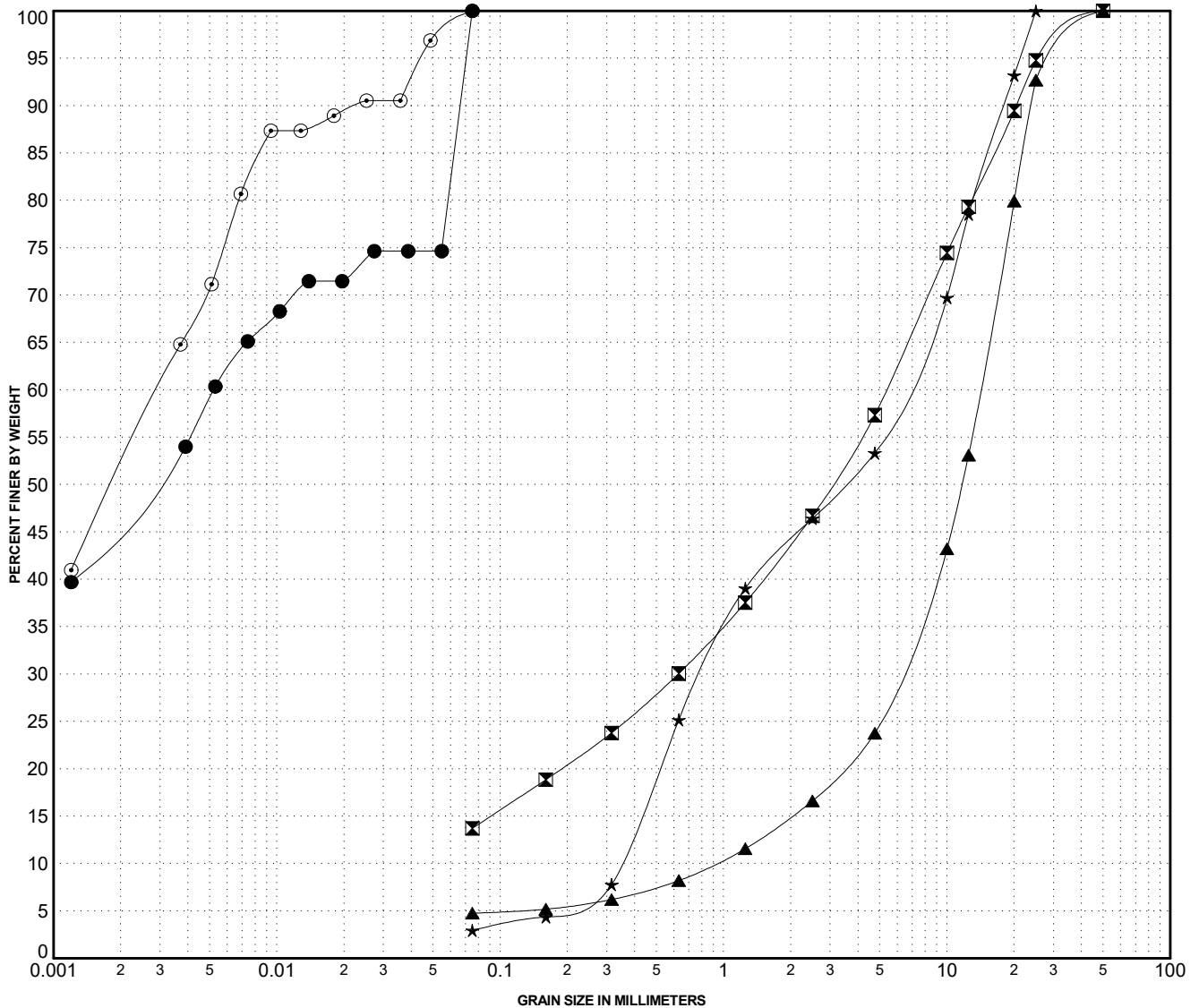
Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 023	023	0.2 to 0.4	SILT(ML)	5.5	NP	NP	NP			
☒ 024	024	1.4 to 1.5	SILTY SAND with GRAVEL(SM)	2.6	NP	NP	NP			
▲ 033	033	6.1 to 6.5	WELL-GRADED GRAVEL with SAND(GW)	4.1	NP	NP	NP	2.8	15.5	0.91
★ 031	031	6.4 to 6.5	POORLY GRADED SAND with GRAVEL(SP)	10.5	NP	NP	NP	0.3	18.7	0.34
⊙ 034	034	7.2 to 7.3	LEAN CLAY(CL)	30.0	40	20	20			

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	% Breakdown			
		% PASSING														Gravel	Sand	Silt	Clay
● 023	023	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	54.1	45.9
☒ 024	024	100.0	100.0	100.0	94.8	89.5	79.3	74.5	57.3	43.8	33.3	26.5	22.1	18.9	13.7	42.7	43.6	13.7	
▲ 033	033	100.0	100.0	100.0	92.7	79.9	53.1	43.2	23.8	15.0	9.7	7.1	5.9	5.2	4.8	76.2	19.0	4.8	
★ 031	031	100.0	100.0	100.0	100.0	93.2	78.5	69.7	53.3	44.0	31.2	15.3	6.6	4.4	2.9	46.7	50.4	2.9	
⊙ 034	034	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	48.2	51.8

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse
	Fine Soil		Sand			Gravel		

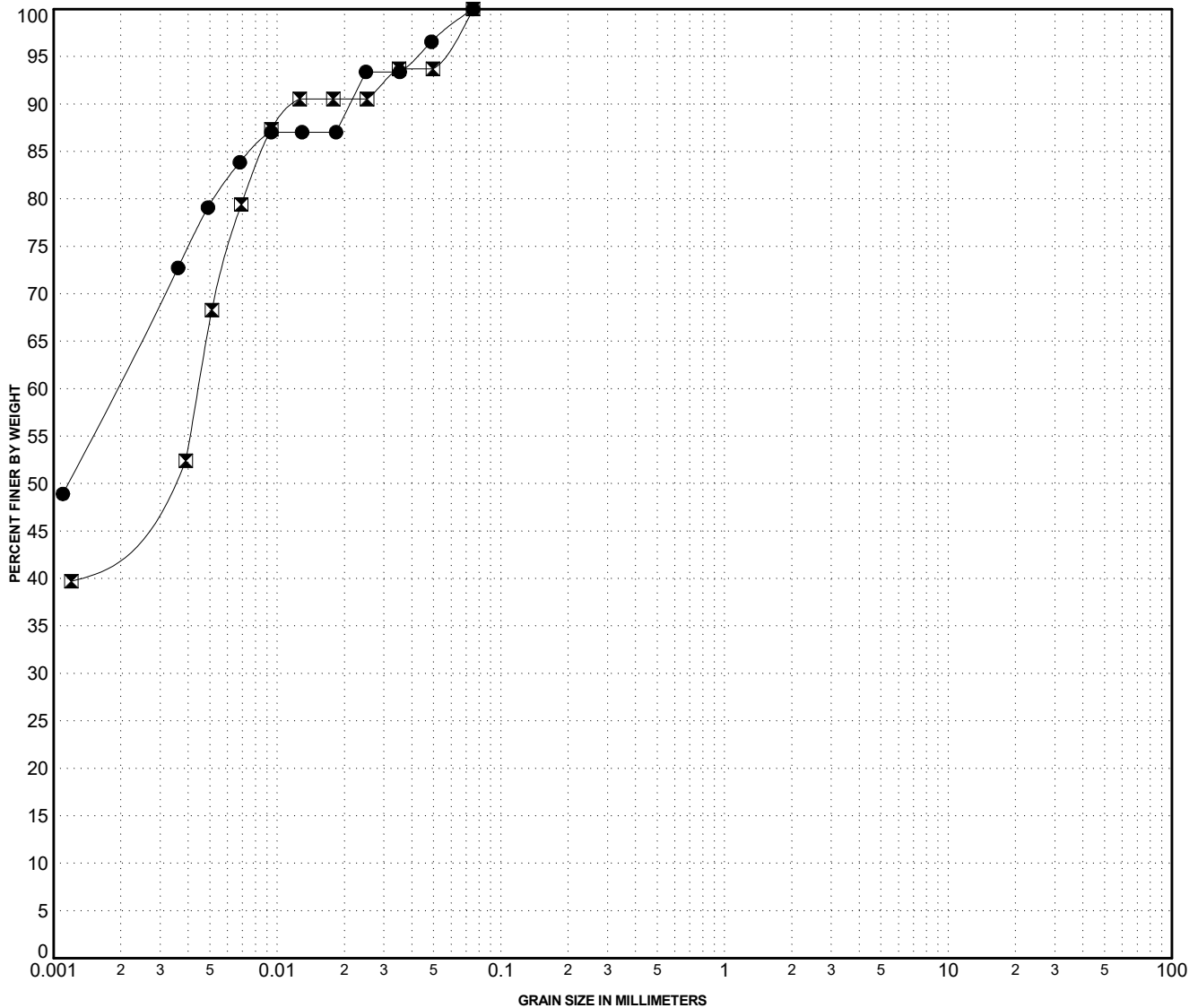


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Terra Sonic	Coordinates:Z08N N7054552m E457617m	ELEVATION: m

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Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10									
● 035	035	8.6 to 8.7	LEAN CLAY(CL)	26.8	40	20	20												
☒ 036	036	9.1 to 9.2	LEAN CLAY(CL)	34.9	40	20	20												
Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	% Breakdown			
● 035	035	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	Gravel	Sand	Silt	Clay
☒ 036	036	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	39.1	60.9

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse	
Fine Soil			Sand			Gravel			



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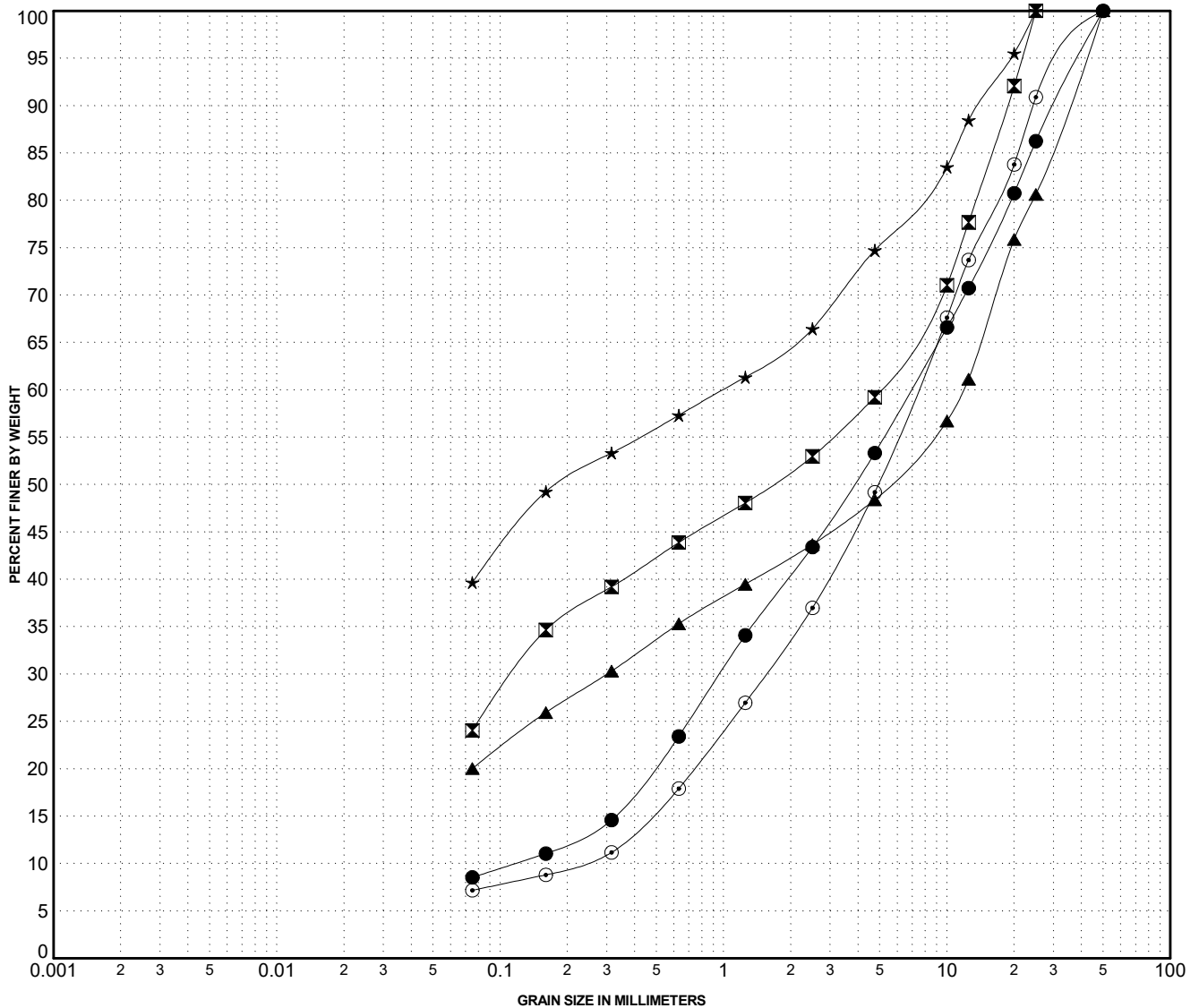
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Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 038	038	0.2 to 0.4	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	7.1	NP	NP	NP	1.1	59.2	0.12
☒ 039	039	0.9 to 1.0	SILTY GRAVEL with SAND(GM)	2.7	NP	NP	NP			
▲ 040	040	1.3 to 1.4	SILTY GRAVEL with SAND(GM)	5.8	NP	NP	NP			
★ 041	041	1.5 to 1.9	SILTY SAND with GRAVEL(SM)	15.2	NP	NP	NP			
⊙ 043	043	2.5 to 2.6	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	6.3	NP	NP	NP	1.4	32.6	0.23

Field #	Lab #	% PASSING	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	% Breakdown			
																	Gravel	Sand	Silt	Clay
● 038	038	100.0	100.0	100.0	86.3	80.8	70.7	66.6	53.3	40.4	28.1	18.4	13.4	11.1	8.5		46.7	44.8		8.5
☒ 039	039	100.0	100.0	100.0	100.0	92.1	77.7	71.1	59.2	51.4	45.7	41.2	37.7	34.7	24.1		40.8	35.1		24.1
▲ 040	040	100.0	100.0	100.0	80.6	75.9	61.1	56.7	48.4	42.3	37.1	32.5	28.8	25.9	20.0		51.6	28.4		20.0
★ 041	041	100.0	100.0	100.0	100.0	95.5	88.5	83.5	74.7	64.8	59.1	55.1	52.0	49.3	39.7		25.3	35.1		39.7
⊙ 043	043	100.0	100.0	100.0	90.9	83.8	73.7	67.6	49.2	33.8	21.9	14.1	10.4	8.8	7.2		50.8	42.0		7.2

Clay	Silt	Fine	Medium	Coarse	Fine	Medium	Coarse
	Fine Soil	Sand			Gravel		



GRAIN SIZE ANALYSIS	Mayo Airport Runway	SOURCE/TP#: 927-5582
Midnight Sun Drilling	km 52	PROJECT NO: 552-202955-5523-01-1
Terra Sonic	Coordinates:Z08N N7054603m E457615m	ELEVATION: m

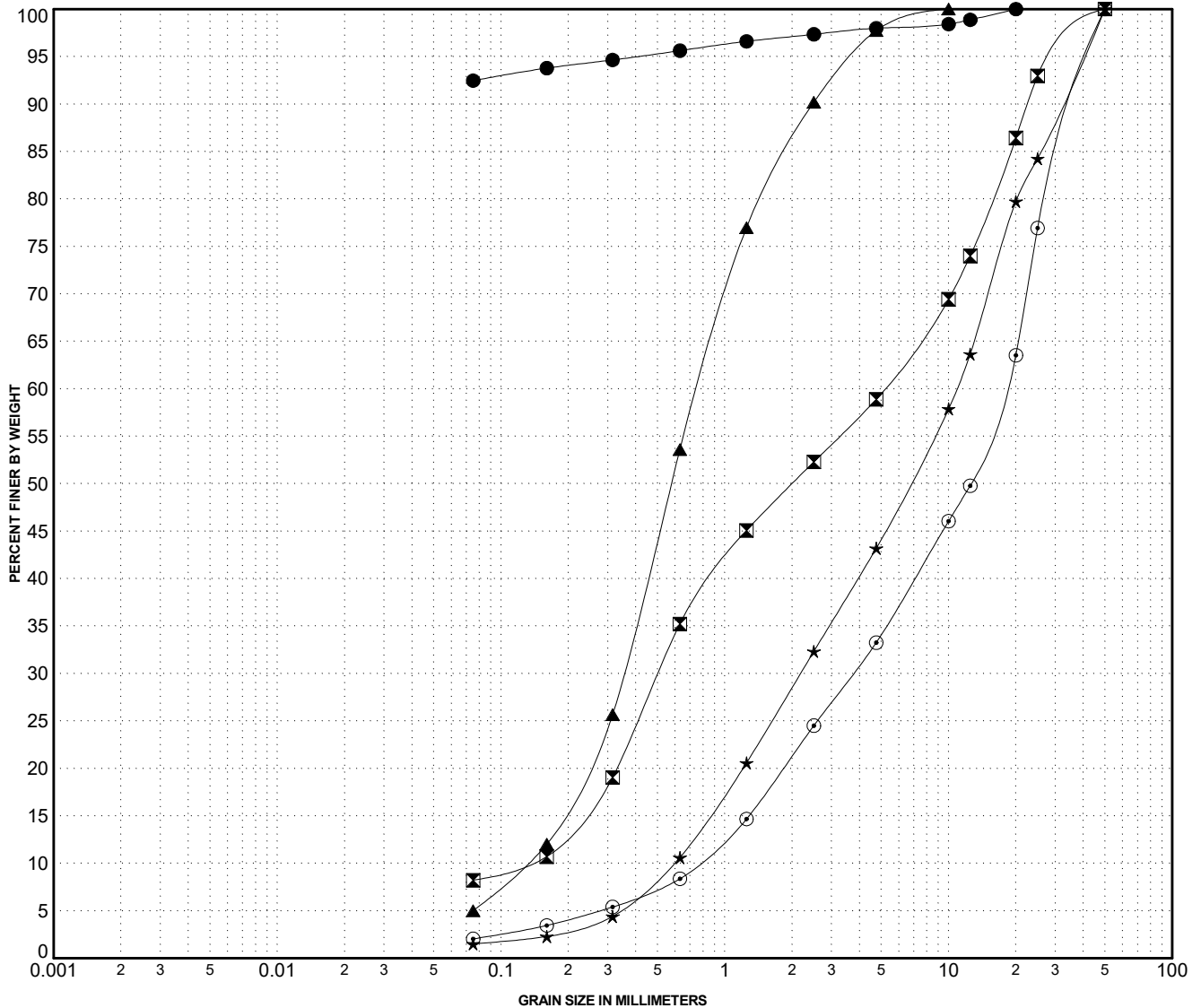
Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 044	044	2.7 to 2.8	SILT (ML)	26.2	NP	NP	NP			
☒ 045	045	2.9 to 3.0	POORLY GRADED SAND with SILT and GRAVEL (SP-SM)	8.9	NP	NP	NP	0.4	39.8	0.13
▲ 047	047	4.2 to 4.3	POORLY GRADED SAND (SP)	18.5	NP	NP	NP	1.3	5.9	0.13
★ 048	048	5.0 to 5.1	POORLY GRADED GRAVEL with SAND (GP)	7.2	NP	NP	NP	0.7	18.4	0.59
⊙ 049	049	5.8 to 5.9	WELL-GRADED GRAVEL with SAND (GW)	2.7	41	23	18	1.0	23.6	0.75

Field #	Lab #	% PASSING	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	% Breakdown		
																	Gravel	Silt	Clay
●	044	044	100.0	100.0	100.0	100.0	100.0	98.9	98.4	98.0	97.1	96.1	95.1	94.4	93.8	92.5	2.0	5.5	92.5
☒	045	045	100.0	100.0	100.0	93.0	86.4	74.0	69.4	58.9	50.0	39.5	26.0	16.2	10.7	8.2	41.1	50.7	8.2
▲	047	047	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.7	85.9	63.8	37.7	21.0	12.0	5.0	2.3	92.7	5.0
★	048	048	100.0	100.0	100.0	84.2	79.7	63.7	57.9	43.2	28.5	15.0	7.1	3.7	2.3	1.5	56.8	41.7	1.5
⊙	049	049	100.0	100.0	100.0	76.9	63.5	49.8	46.0	33.2	21.3	11.1	6.7	4.7	3.4	2.0	66.8	31.2	2.0

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse
	Fine Soil		Sand			Gravel		



GRAIN SIZE ANALYSIS	Mayo Airport Runway	SOURCE/TP#: 927-5582
Midnight Sun Drilling	km 52	PROJECT NO: 552-202955-5523-01-1
Terra Sonic	Coordinates:Z08N N7054603m E457615m	ELEVATION: m

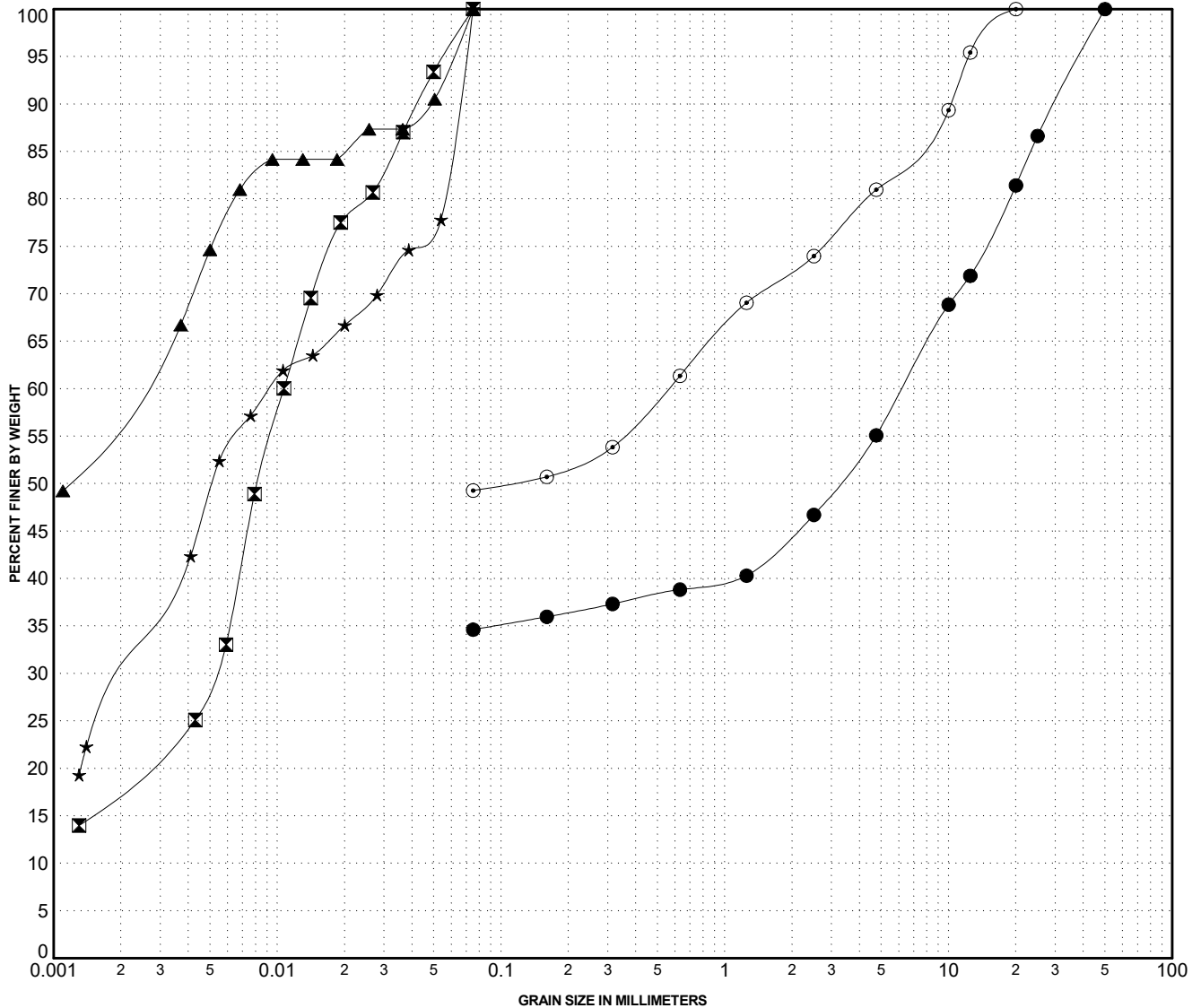
Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 050	050	6.0 to 6.1	CLAYEY GRAVEL with SAND(GC)	12.0	41	23	18			
☒ 052	052	7.0 to 7.1	LEAN CLAY(CL)	32.3	41	23	18			
▲ 053	053	7.5 to 7.6	LEAN CLAY(CL)	31.3	41	23	18			
★ 054	054	8.0 to 8.1	LEAN CLAY(CL)	33.5	48	21	27			
⊙ 055	055	8.8 to 8.9	CLAYEY SAND with GRAVEL(SC)	29.0	48	21	27			

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	% Breakdown			
																Gravel	Sand	Clay	
● 050	050	100.0	100.0	100.0	86.6	81.4	71.9	68.9	55.1	44.6	39.5	38.0	36.9	36.0	34.6	44.9	20.5	34.6	
☒ 052	052	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	82.0	18.0
▲ 053	053	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	42.2	57.8
★ 054	054	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	71.0	29.0
⊙ 055	055	100.0	100.0	100.0	100.0	100.0	95.4	89.4	81.0	72.4	64.7	57.1	52.8	50.7	49.3	19.0	31.7	49.3	

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse
	Fine Soil		Sand			Gravel		





GRAIN SIZE ANALYSIS	Mayo Airport Runway	SOURCE/TP#: 927-5583
Midnight Sun Drilling	km 52	PROJECT NO: 552-202955-5523-01-1
Terra Sonic	Coordinates:Z08N N7054612m E457127m	ELEVATION: m

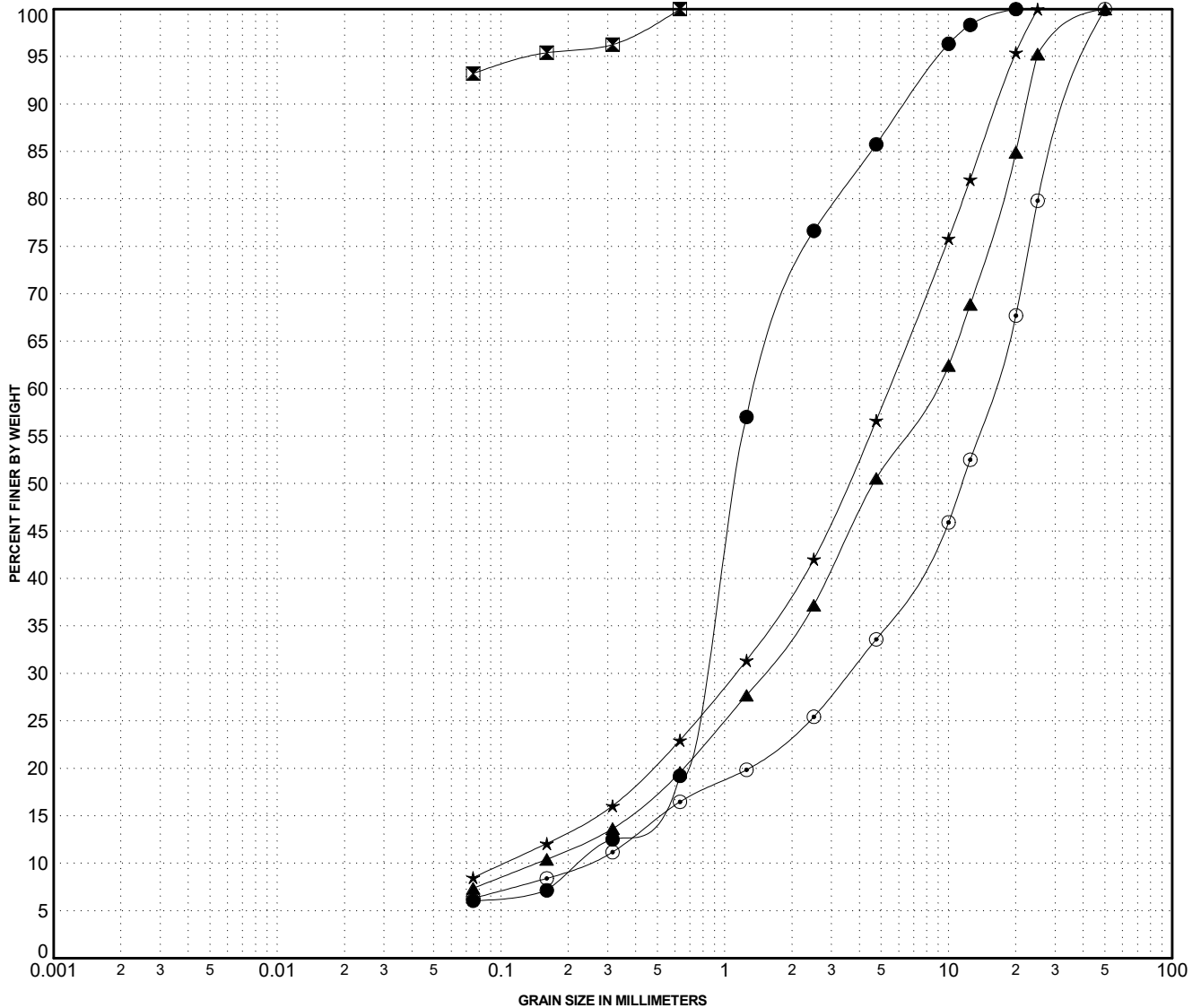
Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 058	058	0.4 to 0.6	WELL-GRADED SAND with SILT(SW-SM)	10.7	NP	NP	NP	1.8	6.1	0.23
☒ 057	057	1.1 to 1.2	SILT(ML)	2.0	NP	NP	NP			
▲ 060	060	1.5 to 1.9	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	2.3	NP	NP	NP	1.8	59.4	0.14
★ 061	061	2.6 to 2.8	WELL-GRADED SAND with SILT and GRAVEL(SW-SM)	7.9	NP	NP	NP	2.2	52.5	0.10
⊙ 063	063	3.5 to 3.6	POORLY GRADED GRAVEL with SILT and SAND(GP-GM)	3.3	NP	NP	NP	3.4	66.7	0.24

Field #	Lab #	%PASSING														% Breakdown				
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	Gravel	Sand	Silt	Clay
●	058	058	100.0	100.0	100.0	100.0	100.0	98.3	96.3	85.8	70.3	35.7	15.4	10.7	7.2	6.1	14.2	79.7	6.1	
☒	057	057	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.9	96.0	95.4	93.2	0.0	6.8	93.2	
▲	060	060	100.0	100.0	100.0	95.3	84.9	68.9	62.5	50.6	34.1	23.1	16.2	12.5	10.4	7.4	49.4	43.2	7.4	
★	061	061	100.0	100.0	100.0	100.0	95.4	82.1	75.8	56.7	38.6	26.6	19.0	14.7	12.1	8.5	43.3	48.2	8.5	
⊙	063	063	100.0	100.0	100.0	79.8	67.7	52.5	45.9	33.6	23.6	17.9	13.5	10.2	8.4	6.3	66.4	27.3	6.3	

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse
	Fine Soil		Sand			Gravel		



GRAIN SIZE ANALYSIS	Mayo Airport Runway	SOURCE/TP#: 927-5583
Midnight Sun Drilling	km 52	PROJECT NO: 552-202955-5523-01-1
Terra Sonic	Coordinates:Z08N N7054612m E457127m	ELEVATION: m

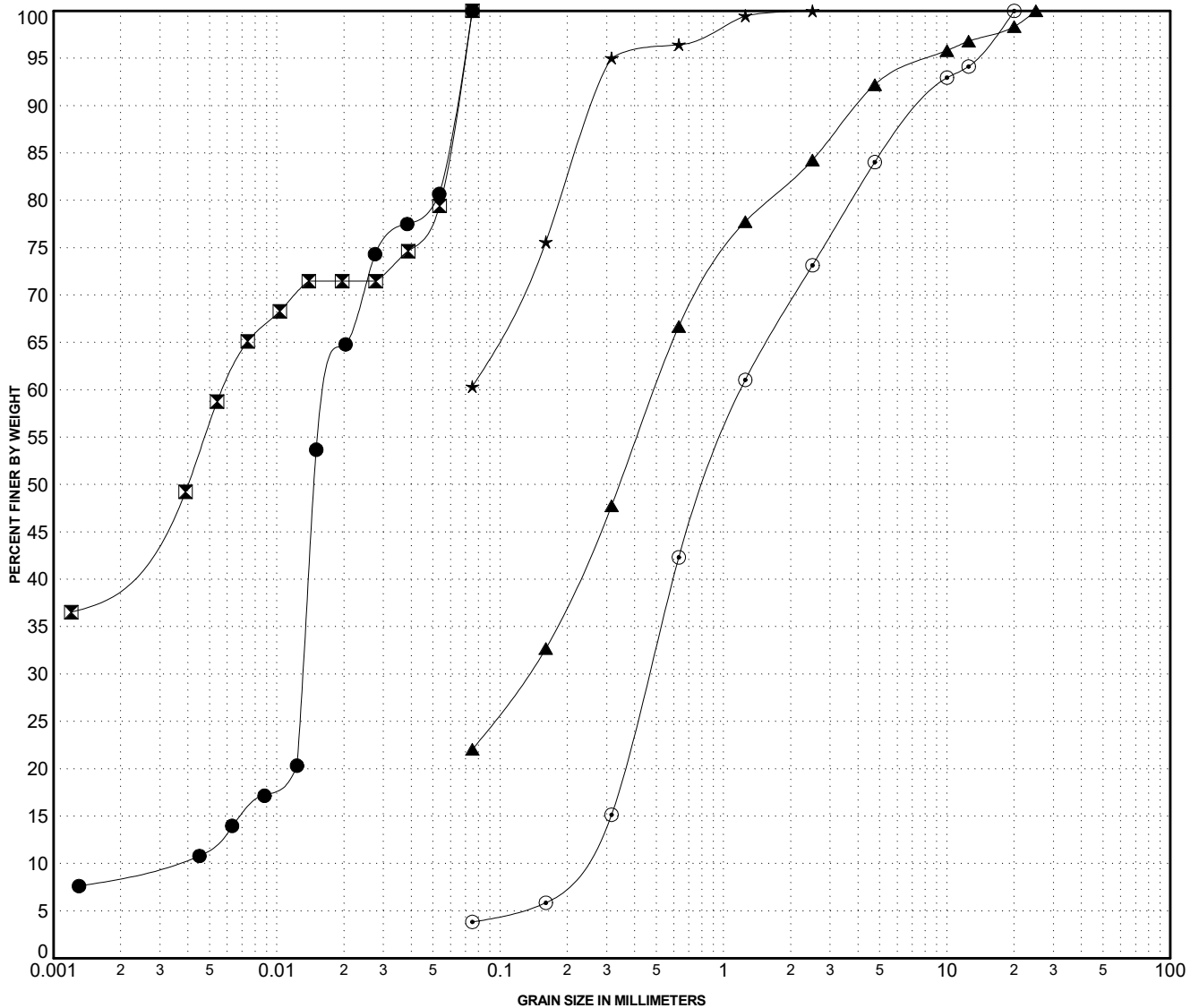
Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 064	064	3.9 to 4.0	LEAN CLAY(CL)	29.4	39	21	18	2.9	5.4	0.00
☒ 065	065	4.4 to 4.5	LEAN CLAY(CL)	27.5	39	21	18			
▲ 066	066	5.1 to 5.2	CLAYEY SAND(SC)	19.8	39	21	18			
★ 067	067	5.4 to 5.5	SANDY LEAN CLAY(CL)	27.7	39	21	18			
⊙ 068	068	5.8 to 5.9	POORLY GRADED SAND with GRAVEL(SP)	17.5	39	21	18	0.8	5.6	0.22

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	% Breakdown			
		% PASSING														Gravel	Sand	Silt	Clay
● 064	064	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	91.3	8.7
☒ 065	065	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	58.0	42.0
▲ 066	066	100.0	100.0	100.0	100.0	98.3	96.8	95.8	92.2	82.2	71.5	55.9	42.6	32.7	22.0	7.8	70.2	22.0	
★ 067	067	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	97.8	95.6	88.4	75.6	60.4	0.0	39.6	60.4	
⊙ 068	068	100.0	100.0	100.0	100.0	100.0	94.1	93.0	84.0	69.3	50.5	26.9	12.0	5.9	3.8	16.0	80.2	3.8	

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse
	Fine Soil		Sand			Gravel		



GRAIN SIZE ANALYSIS	Mayo Airport Runway	SOURCE/TP#: 927-5583
Midnight Sun Drilling	km 52	PROJECT NO: 552-202955-5523-01-1
Terra Sonic	Coordinates:Z08N N7054612m E457127m	ELEVATION: m

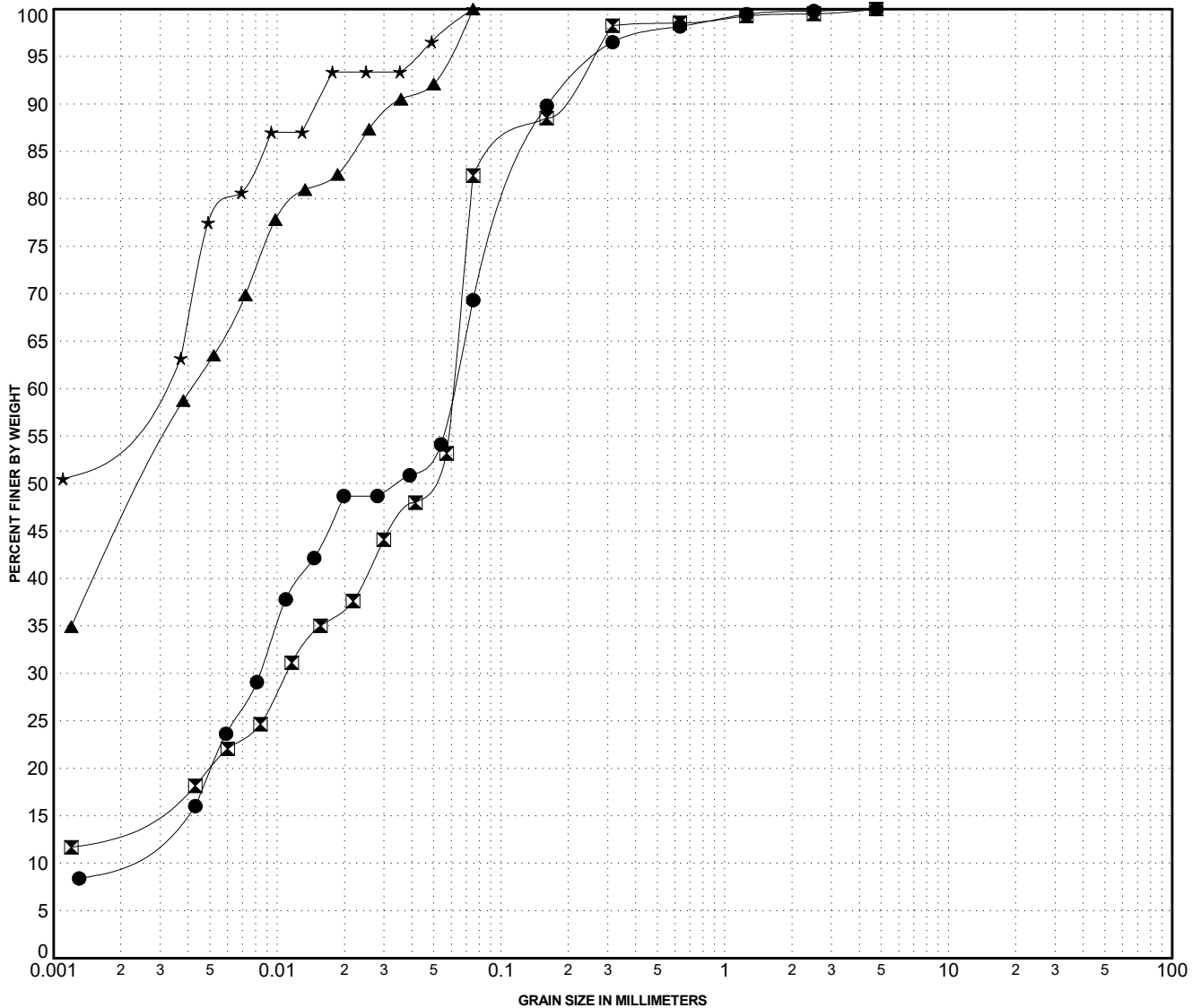
Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 069	069	6.0 to 6.1	SANDY LEAN CLAY(CL)	25.8	39	21	18	0.7	36.7	0.00
☒ 071	071	6.6 to 6.7	LEAN CLAY with SAND(CL)	32.8	40	20	20			
▲ 072	072	8.0 to 8.1	LEAN CLAY(CL)	32.3	40	20	20			
★ 073	073	8.9 to 9.0	LEAN CLAY(CL)	62.4	40	20	20			

Field #	Lab #	% PASSING															% Breakdown			
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	Gravel	Sand	Silt	Clay
● 069	069	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	98.7	97.2	94.2	89.8	69.3	0.0	30.7	58.2	11.2	
☒ 071	071	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.4	98.9	98.4	94.9	88.5	82.5	0.0	17.5	68.2	14.3	
▲ 072	072	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	54.5	45.5	
★ 073	073	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	43.2	56.8	

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse
	Fine Soil		Sand			Gravel		



GRAIN SIZE ANALYSIS	Mayo Airport Runway	SOURCE/TP#: 927-5584
Midnight Sun Drilling	km 52	PROJECT NO: 552-202955-5523-01-1
Terra Sonic	Coordinates:Z08N N7054617m E457055m	ELEVATION: m

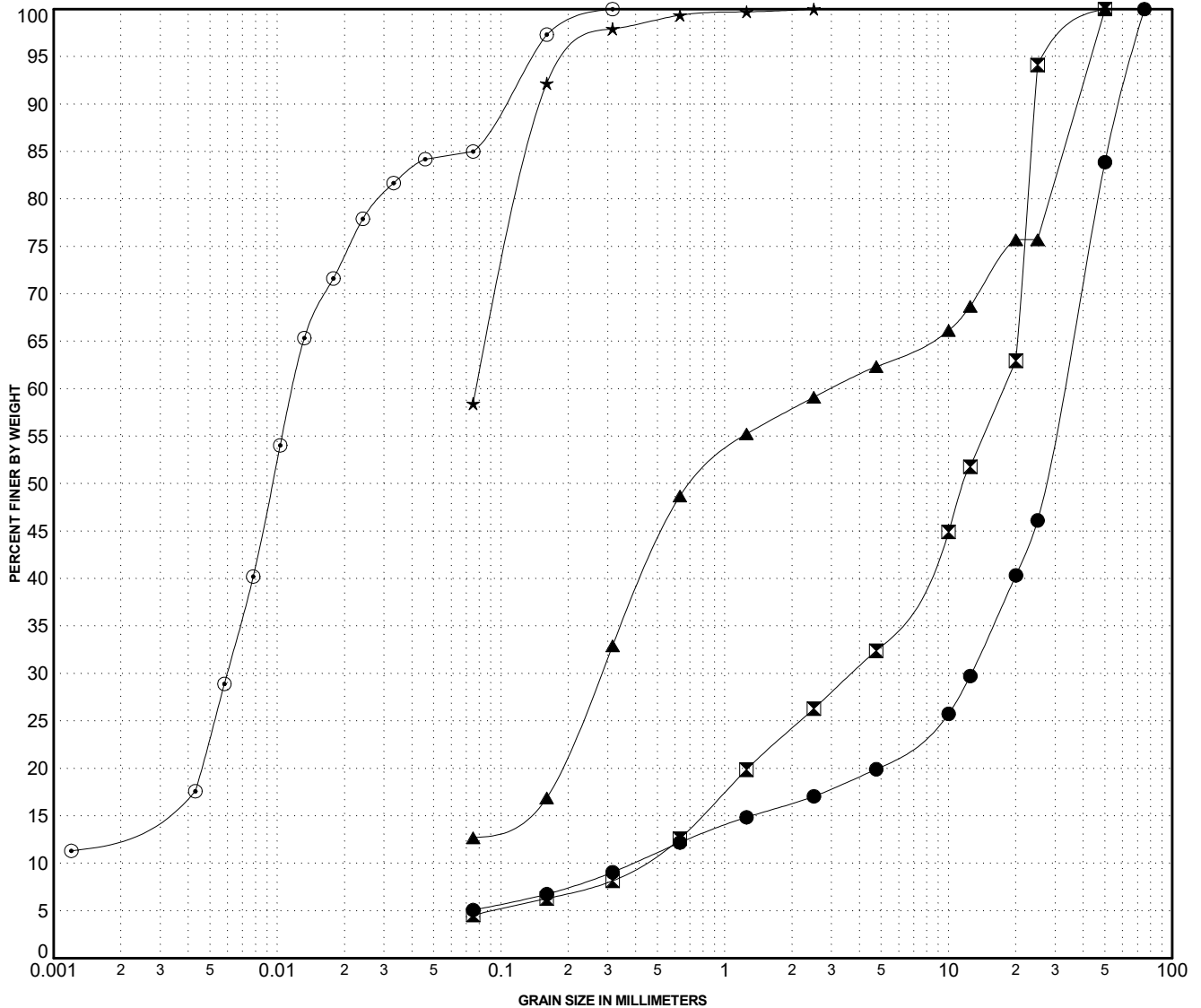
Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 077	077	1.2 to 1.3	POORLY GRADED GRAVEL with SILT(GP-GM)	2.1	NP	NP	NP	12.8	83.1	0.39
☒ 079	079	2.5 to 2.6	WELL-GRADED GRAVEL with SAND(GW)	4.6	NP	NP	NP	1.8	42.0	0.42
▲ 080	080	2.9 to 3.0	SILTY SAND with GRAVEL(SM)	8.3	NP	NP	NP			
★ 082	082	3.6 to 3.7	SANDY SILT(ML)	29.0	NP	NP	NP			
⊙ 083	083	3.9 to 4.0	SILT with SAND(ML)	32.2	NP	NP	NP			

Field #	Lab #	% PASSING	Sieve Analysis													% Breakdown				
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	Gravel	Silt	Clay	
● 077	077		100.0	100.0	83.9	46.1	40.3	29.7	25.7	19.9	16.3	13.3	10.4	8.3	6.7	5.1	80.1	14.8	5.1	
☒ 079	079		100.0	100.0	100.0	94.1	63.0	51.8	44.9	32.4	24.2	15.8	10.1	7.5	6.3	4.5	67.6	27.8	4.5	
▲ 080	080		100.0	100.0	100.0	75.7	75.7	68.7	66.1	62.3	57.9	51.6	39.7	27.5	16.9	12.7	37.7	49.6	12.7	
★ 082	082		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.5	98.5	96.0	92.2	58.4	0.0	41.6	58.4	
⊙ 083	083		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.1	97.3	85.0	0.0	15.0	71.2	13.8

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse
Fine Soil			Sand			Gravel		



GRAIN SIZE ANALYSIS	Mayo Airport Runway	SOURCE/TP#: 927-5584
Midnight Sun Drilling	km 52	PROJECT NO: 552-202955-5523-01-1
Terra Sonic	Coordinates:Z08N N7054617m E457055m	ELEVATION: m

Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 084	084	4.1 to 4.2	SANDY SILT (ML)	35.8	NP	NP	NP			
☒ 085	085	4.3 to 4.4	LEAN CLAY (CL)	29.7	38	20	18			
▲ 086	086	4.5 to 4.6	CLAYEY SAND (SC)	21.7	38	20	18			
★ 089	089	5.5 to 5.6	POORLY GRADED SAND (SP)	25.1	38	20	18	1.1	2.5	0.22
⊙ 093	093	7.5 to 7.6	LEAN CLAY (CL)	32.1	37	18	19			

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.0	0.850	0.400	0.250	0.160	0.080	% Breakdown			
		% PASSING														Gravel	Sand	Silt	Clay
● 084	084	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	98.9	98.2	51.3	0.0	48.7	51.3	
☒ 085	085	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.3	97.1	95.0	93.3	91.0	0.0	9.0	55.7	35.2
▲ 086	086	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.0	92.0	79.1	58.3	44.3	38.0	27.6	3.0	69.5	27.6	
★ 089	089	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	96.1	79.8	39.8	12.2	3.4	1.9	0.0	98.1	1.9	
⊙ 093	093	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	100.0	

Clay	Silt		Fine	Medium	Coarse	Fine	Medium	Coarse
	Fine Soil		Sand			Gravel		

