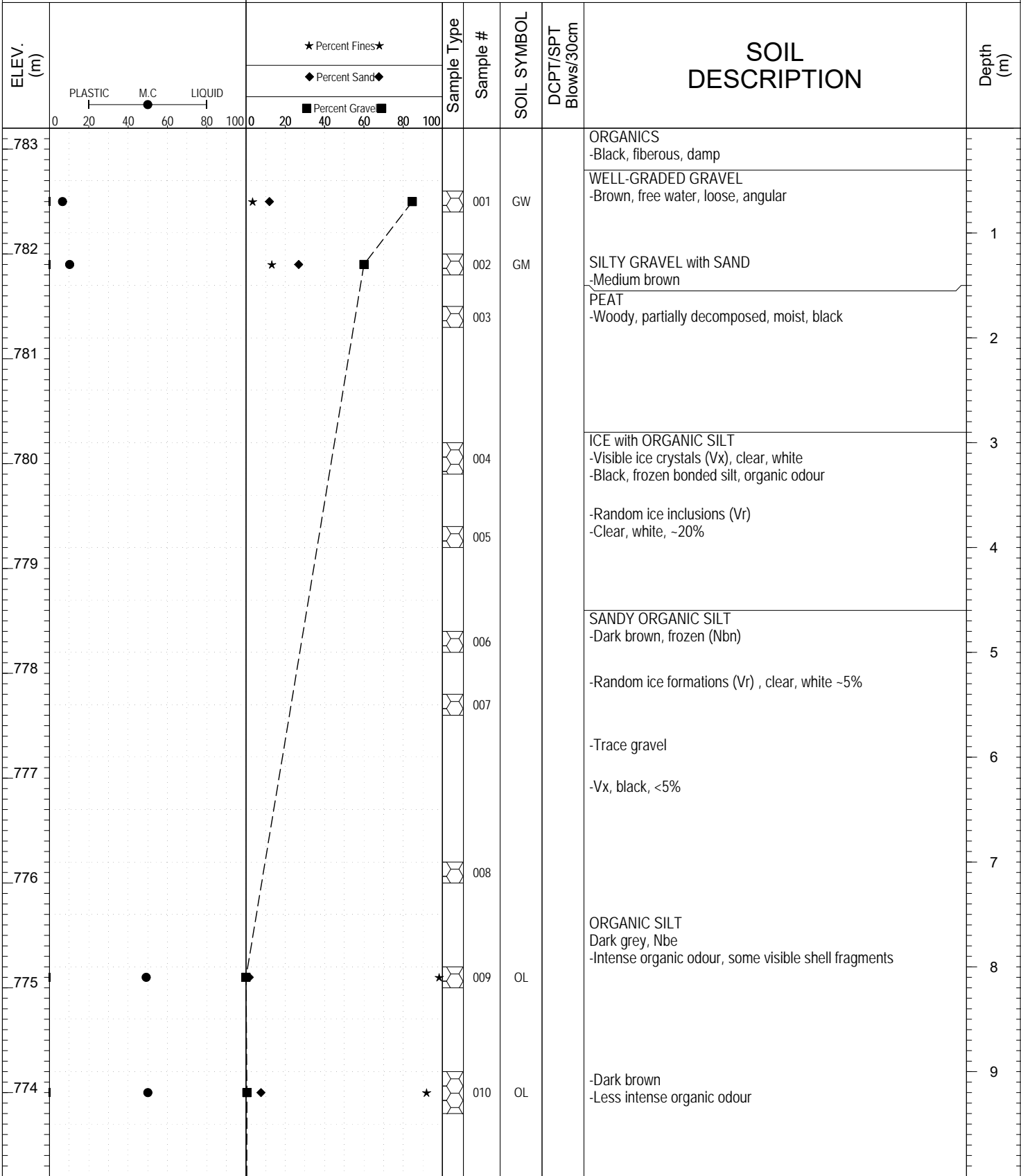


SUBSURFACE EXPLORATION AND TEST REPORT Alaska Highway SOURCE/TP#: 866-5307

Boart Longyear Establishment of Baseline Data, km 1897 LHS PROJECT NO: 552-202021-0601-05-1

Sonic Drill Coordinates: Z07V N6937697.6m E501919.2m ELEVATION: 783.2m

SAMPLE TYPE  UNDISTURBED  DCPT  AUGER  BULK  SPT  CORE



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell	Termination Depth: 19.8m
COMPILED BY: R.Stilwell	Complete: 9/11/2015 2:00:00 PM
REVIEWED BY: Dave Lorenzi	Pit #: Page 1 of 2

SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 866-5307									
Boart Longyear		Establishment of Baseline Data, km 1897 LHS		PROJECT NO: 552-202021-0601-05-1									
Sonic Drill		Coordinates: Z07V N6937697.6m E501919.2m		ELEVATION: 783.2m									
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 Grave■		Sample Type	Sample #	SOIL SYMBOL	DCPT/SPT Blows/30cm	SOIL DESCRIPTION		Depth (m)		
	0      20      40      60      80      100		0      20      40      60      80      100										
773									-Dark brown -Less intense organic odour				
772					011						11		
771					012						12		
770											13		
769											14		
768					013	OL					15		
768					014	ML			SILT -Dark grey-brown -Vx, starts at 5% and increases with depth down to 18m, max 25%				
767											16		
766					014A	ML					17		
765											18		
764					015	ML					19		
									-Dark brown, Nbn - trace Vx				
									END of HOLE				



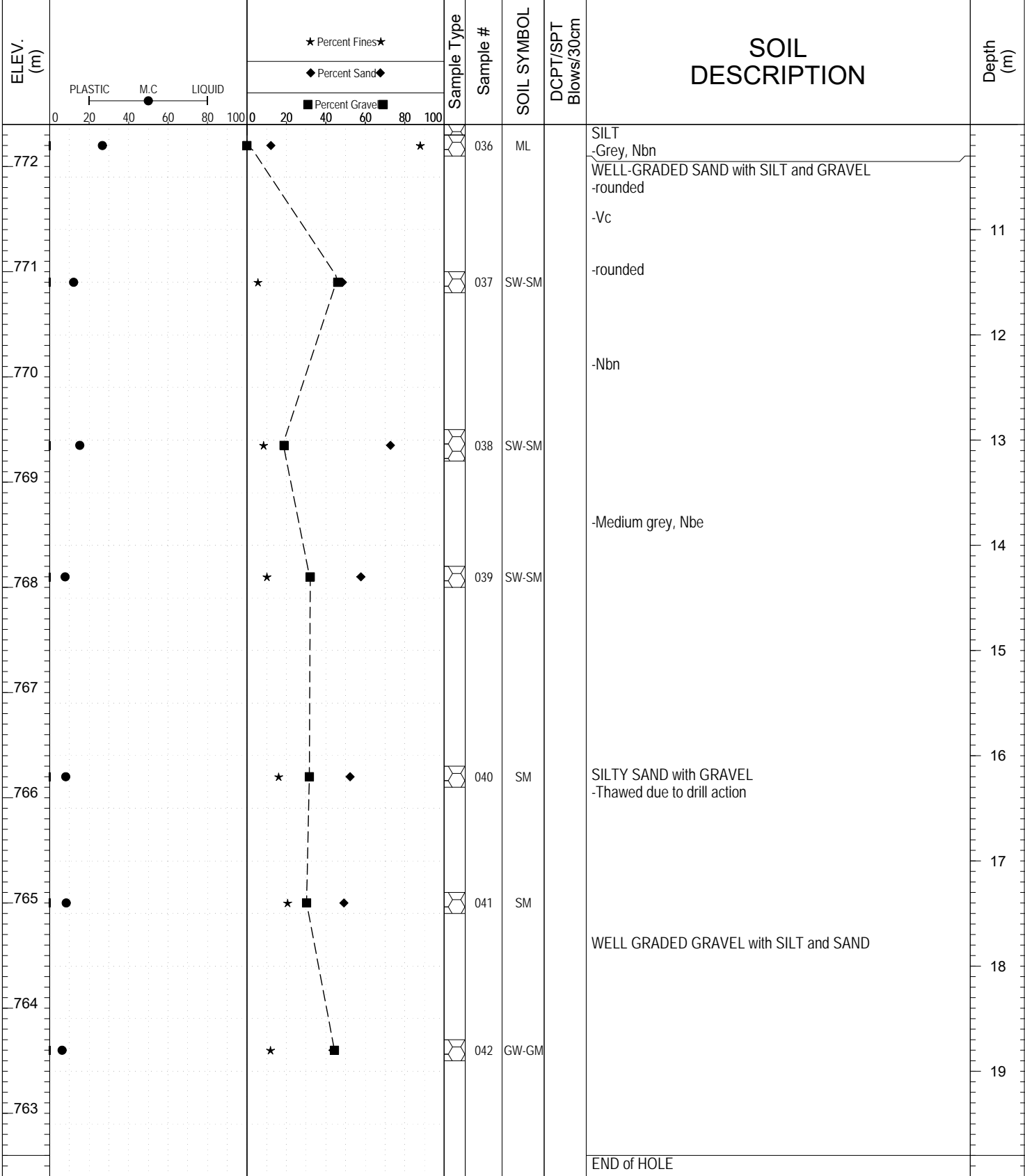
SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 866-5308				
Boart Longyear		Establishment of Baseline Data, km 1894.5 LHS		PROJECT NO: 552-202021-0601-05-1				
Sonic Drill		Coordinates: Z07V N6935938.7m E501315.2m		ELEVATION: 782.8m				
SAMPLE TYPE	UNDISTURBED	DCPT	AUGER	BULK	SPT	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							
782			UNDISTURBED	017	OL		ORGANICS -Dark brown, woody/fibrous	1
781			UNDISTURBED	018	OL		-Some woody organic inclusions -Vx ~7%	2
780			UNDISTURBED				-Vx ~25%	3
779			UNDISTURBED	019	OL		PEAT -Woody, black ICE and PEAT -Vs, 8-10mm ice, 20-40mm peat	4
778			UNDISTURBED	020	OL		ICE and ORGANIC SILT -Vs, 10mm dark brown, cloudy ice -30mm Dark brown silt -Some organic inclusions, woody and fibrous	5
777			UNDISTURBED					6
776			UNDISTURBED	021	SM		ICE and SILTY SAND -Vr, clear, white ice. Vs ends -Some fibrous inclusions	7
775			UNDISTURBED					8
774			UNDISTURBED	022	OL		ORGANIC SILT with ICE -Dark grey -Vx, ~20-40%, Clear, white	9
773			UNDISTURBED	023	ML		-Nbe	
				LOGGED BY: R.Stilwell		Termination Depth: 19.8m		
				COMPILED BY: R.Stilwell		Complete: 9/11/2015 7:00:00 PM		
				REVIEWED BY: Dave Lorenzi		Pit #: _____ Page 1 of 2		




SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 866-5309				
Boart Longyear		Establishment of Baseline Data, km 1886 RHS		PROJECT NO: 552-202021-0601-05-1				
Sonic Drill		Coordinates: Z07V N6931013.6m E505666.2m		ELEVATION: 782.4m				
SAMPLE TYPE	UNDISTURBED	DCPT	AUGER	BULK	SPT	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							
782				029			PEAT -Mixture of fibrous and woody	1
781							ICE and PEAT -Vx ICE and ORGANIC SILT -Vs, 50% ice -White, clear ice, brown silt	
780				030	ML		ICE and SILT -60-70% Ice -Crystalline, clear, white, highly fractured -Grey silt	2
779							<<L>- Organic silt seam ICE with SILT and SAND -Clear, white, granular, highly fractured	3
778				031	ML			4
777				032	ML		SANDY SILT with ICE -VxVr, 20% Ice	5
776							WELL-GRADED SAND with SILT -Medium grained, dark grey -Frozen Nbn	6
775				033	SW-SM			7
774				034	SP		POORLY GRADED SAND -Coarse grained -10% Vc	8
773				035	SM		-Grey -Vc, -1mm coating ICE and SILT -60% ice, clear, white, square crystals	9



SAMPLE TYPE     UNDISTURBED     DCPT     AUGER     BULK     SPT     CORE



Highways and Public Works  
Transportation Engineering Branch


SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 866-5310				
Boart Longyear		Establishment of Baseline Data, km 1860 RHS		PROJECT NO: 552-202021-0601-05-1				
Sonic Drill		Coordinates: Z07V N6910365.7m E509064.7m		ELEVATION: 653.7m				
SAMPLE TYPE	UNDISTURBED	DCPT	AUGER	BULK	SPT	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							
653			★	043	OL		ORGANICS -Fibrous inclusions PEAT ORGANIC SILT -Brown, saturated, firm -Woody/fibrous inclusions	1
652			★ ◆	044	GM		-Frozen, Nbe SILTY GRAVEL with SAND -Brown, subrounded, Vx	2
651							-Nf -Vx ~20%	3
650							-Nbn -Nf	4
649			★ ◆	045	SM		SILTY SAND with GRAVEL -Highly weathered, Nbn	5
648			★ ◆	046	SM			6
647			★ ◆	047	ML		SILT -10% Vr - Clear, white, fractured -Brown silt	7
646							ICE and SILT -30% ice, clear, white, hard	8
645			★ ◆	048	ML		SILT and ICE -10% Vr-Vx, individual crystals and sheets moving up in silt in curved planes	9
644			★ ◆	049	ML		-Vs, Vertical planes in column -Silt bedding planes are vertical, ~2mm wide	
				Highways and Public Works Transportation Engineering Branch		LOGGED BY: R.Stilwell COMPILED BY: R.Stilwell REVIEWED BY: Dave Lorenzi	Termination Depth: 19.8m Complete: 9/12/2015 Pit #:	Page 1 of 2

SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 866-5310									
Boart Longyear		Establishment of Baseline Data, km 1860 RHS		PROJECT NO: 552-202021-0601-05-1									
Sonic Drill		Coordinates: Z07V N6910365.7m E509064.7m		ELEVATION: 653.7m									
SAMPLE TYPE		UNDISTURBED		DCPT		AUGER		BULK		SPT		CORE	
ELEV. (m)	PLASTIC M.C. LIQUID		★ Percent Fines★		Sample Type	Sample #	SOIL SYMBOL	DCPT/SPT Blows/30cm	SOIL DESCRIPTION		Depth (m)		
	0 20 40 60 80 100		◆ Percent Sand◆									■ Percent Gravel■	
643										-Vs, Vertical planes in column -Silt bedding planes are vertical, ~2mm wide			
642										-Nbn	11		
641										SILT and ICE -Vs, ~5% Vertically bedded -Clear, white, fractured	12		
640											13		
639										SANDY SILT with GRAVEL -Brown, rounded, Nbn	14		
638											15		
637										SILTY SAND with GRAVEL -Nf	16		
636										SILTY GRAVEL with SAND -Nbn	17		
635										-Nf -Nbn	18		
634										-Nf END of HOLE	19		




SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 866-5311				
Boart Longyear		Establishment of Baseline Data, km 1840 RHS		PROJECT NO: 552-202021-0601-05-1				
Sonic Drill		Coordinates: Z07V N6892338.1m E516504.8m		ELEVATION: 727.4m				
SAMPLE TYPE	UNDISTURBED	DCPT	AUGER	BULK	SPT	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							
727				055	GP		POORLY GRADED GRAVEL with SAND -Brown, loose, damp -Trace fibrous organics	1
726				056	GP-GM		POORLY GRADED GRAVEL with SILT and SAND -Dark brown, moist, compact  -Light brown, dry, loose	2
725				057	GP		POORLY GRADED GRAVEL with SAND -Dark brown, moist, compact	3
724							ICE and GRAVEL --80% Grey-brown, highly fractured Ice ICE -Grey, cloudy, fractured -White -Brittle	4
723							-Light brown, clear	5
722							-Cloudy, highly fractured - individual crystals distinct	
721							ICE and SILT -Vs, white cloudy ice, 30mm thick -Grey silt, 10mm thick SNOW and ICE -Layerd, snow 20mm thick, and ice 5mm thick -White, clear, slight fracture in solid ice SILTY SNOW and ICE -Dirty grey snow, clear white ice Snow and ICE -Snow, white, cloudy, 2mm thick sections -Ice, white, clear, some bubbles, 2mm thick sections	6
720								7
719							-Harder	8
718							-Silt seam ICE and SILT -Vs, 2mm Ice, 10mm Silt (Nbe) -Ice is white, and clear -Grey silt	9



SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 866-5311					
Boart Longyear		Establishment of Baseline Data, km 1840 RHS		PROJECT NO: 552-202021-0601-05-1					
Sonic Drill		Coordinates: Z07V N6892338.1m E516504.8m		ELEVATION: 727.4m					
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)
	0      20      40      60      80      100								
717					058	SM		SILTY SAND with GRAVEL -Grey, subangular -Vx, white cloudy crystals	11
716					059	ML		SILT with SAND -Dark grey, hard, Nbe	12
715					060	GM		SILTY GRAVEL with SAND -Dark grey, hard, Nbe	13
714					061	SM		SILTY SAND with GRAVEL -Dark grey, hard, Vx	14
713								-Nbe	15
712								-Nbn	16
711					062	SM		-Nbe	17
710					063	ML		SILT with SAND -Dark grey, Nbn	18
709					064	ML		SILT -Vr	19
708					065	ML		SILT with SAND -Nbn	
								END OF HOLE	
 Highways and Public Works Transportation Engineering Branch		LOGGED BY: R.Stilwell			Termination Depth: 19.8m				
		COMPILED BY: R.Stilwell			Complete: 9/13/2015				
		REVIEWED BY: Dave Lorenzi			Pit #: _____ Page 2 of 2				

SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 866-5312				
Boart Longyear		Establishment of Baseline Data, km 1810 RHS		PROJECT NO: 552-202021-0601-05-1				
Sonic Drill		Coordinates: Z07V N6870311.6m E531256m		ELEVATION: 715m				
SAMPLE TYPE	UNDISTURBED	DCPT	AUGER	BULK	SPT	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							
714				065			PEAT -Dark brown, fibrous, saturated ORGANIC SILT -Dark brown, Nbe	1
713		>>		066	OL		ICE and ORGANIC SILT -50% Vr, Clear, white, fractured -Dark brown Silt	2
712							-Vx	3
711				067				4
710	●			068	SM		SILTY SAND -Dark brown, rounded -Vr, clear, white	5
709								6
708	●			069	SM		SILTY SAND with GRAVEL -Highly fractured gravel -Angular, grey, oxidization evident	7
707	●			070	GM		BEDROCK -Pulverized in drilling -Grey	8
706								9
705							END of HOLE	
				LOGGED BY: R.Stilwell		Termination Depth: 9.1m		
				COMPILED BY: R.Stilwell		Complete: 9/13/2015		
				REVIEWED BY: Dave Lorenzi		Pit #: _____ Page 1 of 1		

SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 868-5317				
Boart Longyear		Establishment of Baseline Data, km 1840 RHS		PROJECT NO: 552-202021-0601-05-1				
Sonic Drill		Coordinates: Z07V N6892310.9m E516526.5m		ELEVATION: 750.9m				
SAMPLE TYPE	UNDISTURBED	DCPT	AUGER	BULK	SPT	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							
750	★	◆	■	GW-GM	106		WELL-GRADED GRAVEL with SILT and SAND -Dark brown, loose, moist	1
749	★	◆	■	GM	107		SILTY GRAVEL with SAND -Dark brown, moist, compact	2
748							WELL-GRADED GRAVEL with SILT and SAND -Dark brown, wet to saturated, compact	3
747	★	◆	■	GW-GM	108			4
746					109		ICE with SAND -Brown-grey, cloudy, highly fractured ice	5
745							ICE -White, cloudy, fractured ICE, trace SAND -Grey brown, clear, fractured	6
744							ICE, trace SILT -Grey brown, fractured, clear ICE -White, clear, hard, some bubbles	7
743							ICE, trace sand -Grey-brown. clear, fractured ICE -White, cloudy-clear, semi fractured	8
742			■	SM	110		ICE with SILTY SAND with GRAVEL -Brown gravel, Clear white Ice (Vr) ~50%	9
741							SILTY GRAVEL with ICE -Dark grey silty gravel -40% Vx, white, cloudy	
 Highways and Public Works Transportation Engineering Branch				LOGGED BY: R.Stilwell		Termination Depth: 19.8m		
				COMPILED BY: R.Stilwell		Complete: 9/16/2015		
				REVIEWED BY: Dave Lorenzi		Pit #: _____ Page 1 of 2		

SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 868-5317					
Boart Longyear		Establishment of Baseline Data, km 1840 RHS		PROJECT NO: 552-202021-0601-05-1					
Sonic Drill		Coordinates: Z07V N6892310.9m E516526.5m		ELEVATION: 750.9m					
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)
	0      20      40      60      80      100								
740				○	111	ML		SILT -Silt seam, Nbe, 20mm	11
739				○	112	ML		SANDY SILT with GRAVEL -Dark grey, hard -Vx	12
738				○	113	GM		<<L> SILTY GRAVEL with SAND -Dark grey, compact, Nbe	13
737				○	114	ML		-Nbn	14
736				○	115	ML		SILT -Dark grey, firm, Nbn	15
735				○	116	ML		-Vr, Clear, white	16
734				○	117	ML		-Nbn	17
733				○	118	ML		-Nbe	18
732				○	119	ML		-Vx, Cloudy, white	19
731				○	120	ML		-Vx-Vr, Clear, to cloudy, white	
								END OF HOLE	
				LOGGED BY: R.Stilwell		Termination Depth: 19.8m			
				COMPILED BY: R.Stilwell		Complete: 9/16/2015			
				REVIEWED BY: Dave Lorenzi		Pit #: _____			

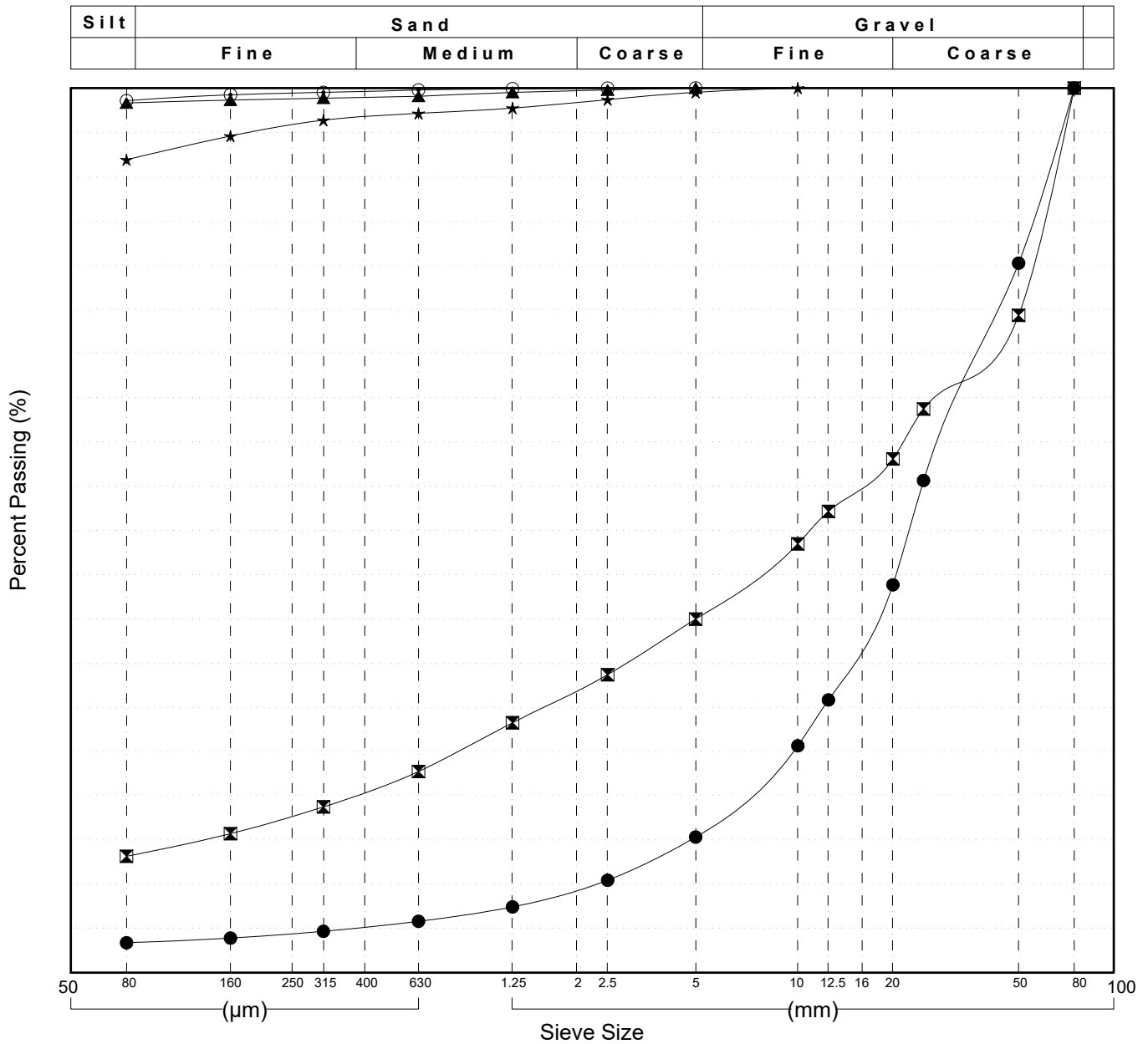
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5307
Boart Longyear	km 1897 LHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6937697.6m E501919.2m	ELEVATION: 783.2m

Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 001	402	0.6 to 0.8	WELL-GRADED GRAVEL(GW)	6.6	NP	NP	NP	2.3	12.5
☒ 002	403	1.2 to 1.4	SILTY GRAVEL with SAND(GM)	10.2	NP	NP	NP		
▲ 009	410	8.0 to 8.2	ORGANIC SILT(OL)	49.2	NP	NP	NP		
★ 010	411	9.0 to 9.4	ORGANIC SILT(OL)	50.1	NP	NP	NP		
⊙ 013	414	14.4 to 14.6	ORGANIC SILT(OL)	44.6	NP	NP	NP		

Field #	Lab #	%PASSING	% Breakdown																	
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt	Clay
● 001	402	100.0	100.0	100.0	80.2	55.6	43.8	30.8	25.6	15.3	10.4	7.4	5.8	4.7	3.9	3.4	84.7	11.9	3.4	
☒ 002	403	100.0	100.0	74.3	63.7	58.1	52.1	48.5	40.0	33.7	28.3	22.7	18.7	15.7	13.2		60.0	26.8	13.2	
▲ 009	410	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.5	99.1	98.9	98.6	98.3		0.0	1.7	98.3	
★ 010	411	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.5	98.7	97.7	97.1	96.4	94.6	91.9		0.5	7.6	91.9	
⊙ 013	414	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.5	99.2	98.6		0.0	1.4	98.6	



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #:  
Complete: 9/11/2015 2:00:00 PM

GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5307
Boart Longyear	km 1897 LHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6937697.6m E501919.2m	ELEVATION: 783.2m

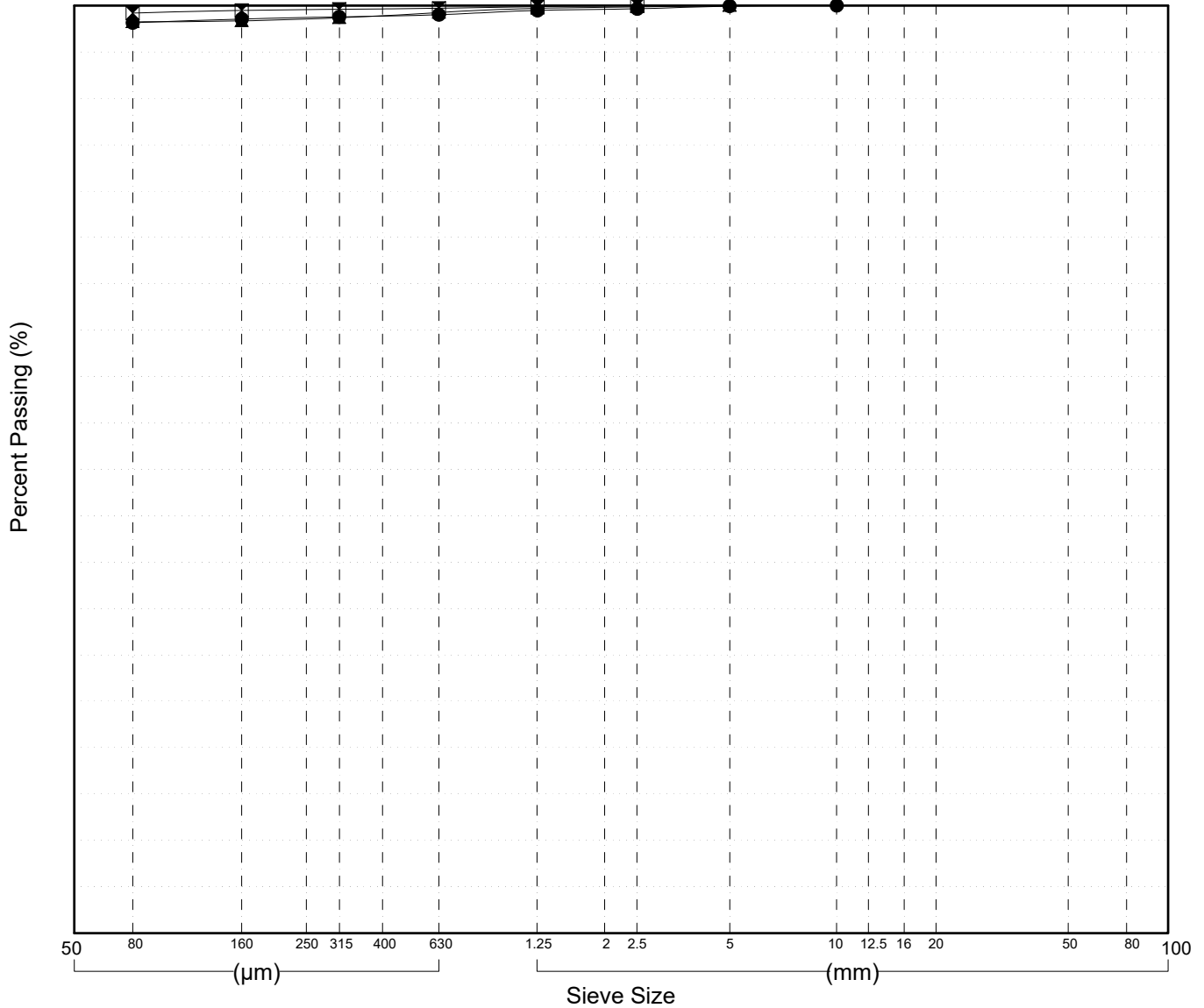
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 014	415	15.2 to 15.4	SILT(ML)	46.7	NP	NP	NP		
☒ 014A	416	17.0 to 17.2	SILT(ML)	46.4	NP	NP	NP		
▲ 015	417	18.8 to 19.0	SILT(ML)	39.7	NP	NP	NP		

Field #	Lab #	% P A S S I N G														% Breakdown			
		100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt	Clay
● 014	415	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.5	99.0	98.8	98.6	98.1	0.1	1.8	98.1	
☒ 014A	416	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.6	99.5	99.2	0.0	0.8	99.2	
▲ 015	417	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.2	98.7	98.4	98.2	0.0	1.8	98.2	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5308
Boart Longyear	km 1894.5 LHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6935938.7m E501315.2m	ELEVATION: 782.8m

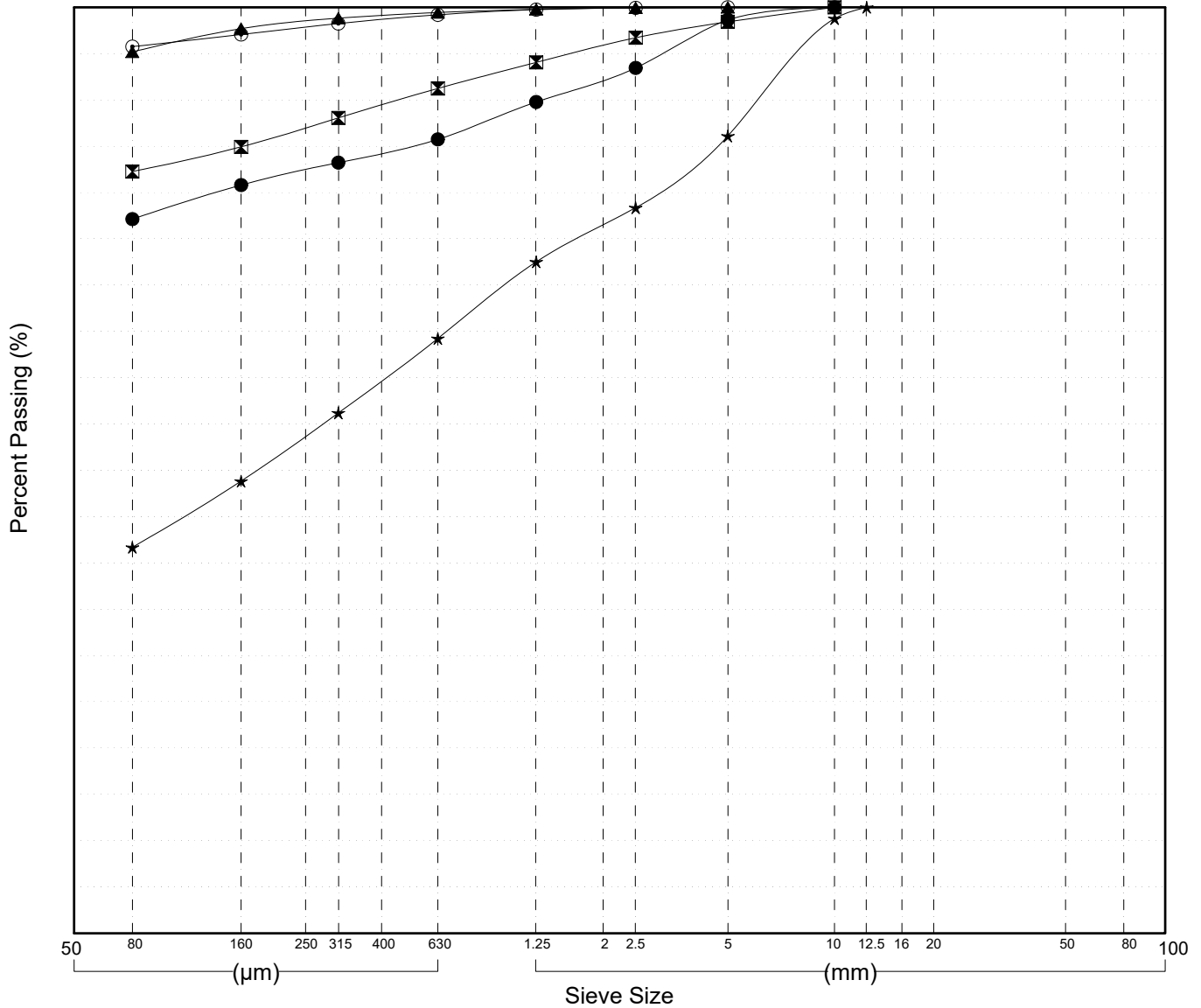
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 018	419	1.9 to 2.1	ORGANIC SILT with SAND(OL)	99.6	NP	NP	NP		
☒ 019	420	3.8 to 4.0	ORGANIC SILT with SAND(OL)	607.3	NP	NP	NP		
▲ 020	421	5.0 to 5.4	ORGANIC SILT(OL)	70.6	NP	NP	NP		
★ 021	422	7.0 to 7.4	SILTY SAND(SM)	343.0	NP	NP	NP		
⊙ 022	423	8.5 to 8.8	ORGANIC SILT(OL)	37.8	NP	NP	NP		

Field #	Lab #	%PASSING	% Breakdown																
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt
● 018	419	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.7	93.5	89.8	85.7	83.2	80.8	77.1	1.3	21.5	77.1
☒ 019	420	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.4	96.7	94.1	91.2	88.1	84.9	82.3	1.6	16.2	82.3	
▲ 020	421	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.4	98.8	97.7	95.2	0.0	4.8	95.2	
★ 021	422	100.0	100.0	100.0	100.0	100.0	100.0	98.8	86.1	78.4	72.5	64.2	56.2	48.8	41.7	13.9	44.4	41.7	
⊙ 022	423	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.2	98.3	97.1	95.8	0.0	4.2	95.8	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5308
Boart Longyear	km 1894.5 LHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6935938.7m E501315.2m	ELEVATION: 782.8m

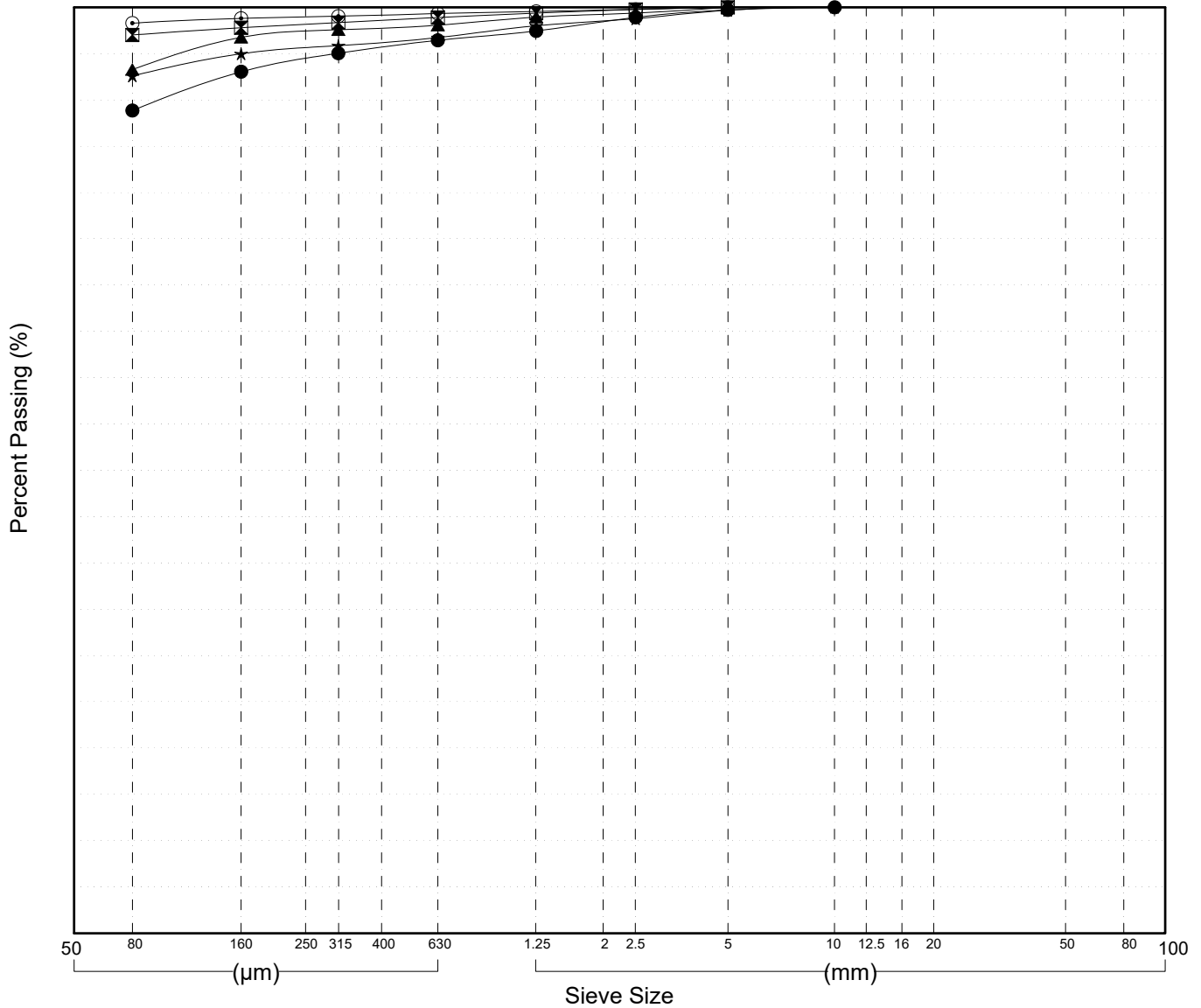
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 023	424	9.4 to 9.7	SILT(ML)	45.1	NP	NP	NP		
☒ 024	425	11.6 to 11.8	SILT(ML)	47.1	NP	NP	NP		
▲ 024A	426	13.0 to 13.2	SILT(ML)	46.1	NP	NP	NP		
★ 025	427	14.2 to 14.4	SILT(ML)	21.1	NP	NP	NP		
⊙ 026	428	16.0 to 16.3	SILT(ML)	29.4	NP	NP	NP		

Field #	Lab #	%PASSING															% Breakdown			
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt	Clay
● 023	424	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	98.9	97.4	96.4	95.0	93.0	88.9	0.3	10.9	88.9	
☒ 024	425	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.4	98.9	98.9	98.3	97.8	97.0	0.0	3.0	97.0	
▲ 024A	426	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.4	98.9	98.1	97.6	96.8	93.3		0.0	6.7	93.3	
★ 025	427	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	98.8	98.0	96.7	95.9	95.0	92.6		0.3	7.1	92.6	
⊙ 026	428	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.6	99.3	99.0	98.8	98.3		0.0	1.7	98.3	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell

COMPILED BY: R.Stilwell

REVIEWED BY: Dave Lorenzi

Pit #:

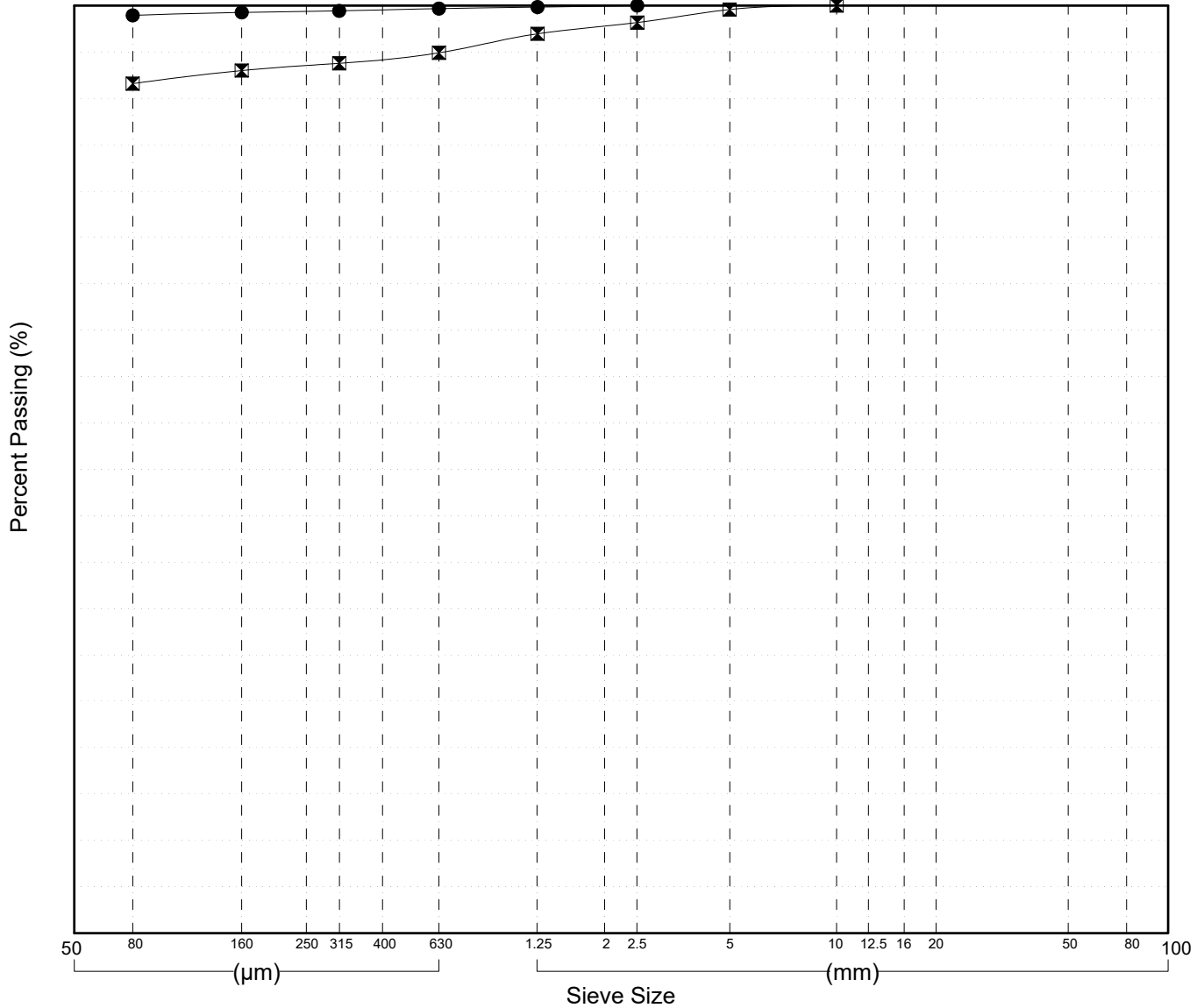
Complete: 9/11/2015 7:00:00 PM

GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5308
Boart Longyear	km 1894.5 LHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6935938.7m E501315.2m	ELEVATION: 782.8m

Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu											
● 027	429	17.8 to 18.1	SILT(ML)	32.5	NP	NP	NP													
☒ 028	430	19.2 to 19.4	SILT(ML)	32.0	NP	NP	NP													
Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown				
● 027	429	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.7	99.4	99.3	98.9	Gravel	Sand	Silt	Clay	
☒ 028	430	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	98.2	97.0	94.9	93.8	93.0	91.6	0.0	1.1	98.9		

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse





GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5309
Boart Longyear	km 1886 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6931013.6m E505666.2m	ELEVATION: 782.4m

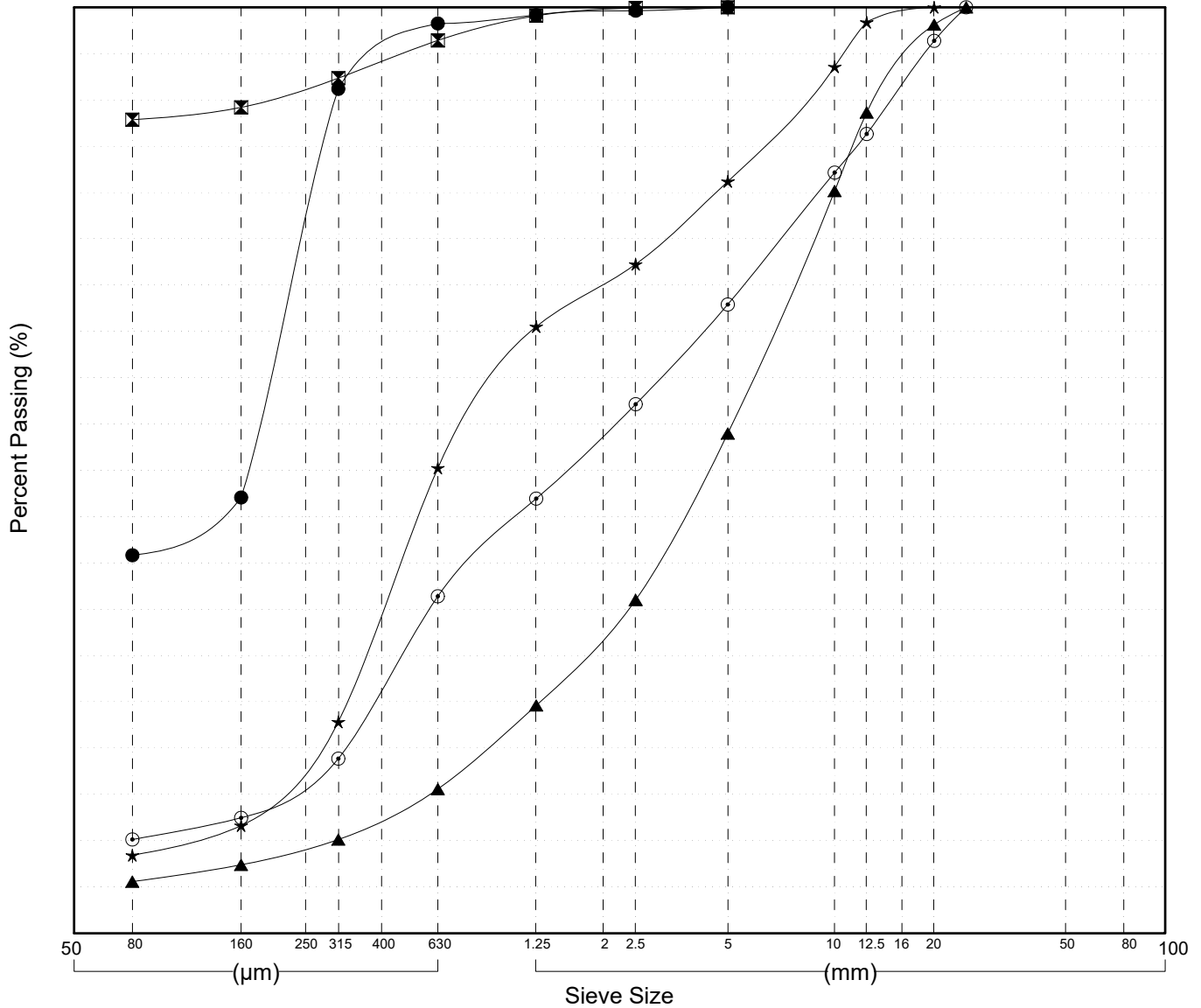
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 035	437	9.8 to 10.1	SILTY SAND(SM)	22.5	NP	NP	NP		
☒ 036	438	10.1 to 10.2	SILT(ML)	26.7	NP	NP	NP		
▲ 037	439	11.4 to 11.8	WELL-GRADED SAND with SILT and GRAVEL(SW-SM)	12.1	NP	NP	NP	1.7	18.4
★ 038	440	12.9 to 13.2	WELL-GRADED SAND with SILT and GRAVEL(SW-SM)	15.2	NP	NP	NP	1.3	9.0
⊙ 039	441	14.2 to 14.4	WELL-GRADED SAND with SILT and GRAVEL(SW-SM)	7.8	NP	NP	NP	1.1	41.3

Field #	Lab #	%PASSING														% Breakdown			
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt
● 035	437	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	99.2	98.3	91.2	47.1	40.8	0.0	59.2	40.8	
☒ 036	438	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.1	96.4	92.4	89.2	87.9	0.0	12.1	87.9	
▲ 037	439	100.0	100.0	100.0	100.0	98.1	88.6	80.2	54.0	36.0	24.6	15.6	10.1	7.4	5.6	46.0	48.4	5.6	
★ 038	440	100.0	100.0	100.0	100.0	98.4	93.6	81.2	72.2	65.5	50.3	22.8	11.6	8.4	18.8	72.8	8.4		
⊙ 039	441	100.0	100.0	100.0	100.0	96.4	86.3	82.2	67.9	57.1	46.9	36.4	18.9	12.5	10.1	32.1	57.8	10.1	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #:  
Complete: 9/12/2015

GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5309
Boart Longyear	km 1886 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6931013.6m E505666.2m	ELEVATION: 782.4m

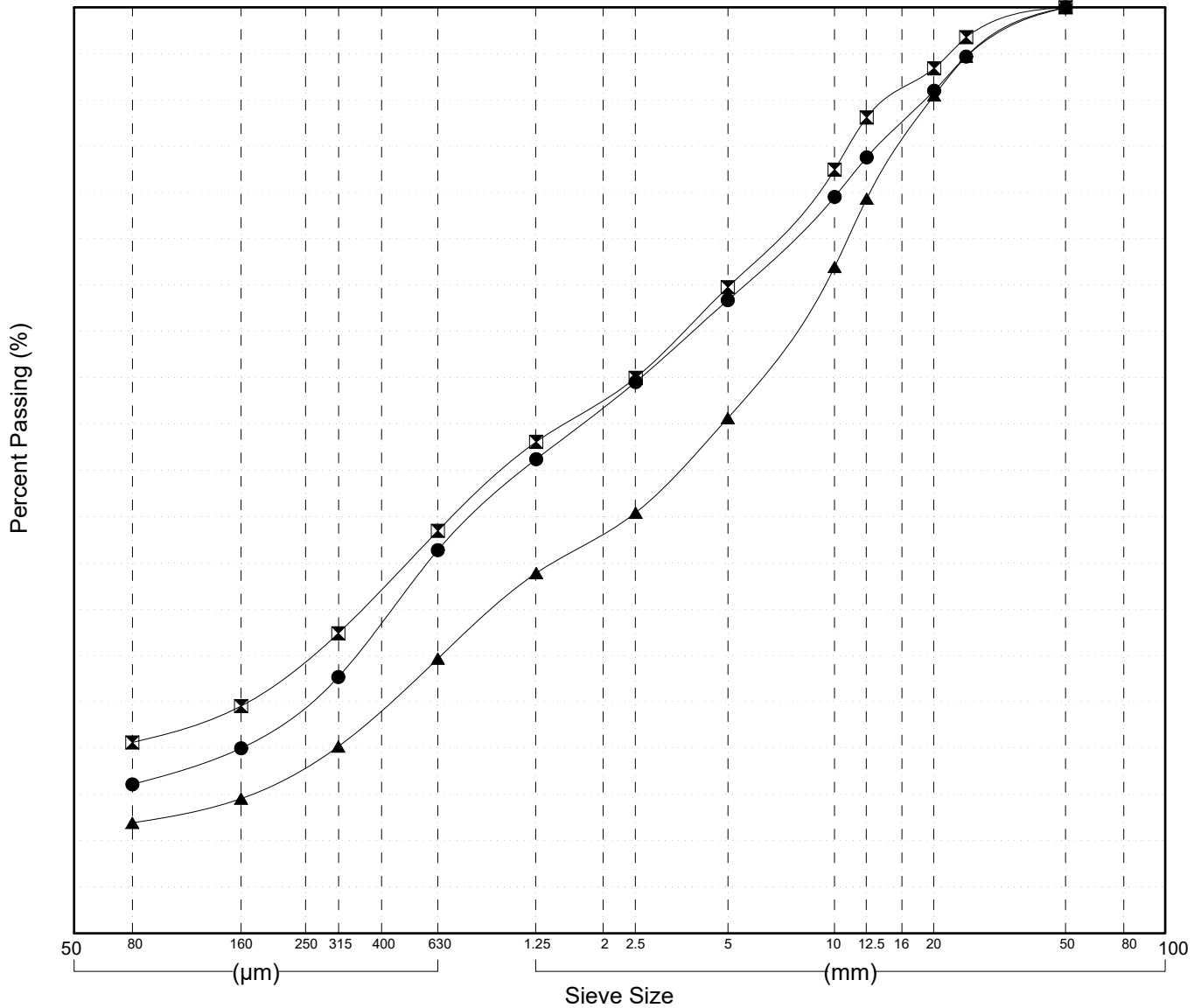
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 040	442	16.1 to 16.2	SILTY SAND with GRAVEL(SM)	8.1	NP	NP	NP		
☒ 041	443	17.3 to 17.5	SILTY SAND with GRAVEL(SM)	8.4	NP	NP	NP		
▲ 042	444	18.7 to 18.9	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	6.3	NP	NP	NP	1.7	135.0

Field #	Lab #	% PASSING														% Breakdown			
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt
● 040	442	100.0	100.0	100.0	94.7	91.0	83.8	79.5	68.4	59.5	51.2	41.4	27.7	20.0	16.1	31.6	52.3	16.1	
☒ 041	443	100.0	100.0	100.0	96.8	93.4	88.1	82.5	69.8	60.0	53.1	43.5	32.4	24.5	20.6	30.2	49.2	20.6	
▲ 042	444	100.0	100.0	100.0	94.7	90.5	79.3	72.0	55.6	45.4	38.9	29.7	20.2	14.5	11.9	44.4	43.7	11.9	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #:  
Complete: 9/12/2015

GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5310
Boart Longyear	km 1860 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6910365.7m E509064.7m	ELEVATION: 653.7m

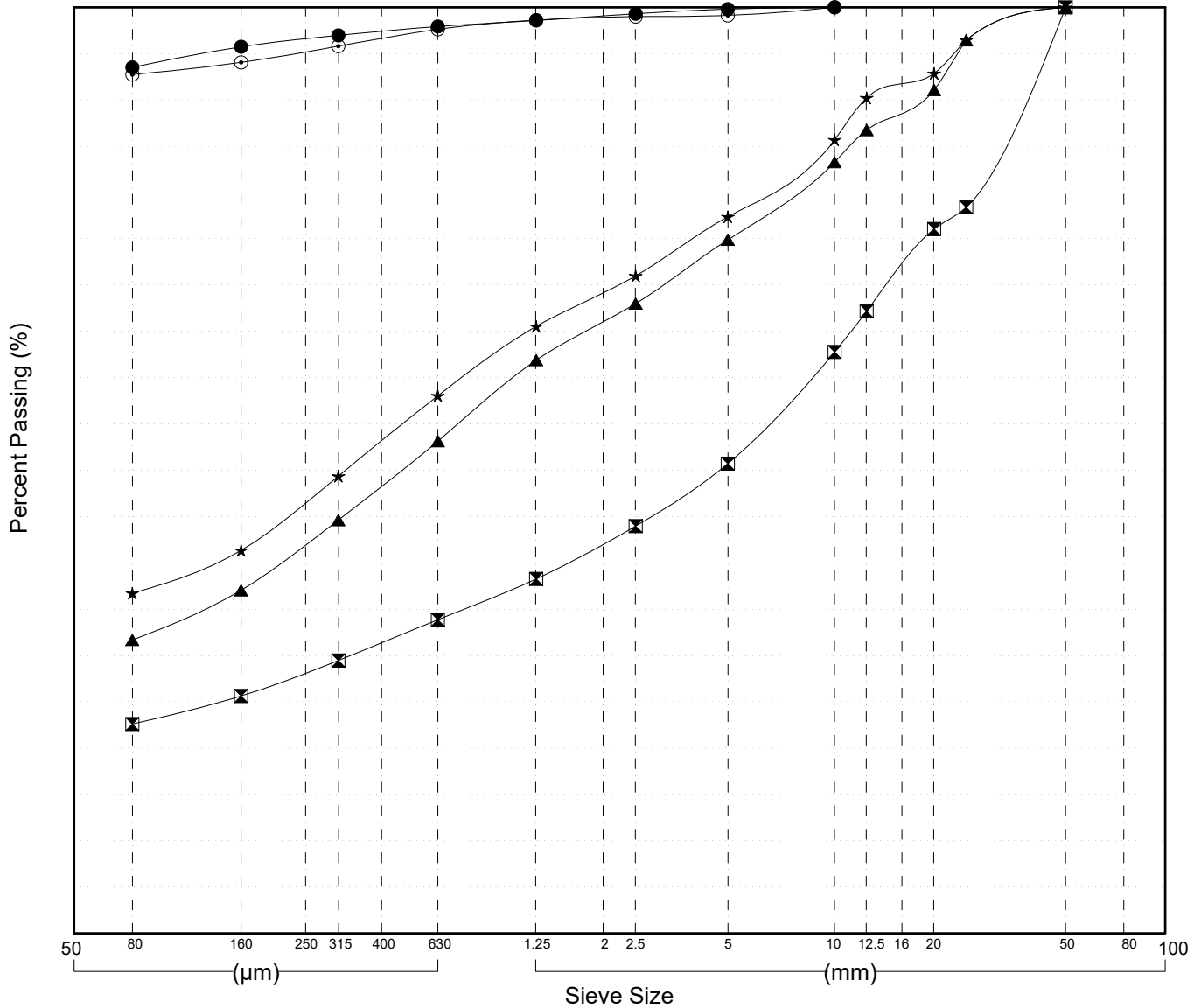
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H <sub>2</sub> O	LL	PL	PI	C <sub>c</sub>	C <sub>u</sub>
● 043	445	1.0 to 1.2	ORGANIC SILT(OL)	24.5	NP	NP	NP		
☒ 044	446	1.9 to 2.1	SILTY GRAVEL with SAND(GM)	8.7	NP	NP	NP		
▲ 045	447	4.4 to 4.6	SILTY SAND with GRAVEL(SM)	9.1	NP	NP	NP		
★ 046	448	5.5 to 5.7	SILTY SAND with GRAVEL(SM)	8.6	NP	NP	NP		
⊙ 047	449	6.2 to 6.4	SILT(ML)	24.5	NP	NP	NP		

Field #	Lab #	%PASSING	% Breakdown																
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt
● 043	445	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.3	98.6	97.9	97.0	95.7	93.5	0.2	6.3	93.5	
☒ 044	446	100.0	100.0	100.0	78.4	76.1	67.2	62.8	50.7	44.0	38.3	33.9	29.5	25.6	22.6	49.3	28.1	22.6	
▲ 045	447	100.0	100.0	100.0	96.4	91.1	86.7	83.3	74.9	68.0	61.9	53.1	44.6	37.0	31.7	25.1	43.2	31.7	
★ 046	448	100.0	100.0	100.0	96.4	92.9	90.2	85.7	77.4	71.0	65.5	58.0	49.4	41.3	36.7	22.6	40.7	36.7	
⊙ 047	449	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.1	99.0	98.6	97.6	95.8	94.0	92.7	0.9	6.4	92.7	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #:  
Complete: 9/12/2015

GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5310
Boart Longyear	km 1860 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6910365.7m E509064.7m	ELEVATION: 653.7m

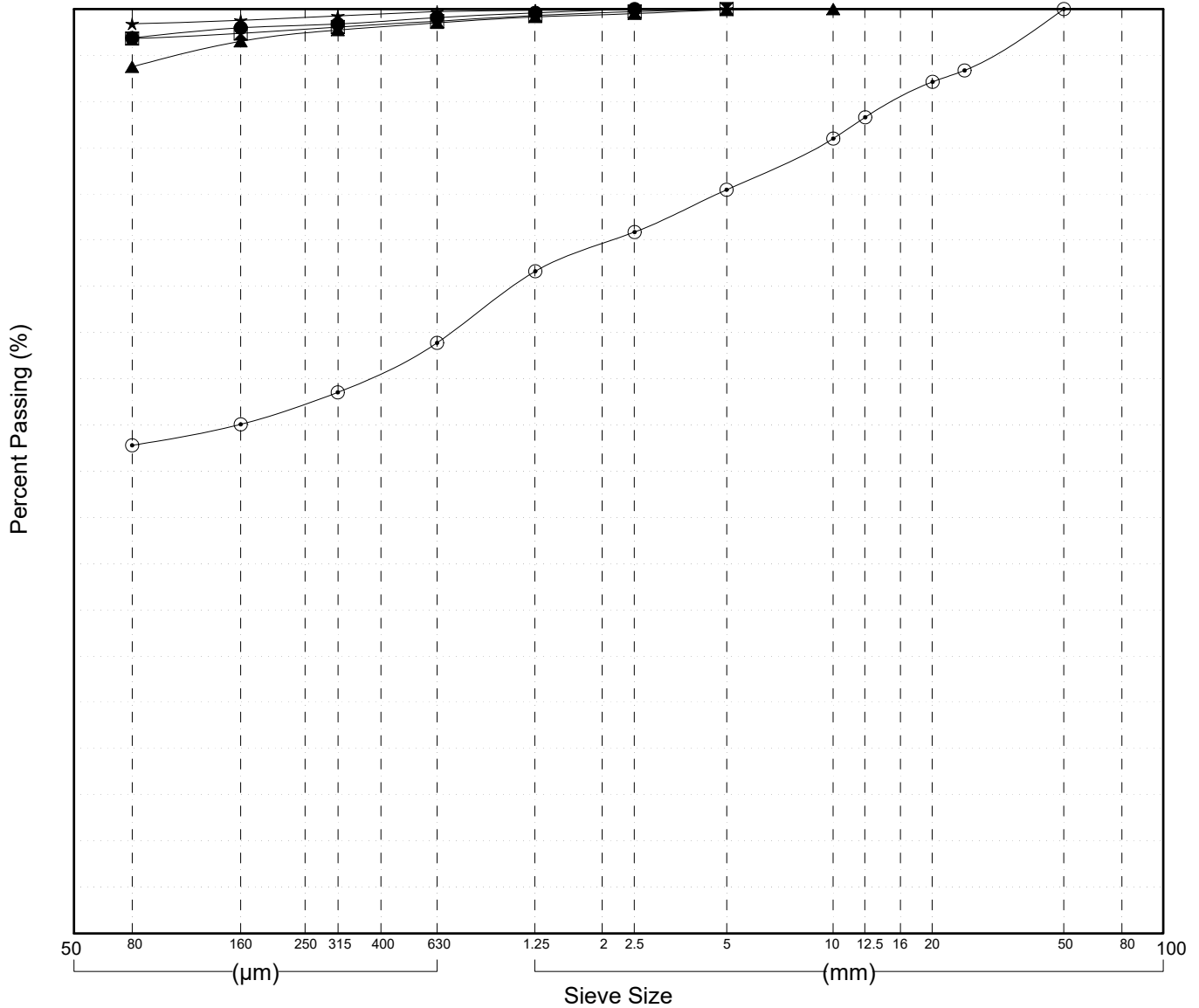
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 048	450	8.2 to 8.4	SILT(ML)	23.7	NP	NP	NP		
☒ 049	451	9.6 to 9.8	SILT(ML)	23.9	NP	NP	NP		
▲ 050	452	11.2 to 11.4	SILT(ML)	21.9	NP	NP	NP		
★ 051	453	12.7 to 12.9	SILT(ML)	24.9	NP	NP	NP		
⊙ 052	454	14.2 to 14.4	SANDY SILT with GRAVEL(ML)	12.9	NP	NP	NP		

Field #	Lab #	%PASSING	% Breakdown																
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt
● 048	450	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	99.1	98.4	98.0	96.9	0.0	3.1	96.9	
☒ 049	451	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.3	98.7	98.1	97.4	96.8	0.0	3.2	96.8	
▲ 050	452	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.5	99.1	98.5	97.7	96.5	93.8	0.1	6.2	93.8	
★ 051	453	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.2	98.8	98.4	0.0	1.6	98.4	
⊙ 052	454	100.0	100.0	100.0	93.4	92.1	88.3	86.0	80.4	75.9	71.6	63.9	58.5	55.1	52.8	19.6	27.6	52.8	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse

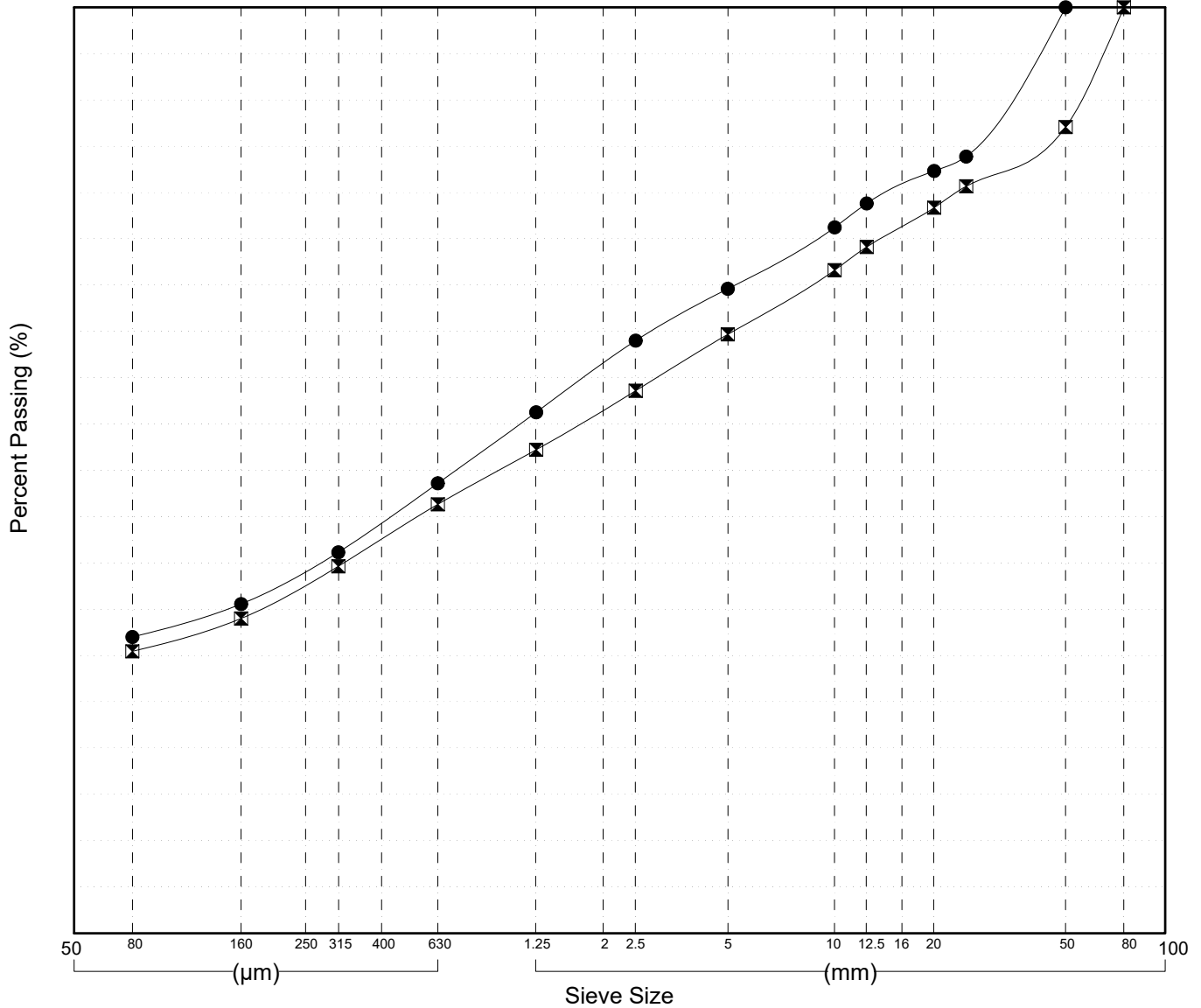


GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5310
Boart Longyear	km 1860 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6910365.7m E509064.7m	ELEVATION: 653.7m

Master Revised July 2013

Field #	Lab #	Depth	Classification	%H <sub>2</sub> O	LL	PL	PI	C <sub>c</sub>	C <sub>u</sub>											
● 053	455	16.2 to 16.5	SILTY SAND with GRAVEL(SM)	4.7	NP	NP	NP													
☒ 054	456	17.3 to 17.6	SILTY GRAVEL with SAND(GM)	8.0	NP	NP	NP													
Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown				
● 053	455	100.0	100.0	100.0	83.9	82.3	78.8	76.2	69.6	64.0	56.3	48.6	41.1	35.6	32.0	Gravel	Sand	Silt	Clay	
☒ 054	456	100.0	100.0	87.1	80.7	78.4	74.1	71.6	64.7	58.6	52.2	46.3	39.6	34.0	30.5	30.4	37.6	32.0	30.5	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5311
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6892338.1m E516504.8m	ELEVATION: 727.4m

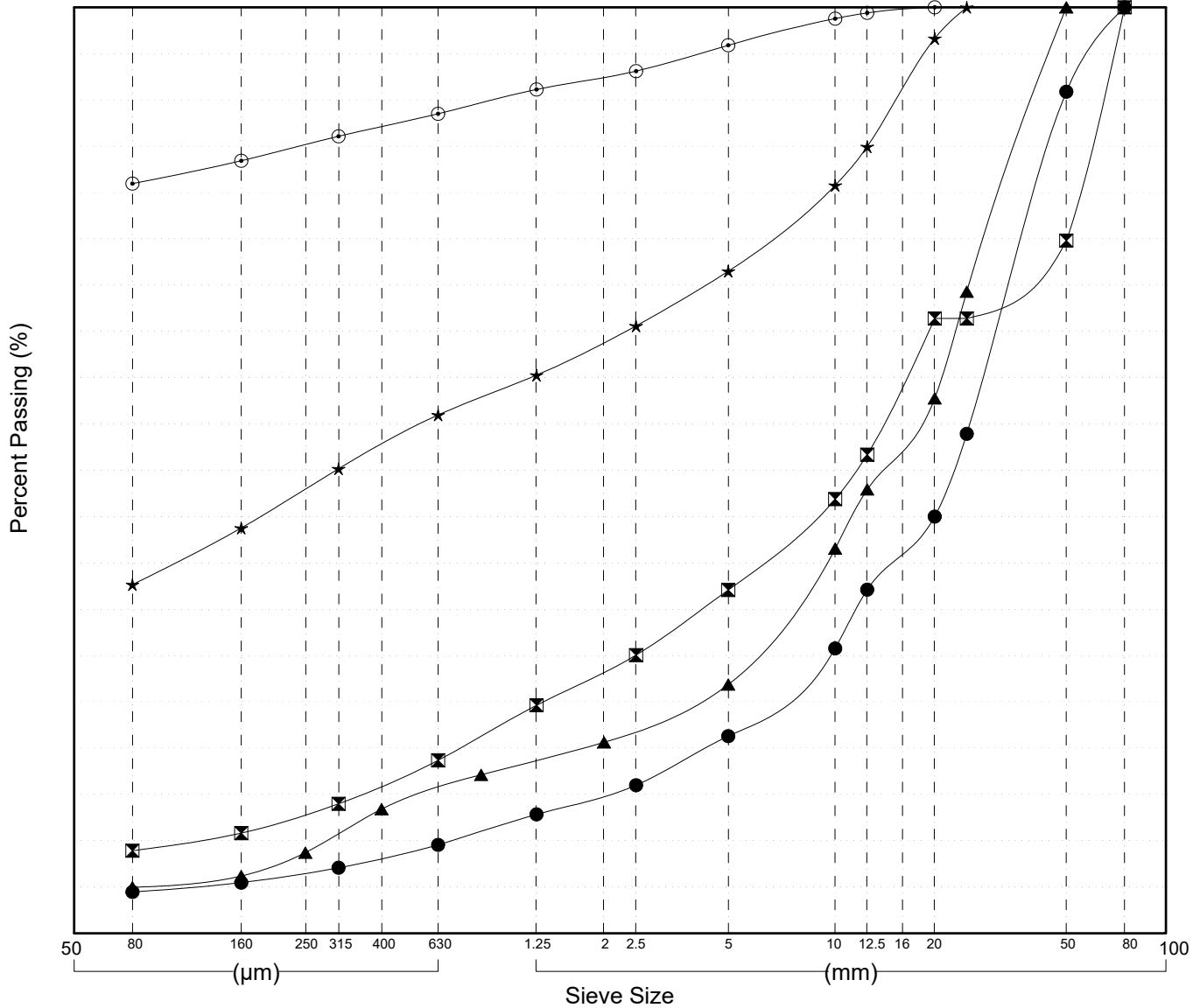
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H <sub>2</sub> O	LL	PL	PI	C <sub>c</sub>	C <sub>u</sub>
● 055	457	0.6 to 0.8	POORLY GRADED GRAVEL with SAND(GP)	2.9	NP	NP	NP	4.6	40.5
☒ 056	458	1.6 to 1.8	POORLY GRADED GRAVEL with SILT and SAND(GP-GM)	2.1	NP	NP	NP	3.3	141.3
▲ 057	459	2.6 to 2.8	POORLY GRADED GRAVEL with SAND(GP)	2.8	NP	NP	NP	5.1	72.2
★ 058	460	10.4 to 10.6	SILTY SAND with GRAVEL(SM)	32.7	NP	NP	NP		
⊙ 059	461	11.8 to 12.0	SILT with SAND(ML)	36.0	NP	NP	NP		

Field #	Lab #	%PASSING														% Breakdown				
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt	Clay
● 055	457	100.0	100.0	100.0	90.9	53.9	45.0	37.1	30.8	21.3	16.0	12.8	9.6	7.1	5.5	4.5	78.7	16.8	4.5	
☒ 056	458	100.0	100.0	74.8	66.4	66.4	51.7	46.9	37.1	30.0	24.6	18.7	14.0	10.8	8.9	62.9	28.2	8.9		
▲ 057	459	100.0	100.0	100.0	69.3	57.8	47.9	41.5	26.9	22.2	18.7	15.5	10.8	6.2	5.0	73.1	21.9	5.0		
★ 058	460	100.0	100.0	100.0	100.0	96.6	85.0	80.8	71.5	65.6	60.3	56.0	50.2	43.8	37.7	28.5	33.8	37.7		
⊙ 059	461	100.0	100.0	100.0	100.0	100.0	99.4	98.8	95.9	93.1	91.1	88.5	86.1	83.4	81.0	4.1	14.9	81.0		

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #:  
Complete: 9/13/2015

GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5311
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6892338.1m E516504.8m	ELEVATION: 727.4m

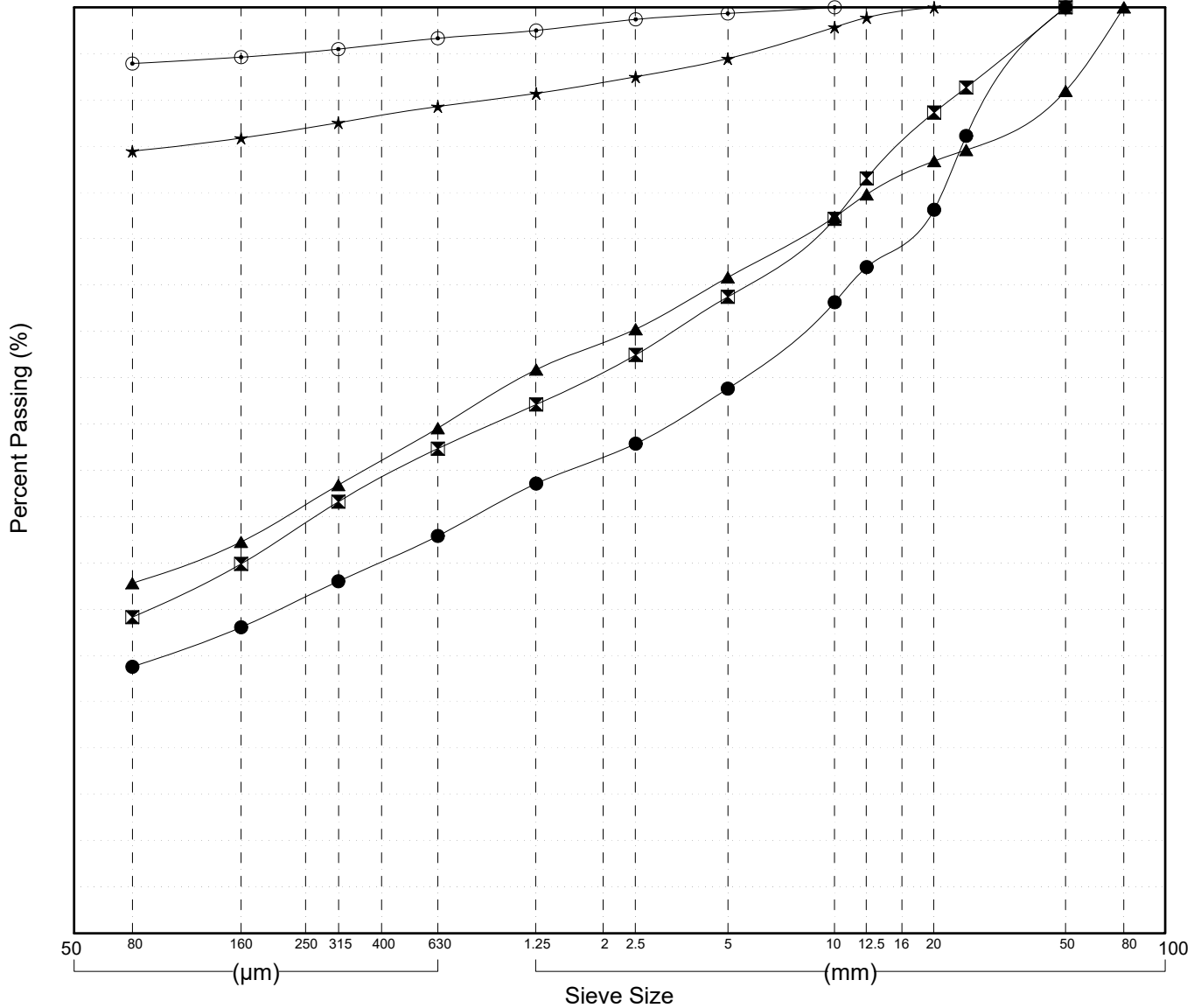
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H <sub>2</sub> O	LL	PL	PI	C <sub>c</sub>	C <sub>u</sub>
● 060	462	12.4 to 12.6	SILTY GRAVEL with SAND(GM)	11.0	NP	NP	NP		
▣ 061	463	13.9 to 14.1	SILTY SAND with GRAVEL(SM)	9.7	NP	NP	NP		
▲ 062	464	16.1 to 16.3	SILTY SAND with GRAVEL(SM)	9.6	NP	NP	NP		
★ 063	465	17.5 to 17.7	SILT with SAND(ML)	23.5	NP	NP	NP		
⊙ 064	466	17.8 to 18.0	SILT(ML)	26.7	NP	NP	NP		

Field #	Lab #	%PASSING	% Breakdown																	
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt	Clay
● 060	462	100.0	100.0	100.0	100.0	86.1	78.1	71.9	68.2	58.8	52.9	48.6	42.9	38.0	33.0	28.8	41.2	30.0	28.8	
▣ 061	463	100.0	100.0	100.0	91.3	88.6	81.5	77.2	68.7	62.5	57.1	52.3	46.6	39.9	34.1	31.3	34.6	34.1		
▲ 062	464	100.0	100.0	91.0	84.6	83.4	79.8	77.4	70.8	65.2	60.9	54.6	48.4	42.3	37.8	29.2	33.0	37.8		
★ 063	465	100.0	100.0	100.0	100.0	100.0	98.9	97.9	94.5	92.5	90.7	89.3	87.5	85.9	84.5	5.5	10.0	84.5		
⊙ 064	466	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.3	98.7	97.5	96.7	95.5	94.6	93.9	0.7	5.4	93.9		

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

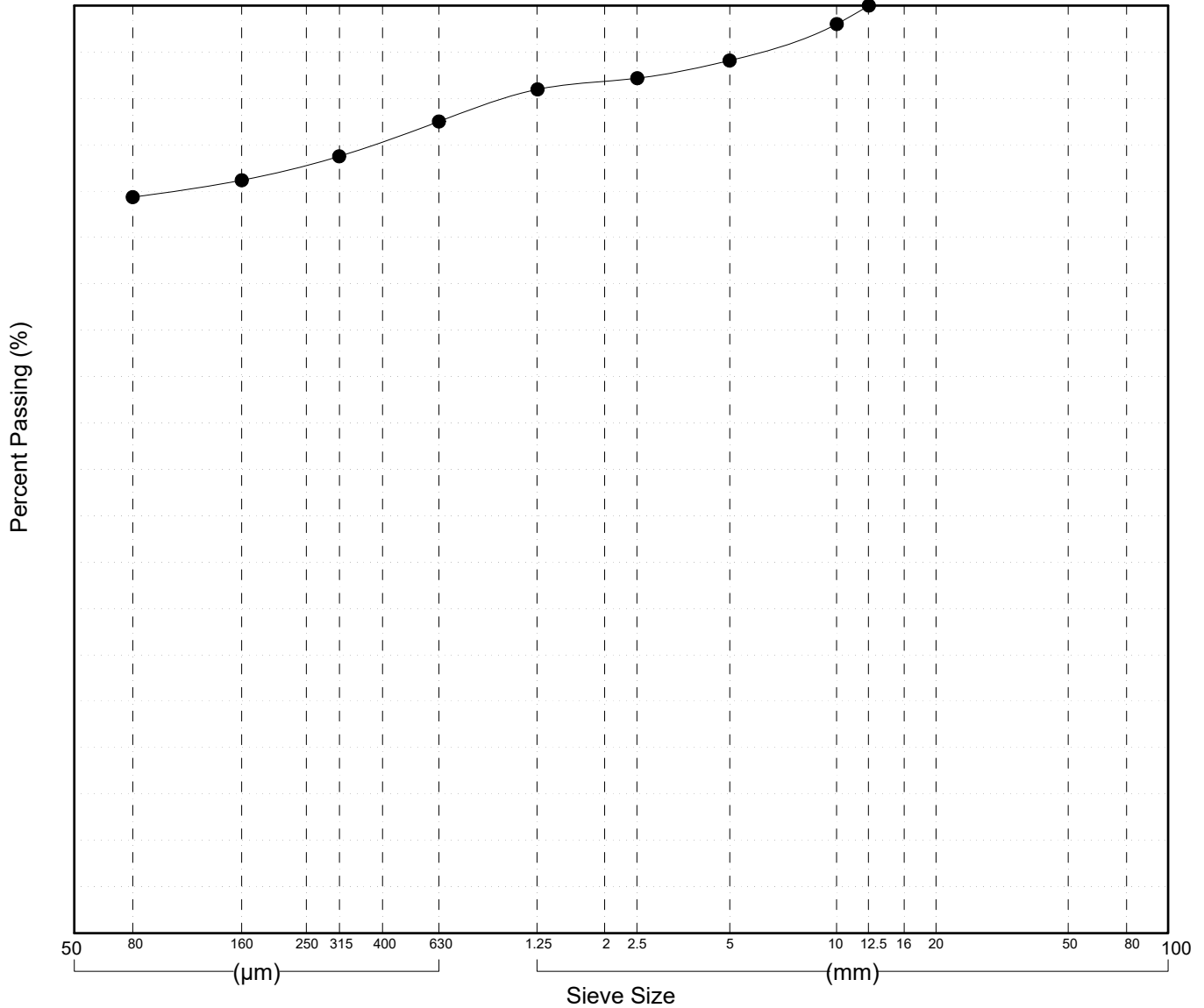
Pit #:  
Complete: 9/13/2015

GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5311
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6892338.1m E516504.8m	ELEVATION: 727.4m

Master Revised July 2013

Field #	Lab #	Depth	Classification										%H <sub>2</sub> O	LL	PL	PI	C <sub>c</sub>	C <sub>u</sub>		
● 065	467	19.2 to 19.4	SILT with SAND(ML)										25.4	NP	NP	NP				
Field #	Lab #		100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown			
● 065	467	% PASSING	100.0	100.0	100.0	100.0	100.0	100.0	98.0	94.1	92.2	91.0	87.5	83.7	81.2	79.3	Gravel	Sand	Silt	Clay
																	5.9	14.7	79.3	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #:  
Complete: 9/13/2015

GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5312
Boart Longyear	km 1810 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6870311.6m E531256m	ELEVATION: 715m

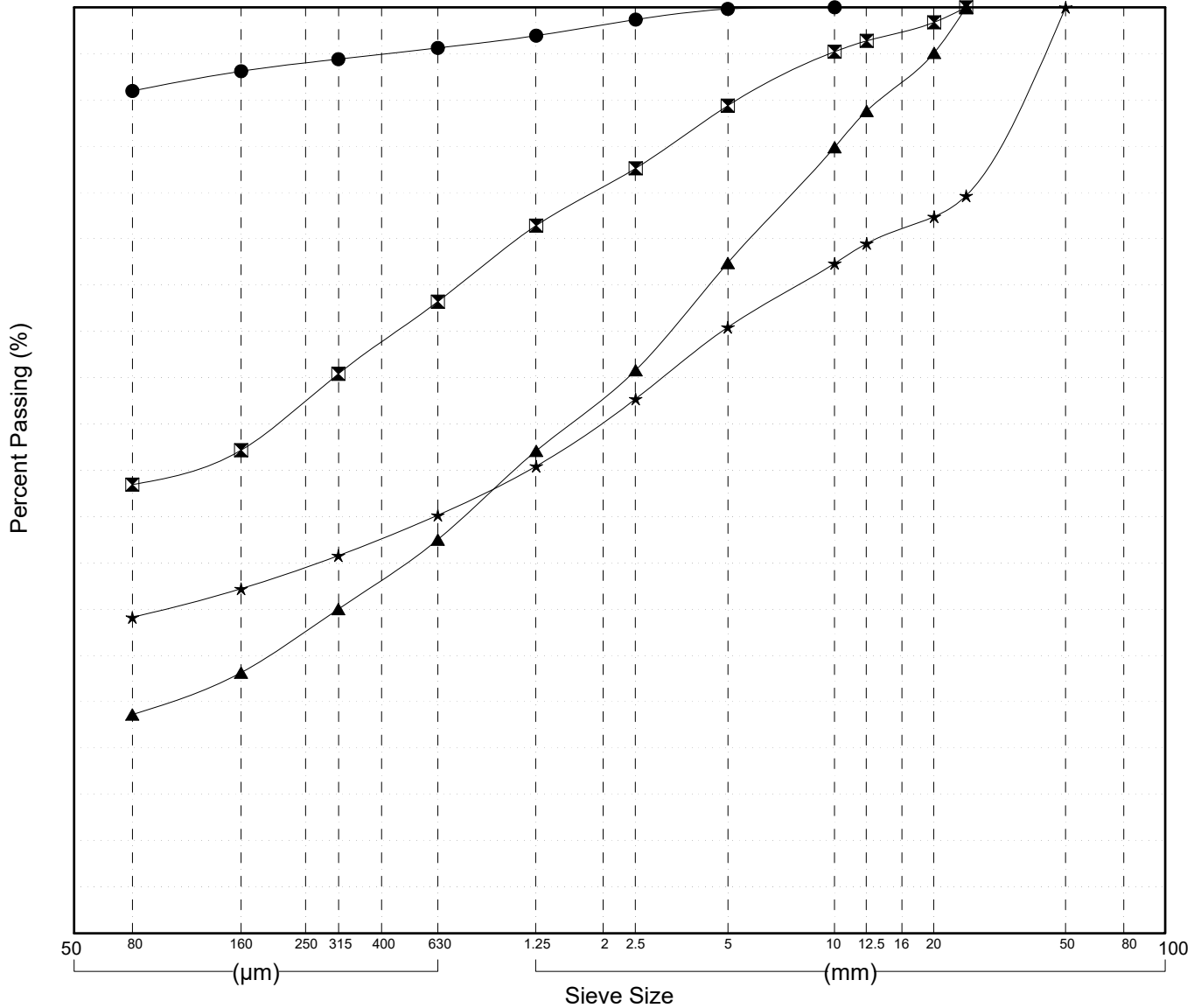
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H <sub>2</sub> O	LL	PL	PI	C <sub>c</sub>	C <sub>u</sub>
● 066	469	2.0 to 2.2	ORGANIC SILT(OL)	131.7	NP	NP	NP		
☒ 068	471	5.2 to 5.4	SILTY SAND(SM)	13.2	NP	NP	NP		
▲ 069	472	6.9 to 7.2	SILTY SAND with GRAVEL(SM)	15.9	NP	NP	NP		
★ 070	473	7.9 to 8.1	SILTY GRAVEL with SAND(GM)	7.6	NP	NP	NP		

Field #	Lab #	%PASSING														% Breakdown			
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt
● 066	469	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	98.7	96.9	95.6	94.4	93.1	91.0	0.2	8.9	91.0	
☒ 068	471	100.0	100.0	100.0	100.0	98.4	96.4	95.2	89.4	82.6	76.4	68.2	60.4	52.2	48.5	10.6	40.9	48.5	
▲ 069	472	100.0	100.0	100.0	100.0	95.1	88.8	84.9	72.4	60.8	52.1	42.5	35.0	28.2	23.6	27.6	48.8	23.6	
★ 070	473	100.0	100.0	100.0	79.6	77.4	74.5	72.3	65.5	57.7	50.4	45.1	40.8	37.2	34.1	34.5	31.3	34.1	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #:  
Complete: 9/13/2015

GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 868-5317
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6892310.9m E516526.5m	ELEVATION: 750.9m

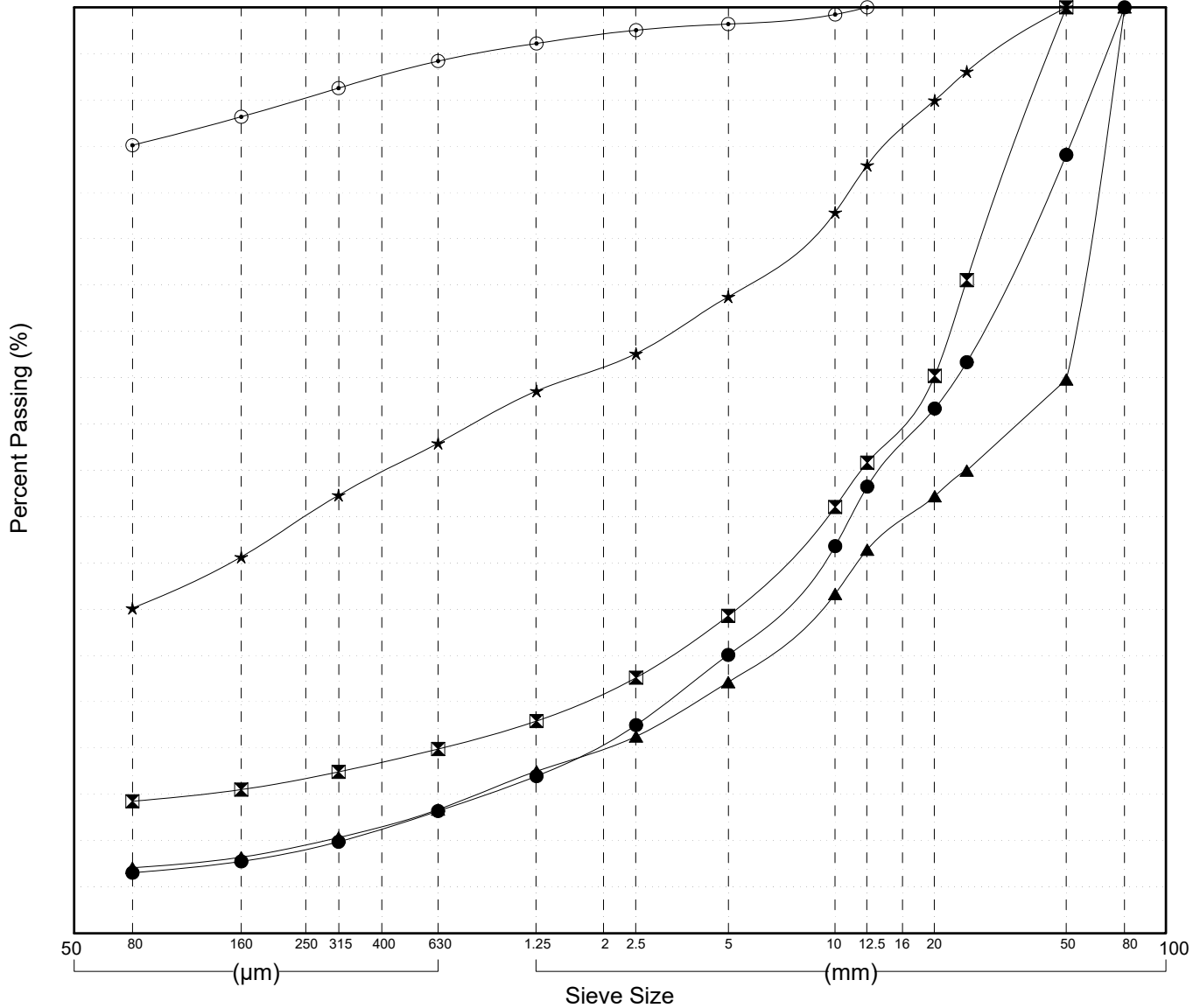
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H <sub>2</sub> O	LL	PL	PI	C <sub>c</sub>	C <sub>u</sub>
● 106	510	0.8 to 1.0	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	3.5	NP	NP	NP	3.0	71.8
☒ 107	511	2.0 to 2.2	SILTY GRAVEL with SAND(GM)	4.1	NP	NP	NP		
▲ 108	512	3.6 to 3.8	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	4.2	NP	NP	NP	2.5	177.0
★ 110	514	8.9 to 9.1	SILTY SAND with GRAVEL(SM)	62.4	NP	NP	NP		
⊙ 111	515	10.1 to 10.3	SILT(ML)	46.3	NP	NP	NP		

Field #	Lab #	%PASSING	Sieve Size (mm)													% Breakdown				
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt	Clay
● 106	510	100.0	100.0	100.0	84.1	61.7	56.7	48.2	41.8	30.1	22.5	17.0	13.2	9.9	7.8	6.5	69.9	23.5	6.5	
☒ 107	511	100.0	100.0	100.0	70.5	60.2	50.8	46.0	34.3	27.6	22.9	19.9	17.4	15.5	14.3	65.7	20.0	14.3		
▲ 108	512	100.0	100.0	59.8	50.0	47.2	41.4	36.6	27.1	21.3	17.5	13.4	10.3	8.2	7.1	72.9	20.0	7.1		
★ 110	514	100.0	100.0	100.0	93.1	90.0	82.9	77.9	68.7	62.6	58.6	52.9	47.3	40.6	35.1	31.3	33.6	35.1		
⊙ 111	515	100.0	100.0	100.0	100.0	100.0	100.0	99.2	98.2	97.5	96.1	94.2	91.3	88.2	85.1	1.8	13.1	85.1		

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #:  
Complete: 9/16/2015

GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 868-5317
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6892310.9m E516526.5m	ELEVATION: 750.9m

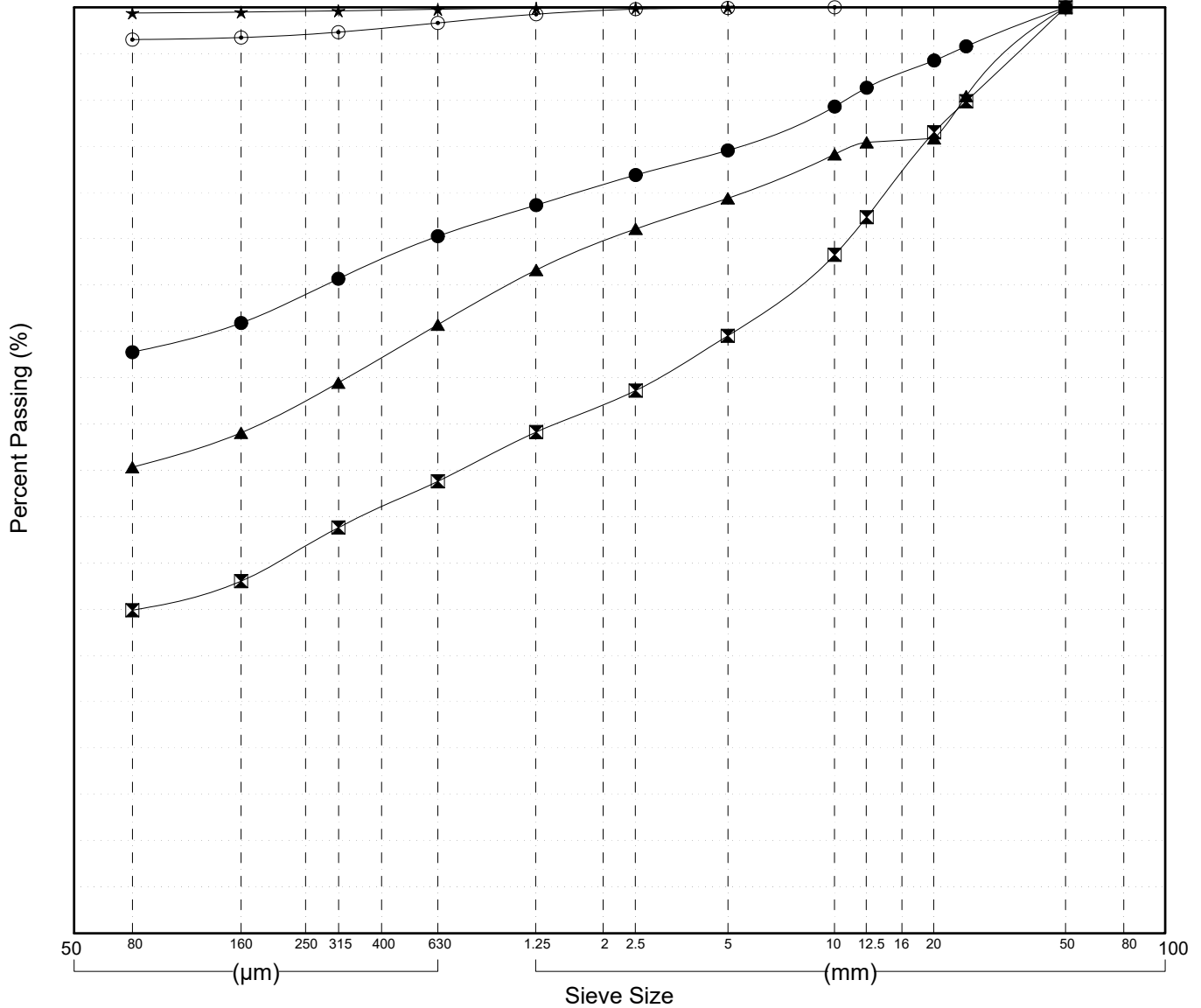
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H <sub>2</sub> O	LL	PL	PI	C <sub>c</sub>	C <sub>u</sub>
● 112	516	11.2 to 11.4	SANDY SILT with GRAVEL(ML)	28.8	NP	NP	NP		
☒ 113	517	13.2 to 13.4	SILTY GRAVEL with SAND(GM)	10.5	NP	NP	NP		
▲ 114	518	15.0 to 15.2	SANDY SILT with GRAVEL(ML)	12.8	NP	NP	NP		
★ 115	519	15.8 to 16.0	SILT(ML)	28.7	NP	NP	NP		
⊙ 116	520	17.4 to 17.6	SILT(ML)	29.5	NP	NP	NP		

Field #	Lab #	%PASSING														% Breakdown			
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt
● 112	516	100.0	100.0	100.0	100.0	95.8	94.3	91.3	89.3	84.5	81.9	78.6	75.3	70.7	65.9	62.8	15.5	21.8	62.8
☒ 113	517	100.0	100.0	100.0	89.9	86.5	77.3	73.3	64.5	58.6	54.1	48.8	43.8	38.0	34.9	35.5	29.6	34.9	
▲ 114	518	100.0	100.0	100.0	90.4	85.8	85.4	84.1	79.4	76.1	71.6	65.7	59.5	54.1	50.3	20.6	29.0	50.3	
★ 115	519	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.9	99.8	99.6	99.5	99.4	0.0	0.6	99.4	
⊙ 116	520	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.3	98.3	97.3	96.7	96.5	0.1	3.4	96.5	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse

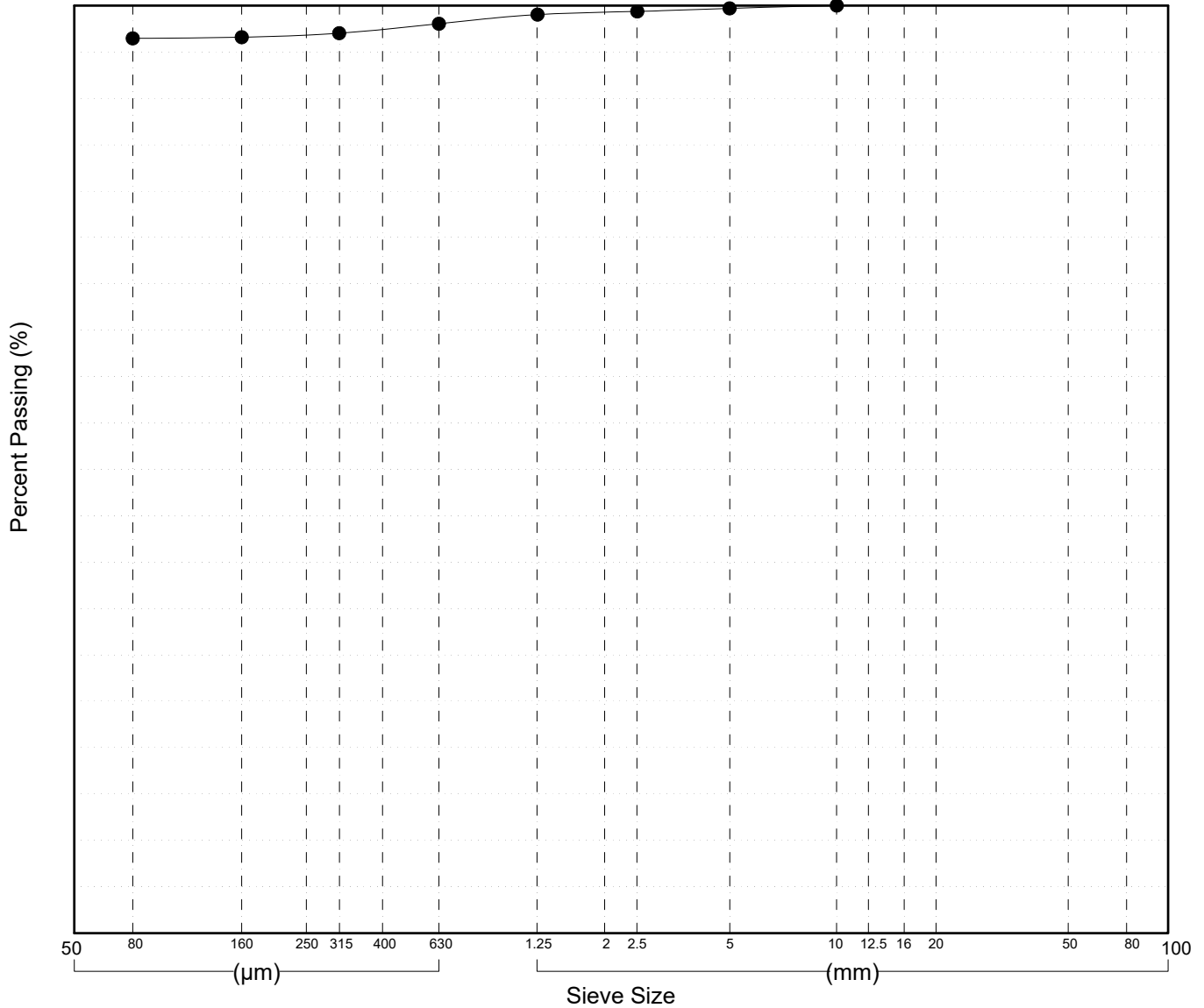


GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 868-5317
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates:Z07V N6892310.9m E516526.5m	ELEVATION: 750.9m

Master Revised July 2013

Field #	Lab #	Depth	Classification											%H <sub>2</sub> O	LL	PL	PI	Cc	Cu			
● 117	521	18.9 to 19.2	SILT(ML)											32.2	NP	NP	NP					
Field #	Lab #		100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown					
● 117	521	% PASSING	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.4	99.0	98.0	97.0	96.6	96.5	0.3	3.2	96.5			

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #:  
Complete: 9/16/2015

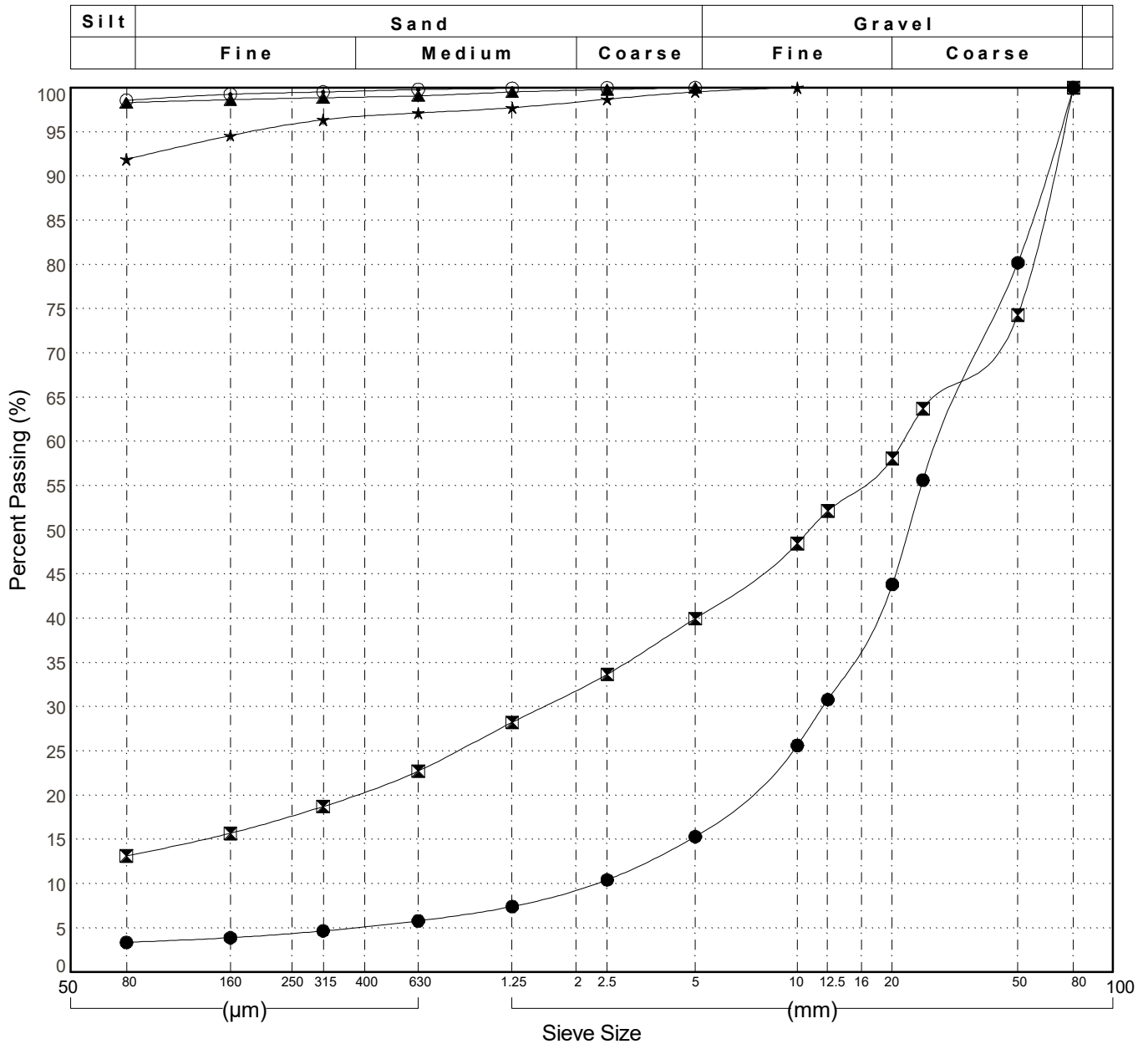
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5307
Boart Longyear	km 1897 LHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6937697.6m E501919.2m	ELEVATION: 783.2m

Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 001	402	0.6 to 0.8	WELL-GRADED GRAVEL(GW)	6.6	NP	NP	NP	2.3	12.5	2.257
☒ 002	403	1.2 to 1.4	SILTY GRAVEL with SAND(GM)	10.2	NP	NP	NP			
▲ 009	410	8.0 to 8.2	ORGANIC SILT(OL)	49.2	NP	NP	NP			
★ 010	411	9.0 to 9.4	ORGANIC SILT(OL)	50.1	NP	NP	NP			
◎ 013	414	14.4 to 14.6	ORGANIC SILT(OL)	44.6	NP	NP	NP			

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown			
		% PASSING														Gravel	Sand	Silt	Clay
● 001	402	100.0	100.0	80.2	55.6	43.8	30.8	25.6	15.3	10.4	7.4	5.8	4.7	3.9	3.4	84.7	11.9	3.4	
☒ 002	403	100.0	100.0	74.3	63.7	58.1	52.1	48.5	40.0	33.7	28.3	22.7	18.7	15.7	13.2	60.0	26.8	13.2	
▲ 009	410	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.5	99.1	98.9	98.6	98.3	0.0	1.7	98.3	
★ 010	411	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.5	98.7	97.7	97.1	96.4	94.6	91.9	0.5	7.6	91.9	
◎ 013	414	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.5	99.2	98.6	0.0	1.4	98.6	



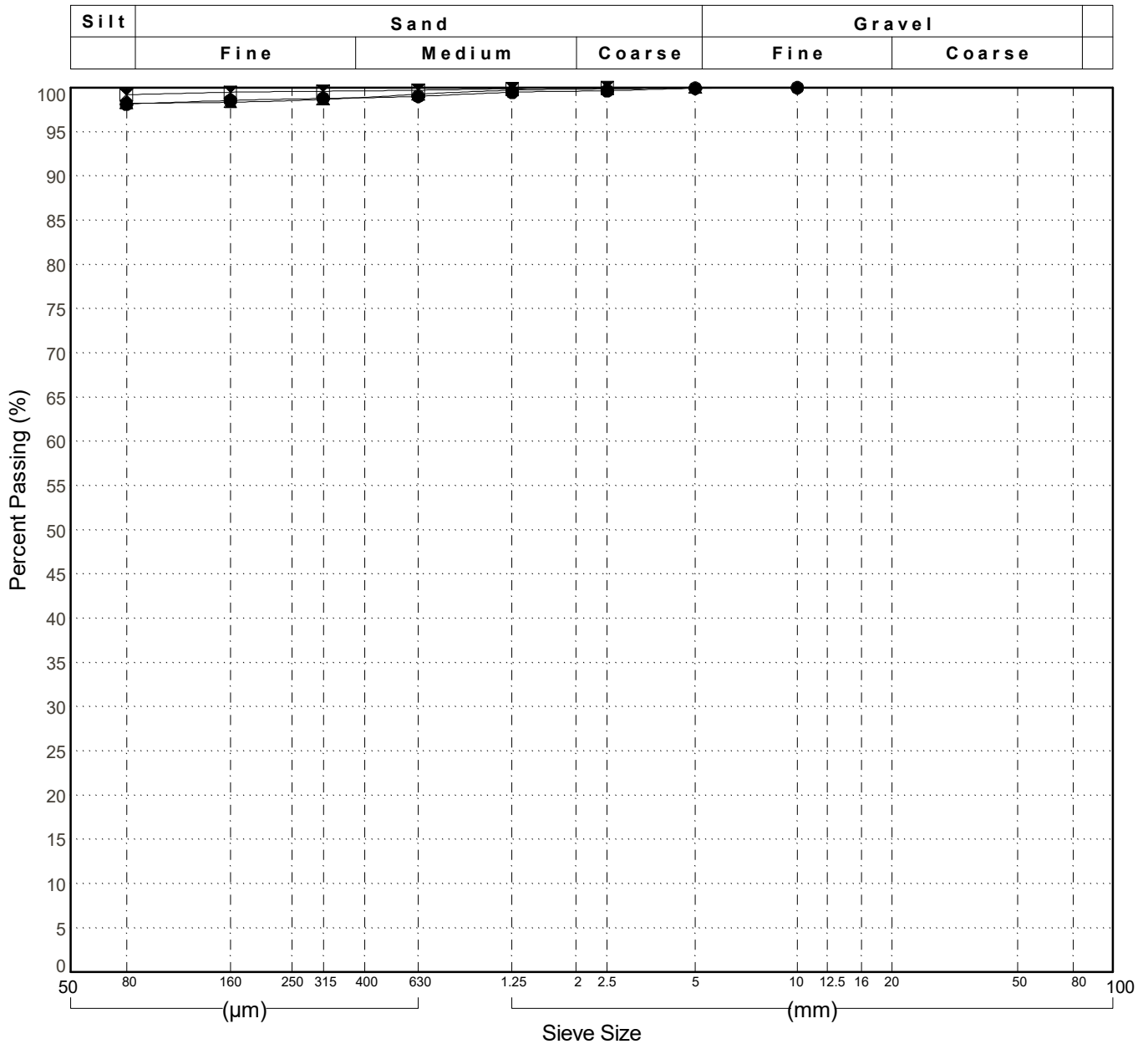
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5307
Boart Longyear	km 1897 LHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6937697.6m E501919.2m	ELEVATION: 783.2m

Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 014	415	15.2 to 15.4	SILT (ML)	46.7	NP	NP	NP			
☒ 014A	416	17.0 to 17.2	SILT (ML)	46.4	NP	NP	NP			
▲ 015	417	18.8 to 19.0	SILT (ML)	39.7	NP	NP	NP			

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown			
		% PASSING														Gravel	Sand	Silt	Clay
● 014	415	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.5	99.0	98.8	98.6	98.1	0.1	1.8	98.1	
☒ 014A	416	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.6	99.5	99.2	0.0	0.8	99.2	
▲ 015	417	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.2	98.7	98.4	98.2	0.0	1.8	98.2	



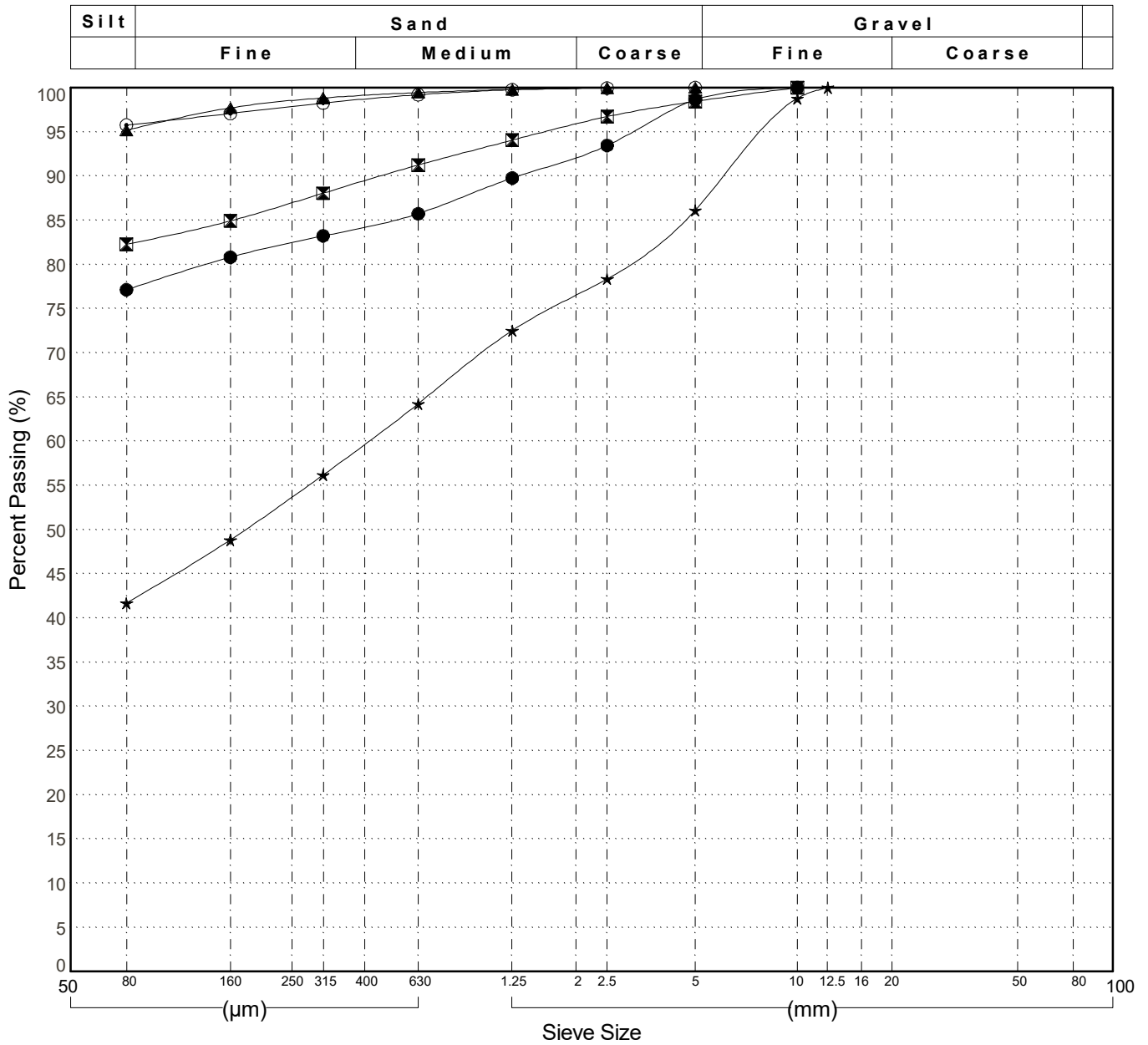
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5308
Boart Longyear	km 1894.5 LHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6935938.7m E501315.2m	ELEVATION: 782.8m

Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 018	419	1.9 to 2.1	ORGANIC SILT with SAND(OL)	99.6	NP	NP	NP			
☒ 019	420	3.8 to 4.0	ORGANIC SILT with SAND(OL)	607.3	NP	NP	NP			
▲ 020	421	5.0 to 5.4	ORGANIC SILT(OL)	70.6	NP	NP	NP			
★ 021	422	7.0 to 7.4	SILTY SAND(SM)	343.0	NP	NP	NP			
⊙ 022	423	8.5 to 8.8	ORGANIC SILT(OL)	37.8	NP	NP	NP			

Field #	Lab #	% PASSING	Sieve Size (mm)											% Breakdown						
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt	Clay
● 018	419	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.7	93.5	89.8	85.7	83.2	80.8	77.1	1.3	21.5	77.1	
☒ 019	420	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.4	96.7	94.1	91.2	88.1	84.9	82.3	1.6	16.2	82.3		
▲ 020	421	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.4	98.8	97.7	95.2	0.0	4.8	95.2		
★ 021	422	100.0	100.0	100.0	100.0	100.0	100.0	98.8	86.1	78.4	72.5	64.2	56.2	48.8	41.7	13.9	44.4	41.7		
⊙ 022	423	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.2	98.3	97.1	95.8	0.0	4.2	95.8		



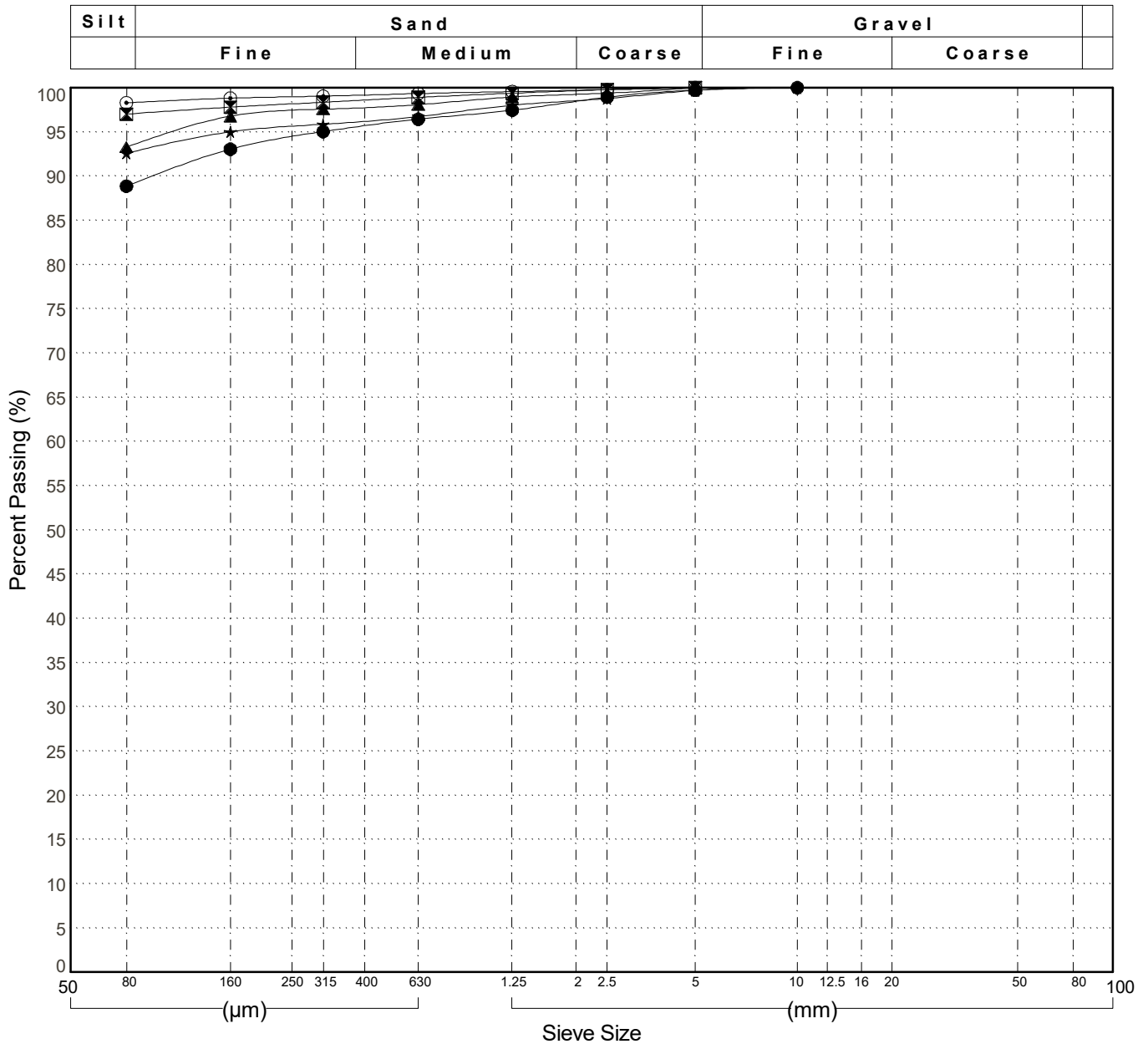
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5308
Boart Longyear	km 1894.5 LHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6935938.7m E501315.2m	ELEVATION: 782.8m

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>
● 023	424	9.4 to 9.7	SILT (ML)	45.1	NP	NP	NP			
☒ 024	425	11.6 to 11.8	SILT (ML)	47.1	NP	NP	NP			
▲ 024A	426	13.0 to 13.2	SILT (ML)	46.1	NP	NP	NP			
★ 025	427	14.2 to 14.4	SILT (ML)	21.1	NP	NP	NP			
⊙ 026	428	16.0 to 16.3	SILT (ML)	29.4	NP	NP	NP			

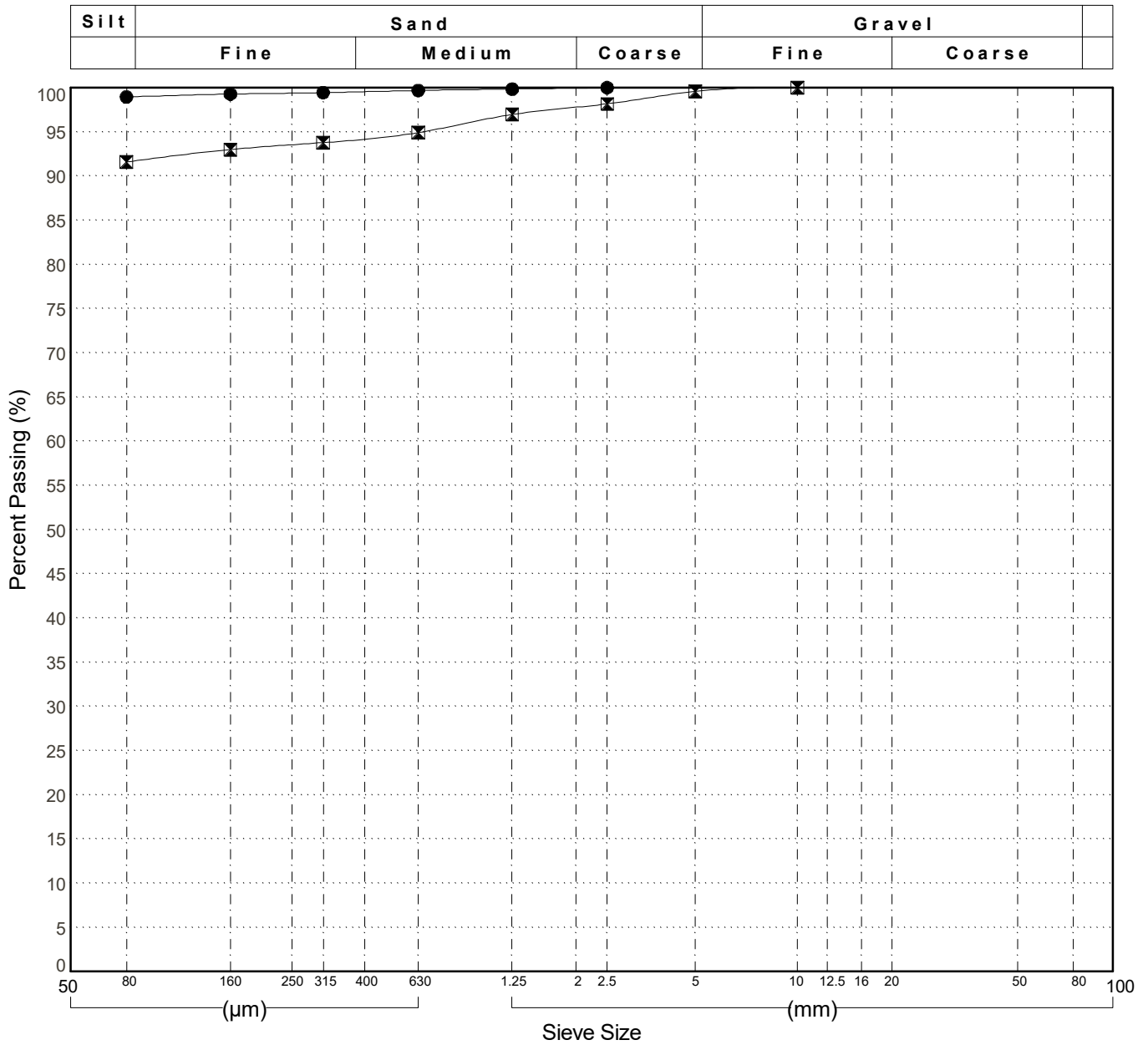
Field#	Lab#	% PASSING																	% Breakdown			
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Silt	Clay		
● 023	424	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	98.9	97.4	96.4	95.0	93.0	88.9	0.3	10.9	88.9			
☒ 024	425	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.4	98.9	98.3	97.8	97.0	0.0	3.0	97.0			
▲ 024A	426	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.4	98.9	98.1	97.6	96.8	93.3	0.0	6.7	93.3				
★ 025	427	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	98.8	98.0	96.7	95.9	95.0	92.6	0.3	7.1	92.6				
⊙ 026	428	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.6	99.3	99.0	98.8	98.3	0.0	1.7	98.3				



GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5308
Boart Longyear	km 1894.5 LHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6935938.7m E501315.2m	ELEVATION: 782.8m

Master Revised June 2017

Field #	Lab #	Depth	Classification													%H2O	LL	PL	PI	Cc	Cu	D10
● 027	429	17.8 to 18.1	SILT (ML)													32.5	NP	NP	NP			
☒ 028	430	19.2 to 19.4	SILT (ML)													32.0	NP	NP	NP			
Field #	Lab #	% PASSING	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown					
			Gravel	Sand	Silt	Clay																
● 027	429	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.7	99.4	99.3	98.9	0.0	1.1	98.9			
☒ 028	430	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	98.2	97.0	94.9	93.8	93.0	91.6	0.4	8.0	91.6				



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #  
Complete: 9/11/2015 7:00:00 PM

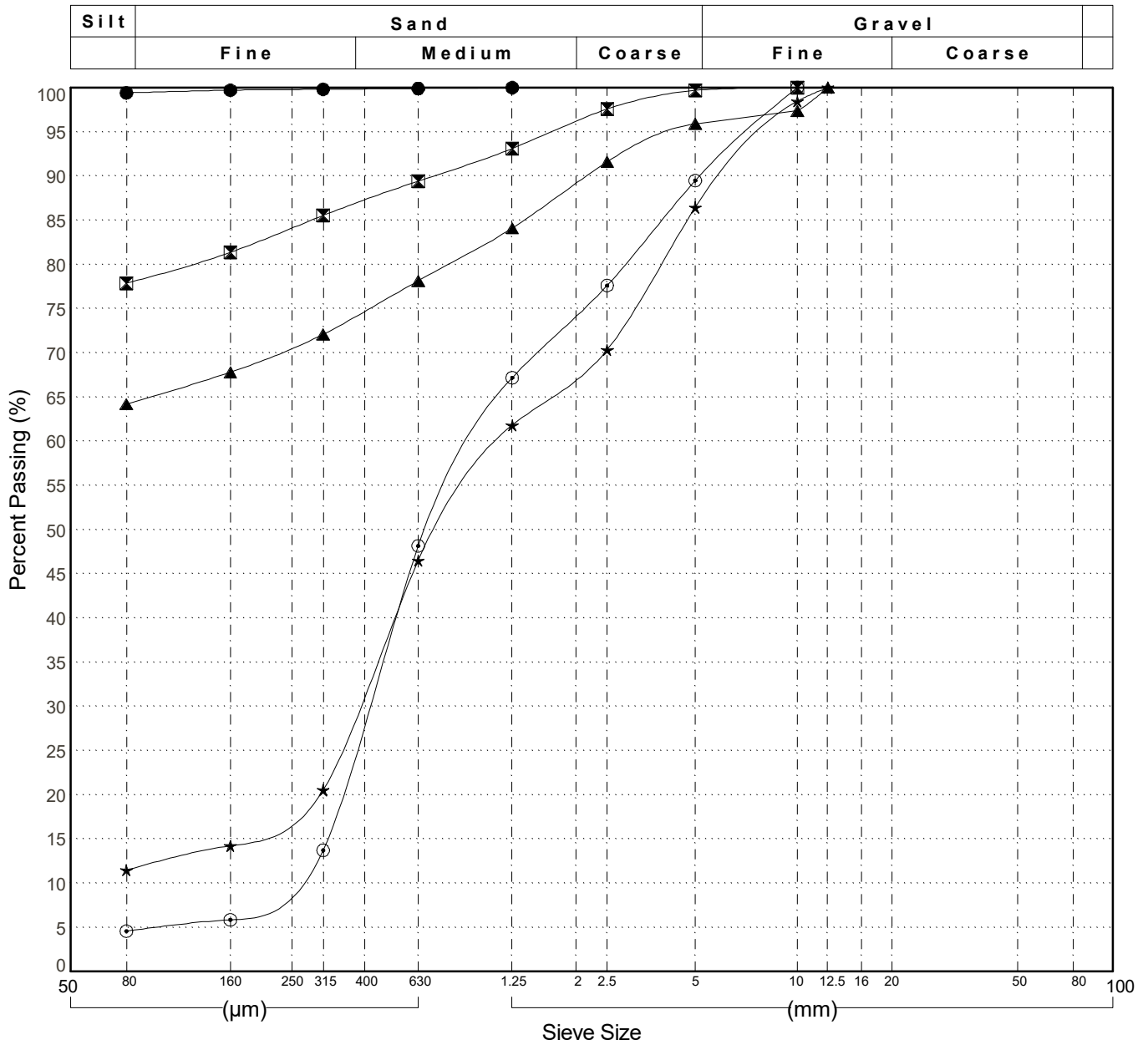
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5309
Boart Longyear	km 1886 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6931013.6m E505666.2m	ELEVATION: 782.4m

Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 030	432	2.5 to 2.7	SILT (ML)	63.3	NP	NP	NP			
☒ 031	433	3.7 to 3.9	SILT with SAND (ML)	98.2	NP	NP	NP			
▲ 032	434	5.2 to 5.4	SANDY SILT (ML)	75.2	NP	NP	NP			
★ 033	435	6.8 to 7.0	WELL-GRADED SAND with SILT (SW-SM)	11.6	NP	NP	NP	2.9	23.1	
⊙ 034	436	8.1 to 8.3	POORLY GRADED SAND (SP)	17.2	NP	NP	NP	0.9	4.2	0.229

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown			
		% PASSING														Gravel	Sand	Silt	Clay
● 030	432	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.7	99.4	0.0	0.6	99.4	
☒ 031	433	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	97.6	93.1	89.4	85.5	81.4	77.9	0.3	21.8	77.9	
▲ 032	434	100.0	100.0	100.0	100.0	100.0	100.0	97.4	95.9	91.6	84.1	78.1	72.1	67.8	64.2	4.1	31.7	64.2	
★ 033	435	100.0	100.0	100.0	100.0	100.0	100.0	98.5	86.4	70.3	61.8	46.5	20.5	14.2	11.5	13.6	75.0	11.5	
⊙ 034	436	100.0	100.0	100.0	100.0	100.0	100.0	100.0	89.5	77.6	67.2	48.2	13.7	5.9	4.6	10.5	84.9	4.6	



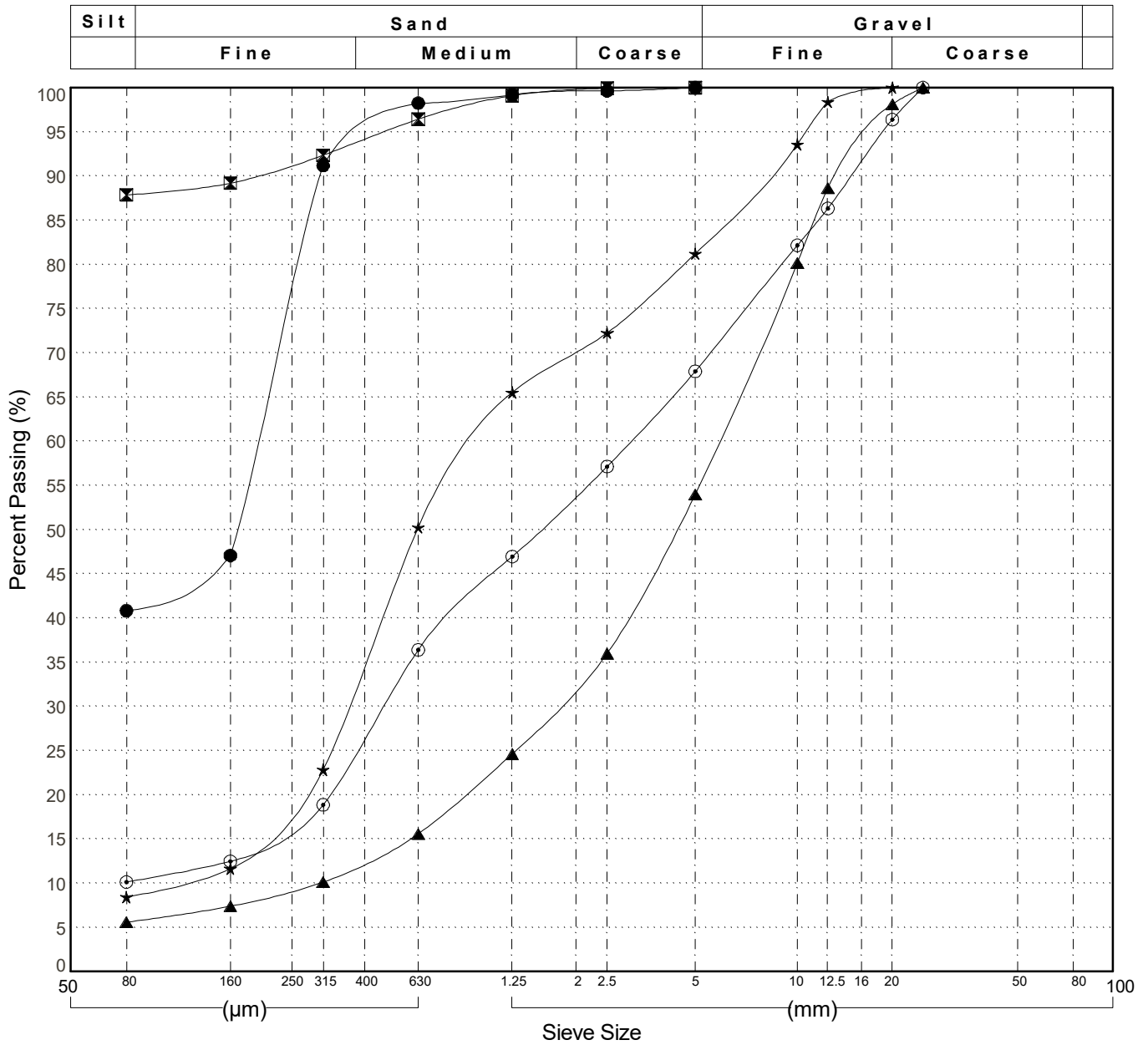
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5309
Boart Longyear	km 1886 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6931013.6m E505666.2m	ELEVATION: 782.4m

Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 035	437	9.8 to 10.1	SILTY SAND(SM)	22.5	NP	NP	NP			
☒ 036	438	10.1 to 10.2	SILT(ML)	26.7	NP	NP	NP			
▲ 037	439	11.4 to 11.8	WELL-GRADED SAND with SILT and GRAVEL(SW-SM)	12.1	NP	NP	NP	1.7	18.4	0.306
★ 038	440	12.9 to 13.2	WELL-GRADED SAND with SILT and GRAVEL(SW-SM)	15.2	NP	NP	NP	1.3	9.0	0.109
⊙ 039	441	14.2 to 14.4	WELL-GRADED SAND with SILT and GRAVEL(SW-SM)	7.8	NP	NP	NP	1.1	41.3	

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown			
		% PASSING														Gravel	Sand	Silt	Clay
● 035	437	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	99.2	98.3	91.2	47.1	40.8	0.0	59.2	40.8	
☒ 036	438	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.1	96.4	92.4	89.2	87.9	0.0	12.1	87.9	
▲ 037	439	100.0	100.0	100.0	100.0	98.1	88.6	80.2	54.0	36.0	24.6	15.6	10.1	7.4	5.6	46.0	48.4	5.6	
★ 038	440	100.0	100.0	100.0	100.0	100.0	98.4	93.6	81.2	72.2	65.5	50.3	22.8	11.6	8.4	18.8	72.8	8.4	
⊙ 039	441	100.0	100.0	100.0	100.0	96.4	86.3	82.2	67.9	57.1	46.9	36.4	18.9	12.5	10.1	32.1	57.8	10.1	



GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5309
Boart Longyear	km 1886 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6931013.6m E505666.2m	ELEVATION: 782.4m

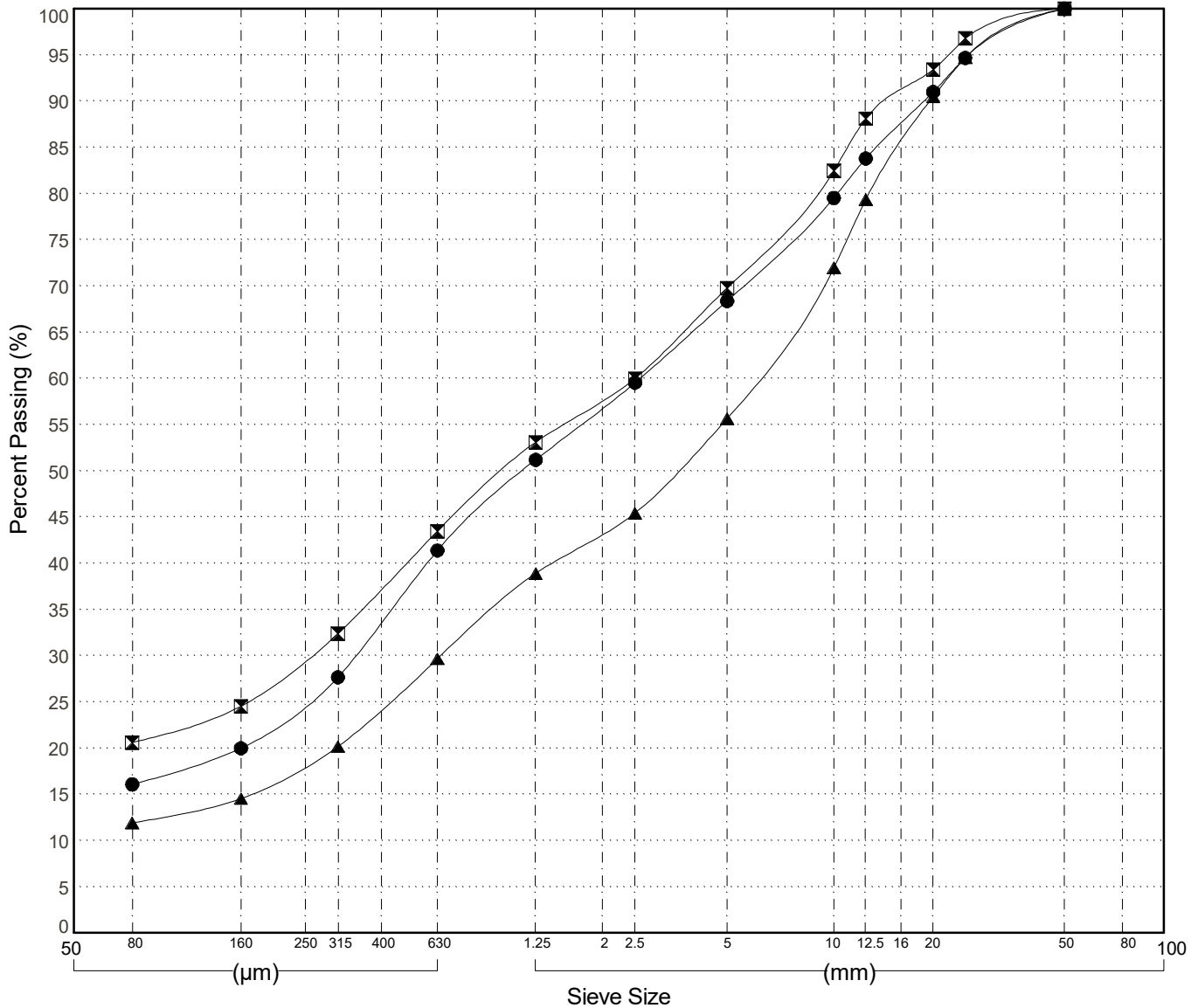
Master Revised June 2017

Field#	Lab#	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 040	442	16.1 to 16.2	SILTY SAND with GRAVEL(SM)	8.1	NP	NP	NP			
☒ 041	443	17.3 to 17.5	SILTY SAND with GRAVEL(SM)	8.4	NP	NP	NP			
▲ 042	444	18.7 to 18.9	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	6.3	NP	NP	NP	1.7	135.0	

Field#	Lab#	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	%Breakdown				
																Gravel	Sand	Silt	Clay	
●	040	442	100.0	100.0	100.0	94.7	91.0	83.8	79.5	68.4	59.5	51.2	41.4	27.7	20.0	16.1	31.6	52.3	16.1	
☒	041	443	100.0	100.0	100.0	96.8	93.4	88.1	82.5	69.8	60.0	53.1	43.5	32.4	24.5	20.6	30.2	49.2	20.6	
▲	042	444	100.0	100.0	100.0	94.7	90.5	79.3	72.0	55.6	45.4	38.9	29.7	20.2	14.5	11.9	44.4	43.7	11.9	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



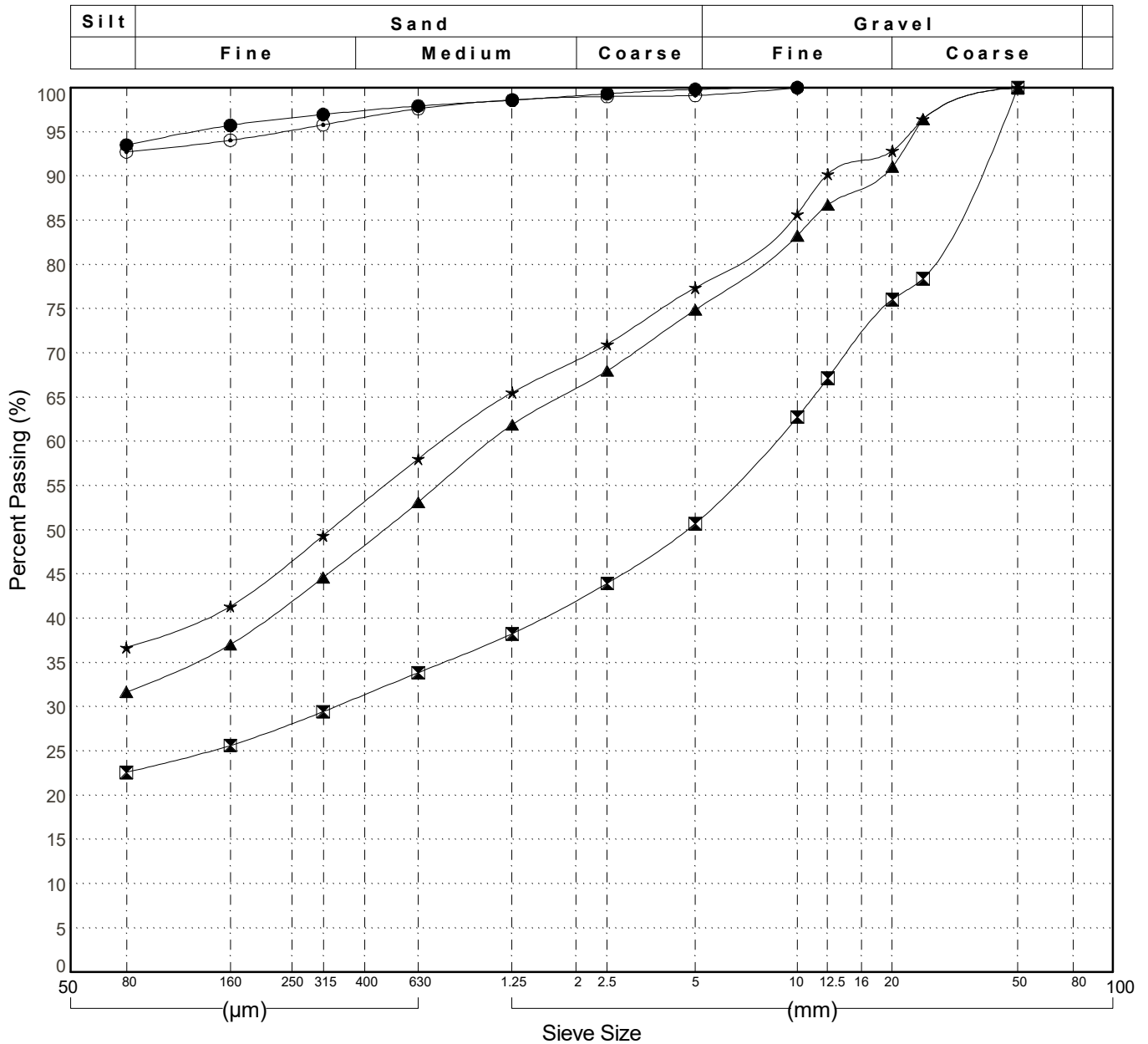
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5310
Boart Longyear	km 1860 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6910365.7m E509064.7m	ELEVATION: 653.7m

Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 043	445	1.0 to 1.2	ORGANIC SILT(OL)	24.5	NP	NP	NP			
☒ 044	446	1.9 to 2.1	SILTY GRAVEL with SAND(GM)	8.7	NP	NP	NP			
▲ 045	447	4.4 to 4.6	SILTY SAND with GRAVEL(SM)	9.1	NP	NP	NP			
★ 046	448	5.5 to 5.7	SILTY SAND with GRAVEL(SM)	8.6	NP	NP	NP			
⊙ 047	449	6.2 to 6.4	SILT(ML)	24.5	NP	NP	NP			

Field #	Lab #	% PASSING	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown			
																	Gravel	Sand	Silt	Clay
●	043	445	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.3	98.6	97.9	97.0	95.7	93.5	0.2	6.3	93.5	
☒	044	446	100.0	100.0	100.0	78.4	76.1	67.2	62.8	50.7	44.0	38.3	33.9	29.5	25.6	22.6	49.3	28.1	22.6	
▲	045	447	100.0	100.0	100.0	96.4	91.1	86.7	83.3	74.9	68.0	61.9	53.1	44.6	37.0	31.7	25.1	43.2	31.7	
★	046	448	100.0	100.0	100.0	96.4	92.9	90.2	85.7	77.4	71.0	65.5	58.0	49.4	41.3	36.7	22.6	40.7	36.7	
⊙	047	449	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.1	99.0	98.6	97.6	95.8	94.0	92.7	0.9	6.4	92.7	



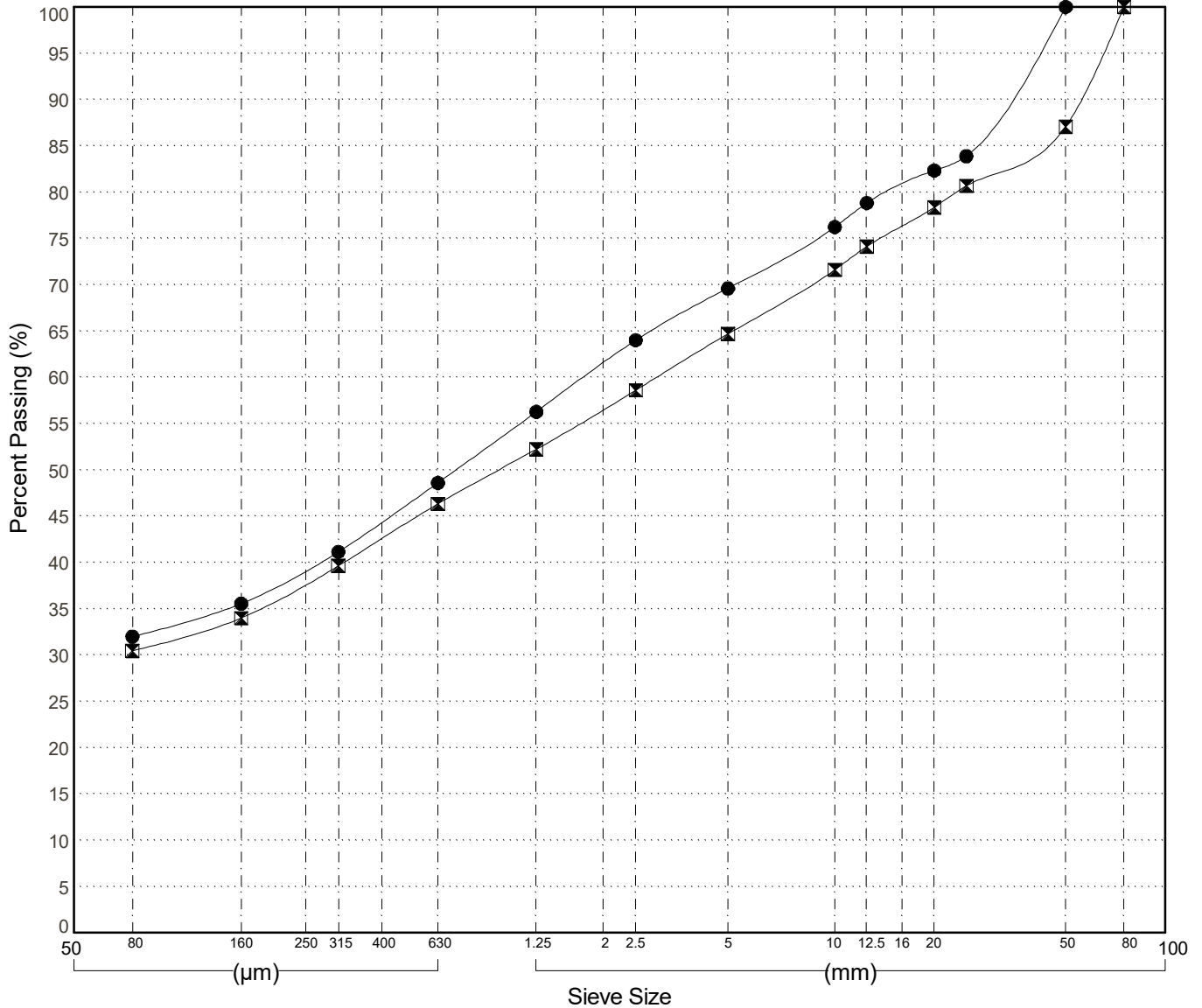


GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5310
Boart Longyear	km 1860 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6910365.7m E509064.7m	ELEVATION: 653.7m

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>											
● 053	455	16.2 to 16.5	SILTY SAND with GRAVEL(SM)	4.7	NP	NP	NP														
☒ 054	456	17.3 to 17.6	SILTY GRAVEL with SAND(GM)	8.0	NP	NP	NP														
Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown					
																	Gravel	Sand	Silt	Clay	
● 053	455	100.0	100.0	100.0	83.9	82.3	78.8	76.2	69.6	64.0	56.3	48.6	41.1	35.6	32.0		30.4	37.6		32.0	
☒ 054	456	100.0	100.0	87.1	80.7	78.4	74.1	71.6	64.7	58.6	52.2	46.3	39.6	34.0	30.5		35.3	34.2		30.5	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #  
Complete: 9/12/2015

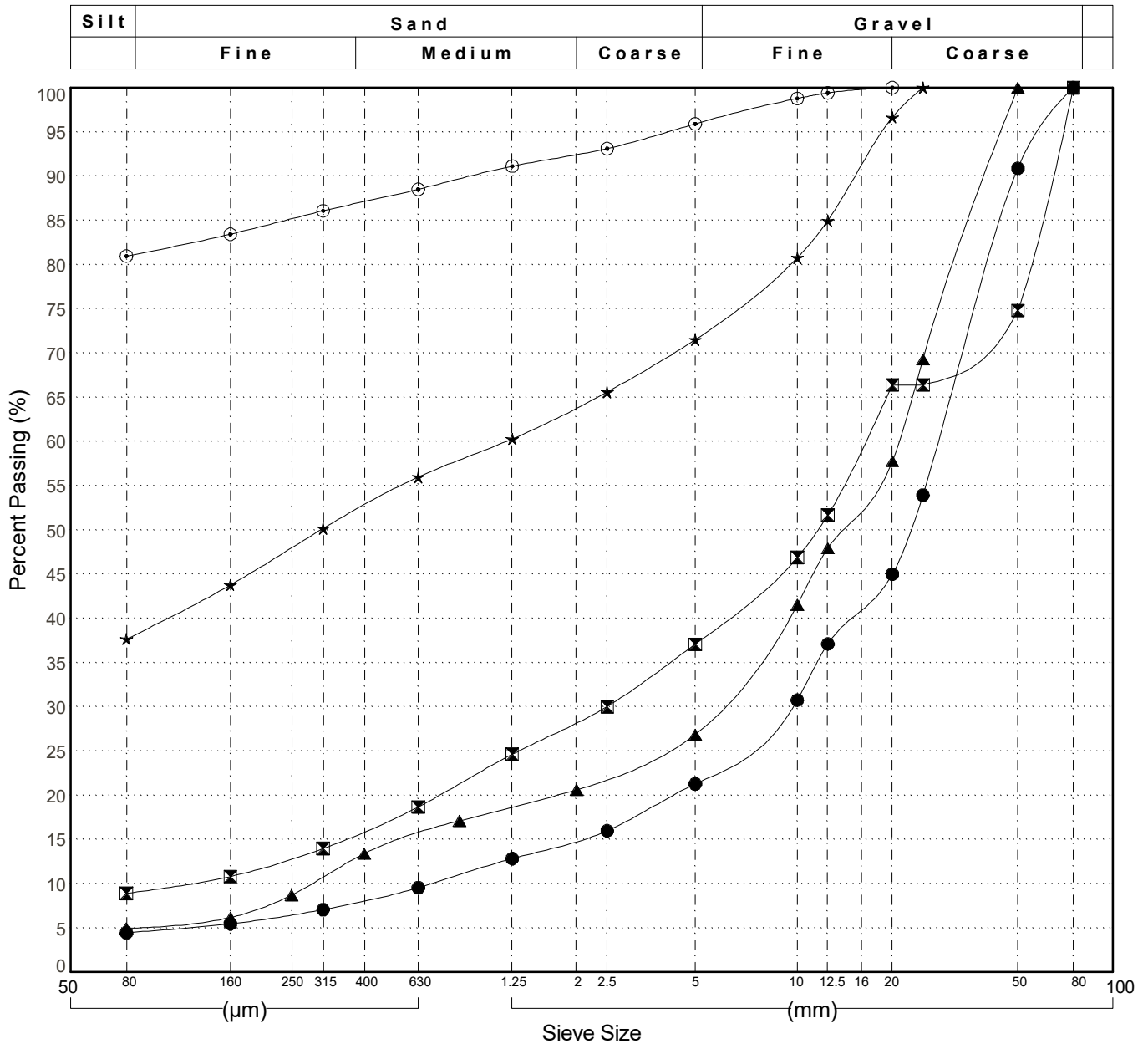
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5311
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6892338.1m E516504.8m	ELEVATION: 727.4m

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>
● 055	457	0.6 to 0.8	POORLY GRADED GRAVEL with SAND(GP)	2.9	NP	NP	NP	4.6	40.5	0.692
☒ 056	458	1.6 to 1.8	POORLY GRADED GRAVEL with SILT and SAND(GP-GM)	2.1	NP	NP	NP	3.3	141.3	0.115
▲ 057	459	2.6 to 2.8	POORLY GRADED GRAVEL with SAND(GP)	2.8	NP	NP	NP	5.1	72.2	0.289
★ 058	460	10.4 to 10.6	SILTY SAND with GRAVEL(SM)	32.7	NP	NP	NP			
◎ 059	461	11.8 to 12.0	SILT with SAND(ML)	36.0	NP	NP	NP			

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown			
		% PASSING														Gravel	Sand	Silt	Clay
● 055	457	100.0	100.0	90.9	53.9	45.0	37.1	30.8	21.3	16.0	12.8	9.6	7.1	5.5	4.5	78.7	16.8	4.5	
☒ 056	458	100.0	100.0	74.8	66.4	66.4	51.7	46.9	37.1	30.0	24.6	18.7	14.0	10.8	8.9	62.9	28.2	8.9	
▲ 057	459	100.0	100.0	100.0	69.3	57.8	47.9	41.5	26.9	22.2	18.7	15.5	10.8	6.2	5.0	73.1	21.9	5.0	
★ 058	460	100.0	100.0	100.0	100.0	96.6	85.0	80.8	71.5	65.6	60.3	56.0	50.2	43.8	37.7	28.5	33.8	37.7	
◎ 059	461	100.0	100.0	100.0	100.0	100.0	99.4	98.8	95.9	93.1	91.1	88.5	86.1	83.4	81.0	4.1	14.9	81.0	



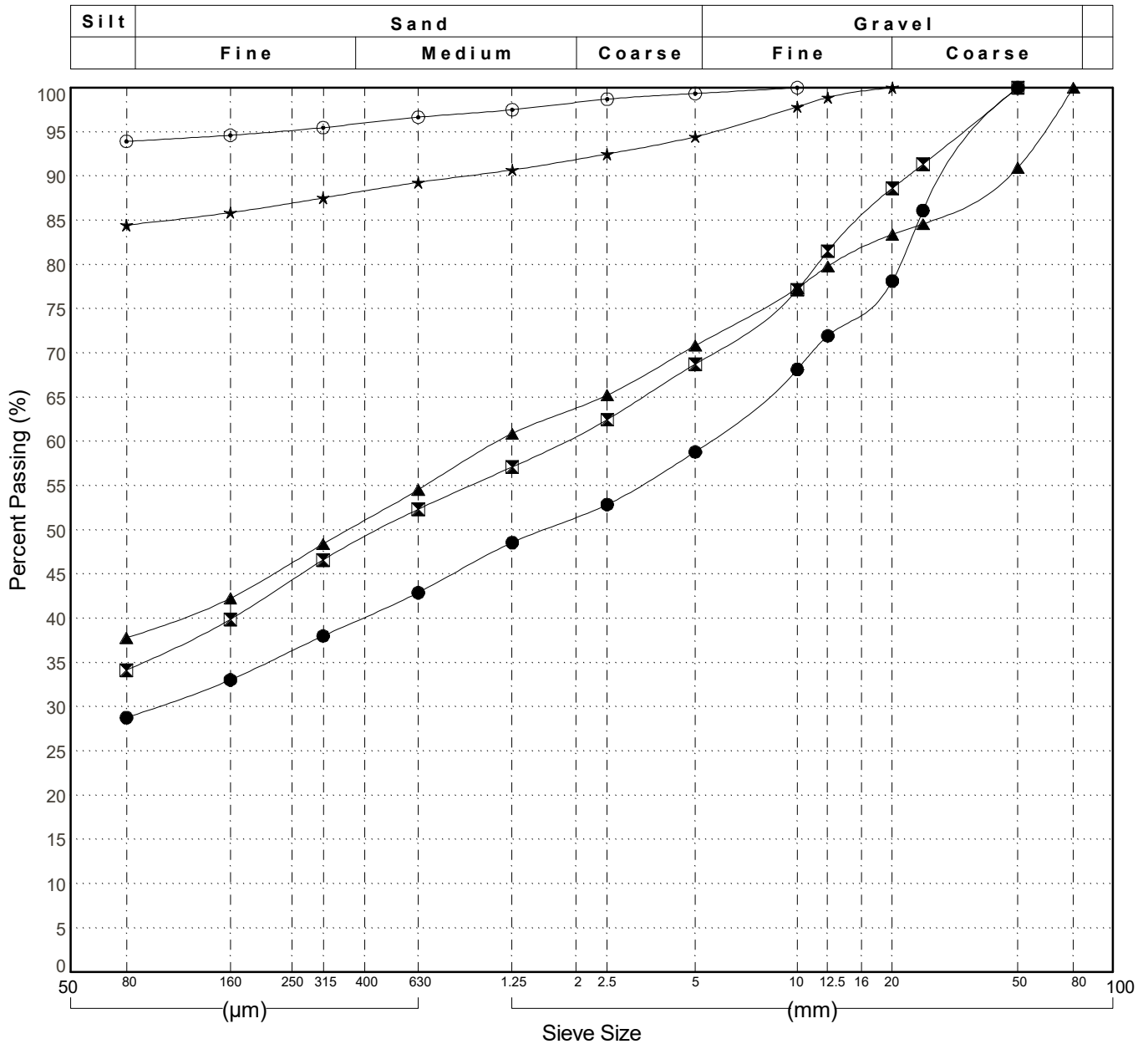
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5311
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6892338.1m E516504.8m	ELEVATION: 727.4m

Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 060	462	12.4 to 12.6	SILTY GRAVEL with SAND(GM)	11.0	NP	NP	NP			
☒ 061	463	13.9 to 14.1	SILTY SAND with GRAVEL(SM)	9.7	NP	NP	NP			
▲ 062	464	16.1 to 16.3	SILTY SAND with GRAVEL(SM)	9.6	NP	NP	NP			
★ 063	465	17.5 to 17.7	SILT with SAND(ML)	23.5	NP	NP	NP			
◎ 064	466	17.8 to 18.0	SILT(ML)	26.7	NP	NP	NP			

Field #	Lab #	% PASSING	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown			
																	Gravel	Sand	Silt	Clay
● 060	462	100.0	100.0	100.0	86.1	78.1	71.9	68.2	58.8	52.9	48.6	42.9	38.0	33.0	28.8	41.2	30.0	28.8		
☒ 061	463	100.0	100.0	100.0	91.3	88.6	81.5	77.2	68.7	62.5	57.1	52.3	46.6	39.9	34.1	31.3	34.6	34.1		
▲ 062	464	100.0	100.0	91.0	84.6	83.4	79.8	77.4	70.8	65.2	60.9	54.6	48.4	42.3	37.8	29.2	33.0	37.8		
★ 063	465	100.0	100.0	100.0	100.0	100.0	98.9	97.9	94.5	92.5	90.7	89.3	87.5	85.9	84.5	5.5	10.0	84.5		
◎ 064	466	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.3	98.7	97.5	96.7	95.5	94.6	93.9	0.7	5.4	93.9		

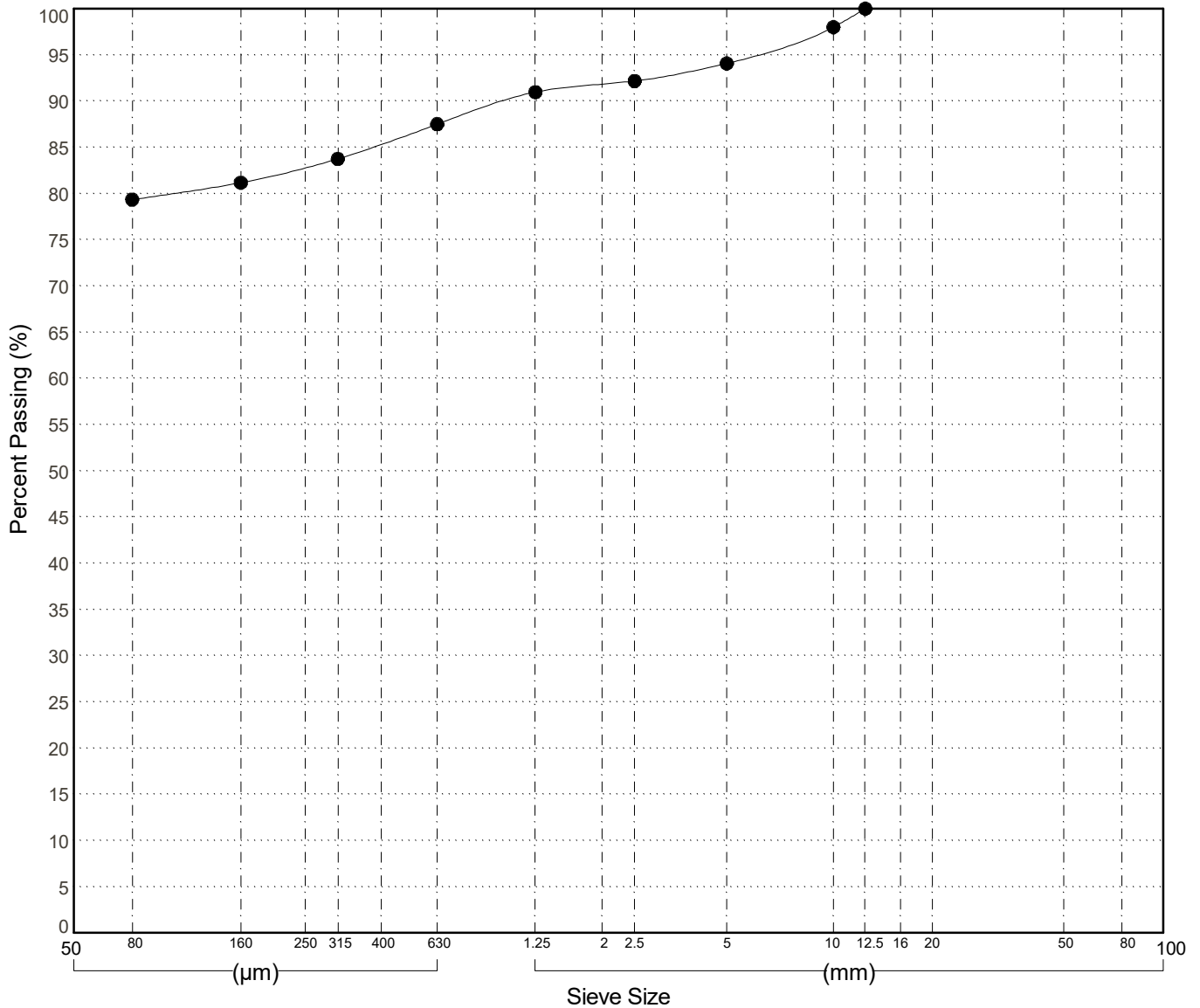


GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5311
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6892338.1m E516504.8m	ELEVATION: 727.4m

Master Revised June 2017

Field#	Lab#	Depth	Classification													%H2O	LL	PL	PI	Cc	Cu	D10
● 065	467	19.2 to 19.4	SILT with SAND(ML)													25.4	NP	NP	NP			
Field#	Lab#	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	%Breakdown						
● 065	467	100.0	100.0	100.0	100.0	100.0	100.0	98.0	94.1	92.2	91.0	87.5	83.7	81.2	79.3	Gravel	Sand	Silt	Clay			
																5.9	14.7		79.3			

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



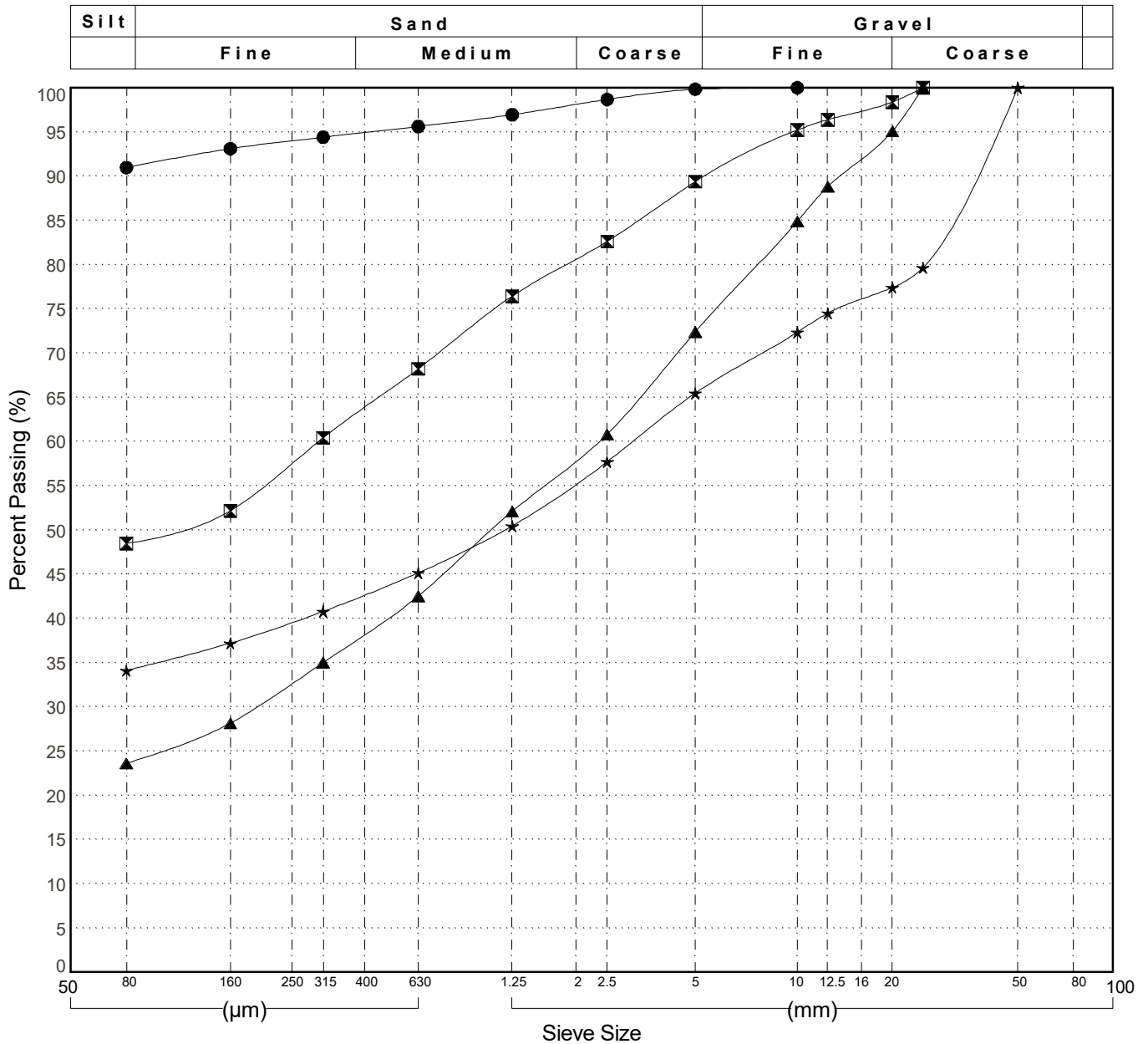
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 866-5312
Boart Longyear	km 1810 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6870311.6m E531256m	ELEVATION: 715m

Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 066	469	2.0 to 2.2	ORGANIC SILT(OL)	131.7	NP	NP	NP			
☒ 068	471	5.2 to 5.4	SILTY SAND(SM)	13.2	NP	NP	NP			
▲ 069	472	6.9 to 7.2	SILTY SAND with GRAVEL(SM)	15.9	NP	NP	NP			
★ 070	473	7.9 to 8.1	SILTY GRAVEL with SAND(GM)	7.6	NP	NP	NP			

Field #	Lab #	% PASSING	Sieve Size (mm)																% Breakdown		
			100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	Gravel	Sand	Clay		
●	066	469	100.0	100.0	100.0	100.0	100.0	100.0	99.8	98.7	96.9	95.6	94.4	93.1	91.0	0.2	8.9	91.0			
☒	068	471	100.0	100.0	100.0	100.0	98.4	96.4	95.2	89.4	82.6	76.4	68.2	60.4	52.2	48.5	10.6	40.9	48.5		
▲	069	472	100.0	100.0	100.0	100.0	95.1	88.8	84.9	72.4	60.8	52.1	42.5	35.0	28.2	23.6	27.6	48.8	23.6		
★	070	473	100.0	100.0	100.0	79.6	77.4	74.5	72.3	65.5	57.7	50.4	45.1	40.8	37.2	34.1	34.5	31.3	34.1		



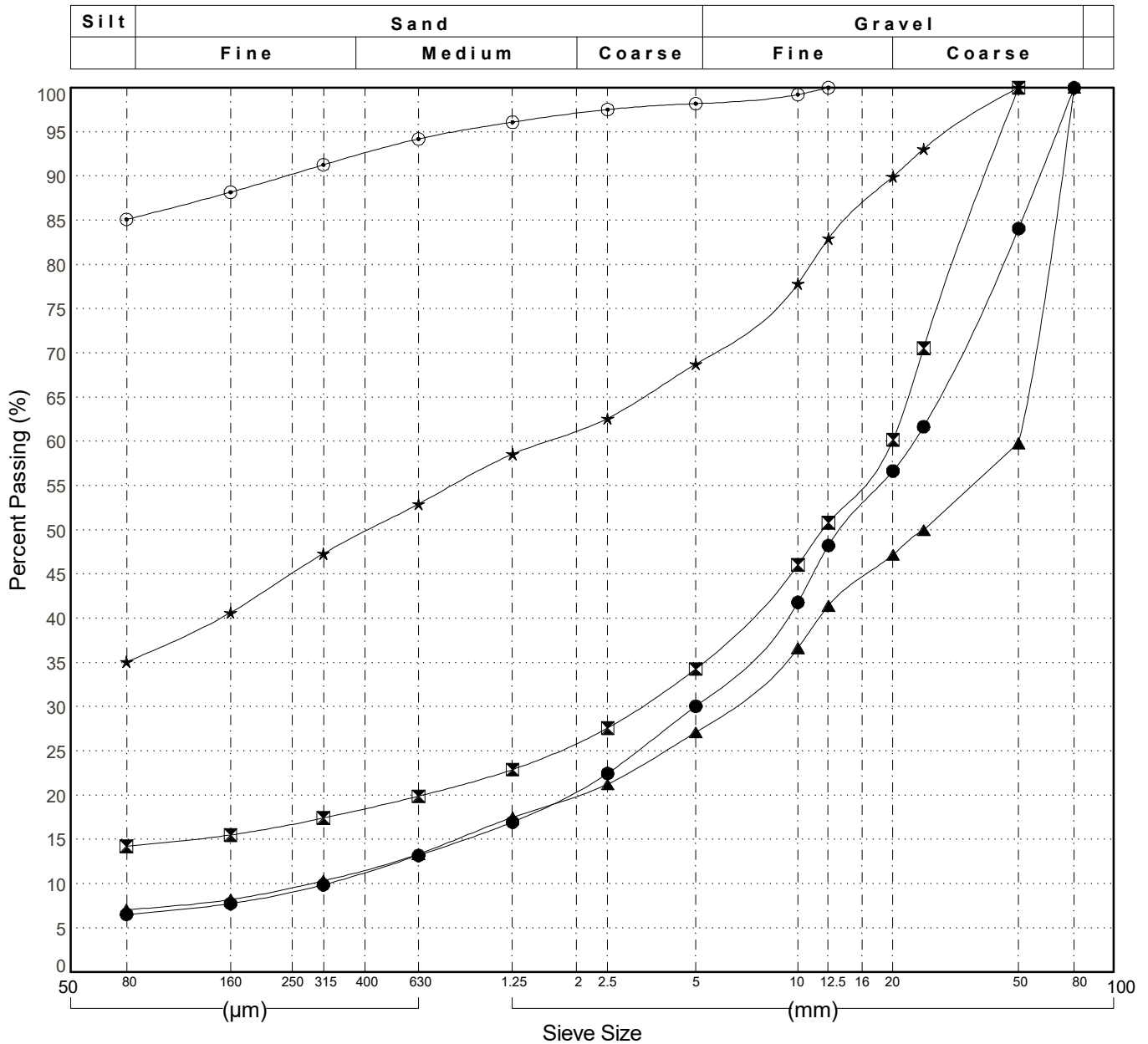
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 868-5317
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6892310.9m E516526.5m	ELEVATION: 750.9m

Master Revised June 2017

Field#	Lab#	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 106	510	0.8 to 1.0	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	3.5	NP	NP	NP	3.0	71.8	0.323
☒ 107	511	2.0 to 2.2	SILTY GRAVEL with SAND(GM)	4.1	NP	NP	NP			
▲ 108	512	3.6 to 3.8	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	4.2	NP	NP	NP	2.5	177.0	0.283
★ 110	514	8.9 to 9.1	SILTY SAND with GRAVEL(SM)	62.4	NP	NP	NP			
◎ 111	515	10.1 to 10.3	SILT(ML)	46.3	NP	NP	NP			

Field#	Lab#	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	%Breakdown			
		%PASSING														Gravel	Sand	Silt	Clay
● 106	510	100.0	100.0	84.1	61.7	56.7	48.2	41.8	30.1	22.5	17.0	13.2	9.9	7.8	6.5	69.9	23.5	6.5	
☒ 107	511	100.0	100.0	100.0	70.5	60.2	50.8	46.0	34.3	27.6	22.9	19.9	17.4	15.5	14.3	65.7	20.0	14.3	
▲ 108	512	100.0	100.0	59.8	50.0	47.2	41.4	36.6	27.1	21.3	17.5	13.4	10.3	8.2	7.1	72.9	20.0	7.1	
★ 110	514	100.0	100.0	100.0	93.1	90.0	82.9	77.9	68.7	62.6	58.6	52.9	47.3	40.6	35.1	31.3	33.6	35.1	
◎ 111	515	100.0	100.0	100.0	100.0	100.0	100.0	99.2	98.2	97.5	96.1	94.2	91.3	88.2	85.1	1.8	13.1	85.1	



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #  
Complete: 9/16/2015

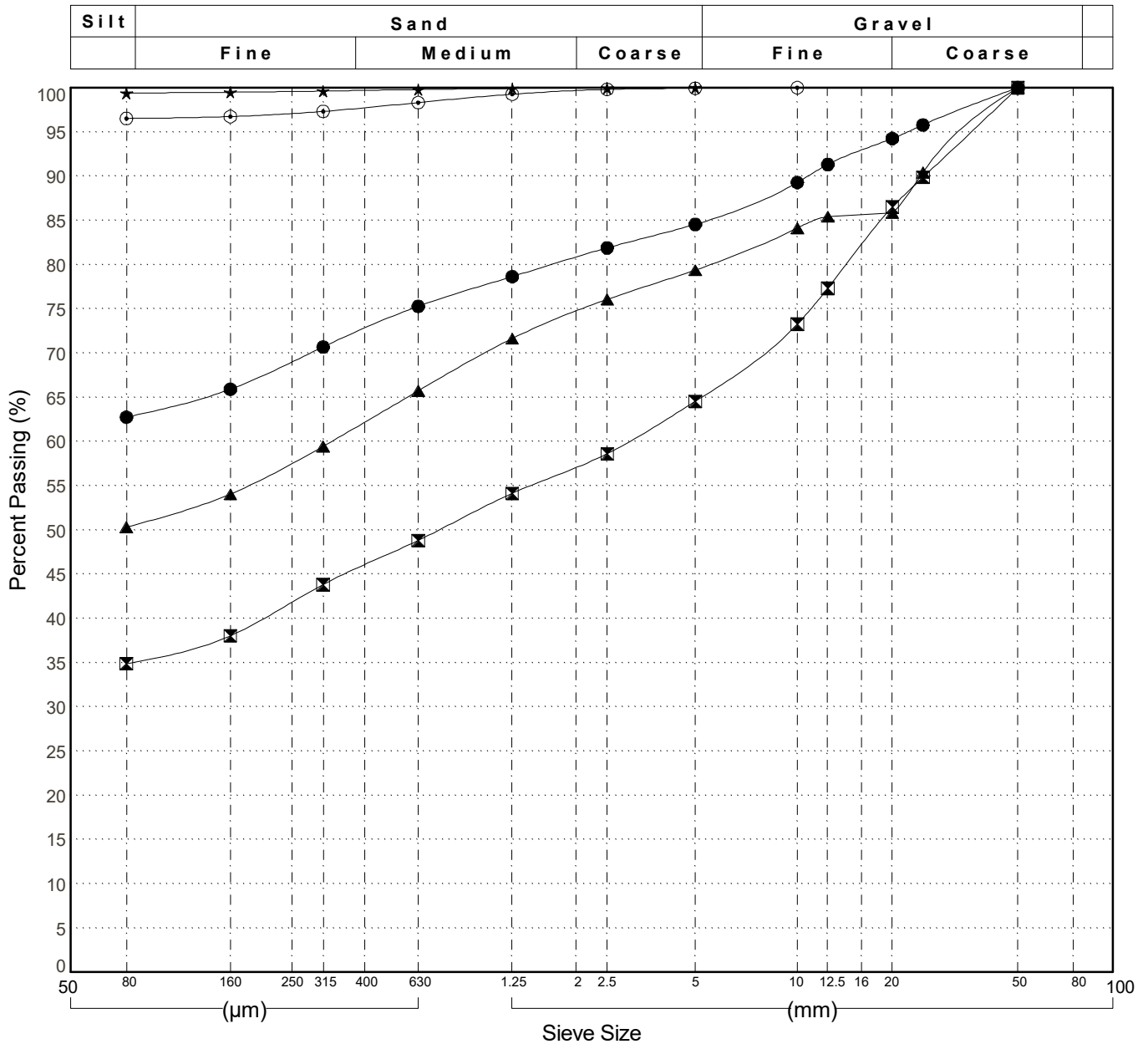
GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 868-5317
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6892310.9m E516526.5m	ELEVATION: 750.9m

Master Revised June 2017

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu	D10
● 112	516	11.2 to 11.4	SANDY SILT with GRAVEL(ML)	28.8	NP	NP	NP			
☒ 113	517	13.2 to 13.4	SILTY GRAVEL with SAND(GM)	10.5	NP	NP	NP			
▲ 114	518	15.0 to 15.2	SANDY SILT with GRAVEL(ML)	12.8	NP	NP	NP			
★ 115	519	15.8 to 16.0	SILT(ML)	28.7	NP	NP	NP			
⊙ 116	520	17.4 to 17.6	SILT(ML)	29.5	NP	NP	NP			

Field #	Lab #	100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown			
		% PASSING														Gravel	Sand	Silt	Clay
● 112	516	100.0	100.0	100.0	95.8	94.3	91.3	89.3	84.5	81.9	78.6	75.3	70.7	65.9	62.8	15.5	21.8	62.8	
☒ 113	517	100.0	100.0	100.0	89.9	86.5	77.3	73.3	64.5	58.6	54.1	48.8	43.8	38.0	34.9	35.5	29.6	34.9	
▲ 114	518	100.0	100.0	100.0	90.4	85.8	85.4	84.1	79.4	76.1	71.6	65.7	59.5	54.1	50.3	20.6	29.0	50.3	
★ 115	519	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.9	99.8	99.6	99.5	99.4	0.0	0.6	99.4	
⊙ 116	520	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.3	98.3	97.3	96.7	96.5	0.1	3.4	96.5	

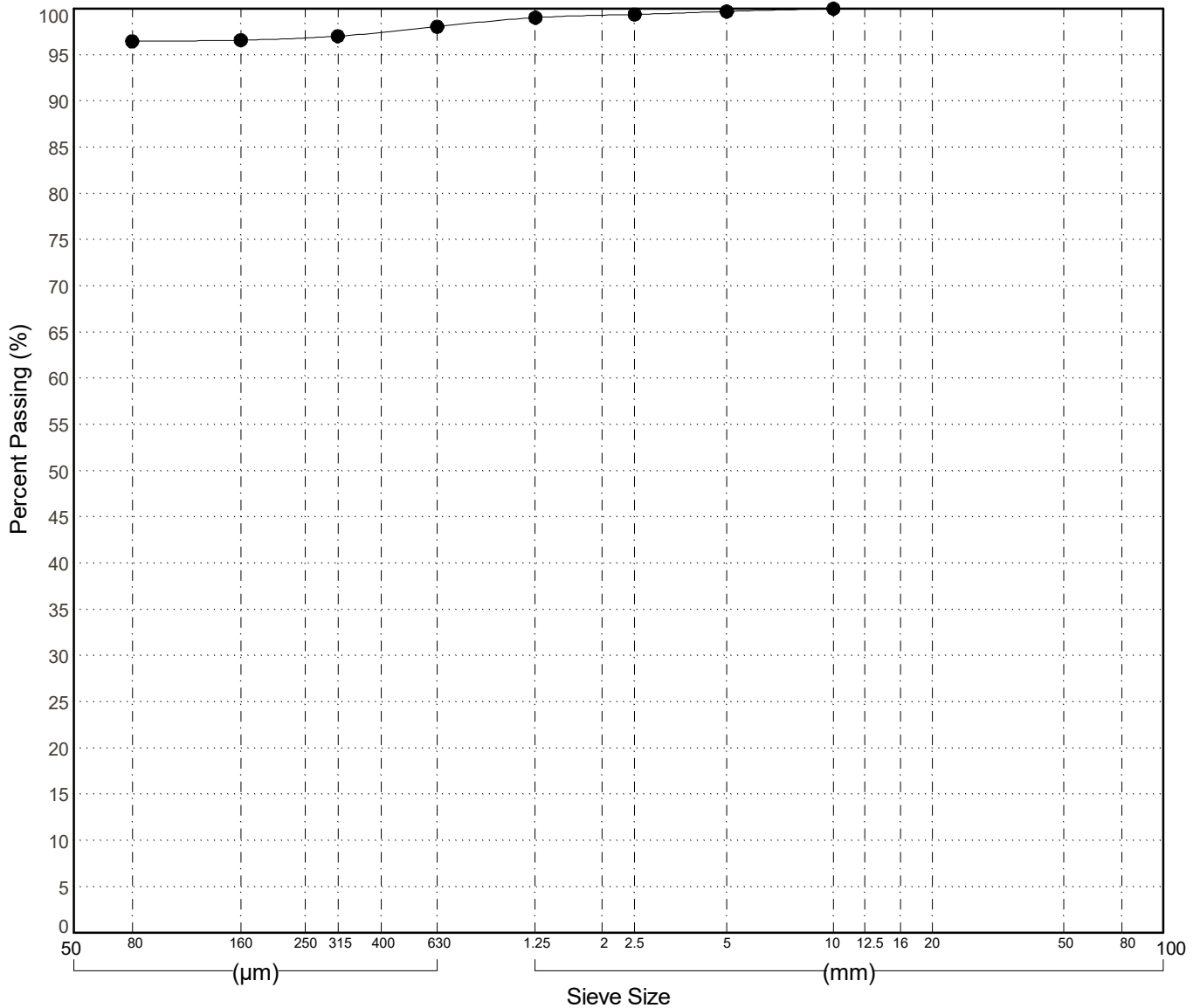


GRAIN SIZE ANALYSIS	Establishment of Baseline Data	SOURCE/TP#: 868-5317
Boart Longyear	km 1840 RHS	PROJECT NO: 552-202021-0601-05-1
Sonic Drill	Coordinates: Z07V N6892310.9m E516526.5m	ELEVATION: 750.9m

Master Revised June 2017

Field#	Lab#	Depth	Classification											%H2O	LL	PL	PI	Cc	Cu	D10	
● 117	521	18.9 to 19.2	SILT (ML)											32.2	NP	NP	NP				
Field#	Lab#		100.0	80.0	50.0	25.0	20.0	12.5	10.0	5.0	2.5	1.25	0.630	0.315	0.160	0.080	% Breakdown				
● 117	521	% PASSING	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	99.4	99.0	98.0	97.0	96.6	96.5		Gravel	Sand	Silt	Clay
																	0.3	3.2		96.5	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works  
Transportation Engineering Branch

LOGGED BY: R.Stilwell  
COMPILED BY: R.Stilwell  
REVIEWED BY: Dave Lorenzi

Pit #  
Complete: 9/16/2015