

SUBSURFACE EXPLORATION AND TEST REPORT		Campbell Highway		SOURCE/TP#: 822-4624							
J.Magun		Campbell hwy Gravel Search km 70-90, km 81 LHS		PROJECT NO: 552-202104-2035-0661-5							
Hitachi 200 LC		Coordinates: Z09 N6726703.6m E488536.9m		ELEVATION: 731.7m							
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		0      20      40      60      80      100								
731	●		■*		◆	001	SP		ORGANICS SILTY SAND -Reddish	1	
730									POORLY GRADED SAND -Tan, damp, loose		
									Light brown	2	
729	●		■*		◆	002	SP			3	
728	●		■*		◆	003	SP			4	
727	●		■*		◆	004	SP			5	
									END of HOLE		
								LOGGED BY: B.Tyhy		Termination Depth: 5m	
								COMPILED BY: R.Stilwell		Complete: 10/24/2013 10:00:00 AM	
								REVIEWED BY: M. Idrees		Pit #: unassigned Page 1 of 1	

SUBSURFACE EXPLORATION AND TEST REPORT		Campbell Highway		SOURCE/TP#: 822-4625					
J.Magun		Campbell hwy Gravel Search km 70-90, km 81 LHS		PROJECT NO: 552-202104-2035-0661-5					
Hitachi 200 LC		Coordinates: Z09 N6726757.7m E488423.7m		ELEVATION: 720.2m					
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)	★ 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								
720							ORGANICS		
							SILTY SAND -Reddish		
							POORLY GRADED SAND -Brown, loose, damp	1	
719									
								2	
718									
								3	
717									
								4	
716									
								5	
715							END of HOLE		
						LOGGED BY: B.Tyhy		Termination Depth: 5m	
						COMPILED BY: R.Stilwell		Complete: 10/24/2013 11:30:00 AM	
						REVIEWED BY: M. Idrees		Pit #: unassigned	
						Page 1 of 1			

SUBSURFACE EXPLORATION AND TEST REPORT		Campbell Highway		SOURCE/TP#: 822-4626				
J.Magun		Campbell hwy Gravel Search km 70-90, km 81 LHS		PROJECT NO: 552-202104-2035-0661-5				
Hitachi 200 LC		Coordinates: Z09 N6726785.2m E488336.6m		ELEVATION: 700.6m				
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      0      20      40      60      80      100							
700							ORGANICS	
							SILTY SAND	
							-Reddish	
							POORLY GRADED SAND	
							-Brown, damp, loose	
699								1
								2
698								
								3
697								4
							-Greyish brown	
696								5
							END of HOLE	
				LOGGED BY: B.Tyhy		Termination Depth: 5m		
				COMPILED BY: R.Stilwell		Complete: 10/24/2013 12:45:00 PM		
				REVIEWED BY: M. Idrees		Pit #: unassigned Page 1 of 1		

SUBSURFACE EXPLORATION AND TEST REPORT		Campbell Highway		SOURCE/TP#: 822-4627				
J.Magun		Campbell hwy Gravel Search km 70-90, km 81 LHS		PROJECT NO: 552-202104-2035-0661-5				
Hitachi 200 LC		Coordinates: Z09 N6726731.7m E488365.3m		ELEVATION: 691.4m				
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							
691				013	SP		ORGANICS POORLY GRADED SAND -Tan, damp, loose	1
690								
689				014	ML		SILT -Greyish brown, damp, sticky, firm	2
688				015	ML		-Grey, damp, firm, sticky	3
687							-Clay	4
686							END OF HOLE	5
			LOGGED BY: B.Tyhy		Termination Depth: 3.6m			
			COMPILED BY: R.Stilwell		Complete: 10/24/2013 1:30:00 PM			
			REVIEWED BY: M. Idrees		Pit #: unassigned Page 1 of 1			

SUBSURFACE EXPLORATION AND TEST REPORT		Campbell Highway		SOURCE/TP#: 822-4628					
J.Magun		Campbell hwy Gravel Search km 70-90, km 81 LHS		PROJECT NO: 552-202104-2035-0661-5					
Hitachi 200 LC		Coordinates: Z09 N6726277.8m E488593.7m		ELEVATION: 678.1m					
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      0      20      40      60      80      100								
678							ORGANICS		
							SILTY SAND		
							-Reddish brown		
							POORLY GRADED SAND		
							-Brown, damp, loose		
677				016	SP			1	
676				017	SP			2	
675				018	SP			3	
674				019	ML		SILT	4	
							-Tan, damp, firm, sticky		
							-Clay		
							-Grey		
673							END of HOLE	5	
						LOGGED BY: B.Tyhy COMPILED BY: R.Stilwell REVIEWED BY: M. Idrees		Termination Depth: 5m Complete: 10/24/2013 3:40:00 PM Pit #: unassigned	

SUBSURFACE EXPLORATION AND TEST REPORT		Campbell Highway		SOURCE/TP#: 822-4629						
J.Magun		Campbell hwy Gravel Search km 70-90, km 81 LHS		PROJECT NO: 552-202104-2035-0661-5						
Hitachi 200 LC		Coordinates: Z09 N6726334.1m E488543.6m		ELEVATION: 679.2m						
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 Gravel ■		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							
679									ORGANICS -Reddish sandy silt	
						020	SP-SM		POORLY GRADED SAND with SILT -Brown to Light brown, damp, loose	1
678									POORLY GRADED SAND -Brown, damp, loose	
										2
677						021	SP			
										3
676						022	SP		-Light brown	
										4
675										
						023	ML		SILT -Brownish grey, damp, flaking, firm -Clay	
674									END of HOLE	5
					LOGGED BY: B.Tyhy		Termination Depth: 5m			
					COMPILED BY: R.Stilwell		Complete: 10/24/2013 4:35:00 PM			
					REVIEWED BY: M. Idrees		Pit #: unassigned		Page 1 of 1	

SUBSURFACE EXPLORATION AND TEST REPORT		Campbell Highway		SOURCE/TP#: 822-4630				
J.Magun		Campbell hwy Gravel Search km 70-90, km 81 LHS		PROJECT NO: 552-202104-2035-0661-5				
Hitachi 200 LC		Coordinates: Z09 N6726261.2m E488516.6m		ELEVATION: 674.8m				
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							
674	●      ■★		■	024	SP		ORGANICS SILTY SAND -Reddish  POORLY GRADED SAND -Brown, damp, loose	1
673							SILTY SAND -Greyish brown	2
672	●      ■★		■	025	SM		SILT -Tan, firm, damp, flaking	3
671	●      ■★		■	026	ML		END of HOLE	4
670								5

SUBSURFACE EXPLORATION AND TEST REPORT		Campbell Highway		SOURCE/TP#: 822-4631				
J.Magun		Campbell hwy Gravel Search km 70-90, km 81 LHS		PROJECT NO: 552-202104-2035-0661-5				
Hitachi 200 LC		Coordinates: Z09 N6727039.6m E488380.2m		ELEVATION: 688.9m				
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      0      20      40      60      80      100							
688				027	SM		ORGANICS SILTY SAND -Tan, damp, loose	1
687				028	SM		-Light tan, dry-damp, dense	2
686				029	SM		-Light grey, damp	3
685								4
684				030	ML		SANDY SILT -Light grey, damp, stiff	5
							END of HOLE	
				LOGGED BY: B.Tyhy		Termination Depth: 4.8m		
				COMPILED BY: R.Stilwell		Complete: 10/25/2013 9:45:00 AM		
				REVIEWED BY: M. Idrees		Pit #: unassigned Page 1 of 1		

SUBSURFACE EXPLORATION AND TEST REPORT		Campbell Highway		SOURCE/TP#: 822-4632						
J.Magun		Campbell hwy Gravel Search km 70-90, km 81 LHS		PROJECT NO: 552-202104-2035-0661-5						
Hitachi 200 LC		Coordinates: Z09 N6727075.2m E488337.4m		ELEVATION: 689.1m						
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 ■		Sample Type	Sample #	SOIL SYMBOL	DCPT/SPT Blows/30cm	SOIL DESCRIPTION	Depth (m)
	689									
688								SANDY SILT -Grey to tan, damp, stiff	1	
687					032	ML	SILT with SAND -Grey		2	
686					033	ML	END of HOLE		3	
685									4	
684									5	

GRAIN SIZE ANALYSIS	Campbell hwy Gravel Search km 70-90	SOURCE/TP#: 822-4624
J.Magun	km 81 LHS	PROJECT NO: 552-202104-2035-0661-5
Hitachi 200 LC	Coordinates:Z09 N6726703.6m E488536.9m	ELEVATION: 731.7m

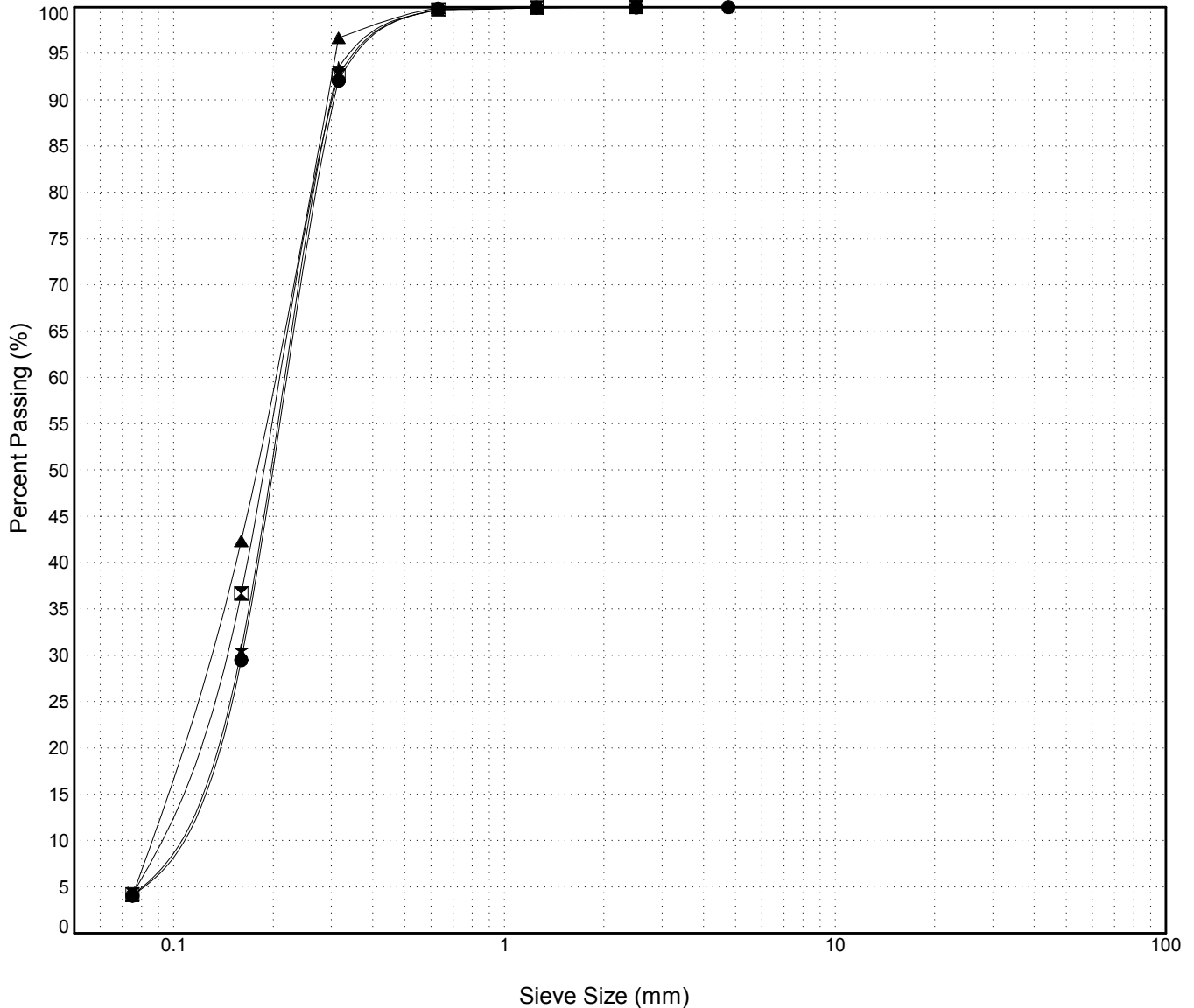
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 001	1172	0.6 to 1.0	POORLY GRADED SAND(SP)	7.0	NP	NP	NP	1.3	2.5
☒ 002	1173	2.3 to 2.6	POORLY GRADED SAND(SP)	3.6	NP	NP	NP	1.0	2.5
▲ 003	1174	3.5 to 4.0	POORLY GRADED SAND(SP)	5.4	NP	NP	NP	0.9	2.4
★ 004	1175	4.5 to 5.0	POORLY GRADED SAND(SP)	5.9	NP	NP	NP	1.3	2.5

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	1172	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	92.1	29.5	4.1	0.0	95.9	4.1	
☒ 002	1173	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	92.6	36.7	4.2	0.0	95.8	4.2	
▲ 003	1174	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	96.7	42.3	4.0	0.0	96.0	4.0	
★ 004	1175	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	93.5	30.6	4.1	0.0	95.9	4.1	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse





GRAIN SIZE ANALYSIS	Campbell hwy Gravel Search km 70-90	SOURCE/TP#: 822-4626
J.Magun	km 81 LHS	PROJECT NO: 552-202104-2035-0661-5
Hitachi 200 LC	Coordinates:Z09 N6726785.2m E488336.6m	ELEVATION: 700.6m

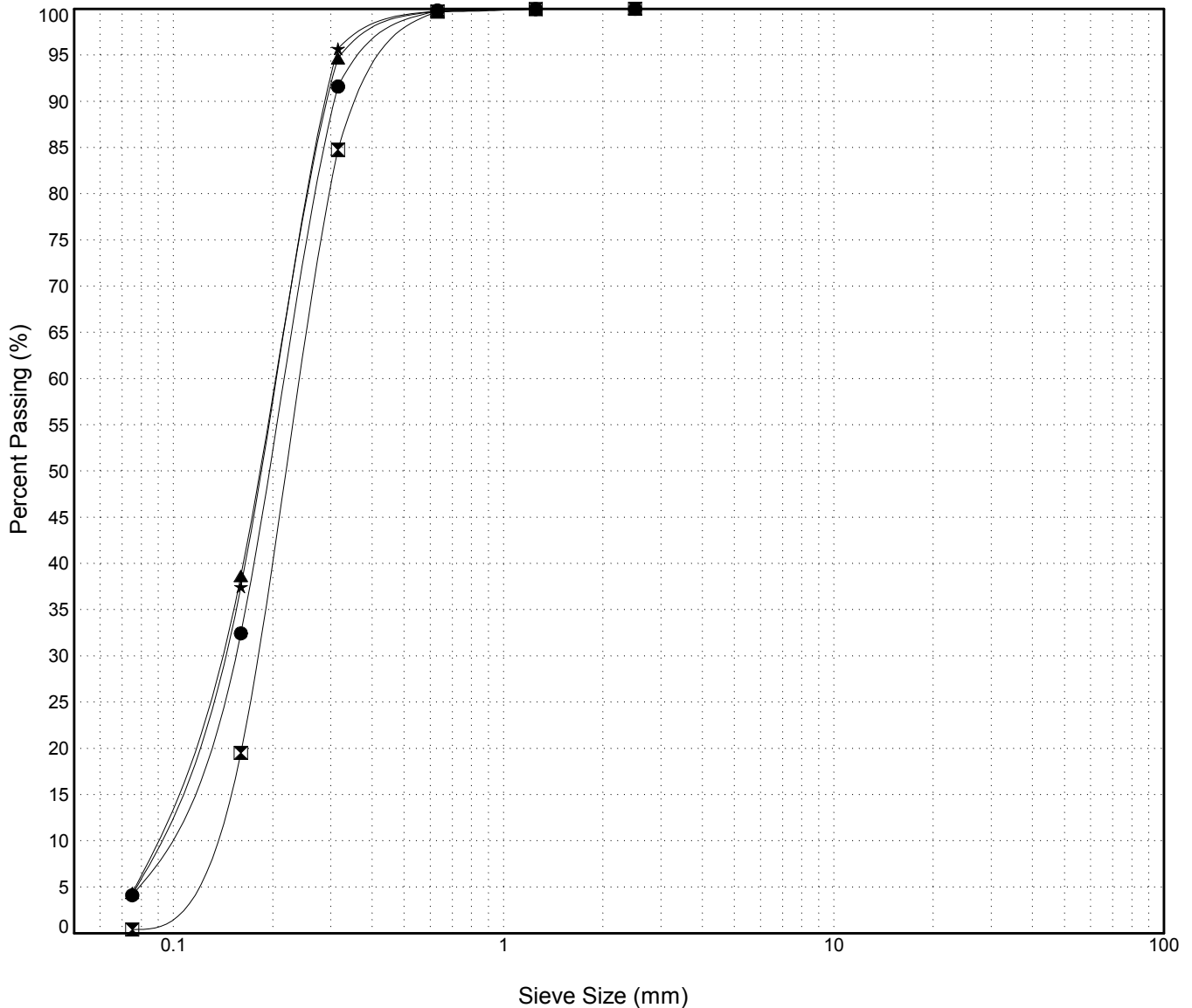
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 009	1180	0.8 to 1.3	POORLY GRADED SAND(SP)	6.8	NP	NP	NP	1.2	2.5
☒ 010	1181	2.0 to 2.5	POORLY GRADED SAND(SP)	4.5	NP	NP	NP	1.2	2.2
▲ 011	1182	3.4 to 3.8	POORLY GRADED SAND(SP)	17.0	NP	NP	NP	1.0	2.4
★ 012	1183	4.5 to 5.0	POORLY GRADED SAND(SP)	5.0	NP	NP	NP	1.0	2.4

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		
● 009	1180	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	99.8	91.6	32.4	4.1	0.0	95.9	4.1
☒ 010	1181	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	99.7	84.8	19.5	0.4	0.0	99.6	0.4
▲ 011	1182	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	99.8	94.7	38.7	4.4	0.0	95.6	4.4
★ 012	1183	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	99.8	95.7	37.5	4.2	0.0	95.8	4.2

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse







GRAIN SIZE ANALYSIS	Campbell hwy Gravel Search km 70-90	SOURCE/TP#: 822-4629
J.Magun	km 81 LHS	PROJECT NO: 552-202104-2035-0661-5
Hitachi 200 LC	Coordinates:Z09 N6726334.1m E488543.6m	ELEVATION: 679.2m

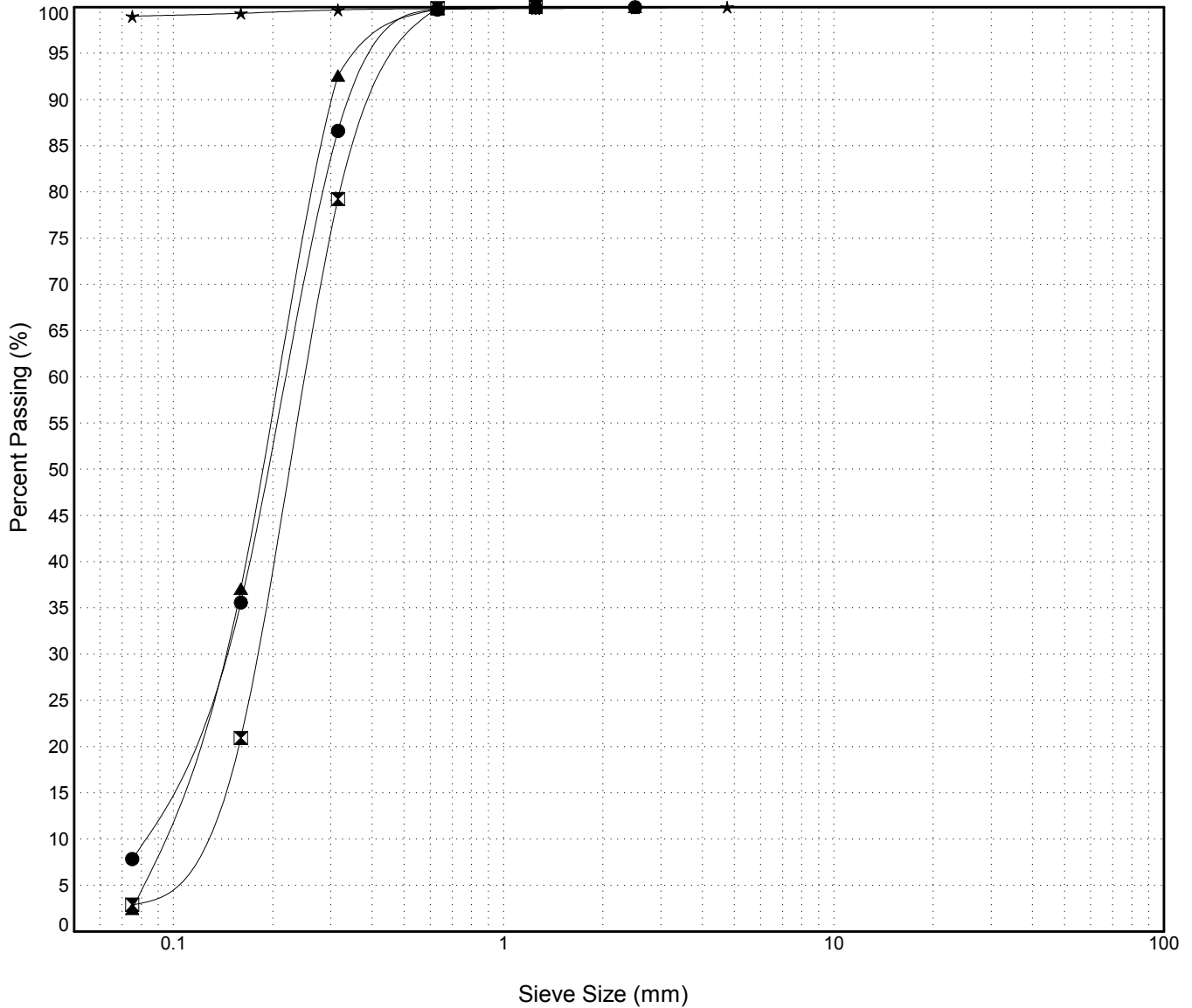
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Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 020	1191	0.5 to 1.0	POORLY GRADED SAND with SILT(SP-SM)	5.8	NP	NP	NP	1.1	2.8
☒ 021	1192	2.0 to 2.8	POORLY GRADED SAND(SP)	4.4	NP	NP	NP	1.2	2.5
▲ 022	1193	3.2 to 3.6	POORLY GRADED SAND(SP)	5.1	NP	NP	NP	1.0	2.4
★ 023	1194	4.4 to 5.0	SILT(ML)	33.2	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			
																Gravel	Sand	Silt	Clay
● 020	1191	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.7	86.6	35.6	7.8	0.0	92.2	7.8
☒ 021	1192	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	79.2	20.9	2.9	0.0	97.1	2.9
▲ 022	1193	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	92.6	37.1	2.5	0.0	97.5	2.5
★ 023	1194	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.8	99.7	99.3	99.0		0.0	1.0	99.0

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



GRAIN SIZE ANALYSIS	Campbell hwy Gravel Search km 70-90	SOURCE/TP#: 822-4630
J.Magun	km 81 LHS	PROJECT NO: 552-202104-2035-0661-5
Hitachi 200 LC	Coordinates:Z09 N6726261.2m E488516.6m	ELEVATION: 674.8m

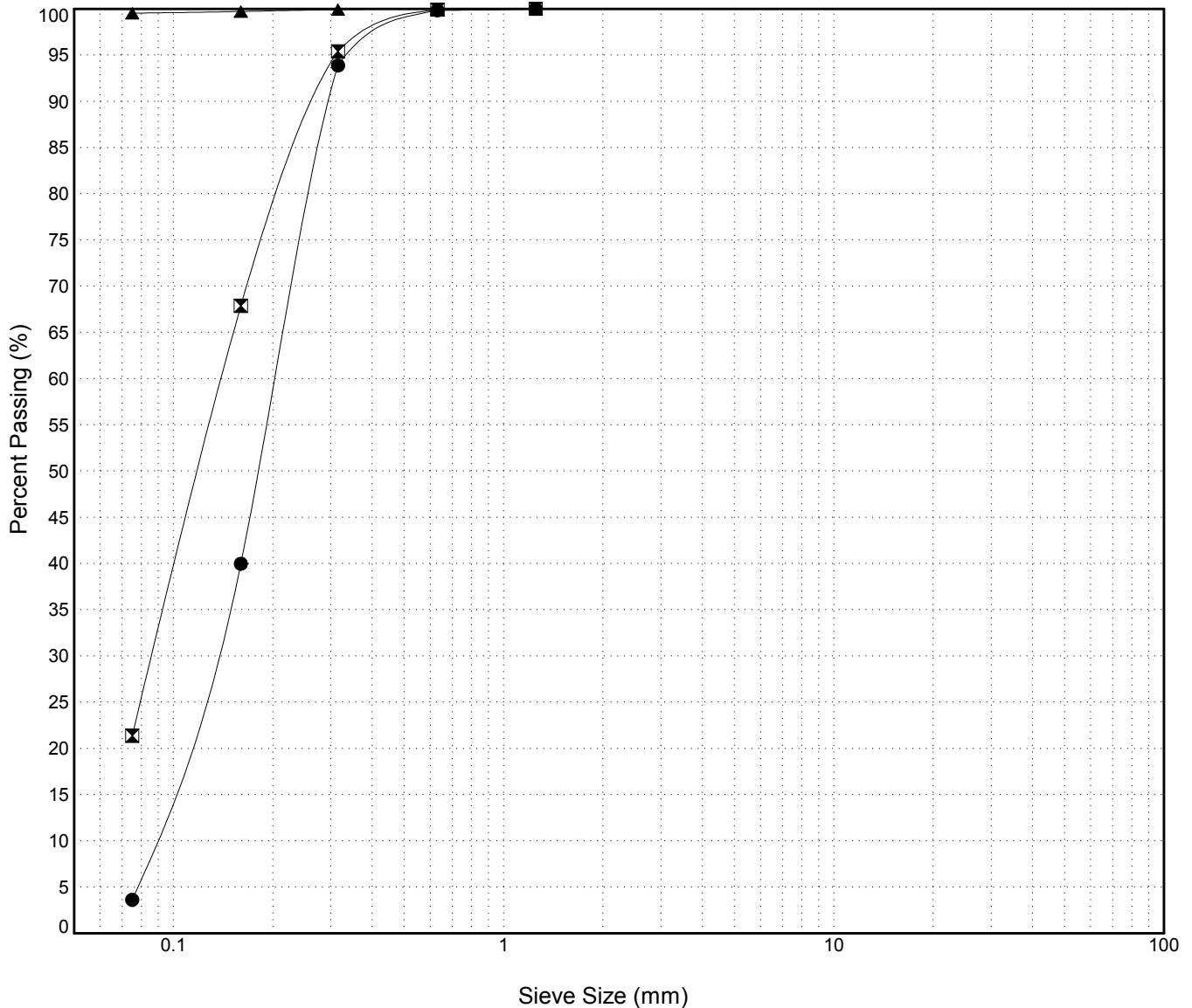
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 024	1195	0.5 to 1.0	POORLY GRADED SAND(SP)	7.3	NP	NP	NP	1.0	2.4
☒ 025	1196	2.3 to 2.8	SILTY SAND(SM)	11.7	NP	NP	NP		
▲ 026	1197	3.2 to 3.6	SILT(ML)	32.7	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			
																Gravel	Sand	Silt	Clay
● 024	1195	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	93.9	40.0	3.6	0.0	96.4	3.6
☒ 025	1196	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	95.4	67.9	21.4	0.0	78.6	21.4
▲ 026	1197	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.7	99.5	0.0	0.5	99.5	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



GRAIN SIZE ANALYSIS	Campbell hwy Gravel Search km 70-90	SOURCE/TP#: 822-4631
J.Magun	km 81 LHS	PROJECT NO: 552-202104-2035-0661-5
Hitachi 200 LC	Coordinates:Z09 N6727039.6m E488380.2m	ELEVATION: 688.9m

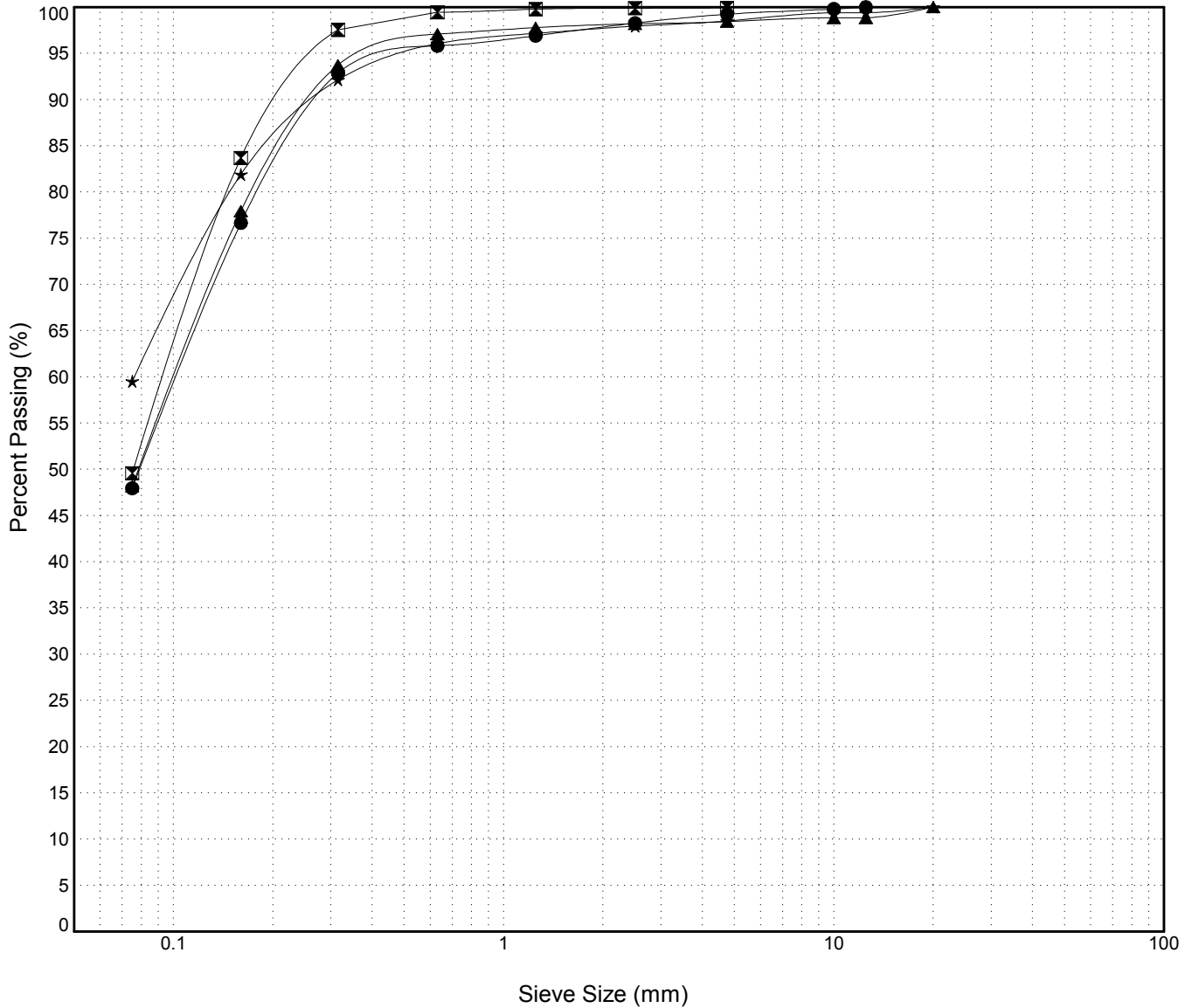
Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 027	1198	0.4 to 0.7	SILTY SAND(SM)	8.4	NP	NP	NP		
☒ 028	1199	1.4 to 1.8	SILTY SAND(SM)	7.1	NP	NP	NP		
▲ 029	1200	2.5 to 2.9	SILTY SAND(SM)	8.5	NP	NP	NP		
★ 030	1201	4.4 to 4.7	SANDY SILT(ML)	9.9	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	Clay
● 027	1198	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.2	98.3	96.9	95.8	92.9	76.7	48.0	0.8	51.3	48.0	
☒ 028	1199	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.9	99.8	99.4	97.5	83.7	49.6		50.3	49.6	
▲ 029	1200	100.0	100.0	100.0	100.0	100.0	98.8	98.8	98.4	98.2	97.8	97.1	93.7	77.9	48.2	1.6	50.2	48.2	
★ 030	1201	100.0	100.0	100.0	100.0	100.0	99.4	99.4	98.5	97.9	97.2	96.1	92.1	81.9	59.5	1.5	39.0	59.5	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



GRAIN SIZE ANALYSIS	Campbell hwy Gravel Search km 70-90	SOURCE/TP#: 822-4632
J.Magun	km 81 LHS	PROJECT NO: 552-202104-2035-0661-5
Hitachi 200 LC	Coordinates:Z09 N6727075.2m E488337.4m	ELEVATION: 689.1m

Master Revised July 2013

Field #	Lab #	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 031	1202	0.4 to 0.7	SILTY SAND(SM)	9.1	NP	NP	NP		
☒ 032	1203	1.8 to 2.2	SANDY SILT(ML)	9.1	NP	NP	NP		
▲ 033	1204	3.2 to 3.3	SILT with SAND(ML)	12.4	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
● 031	1202	100.0	100.0	100.0	100.0	96.2	94.2	91.6	91.3	87.9	84.8	79.5	74.1	64.3	48.5	32.7	12.1	55.2	32.7	
☒ 032	1203	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	99.2	98.7	97.8	94.9	88.8	65.1	0.4	34.5	65.1	
▲ 033	1204	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.7	99.6	99.3	96.8	73.7	0.1	26.2	73.7	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse

