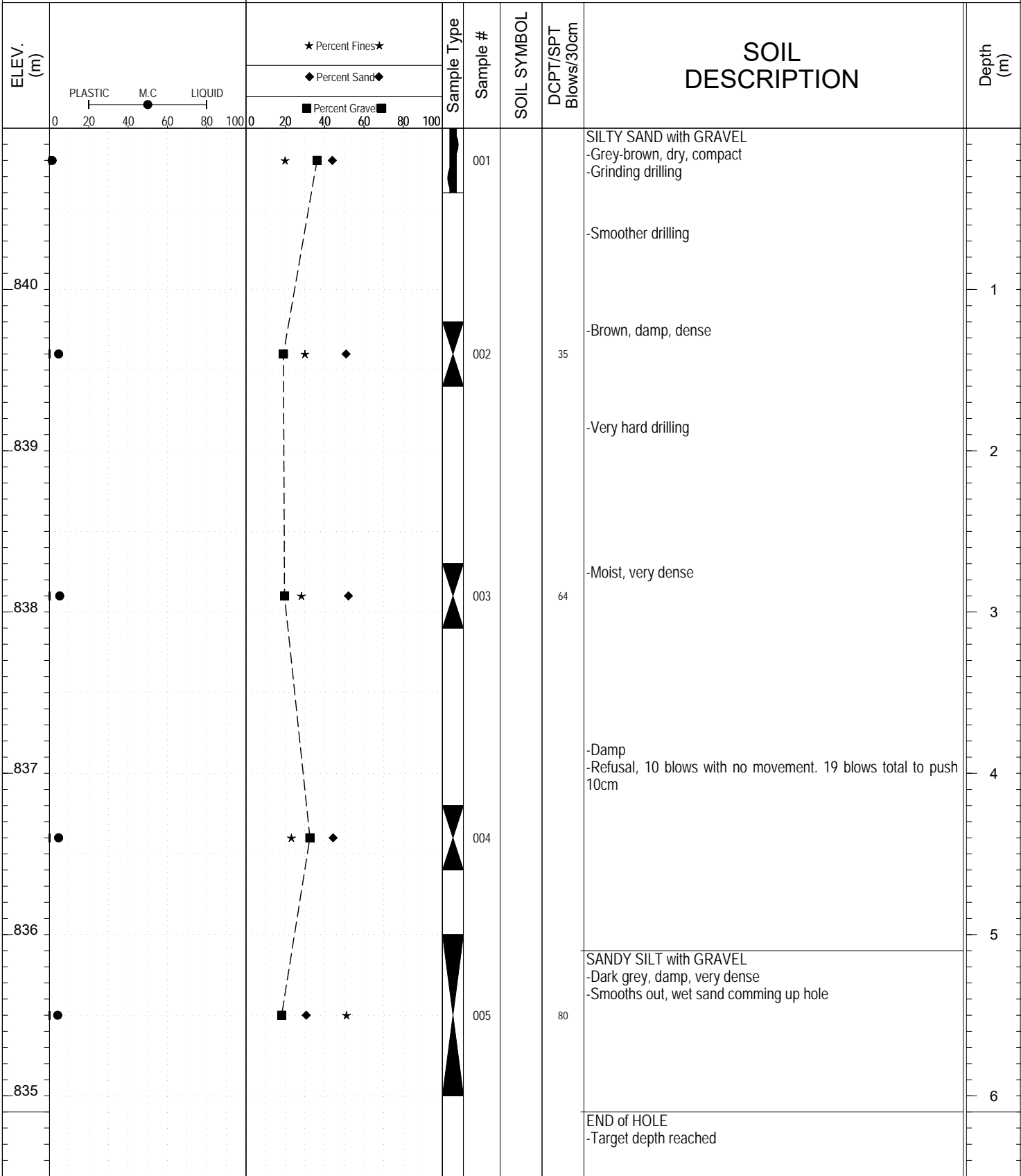
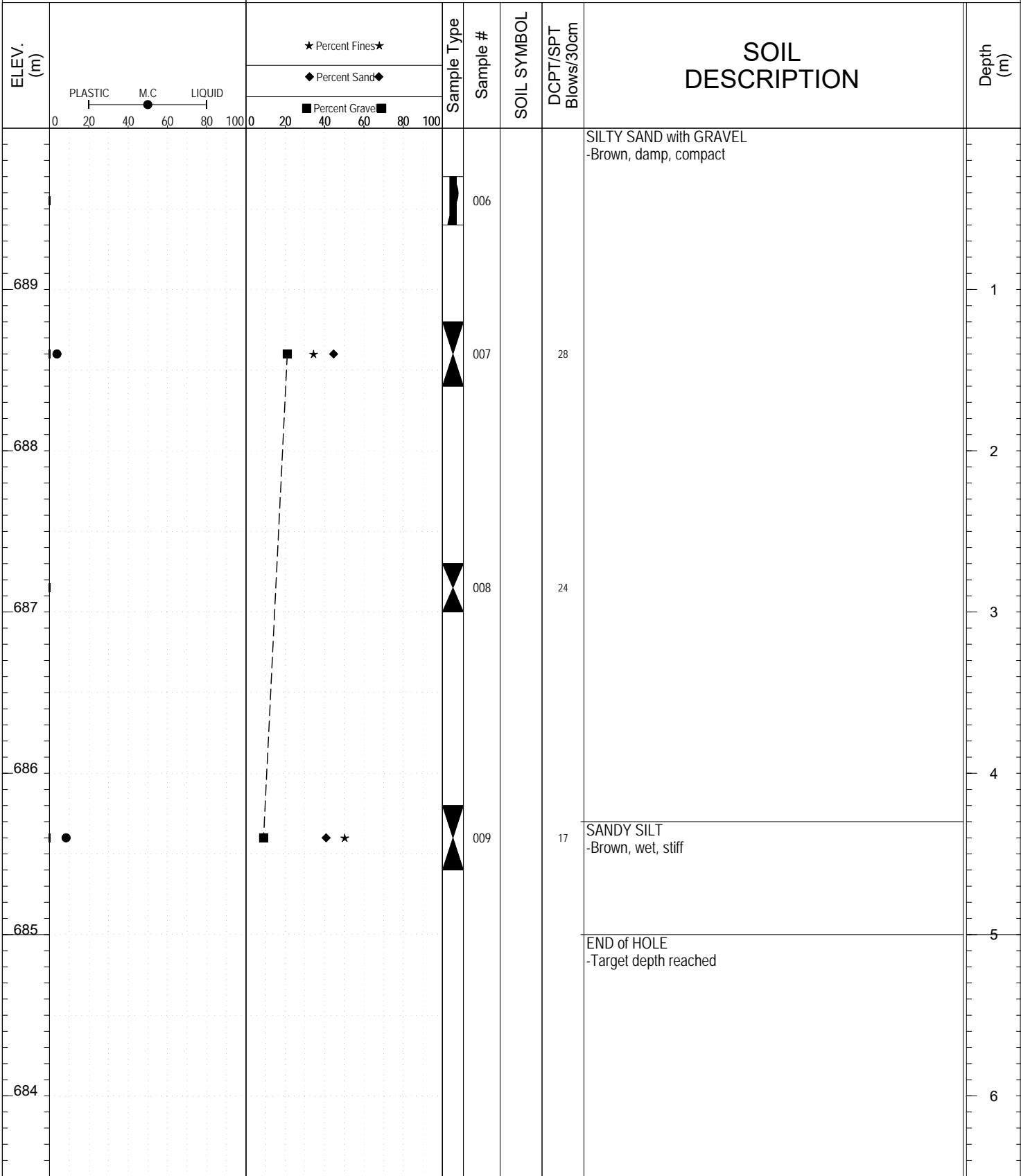


SAMPLE TYPE UNDISTURBED DCPT AUGER BULK SPT CORE



SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway	SOURCE/TP#: 903-5711
Gateway Drilling		Alaska Hwy Surface Failure, km 1229.4	PROJECT NO: 552-202177-1103-0108-1
B61 150mm		Coordinates: Z08V N6666538m E638807m	ELEVATION: 690m

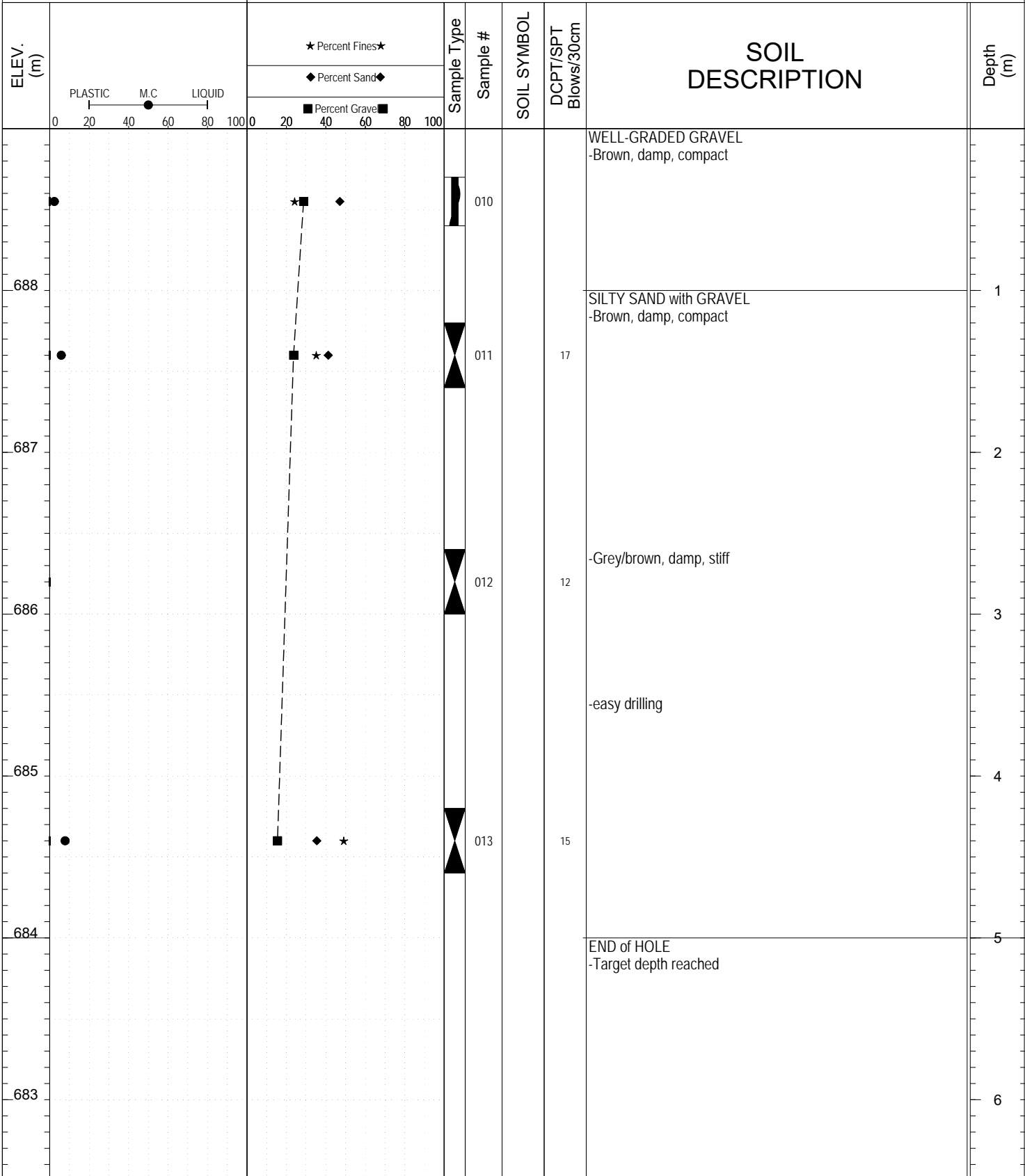
SAMPLE TYPE UNDISTURBED DCPT AUGER BULK SPT CORE



Highways and Public Works
Transportation Engineering Branch

LOGGED BY: R.Stilwell	Termination Depth: 5m
COMPILED BY: R.Stilwell	Complete: 9/7/2016 2:45:00 PM
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SAMPLE TYPE UNDISTURBED DCPT AUGER BULK SPT CORE



SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway		SOURCE/TP#: 903-5713				
Gateway Drilling		Alaska Hwy Surface Failure, km 1229.8		PROJECT NO: 552-202177-1103-0108-1				
B61 150mm		Coordinates: Z08V N6666560m E638348m		ELEVATION: 689m				
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: 45%;"> <p>PLASTIC M.C LIQUID</p> <p>0 20 40 60 80 100</p> </div> <div style="width: 45%;"> <p>★ Percent Fines★</p> <p>◆ Percent Sand◆</p> <p>■ Percent Gravel■</p> <p>0 20 40 60 80 100</p> </div> </div>		Sample Type	Sample #	SOIL SYMBOL	DCPT/SPT Blows/30cm	SOIL DESCRIPTION	Depth (m)
688.5	10	45	15	014		SILTY SAND with GRAVEL -Brown, damp, compact	1	
688.0	10	45	15	015	17	SILTY SAND -grey/brown	2	
686.5	10	45	15	016	17	SILT with SAND -Black/brown, damp, stiff -smooth drilling	3	
684.5	10	45	15	017	22	SANDY SILT -Grey/brown	4	
684.0						END of HOLE -Target depth reached	5	
683.5							6	

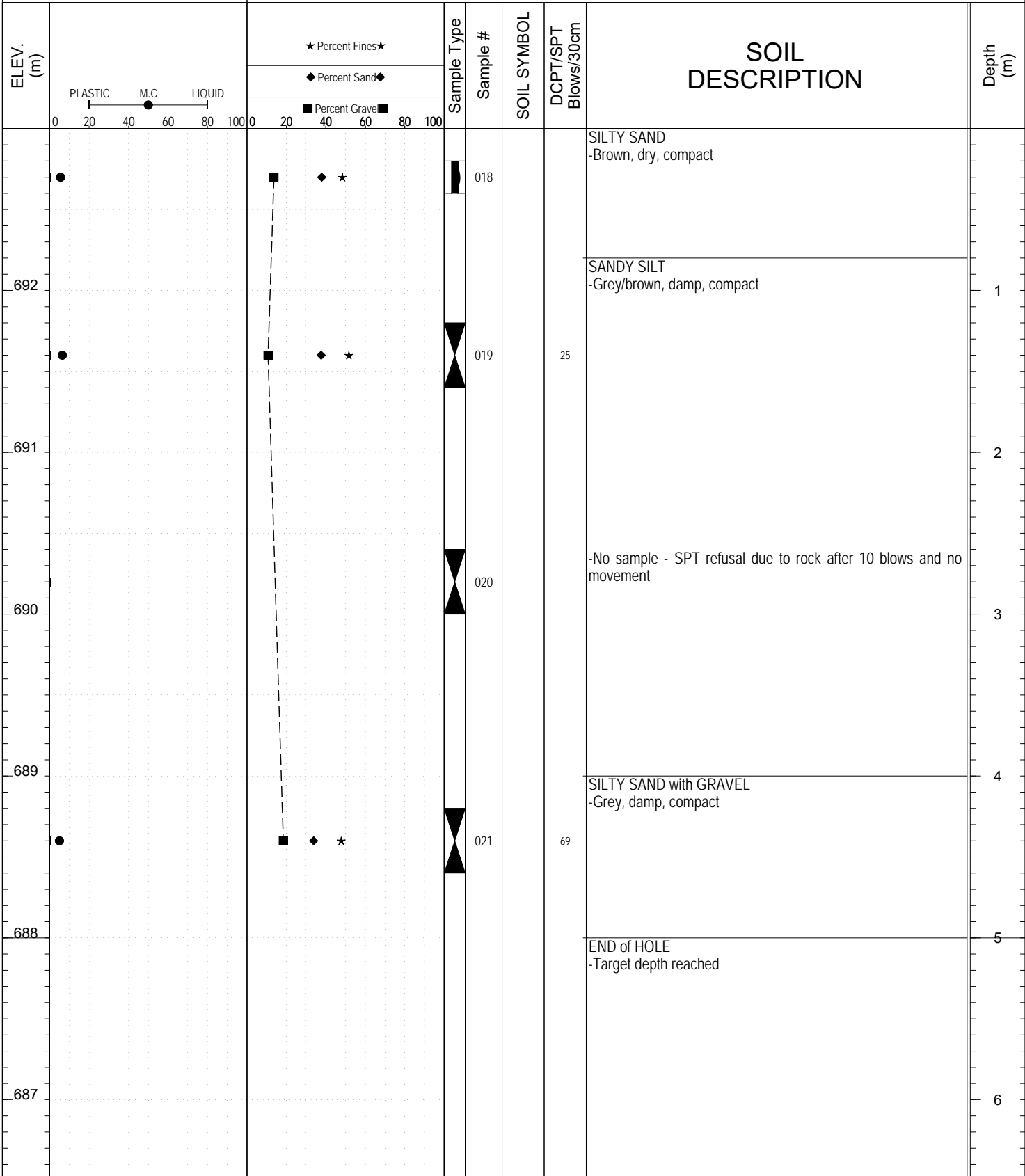


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SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway	SOURCE/TP#: 903-5714
Gateway Drilling		Alaska Hwy Surface Failure, km 1230.4	PROJECT NO: 552-202177-1103-0108-1
B61 150mm		Coordinates: Z08V N6666578m E638036m	ELEVATION: 693m

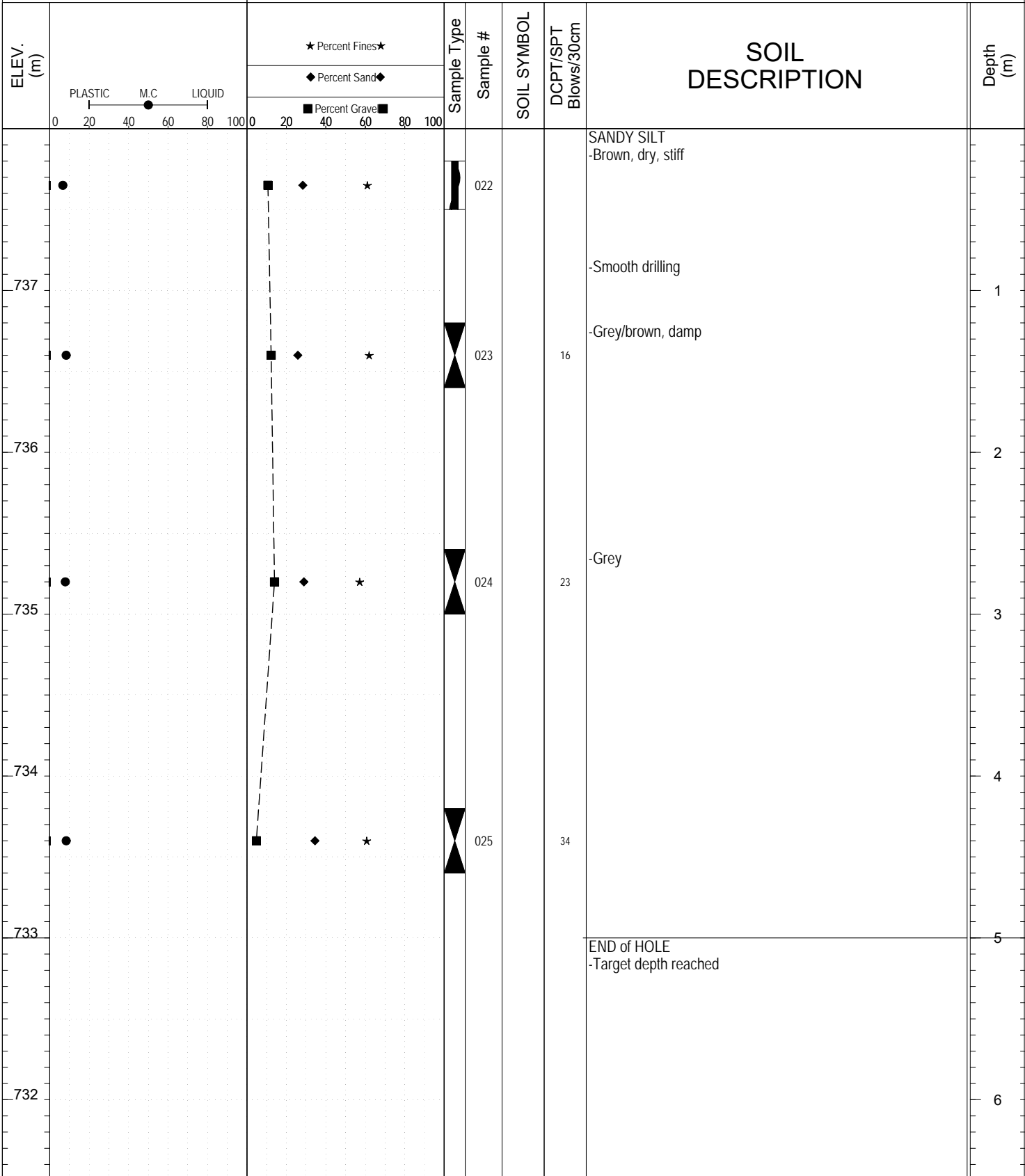
SAMPLE TYPE UNDISTURBED DCPT AUGER BULK SPT CORE



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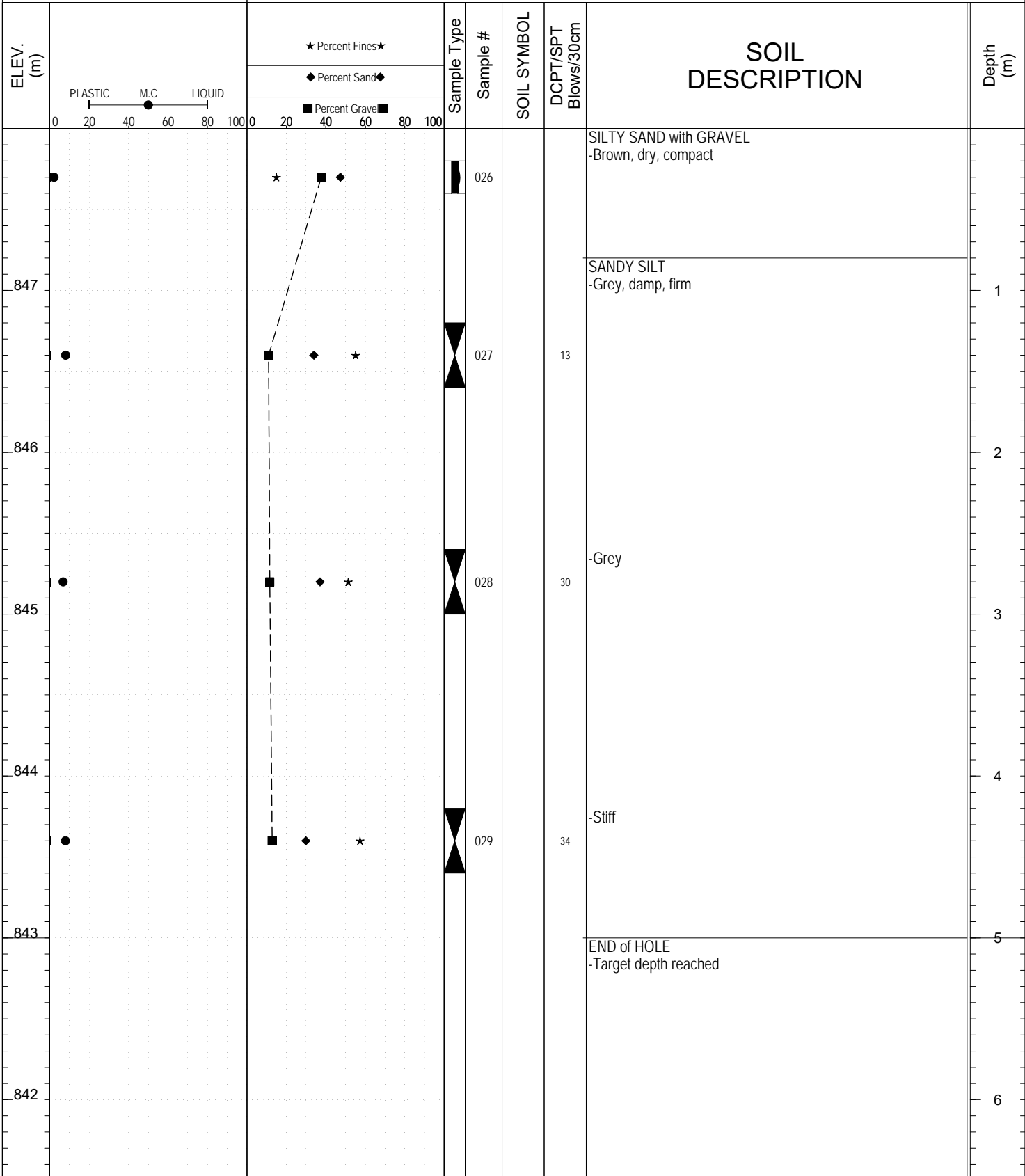
LOGGED BY: Dave Lorenzi	Termination Depth: 5m
COMPILED BY: R.Stilwell	Complete: 9/7/2016 5:40:00 PM
REVIEWED BY:	Pit #: Page 1 of 2

SAMPLE TYPE UNDISTURBED DCPT AUGER BULK SPT CORE



SUBSURFACE EXPLORATION AND TEST REPORT		Alaska Highway	SOURCE/TP#: 903-5716
Gateway Drilling		Alaska Hwy Surface Failure, km 1237.6	PROJECT NO: 552-202177-1103-0108-1
B61 150mm		Coordinates: Z08V N6733695m E495096m	ELEVATION: 848m

SAMPLE TYPE UNDISTURBED DCPT AUGER BULK SPT CORE



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Transportation Engineering Branch

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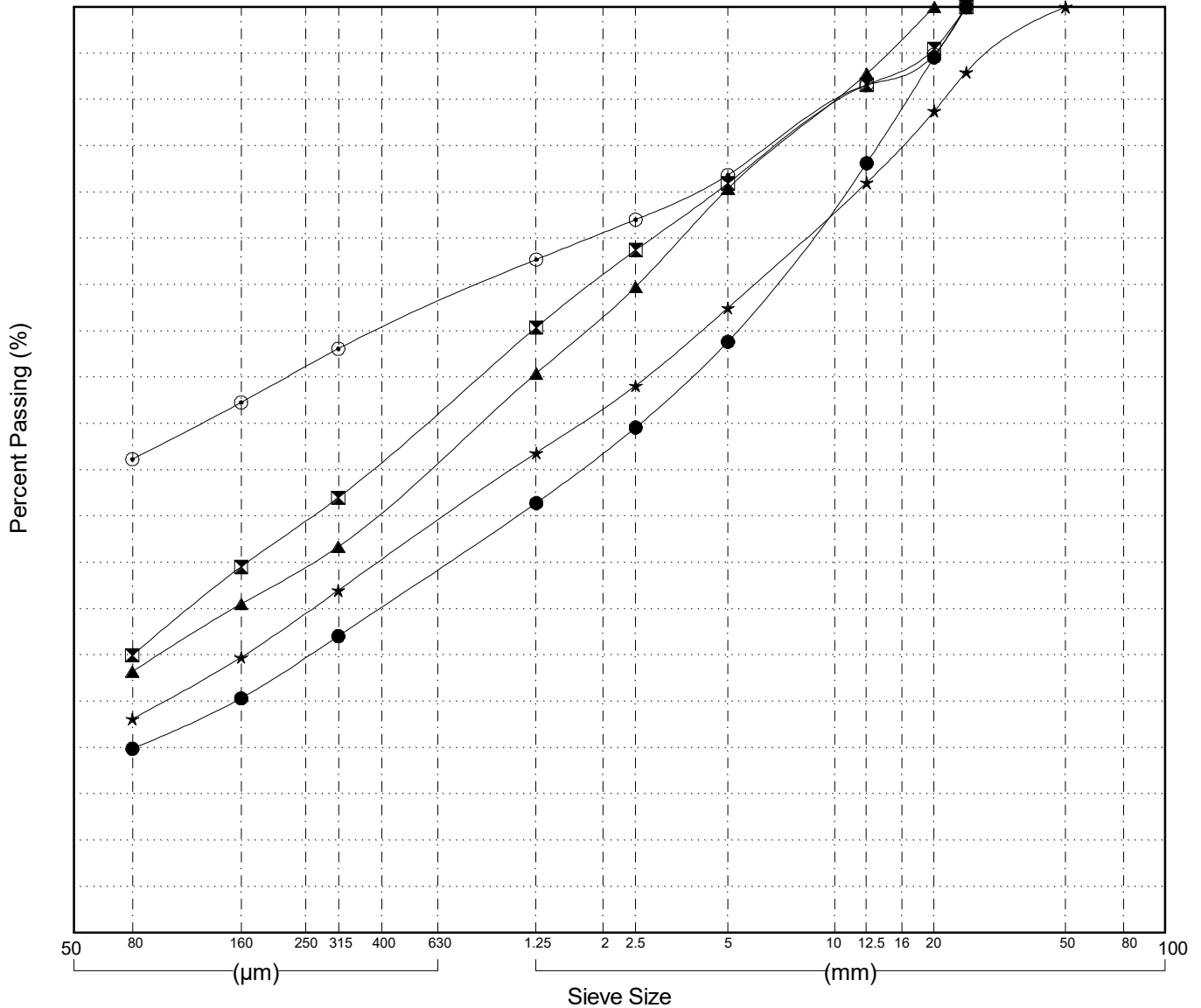
GRAIN SIZE ANALYSIS	Alaska Hwy Surface Failure	SOURCE/TP#: 903-5710
Gateway Drilling	km 1208	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6657117m E655898m	ELEVATION: 841m

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Field#	Lab#	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 001	428	0.0 to 0.4	SILTY SAND with GRAVEL(SM)	1.3	NP	NP	NP		
☒ 002	429	1.2 to 1.6	SILTY SAND with GRAVEL(SM)	4.6	NP	NP	NP		
▲ 003	430	2.7 to 3.1	SILTY SAND with GRAVEL(SM)	5.2	NP	NP	NP		
★ 004	431	4.2 to 4.6	SILTY SAND with GRAVEL(SM)	4.6	NP	NP	NP		
⊙ 005	432	5.0 to 6.0	SANDY SILT with GRAVEL(ML)	4.2	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
● 001	428	100.0	100.0	100.0	100.0	94.5	83.1	78.7	63.8	54.6	46.4	39.3	32.0	25.3	19.9	36.2	43.9	19.9	
☒ 002	429	100.0	100.0	100.0	100.0	95.5	91.6	89.1	80.9	73.7	65.4	56.2	47.0	39.5	30.0	19.1	51.0	30.0	
▲ 003	430	100.0	100.0	100.0	100.0	100.0	92.8	89.9	80.4	69.8	60.4	51.1	41.7	35.5	28.2	19.6	52.1	28.2	
★ 004	431	100.0	100.0	100.0	93.0	88.7	81.0	77.9	67.5	59.1	51.8	44.5	37.0	29.8	23.1	32.5	44.4	23.1	
⊙ 005	432	100.0	100.0	100.0	100.0	94.8	91.6	89.3	81.8	77.0	72.7	67.9	63.1	57.3	51.2	18.2	30.7	51.2	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse

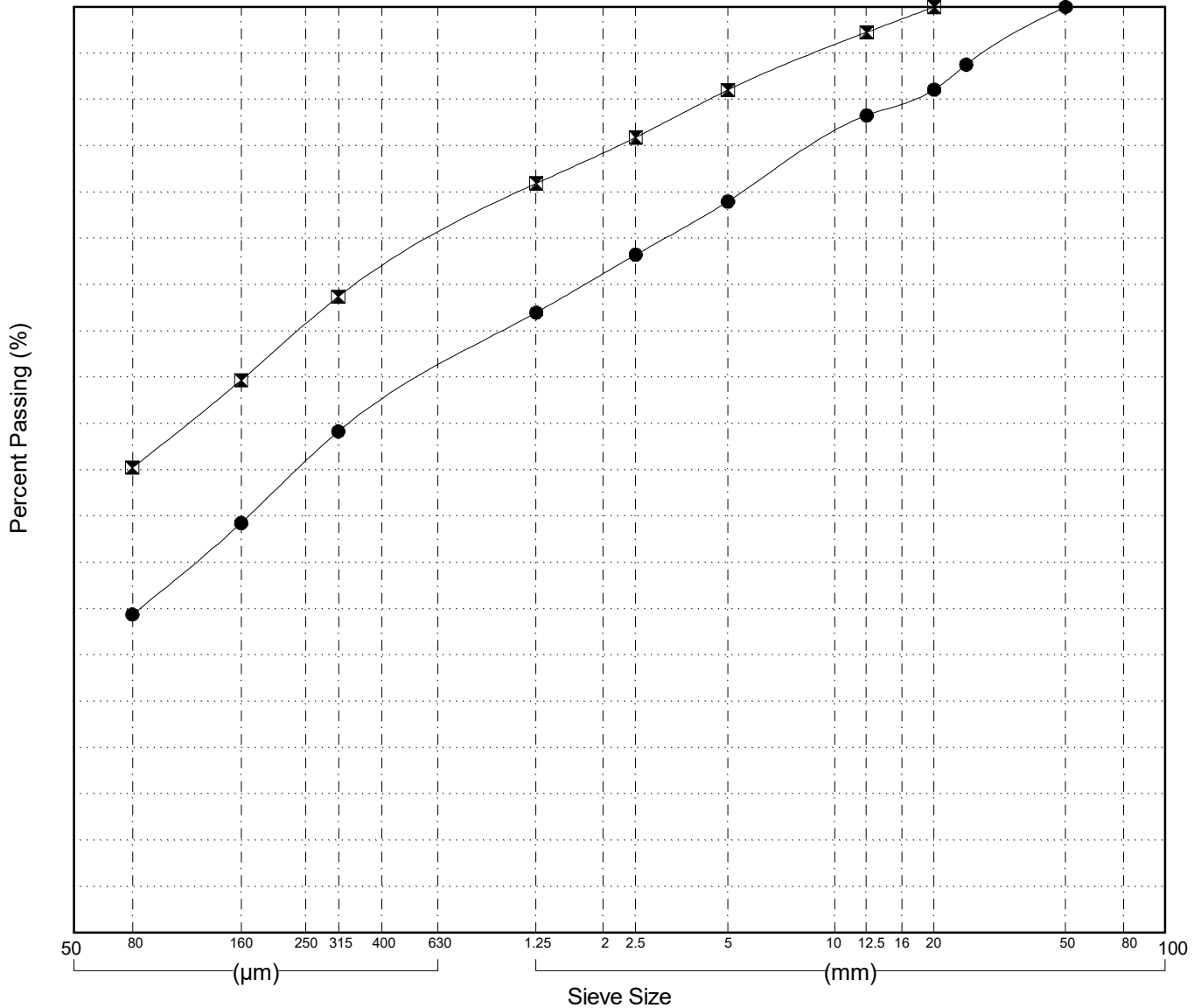


GRAIN SIZE ANALYSIS	Alaska Hwy Surface Failure	SOURCE/TP#: 903-5711
Gateway Drilling	km 1229.4	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6666538m E638807m	ELEVATION: 690m

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Field#	Lab#	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu											
● 007	434	1.2 to 1.6	SILTY SAND with GRAVEL(SM)	3.8	NP	NP	NP													
☒ 009	436	4.2 to 4.6	SANDY SILT(ML)	8.4	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				
● 007	434	100.0	100.0	100.0	93.8	91.1	88.3	86.1	79.0	73.2	67.0	60.6	54.2	44.3	34.4	Gravel	Sand	Silt	Clay	
☒ 009	436	100.0	100.0	100.0	100.0	100.0	97.2	95.8	91.0	85.9	80.9	74.9	68.7	59.7	50.3	9.0	40.8	50.3		

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



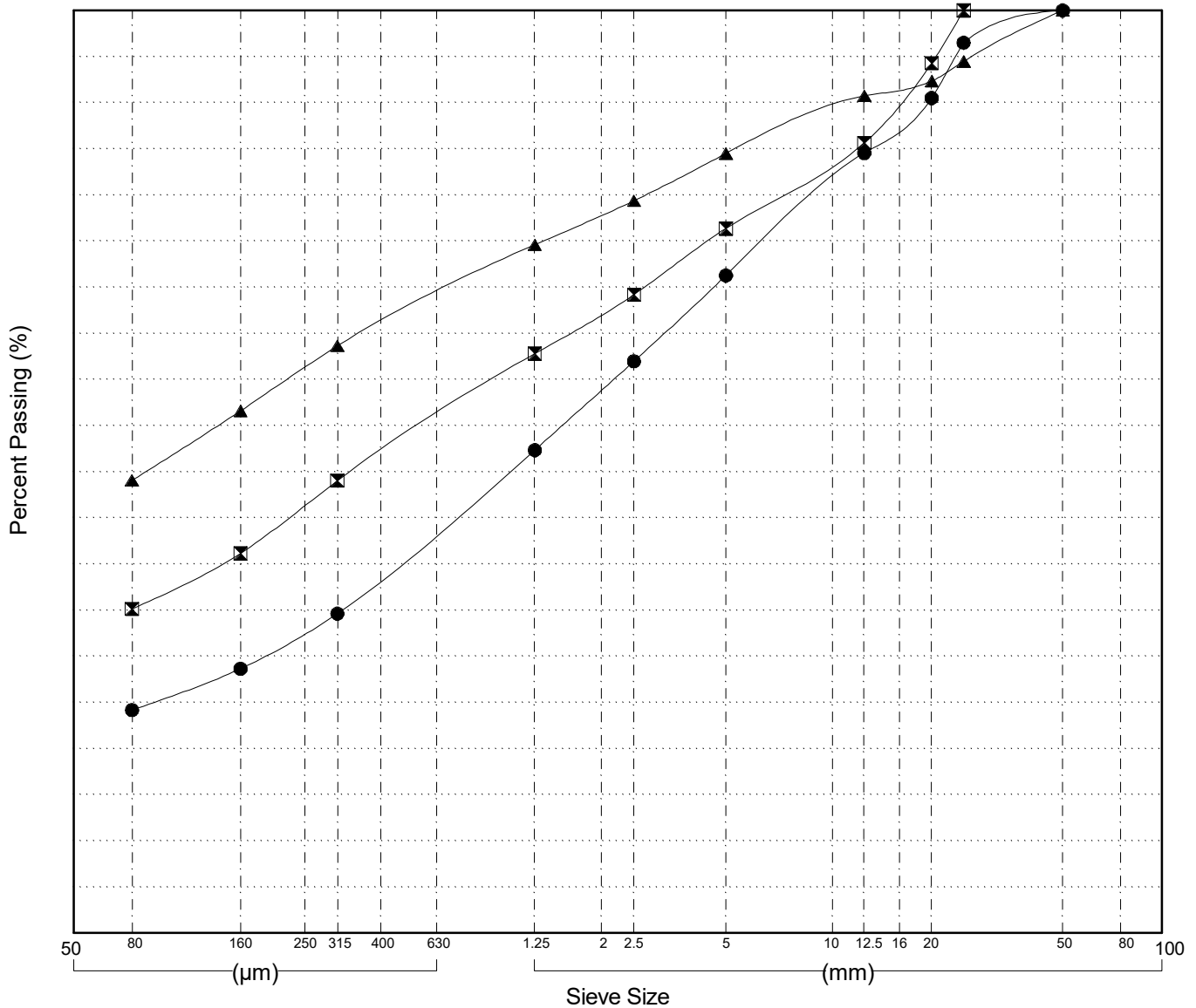
GRAIN SIZE ANALYSIS	Alaska Hwy Surface Failure	SOURCE/TP#: 903-5712
Gateway Drilling	km 1229.6	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6666549m E638590m	ELEVATION: 689m

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Field#	Lab#	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 010	437	0.3 to 0.6	SILTY SAND with GRAVEL(SM)	2.3	NP	NP	NP		
☒ 011	438	1.2 to 1.6	SILTY SAND with GRAVEL(SM)	5.9	NP	NP	NP		
▲ 013	440	4.2 to 4.6	SILTY SAND with GRAVEL(SM)	7.8	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		
● 010	437	100.0	100.0	100.0	100.0	96.5	90.5	84.5	81.5	71.3	62.0	52.3	43.5	34.6	28.7	24.2	28.7	47.1	24.2			
☒ 011	438	100.0	100.0	100.0	100.0	94.3	85.6	83.5	76.4	69.2	62.8	56.0	49.0	41.2	35.1	23.6	41.2	35.1				
▲ 013	440	100.0	100.0	100.0	94.5	92.3	90.7	89.3	84.5	79.4	74.6	69.2	63.6	56.6	49.1	15.5	35.4	49.1				

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



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Transportation Engineering Branch

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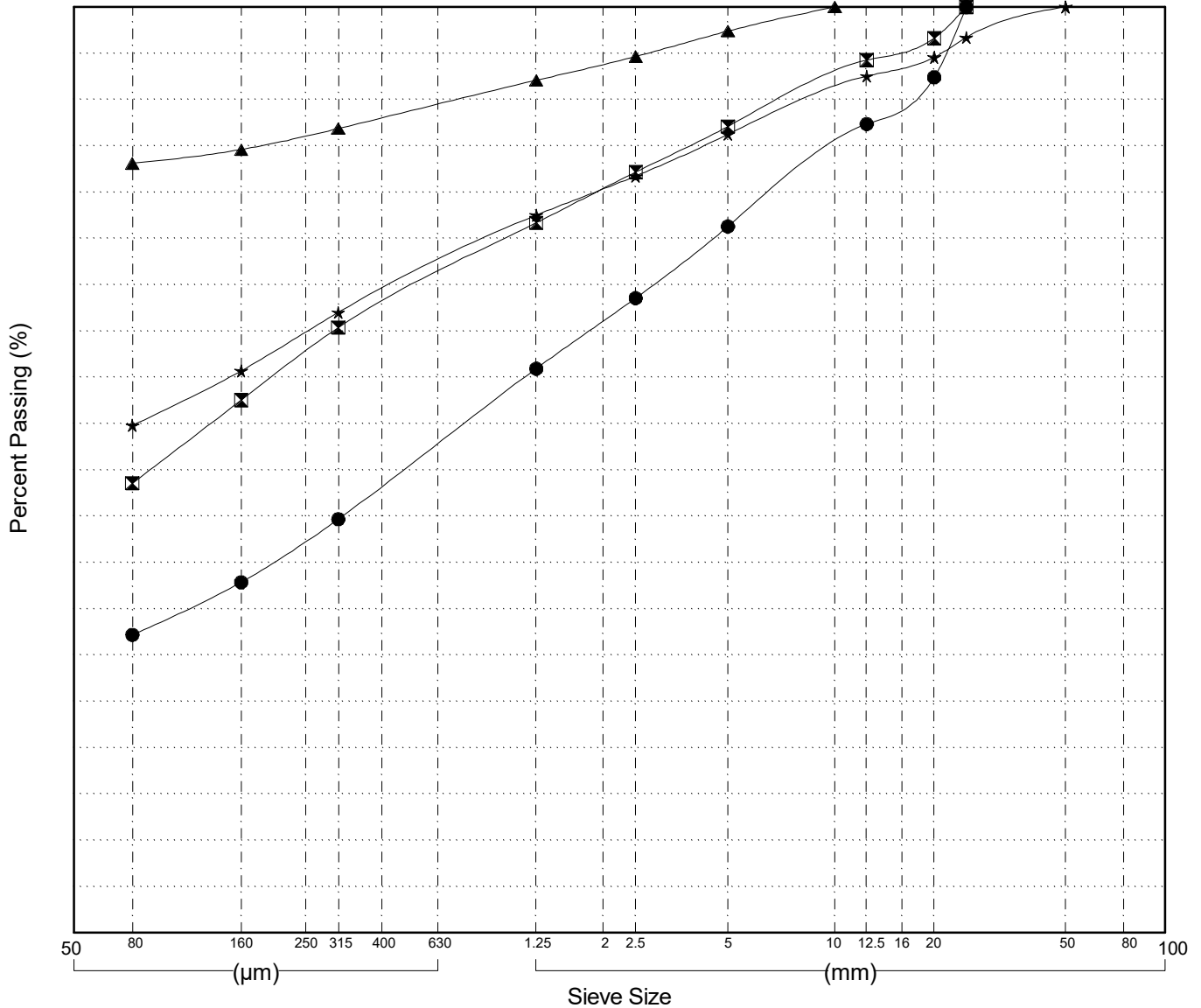
GRAIN SIZE ANALYSIS	Alaska Hwy Surface Failure	SOURCE/TP#: 903-5713
Gateway Drilling	km 1229.8	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6666560m E638348m	ELEVATION: 689m

Master Revised July 2013

Field#	Lab#	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 014	441	0.3 to 0.6	SILTY SAND with GRAVEL(SM)	2.7	NP	NP	NP		
☒ 015	442	1.2 to 1.6	SILTY SAND(SM)	7.2	NP	NP	NP		
▲ 016	443	2.6 to 3.0	SILT with SAND(ML)	15.1	NP	NP	NP		
★ 017	444	4.3 to 4.6	SANDY SILT(ML)	8.4	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
● 014	441	100.0	100.0	100.0	100.0	100.0	92.4	87.3	84.8	76.3	68.5	60.9	52.9	44.7	37.9	32.2	23.7	44.1	32.2	
☒ 015	442	100.0	100.0	100.0	100.0	96.6	94.2	92.6	87.1	82.2	76.7	71.1	65.4	57.5	48.6	12.9	38.5	48.6		
▲ 016	443	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.4	94.6	92.1	89.5	86.9	84.6	83.1	2.6	14.3	83.1		
★ 017	444	100.0	100.0	100.0	96.7	94.6	92.5	91.1	86.2	81.7	77.5	72.3	67.0	60.7	54.8	13.8	31.4	54.8		

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works
Transportation Engineering Branch

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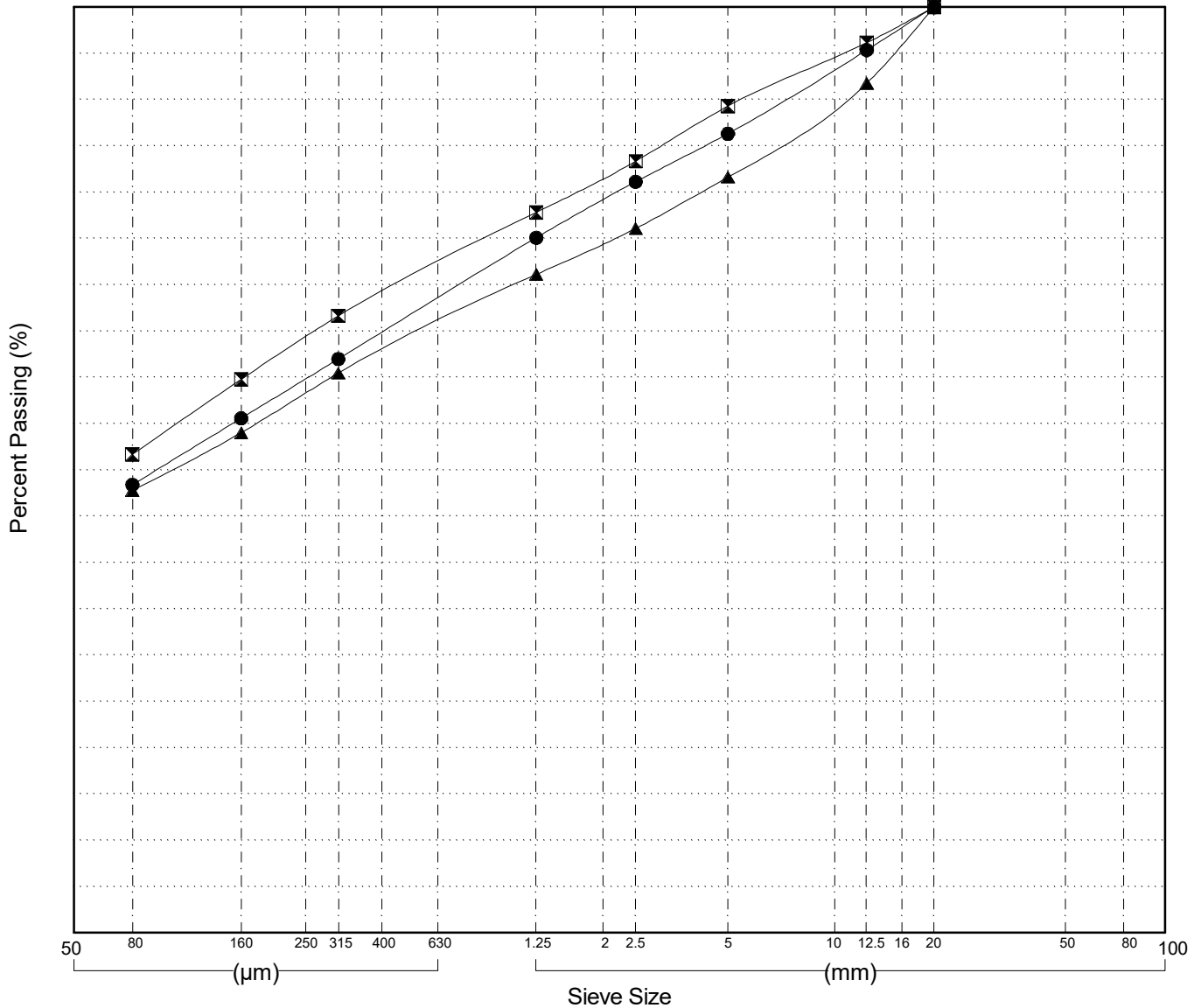
GRAIN SIZE ANALYSIS	Alaska Hwy Surface Failure	SOURCE/TP#: 903-5714
Gateway Drilling	km 1230.4	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6666578m E638036m	ELEVATION: 693m

Master Revised July 2013

Field#	Lab#	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 018	445	0.2 to 0.4	SILTY SAND(SM)	5.5	NP	NP	NP		
☒ 019	446	1.2 to 1.6	SANDY SILT(ML)	6.4	NP	NP	NP		
▲ 021	448	4.2 to 4.6	SILTY SAND with GRAVEL(SM)	5.0	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														
● 018	445	100.0	100.0	100.0	100.0	100.0	95.3	93.3	86.3	81.1	75.1	68.6	62.0	55.6	48.4	13.7	37.9	48.4		
☒ 019	446	100.0	100.0	100.0	100.0	100.0	96.1	94.5	89.3	83.3	77.8	72.3	66.6	59.8	51.7	10.7	37.6	51.7		
▲ 021	448	100.0	100.0	100.0	100.0	100.0	91.7	89.4	81.6	76.1	71.1	65.8	60.5	54.0	47.8	18.4	33.8	47.8		

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



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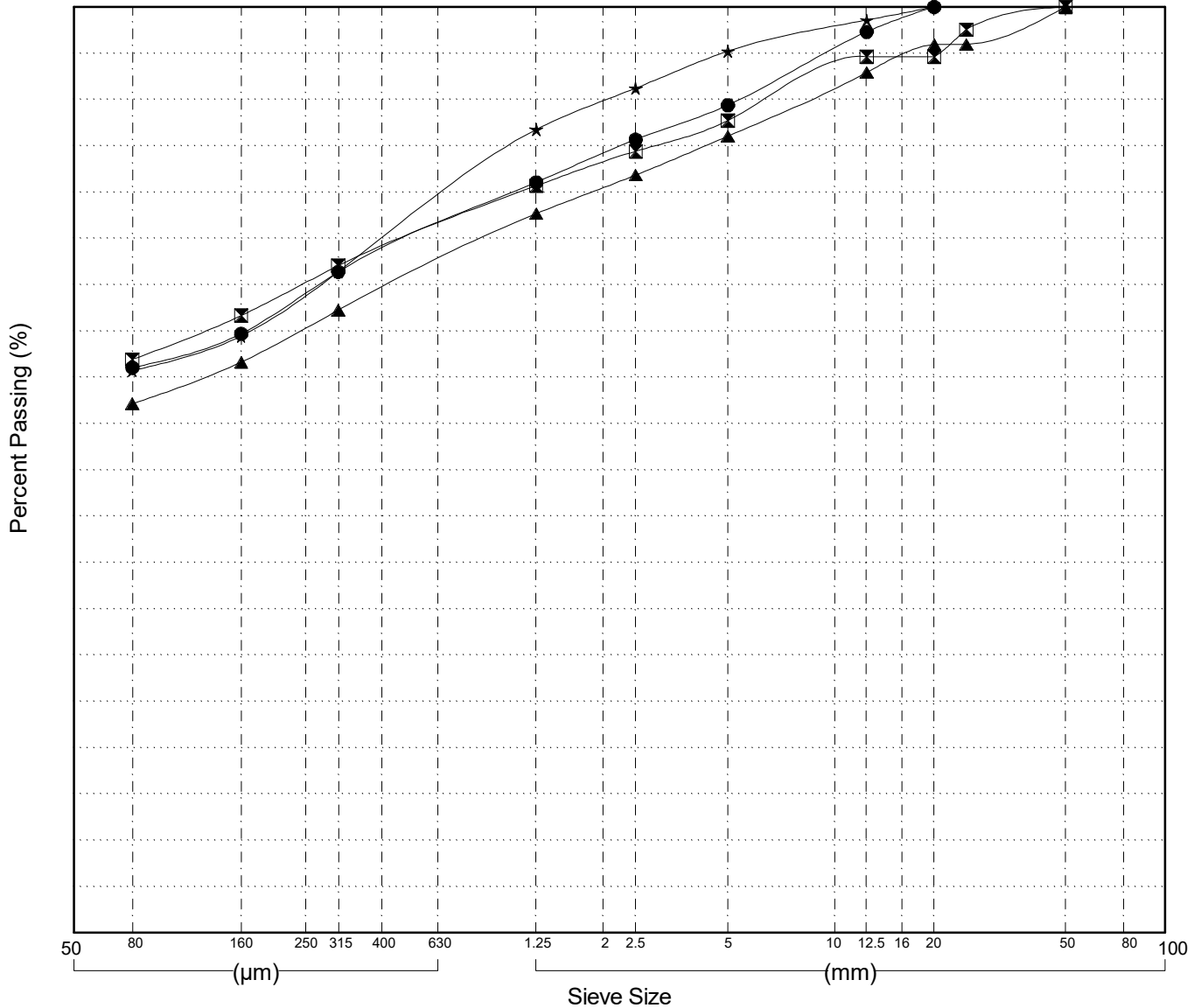
GRAIN SIZE ANALYSIS	Alaska Hwy Surface Failure	SOURCE/TP#: 903-5715
Gateway Drilling	km 1234.1	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6667132m E634466m	ELEVATION: 738m

Master Revised July 2013

Field#	Lab#	Depth	Classification	%H2O	LL	PL	PI	Cc	Cu
● 022	449	0.2 to 0.5	SANDY SILT(ML)	6.7	NP	NP	NP		
☒ 023	450	1.2 to 1.6	SANDY SILT(ML)	8.3	NP	NP	NP		
▲ 024	451	2.6 to 3.0	SANDY SILT(ML)	7.9	NP	NP	NP		
★ 025	452	4.2 to 4.6	SANDY SILT(ML)	8.4	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			
		% PASSING														Gravel	Sand	Silt	Clay
● 022	449	100.0	100.0	100.0	100.0	100.0	97.3	95.5	89.4	85.7	81.0	76.2	71.4	64.7	61.1	10.6	28.3	61.1	
☒ 023	450	100.0	100.0	100.0	97.5	94.6	94.6	93.0	87.7	84.4	80.7	76.4	72.0	66.7	61.9	12.3	25.8	61.9	
▲ 024	451	100.0	100.0	100.0	95.9	95.9	92.9	91.3	86.0	81.8	77.7	72.5	67.3	61.6	57.1	14.0	28.9	57.1	
★ 025	452	100.0	100.0	100.0	100.0	100.0	98.6	97.8	95.2	91.2	86.8	79.1	71.4	64.4	60.7	4.8	34.5	60.7	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



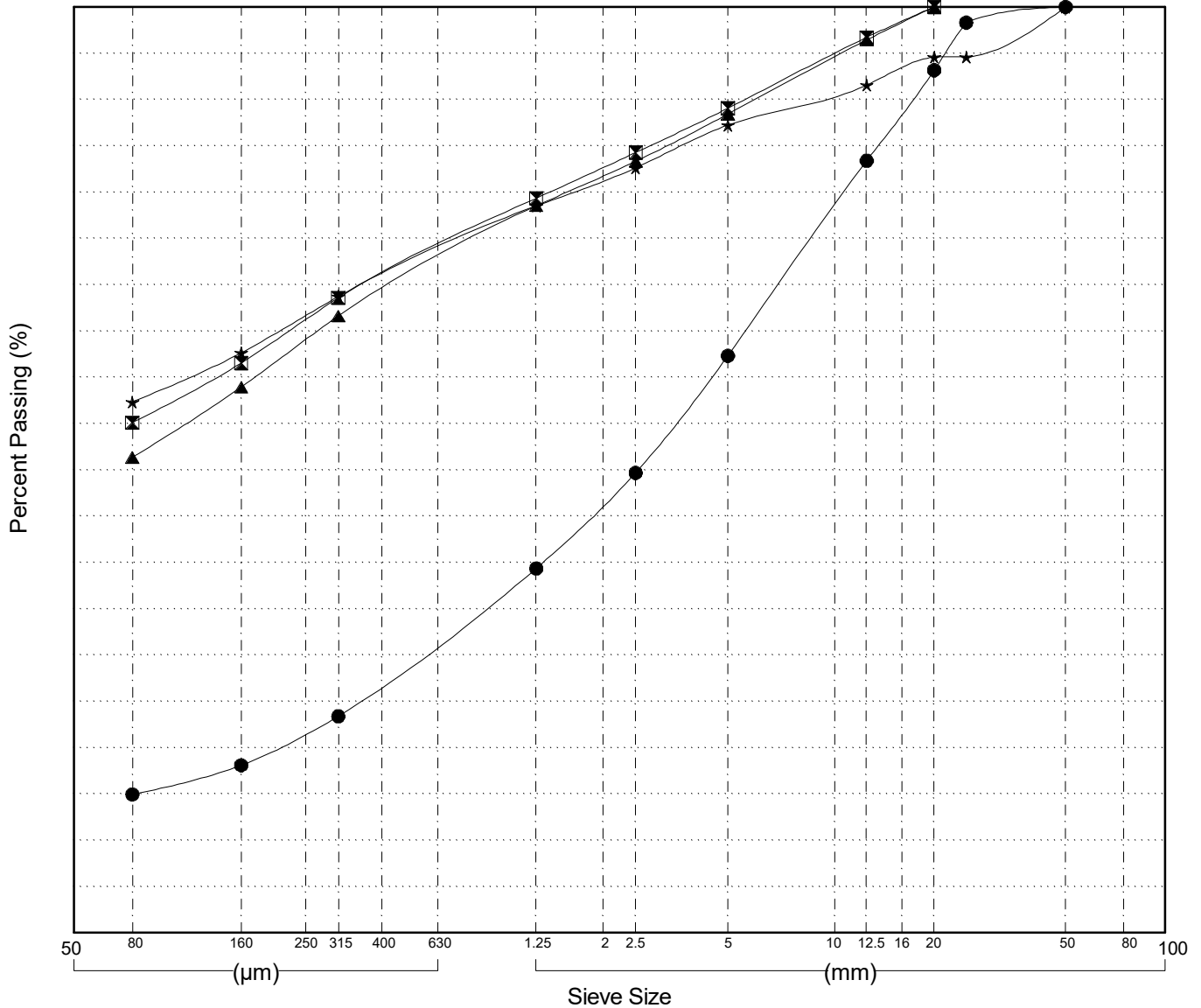
GRAIN SIZE ANALYSIS	Alaska Hwy Surface Failure	SOURCE/TP#: 903-5716
Gateway Drilling	km 1237.6	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6733695m E495096m	ELEVATION: 848m

Master Revised July 2013

Field#	Lab#	Depth	Classification	%H ₂ O	LL	PL	PI	C _c	C _u
● 026	453	0.2 to 0.4	SILTY SAND with GRAVEL(SM)	2.2	NP	NP	NP		
☒ 027	454	1.2 to 1.6	SANDY SILT(ML)	8.1	NP	NP	NP		
▲ 028	455	2.6 to 3.0	SANDY SILT(ML)	6.8	NP	NP	NP		
★ 029	456	4.2 to 4.6	SANDY SILT(ML)	8.0	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
● 026	453	100.0	100.0	100.0	98.3	93.2	83.4	78.5	62.3	49.7	39.4	31.4	23.4	18.1	14.9	37.7	47.4	14.9	
☒ 027	454	100.0	100.0	100.0	100.0	100.0	96.7	94.9	89.0	84.3	79.3	74.0	68.6	61.5	55.1	11.0	33.9	55.1	
▲ 028	455	100.0	100.0	100.0	100.0	100.0	96.4	94.6	88.4	83.3	78.5	72.6	66.6	58.9	51.3	11.6	37.1	51.3	
★ 029	456	100.0	100.0	100.0	94.6	94.6	91.6	90.6	87.2	82.6	78.5	73.6	68.7	62.6	57.3	12.8	29.9	57.3	

Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse



Highways and Public Works
Transportation Engineering Branch

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SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5710
Gateway Drilling	Alaska Hwy Surface Failure, km 1208	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6657117m E655898m	ELEVATION: 841m

PHOTOS



Figure 903-5710.1
SPT sample from 1.2 to 1.6m in BH903-5710



Figure 903-5710.2
SPT sample from 2.7 to 3.1m in BH903-5710

SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5710
Gateway Drilling	Alaska Hwy Surface Failure, km 1208	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6657117m E655898m	ELEVATION: 841m

PHOTOS



Figure 903-5710.3
SPT sample from 5.7 to 6.1m in BH903-5710

SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5711
Gateway Drilling	Alaska Hwy Surface Failure, km 1229.4	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6666538m E638807m	ELEVATION: 690m

PHOTOS



Figure 903-5711.1
SPT sample from 1.2 to 1.6m in BH903-5711



Figure 903-5711.2
SPT sample from 4.2 to 4.6m in BH903-5711

SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5712
Gateway Drilling	Alaska Hwy Surface Failure, km 1229.6	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6666549m E638590m	ELEVATION: 689m

PHOTOS



Figure 903-5712.1
SPT sample from 1.2 to 1.6m in BH903-5712



Figure 903-5712.2
SPT sample from 2.6 to 3m in BH903-5712

SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5712
Gateway Drilling	Alaska Hwy Surface Failure, km 1229.6	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6666549m E638590m	ELEVATION: 689m

PHOTOS



Figure 903-5712.3
SPT sample from 4.2 to 4.6m in BH903-5712

SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5713
Gateway Drilling	Alaska Hwy Surface Failure, km 1229.8	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6666560m E638348m	ELEVATION: 689m

PHOTOS



Figure 903-5713.1
SPT sample from 1.2 to 1.6m in BH903-5713



Figure 903-5713.2
SPT sample from 2.6 to 3.0m in BH903-5713



SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5713
Gateway Drilling	Alaska Hwy Surface Failure, km 1229.8	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6666560m E638348m	ELEVATION: 689m

PHOTOS



Figure 903-5713.3
SPT sample from 4.3 to 4.6m in BH903-5713

SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5714
Gateway Drilling	Alaska Hwy Surface Failure, km 1230.4	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6666578m E638036m	ELEVATION: 693m

PHOTOS



Figure 903-5714.1
SPT sample from 1.2 to 1.6m in BH903-5714



Figure 903-5714.2
SPT sample from 4.2 to 4.6m in BH903-5714



SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5715
Gateway Drilling	Alaska Hwy Surface Failure, km 1234.1	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6667132m E634466m	ELEVATION: 738m

PHOTOS



Figure 903-5715.1
SPT sample from 1.2 to 1.6m in BH903-5715



Figure 903-5715.2
SPT sample from 2.7 to 3.1m in BH903-5715



SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5715
Gateway Drilling	Alaska Hwy Surface Failure, km 1234.1	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6667132m E634466m	ELEVATION: 738m

PHOTOS



Figure 903-5715.3
SPT sample from 4.2 to 4.6m in BH903-5715

SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5716
Gateway Drilling	Alaska Hwy Surface Failure, km 1237.6	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6733695m E495096m	ELEVATION: 848m

PHOTOS



Figure 903-5716.1
SPT sample from 1.2 to 1.6m in BH903-5716



Figure 903-5716.2
SPT sample from 2.7 to 3.1m in BH903-5716



SUBSURFACE EXPLORATION AND TEST REPORT	Alaska Highway	SOURCE/TP#: 903-5716
Gateway Drilling	Alaska Hwy Surface Failure, km 1237.6	PROJECT NO: 552-202177-1103-0108-1
B61 150mm	Coordinates: Z08V N6733695m E495096m	ELEVATION: 848m

PHOTOS



Figure 903-5716.3
SPT sample from 4.2 to 4.6m in BH903-5716