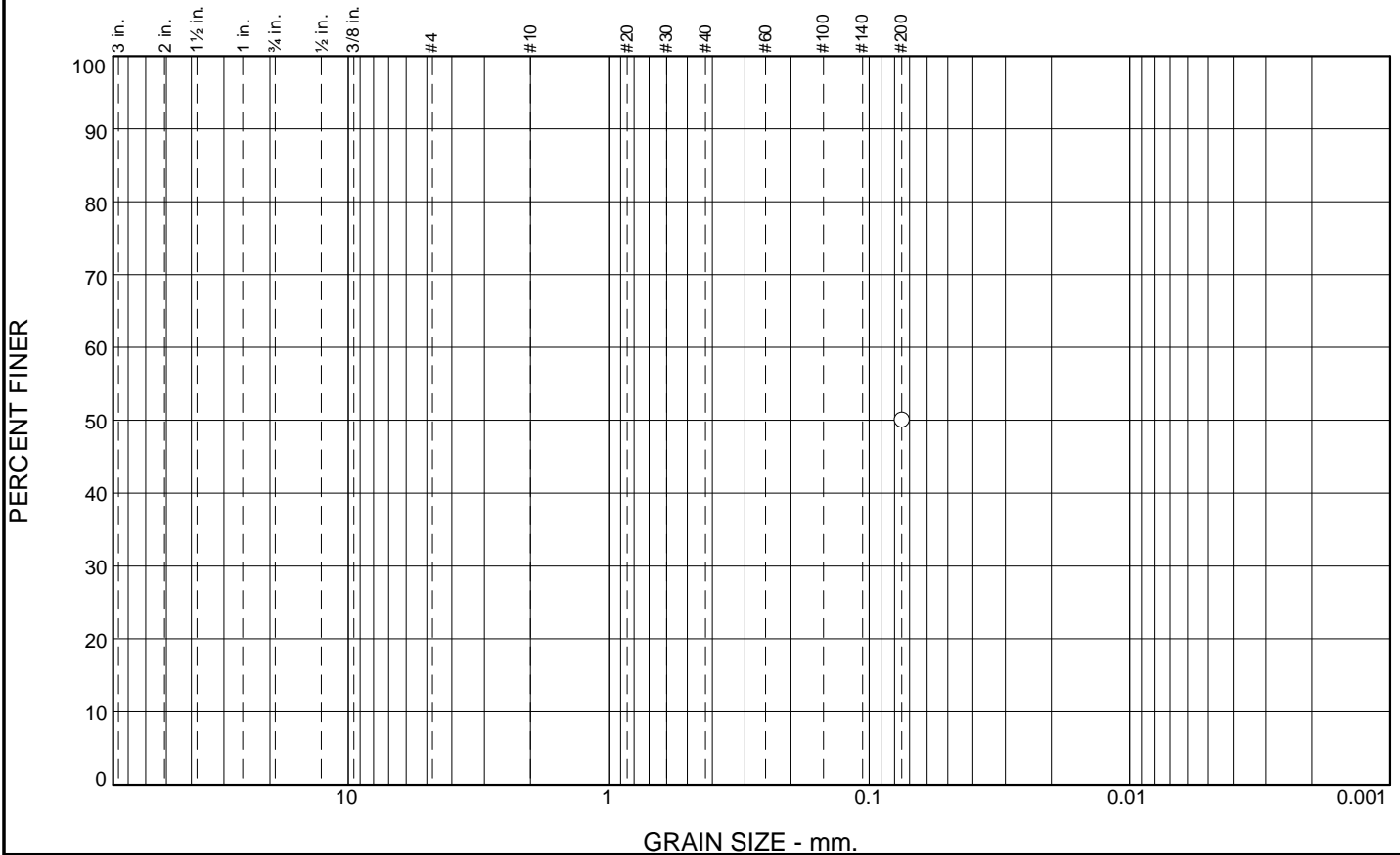


APPENDIX D

Laboratory Test Results (ENGEO)



Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						50	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	50		

Soil Description

See exploration log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification


USCS= AASHTO=

Remarks

* (no specification provided)

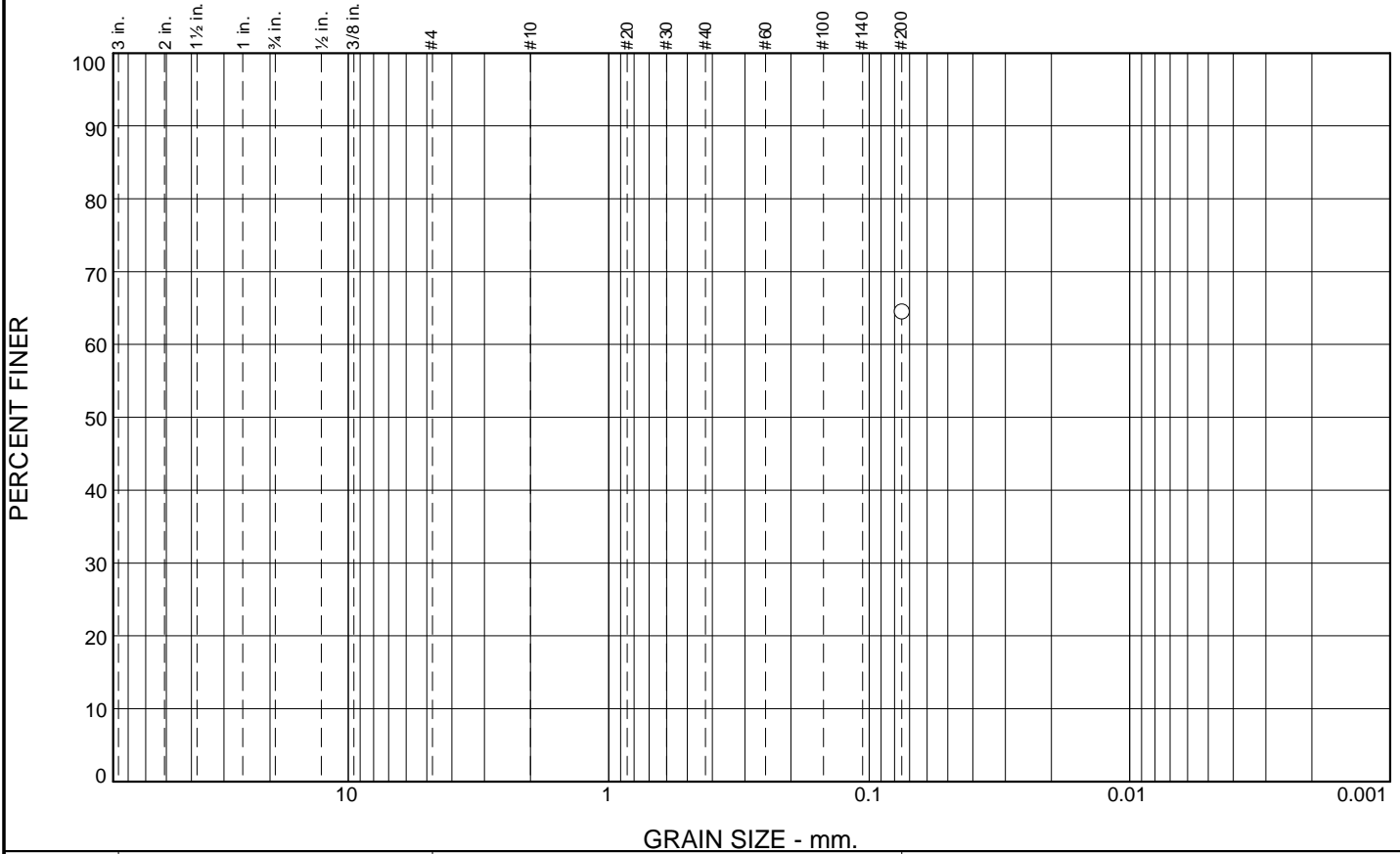
Source of Sample: 7-B001 **Depth:** 0.5 ft
Sample Number: 7-B001@0.5'

Date: 02-23-2015

	Client: Peterson Brustad Incorporated Project: RD-17 ULDC	
	Project No: 5747.005.000 Ph T-004	Figure

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						65	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	65		

* (no specification provided)

Soil Description

See exploration log

Atterberg Limits

PL= 17 LL= 28 PI= 11

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 7-B001
Sample Number: 7-B001@1'

Depth: 1 ft.

Date: 02-23-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

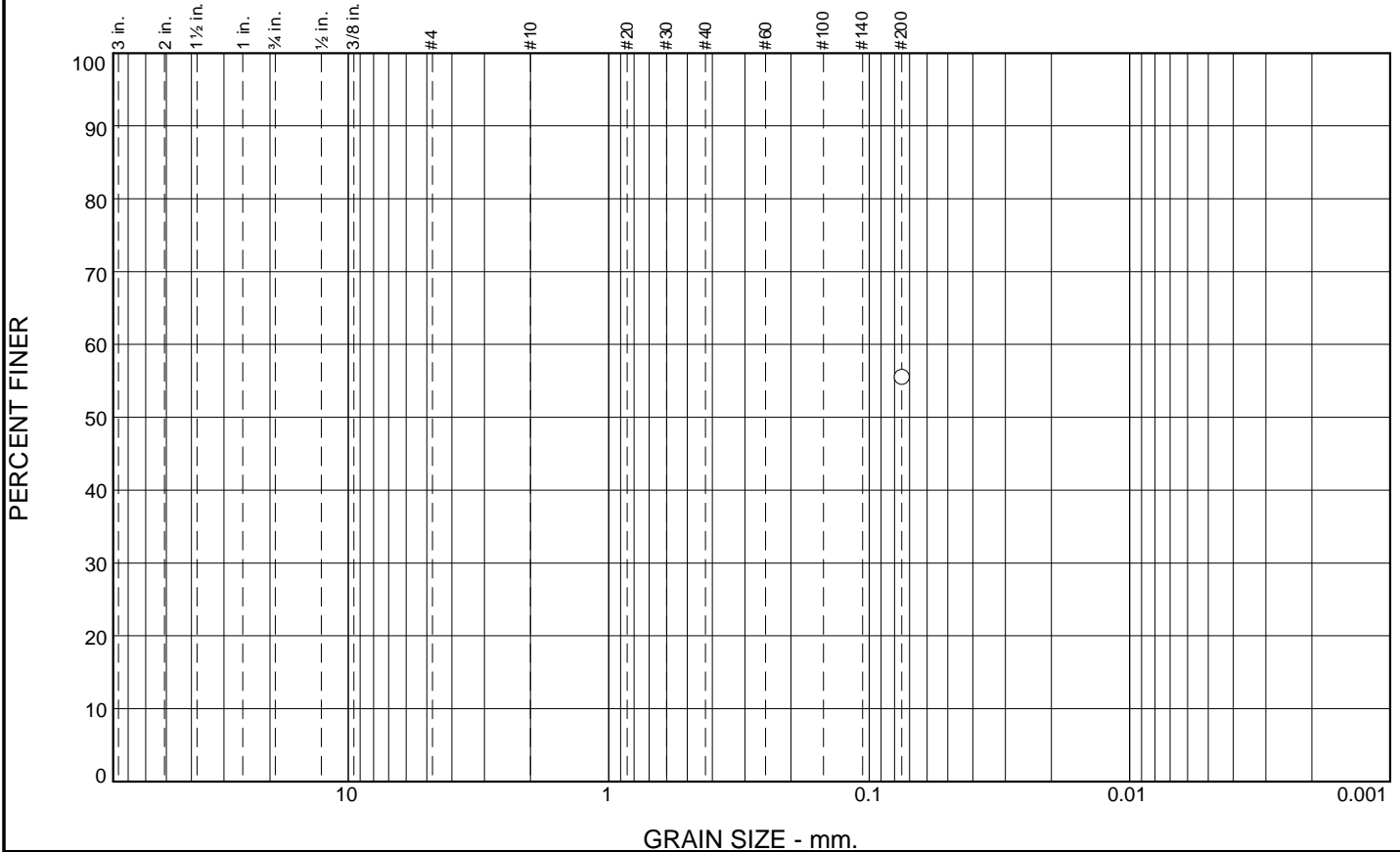
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						56	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	56		

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification


USCS= AASHTO=

Remarks

* (no specification provided)

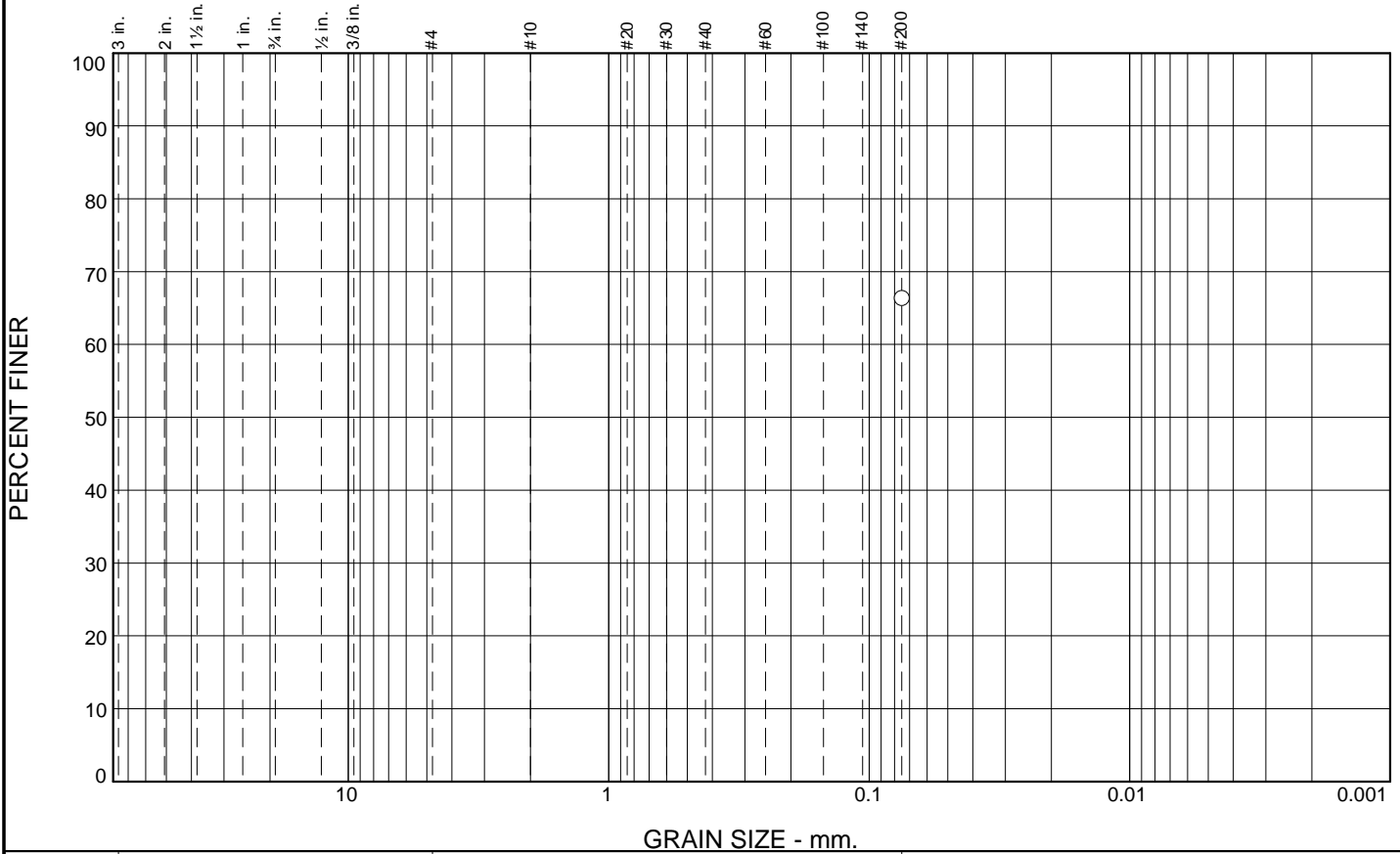
Source of Sample: 7-B001 **Depth:** 2.5 ft.
Sample Number: 7-B001@2.5'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
---	---

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						66	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	66		

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B001
Sample Number: 7-B001@4'

Depth: 4 ft.

Date: 02-23-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

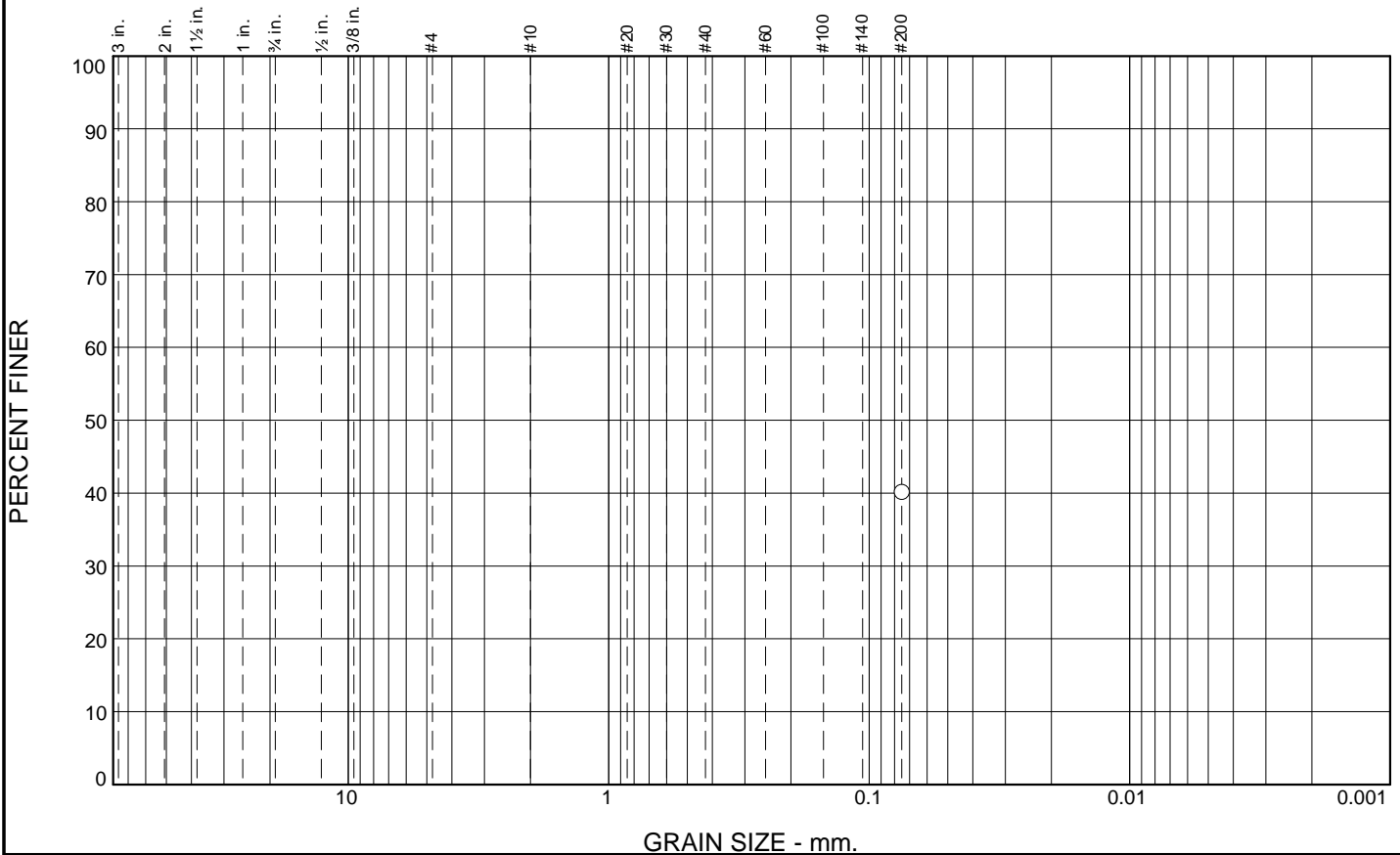
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						40	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	40		

Soil Description

See exploration log

Atterberg Limits
 LL= NP PI= NP


Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= SM AASHTO=

Remarks

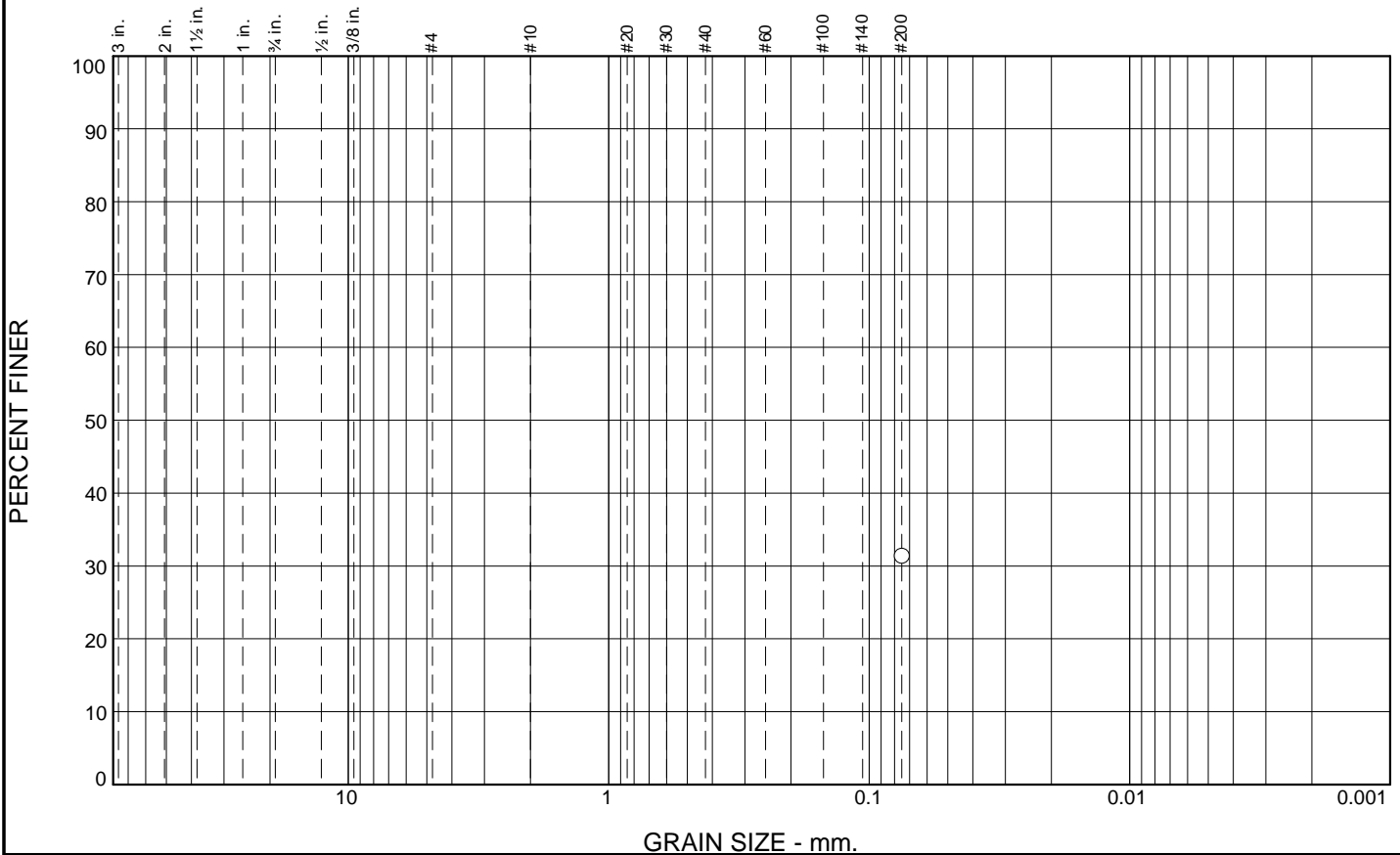
* (no specification provided)

Source of Sample: 7-B001 **Depth:** 7 ft. **Date:** 02-23-2015
Sample Number: 7-B001@7'

	Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004	Figure
---	--	---------------

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						31	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	31		

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=


Classification

USCS= AASHTO=

Remarks

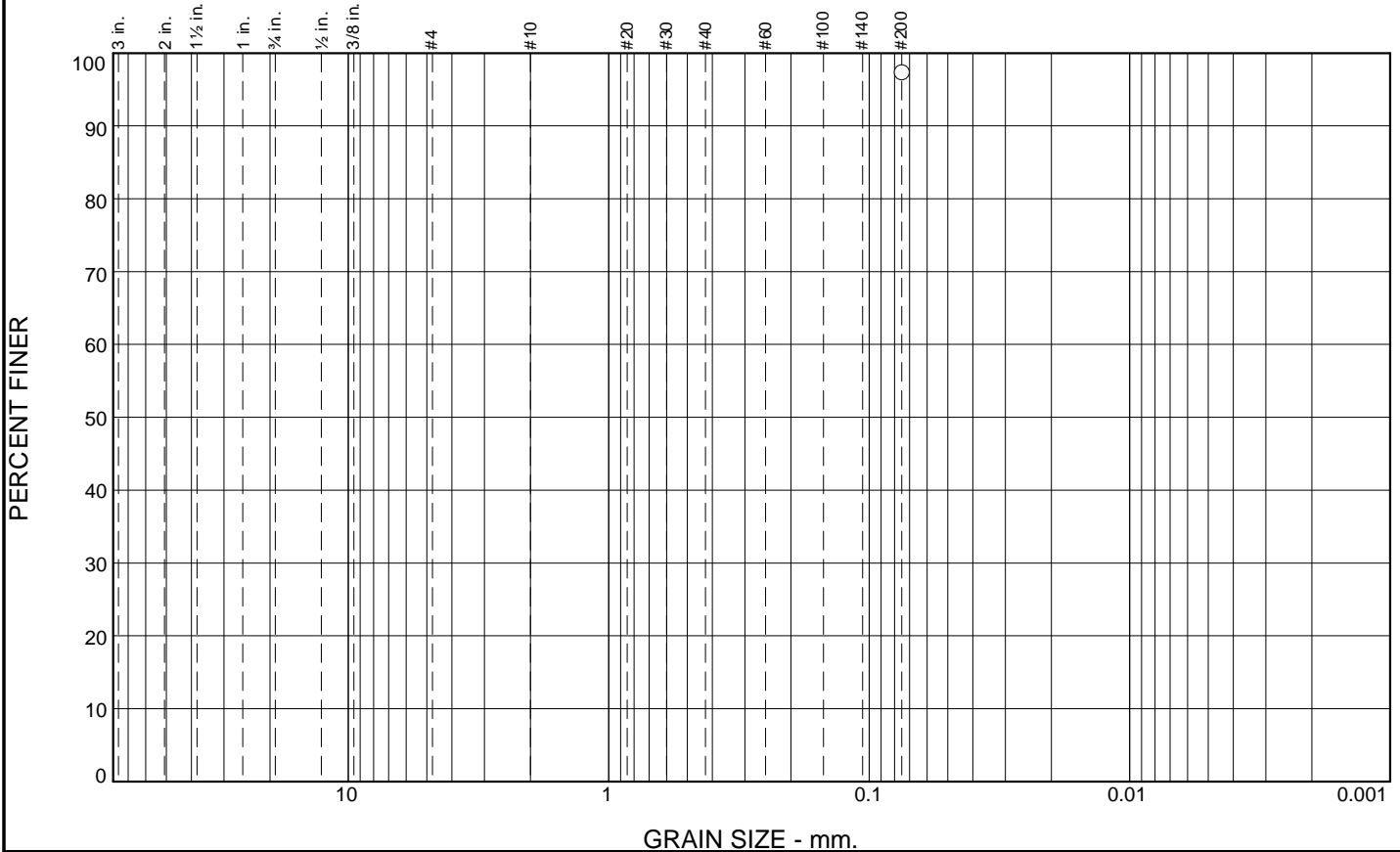
* (no specification provided)

Source of Sample: 7-B001 **Depth:** 10.5 ft. **Date:** 02-23-2015
Sample Number: 7-B001@10.5

	Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004	Figure
---	--	---------------

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						97	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	97		

* (no specification provided)

Soil Description

See exploration log

Atterberg Limits

PL= 23 LL= 34 PI= 11

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

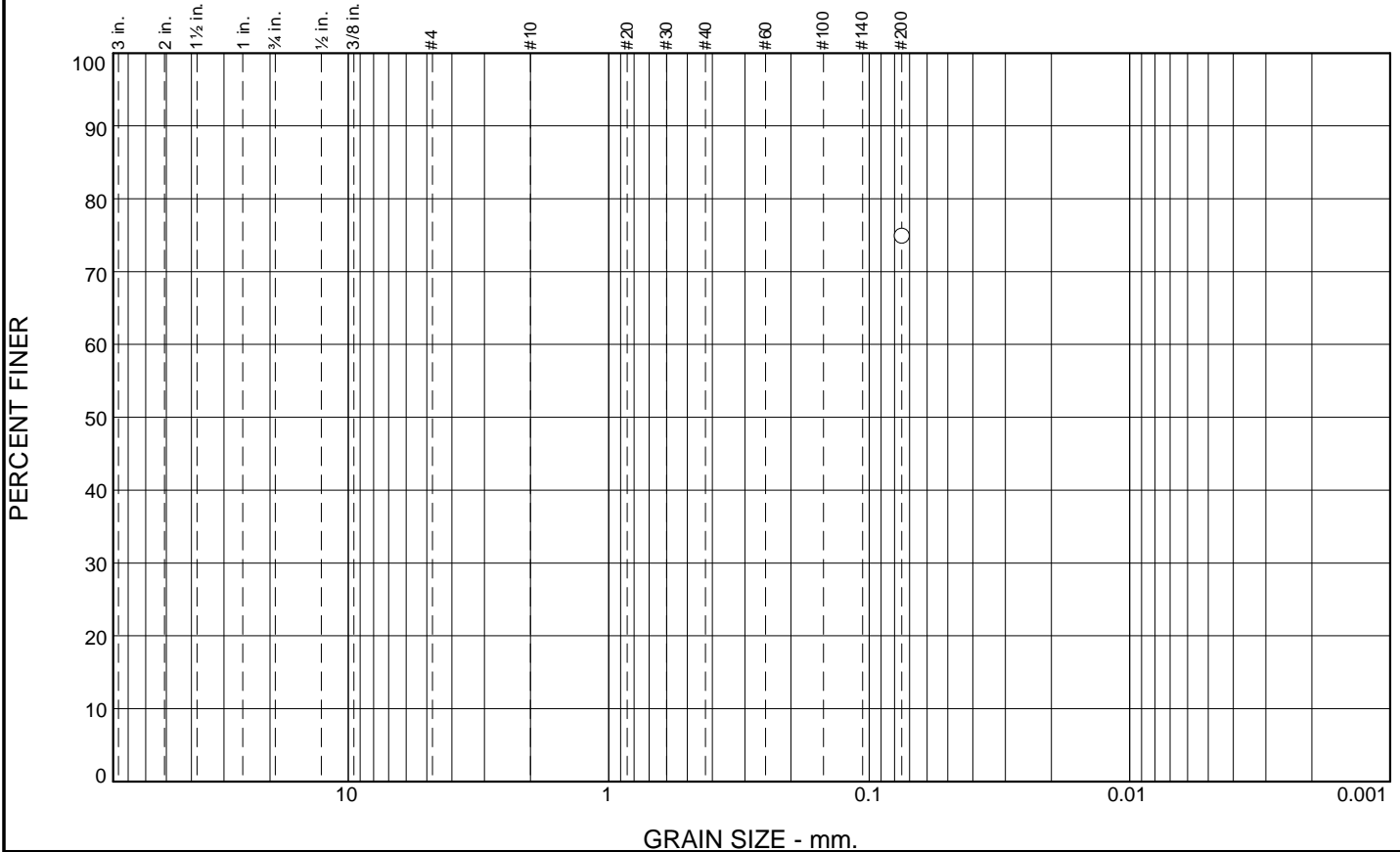
Source of Sample: 7-B001 **Depth:** 15.5 ft.
Sample Number: 7-B001@15.5'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
--	---

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						75	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	75		

* (no specification provided)

Soil Description

See exploration log

Atterberg Limits

PL= 21 LL= 38 PI= 17

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

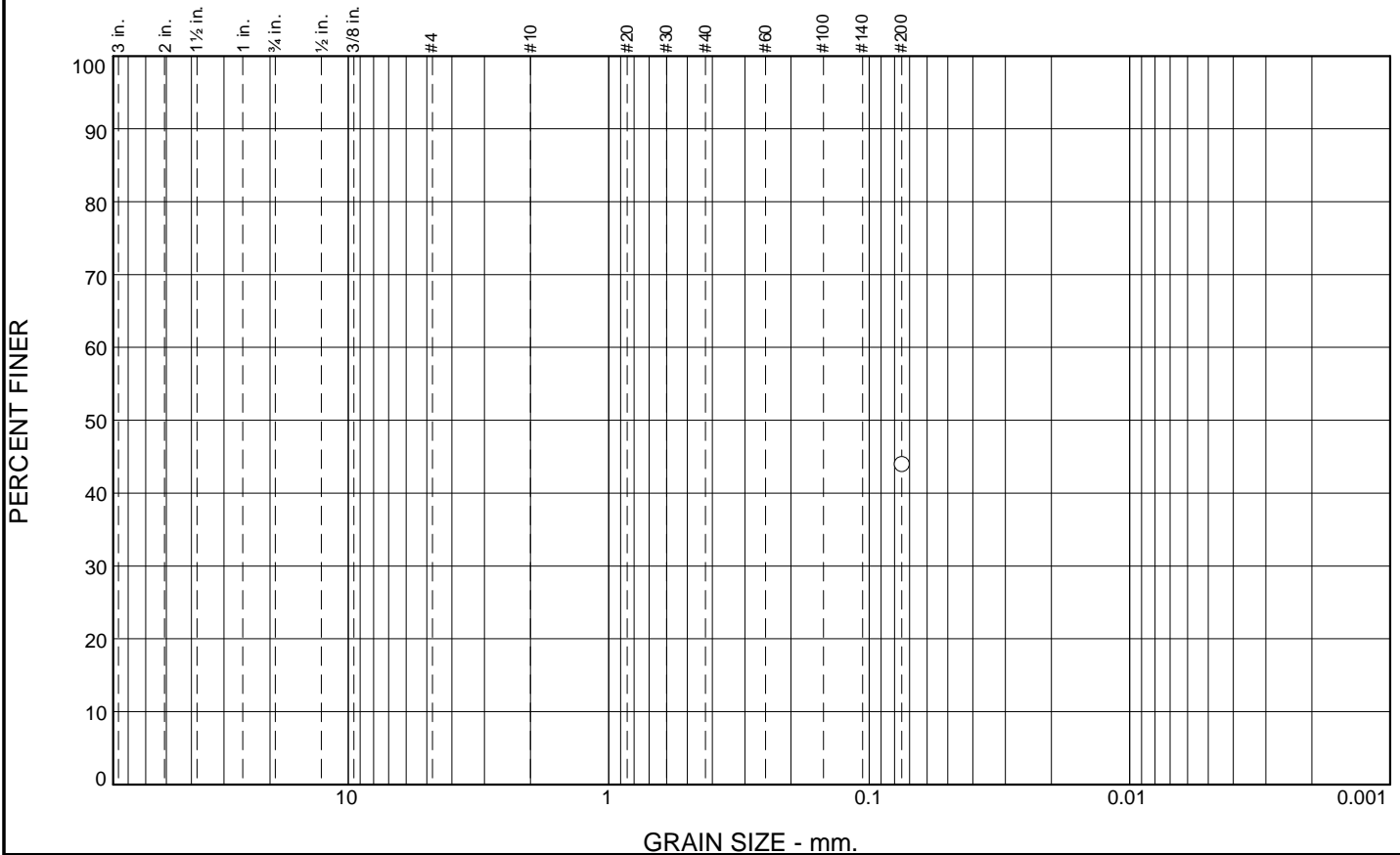
Source of Sample: 7-B001 **Depth:** 41 ft.
Sample Number: 7-B001@41'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
--	---

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						44	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	44		

* (no specification provided)

Soil Description

See exploration logs

Atterberg Limits

PL= 17 LL= 21 PI= 4

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL-ML AASHTO=

Remarks

Source of Sample: 7-B002
Sample Number: 7-B002@2

Depth: 2 ft.

Date: 02-23-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

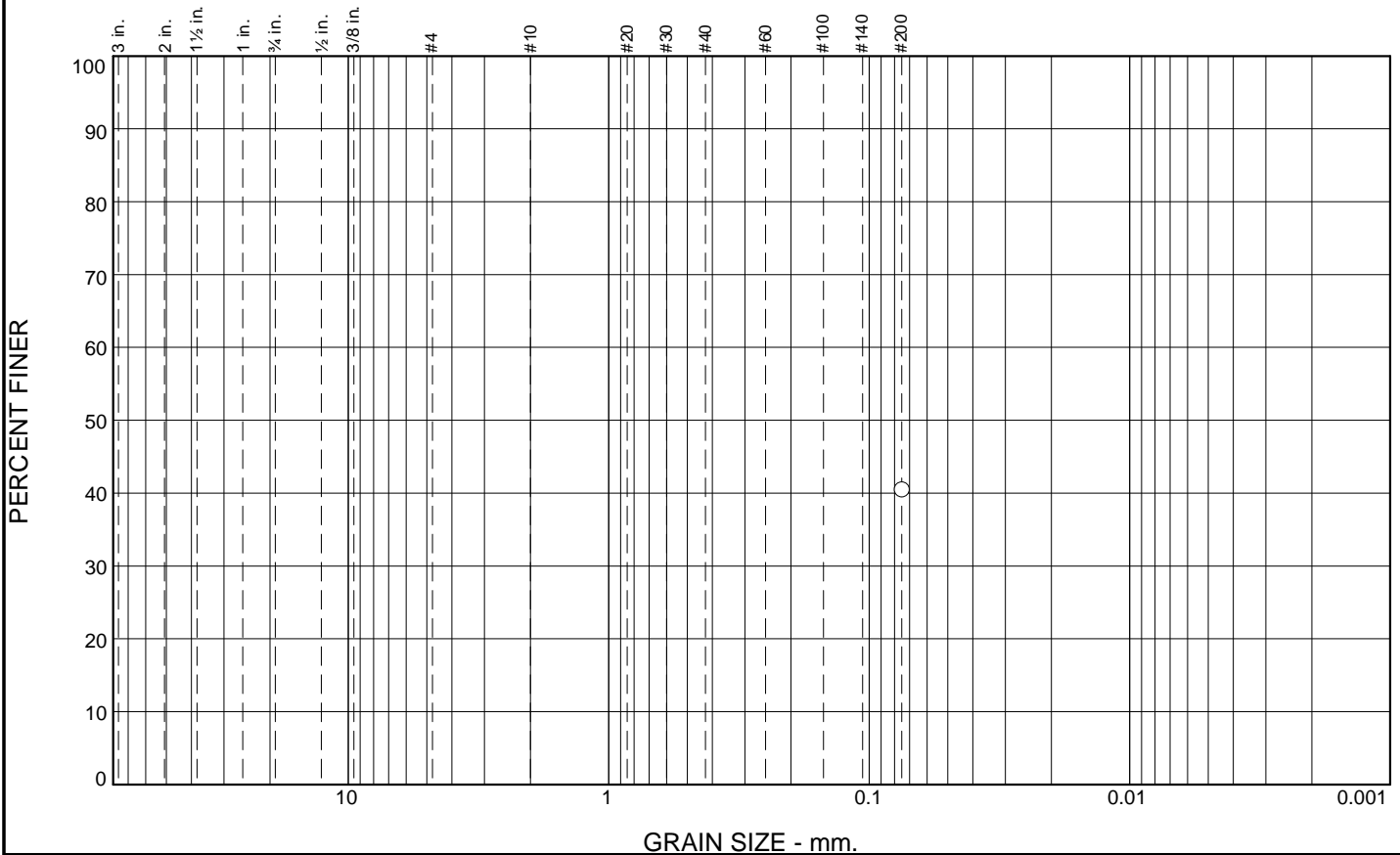
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						41	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	41		

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

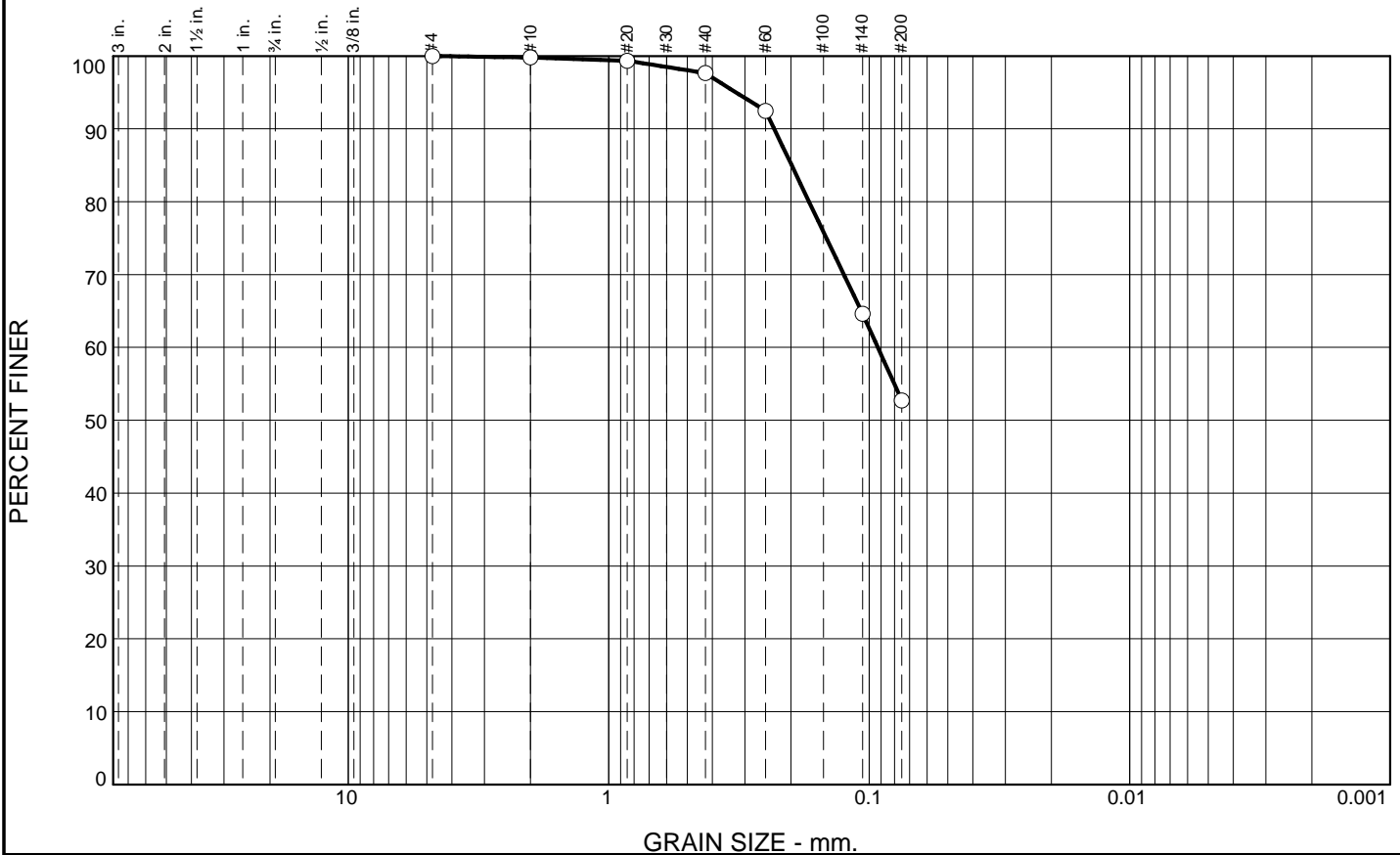
Source of Sample: 7-B002 **Depth:** 3.5 ft.
Sample Number: 7-B002@3.5'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
--	---

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	2	45	53	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100		
#10	100		
#20	99		
#40	98		
#60	92		
#140	65		
#200	53		

Soil Description

See exploration logs

Atterberg Limits

PL= 18 LL= 21 PI= 3

Coefficients

D₉₀= 0.2319 D₈₅= 0.1987 D₆₀= 0.0927
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

* (no specification provided)

Source of Sample: 7-B002
Sample Number: 7-B002@6

Depth: 6 ft.

Date: 02-23-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

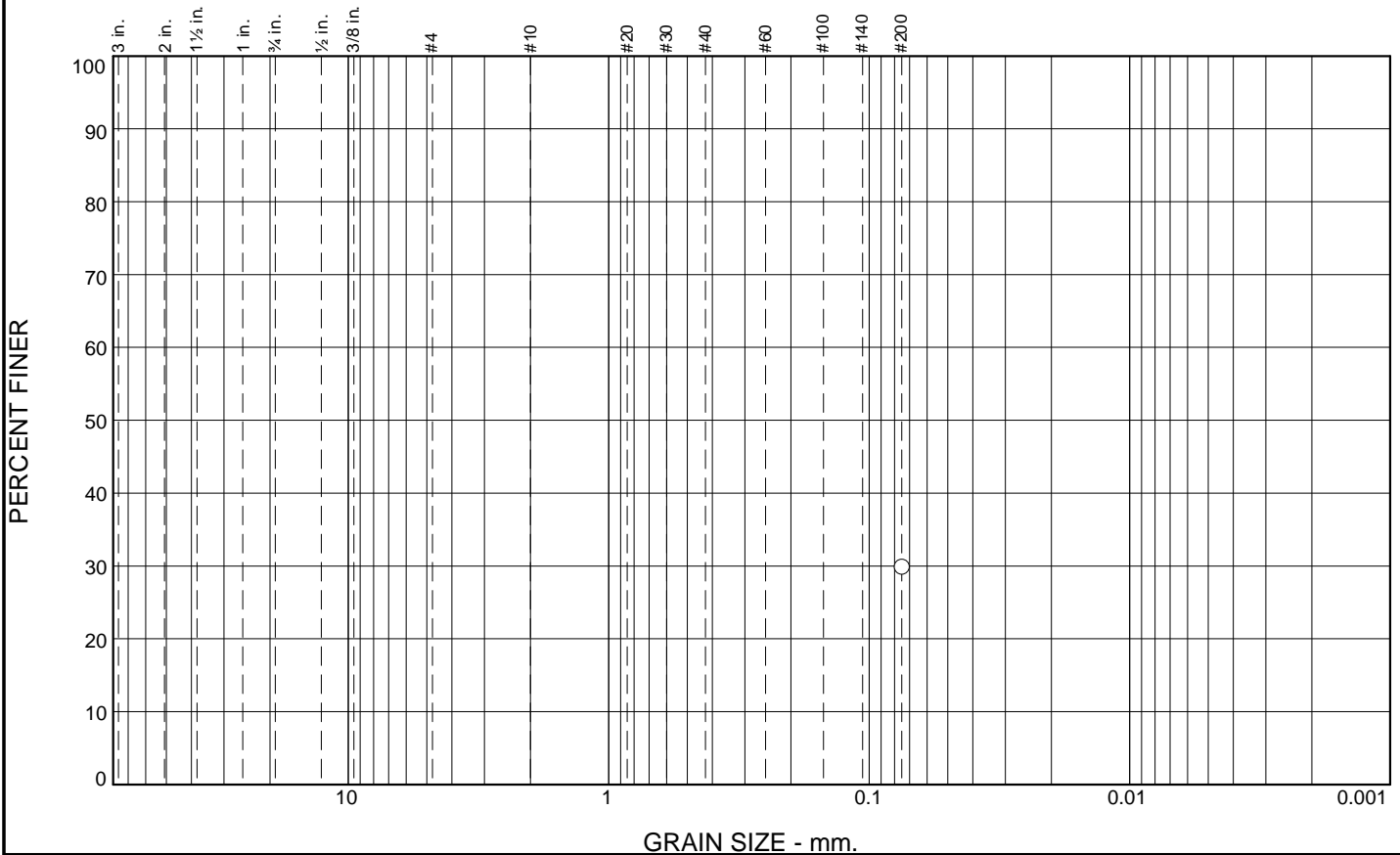
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						30	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	30		

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification


USCS= AASHTO=

Remarks

* (no specification provided)

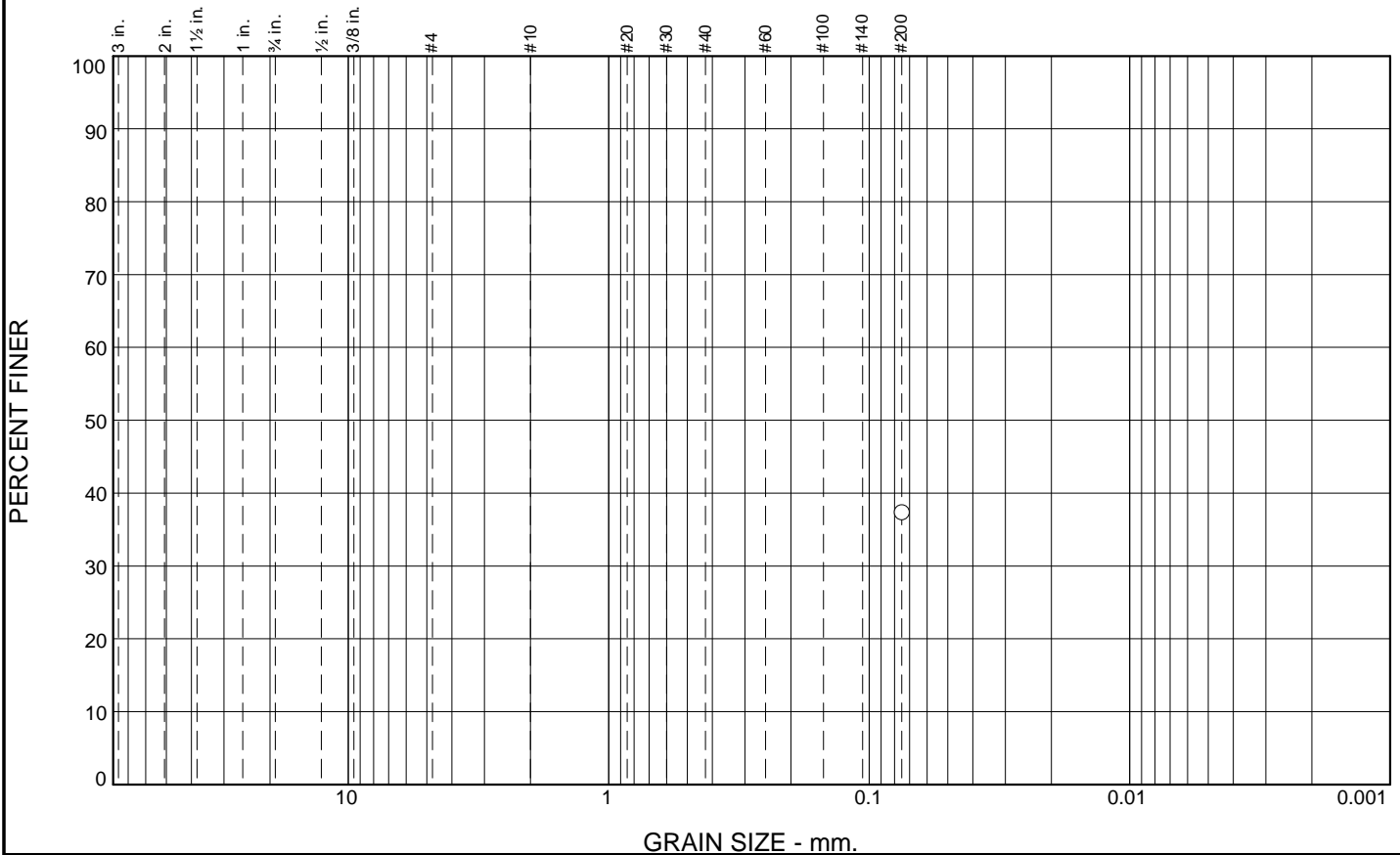
Source of Sample: 7-B002 **Depth:** 10.5 ft.
Sample Number: 7-B002@10.5'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						37	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	37		

Soil Description

See exploration logs

Atterberg Limits
 LL= NP PI= NP

Coefficients

D ₉₀ =	D ₈₅ =	D ₆₀ =
D ₅₀ =	D ₃₀ =	D ₁₅ =
D ₁₀ =	C _u =	C _c =

Classification
 USCS= SM AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B002
Sample Number: 7-B002@11

Depth: 11 ft.

Date: 02-23-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

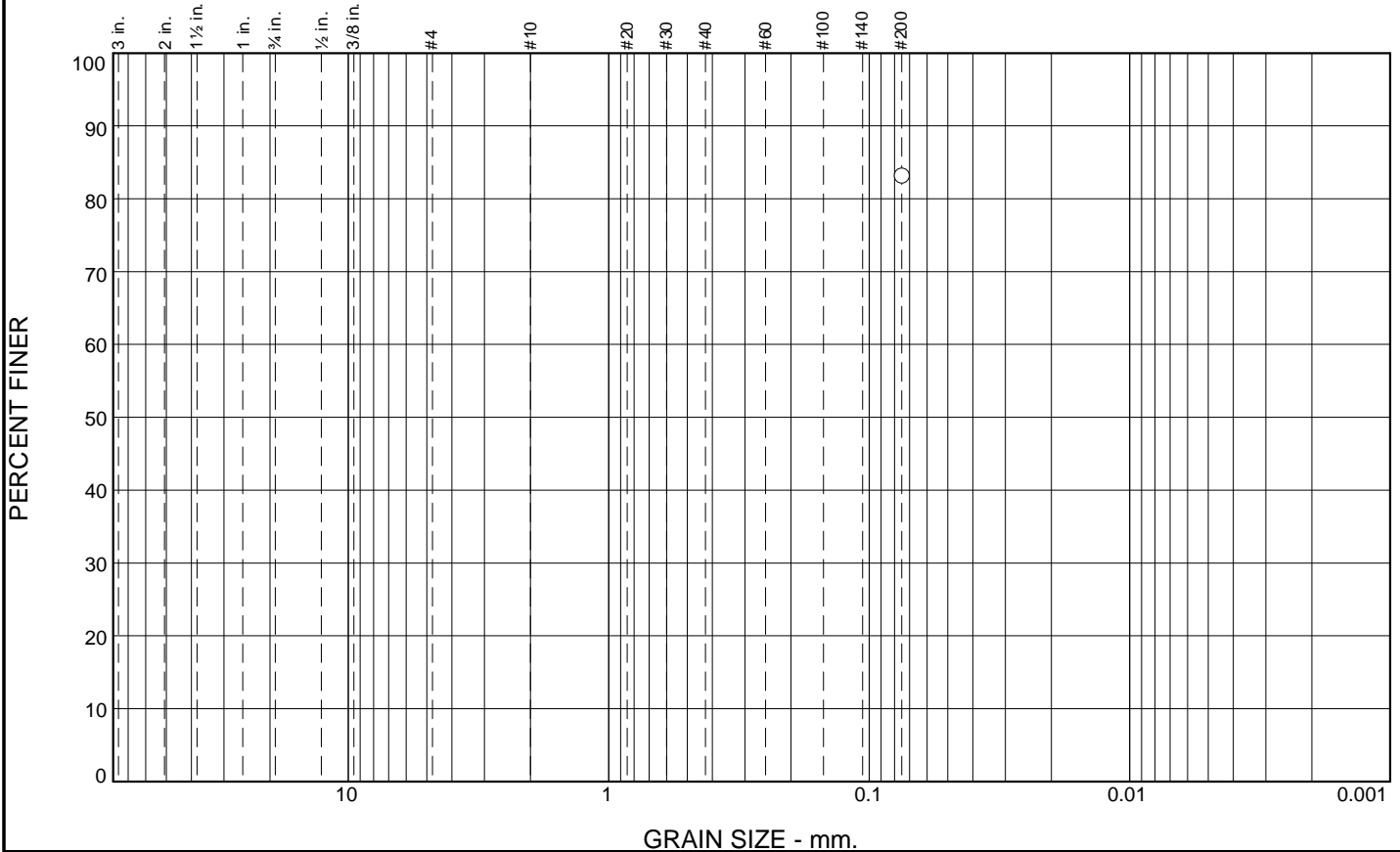
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						83	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	83		

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

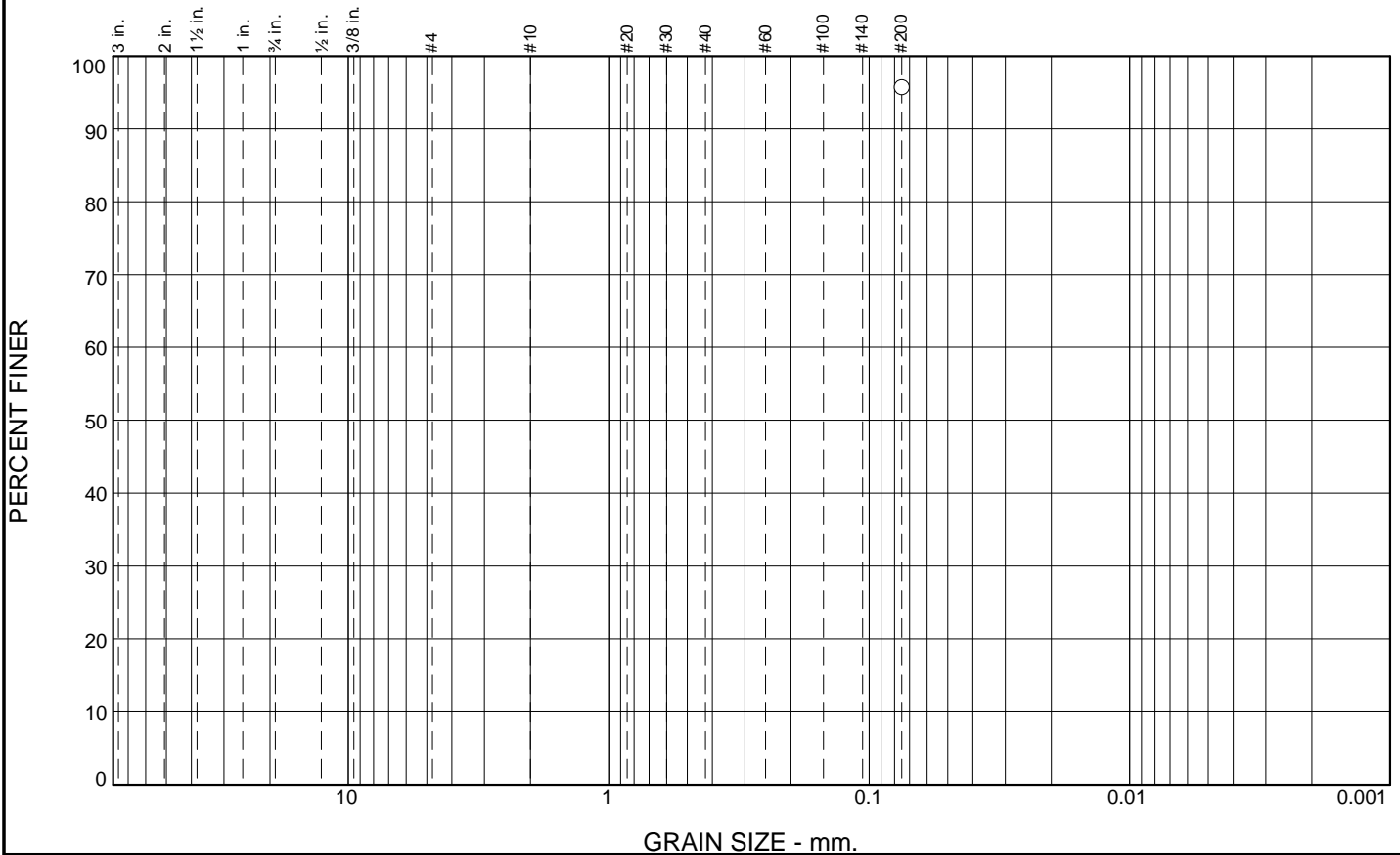
Source of Sample: 7-B002 **Depth:** 14 ft.
Sample Number: 7-B002@14'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						96	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	96		

Soil Description

See exploration logs

Atterberg Limits

PL= 25 LL= 33 PI= 8

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification


USCS= ML AASHTO=

Remarks

* (no specification provided)

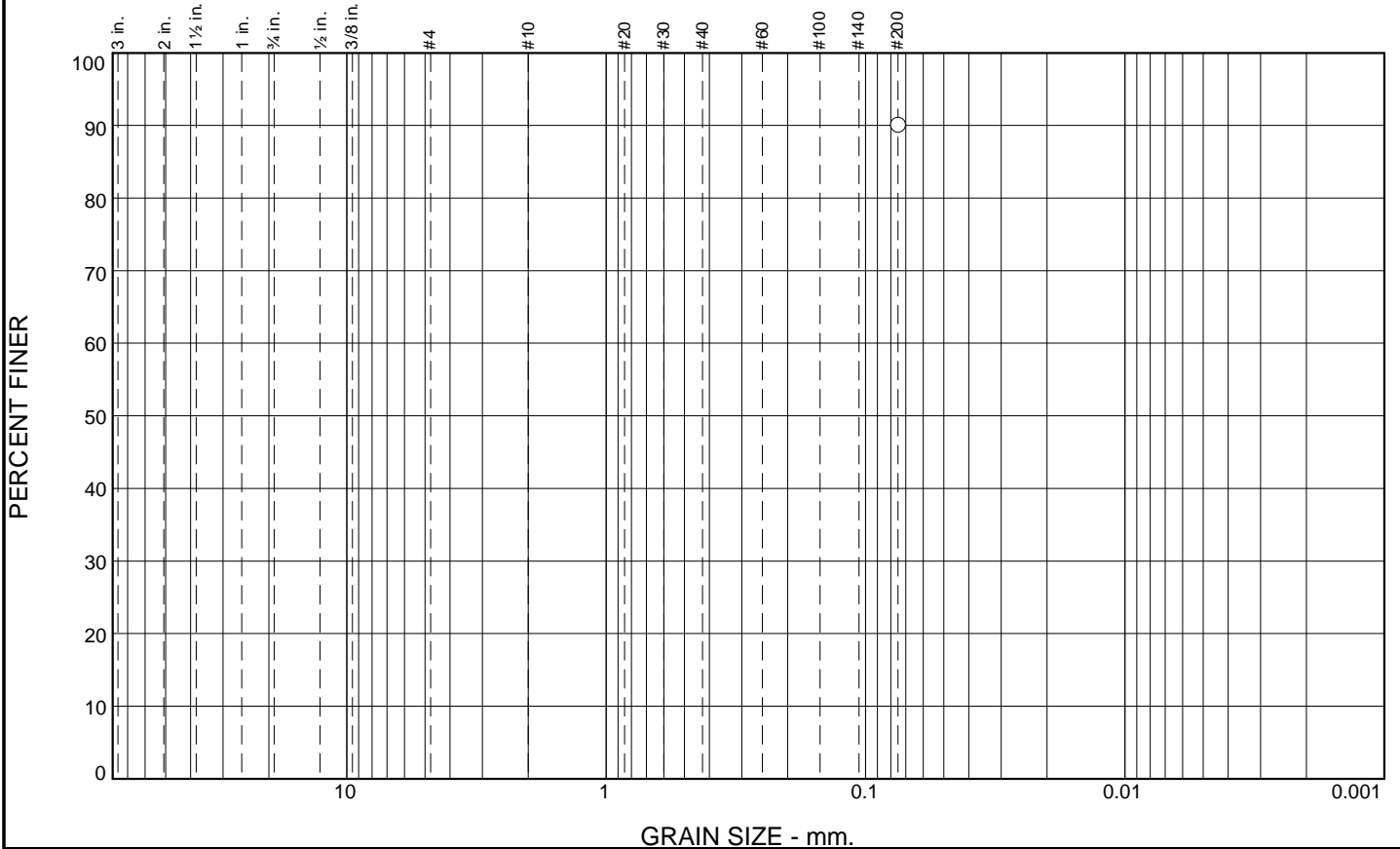
Source of Sample: 7-B002 **Depth:** 15.5 ft.
Sample Number: 7-B002@15.5

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						90	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	90		

Soil Description

See exploration logs

Atterberg Limits

PL= 16 LL= 46 PI= 30

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

* (no specification provided)

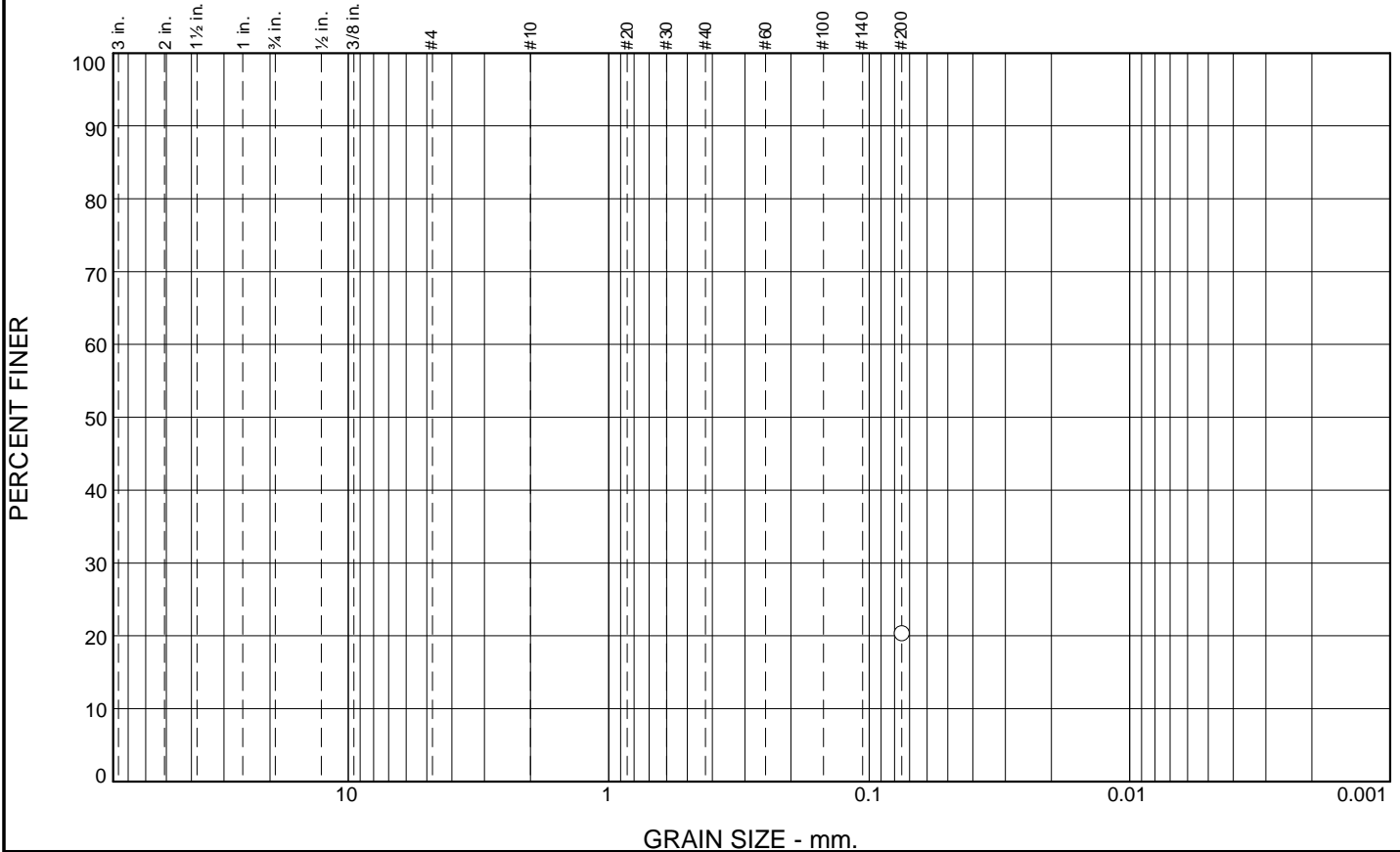
Source of Sample: 7-B002 **Depth:** 21 ft.
Sample Number: 7-B002@21'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
--	---

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						20	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	20		

Soil Description

See exploration logs

Atterberg Limits

PL= NP LL= 22 PI= NP

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

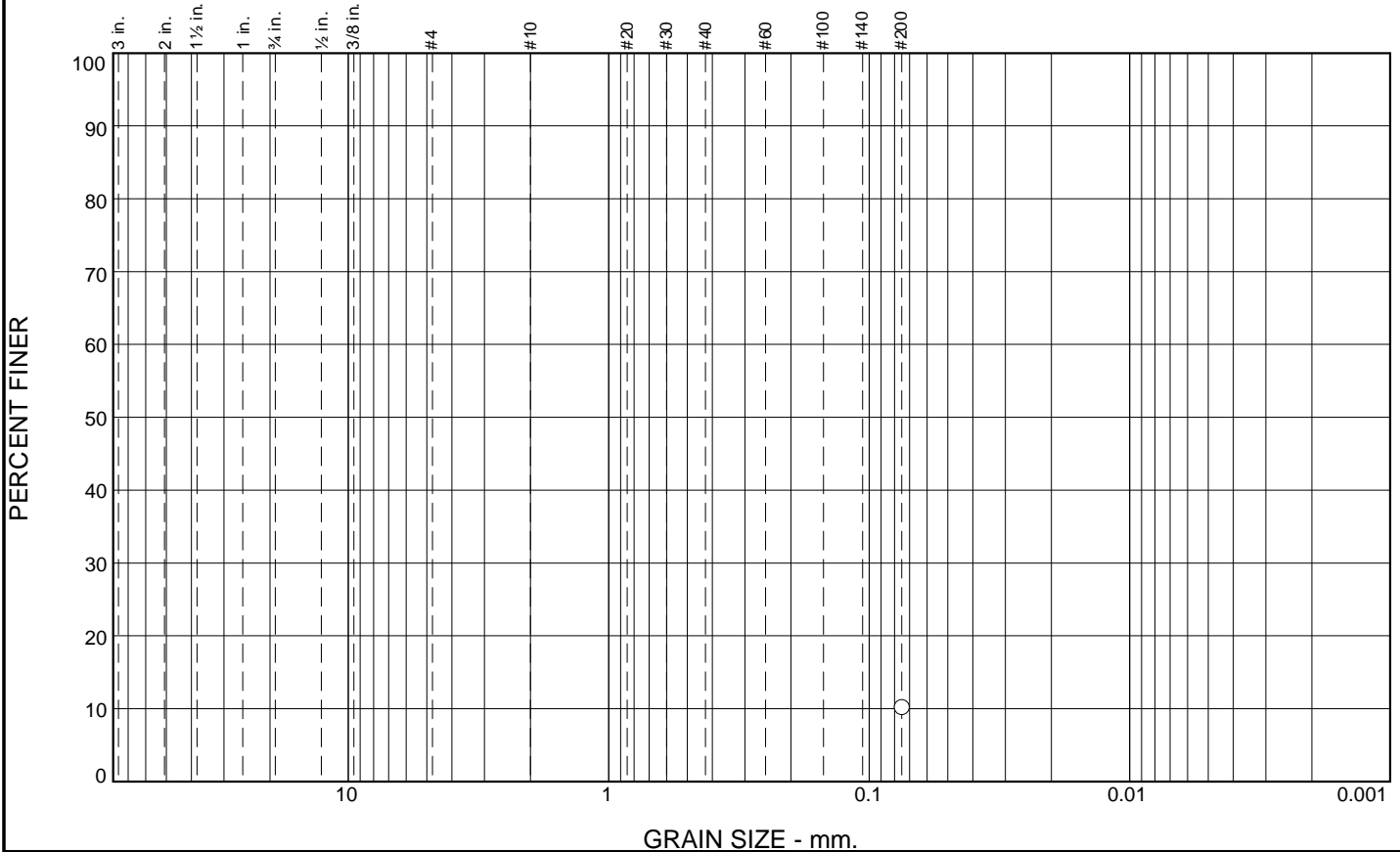
Source of Sample: 7-B002 **Depth:** 30.5 ft.
Sample Number: 7-B002@30.5

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
--	---

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						10	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	10		

* (no specification provided)

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Source of Sample: 7-B002 **Depth:** 31.5 ft.
Sample Number: 7-B002@31.5'

Date: 02-23-2015



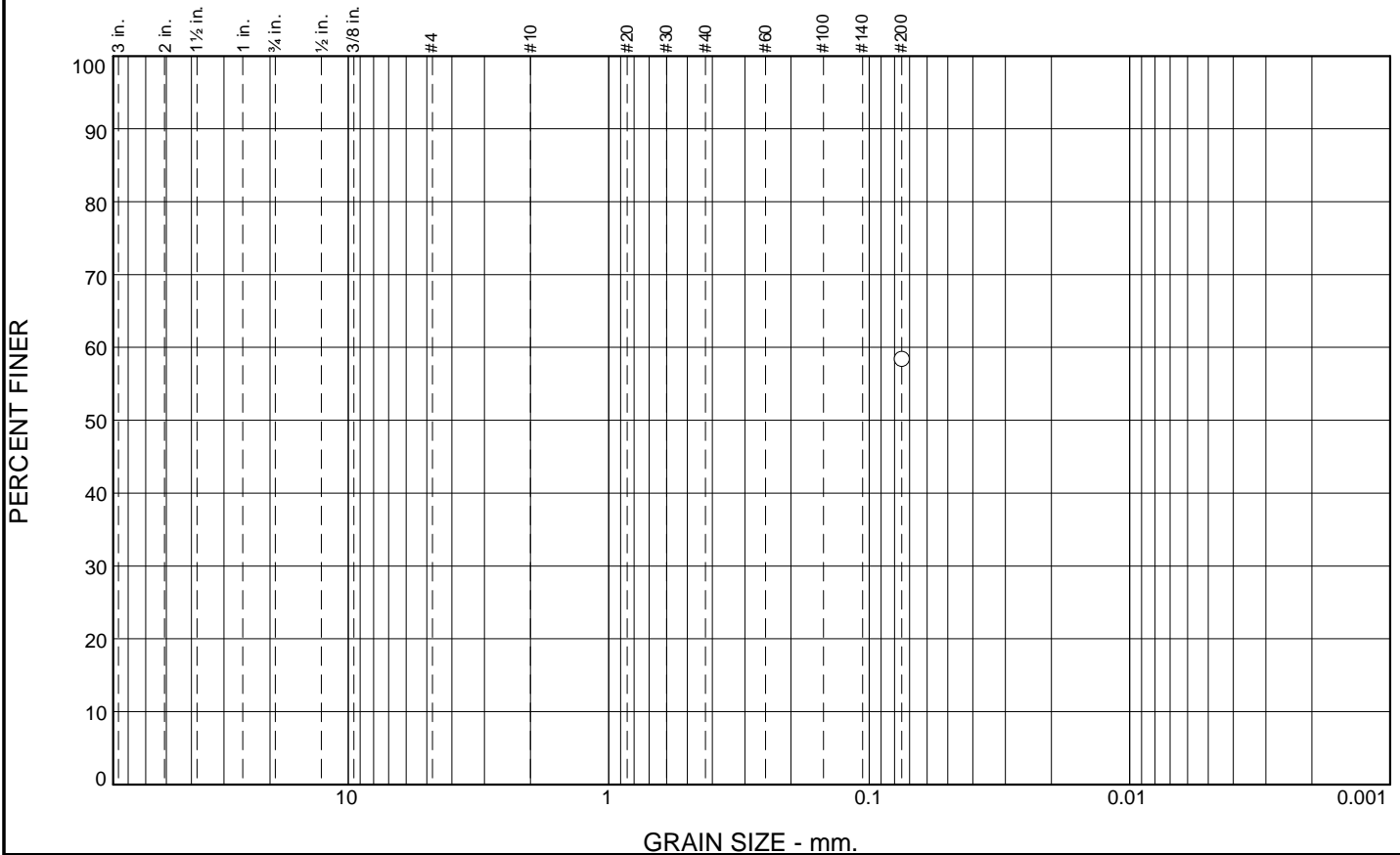
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						58	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	58		

Soil Description

See exploration logs

Atterberg Limits

PL= 15 LL= 42 PI= 27

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification


USCS= CL AASHTO=

Remarks

* (no specification provided)

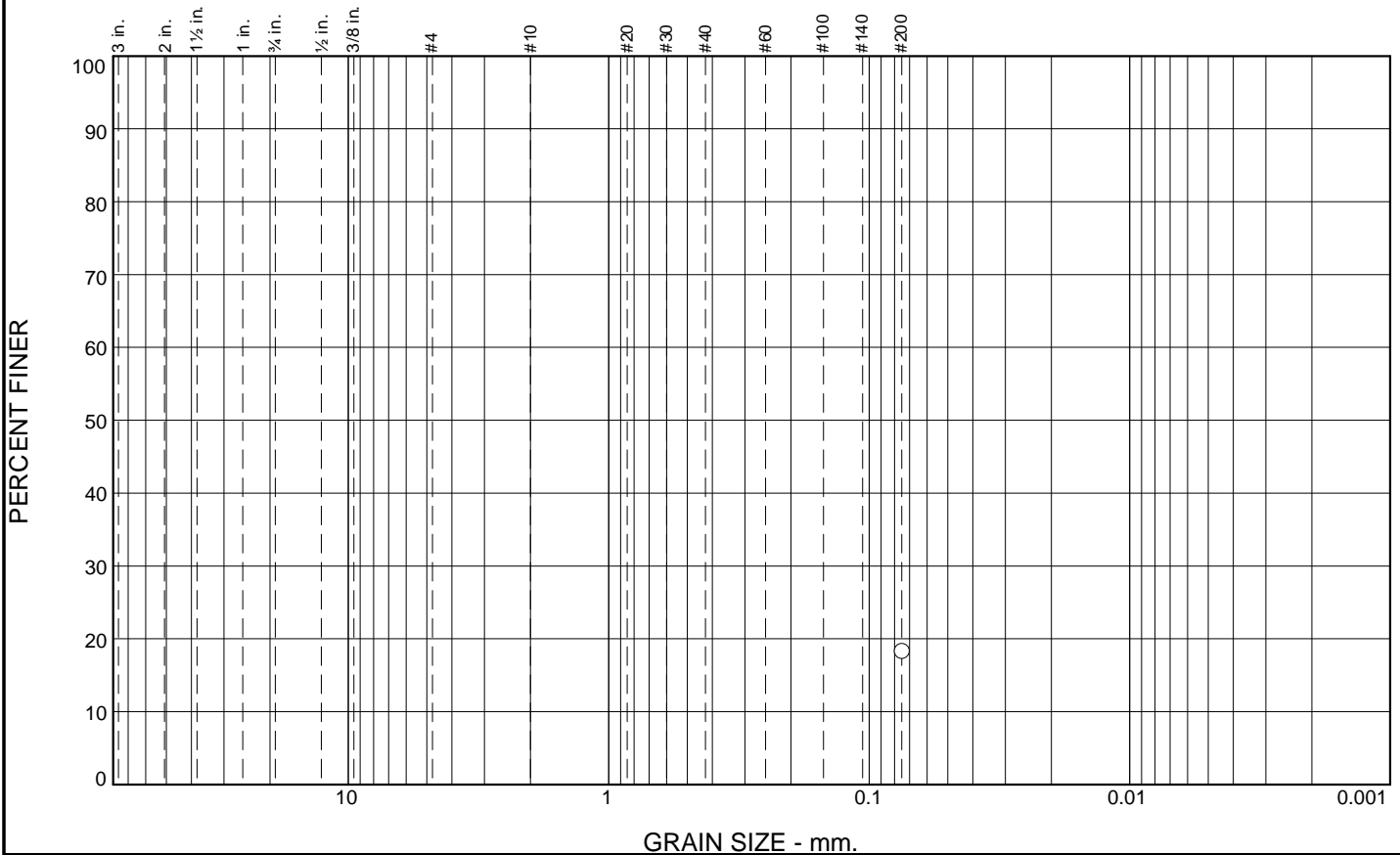
Source of Sample: 7-B002 **Depth:** 35 ft.
Sample Number: 7-B002@35'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						18	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	18		

Soil Description

See exploration logs

Atterberg Limits
 LL= NP PI= NP

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=


Classification
 USCS= SM AASHTO=

Remarks

* (no specification provided)

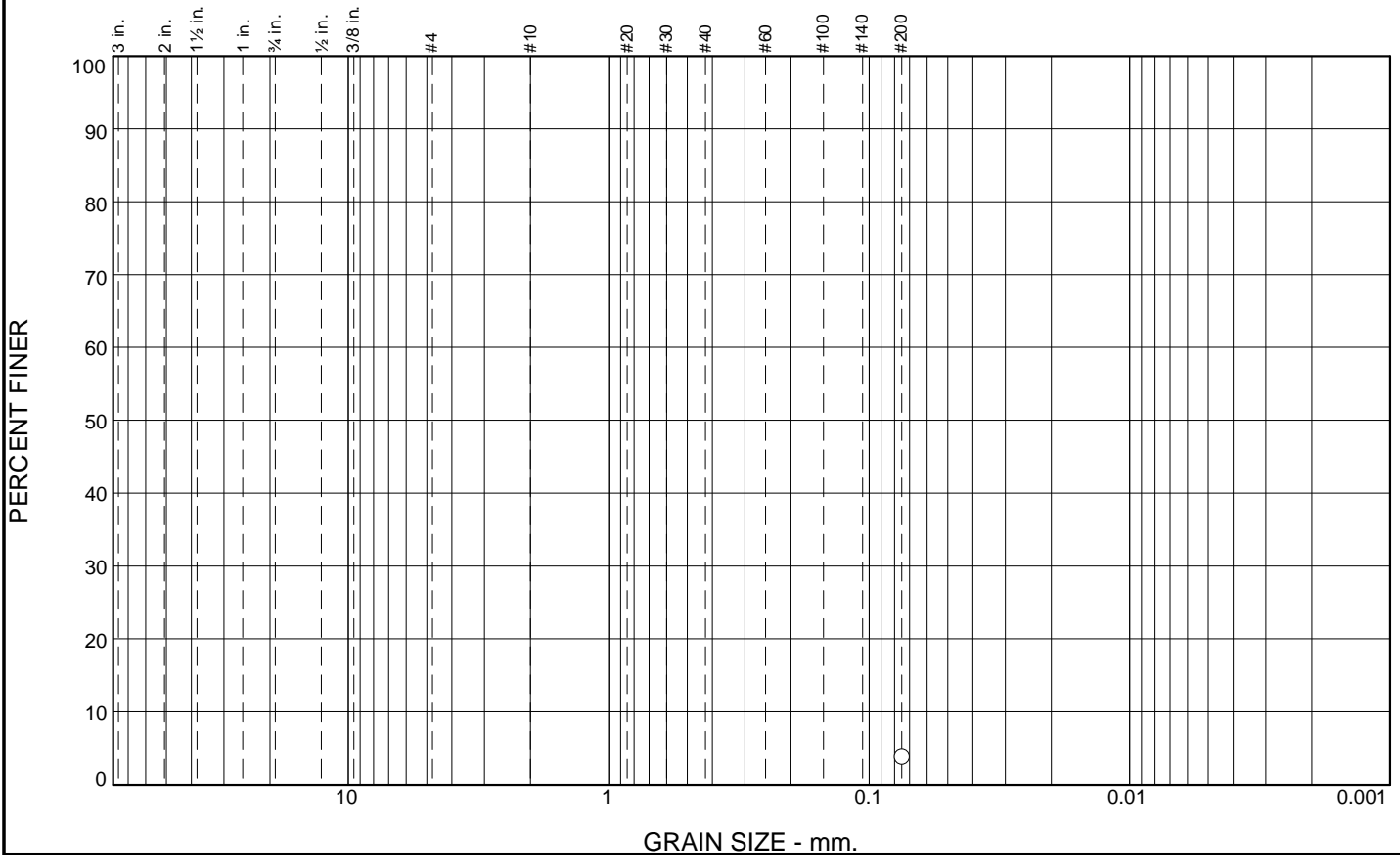
Source of Sample: 7-B002 **Depth:** 36 ft.
Sample Number: 7-B002@36'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	3.8		

* (no specification provided)

Soil Description

See exploration logs

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

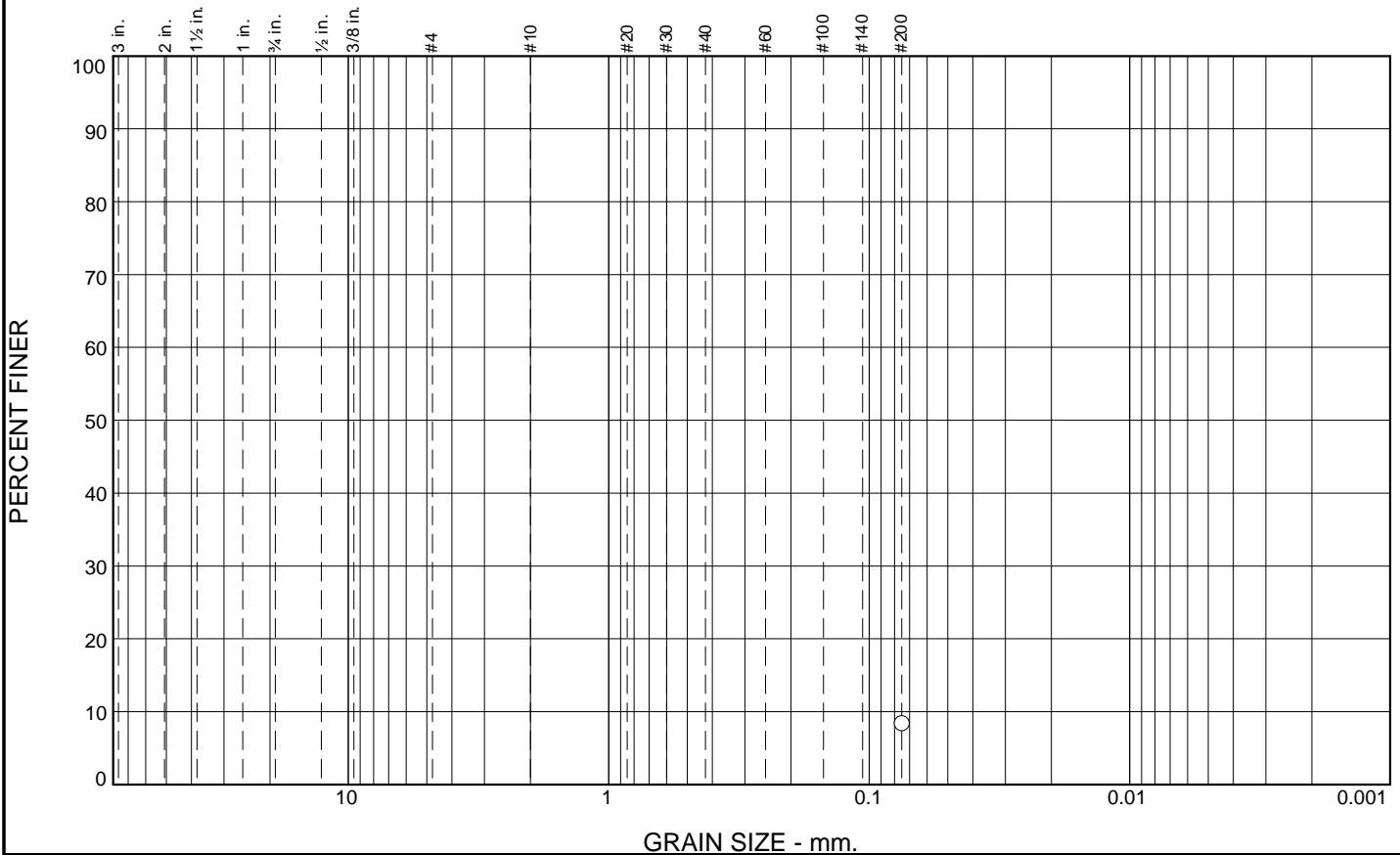
Source of Sample: 7-B002 **Depth:** 40.5 ft.
Sample Number: 7-B002@40.5'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
<p>Figure</p>	

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	8.4		

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification


USCS= AASHTO=

Remarks

* (no specification provided)

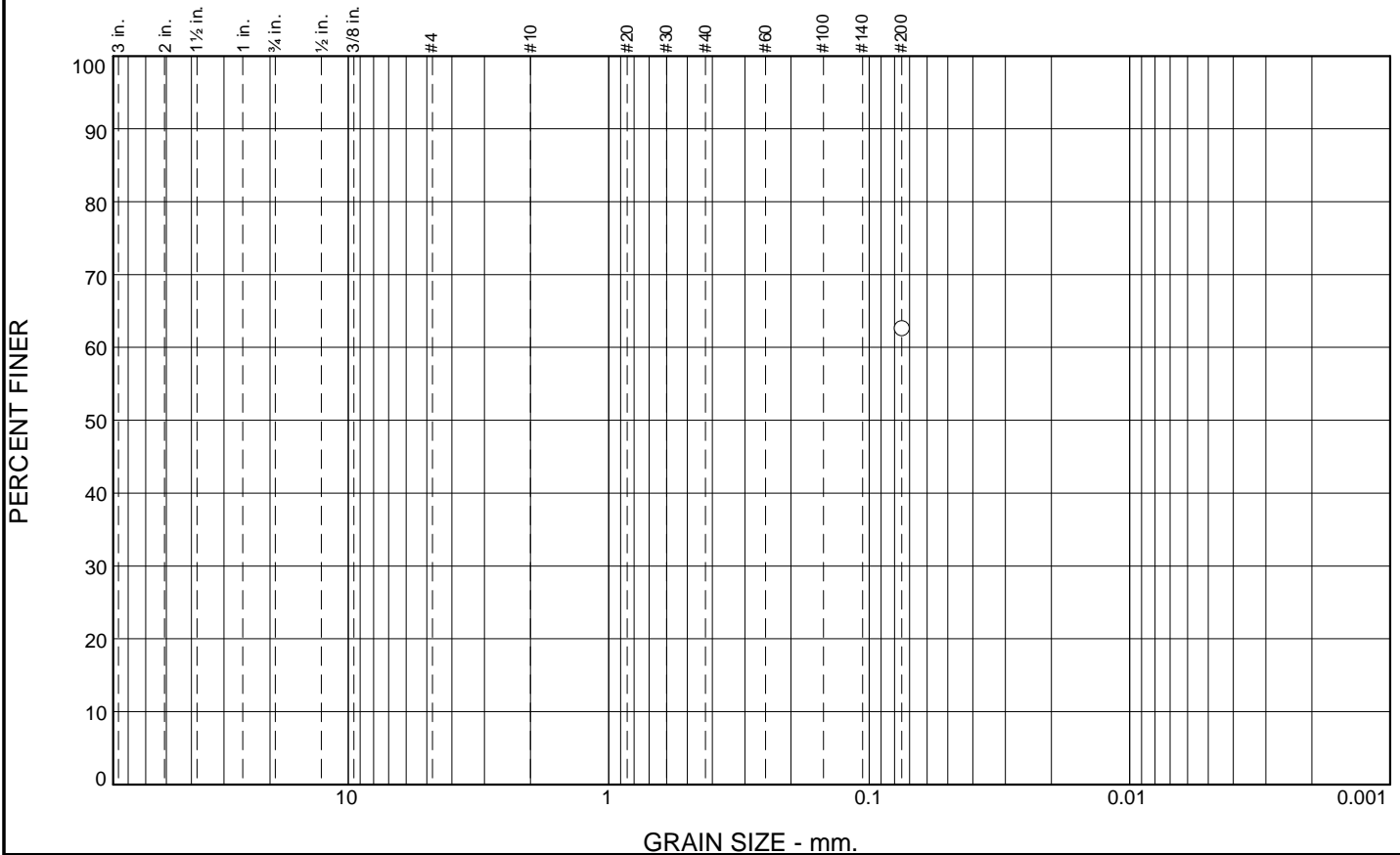
Source of Sample: 7-B002 **Depth:** 45.5 ft.
Sample Number: 7-B002@45.5'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						63	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	63		

* (no specification provided)

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

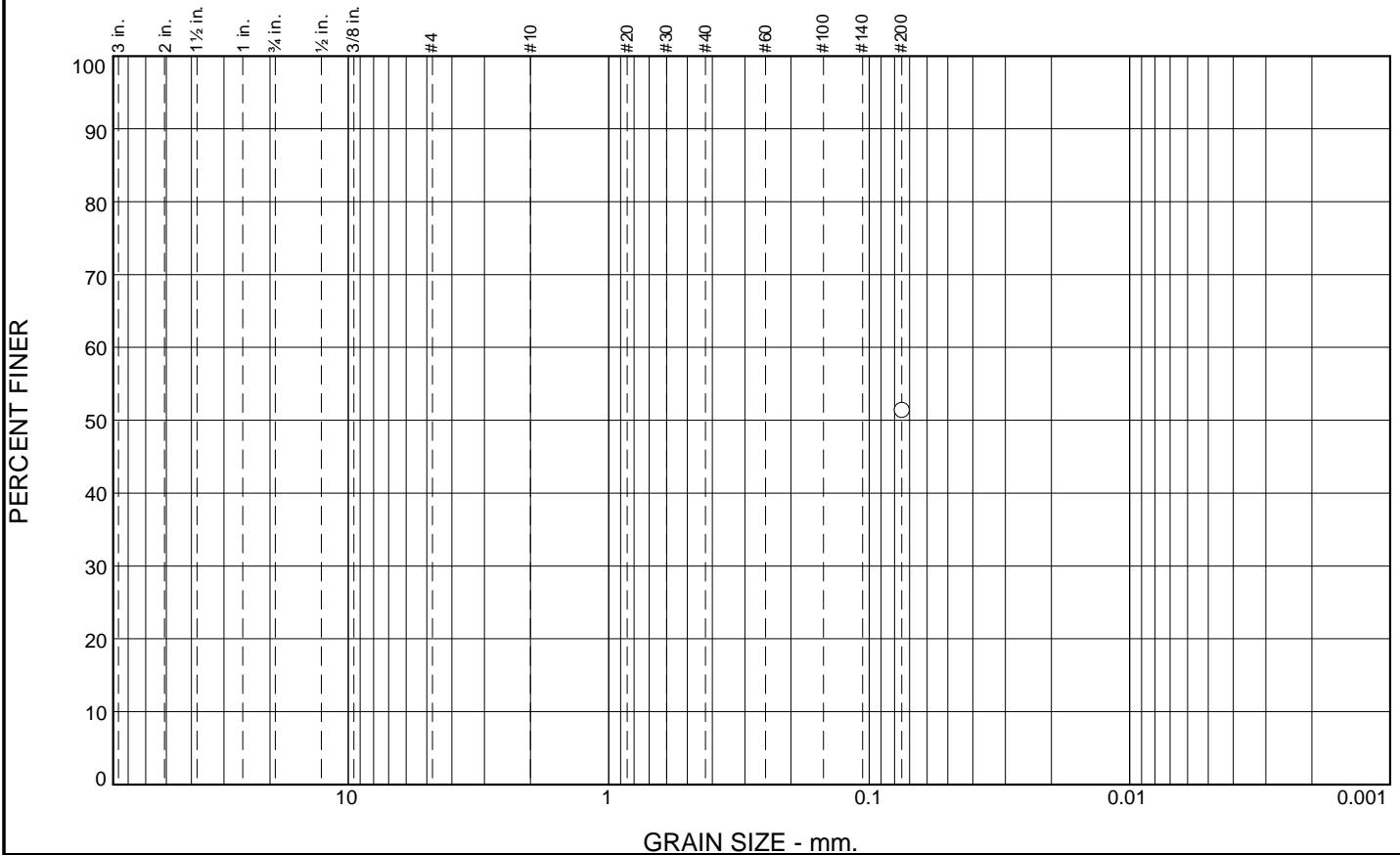
Source of Sample: 7-B002 **Depth:** 50.5 ft.
Sample Number: 7-B002@50.5'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
--	---

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						51	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	51		

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

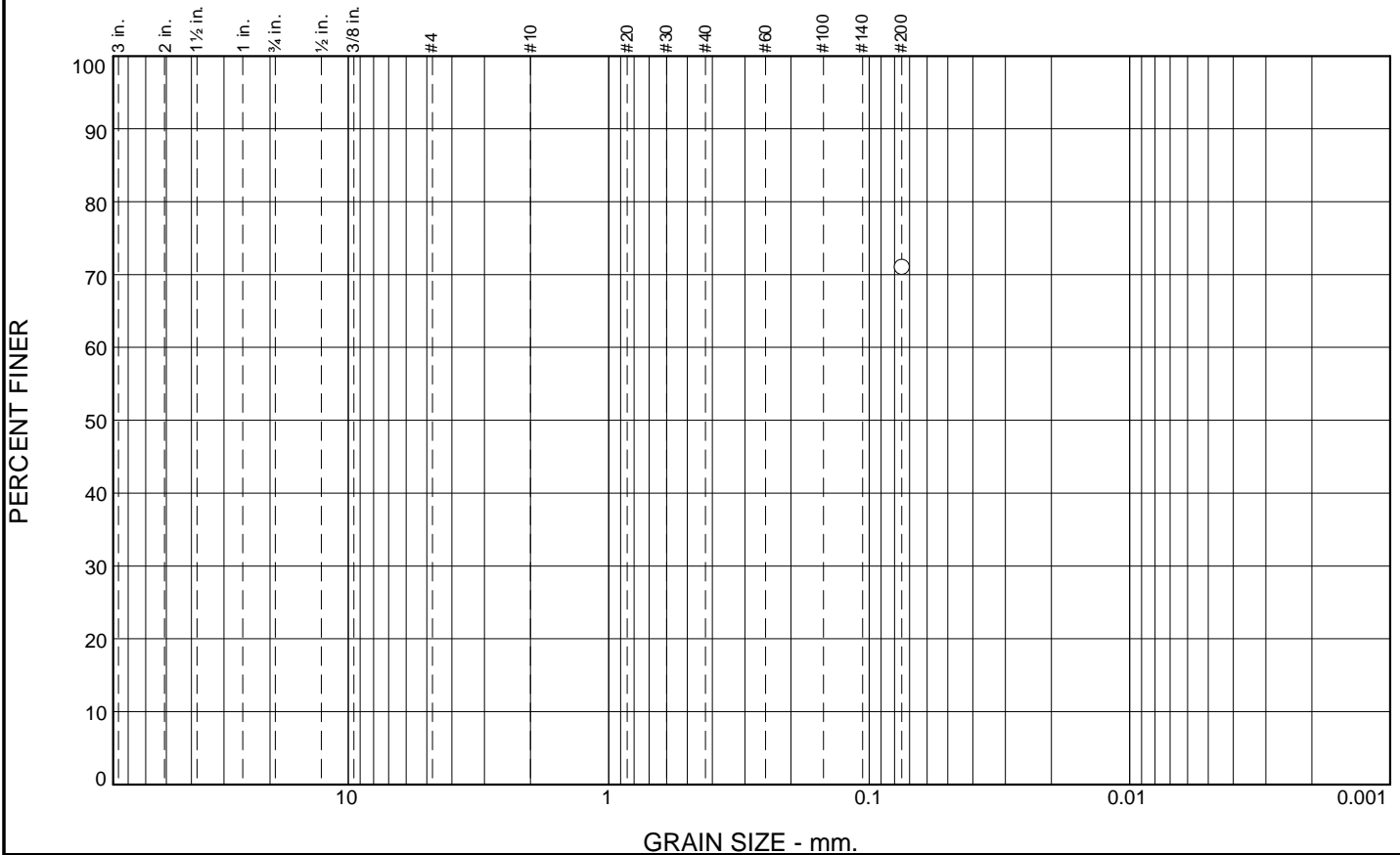
Source of Sample: 7-B002 **Depth:** 51 ft.
Sample Number: 7-B002@51'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						71.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	71.1		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B003 @ 3

Depth: 3

Date: 11-20-2014



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

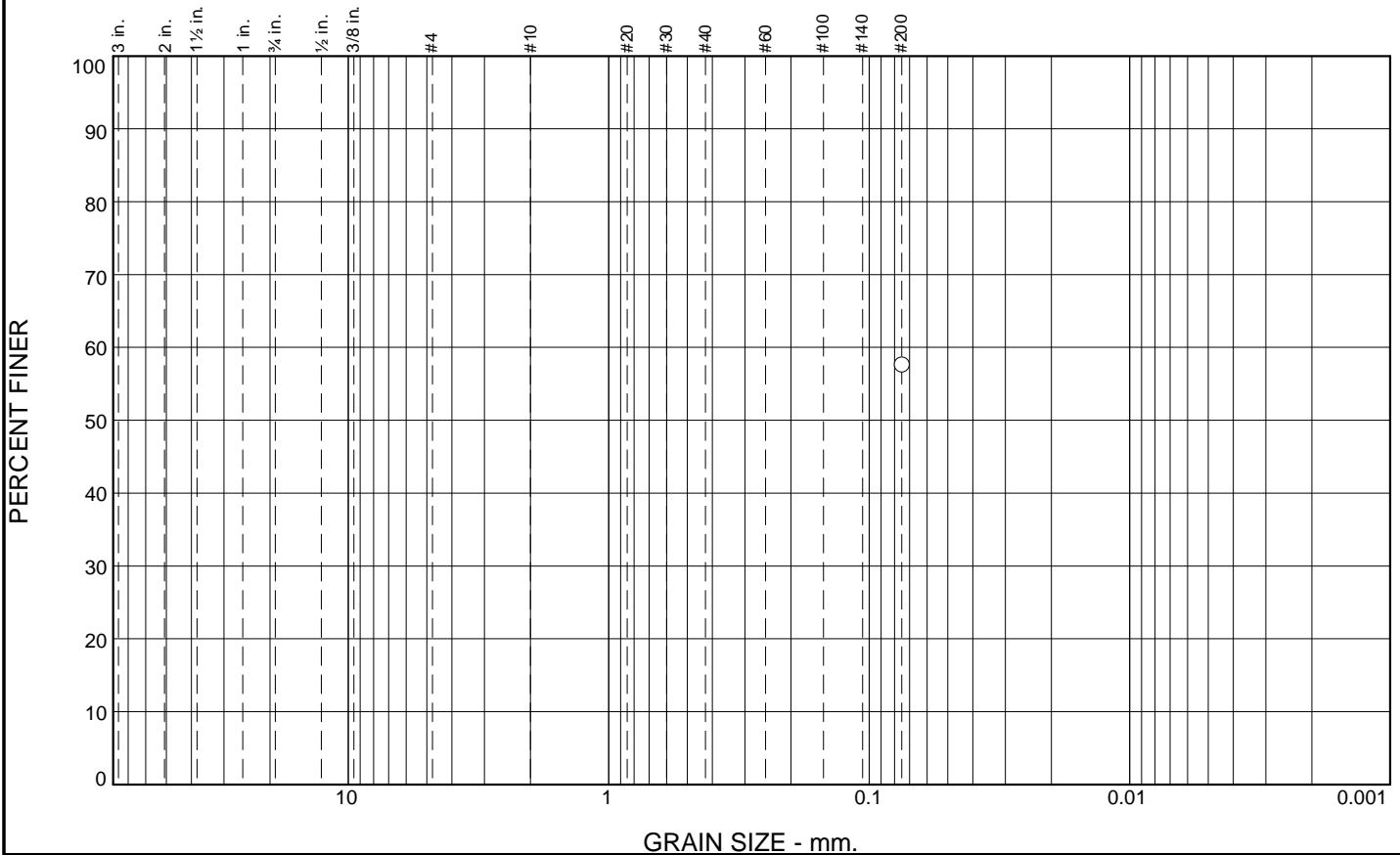
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						57.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	57.6		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 15 LL= 51 PI= 36

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B003 @ 7.5

Depth: 7.5

Date: 11-20-2014



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

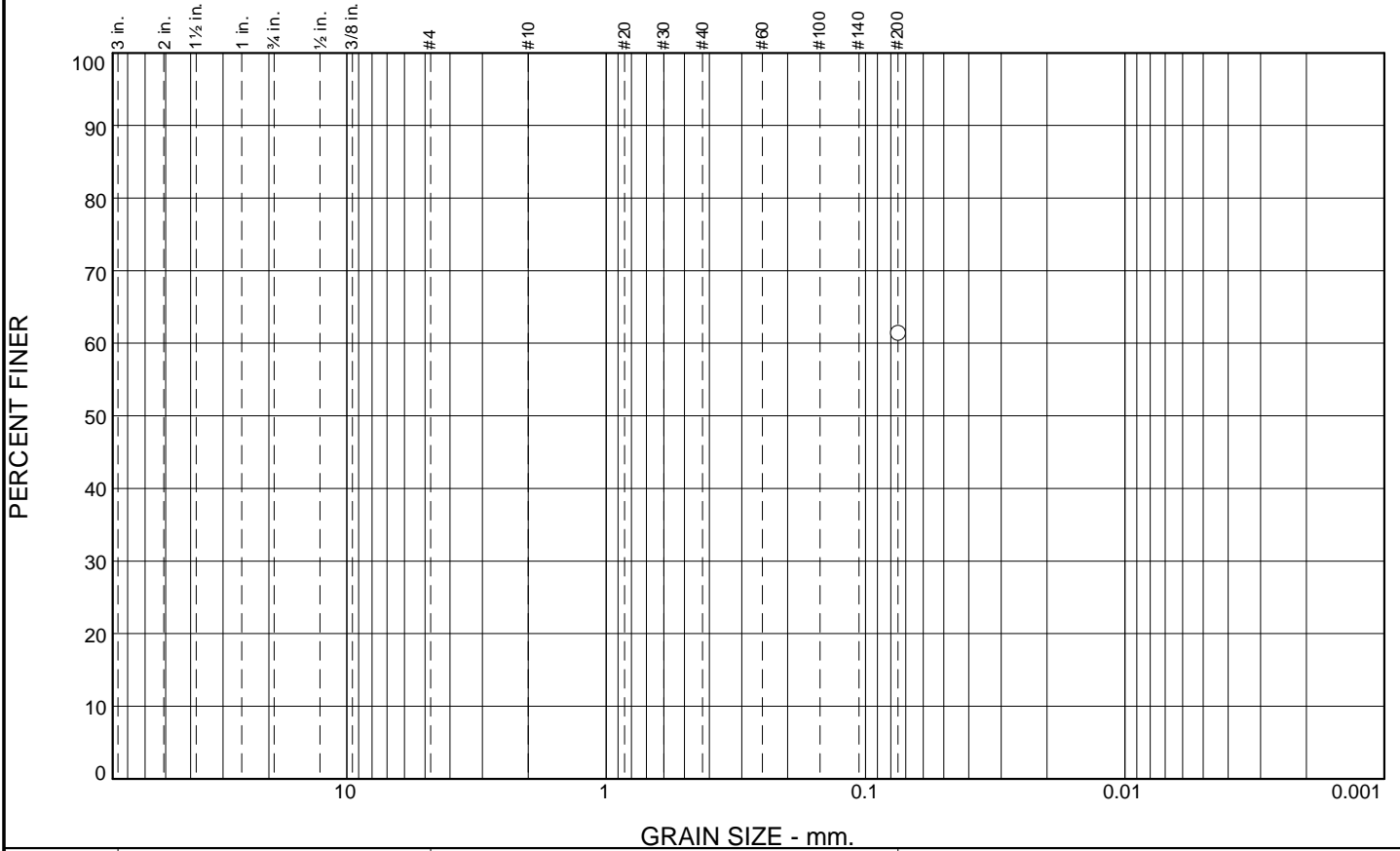
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						61.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	61.4		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 28 LL= 31 PI= 3

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B003 @ 12

Depth: 12

Date: 11-20-2014



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

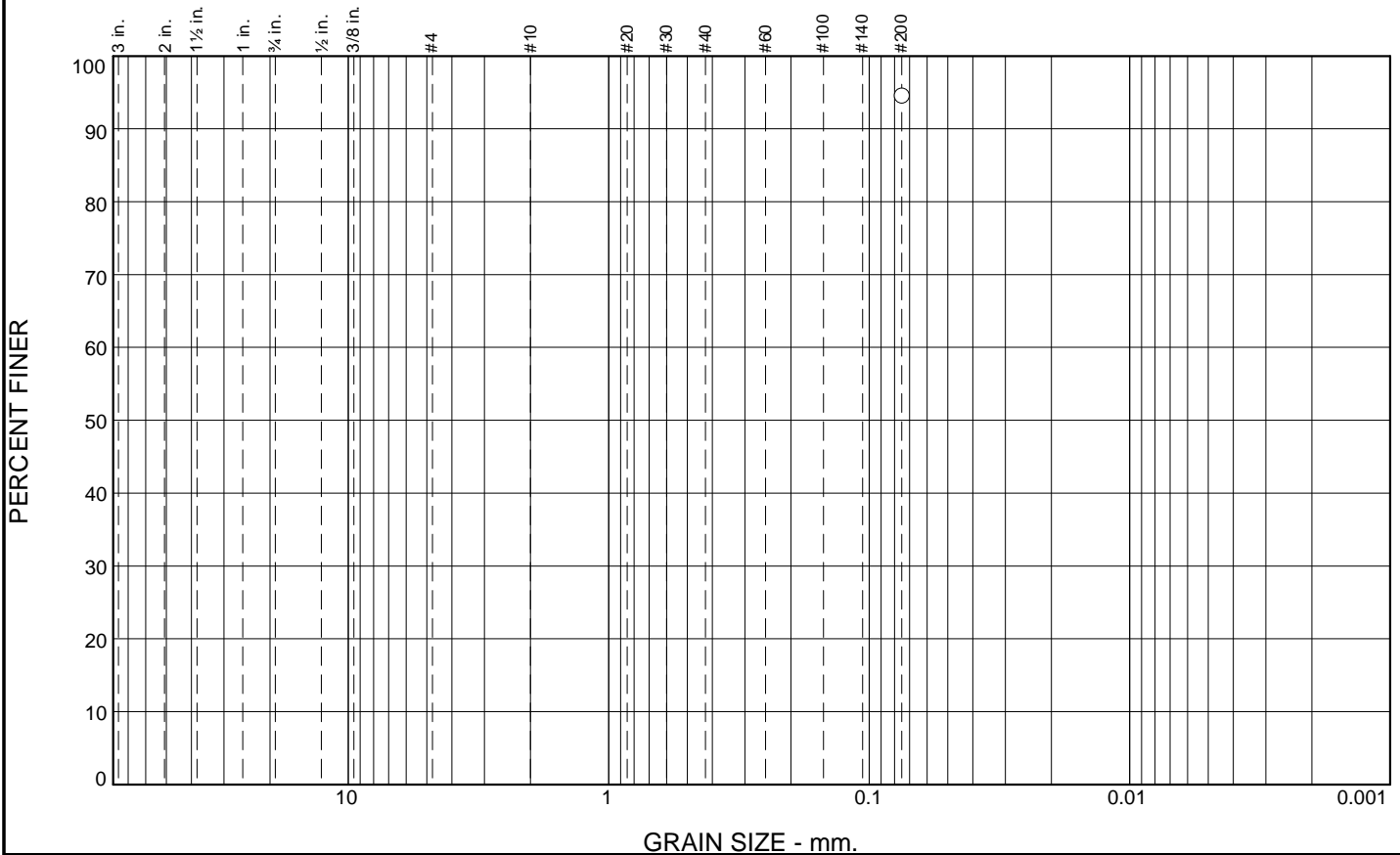
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						94.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	94.6		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 25 LL= 37 PI= 12

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B003 @ 20.5

Depth: 20.5

Date: 11-20-2014



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

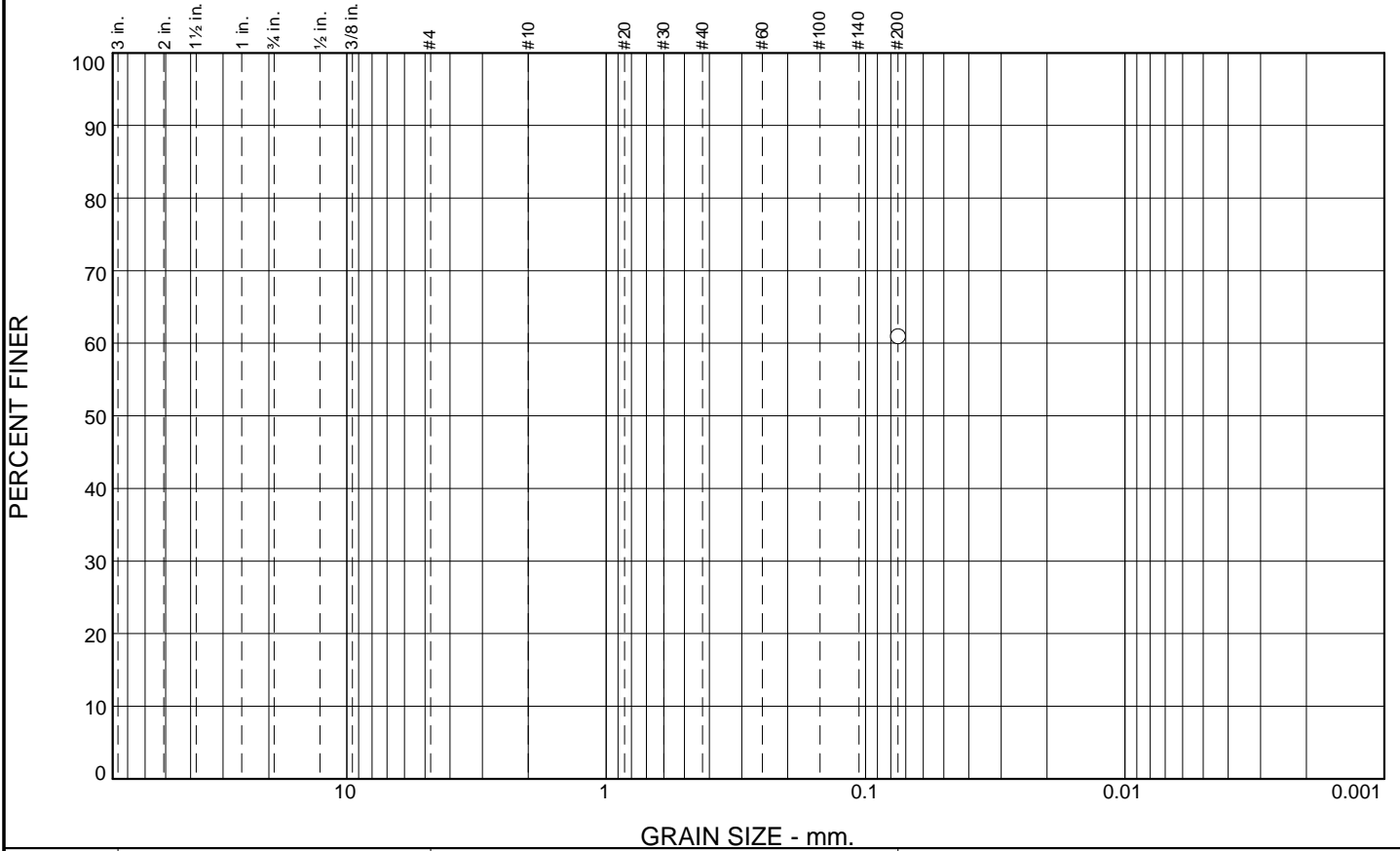
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						61.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	61.0		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 20 LL= 66 PI= 46

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B003 @ 32

Depth: 32

Date: 11-20-2014



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

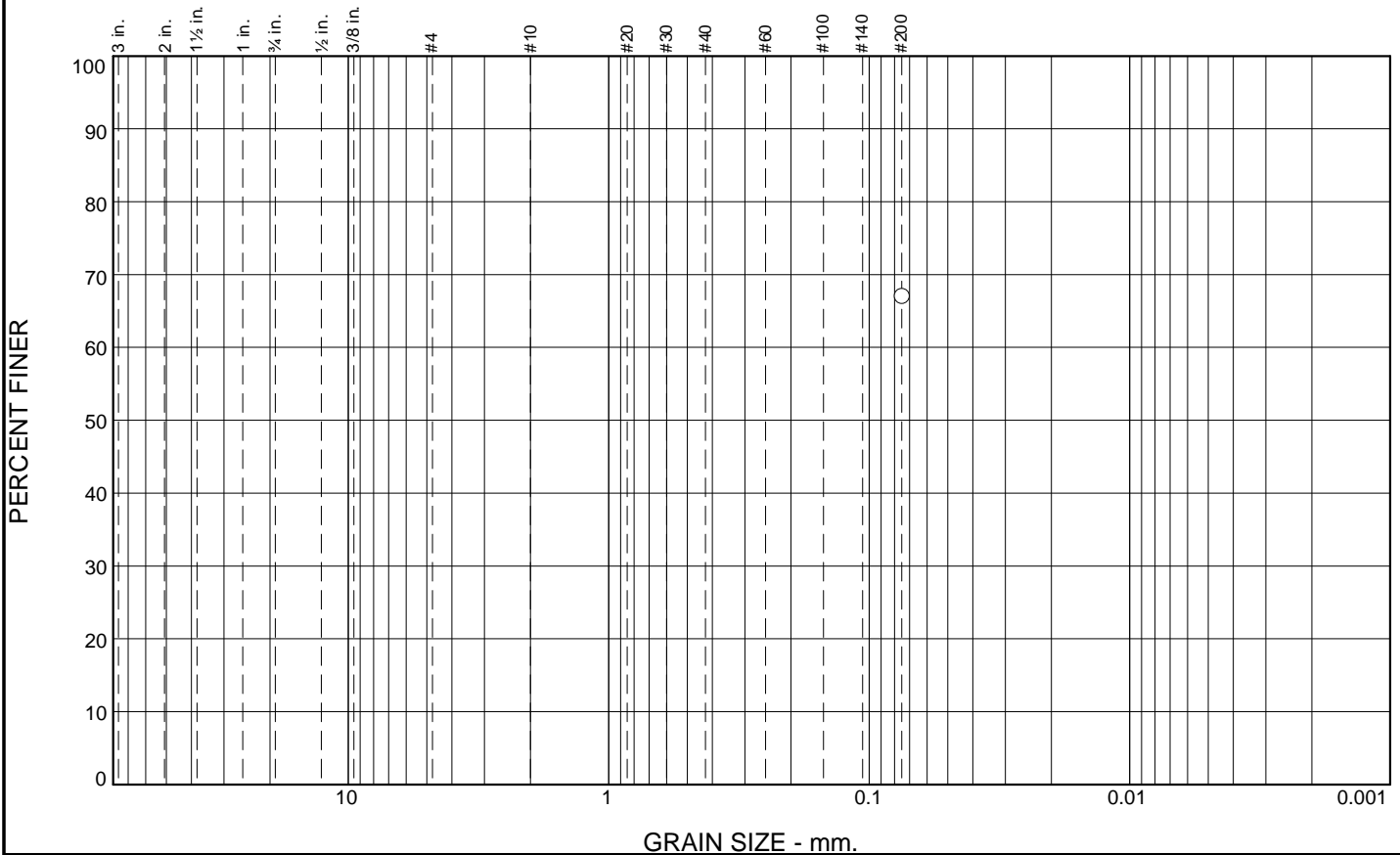
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						67.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	67.0		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B003 @ 61

Depth: 61

Date: 11-20-2014



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

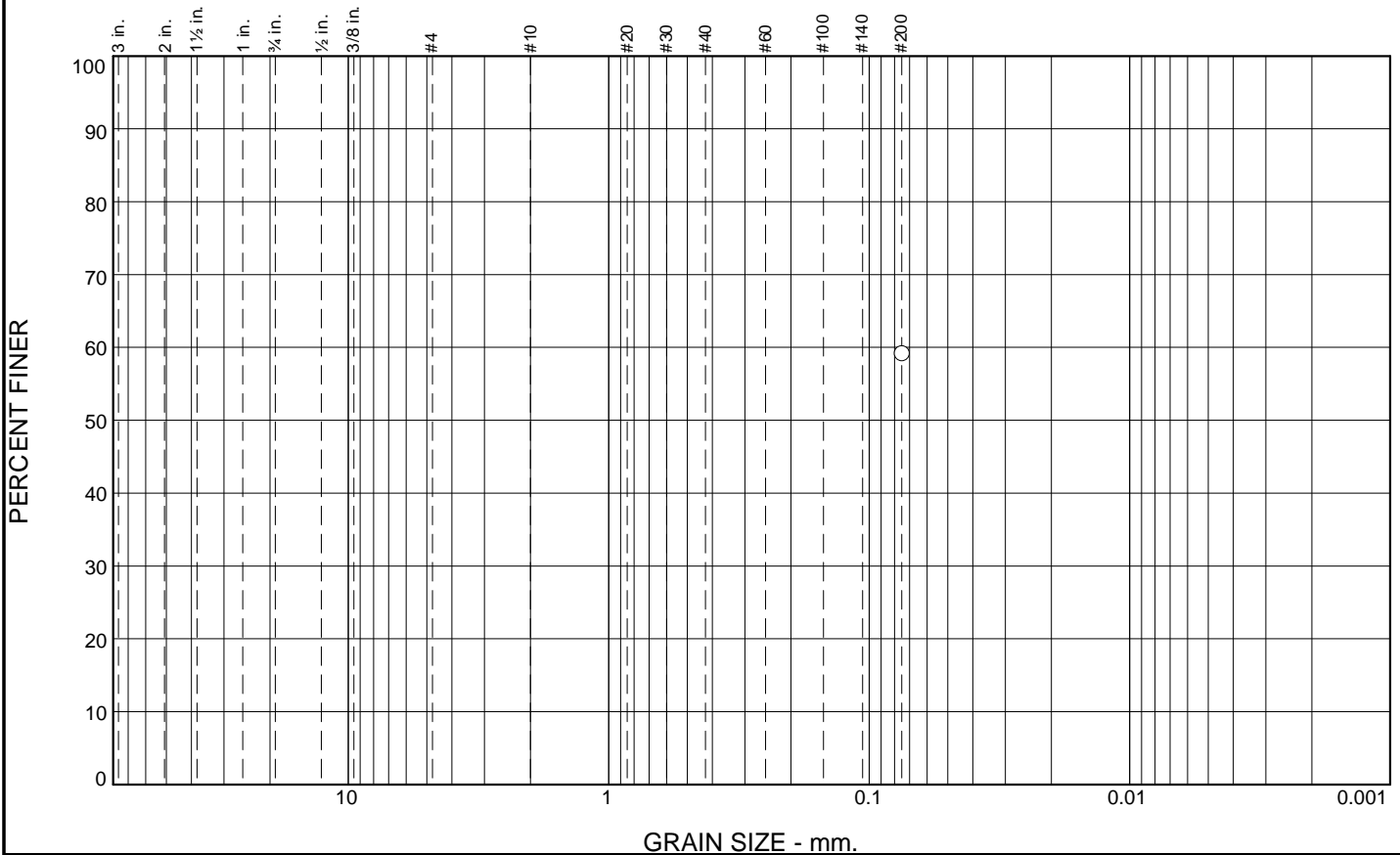
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						59.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	59.2		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 16 LL= 36 PI= 20

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B004 @ 3

Depth: 3

Date: 11-20-2014



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

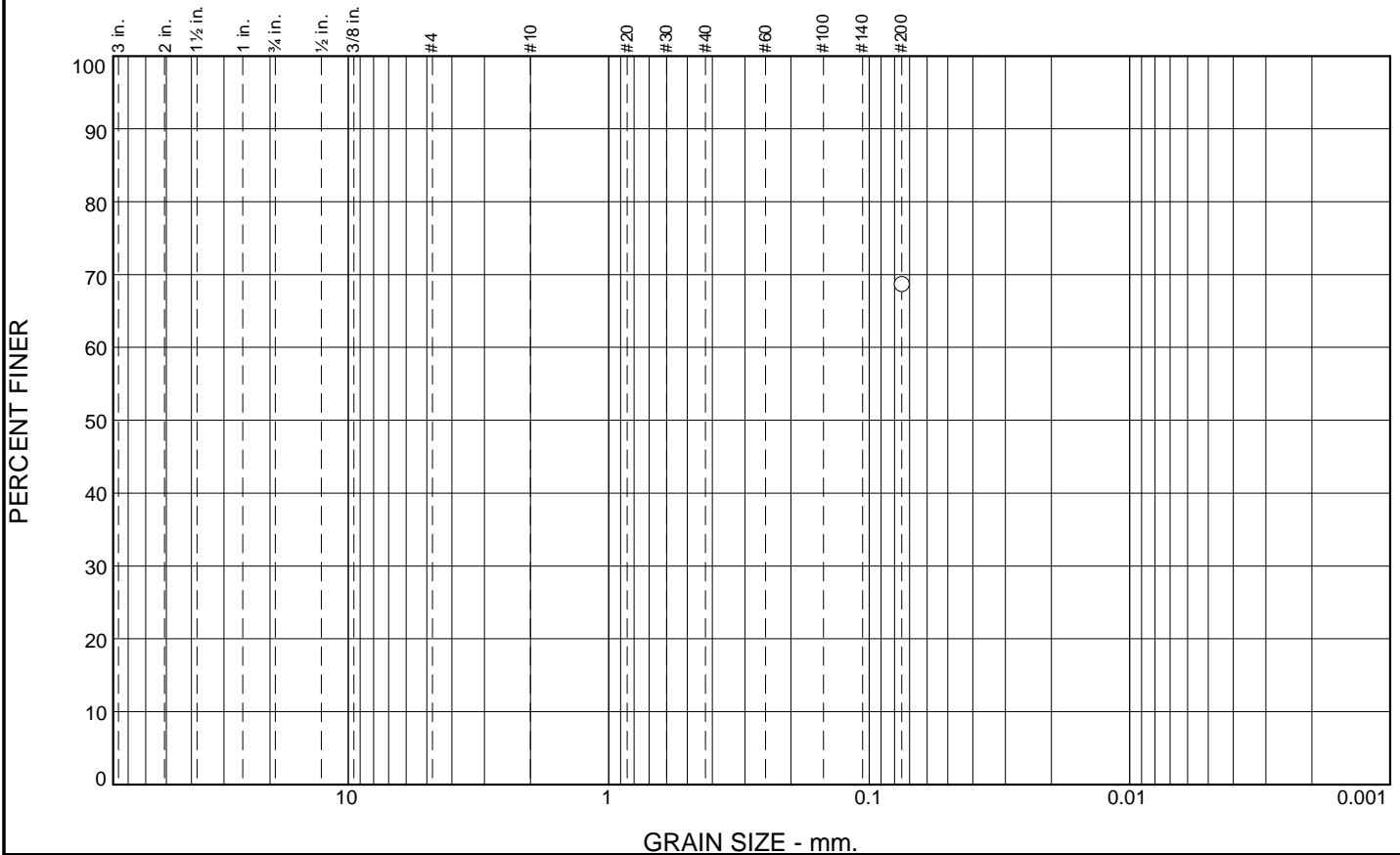
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						68.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	68.7		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 15 LL= 42 PI= 27

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B004 @ 16

Depth: 16

Date: 11-20-2014



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

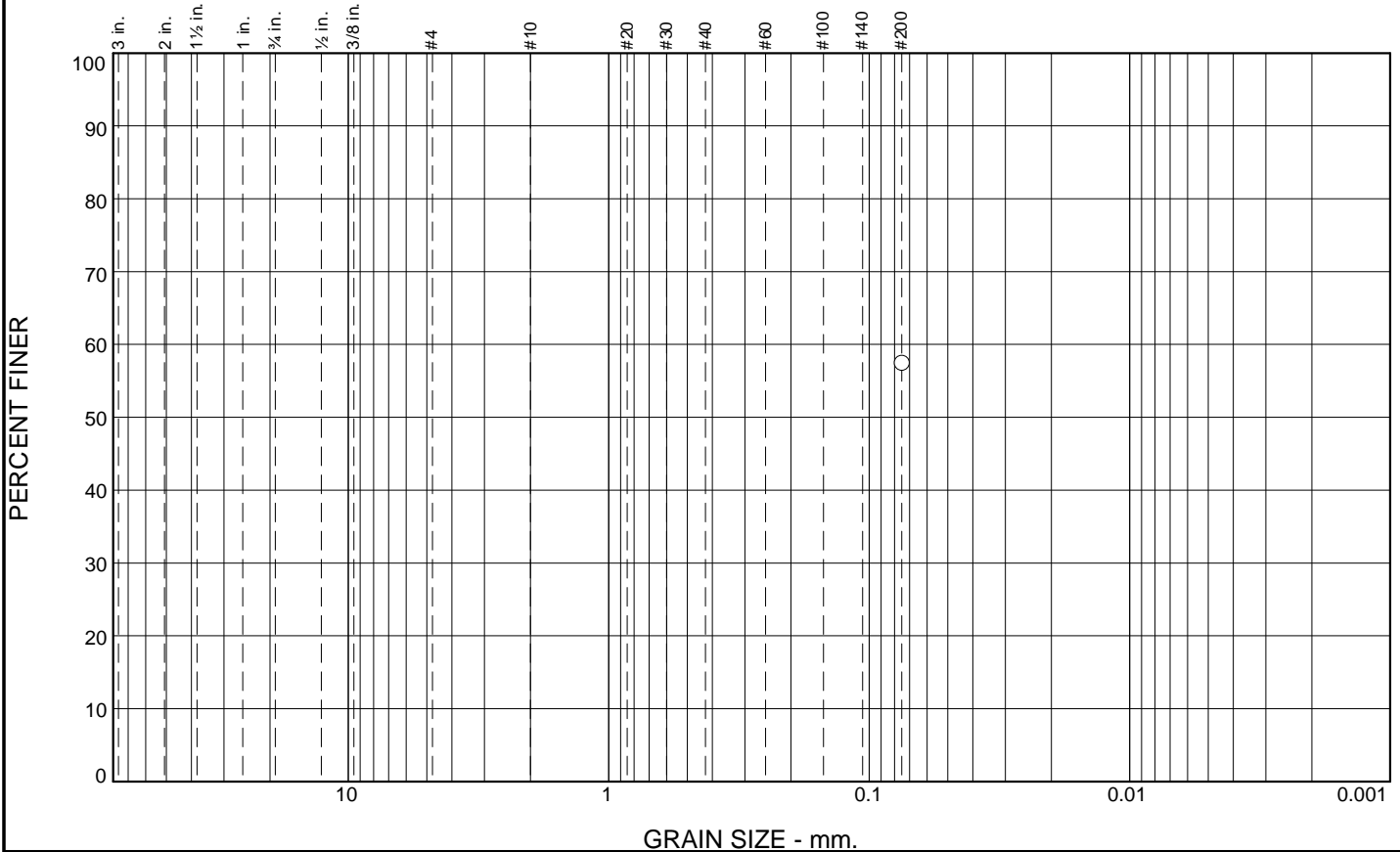
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						57.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	57.5		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 17 LL= 27 PI= 10

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B004 @ 20.5

Depth: 20.5

Date: 11-20-2014



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

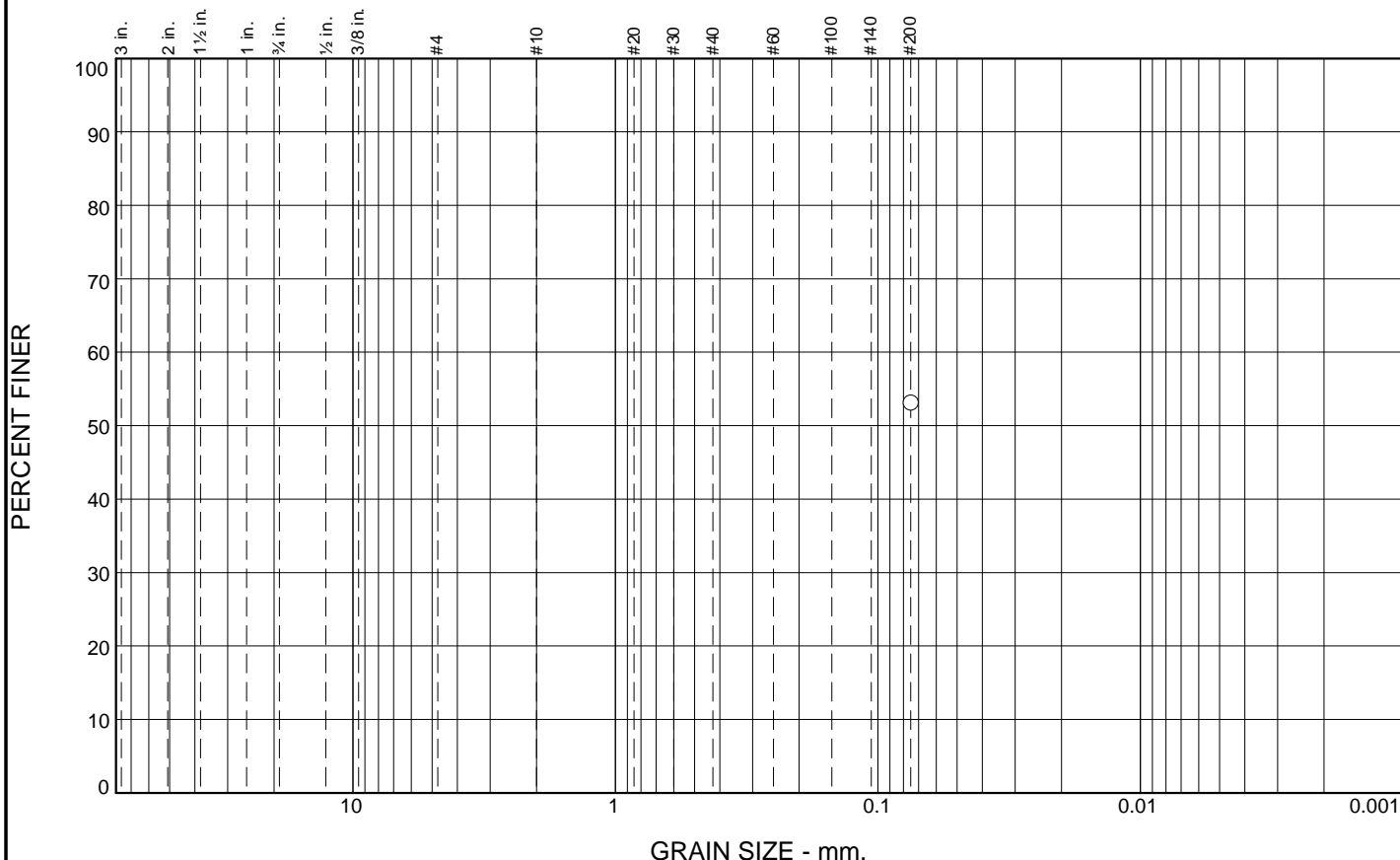
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						53.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	53.2		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 14 LL= 35 PI= 21

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

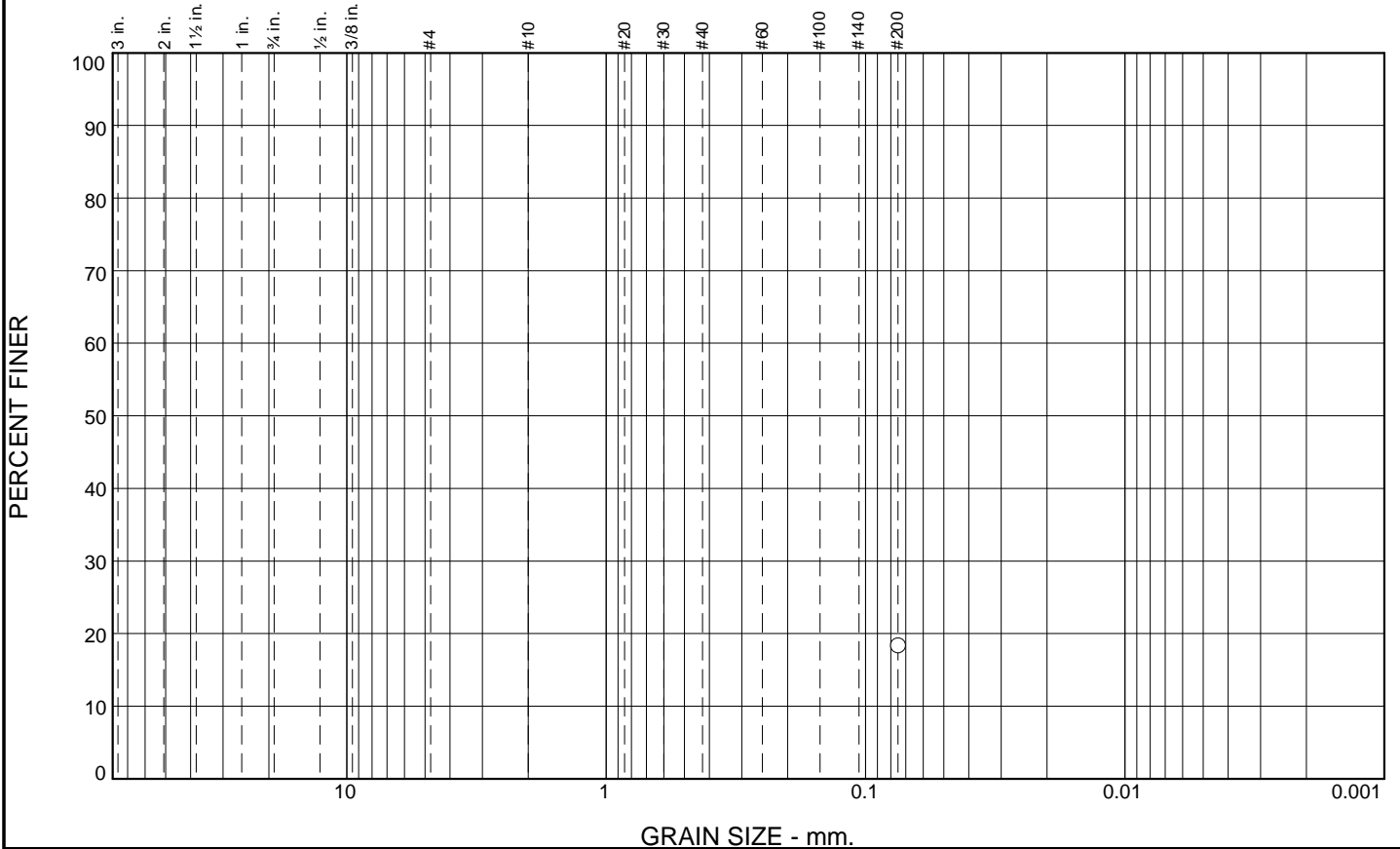
Remarks

Sample Number: 7-B004 @ 36 **Depth:** 36 **Date:** 11-20-2014

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						18.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	18.4		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification


USCS= AASHTO=

Remarks

Sample Number: 7-B004 @ 40.5

Depth: 40.5

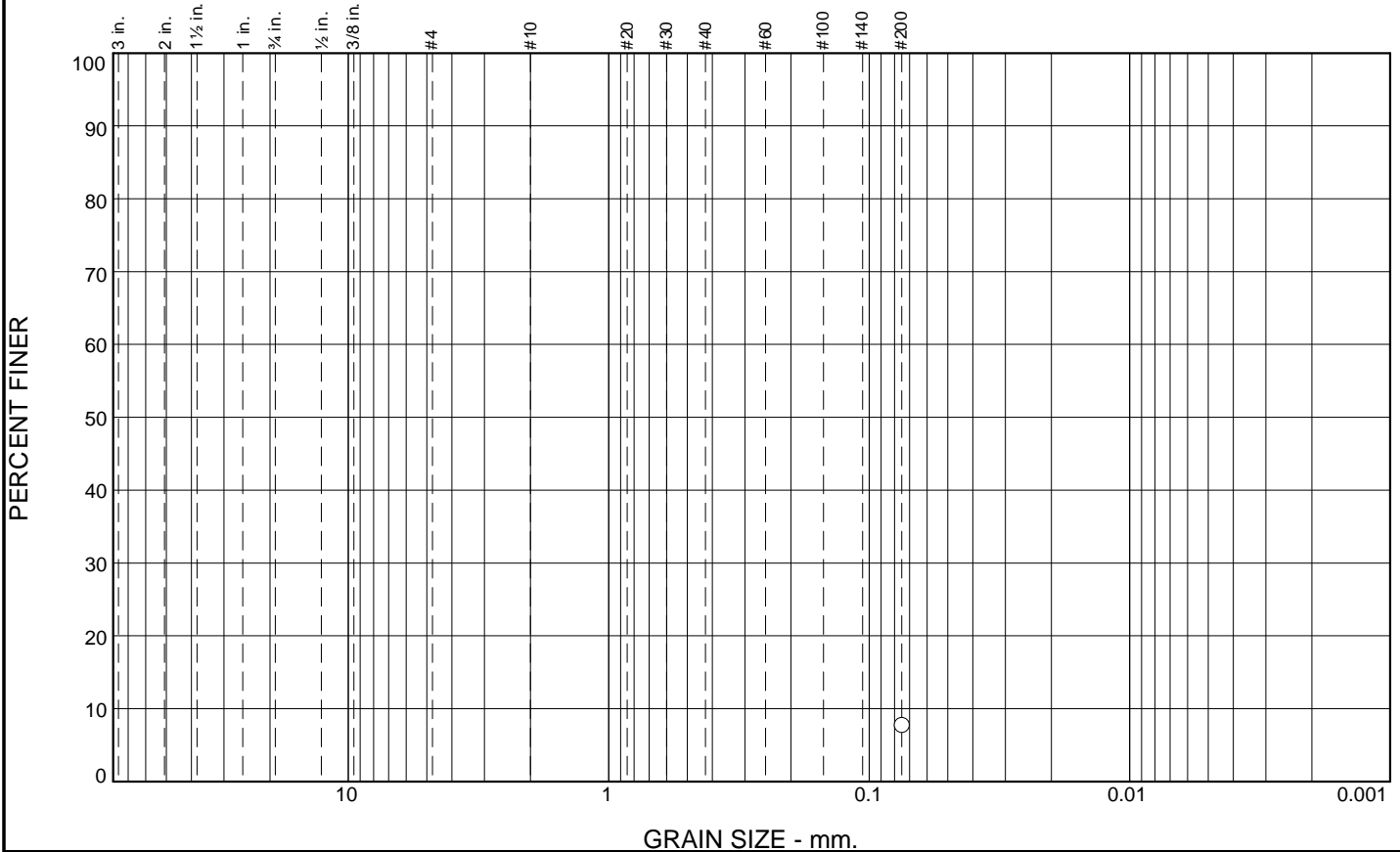
Date: 11-20-2014

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						7.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	7.8		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B004 @ 60.5

Depth: 60.5

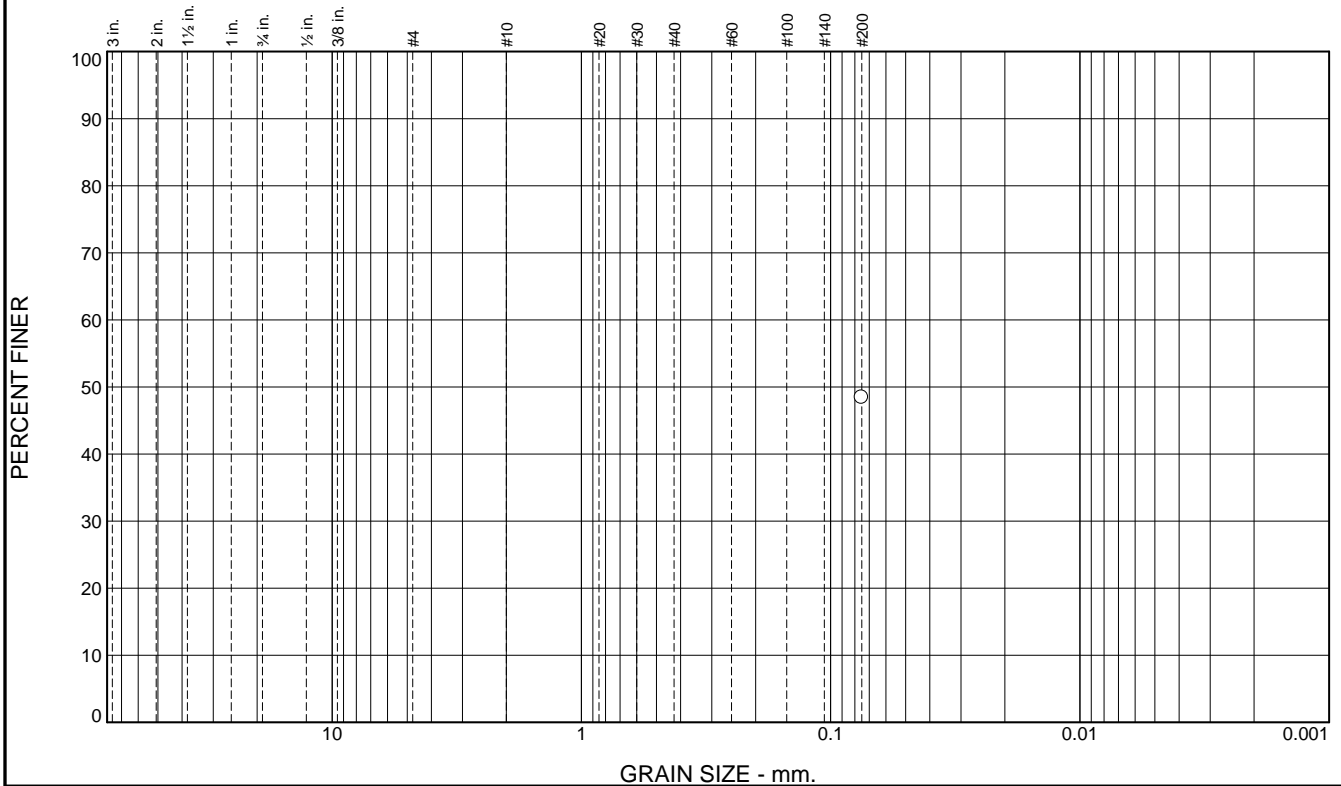
Date: 11-20-2014

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						48.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	48.4		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B005 @ 26

Depth: 26

Date: 11-18-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

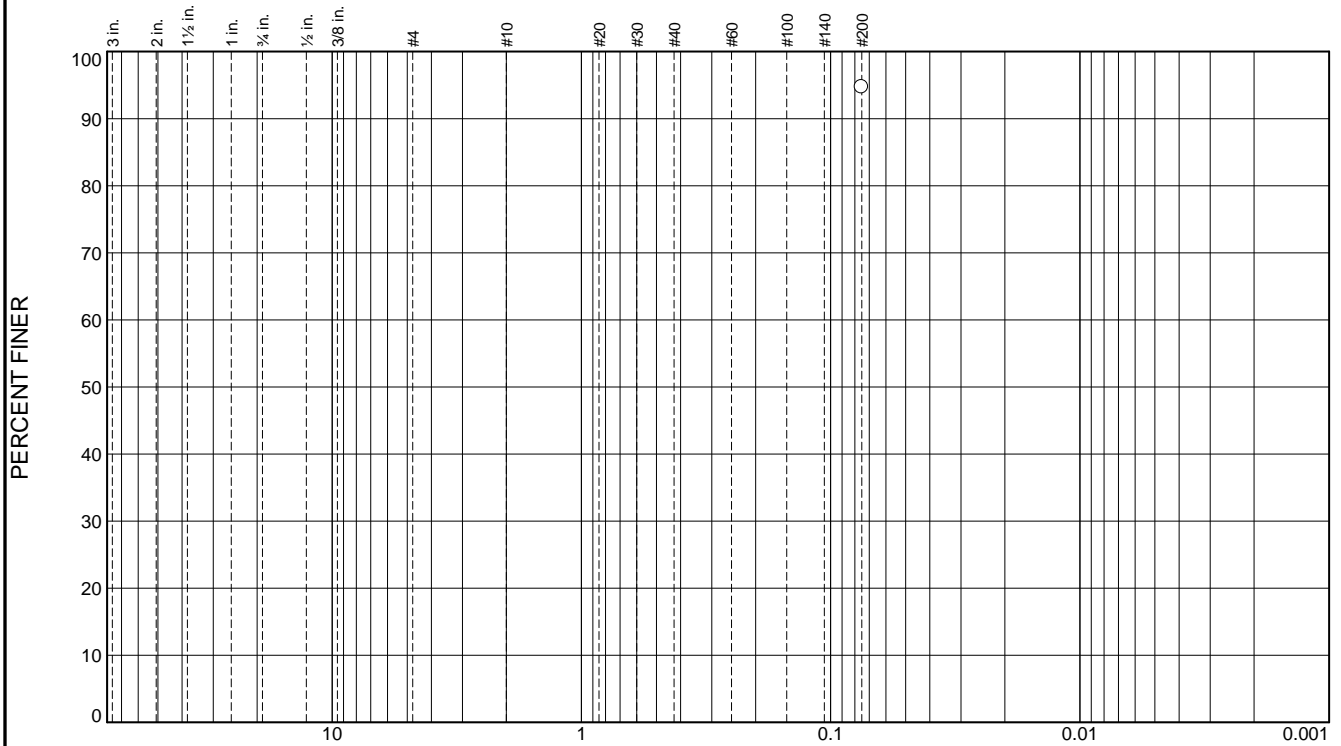
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						94.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	94.7		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B005 @ 56.5

Depth: 56.5

Date: 11-18-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

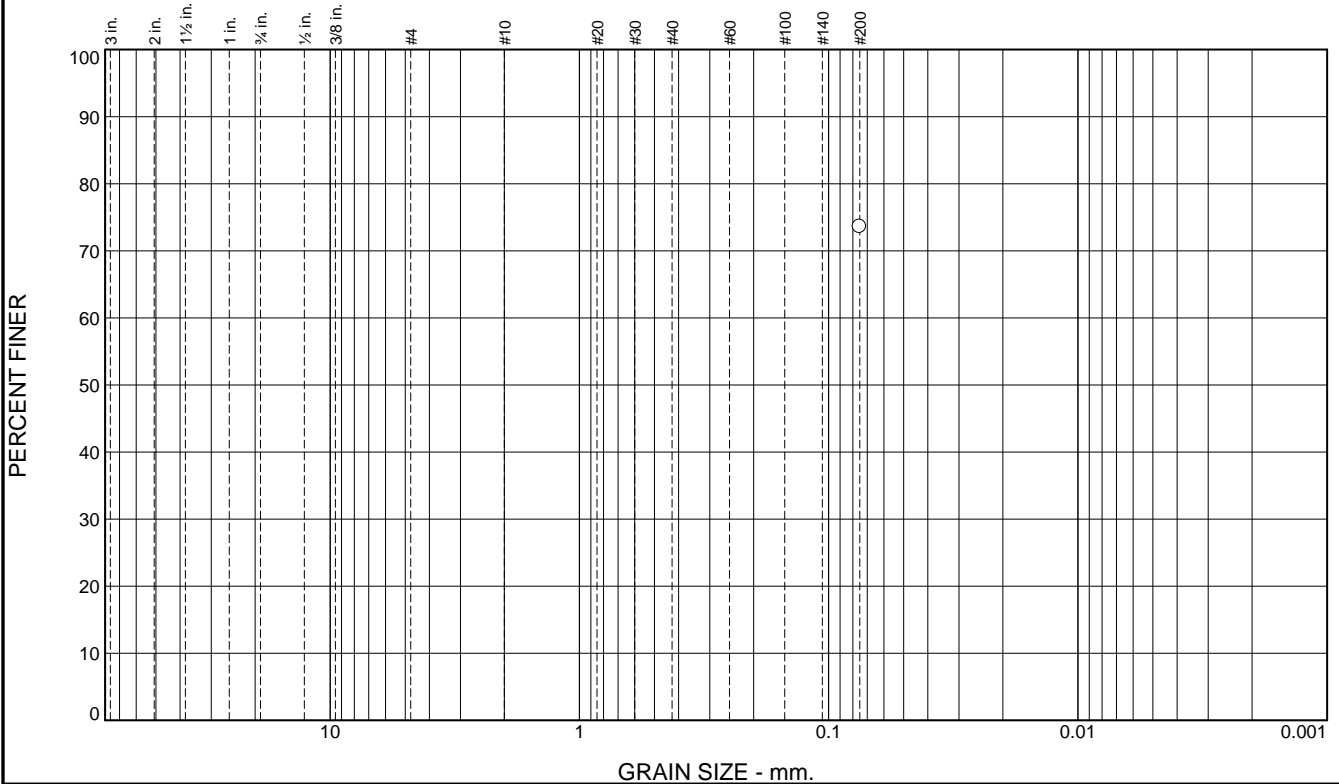
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						73.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	73.6		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B005 @ 61

Depth: 61

Date: 11-18-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

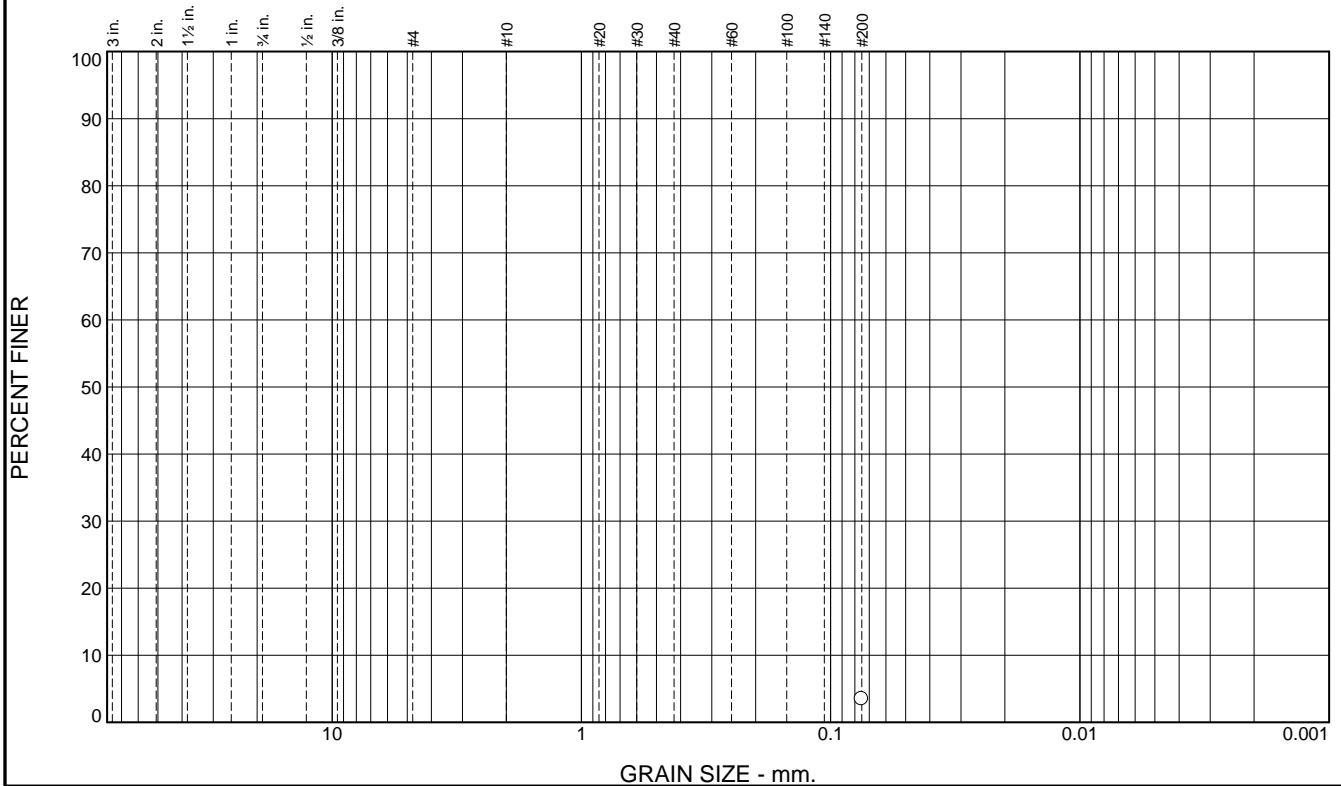
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						3.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	3.5		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B005 @ 66

Depth: 66

Date: 11-18-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

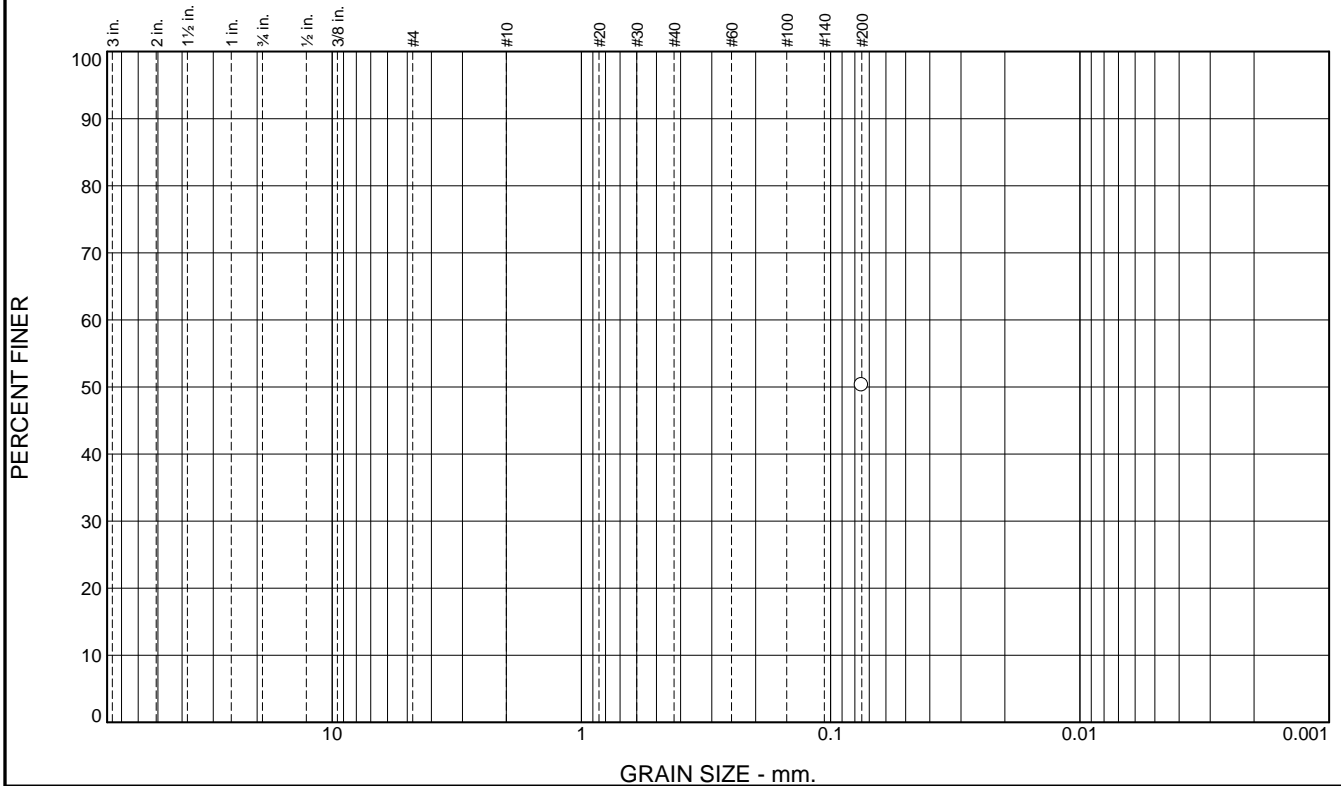
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						50.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	50.3		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B006 @ 5.5

Depth: 5.5

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

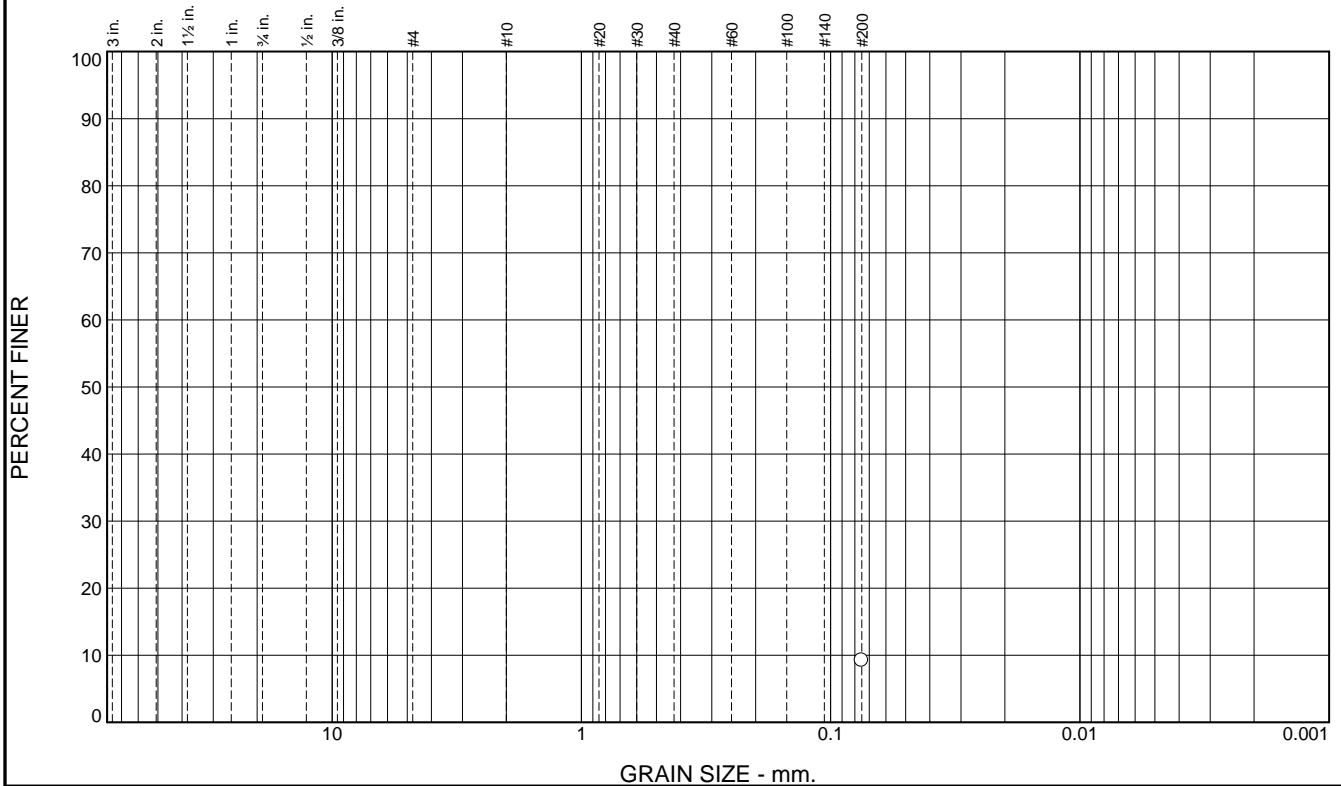
Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS

Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						9.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	9.2		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B006 @ 26

Depth: 26

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

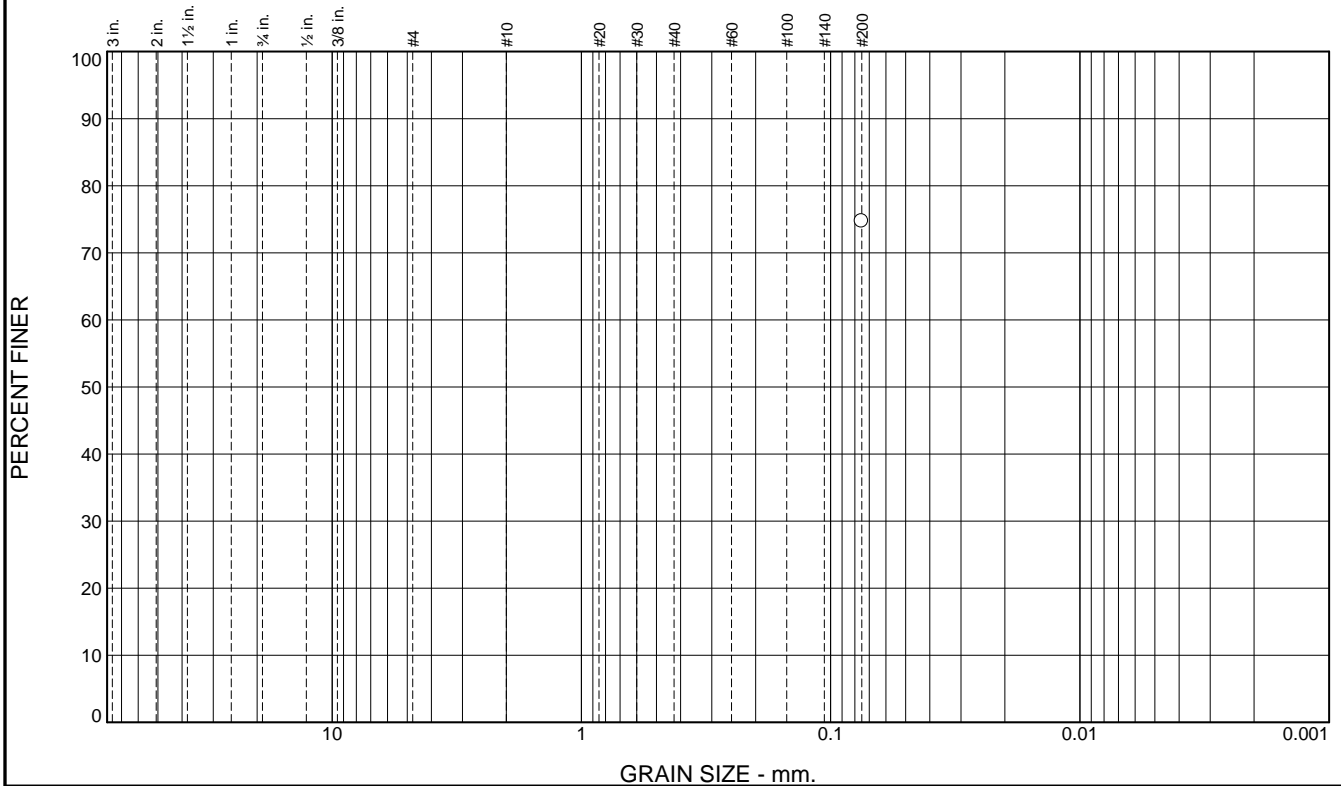
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						74.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	74.7		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B006 @ 51

Depth: 51

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

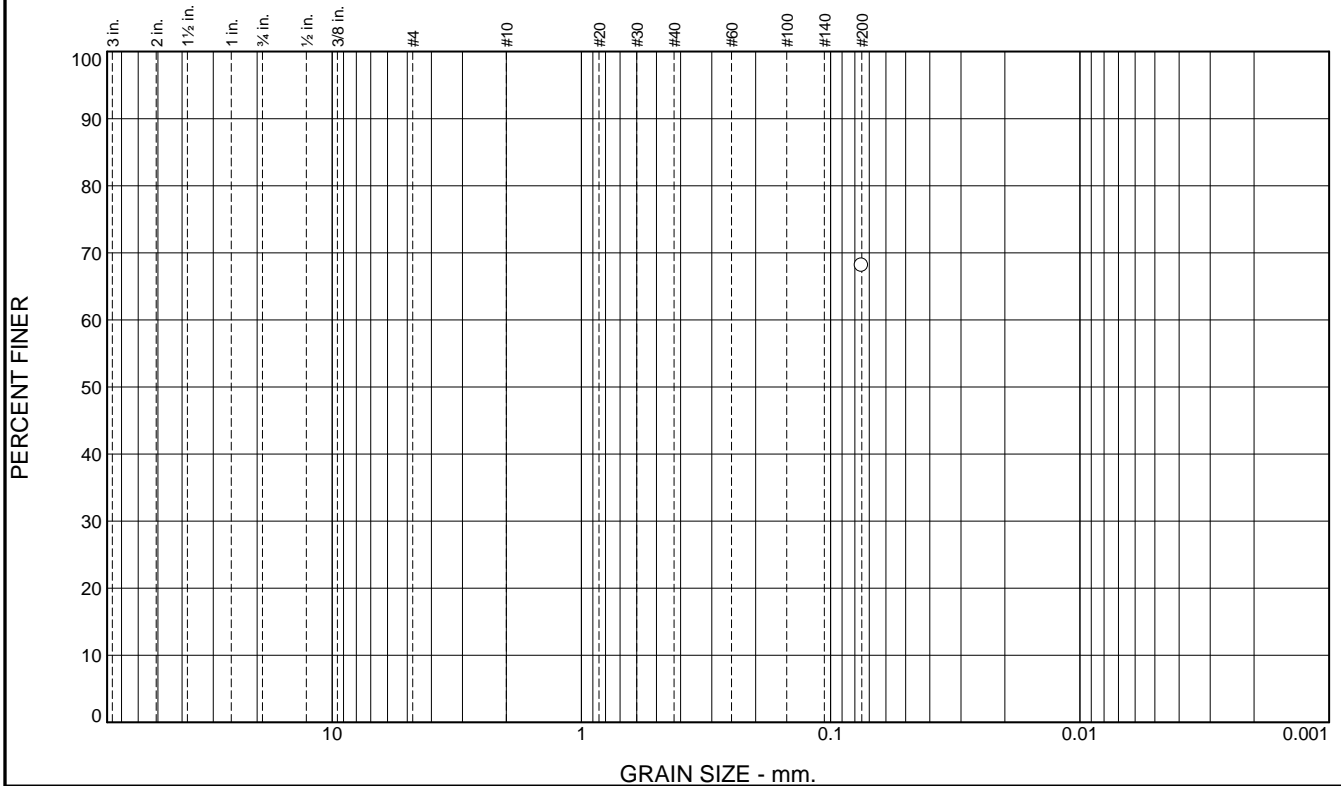
Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS

Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						68.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	68.1		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B006 @ 56

Depth: 56

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

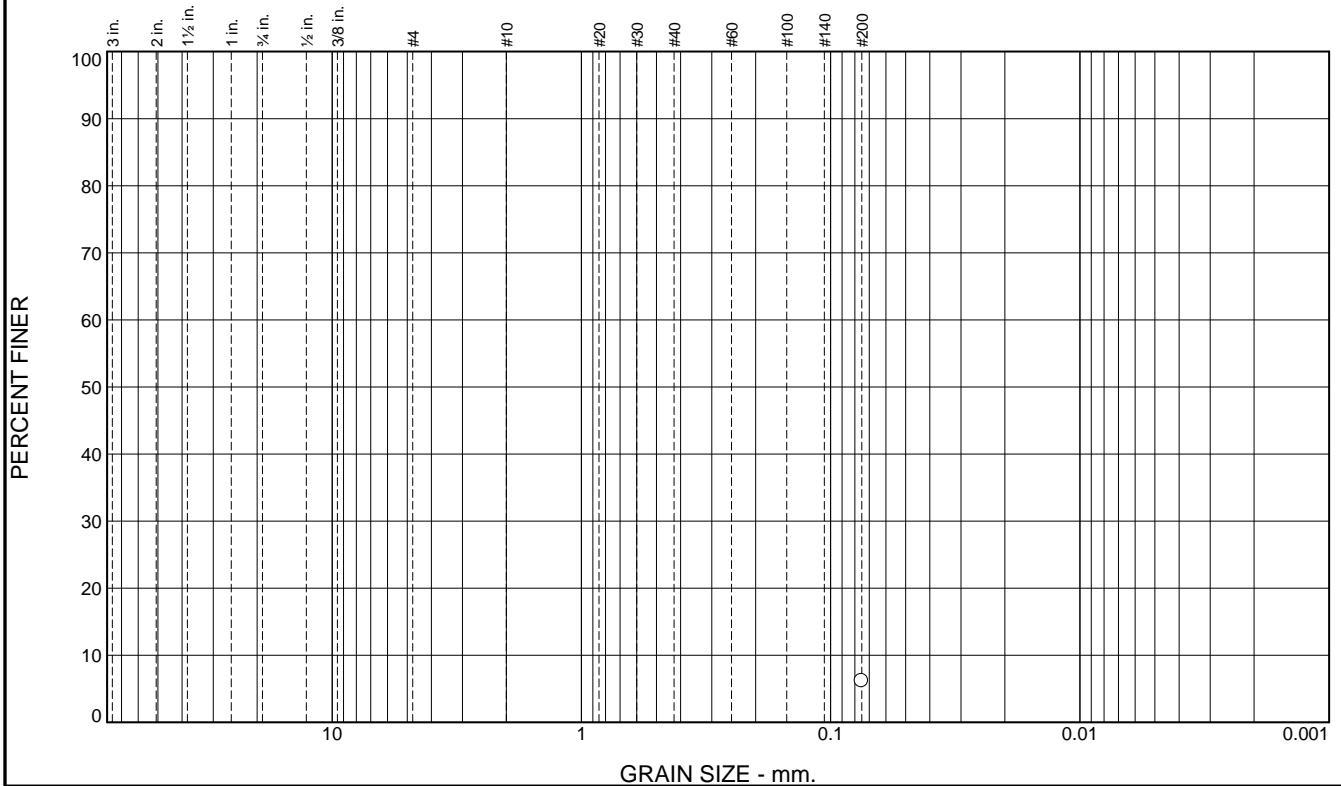
Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS

Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						6.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	6.2		

Soil Description

See Exploratory Boring

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 66

Depth: 60

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

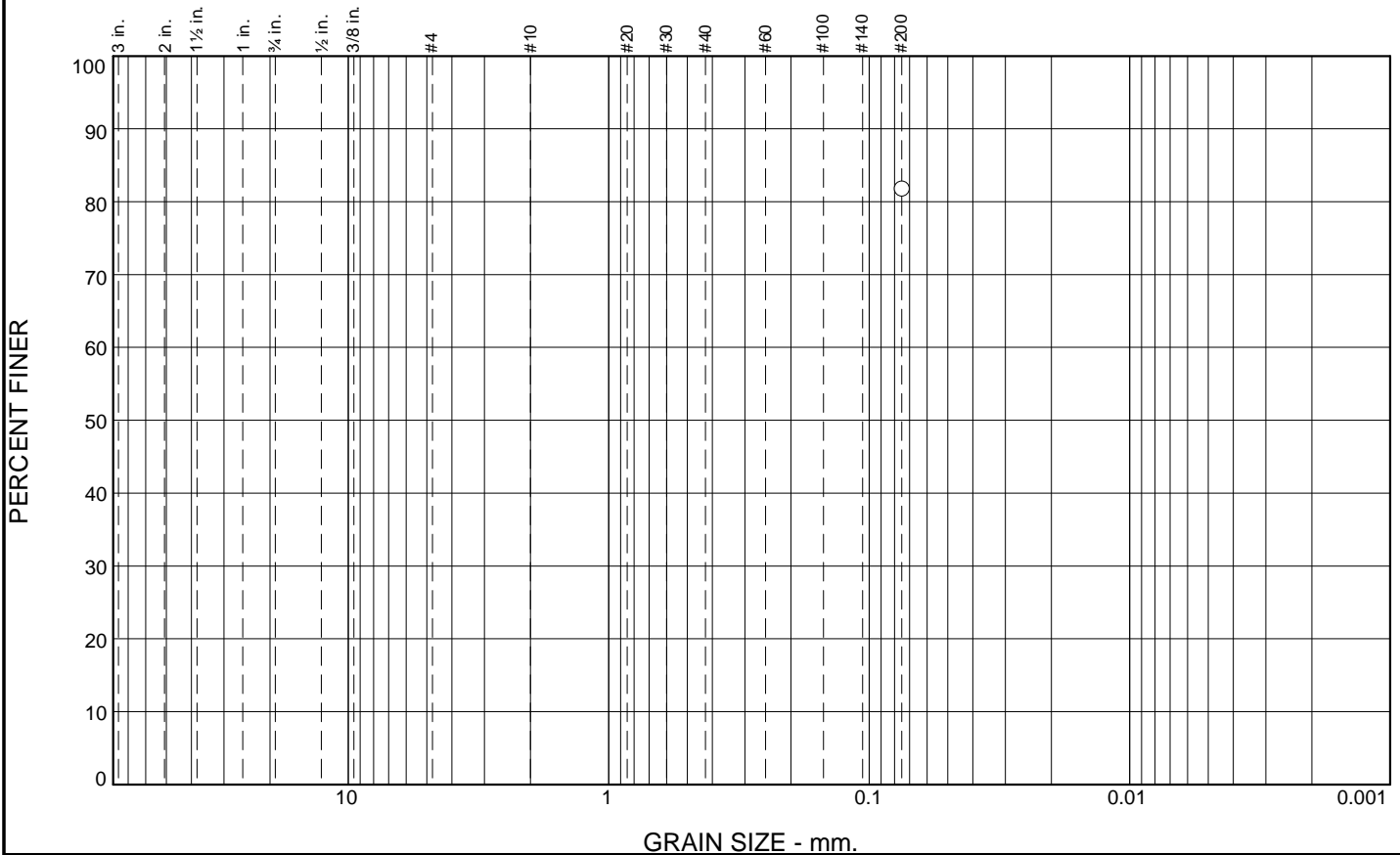
Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS

Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						81.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	81.8		

* (no specification provided)

Soil Description

See Exploration Log

Atterberg Limits

PL= 20 LL= 37 PI= 17

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

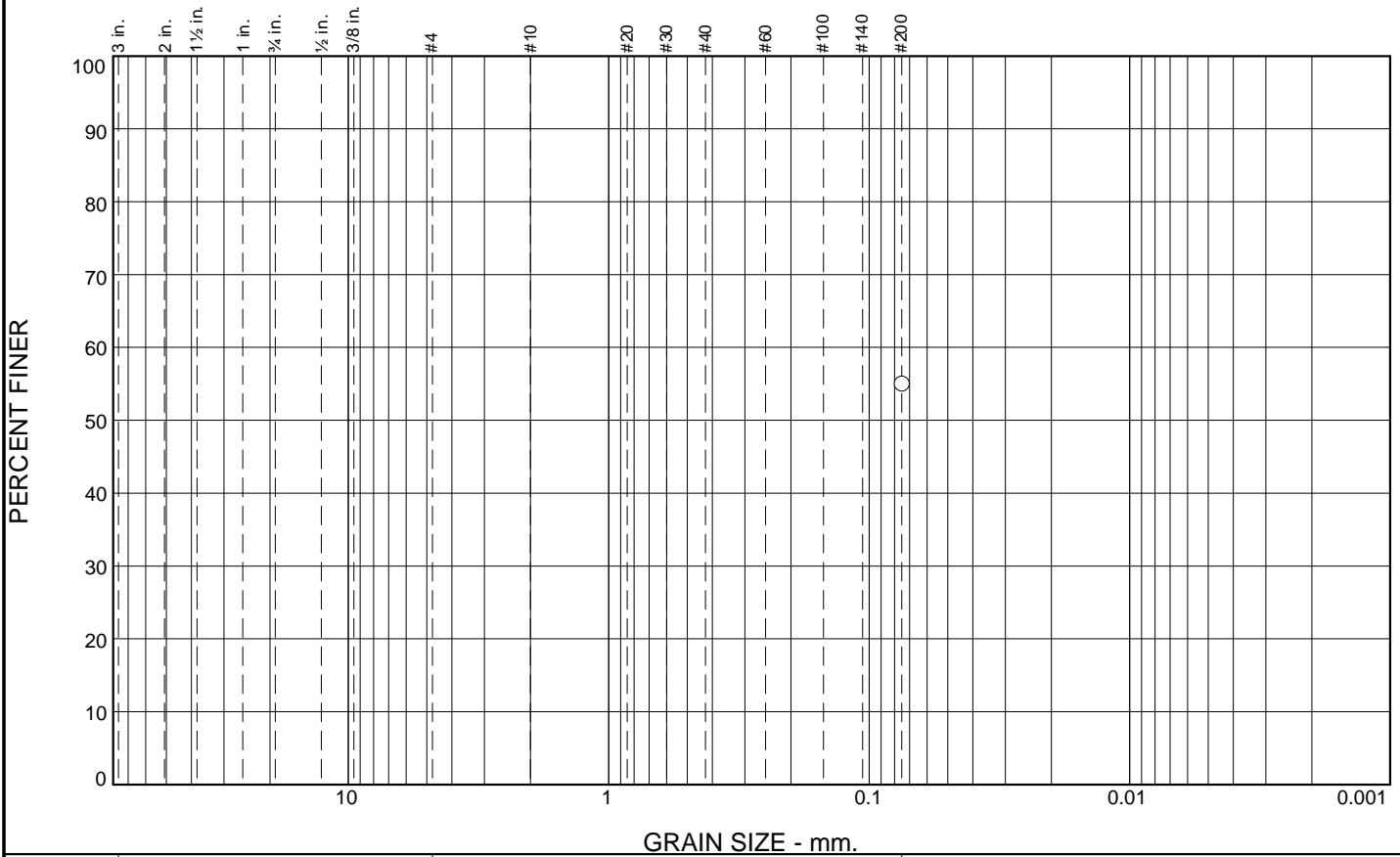
Source of Sample: 7-B007 **Depth:** 1.5 ft
Sample Number: 7-B007-1.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						55.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	55.0		

Soil Description

See Exploration Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=


Remarks

* (no specification provided)

Source of Sample: 7-B007
Sample Number: 7-B007-7.5

Depth: 7.5 ft

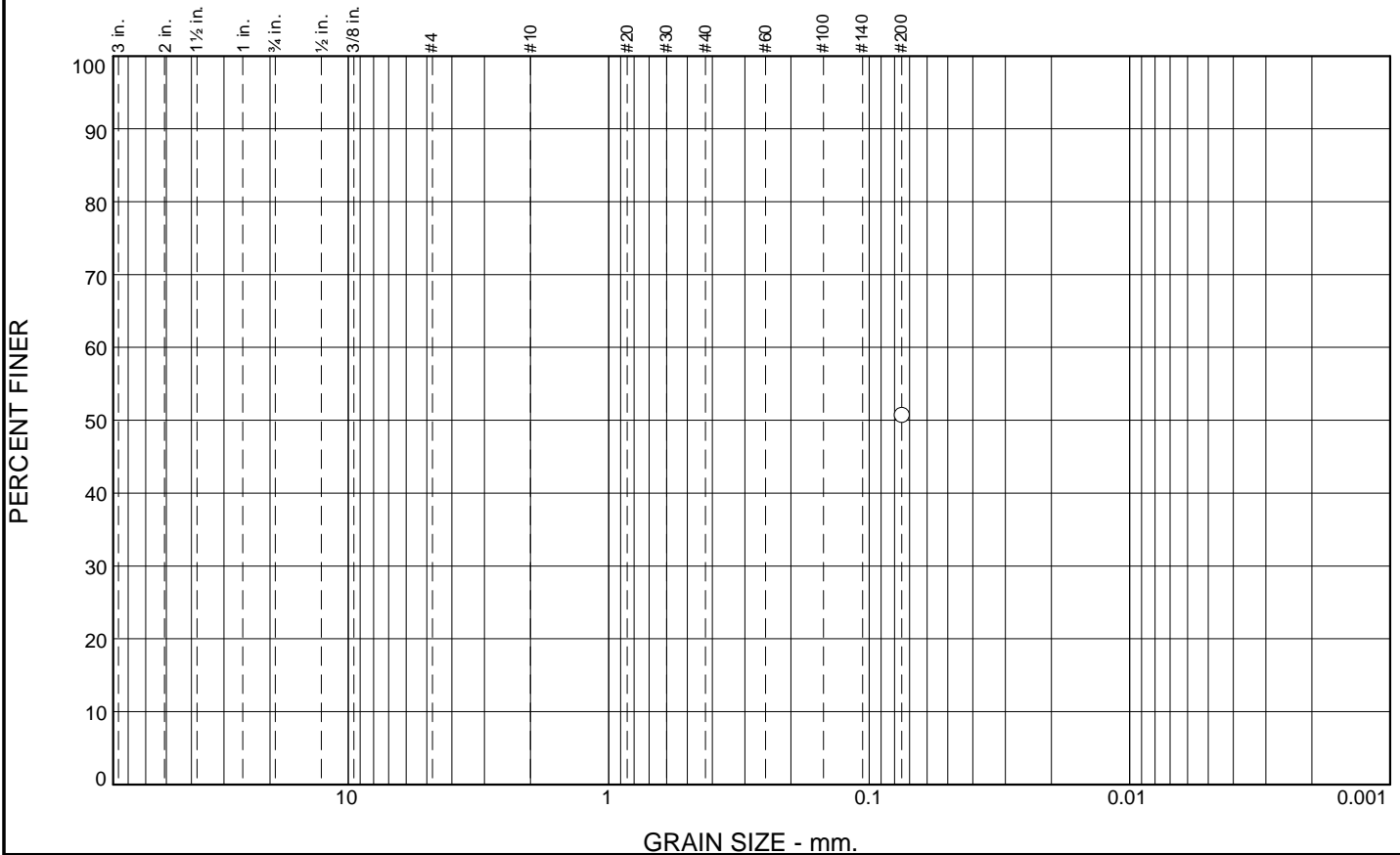
Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						50.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	50.7		

Soil Description

See Exploration Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

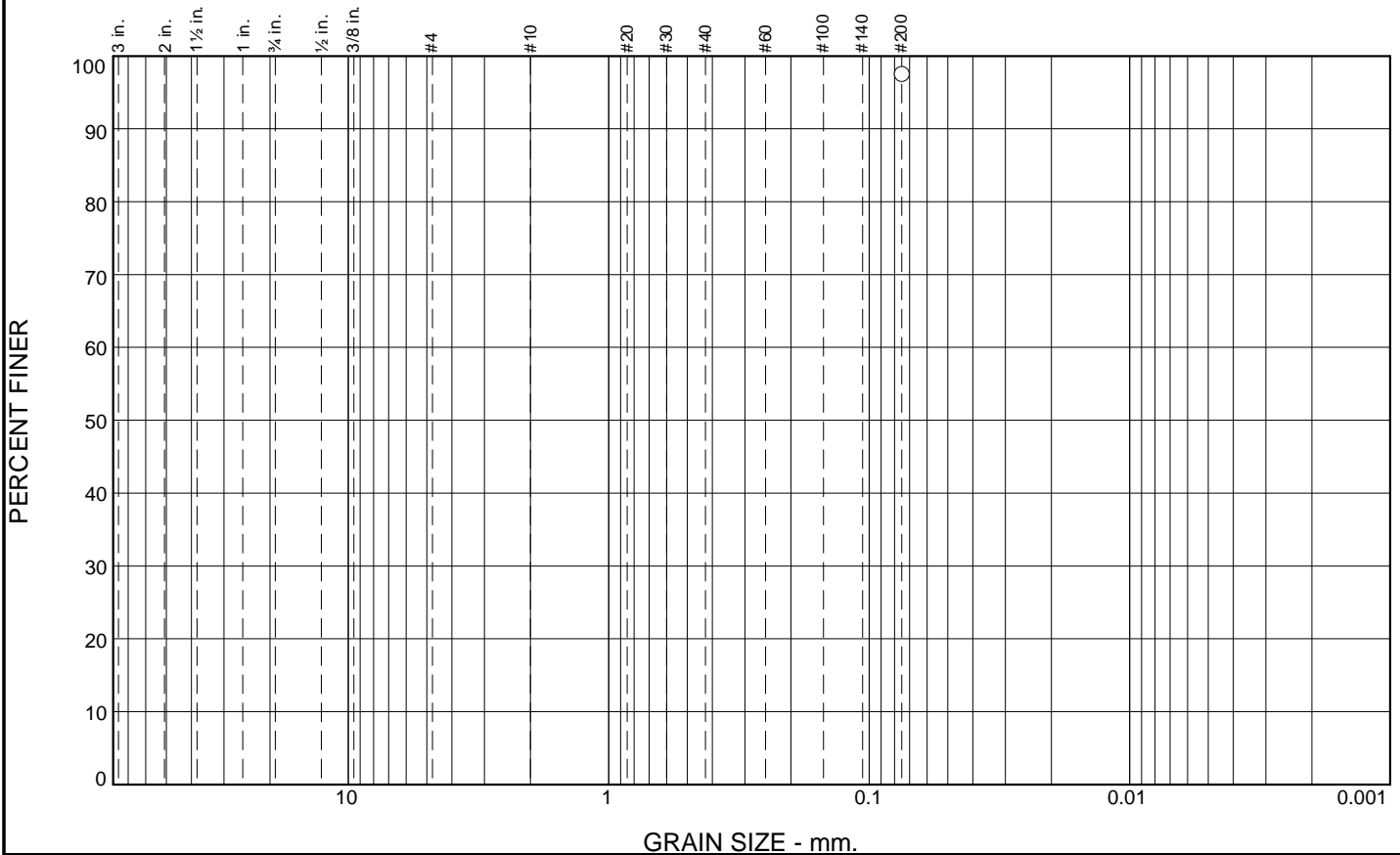
Source of Sample: 7-B007 **Depth:** 12.5 ft
Sample Number: 7-B007-12.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						97.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	97.5		

* (no specification provided)

Soil Description

See Exploration Log

Atterberg Limits

PL= 27 LL= 50 PI= 23

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: 7-B007
Sample Number: 7-B007-16

Depth: 16 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

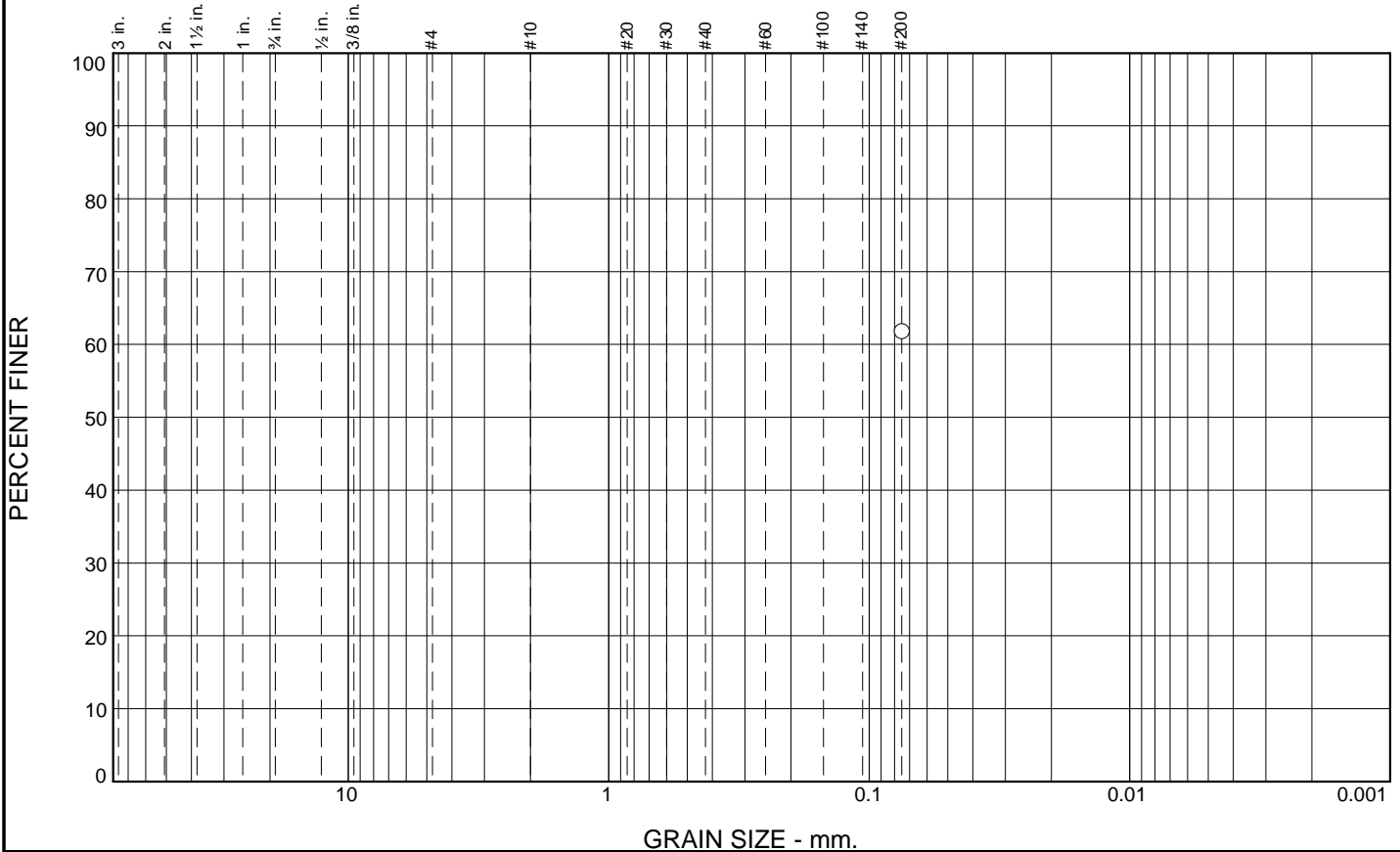
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						61.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	61.8		

* (no specification provided)

Soil Description

See Exploration Log

Atterberg Limits

PL= 16 LL= 32 PI= 16

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

Source of Sample: 7-B007
Sample Number: 7-B007-22

Depth: 22 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

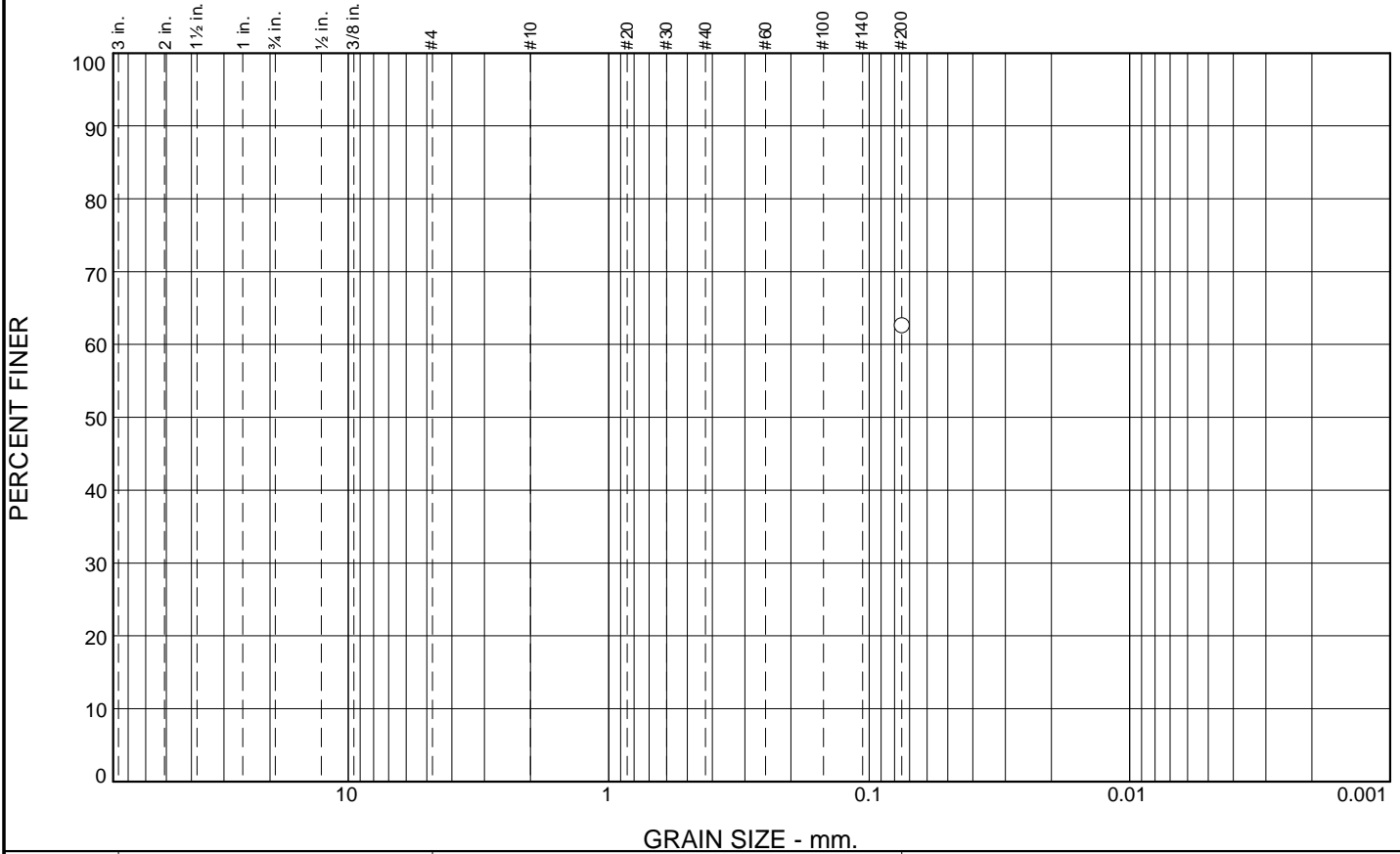
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						62.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	62.6		

* (no specification provided)

Soil Description

See Exploration Log

Atterberg Limits

PL= 19 LL= 24 PI= 5

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL-ML AASHTO=

Remarks

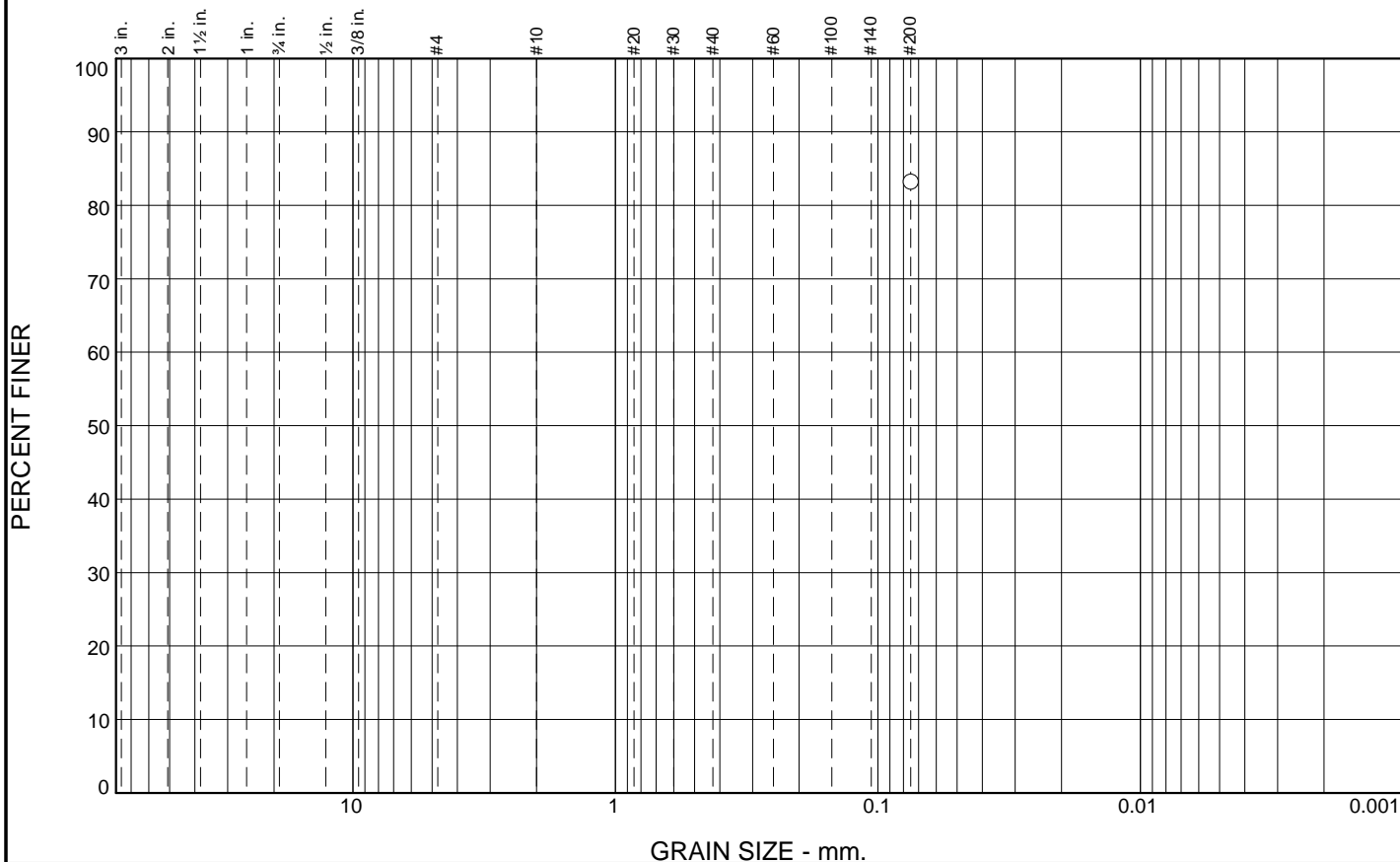
Source of Sample: 7-B007 **Depth:** 26.5 ft
Sample Number: 7-B007-26.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
<p>Figure</p>	

Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						83.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	83.2		

Soil Description

See Exploration Log

Atterberg Limits

PL= 17 LL= 41 PI= 24

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

* (no specification provided)

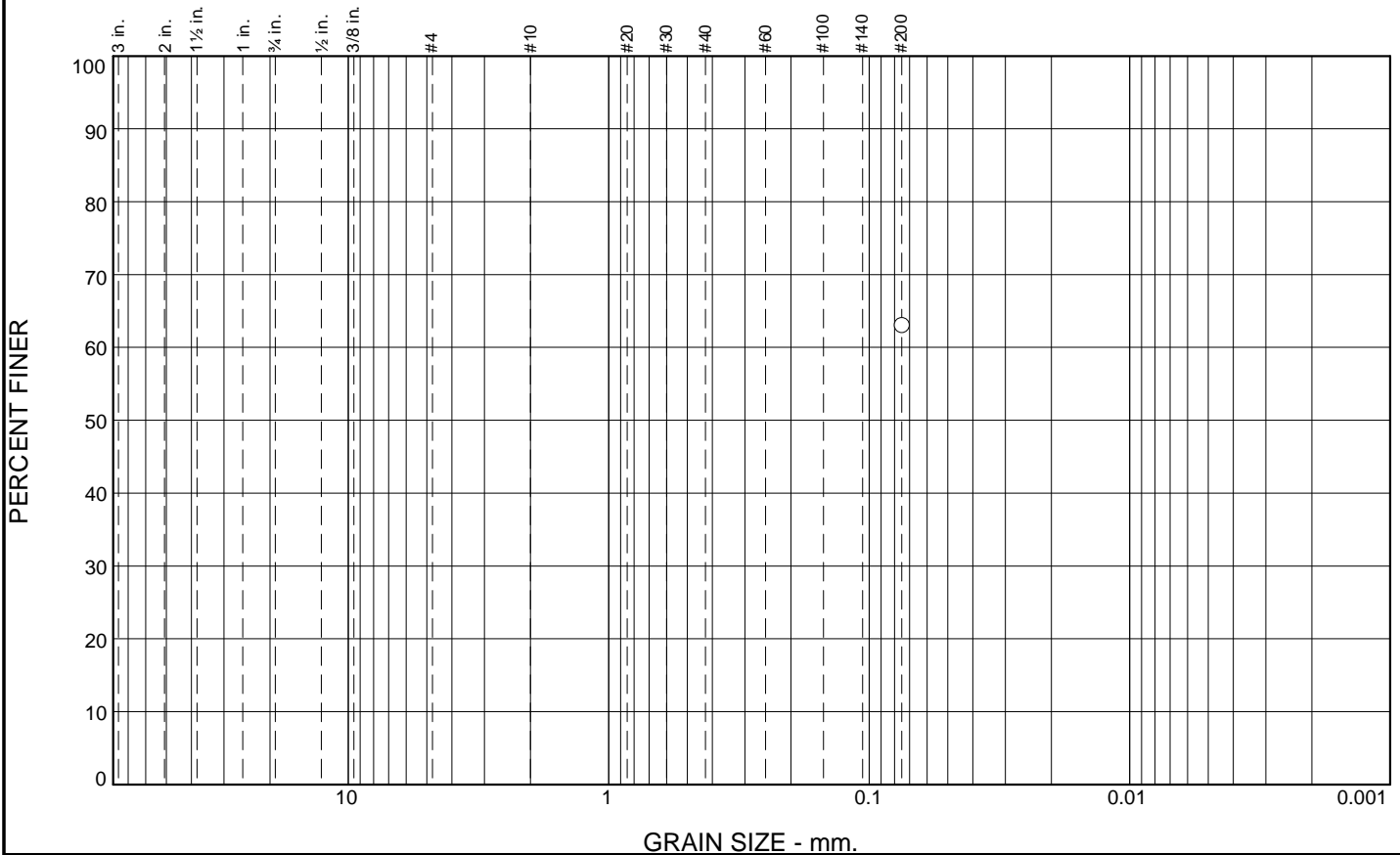
Source of Sample: 7-B007 **Depth:** 30.5 ft
Sample Number: 7-B007-30.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						63.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	63.1		

* (no specification provided)

Soil Description

See Exploration Log

Atterberg Limits

PL= 13 LL= 38 PI= 25

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=


Classification

USCS= CL AASHTO=

Remarks

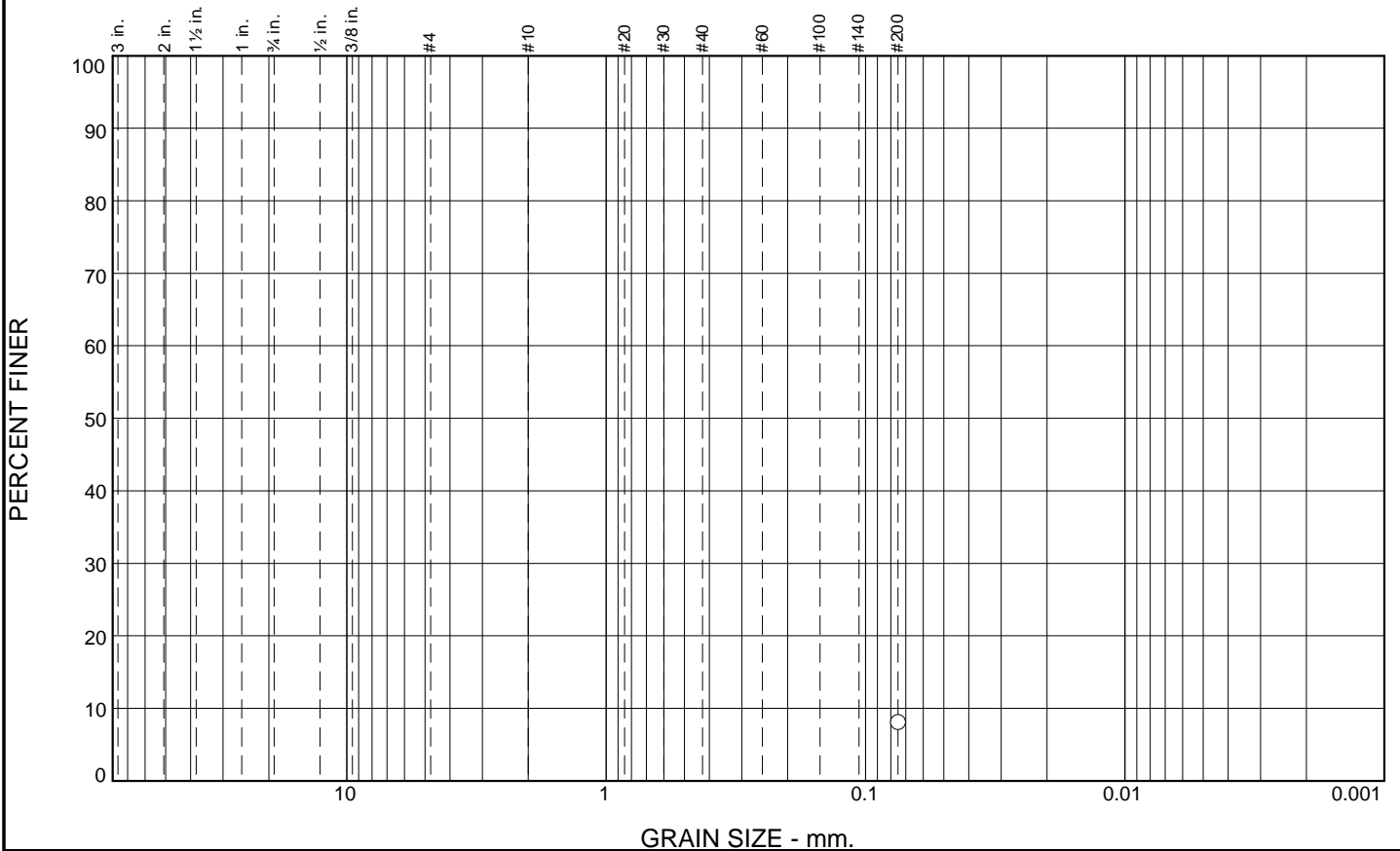
Source of Sample: 7-B007 **Depth:** 40.5 ft
Sample Number: 7-B007-40.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						8.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	8.1		

* (no specification provided)

Soil Description

See Exploration Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

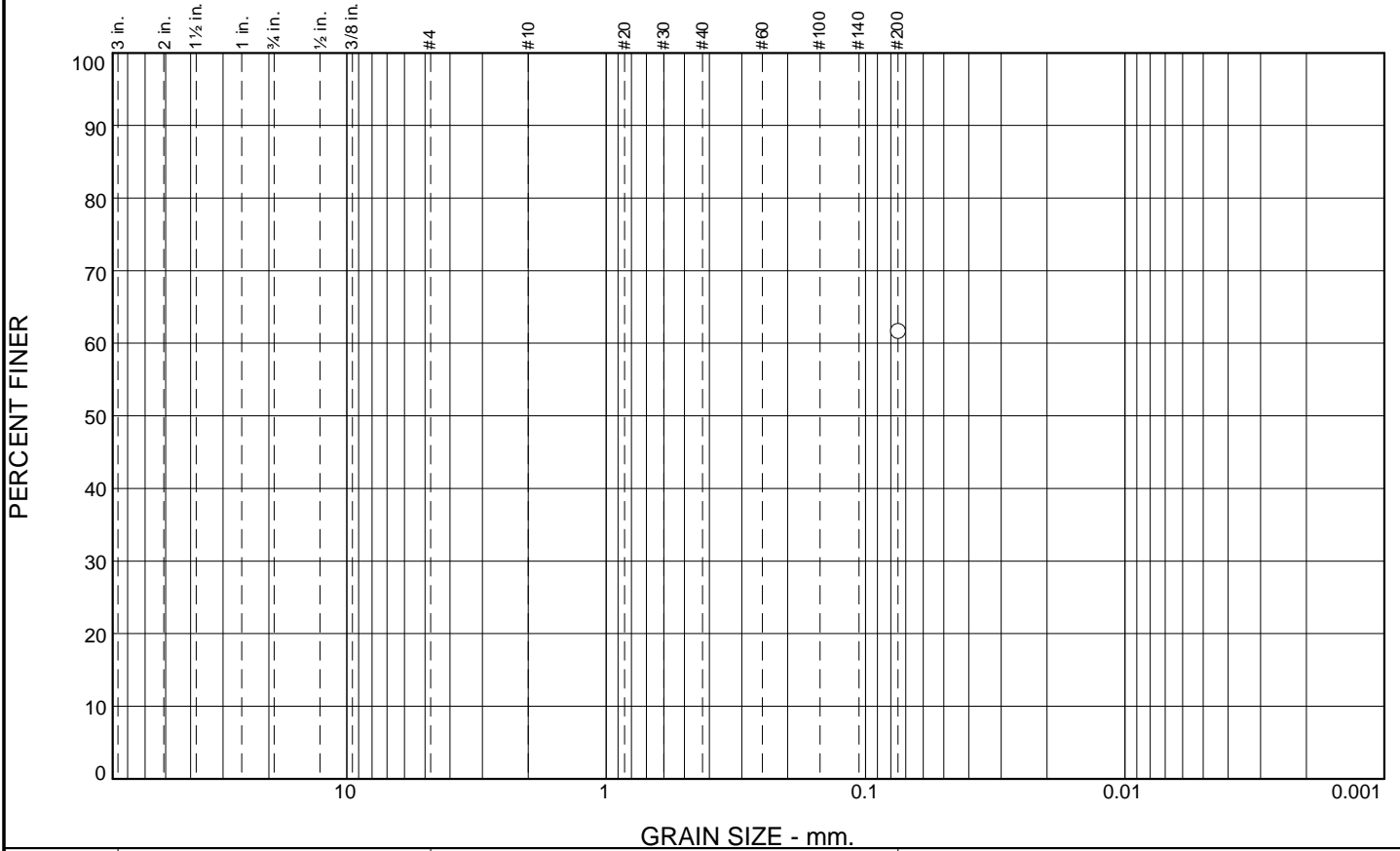
Source of Sample: 7-B007 **Depth:** 45.5 ft
Sample Number: 7-B007-45.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
<p>Figure</p>	

Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						61.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	61.7		

* (no specification provided)

Soil Description

See Exploration Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

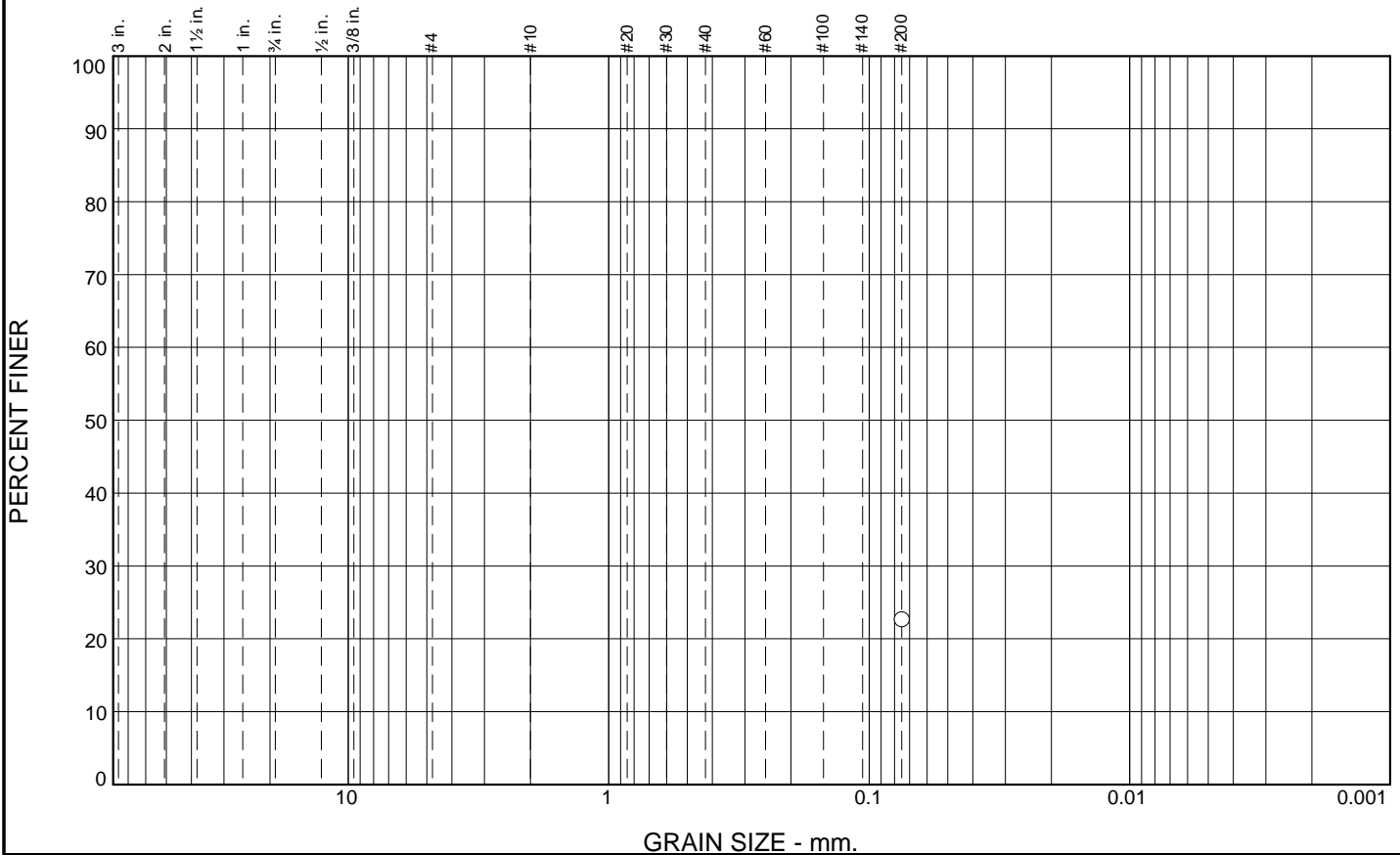
Source of Sample: 7-B007 **Depth:** 50.5 ft
Sample Number: 7-B007-50.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						22.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	22.7		

* (no specification provided)

Soil Description

See Exploration Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Source of Sample: 7-B007
Sample Number: 7-B007-51

Depth: 51 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

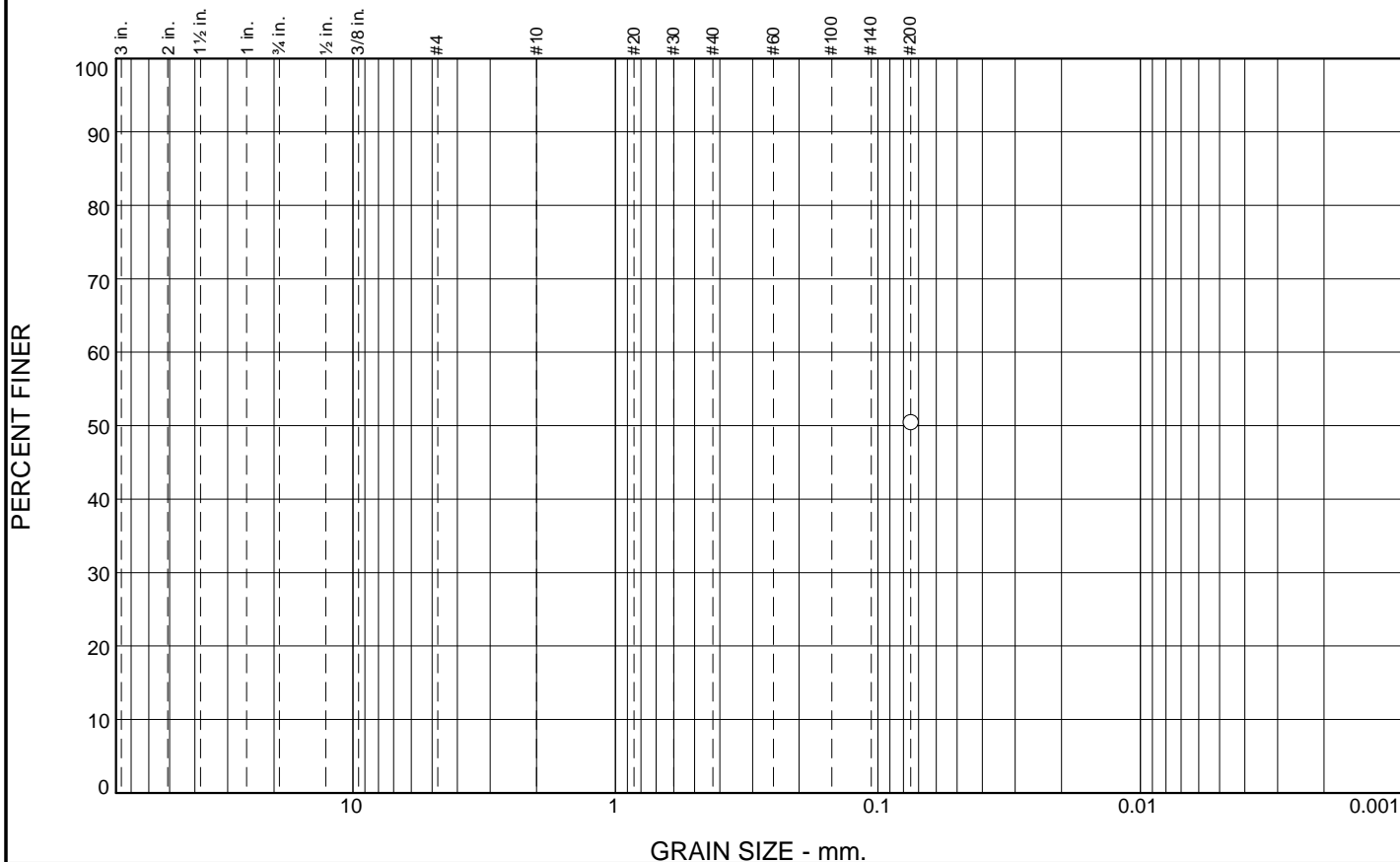
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						50.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	50.5		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 17 LL= 28 PI= 11

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=


Classification
 USCS= CL AASHTO=

Remarks

Source of Sample: 7-B008
Sample Number: 7-B008-1.5

Depth: 1.5 ft

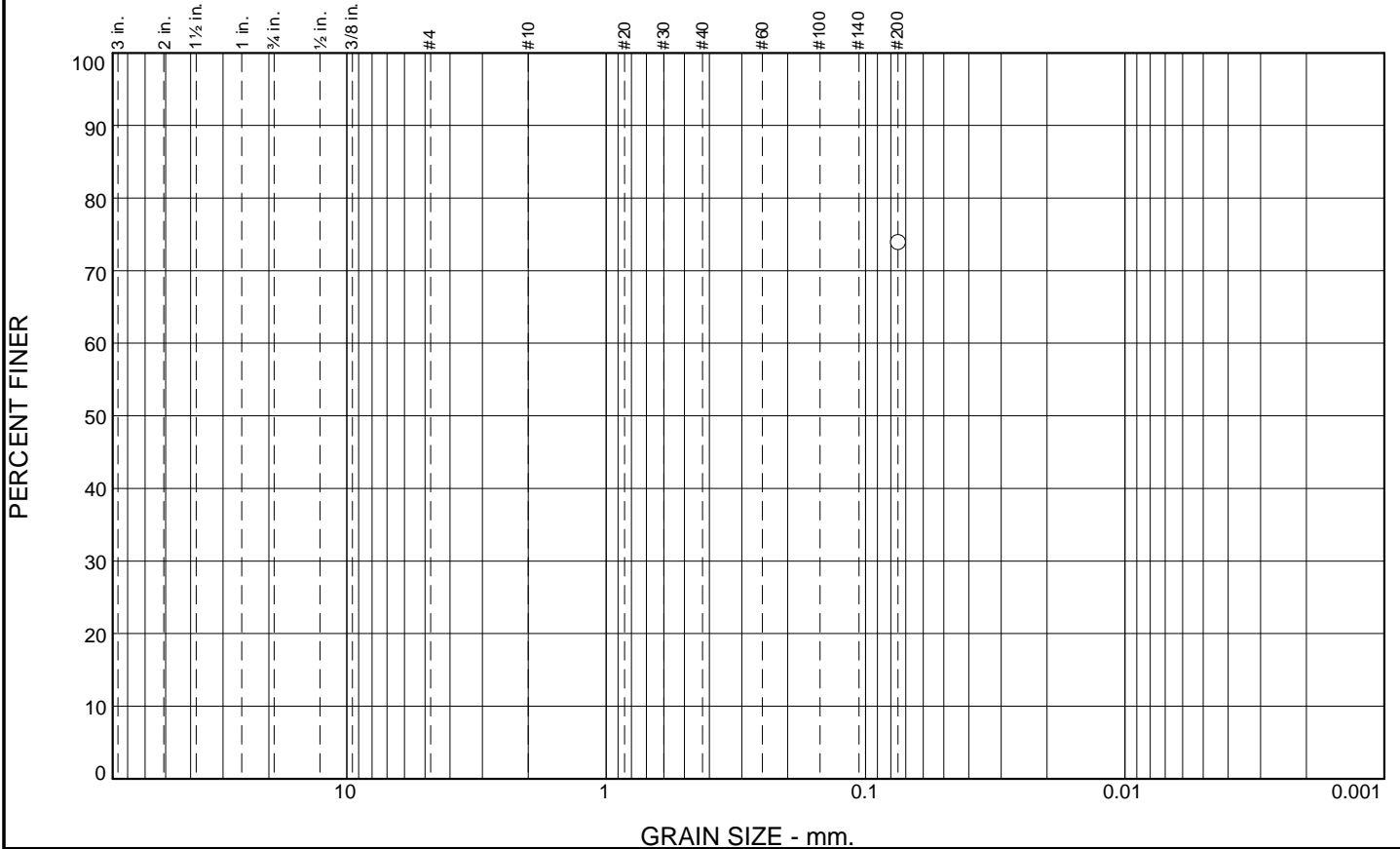
Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						73.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	73.9		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 19 LL= 42 PI= 23

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks

Source of Sample: 7-B008
Sample Number: 7-B008-3

Depth: 3 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

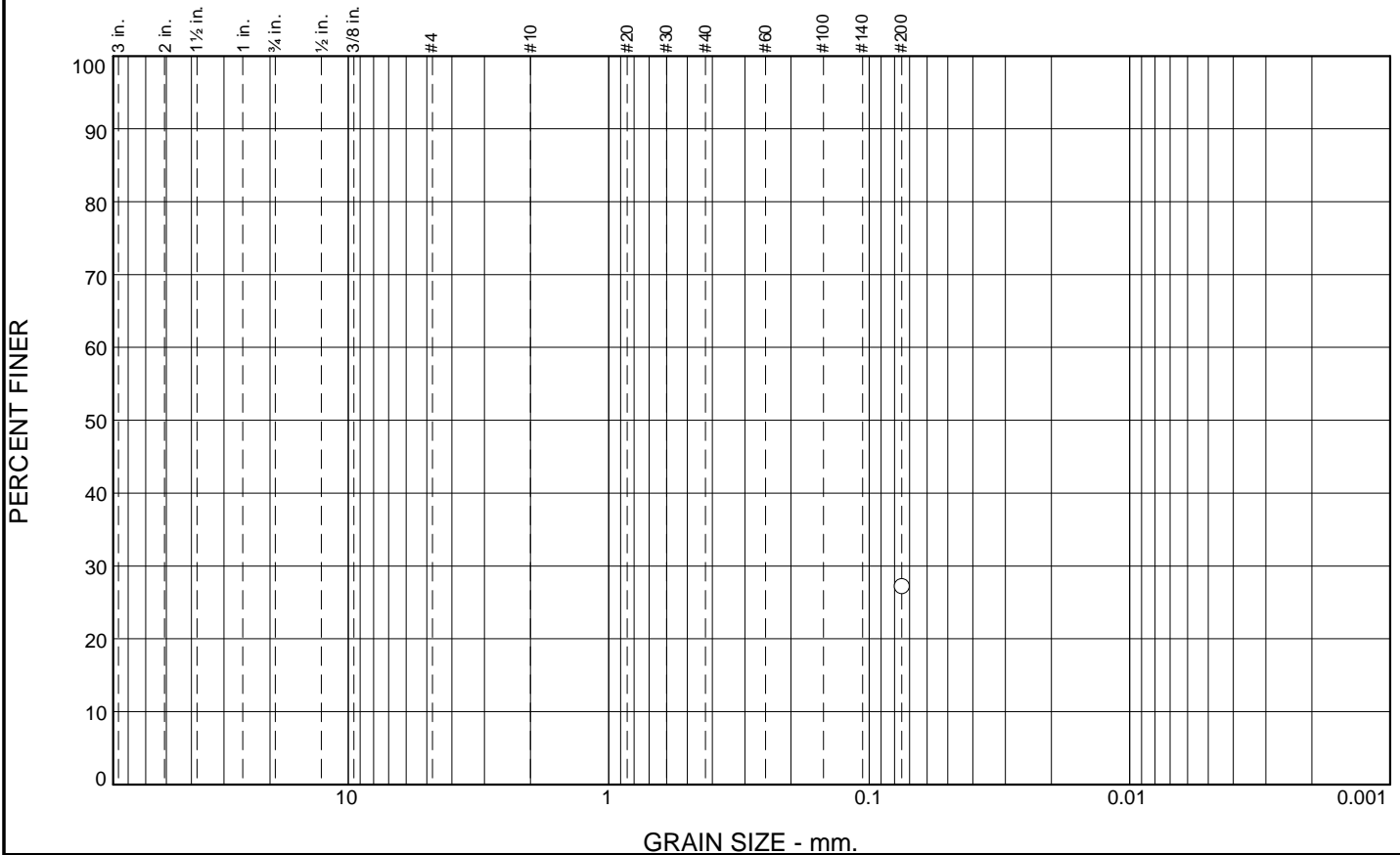
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						27.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	27.2		

* (no specification provided)

Soil Description

(See Exploration Logs)

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification


USCS= AASHTO=

Remarks

Source of Sample: 7-B008
Sample Number: 7-B008-5.5

Depth: 5.5 ft

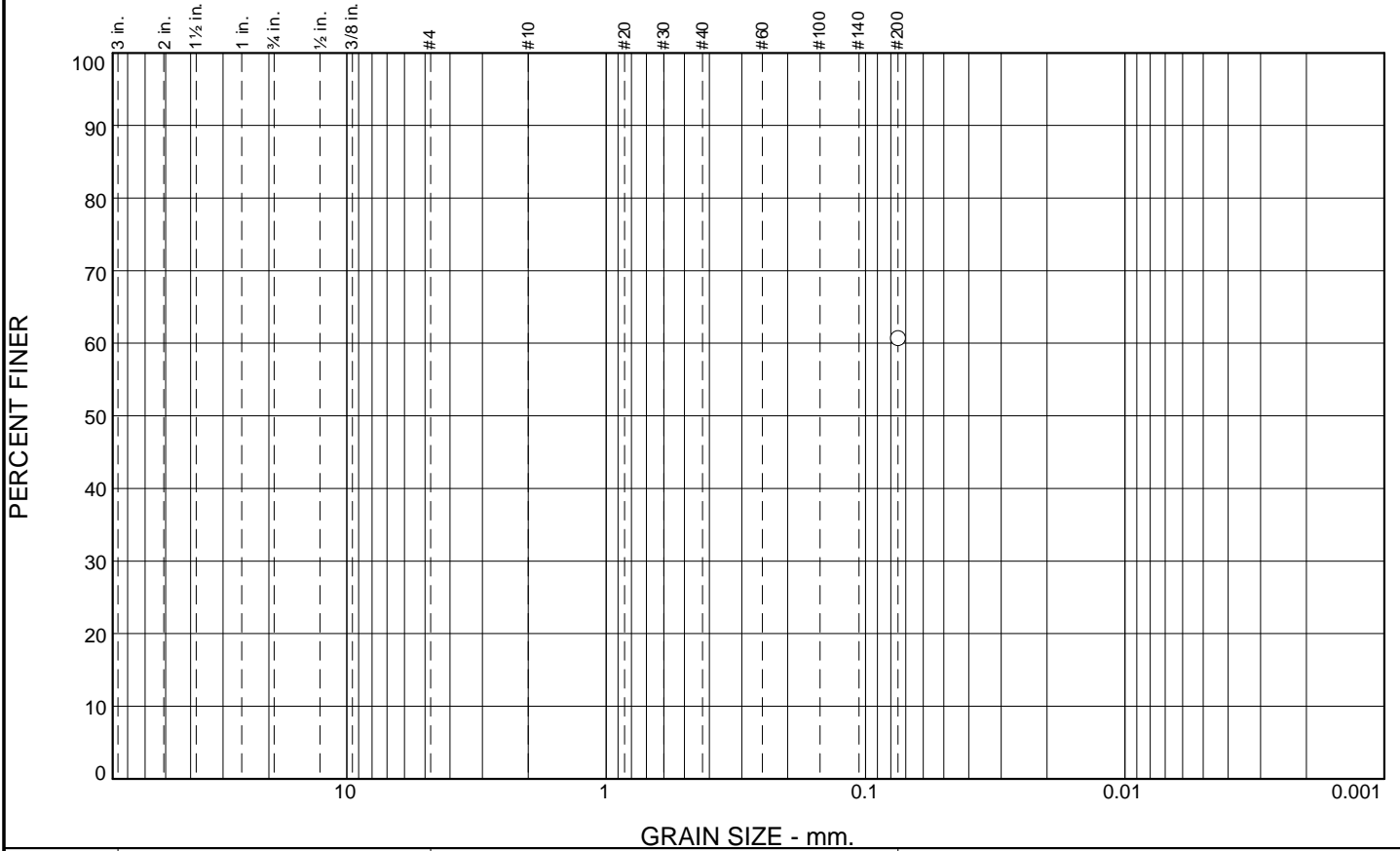
Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						60.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	60.7		

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

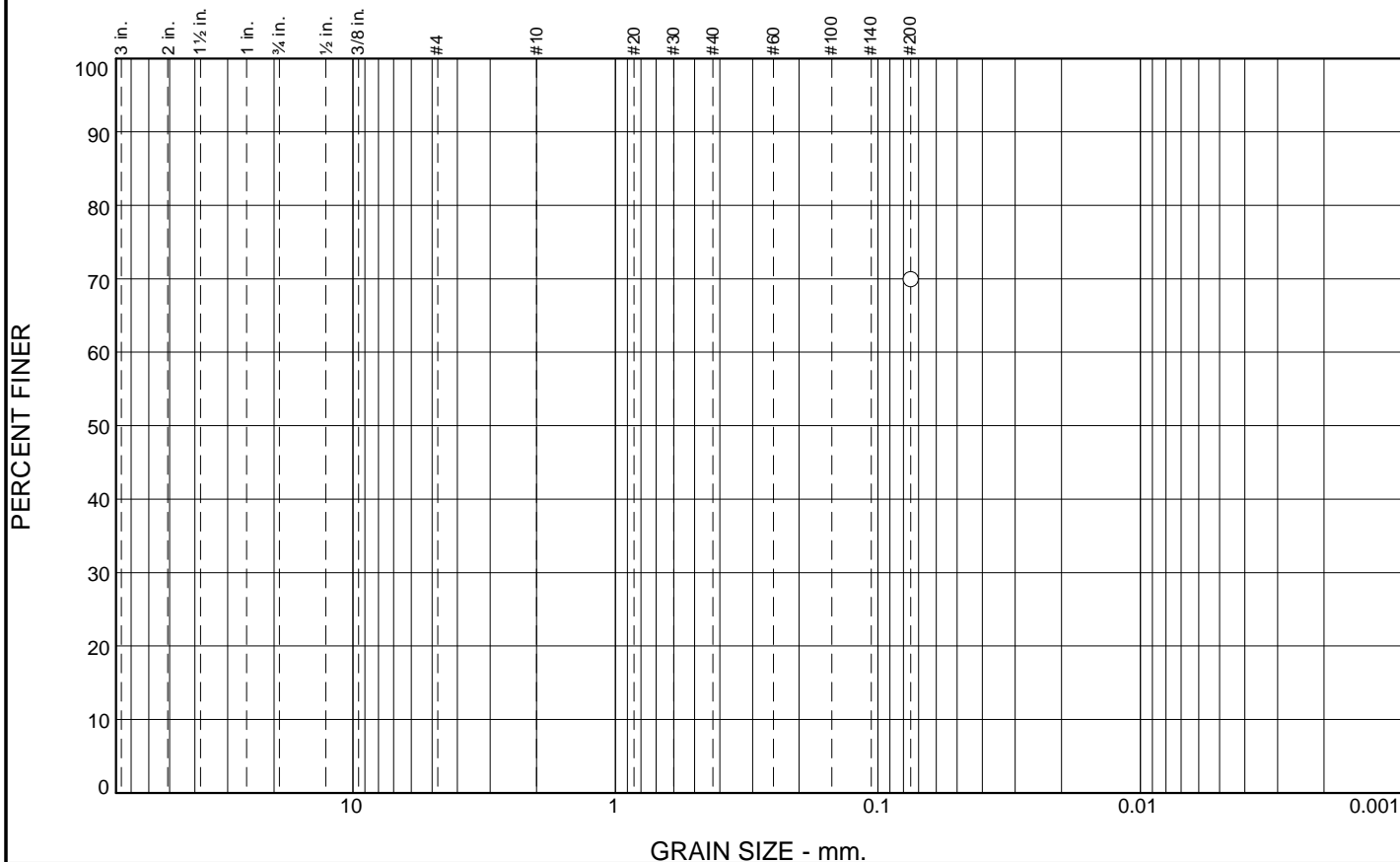
* (no specification provided)

Source of Sample: 7-B008 **Depth:** 7 ft **Date:** 01-30-2015
Sample Number: 7-B008-7

	Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004	Figure
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Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						69.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	69.9		

* (no specification provided)

Soil Description

(See Exploration Logs)

Atterberg Limits

PL= 23 LL= 33 PI= 10

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification


USCS= CL AASHTO=

Remarks

Source of Sample: 7-B008
Sample Number: 7-B008-12

Depth: 12 ft

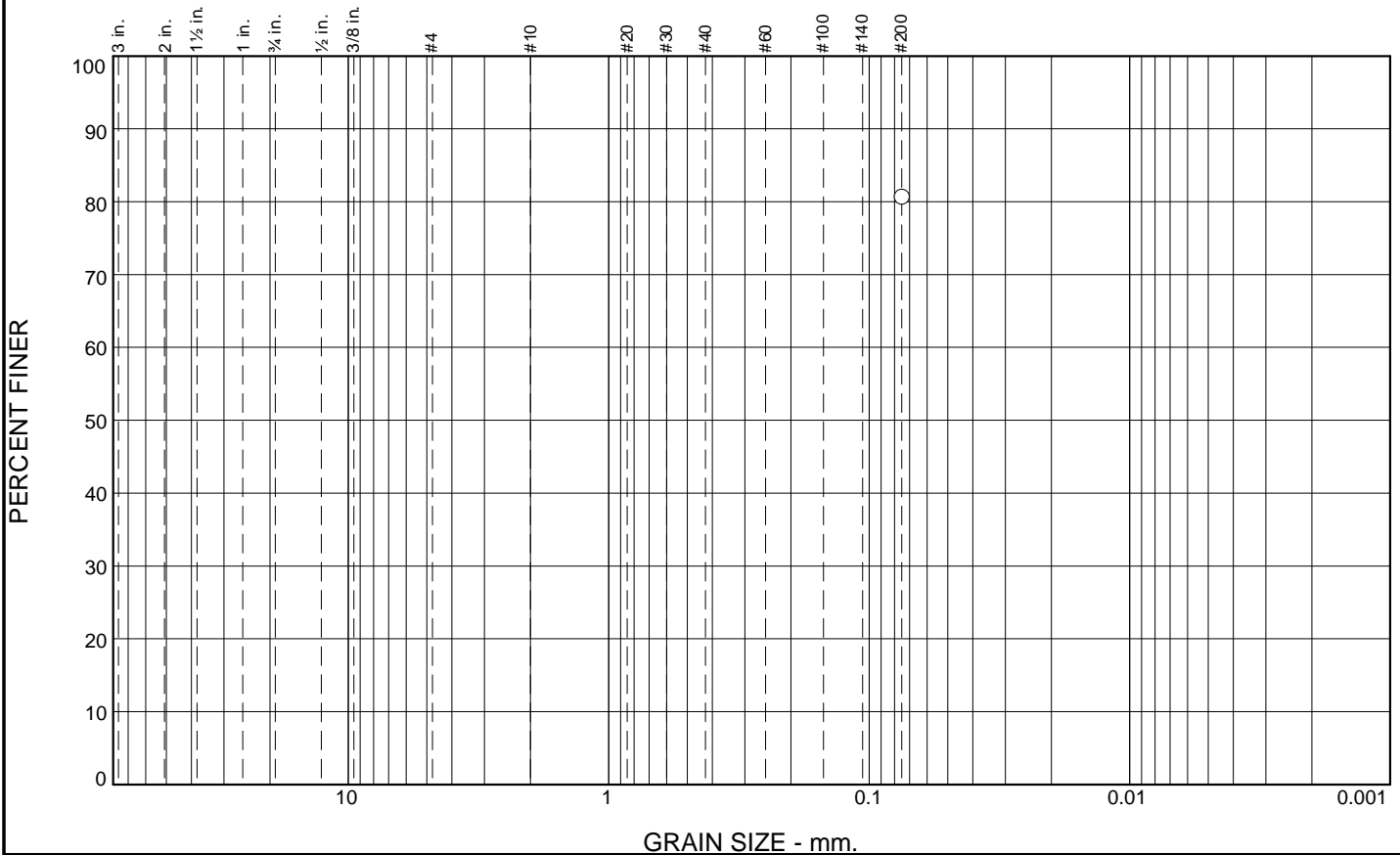
Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						80.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	80.7		

* (no specification provided)

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= 23 LL= 39 PI= 16

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks

Source of Sample: 7-B008
Sample Number: 7-B008-15.5

Depth: 15.5 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

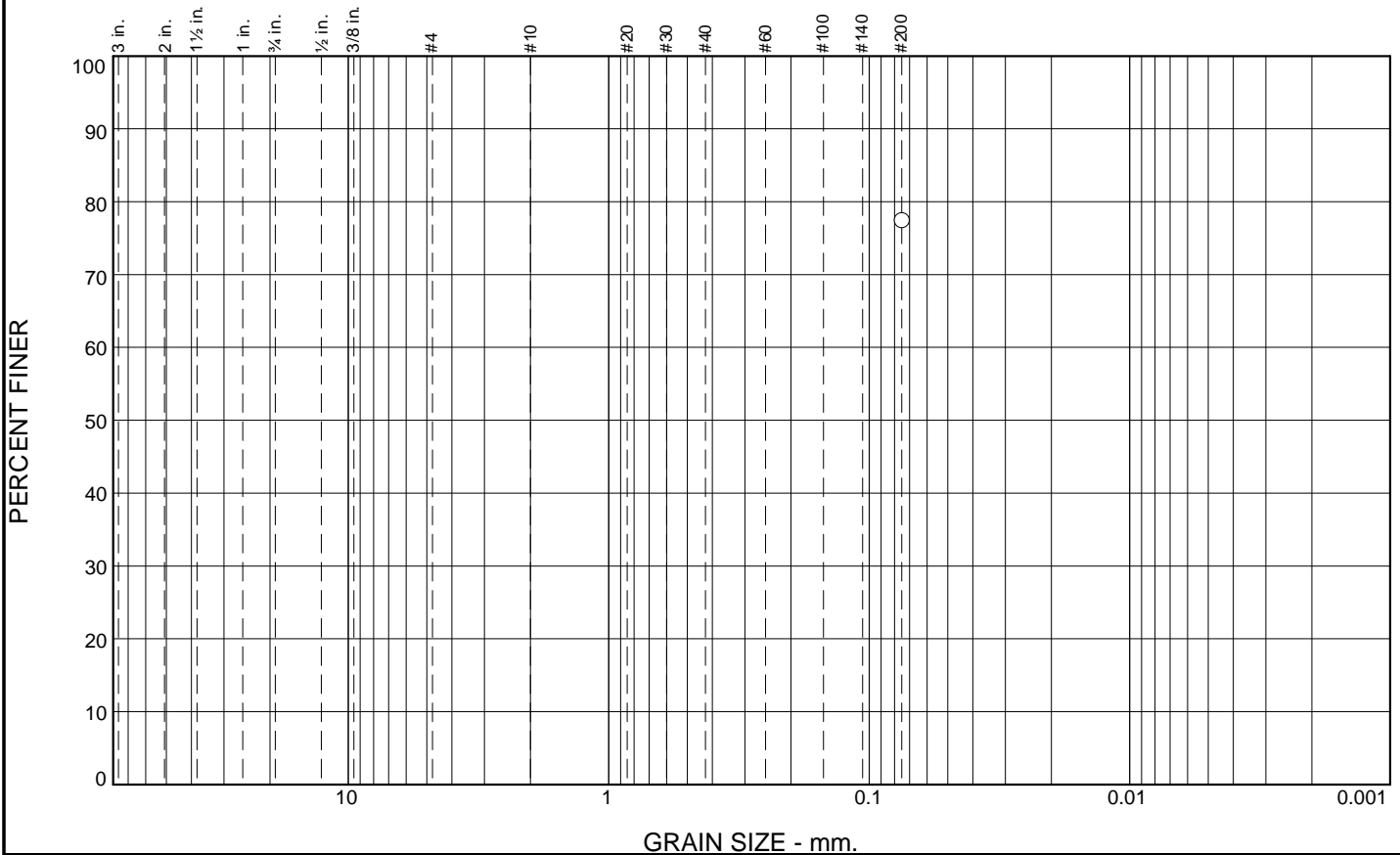
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						77	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	77		

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=


Remarks

* (no specification provided)

Source of Sample: 7-B008
Sample Number: 7-B008-17

Depth: 17 ft

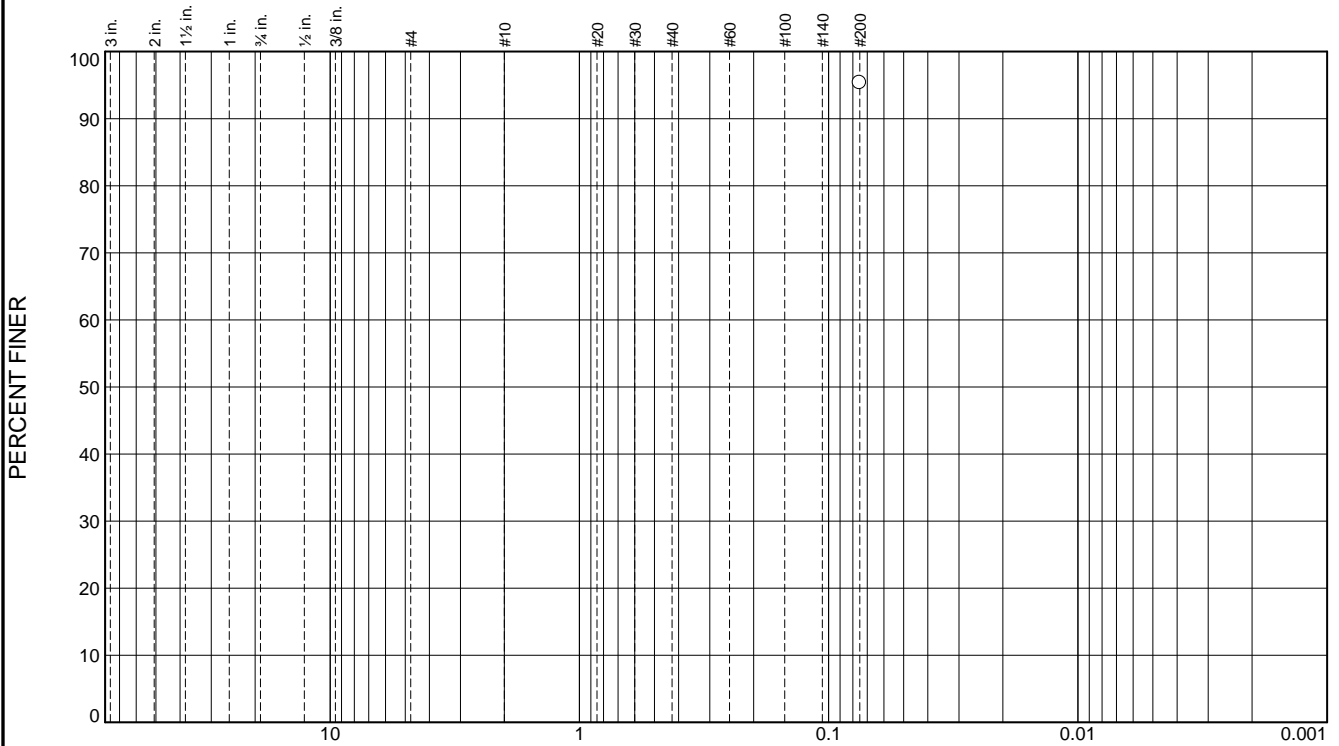
Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						95	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	95		

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B008
 Sample Number: 7-B008-19

Depth: 19 ft

Date: 2-5-15



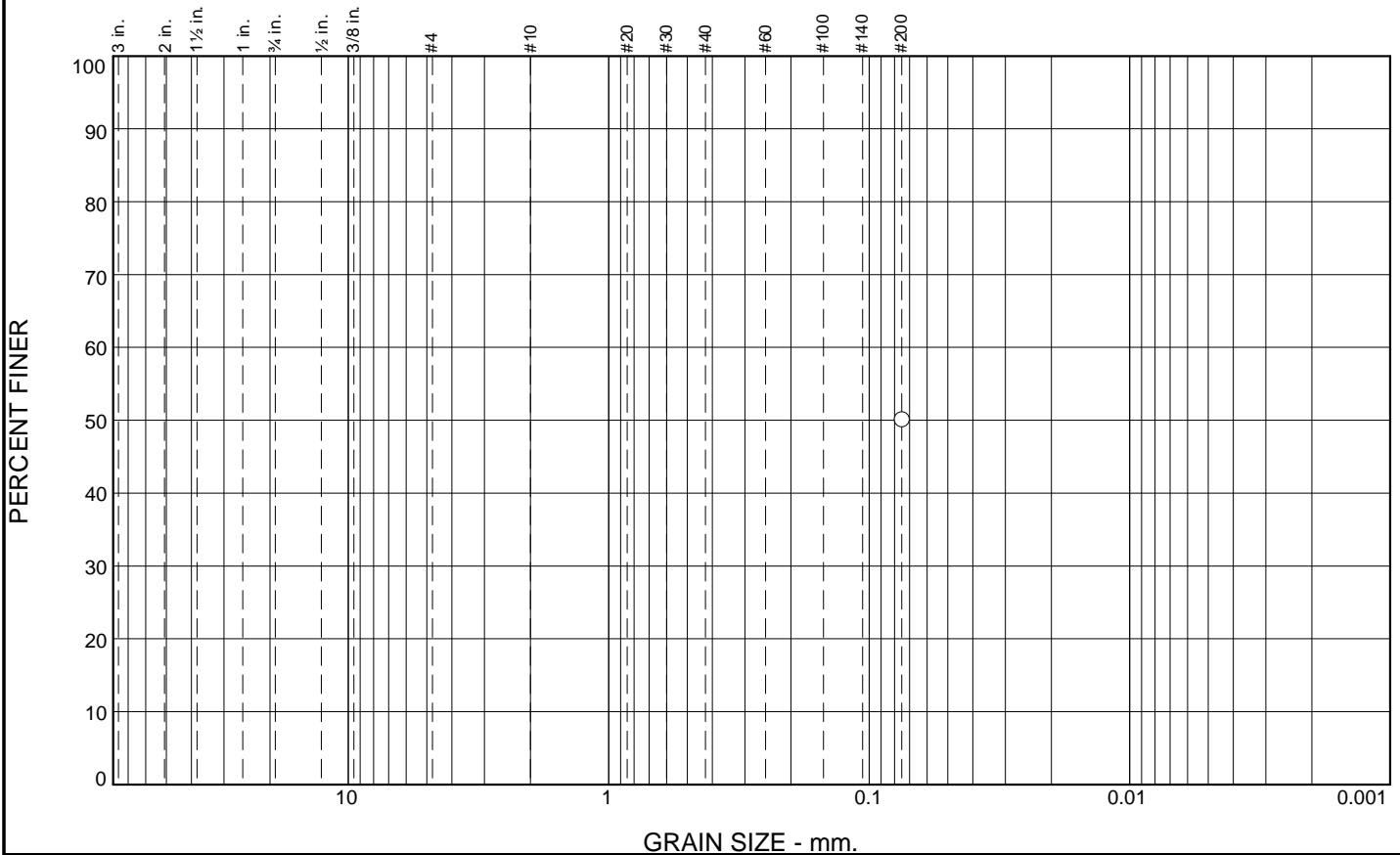
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						50.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	50.1		

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= 15 LL= 35 PI= 20

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=


Remarks

* (no specification provided)

Source of Sample: 7-B008
Sample Number: 7-B008-20

Depth: 20 ft

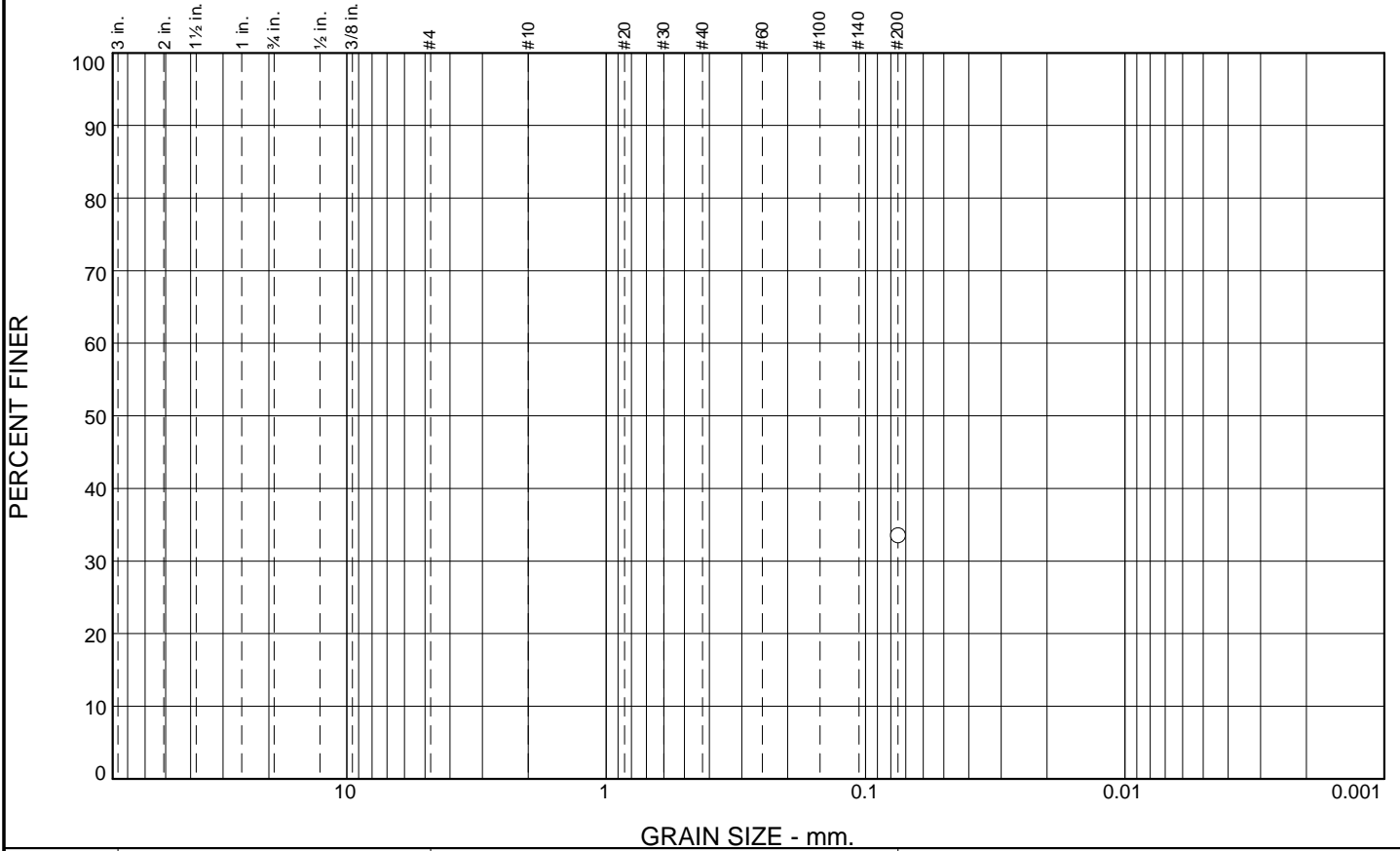
Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						33.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	33.5		

* (no specification provided)

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=


Classification
 USCS= AASHTO=

Remarks

Source of Sample: 7-B008
Sample Number: 7-B008-21.5

Depth: 21.5 ft

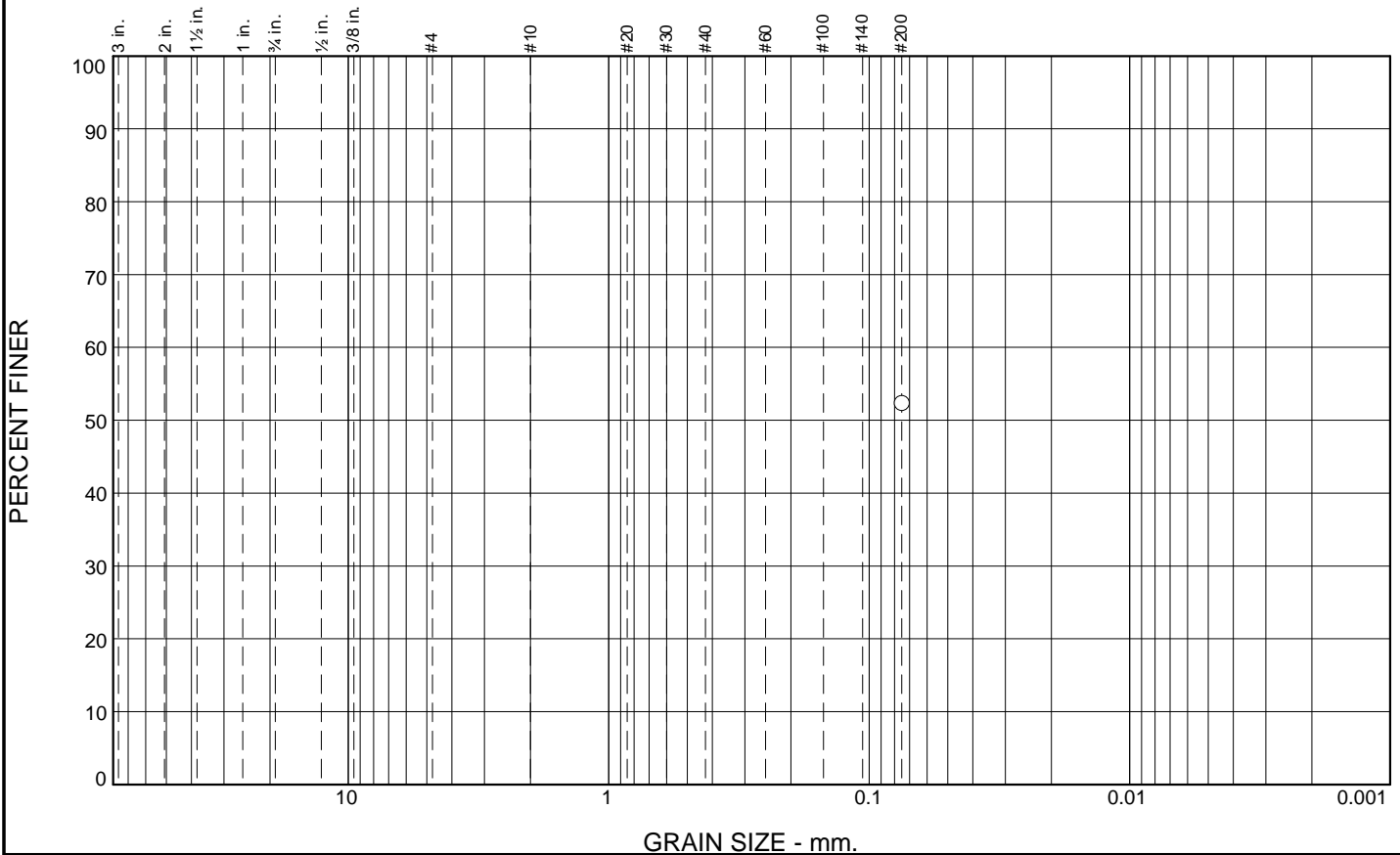
Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						52.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	52.4		

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

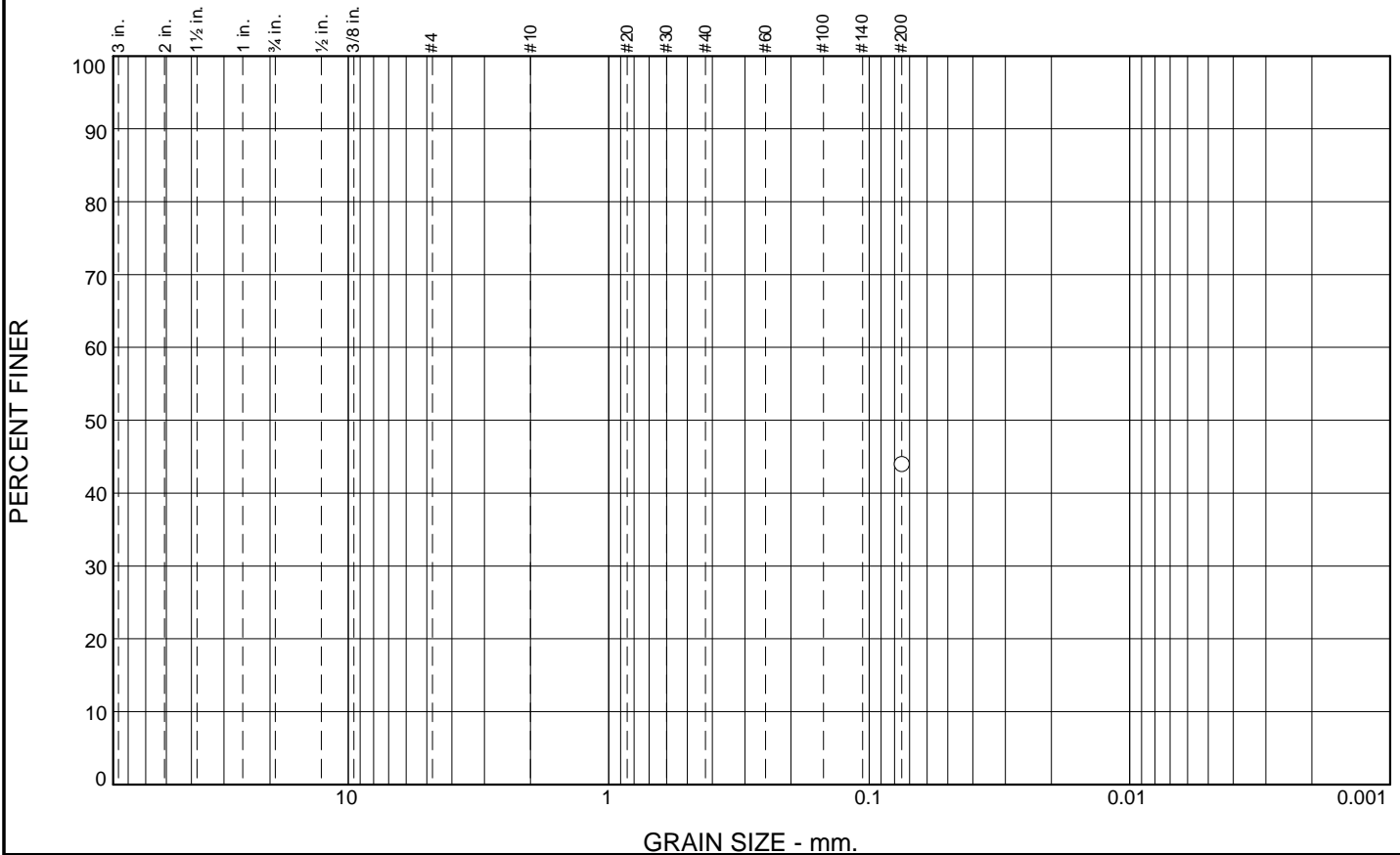
Source of Sample: 7-B008 **Depth:** 25.5 ft
Sample Number: 7-B008-25.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						44.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	44.0		

* (no specification provided)

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

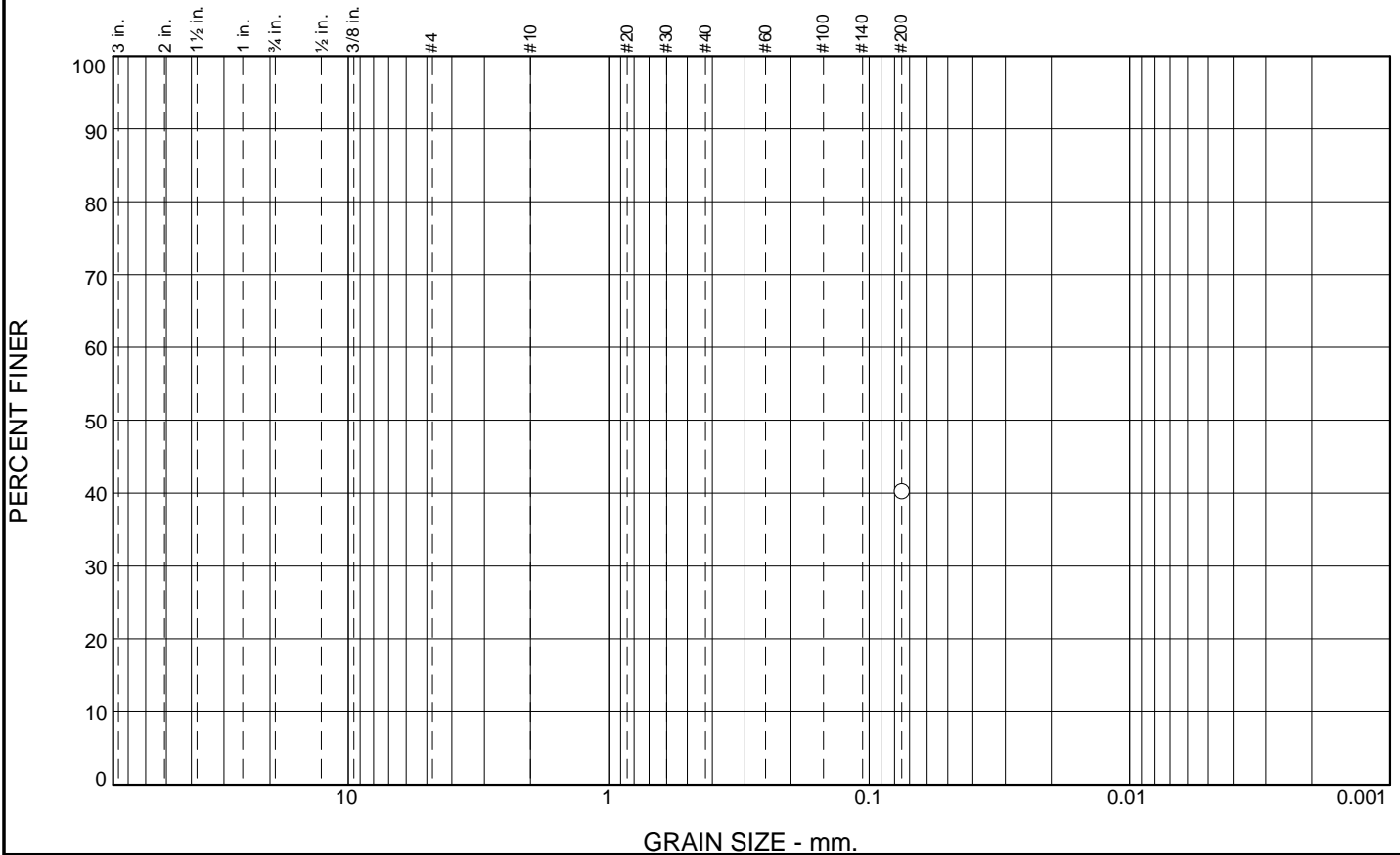
Source of Sample: 7-B008 **Depth:** 30.5 ft
Sample Number: 7-B008-30.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004</p>
Figure	

Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						40.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	40.2		

* (no specification provided)

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

Source of Sample: 7-B008
Sample Number: 7-B008-31

Depth: 31 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

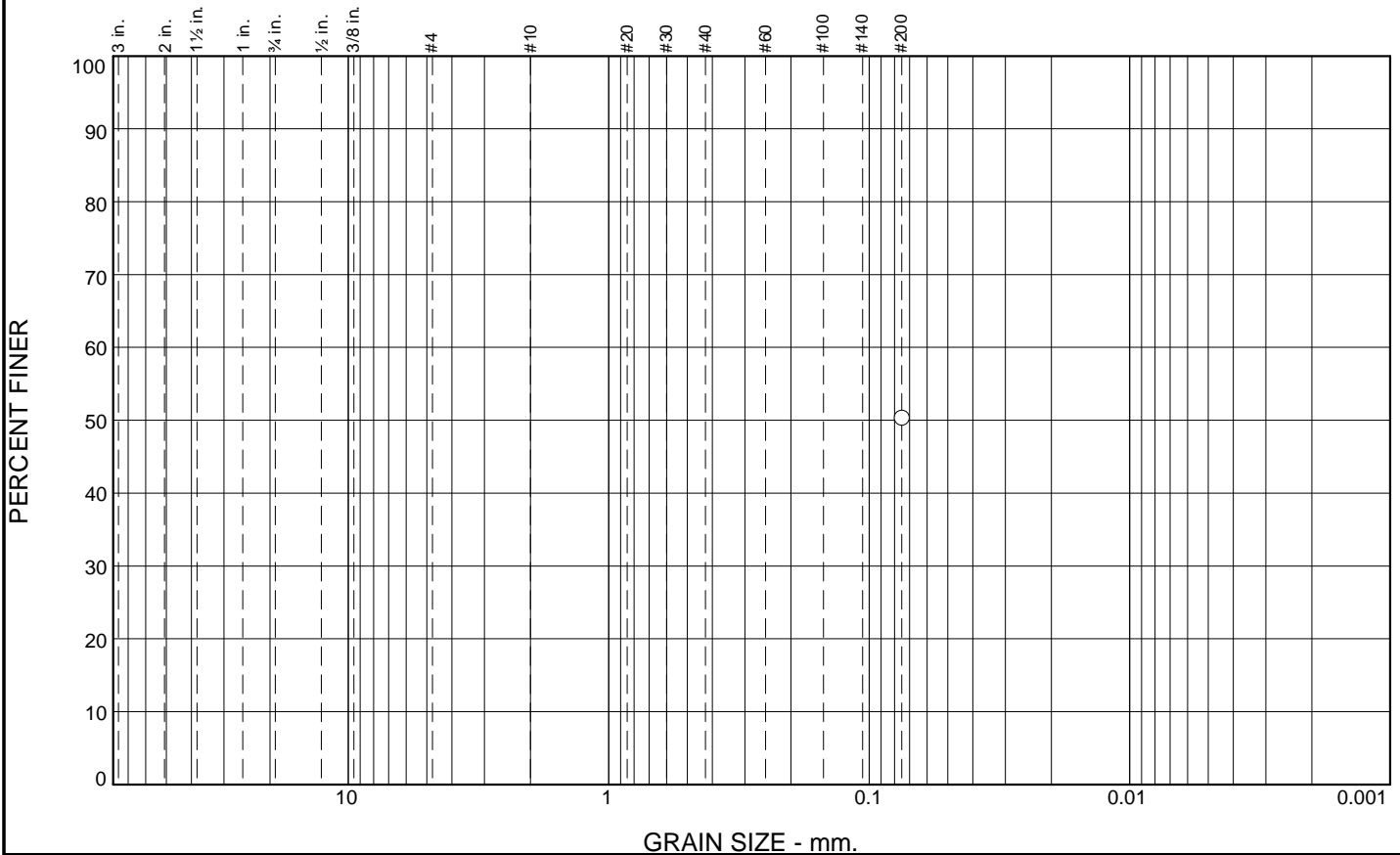
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						50.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	50.4		

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= 20 LL= 26 PI= 6

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=


Classification
 USCS= CL-ML AASHTO=

Remarks

* (no specification provided)

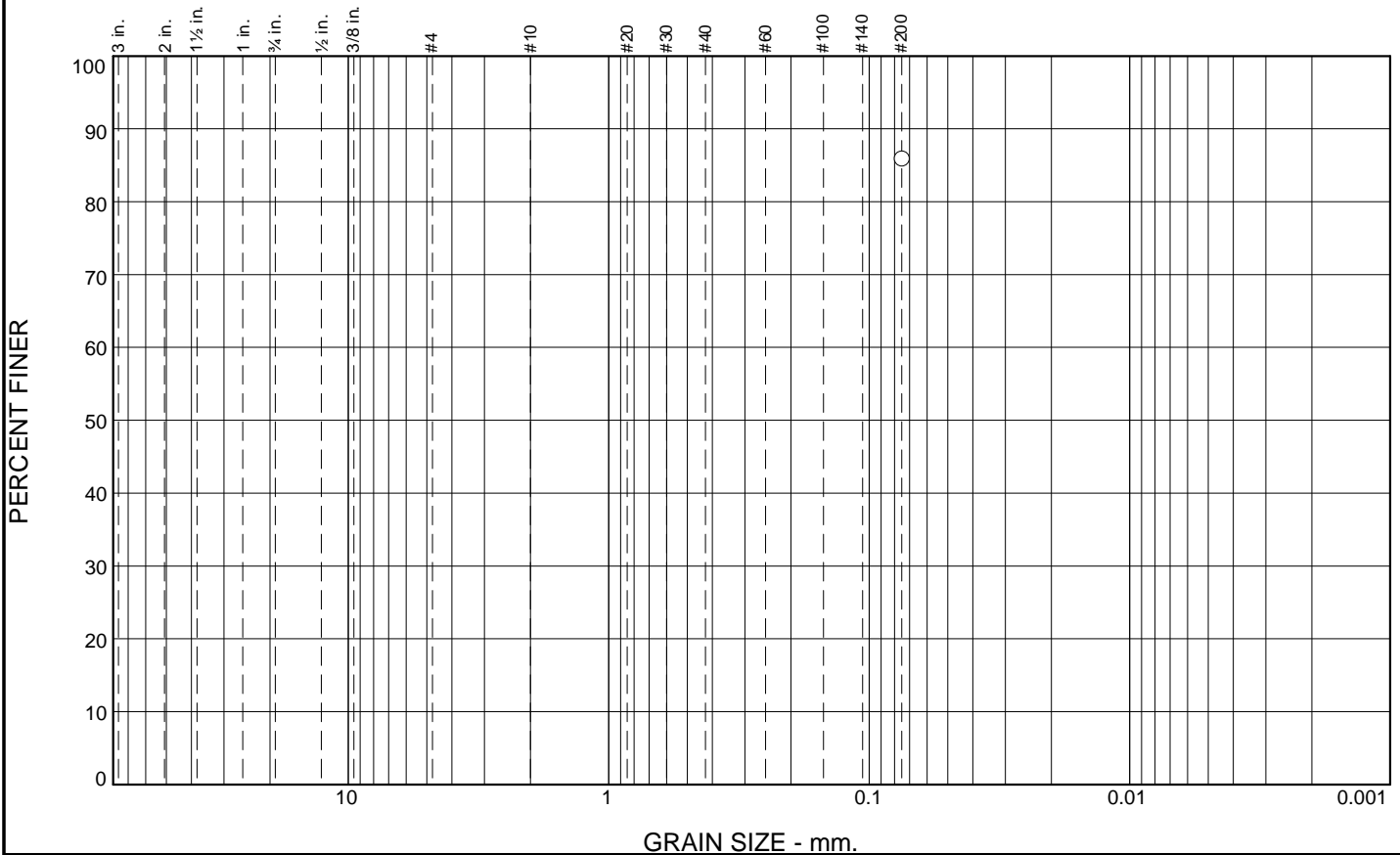
Source of Sample: 7-B008 **Depth:** 35.5 ft
Sample Number: 7-B008-35.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004</p>
Figure	

Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						85.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	85.9		

* (no specification provided)

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

Source of Sample: 7-B008
Sample Number: 7-B008-40.5

Depth: 40.5 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

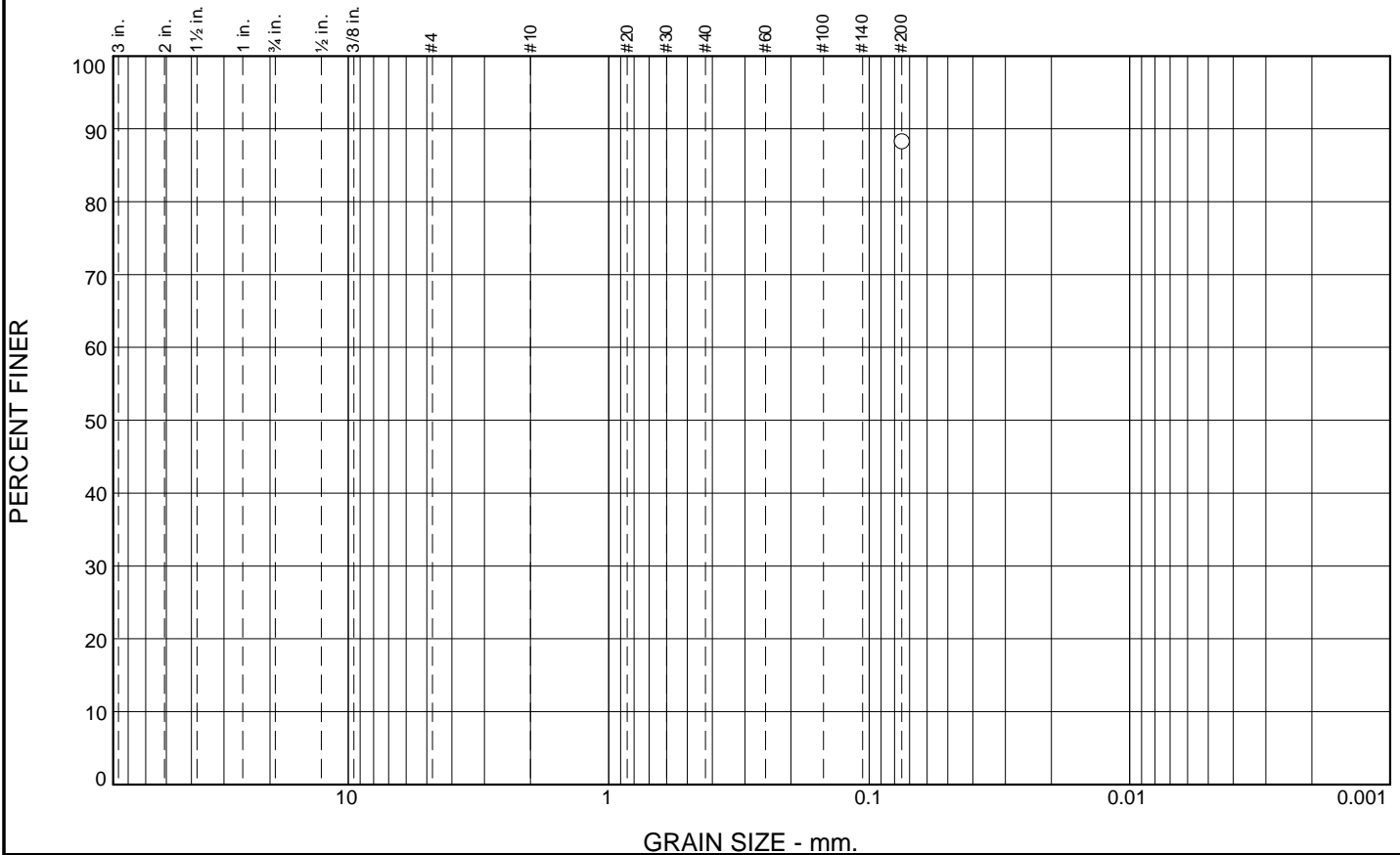
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						88.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	88.3		

* (no specification provided)

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= 19 LL= 39 PI= 20

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks

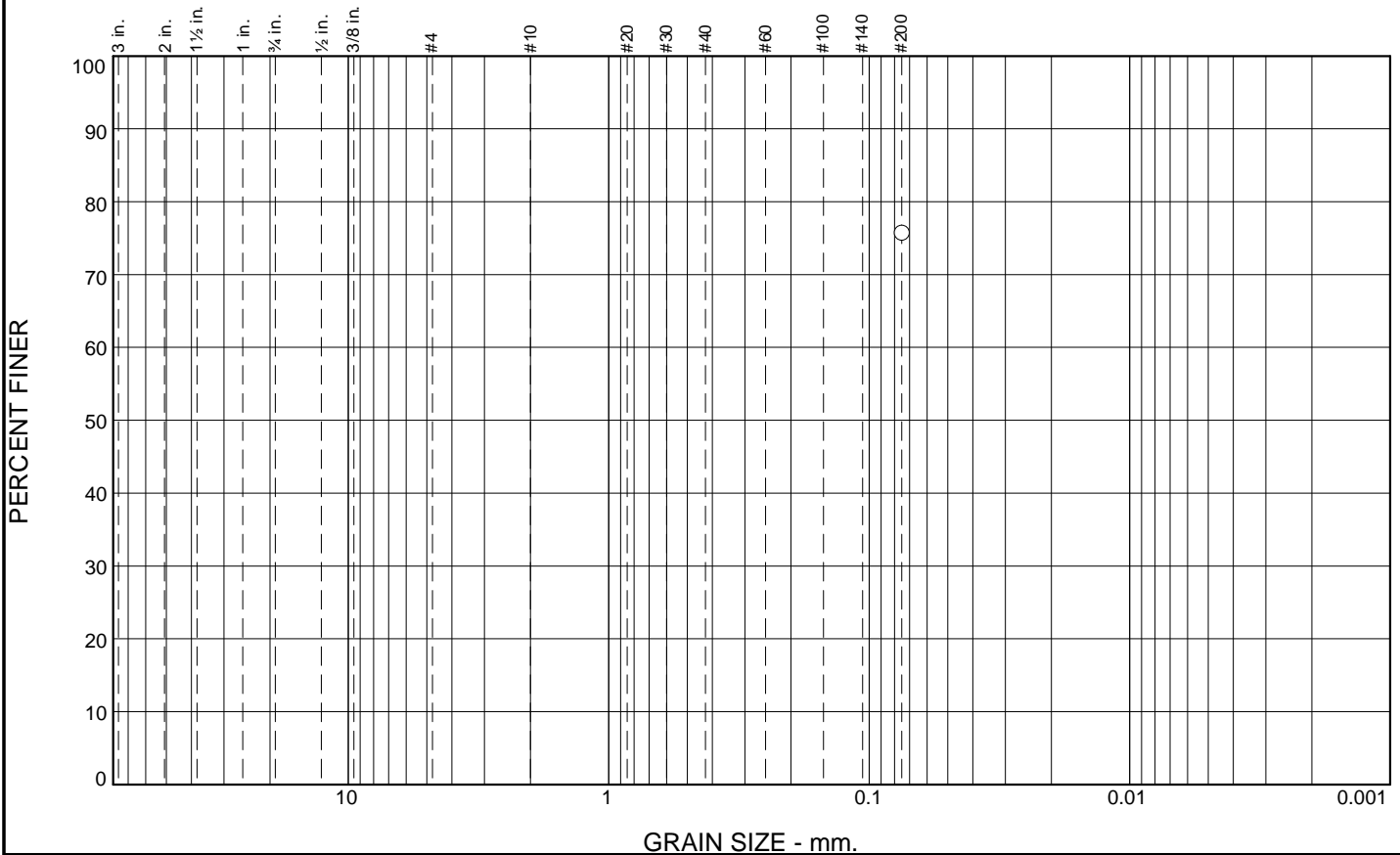
Source of Sample: 7-B008 **Depth:** 45.5 ft
Sample Number: 7-B008-45.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
<p>Figure</p>	

Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						75.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	75.7		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 23 LL= 38 PI= 15

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks

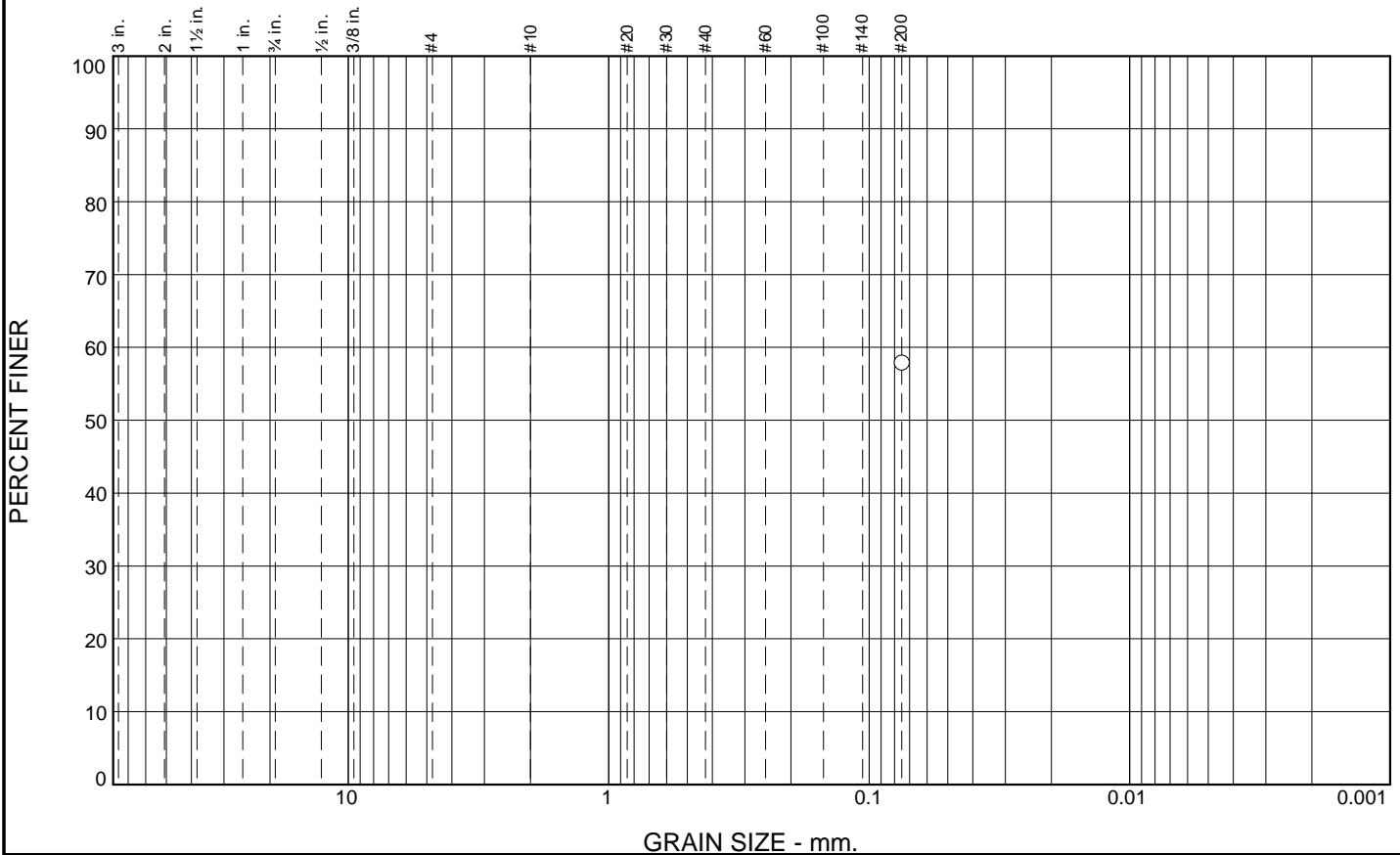
Source of Sample: 7-B008 **Depth:** 50.5 ft
Sample Number: 7-B008-50.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
<p>Figure</p>	

Tested By: R.Montalvo **Checked By:** M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						57.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	57.9		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=


Classification
 USCS= NP AASHTO=

Remarks

Source of Sample: 7-B008
Sample Number: 7-B008-55.5

Depth: 55.5 ft

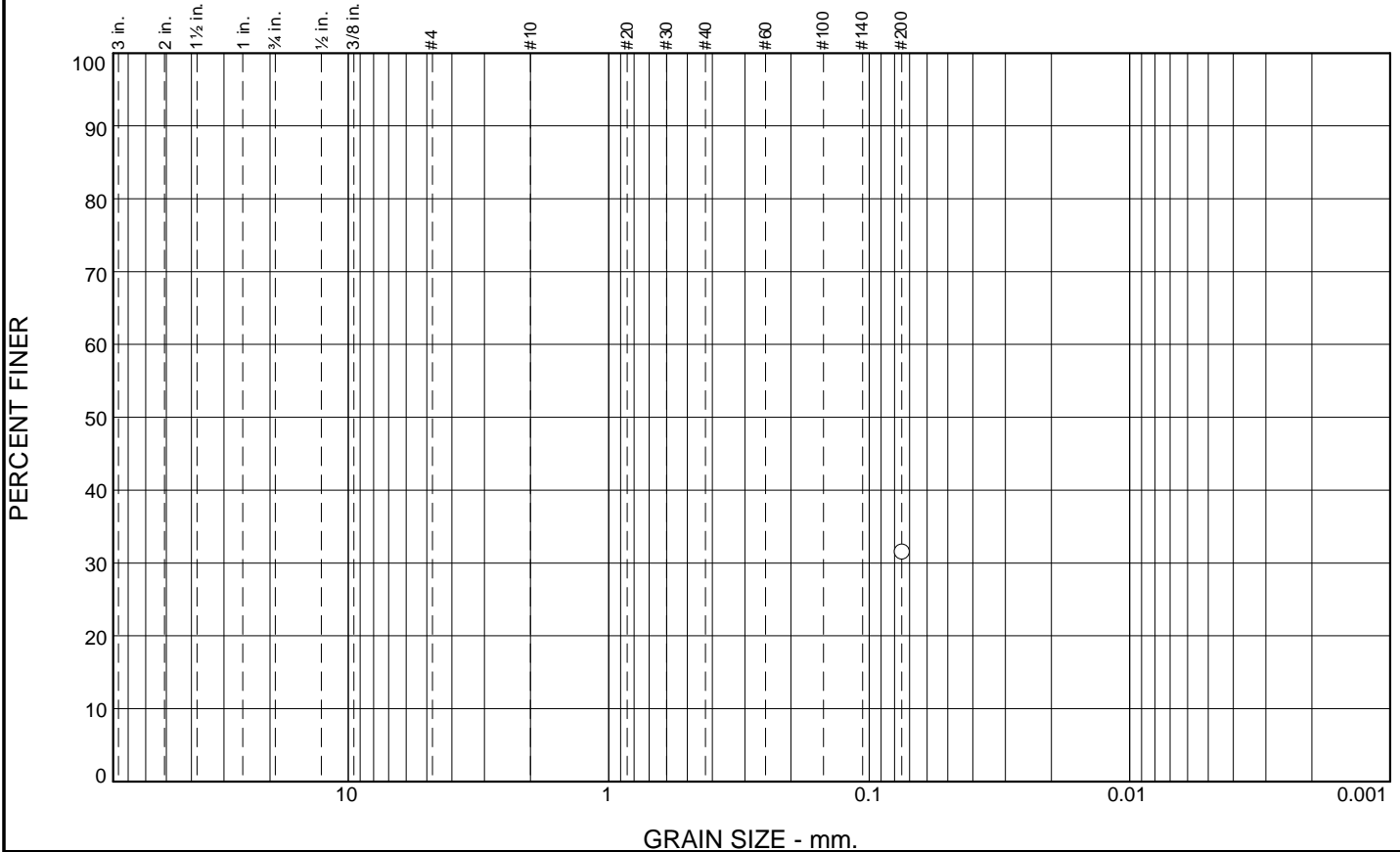
Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						31.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	31.6		

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=


Remarks

* (no specification provided)

Source of Sample: 7-B008
Sample Number: 7-B008-56

Depth: 56 ft

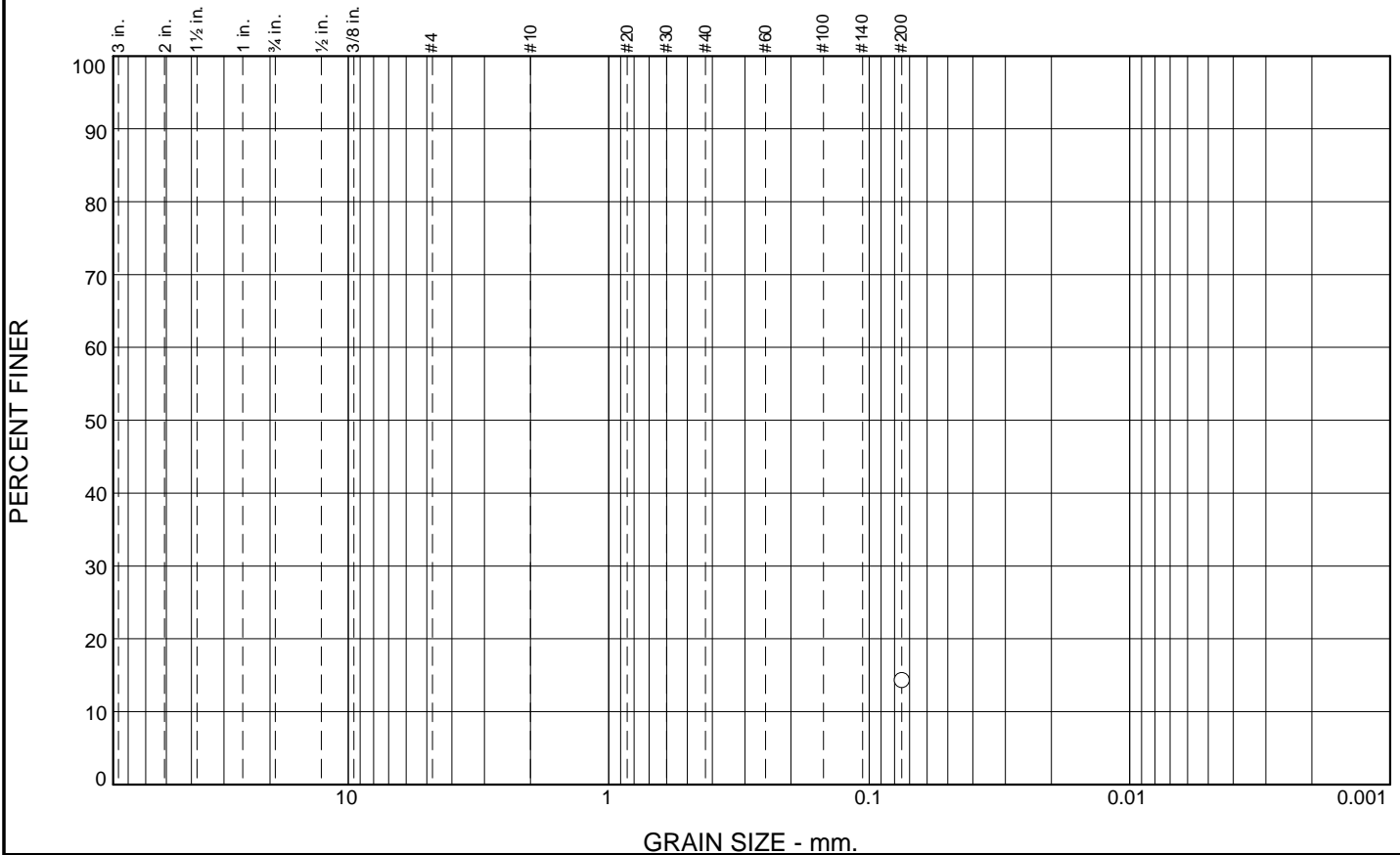
Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						14.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	14.4		

* (no specification provided)

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=


Classification
 USCS= AASHTO=

Remarks

Source of Sample: 7-B008
Sample Number: 7-B008-60

Depth: 60 ft

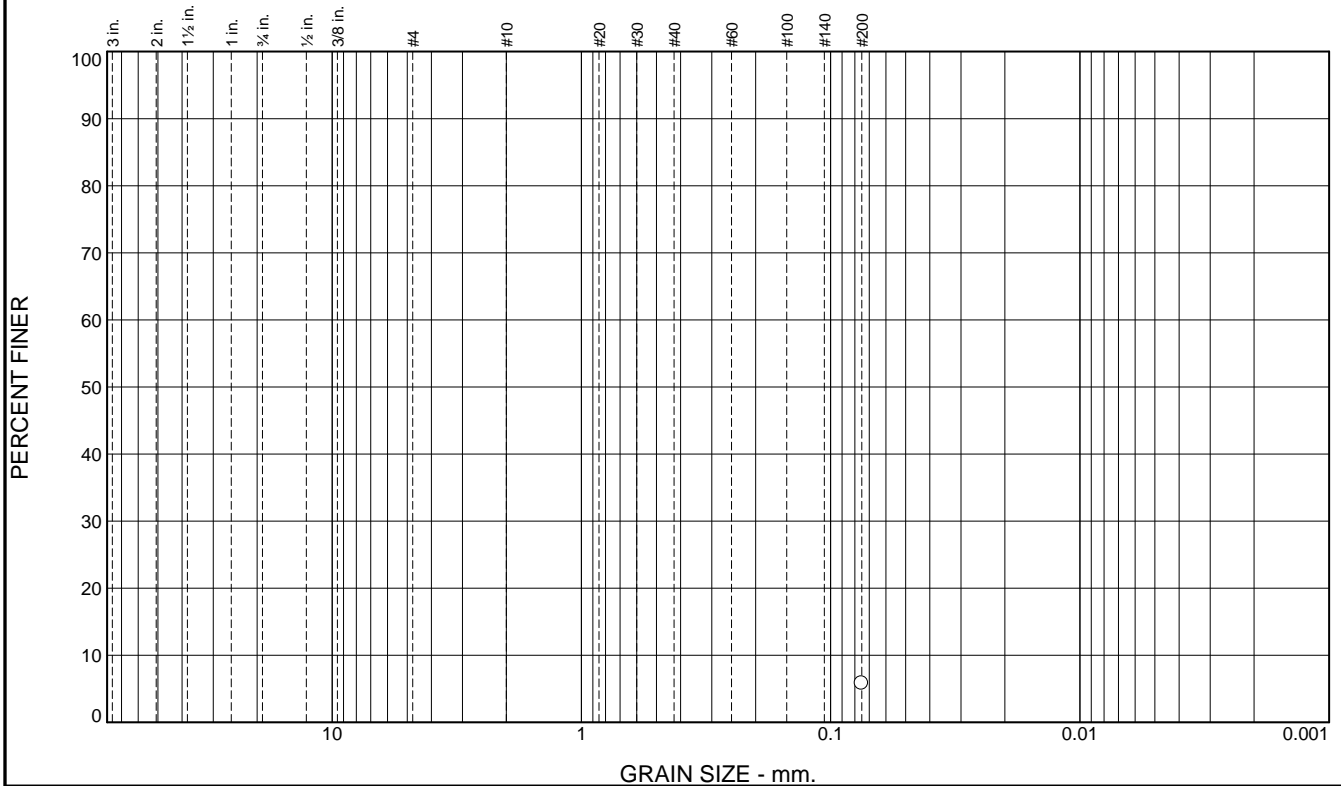
Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						5.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	5.8		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B009 @ 11.5

Depth: 11.5

Date: 11-5-14



Client: Peterson Brustad Incorporated

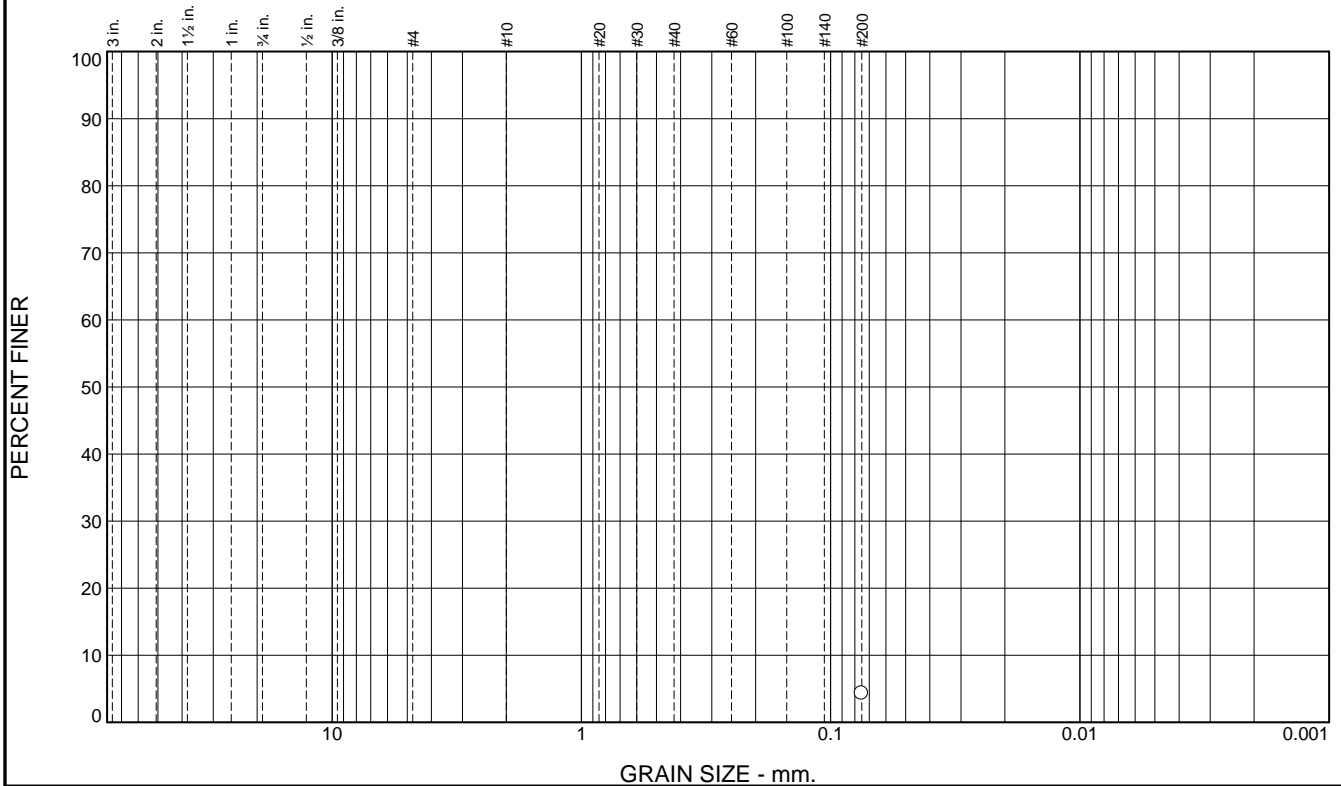
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						4.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.3		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B009 @ 15

Depth: 15

Date: 11-5-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

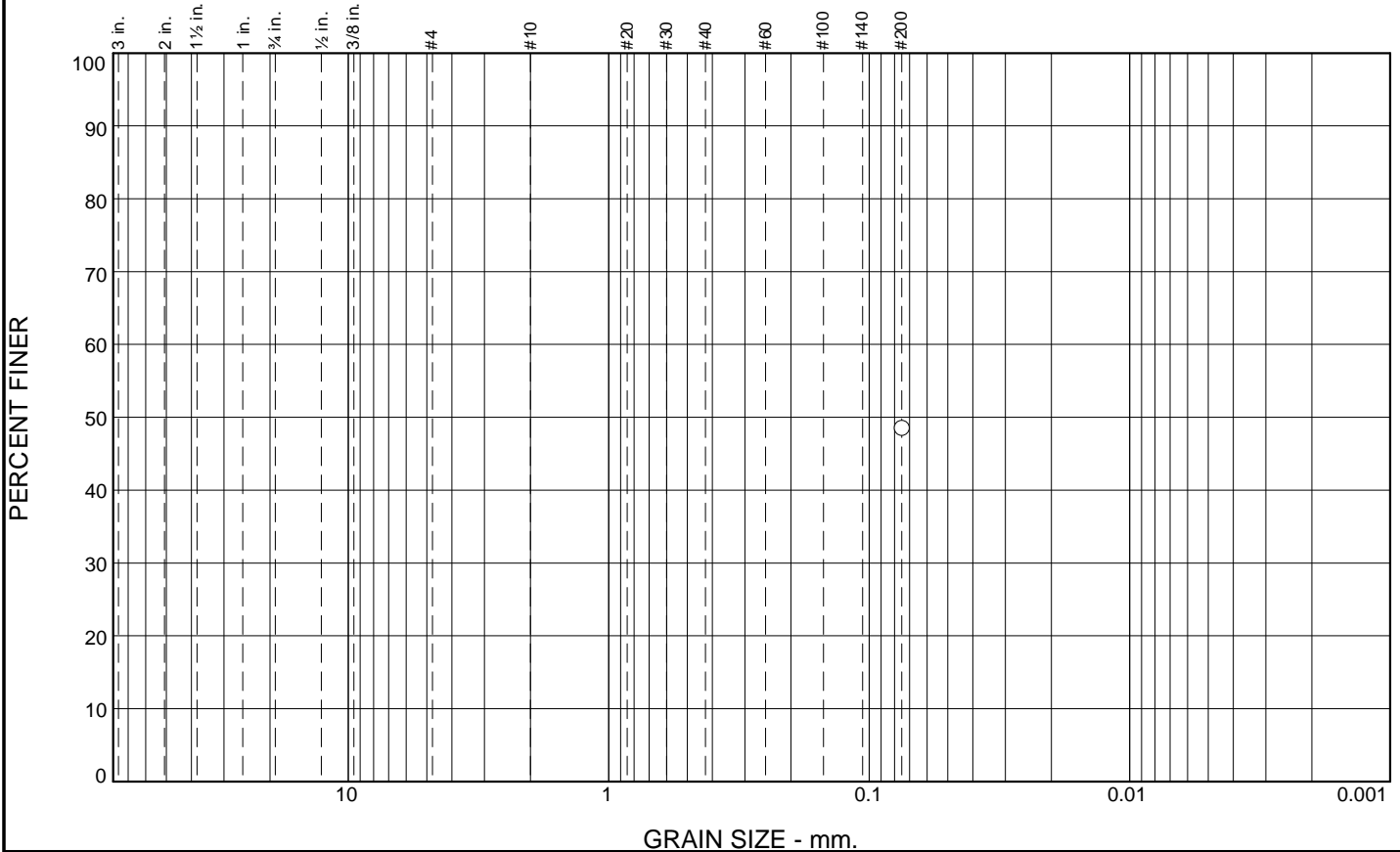
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						48.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	48.6		

* (no specification provided)

Soil Description

See exploration logs

Atterberg Limits

PL= NP LL= 19 PI= NP

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

%200: ASTM D1140, PI: ASTM D4318

Sample Number: 7-B009 @ 24A

Depth: 24.0 ft.

Date: 3/16/15

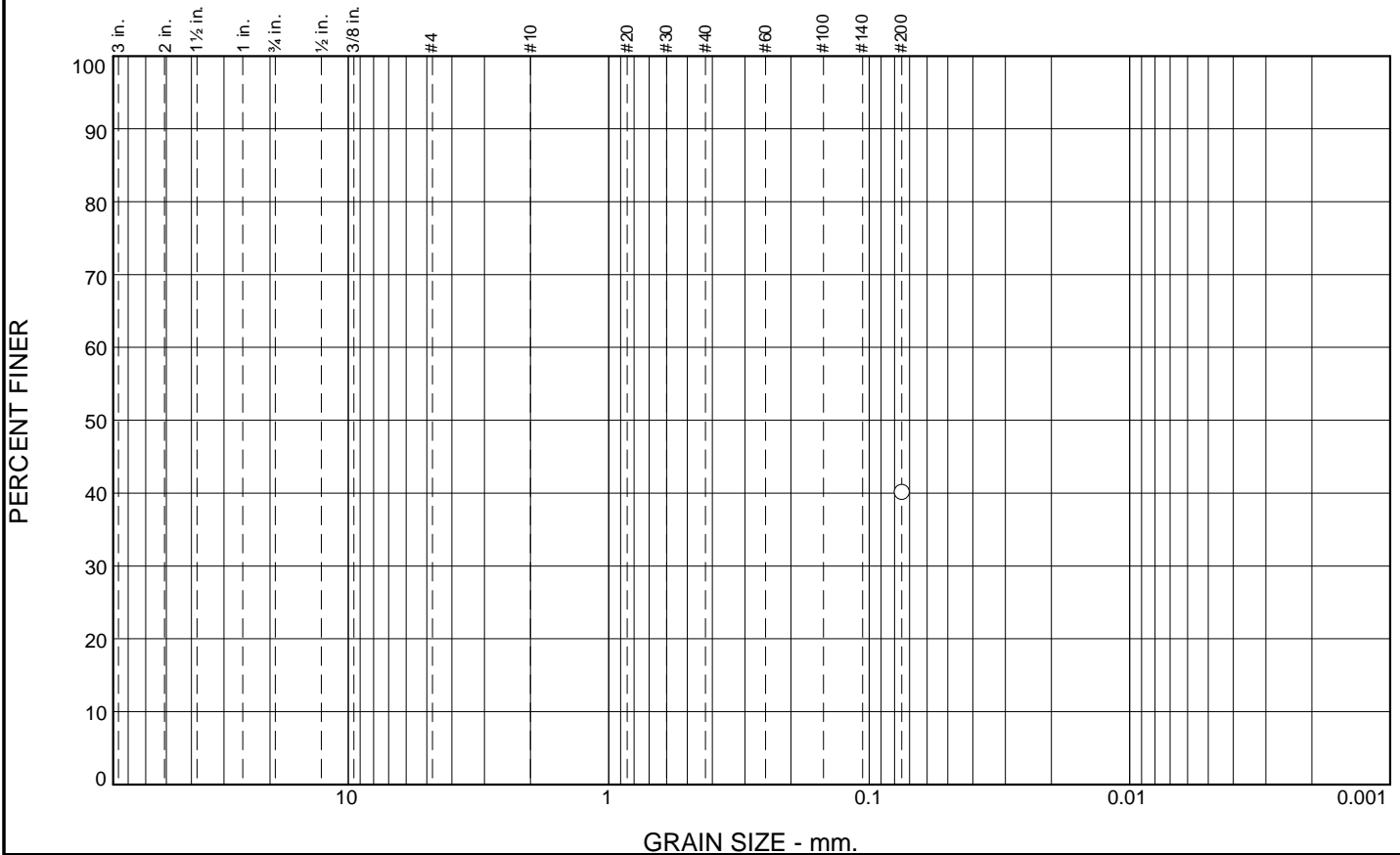


Client: Peterson Brusted Incorporated
Project: ULDC Analysis and Identification of Deficiencies
Project No: 5747.005.000

Tested By: G. Criste

Checked By: D. Seibold

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						40.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	40.2		

Soil Description
(See Exploration Logs)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

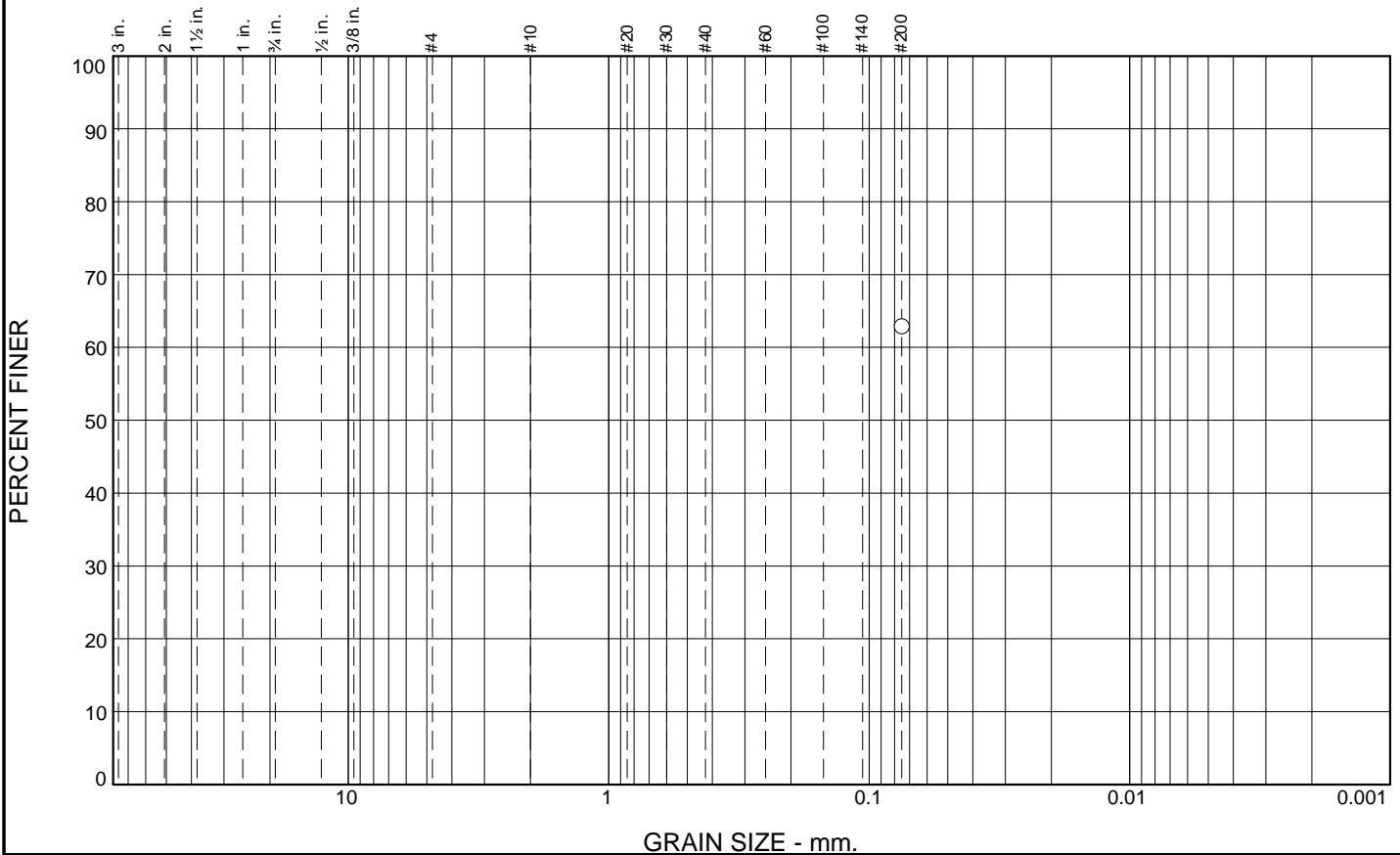
* (no specification provided)

Source of Sample: 7-B10A **Depth:** 2 ft **Date:** 01-30-2015
Sample Number: 7-B10A-2

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						62.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	62.9		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 18 LL= 27 PI= 9

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks

Source of Sample: 7-B10A
Sample Number: 7-B10A-3

Depth: 3 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

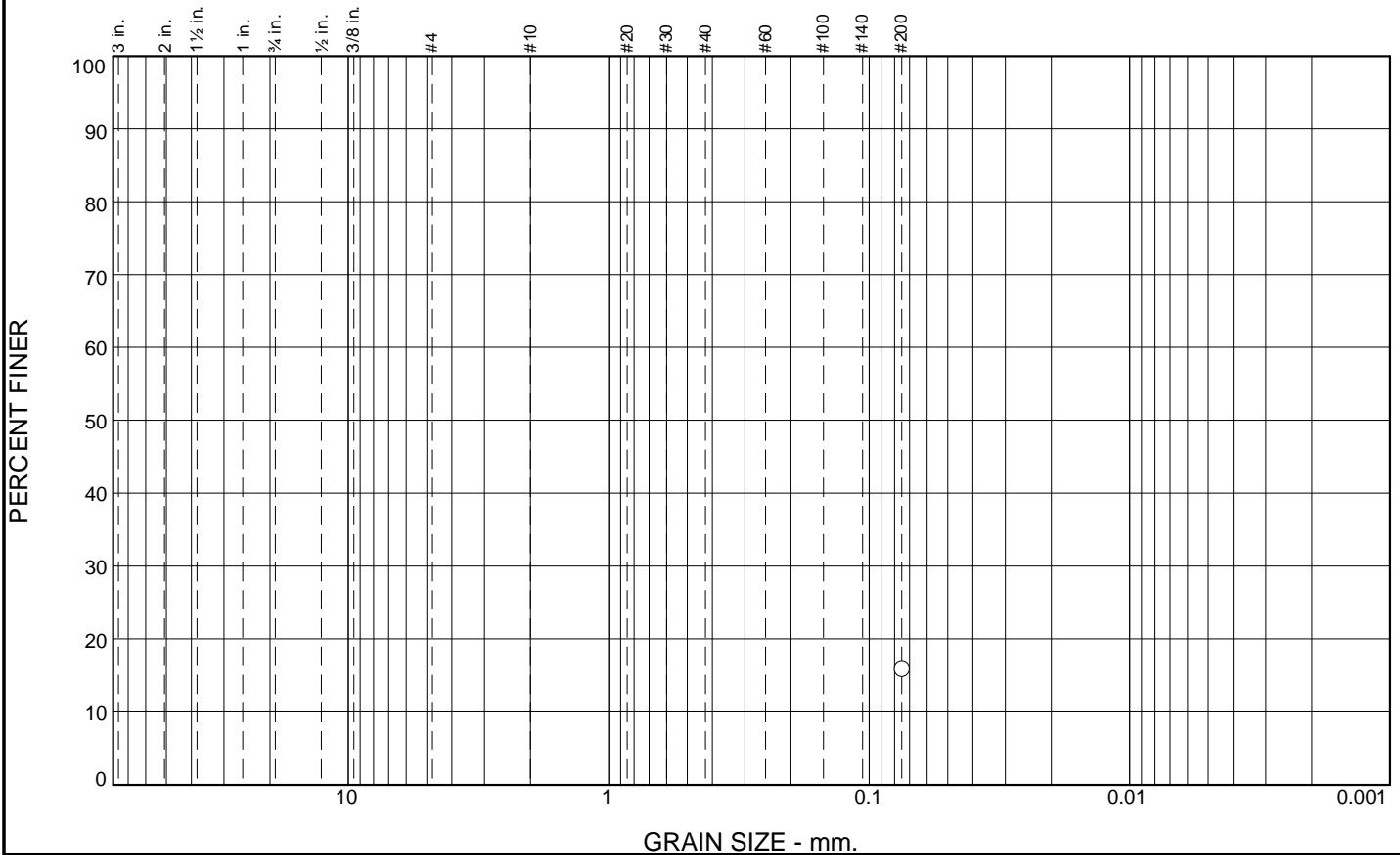
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						15.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	15.9		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= NP LL= NP PI= NP


Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= NP AASHTO=

Remarks

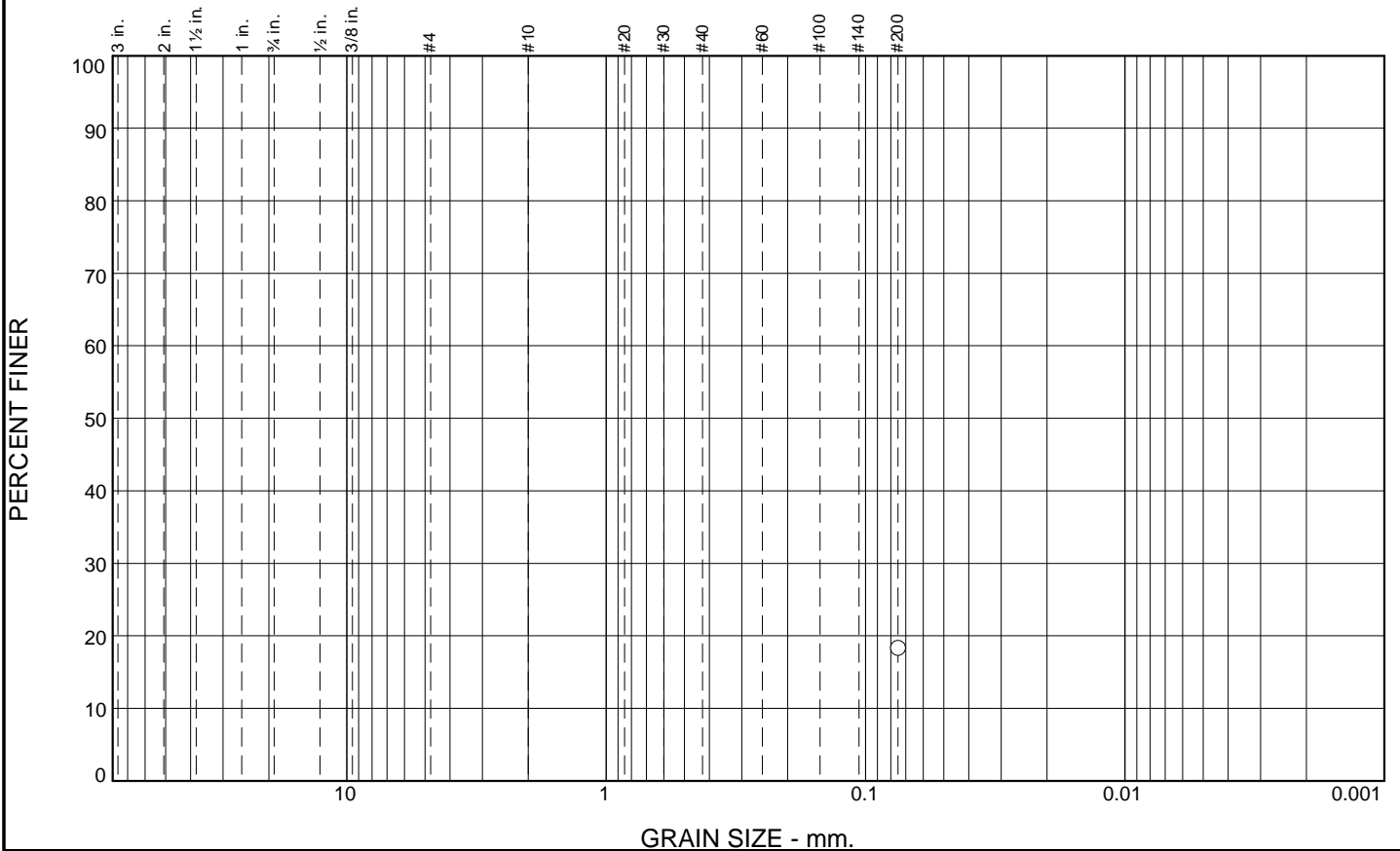
Source of Sample: 7-B10A **Depth:** 5.5 ft
Sample Number: 7-B10A-5.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004</p>
Figure	

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						18.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	18.3		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

Source of Sample: 7-B10A
Sample Number: 7-B10A-7

Depth: 7 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

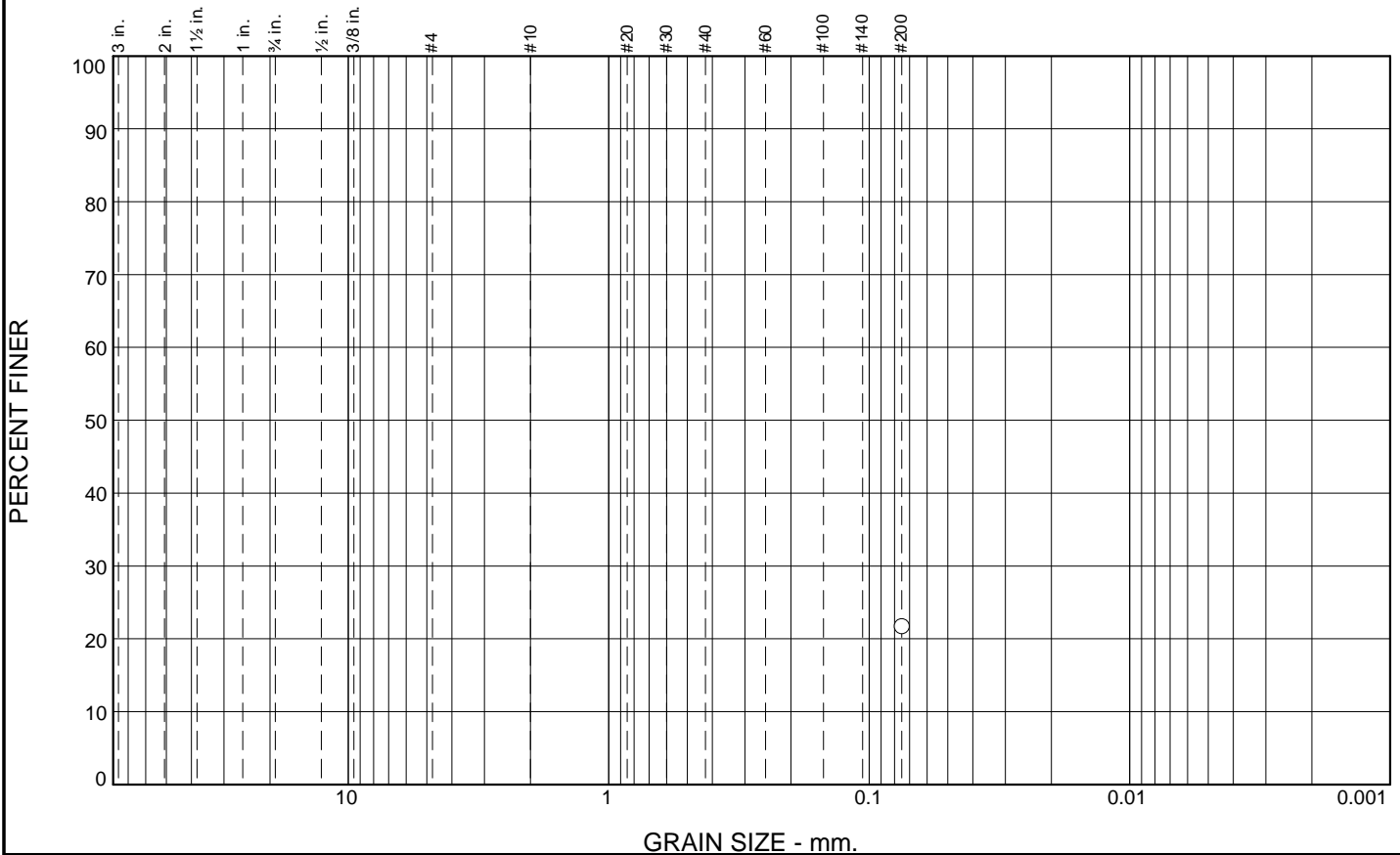
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						21.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	21.7		

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

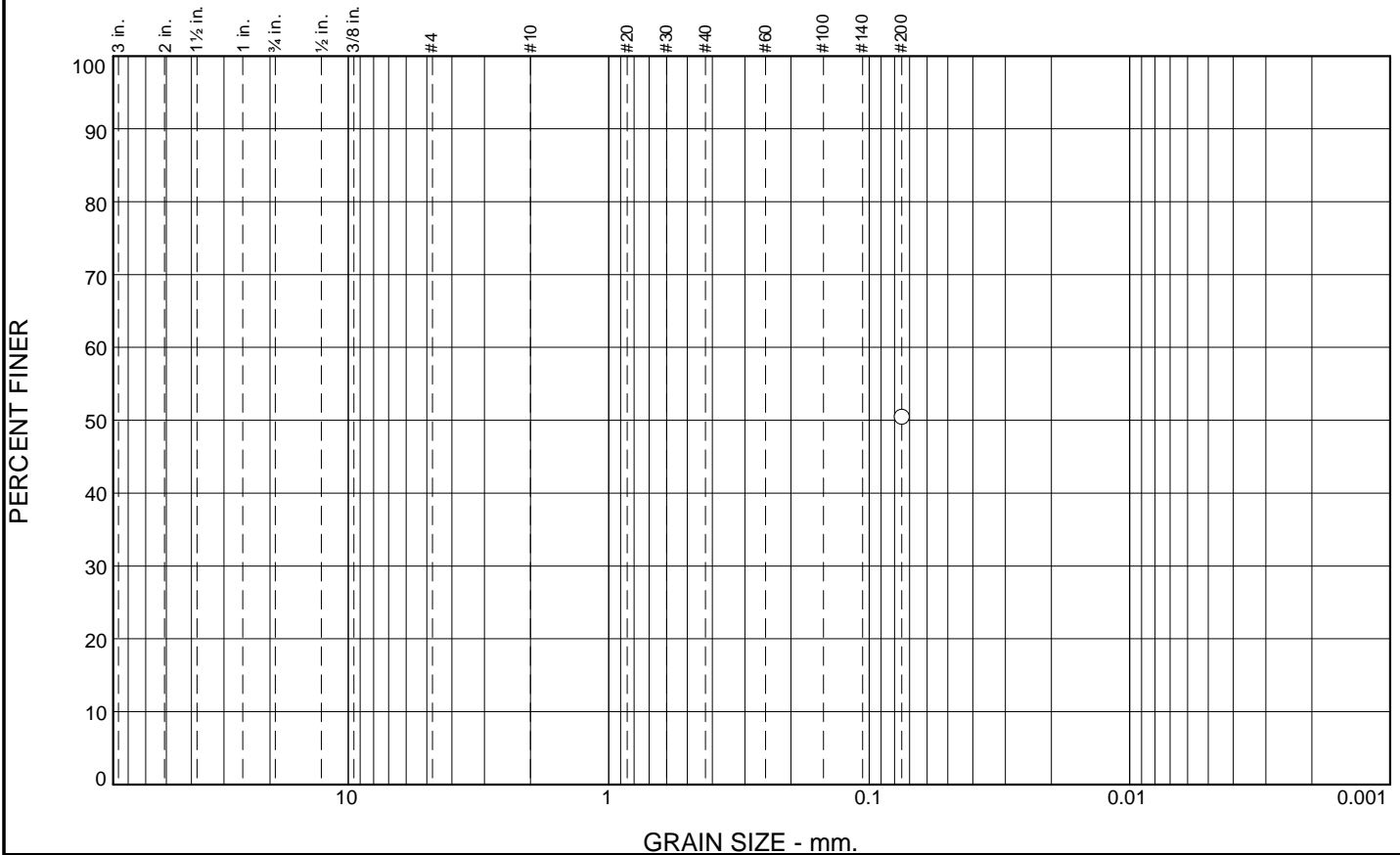
Source of Sample: 7-B10A **Depth:** 10.5 ft
Sample Number: 7-B10A-10.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						50.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	50.5		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

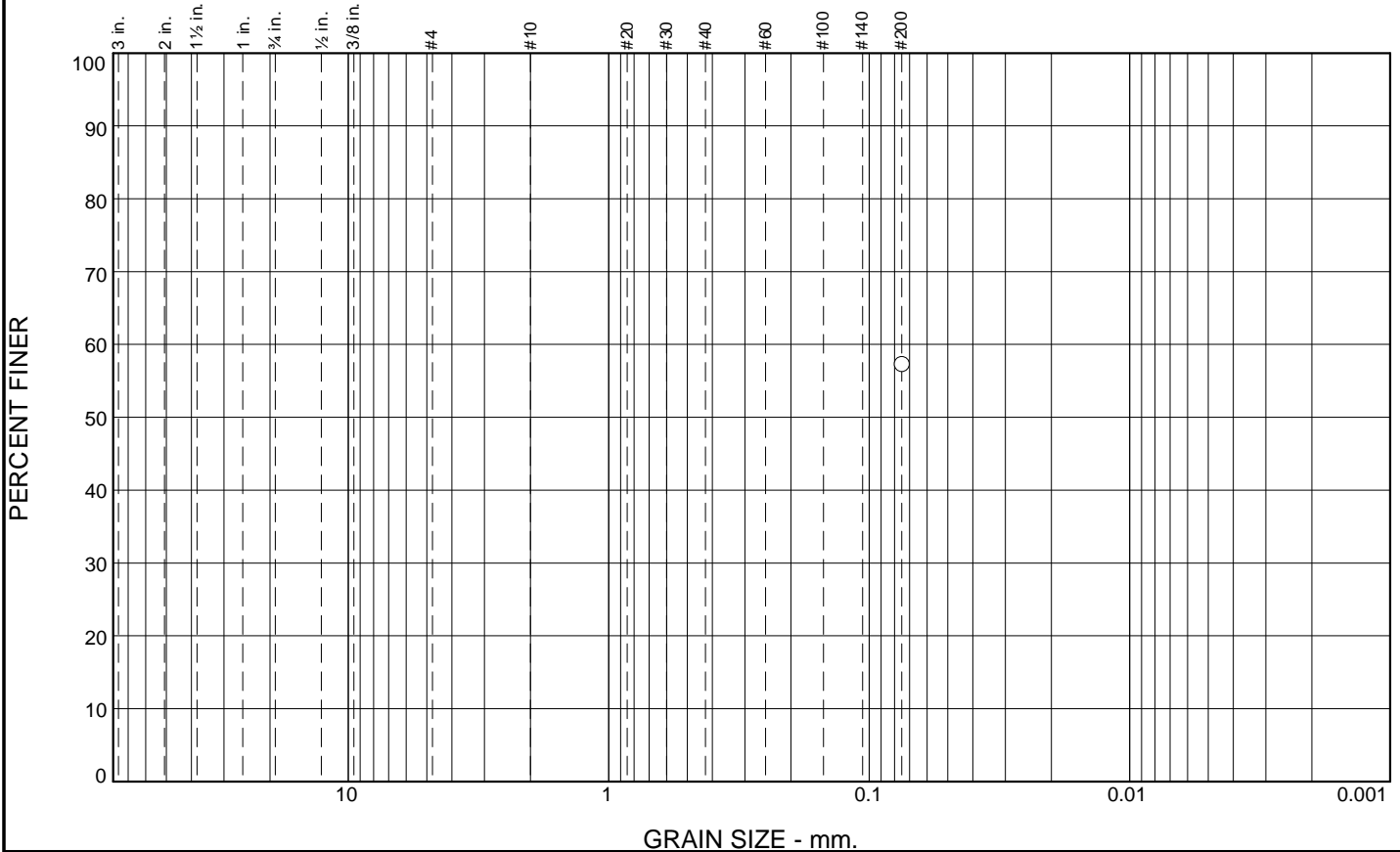
Source of Sample: 7-B10A **Depth:** 15.5 ft
Sample Number: 7-B10A-15.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004</p>
Figure	

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						57	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	57		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 25 LL= 33 PI= 8


Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= ML AASHTO=

Remarks

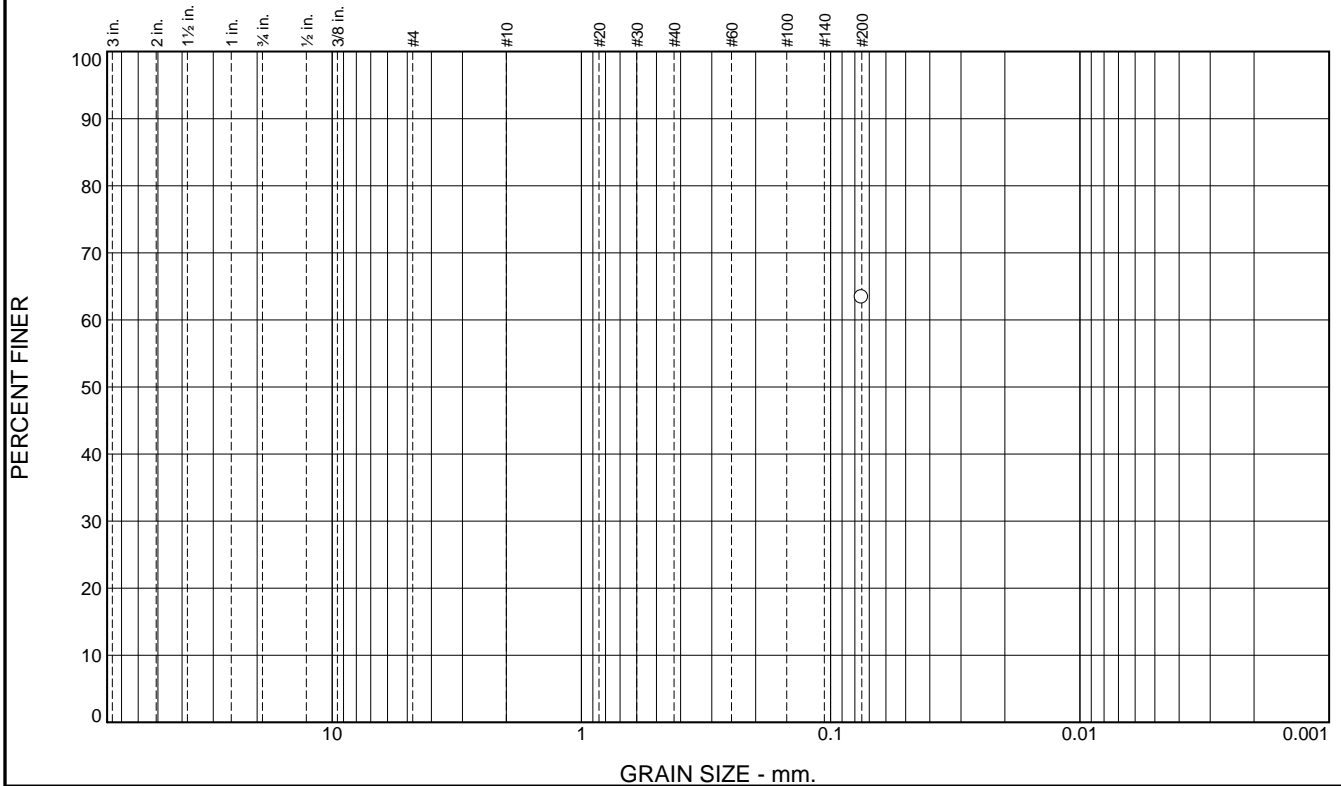
Source of Sample: 7-B10A **Depth:** 18.5 ft
Sample Number: 7-B10A-18.5

Date: 02-24-2015

	<p>Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004</p>
Figure	

Tested By: R. Montalvo **Checked By:** J. Boland

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						63.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	63.4		

Soil Description

See exploration logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 %200: ASTM D1140

* (no specification provided)

Sample Number: 7-B010A @ 19.5B

Depth: 19.5 ft.

Date: 03/11/15



Client: Peterson Brusted Incorporated

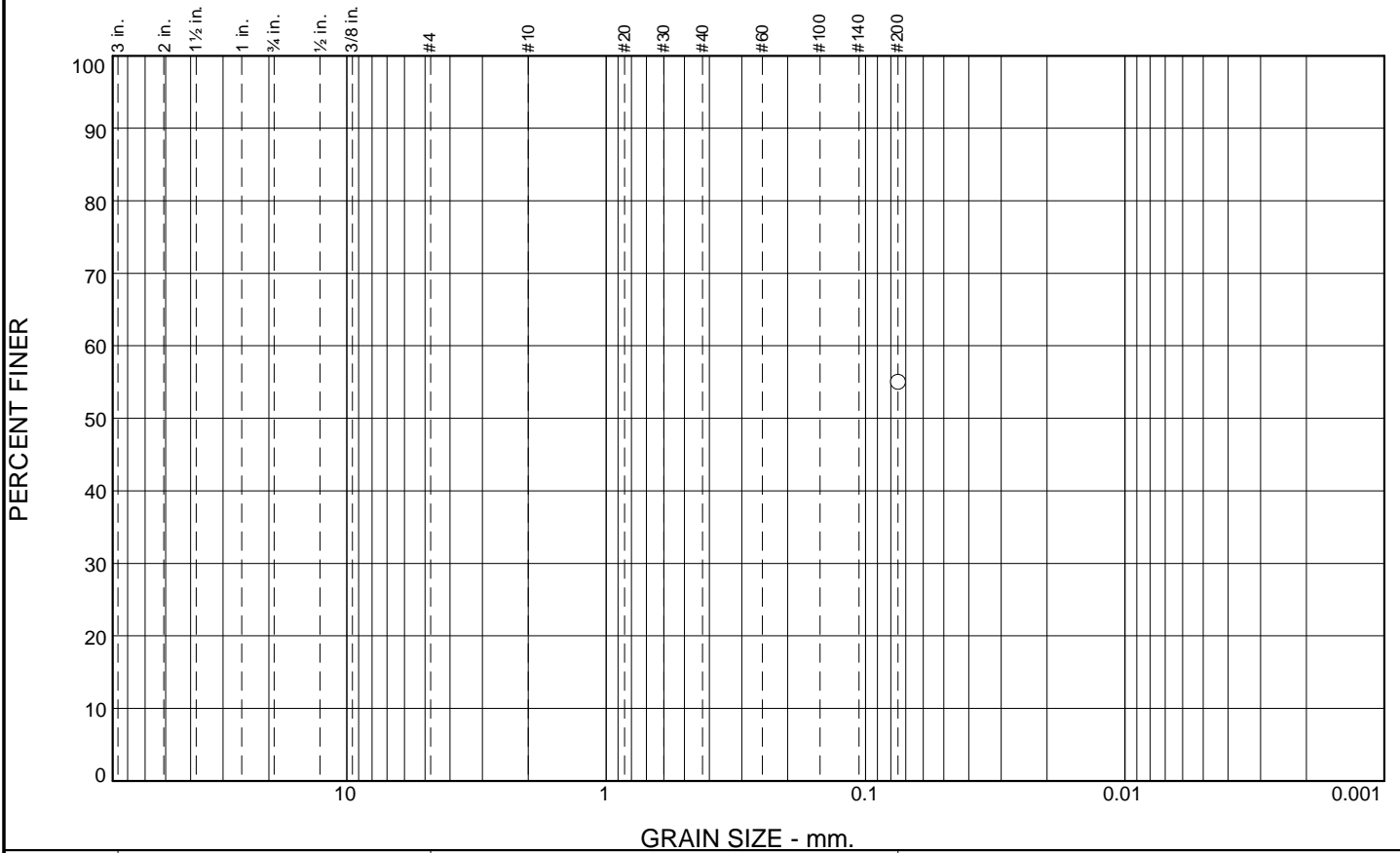
Project: ULDC Analysis and Identification of Deficiencies

Project No: 5747.005.000

Tested By: J Lawton

Checked By: D Seibold

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						55.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	55.0		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

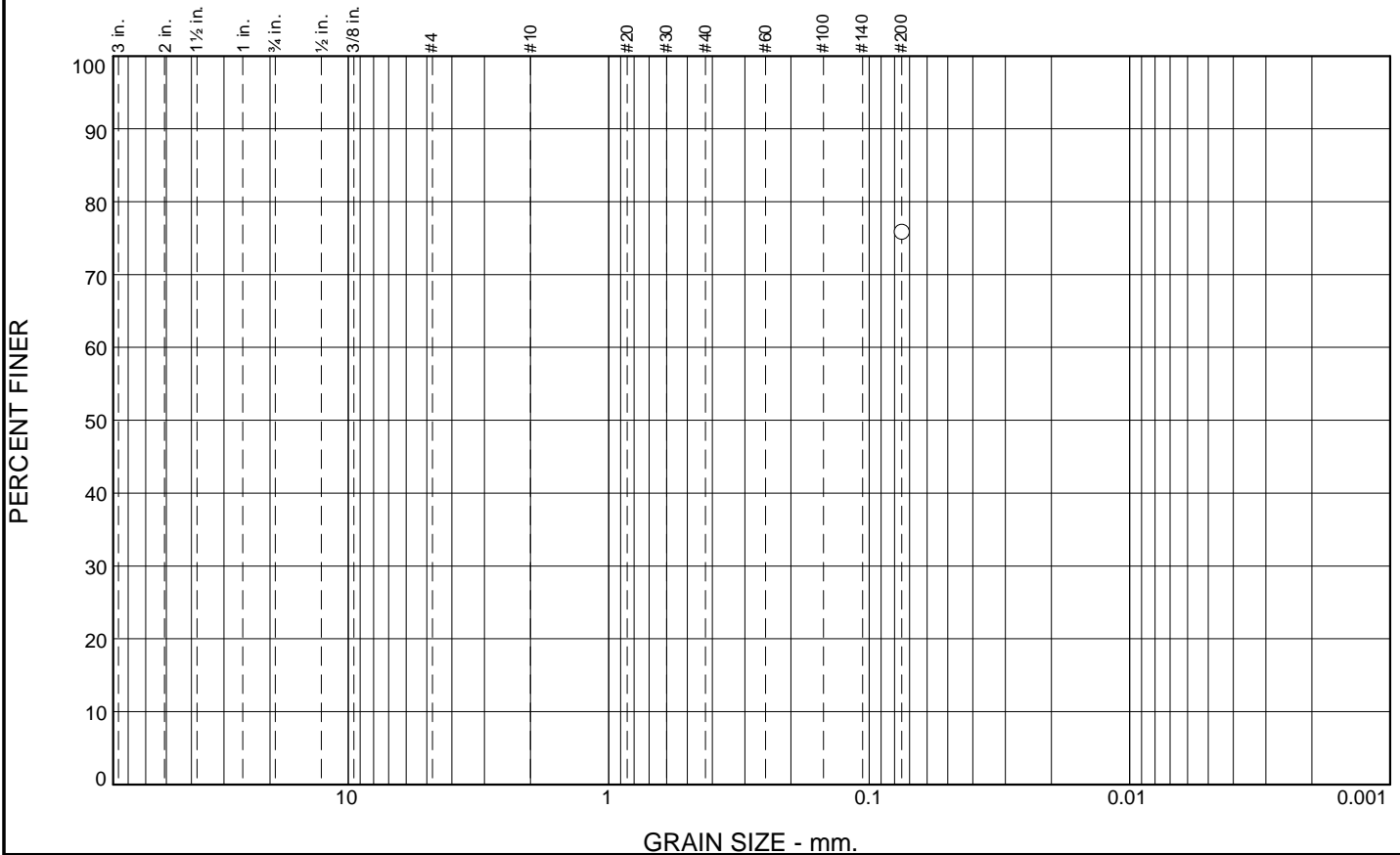
Source of Sample: 7-B10A **Depth:** 24.5 ft
Sample Number: 7-B10A-24.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004</p>
Figure	

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						75.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	75.9		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 21 LL= 36 PI= 15

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks

Source of Sample: 7-B10A
Sample Number: 7-B10A-25

Depth: 25 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

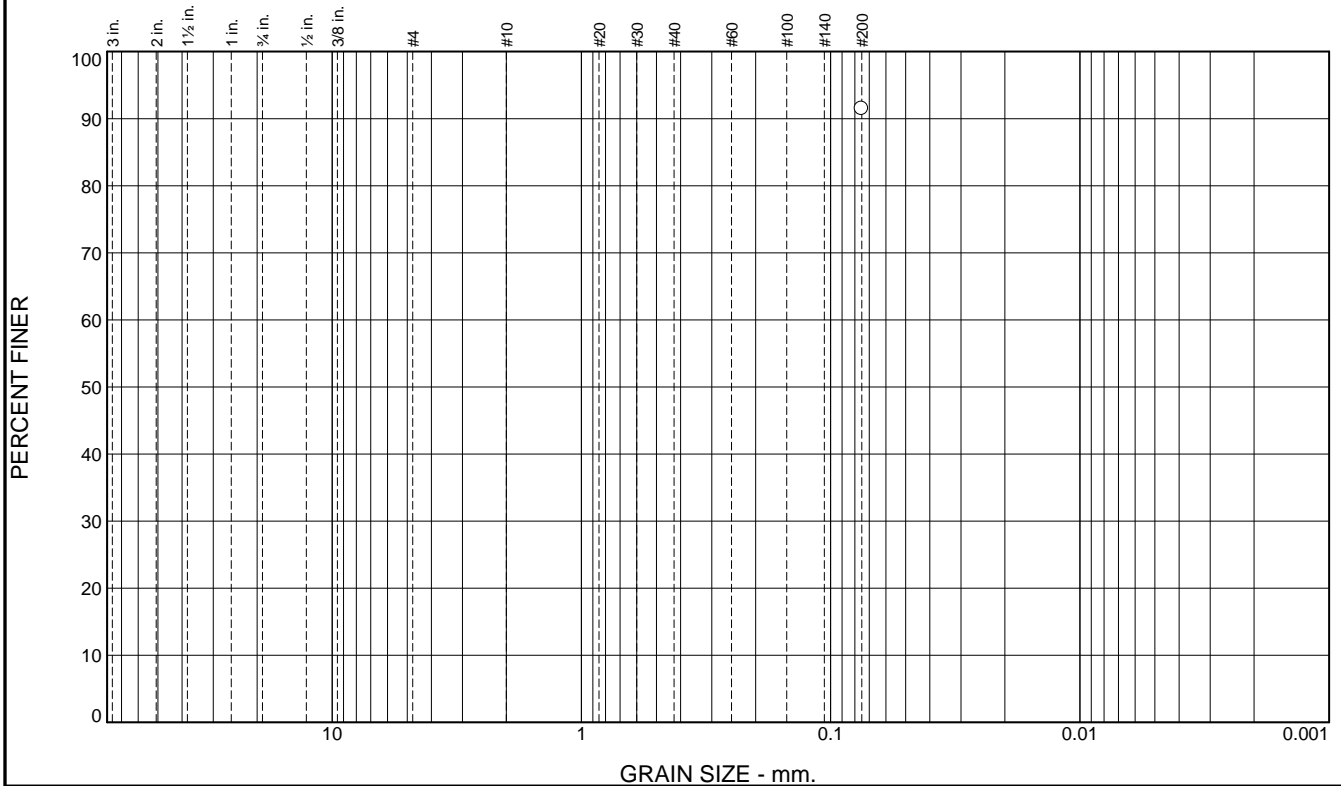
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						91.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	91.5		

Soil Description

See exploration logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 %200: ASTM D1140

* (no specification provided)

Sample Number: 7-B010A @ 25.5A

Depth: 25.5 ft.

Date: 03/11/15



Client: Peterson Brusted Incorporated

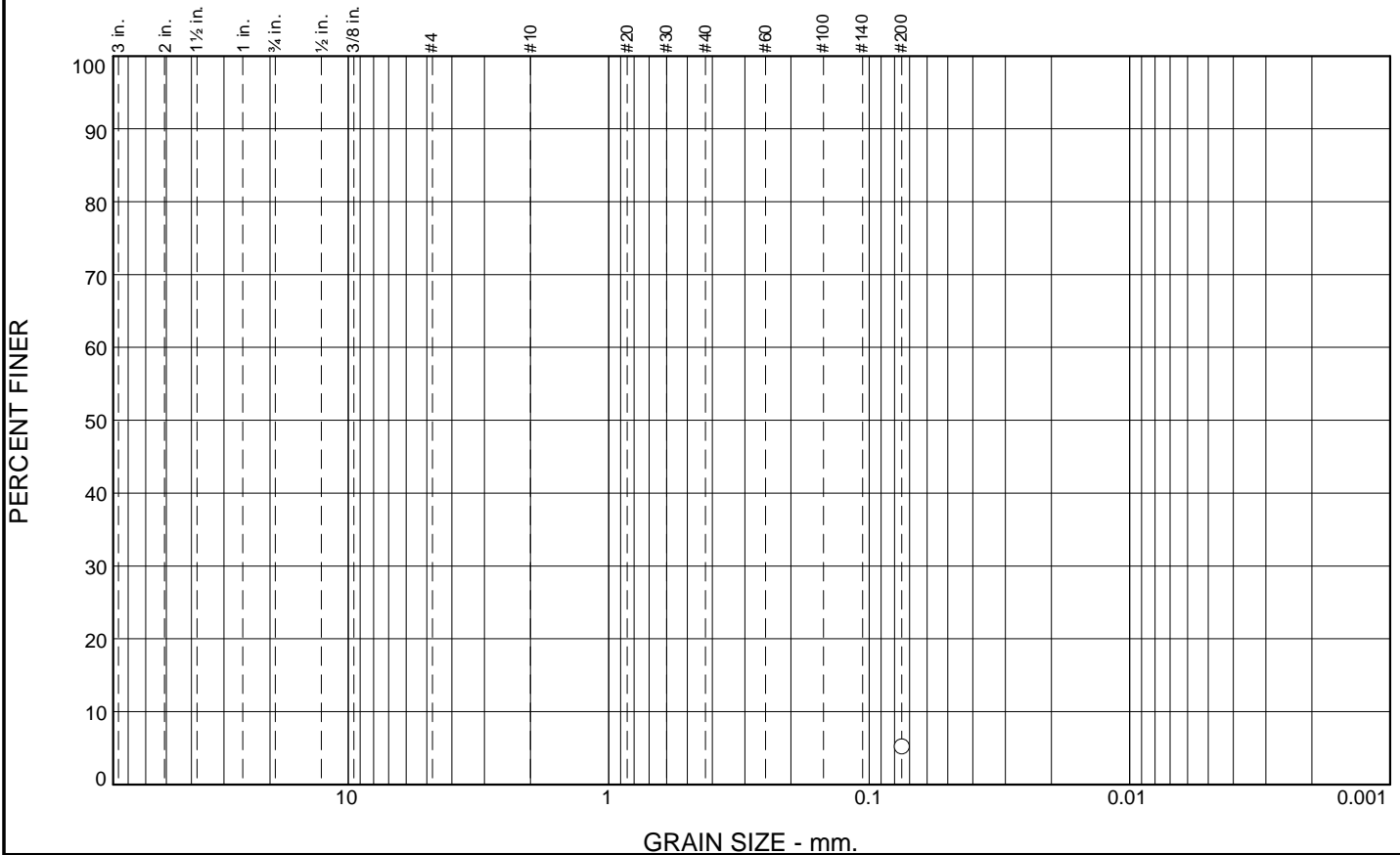
Project: ULDC Analysis and Identification of Deficiencies

Project No: 5747.005.000

Tested By: J Lawton

Checked By: D Seibold

Particle Size Distribution Report



	% Gravel		% Sand			% Fines	
% +75mm	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						5.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	5.2		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

Source of Sample: 7-B10A
Sample Number: 7-B10A-28

Depth: 28 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

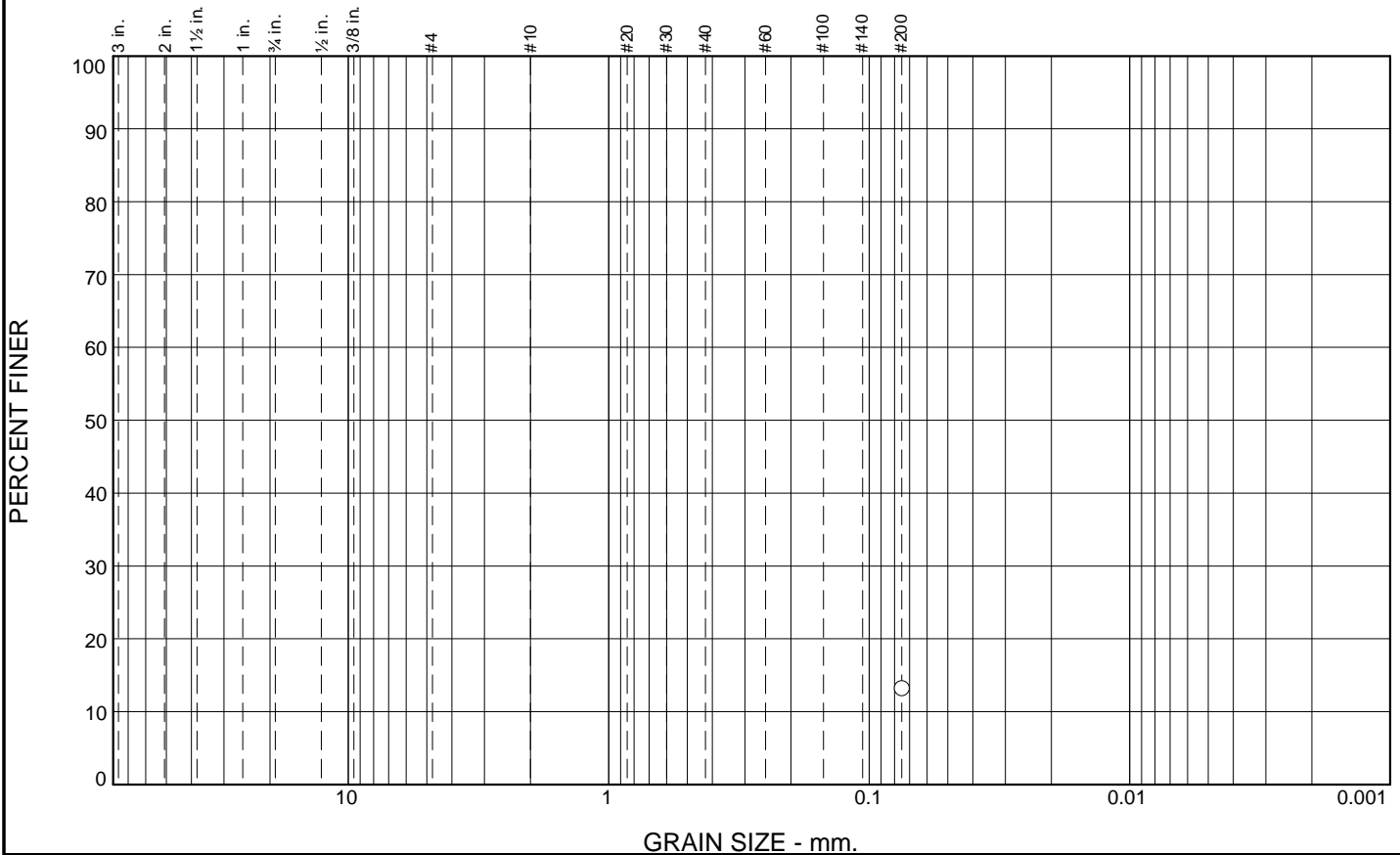
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						13.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	13.2		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

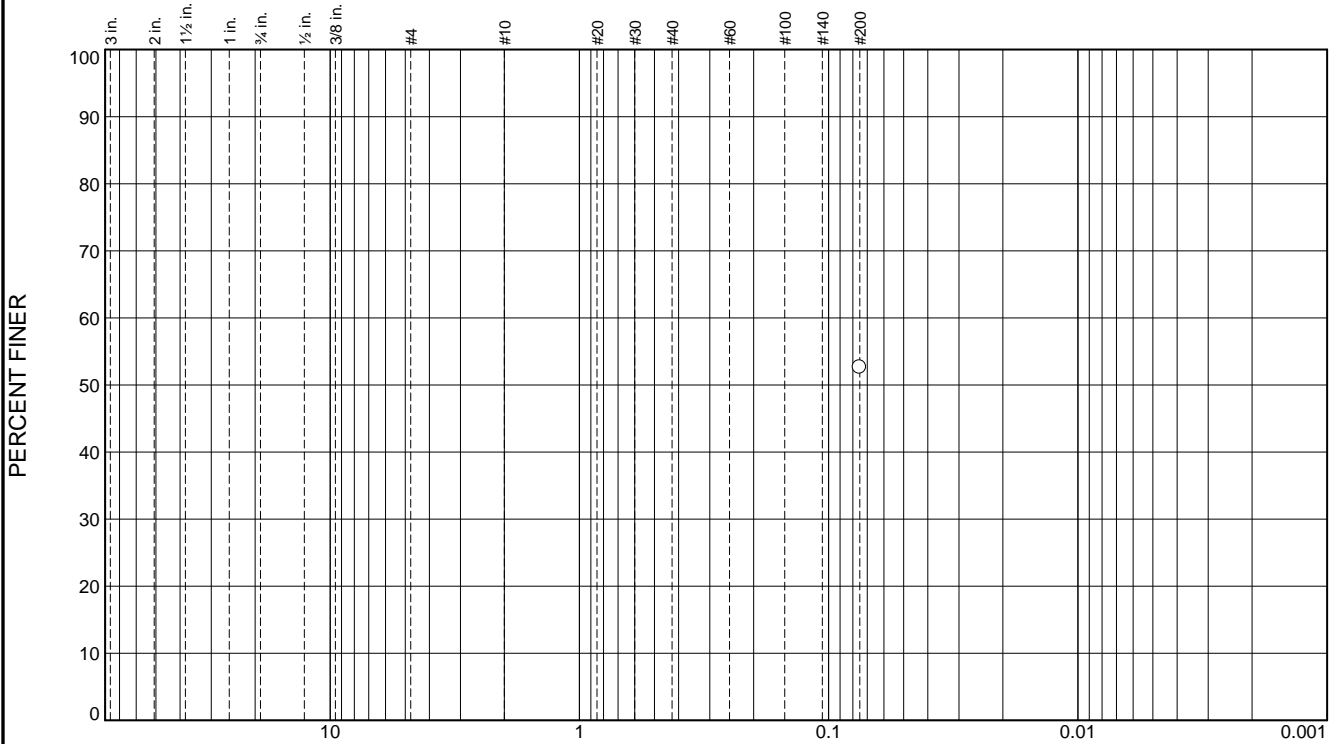
Source of Sample: 7-B10A **Depth:** 29.5 ft
Sample Number: 7-B10A-29.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						52.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	52.6		

Soil Description

See exploration logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 %200: ASTM D1140

* (no specification provided)

Sample Number: 7-B010A @ 36.5C

Depth: 36.5 ft.

Date: 03/11/15



Client: Peterson Brusted Incorporated

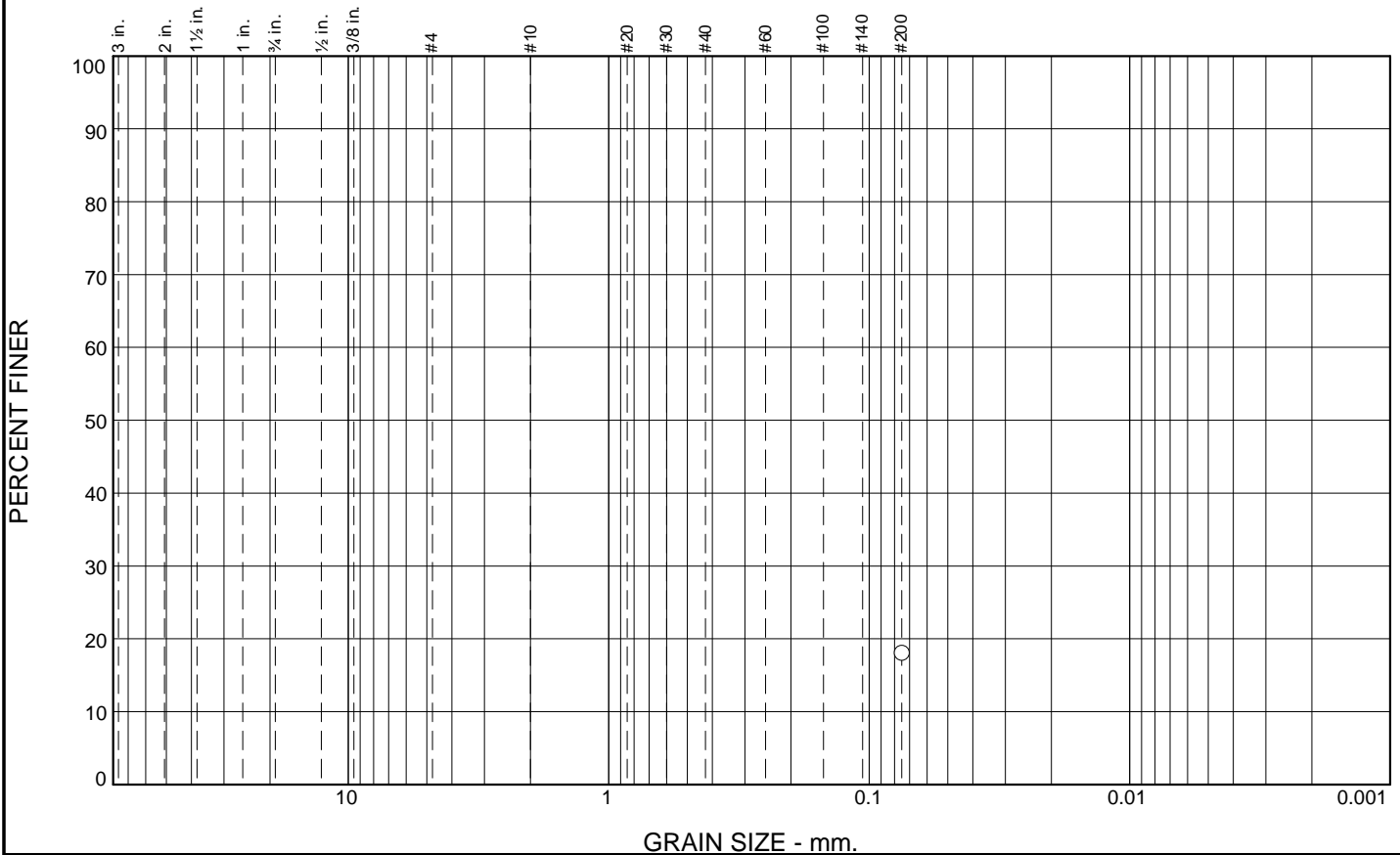
Project: ULDC Analysis and Identification of Deficiencies

Project No: 5747.005.000

Tested By: J Lawton

Checked By: D Seibold

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						18.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	18.1		

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

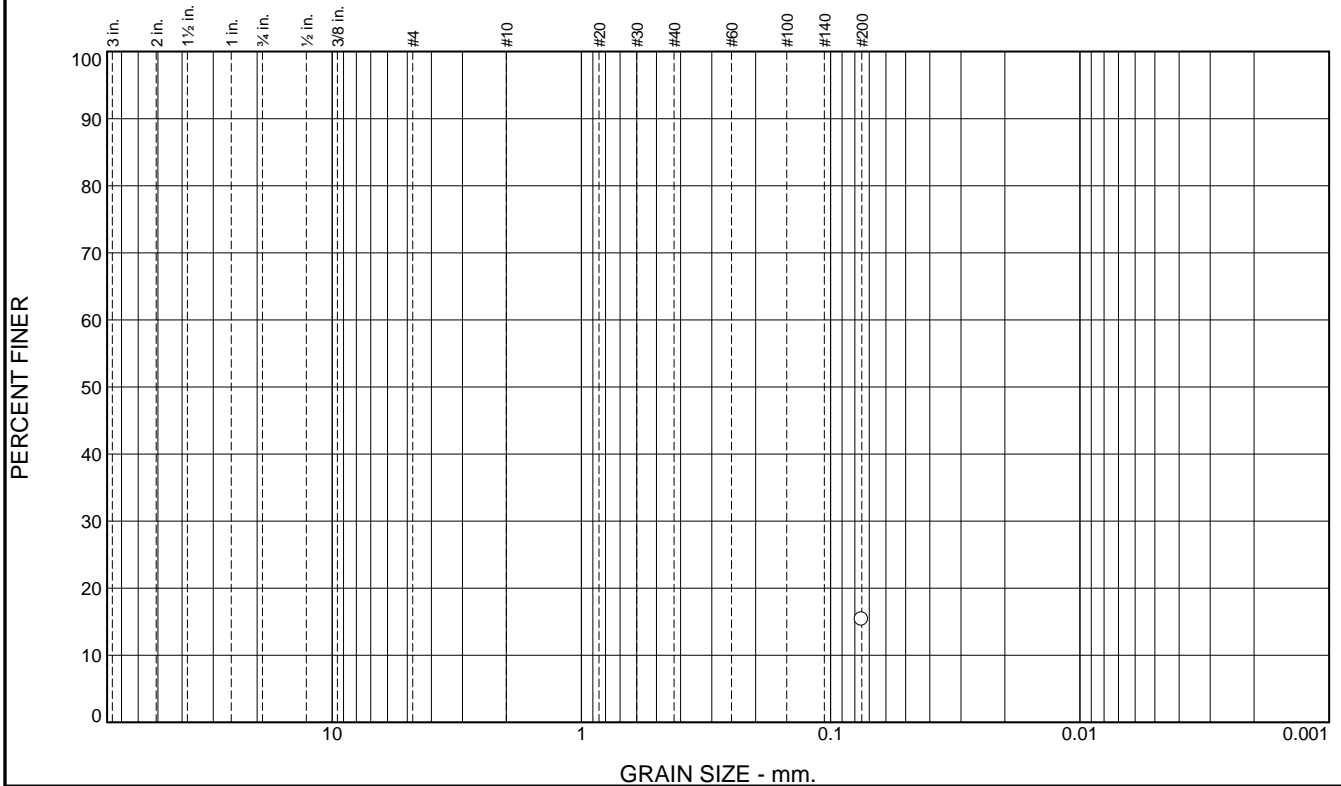
Source of Sample: 7-B10A **Depth:** 39.5 ft
Sample Number: 7-B10A-39.5

Date: 01-30-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p> <p style="text-align: right;">Figure</p>
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Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						15.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	15.3		

Soil Description

See Exploratory Boring

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 6 Depth: 6

Date: 12-9-14



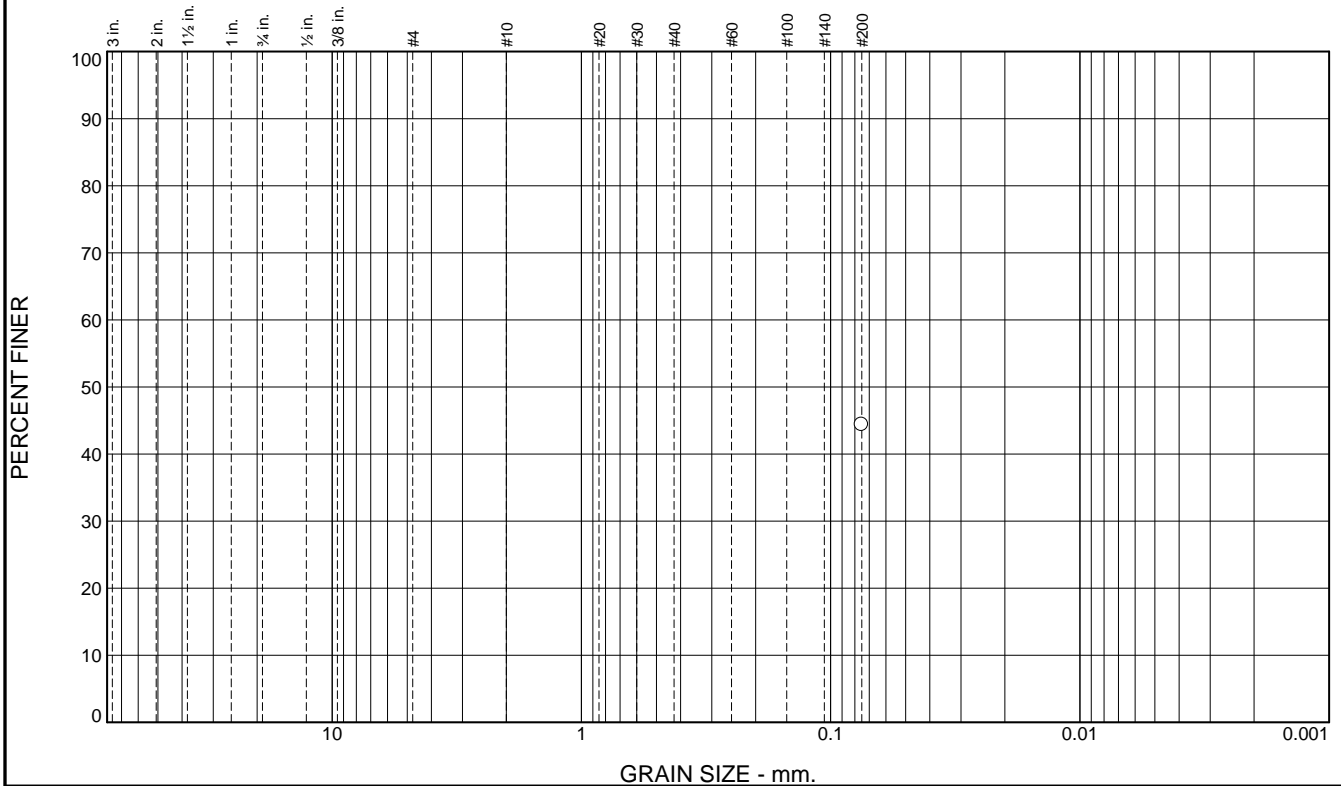
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						44.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	44.4		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 23 LL= 28 PI= 5

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 21.5

Depth: 21.5

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

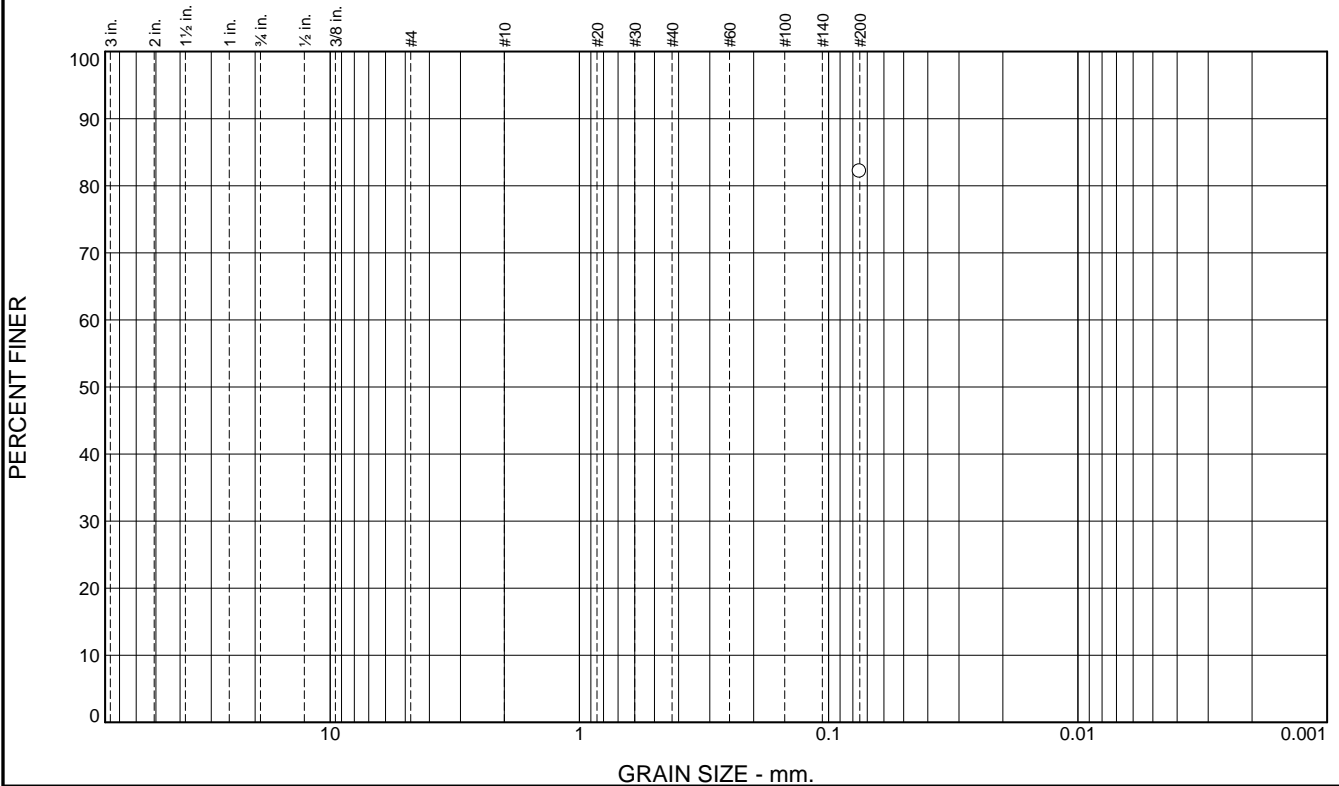
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						82.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	82.2		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 41

Depth: 41

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

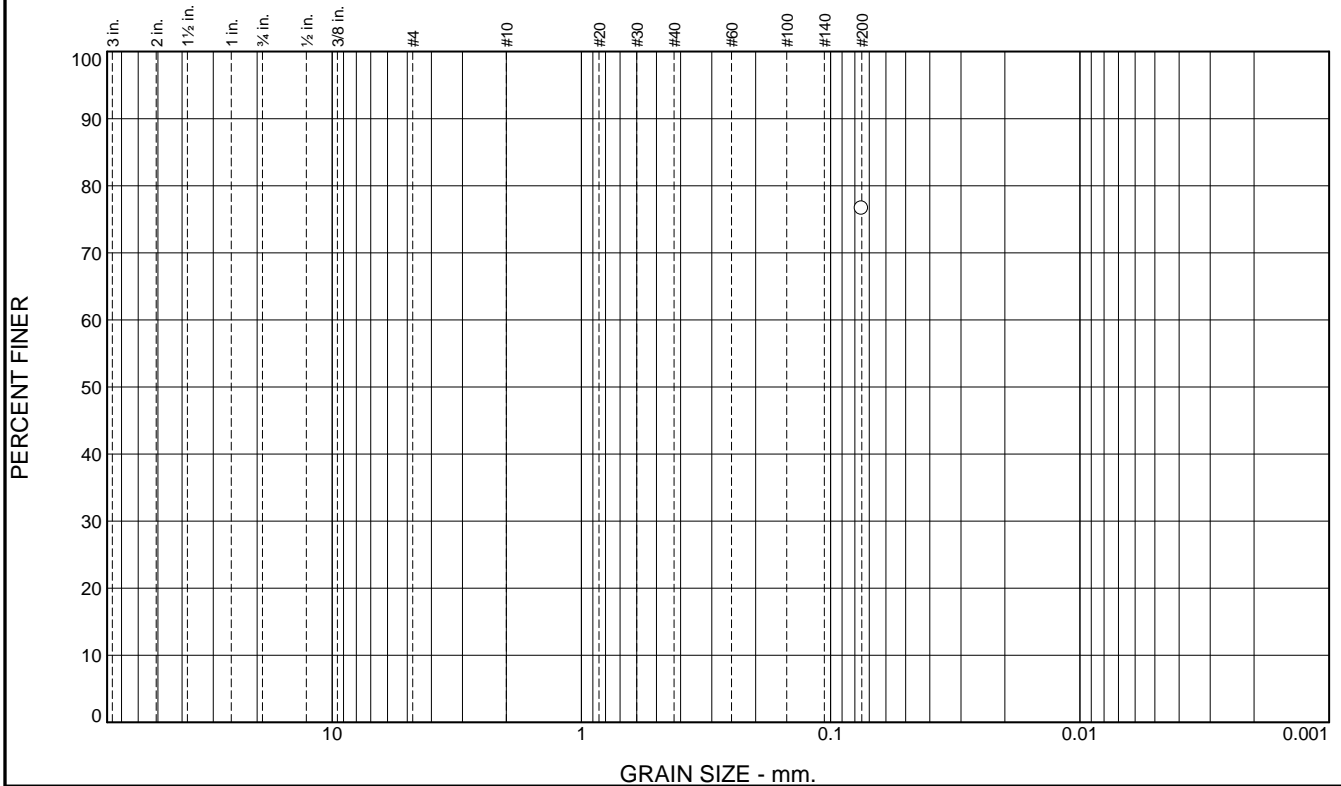
Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS

Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						76.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	76.6		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 26 LL= 34 PI= 8

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 46

Depth: 46

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

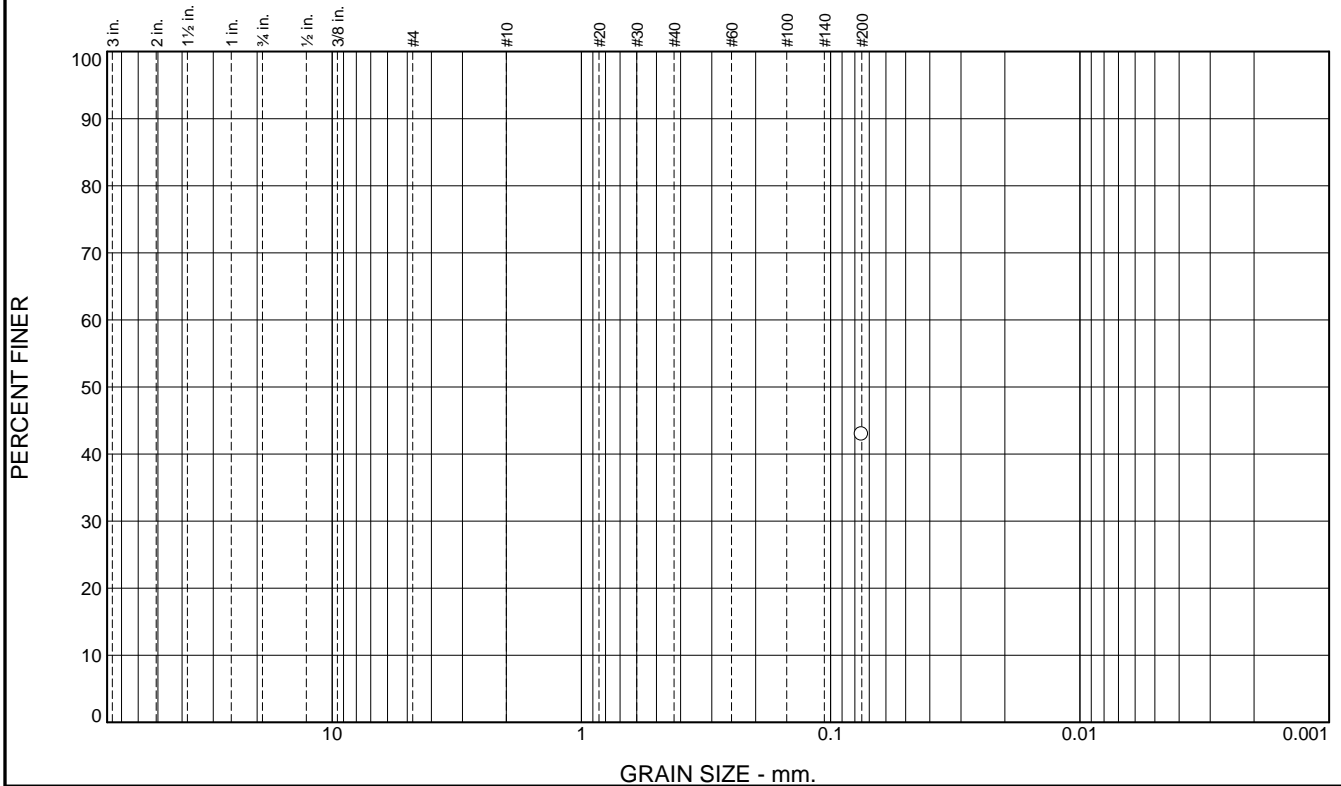
Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS

Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						42.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	42.9		

Soil Description
See Exploratory Boring

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 51

Depth: 51

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

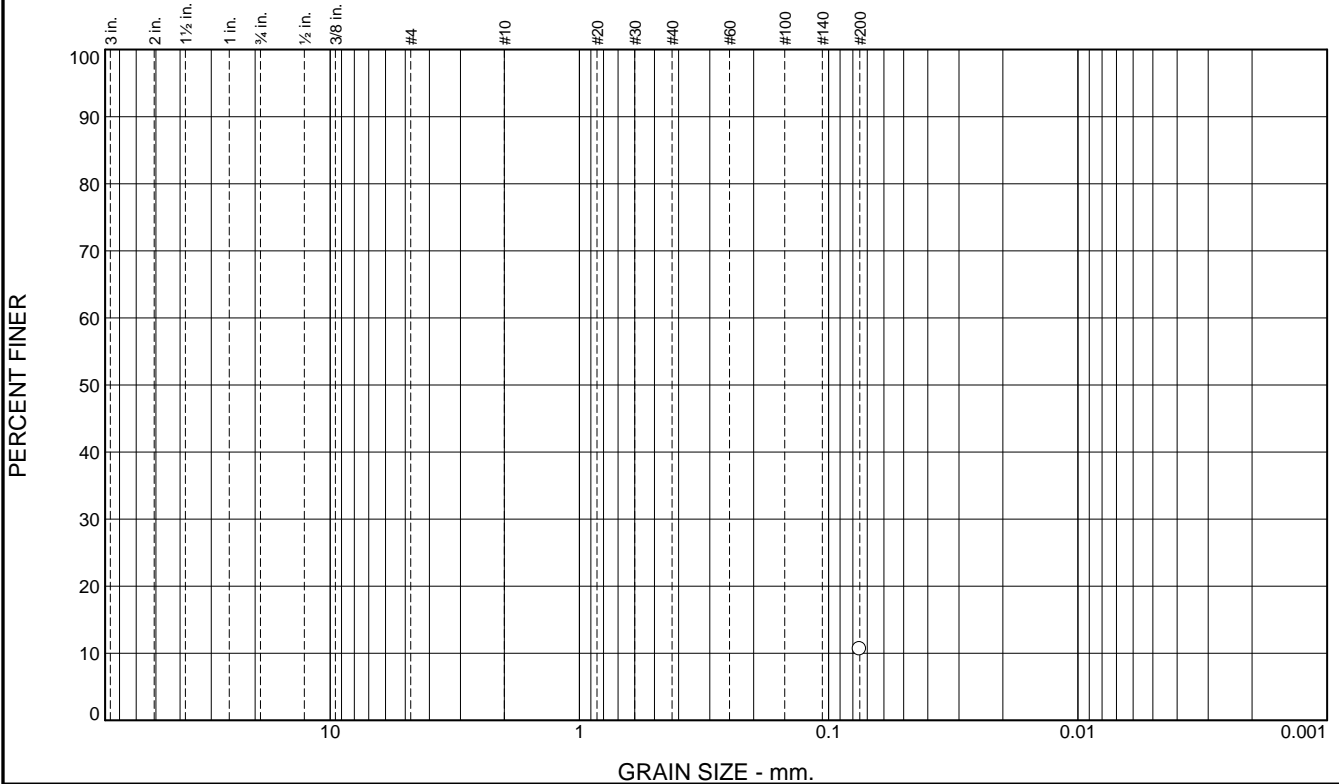
Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS

Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						10.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	10.6		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 55

Depth: 55

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

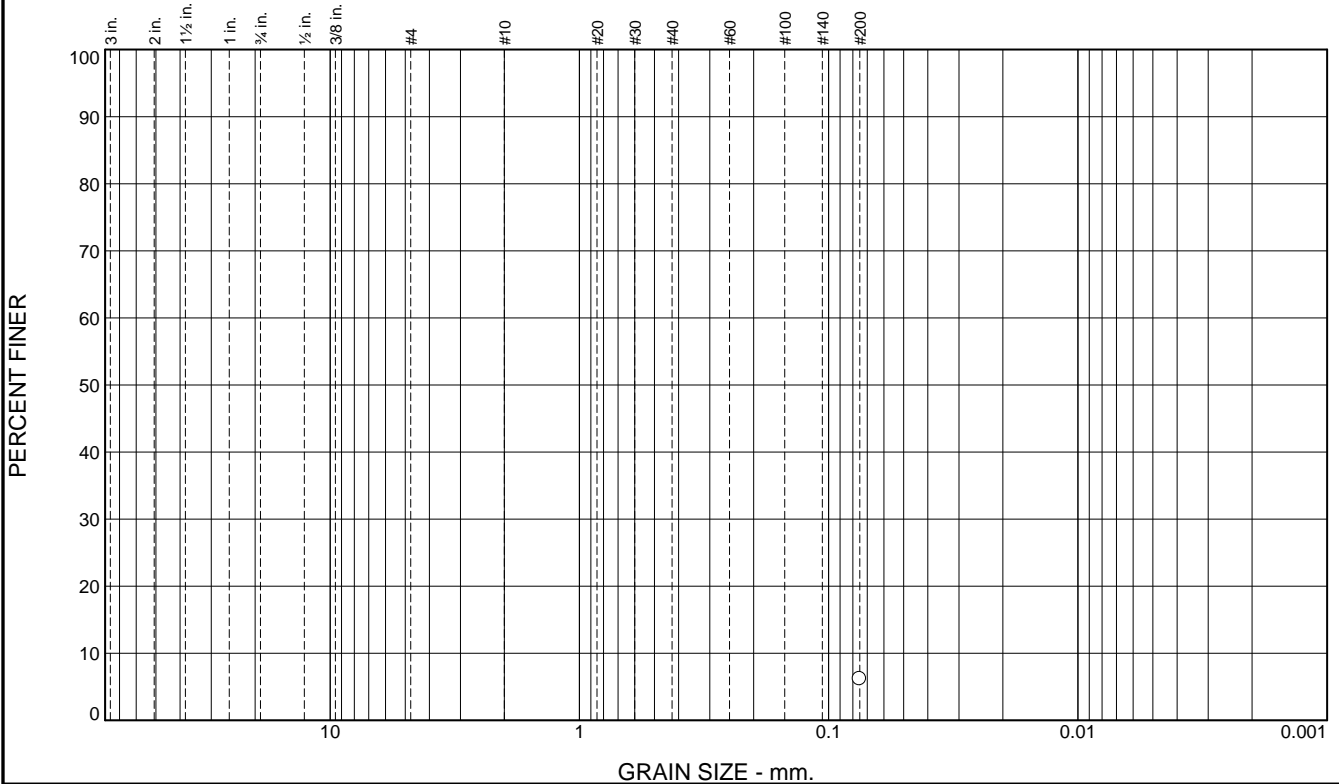
Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS

Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						6.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	6.2		

Soil Description

See Exploratory Boring

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 60

Depth: 60

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

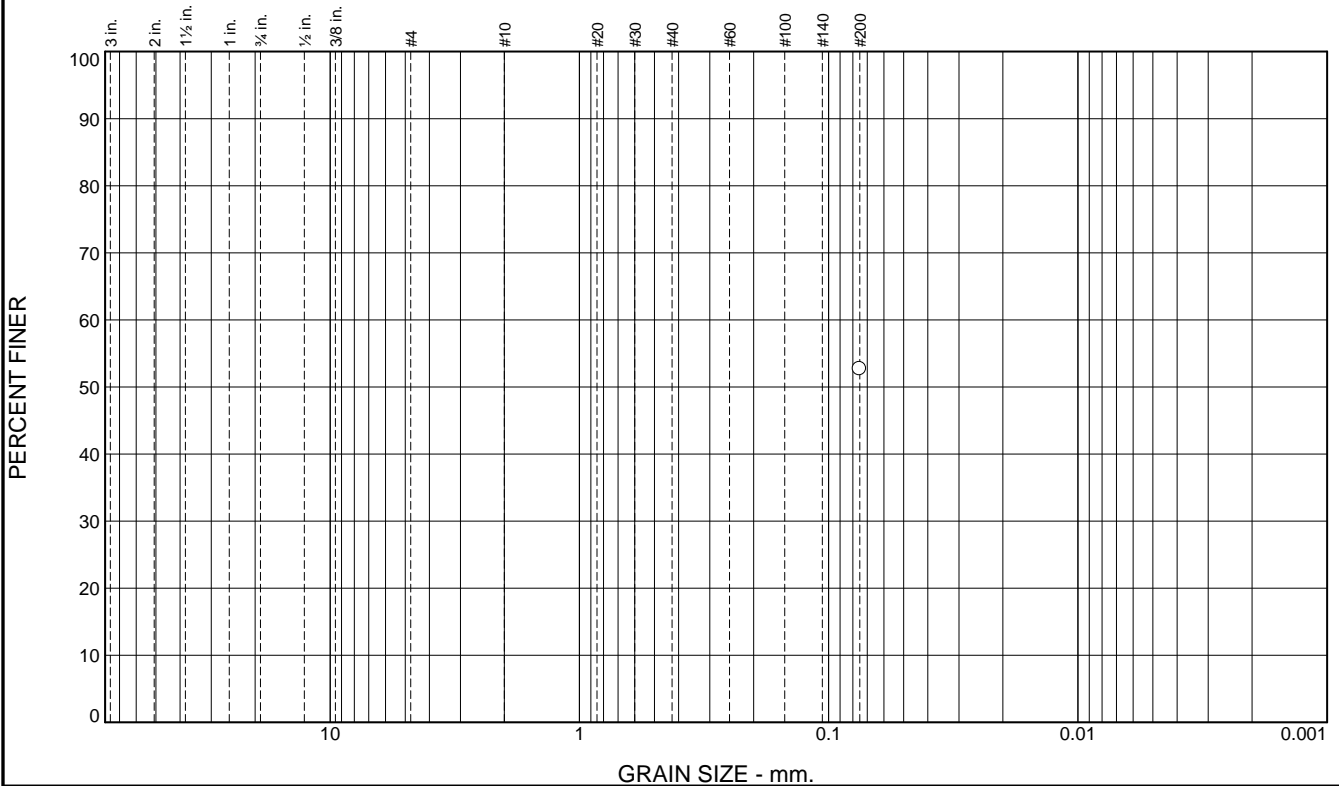
Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS

Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						52.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	52.7		

Soil Description
See Exploratory Boring

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 66

Depth: 66

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

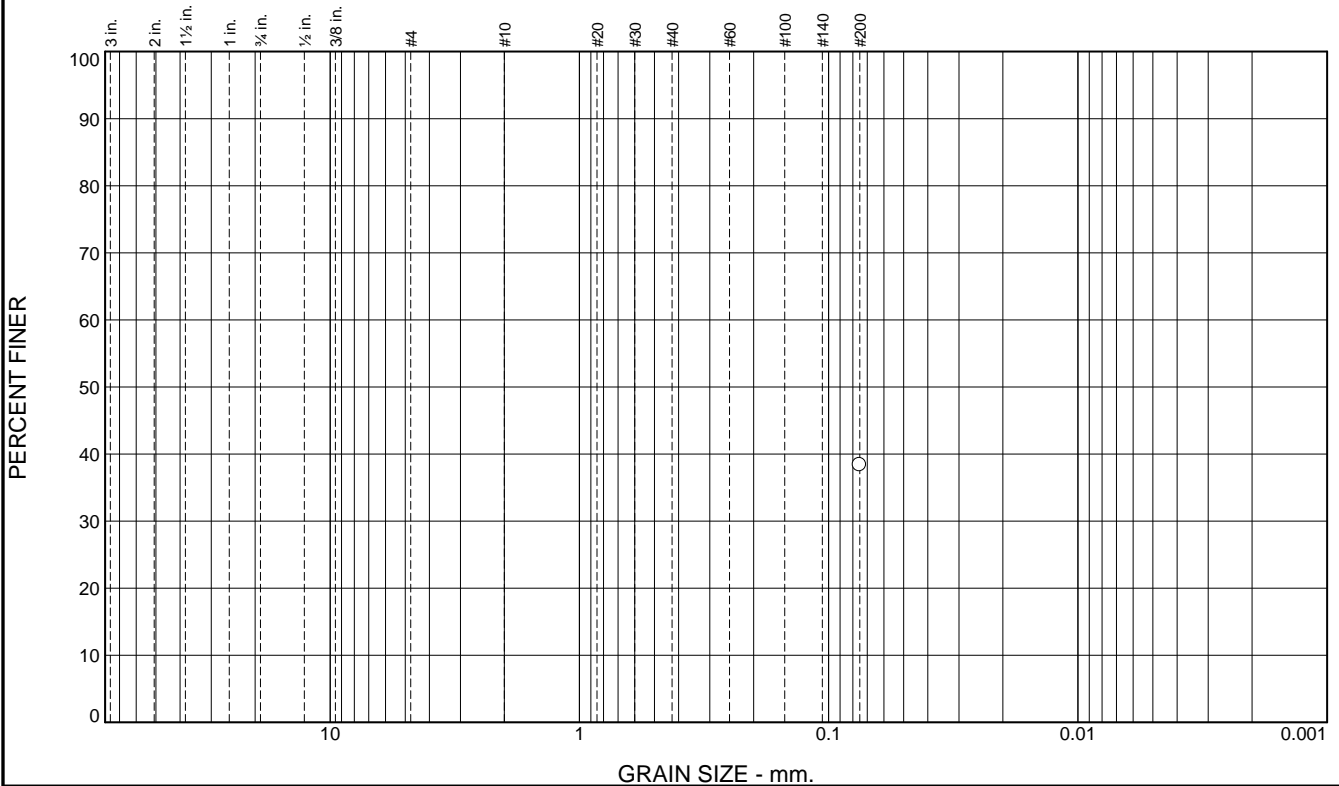
Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS

Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						38.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	38.4		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B012 @ 6 Depth: 6

Date: 11-11-14



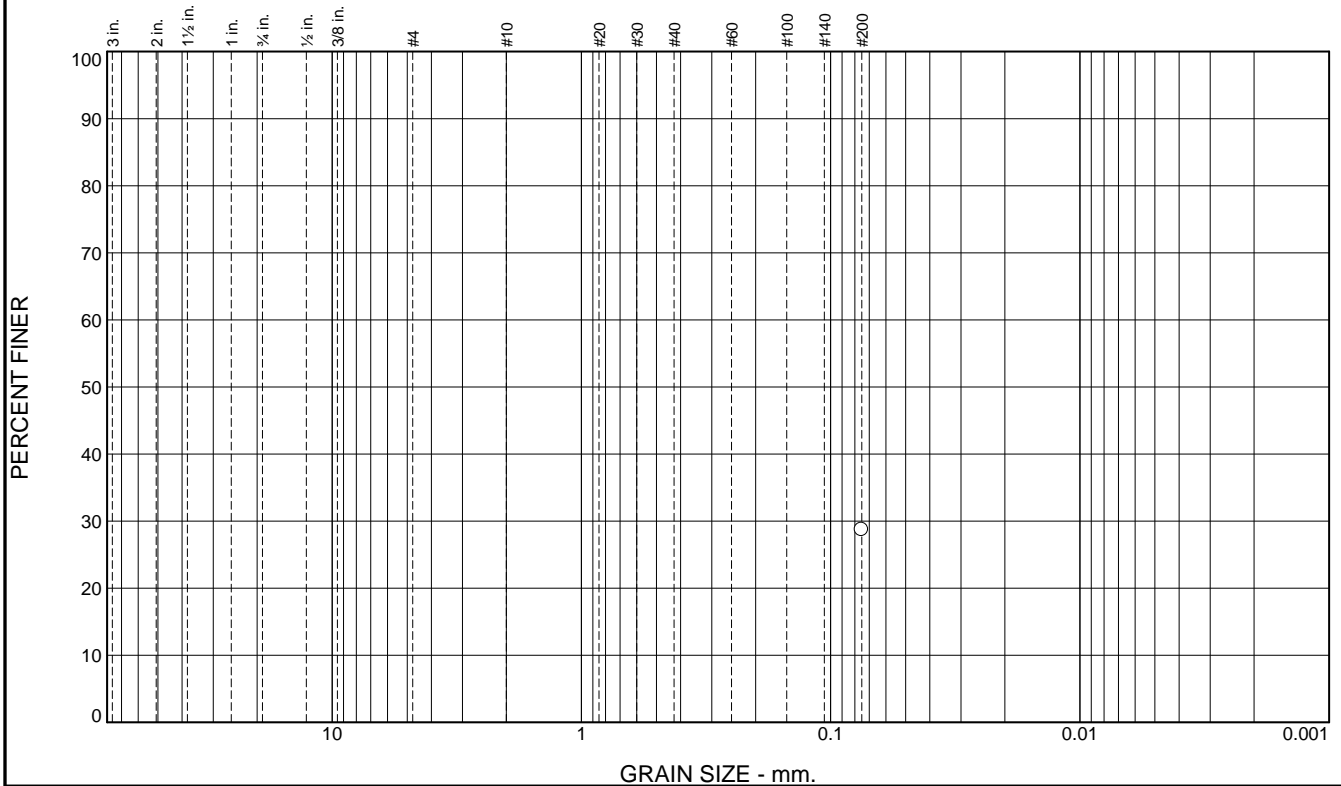
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						28.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	28.7		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B012 @ 10.5

Depth: 10.5

Date: 11-11-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

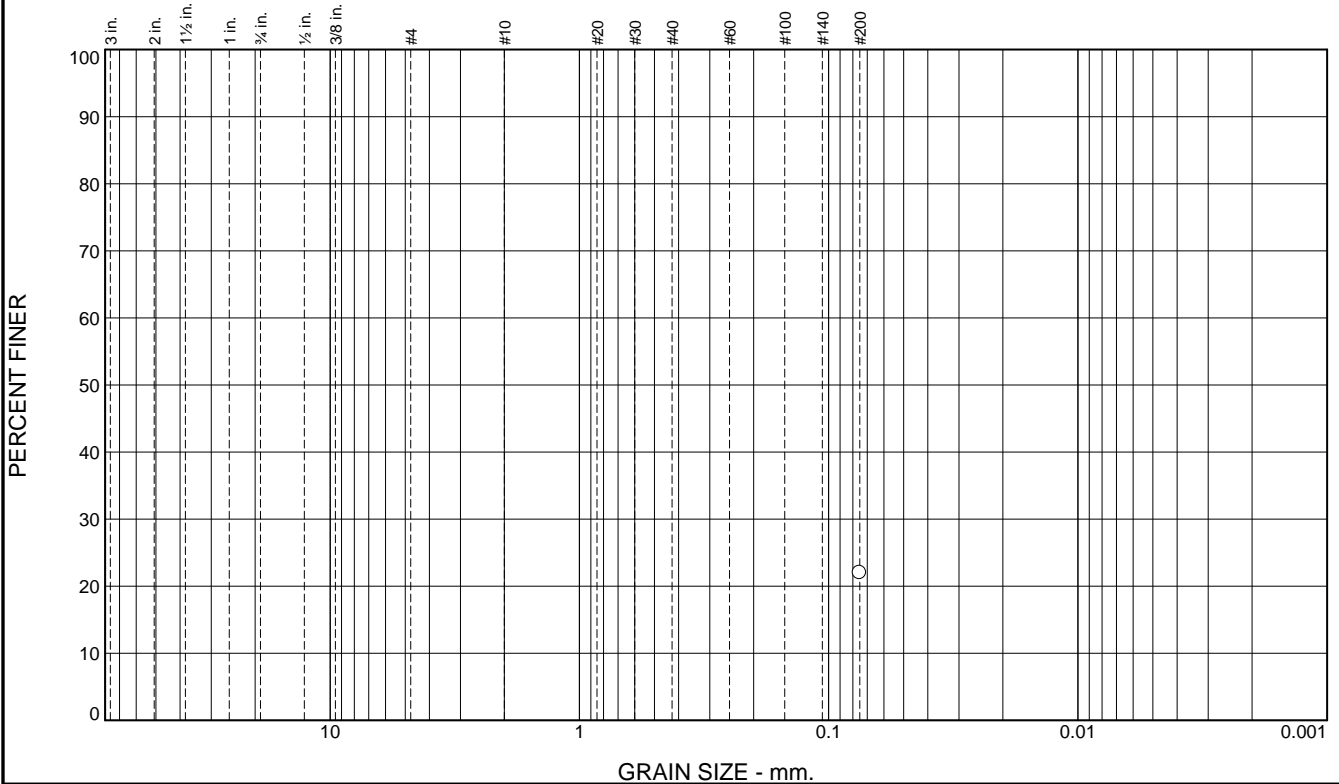
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						22.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	22.0		

Soil Description
See Exploratory Boring

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B012 @ 11

Depth: 11

Date: 11-11-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

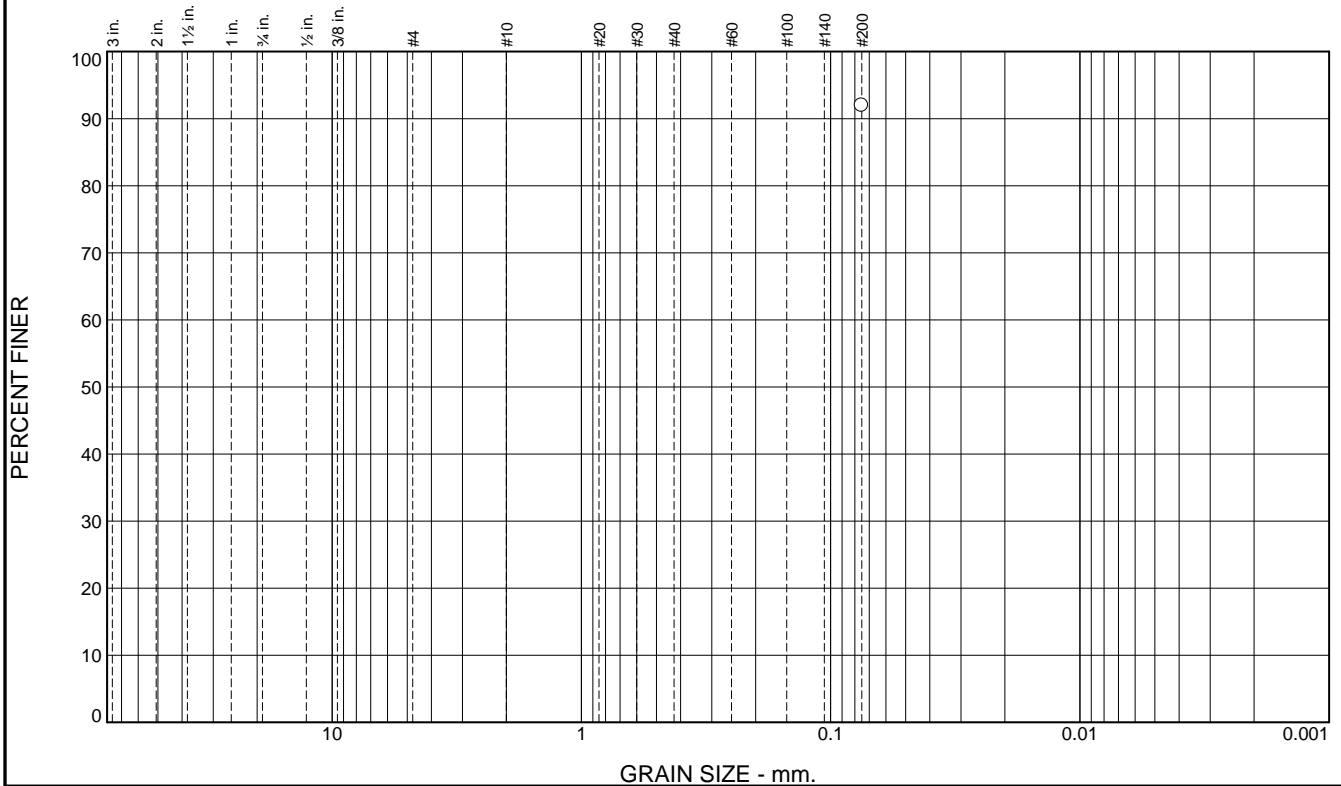
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						92.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	92.0		

Soil Description
See Exploratory Boring

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B012 @ 16.5

Depth: 16.5

Date: 11-11-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

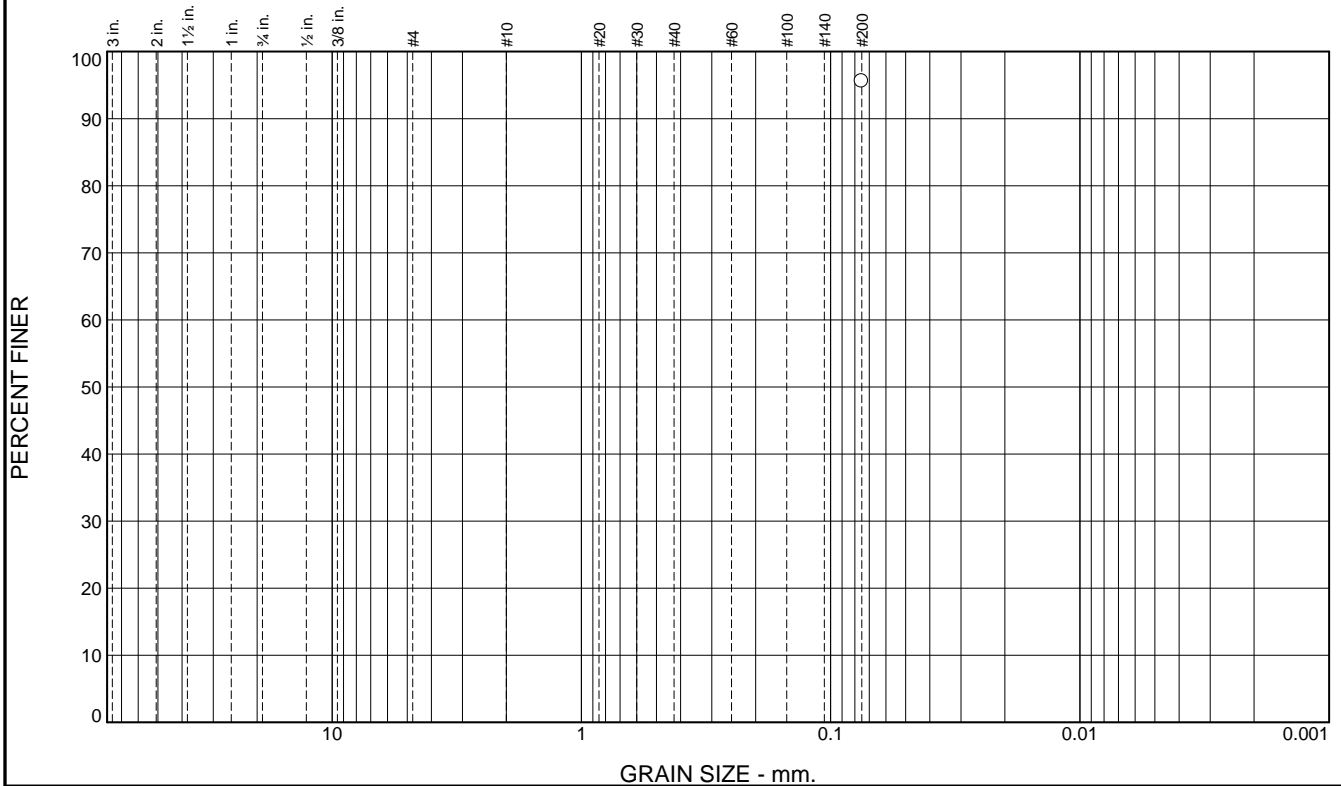
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						95.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	95.6		

Soil Description
See Exploratory Boring

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B012 @ 20.5

Depth: 20.5

Date: 11-11-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

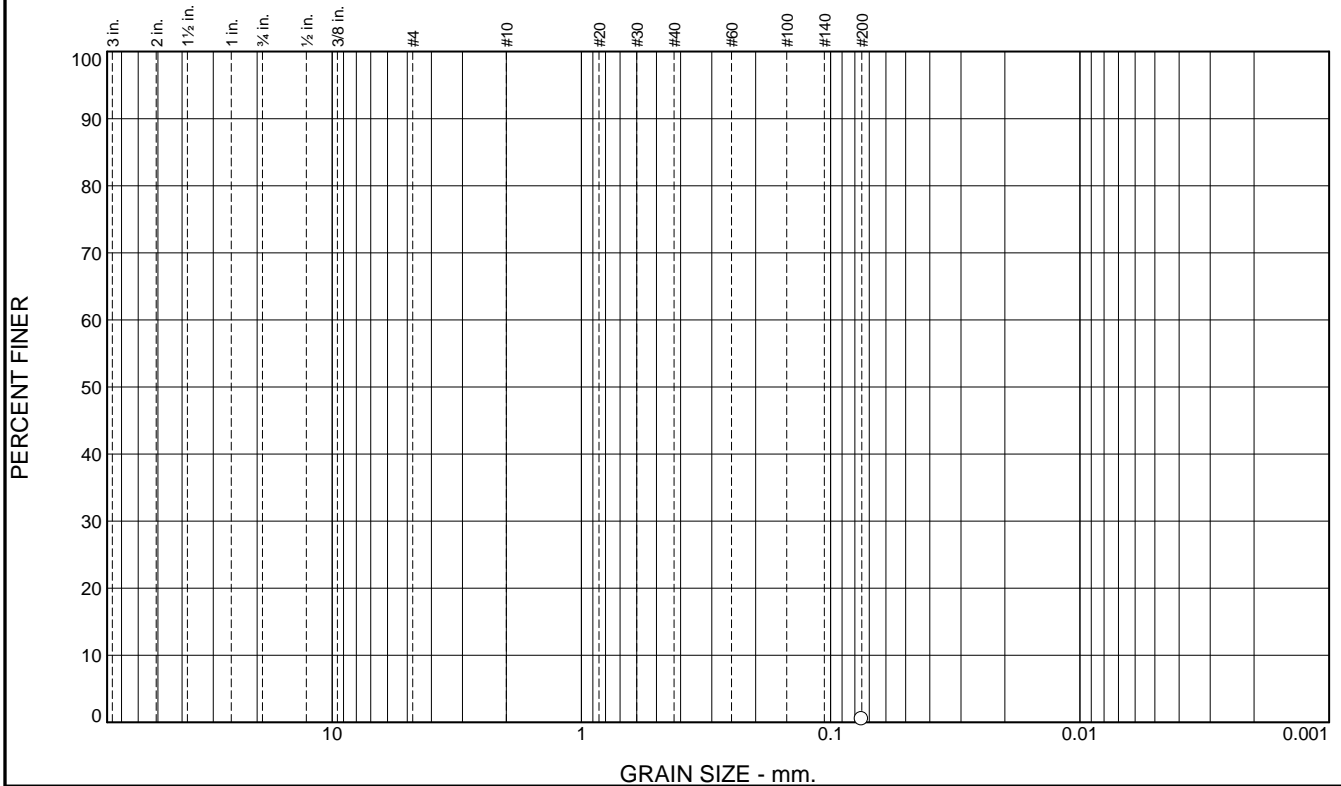
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						0.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	0.5		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B012 @ 25

Depth: 25

Date: 11-11-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

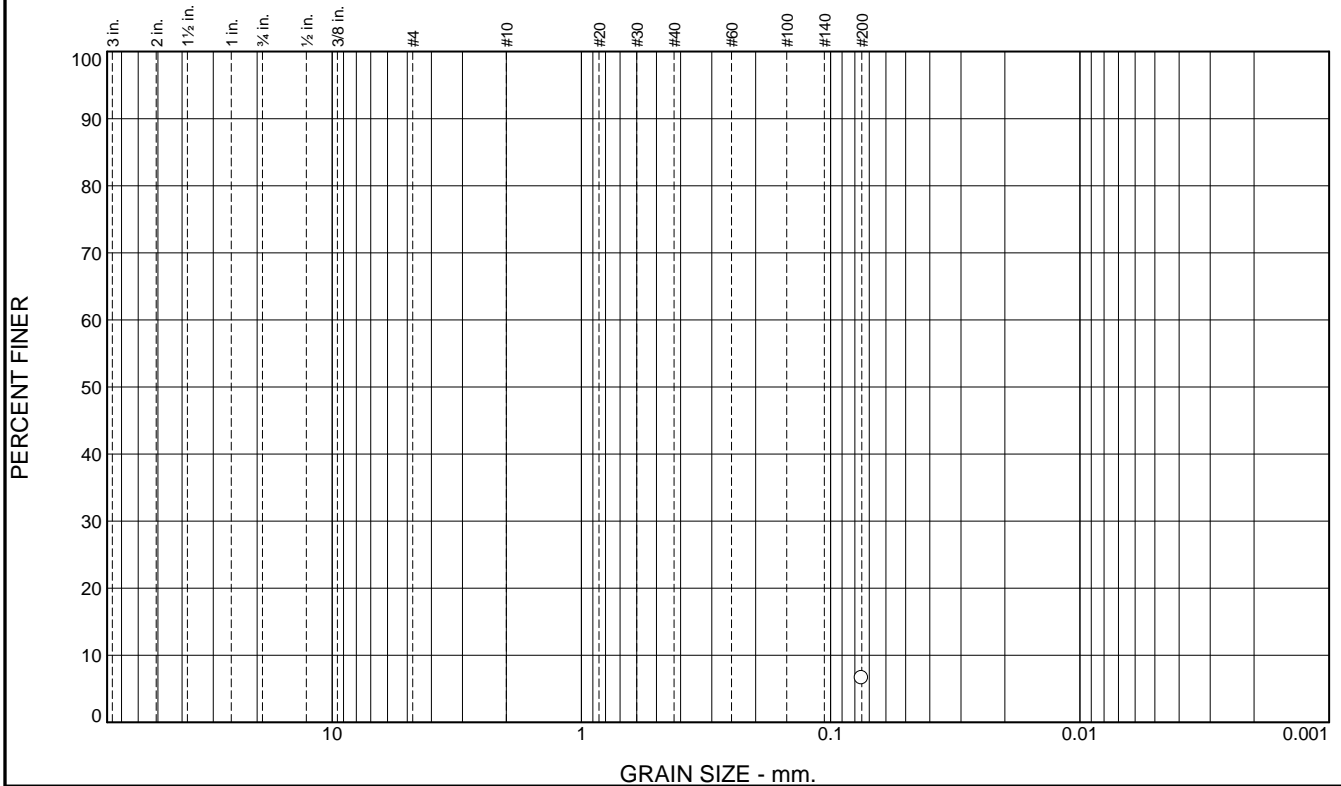
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						6.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	6.6		

Soil Description

See Exploratory Boring

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B012 @ 30

Depth: 30

Date: 11-11-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

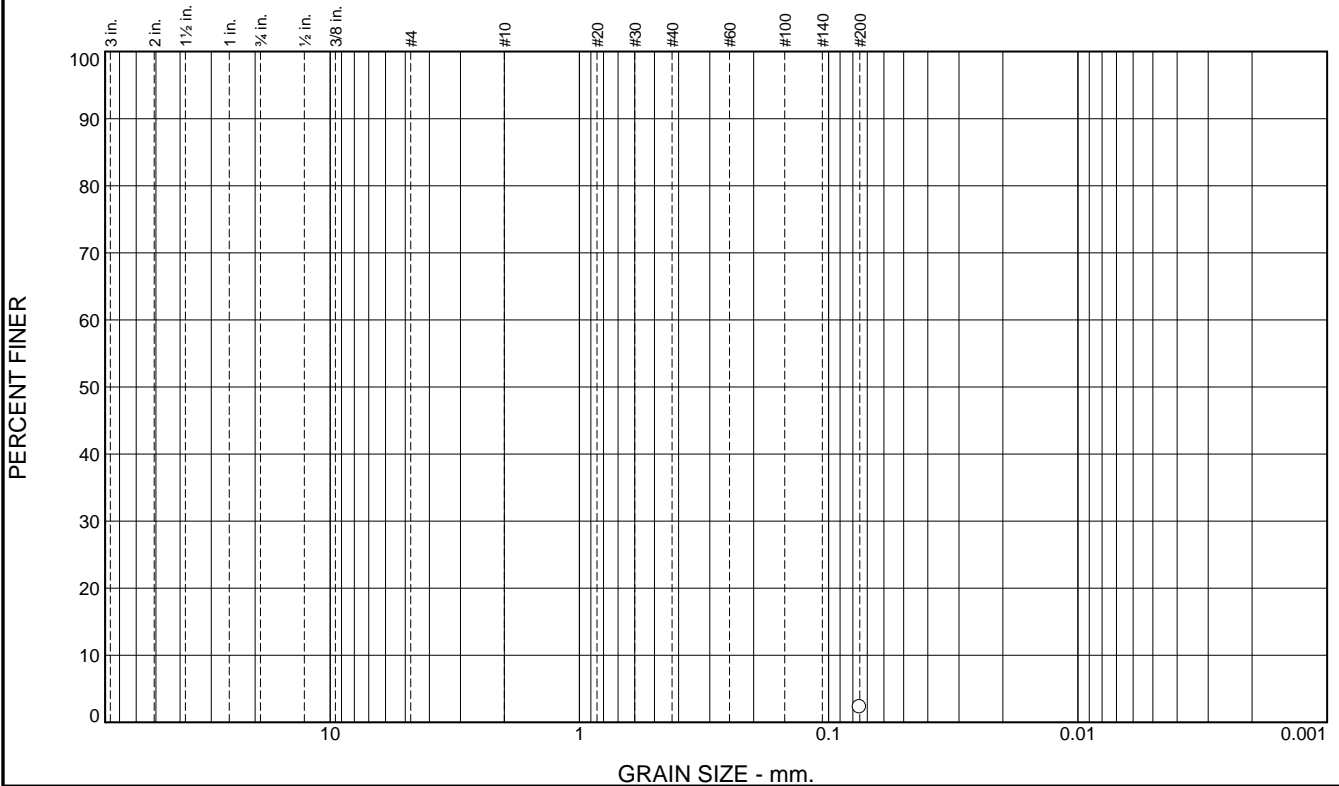
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						2.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	2.2		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B012 @ 45

Depth: 45

Date: 11-11-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

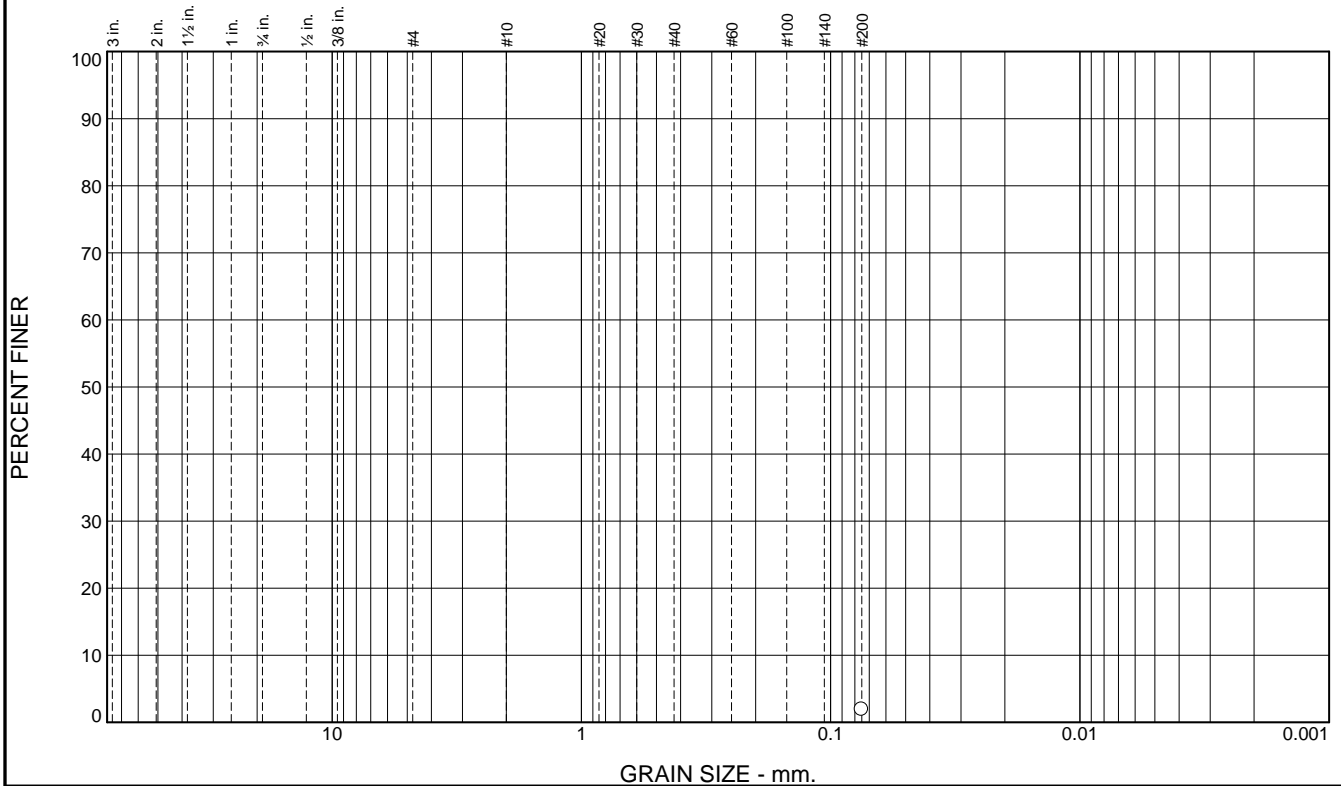
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						1.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	1.9		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B012 @ 50

Depth: 50

Date: 7-11-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

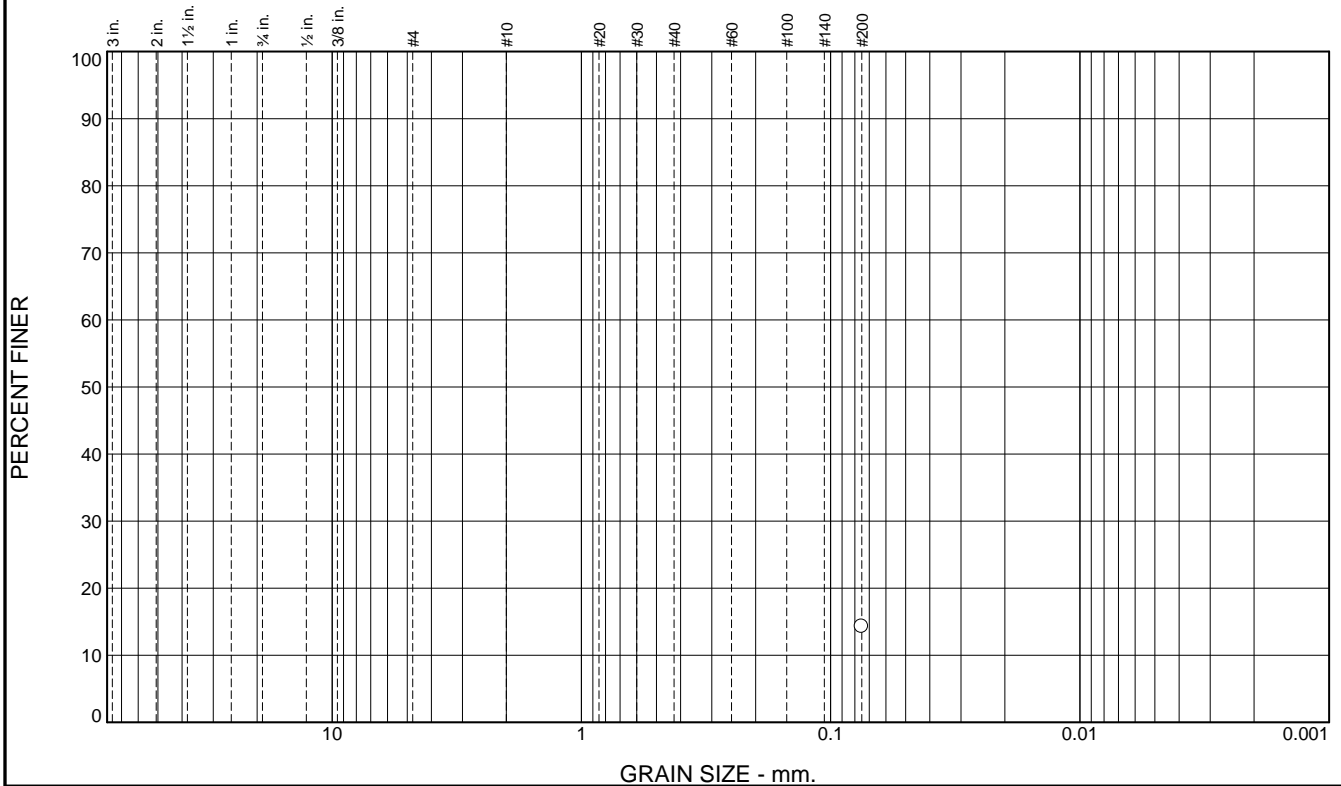
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						14.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	14.3		

Soil Description

See Exploratory Boring

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B013 @ 5.5 Depth: 5.5

Date: 11-14-14



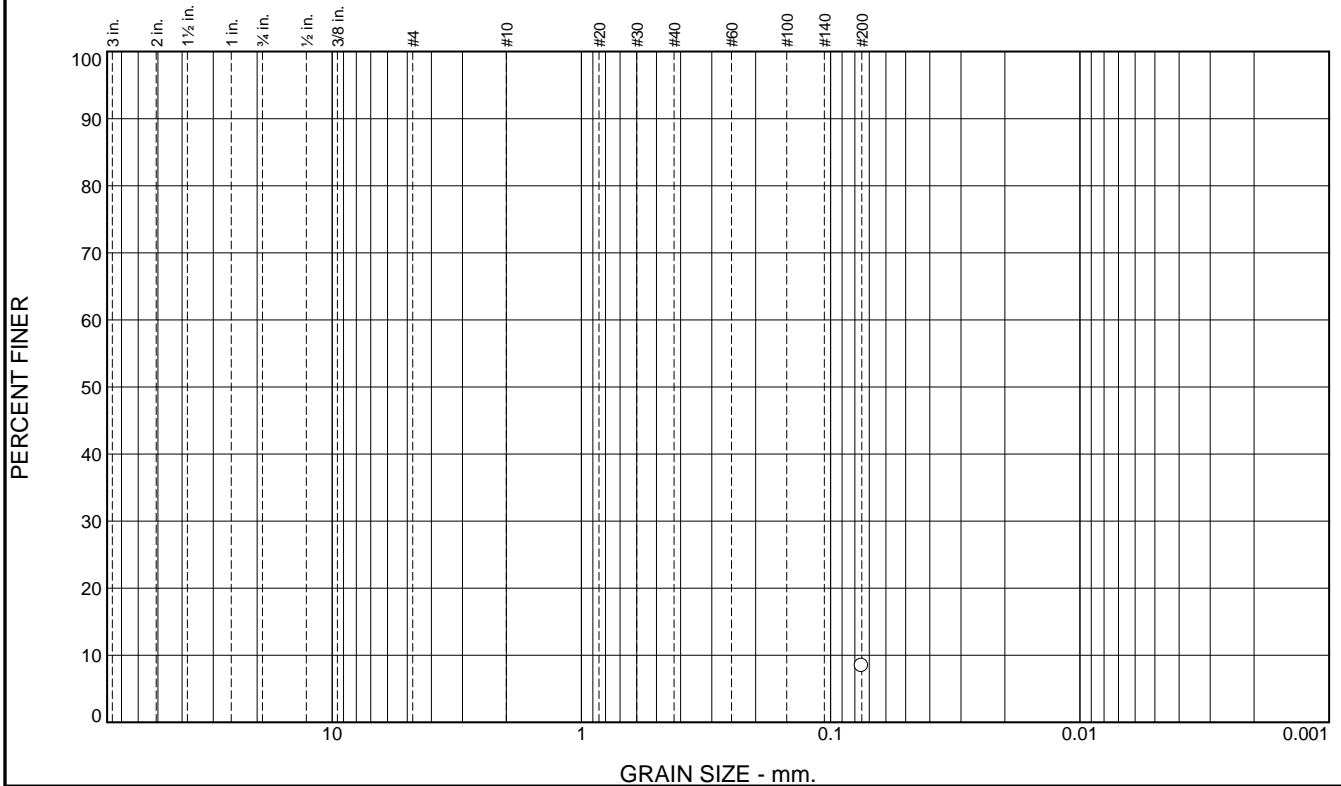
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						8.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	8.4		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B013 @ 19

Depth: 19

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

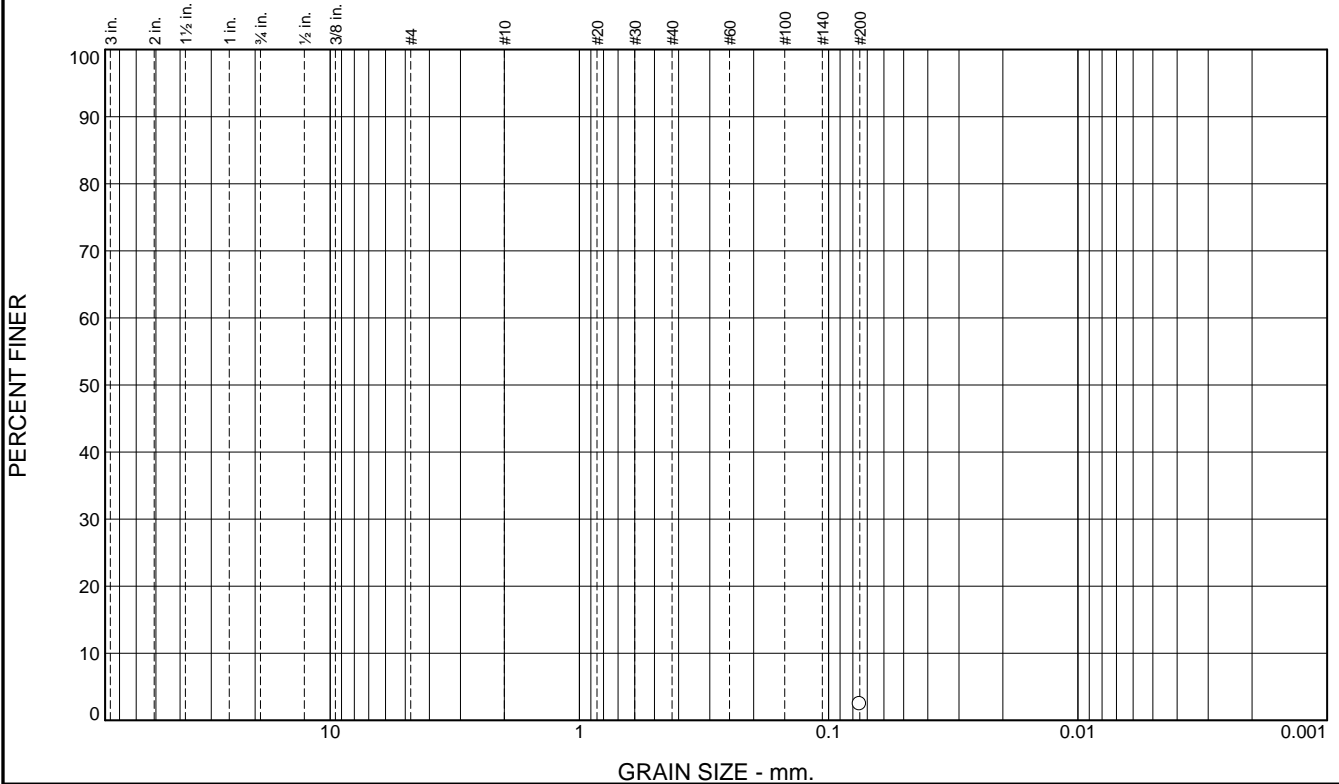
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						2.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	2.4		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B013 @ 25

Depth: 25

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

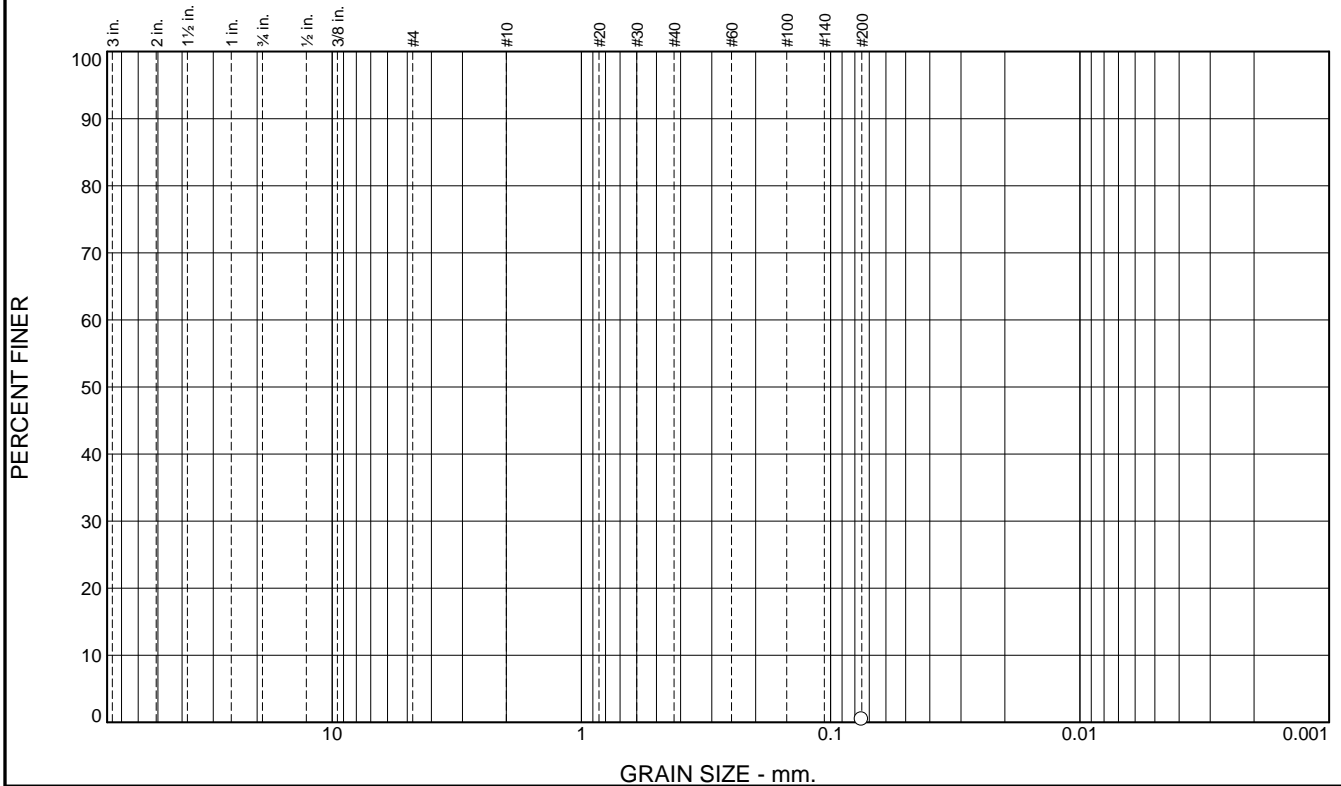
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						0.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	0.5		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B013 @ 31.5

Depth: 31.5

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

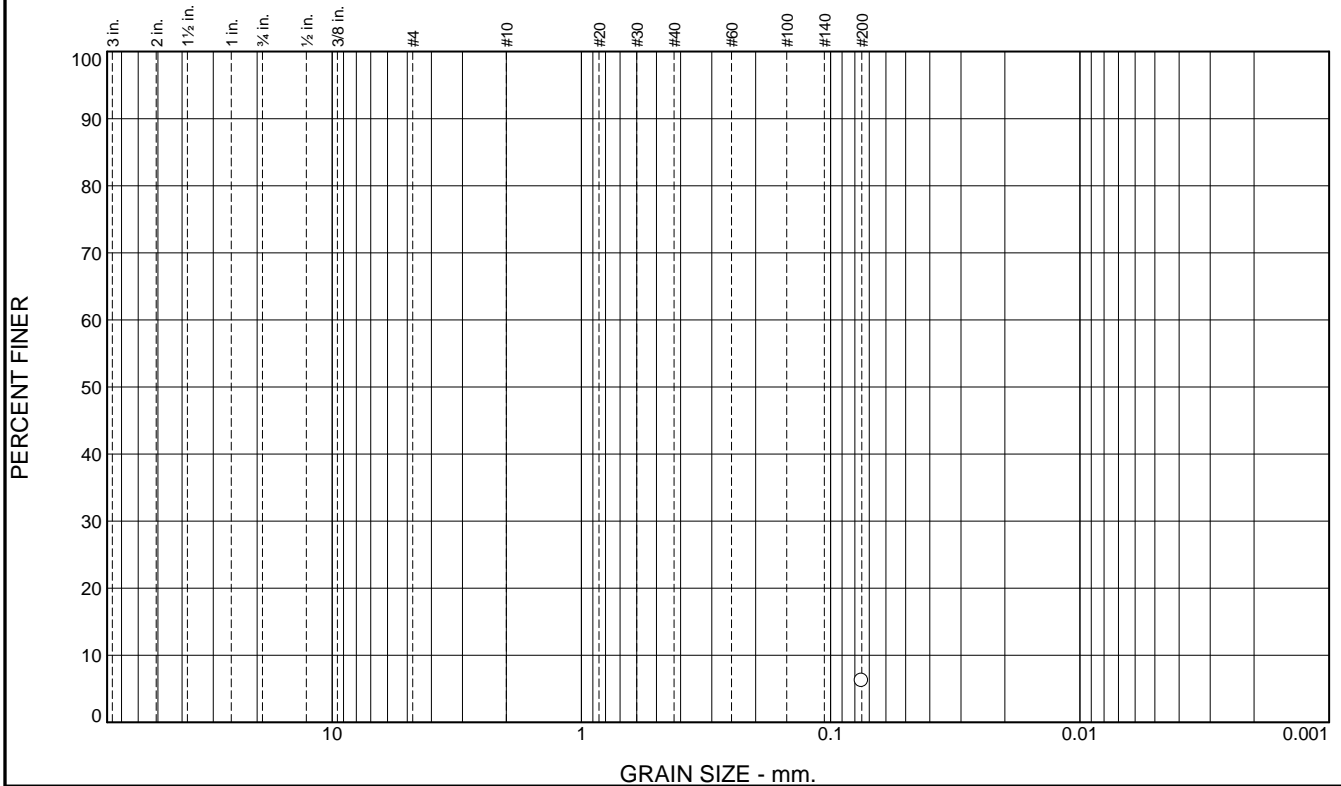
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						6.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	6.2		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B013 @ 32.5

Depth: 32.5

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

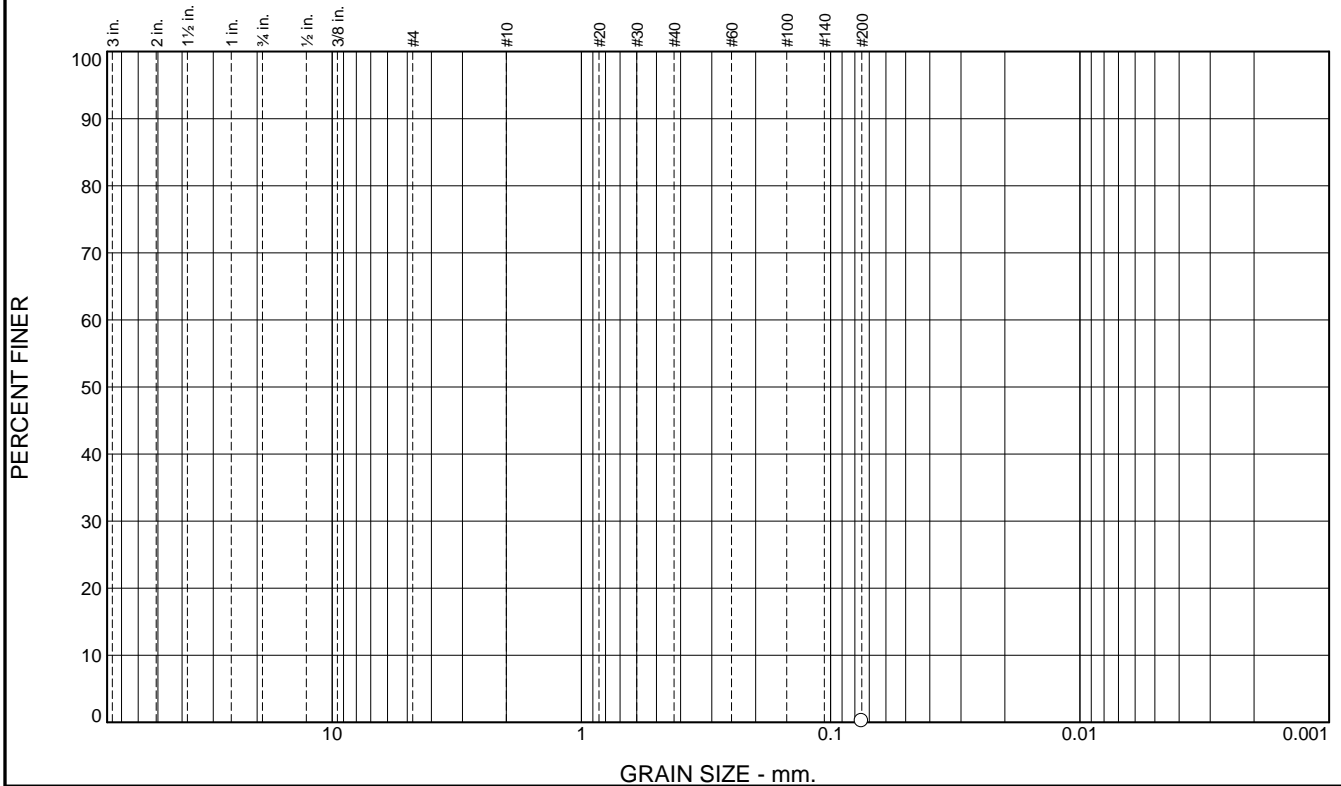
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						0.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	0.2		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B013 @ 41

Depth: 41

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

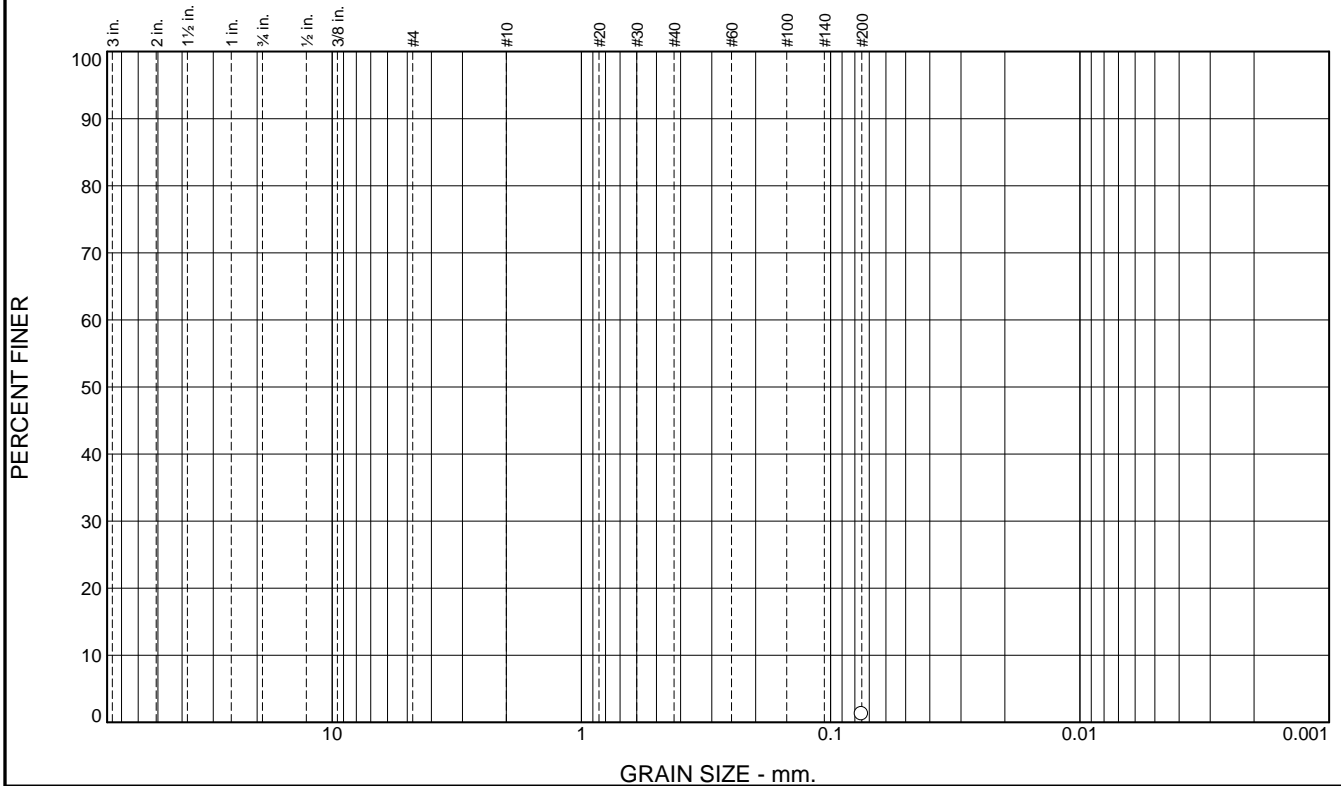
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						1.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	1.2		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B013 @ 46

Depth: 46

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

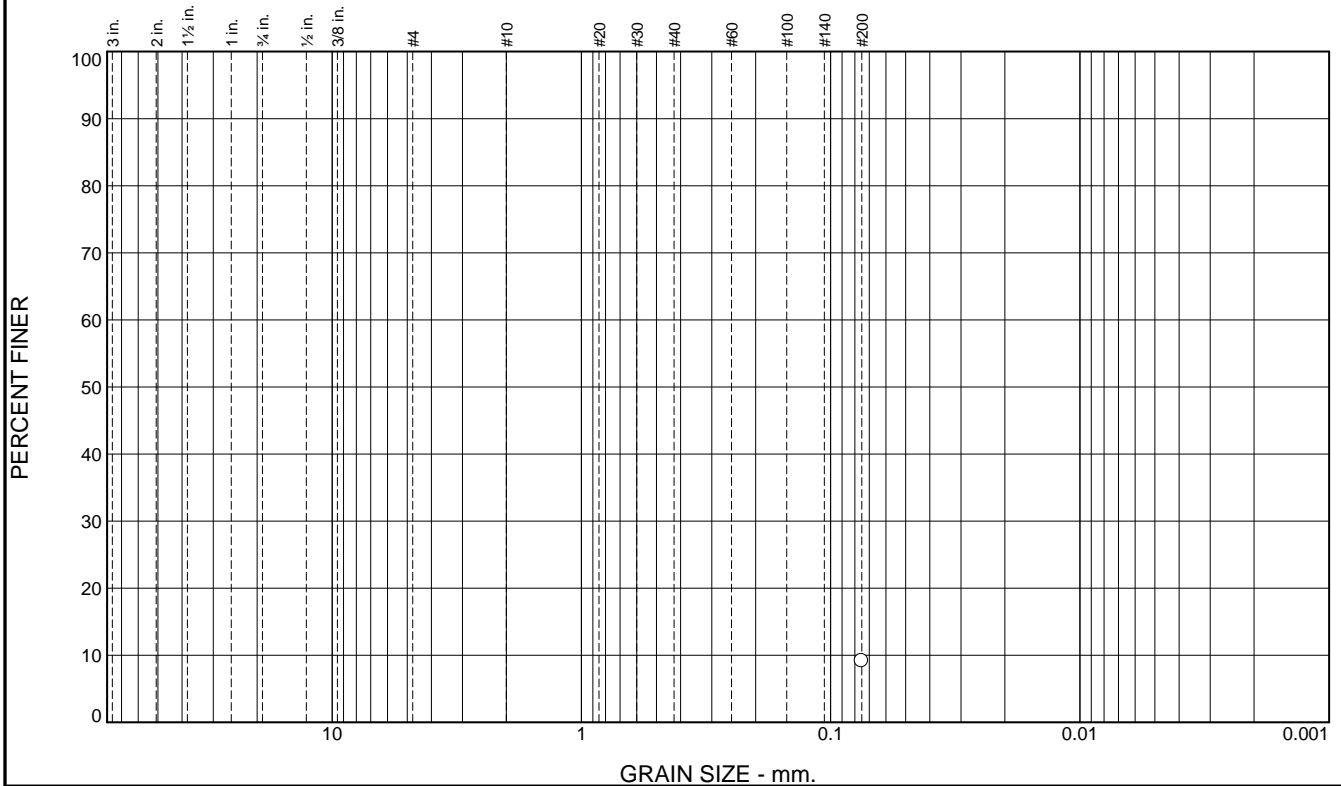
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						9.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	9.1		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B013 @ 51

Depth: 51

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

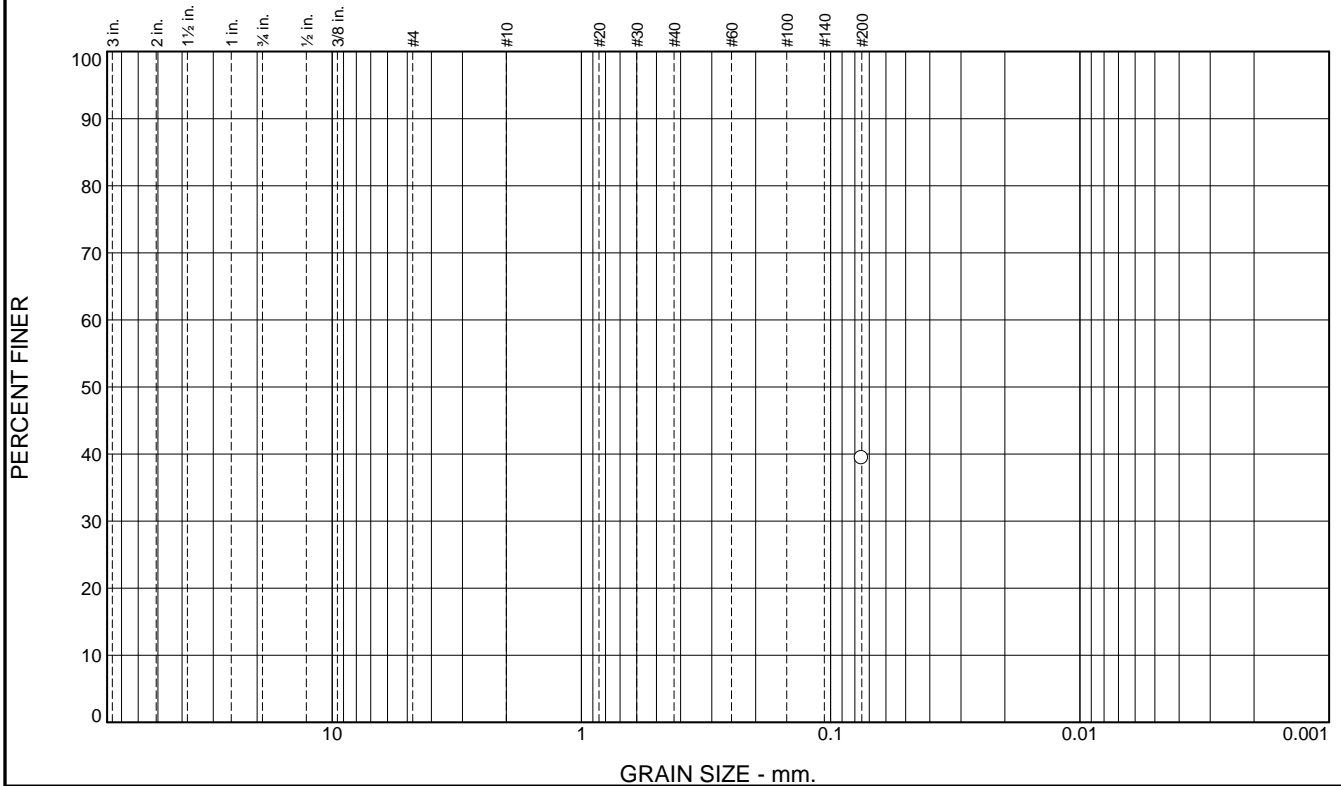
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						39.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	39.4		

Soil Description

See Exploratory Boring

Atterberg Limits
 LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B014 @ 5.5 Depth: 5.5

Date: 11-14-14



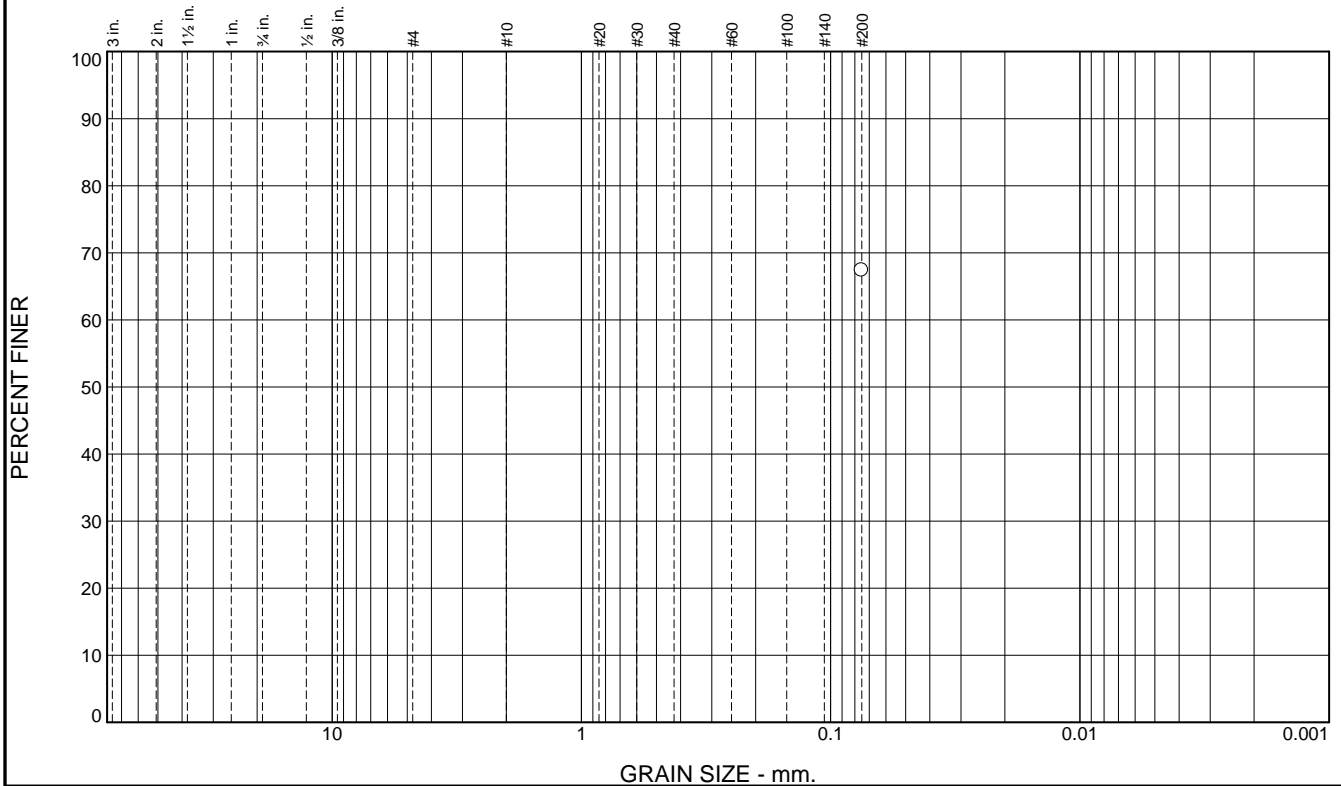
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						67.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	67.4		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B014 @ 12.5

Depth: 12.5

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

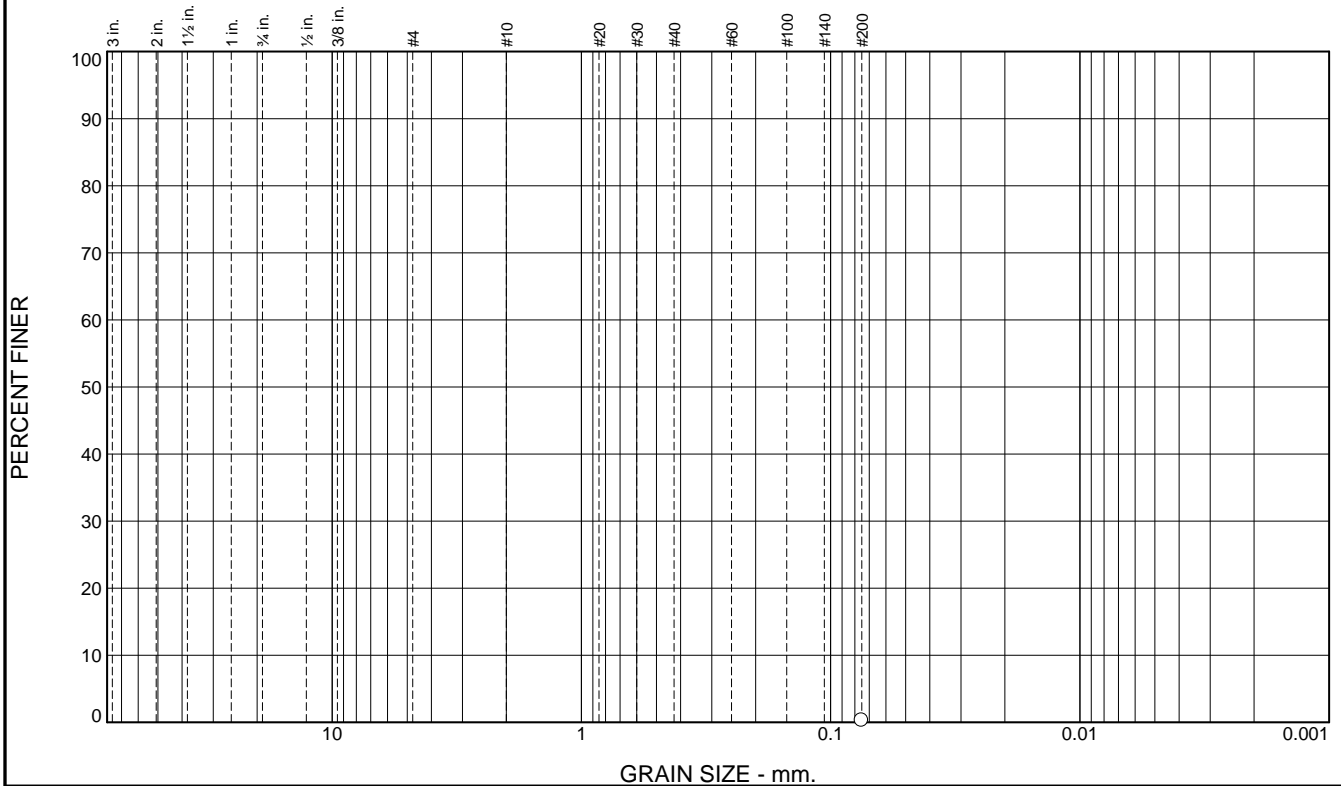
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						0.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	0.3		

Soil Description

See Exploratory Boring

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B014 @ 31

Depth: 31

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

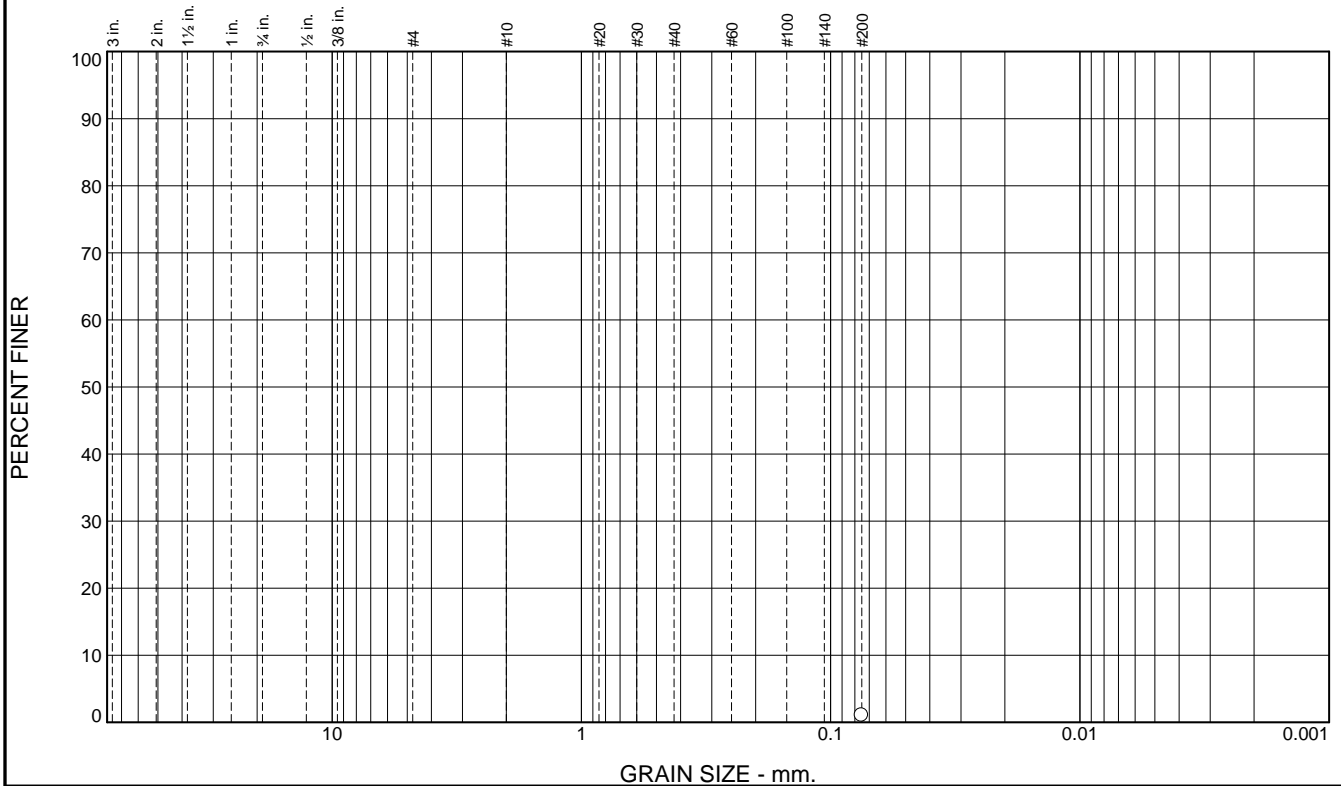
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						1.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	1.0		

Soil Description

See Exploratory Boring

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B014 @ 36

Depth: 36

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

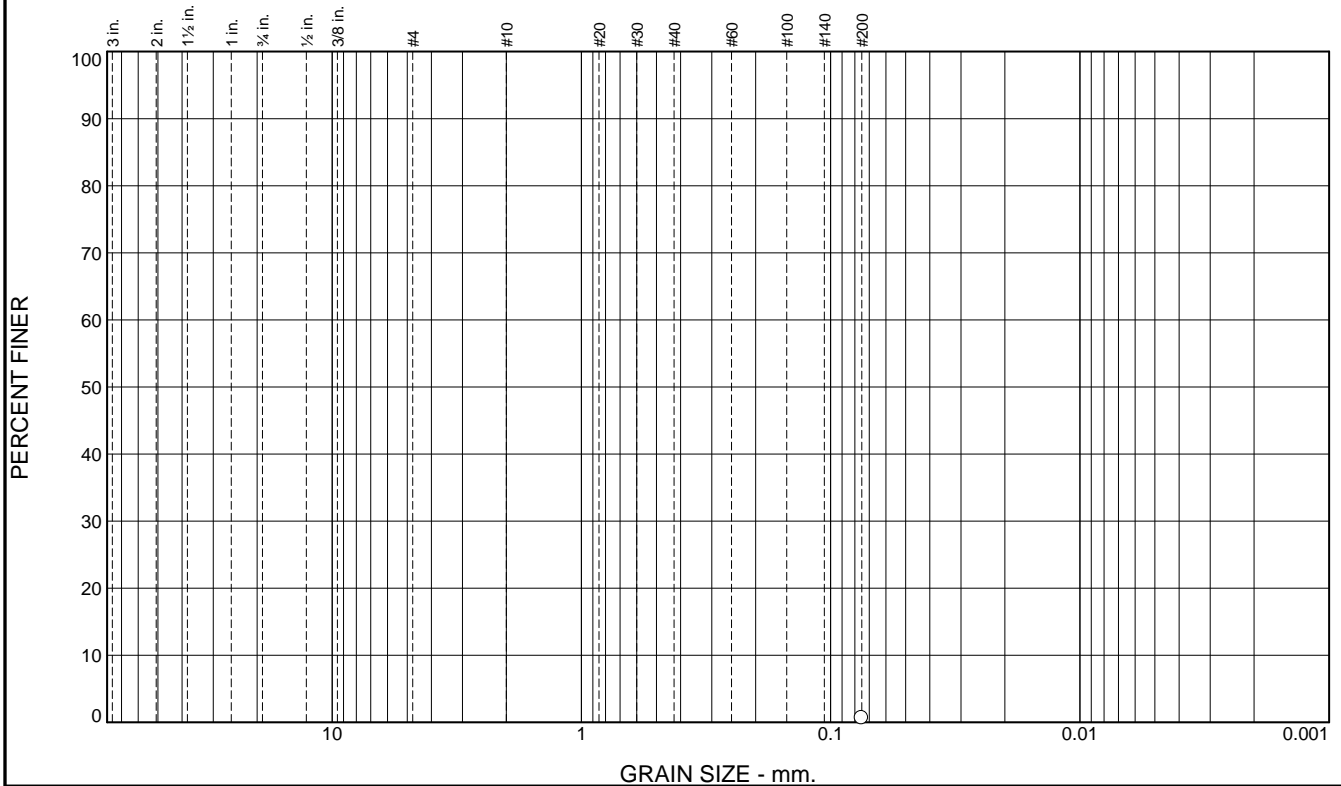
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						0.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	0.6		

Soil Description

See Exploratory Boring

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B014 @ 46

Depth: 46

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

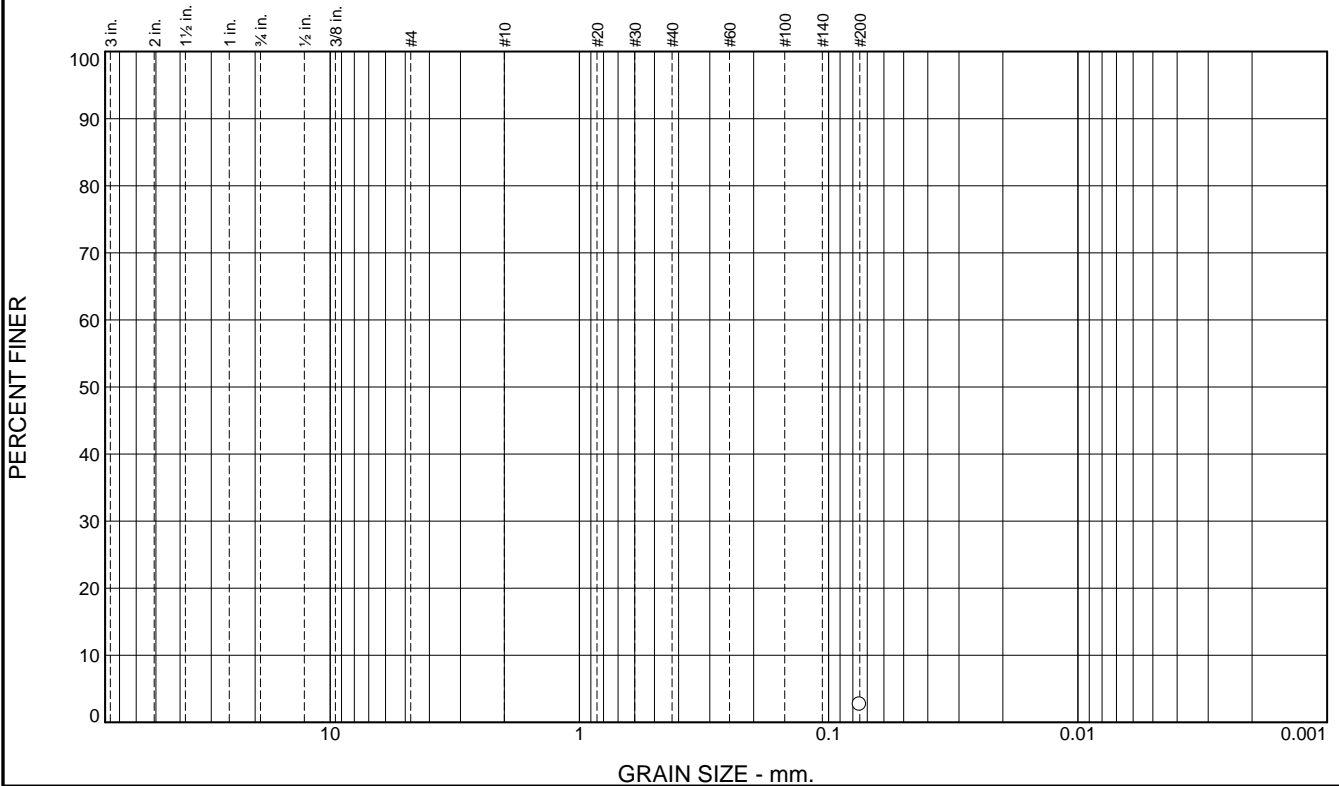
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						2.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	2.7		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B014 @ 51

Depth: 51

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

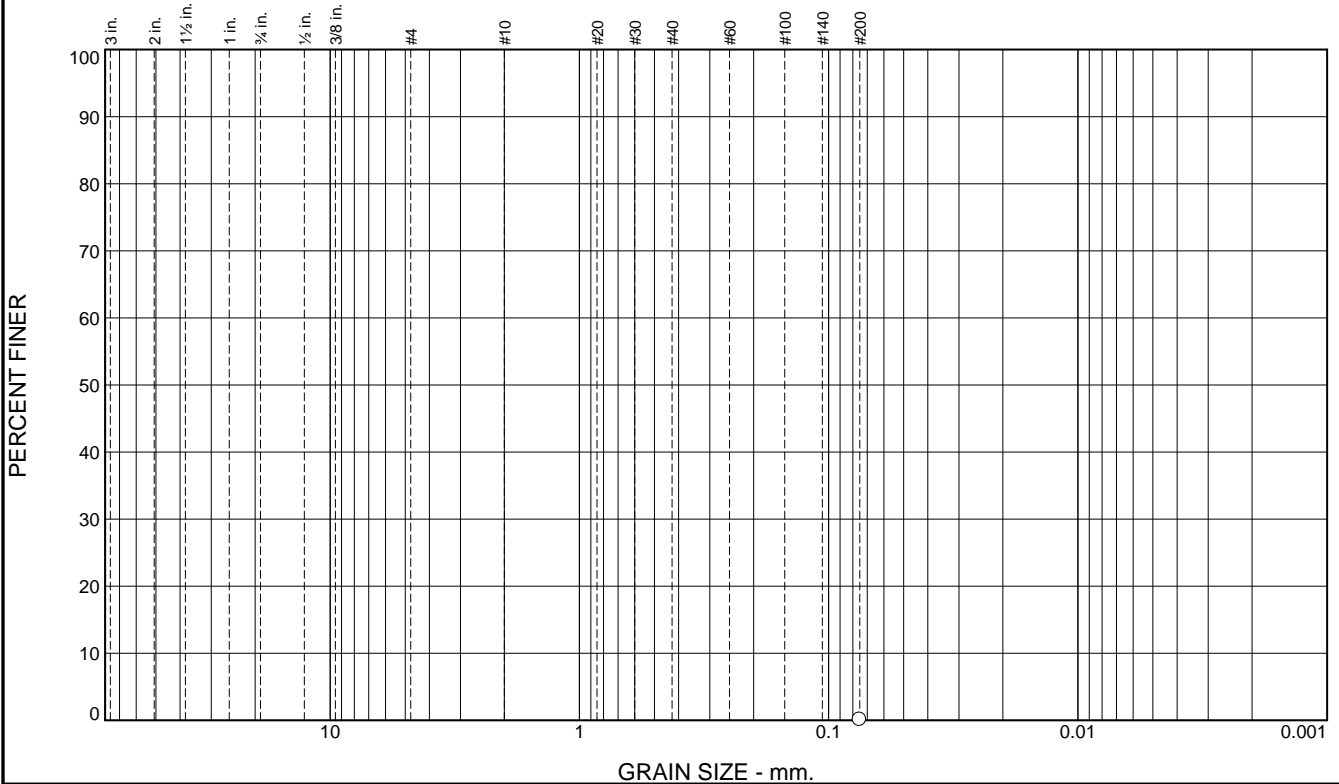
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						0.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	0.1		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B014 @ 56

Depth: 56

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

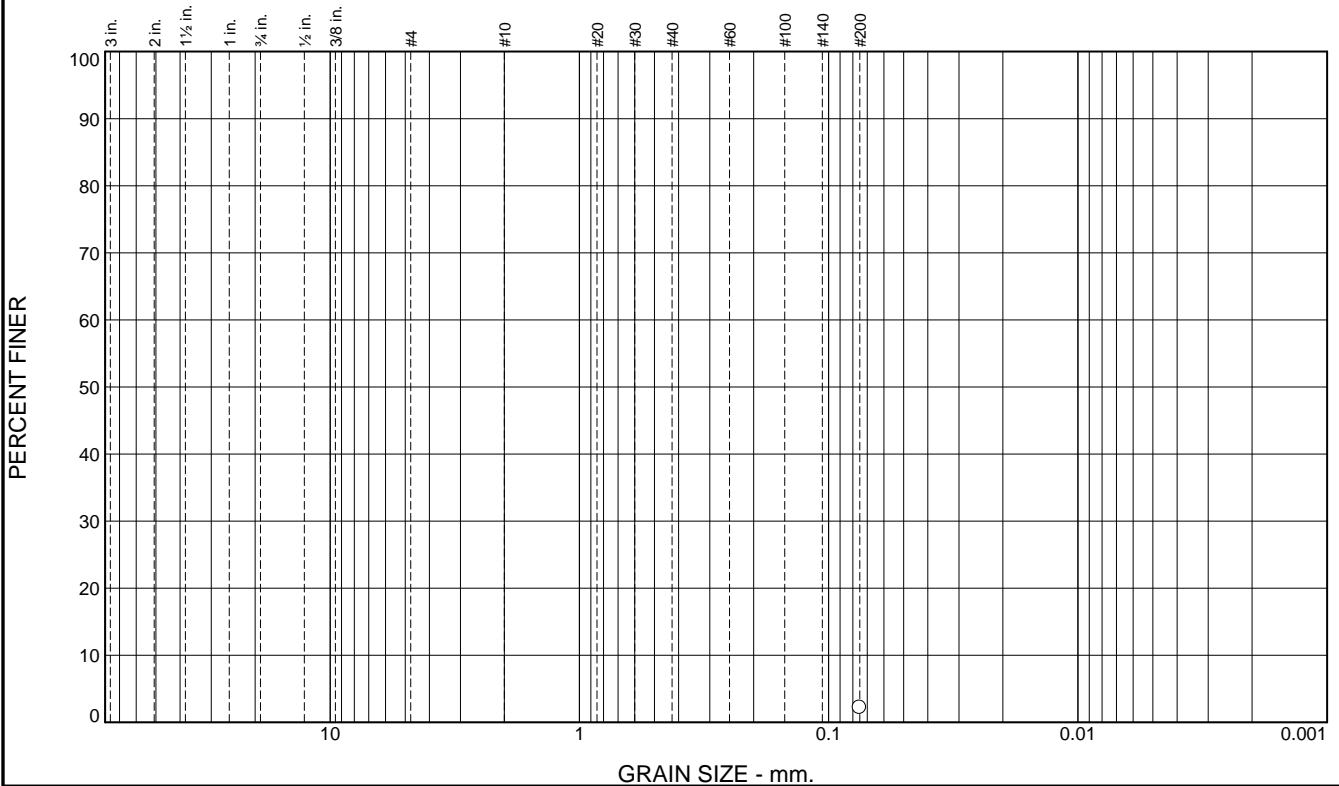
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						2.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	2.2		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B014 @ 61

Depth: 61

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

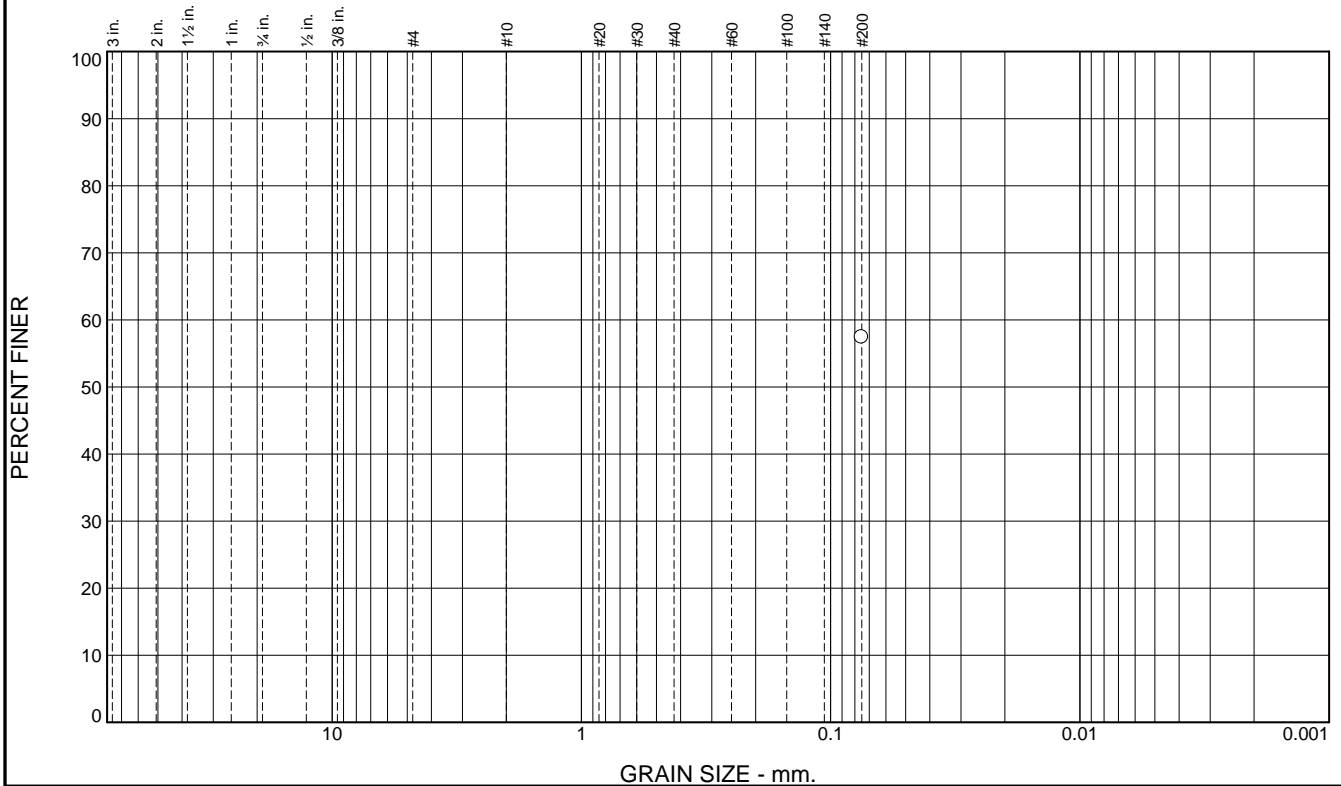
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						57.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	57.4		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B014 @ 66

Depth: 66

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

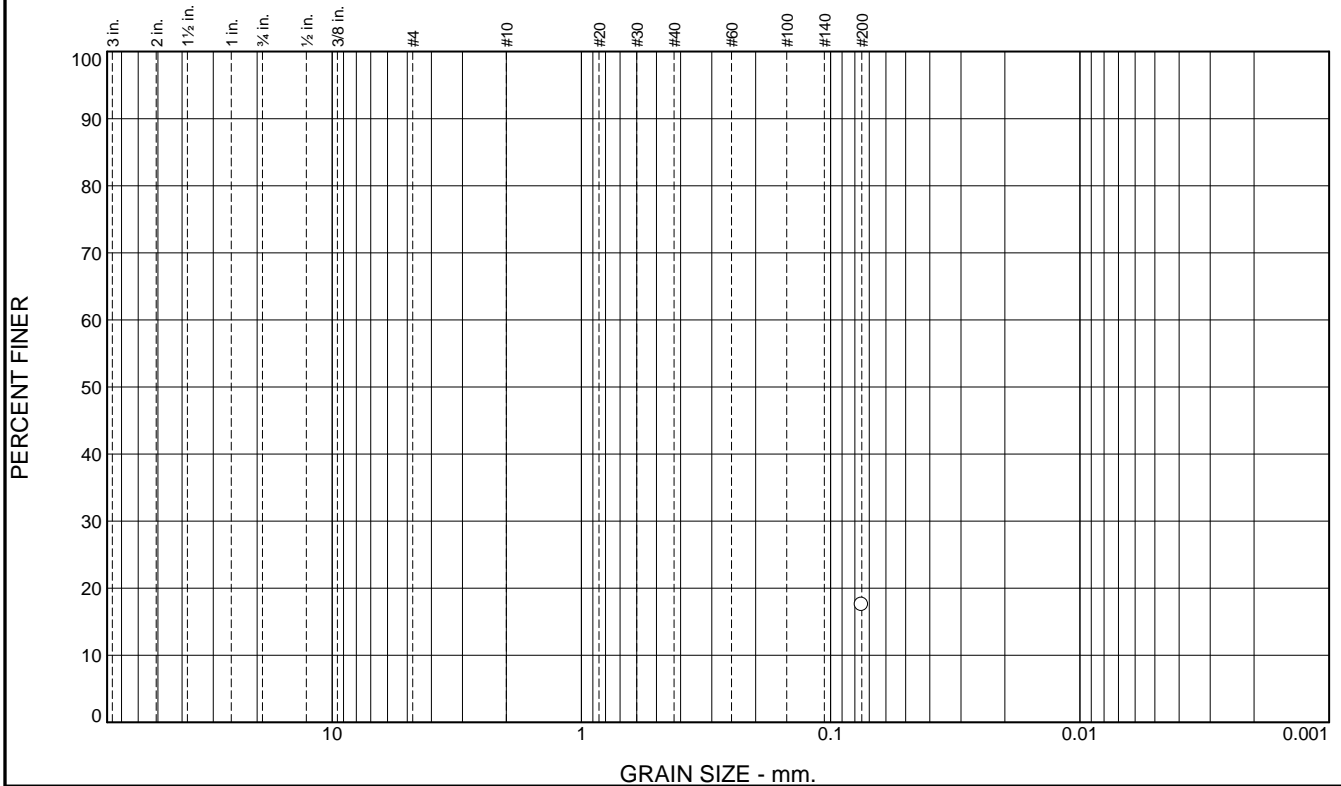
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						18	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	18		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 1.5
 Sample Number: 7-B015 @ 1.5

Date: 2-5-15



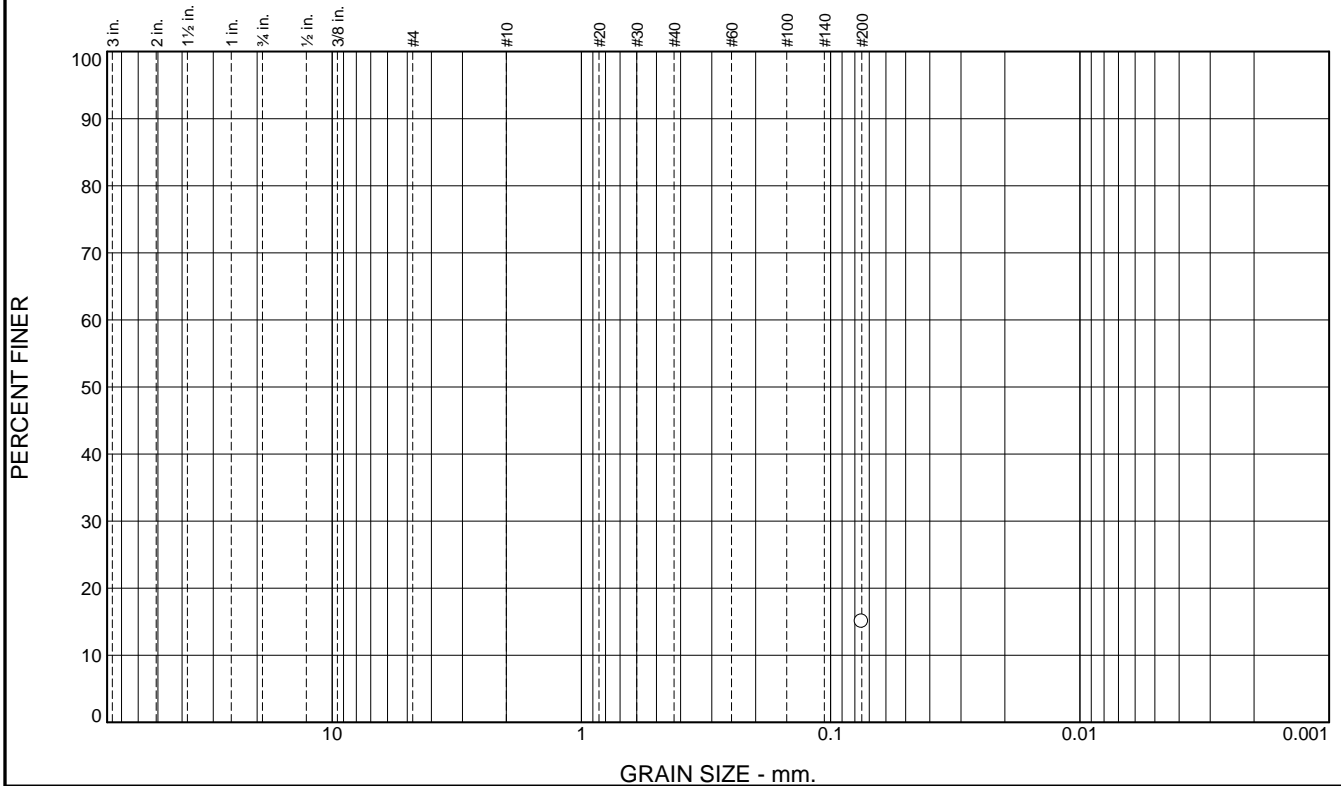
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						15	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	15		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 5.0
Sample Number: 7-B015 @ 5.0

Date: 2-5-15



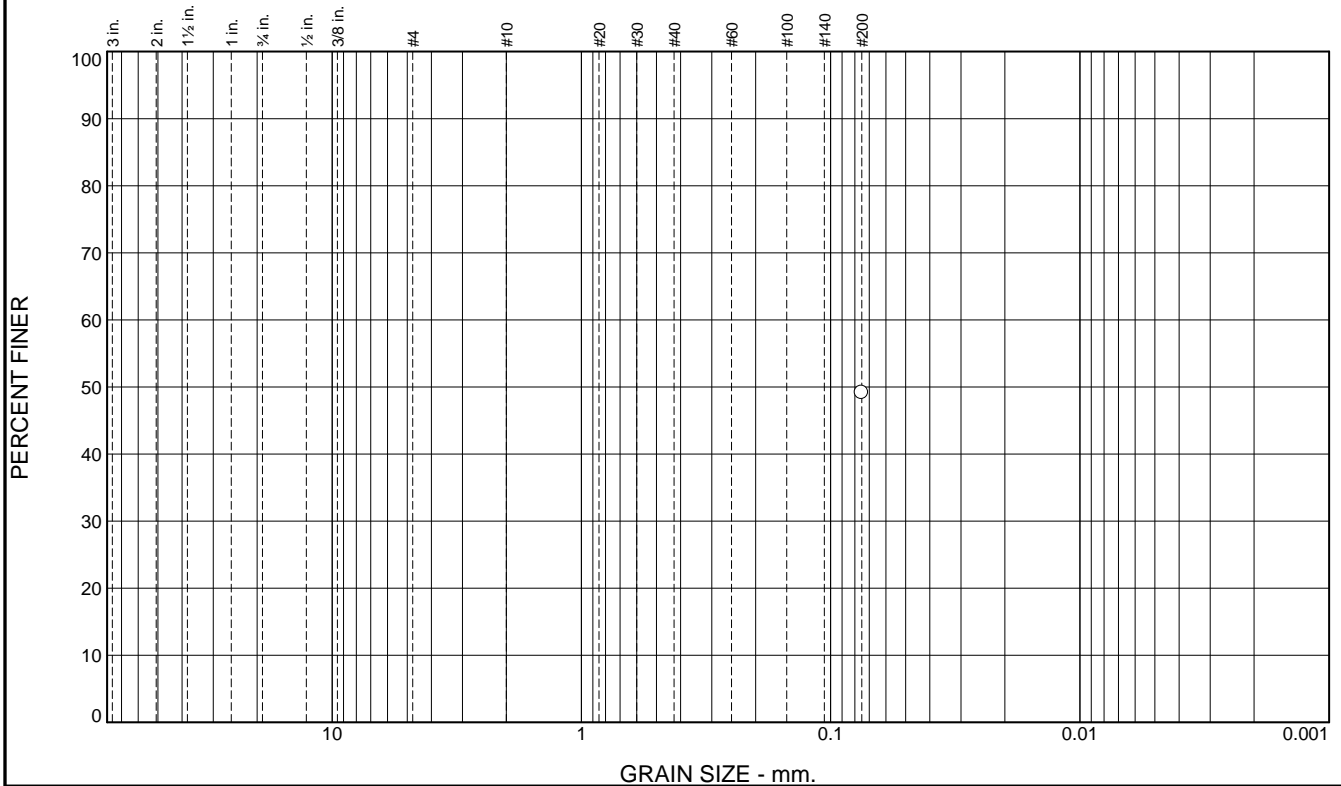
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						49	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	49		

Soil Description

See Exploratory Log

Atterberg Limits
 LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 11.5
 Sample Number: 7-B015 @ 11.5

Date: 2-5-15



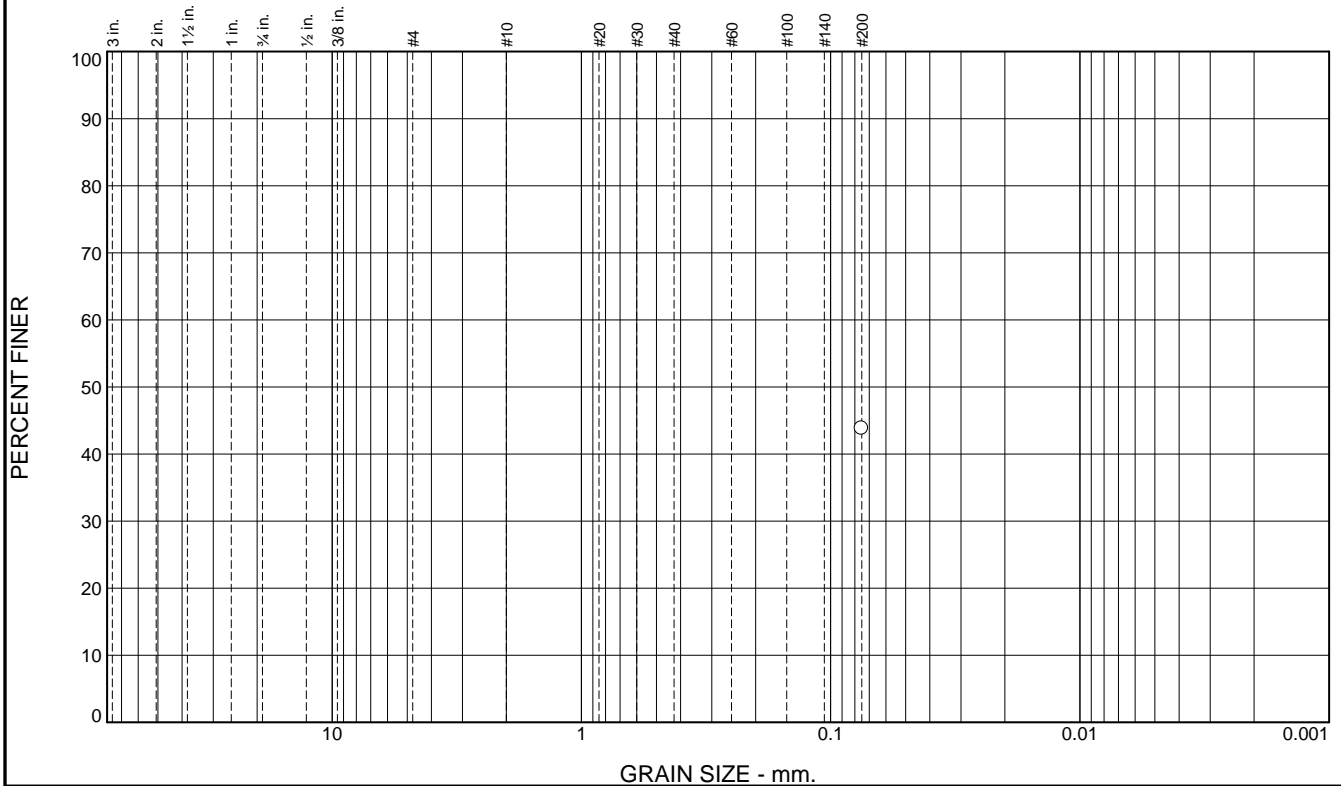
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						44	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	44		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 15.5
 Sample Number: 7-B015 @ 15.5

Date: 2-5-15



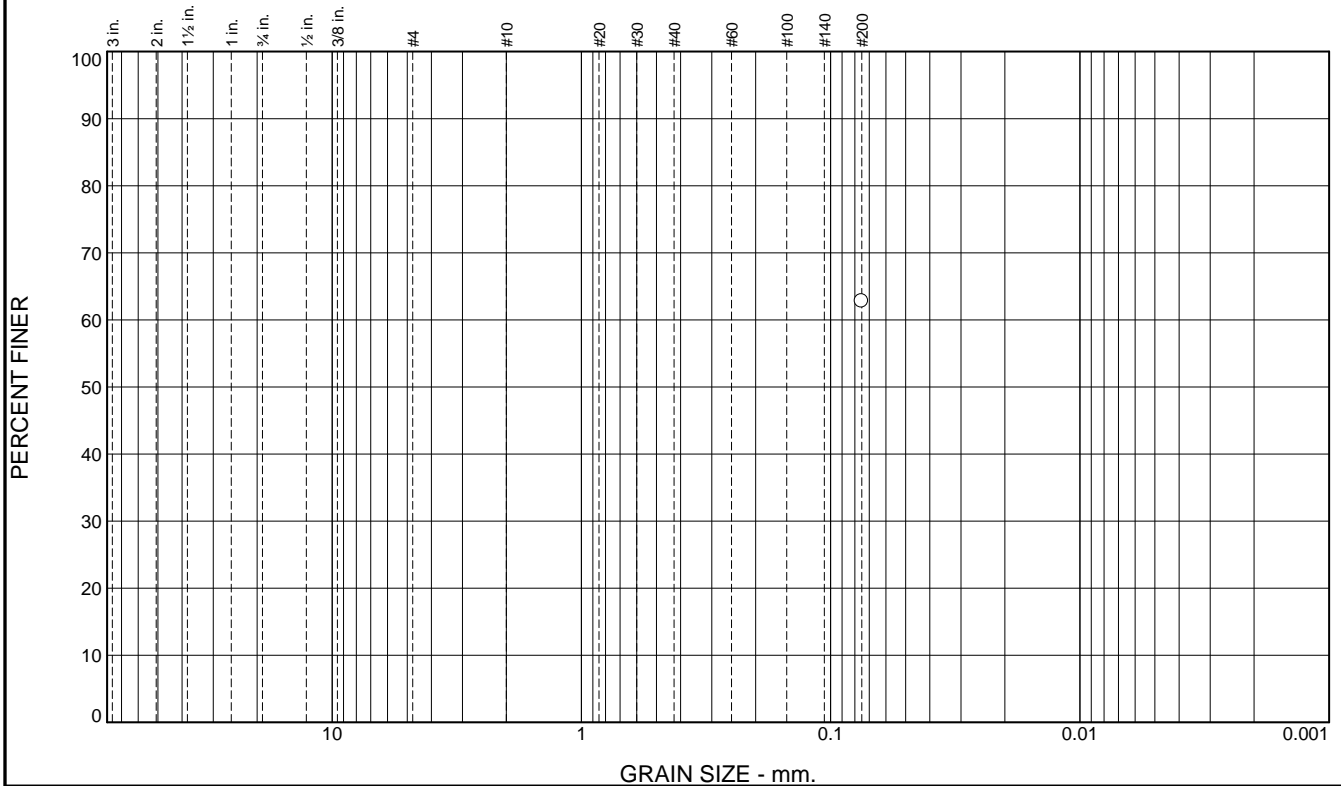
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						63	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	63		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 21.0
 Sample Number: 7-B015 @ 21.0

Date: 2-5-15



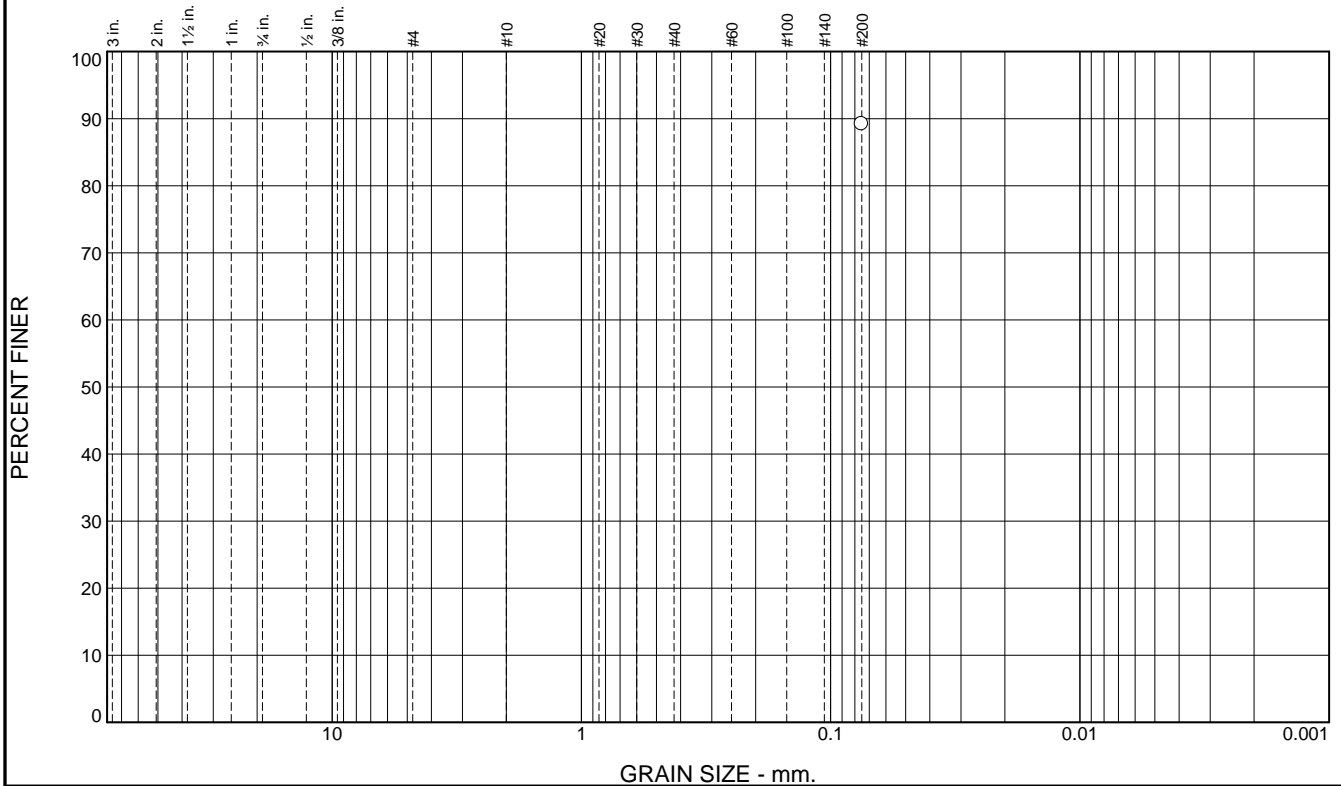
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						89	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	89		

Soil Description

See Exploratory Log

Atterberg Limits

PL= 22 LL= 42 PI= 20

Coefficients

D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 31.5
Sample Number: 7-B015 @ 31.5

Date: 2-5-15



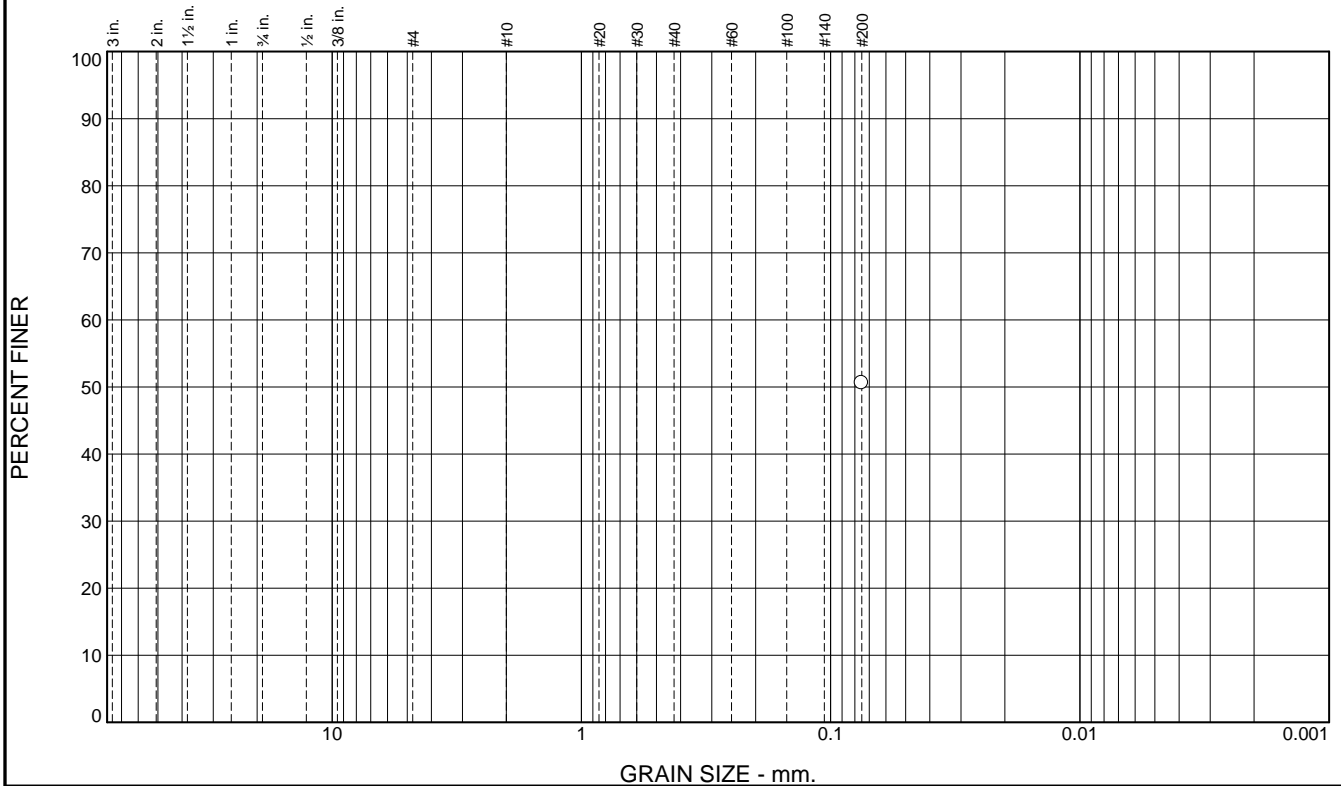
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						51	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	51		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 35.5
 Sample Number: 7-B015 @ 35.5

Date: 2-5-15



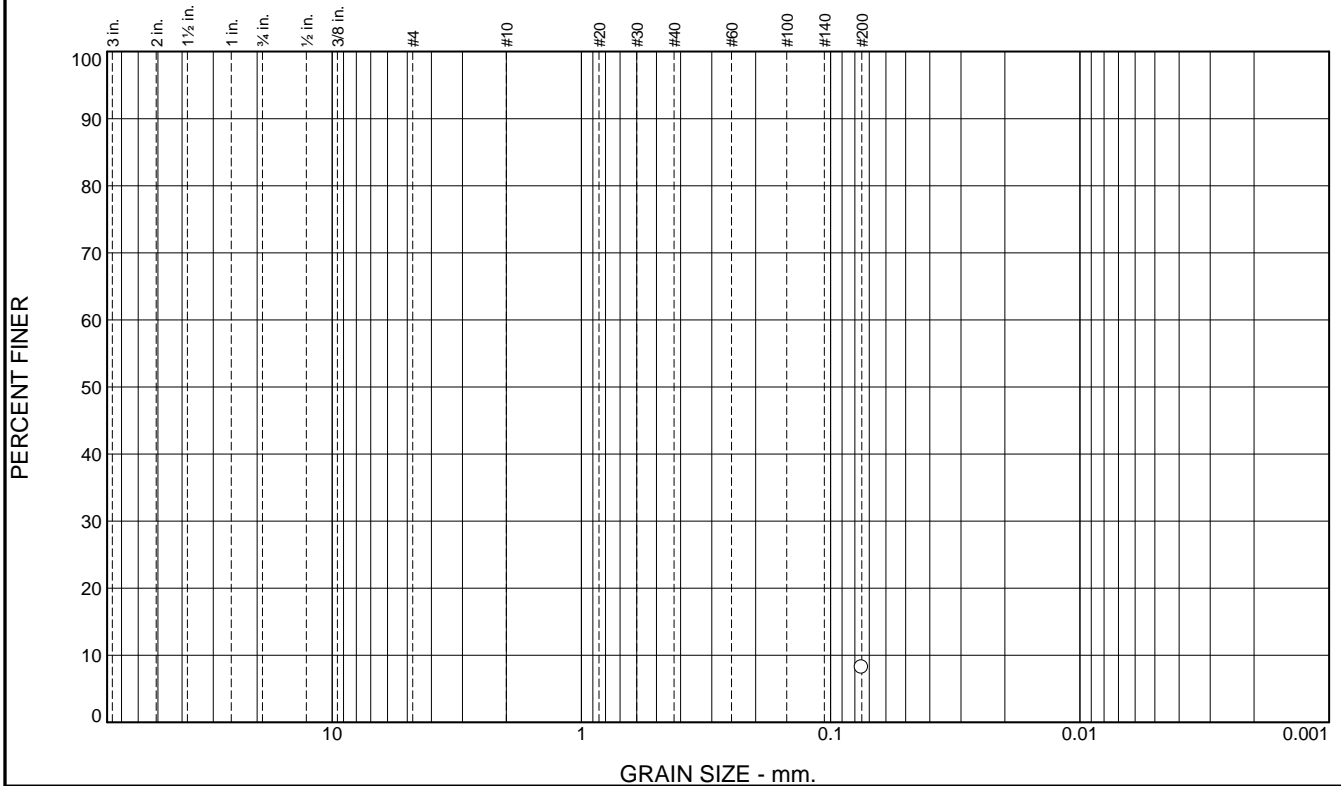
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	8.2		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 45.0
Sample Number: 7-B015 @ 45.0

Date: 2-5-15



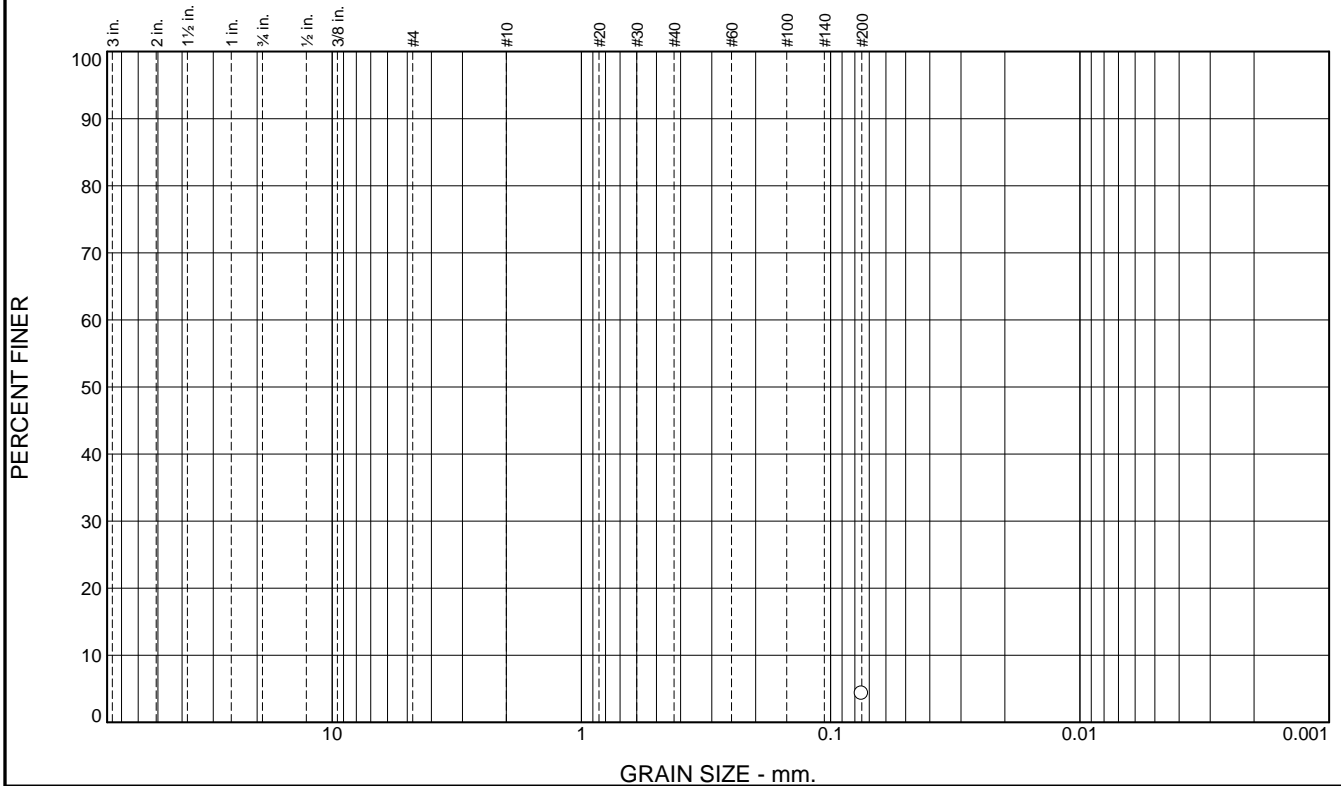
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.3		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 55.0
Sample Number: 7-B015 @ 55.0

Date: 2-5-15



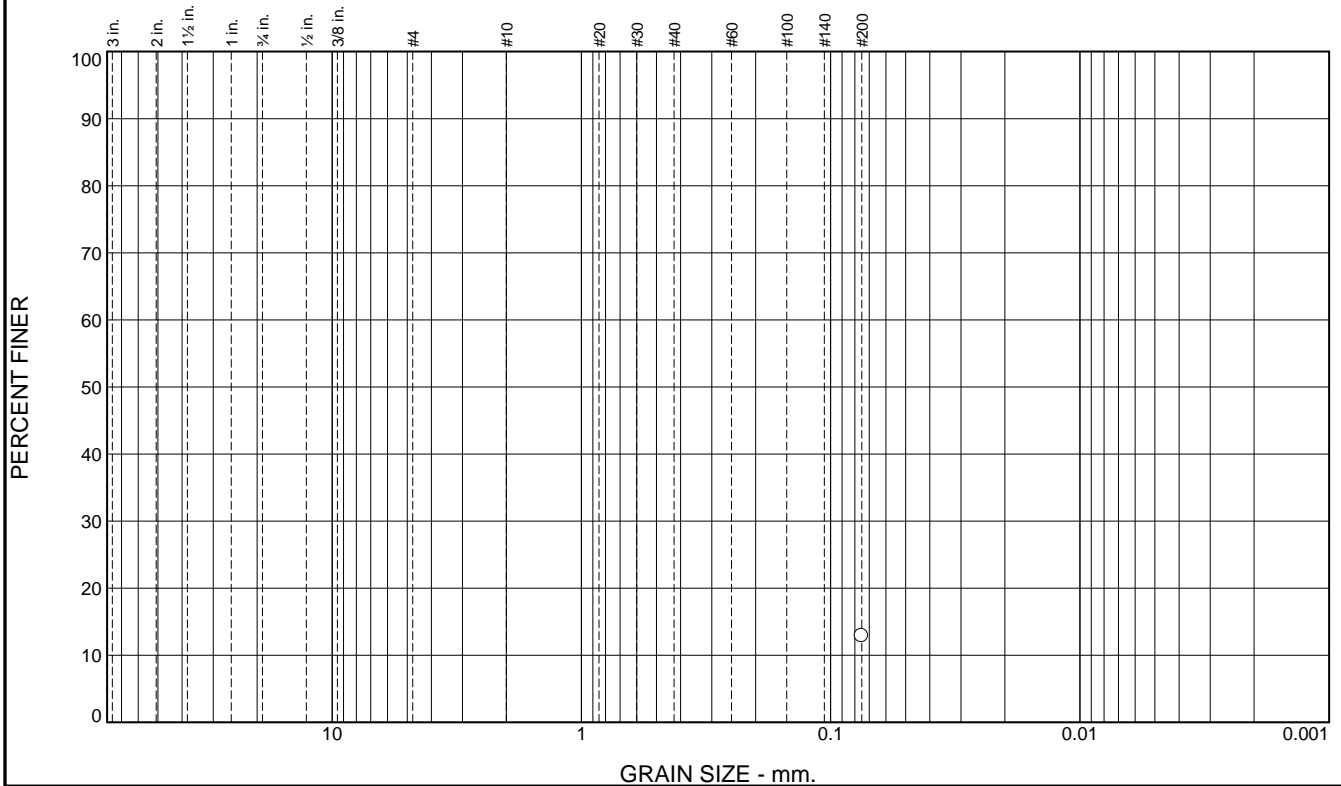
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						13	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	13		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 65.0
 Sample Number: 7-B015 @ 65.0

Date: 2-5-15



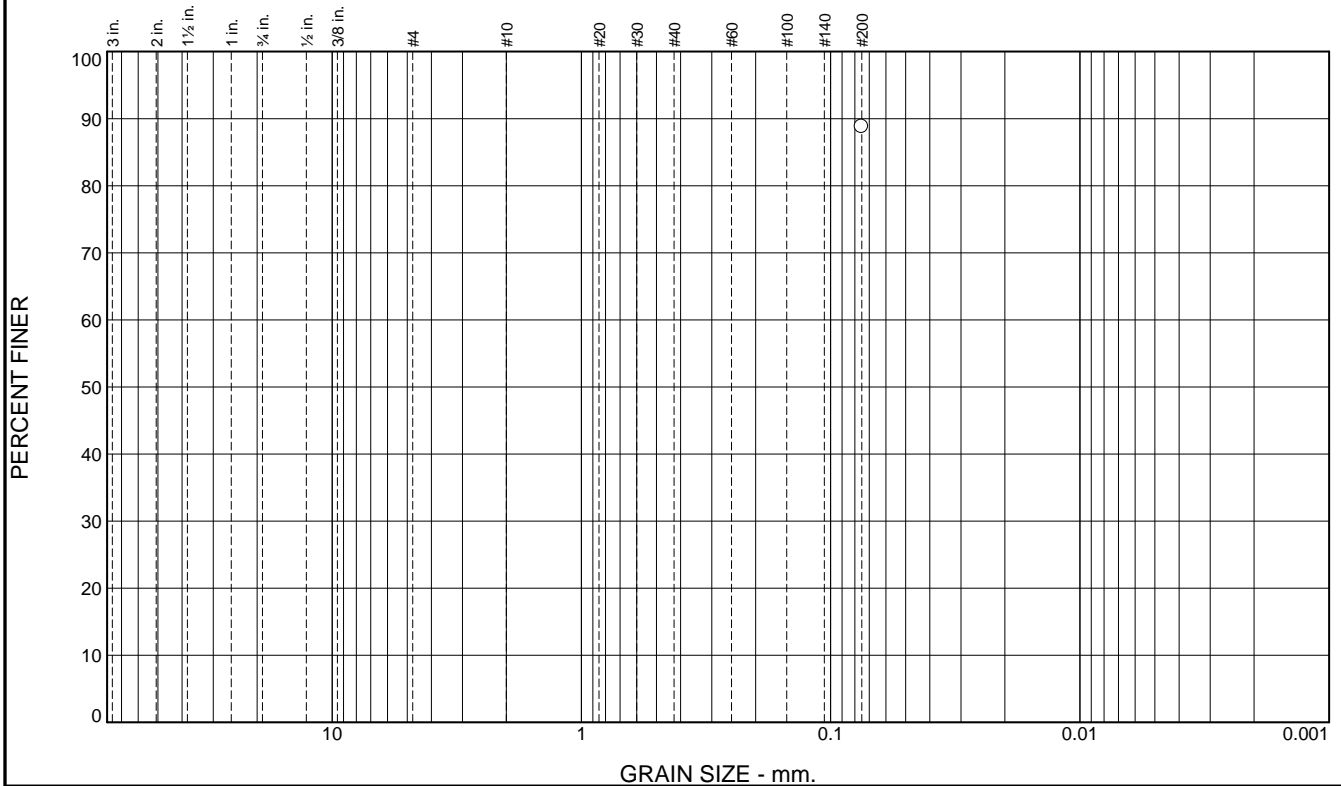
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						89	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	89		

Soil Description

See Exploratory Log

Atterberg Limits

PL= 20 LL= 43 PI= 23

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 70.5
Sample Number: 7-B015 @ 70.5

Date: 2-5-15



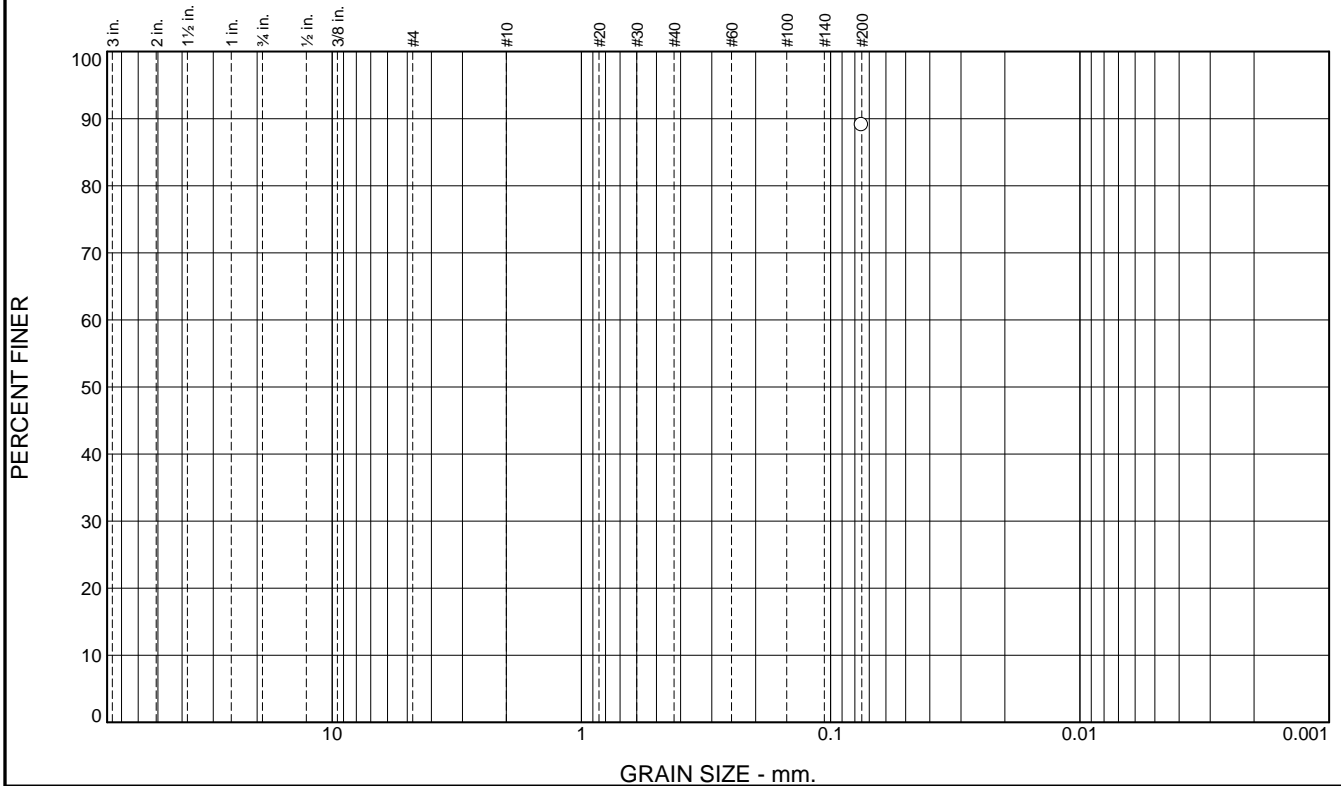
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						89	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	89		

Soil Description

See Exploratory Log

Atterberg Limits

PL= 19 LL= 45 PI= 26

Coefficients

D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 75.0
Sample Number: 7-B015 @ 75.0

Date: 2-5-15



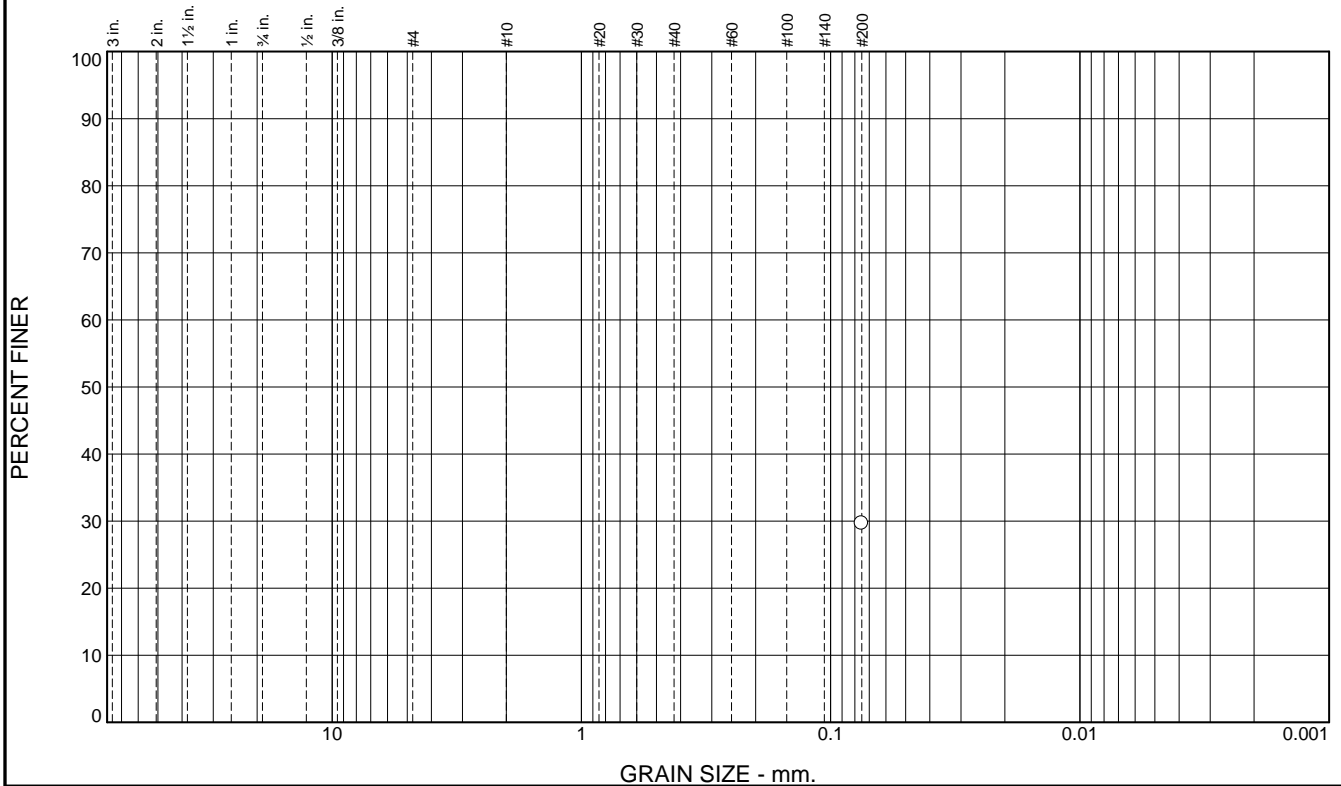
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						30	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	30		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 1.5
Sample Number: 7-B016 @ 1.5

Date: 2-5-15



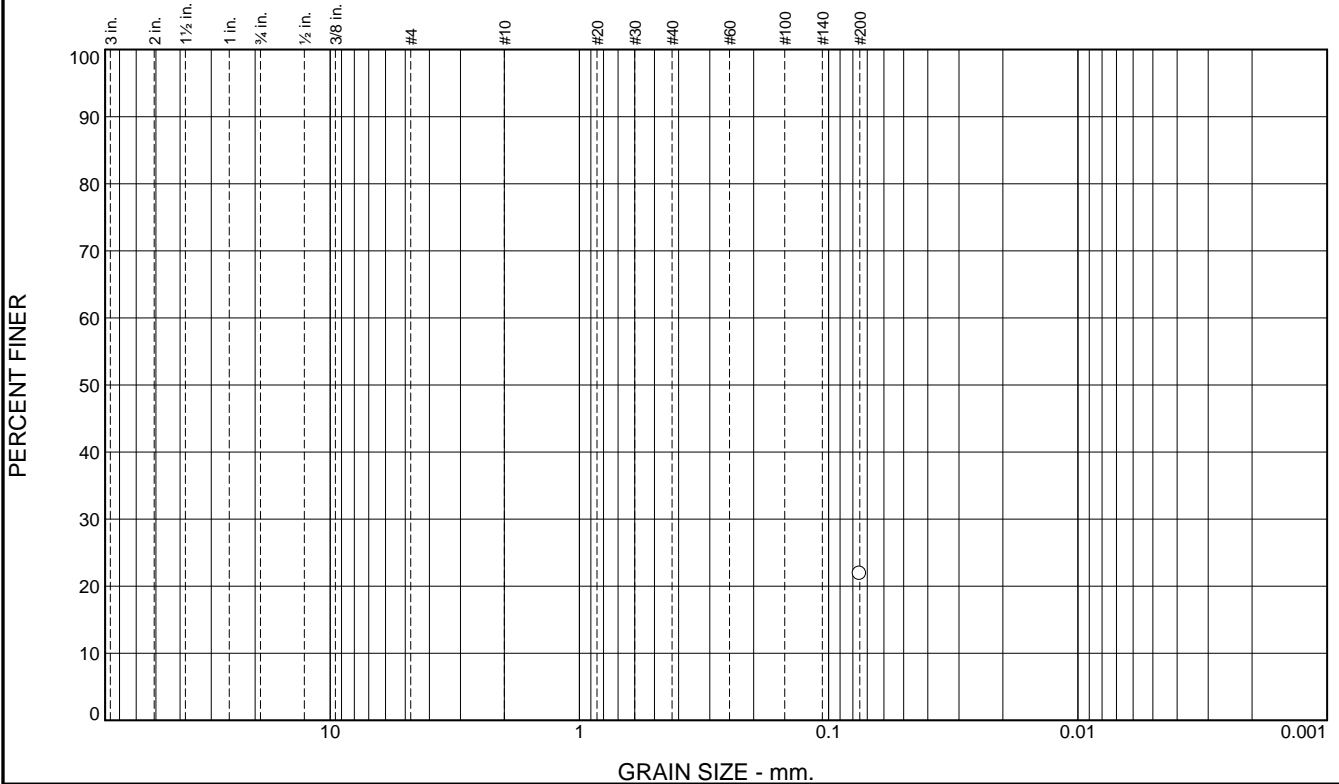
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						22	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	22		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 5.5
 Sample Number: 7-B016 @ 5.5

Date: 2-5-15



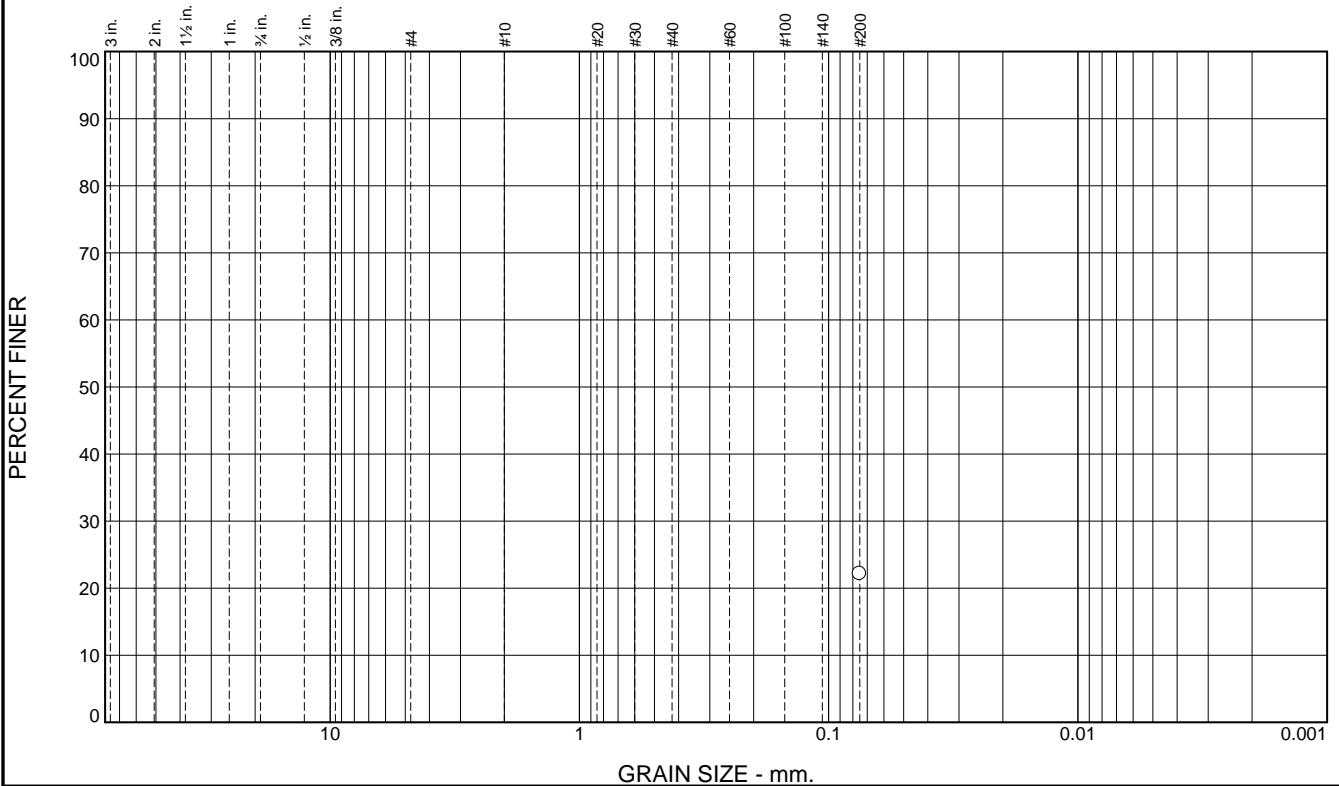
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						22	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	22		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 10.5
Sample Number: 7-B016 @ 10.5

Date: 2-5-15



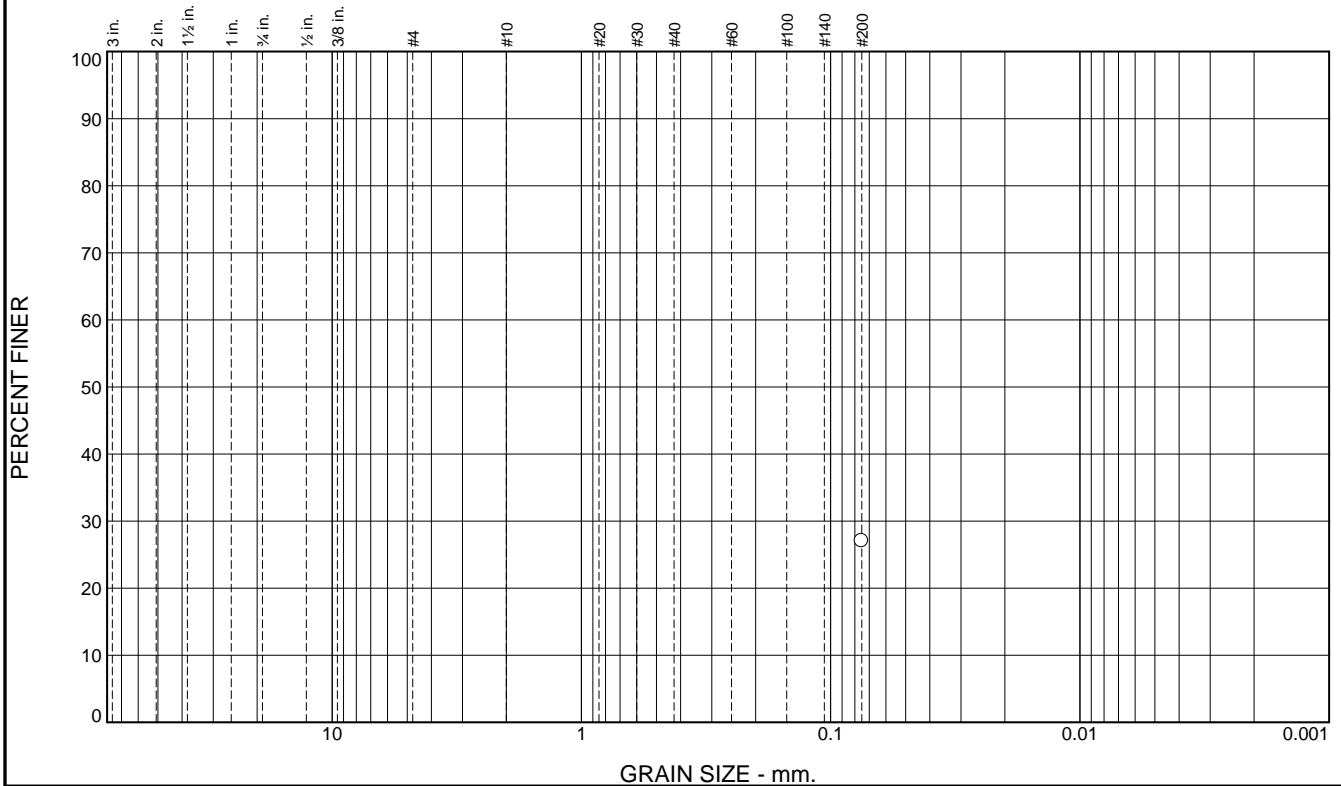
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						27	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	27		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 15.5
 Sample Number: 7-B016 @ 15.5

Date: 2-5-15



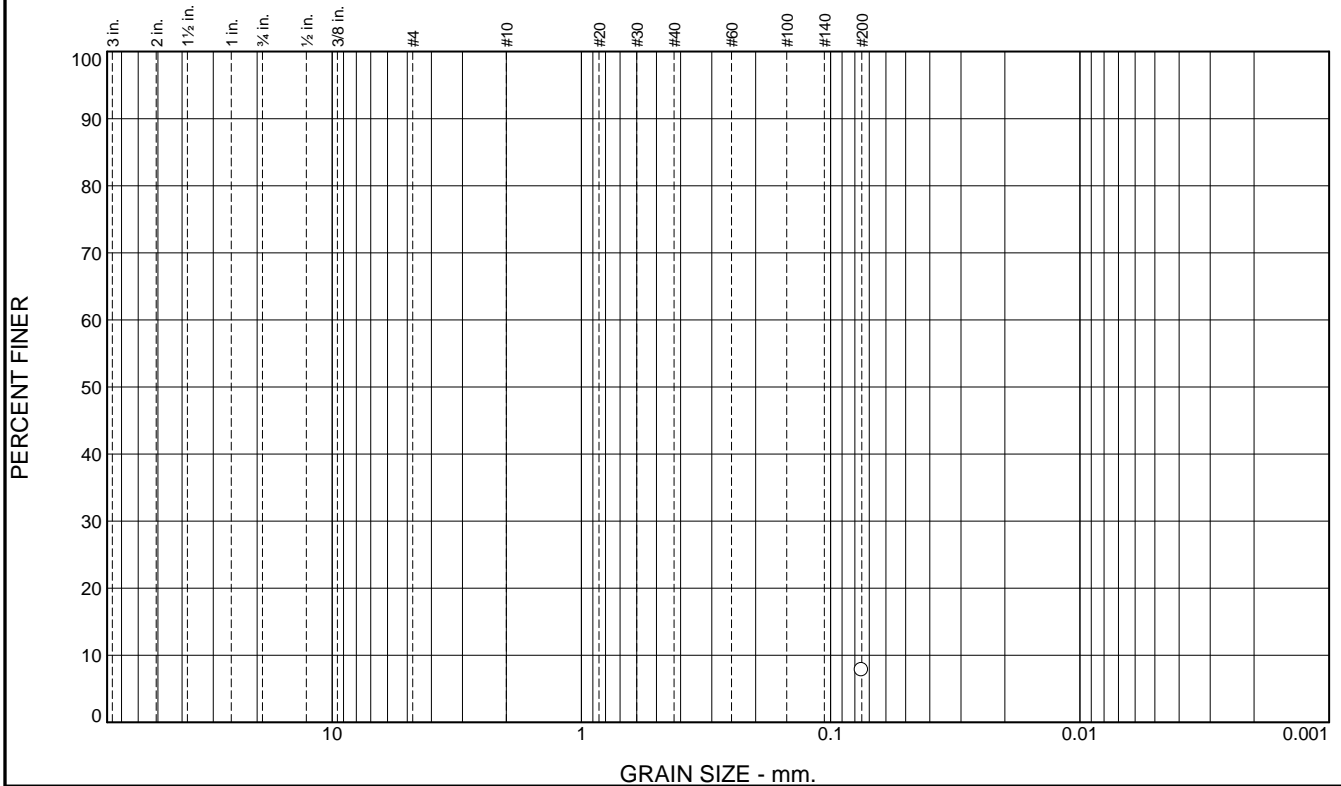
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	7.8		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 21.5
Sample Number: 7-B016 @ 21.5

Date: 2-5-15



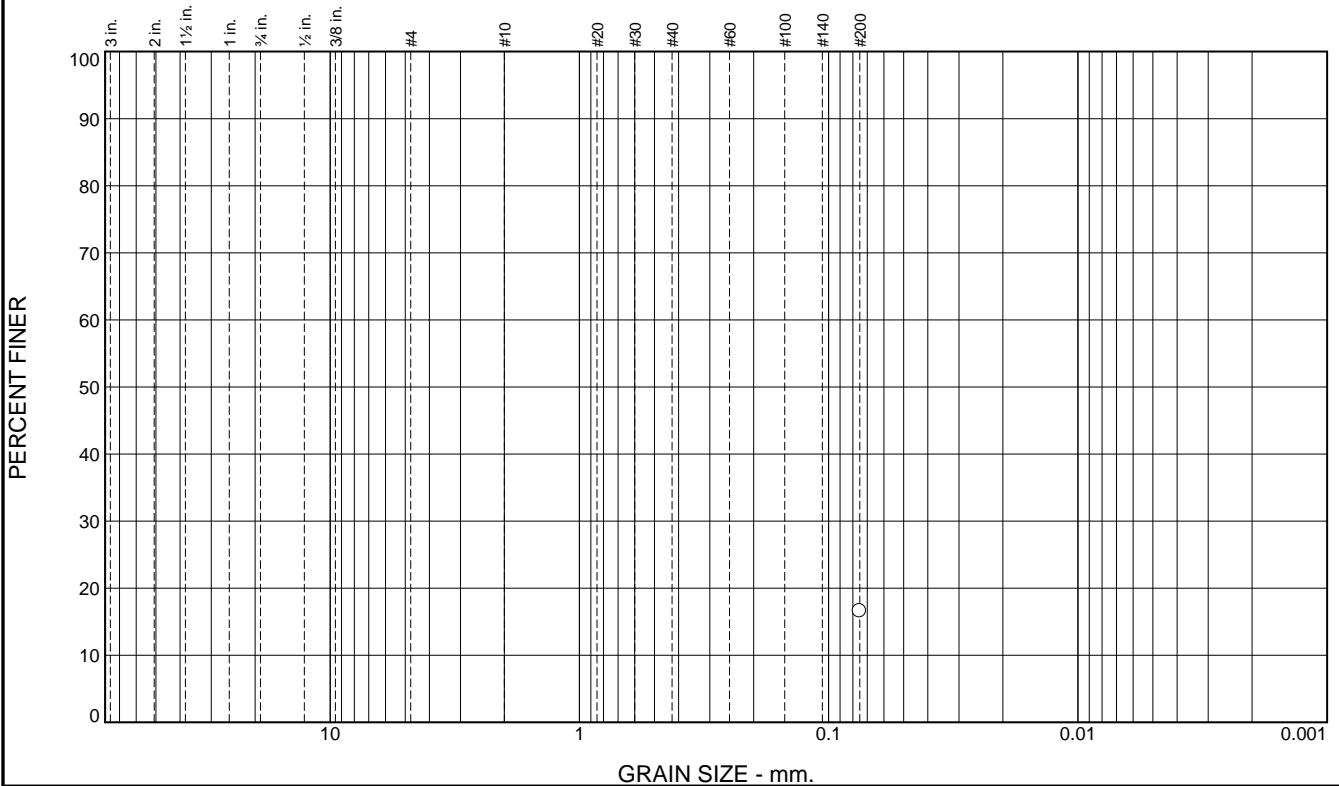
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						17	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	17		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 25.5
Sample Number: 7-B016 @ 25.5

Date: 2-5-15



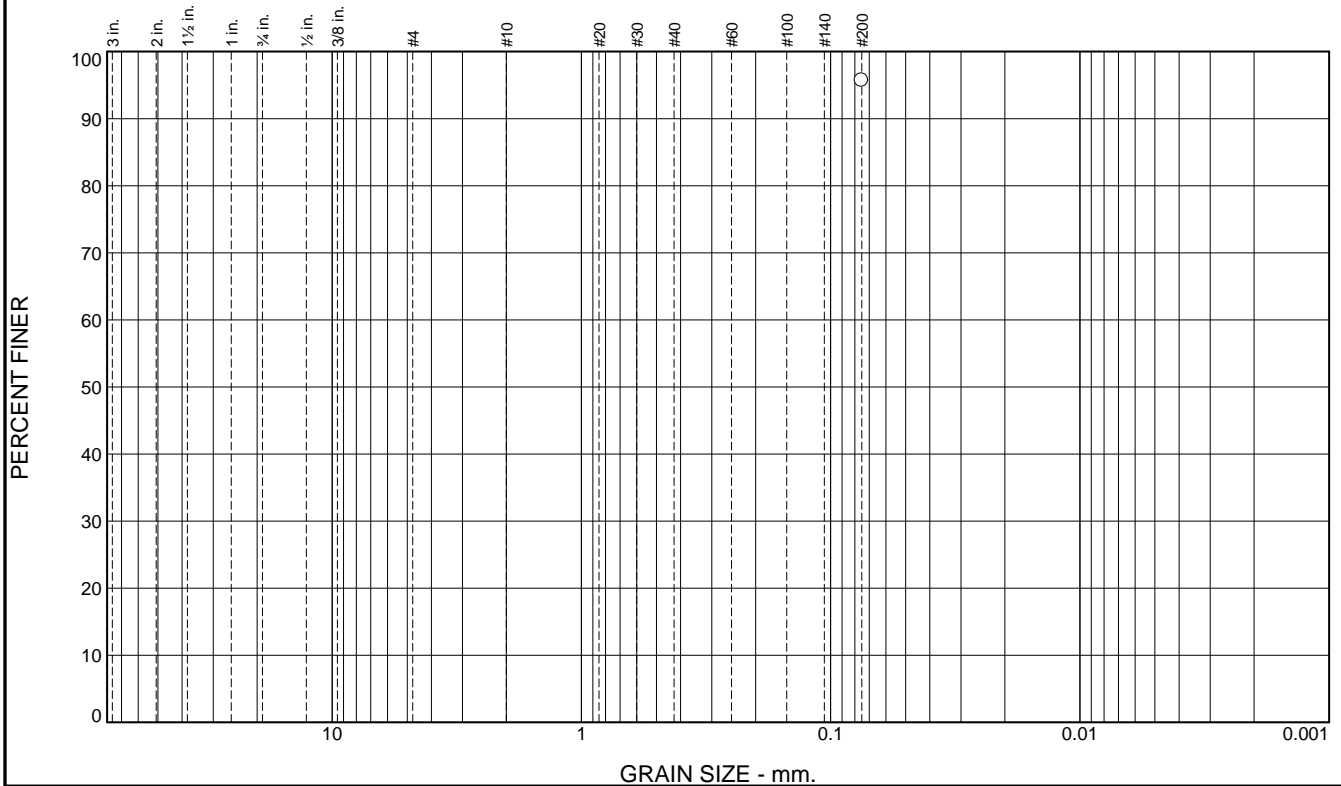
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						95.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	95.7		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= 25 LL= 61 PI= 36

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 30.5
 Sample Number: 7-B016 @ 30.5

Date: 2-5-15



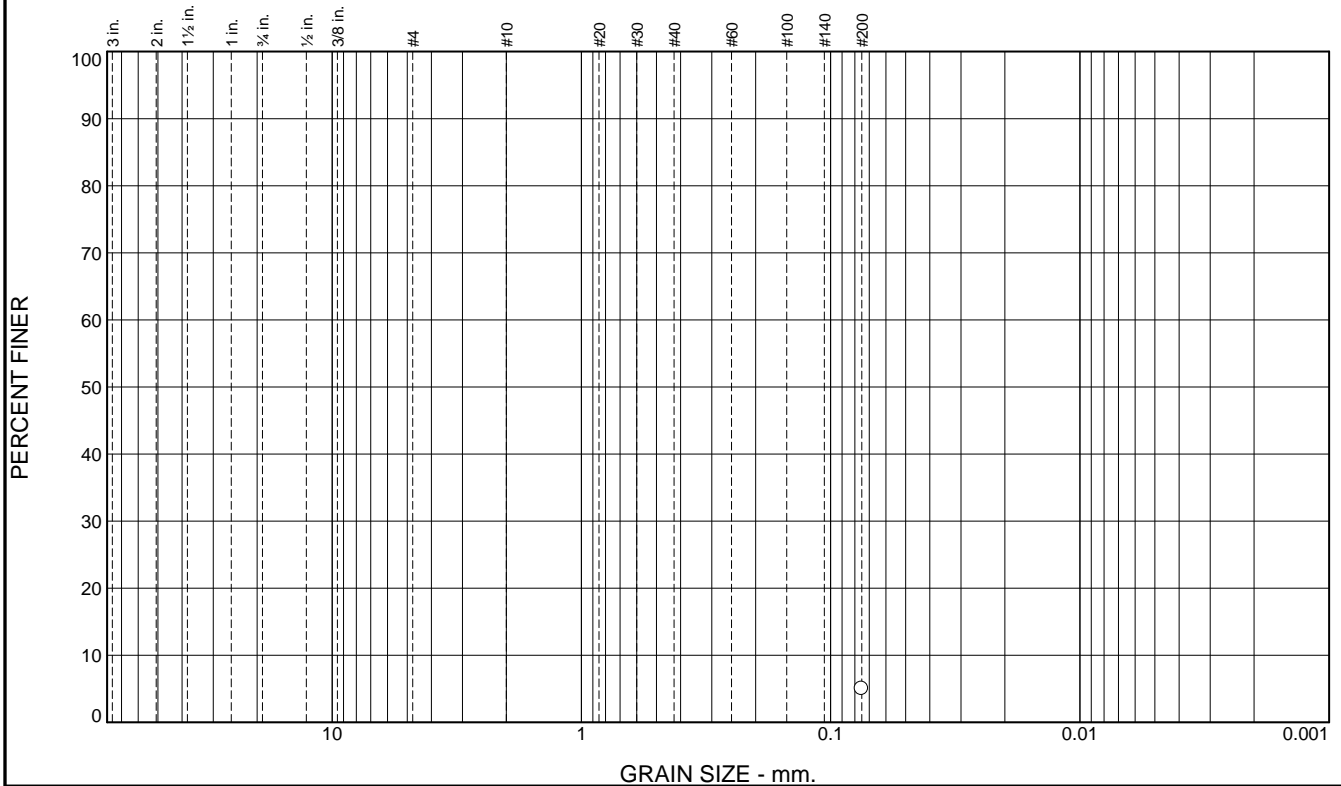
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	5.0		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 40.0
Sample Number: 7-B016 @ 40.0

Date: 2-5-15



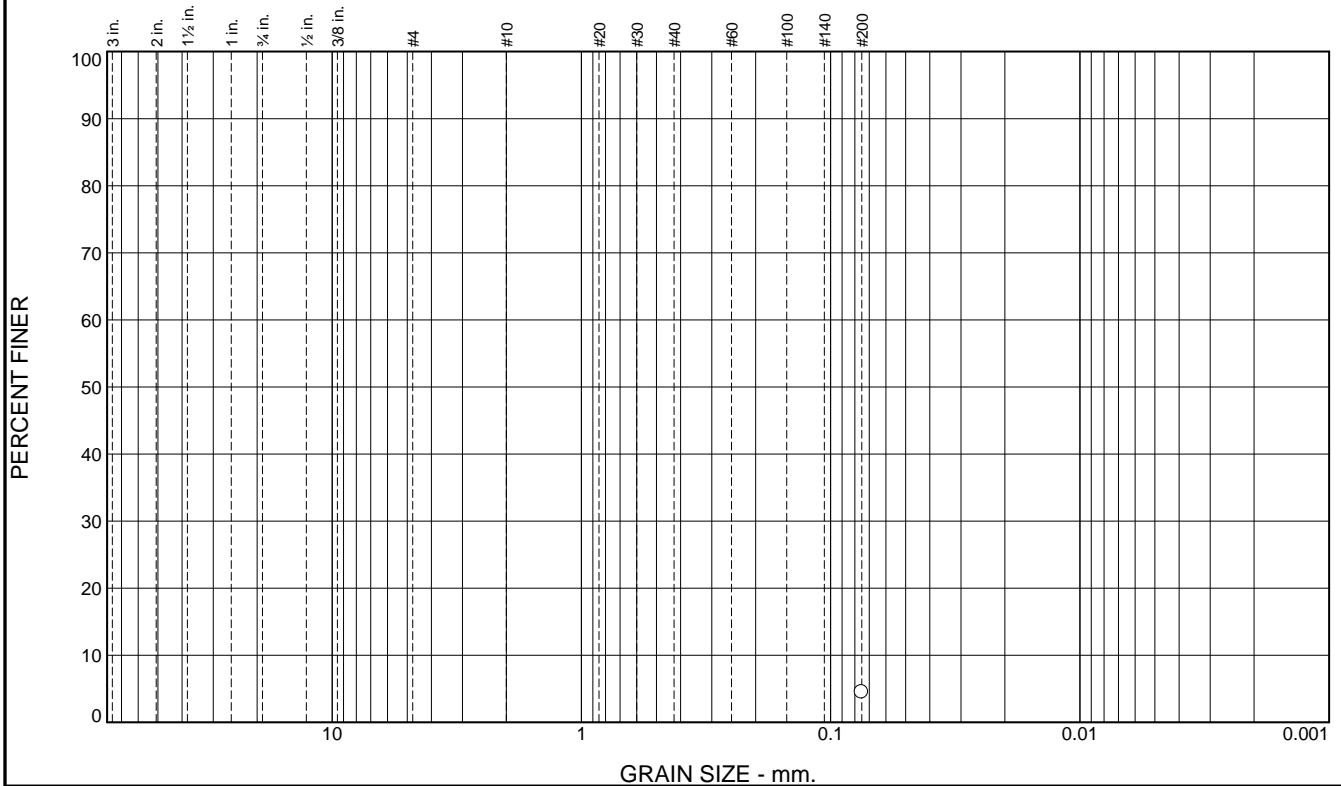
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.5		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 50.0
 Sample Number: 7-B016 @ 50.0

Date: 2-5-15



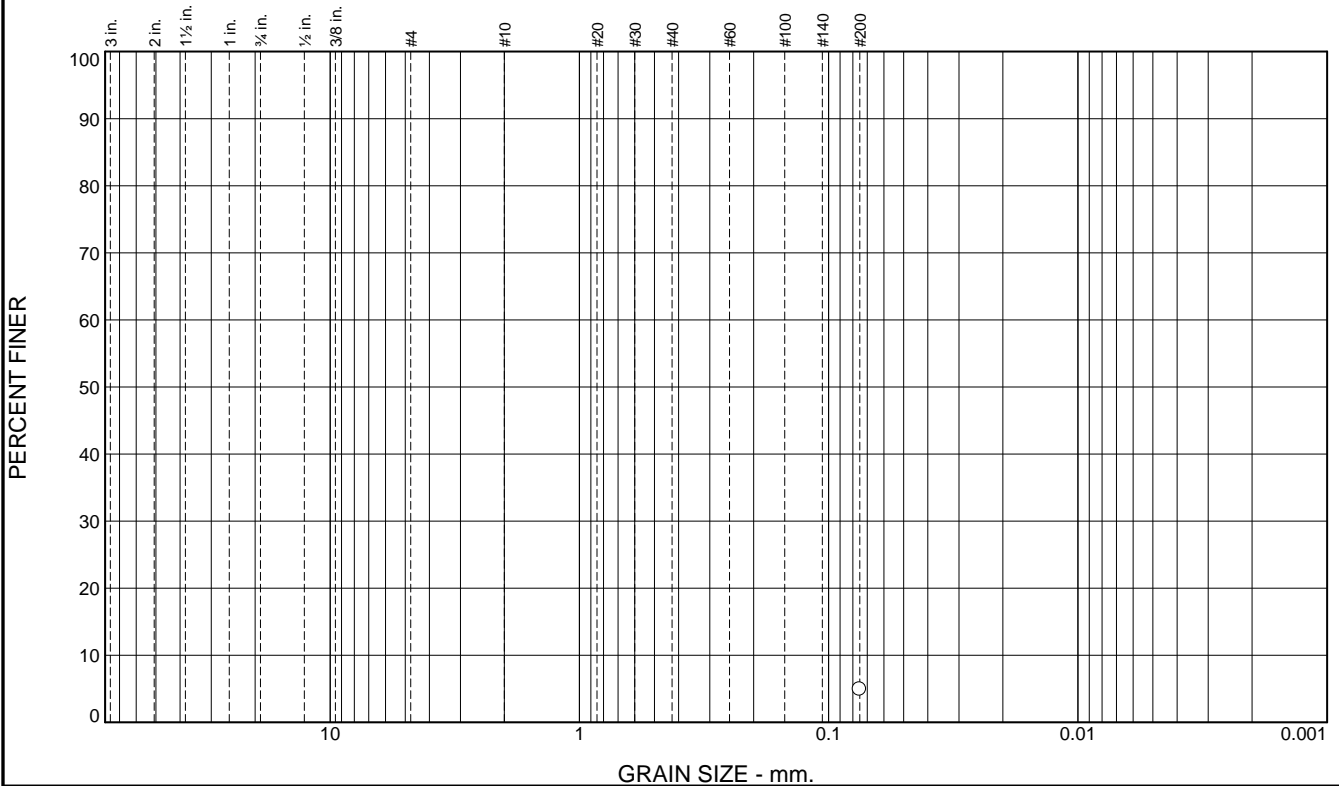
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.9		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 60.0
Sample Number: 7-B016 @ 60.0

Date: 2-5-15



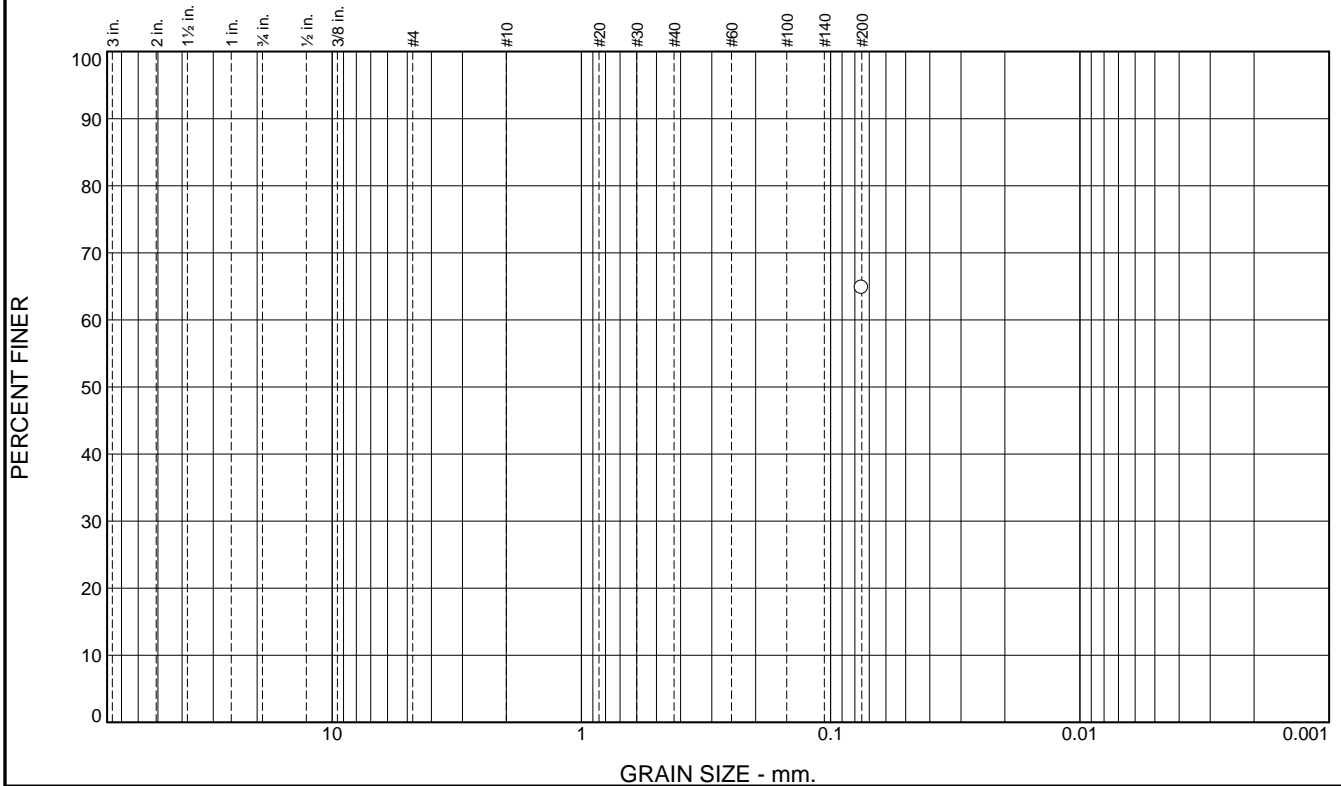
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						64.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	64.8		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= 21 LL= 31 PI= 10

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 70.0
 Sample Number: 7-B016 @ 70.0

Date: 2-5-15



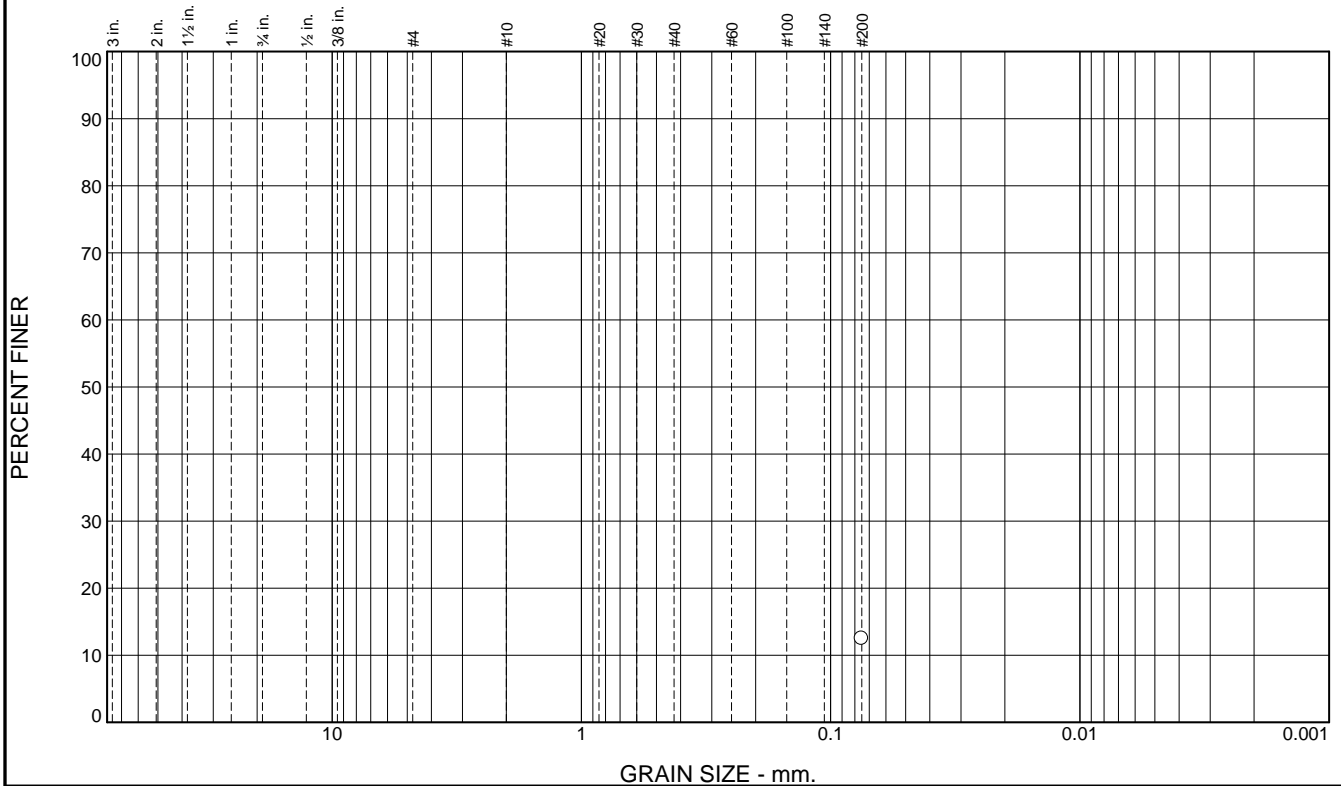
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						12	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	12		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 75.0
 Sample Number: 7-B016 @ 75.0

Date: 2-5-15



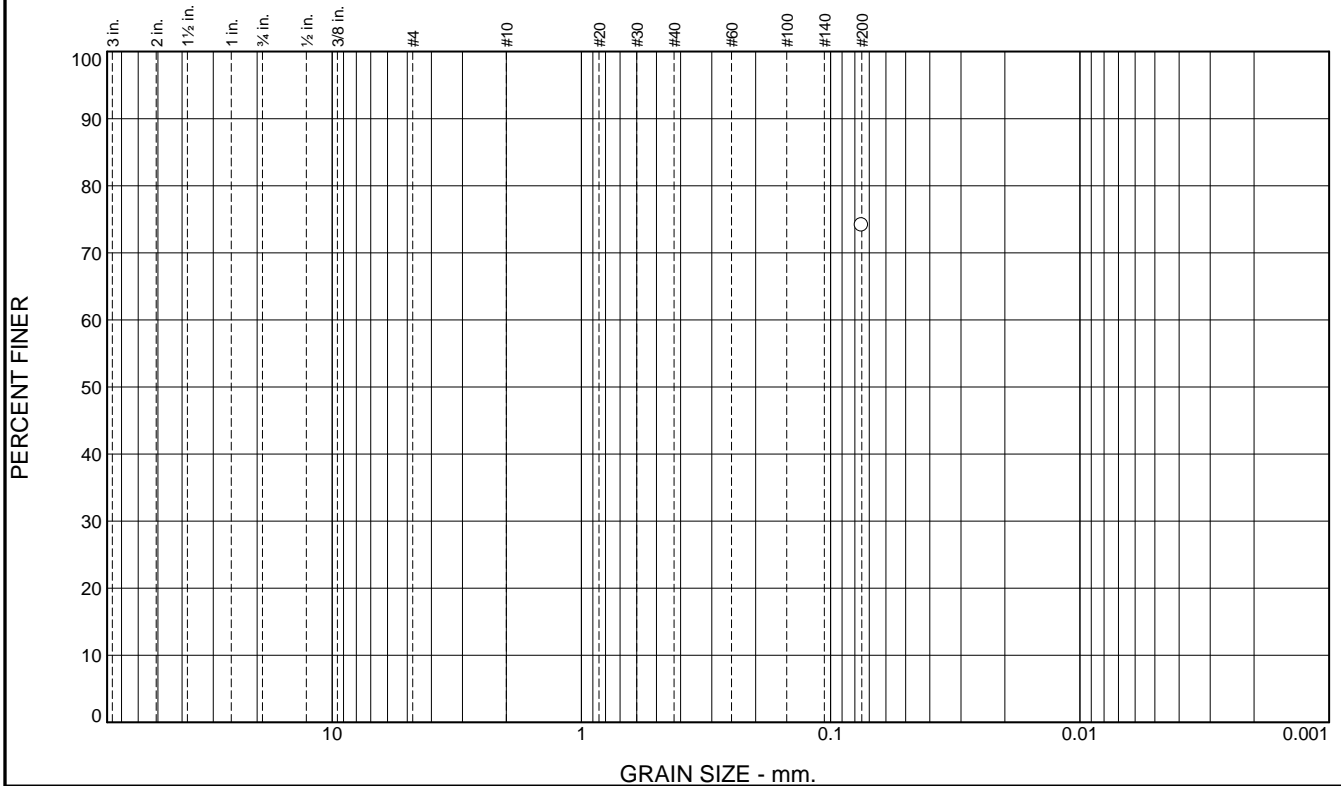
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						74.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	74.1		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= 19 LL= 38 PI= 19

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 85.0
 Sample Number: 7-B016 @ 85.0

Date: 2-5-15



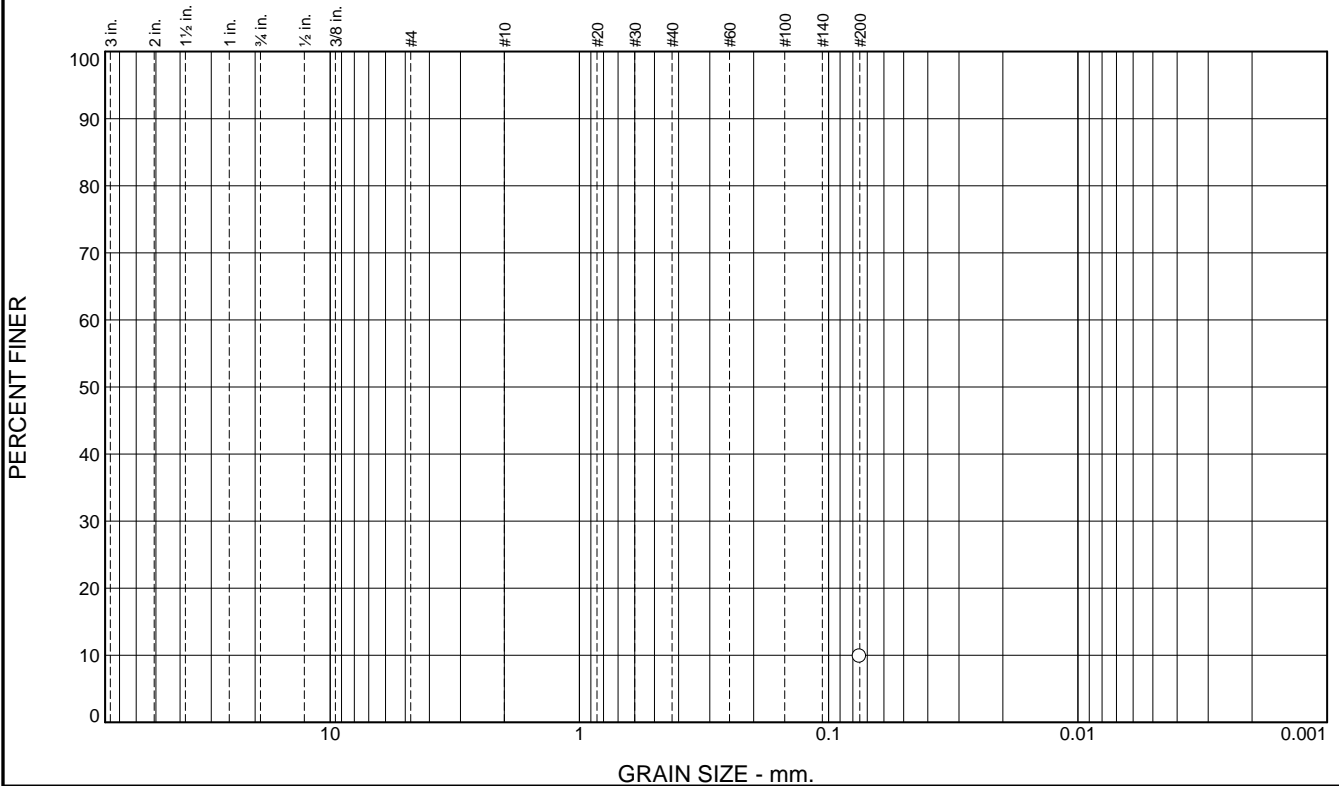
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						10	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	9.8		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 5.5
Sample Number: 7-B017 @ 5.5

Date: 2-5-15



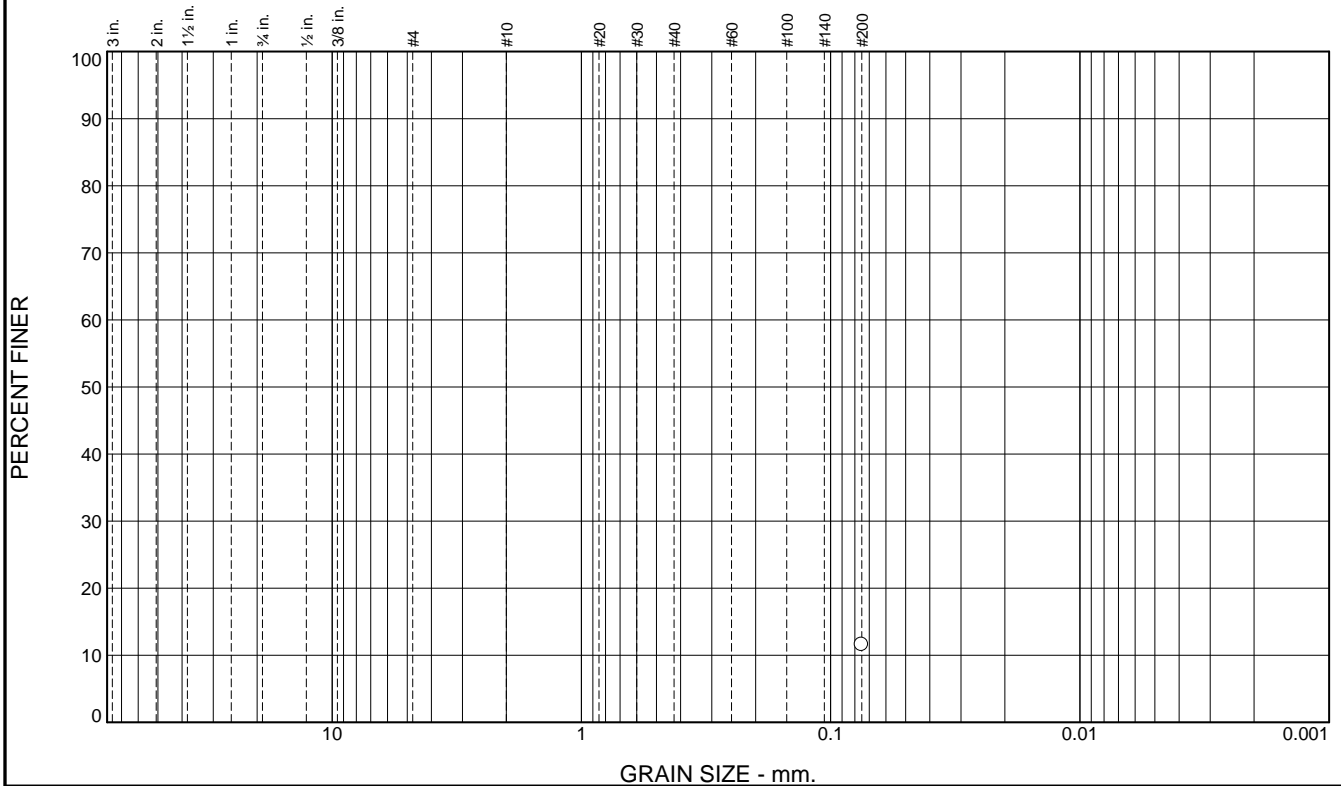
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						12	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	12		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 10.5
 Sample Number: 7-B017 @ 10.5

Date: 2-5-15



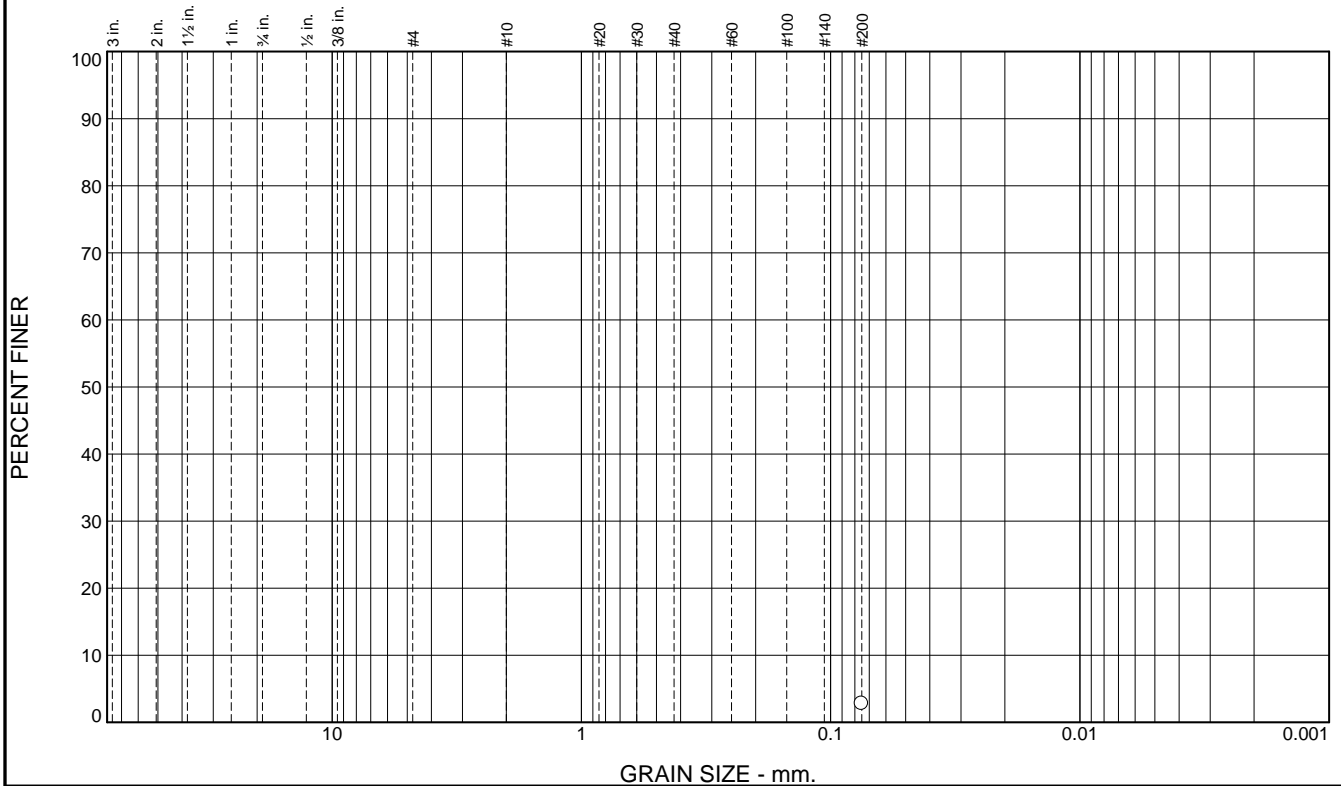
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	2.8		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 20.5
 Sample Number: 7-B017 @ 20.5

Date: 2-5-15



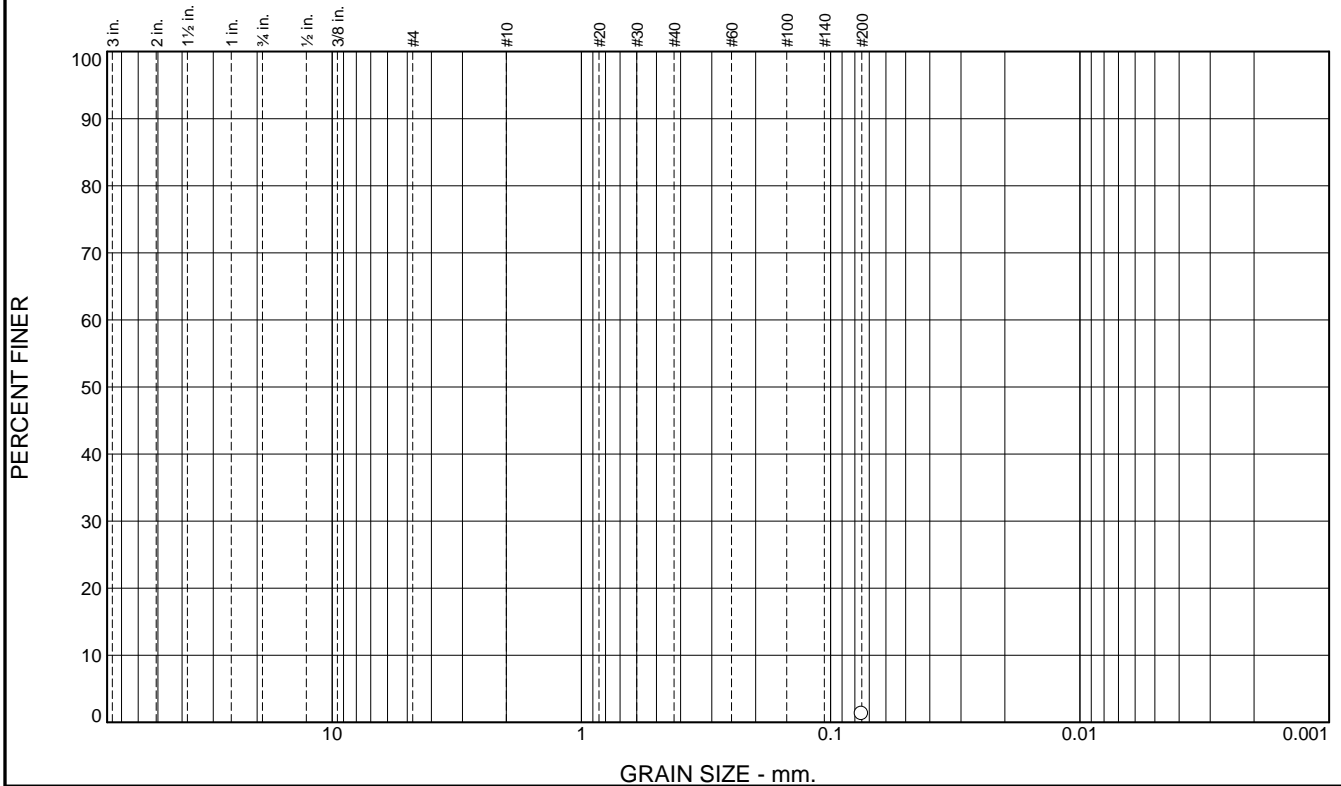
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	1.3		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 25.5
Sample Number: 7-B017 @ 25.5

Date: 2-5-15



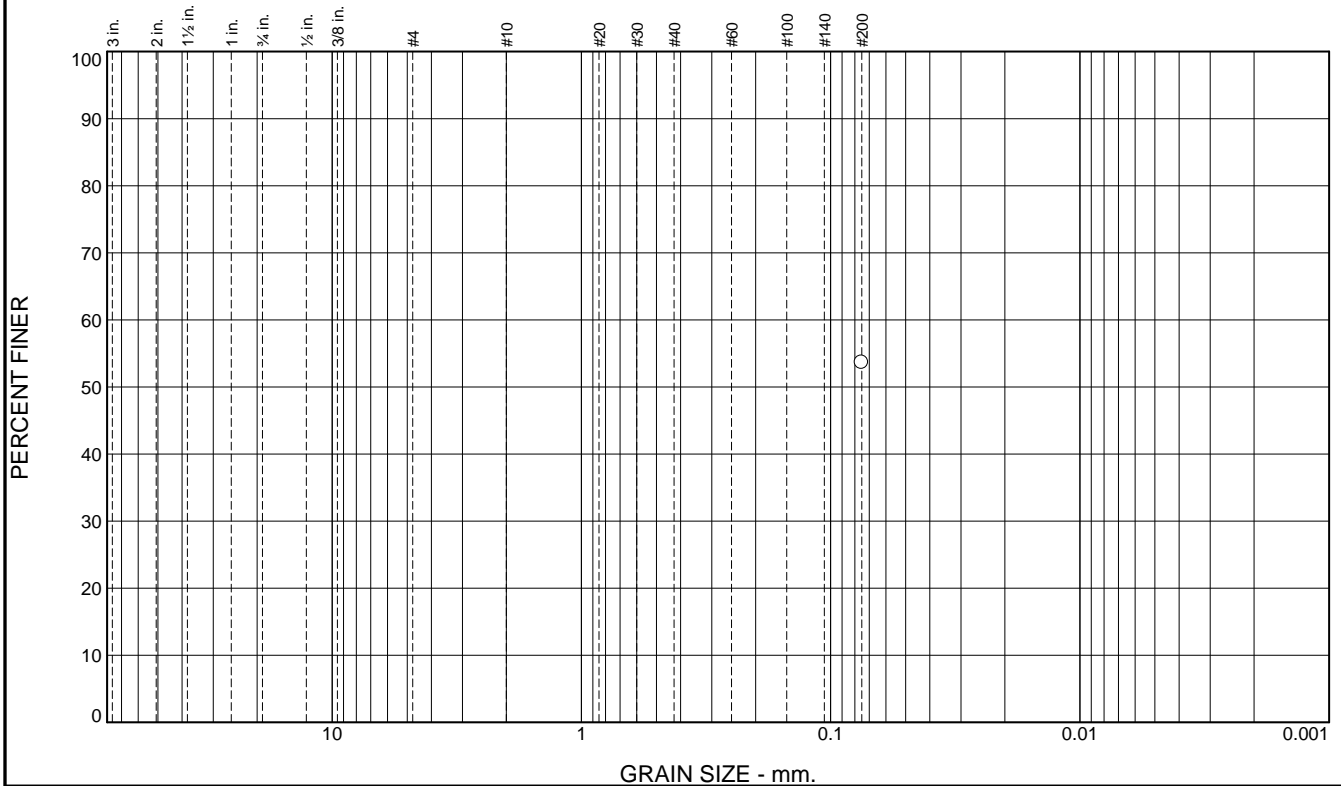
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						53.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	53.6		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 26.0
 Sample Number: 7-B017 @ 26.0

Date: 2-5-15



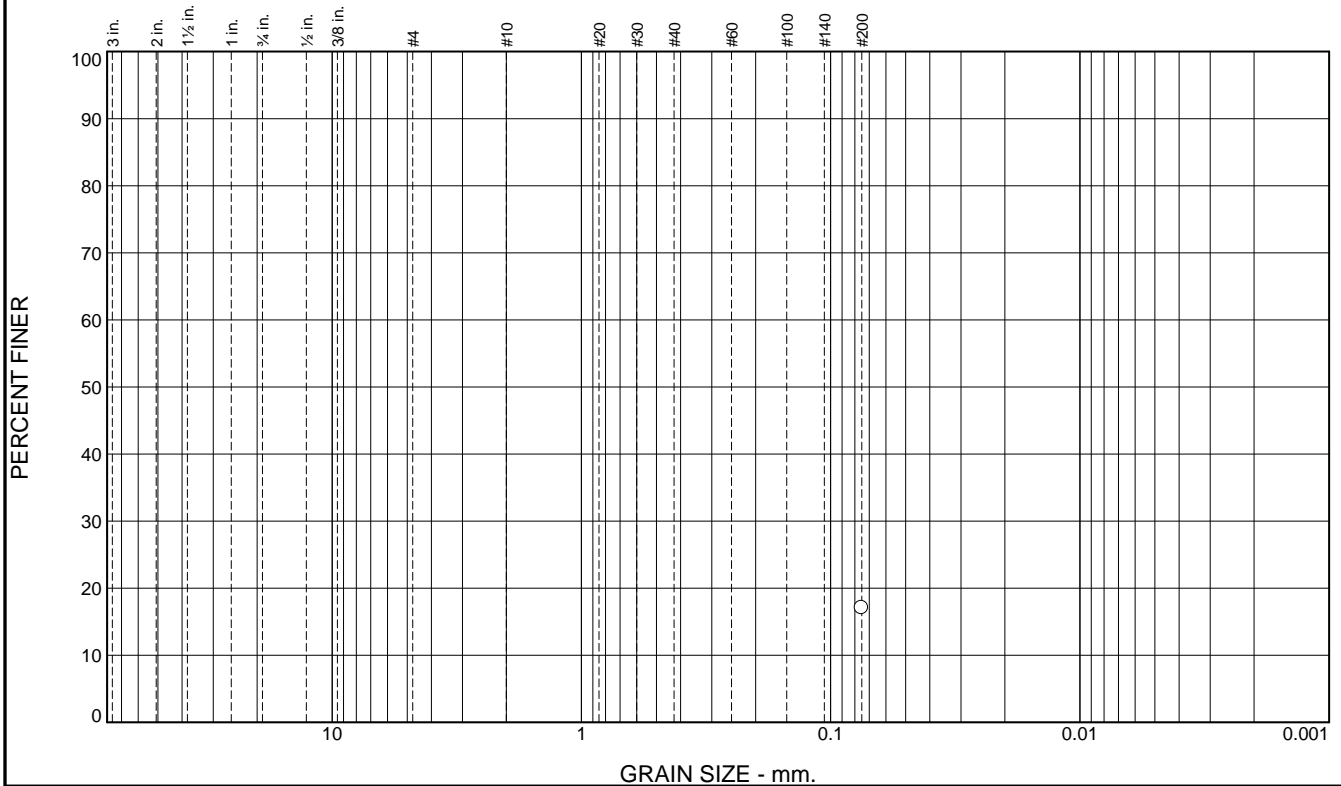
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						17	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	17		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 35.0
 Sample Number: 7-B017 @ 35.0

Date: 2-5-15



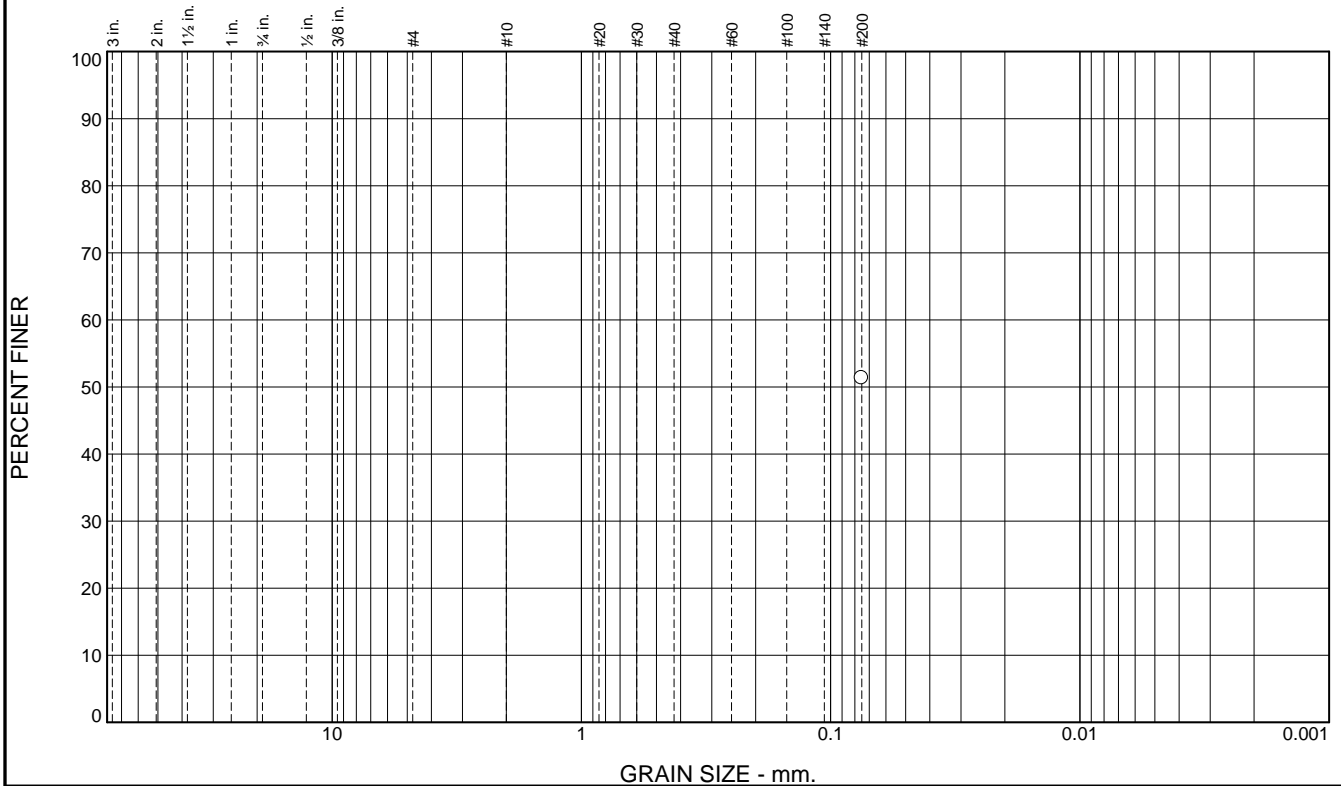
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						51.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	51.3		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 40.0
 Sample Number: 7-B017 @ 40.0

Date: 2-5-15



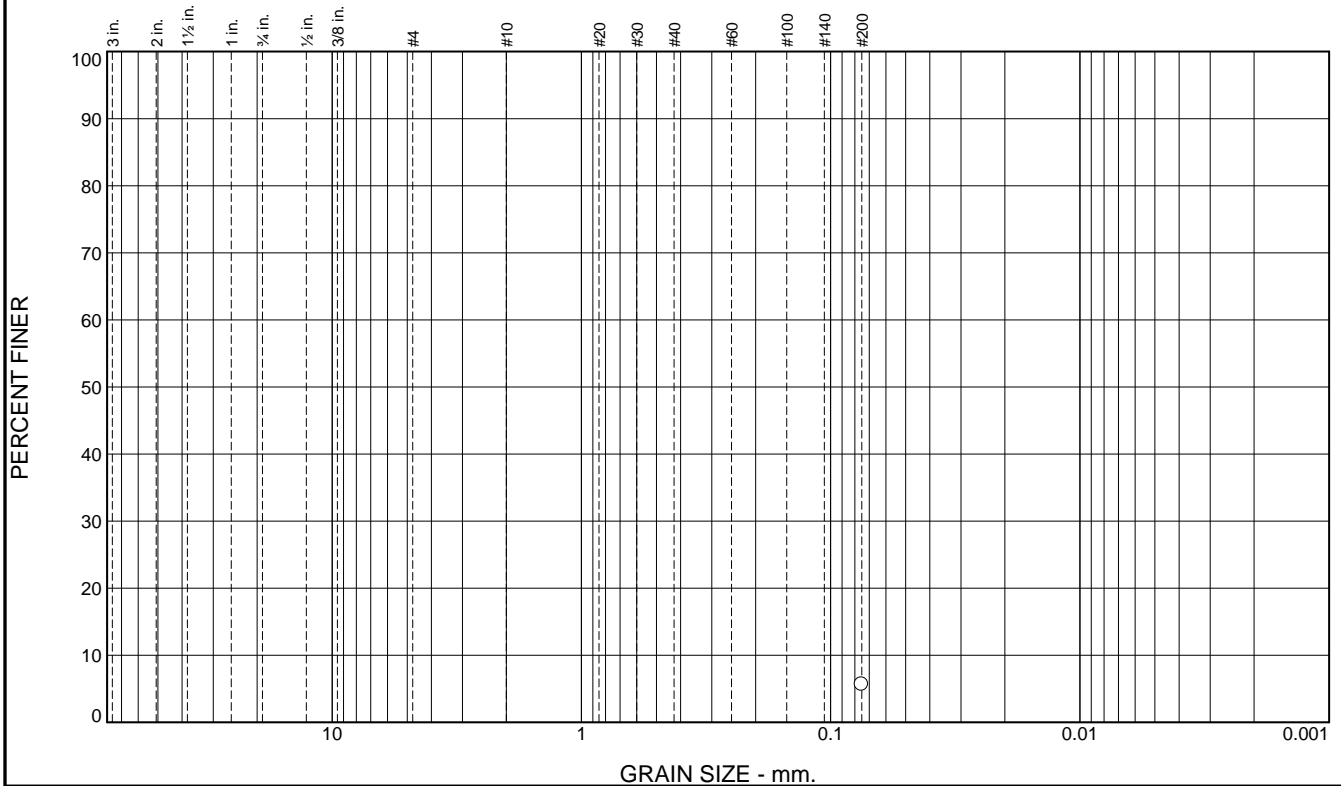
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	5.6		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 45.0
Sample Number: 7-B017 @ 45.0

Date: 2-5-15



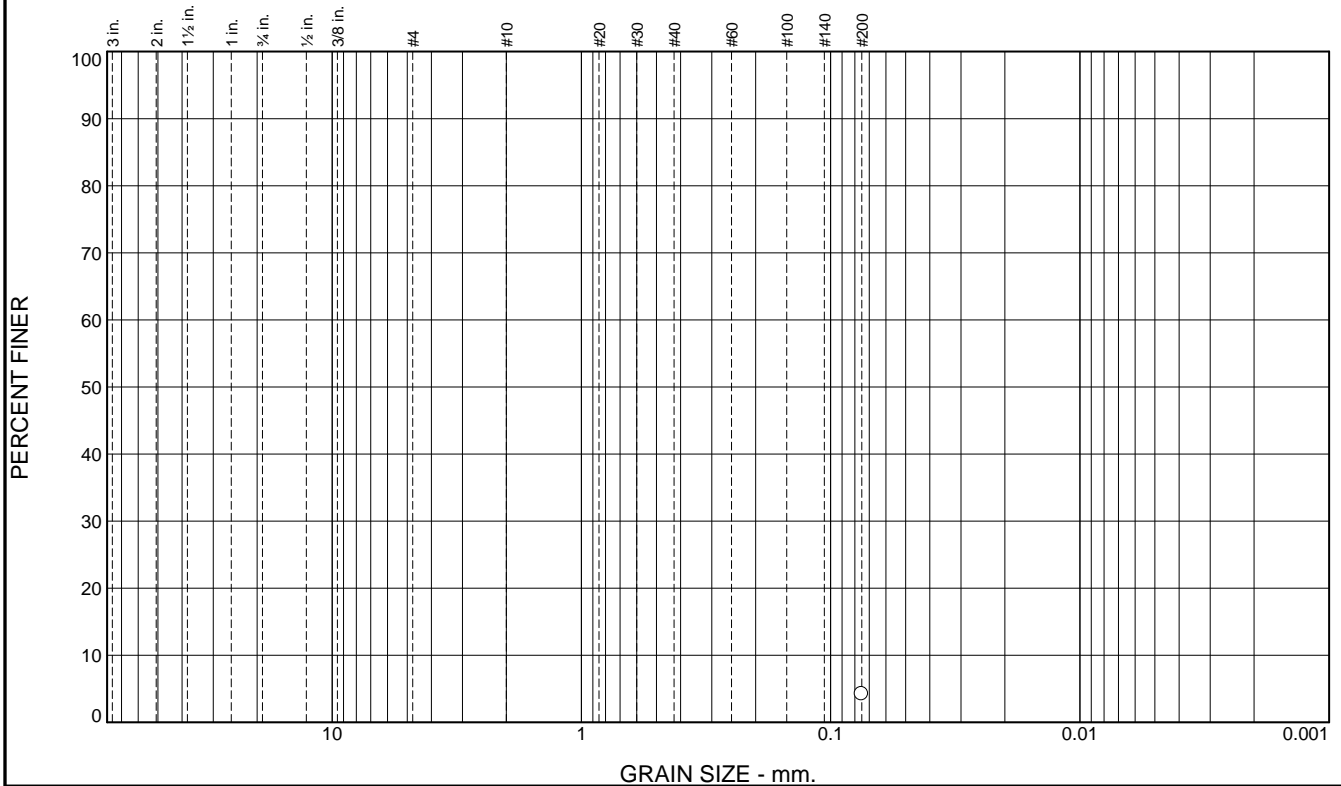
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.2		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 55.0
Sample Number: 7-B017 @ 55.0

Date: 2-5-15



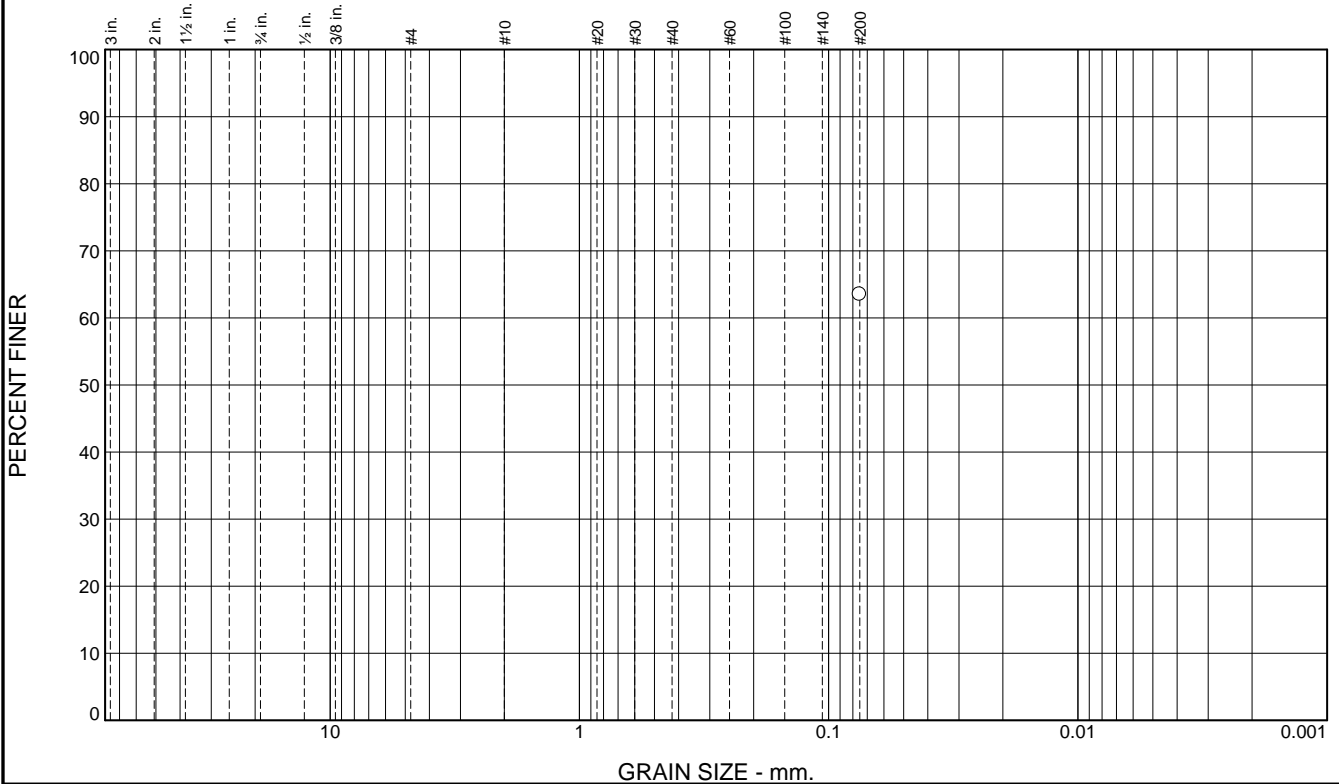
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						63	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	63		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 61.0
 Sample Number: 7-B017 @ 61.0

Date: 2-5-15



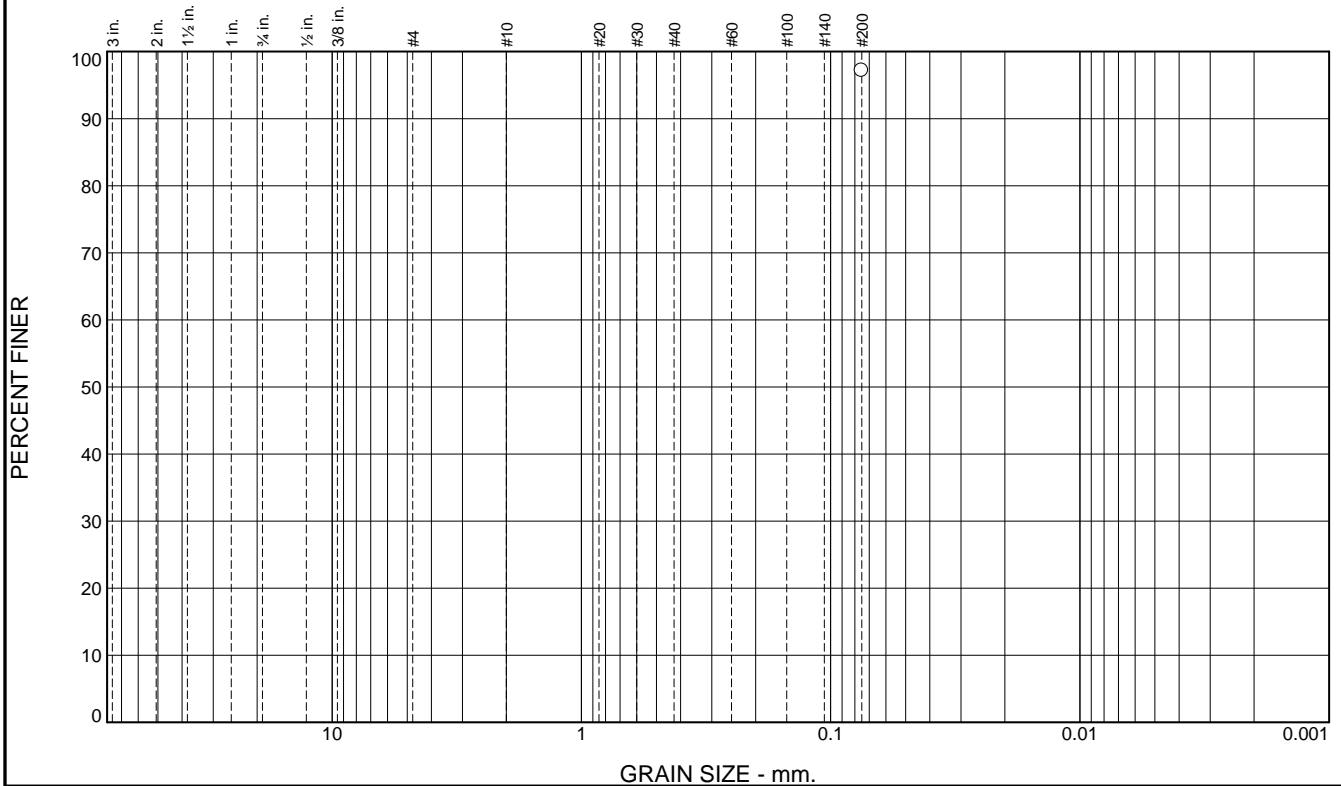
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						97.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	97.2		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= 19 LL= 49 PI= 30

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 66.0
 Sample Number: 7-B017 @ 66.0

Date: 2-5-15



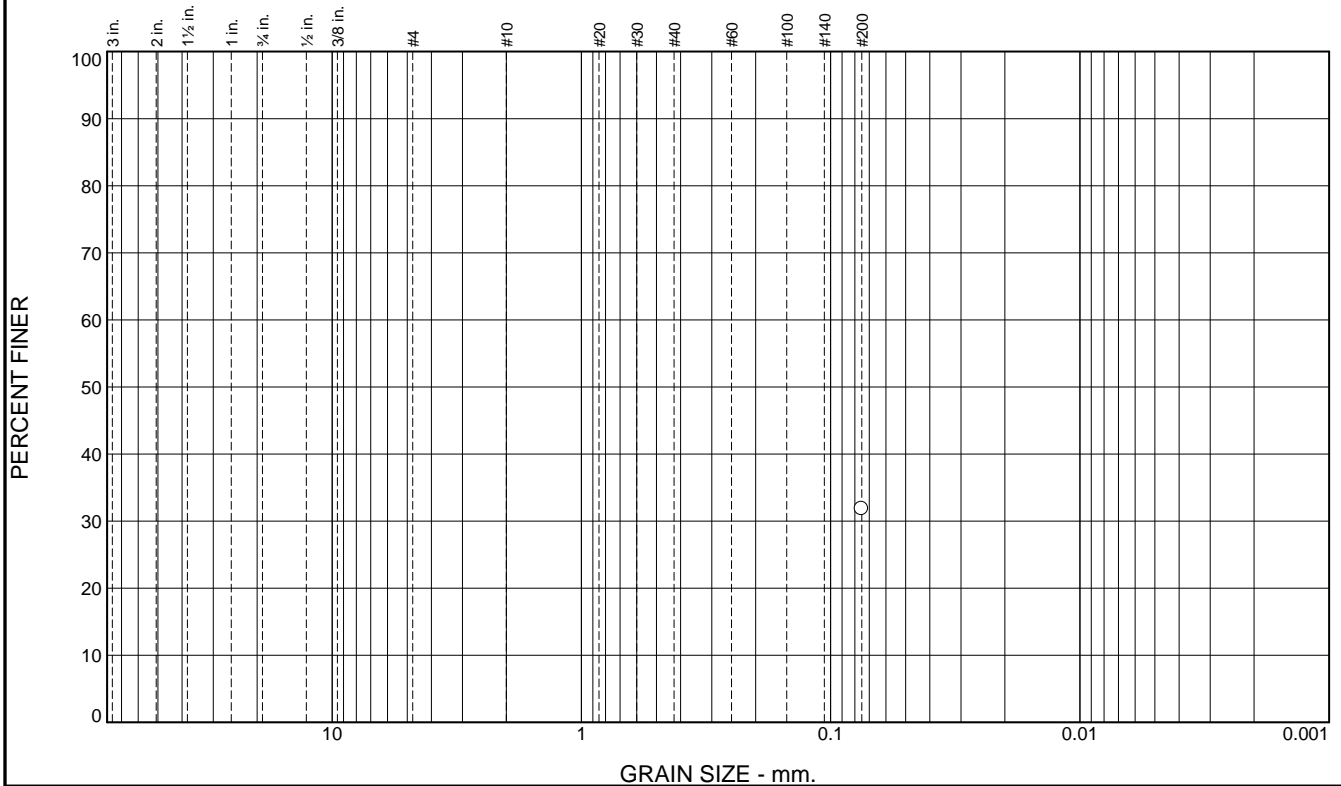
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						32	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	32		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 5.5
 Sample Number: 7-B018 @ 5.5

Date: 2-5-15



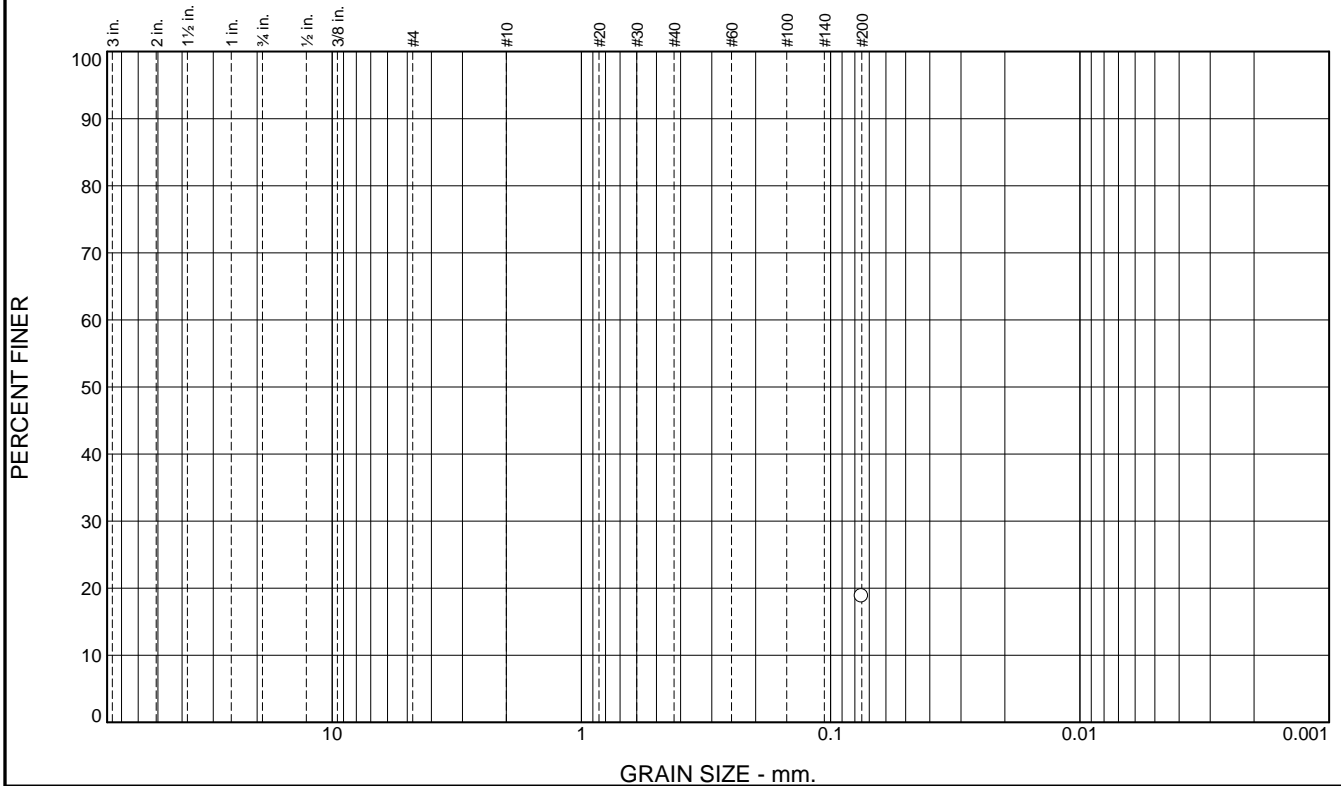
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						19	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	19		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 16.0
 Sample Number: 7-B018 @ 16.0

Date: 2-5-15



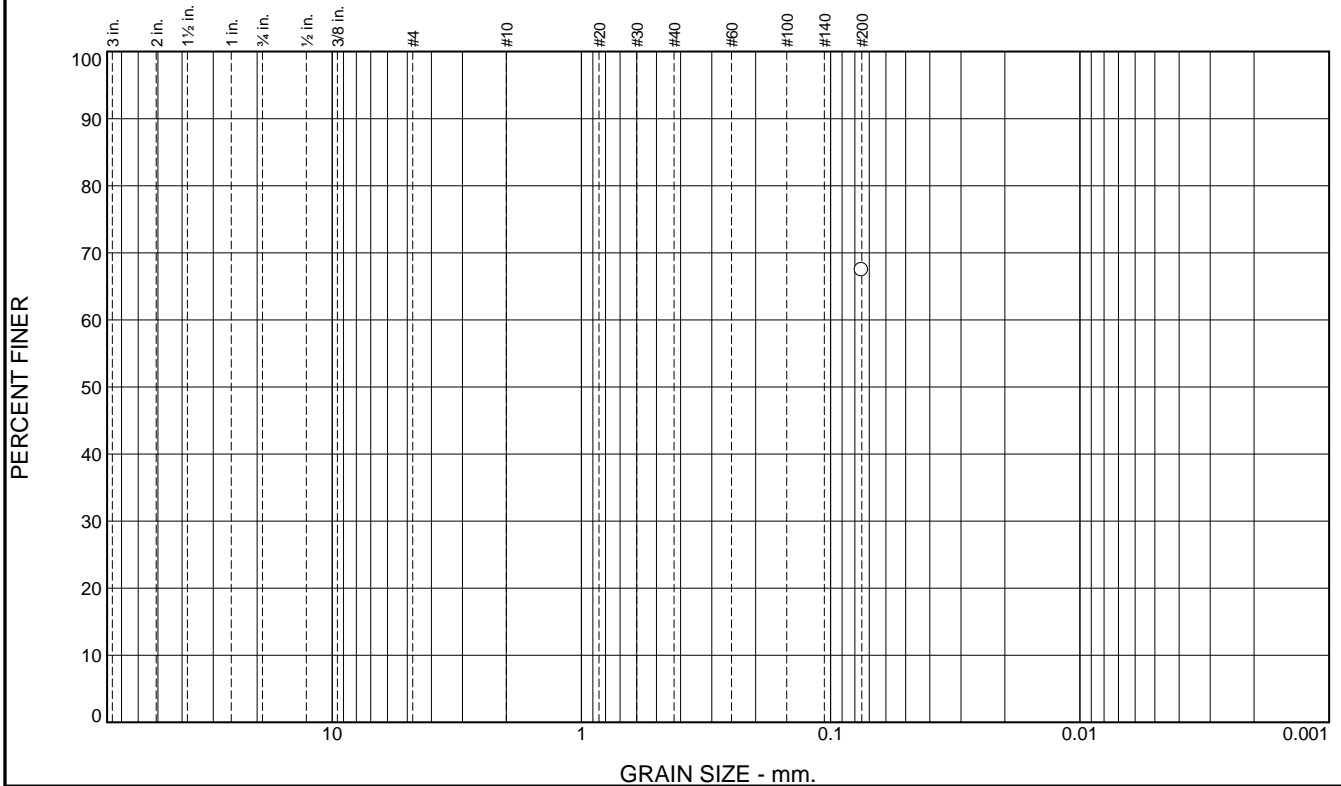
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						67.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	67.4		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 16.5
 Sample Number: 7-B018 @ 16.5

Date: 2-5-15



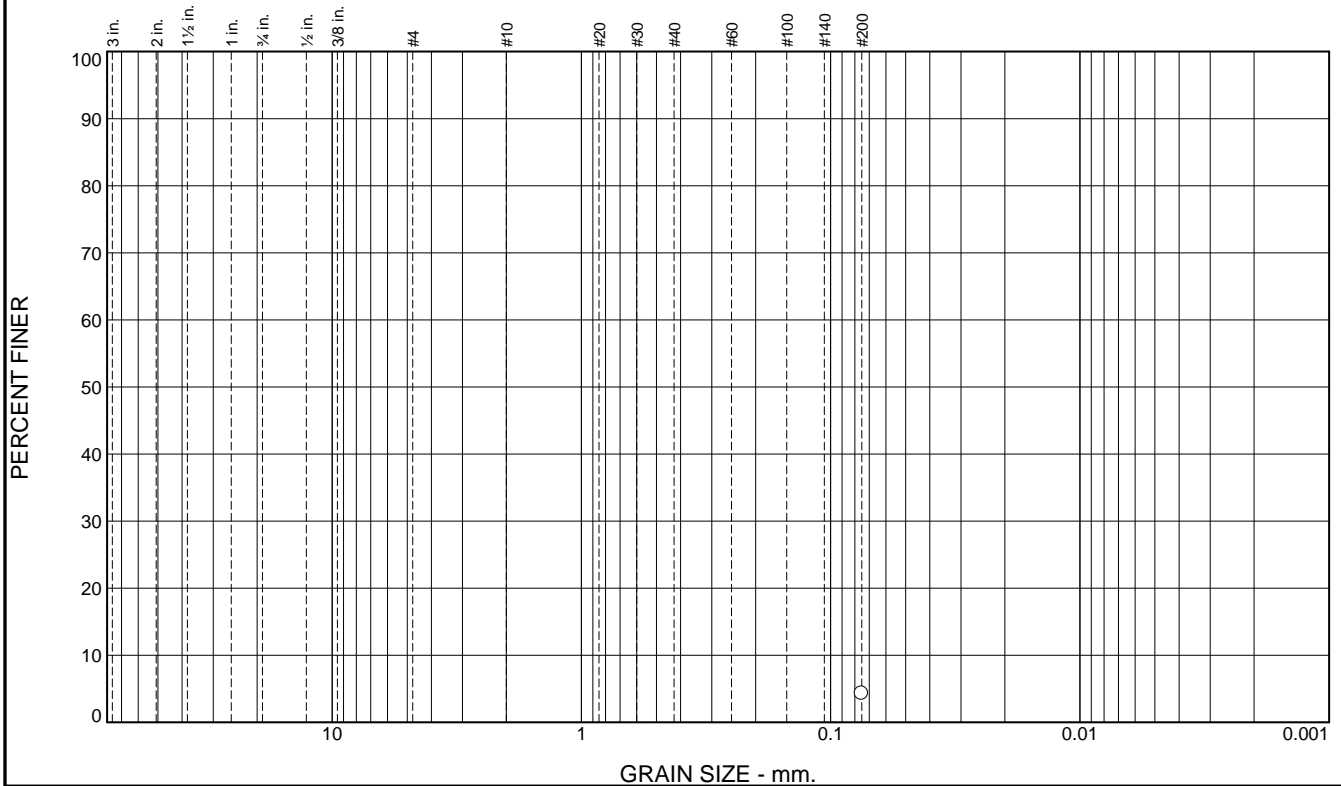
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.3		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 21.5
 Sample Number: 7-B018 @ 21.5

Date: 2-5-15



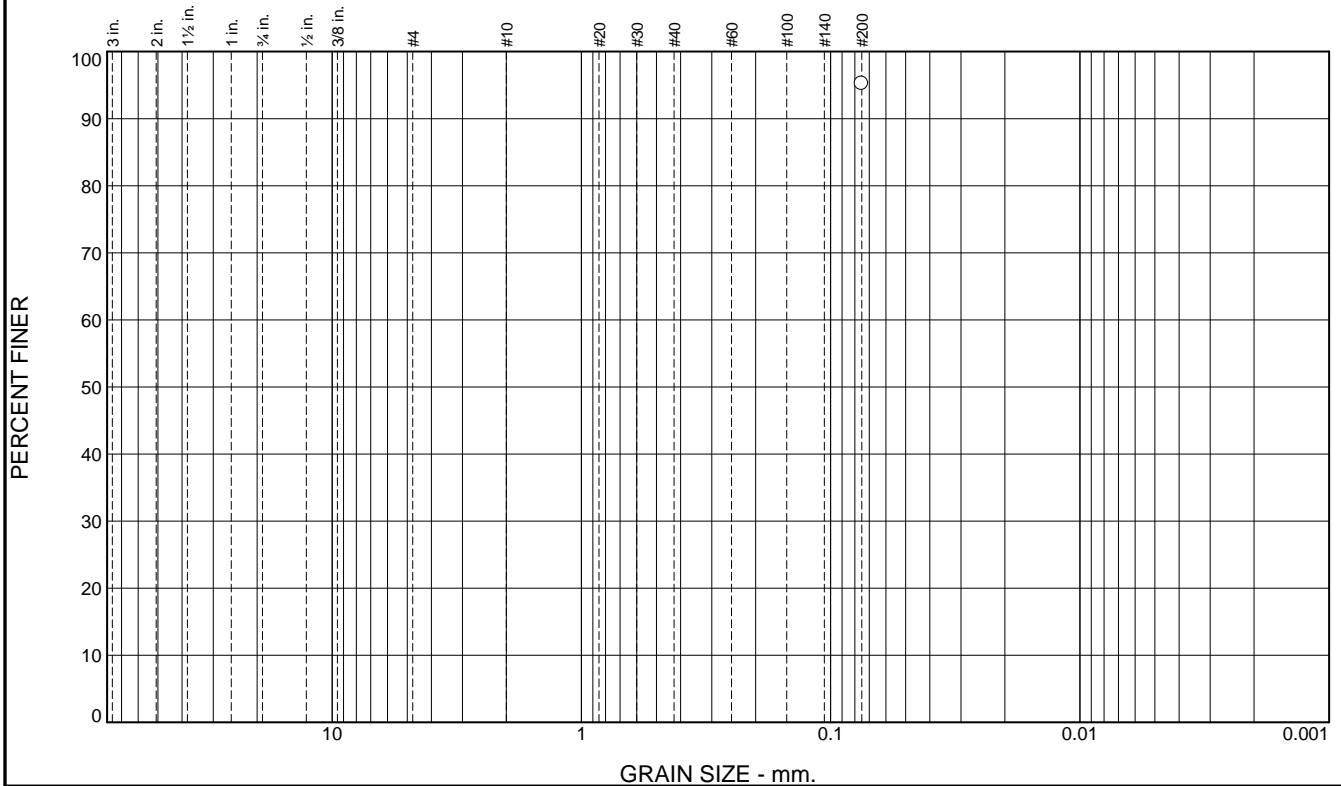
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						95.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	95.2		

Soil Description

See Exploratory Log

Atterberg Limits

PL= 25 LL= 40 PI= 15

Coefficients

D₈₅= D₆₀=
D₅₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 30.5
 Sample Number: 7-B018 @ 30.5

Date: 2-5-15



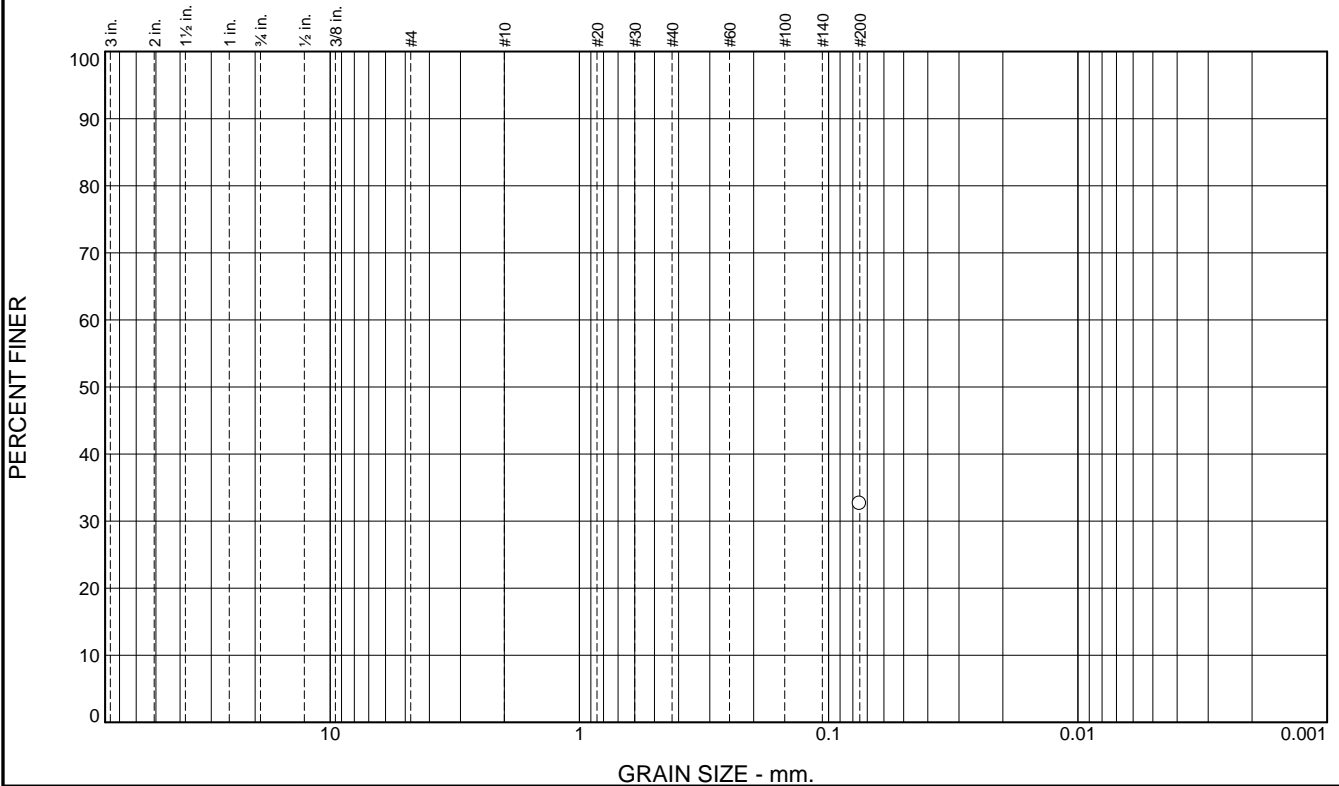
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						33	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	33		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 40.5
 Sample Number: 7-B018 @ 40.5

Date: 2-5-15



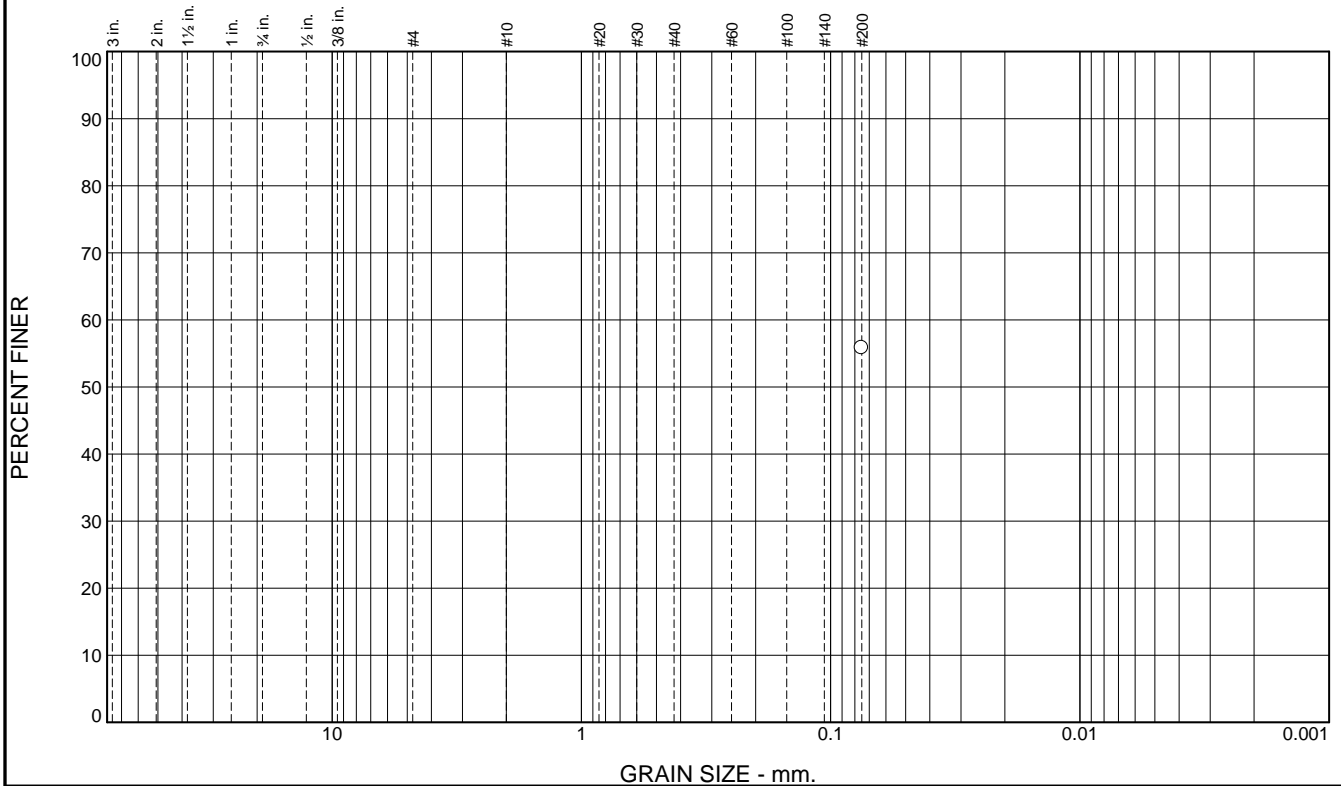
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						55.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	55.8		

Soil Description

See Exploratory Log

Atterberg Limits

PL= 18 LL= 44 PI= 26

Coefficients

D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 45.0
Sample Number: 7-B018 @ 45.0

Date: 2-5-15



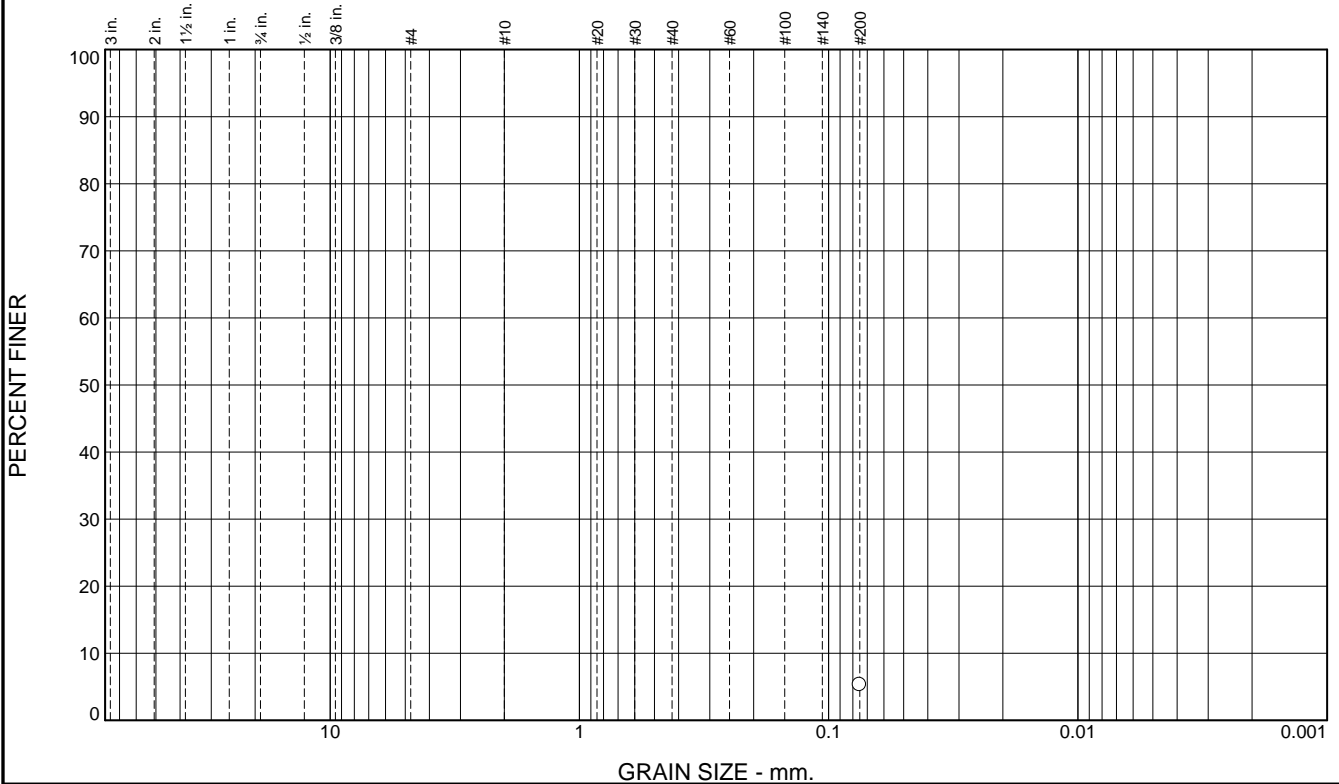
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL **Checked By:** RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	5.3		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 50.0
Sample Number: 7-B018 @ 50.0

Date: 2-5-15



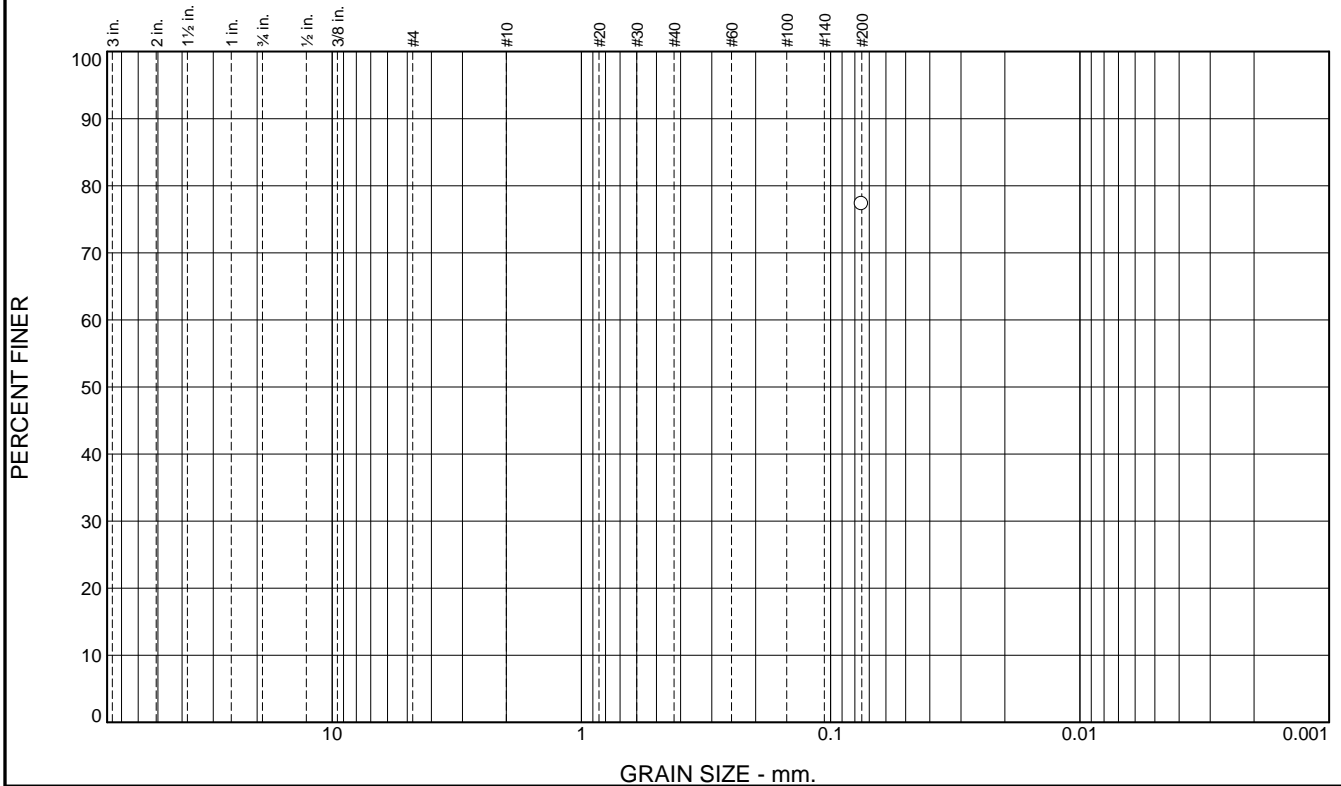
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						77.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	77.3		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= 20 LL= 44 PI= 24

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 60.0
 Sample Number: 7-B018 @ 60.0

Date: 2-5-15



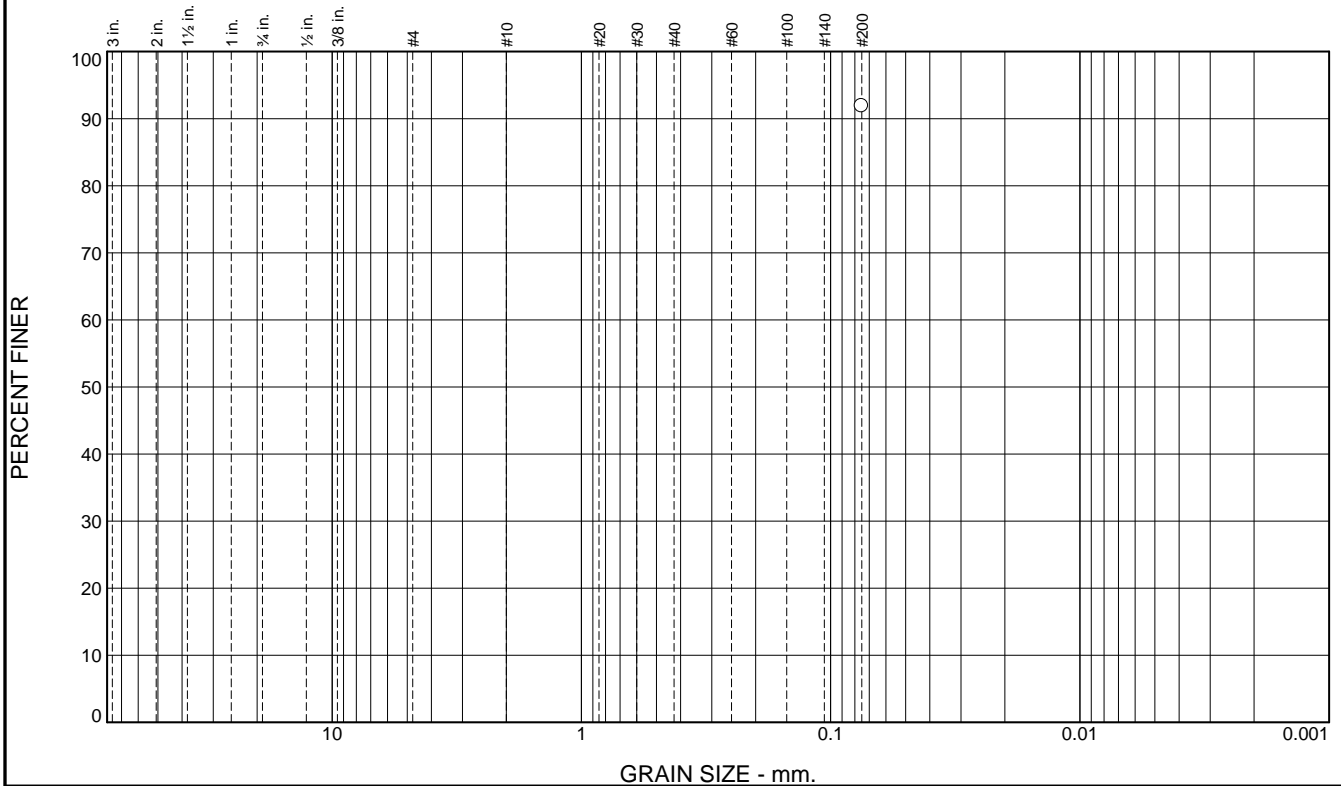
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						91.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	91.9		

Soil Description

See Exploratory Log

Atterberg Limits

PL= 29 LL= 75 PI= 46

Coefficients

D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 65.0
Sample Number: 7-B018 @ 65.0

Date: 2-5-15



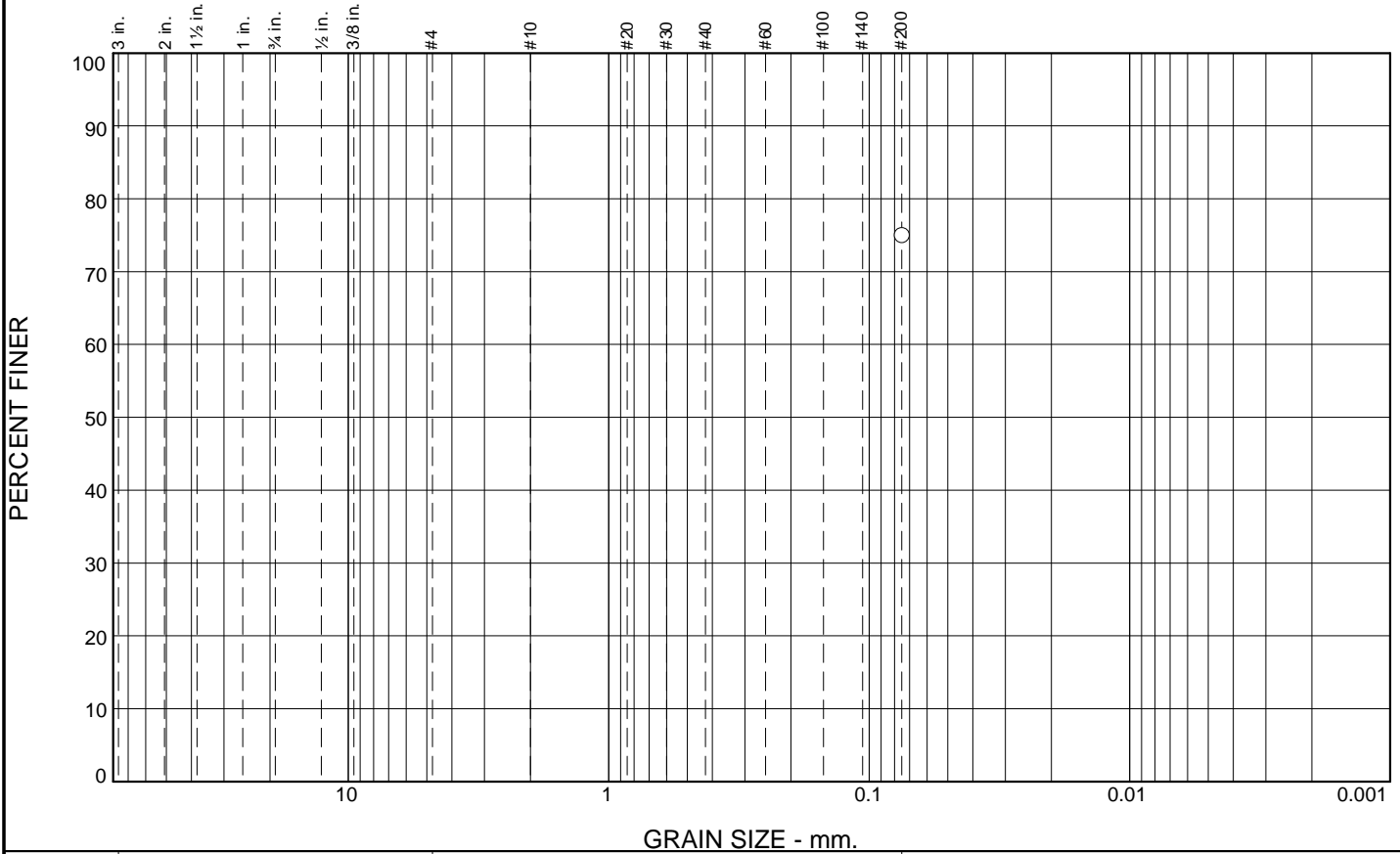
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						75.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	75.0		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 21 LL= 38 PI= 17

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks

Source of Sample: 7-B19
Sample Number: 7-B19-2

Depth: 2 ft

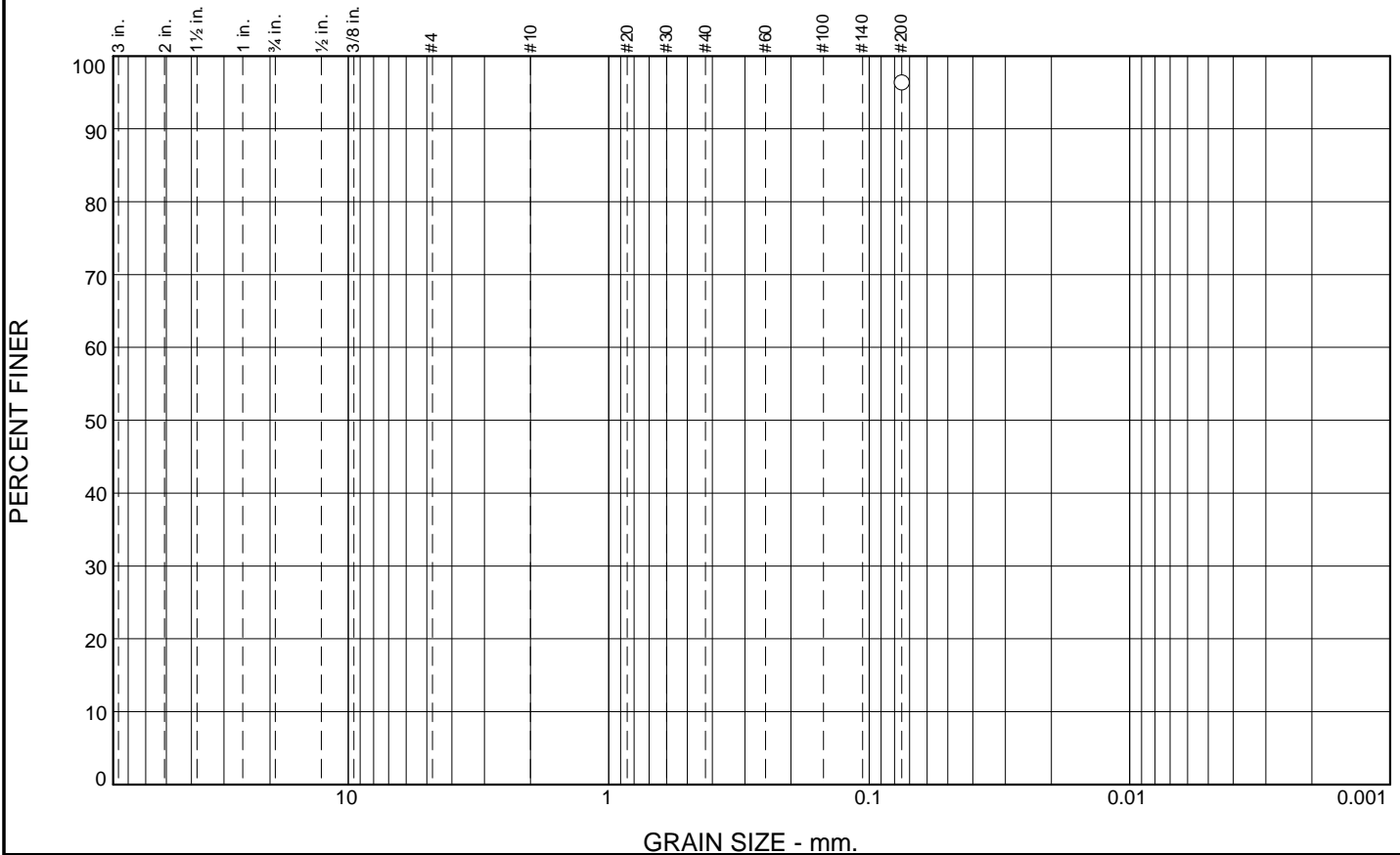
Date: 01-29-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						96.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	96.4		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 26 LL= 41 PI= 15

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks

Source of Sample: 7-B19
Sample Number: 7-B19-3

Depth: 3 ft

Date: 01-29-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

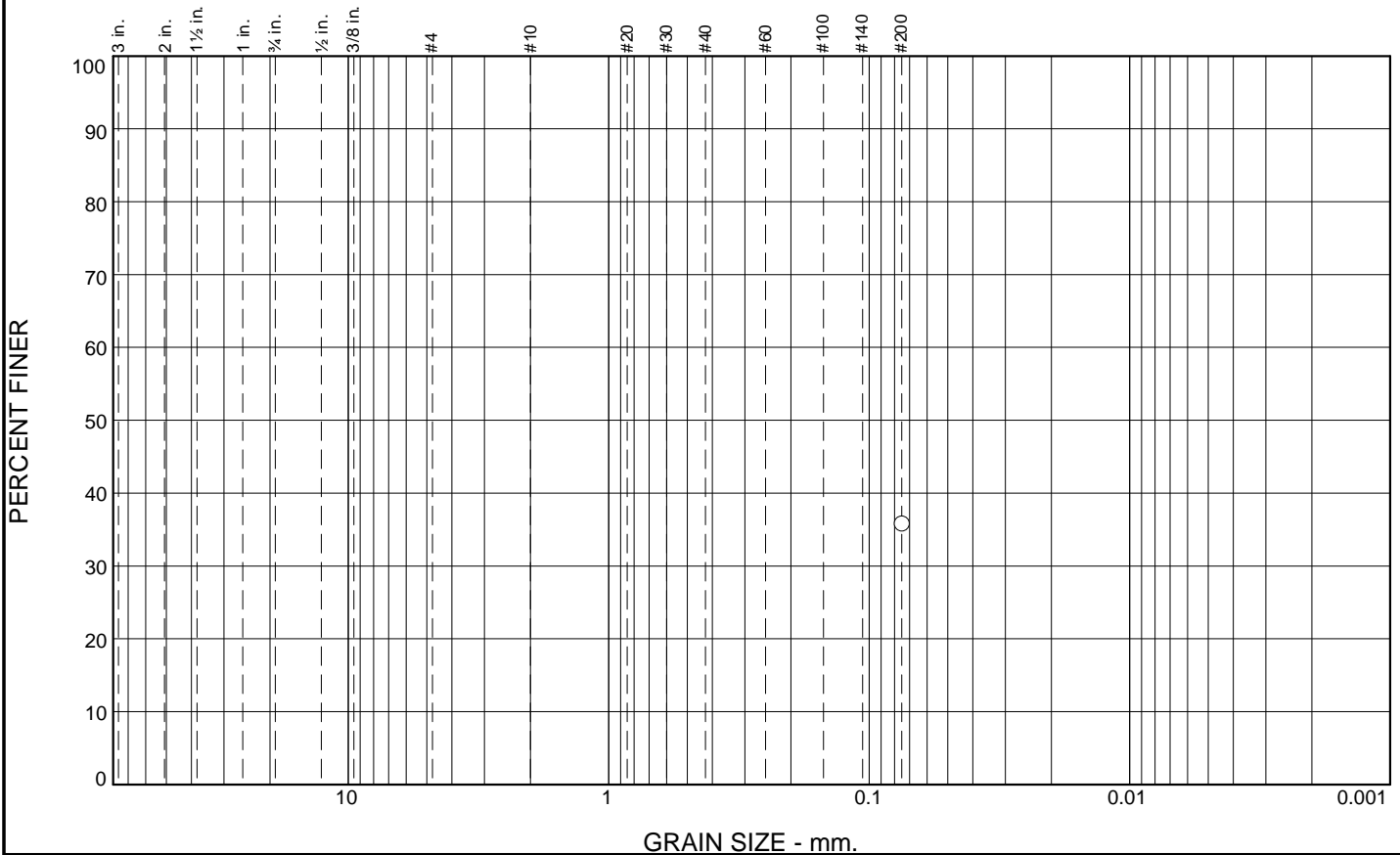
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						35.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	35.8		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 18 LL= 22 PI= 4

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= ML AASHTO=

Remarks

Source of Sample: 7-B19
Sample Number: 7-B19-7.5

Depth: 7.5 ft

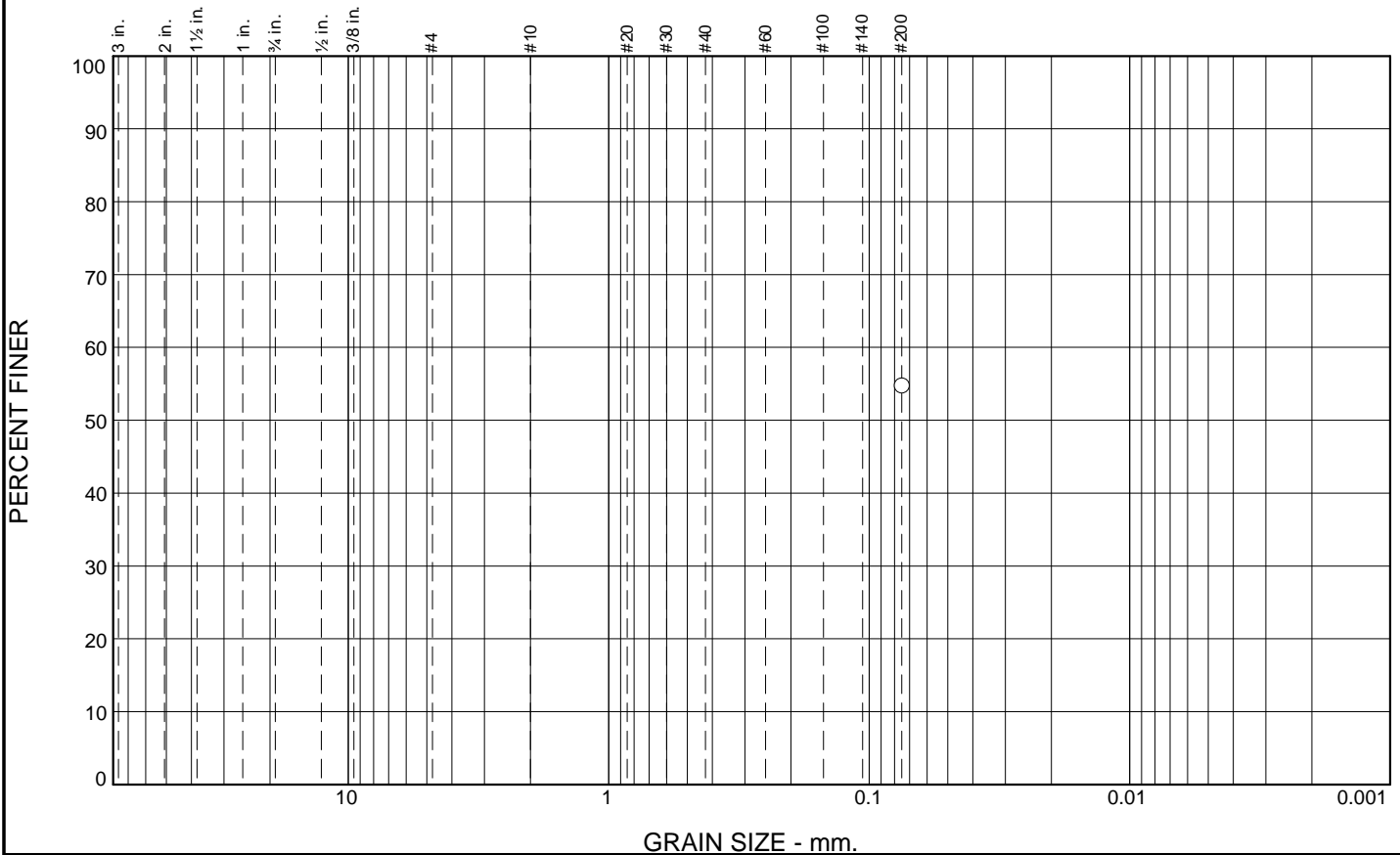
Date: 01-29-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						54.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	54.8		

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B19
Sample Number: 7-B19-11

Depth: 11 ft

Date: 01-29-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

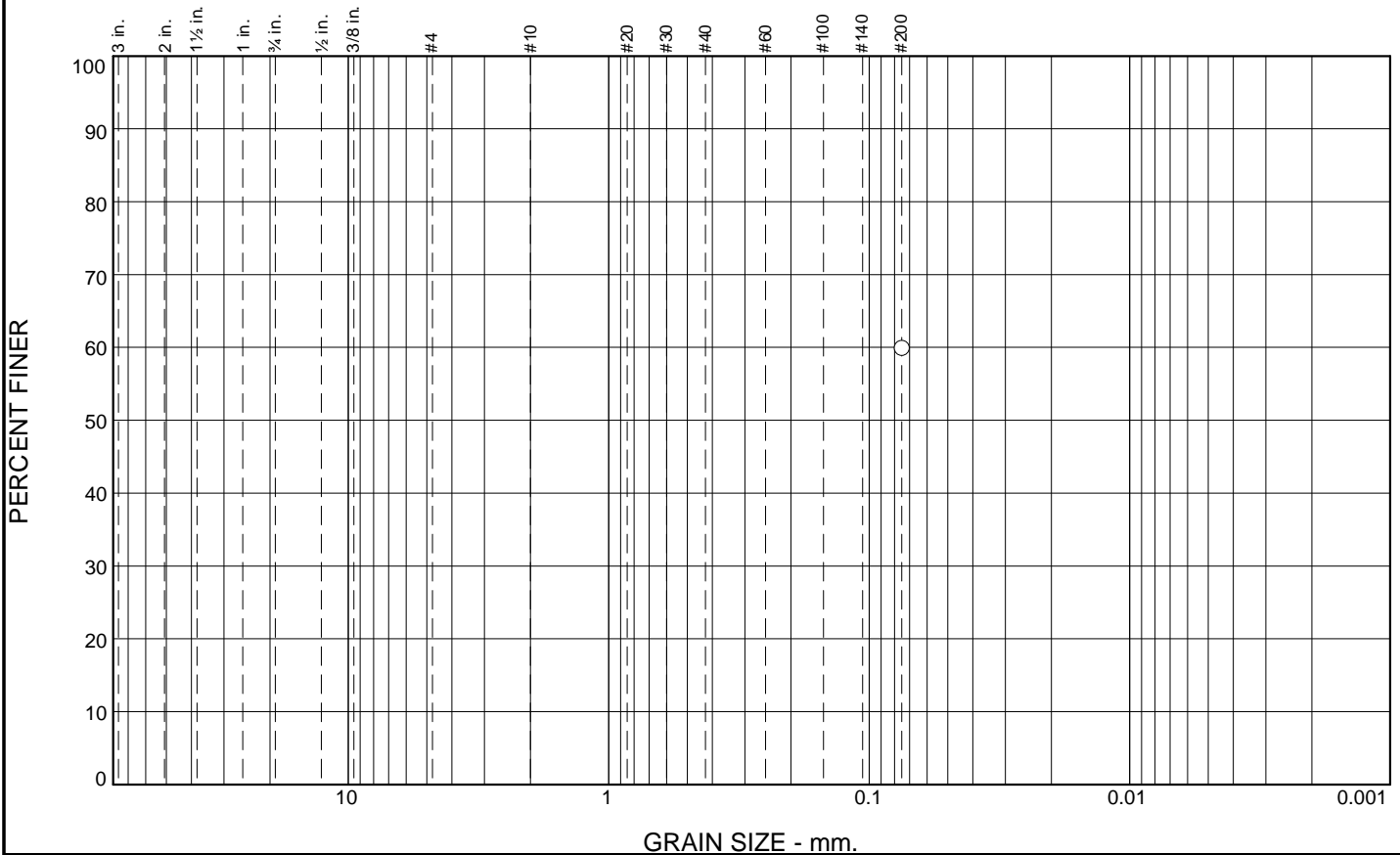
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						59.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	59.9		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 23 LL= 24 PI= 1

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= ML AASHTO=

Remarks

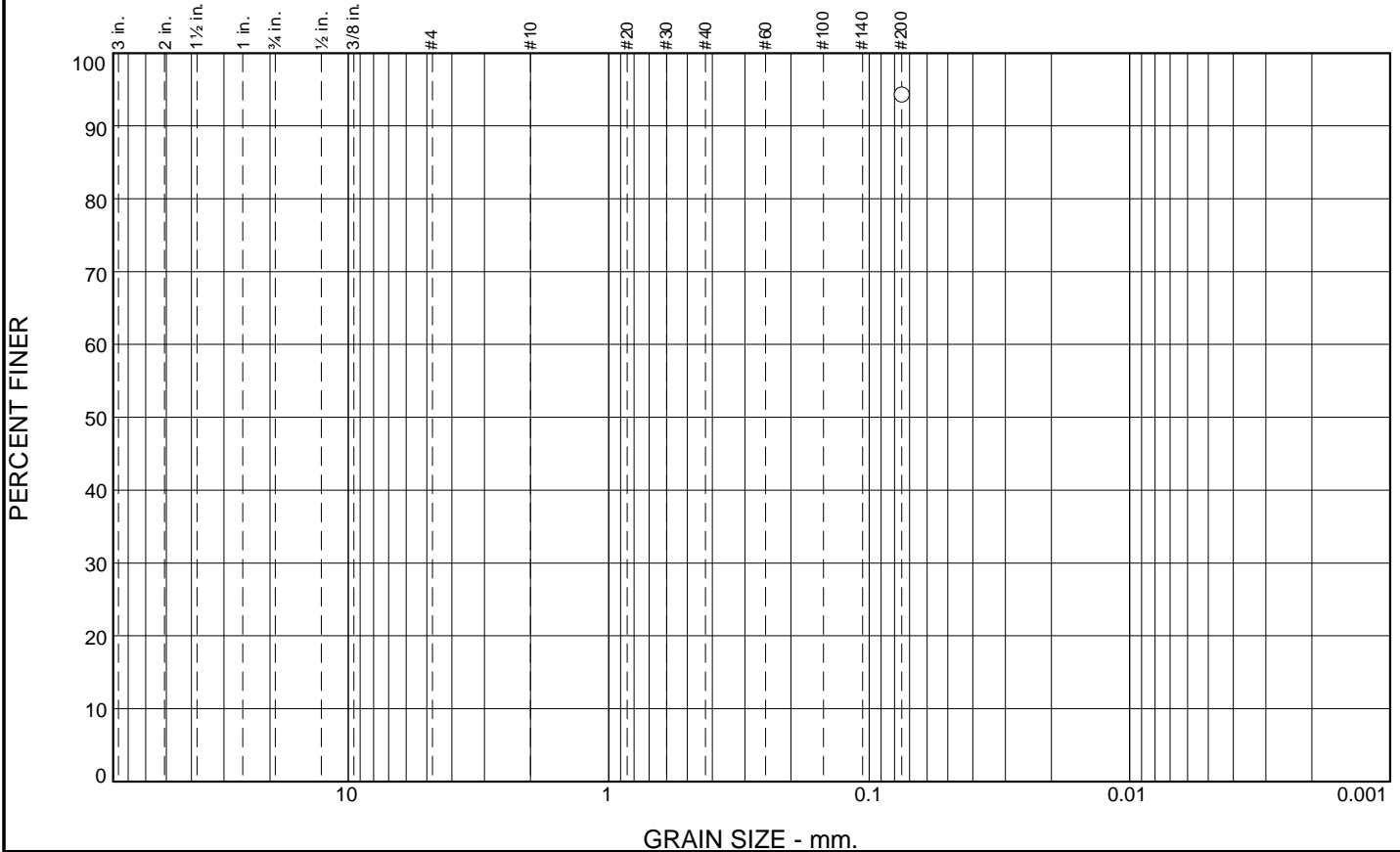
Source of Sample: 7-B19 **Depth:** 11.5 ft
Sample Number: 7-B19-11.5

Date: 01-29-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
<p>Figure</p>	

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						94.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	94.3		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 23 LL= 36 PI= 13

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks

Source of Sample: 7-B19
Sample Number: 7-B19-16

Depth: 16 ft

Date: 01-29-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

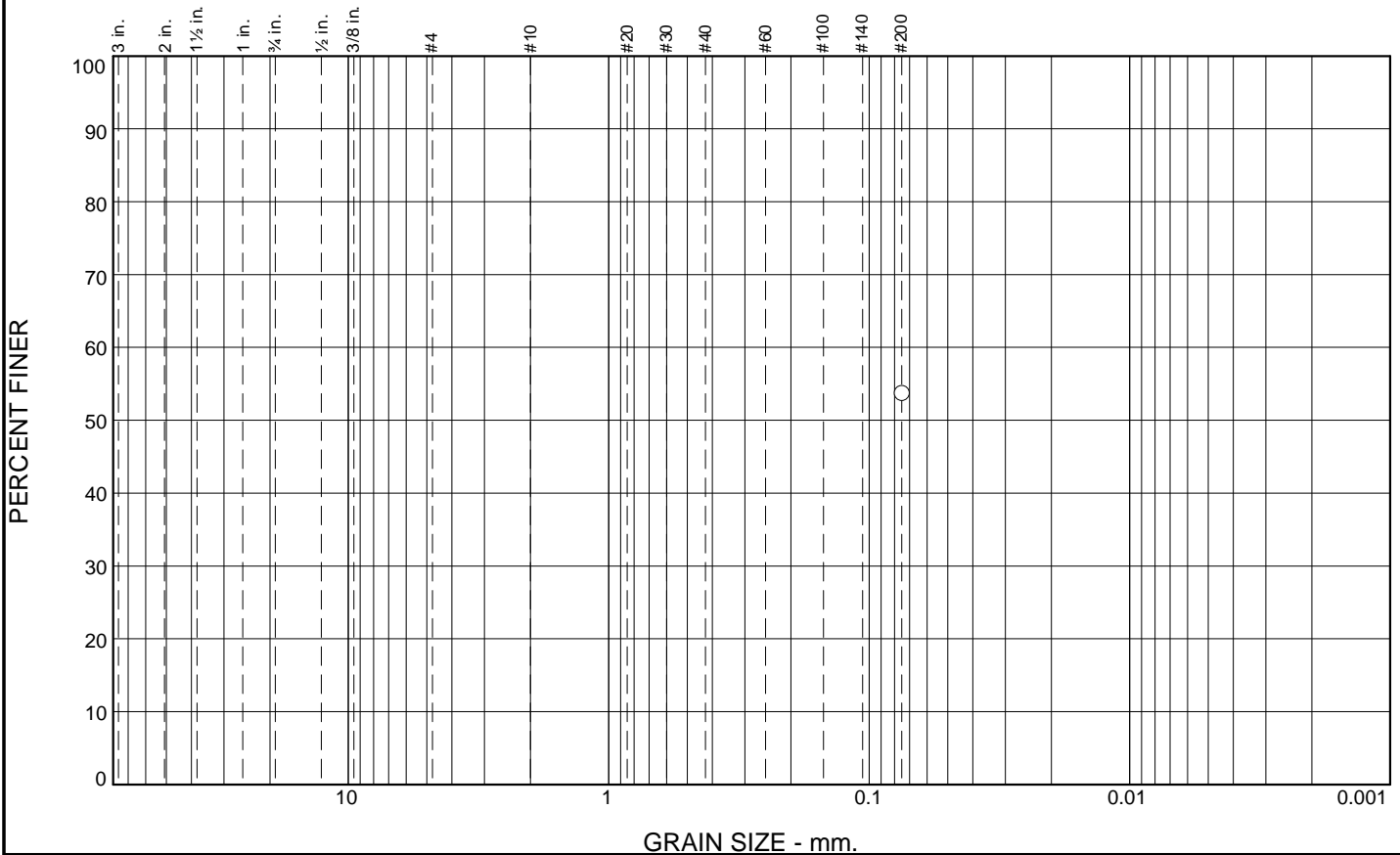
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						53.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	53.8		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

Source of Sample: 7-B19
Sample Number: 7-B19-17

Depth: 17 ft

Date: 01-29-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

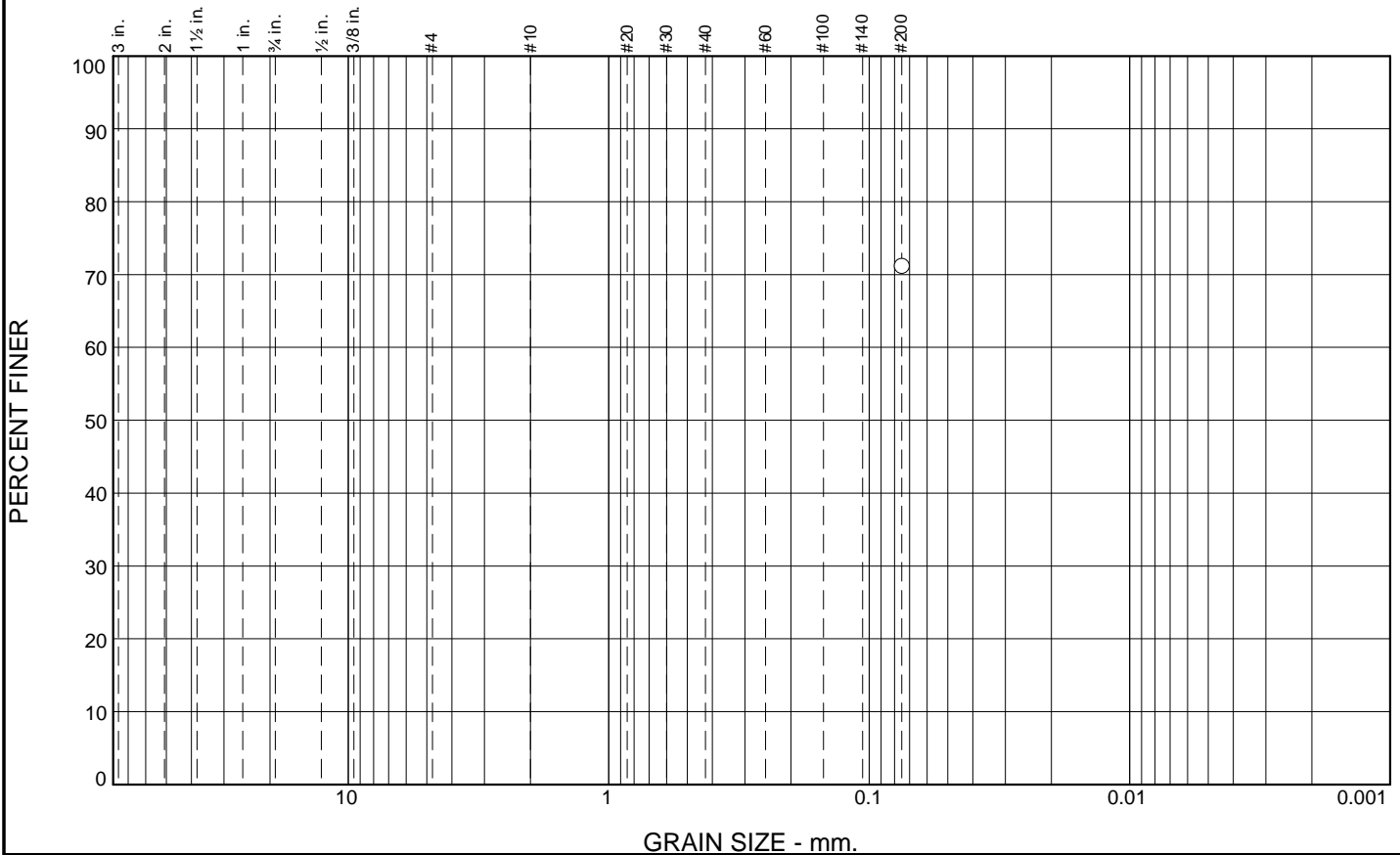
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						71.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	71.2		

* (no specification provided)

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= 21 LL= 32 PI= 11

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks

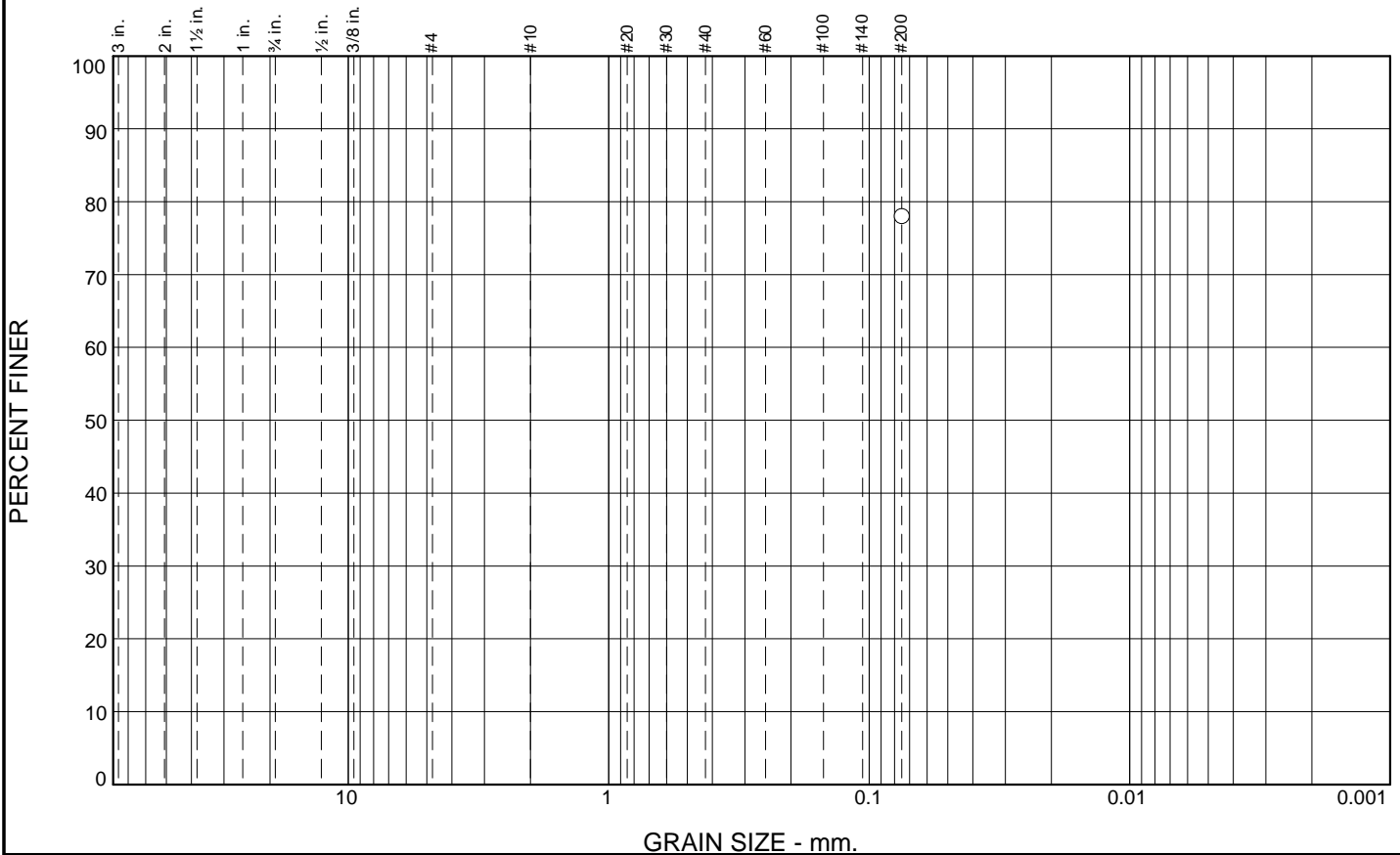
Source of Sample: 7-B19 **Depth:** 20.5 ft
Sample Number: 7-B19-20.5

Date: 01-29-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
Figure	

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						78.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	78.0		

Soil Description
(See Exploration Log)

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=


Remarks

* (no specification provided)

Source of Sample: 7-B19
Sample Number: 7-B19-22

Depth: 22 ft

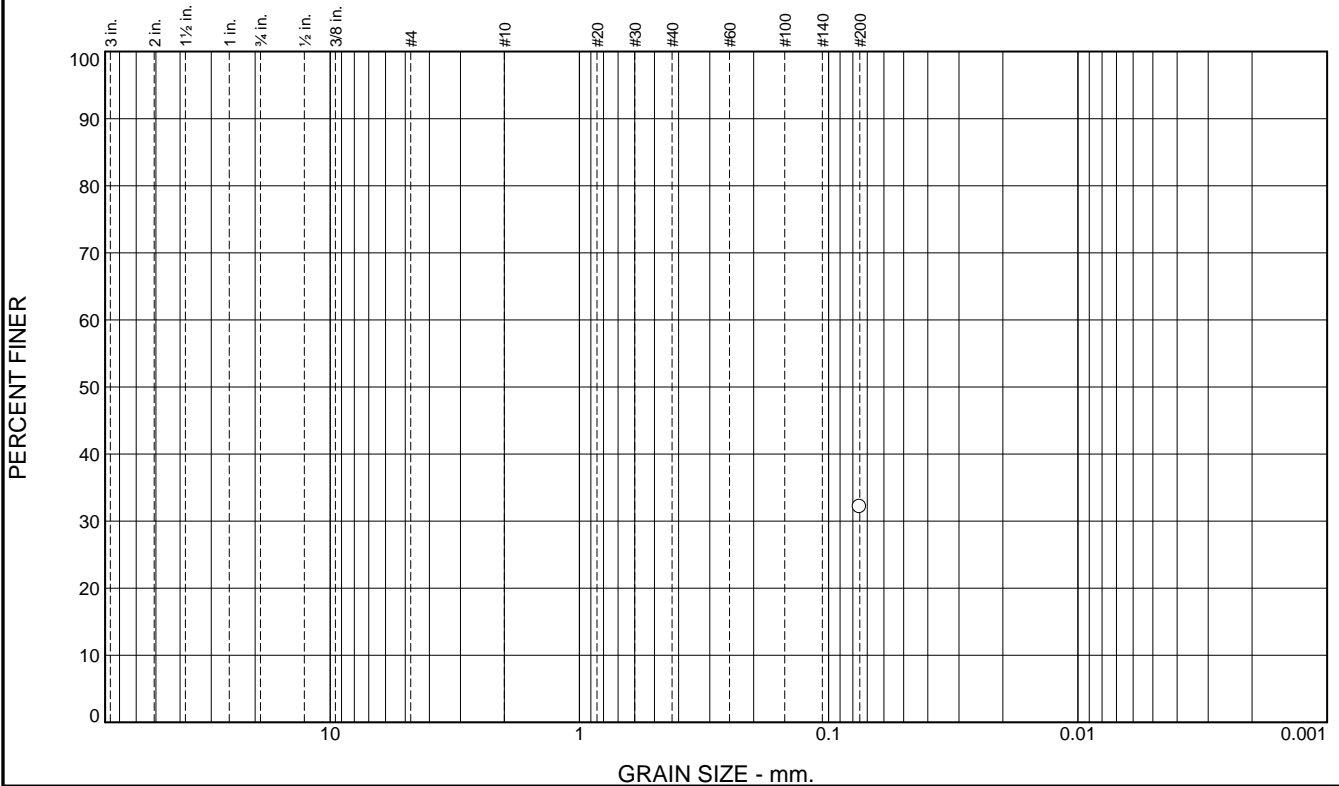
Date: 01-29-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
	Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						32	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	32		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B019 Depth: 36.5
Sample Number: 7-B019 @ 36.5

Date: 2-5-15



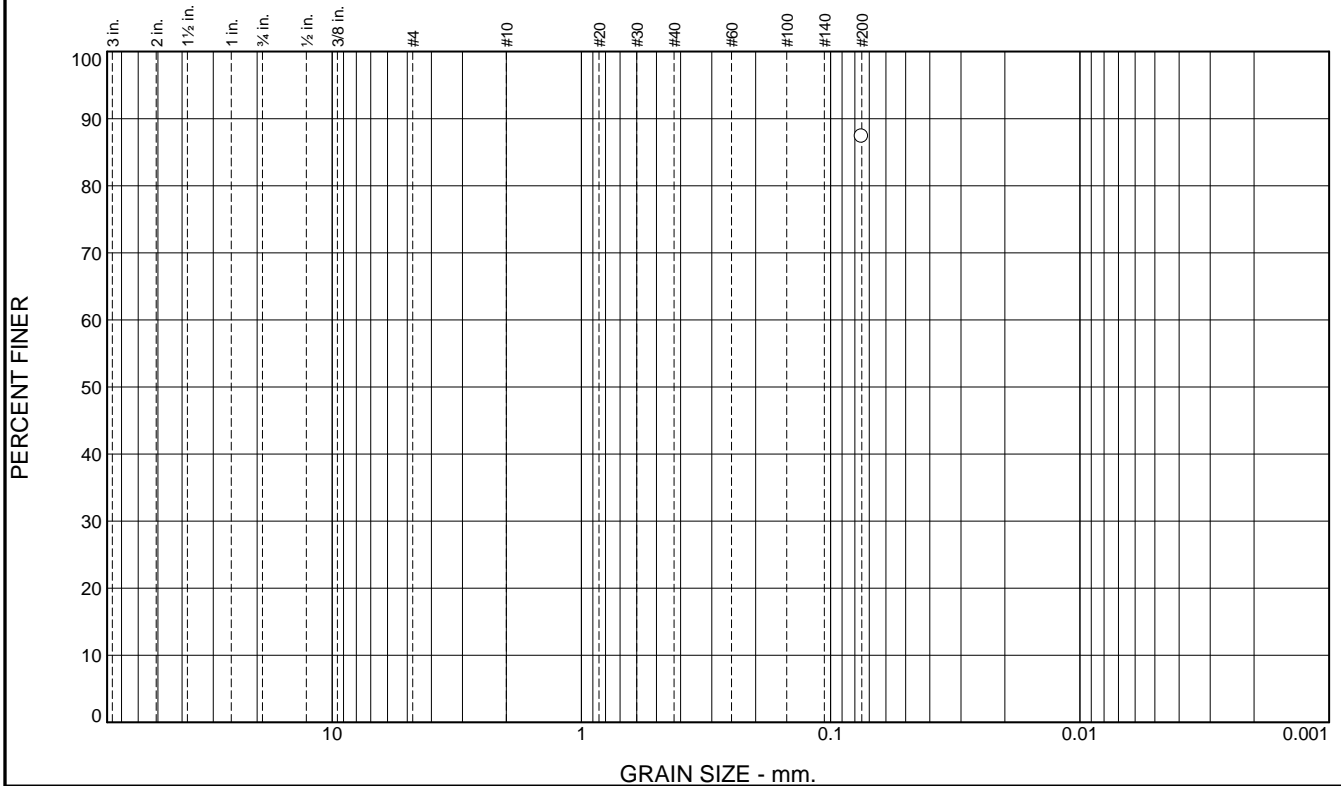
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						87.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	87.3		

Soil Description

See Exploratory Log

Atterberg Limits

PL= 19 LL= 42 PI= 23

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B019 Depth: 41.5
Sample Number: 7-B019 @ 41.5

Date: 2-5-15



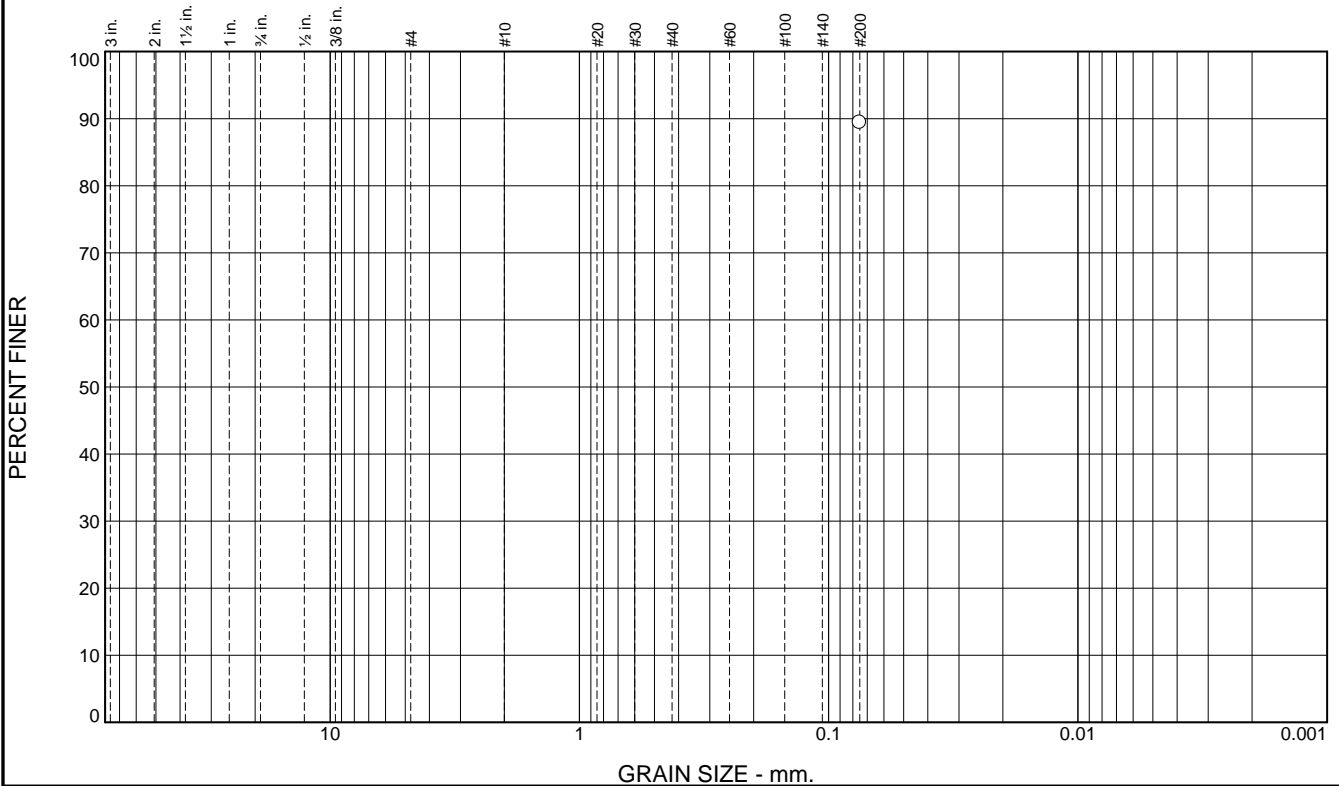
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						89	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	89		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B019 Depth: 46.0
 Sample Number: 7-B019 @ 46.0

Date: 2-5-15



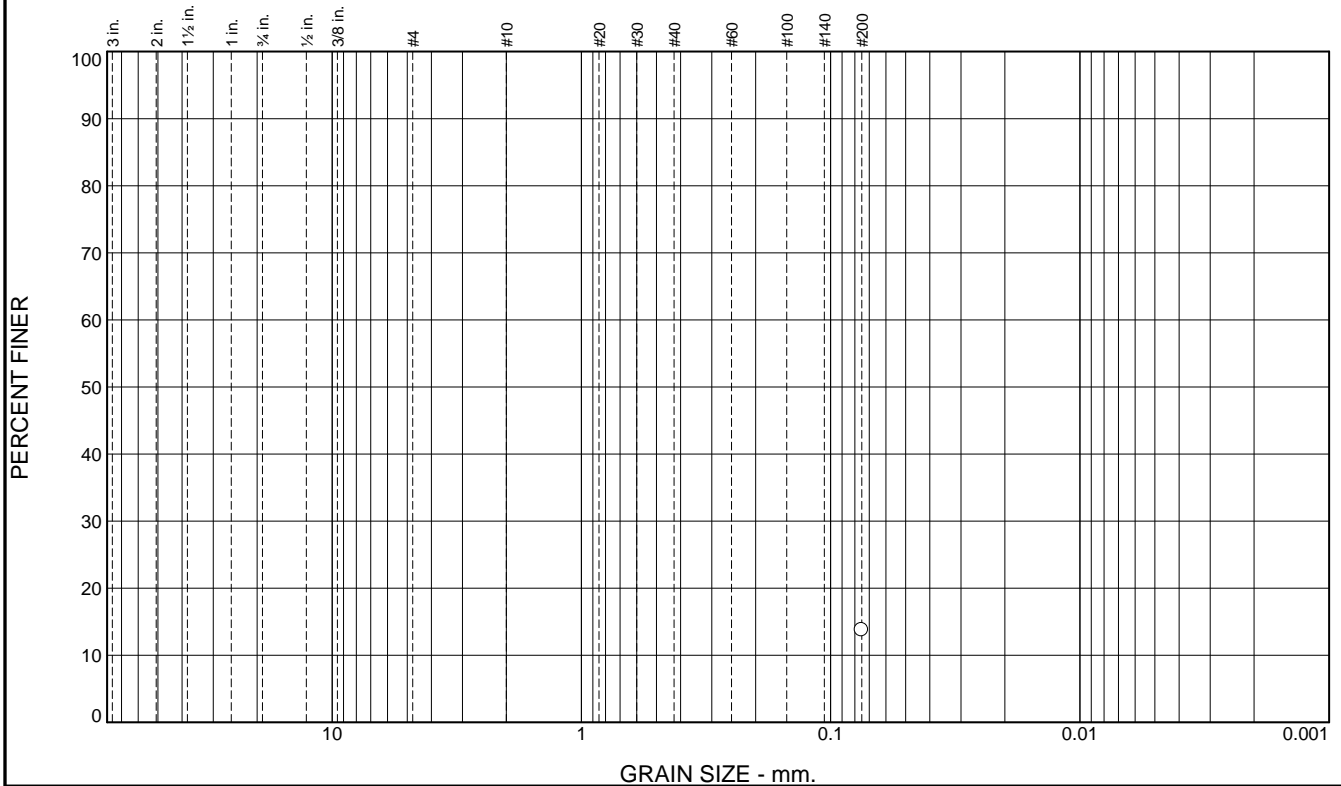
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						14	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	14		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B019 Depth: 51.0
Sample Number: 7-B019 @ 51.0

Date: 2-5-15



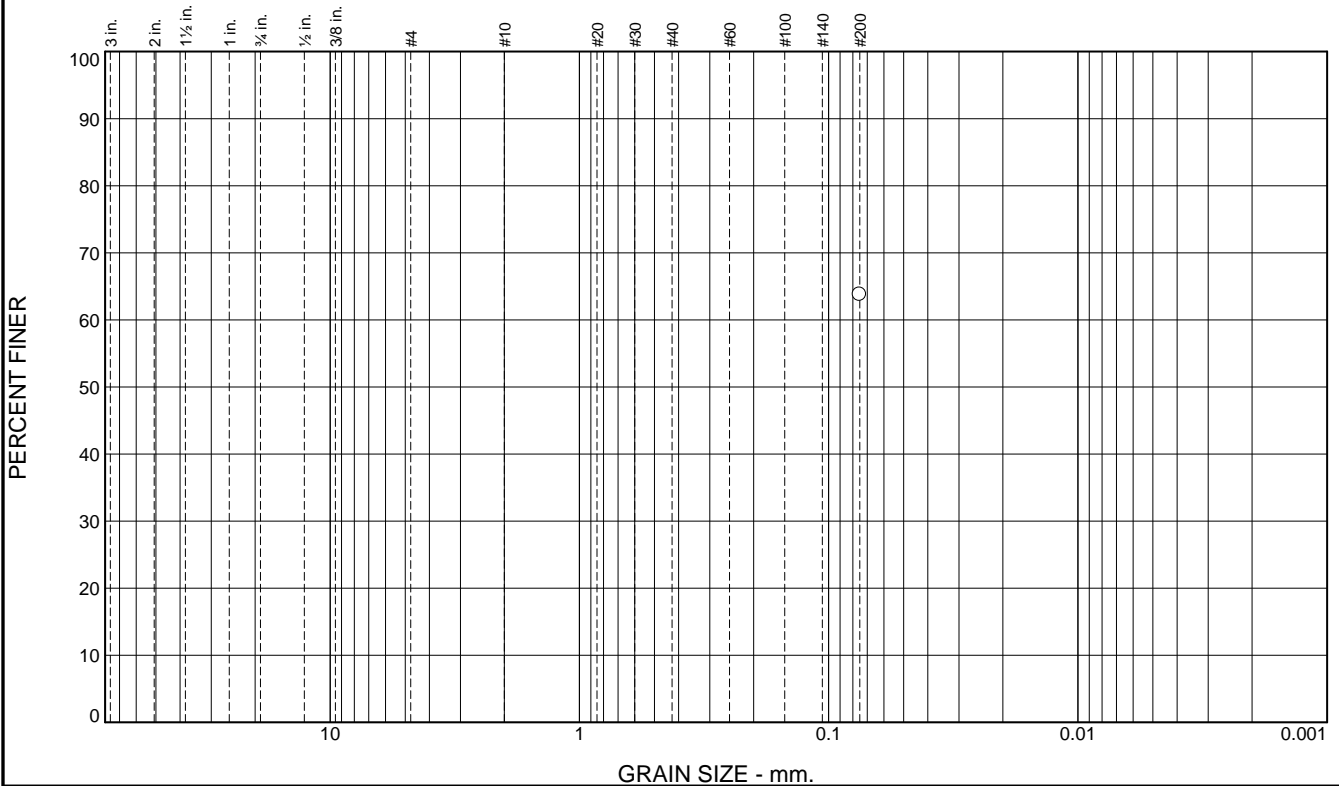
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						63.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	63.8		

Soil Description

See Exploratory Log

Atterberg Limits

PL= 16 LL= 25 PI= 9

Coefficients

D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 5.0
Sample Number: 7-B020 @ 5.0

Date: 2-5-15



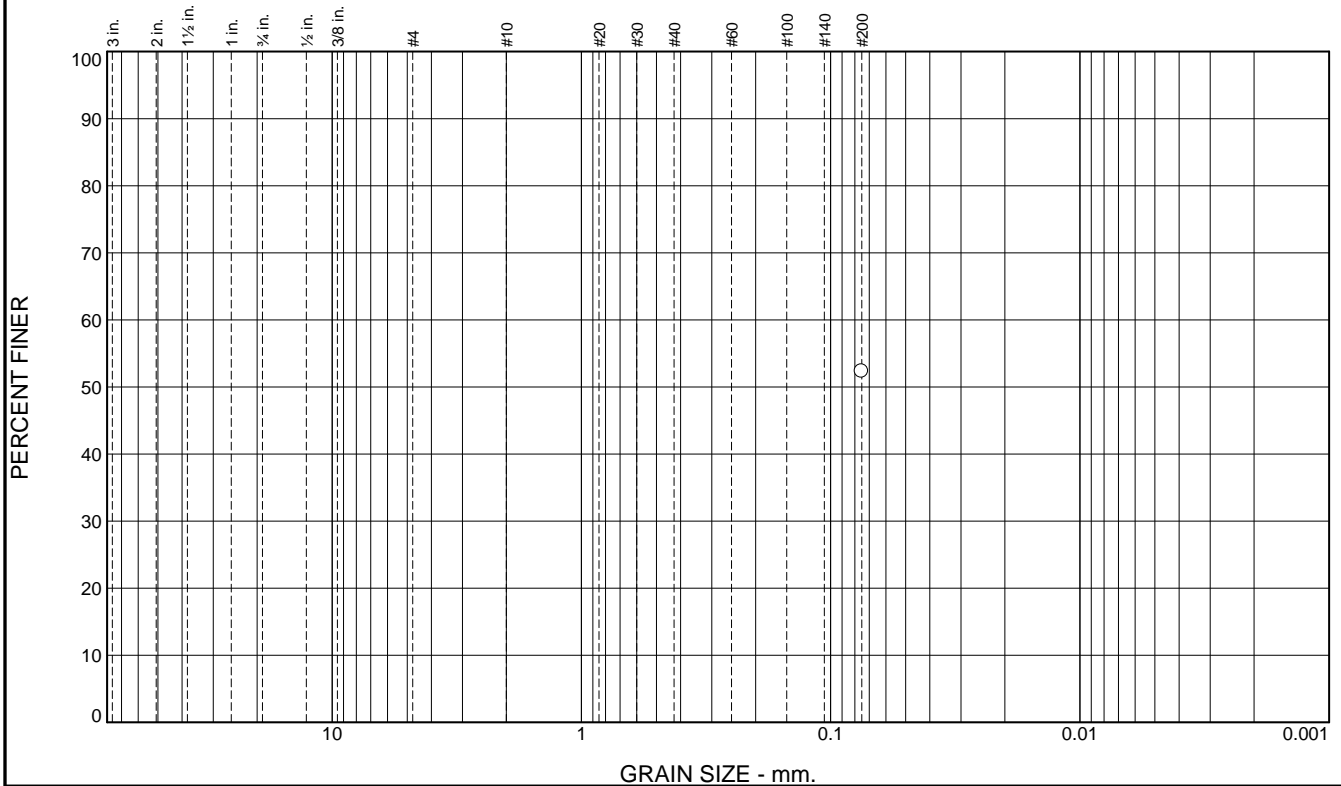
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						52.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	52.3		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 10.0
 Sample Number: 7-B020 @ 10.0

Date: 2-5-15



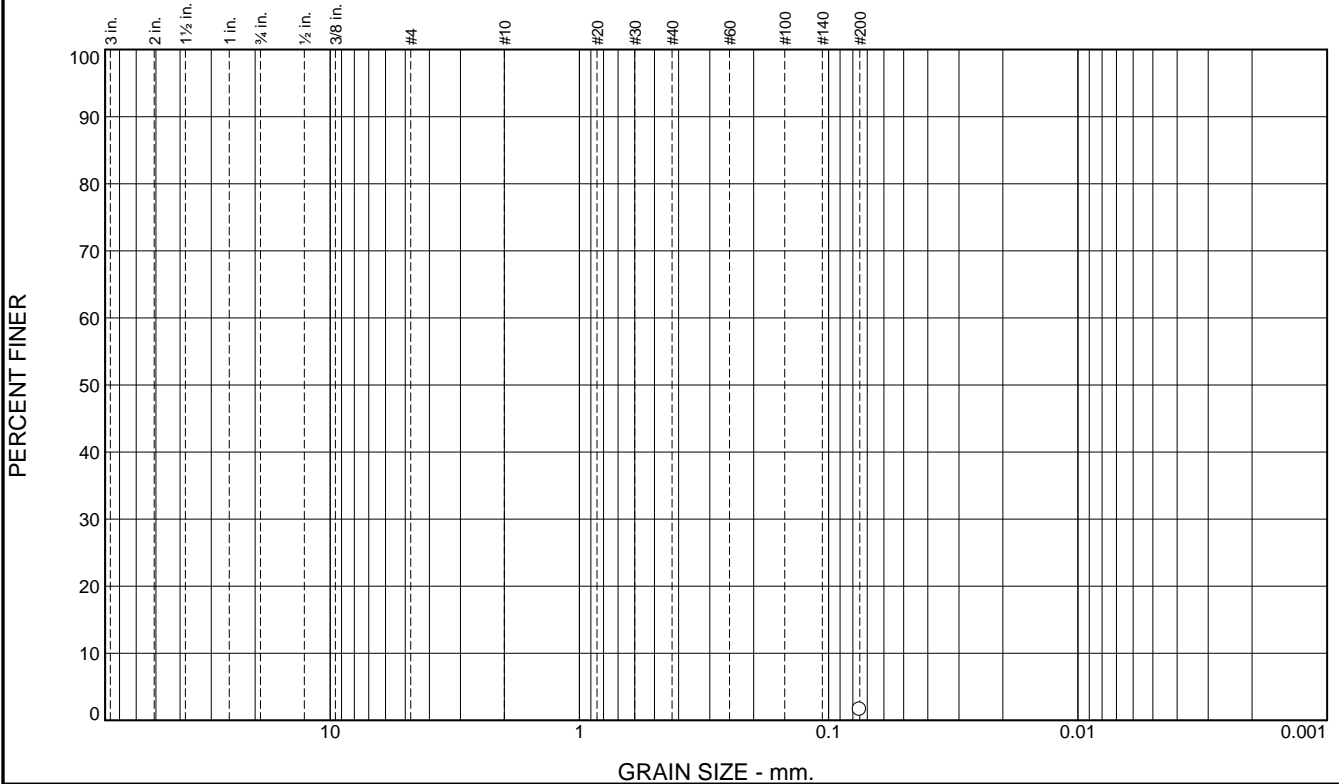
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	1.6		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 30.5
 Sample Number: 7-B020 @ 30.5

Date: 2-5-15



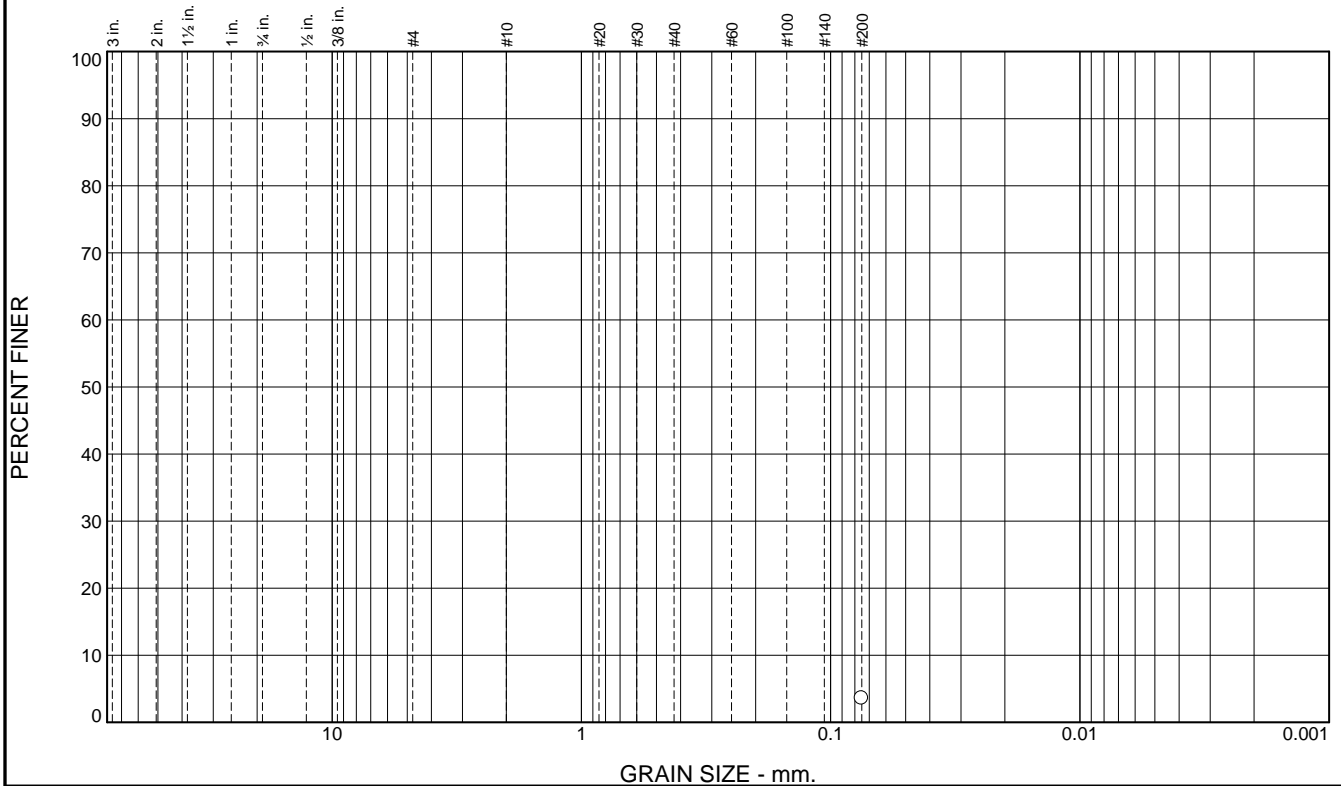
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	3.6		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 40.5
Sample Number: 7-B020 @ 40.5

Date: 2-5-15



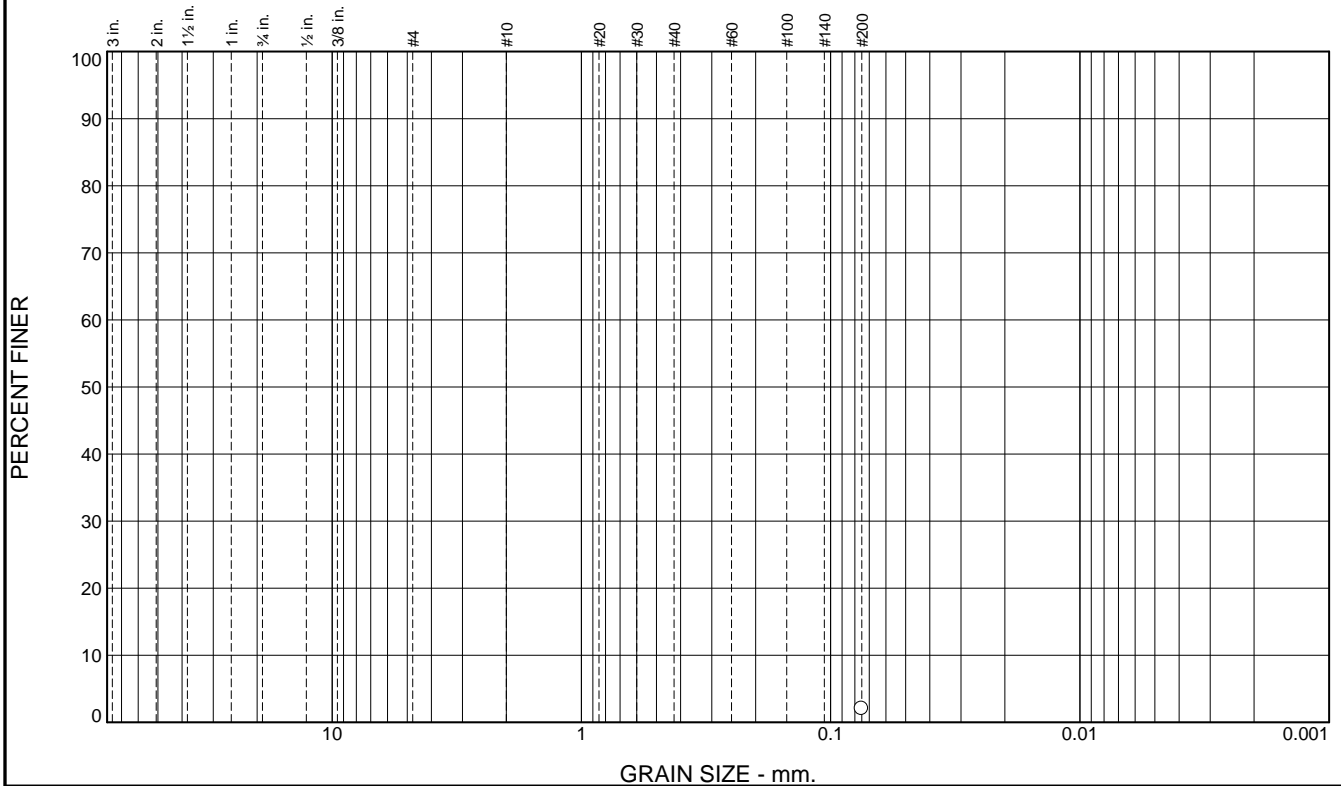
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	2.0		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 50.5
 Sample Number: 7-B020 @ 50.5

Date: 2-5-15



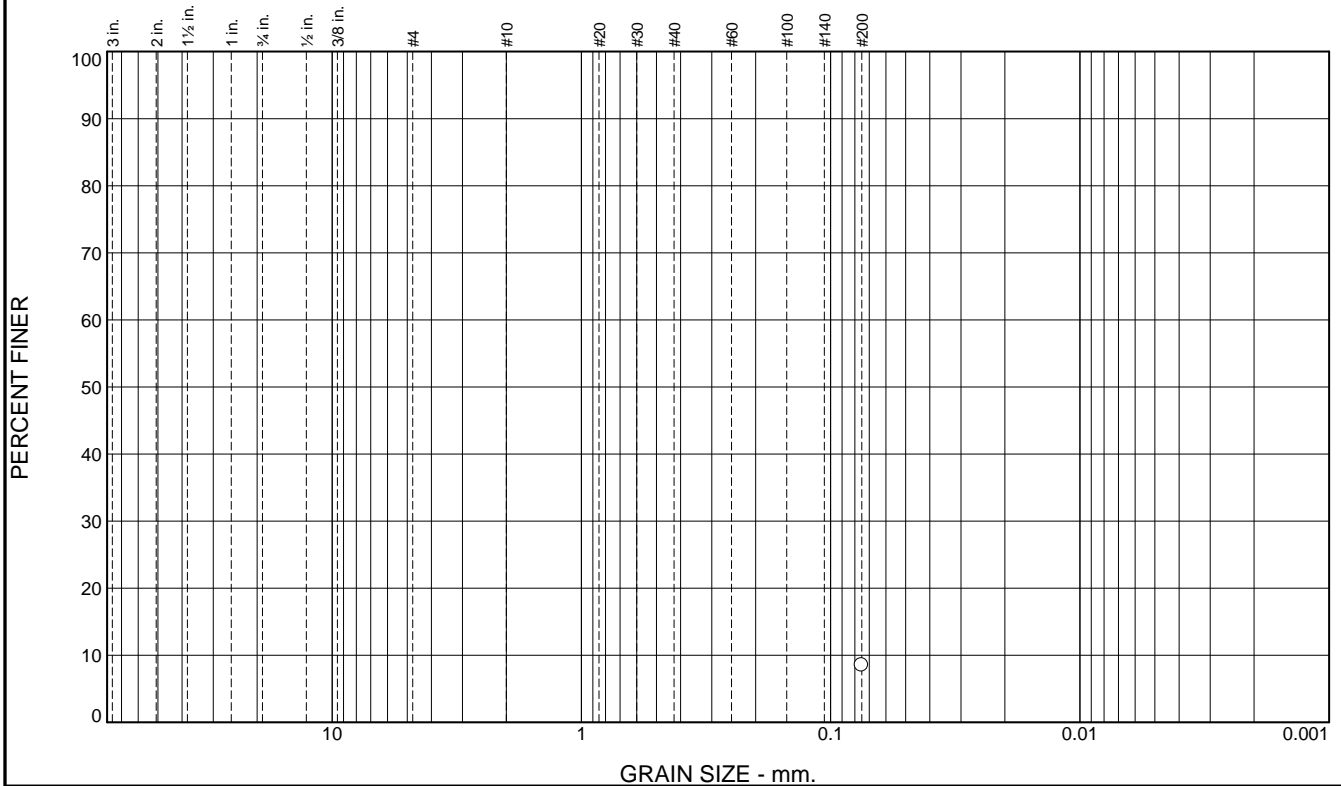
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	8.5		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 75.0
Sample Number: 7-B020 @ 75.0

Date: 2-5-15



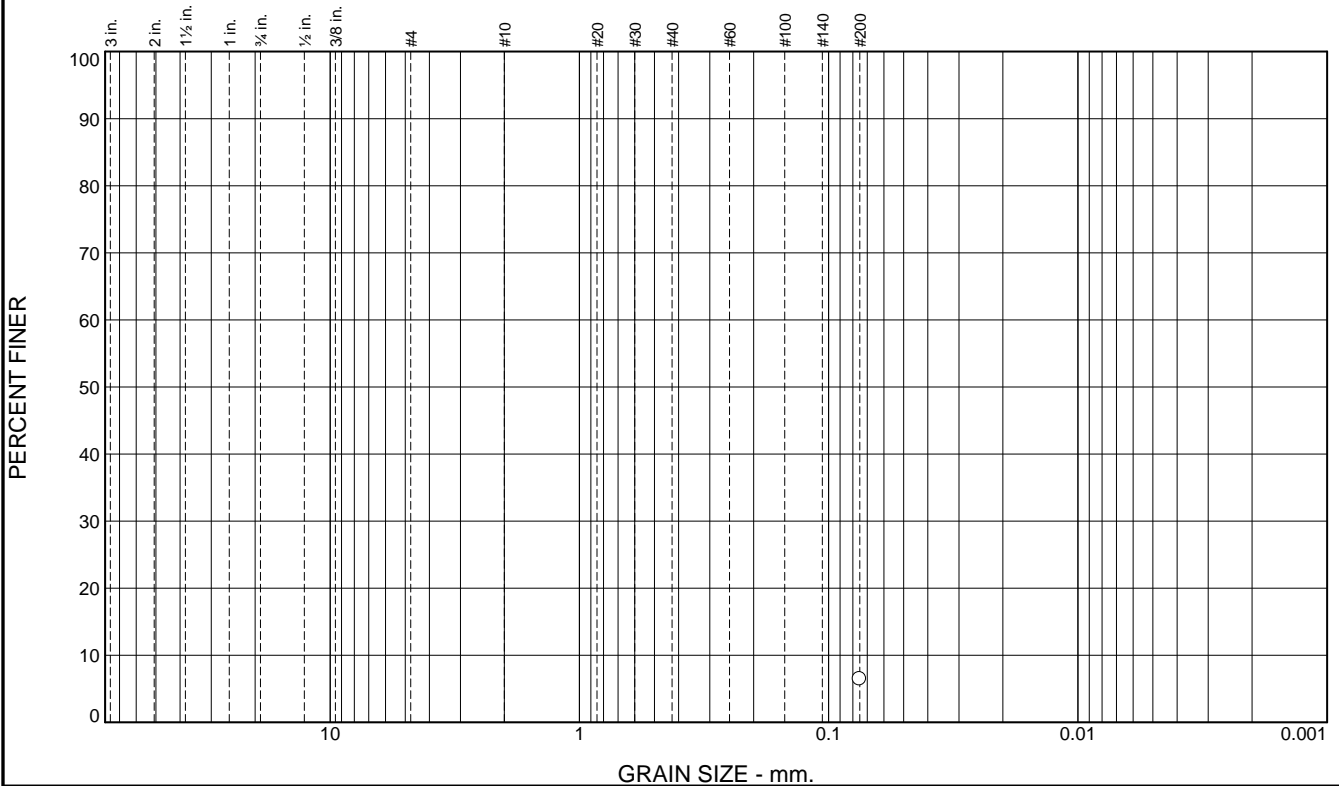
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	6.4		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 85.0
Sample Number: 7-B020 @ 85.0

Date: 2-5-14



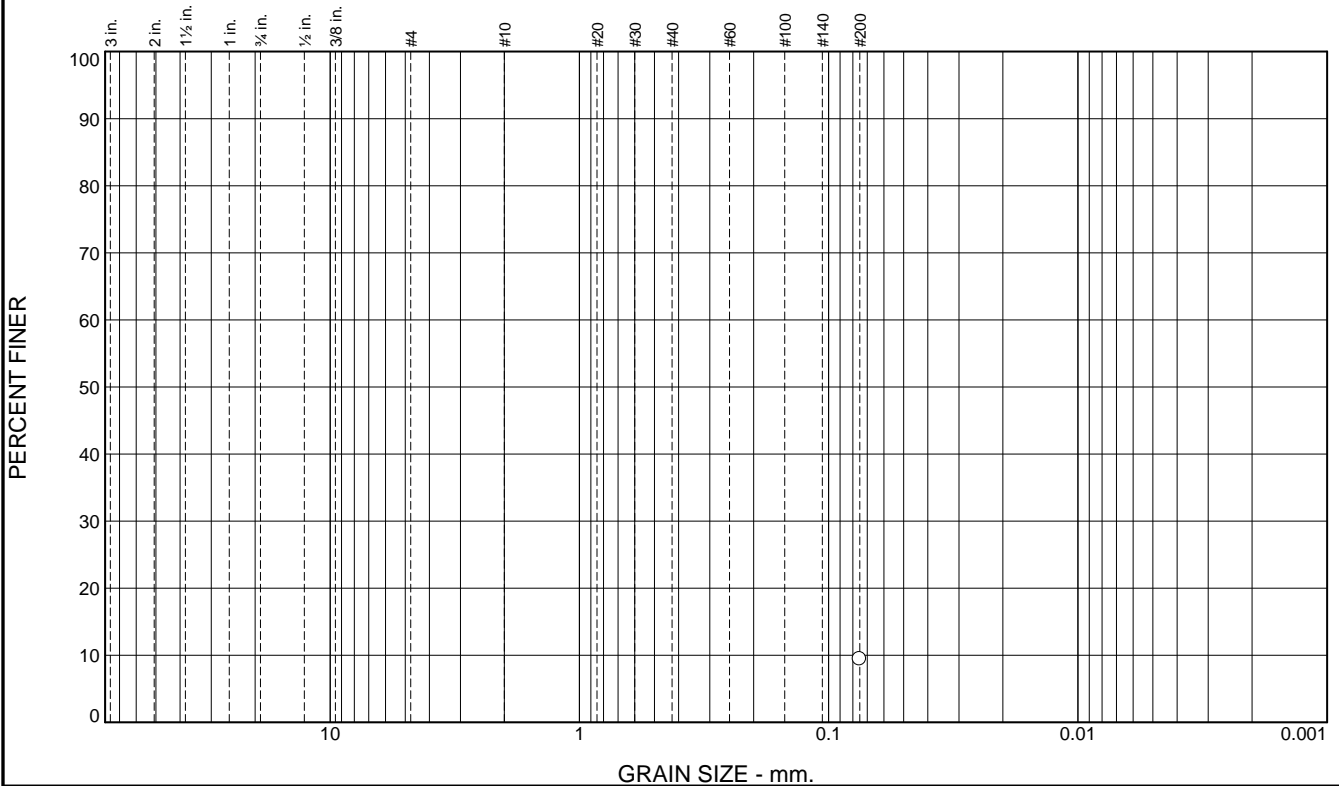
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	9.4		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 95.0
Sample Number: 7-B020 @ 95.0

Date: 2-5-15



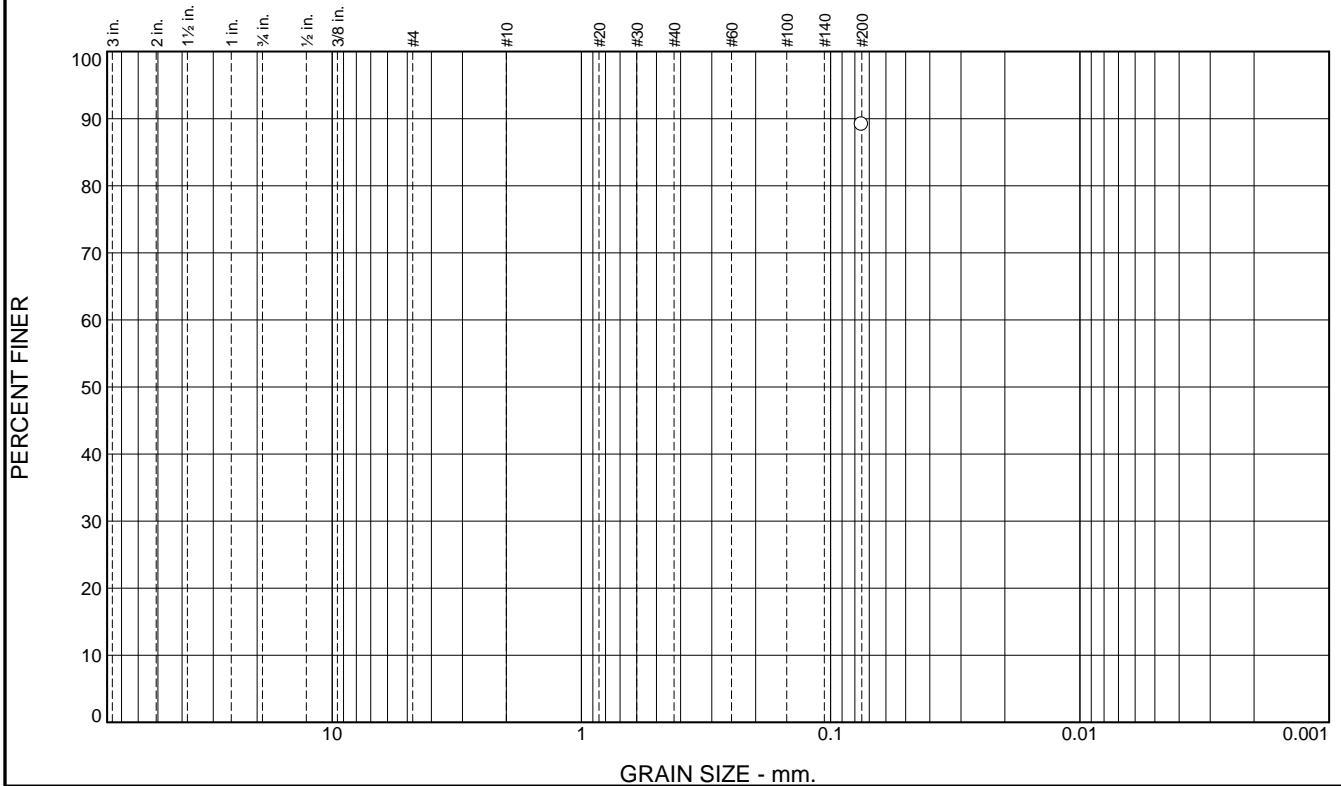
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						89	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	89		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

ASTM D1140

* (no specification provided)

Source of Sample: 7-HA001 Depth: 1.5
Sample Number: 7-HA001 @ 1.5

Date: 7-13-15



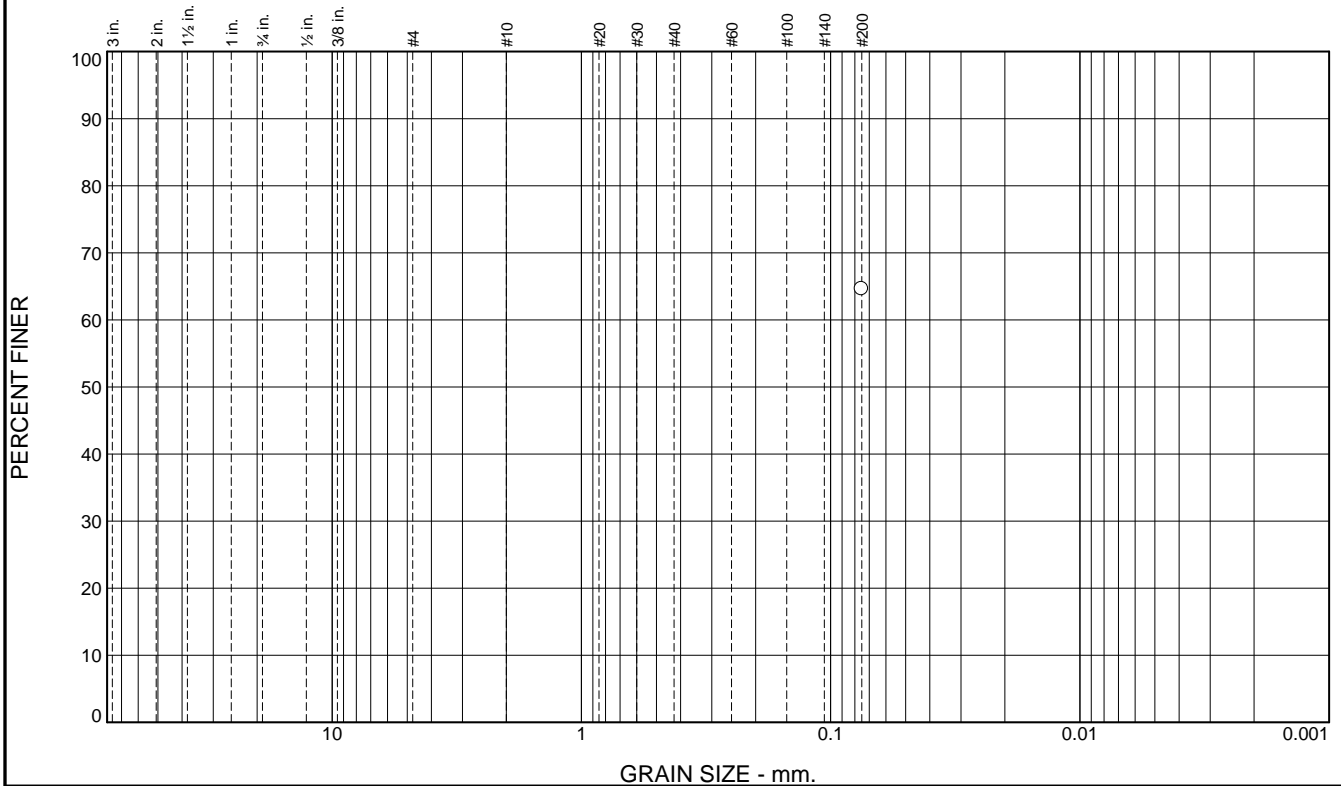
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: M. Tan Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						65	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	65		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

ASTM D1140

* (no specification provided)

Source of Sample: 7-HA001 Depth: 3.5
Sample Number: 7-HA001 @ 3.5

Date: 7-13-15



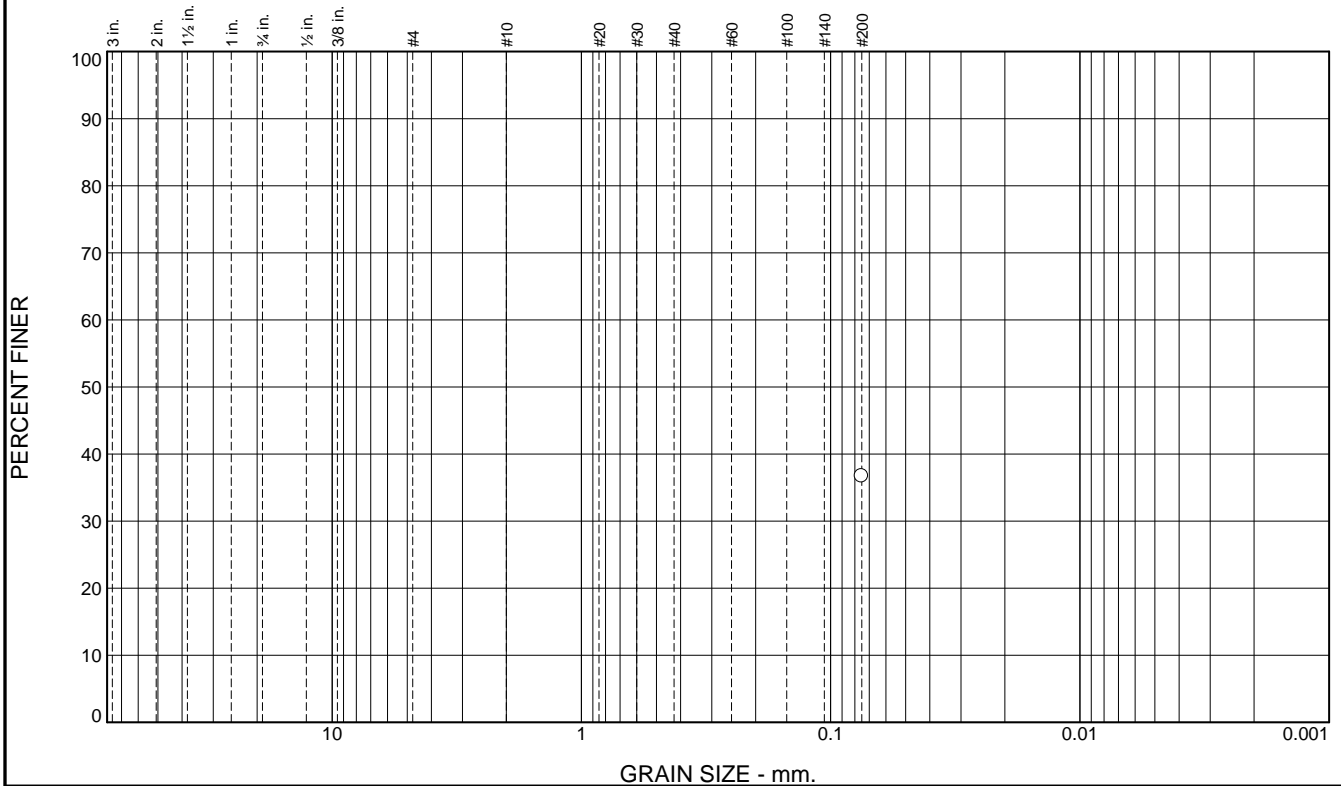
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: M. Tan Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						37	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	37		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA001 Depth: 4.5
 Sample Number: 7-HA001 @ 4.5

Date: 7-31-15



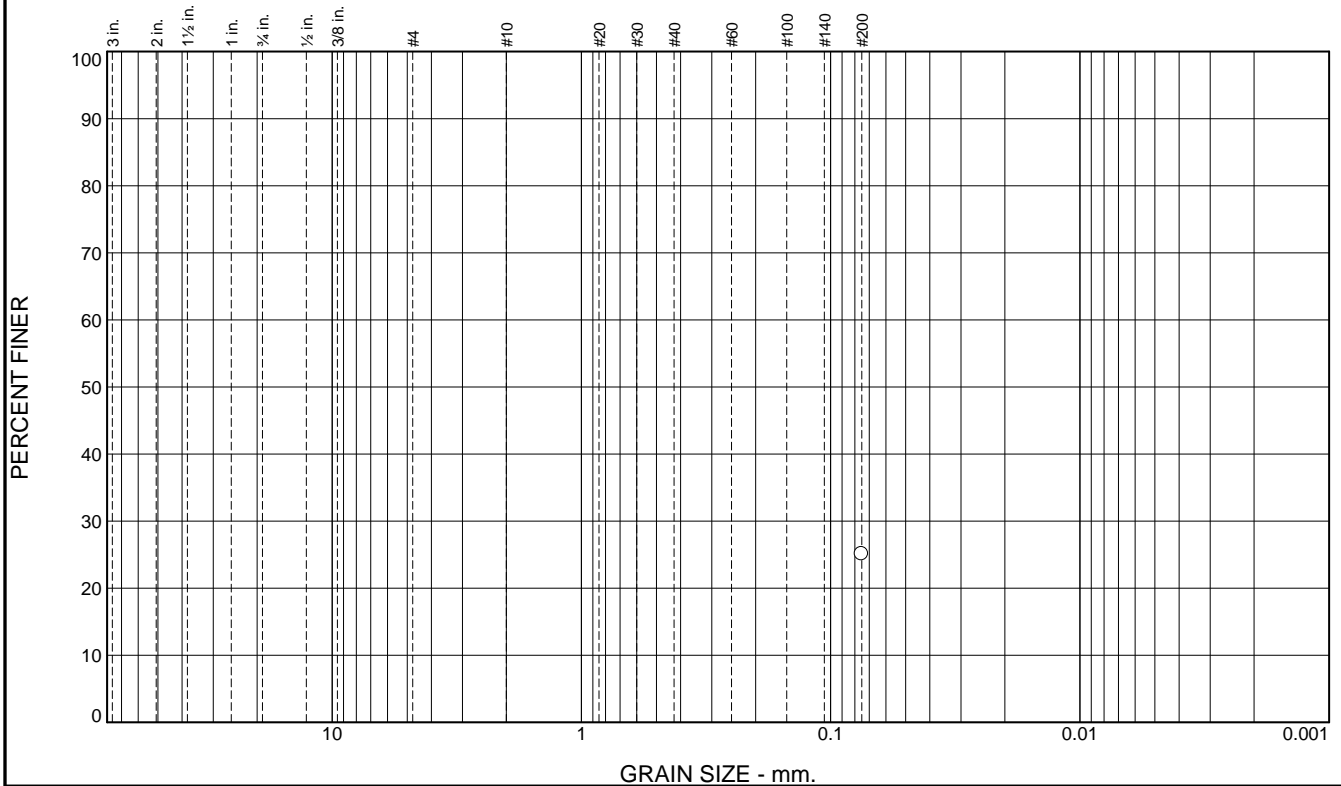
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: C. Crawford Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						25	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	25		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA001 Depth: 5.0
 Sample Number: 7-HA001 @ 5.0

Date: 7-31-15



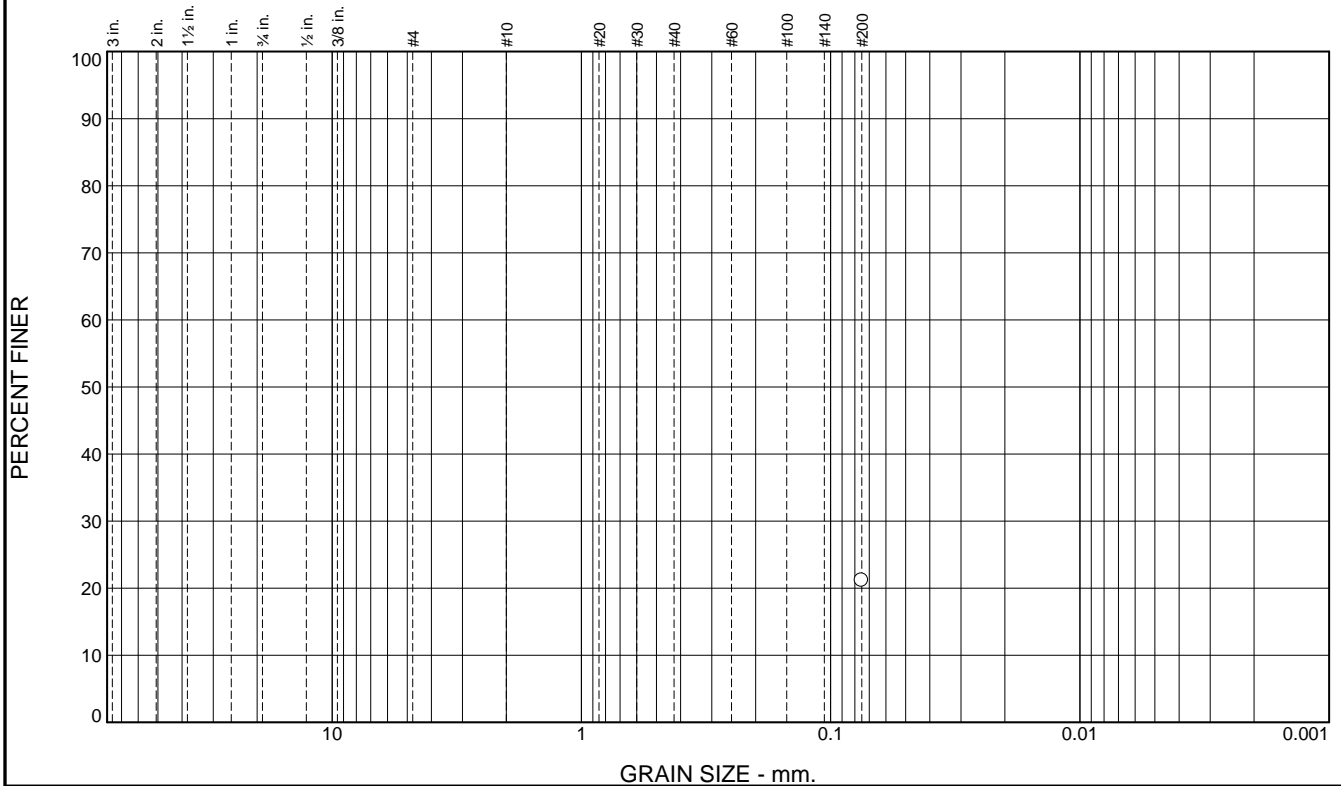
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: C. Crawford Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						21	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	21		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA001 Depth: 6.0
 Sample Number: 7-HA001 @ 6.0

Date: 7-31.15



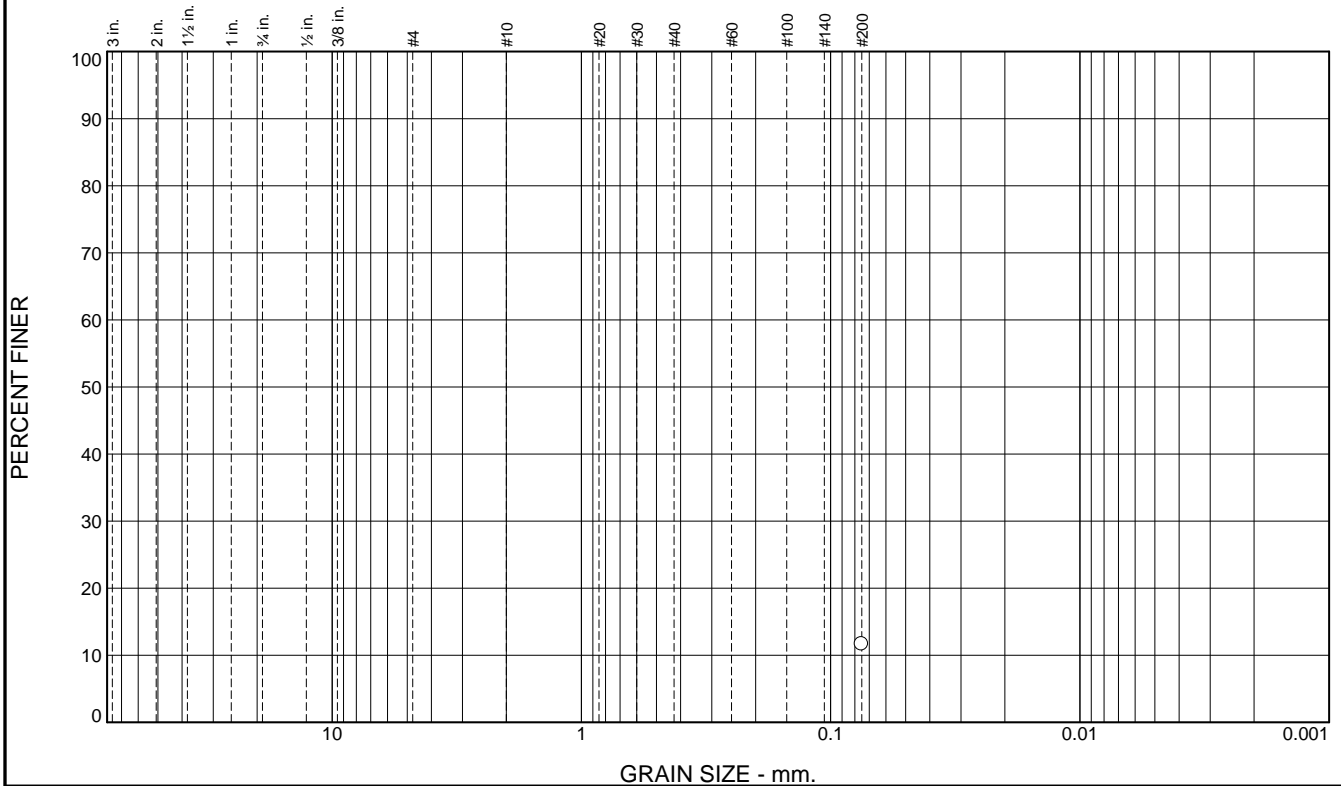
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: C. Crawford Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						12	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	12		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA001 Depth: 6.5
 Sample Number: 7-HA001 @ 6.5

Date: 7-13-15



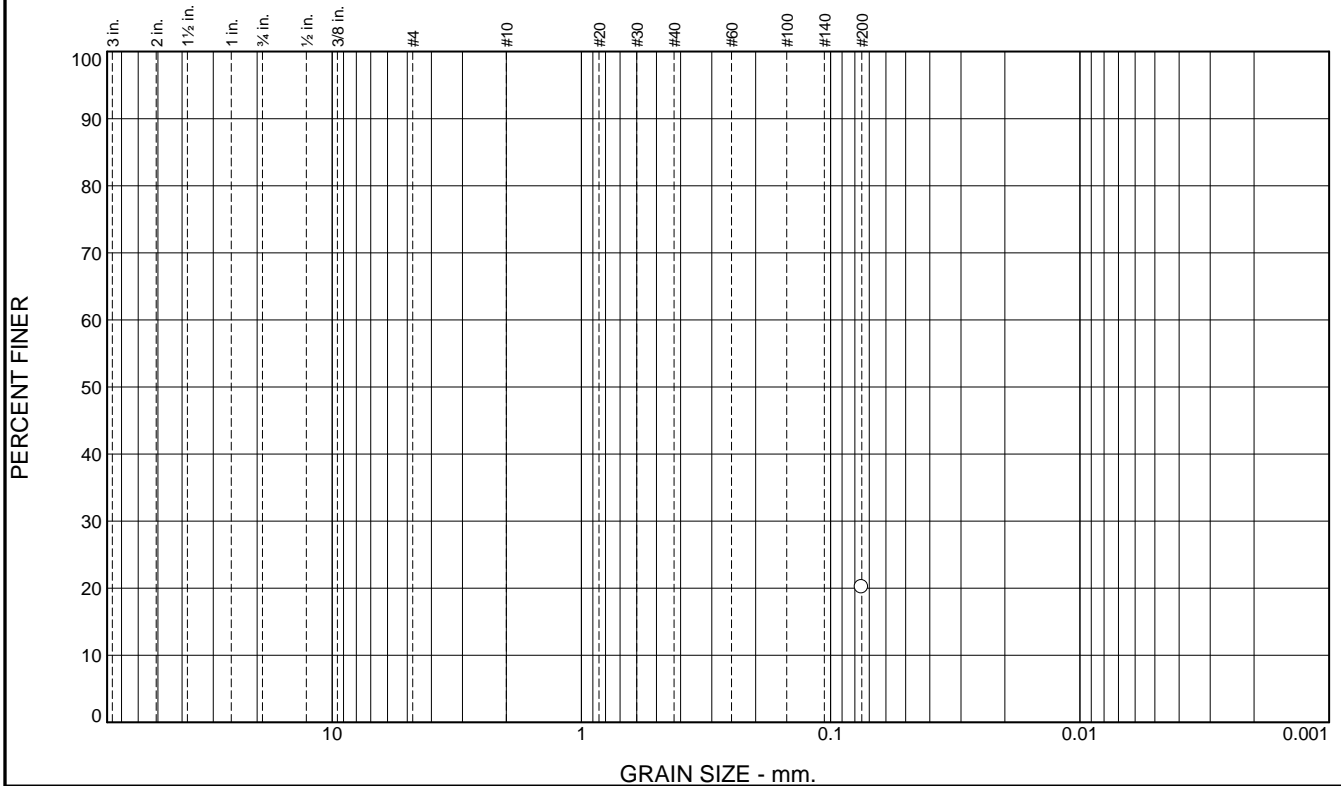
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: M. Tan Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						20	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	20		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA001 Depth: 7.5
 Sample Number: 7-HA001 @ 7.5

Date: 7-31-15



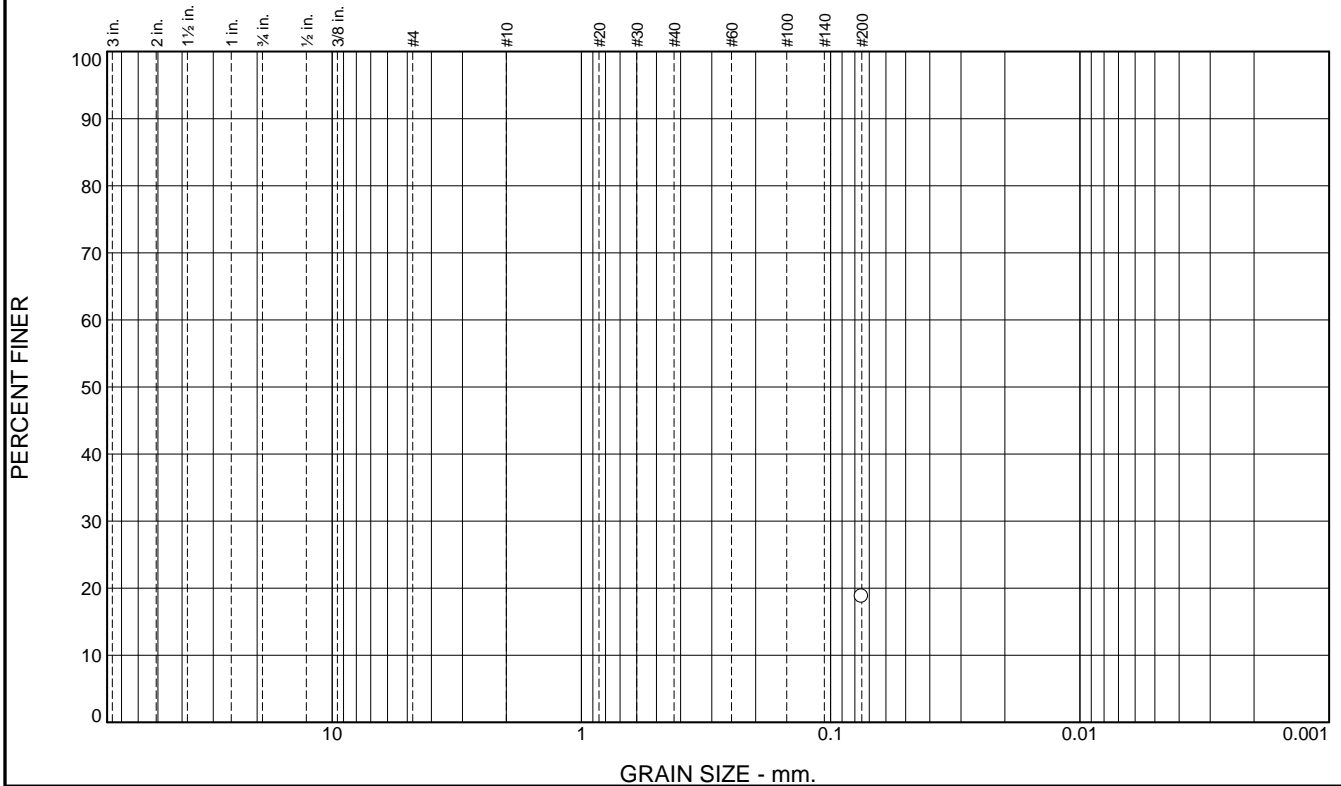
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: C. Crawford Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						19	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	19		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

ASTM D1140

* (no specification provided)

Source of Sample: 7-HA001 Depth: 8.5
Sample Number: 7-HA001 @ 8.5

Date: 7-31-15



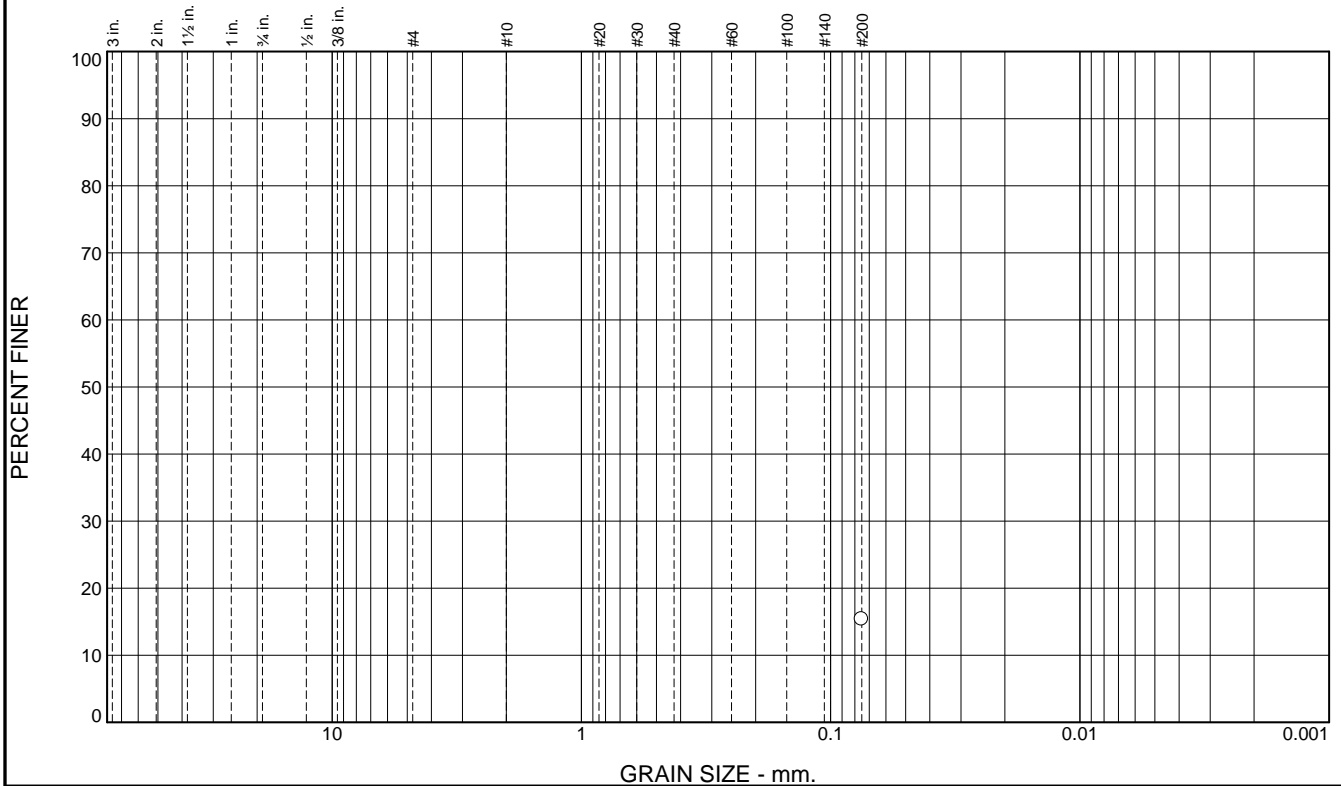
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: C. Crawford **Checked By:** K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						15	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	15		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

ASTM D1140

* (no specification provided)

Source of Sample: 7-HA001 Depth: 9.5
Sample Number: 7-HA001 @ 9.5

Date: 7-31-15



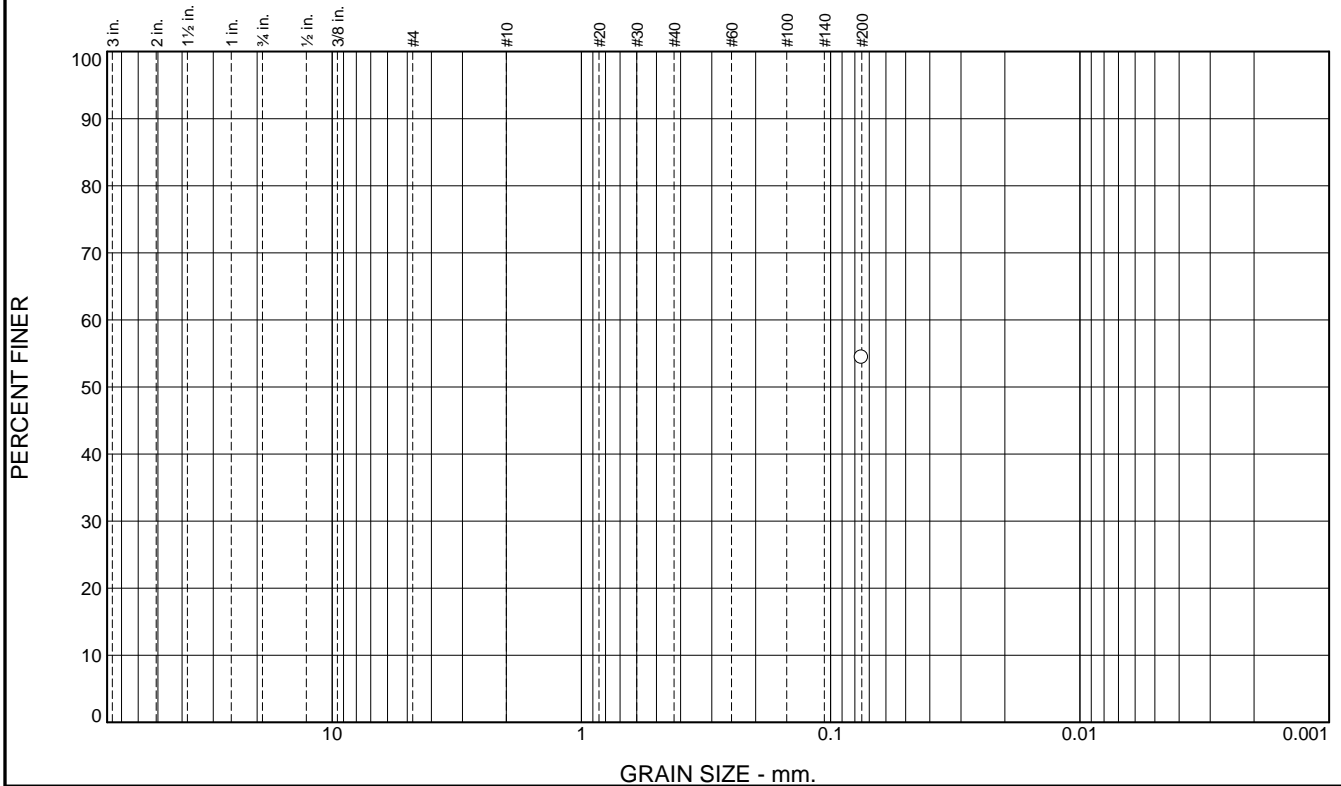
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: C. Crawford Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						54	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	54		

Soil Description

See Exploratory Log

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA001 Depth: 10.5
 Sample Number: 7-HA001 @ 10.5

Date: 7-13-15



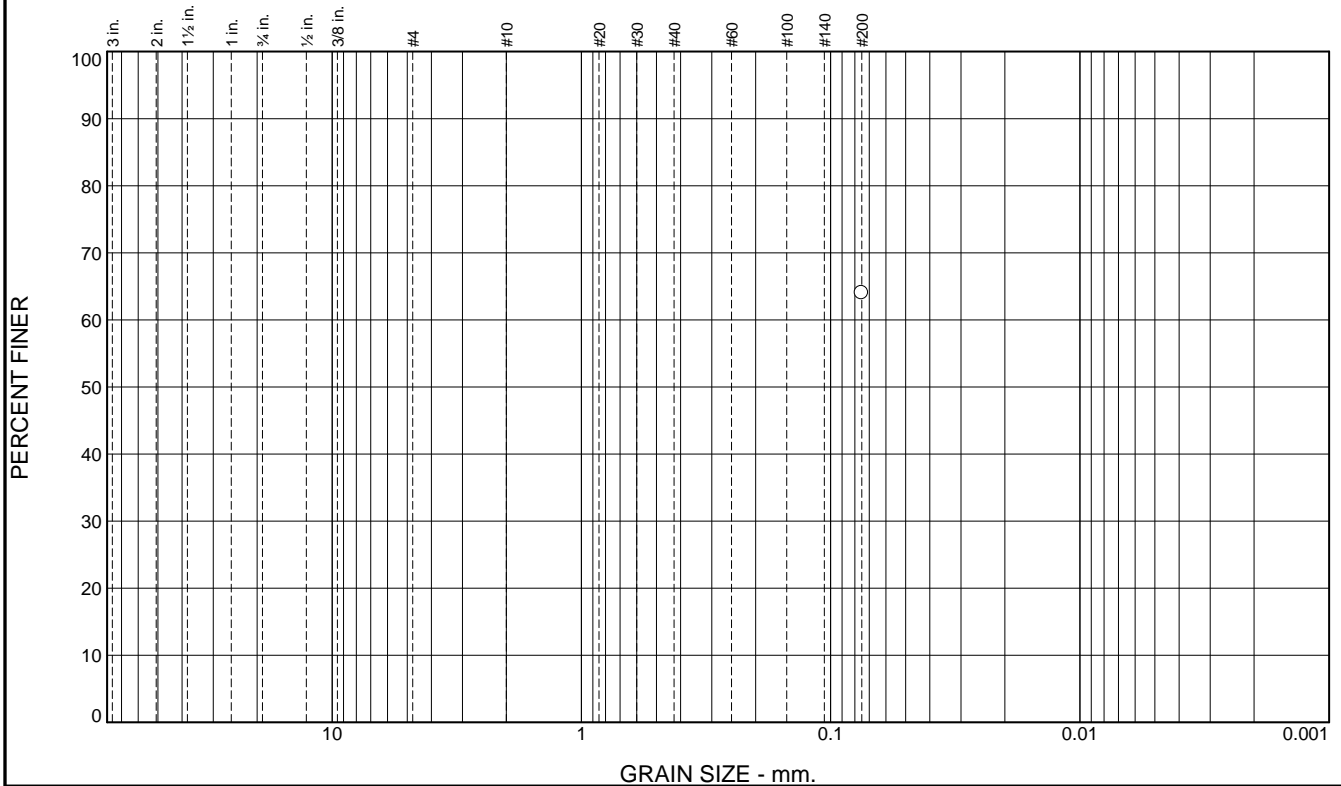
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: M. Tan Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						64.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	64.0		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA002 Depth: 2.5
 Sample Number: 7-HA002 @ 2.5

Date: 9-28-15



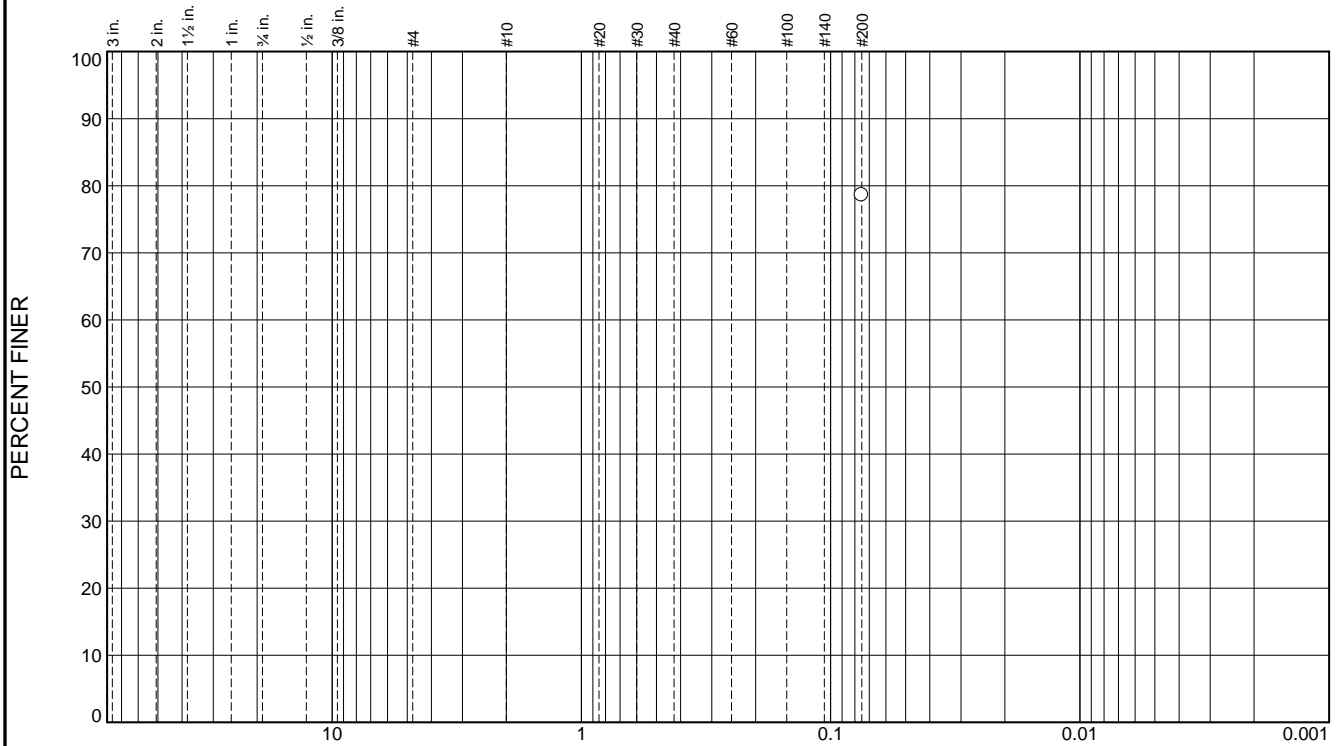
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						78.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	78.6		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA002 Depth: 4.5
 Sample Number: 7-HA002 @ 4.5

Date: 9-28-15



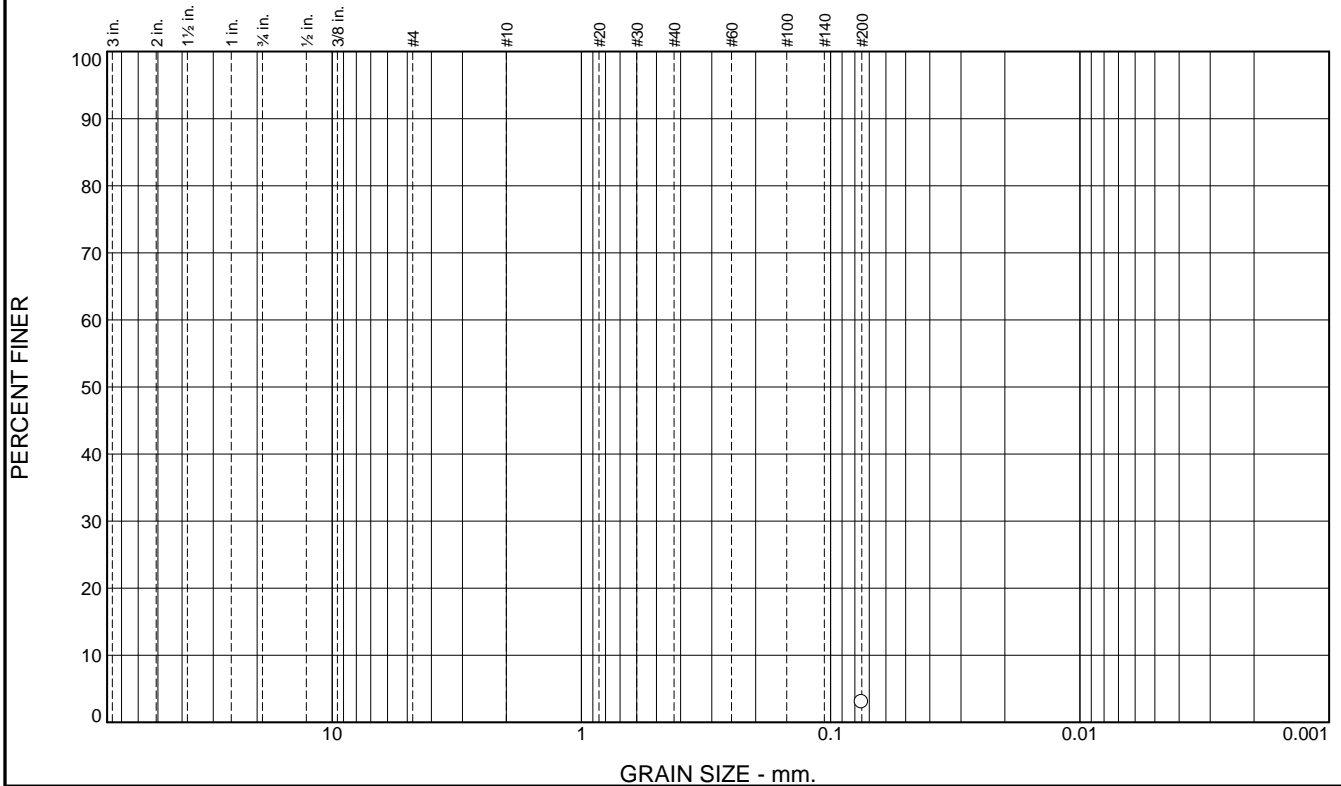
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						3.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	3.0		

Soil Description

SEE EXPLORATORY LOG

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

ASTM D1140

* (no specification provided)

Source of Sample: 7-HA002 Depth: 9
Sample Number: 7-HA002 @ 9

Date: 9-28-15



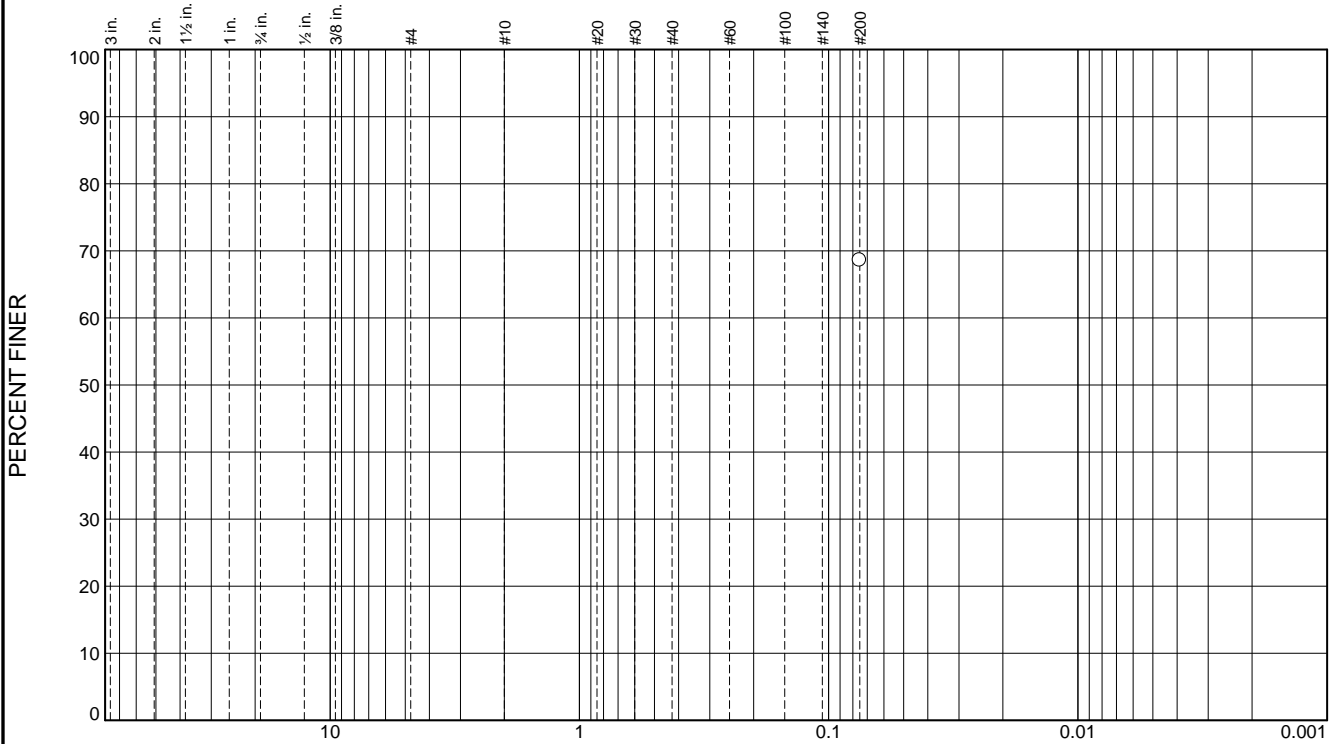
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						68.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	68.6		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA003 Depth: .5
 Sample Number: 7-HA003 @ .5

Date: 9-28-15



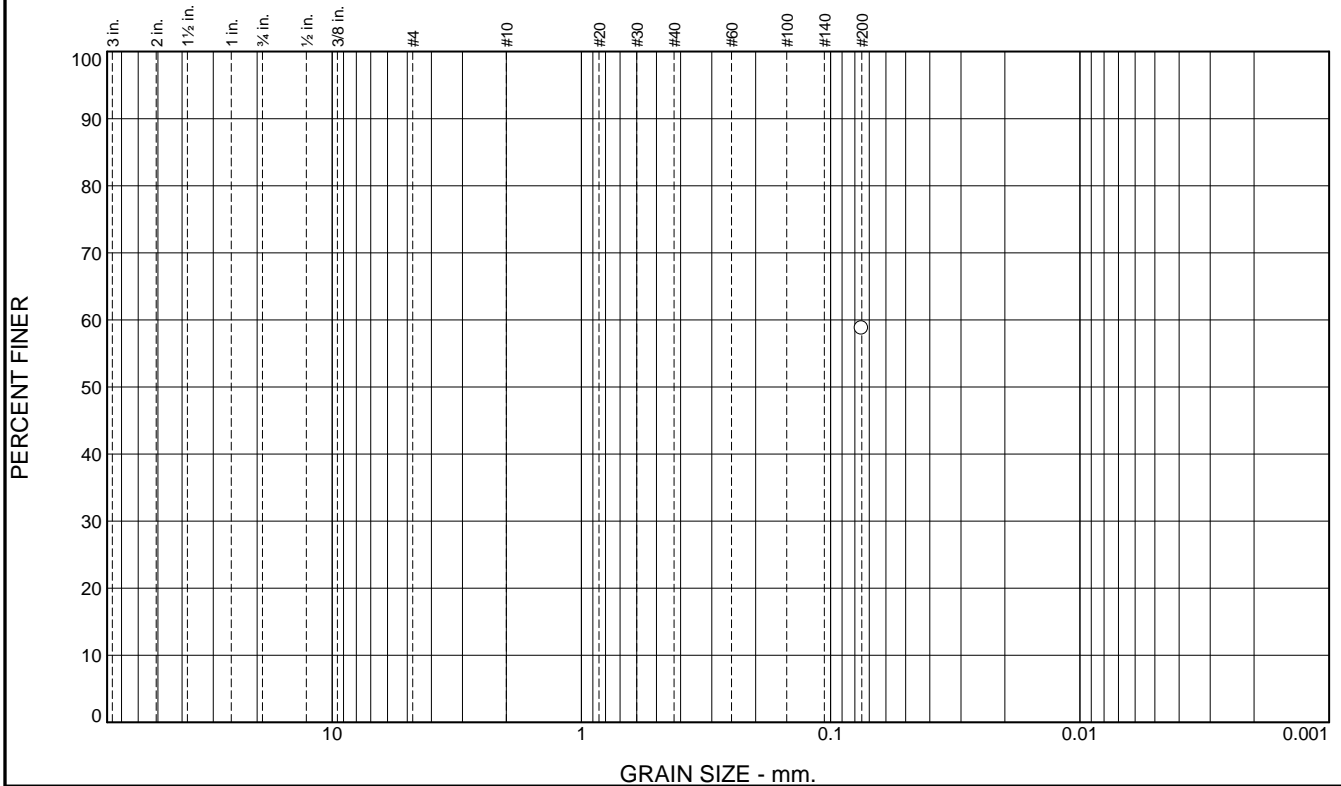
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						58.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	58.7		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA003 Depth: 6.5
 Sample Number: 7-HA003 @ 6.5

Date: 9-28-15



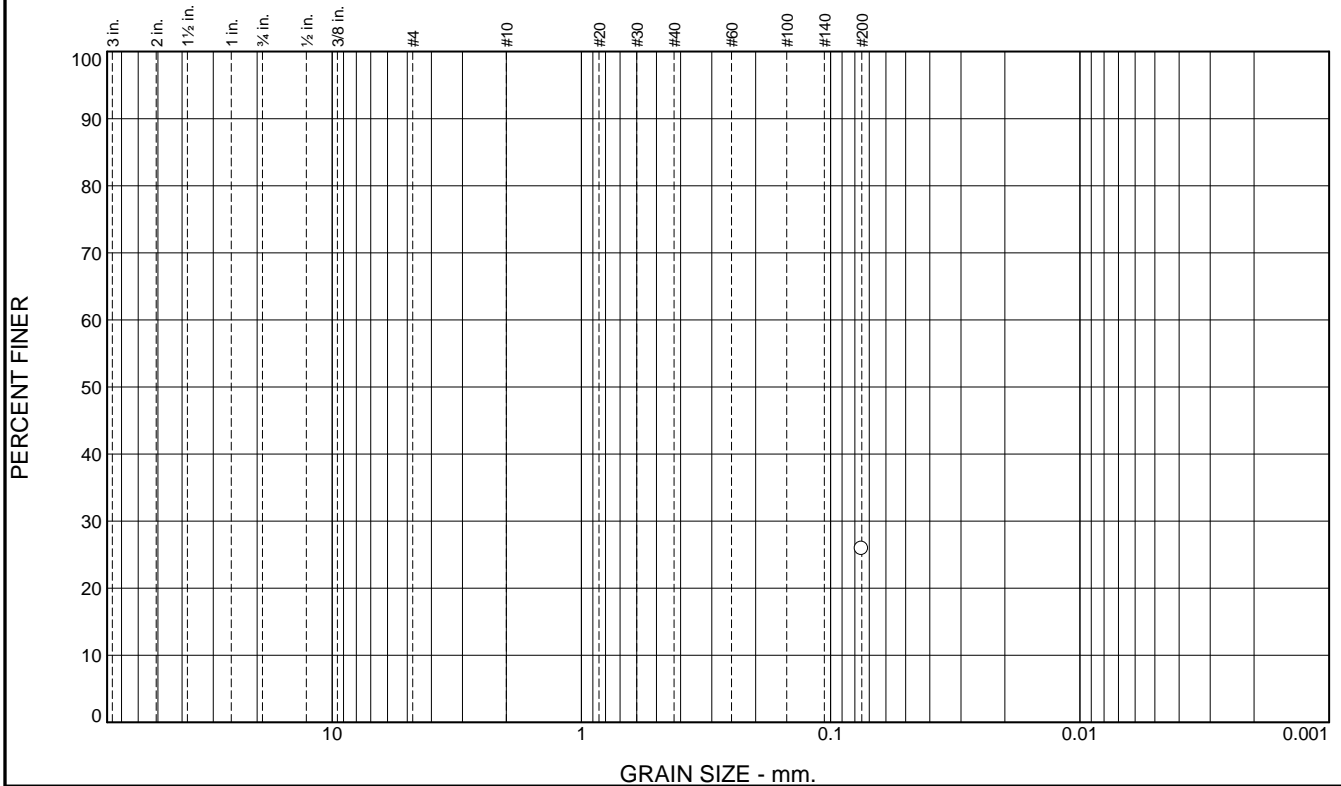
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						25.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	25.9		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA003 Depth: 8.25
 Sample Number: 7-HA003 @ 8.25

Date: 9-28-15



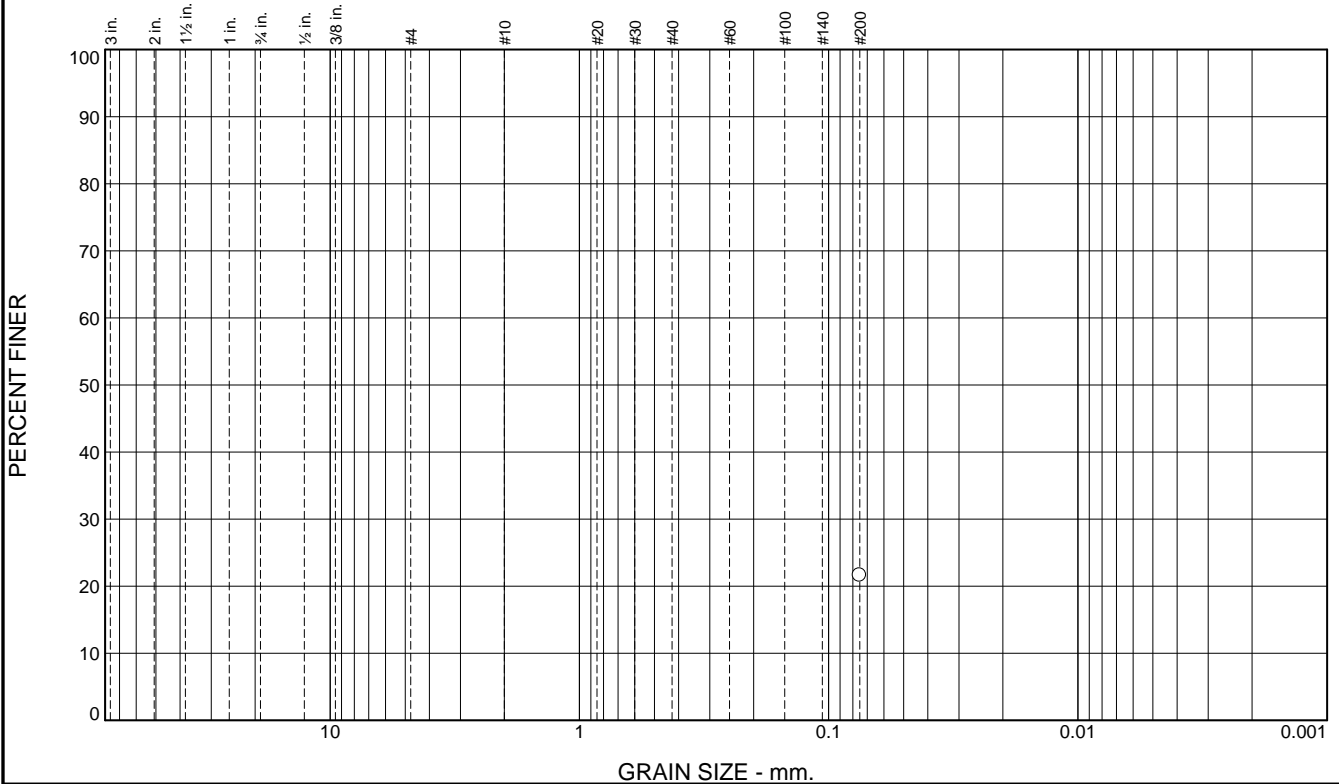
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						21.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	21.6		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA003 Depth: 10.5
 Sample Number: 7-HA003 @ 10.5

Date: 9-28-15



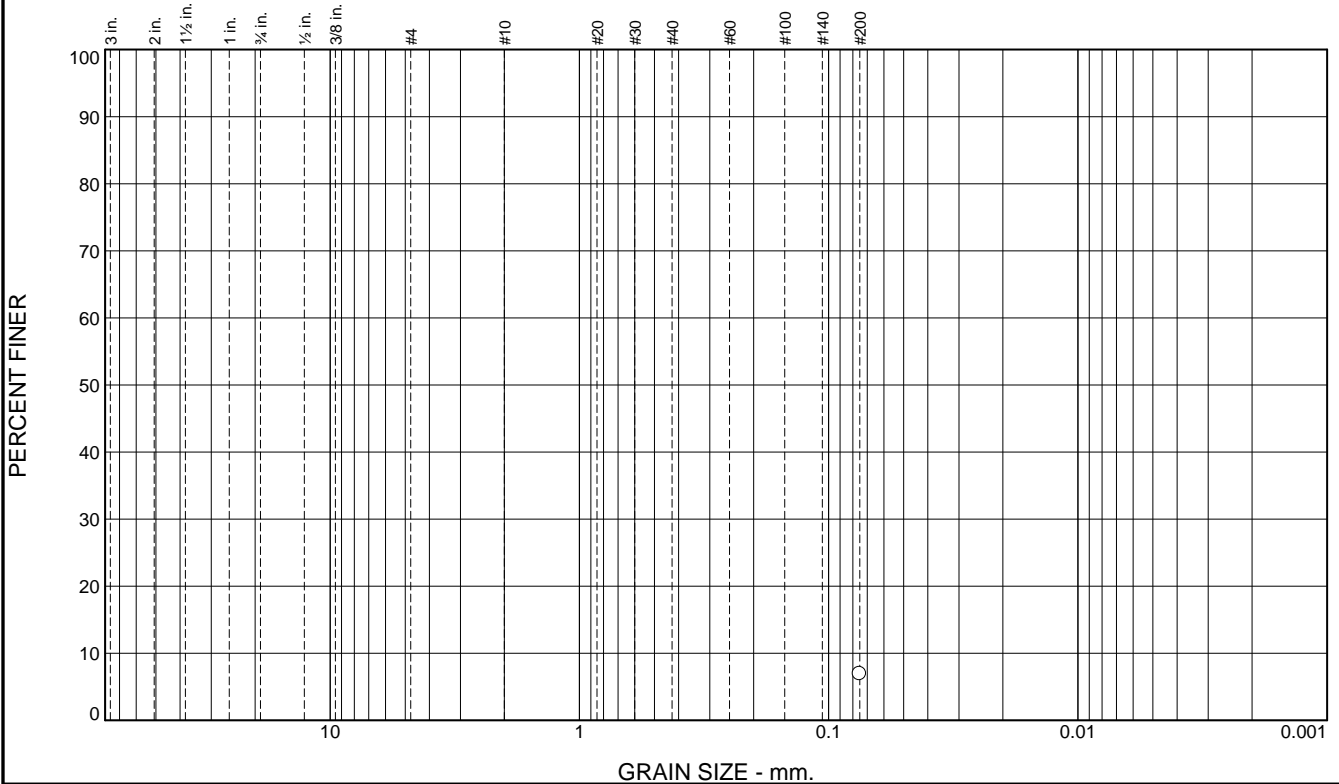
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						6.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	6.9		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA003 Depth: 12.5
 Sample Number: 7-HA003 @ 12.5

Date: 9-28-15



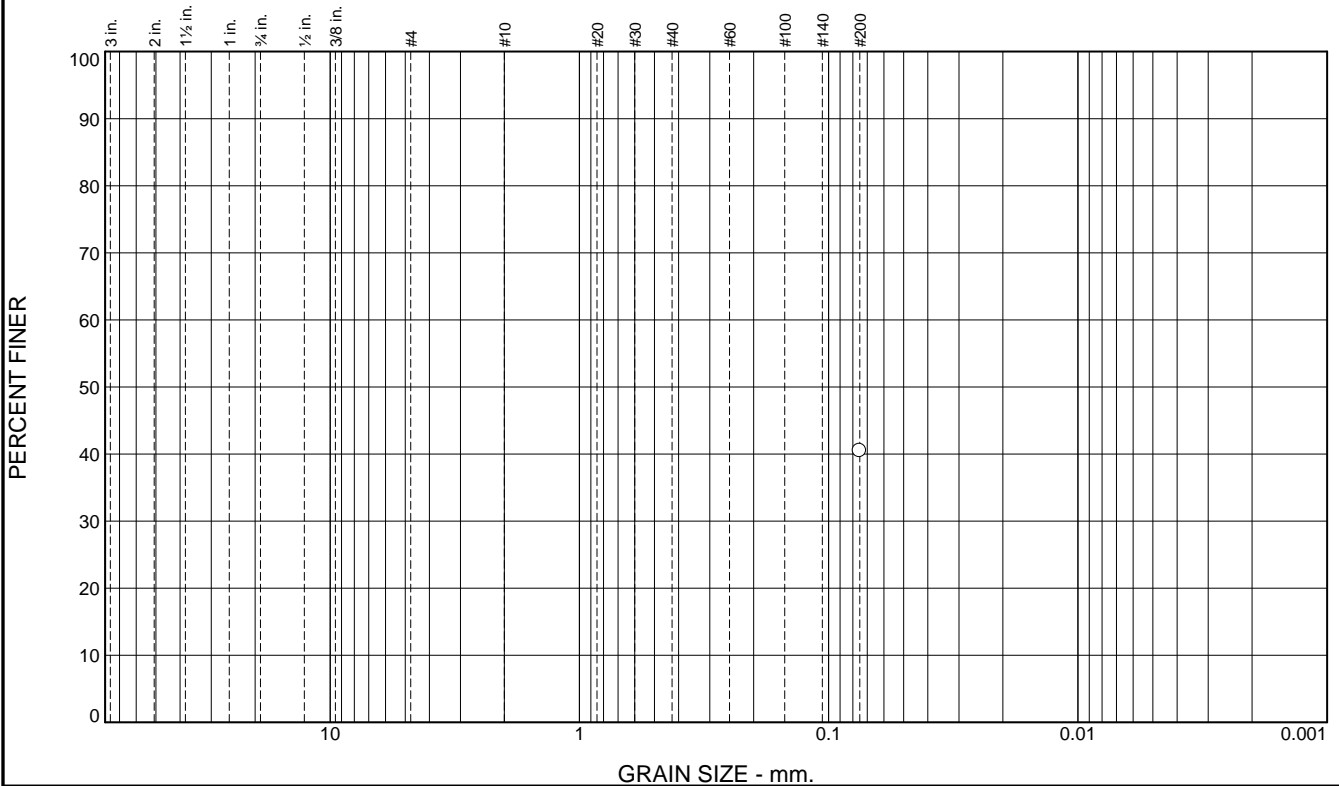
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						40.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	40.5		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA004 Depth: 3.75
 Sample Number: 7-HA004 @ 3.75

Date: 9-28-15



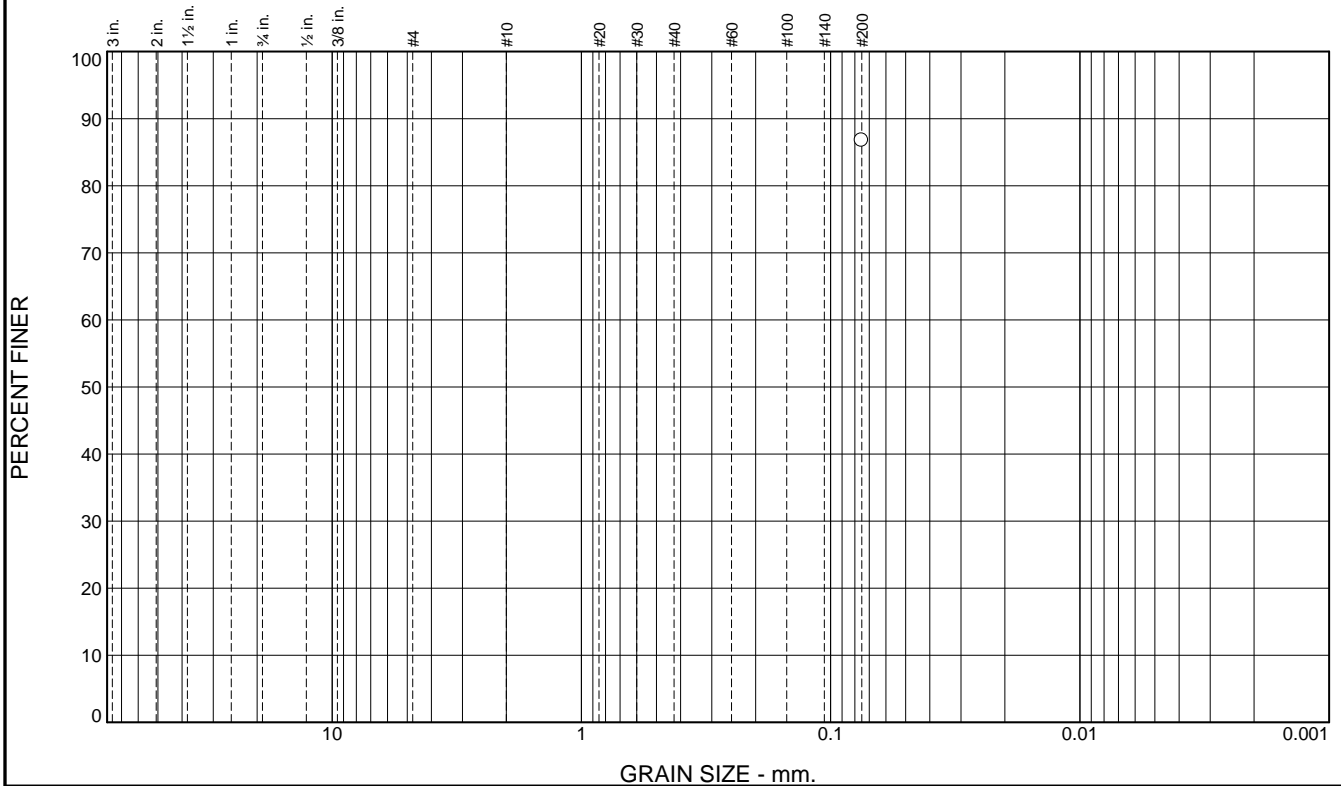
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						86.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	86.7		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= 22 LL= 48 PI= 26

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA004 Depth: 5
 Sample Number: 7-HA004 @ 5

Date: 9-28-15



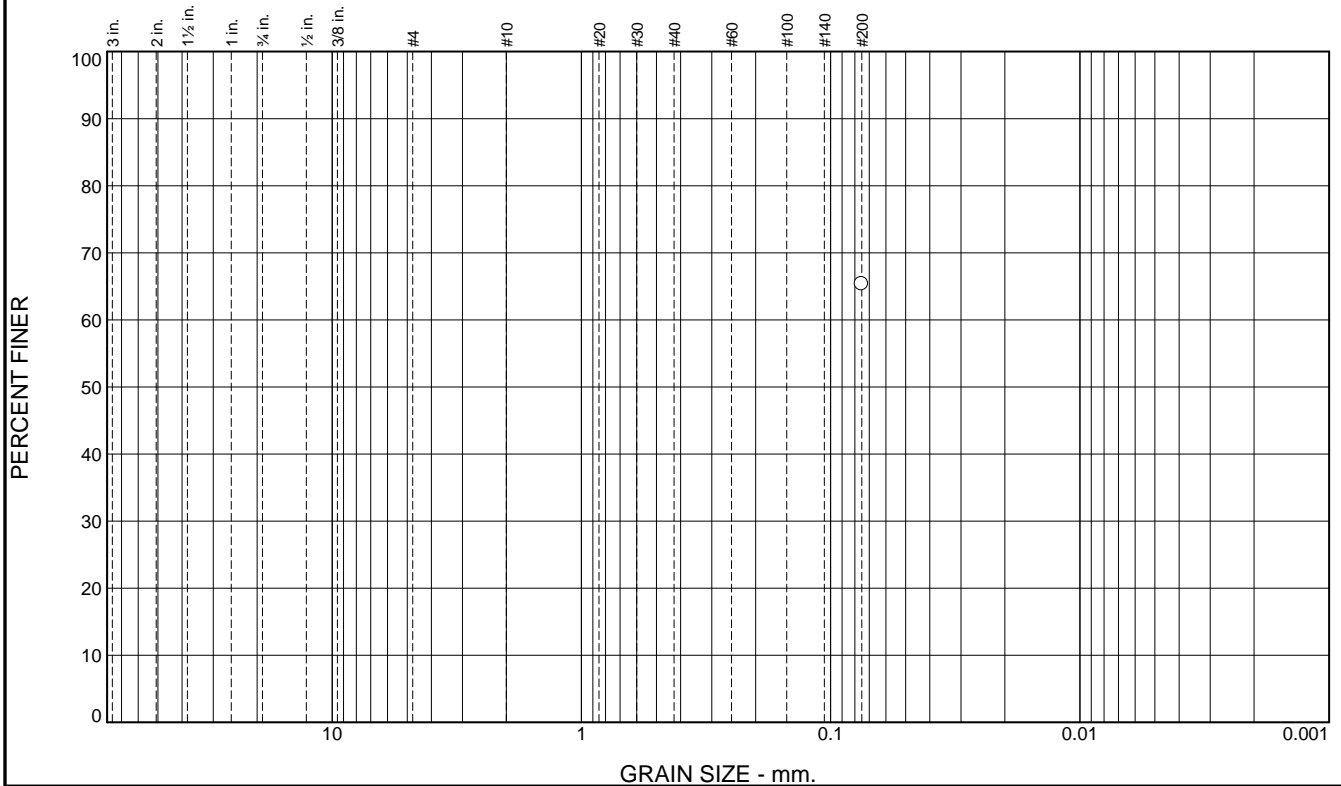
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						65.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	65.3		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= 15 LL= 30 PI= 15

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA005 Depth: 5.5
 Sample Number: 7-HA005 @ 5.5

Date: 9-28-15



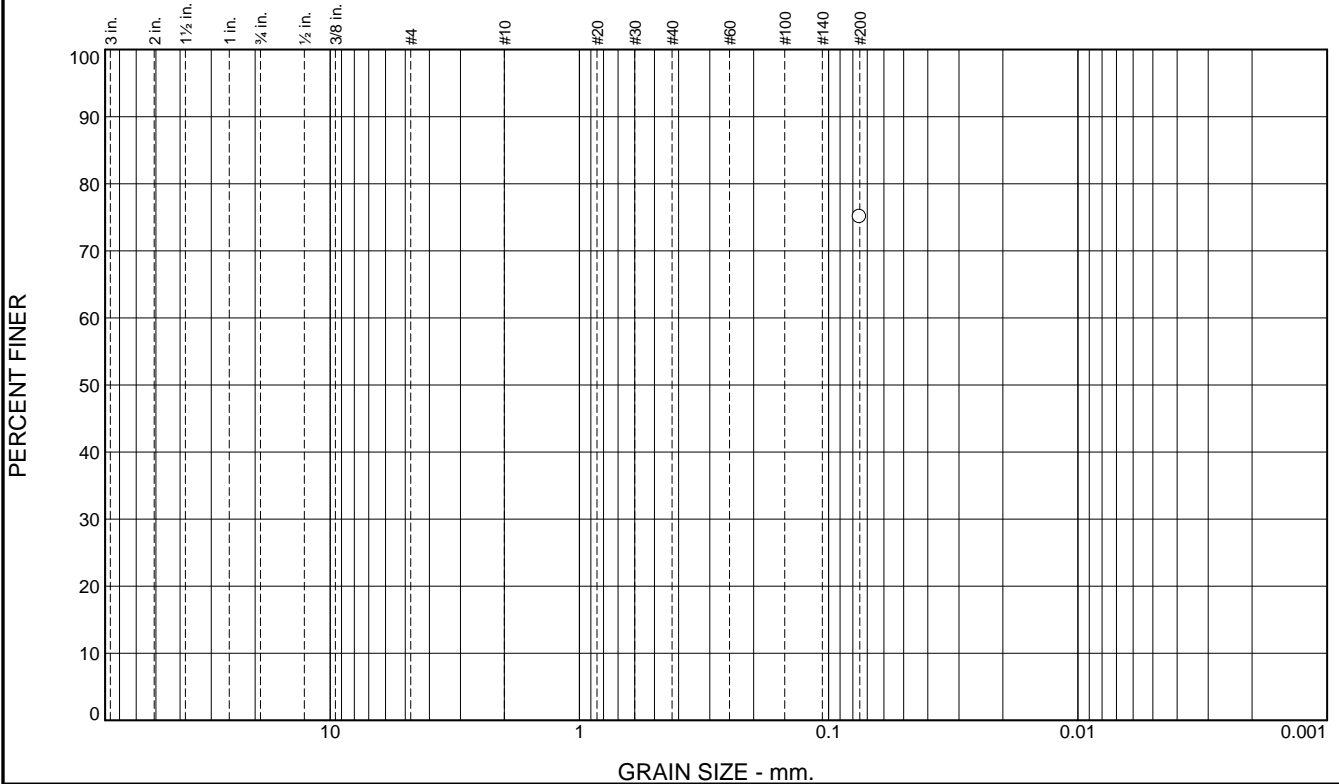
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						75.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	75.1		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA005 Depth: 7.25
 Sample Number: 7-HA005 @ 7.25

Date: 9-28-15



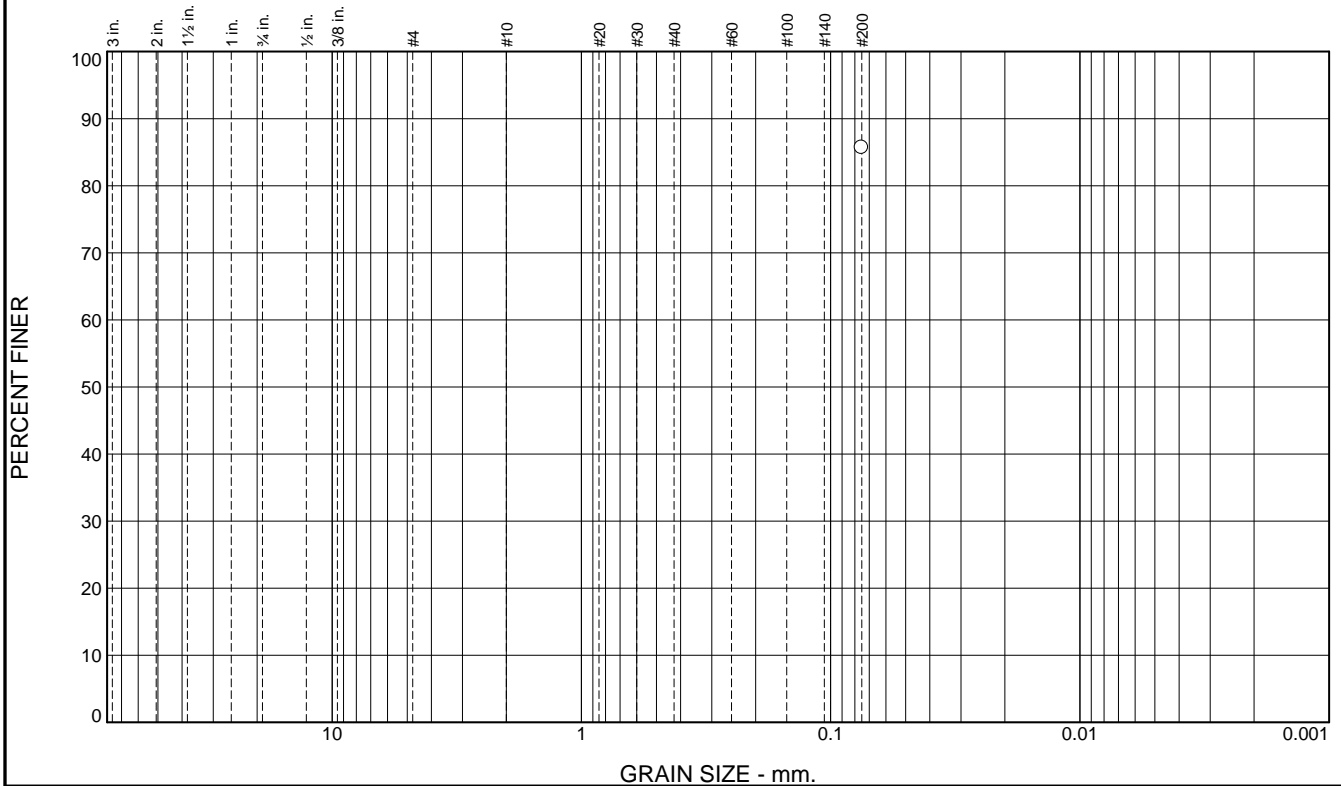
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						85.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	85.7		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA005 Depth: 9.5
 Sample Number: 7-HA005 @ 9.5

Date: 9-28-15



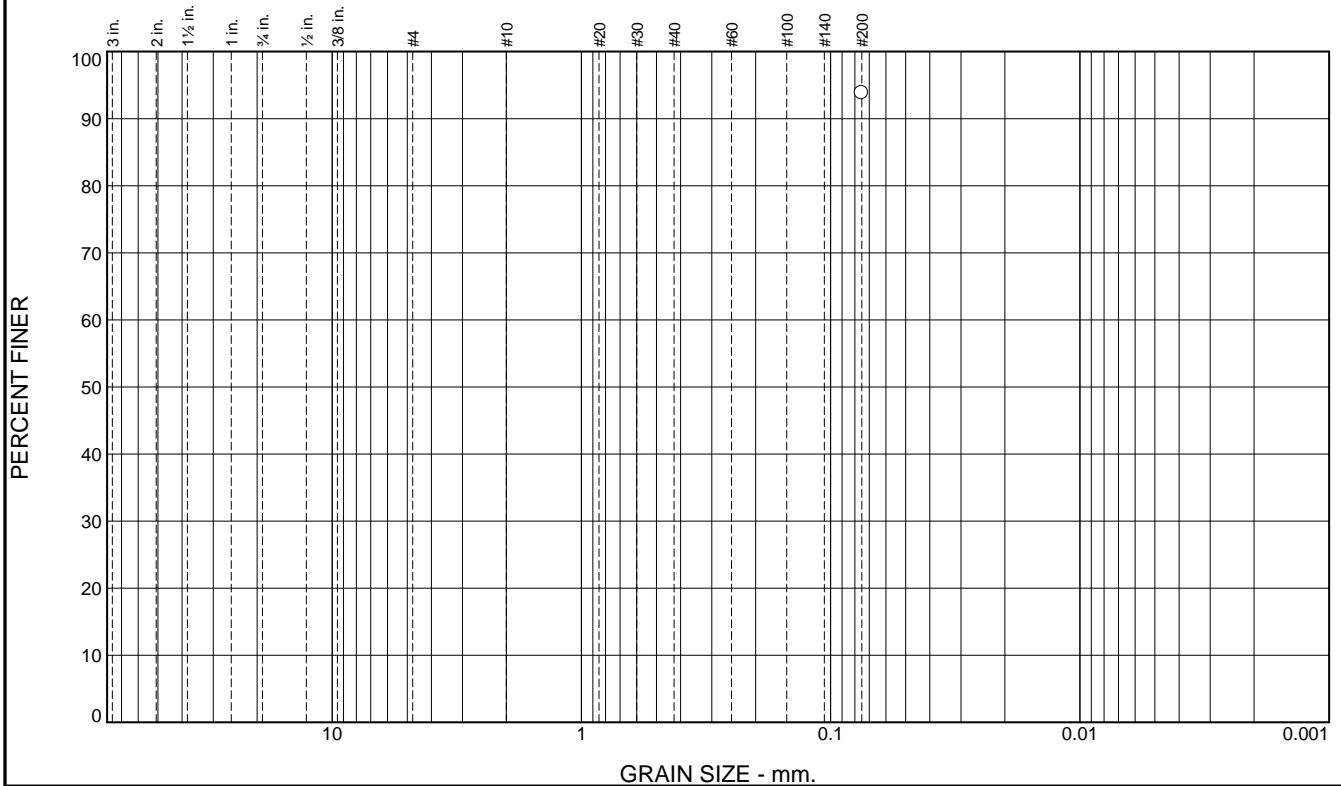
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						93.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	93.8		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA005 Depth: 13
 Sample Number: 7-HA005 @ 13

Date: 9-28-15



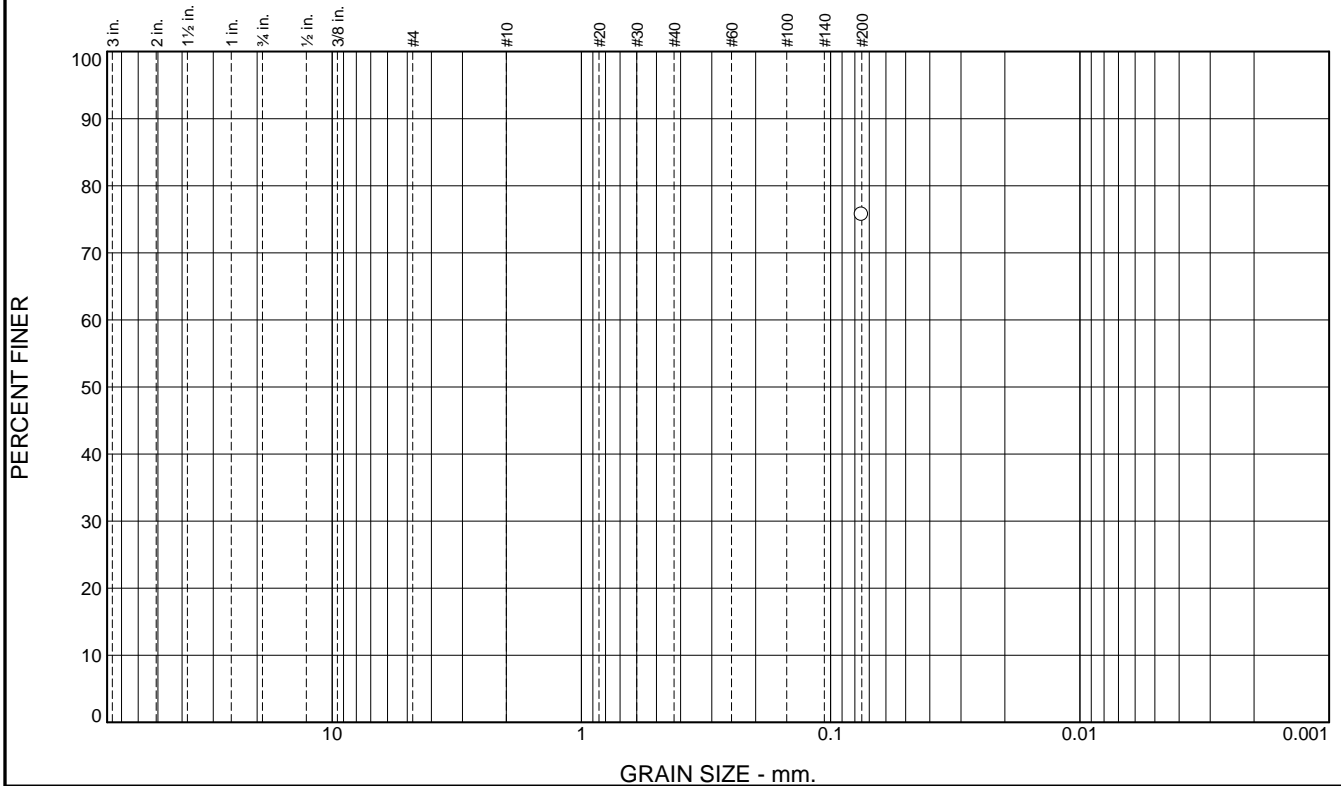
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						75.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	75.7		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA006 Depth: 3
 Sample Number: 7-HA006 @ 3

Date: 9-28-15



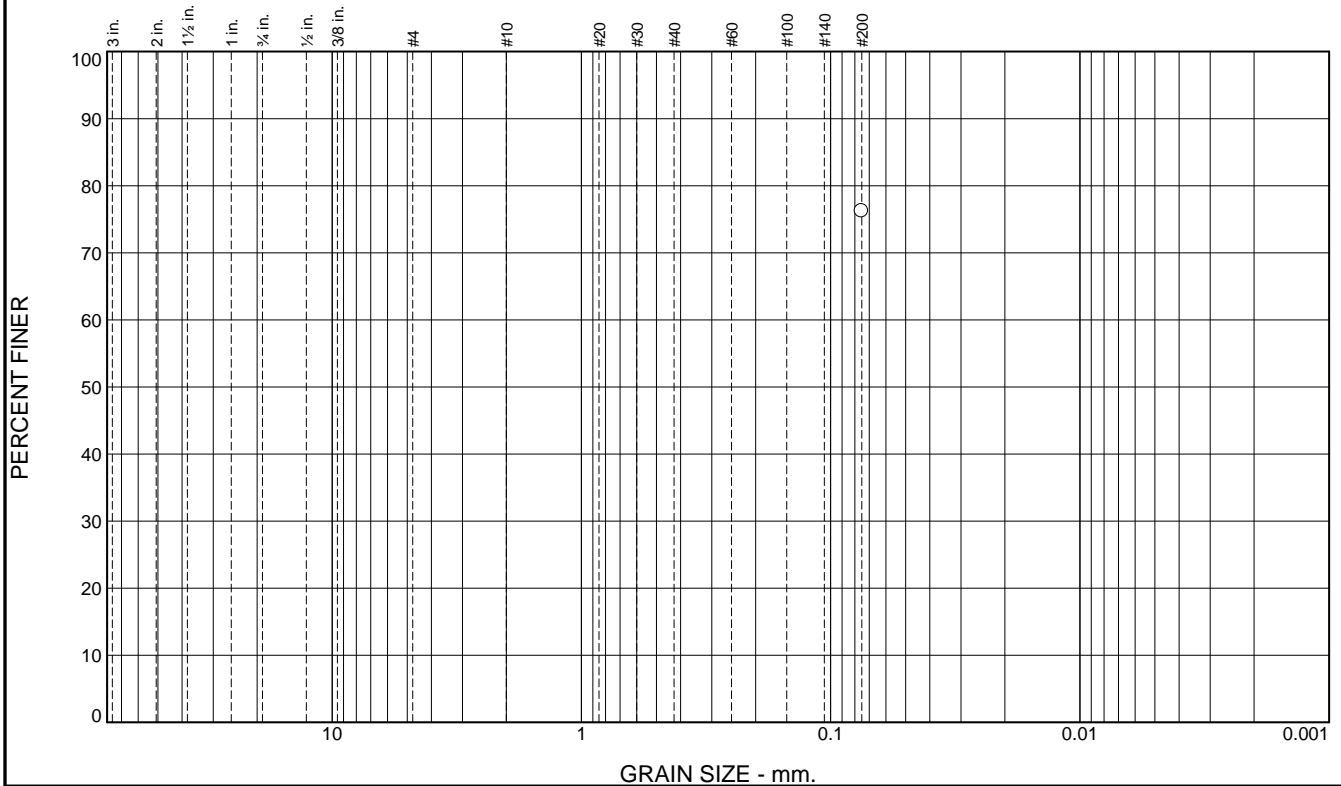
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						76.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	76.2		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= 21 LL= 48 PI= 27

Coefficients
 D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA006 Depth: 7.25
 Sample Number: 7-HA006 @ 7.25

Date: 9-28-15



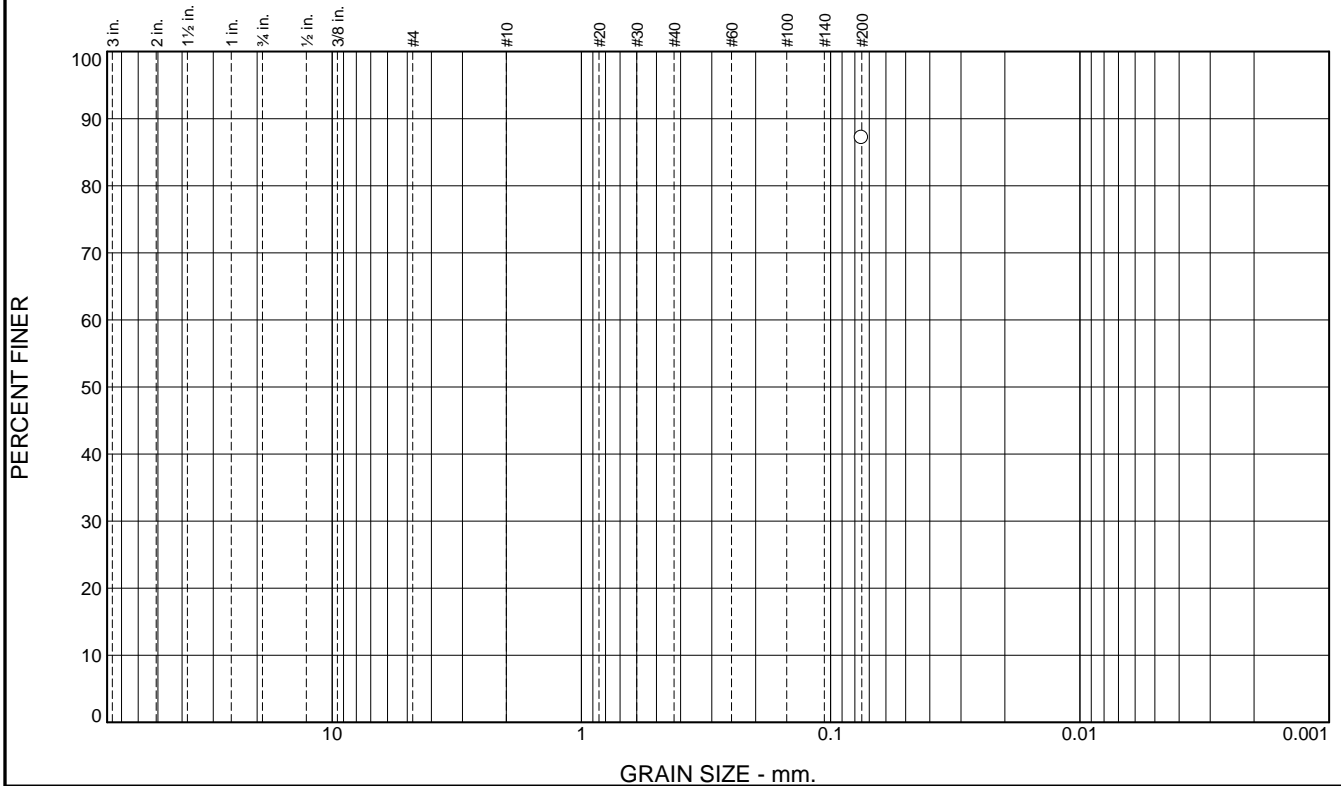
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						87.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	87.2		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA006 Depth: 10.5
 Sample Number: 7-HA006 @ 10.5

Date: 9-28-15



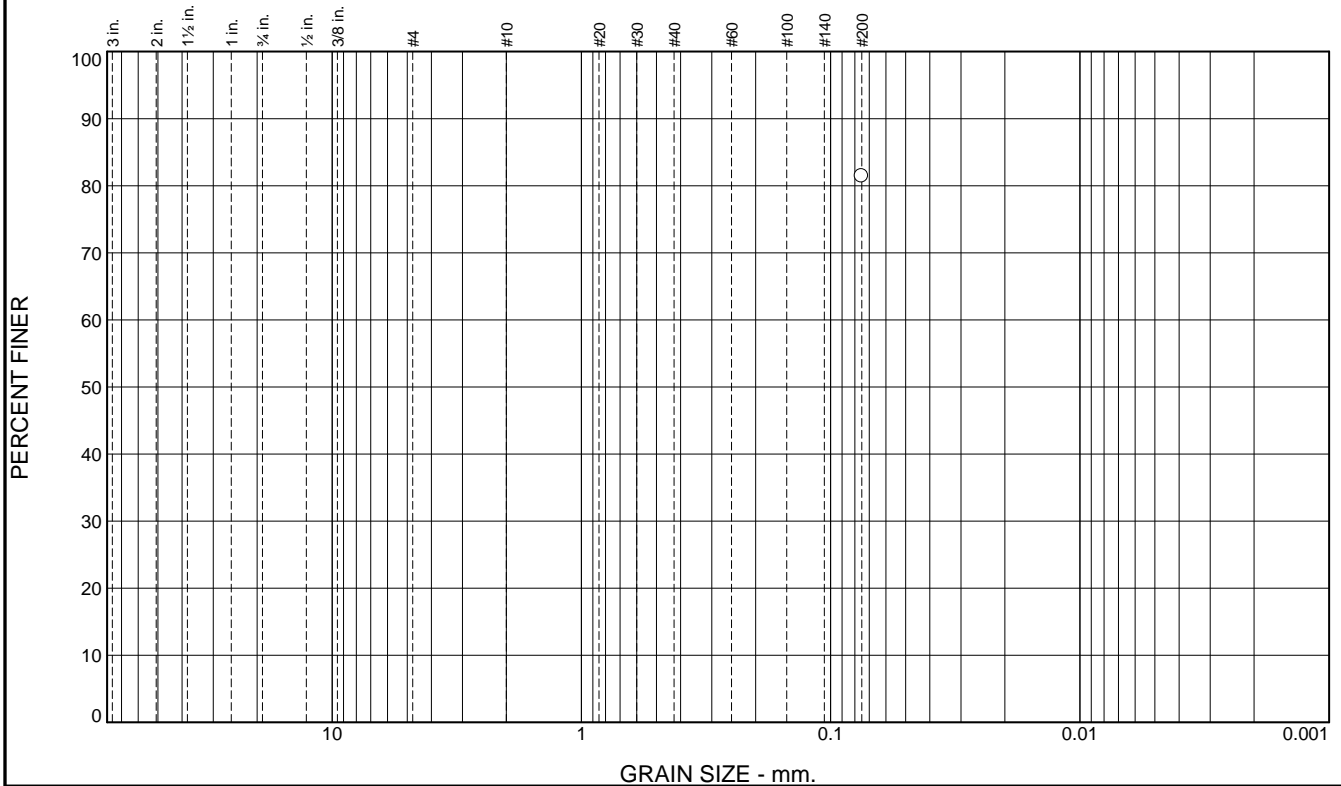
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						81.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	81.4		

Soil Description

SEE EXPLORATORY LOG

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

ASTM D1140

* (no specification provided)

Source of Sample: 7-HA007 Depth: 2.75
 Sample Number: 7-HA007 @ 2.75

Date: 9-28-15



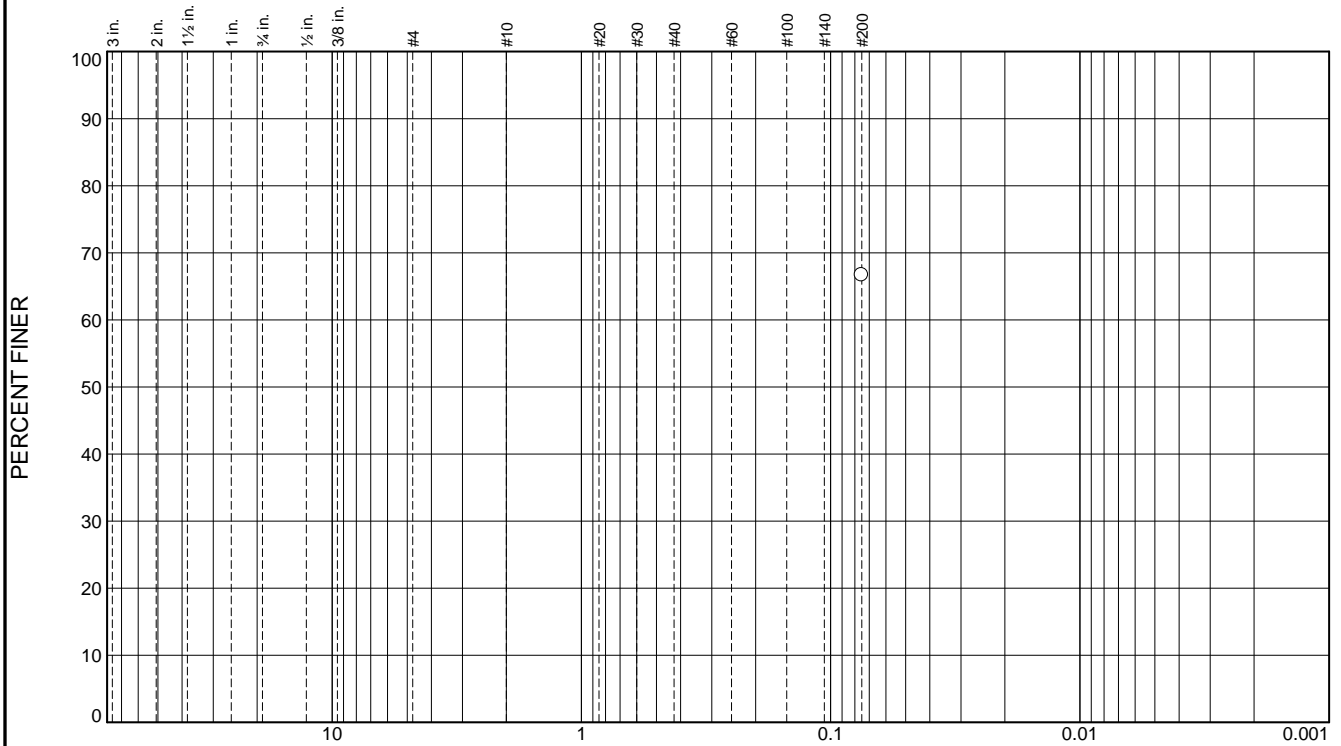
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						66.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	66.7		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA007 Depth: 6
 Sample Number: 7-HA007 @ 6

Date: 9-28-15



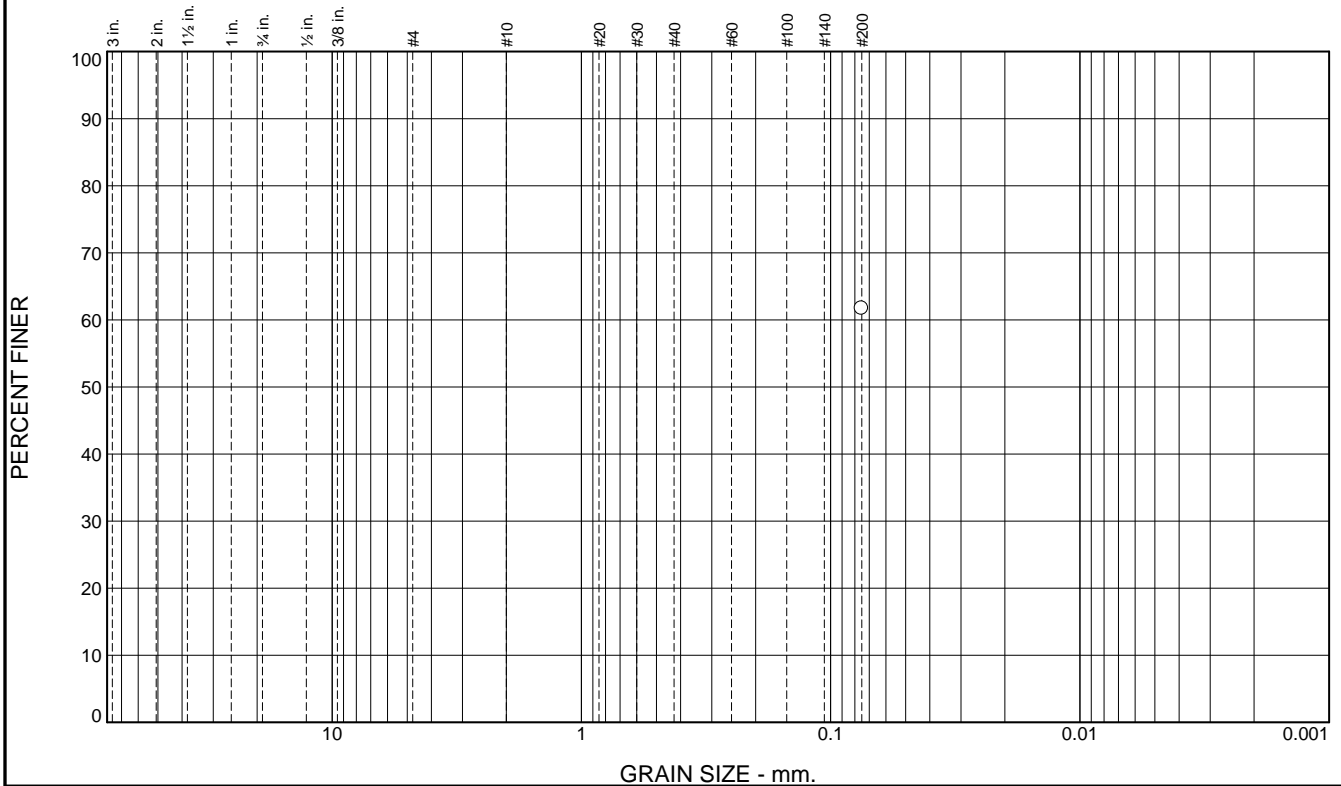
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						61.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	61.7		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA007 Depth: 9
 Sample Number: 7-HA007 @ 9

Date: 9-28-15



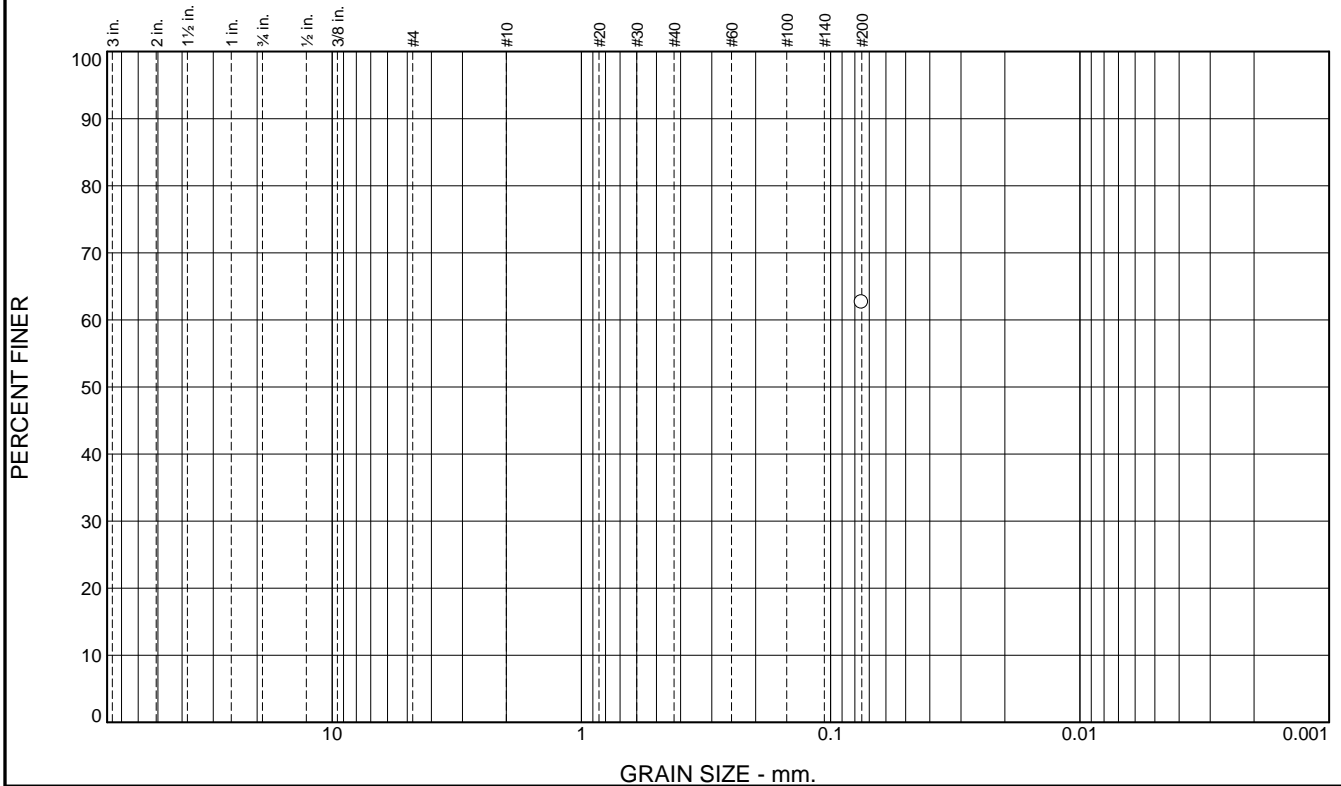
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						62.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	62.6		

Soil Description

See exploration logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

ASTM D1140

* (no specification provided)

Sample Number: 7-HA008 @ 2.5

Depth: 2.5 ft

Date: 09/30/15



Client: Peterson Brusted Incorporated

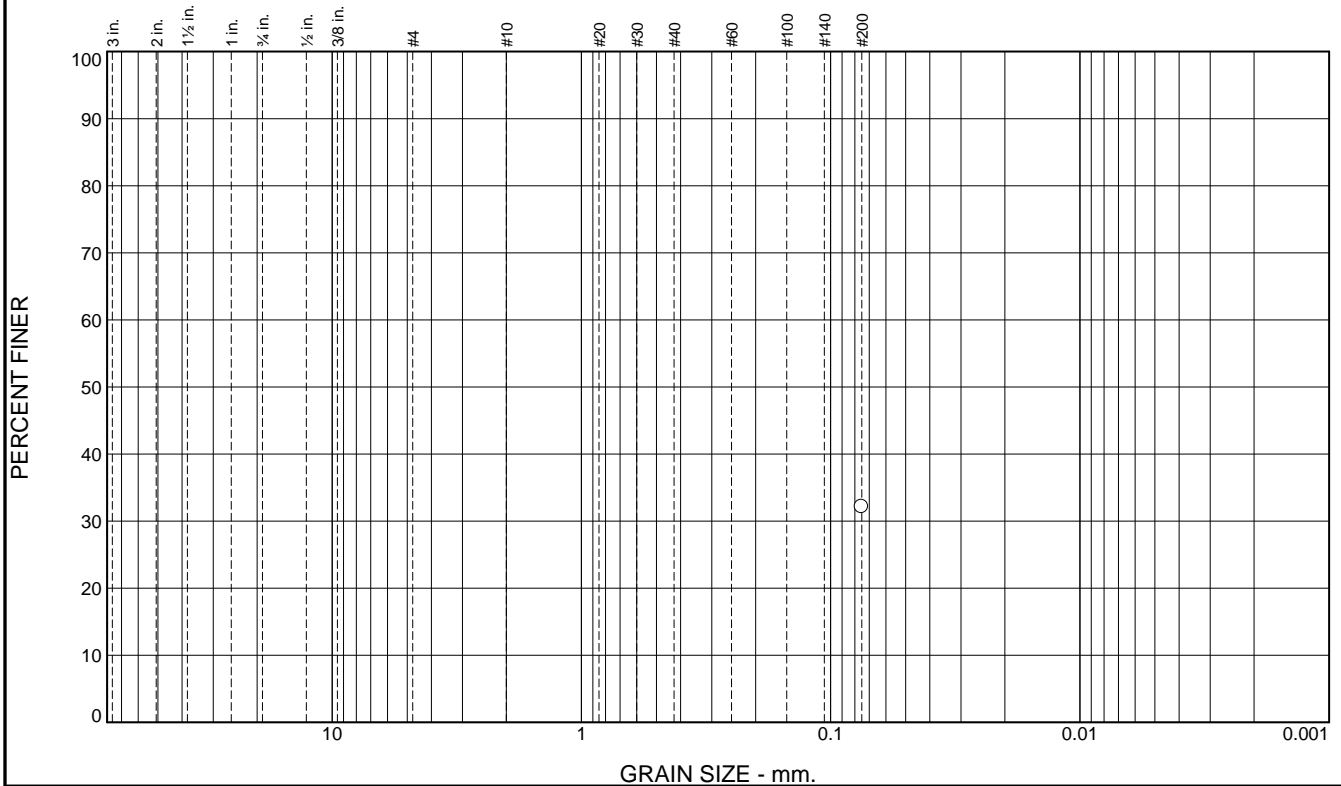
Project: ULDC Analysis and Identification of Deficiencies

Project No: 5747.005.000

Tested By: J. Lawton

Checked By: D. Seibold

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						32.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	32.1		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA008 Depth: 4
 Sample Number: 7-HA008 @ 4

Date: 9-28-15



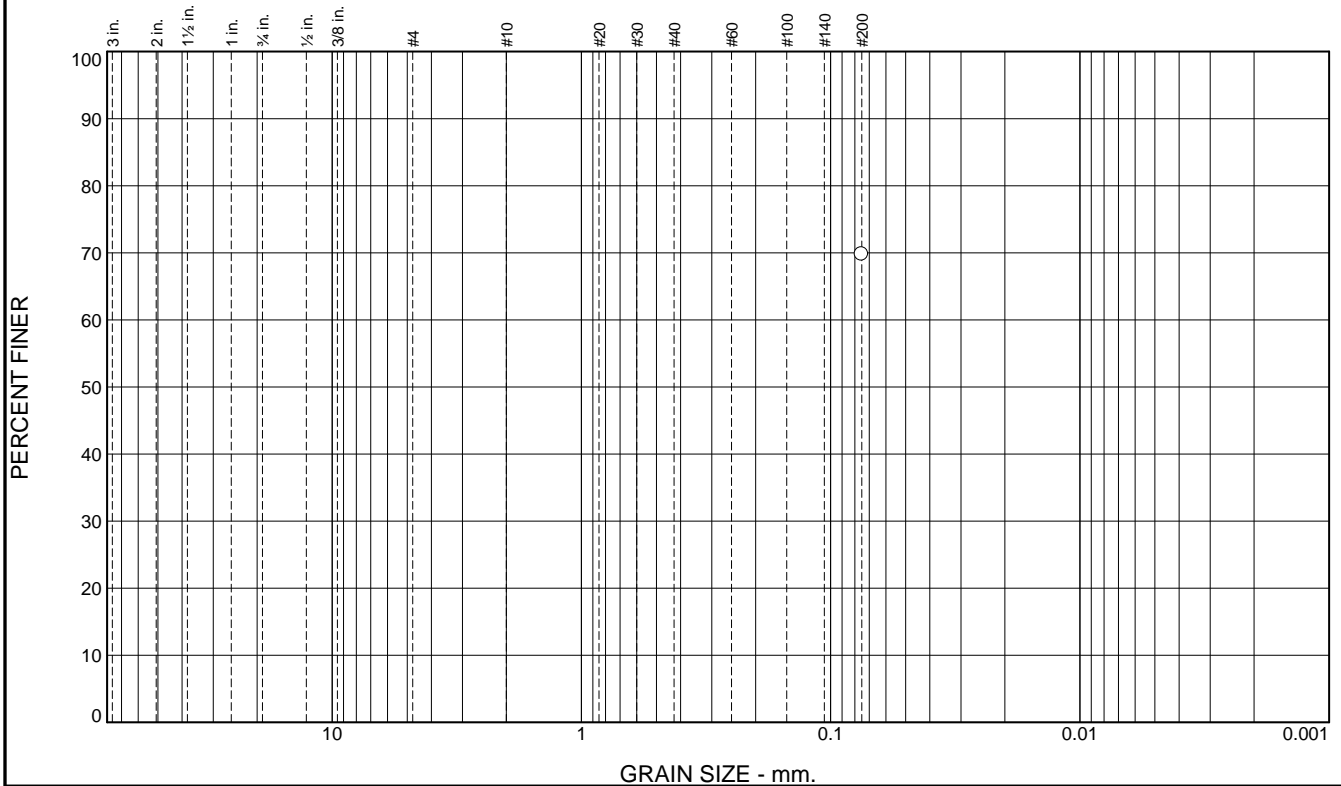
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						69.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	69.8		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA008 Depth: 5.25
 Sample Number: 7-HA008 @ 5.25

Date: 9-28-15



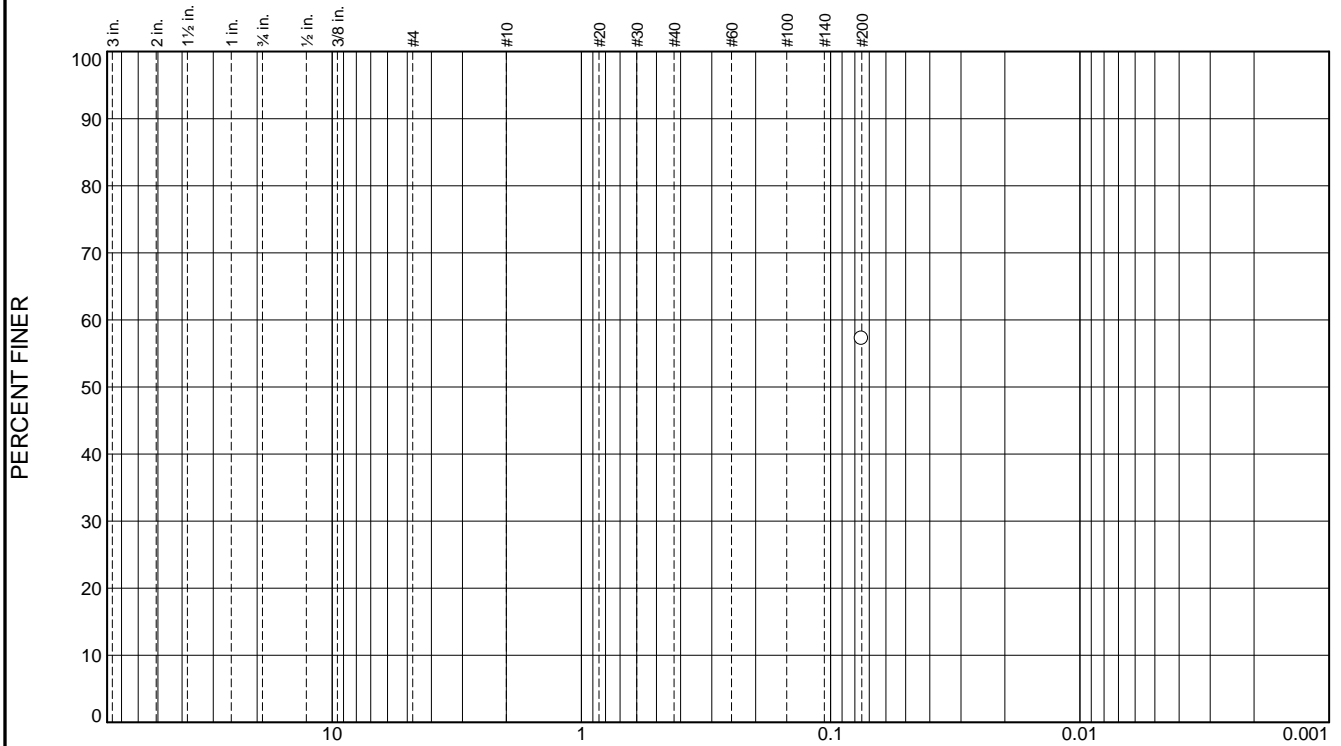
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						57.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	57.2		

Soil Description
SEE EXPLORATORY LOG

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= D₈₅= D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 ASTM D1140

* (no specification provided)

Source of Sample: 7-HA008 Depth: 10
 Sample Number: 7-HA008 @ 10

Date: 9-28-15



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

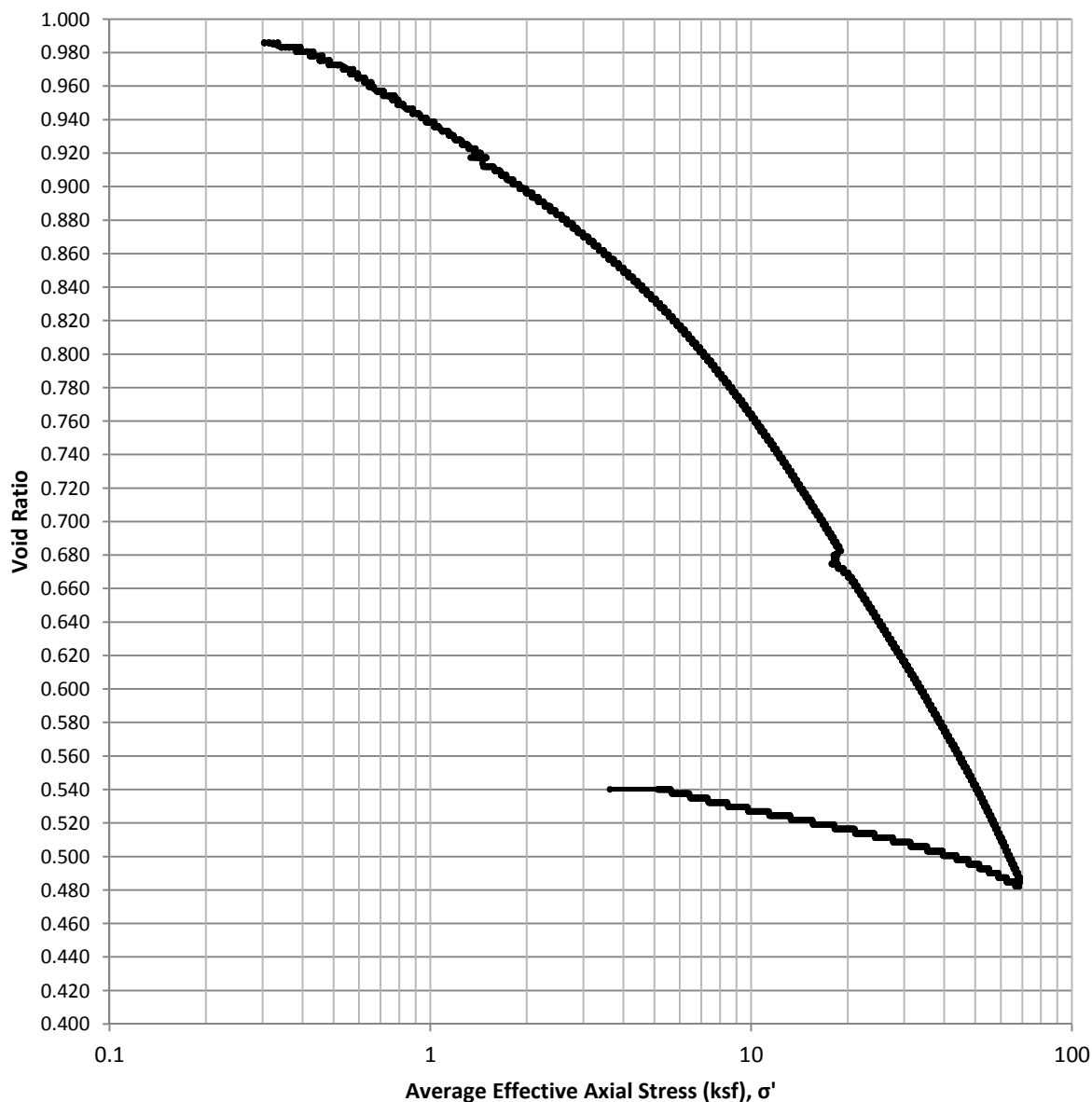
Project No: 5747.005.000 Ph T-004

Figure

Tested By: I. McCauley Checked By: K. Lecce

**Constant Rate of Strain Consolidation
ASTM D4186**

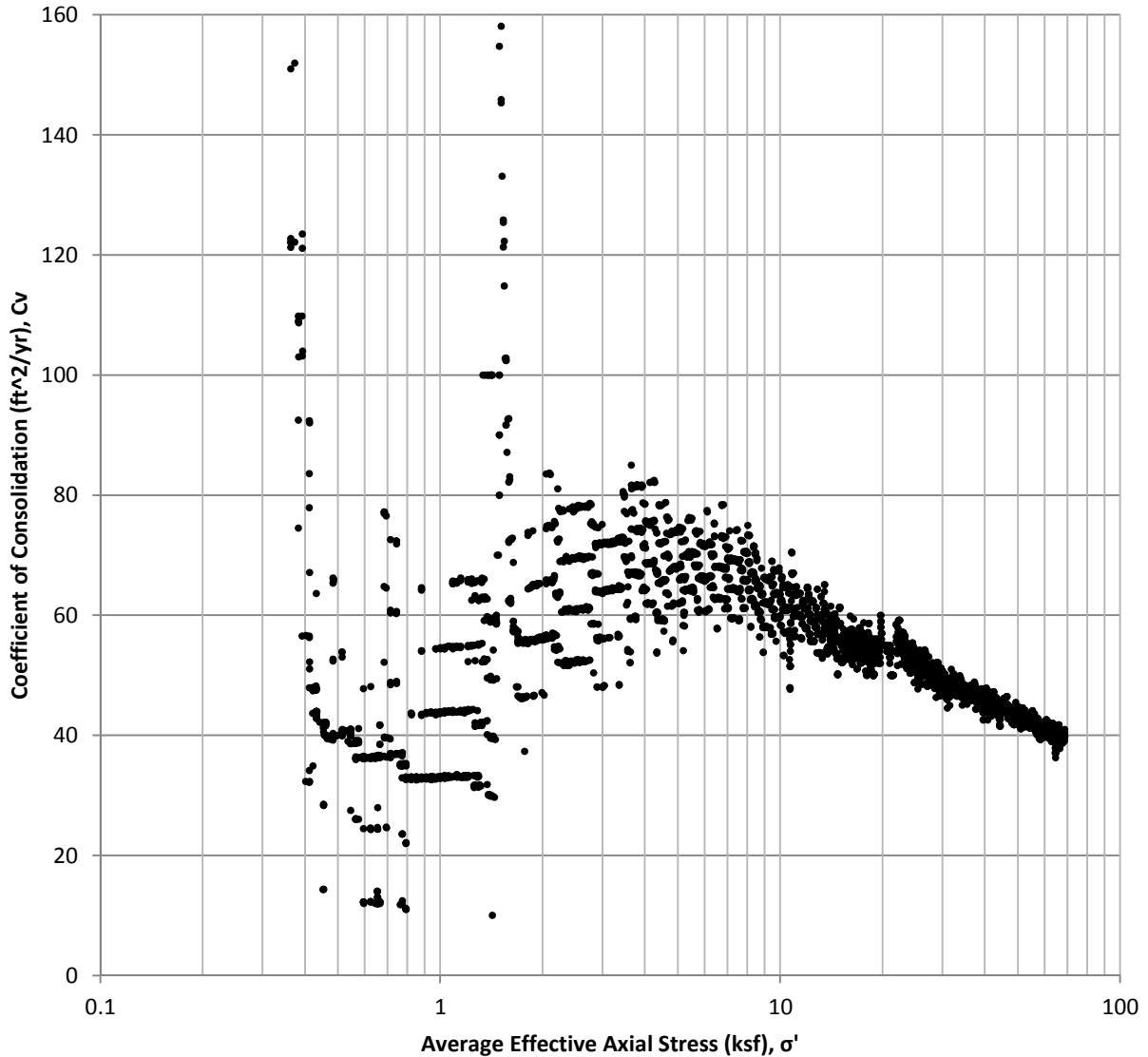
Void Ratio Vs Average Effective Axial Stress (ksf), σ'



	Initial	Final	Liquid Limits:	Test Date: 3/2/2015
Moisture (%):	35.69%	20.70%	Plastic Limits:	
Dry Density (pcf):	86.29	110.08	Specific Gravity:	2.768 Measured (ASTM D854)
Saturation (%):	100.00%	100.00%	Soil Description:	See exploration logs
Void Ratio:	0.9879	0.5670	Soil Type:	Undisturbed
Project Number:	T-004	Depth: 18 ft.		
Sample Number:	7-B007@18A	Boring #: 7-B007		
Project:	ULDC Analysis and Identification of Deficiencies			
Client:	Peterson Brusted Incorporated			
Location:	San Joaquin County, California		Reviewed By:	C. Crawford
Tested By:	D. Seibold			

**Constant Rate of Strain Consolidation
ASTM D4186**

**Coefficient of Consolidation (ft²/yr), C_v Vs Average
Effective Axial Stress (ksf), σ'**

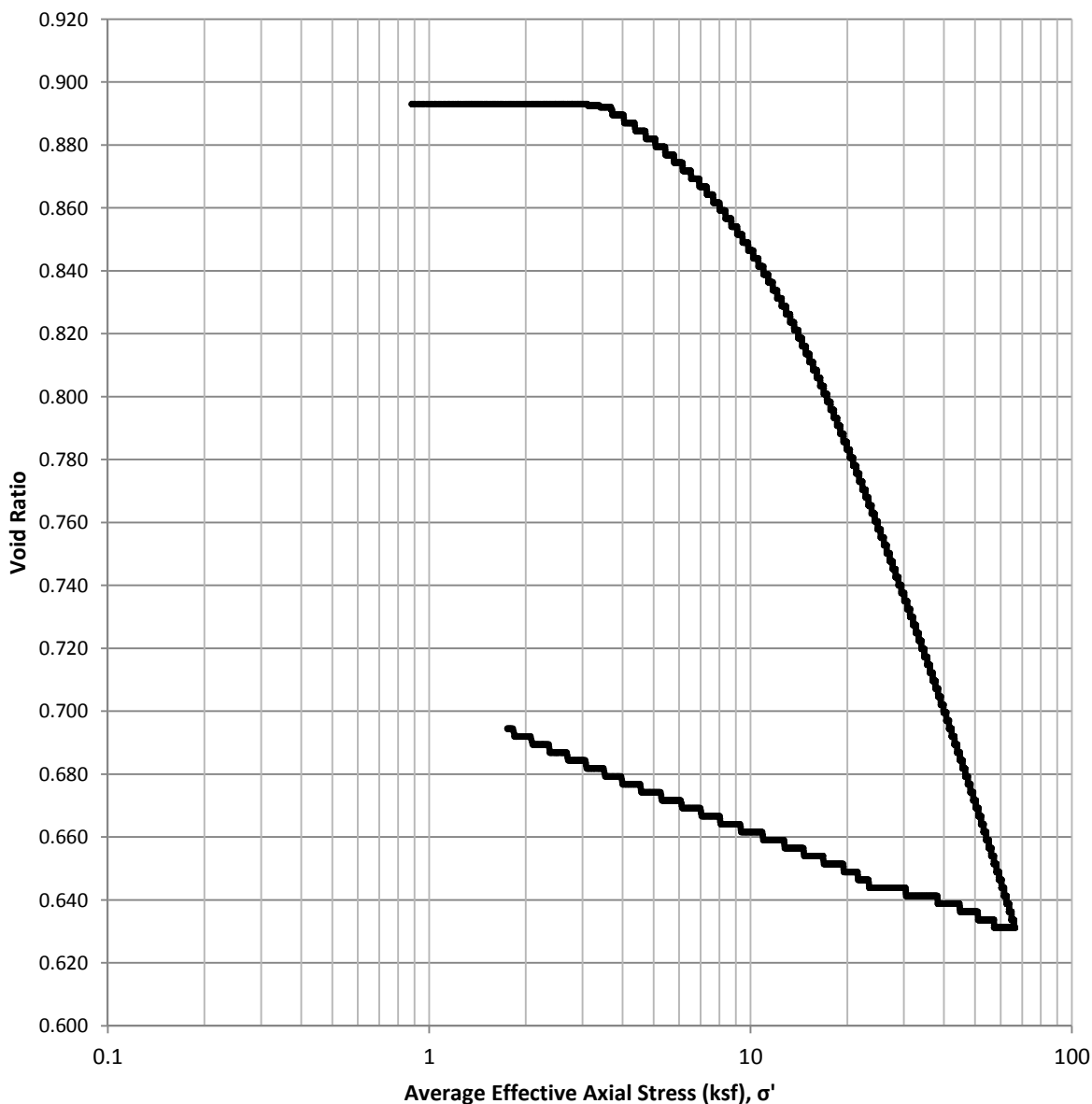


	Initial	Final	Liquid Limits:	Test Date: 3/2/2015
Moisture (%):	35.69%	20.70%	Plastic Limits:	
Dry Density (pcf):	86.29	110.08	Specific Gravity:	2.768 Measured (ASTM D854)
Saturation (%):	100.00%	100.00%	Soil Description:	See exploration logs
Void Ratio:	0.9879	0.5670	Soil Type:	Undisturbed
Project Number:	T-004	Depth:	18 ft.	
Sample Number:	7-B007@18A	Boring #:	7-B007	
Project:	ULDC Analysis and Identification of Deficiencies			
Client:	Peterson Brusted Incorporated			
Location:	San Joaquin County, California			
Tested By:	D. Seibold	Reviewed By:	C. Crawford	



**Constant Rate of Strain Consolidation
ASTM D4186**

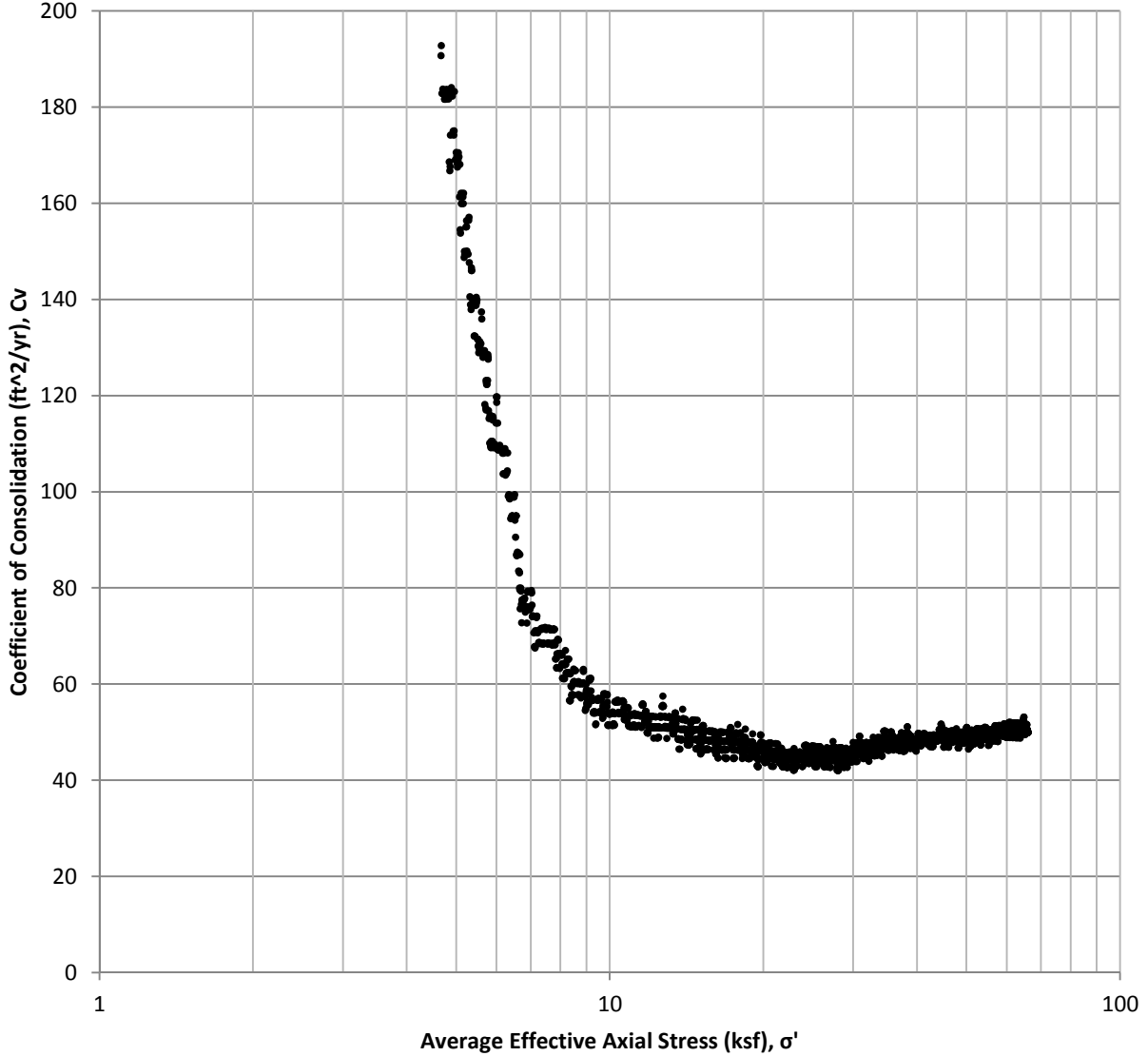
Void Ratio Vs Average Effective Axial Stress (ksf), σ'



	Initial	Final	Liquid Limits:	55	Test Date: 2/26/2015
Moisture (%):	32.75%	29.80%	Plastic Limits:	25	
Dry Density (pcf):	89.26	101.07	Specific Gravity:	2.750	Measured (ASTM D854)
Saturation (%):	100.87%	100.00%	Soil Description:	See exploration logs	
Void Ratio:	0.8928	0.6955	Soil Type:	Undisturbed	
Project Number: 5747.005.000			Depth: 27-27.5 ft.		
Sample Number: 7-B007@27.5 (27-27.5)			Boring #: 7-B007		
Project: ULDC Analysis and Identification of Deficiencies					
Client: Peterson Brusted Incorporated					
Location: San Joaquin County, California					
Tested By: D. Seibold					
Reviewed By: C. Crawford					

**Constant Rate of Strain Consolidation
ASTM D4186**

**Coefficient of Consolidation (ft²/yr), C_v Vs Average
Effective Axial Stress (ksf), σ'**

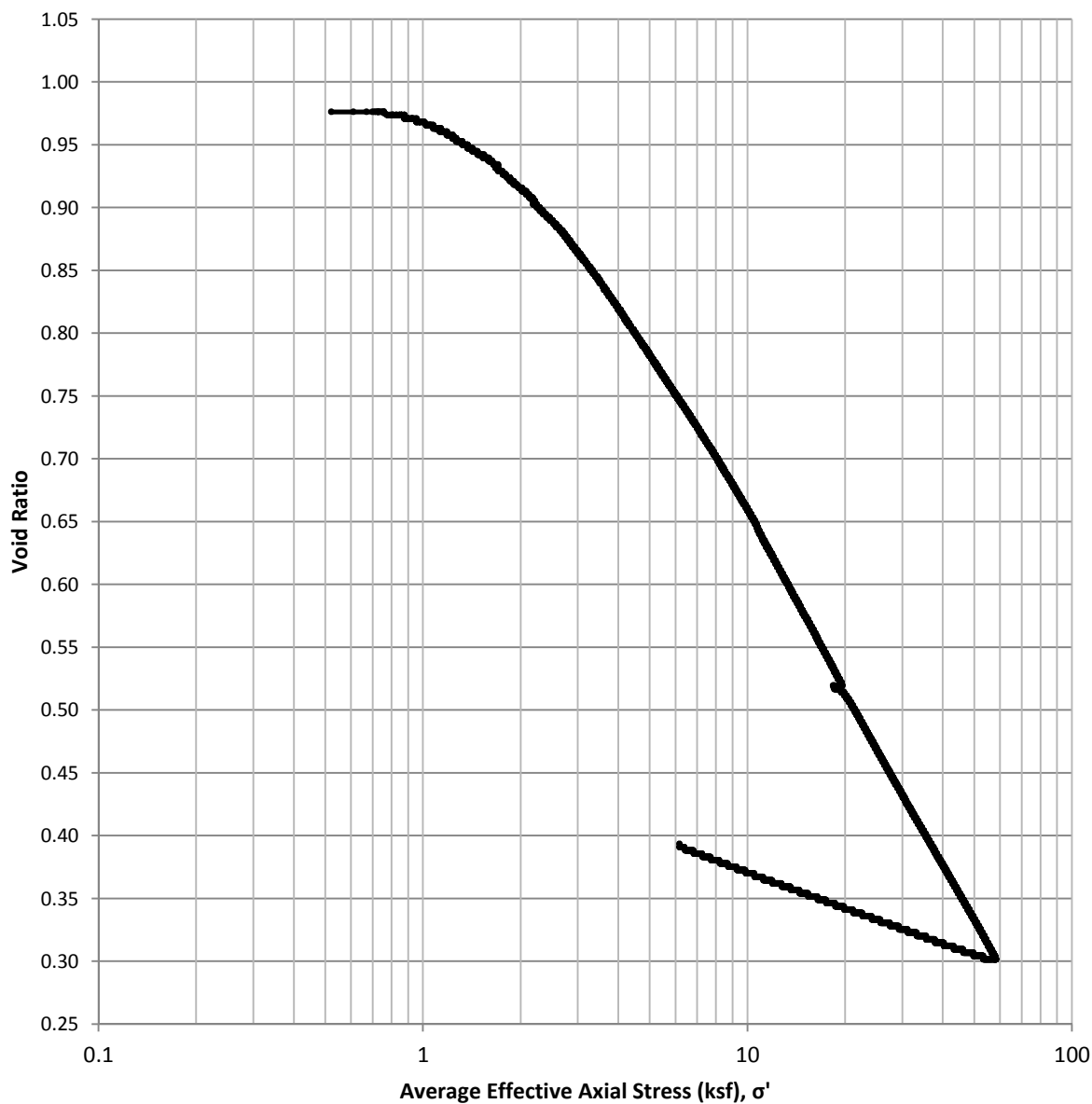


	Initial	Final	Liquid Limits:	55	Test Date:	2/26/2015
Moisture (%):	32.75%	29.80%	Plastic Limits:	25		
Dry Density (pcf):	89.26	101.07	Specific Gravity:	2.750	Measured (ASTM D854)	
Saturation (%):	100.87%	100.00%	Soil Description:	See exploration logs		
Void Ratio:	0.8928	0.6955	Soil Type:	Undisturbed		
Project Number:	5747.005.000		Depth:	27-27.5 ft.		
Sample Number:	7-B007@27.5 (27-27.5)		Boring #:	7-B007		
Project:	ULDC Analysis and Identification of Deficiencies					
Client:	Peterson Brusted Incorporated					
Location:	San Joaquin County, California					
Tested By:	D. Seibold		Reviewed By:	C. Crawford		



**Constant Rate of Strain Consolidation
ASTM D4186**

Void Ratio Vs Average Effective Axial Stress (ksf), σ'

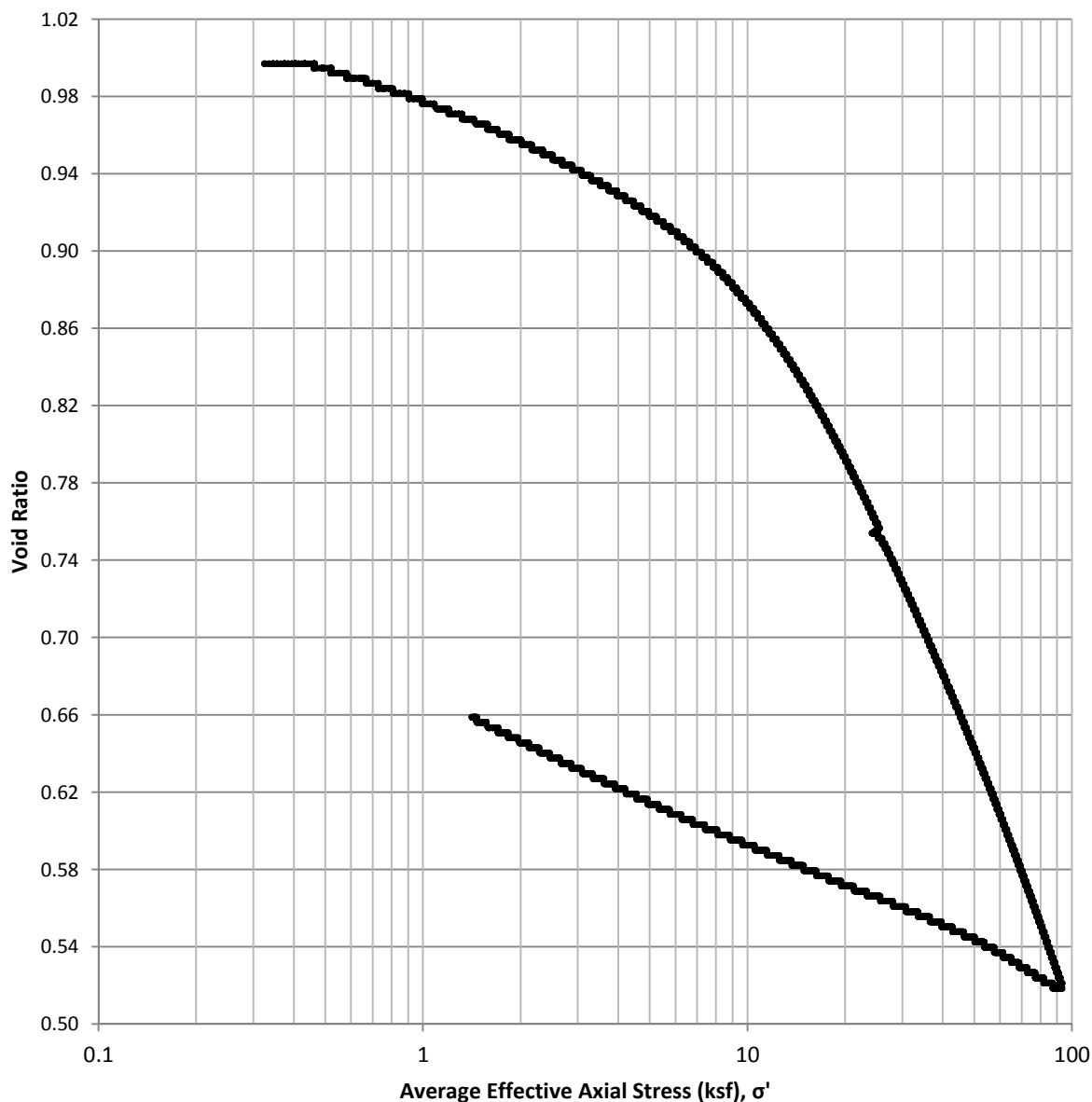


	Initial	Final	Liquid Limits:	29	Test Date:	2.24.15
Moisture (%):	34.63%	28.64%	Plastic Limits:	31		
Dry Density (pcf):	87.08	96.44	Specific Gravity:	2.780	Measured (ASTM D854)	
Saturation (%):	95.62%	100.00%	Soil Description:	See exploration logs		
Void Ratio:	1.0068	0.7964	Soil Type:	Undisturbed		
<hr/>						
Project Number:	5747.005.000		Depth:	19.5 ft.		
Sample Number:	7-B010A@19.5		Boring #:	7-B010		
Project:	ULDC Analysis and Identification of Deficiencies					
Client:	Peterson Brusted Incorporated					
Location:	San Joaquin County, California					
Tested By:	D. Seibold		Reviewed By:	C. Crawford		



**Constant Rate of Strain Consolidation
ASTM D4186**

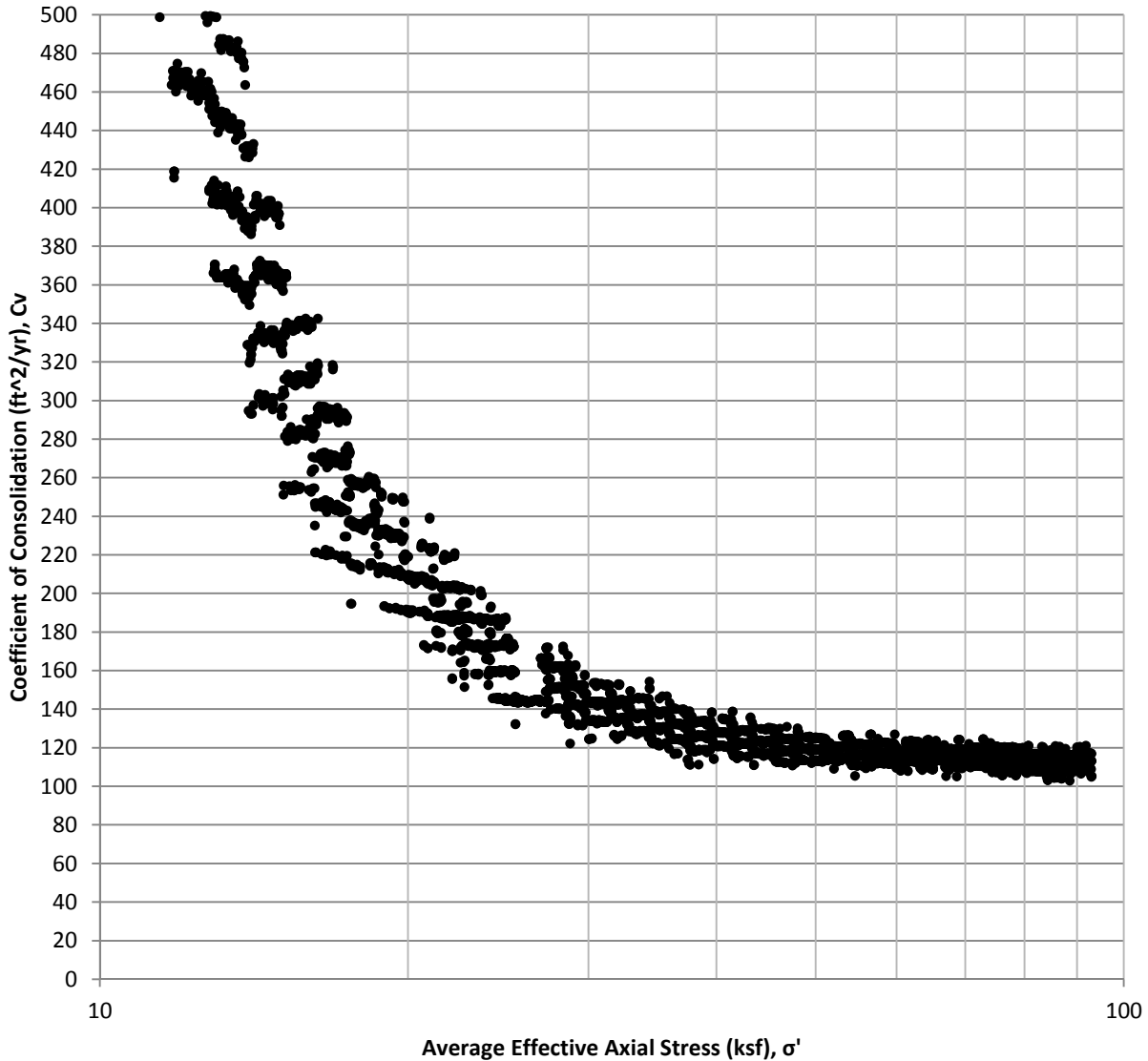
Void Ratio Vs Average Effective Axial Stress (ksf), σ'



	Initial	Final	Liquid Limits:	Test Date: 3/23/2015
Moisture (%):	37.15%	29.53%	Plastic Limits:	
Dry Density (pcf):	85.27	102.34	Specific Gravity:	2.744 Measured (ASTM D854)
Saturation (%):	102.26%	100.00%	Soil Description:	See exploration logs
Void Ratio:	0.9969	0.6709	Soil Type:	Undisturbed
Project Number: 5747.005.000			Depth: 26-26.5 ft	
Sample Number: 7-B018@26.5			Boring #: 7-B018	
Project: ULDC Analysis and Identification of Deficiencies				
Client: Peterson Brusted Incorporated				
Location: San Joaquin, California				
Tested By: D. Seibold				
Reviewed By: C. Crawford				

**Constant Rate of Strain Consolidation
ASTM D4186**

**Coefficient of Consolidation (ft²/yr), C_v Vs Average
Effective Axial Stress (ksf), σ'**



	Initial	Final	Liquid Limits:	Test Date: 3/23/2015
Moisture (%):	37.15%	29.53%	Plastic Limits:	
Dry Density (pcf):	85.27	102.34	Specific Gravity:	2.744 Measured (ASTM D854)
Saturation (%):	102.26%	100.00%	Soil Description:	See exploration logs
Void Ratio:	0.9969	0.6709	Soil Type:	Undisturbed
Project Number:	5747.005.000		Depth:	26-26.5 ft
Sample Number:	7-B018@26.5		Boring #:	7-B018
Project:	ULDC Analysis and Identification of Deficiencies			
Client:	Peterson Brusted Incorporated			
Location:	San Joaquin, California			
Tested By:	D. Seibold	Reviewed By:	C. Crawford	

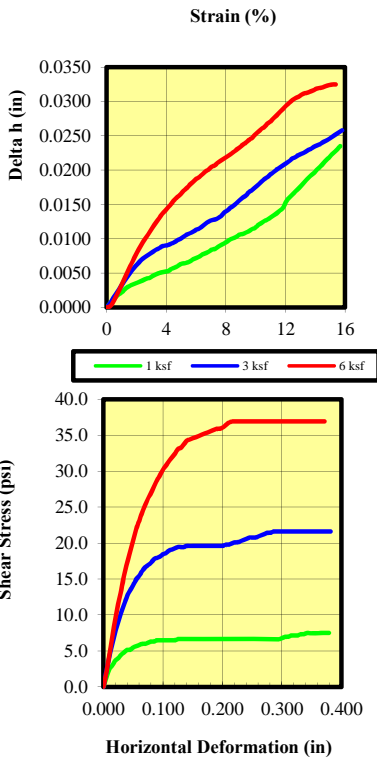
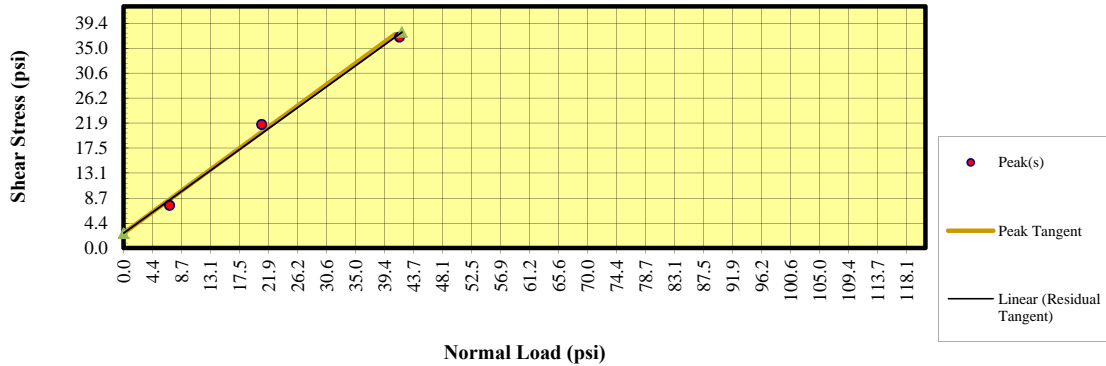


ENGEO Incorporated

Direct Shear Test (ASTM D3080)

Date 4/6/15

Checked By D. Seibold



	Specimen			
	Initial	1 Ksf	3 ksf	6 ksf
Moisture (%)	24.44	25.01	22.57	
Density (pcf)	96.91	97.94	98.32	
Void Ratio	0.756	0.737	0.731	
Saturation (%)	88.13	92.43	84.18	
Diameter (in)	2.418	2.418	2.418	
Height (in)	0.994	0.994	0.994	
Diameter-to-Height Ratio	2.433	2.433	2.433	
Specific Gravity	2.726	2.726	2.726	
	Final	1 Ksf	3 ksf	6 ksf
Moisture (%)	26.16	22.50	20.03	
Density (pcf)	97.99	101.66	104.25	
Void Ratio	0.713	0.613	0.546	
Saturation (%)	100.00	100.00	100.00	
Diameter (in)	2.418	2.418	2.418	
Height (in)	0.980	0.957	0.941	
Normal Stress (psi)	6.94	20.83	41.67	
Peak Stress (psi)	7.49	21.61	36.91	
Residual Stress (psi)	7.49	21.61	36.91	
Strain (%)	15.674	15.798	15.372	
Rate (in/min)	0.0018	0.0018	0.0018	
Diameter-to-Height Ratio	2.466	2.525	2.569	

Test Date	
Date	04/01/15

Date 4/6/15

Tested By G. Criste

Project:	UDLC Analysis and Identification for Deficiencies	Phi	C(psi)
Location:	San Joaquin County, CA	Peak Strength:	40.0
Project Number:	5747.005.000	Res./Ult. Strength:	40.0
		ASTM D4318	
Boring Number	7-B007	Liquid Limit:	15
Sample Number:	7-B007@27.5B	Plastic Limit:	NP
Depth:	27.5 Feet	ASTM D422	
Sample Type:	Undisturbed	%Sand	62.3
Description:	See exploration logs	%Silt	37.7
Test Type:	Direct Shear, CD (ASTM D3080)	%Clay	
Remarks:			

ENGEO Incorporated

Direct Shear Test (ASTM D3080)

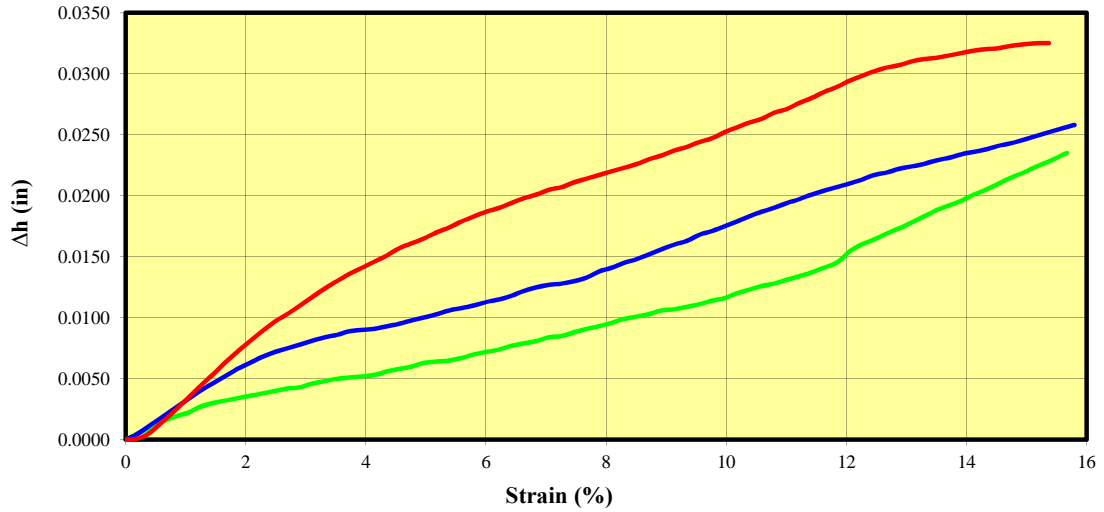
Date 4/6/15

Checked By D. Seibold

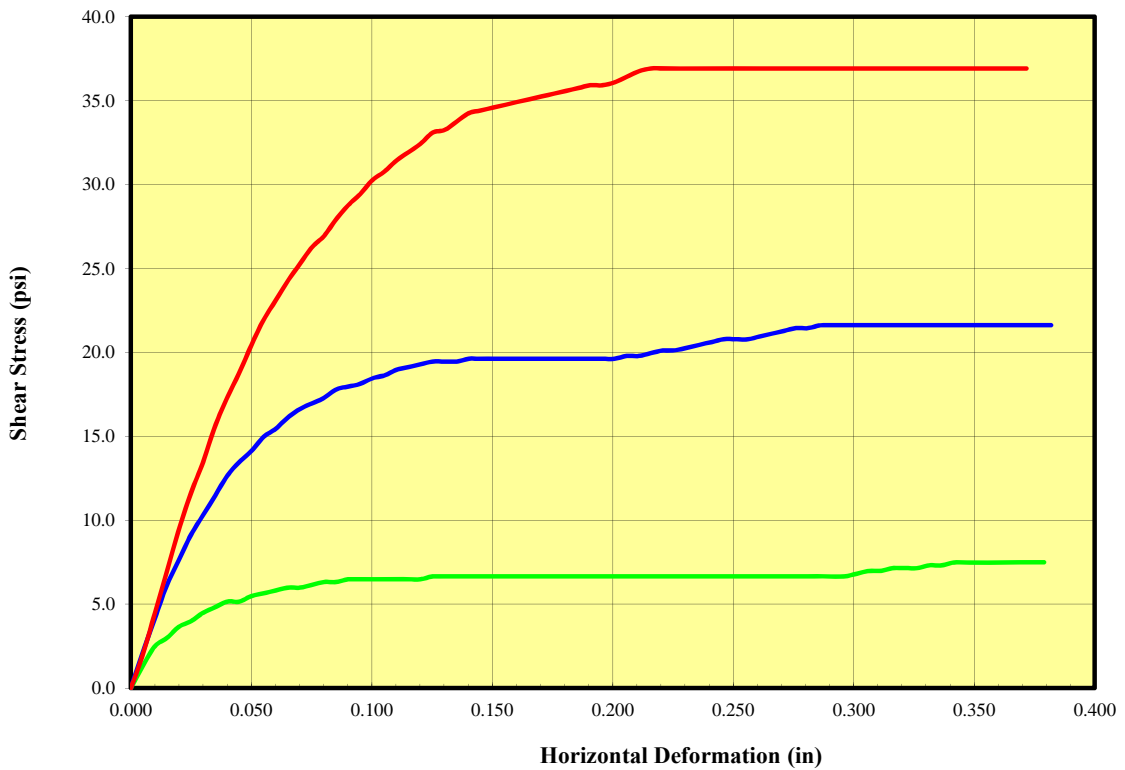
Date 4/6/15

Tested By G. Criste

Δh



Stress-Deformation



ENGEO Incorporated

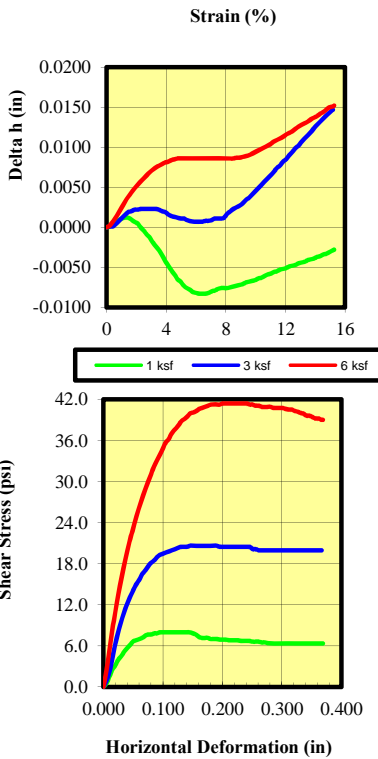
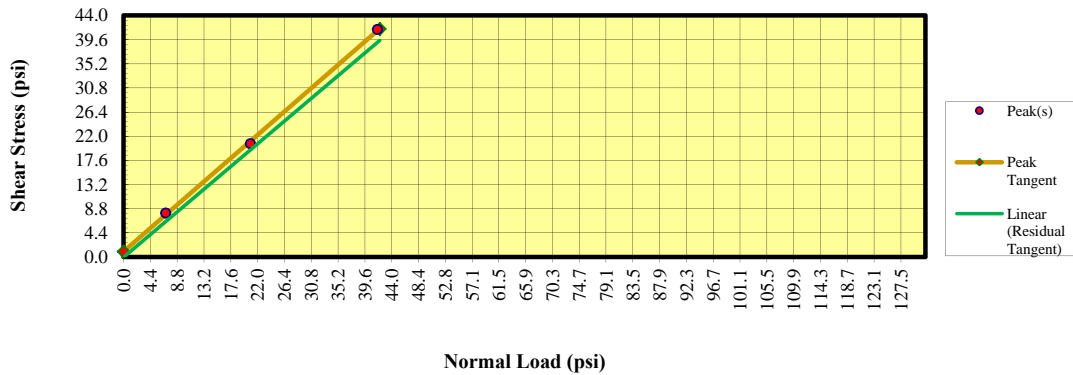
Direct Shear Test (ASTM D3080)

Date 3.27.15

Checked By D. Seibold

Date 3.27.15

Tested By G. Criste



	Specimen			
	Initial	1 ksf	3 ksf	6 ksf
Moisture (%)		18.92	18.72	18.74
Density (pcf)		105.18	105.02	105.41
Void Ratio		0.617	0.620	0.614
Saturation (%)		83.49	82.30	83.20
Diameter (in)		2.418	2.418	2.418
Height (in)		0.994	0.994	0.994
Diameter-to-Height Ratio		2.433	2.433	2.433
Specific Gravity		2.725	2.725	2.725
	Final	1 ksf	3 ksf	6 ksf
Moisture (%)		20.64	19.04	16.76
Density (pcf)		106.76	107.85	109.60
Void Ratio		0.563	0.519	0.457
Saturation (%)		100.00	100.00	100.00
Diameter (in)		2.418	2.418	2.418
Height (in)		0.974	0.957	0.933
Normal Stress (psi)		6.94	20.83	41.67
Peak Stress (psi)		7.98	20.61	41.39
Residual Stress (psi)		6.40	19.90	39.40
Strain (%)		15.265	15.182	15.256
Rate (in/min)		0.0018	0.0018	0.0018
Diameter-to-Height Ratio		2.483	2.528	2.592

Test Date	
Date	03/25/15

Project:	ULDC Analysis and Identification for Deficiencies	Phi		C(psi)	
Location:	San Joaquin County, California	Peak Strength:	44.1	0.7	
Project Number:	5747.005.000	Res./Ult. Strength:	43.5	0.0	
		ASTM D4318			
Boring Number	7-B009	Liquid Limit:			
Sample Number:	7-B009@24A	Plastic Limit:			
Depth:	24.0 feet	ASTM D422			
Sample Type:	Undisturbed	%Sand			
Description:	See exploration logs	%Silt			
Test Type:	Direct Shear, CD (ASTM D3080)	%Clay			
Remarks:					

ENGEO Incorporated

Direct Shear Test (ASTM D3080)

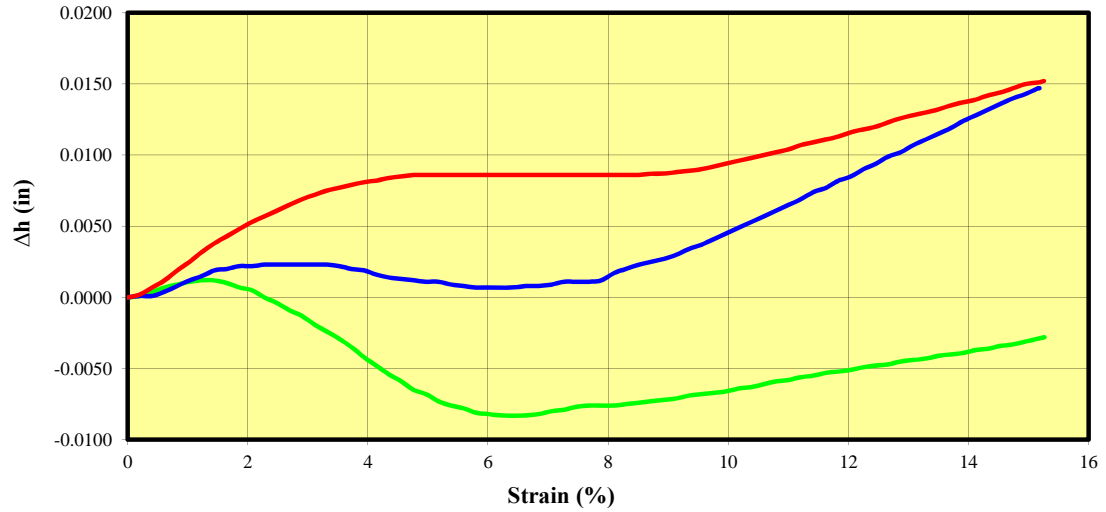
Date 3.27.15

Checked By D. Seibold

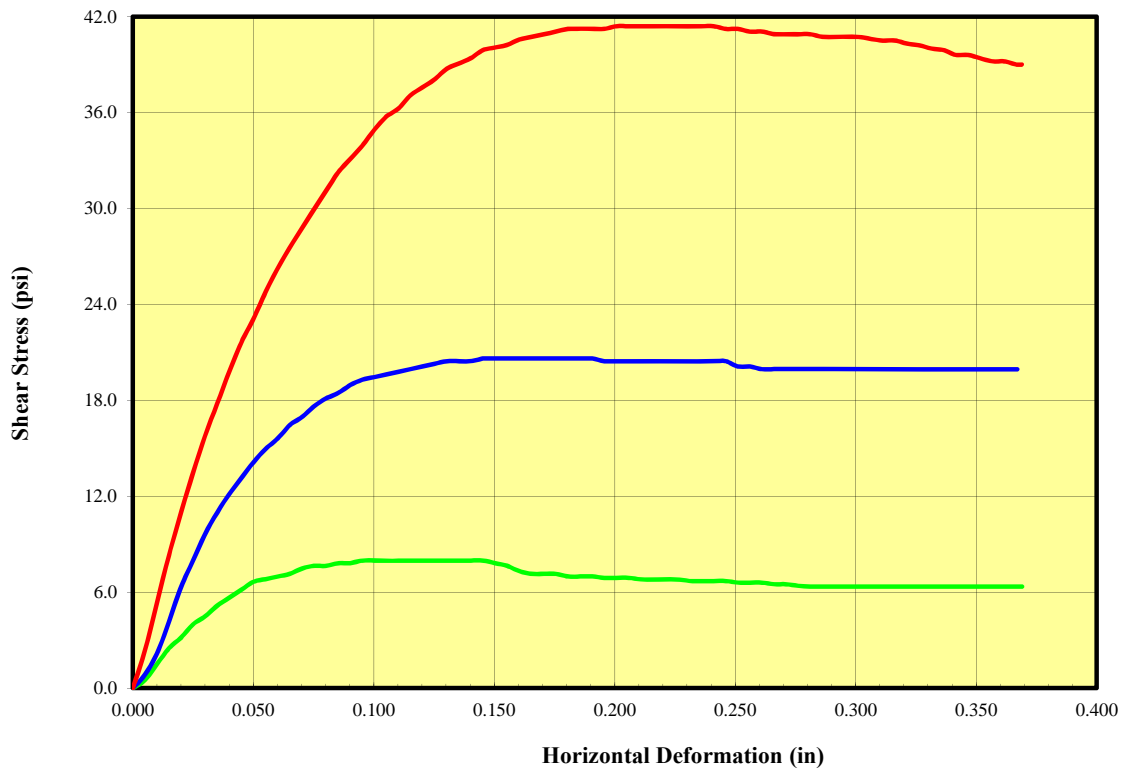
Date 3.27.15

Tested By G. Criste

Δh



Stress-Deformation

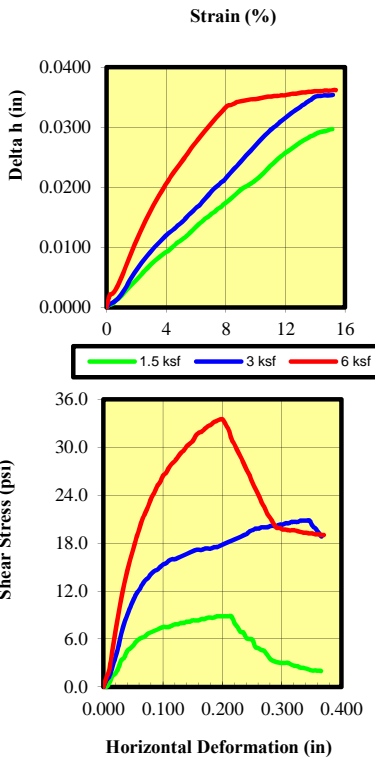
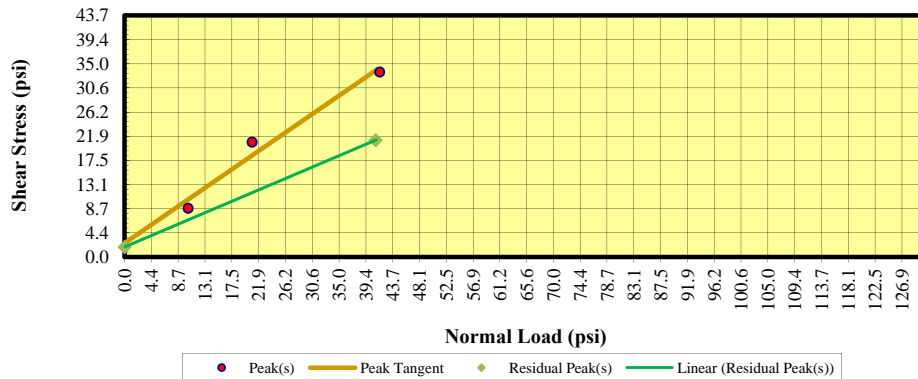


ENGEO Incorporated

Direct Shear Test (ASTM D3080)

Date 3.17.15

Checked By D. Seibold



Initial	Specimen		
	1.5 ksf	3 ksf	6 ksf
Moisture (%)	36.18	35.89	35.71
Density (pcf)	81.28	83.21	84.79
Void Ratio	1.135	1.086	1.047
Saturation (%)	88.61	91.90	94.83
Diameter (in)	2.416	2.416	2.410
Height (in)	1.000	1.000	1.000
Diameter-to-Height Ratio	2.416	2.416	2.410
Specific Gravity	2.78	2.78	2.78
Final	1.5 ksf	3 ksf	6 ksf
Moisture (%)	34.91	32.18	26.85
Density (pcf)	85.21	88.09	89.52
Void Ratio	0.971	0.895	0.746
Saturation (%)	100.00	100.00	100.00
Diameter (in)	2.416	2.416	2.410
Height (in)	0.967	0.960	0.899
Normal Stress (psi)	10.42	20.83	41.67
Peak Stress (psi)	8.83	20.81	33.47
Residual Stress (psi)	1.98	18.80	19.10
Strain (%)	15.145	15.178	15.378
Strain Rate (in./min.)	0.0018	0.0018	0.0018
Diameter-to-Height Ratio	2.497	2.516	2.680

Test Date	
Date	03/09/15

Date 3.15.15

Tested By G. Criste

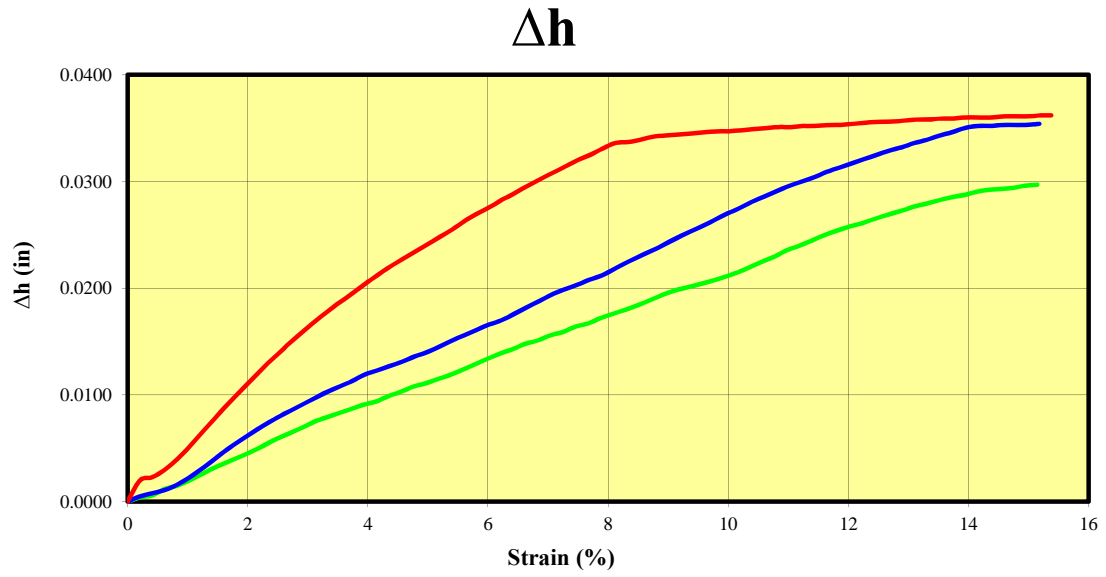
Project:	ULDC Analysis and Identification of Deficiencies	Phi	C(psi)
Location:	San Joaquin County, California	Peak Strength:	37.3
Project Number:	5747.005.000	Res./Ult. Strength:	25.2
			1.8
		ASTM D4318	
Boring Number	7-B010	Liquid Limit:	
Sample Number:	7-B010A@21.5	Plastic Limit:	
Depth:	21.5 (19.5) ft.	ASTM D422	
Sample Type:	Undisturbed	%Sand	
Description:	See exploration logs	%Silt	
Test Type:	Direct Shear, CD (ASTM D3080)	%Clay	
Remarks:	1500 psf; Roots in sample		

ENGEO Incorporated

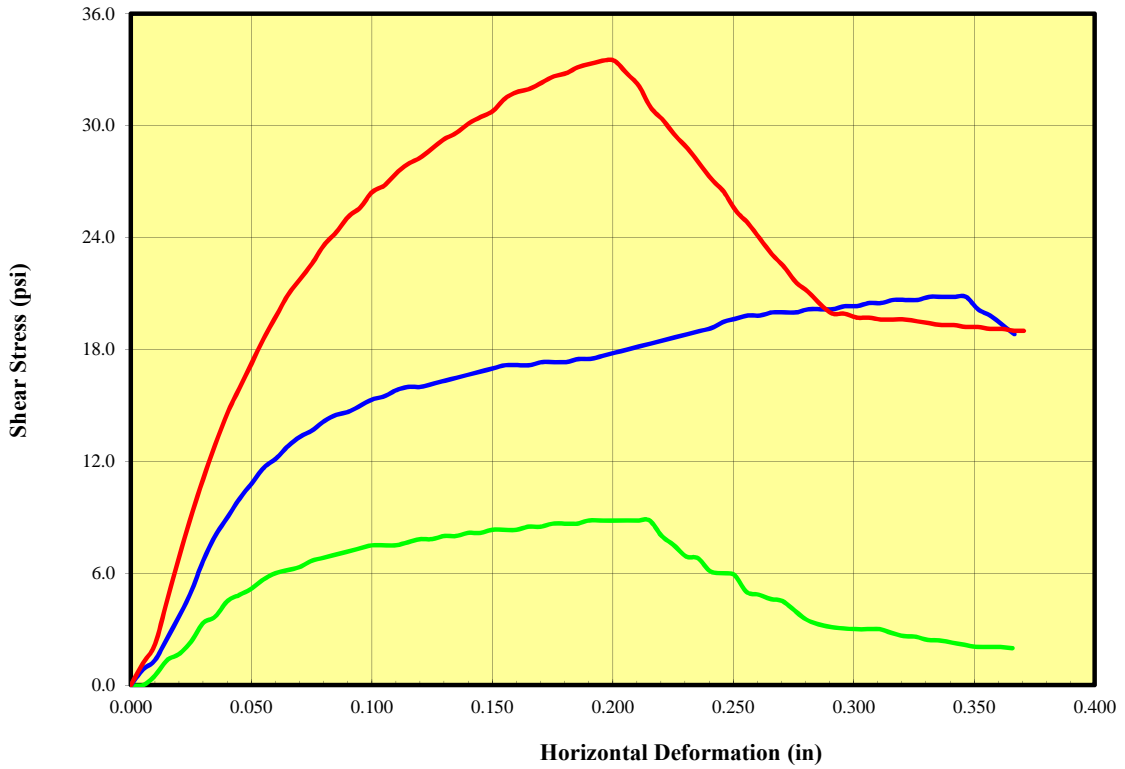
Direct Shear Test (ASTM D3080)

Date 3.17.15

Checked By D. Seibold



Stress-Deformation



Date 3.15.15

Tested By G. Criste

ENGEO Incorporated

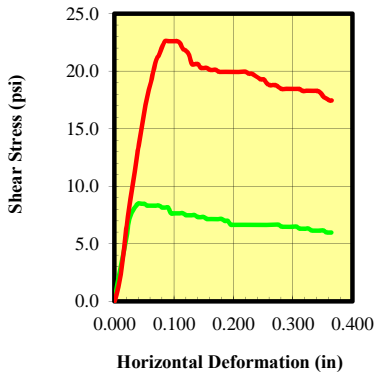
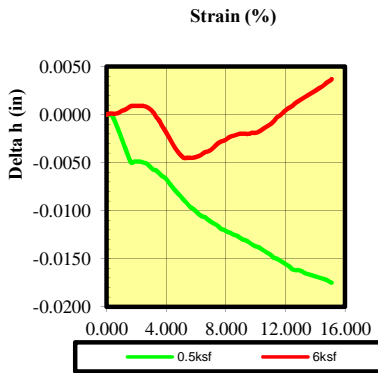
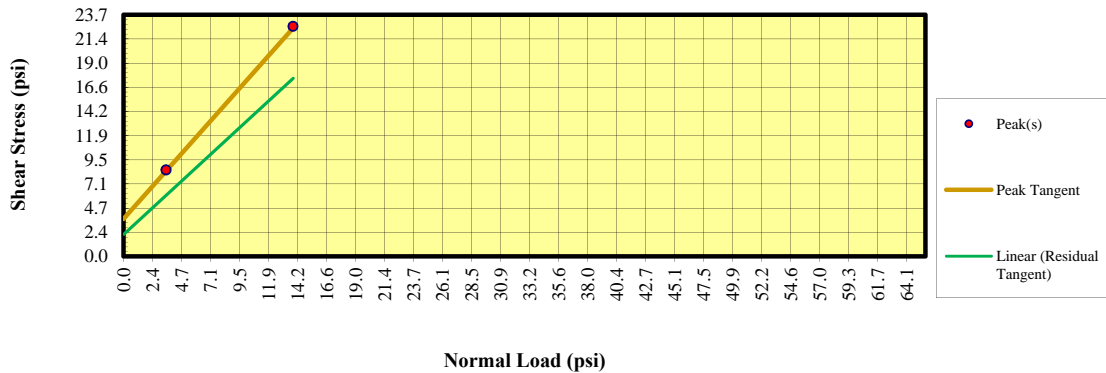
Direct Shear Test (ASTM D3080)

Date 04/14/15

Checked By D. Seibold

Date 4/14/15

Tested By G. Criste



	Specimen		
	Initial	0.5ksf	2ksf
Moisture (%)		25.59	24.05
Density (pcf)		95.49	97.91
Void Ratio		0.808	0.764
Saturation (%)		87.56	87.11
Diameter (in)		2.418	2.418
Height (in)		0.994	0.994
Diameter-to-Height Ratio		2.433	2.433
Specific Gravity (Measured)		2.766	2.766
	Final	0.5ksf	2ksf
Moisture (%)		26.38	22.69
Density (pcf)		99.54	104.50
Void Ratio		0.730	0.628
Saturation (%)		100.00	100.00
Diameter (in)		2.418	2.418
Height (in)		0.991	0.979
Normal Stress (psi)		3.47	13.89
Peak Stress (psi)		8.50	22.61
Residual Stress (psi)		6.00	17.50
Strain (%)		15.091	15.103
Rate (in/min)		0.0018	0.0018
Diameter-to-Height Ratio		2.441	2.470

Test Date	
Date	04/08/15

Project:	UDLC Analysis and Identification for Deficiencies	Phi	C(psi)
Location:	San Joaquin County, CA	Peak Strength:	53.5 3.7
Project Number:	5747.005.000	Res./Ult. Strength:	47.7 2.2
		ASTM D4318	
Boring Number	7-B019	Liquid Limit:	29
Sample Number:	7-B019@8	Plastic Limit:	22
Depth:	8.0 feet (9.0-9.5 feet)	ASTM D422	
Sample Type:	Undisturbed	%Sand	15.5
Description:	See exploration logs	%Silt	
Test Type:	Direct Shear, CD (ASTM D3080)	%Clay	
Remarks:		ASTM D854	
		Material Passing the #4 Sieve	

ENGEO Incorporated

Direct Shear Test (ASTM D3080)

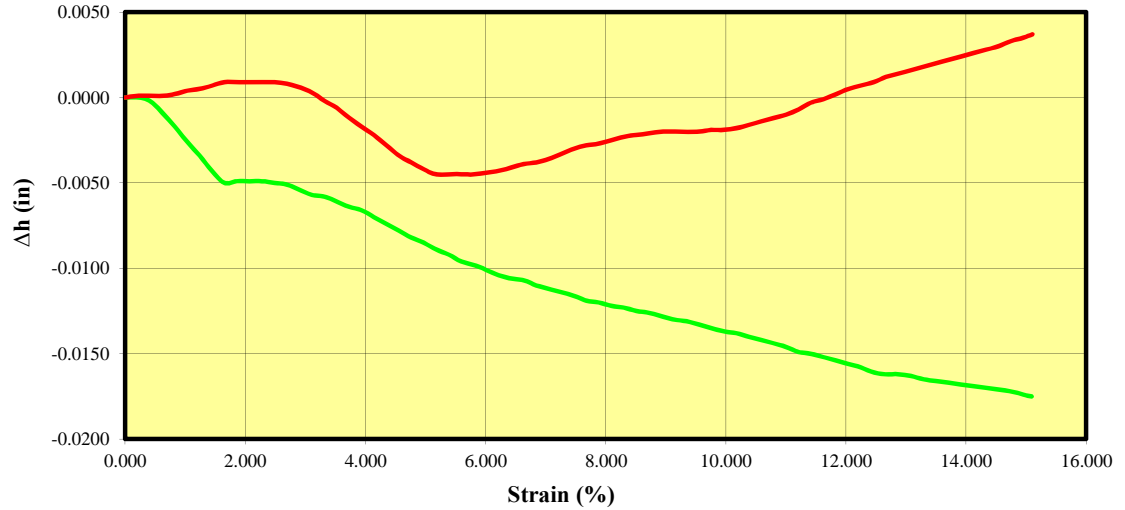
Date 04/14/15

Checked By D. Seibold

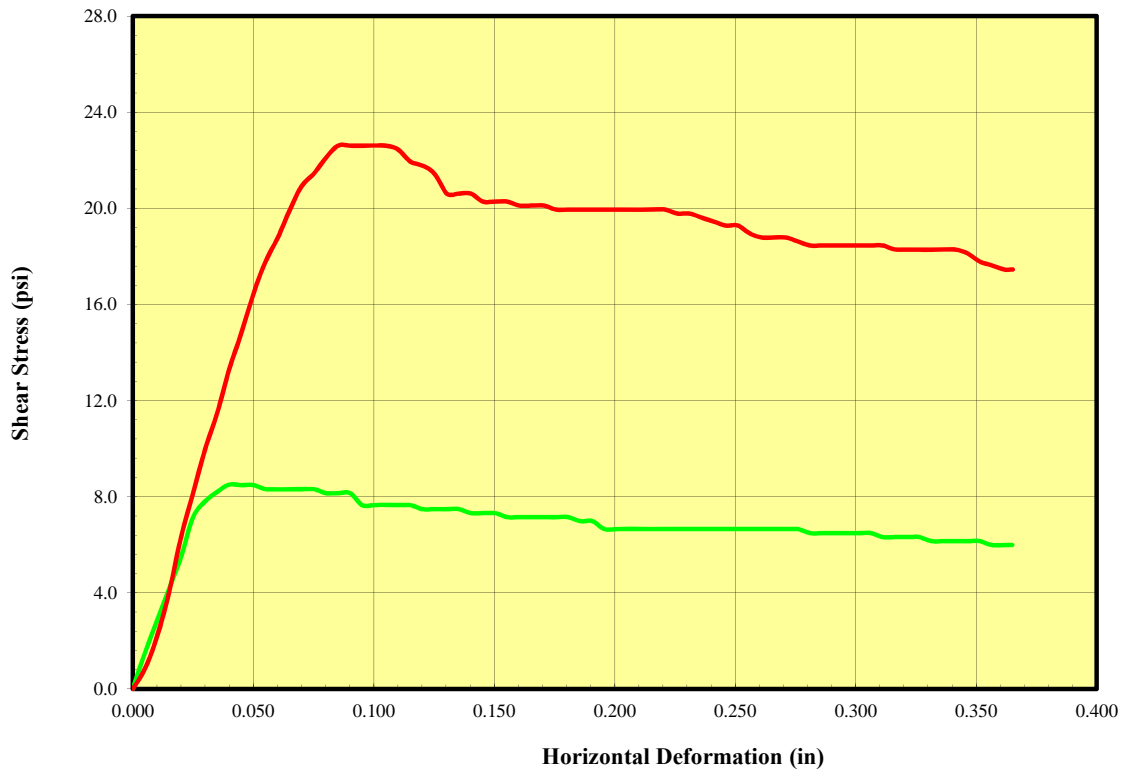
Date 4/14/15

Tested By G. Criste

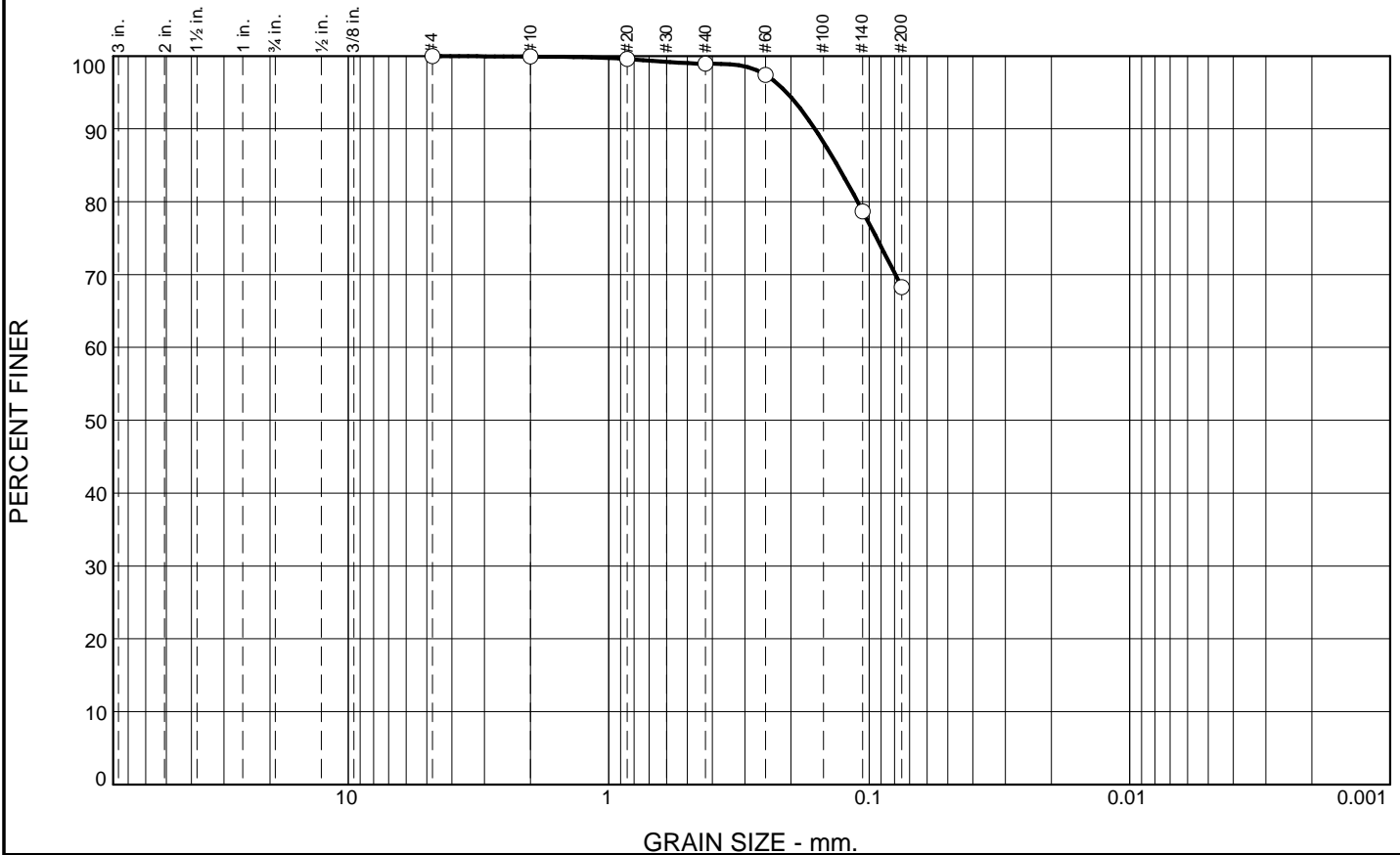
Δh



Stress-Deformation



Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	1.0	30.6	68.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.6		
#40	98.9		
#60	97.4		
#140	78.7		
#200	68.3		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.1616 D₈₅= 0.1325 D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B003 @ 1.5

Depth: 1.5

Date: 11-20-2014



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

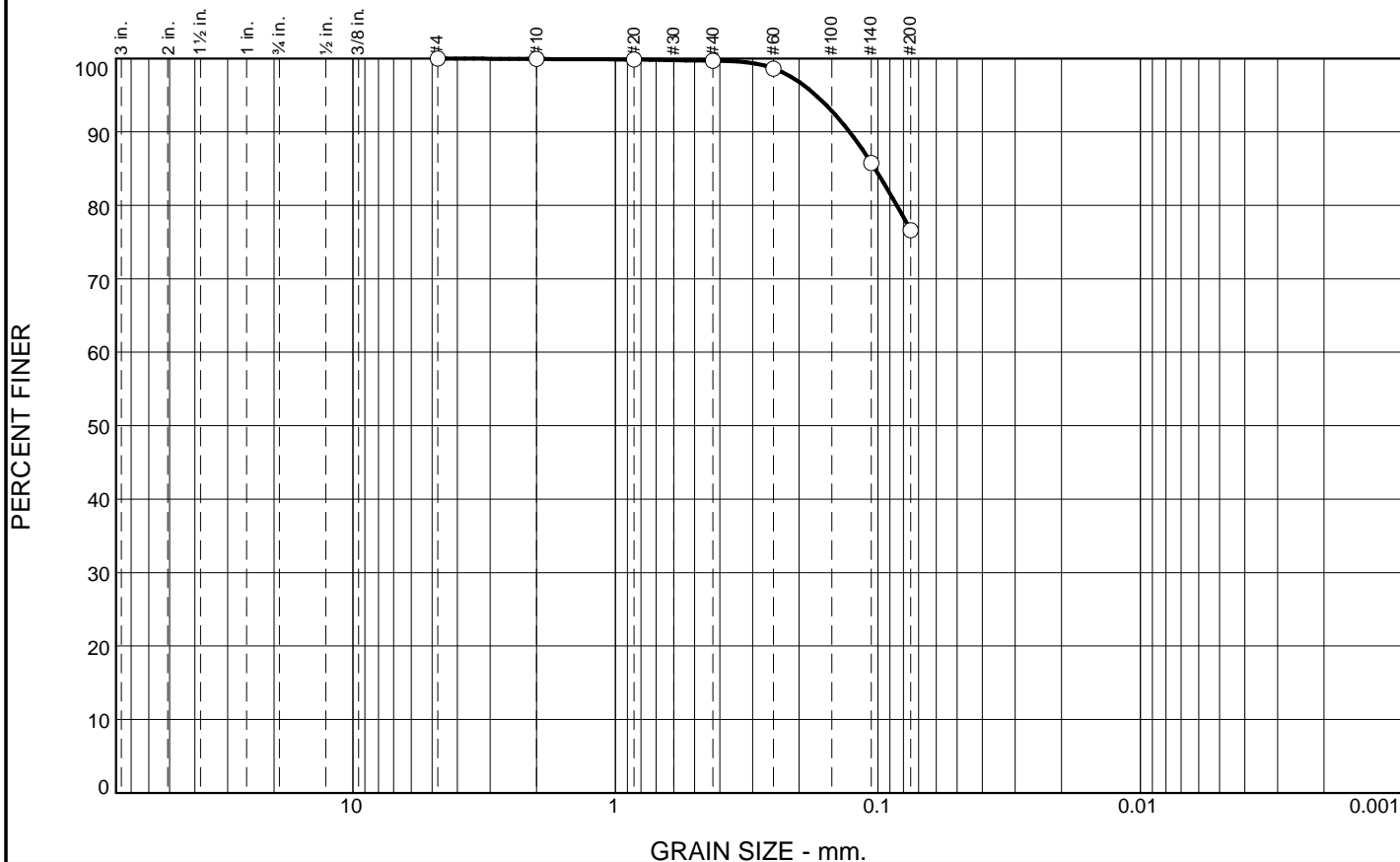
Project No: 5747.005.000 Ph T-004

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.2	23.1	76.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.8		
#40	99.7		
#60	98.6		
#140	85.8		
#200	76.6		

Soil Description
See Exploratory Boring

Atterberg Limits
 PL= 24 LL= 28 PI= 4


Coefficients
 D₉₀= 0.1283 D₈₅= 0.1027 D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= ML AASHTO= A-4(2)

Remarks

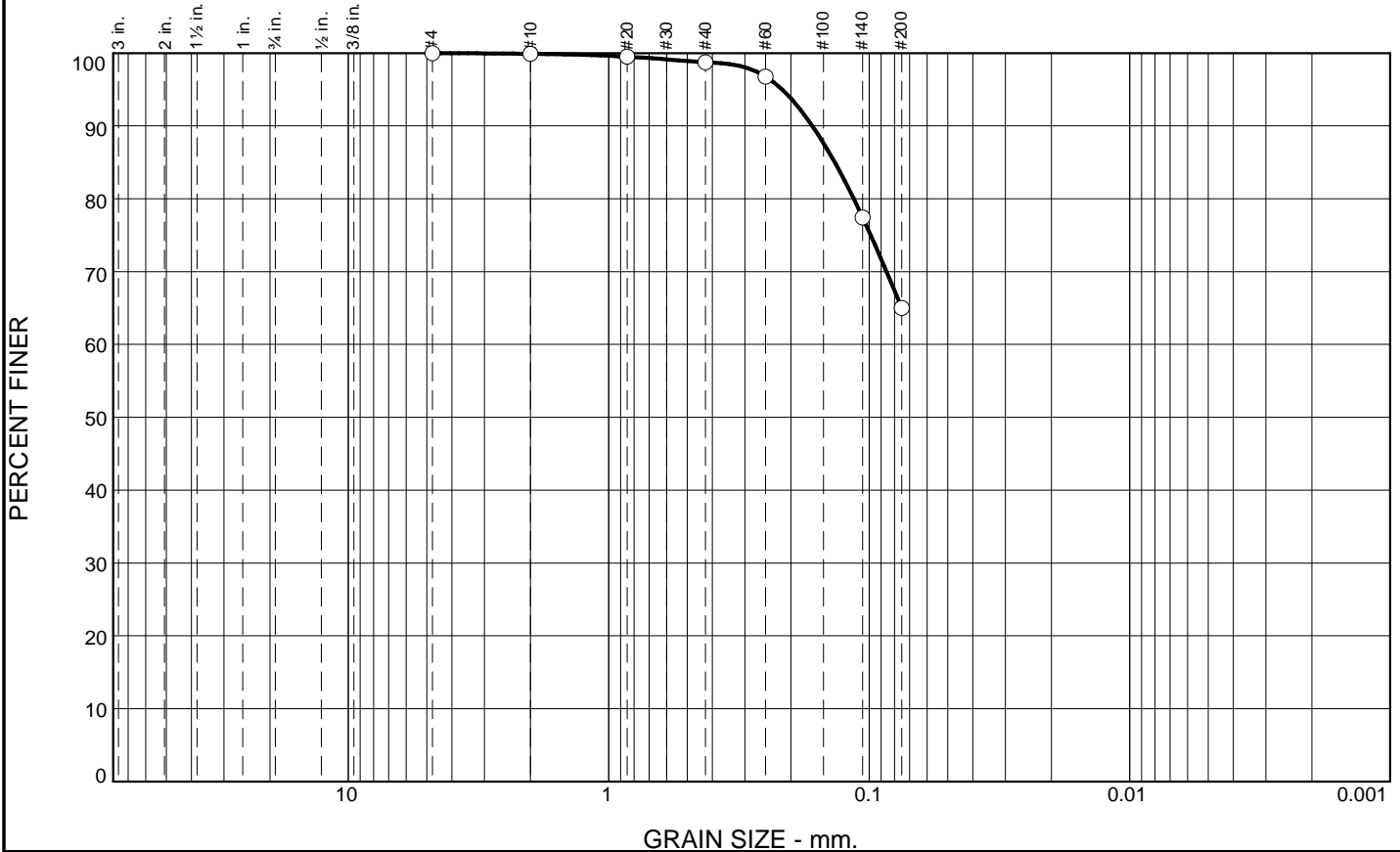
* (no specification provided)

Sample Number: 7-B003 @ 16 **Depth:** 16 **Date:** 11-20-2014

	Client: Peterson Brustad Incorporated Project: RD-17 ULDC Project No: 5747.005.000 Ph T-004	Figure
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Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	1.1	33.8	65.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.5		
#40	98.8		
#60	96.8		
#140	77.4		
#200	65.0		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.1653 D₈₅= 0.1356 D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=


Remarks

* (no specification provided)

Sample Number: 7-B004 @ 1.5

Depth: 1.5

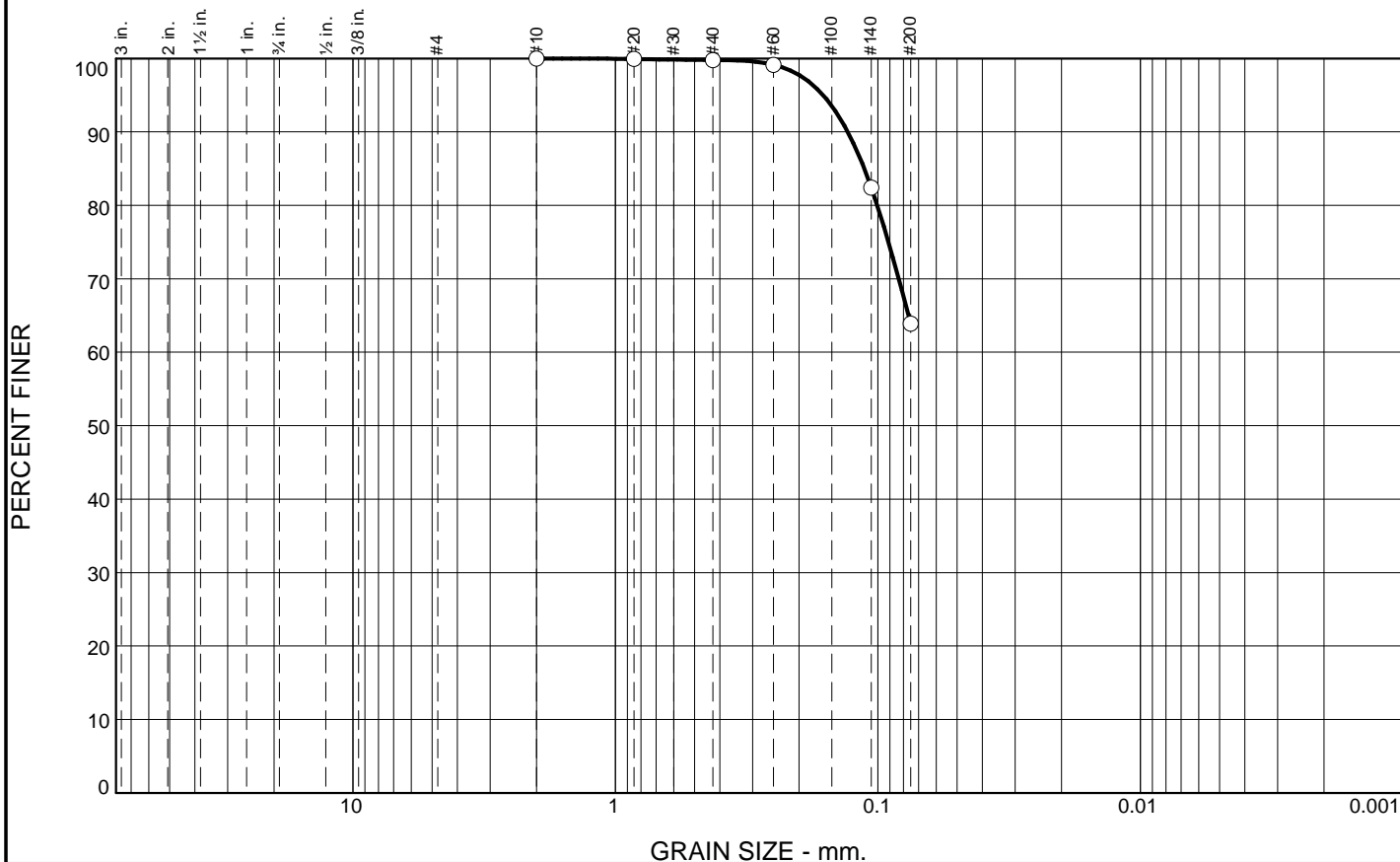
Date: 11-20-2014

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>	<p>Figure</p>
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Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	35.9	63.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	99.8		
#60	99.1		
#140	82.4		
#200	63.9		

Soil Description
See Exploratory Boring

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₉₀= 0.1303 D₈₅= 0.1127 D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

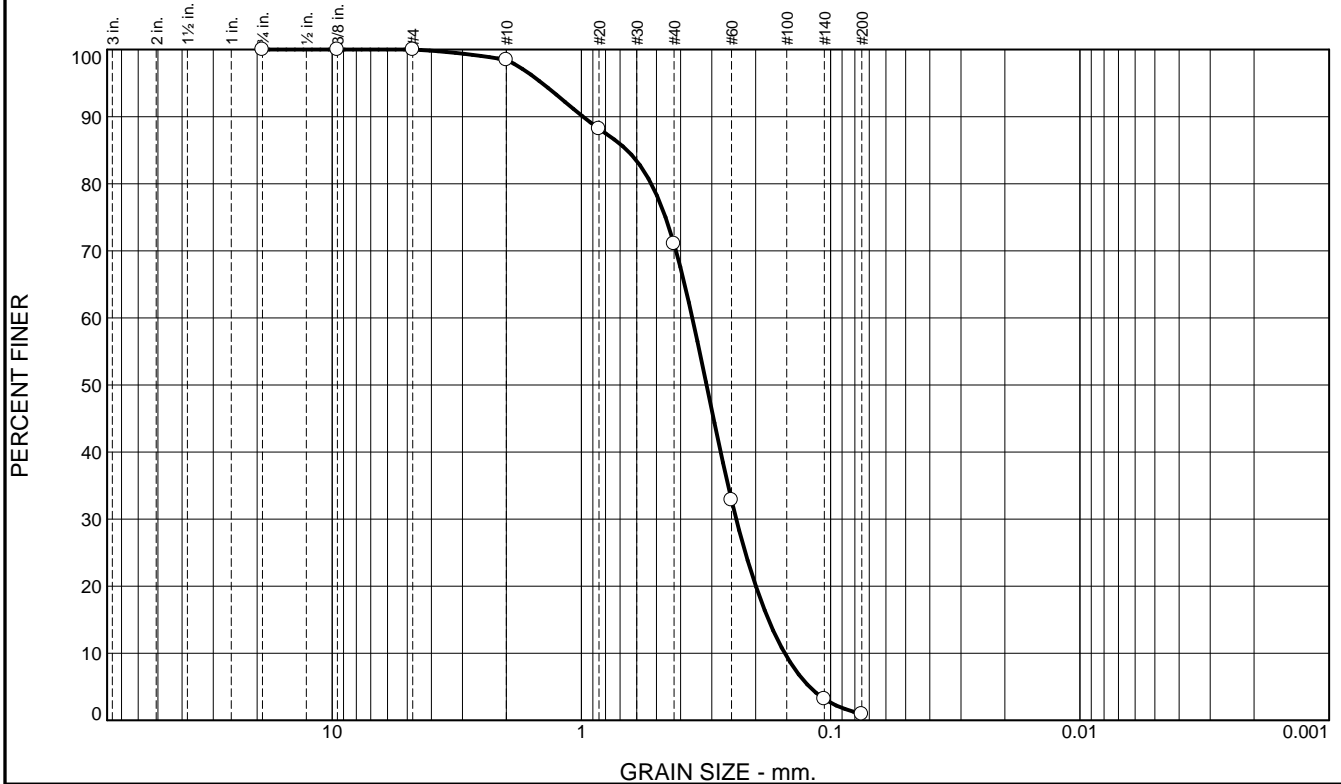
Sample Number: 7-B004 @ 56 **Depth:** 56

Date: 11-20-2014

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
<p>Figure</p>	

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.5	27.5	70.1	0.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	98.5		
#20	88.2		
#40	71.0		
#60	32.8		
#140	3.2		
#200	0.9		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.9851 D₈₅= 0.6556 D₆₀= 0.3590

D₅₀= 0.3148 D₃₀= 0.2394 D₁₅= 0.1776

D₁₀= 0.1527 C_u= 2.35 C_c= 1.04

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-BOO6 @ 36 Depth: 36

Date: 12-9-14



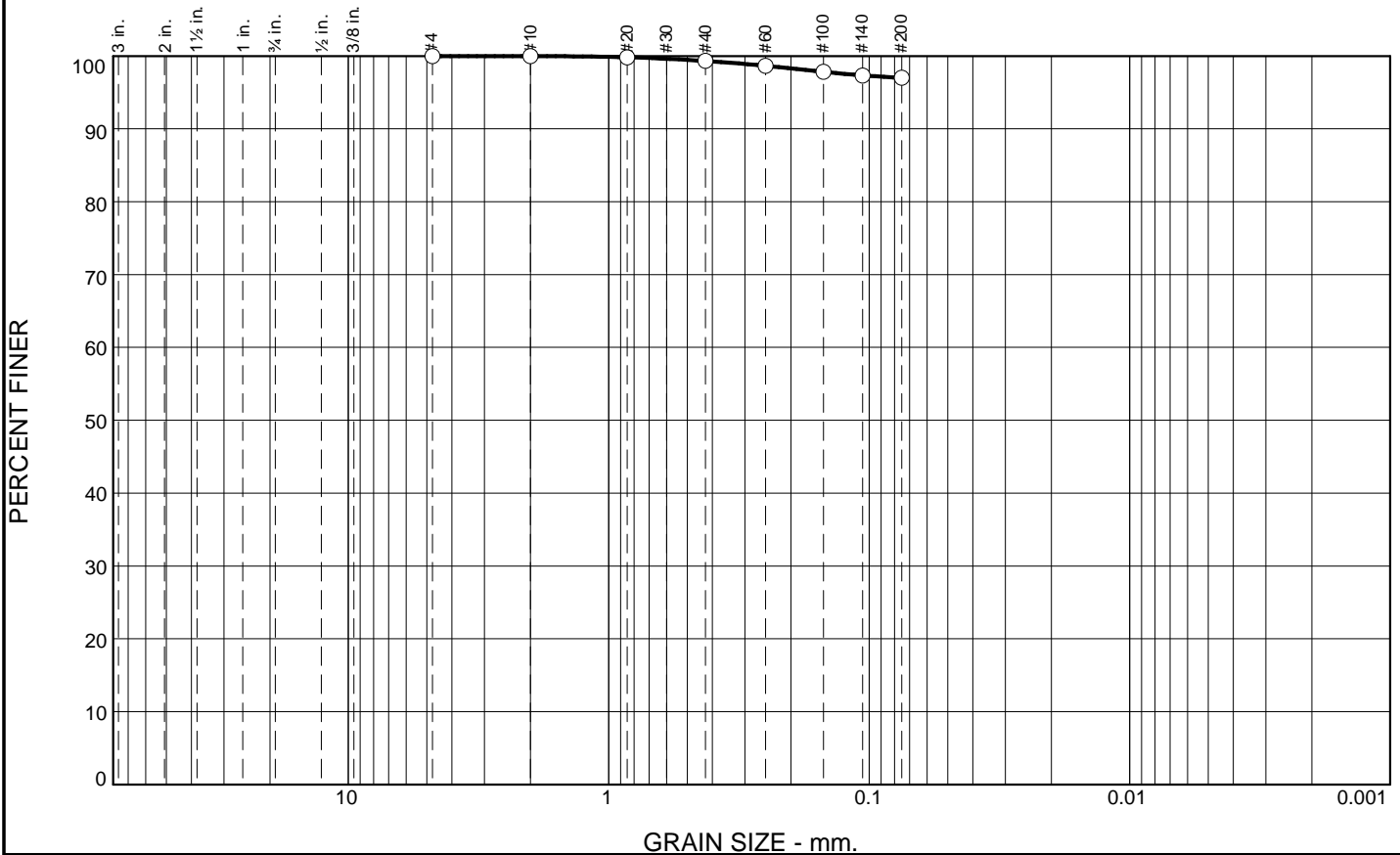
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.7	2.3	97.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.8		
#40	99.3		
#60	98.6		
#100	97.8		
#140	97.3		
#200	97.0		

Soil Description

See exploration logs

Atterberg Limits

PL= 25 LL= 55 PI= 30

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(33)

Remarks

GS: ASTM D422, PI: ASTM D4318, USCS: ASTM D2487

* (no specification provided)

Sample Number: 7-B007 @ 27.5 **Depth:** 27-27.5 ft. **Date:** 3.6.15

	<p>Client: Peterson Brusted Incorporated</p> <p>Project: ULDC Analysis and Identification of Deficiencies</p> <p>Project No: 5747.005.000</p>
--	--

Tested By: G. Criste **Checked By:** D. Seibold

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.4	59.9	37.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.4		
#40	97.6		
#60	85.9		
#100	57.6		
#140	46.1		
#200	37.7		

Soil Description

See exploration logs

Atterberg Limits

PL= 19 LL= 15 PI= NP

Coefficients

D₉₀= 0.2775 D₈₅= 0.2450 D₆₀= 0.1577
D₅₀= 0.1224 D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SM AASHTO= A-4(0)

Remarks

GS: ASTM D6913; PI: ASTM D4318; USCS: ASTM D2487

* (no specification provided)

Sample Number: 7-B007 @ 27.5B

Depth: 26.5-27 ft.

Date: 04/06/15

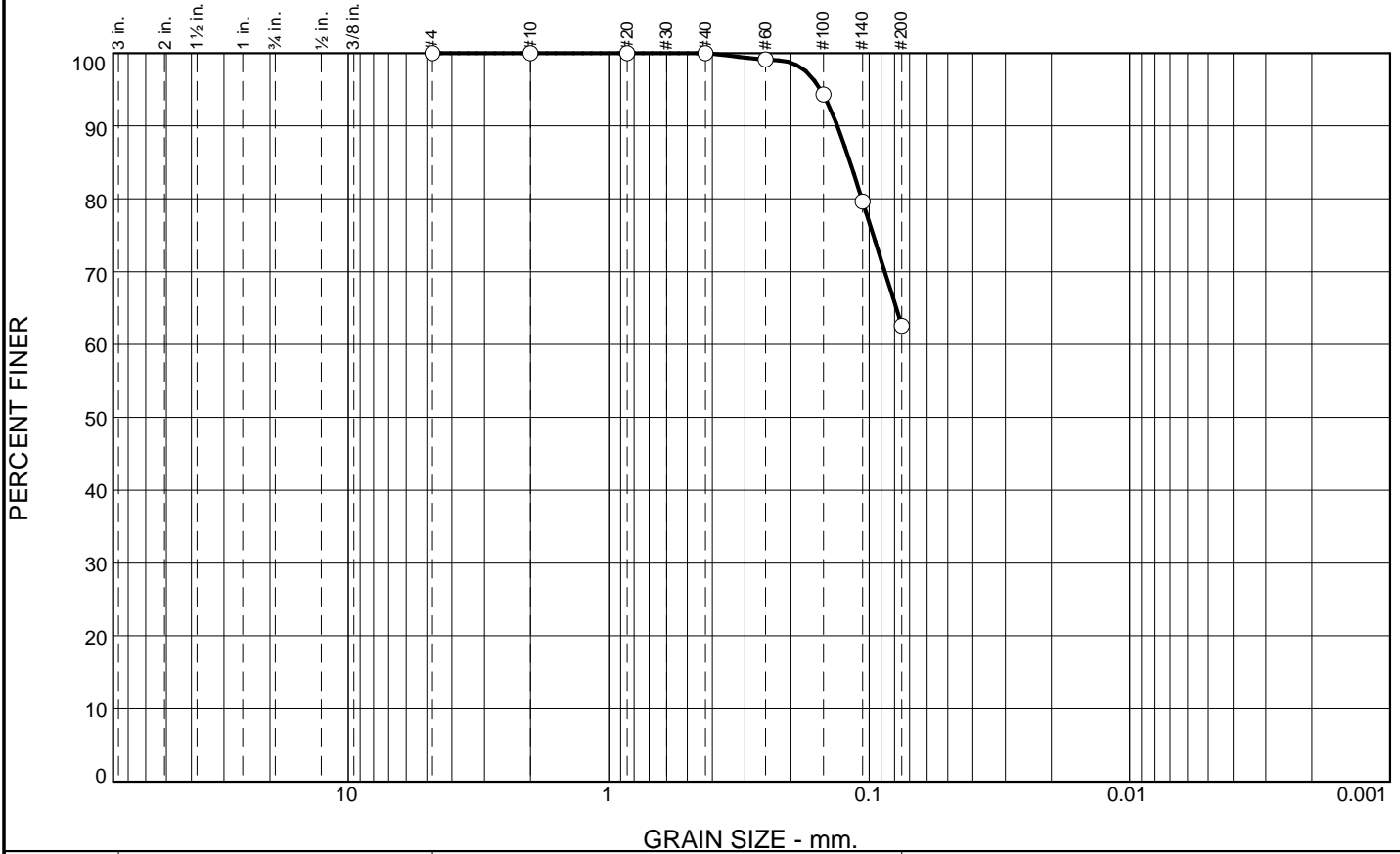


Client: Peterson Brusted Incorporated
Project: ULDC Analysis and Identification of Deficiencies
Project No: 5747.005.000

Tested By: G. Criste

Checked By: D. Seibold

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	37.4	62.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	100.0		
#40	100.0		
#60	99.1		
#100	94.3		
#140	79.6		
#200	62.6		

Soil Description

See exploration logs

Atterberg Limits

PL= 31 LL= 29 PI= NP

Coefficients

D₉₀= 0.1327 D₈₅= 0.1185 D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

GS: ASTM D422, PI: ASTM D4318, USCS: ASTM D2487

* (no specification provided)

Sample Number: 7-B010A @ 19.5

Depth: 19.5 ft.

Date: 2.24.15



Client: Peterson Brusted Incorporated
Project: ULDC Analysis and Identification of Deficiencies

Project No: 5747.005.000

Tested By: D. Seibold

Checked By: G. Criste

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.7	21.3	46.0	32.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	99.3		
#20	95.3		
#40	78.0		
#60	57.1		
#140	36.2		
#200	32.0		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.6354 D₈₅= 0.5253 D₆₀= 0.2700

D₅₀= 0.2018 D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 2 Depth: 2

Date: 12-9-14



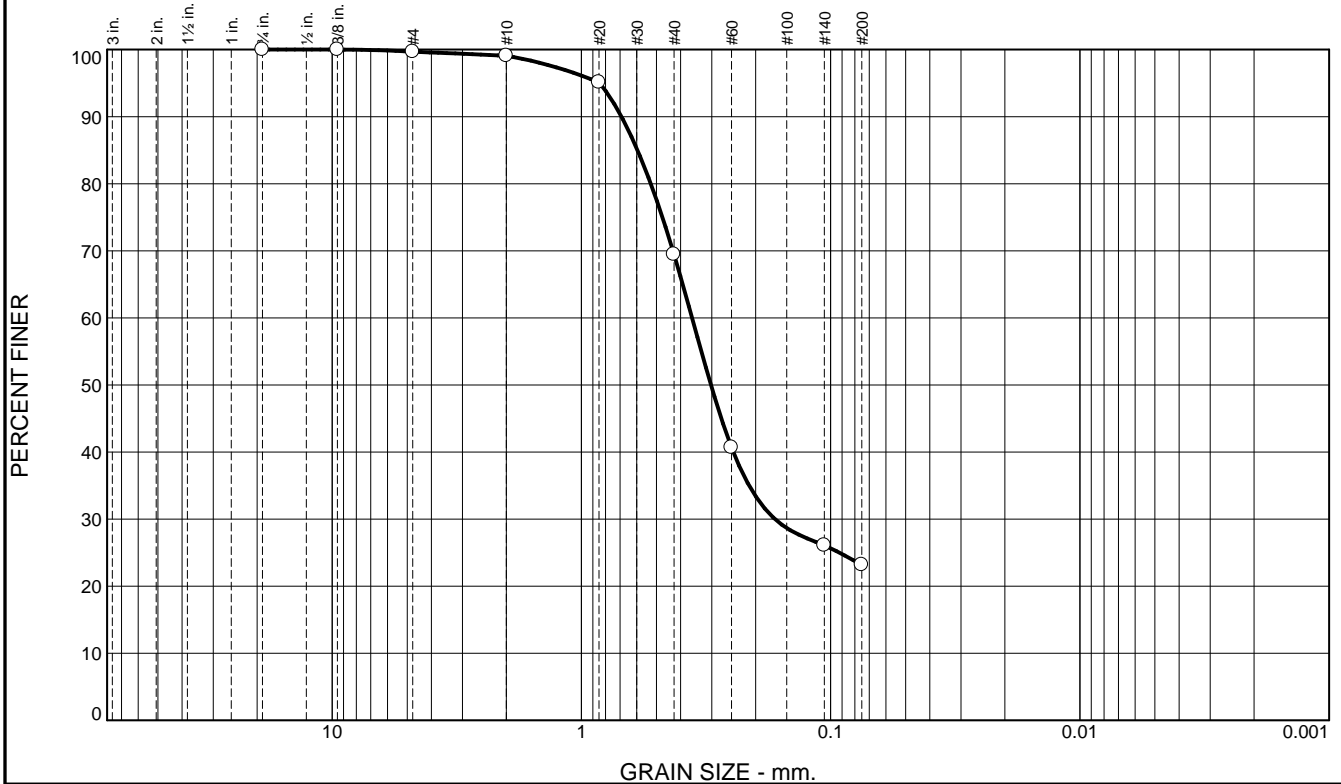
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.6	29.6	46.3	23.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	99.7		
#10	99.1		
#20	95.1		
#40	69.5		
#60	40.7		
#140	26.1		
#200	23.2		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.6904 D₈₅= 0.5958 D₆₀= 0.3599

D₅₀= 0.3022 D₃₀= 0.1672 D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 11

Depth: 11

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

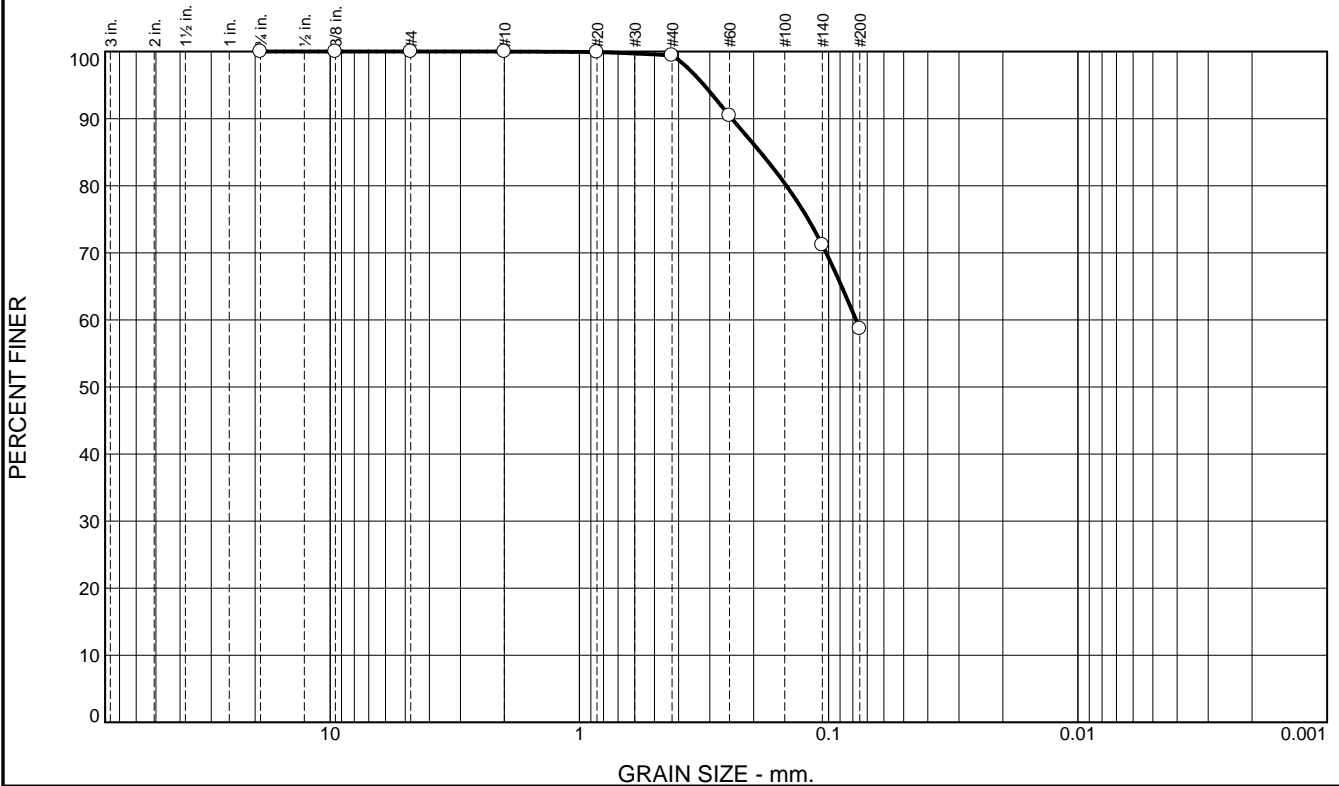
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.6	40.7	58.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.4		
#60	90.4		
#140	71.2		
#200	58.7		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 21 LL= 31 PI= 10

Coefficients

D₉₀= 0.2445 D₈₅= 0.1879 D₆₀= 0.0776
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-4(4)

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 16.5

Depth: 16.5

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

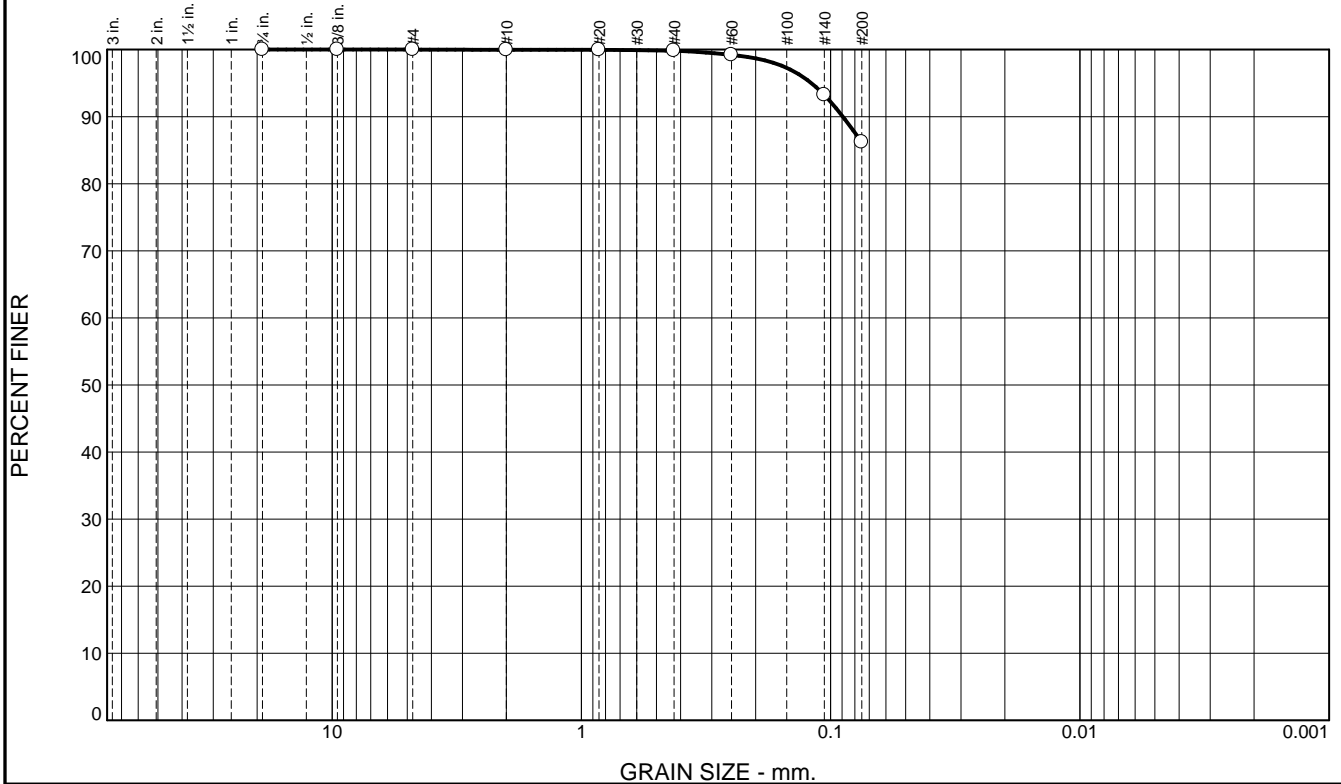
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	13.6	86.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.8		
#60	99.2		
#140	93.2		
#200	86.2		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.0893 D₈₅= D₆₀=

D₅₀= D₃₀= D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 31

Depth: 31

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.5	17.8	81.6	0.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	99.5		
#20	99.0		
#40	81.7		
#60	32.9		
#140	9.2		
#200	0.1		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4889 D₈₅= 0.4463 D₆₀= 0.3344
D₅₀= 0.3027 D₃₀= 0.2399 D₁₅= 0.1627
D₁₀= 0.1111 C_u= 3.01 C_c= 1.55

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B014 @ 41

Depth: 41

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

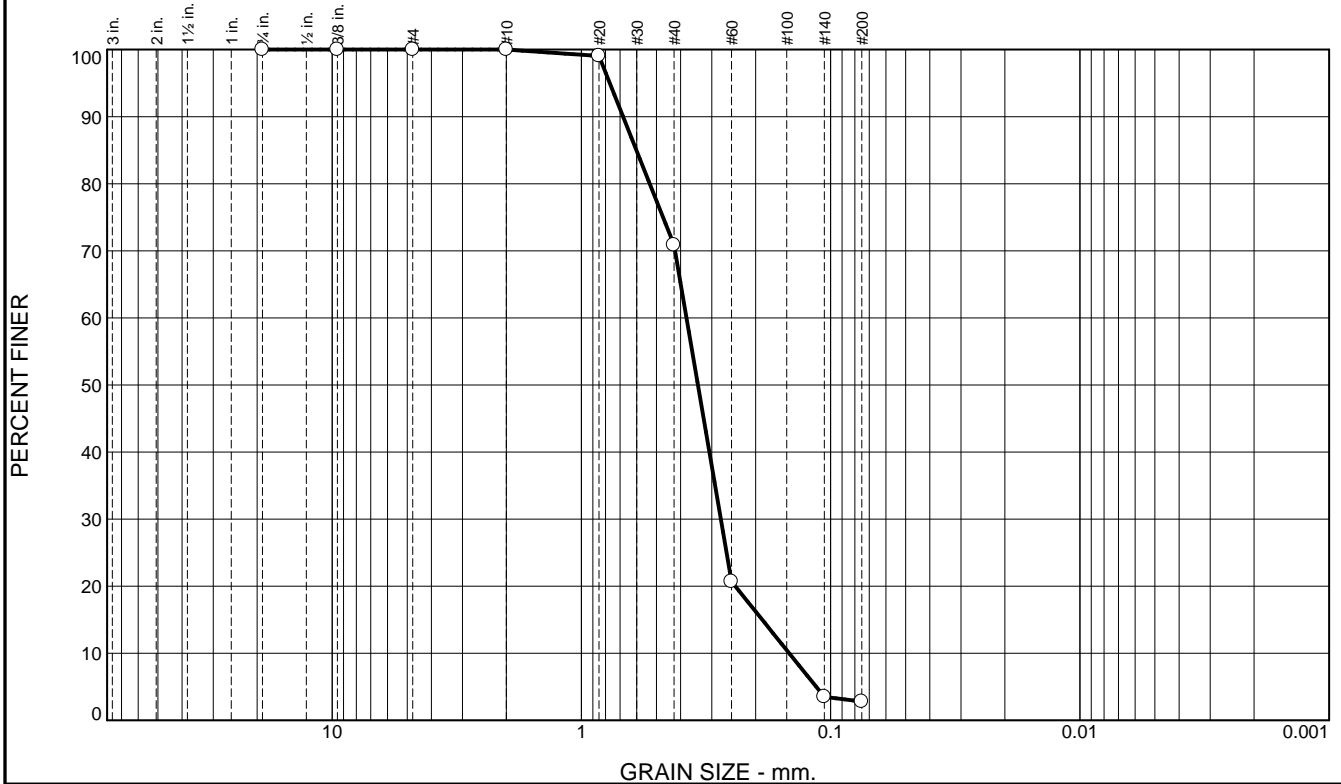
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	29	68	3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
3/8"	100		
#4	100		
#10	100		
#20	99		
#40	71		
#60	21		
#140	4		
#200	2.8		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.6804 D₈₅= 0.6017 D₆₀= 0.3789
D₅₀= 0.3409 D₃₀= 0.2759 D₁₅= 0.1882
D₁₀= 0.1466 C_u= 2.58 C_c= 1.37

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B015 Depth: 25.5
Sample Number: 7-B015 @ 25.5

Date: 2-5-15



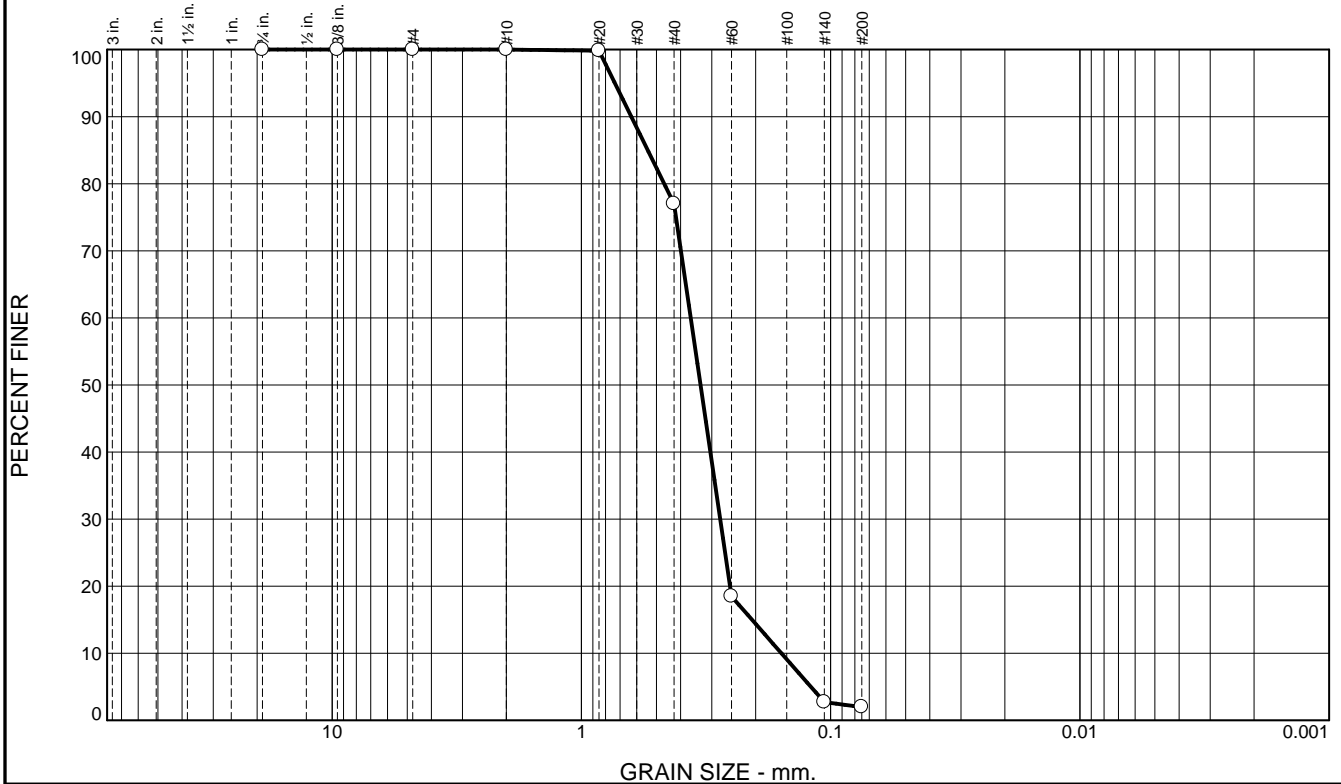
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	23	75	2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
3/8"	100		
#4	100		
#10	100		
#20	100		
#40	77		
#60	18		
#140	3		
#200	2.0		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.6306 D₈₅= 0.5418 D₆₀= 0.3643
D₅₀= 0.3327 D₃₀= 0.2775 D₁₅= 0.2069
D₁₀= 0.1576 C_u= 2.31 C_c= 1.34

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B016 Depth: 35.5
Sample Number: 7-B016 @ 35.5

Date: 2-5-15



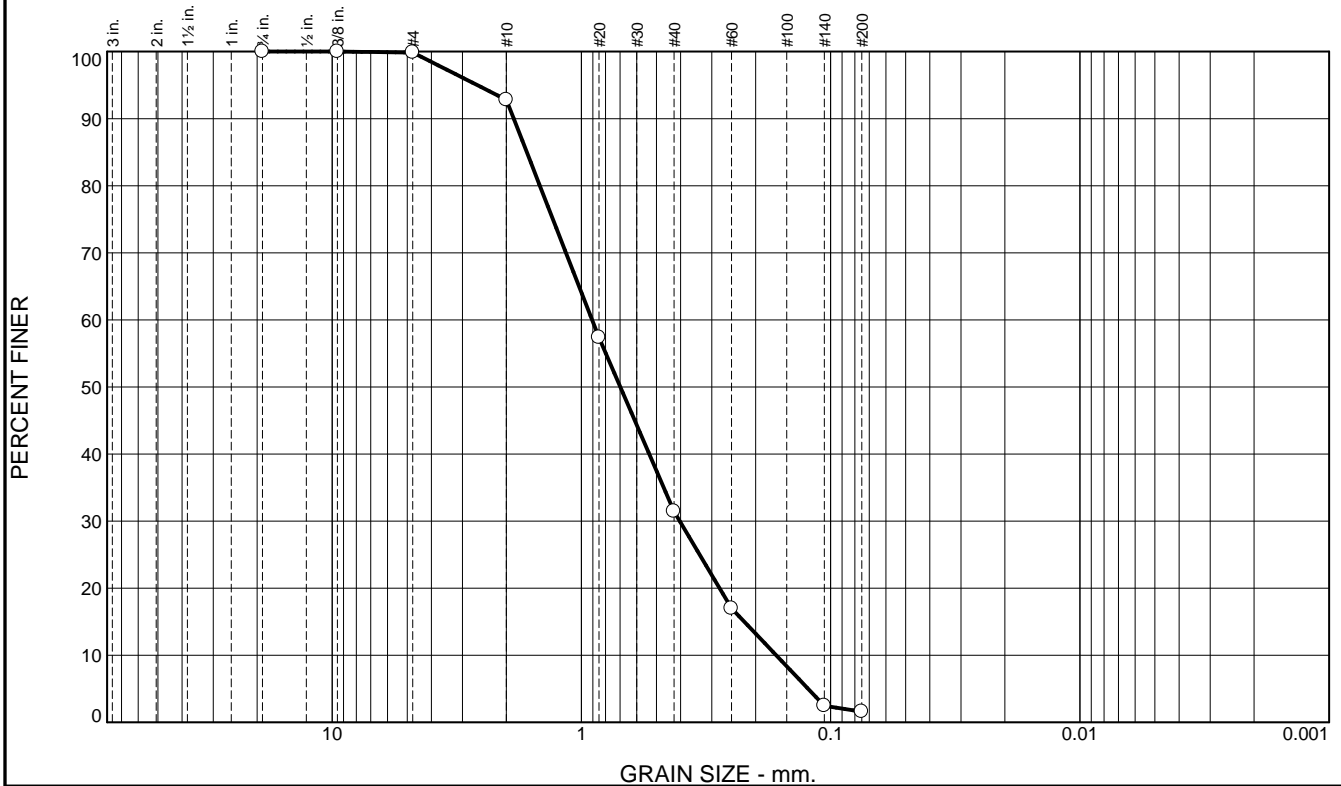
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	7	62	29	2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
3/8"	100		
#4	100		
#10	93		
#20	57		
#40	31		
#60	17		
#140	2		
#200	1.6		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 1.8689 D₈₅= 1.6563 D₆₀= 0.9057
D₅₀= 0.6981 D₃₀= 0.4032 D₁₅= 0.2222
D₁₀= 0.1654 C_u= 5.48 C_c= 1.09

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B017 Depth: 30.5
Sample Number: 7-B017 @ 30.5

Date: 2-5-15



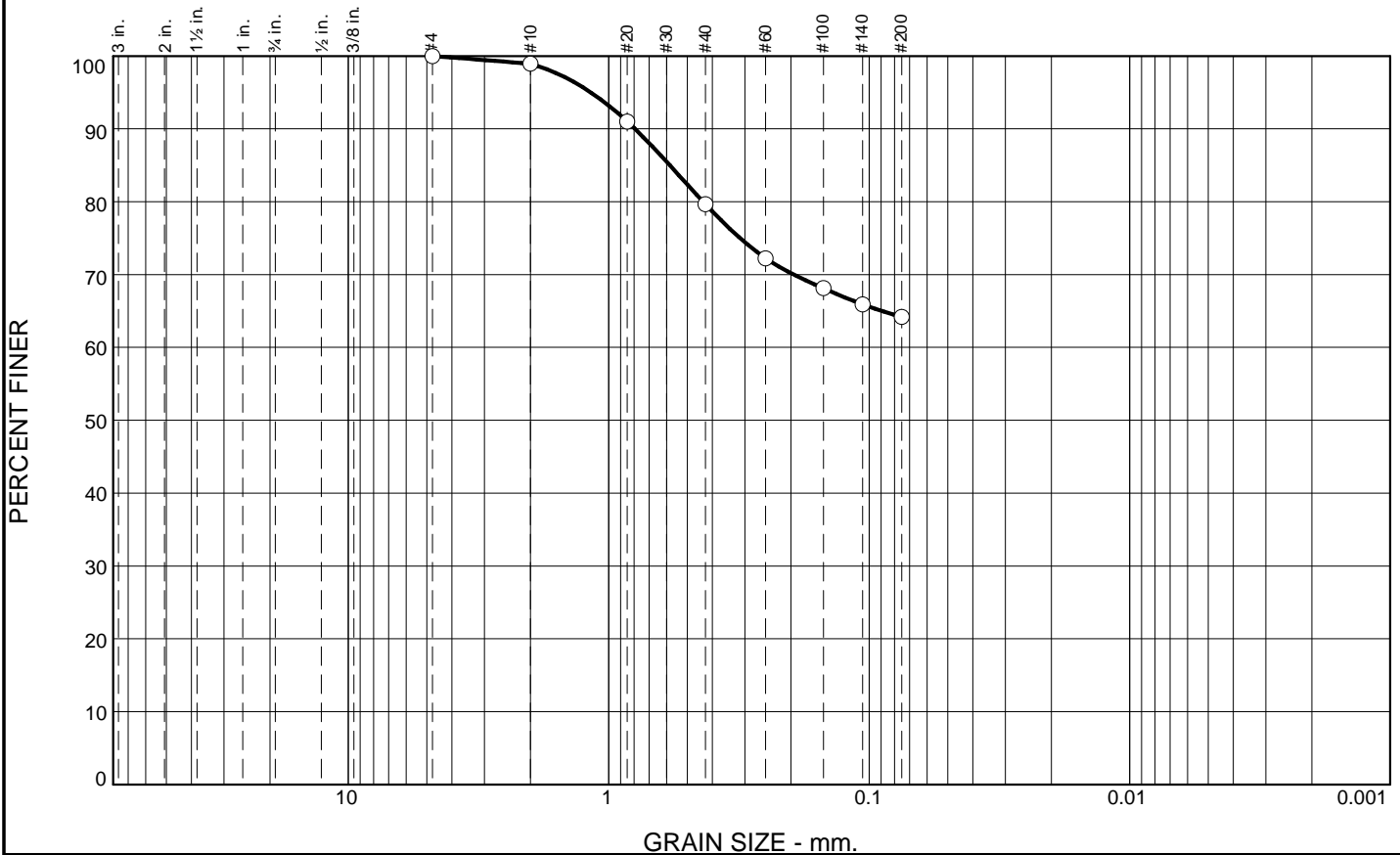
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.1	19.3	15.4	64.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	98.9		
#20	91.0		
#40	79.6		
#60	72.2		
#100	68.1		
#140	65.9		
#200	64.2		

Soil Description

See exploration logs

Atterberg Limits

PL= 28 LL= 43 PI= 15

Coefficients

D₉₀= 0.7935 D₈₅= 0.5833 D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= ML AASHTO= A-7-6(9)

Remarks

GS: ASTM D422, PI: ASTM D4318; Wet method
USCS: ASTM D2487

* (no specification provided)

Sample Number: 7-B018 @ 25-26

Depth: 25-26 feet

Date: 4.14.15



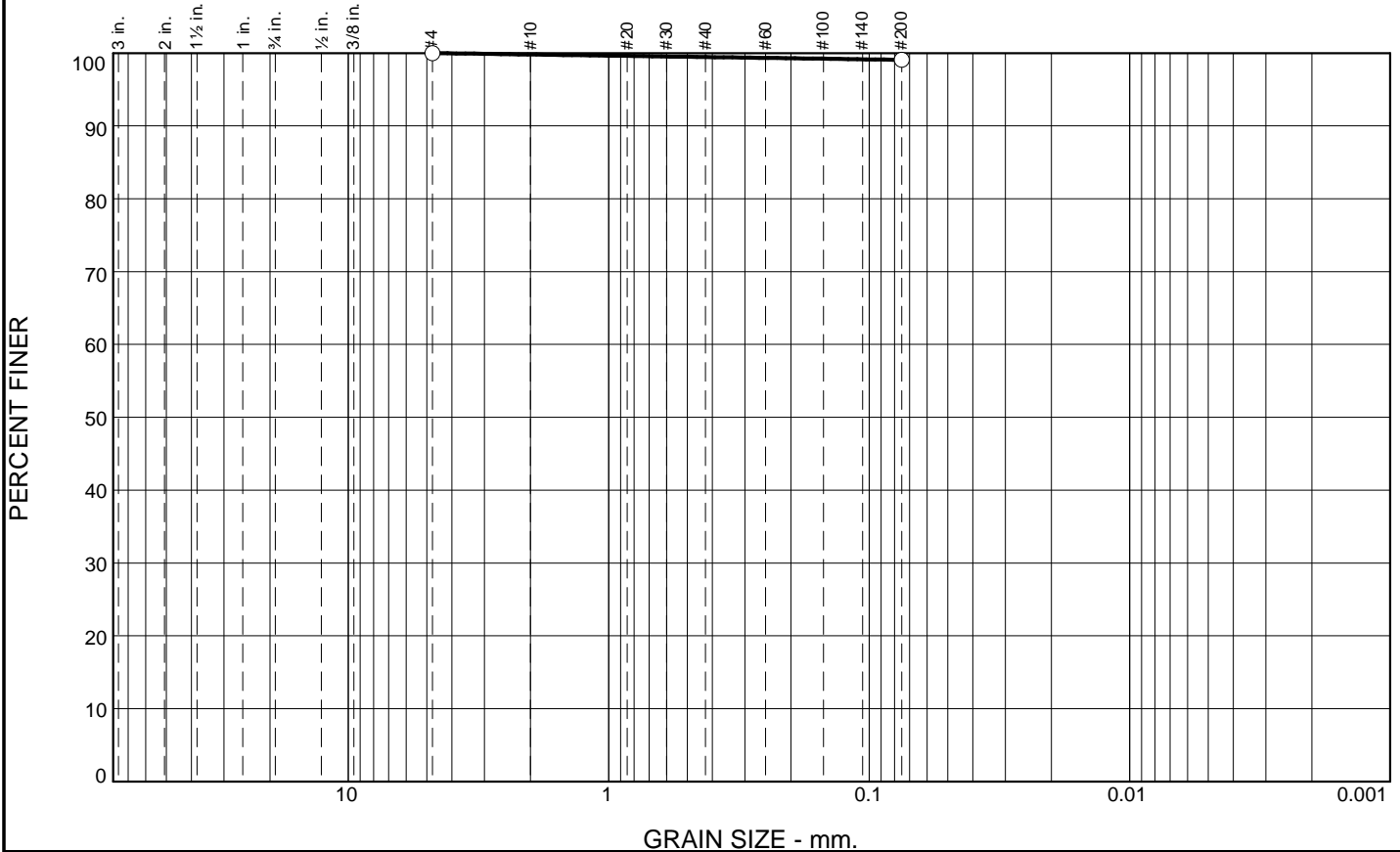
Client: Peterson Brusted Incorporated
Project: ULDC Analysis and Identification of Deficiencies

Project No: 5747.005.000

Tested By: J. Lawton

Checked By: D. Seibold

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	0.3	0.4	99.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#200	99.1		

Soil Description

See exploration logs

Atterberg Limits

PL= 23 LL= 57 PI= 34

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(38)

Remarks

GS: ASTM D422, PI: ASTM D4318, USCS: ASTM D2487

* (no specification provided)

Sample Number: 7-B018 @ 26-28.5

Depth: 26.0-28.5 feet

Date: 3.24.15



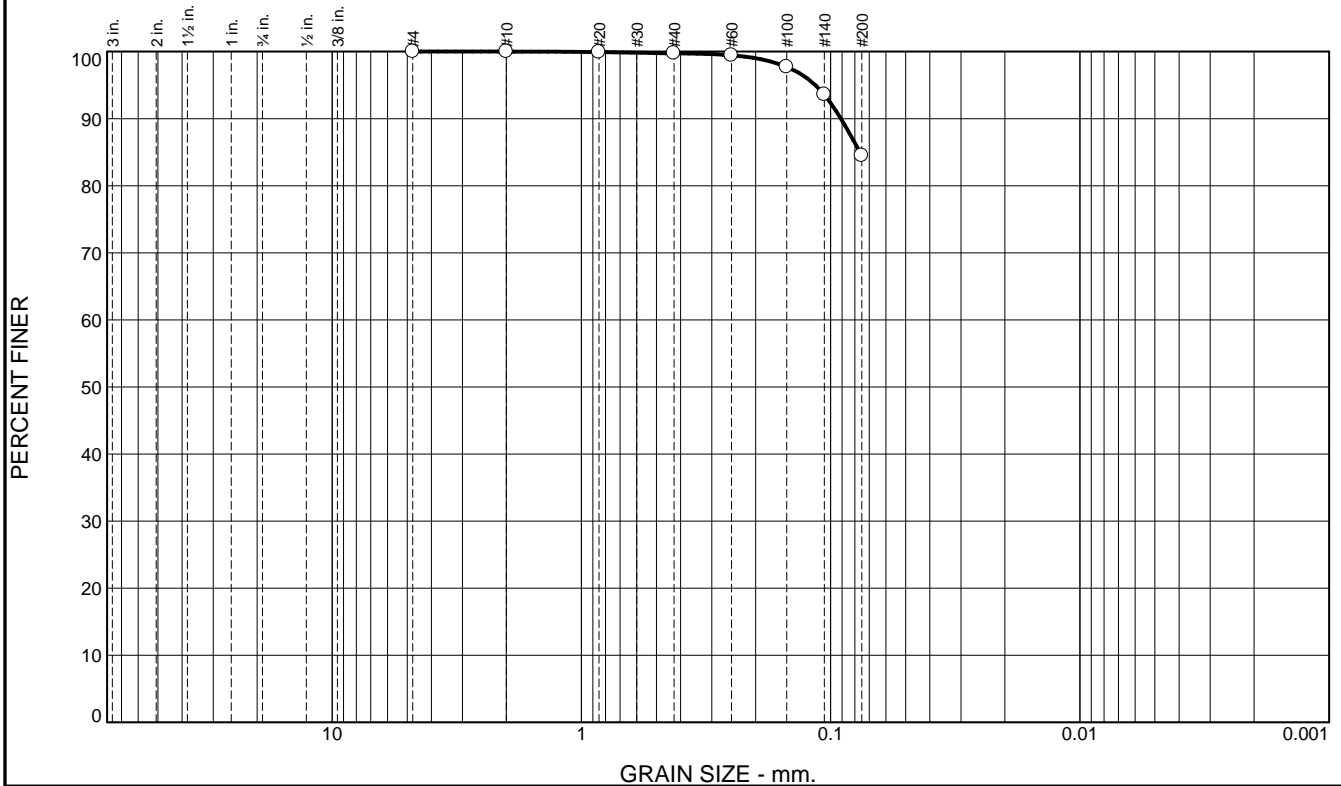
Client: Peterson Brusted Incorporated
Project: ULDC Analysis and Identification of Deficiencies

Project No: 5747.005.000

Tested By: J. Lawton

Checked By: D. Seibold

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.3	15.2	84.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.7		
#60	99.4		
#100	97.7		
#140	93.6		
#200	84.5		

Soil Description

See exploration logs

Atterberg Limits

PL= 22 LL= 29 PI= 7

Coefficients

D₉₀= 0.0909 D₈₅= 0.0763 D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL-ML AASHTO= A-4(5)

Remarks

GS: ASTM D6913; PI: ASTM D4318; USCS: ASTM D2487

* (no specification provided)

Sample Number: 7-B019 @ 8

Depth: 9.0-9.5 feet

Date: 04/14/15



Client: Peterson Brusted Incorporated

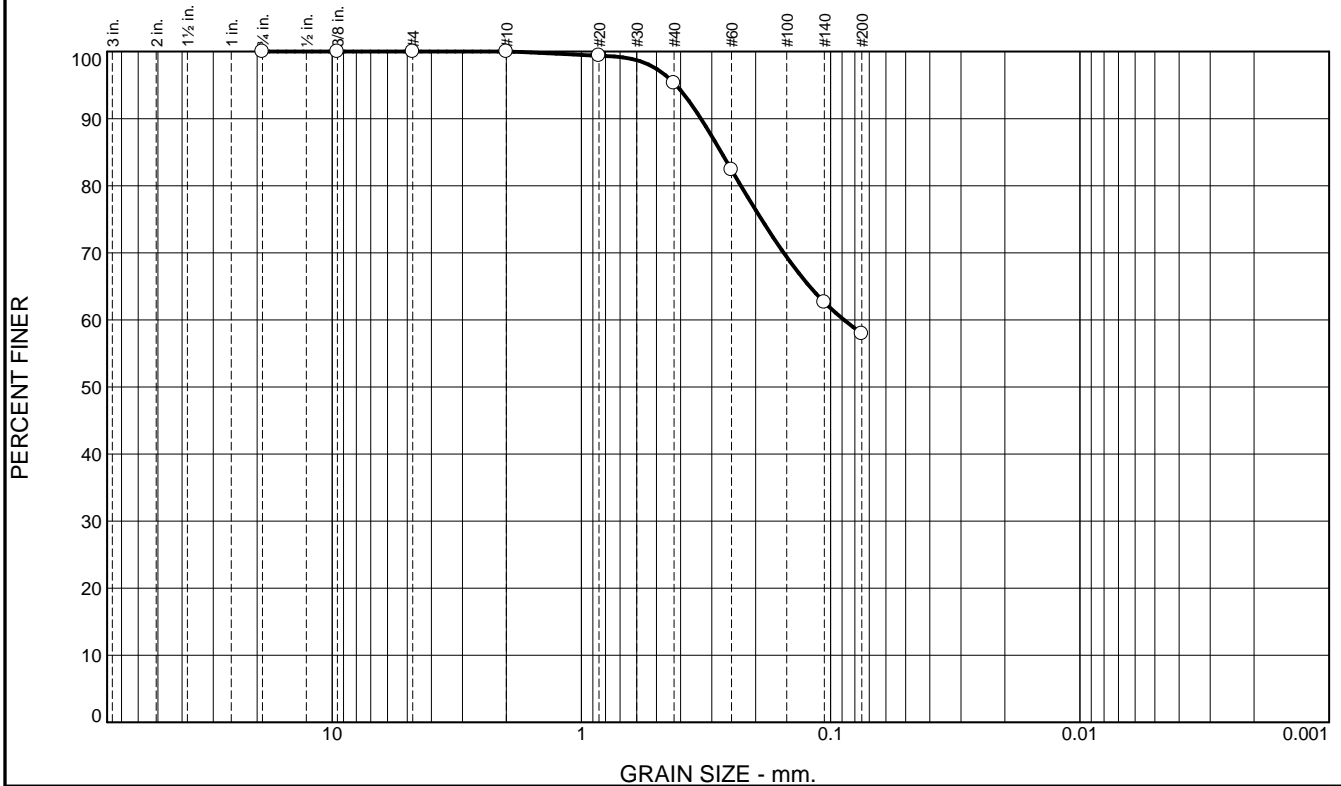
Project: ULDC Analysis and Identification of Deficiencies

Project No: 5747.005.000

Tested By: G. Criste

Checked By: D. Seibold

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.7	37.4	57.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	99.4		
#40	95.3		
#60	82.4		
#140	62.6		
#200	57.9		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₉₀= 0.3315 D₈₅= 0.2749 D₆₀= 0.0884
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= ML AASHTO= A-4(0)

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 14.5
 Sample Number: 7-B020 @ 14.5

Date: 2-5-15



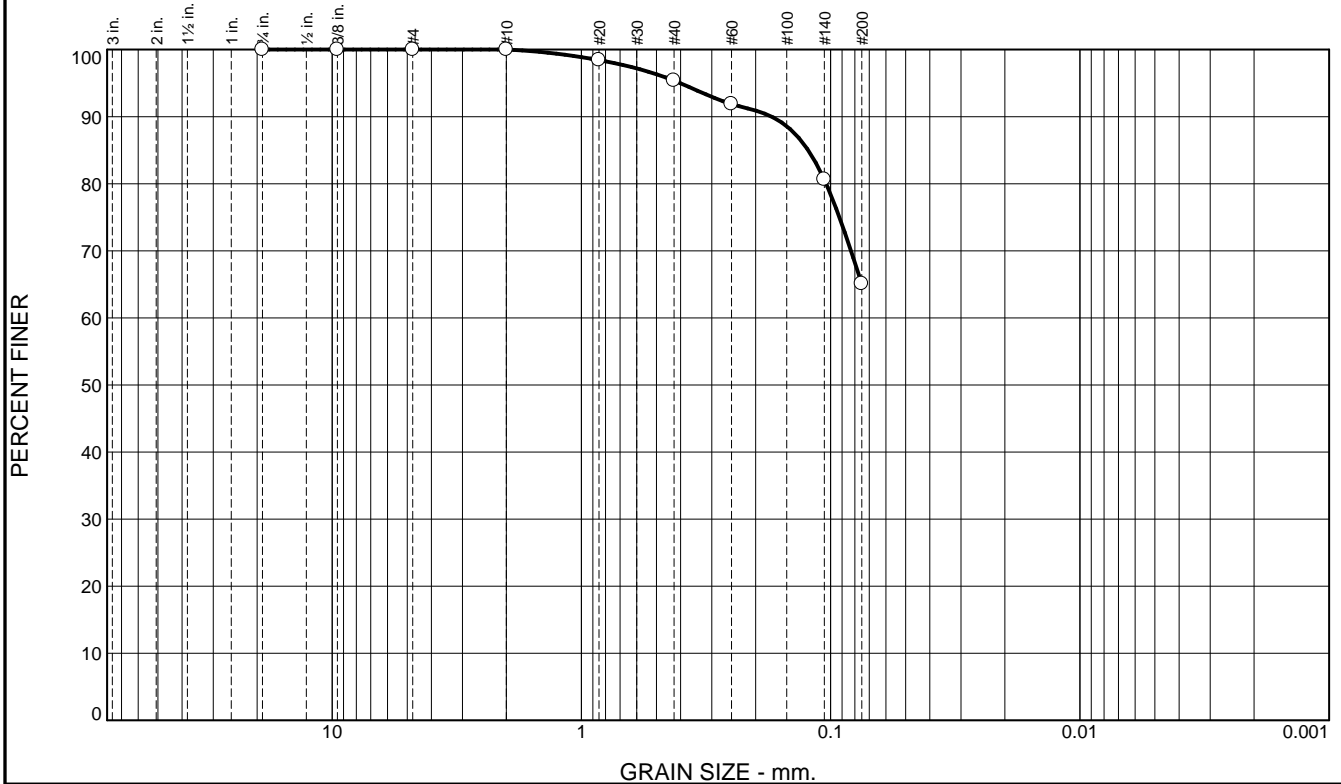
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.6	30.3	65.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	98.4		
#40	95.4		
#60	91.9		
#140	80.6		
#200	65.1		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₉₀= 0.1724 D₈₅= 0.1231 D₆₀=
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= ML AASHTO= A-4(0)

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 105.5
 Sample Number: 7-B020 @ 105.5

Date: 2-5-15



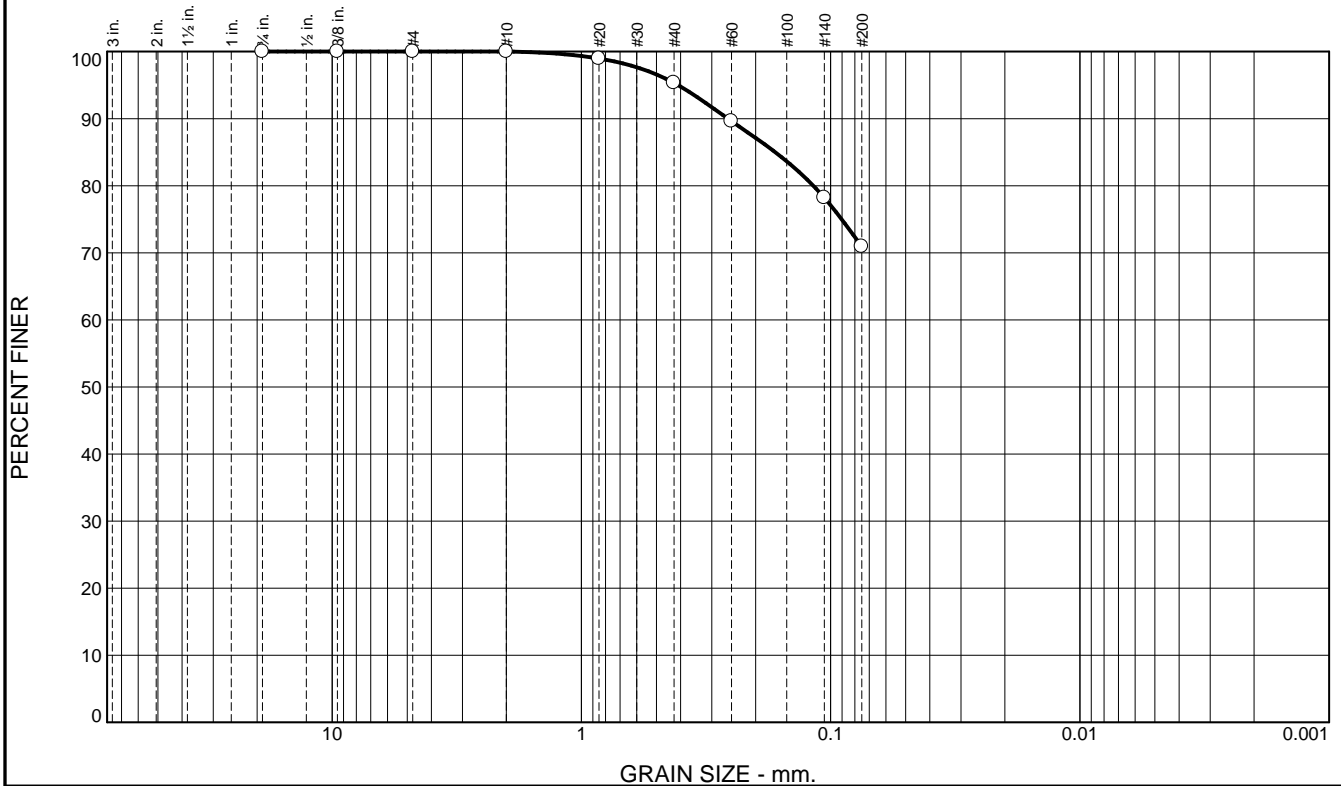
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	4.7	24.4	70.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	99.0		
#40	95.3		
#60	89.6		
#140	78.2		
#200	70.9		

Soil Description

See Exploratory Log

Atterberg Limits

PL= 20 LL= 30 PI= 10

Coefficients

D₉₀= 0.2585 D₈₅= 0.1668 D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-4(5)

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 115.0
Sample Number: 7-B020 @ 115.0

Date: 2-5-15



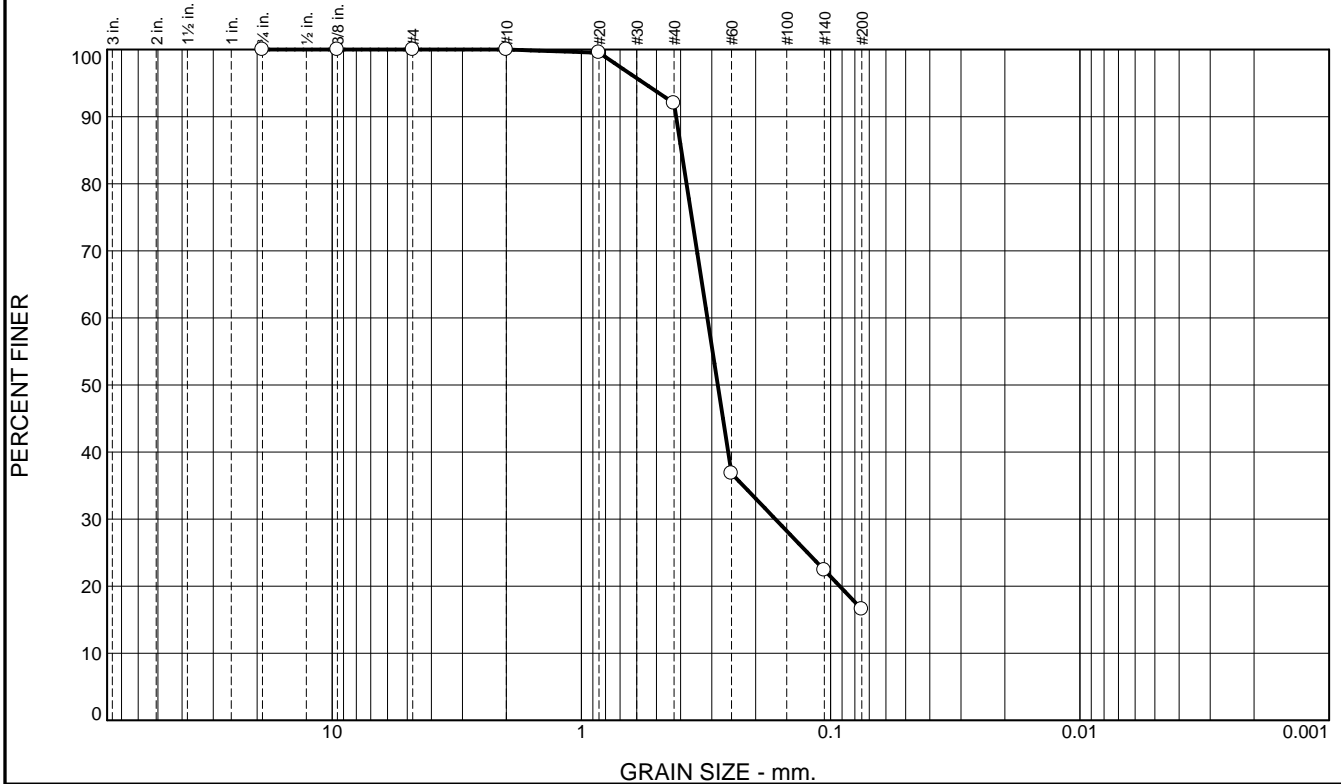
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	8	75	17	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
3/8"	100		
#4	100		
#10	100		
#20	100		
#40	92		
#60	37		
#140	22		
#200	17		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4169 D₈₅= 0.3974 D₆₀= 0.3124

D₅₀= 0.2838 D₃₀= 0.1667 D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 23.5
 Sample Number: 7-B020 @ 23.5

Date: 2-5-15



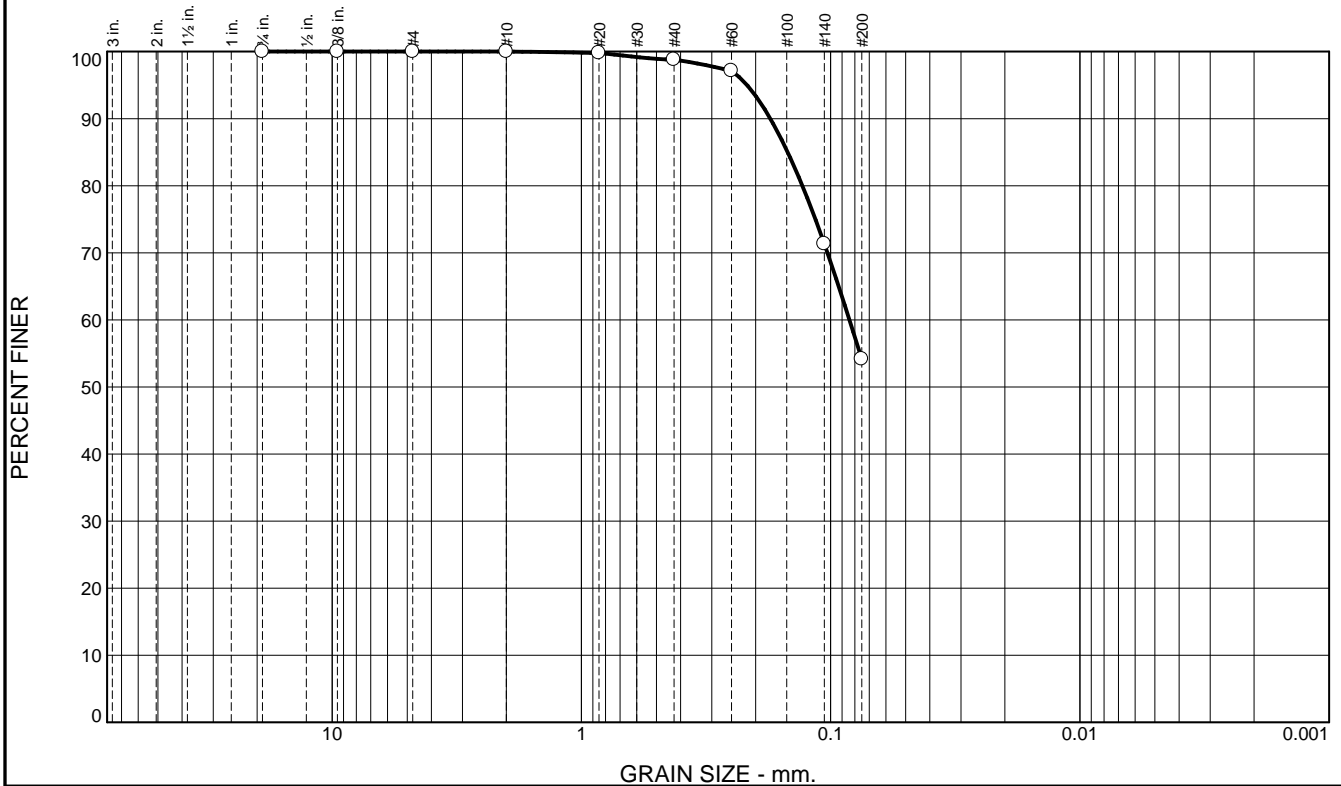
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.2	44.7	54.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	99.8		
#40	98.8		
#60	97.1		
#140	71.3		
#200	54.1		

Soil Description
See Exploratory Log

Atterberg Limits
 PL= NP LL= NP PI= NP

Coefficients
 D₉₀= 0.1745 D₈₅= 0.1487 D₆₀= 0.0841
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= ML AASHTO= A-4(0)

Remarks

* (no specification provided)

Source of Sample: 7-B020 Depth: 70.0
 Sample Number: 7-B020 @ 70.0

Date: 2-5-15



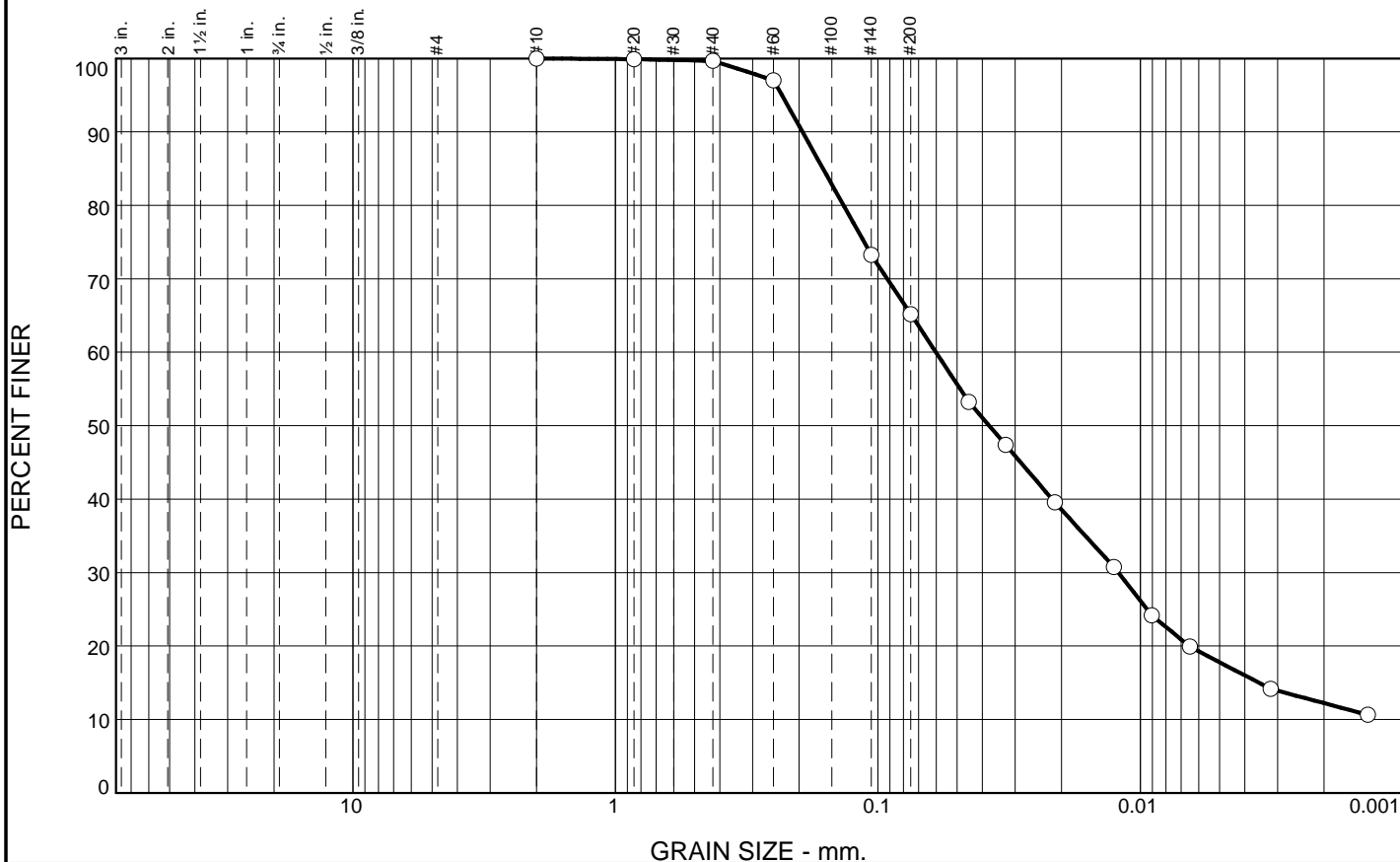
Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	0	35	47	18

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100		
#20	100		
#40	100		
#60	97		
#140	73		
#200	65		
0.0451 mm.	53		
0.0326 mm.	47		
0.0212 mm.	40		
0.0126 mm.	31		
0.0091 mm.	24		
0.0065 mm.	20		
0.0032 mm.	14		
0.0014 mm.	11		

Soil Description

See exploration log

Atterberg Limits

PL= 18 LL= 29 PI= 11

Coefficients

D₉₀= 0.1940 D₈₅= 0.1620 D₆₀= 0.0601
D₅₀= 0.0377 D₃₀= 0.0121 D₁₅= 0.0035
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(5)

Remarks

* (no specification provided)

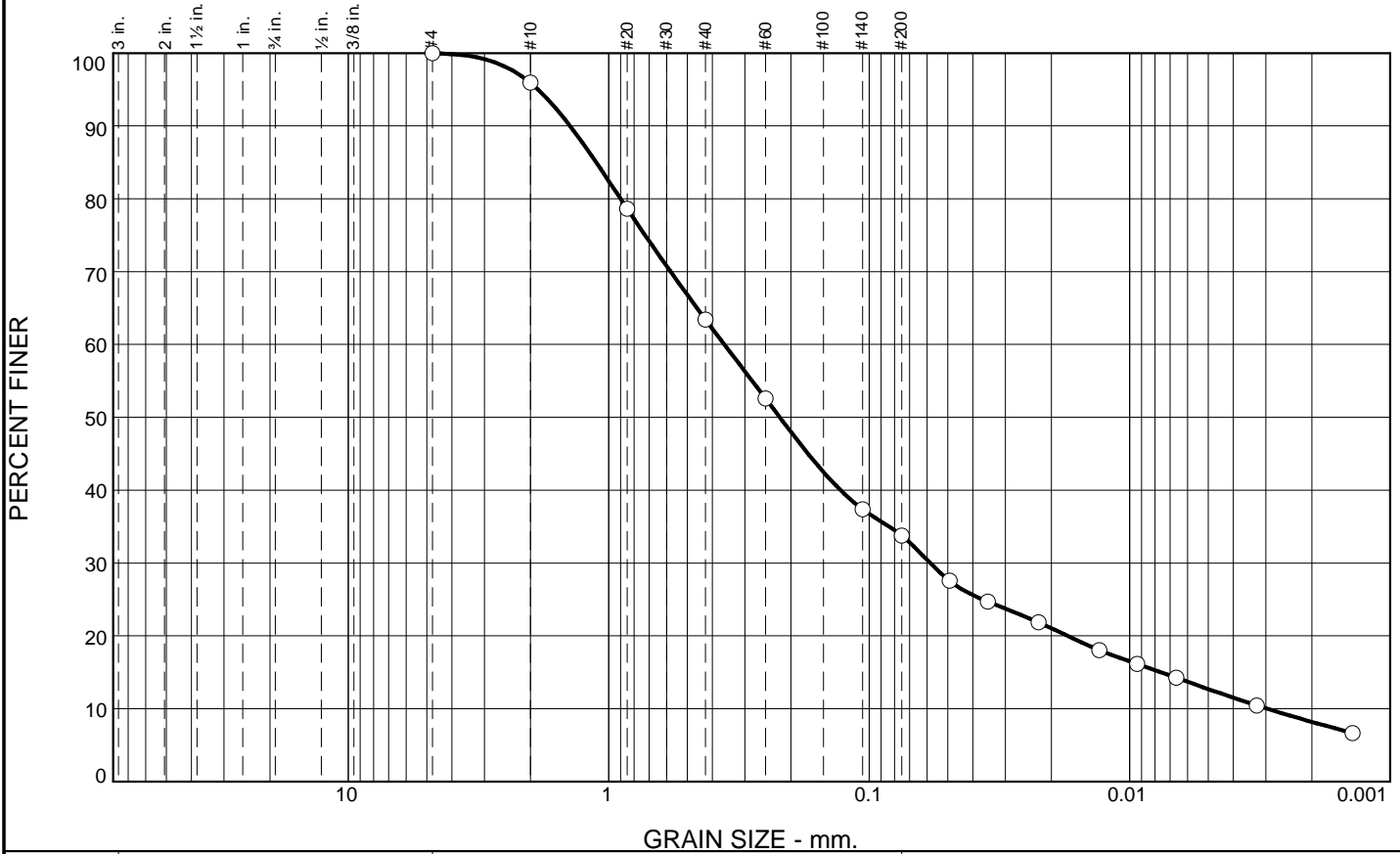
Source of Sample: 7-B001 **Depth:** 30.5 ft.
Sample Number: 7-B001@30.5'

Date: 02-23-2015

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
<p>Figure</p>	

Tested By: R. Montalvo **Checked By:** M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	4.1	32.5	29.6	21.1	12.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	95.9		
#20	78.6		
#40	63.4		
#60	52.6		
#140	37.4		
#200	33.8		
0.0492 mm.	27.6		
0.0351 mm.	24.7		
0.0224 mm.	21.9		
0.0131 mm.	18.1		
0.0094 mm.	16.2		
0.0066 mm.	14.3		
0.0033 mm.	10.5		
0.0014 mm.	6.7		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 1.4088 D₈₅= 1.1189 D₆₀= 0.3601
D₅₀= 0.2205 D₃₀= 0.0583 D₁₅= 0.0076
D₁₀= 0.0030 C_u= 121.33 C_c= 3.18

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B003 @ 30.5

Depth: 30.5

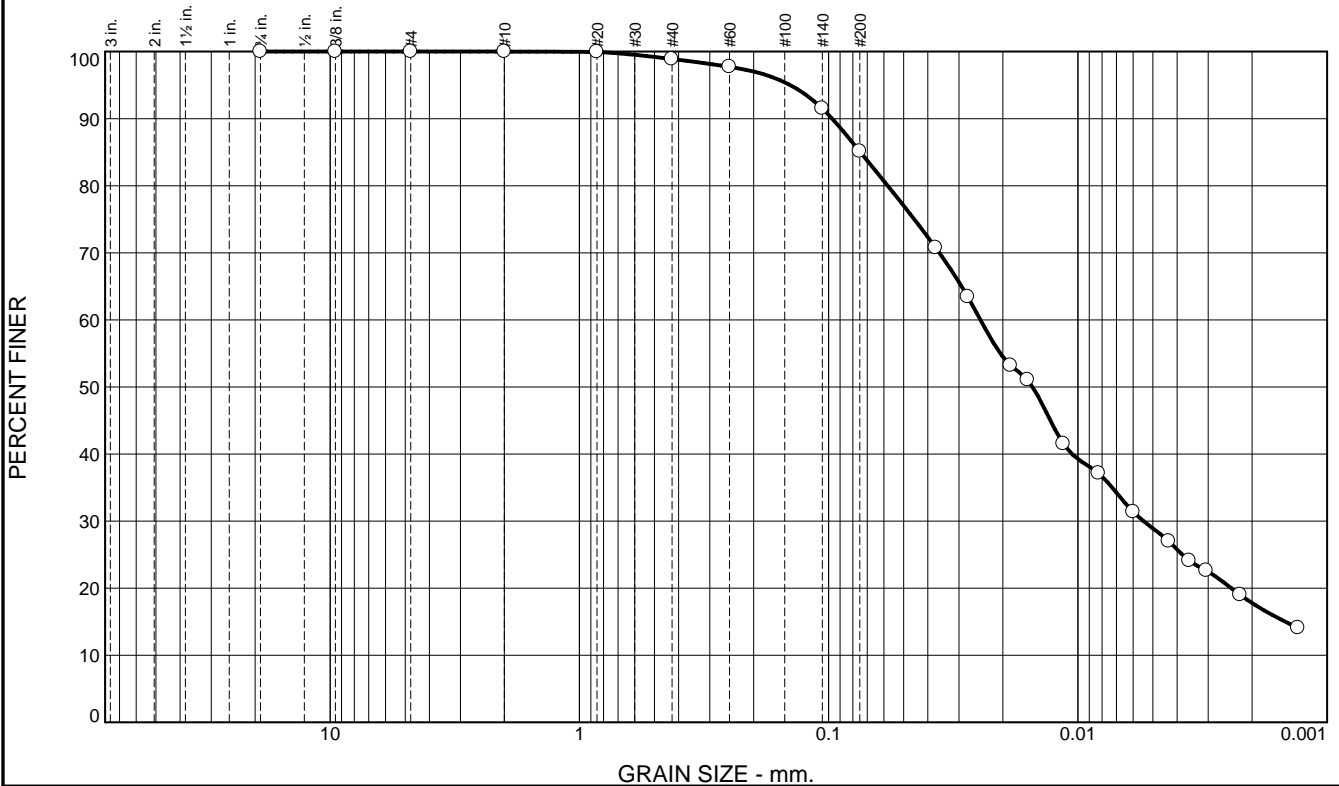
Date: 11-20-2014

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
<p>Figure</p>	

Tested By: R. Montalvo

Checked By: M. Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.1	13.8	56.2	28.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	98.9		
#60	97.7		
#140	91.5		
#200	85.1		

Material Description

See Exploratory Boring

Atterberg Limits

PL= 27 LL= 42 PI= 15

Coefficients

D₉₀= 0.0968 D₈₅= 0.0746 D₆₀= 0.0246
D₅₀= 0.0152 D₃₀= 0.0055 D₁₅= 0.0015
D₁₀= C_u= C_c=

Classification

USCS= ML AASHTO= A-7-6(14)

Remarks

* (no specification provided)

Sample Number: 7-B005 @ 11

Depth: 11

Date: 11-18-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

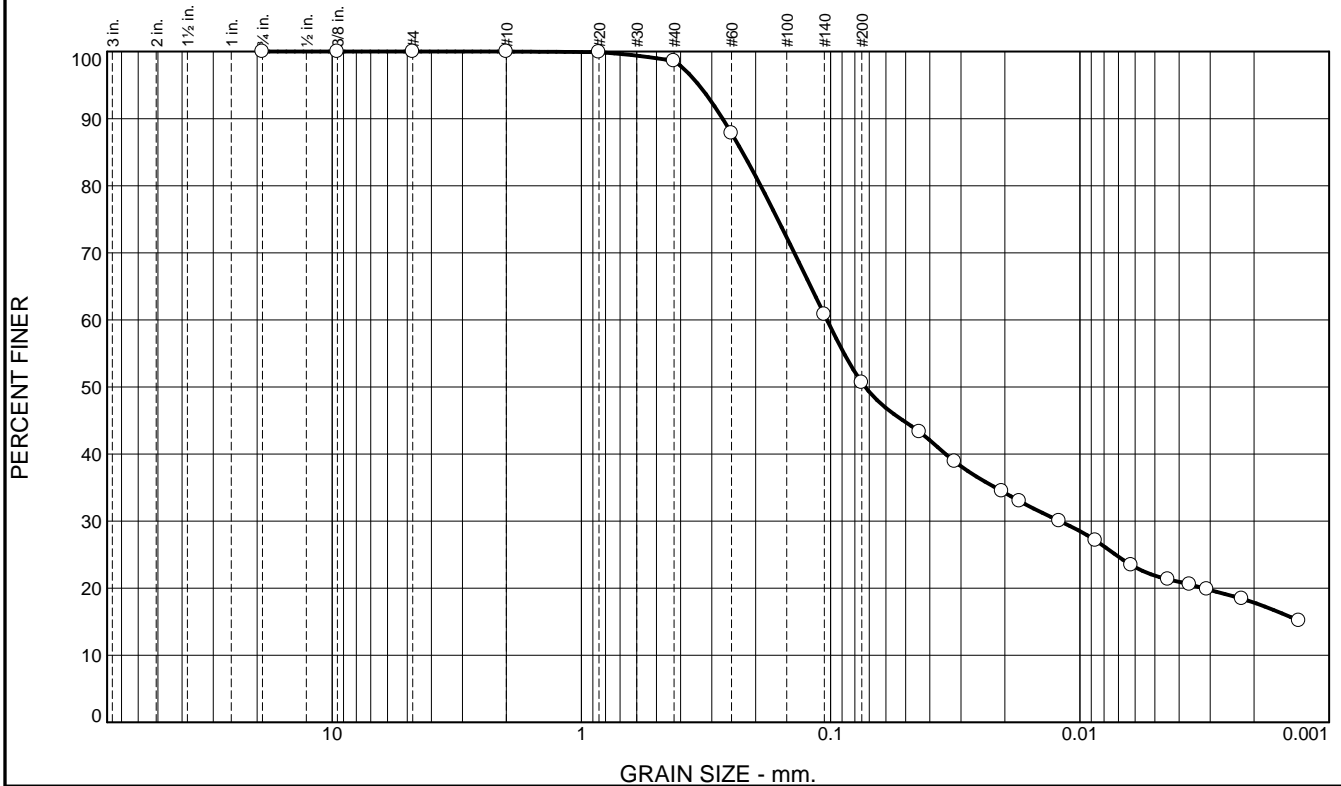
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.4	47.9	28.8	21.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	99.9		
#40	98.6		
#60	87.8		
#140	60.8		
#200	50.7		

Material Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.2714 D₈₅= 0.2259 D₆₀= 0.1034

D₅₀= 0.0727 D₃₀= 0.0121 D₁₅=

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B005 @ 21.5

Depth: 21.5

Date: 11-18-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	4.6	73.7	21.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	100.0		
#60	99.9		
#140	98.4		
#200	95.4		
0.0407 mm.	58.9		
0.0305 mm.	48.2		
0.0203 mm.	37.5		
0.0173 mm.	35.2		
0.0121 mm.	29.8		
0.0087 mm.	26.7		
0.0062 mm.	24.5		
0.0045 mm.	20.0		
0.0037 mm.	17.7		
0.0031 mm.	17.0		
0.0023 mm.	14.8		
0.0013 mm.	11.7		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 28 LL= 38 PI= 10

Coefficients

D₉₀= 0.0662 D₈₅= 0.0608 D₆₀= 0.0415
D₅₀= 0.0323 D₃₀= 0.0123 D₁₅= 0.0023
D₁₀= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(11)

Remarks

* (no specification provided)

Sample Number: 7-BOO6 @ 16 Depth: 16

Date: 12-9-14



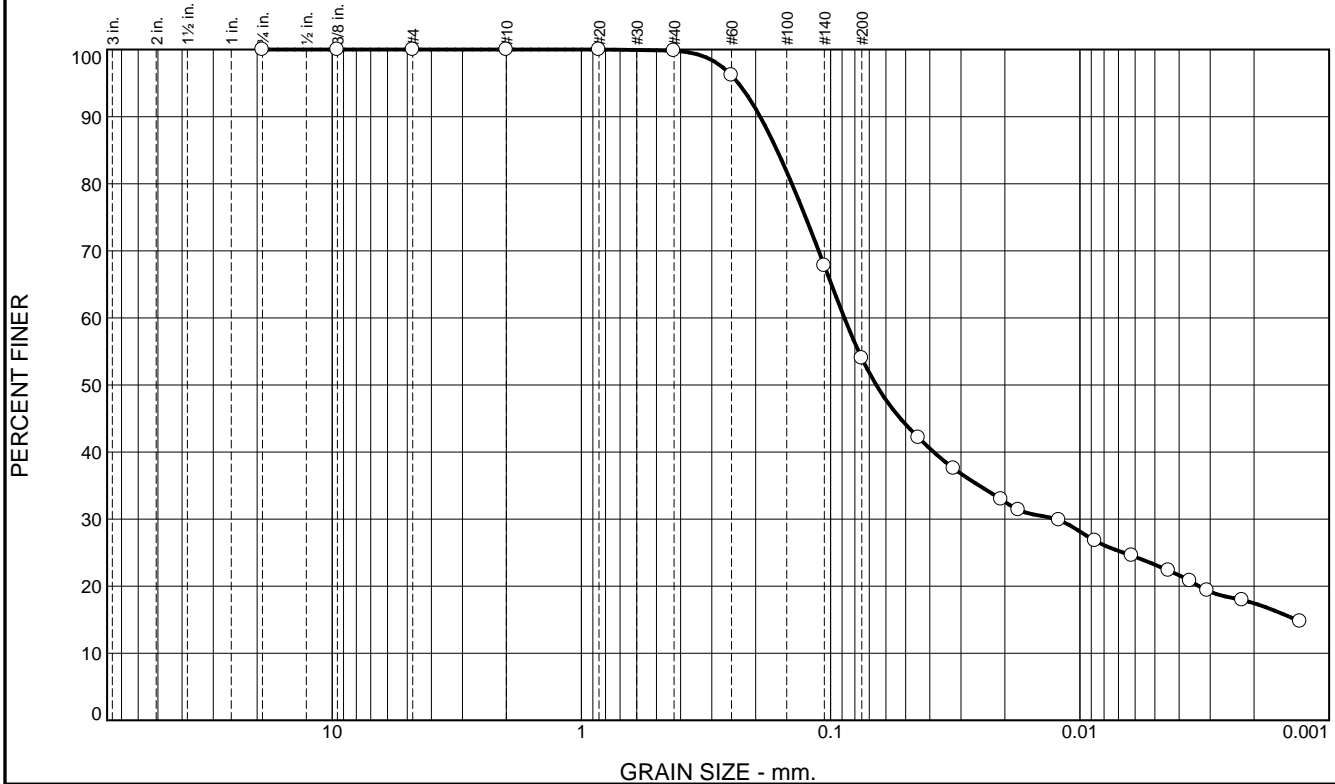
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	45.8	30.8	23.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	100.0		
#40	99.8		
#60	96.2		
#140	67.8		
#200	54.0		
0.0444 mm.	42.2		
0.0321 mm.	37.6		
0.0207 mm.	32.9		
0.0176 mm.	31.4		
0.0121 mm.	29.8		
0.0087 mm.	26.8		
0.0062 mm.	24.6		
0.0044 mm.	22.3		
0.0036 mm.	20.8		
0.0031 mm.	19.3		
0.0022 mm.	17.9		
0.0013 mm.	14.7		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= 20 LL= 27 PI= 7

Coefficients

D₉₀= 0.1919 D₈₅= 0.1641 D₆₀= 0.0881
D₅₀= 0.0657 D₃₀= 0.0125 D₁₅= 0.0014
D₁₀= C_u= C_c=

Classification

USCS= CL-ML AASHTO= A-4(1)

Remarks

* (no specification provided)

Sample Number: 7-B006 @ 21.5

Depth: 21.5

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

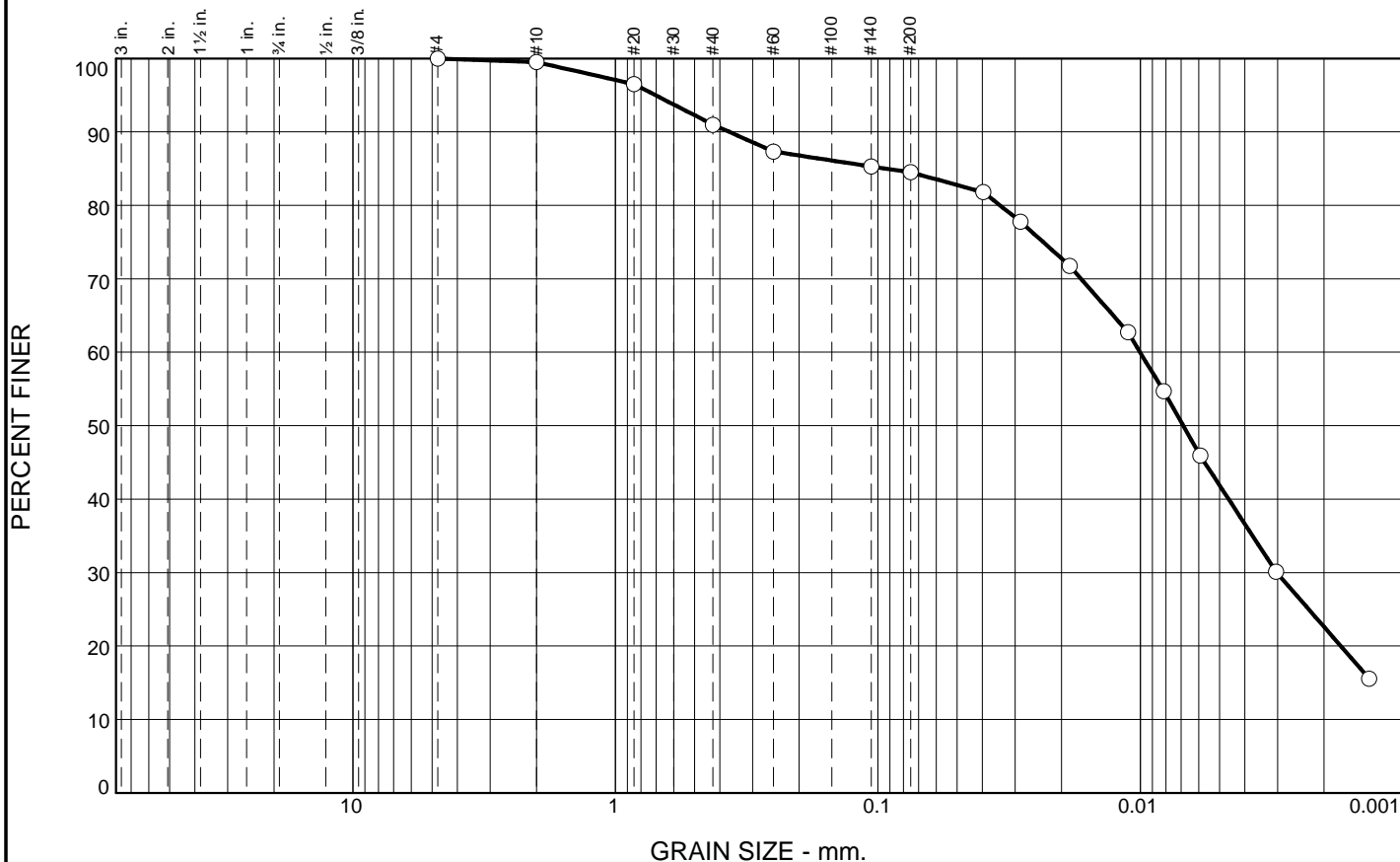
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.5	8.5	6.5	42.6	41.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.5		
#20	96.5		
#40	91.0		
#60	87.3		
#140	85.3		
#200	84.5		
0.0397 mm.	81.8		
0.0286 mm.	77.8		
0.0186 mm.	71.7		
0.0112 mm.	62.7		
0.0081 mm.	54.7		
0.0059 mm.	45.9		
0.0030 mm.	30.1		
0.0013 mm.	15.6		

Soil Description

See Exploration Log

Atterberg Limits

PL= 23 LL= 40 PI= 17

Coefficients

D₉₀= 0.3687 D₈₅= 0.0936 D₆₀= 0.0100
D₅₀= 0.0069 D₃₀= 0.0030 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(15)

Remarks

* (no specification provided)

Source of Sample: 7-B007
Sample Number: 7-B007-6

Depth: 6 ft

Date: 01-30-2015



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	9.6	36.3	35.6	18.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	97.8		
#40	90.4		
#60	78.8		
#140	60.3		
#200	54.1		
0.0431 mm.	46.1		
0.0316 mm.	39.6		
0.0202 mm.	36.7		
0.0174 mm.	33.8		
0.0122 mm.	28.0		
0.0088 mm.	22.3		
0.0063 mm.	19.4		
0.0045 mm.	18.0		
0.0037 mm.	16.5		
0.0031 mm.	15.1		
0.0023 mm.	13.6		
0.0013 mm.	12.6		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.4162 D₈₅= 0.3269 D₆₀= 0.1041

D₅₀= 0.0548 D₃₀= 0.0138 D₁₅= 0.0031

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B010 @ 2.5

Depth: 2.5

Date: 11-7-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

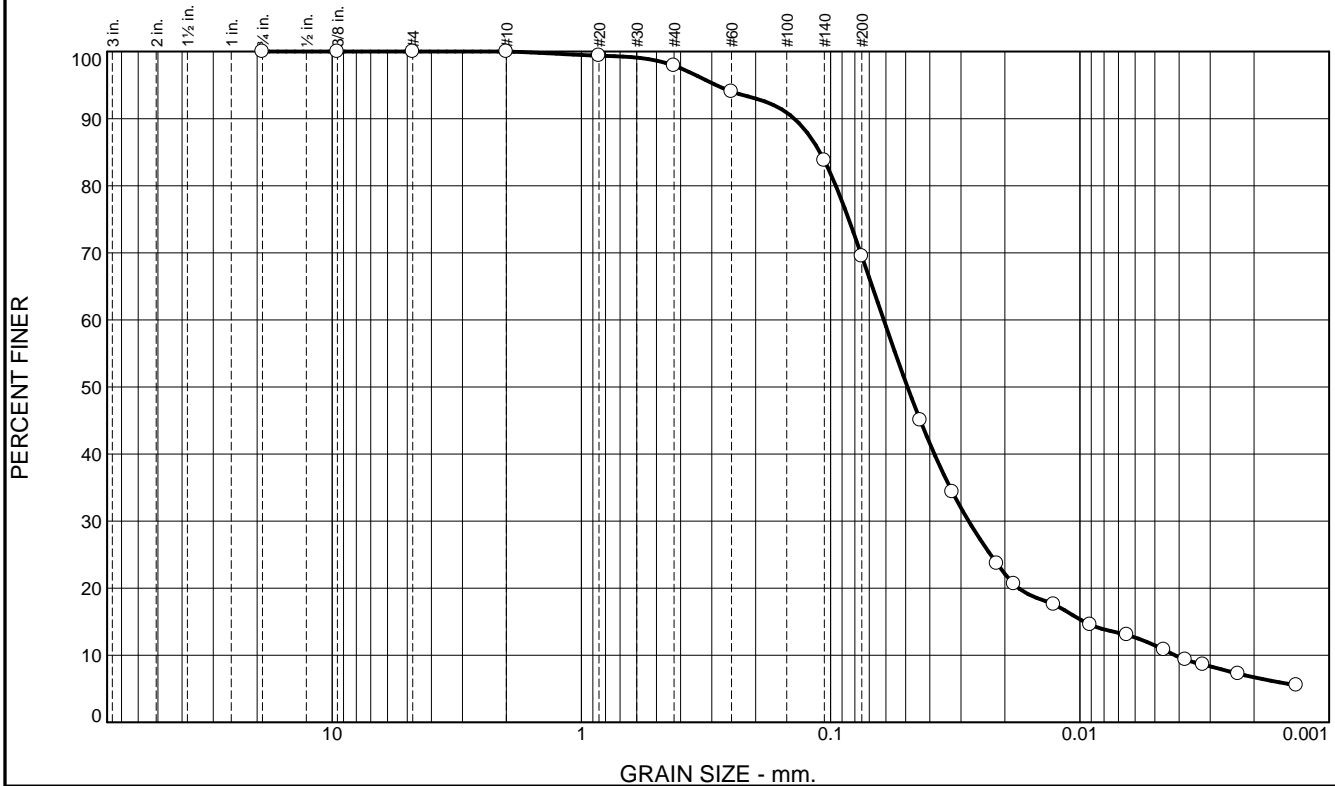
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.1	28.4	58.0	11.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	99.4		
#40	97.9		
#60	94.0		
#140	83.8		
#200	69.5		
0.0437 mm.	45.0		
0.0325 mm.	34.4		
0.0215 mm.	23.7		
0.0184 mm.	20.6		
0.0127 mm.	17.6		
0.0091 mm.	14.6		
0.0065 mm.	13.0		
0.0046 mm.	10.8		
0.0038 mm.	9.3		
0.0032 mm.	8.6		
0.0023 mm.	7.2		
0.0014 mm.	5.5		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D₉₀= 0.1398 D₈₅= 0.1103 D₆₀= 0.0613
D₅₀= 0.0492 D₃₀= 0.0280 D₁₅= 0.0096
D₁₀= 0.0042 C_u= 14.74 C_c= 3.07

Classification

USCS= ML AASHTO= A-4(0)

Remarks

* (no specification provided)

Sample Number: 7-B011 @ 26

Depth: 26

Date: 12-9-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

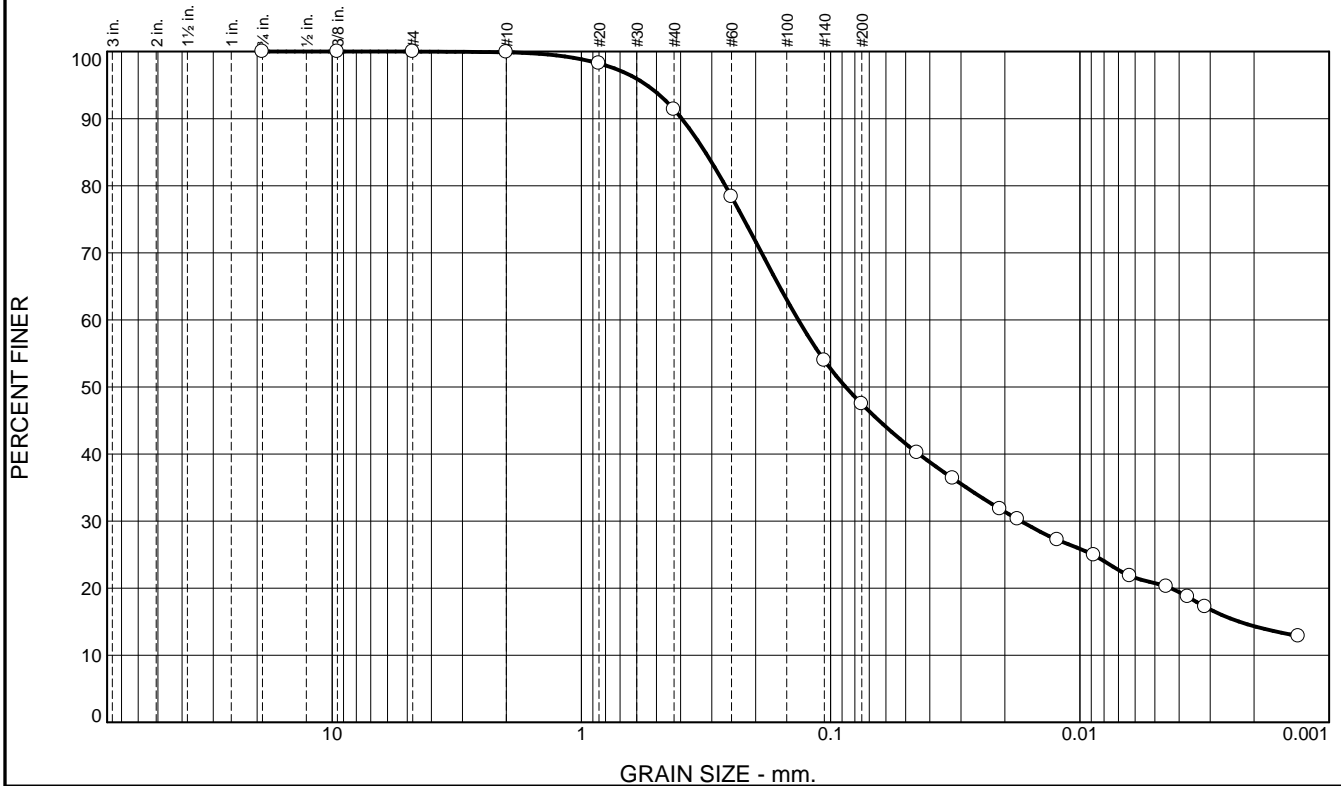
Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	8.5	43.9	26.8	20.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	99.9		
#20	98.2		
#40	91.4		
#60	78.4		
#140	54.0		
#200	47.5		
0.0450 mm.	40.2		
0.0324 mm.	36.4		
0.0209 mm.	31.8		
0.0178 mm.	30.3		
0.0123 mm.	27.2		
0.0088 mm.	24.9		
0.0063 mm.	21.8		
0.0045 mm.	20.2		
0.0037 mm.	18.7		
0.0031 mm.	17.2		
0.0013 mm.	12.8		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3958 D₈₅= 0.3183 D₆₀= 0.1348

D₅₀= 0.0870 D₃₀= 0.0172 D₁₅= 0.0023

D₁₀= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 7-B012 @ 2 Depth: 2

Date: 11-11-14



Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: RWS Checked By: KEL

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.4	42.9	26.0	17.0	12.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	98.6		
#20	85.5		
#40	55.7		
#60	37.3		
#140	35.1		
#200	29.7		
0.0460 mm.	28.0		
0.0335 mm.	22.6		
0.0215 mm.	20.2		
0.0182 mm.	19.6		
0.0126 mm.	17.2		
0.0090 mm.	16.0		
0.0064 mm.	13.6		
0.0046 mm.	12.3		
0.0038 mm.	11.1		
0.0032 mm.	10.0		
0.0013 mm.	8.9		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.9983 D₈₅= 0.8380 D₆₀= 0.4670

D₅₀= 0.3737 D₃₀= 0.0773 D₁₅= 0.0078

D₁₀= 0.0032 C_u= 145.11 C_c= 3.98

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B013 @ 2 Depth: 2

Date: 11-11-14



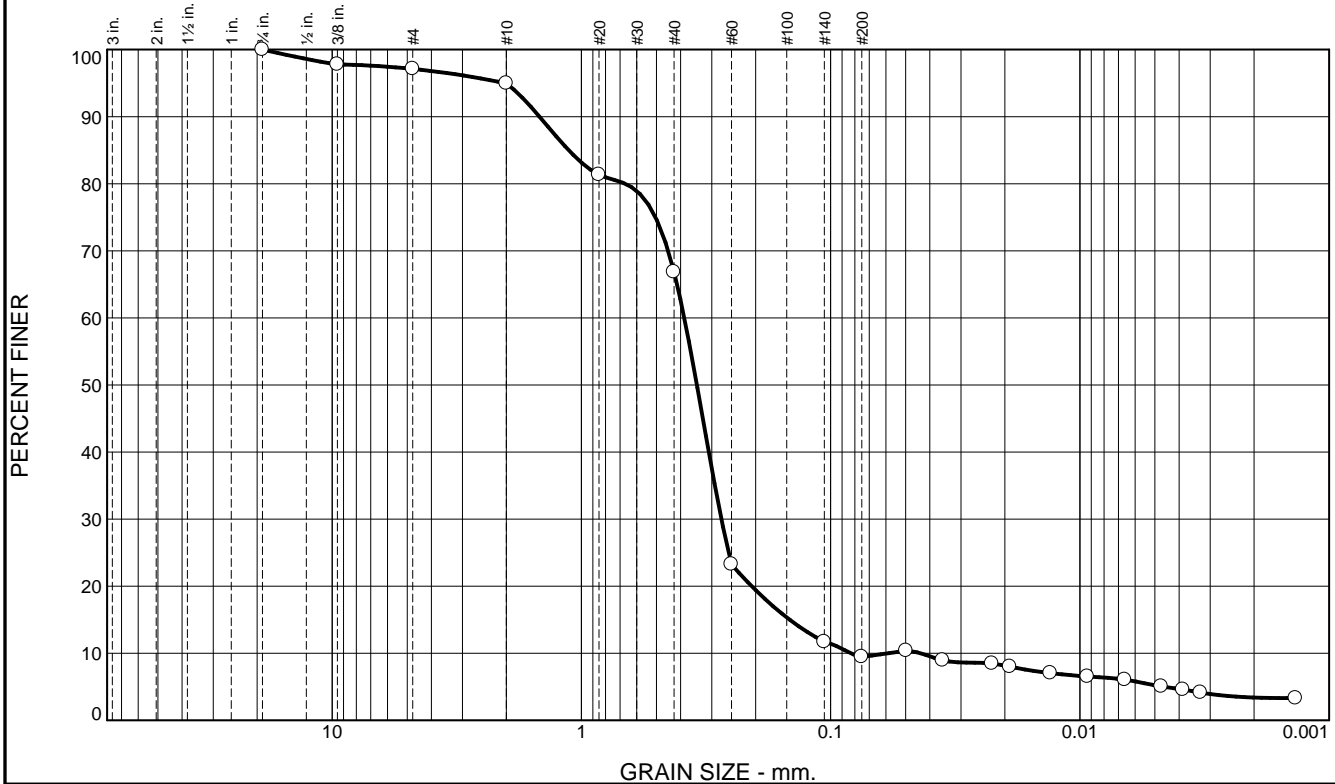
Client: Peterson Brustad Incorporated
Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.9	2.1	28.2	57.4	4.2	5.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	97.8		
#4	97.1		
#10	95.0		
#20	81.4		
#40	66.8		
#60	23.2		
#140	11.7		
#200	9.4		
0.0498 mm.	10.4		
0.0355 mm.	8.9		
0.0225 mm.	8.5		
0.0191 mm.	8.0		
0.0131 mm.	7.0		
0.0093 mm.	6.5		
0.0066 mm.	6.1		
0.0047 mm.	5.1		
0.0039 mm.	4.6		
0.0033 mm.	4.1		
0.0014 mm.	3.3		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 1.4733 D₈₅= 1.1246 D₆₀= 0.3867

D₅₀= 0.3442 D₃₀= 0.2745 D₁₅= 0.1460

D₁₀= 0.0829 C_u= 4.66 C_c= 2.35

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B013 @ 10.5

Depth: 10.5

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	17.2	55.9	17.2	9.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	99.7		
#20	95.2		
#40	82.5		
#60	69.0		
#140	36.2		
#200	26.6		
0.0472 mm.	22.7		
0.0340 mm.	19.2		
0.0218 mm.	16.2		
0.0185 mm.	15.6		
0.0128 mm.	13.3		
0.0091 mm.	12.1		
0.0065 mm.	10.9		
0.0046 mm.	9.1		
0.0038 mm.	8.5		
0.0032 mm.	7.4		
0.0013 mm.	6.4		

* (no specification provided)

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.6112 D₈₅= 0.4770 D₆₀= 0.1944
D₅₀= 0.1514 D₃₀= 0.0873 D₁₅= 0.0165
D₁₀= 0.0056 C_u= 34.97 C_c= 7.06

Classification

USCS= AASHTO=

Remarks

Sample Number: 7-B013 @ 16

Depth: 16

Date: 11-14-14



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL

Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	23.9	41.4	27.1	7.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	100.0		
#4	100.0		
#10	100.0		
#20	93.4		
#40	76.1		
#60	59.5		
#140	41.6		
#200	34.7		
0.0465 mm.	24.8		
0.0336 mm.	21.4		
0.0218 mm.	16.7		
0.0186 mm.	15.0		
0.0129 mm.	12.0		
0.0092 mm.	9.7		
0.0066 mm.	8.5		
0.0047 mm.	7.3		
0.0038 mm.	6.1		
0.0033 mm.	5.1		
0.0014 mm.	4.1		

Soil Description

See Exploratory Boring

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.7131 D₈₅= 0.5786 D₆₀= 0.2548
D₅₀= 0.1668 D₃₀= 0.0608 D₁₅= 0.0186
D₁₀= 0.0098 C_u= 26.12 C_c= 1.49

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

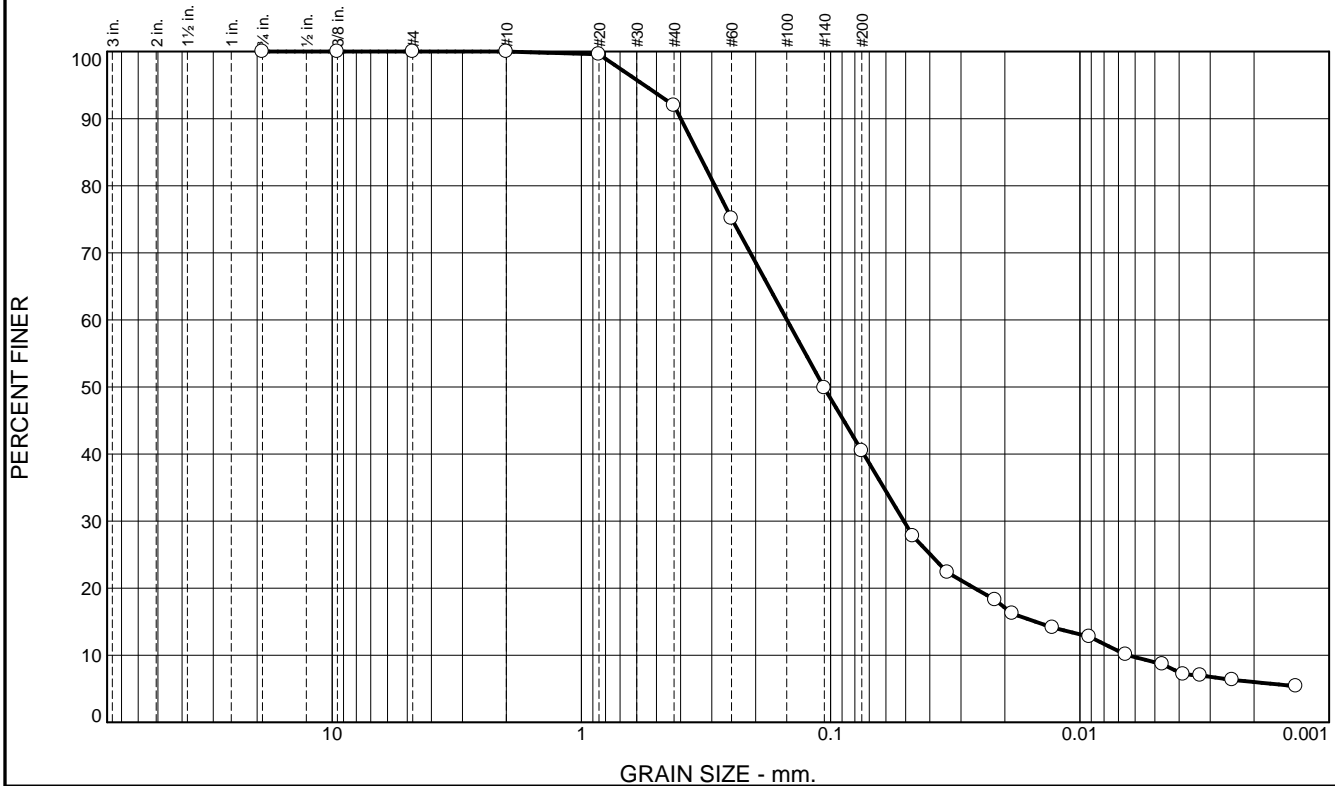
Sample Number: 7-B014 @ 26 Depth: 26

Date: 11-14-14

	<p>Client: Peterson Brustad Incorporated</p> <p>Project: RD-17 ULDC</p> <p>Project No: 5747.005.000 Ph T-004</p>
<p>Figure</p>	

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	8	52	31	9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
3/8"	100		
#4	100		
#10	100		
#20	100		
#40	92		
#60	75		
#140	50		
#200	40		
0.0468 mm.	28		
0.0340 mm.	22		
0.0219 mm.	18		
0.0187 mm.	16		
0.0129 mm.	14		
0.0092 mm.	13		
0.0065 mm.	10		
0.0047 mm.	8.7		
0.0038 mm.	7.2		
0.0033 mm.	7.0		
0.0024 mm.	6.3		
0.0014 mm.	5.4		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3994 D₈₅= 0.3412 D₆₀= 0.1496

D₅₀= 0.1066 D₃₀= 0.0508 D₁₅= 0.0150

D₁₀= 0.0064 C_u= 23.31 C_c= 2.69

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 10.5
 Sample Number: 7-B018 @ 10.5

Date: 1-30-15



Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	4	68	23	5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100		
3/8"	100		
#4	100		
#10	100		
#20	99		
#40	96		
#60	82		
#140	34		
#200	28		
0.0468 mm.	20		
0.0340 mm.	16		
0.0221 mm.	11		
0.0188 mm.	10		
0.0130 mm.	8.4		
0.0093 mm.	7.4		
0.0066 mm.	5.9		
0.0047 mm.	5.4		
0.0039 mm.	4.3		
0.0033 mm.	4.1		
0.0024 mm.	3.7		
0.0014 mm.	3.5		

Soil Description

See Exploratory Log

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.3349 D₈₅= 0.2775 D₆₀= 0.1689

D₅₀= 0.1415 D₃₀= 0.0845 D₁₅= 0.0302

D₁₀= 0.0175 C_u= 9.64 C_c= 2.41

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Source of Sample: 7-B018 Depth: 35.5
 Sample Number: 7-B018 @ 35.5

Date: 1-30-15



Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

Project No: 5747.005.000 Ph T-004

Figure

Tested By: KEL Checked By: RWS

MOISTURE CONTENT DETERMINATION (ASTM D 2216)

SAMPLE NO:	7-B001-1	7-B001-15.5	7-B001-25.5
MOISTURE	11.3%	22.9%	31.3%

SAMPLE NO:	7-B001-30.5	7-B001-41	7-B001-45.5
MOISTURE	24.9%	30.5%	41.7%

SAMPLE NO:	7-B002-6	7-B002-11	7-B002-15.5
MOISTURE	11.5%	10.6%	27.8%

SAMPLE NO:	7-B002-30.5	7-B002-35.5	7-B002-36
MOISTURE	27.2%	21.6%	25.0%

SAMPLE NO:			
MOISTURE			

SAMPLE NO:			
MOISTURE			

PROJECT NAME: RD-17 ULDC
PROJECT NO: 5747.005.000 Ph T-004
PHASE NO: 001

DATE SAMPLED: See Exploration Logs
DATE TESTED: 2/15/2015
REVIEWED BY: M. Gilbert



MOISTURE CONTENT DETERMINATION (ASTM D 2216)

SAMPLE NO:	7-B003-3	7-B003-9	7-B003-12
MOISTURE	30.7%	23.8%	29.9%

SAMPLE NO:	7-B003-30.5	7-B004-1.5	
MOISTURE	14.7%	15.7%	

SAMPLE NO:			
MOISTURE			

SAMPLE NO:			
MOISTURE			

SAMPLE NO:			
MOISTURE			

SAMPLE NO:			
MOISTURE			

PROJECT NAME: ULDC Analysis and Identification of Deficiencies

PROJECT NO: 5747.005.000

PHASE NO: T-004

DATE SAMPLED: 10/7/2014

DATE TESTED: 11/10/2014

REVIEWED BY: M. Gilbert



MOISTURE CONTENT DETERMINATION (ASTM D 2216)

SAMPLE NO:	7-B008-20	7-B008-25.5	7-B10A-24.5
MOISTURE	27.1%	26.9%	33.3%

SAMPLE NO:	7-B10A-28	7-B10A-29.5	7-B10A-39.5
MOISTURE	29.5%	35.7%	33.7%

SAMPLE NO:	7-B19-7.5	7 B19-11.5	7-B19-22
MOISTURE	20.2%	32.0%	25.7%

SAMPLE NO:			
MOISTURE			

SAMPLE NO:			
MOISTURE			

SAMPLE NO:			
MOISTURE			

PROJECT NAME: RD-17 ULDC
PROJECT NO: 5747.005.000 Ph T-004
PHASE NO: 001

DATE SAMPLED: See Exploration Logs
DATE TESTED: 1/30/2015
REVIEWED BY: M. Gilbert



MOISTURE CONTENT DETERMINATION

ASTM D2216

BORING/SAMPLE ID	7-B009 @	7-B009 @	7-B010 @	7-B010 @				
DEPTH (ft)	35	55	30	40				
Method A or B	0	0	0	0				
%MOISTURE	28.3	30.0	32.5	22.7				

BORING/SAMPLE ID								
DEPTH (ft)								
Method A or B								
%MOISTURE								

BORING/SAMPLE ID								
DEPTH (ft)								
Method A or B								
%MOISTURE								

BORING/SAMPLE ID								
DEPTH (ft)								
Method A or B								
%MOISTURE								

BORING/SAMPLE ID								
DEPTH (ft)								
Method A or B								
%MOISTURE								

<p>PROJECT NAME: RD-17 ULDC</p> <p>PROJECT NUMBER: 5747.005.000</p> <p>CLIENT: Peterson Brustad Incorporated</p> <p>PHASE NUMBER: T-004</p>	<p>DATE: 08/28/14</p> 
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Tested by: KEL

Reviewed by: RWS

MOISTURE CONTENT DETERMINATION

ASTM D2216

BORING/SAMPLE ID	7-B012 @	7-B012 @	7-B012 @	7-B012 @	7-B012 @	7-B012 @	7-B013 @	7-B013 @
DEPTH (ft)	25	30	45	50	60	65	19	25
Method A or B	0	0	0	0	0	0	0	0
%MOISTURE	24.2	30.4	25.7	20.8	10.6	21.4	6.5	27.4

BORING/SAMPLE ID	7-B013 @	7-B013 @	7-B013 @	7-B013 @	7-B013 @	7-B014 @	7-B014 @	7-B014 @
DEPTH (ft)	41	46	51	56	66	31	36	46
Method A or B	0	0	0	0	0	0	0	0
%MOISTURE	30.3	31.6	30.8	16.7	20.3	19.7	20.0	22.1

BORING/SAMPLE ID	7-B014 @	7-B014 @	7-B014 @	7-B014 @				
DEPTH (ft)	51	56	61	66				
Method A or B	0	0	0	0				
%MOISTURE	25.5	21.8	19.3	28.5				

BORING/SAMPLE ID								
DEPTH (ft)								
Method A or B								
%MOISTURE								

BORING/SAMPLE ID								
DEPTH (ft)								
Method A or B								
%MOISTURE								

PROJECT NAME: RD-17 ULDC
 PROJECT NUMBER: 5747.005.000
 CLIENT: Peterson Brustad Incorporated
 PHASE NUMBER: T-004

DATE: 11/14/14



Tested by: KEL

Reviewed by: RWS

MOISTURE and DENSITY DETERMINATION (ASTM D 7263)

SAMPLE NO.	7-B001-36	7-B001-51	7-B002-21
DEPTH (FT.)	36	51	21
WATER CONTENT (%)	31.0	32.5	23.2
DRY DENSITY (PCF)	92.1	89.6	98.7

SAMPLE NO.	7-B002-26	7-B002-50.5	
DEPTH (FT.)	26	50.5	
WATER CONTENT (%)	25.6	26.7	
DRY DENSITY (PCF)	97.9	97.7	

SAMPLE NO.			
DEPTH (FT.)			
WATER CONTENT (%)			
DRY DENSITY (PCF)			

SAMPLE NO.			
DEPTH (FT.)			
WATER CONTENT (%)			
DRY DENSITY (PCF)			

PROJECT NAME: RD-17 ULDC
PROJECT NO: 5747.005.000 Ph T-004
PHASE NO: 001

DATE SAMPLED: See Exploration Logs
DATE TESTED: 2/15/2015
REVIEWED BY: M. Gilbert



MOISTURE and DENSITY DETERMINATION (ASTM D 7263)

SAMPLE NO.	7-B003-1.5	7-B003-7.5	7-B003-10.5
DEPTH (FT.)	1.5	7.5	10.5
WATER CONTENT (%)	14.9	20.9	20.3
DRY DENSITY (PCF)	94.6	101.2	107.3

SAMPLE NO.	7-B003-43.5	7-B003-49	7-B003-54
DEPTH (FT.)	43.5	49	54
WATER CONTENT (%)	23.6	22.0	30.9
DRY DENSITY (PCF)	102.2	106.4	87.1

SAMPLE NO.	7-B003-61	7-B003-65.5	7-B004-6
DEPTH (FT.)	61	65.6	6
WATER CONTENT (%)	26.0	24.3	19.5
DRY DENSITY (PCF)	101.2	103.1	99.8

SAMPLE NO.	7-B004-10.5	7-B004-16	7-B004-20.5
DEPTH (FT.)	10.5	16	20.5
WATER CONTENT (%)	18.4	18.5	18.2
DRY DENSITY (PCF)	100.7	104.7	111.4

PROJECT NAME: ULDC Analysis and Identification of Deficiencies

PROJECT NO: 5747.005.000

PHASE NO: T-004

DATE SAMPLED: 10/7/2014

DATE TESTED: 11/10/2014

REVIEWED BY: M. Gilbert



MOISTURE and DENSITY DETERMINATION (ASTM D 7263)

SAMPLE NO.	7-B004-36	7-B004-50.5	7-B004-56
DEPTH (FT.)	36	50.4	56
WATER CONTENT (%)	12.0	12.1	22.9
DRY DENSITY (PCF)	117.4	107.8	103.5

SAMPLE NO.			
DEPTH (FT.)			
WATER CONTENT (%)			
DRY DENSITY (PCF)			

SAMPLE NO.			
DEPTH (FT.)			
WATER CONTENT (%)			
DRY DENSITY (PCF)			

SAMPLE NO.			
DEPTH (FT.)			
WATER CONTENT (%)			
DRY DENSITY (PCF)			

PROJECT NAME: ULDC Analysis and Identification of Deficiencies
PROJECT NO: 5747.005.000
PHASE NO: T-004

DATE SAMPLED:
DATE TESTED: 11/10/2014
REVIEWED BY: M. Gilbert



MOISTURE-DENSITY DETERMINATION

ASTM D7263

BORING ID:	7-B005 @	7-B005 @	7-B005 @	7-B005 @				
DEPTH (ft.):	6.0	56.5	61.0	66.0				
%MOISTURE CONTENT:	21.9	37.8	22.0	25.2				
DENSITY (lbs/ft ³):	95.3	82.7	104.1	97.8				

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft ³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft ³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft ³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft ³):								

Testing remarks:

PROJECT NAME: RD-17 ULDC	DATE: 11/18/14
PROJECT NUMBER: 5747.005.000	
CLIENT: Peterson Brustad Incorporated	
PHASE NUMBER: T-004	

Tested by: KEL

Reviewed by: RWS

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MOISTURE-DENSITY DETERMINATION

ASTM D7263

BORING ID:	7-B006 @	7-B006 @					
DEPTH (ft.):	51.0	66.0					
%MOISTURE CONTENT:	24.0	18.6					
DENSITY (lbs/ft ³):	99.3	109.9					

BORING ID:							
DEPTH (ft.):							
%MOISTURE CONTENT:							
DENSITY (lbs/ft ³):							


BORING ID:							
DEPTH (ft.):							
%MOISTURE CONTENT:							
DENSITY (lbs/ft ³):							

BORING ID:							
DEPTH (ft.):							
%MOISTURE CONTENT:							
DENSITY (lbs/ft ³):							

BORING ID:							
DEPTH (ft.):							
%MOISTURE CONTENT:							
DENSITY (lbs/ft ³):							

Testing remarks:

PROJECT NAME: RD-17 ULDC	DATE: 12/09/14
PROJECT NUMBER: 5747.005.000	
CLIENT: Peterson Brustad Incorporated	
PHASE NUMBER: T-004	



Tested by: KEL

Reviewed by: RWS

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MOISTURE and DENSITY DETERMINATION (ASTM D 7263)

SAMPLE NO.	7-B007-1.5	7-B007-16	7-B008-10
DEPTH (FT.)	1.5	16	10
WATER CONTENT (%)	18.8	26.6	27.8
DRY DENSITY (PCF)	106.6	89.1	89.4

SAMPLE NO.	7-B008-21.5	7-B008-35.5	7-B008-45.5
DEPTH (FT.)	21.5	35.5	45.5
WATER CONTENT (%)	18.2	25.0	21.9
DRY DENSITY (PCF)	110.1	101.2	103.9

SAMPLE NO.	7-B008-50.5	7-B19-2	
DEPTH (FT.)	50.5	2	
WATER CONTENT (%)	27.9	21.0	
DRY DENSITY (PCF)	96.2	103.7	

SAMPLE NO.			
DEPTH (FT.)			
WATER CONTENT (%)			
DRY DENSITY (PCF)			

PROJECT NAME: RD-17 ULDC
PROJECT NO: 5747.005.000 Ph T-004
PHASE NO: 001

DATE SAMPLED: See Exploration Logs
DATE TESTED: 1/30/2015
REVIEWED BY: M. Gilbert



MOISTURE-DENSITY DETERMINATION

ASTM D7263

BORING ID:	7-B009 @	7-B009 @	7-B009 @	7-B010 @	7-B010 @			
DEPTH (ft.):	1.5	5.5	10.5	5.5	11.0			
%MOISTURE CONTENT:	12.0	10.0	11.3	7.8	6.4			
DENSITY (lbs/ft ³):	122.2	120.5	120.4	110.0	87.7			

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft ³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft ³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft ³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft ³):								

Testing remarks:

PROJECT NAME: RD-17 ULDC	DATE: 11/05/14
PROJECT NUMBER: 5747.005.000	
CLIENT: Peterson Brustad Incorporated	
PHASE NUMBER: T-004	

Tested by: KEL

Reviewed by: RWS

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MOISTURE-DENSITY DETERMINATION

ASTM D7263

BORING ID:	7-B010A							
DEPTH (ft.):	25.5B							
%MOISTURE CONTENT:	31.3							
DENSITY (lbs/ft³):	95.5							

Testing remarks:

PROJECT NAME: ULDC Analysis and Identification of Deficiencies
PROJECT NUMBER: 5747.005.000
CLIENT: Peterson Brusted Incorporated
PHASE NUMBER: T-004

DATE: 03/10/15



Tested by: J Lawton

Reviewed by: D Seibold

MOISTURE-DENSITY DETERMINATION

ASTM D7263

BORING ID:	7-B011 @	7-B011 @					
DEPTH (ft.):	2.0	11.0					
%MOISTURE CONTENT:	8.8	9.0					
DENSITY (lbs/ft ³):	122.3	98.5					

BORING ID:							
DEPTH (ft.):							
%MOISTURE CONTENT:							
DENSITY (lbs/ft ³):							


BORING ID:							
DEPTH (ft.):							
%MOISTURE CONTENT:							
DENSITY (lbs/ft ³):							

BORING ID:							
DEPTH (ft.):							
%MOISTURE CONTENT:							
DENSITY (lbs/ft ³):							

BORING ID:							
DEPTH (ft.):							
%MOISTURE CONTENT:							
DENSITY (lbs/ft ³):							

Testing remarks:

PROJECT NAME: RD-17 ULDC	DATE: 12/09/14
PROJECT NUMBER: 5747.005.000	
CLIENT: Peterson Brustad Incorporated	
PHASE NUMBER: T-004	



Tested by: KEL

Reviewed by: RWS

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MOISTURE-DENSITY DETERMINATION

ASTM D7263

BORING ID:	0	0	0	0	0	0	0	0
DEPTH (ft.):	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%MOISTURE CONTENT:	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
DENSITY (lbs/ft³):	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

BORING ID:	0	0	0	0	0	0	0	0
DEPTH (ft.):	49.0	50.0	51.0	52.0	53.0	54.0	55.0	56.0
%MOISTURE CONTENT:	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
DENSITY (lbs/ft³):	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

BORING ID:	0	0	0	0	0	0	0	0
DEPTH (ft.):	57.0	58.0	59.0	60.0	61.0	62.0	63.0	64.0
%MOISTURE CONTENT:	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
DENSITY (lbs/ft³):	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

BORING ID:	0	0	0	0	0	0	0	0
DEPTH (ft.):	65.0	66.0	67.0	68.0	69.0	70.0	71.0	72.0
%MOISTURE CONTENT:	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
DENSITY (lbs/ft³):	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

BORING ID:	0	0	0	0	0	0	0	0
DEPTH (ft.):	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
%MOISTURE CONTENT:	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
DENSITY (lbs/ft³):	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Testing remarks:

PROJECT NAME: RD-17 ULDC	DATE: 12/09/14
PROJECT NUMBER: 5747.005.000	
CLIENT: Peterson Brustad Incorporated	
PHASE NUMBER: T-004	



Tested by:

Reviewed by:

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MOISTURE-DENSITY DETERMINATION

ASTM D7263

BORING ID:	7-B012 @	7-B012 @	7-B012 @	7-B012 @	7-B012 @	7-B012 @	7-B013 @	7-B013 @
DEPTH (ft.):	2.0	6.0	10.5	15.5	20.5	36.0	2.0	5.5
%MOISTURE CONTENT:	12.2	13.8	12.6	17.3	24.7	25.5	8.6	11.5
DENSITY (lbs/ft³):	109.6	106.3	115.7	100.8	85.3	91.7	121.4	108.9

BORING ID:	7-B013 @	7-B013 @	7-B013 @	7-B013 @	7-B014 @			
DEPTH (ft.):	10.5	18.5	31.5	32.0	1.5			
%MOISTURE CONTENT:	6.1	19.6	22.8	24.7	8.8			
DENSITY (lbs/ft³):	101.3	93.0	95.7	92.7	127.9			

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft³):								

Testing remarks:

<p>PROJECT NAME: RD-17 ULDC</p> <p>PROJECT NUMBER: 5747.005.000</p> <p>CLIENT: Peterson Brustad Incorporated</p> <p>PHASE NUMBER: T-004</p>	<p>DATE: 11/14/14</p> 
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Tested by: KEL

Reviewed by: RWS

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MOISTURE-DENSITY DETERMINATION

ASTM D7263

BORING ID:	7-B015 @	7-B015 @	7-B015 @	7-B015 @	7-B015 @	7-B015 @	7-B015 @	7-B016 @
DEPTH (ft.):	15.5	25.5	35.5	36.5	45.0	55.0	65.0	15.5
%MOISTURE CONTENT:	10.2	23.1	28.8	22.3	26.5	23.8	30.4	14.0
DENSITY (lbs/ft³):	114.1		91.8					101.4

BORING ID:	7-B016 @	7-B016 @	7-B016 @	7-B016 @	7-B016 @	7-B016 @	7-B016 @	7-B016 @
DEPTH (ft.):	21.5	25.5	30.5	35.5	40.0	50.0	60.0	75.0
%MOISTURE CONTENT:	37.6	26.8	35.4	25.1	27.4	21.5	19.8	27.6
DENSITY (lbs/ft³):		93.3	112.5	94.0				

BORING ID:	7-B016 @	7-B017 @	7-B017 @	7-B017 @	7-B017 @	7-B017 @	7-B017 @	7-B018 @
DEPTH (ft.):	85.0	15.5	30.5	35.0	45.0	55.0	60.5	11.0
%MOISTURE CONTENT:	26.5	10.5	15.9	26.6	26.2	20.5	26.5	9.7
DENSITY (lbs/ft³):		116.7					96.2	115.4

BORING ID:	7-B018 @	7-B018 @	7-B018 @	7-B018 @	7-B019 @	7-B019 @	7-B019 @	7-B020 @
DEPTH (ft.):	21.5	35.5	40.5	50.5	35.5	41.5	51.0	14.5
%MOISTURE CONTENT:	23.3	19.3	14.7	14.8	23.8	28.7	24.5	15.9
DENSITY (lbs/ft³):		108.6			96.5		101.3	108.4

BORING ID:	7-B020 @	7-B020 @	7-B020 @	7-B020 @	7-B020 @	7-B020 @	7-B020 @	7-B020 @
DEPTH (ft.):	17.5	20.5	23.5	30.5	40.5	50.5	70.0	75.0
%MOISTURE CONTENT:	28.0	33.1	17.4	17.7	15.9	21.9	35.2	26.5
DENSITY (lbs/ft³):	88.1	86.6						

Testing remarks:

PROJECT NAME: RD-17 ULDC	DATE: 01/30/15
PROJECT NUMBER: 5747.005.000	
CLIENT: Peterson Brustad Incorporated	
PHASE NUMBER: T-004	
	

Tested by: KEL

Reviewed by: RWS

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MOISTURE-DENSITY DETERMINATION

ASTM D7263

BORING ID:	7-B020 @	7-B020 @	7-B020 @	7-B020 @				
DEPTH (ft.):	85.0	95.0	105.5	115.0				
%MOISTURE CONTENT:	22.4	26.8	31.3	30.7				
DENSITY (lbs/ft³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft³):								

BORING ID:								
DEPTH (ft.):								
%MOISTURE CONTENT:								
DENSITY (lbs/ft³):								

Testing remarks:

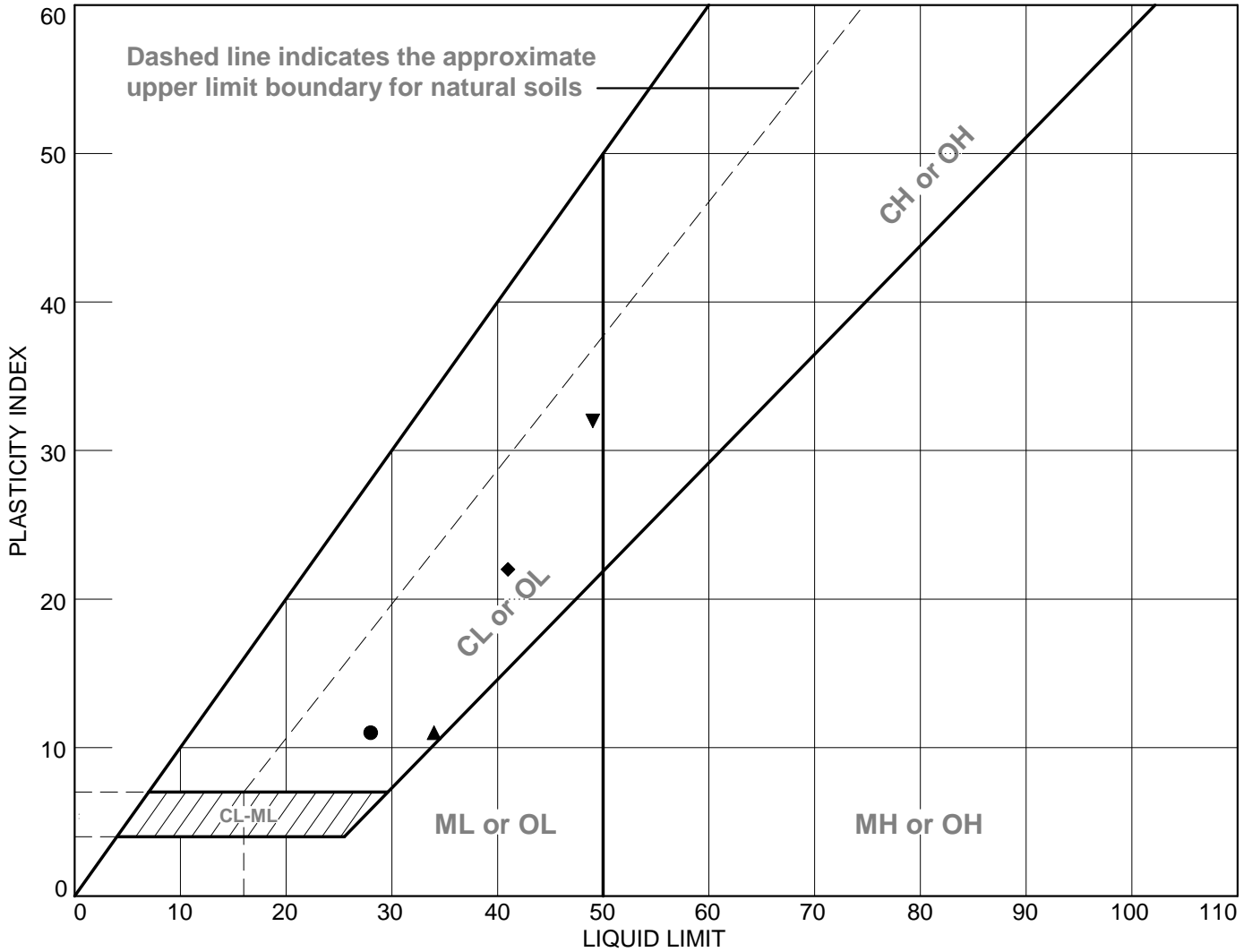
PROJECT NAME: RD-17 ULDC	DATE: 01/30/15
PROJECT NUMBER: 5747.005.000	
CLIENT: Peterson Brustad Incorporated	
PHASE NUMBER: T-004	

Tested by:

Reviewed by:

Page 2 of 2

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B001	7B001@1'	1 ft.	11.3	17	28	11	CL
■	7-B001	7B001@7'	7 ft.		NP	NP	NP	SM
▲	7-B001	7B001@15.5	15.5 ft.	22.9	23	34	11	CL
◆	7-B001	7B001@20.5	20.5 ft.		19	41	22	CL
▼	7-B001	7B001@25.5	25.5 ft.	31.3	17	49	32	CL



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

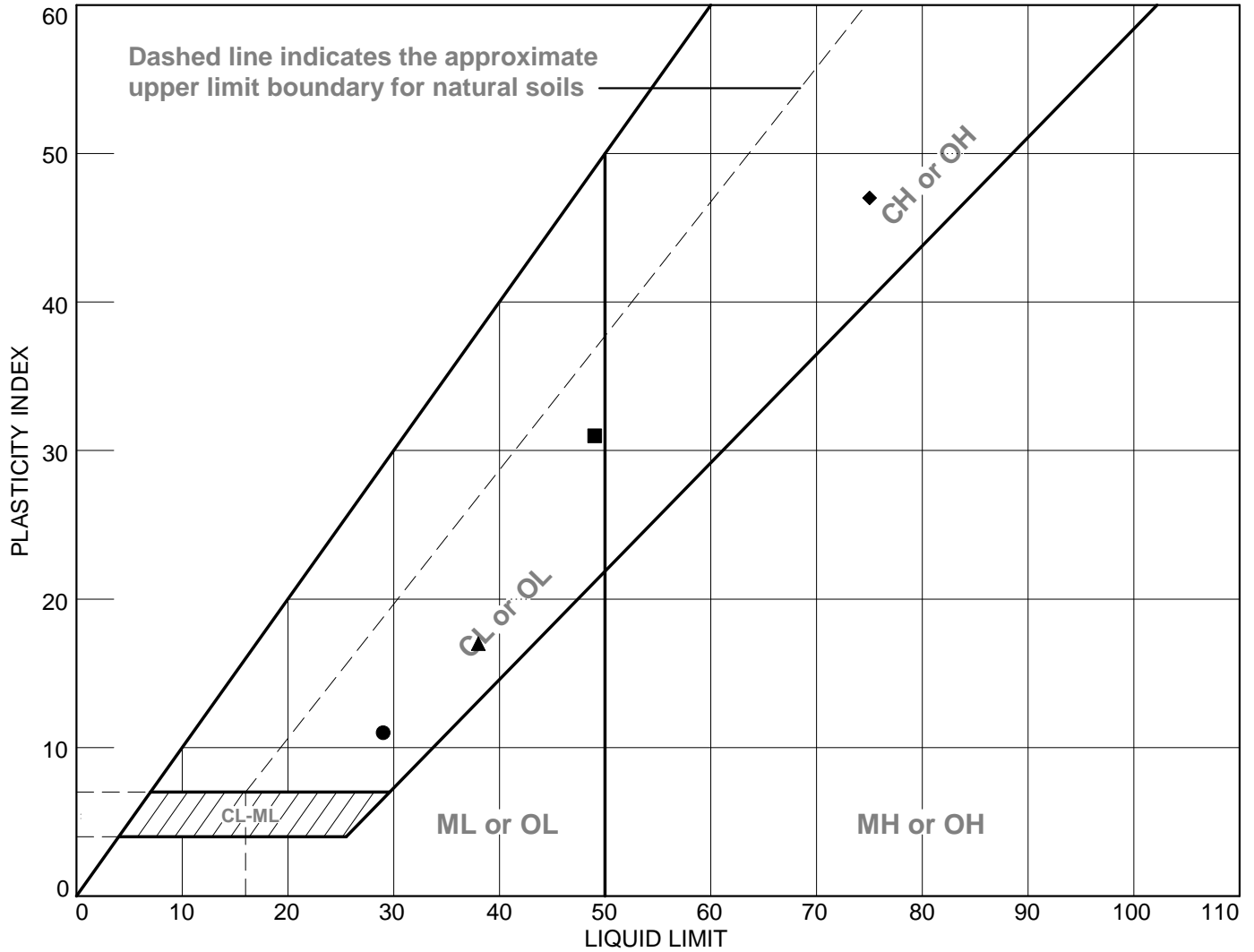
Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B001	7B001@30.5	30.5 ft.	24.9	18	29	11	CL
■	7-B001	7-B001@36	36 ft.	31	18	49	31	CL
▲	7-B001	7B001@41	41 ft.	30.5	21	38	17	CL
◆	7-B001	7B001@45.5	45.5 ft.	41.7	28	75	47	CH



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

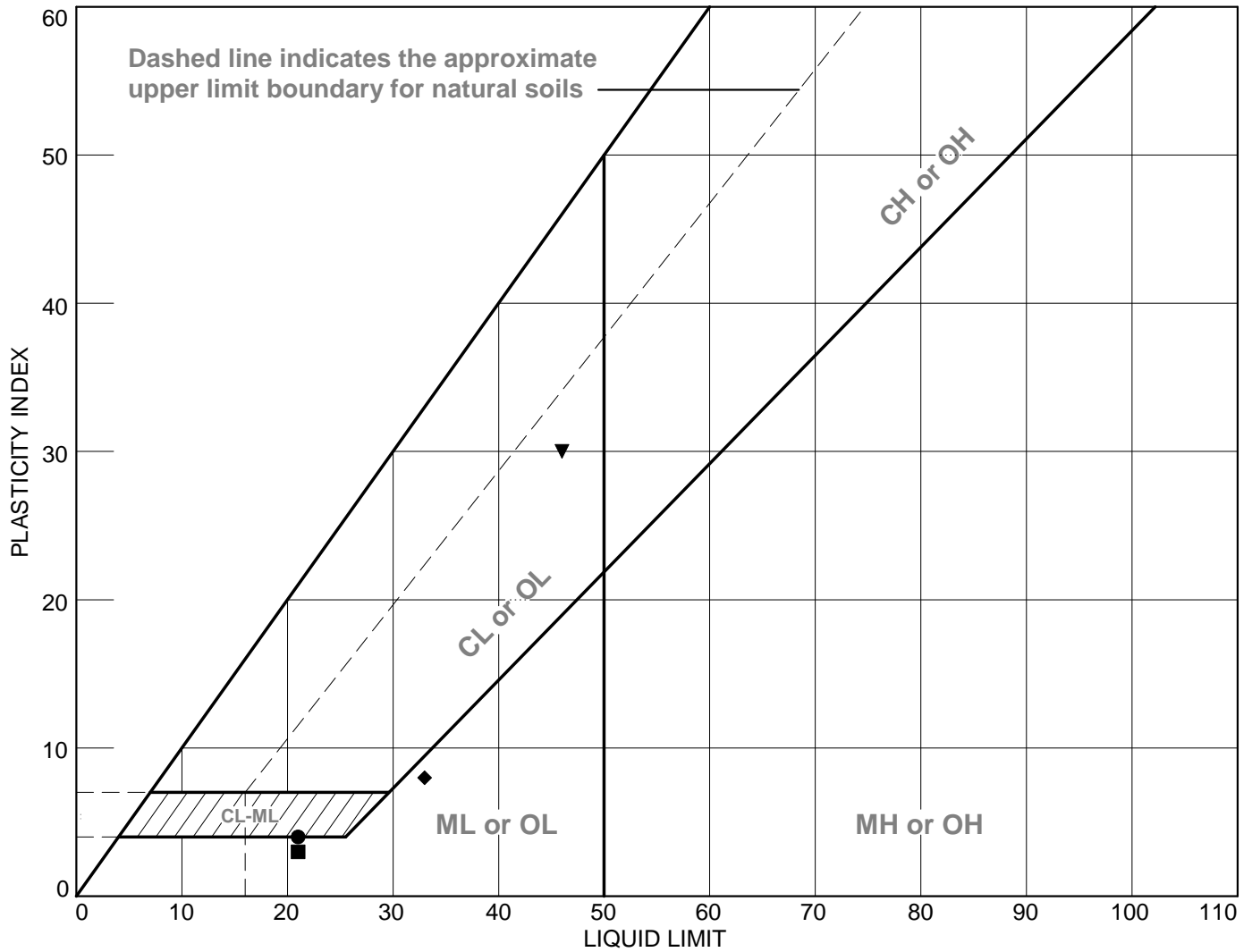
Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B002	7B002@2	2 ft.		17	21	4	CL-ML
■	7-B002	7B002@6'	6 ft.	11.5	18	21	3	ML
▲	7-B002	7B002@11'	11 ft.	10.6	NP	NP	NP	SM
◆	7-B002	7B002@15.5'	15.5 ft.	27.8	25	33	8	ML
▼	7-B002	7B002@21'	21 ft.	23.2	16	46	30	CL



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

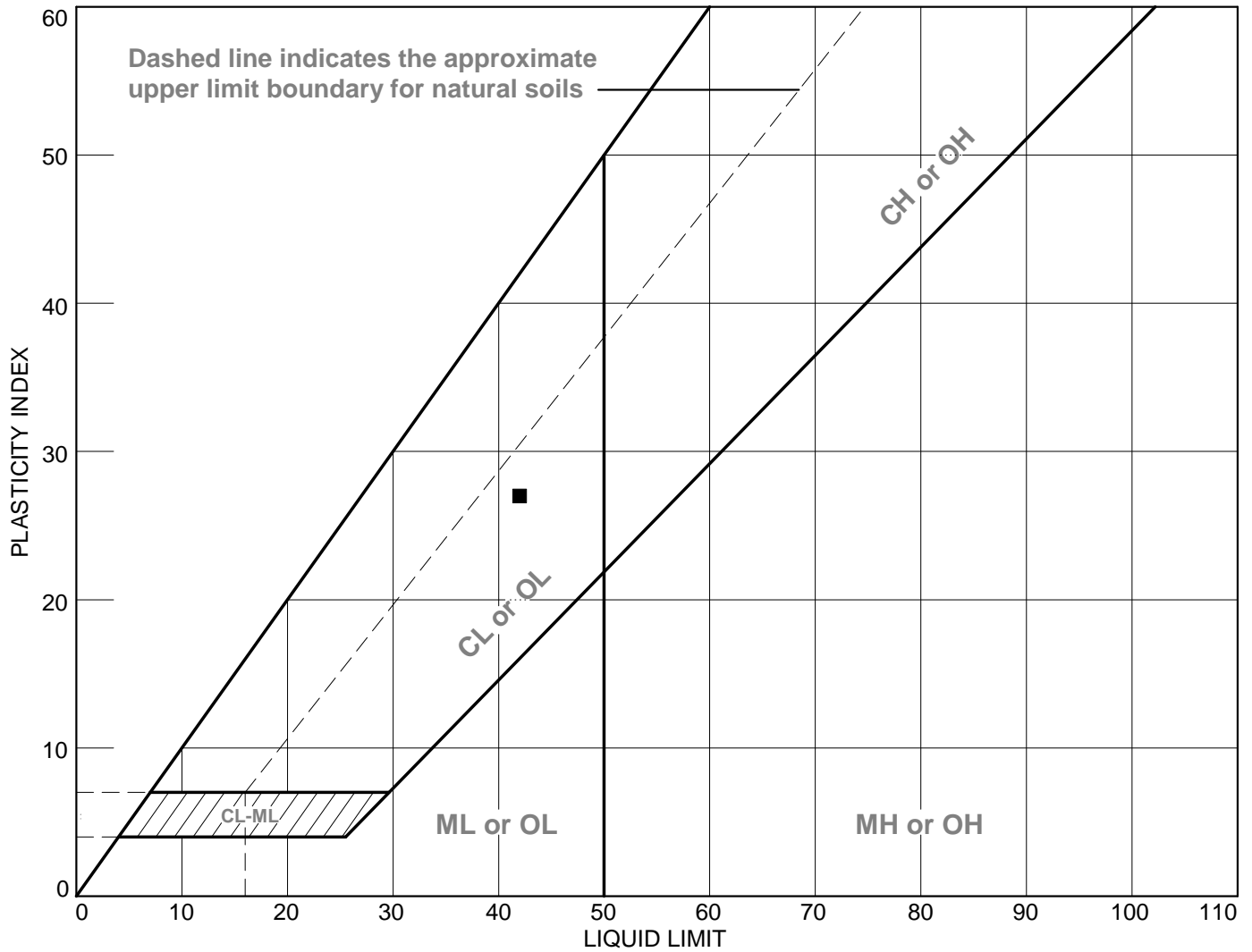
Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B002	7B002@30.5	30.5 ft.	27.2	NP	22	NP	SM
■	7-B002	7B002@35'	35 ft.	21.6	15	42	27.6	CL
▲	7-B002	7B002@36'	36 ft.	25.0	NP	NP	NP	SM
◆	7-B002	7B002@40.5	40.5 ft.		NP	NP	NP	SP
▼	7-B002	7B002@55.7	55.75 ft.		NP	NP	NP	SM



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

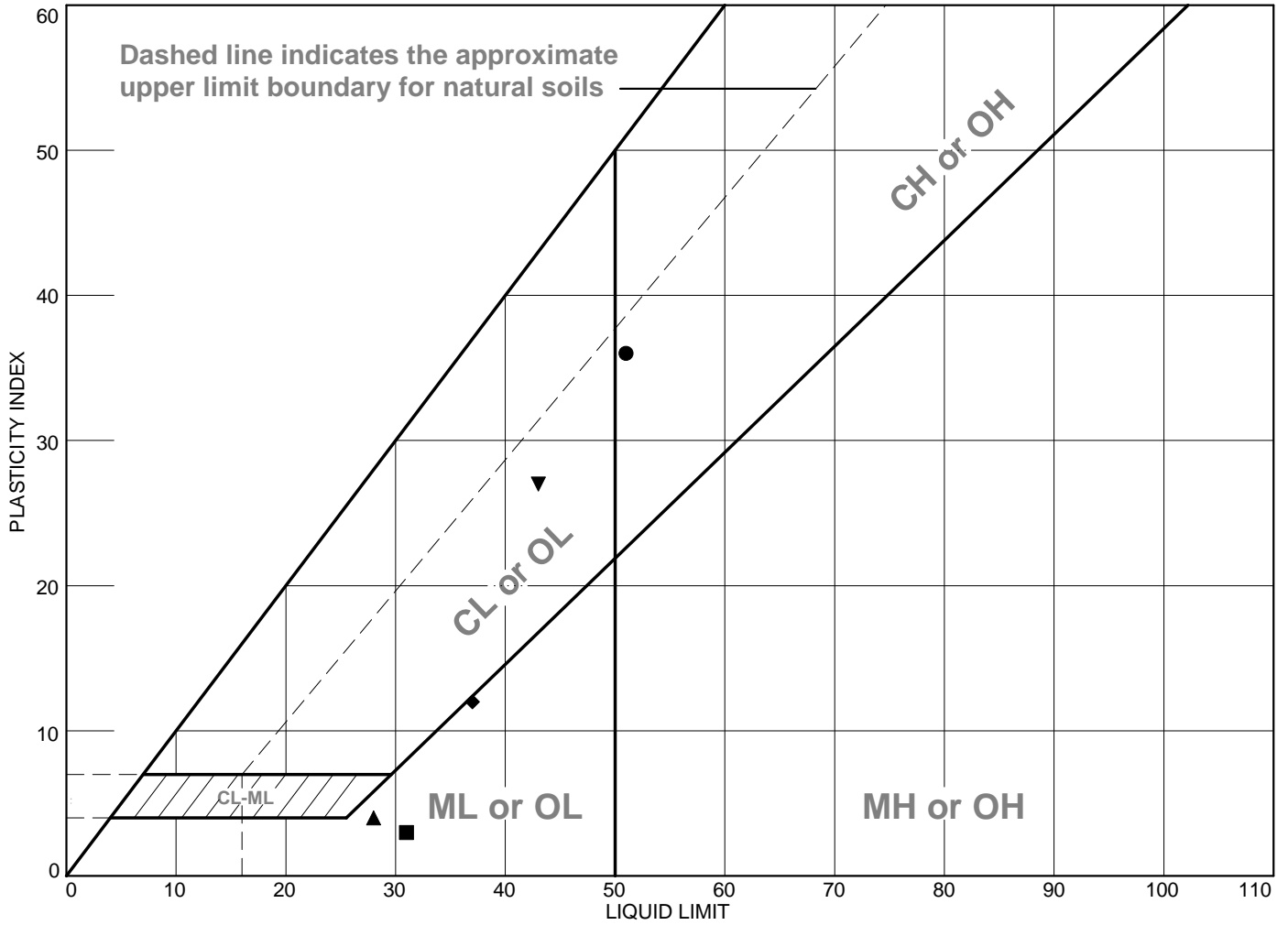
Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	51	15	36		57.6	CH
■	See Exploratory Boring	31	28	3		61.4	ML
▲	See Exploratory Boring	28	24	4	99.7	76.6	ML
◆	See Exploratory Boring	37	25	12		94.6	ML
▼	See Exploratory Boring	43	16	27			

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

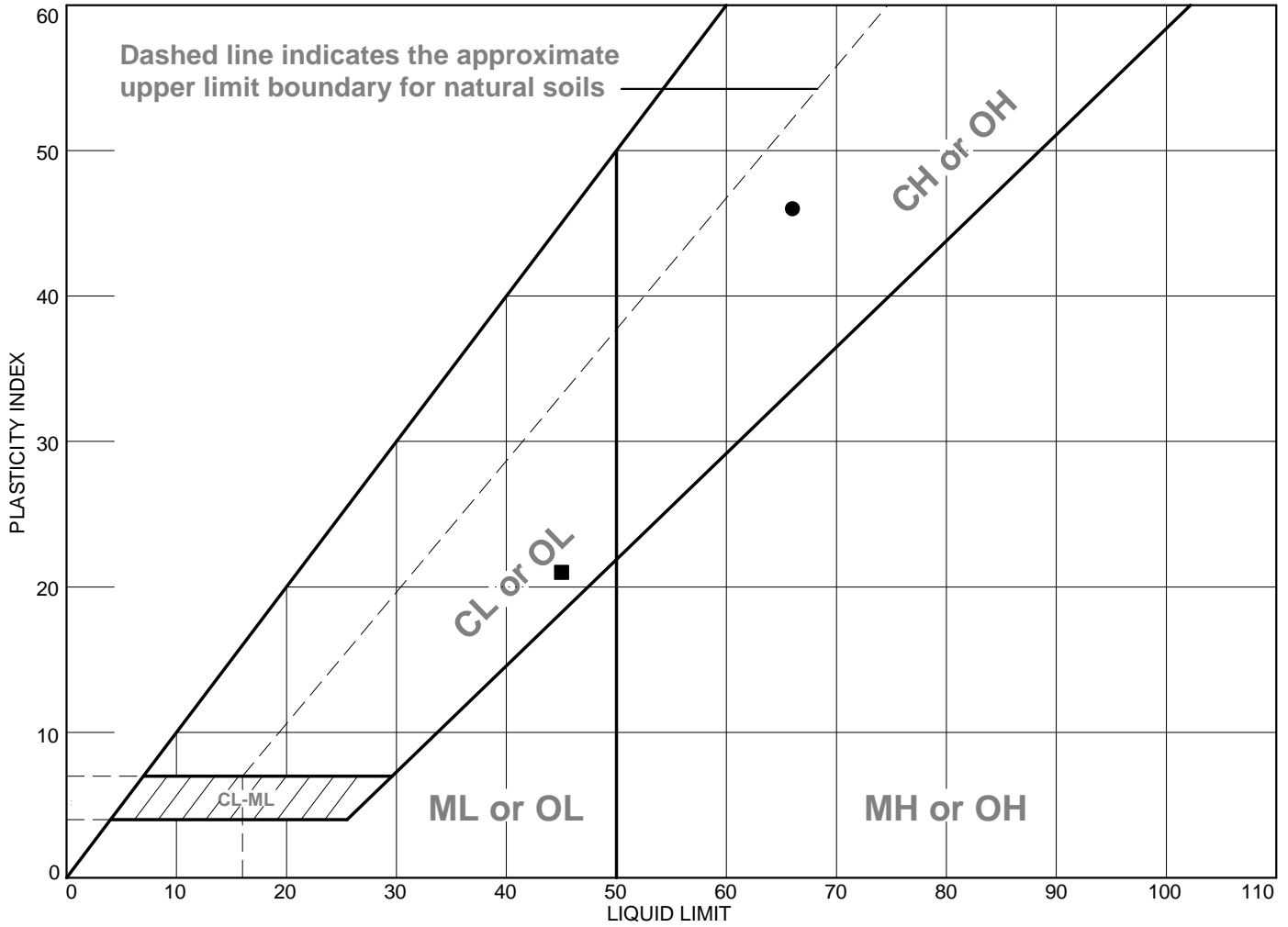
● **Depth:** 7.5 **Sample Number:** 7-B003 @ 7.5
 ■ **Depth:** 12 **Sample Number:** 7-B003 @ 12
 ▲ **Depth:** 16 **Sample Number:** 7-B003 @ 16
 ◆ **Depth:** 20.5 **Sample Number:** 7-B003 @ 20.5
 ▼ **Depth:** 26 **Sample Number:** 7-B003 @ 26

Remarks:



Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	66	20	46		61.0	CH
■	See Exploratory Boring	45	24	21			

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

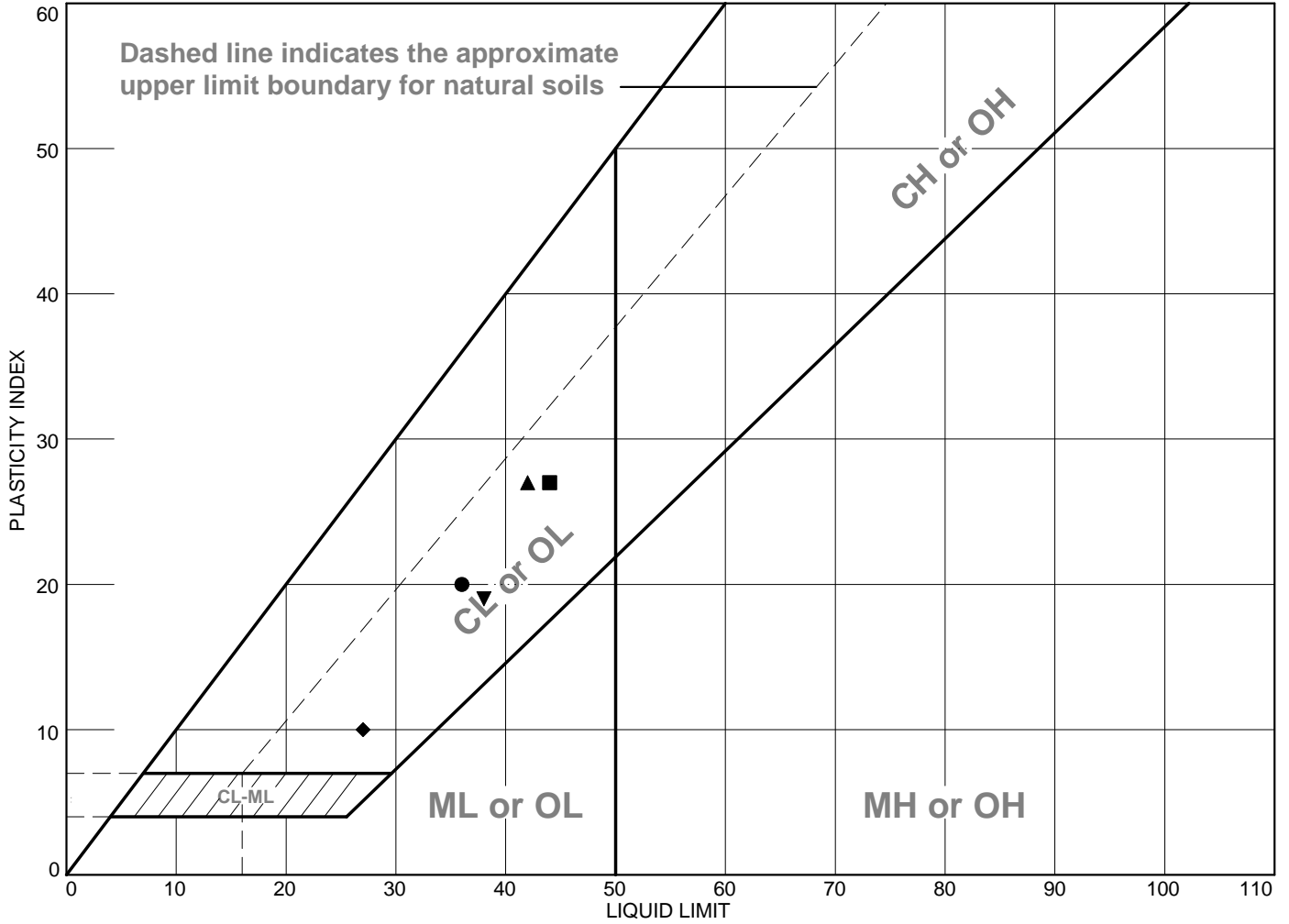
● **Depth:** 32 **Sample Number:** 7-B003 @ 32
 ■ **Depth:** 54 **Sample Number:** 7-B003 @ 54

Remarks:



Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	36	16	20		59.2	CL
■	See Exploratory Boring	44	17	27			
▲	See Exploratory Boring	42	15	27		68.7	CL
◆	See Exploratory Boring	27	17	10		57.5	CL
▼	See Exploratory Boring	38	19	19			

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

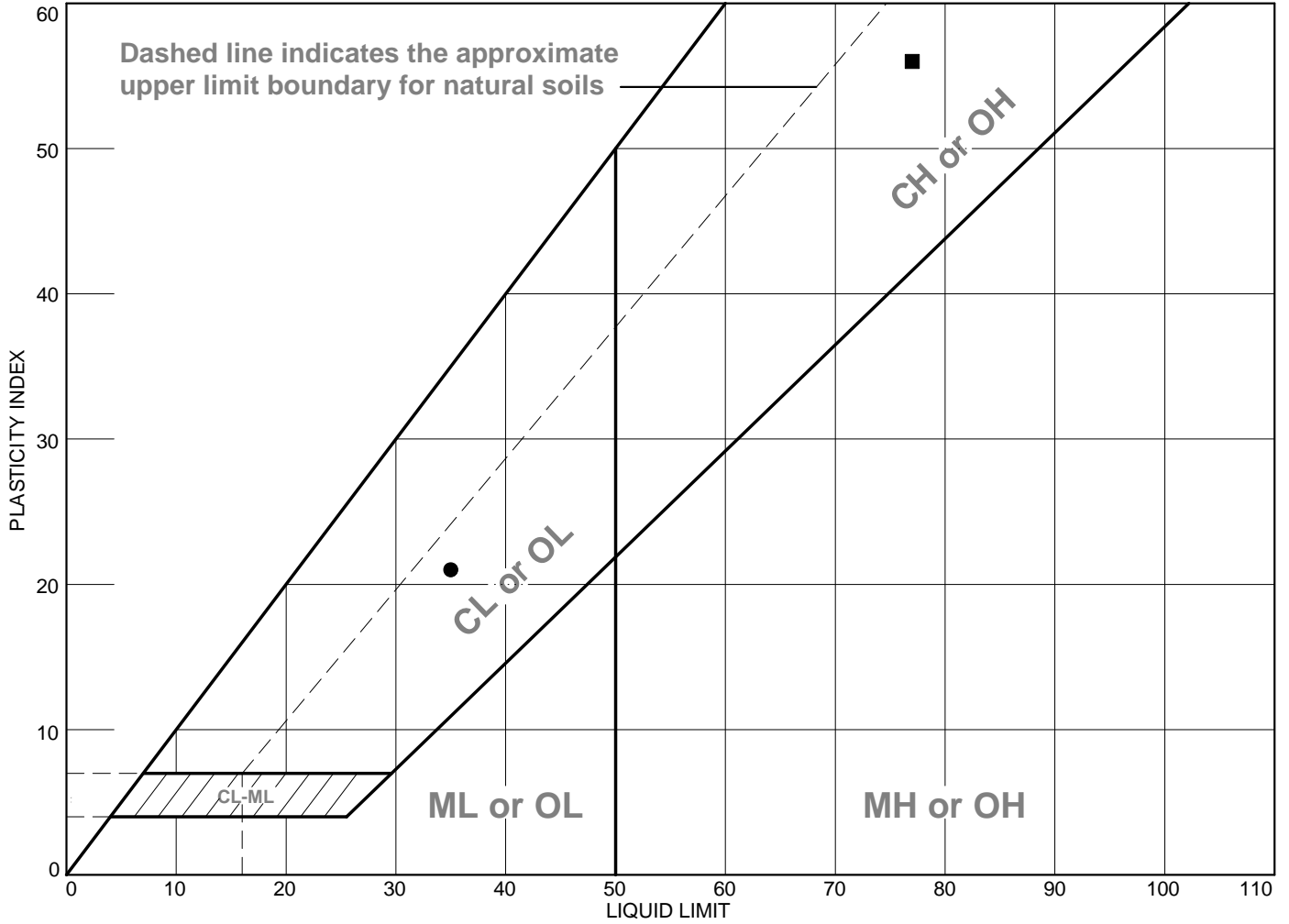
● **Depth:** 3 **Sample Number:** 7-B004 @ 3
 ■ **Depth:** 10.5 **Sample Number:** 7-B004 @ 10.5
 ▲ **Depth:** 16 **Sample Number:** 7-B004 @ 16
 ◆ **Depth:** 20.5 **Sample Number:** 7-B004 @ 20.5
 ▼ **Depth:** 26 **Sample Number:** 7-B004 @ 26

Remarks:



Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	35	14	21		53.2	CL
■	See Exploratory Boring	77	21	56			

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

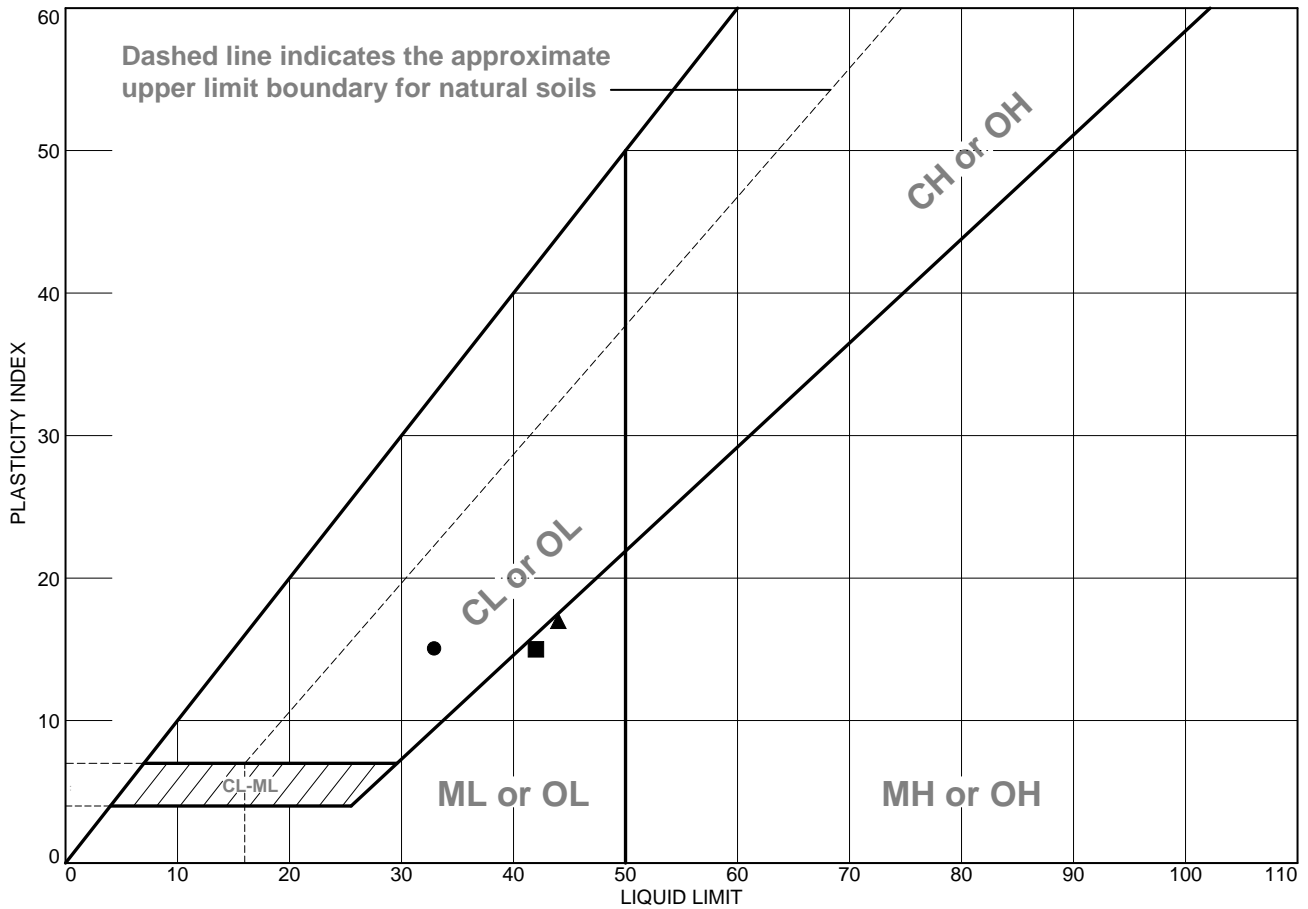
● **Depth:** 36 **Sample Number:** 7-B004 @ 36
 ■ **Depth:** 50.5 **Sample Number:** 7-B004 @ 50.5

Remarks:



Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	33	18	15			CL
■	See Exploratory Boring	42	27	15	98.9	85.1	ML
▲	See Exploratory Boring	44	27	17		92.8	ML

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated

Project: RD-17 ULDC

● **Depth:** 2 **Sample Number:** 7-B005 @ 2
 ■ **Depth:** 11 **Sample Number:** 7-B005 @ 11
 ▲ **Depth:** 16 **Sample Number:** 7-B005 @ 16

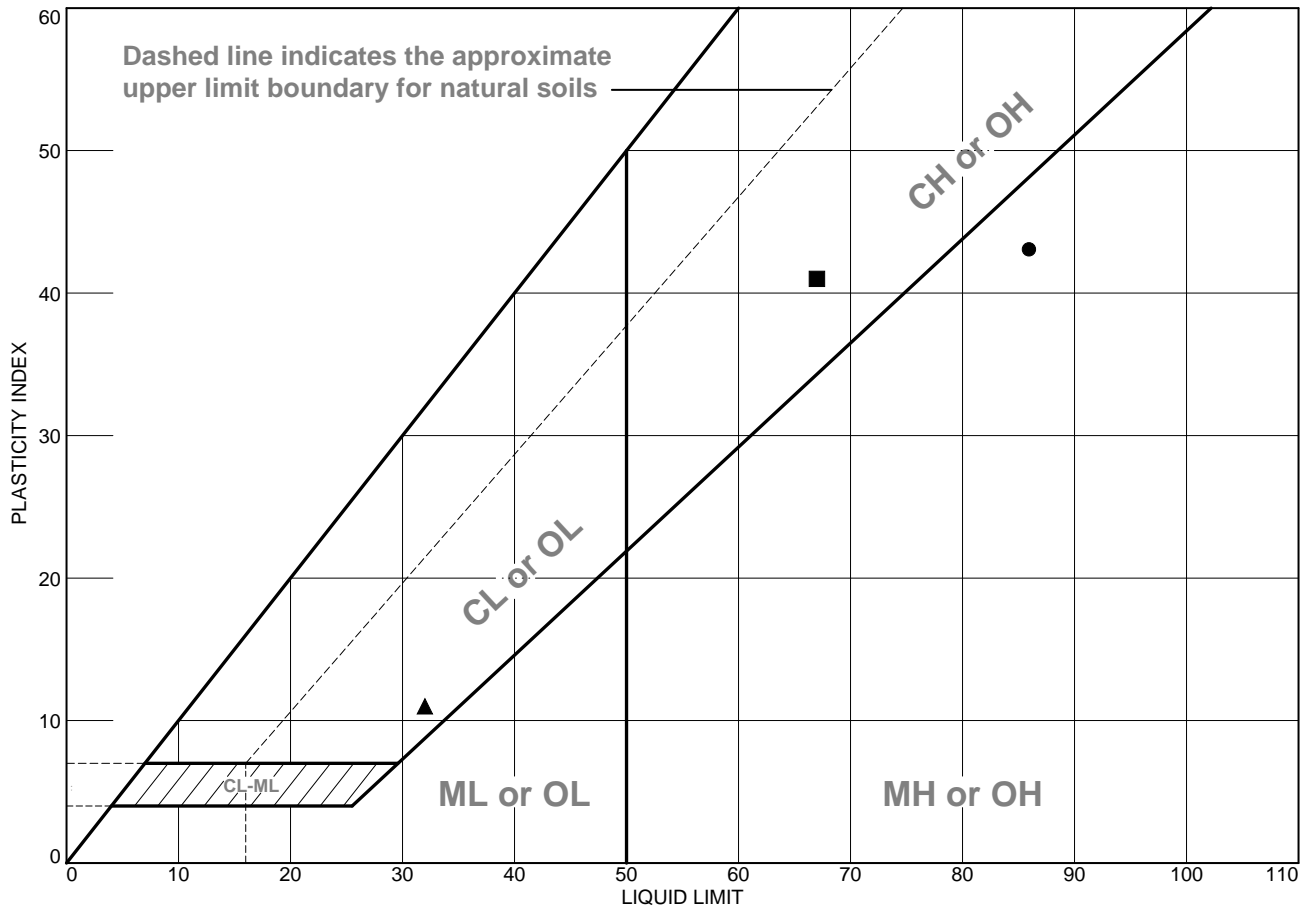
Remarks:



Figure

Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	86	43	43			MH
■	See Exploratory Boring	67	26	41		92.5	CH
▲	See Exploratory Boring	32	21	11		90.3	CL

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

 ● **Depth:** 21 **Sample Number:** 7-B005 @ 21
 ■ **Depth:** 31 **Sample Number:** 7-B005 @ 31
 ▲ **Depth:** 41 **Sample Number:** 7-B005 @ 41

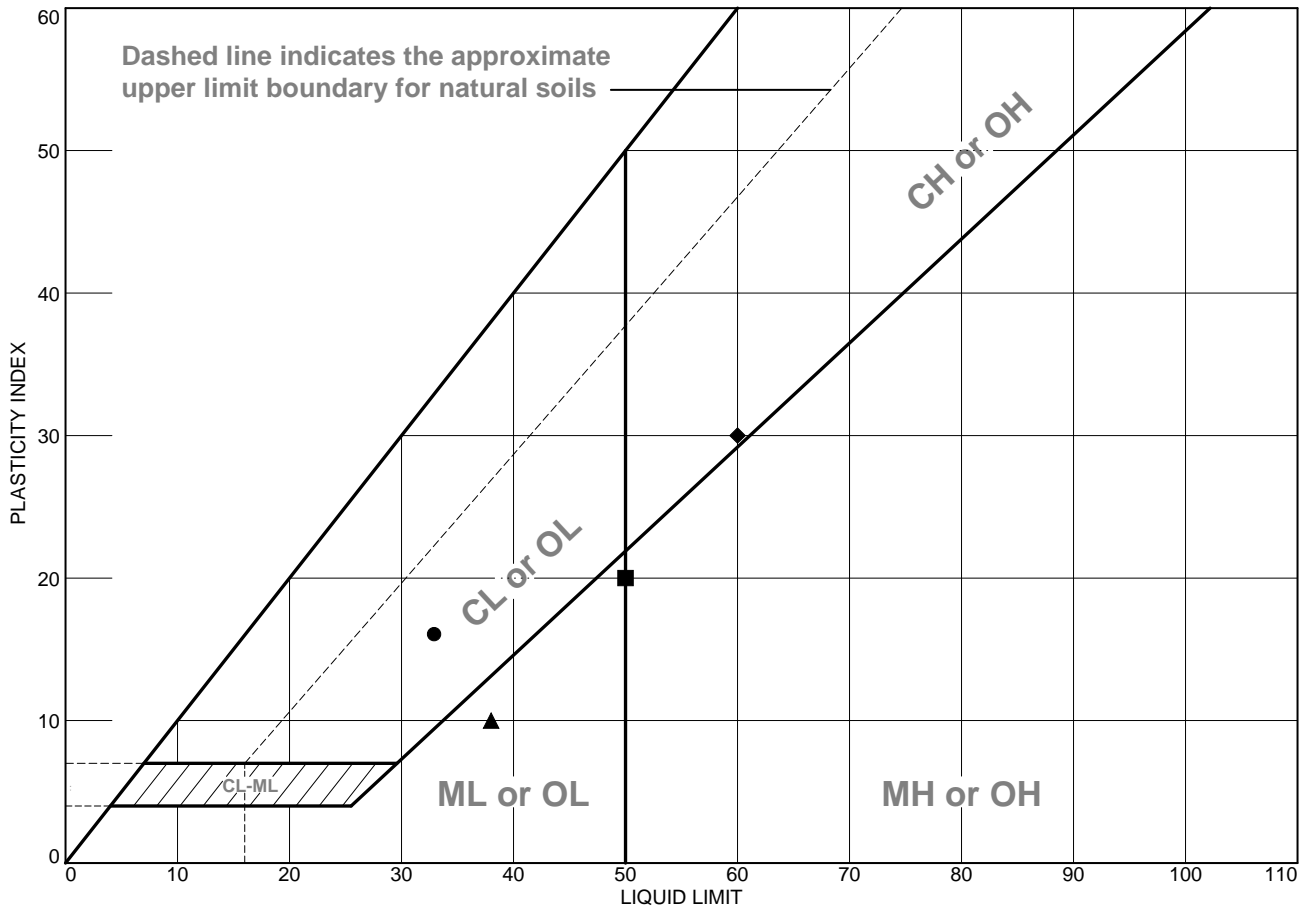
Remarks:

Figure



Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	33	17	16		60.8	
■	See Exploratory Boring	50	30	20			MH
▲	See Exploratory Boring	38	28	10	100.0	95.4	ML
◆	See Exploratory Boring	60	30	30			CH

Project No. 5747.005.000 Client: Peterson Brustad Incorporated
 Project: RD-17 ULDC

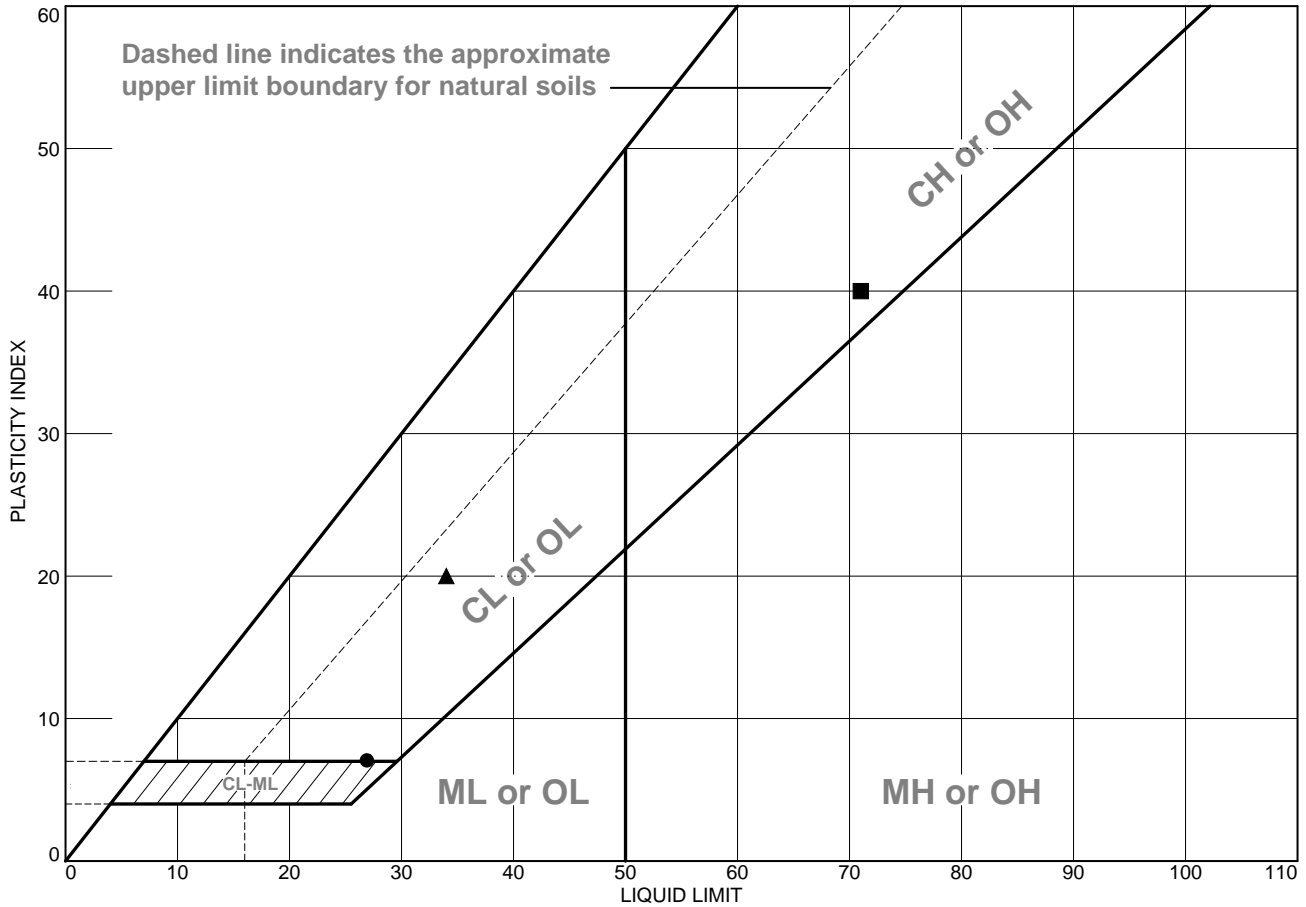
● Depth: 2 Sample Number: 7-B006 @ 2
 ■ Depth: 15.5 Sample Number: 7-B006 @ 15.5
 ▲ Depth: 16 Sample Number: 7-BO06 @ 16
 ◆ Depth: 21 Sample Number: 7-B006 @ 21

Remarks:

Figure

Tested By: RWS Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	27	20	7	99.8	54.0	CL-ML
■	See Exploratory Boring	71	31	40		93.4	
▲	See Exploratory Boring	34	14	20		59.7	

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● Depth: 21.5 **Sample Number:** 7-B006 @ 21.5
■ Depth: 31 **Sample Number:** 7-B006 @ 31
▲ Depth: 41 **Sample Number:** 7-B006 @ 41

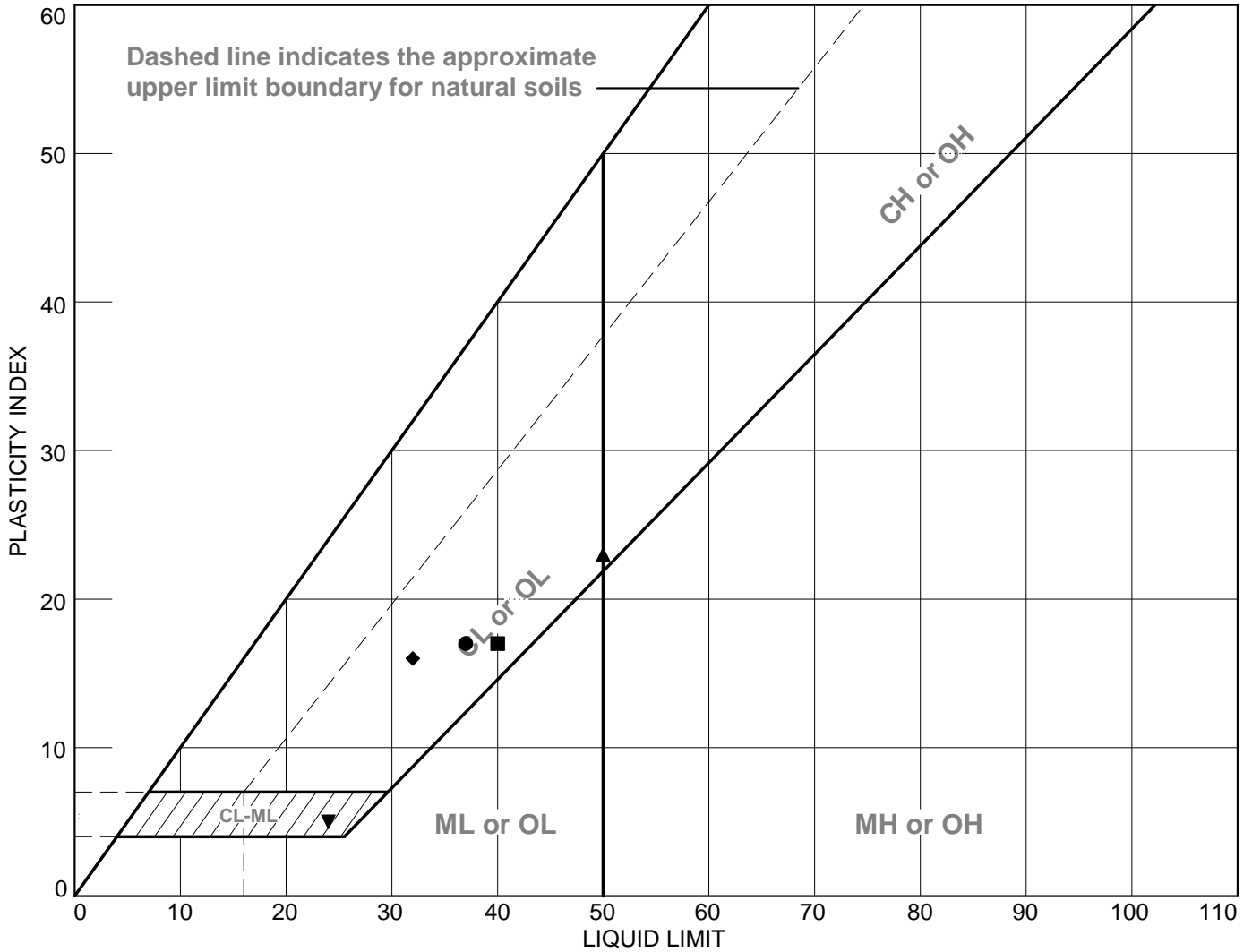
Remarks:



Figure

Tested By: RWS **Checked By:** KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B007	7-B007-1.5	1.5 ft	18.8	20	37	17	CL
■	7-B007	7-B007-6	6 ft		23	40	17	CL
▲	7-B007	7-B007-16	16 ft	26.6	27	50	23	CH
◆	7-B007	7-B007-22	22 ft		16	32	16	CL
▼	7-B007	7-B007-26.5	26.5 ft		19	24	5	CL-ML



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

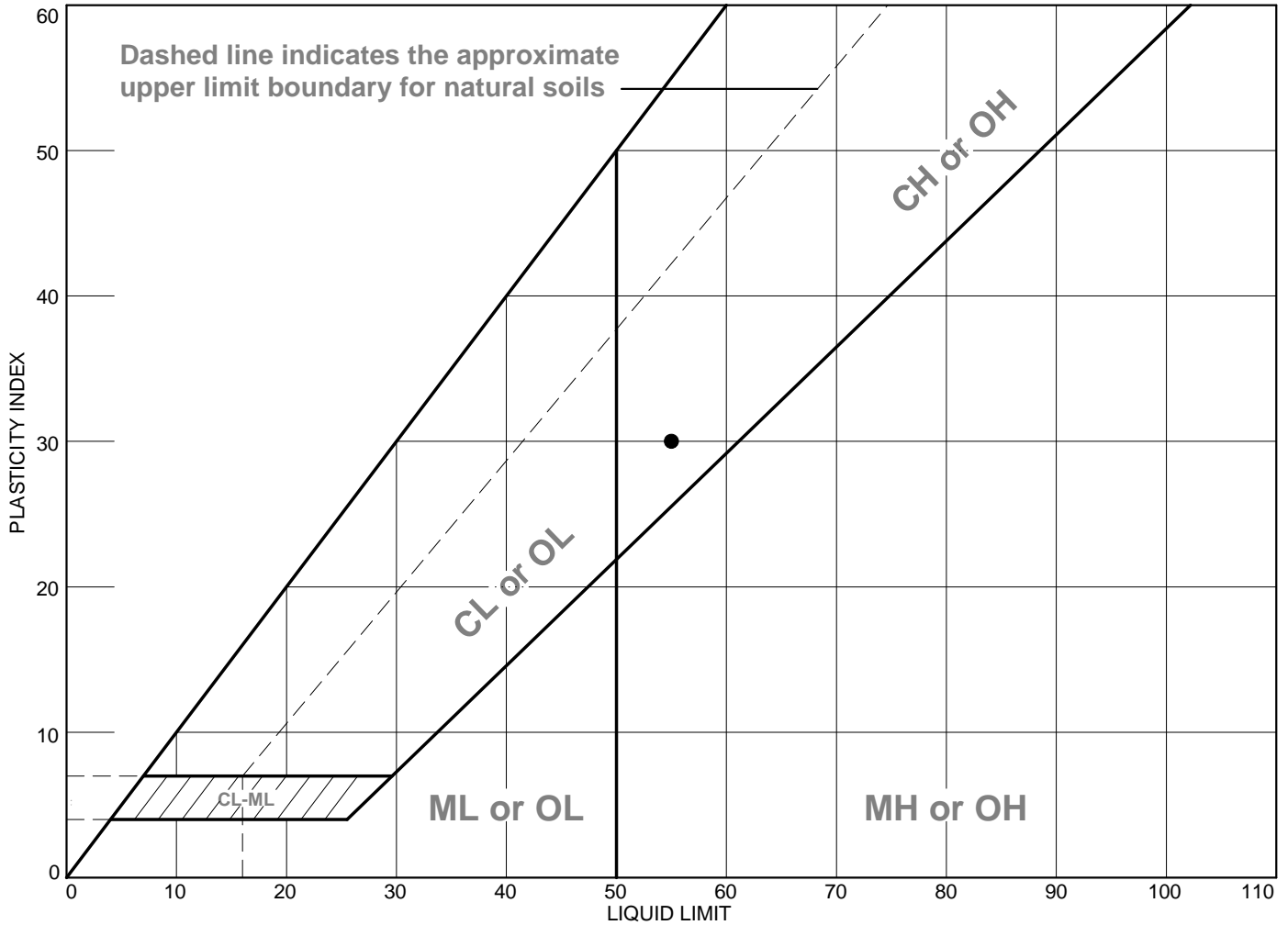
Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See exploration logs	55	25	30	99.3	97.0	CH

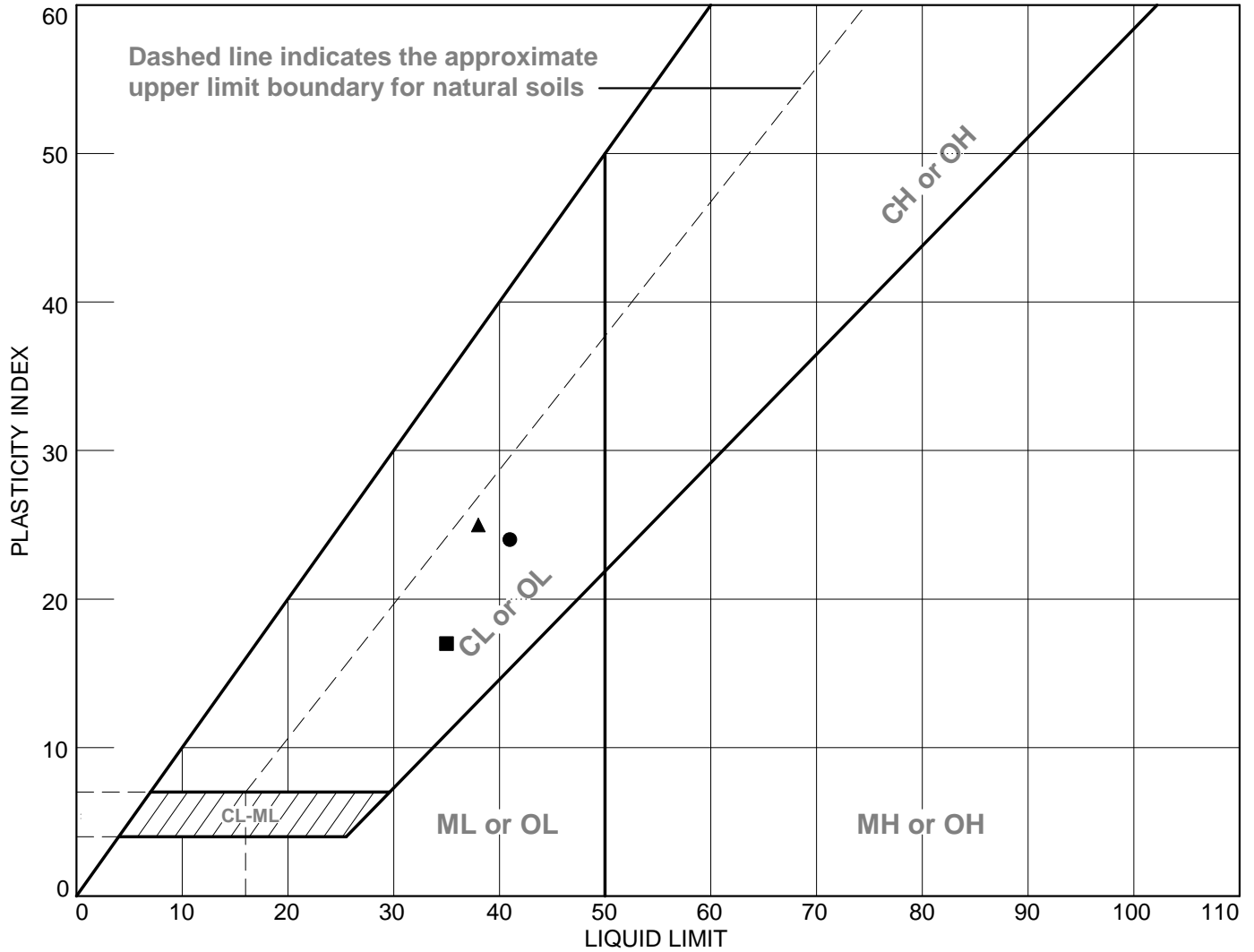
Project No. 5747.005.000 **Client:** Peterson Brusted Incorporated
Project: ULDC Analysis and Identification of Deficiencies
Depth: 27-27.5 ft. **Sample Number:** 7-B007 @ 27.5

Remarks:
 ● PI: ASTM D4318
 GS: ASTM D422
 USCS: ASTM D2487



Tested By: G. Criste **Checked By:** D. Seibold

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B007	7-B007-30.5	30.5 ft		17	41	24	CL
■	7-B007	7-B007-35.5	35.5 ft		18	35	17	CL
▲	7-B007	7-B007-40.5	40.5 ft		13	38	25	CL



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

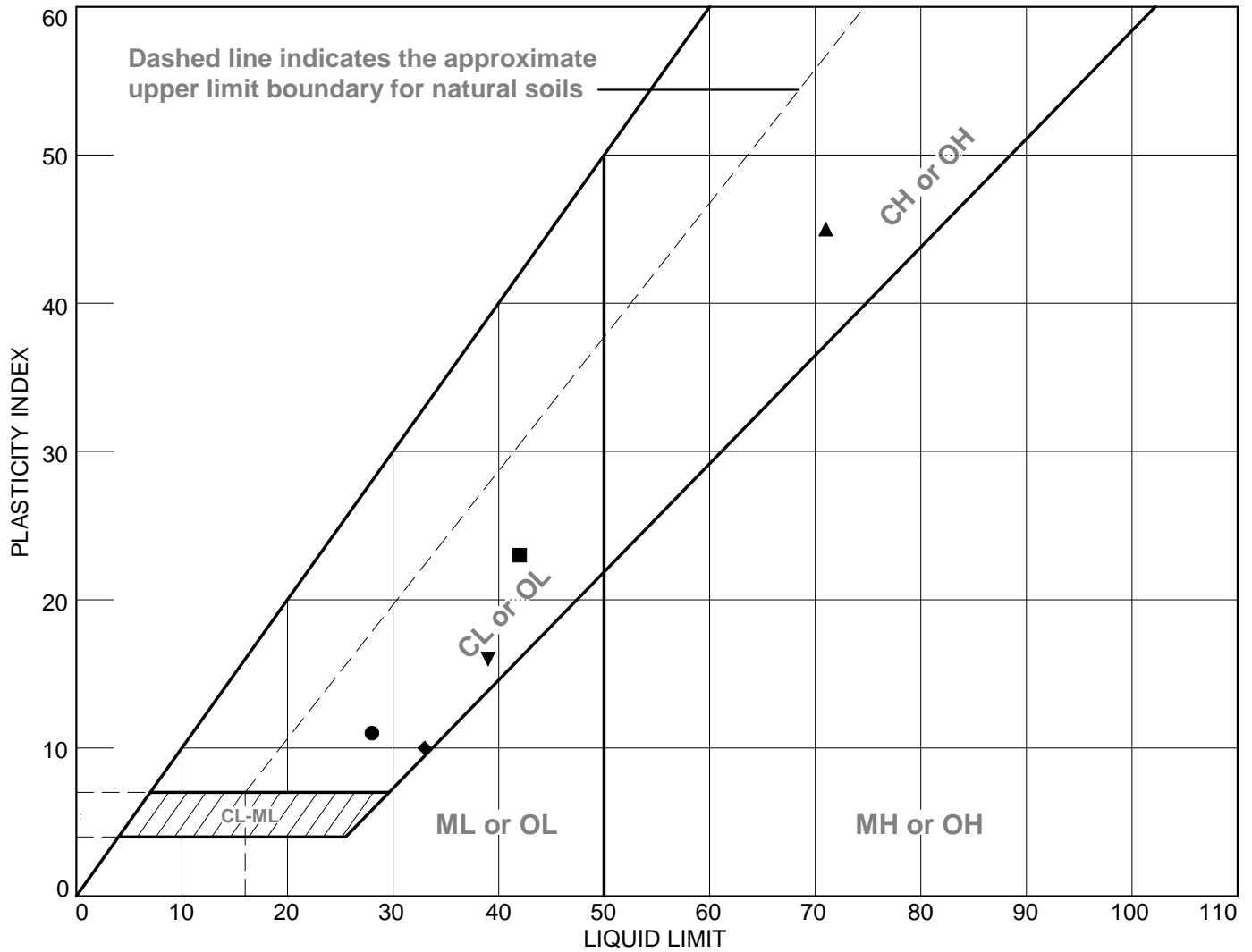
Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B008	7-B008-1.5	1.5 ft		17	28	11	CL
■	7-B008	7-B008-3	3 ft		19	42	23	CL
▲	7-B008	7-B008-10	10 ft	27.8	26	71	45	CH
◆	7-B008	7-B008-12	12 ft		23	33	10	CL
▼	7-B008	7-B008-15.5	15.5 ft		23	39	16	CL



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

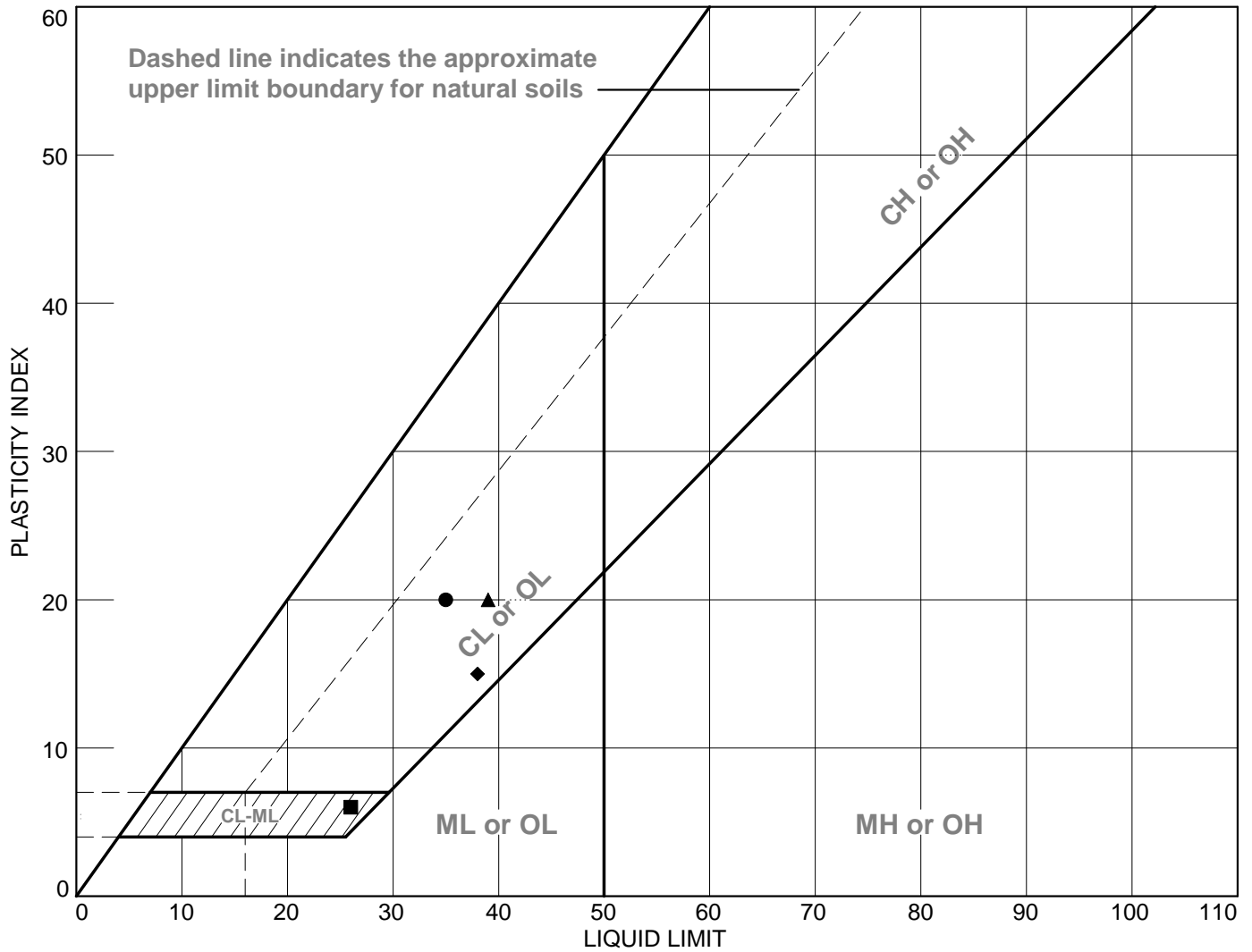
Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B008	7-B008-20	20 ft	27.1	15	35	20	CL
■	7-B008	7-B008-35.5	35.5 ft	18.2	20	26	6	CL-ML
▲	7-B008	7-B008-45.5	45.5 ft	21.9	19	39	20	CL
◆	7-B008	7-B008-50.5	50.5 ft	27.9	23	38	15	CL
▼	7-B008	7-B008-55.5	55.5 ft		NP	NP	NP	NP



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

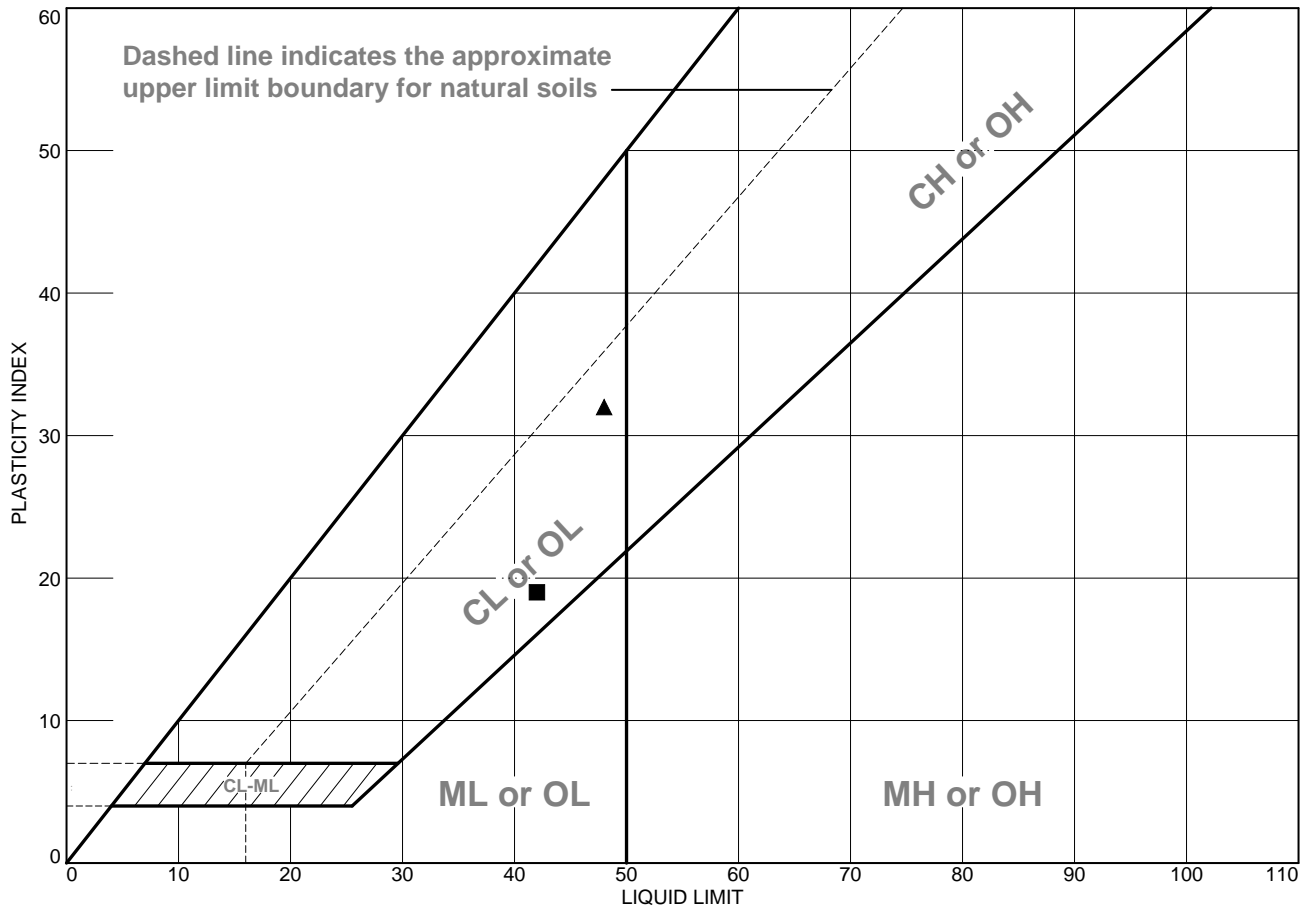
Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: R.Montalvo

Checked By: M.Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	NP	NP	NP			
■	See Exploratory Boring	42	23	19			
▲	See Exploratory Boring	48	16	32			

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● Depth: 2.5 **Sample Number:** 7-B009 @ 2.5
■ Depth: 30 **Sample Number:** 7-B009 @ 30
▲ Depth: 45 **Sample Number:** 7-B009 @ 45

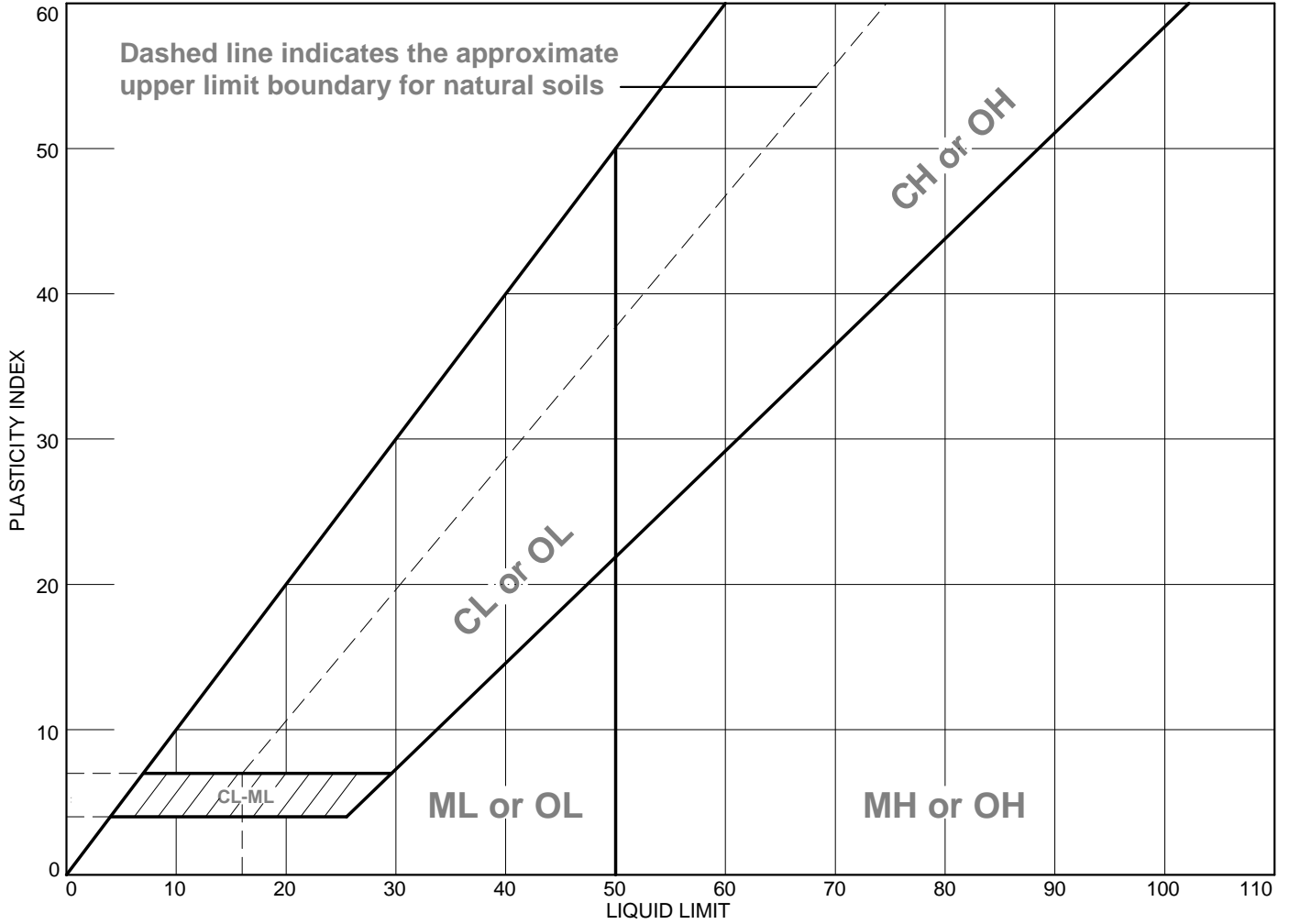
Remarks:

Figure



Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



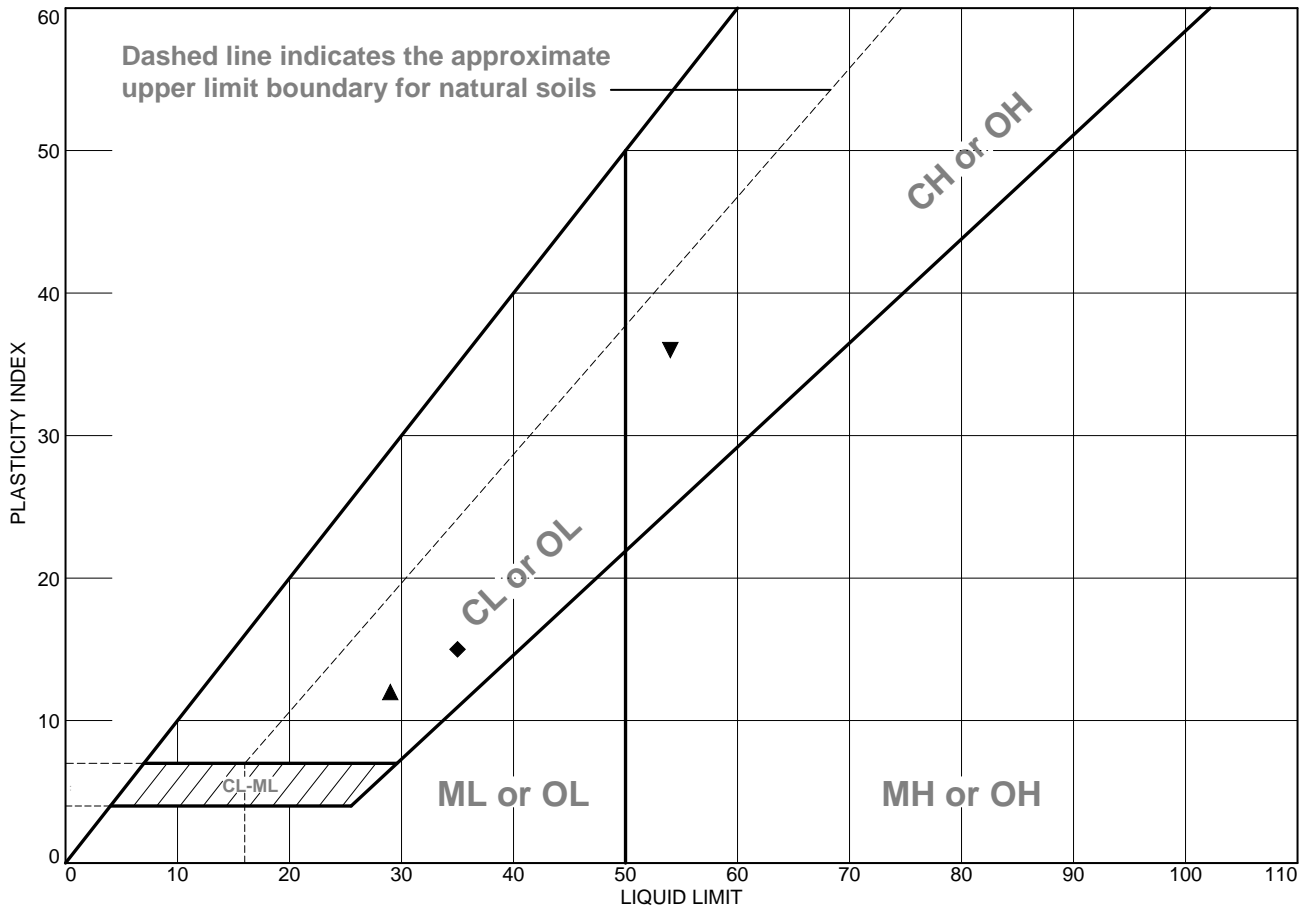
MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● See exploration logs	19	NP	NP			

Project No. 5747.005.000 **Client:** Peterson Brusted Incorporated
Project: ULDC Analysis and Identification of Deficiencies
● Depth: 24.0 ft. **Sample Number:** 7-B009 @ 24A

Remarks:
 ● ASTM D4318



LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	NP	NP	NP			
■	See Exploratory Boring	NP	NP	NP			
▲	See Exploratory Boring	29	17	12			
◆	See Exploratory Boring	35	20	15			
▼	See Exploratory Boring	54	18	36			

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● **Depth:** 15 **Sample Number:** 7-B010 @ 15
 ■ **Depth:** 35 **Sample Number:** 7-B010 @ 35
 ▲ **Depth:** 45 **Sample Number:** 7-B010 @ 45
 ◆ **Depth:** 50 **Sample Number:** 7-B010 @ 50
 ▼ **Depth:** 60 **Sample Number:** 7-B010 @ 60

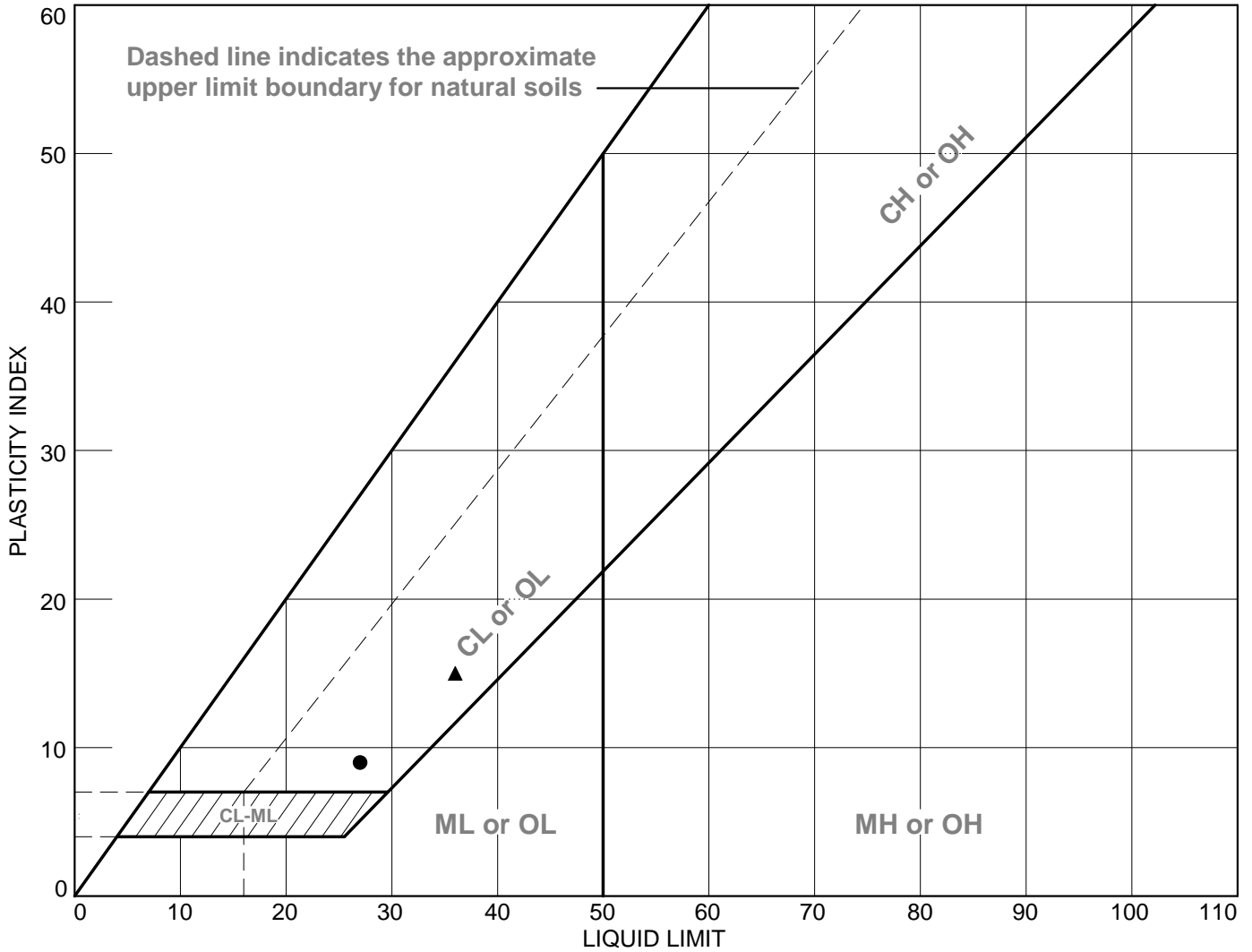


Remarks:

Figure

Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B10A	7-B10A-3	3 ft		18	27	9	CL
■	7-B10A	7-B10A-5.5	5.5 ft		NP	NP	NP	NP
▲	7-B10A	7-B10A-25	25 ft		21	36	15	CL



Client: Peterson Brustad Incorporated

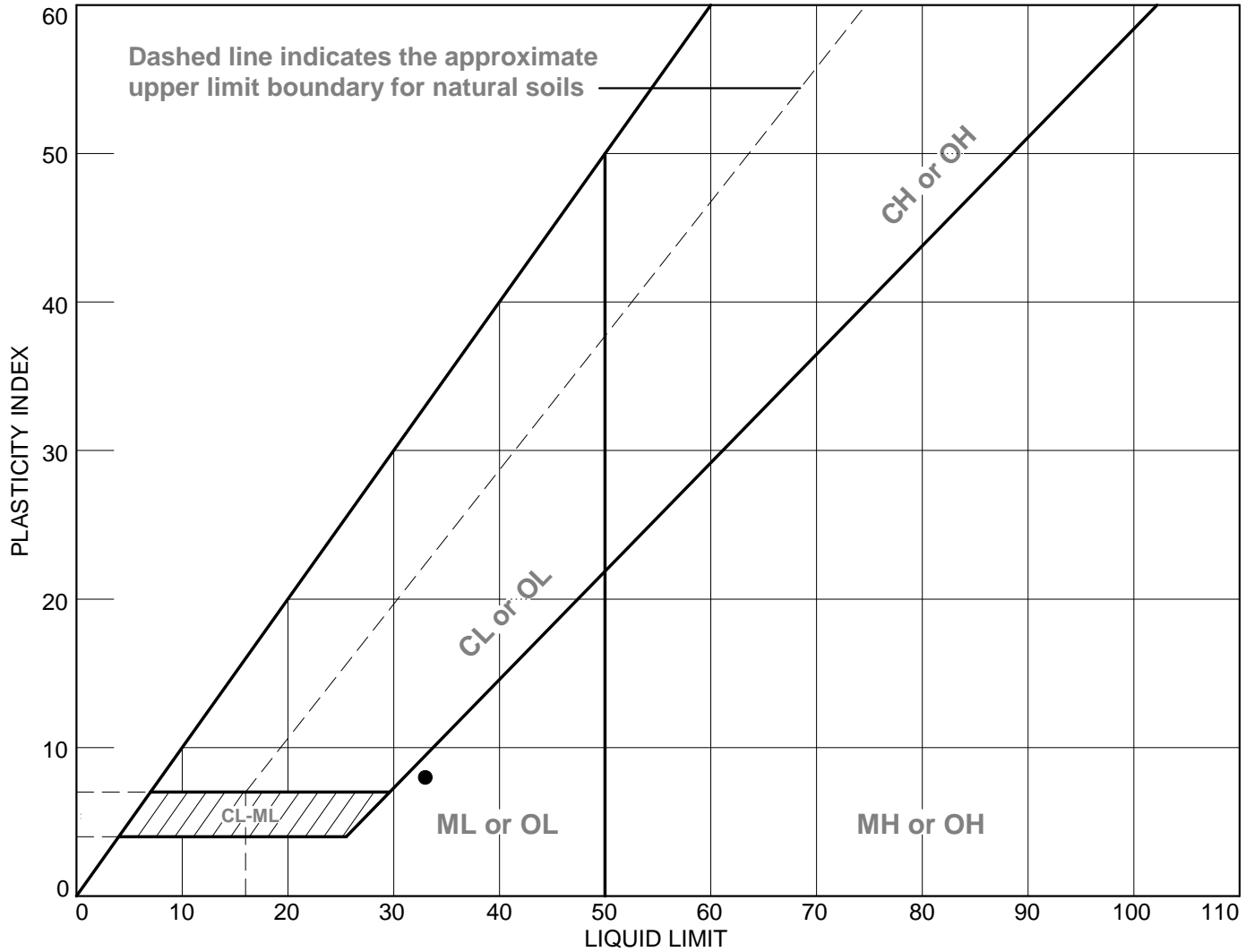
Project: RD-17 ULDC

Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: ○ R.Montalvo □ R. Montalvo △ R.Montalvo **Checked By:** M.Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B10A	7-B10A-18.5	18.5 ft		25	33	8	ML



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

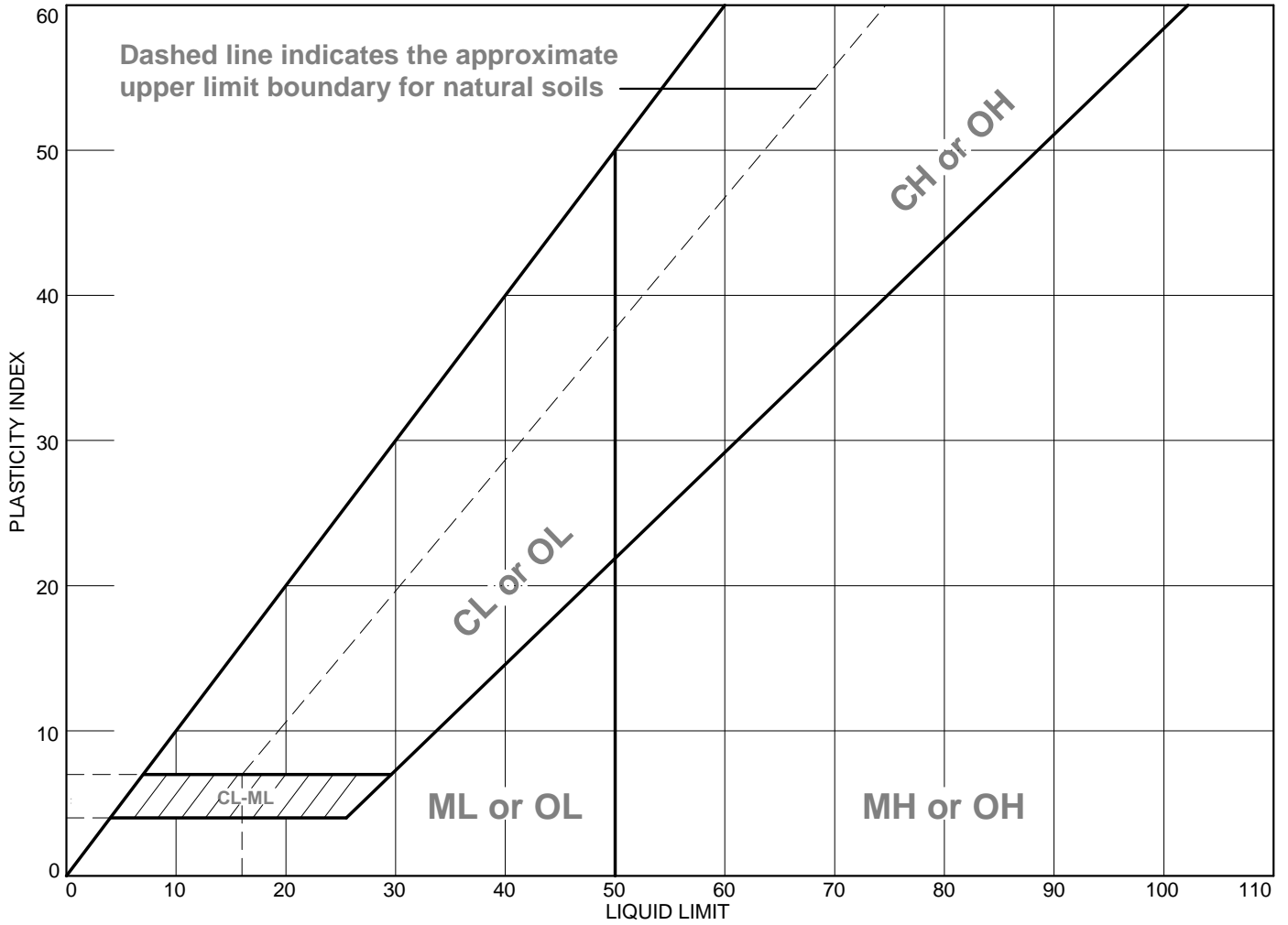
Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: R. Montalvo

Checked By: J. Boland

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● See exploration logs	29	NP	NP	100.0	62.6	ML

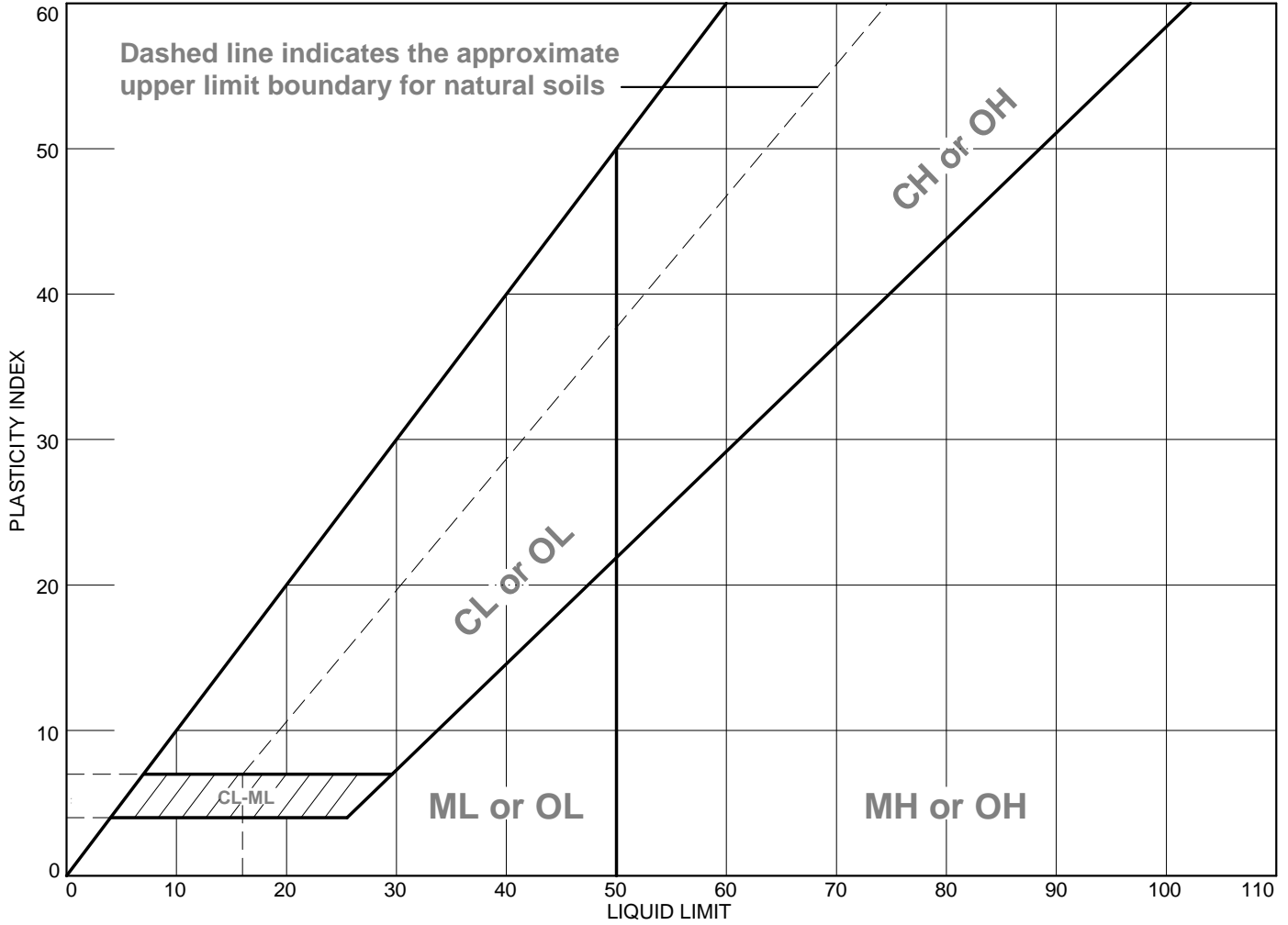
Project No. 5747.005.000 **Client:** Peterson Brusted Incorporated
Project: ULDC Analysis and Identification of Deficiencies
Depth: 19.5 ft. **Sample Number:** 7-B010A @ 19.5

Remarks:
 ● PI: ASTM D4318
 GS: ASTM D422
 USCS: ASTM D2487



Tested By: G. Criste **Checked By:** D. Seibold

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● See exploration logs	26	NP	NP			

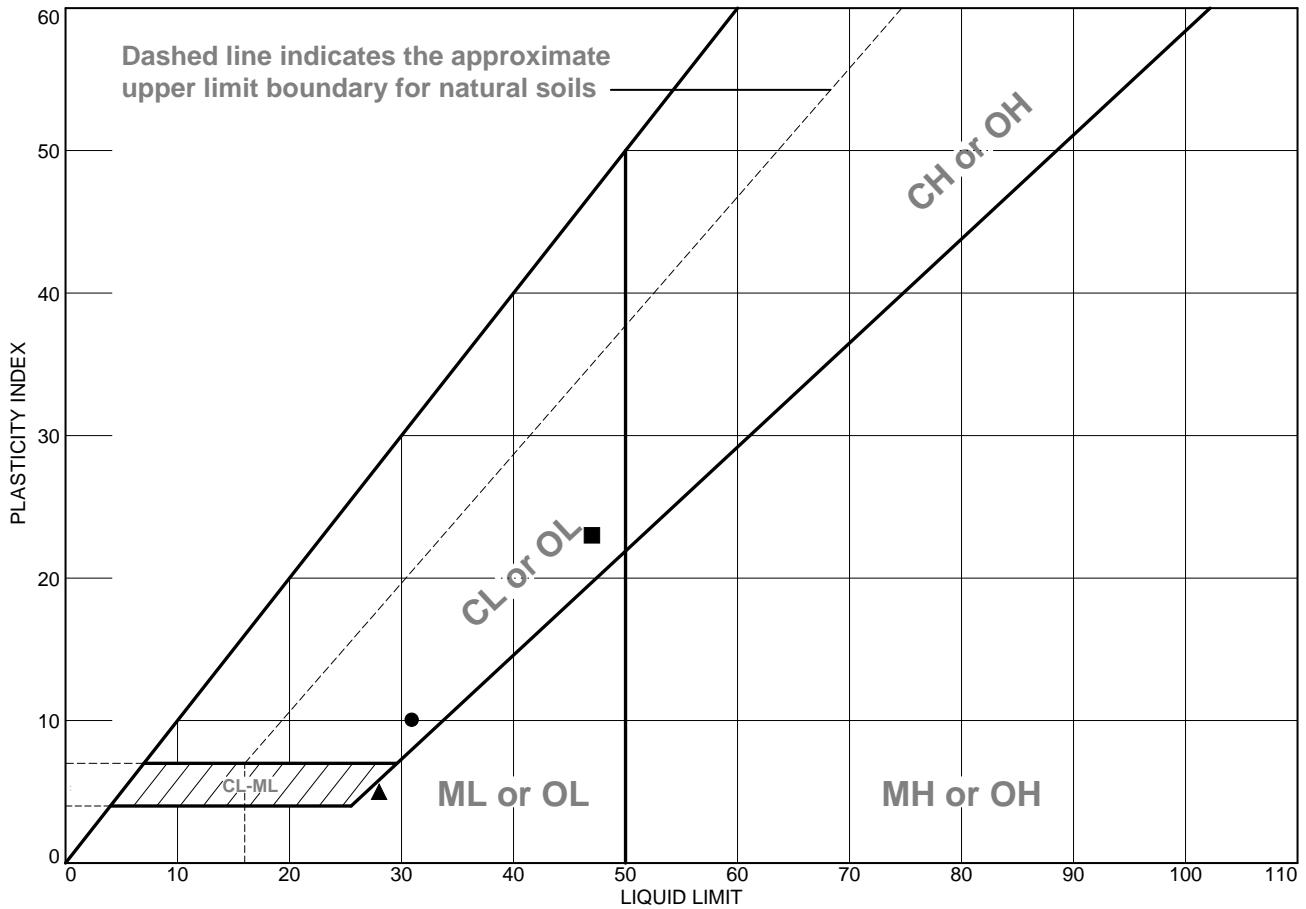
Project No. 5747.005.000 **Client:** Peterson Brusted Incorporated
Project: ULDC Analysis and Identification of Deficiencies
● Depth: 25.5 ft. **Sample Number:** 7-B010A @ 25.5F

Remarks:
 ● ASTM D4318



Tested By: G. Criste **Checked By:** D. Seibold

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	31	21	10	99.4	58.7	CL
■	See Exploratory Boring	47	24	23			CL
▲	See Exploratory Boring	28	23	5		44.4	ML
◆	See Exploratory Boring	NP	NP	NP	97.9	69.5	ML

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● **Depth:** 16.5 **Sample Number:** 7-B011 @ 16.5
 ■ **Depth:** 20.5 **Sample Number:** 7-B011 @ 20.5
 ▲ **Depth:** 21.5 **Sample Number:** 7-B011 @ 21.5
 ◆ **Depth:** 26 **Sample Number:** 7-B011 @ 26

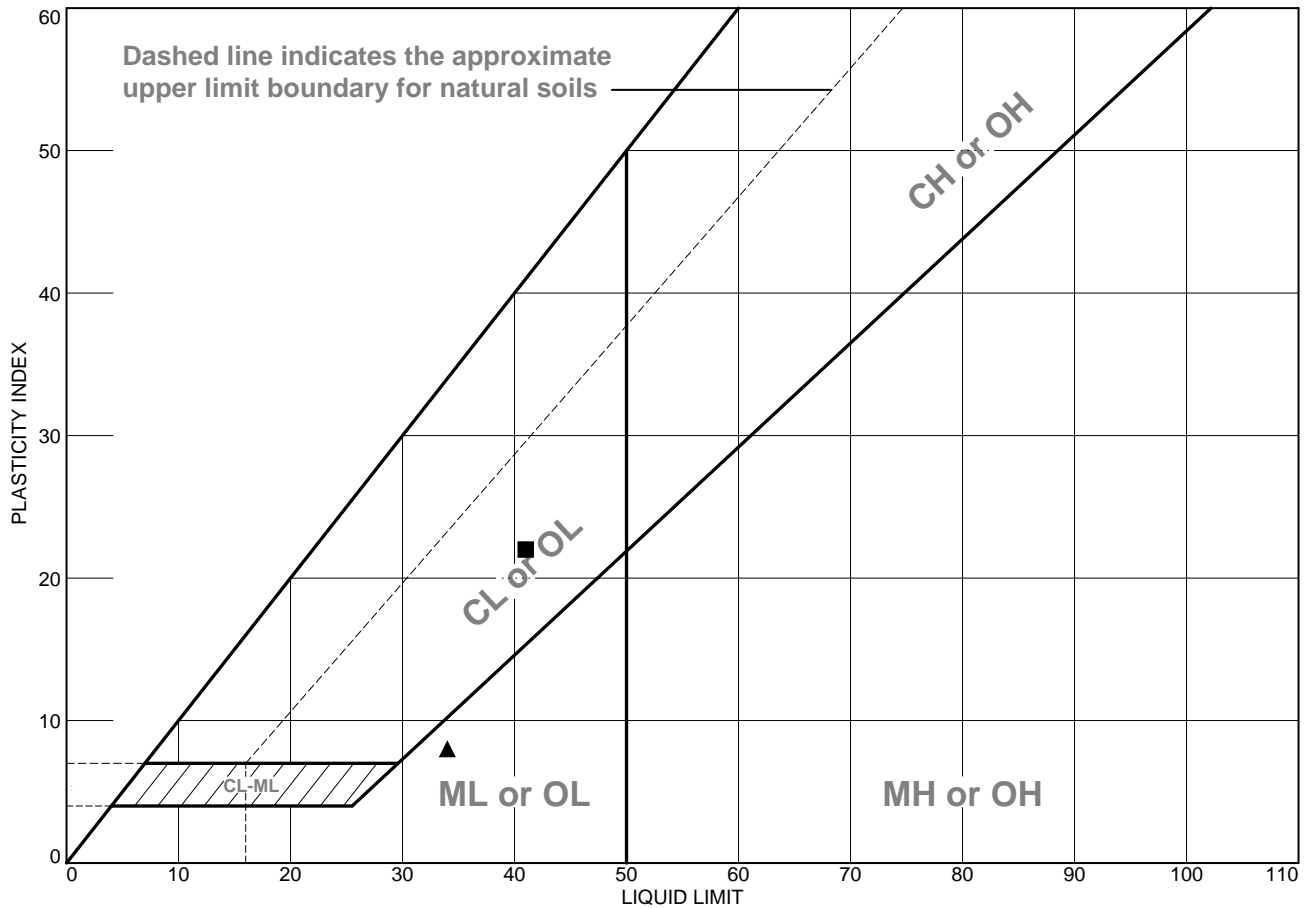
Remarks:



Figure

Tested By: ○KEL □RWS ▲RWS ◆RWS **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	NP	NP	NP			
■	See Exploratory Boring	41	19	22	99.8	86.2	CL
▲	See Exploratory Boring	34	26	8		76.6	ML
◆	See Exploratory Boring	NP	NP	NP		42.9	

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● Depth: 26.5 **Sample Number:** 7-B011 @ 26.5
■ Depth: 31 **Sample Number:** 7-B011 @ 31
▲ Depth: 46 **Sample Number:** 7-B011 @ 46
◆ Depth: 51 **Sample Number:** 7-B011 @ 51

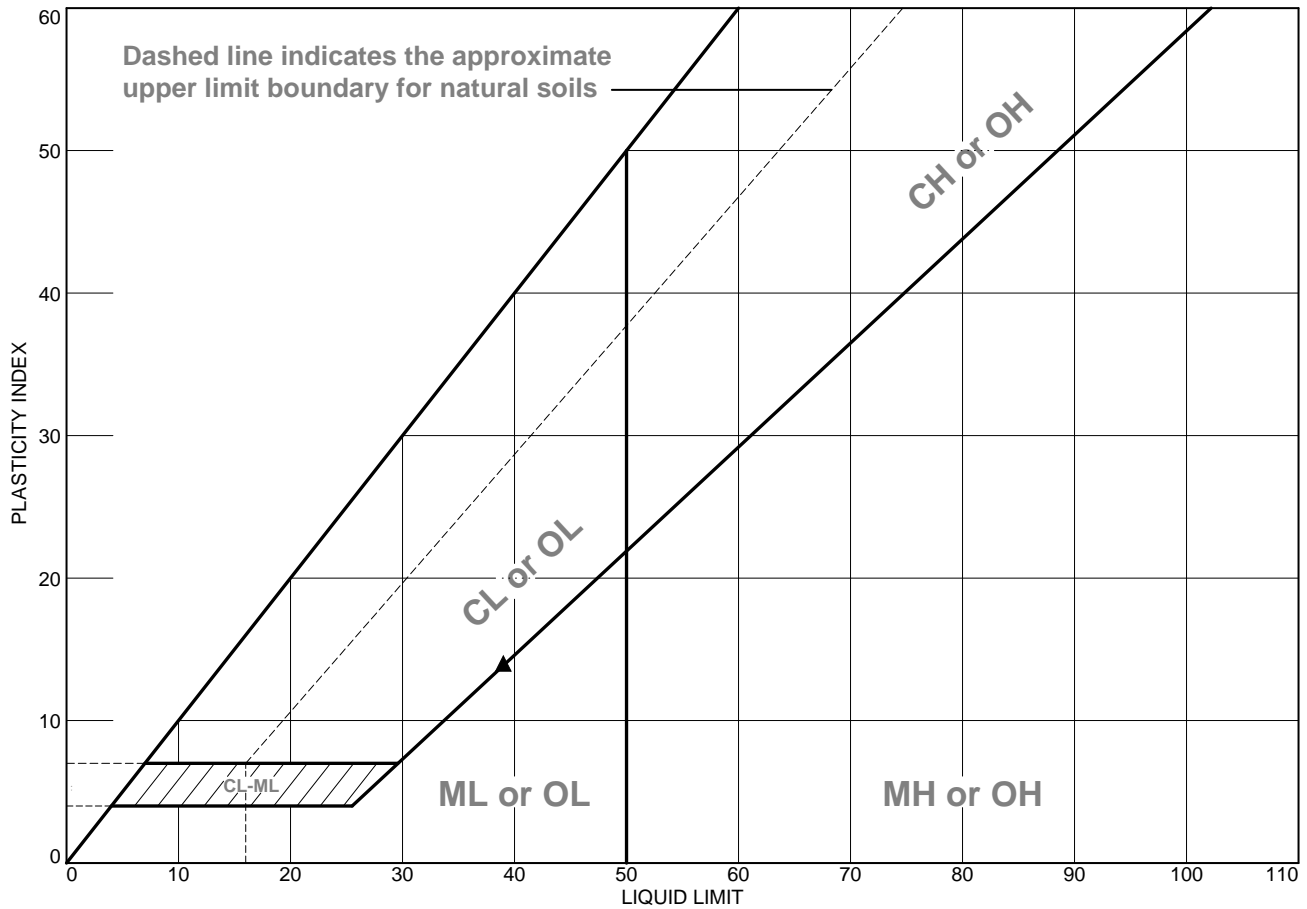
Remarks:



Figure

Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	NP	NP	NP		22.0	
■	See Exploratory Boring	NP	NP	NP		92.0	
▲	See Exploratory Boring	39	25	14		95.6	CL-ML

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● Depth: 11 **Sample Number:** 7-B012 @ 11
■ Depth: 16.5 **Sample Number:** 7-B012 @ 16.5
▲ Depth: 20.5 **Sample Number:** 7-B012 @ 20.5

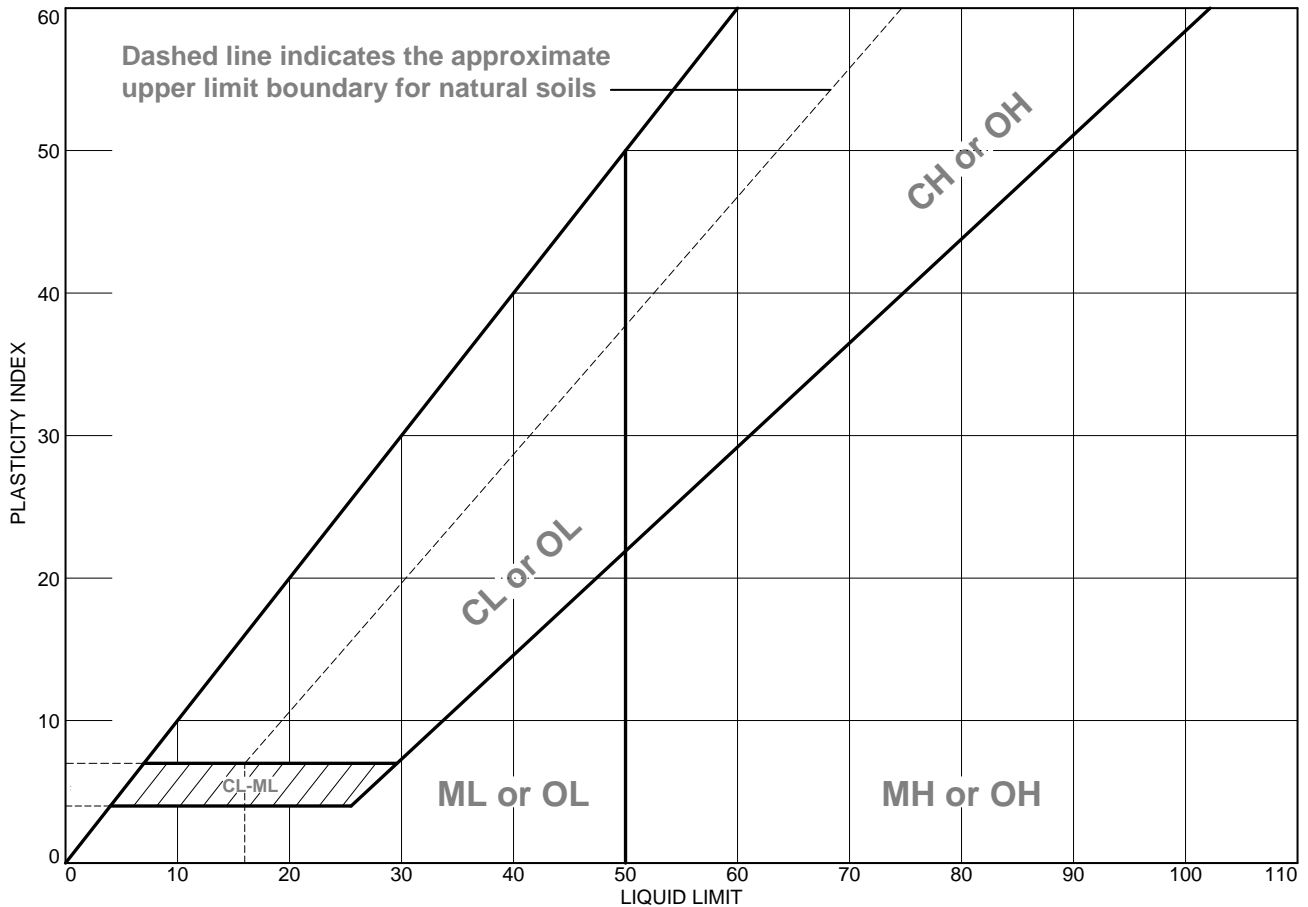
Remarks:



Figure

Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring	NP	NP	NP		39.4	
■	See Exploratory Boring	NP	NP	NP			
▲	See Exploratory Boring	NP	NP	NP			
◆	See Exploratory Boring	NP	NP	NP			
▼	See Exploratory Boring	NP	NP	NP		57.4	

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated

Project: RD-17 ULDC

● **Depth:** 5.5 **Sample Number:** 7-B014 @ 5.5

■ **Depth:** 10.5 **Sample Number:** 7-B014 @ 10.5

▲ **Depth:** 15.5 **Sample Number:** 7-2014 @ 15.5

◆ **Depth:** 20.5 **Sample Number:** 7-B014 @ 20.5

▼ **Depth:** 66 **Sample Number:** 7-B014 @ 66

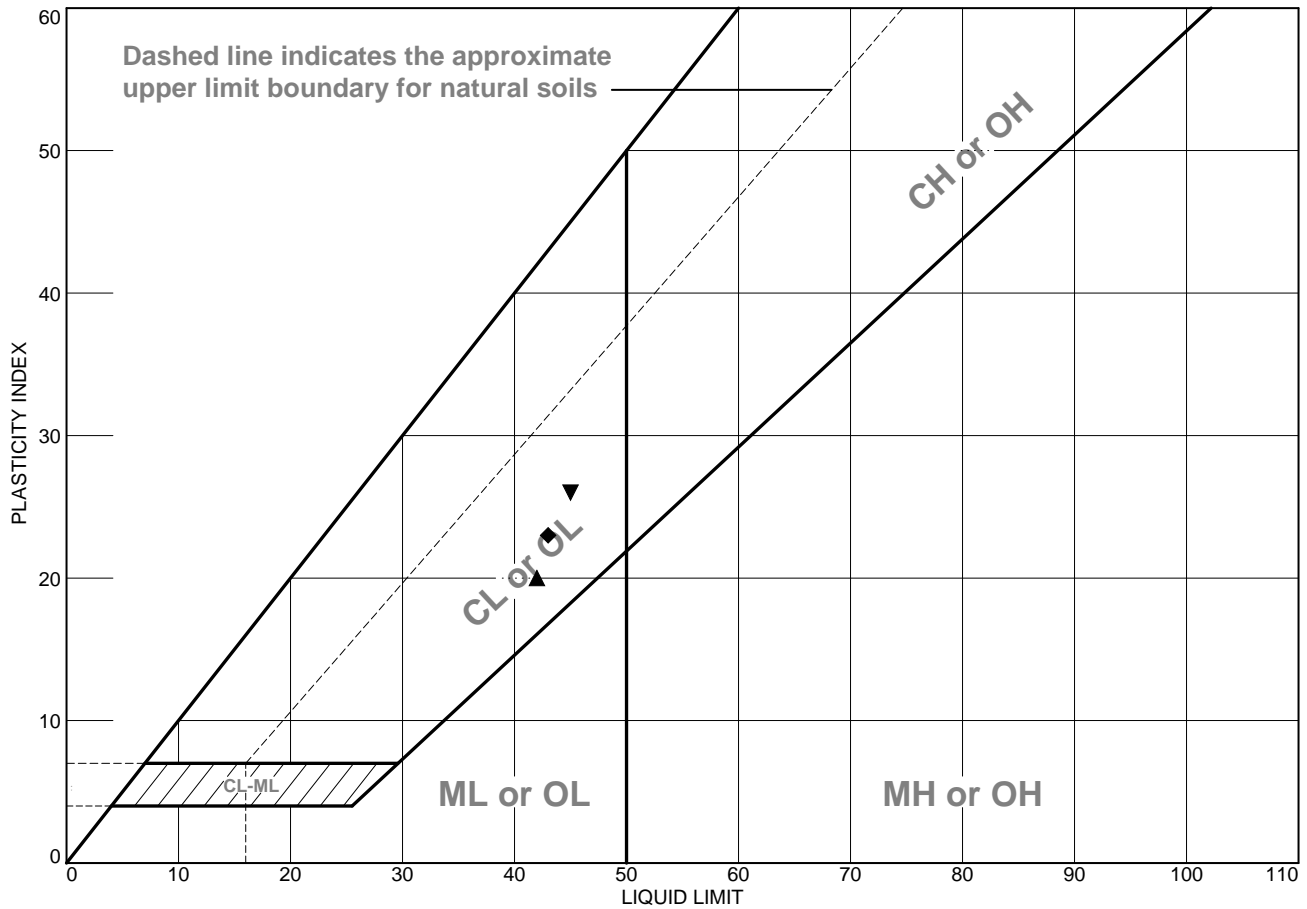
Remarks:

Figure



Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Log	NP	NP	NP		49	
■	See Exploratory Log	NP	NP	NP		63	
▲	See Exploratory Log	42	22	20		89	
◆	See Exploratory Log	43	20	23		89	
▼	See Exploratory Log	45	19	26		89	

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● **Source of Sample:** 7-B015 **Depth:** 11.5 **Sample Number:** 7-B015 @ 11.5
 ■ **Source of Sample:** 7-B015 **Depth:** 21.0 **Sample Number:** 7-B015 @ 21.0
 ▲ **Source of Sample:** 7-B015 **Depth:** 31.5 **Sample Number:** 7-B015 @ 31.5
 ◆ **Source of Sample:** 7-B015 **Depth:** 70.5 **Sample Number:** 7-B015 @ 70.5
 ▼ **Source of Sample:** 7-B015 **Depth:** 75.0 **Sample Number:** 7-B015 @ 75.0

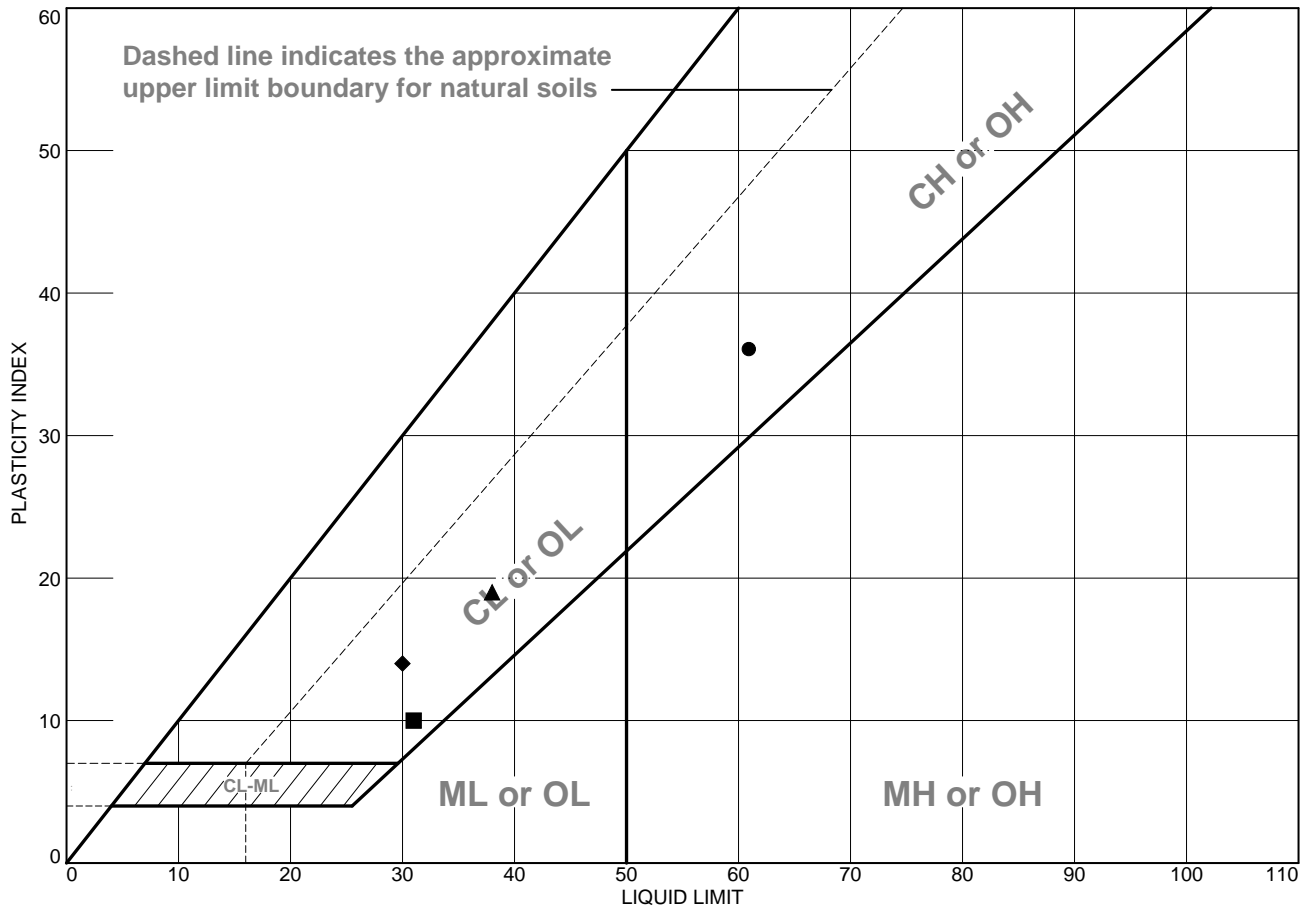
Remarks:

Figure



Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Log	61	25	36		95.7	
■	See Exploratory Log	31	21	10		64.8	
▲	See Exploratory Log	38	19	19		74.1	
◆	See Exploratory Log	30	16	14			

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● Source of Sample: 7-B016 **Depth:** 30.5 **Sample Number:** 7-B016 @ 30.5
■ Source of Sample: 7-B016 **Depth:** 70.0 **Sample Number:** 7-B016 @ 70.0
▲ Source of Sample: 7-B016 **Depth:** 85.0 **Sample Number:** 7-B016 @ 85.0
◆ Source of Sample: 7-B016 **Depth:** 90.0 **Sample Number:** 7-B016 @ 90.0

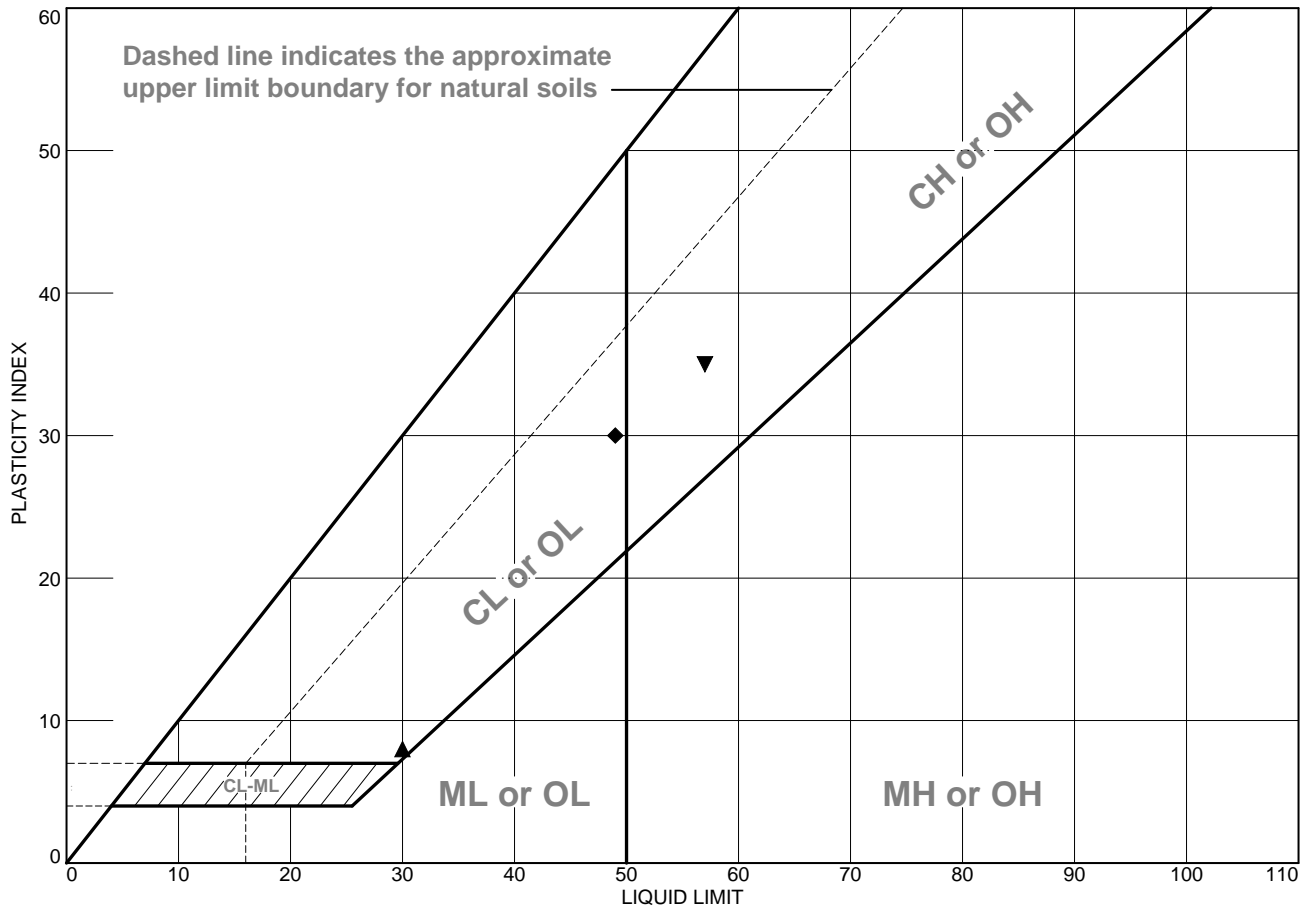
Remarks:

Figure



Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Log	NP	NP	NP		53.6	
■	See Exploratory Log	NP	NP	NP		51.3	
▲	See Exploratory Log	30	22	8			
◆	See Exploratory Log	49	19	30		97.2	
▼	See Exploratory Log	57	22	35			

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● **Source of Sample:** 7-B017 **Depth:** 26.0 **Sample Number:** 7-B017 @ 26.0
 ■ **Source of Sample:** 7-B017 **Depth:** 40.0 **Sample Number:** 7-B017 @ 40.0
 ▲ **Source of Sample:** 7-B017 **Depth:** 60.5 **Sample Number:** 7-B017 @ 60.5
 ◆ **Source of Sample:** 7-B017 **Depth:** 66.0 **Sample Number:** 7-B017 @ 66.0
 ▼ **Source of Sample:** 7-B017 **Depth:** 70.0 **Sample Number:** 7-B017 @ 70.0

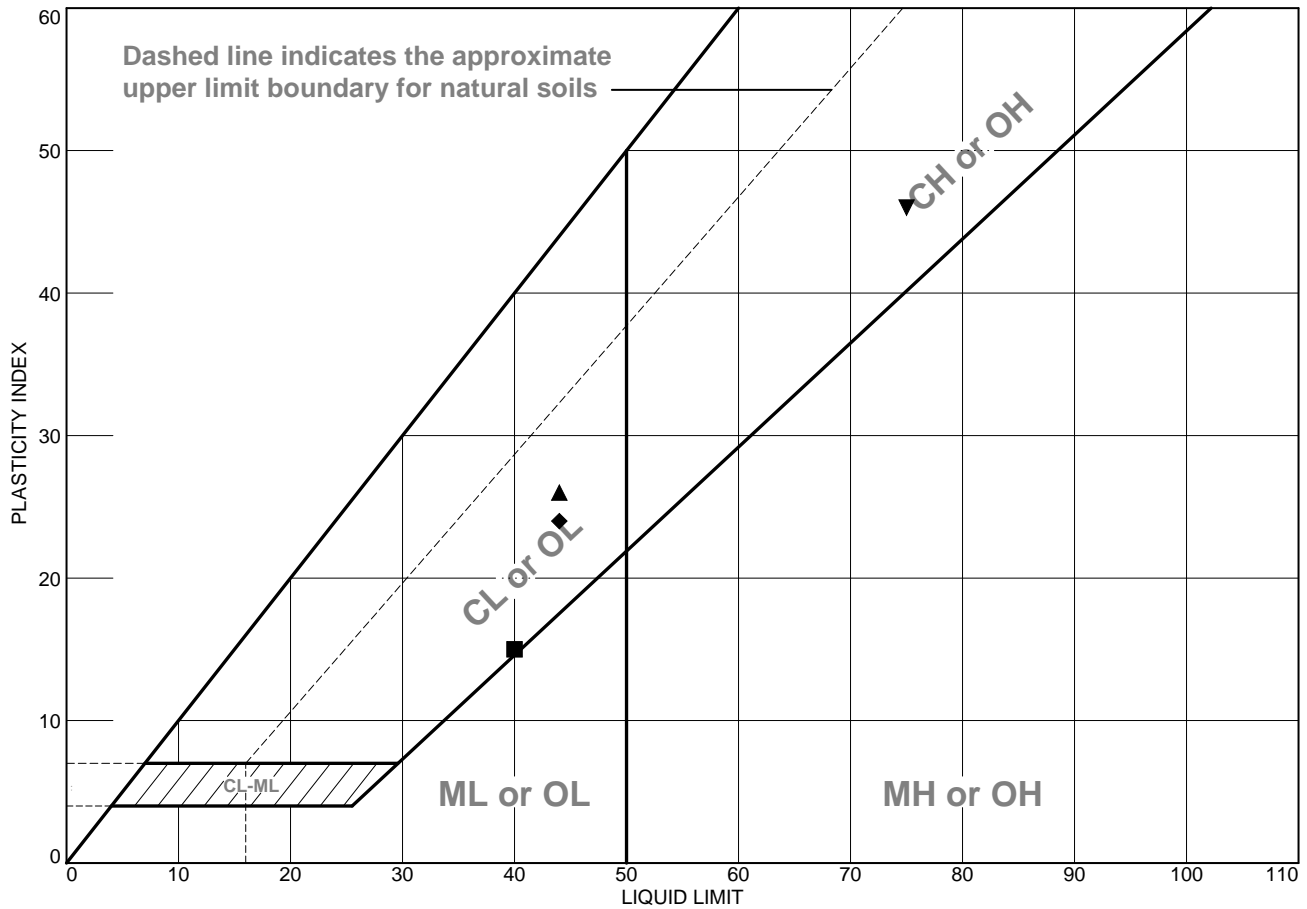
Remarks:

Figure



Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Log	NP	NP	NP		67.4	
■	See Exploratory Log	40	25	15		95.2	
▲	See Exploratory Log	44	18	26		55.8	
◆	See Exploratory Log	44	20	24		77.3	
▼	See Exploratory Log	75	29	46		91.9	

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● **Source of Sample:** 7-B018 **Depth:** 16.5 **Sample Number:** 7-B018 @ 16.5
■ **Source of Sample:** 7-B018 **Depth:** 30.5 **Sample Number:** 7-B018 @ 30.5
▲ **Source of Sample:** 7-B018 **Depth:** 45.0 **Sample Number:** 7-B018 @ 45.0
◆ **Source of Sample:** 7-B018 **Depth:** 60.0 **Sample Number:** 7-B018 @ 60.0
▼ **Source of Sample:** 7-B018 **Depth:** 65.0 **Sample Number:** 7-B018 @ 65.0

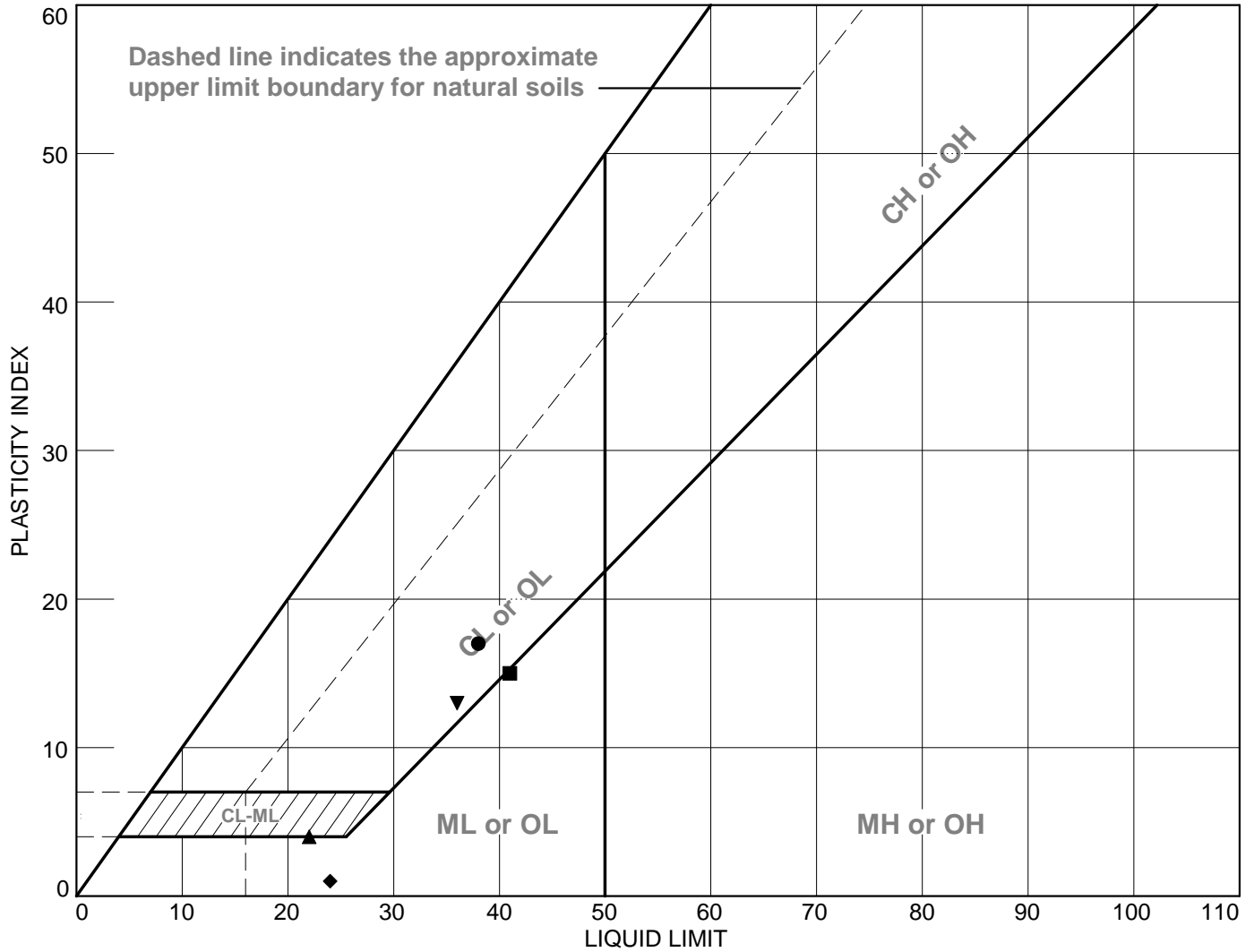
ENGEO
INCORPORATED

Remarks:

Figure

Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B19	7-B19-2	2 ft	21	21	38	17	CL
■	7-B19	7-B19-3	3 ft		26	41	15	CL
▲	7-B19	7-B19-7.5	7.5 ft	20.2	18	22	4	ML
◆	7-B19	7-B19-11.5	11.5 ft	32.0	23	24	1	ML
▼	7-B19	7-B19-16	16 ft		23	36	13	CL



Client: Peterson Brustad Incorporated

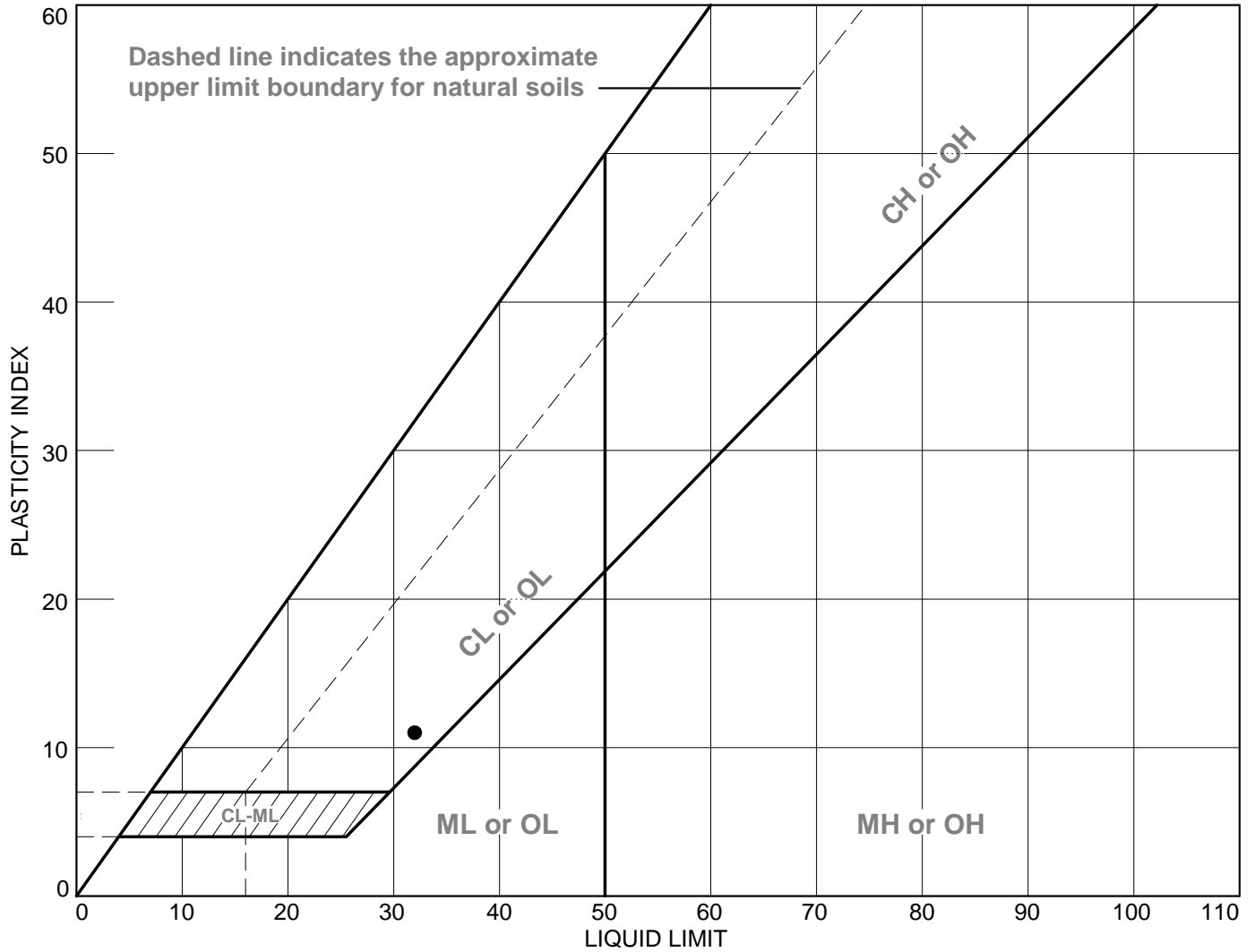
Project: RD-17 ULDC

Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: ○ R.Montalvo □ R. Montalvo △ R.Montalvo ◇ R. Montalvo ▼ R. Montalvo **Checked By:** M.Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	7-B19	7-B19-20.5	20.5 ft		21	32	11	CL



Client: Peterson Brustad Incorporated

Project: RD-17 ULDC

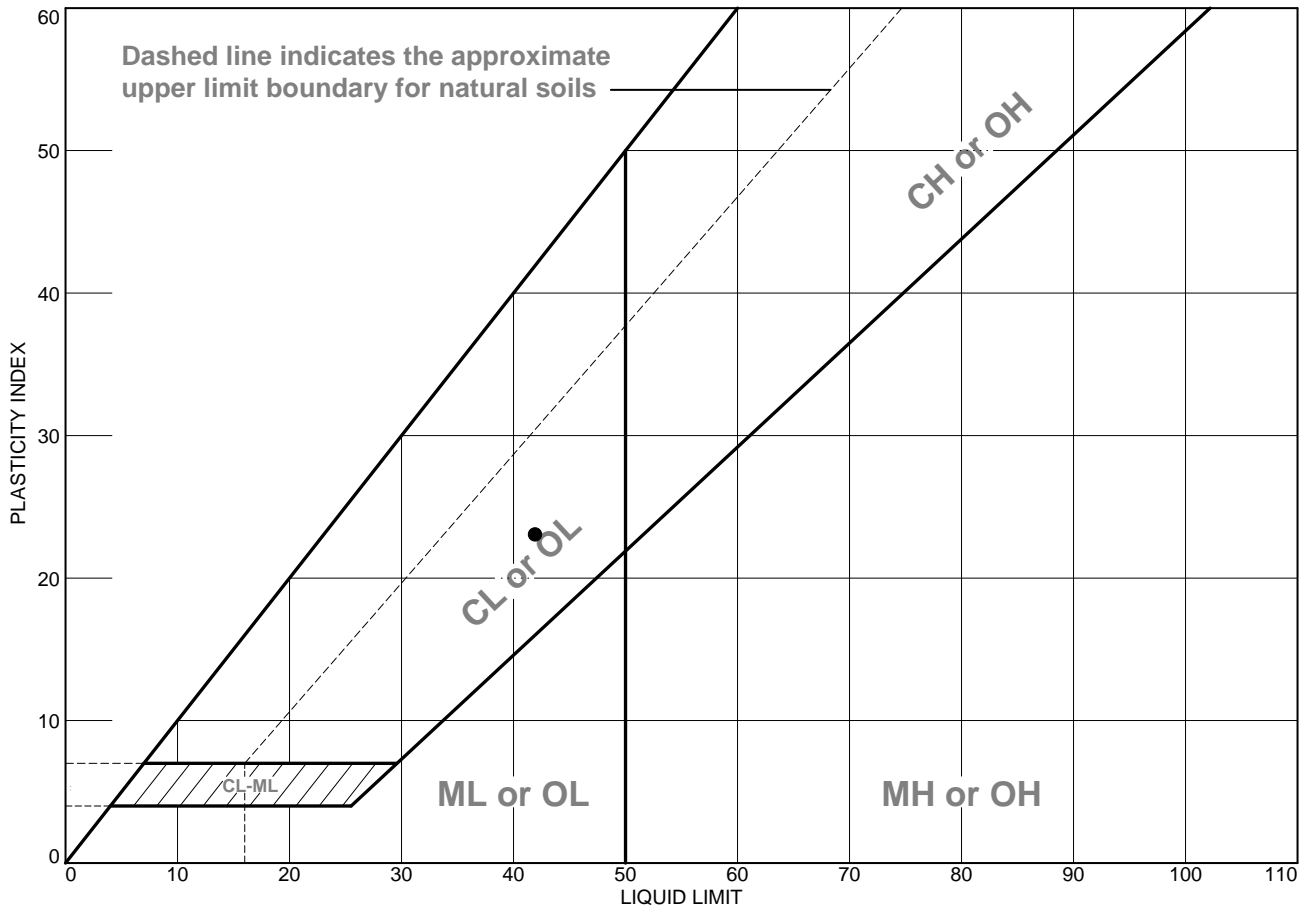
Project No.: 5747.005.000 Ph T-004 001

Figure

Tested By: R. Montalvo

Checked By: M. Gilbert

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● See Exploratory Log	42	19	23		87.3	

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC
● Source of Sample: 7-B019 **Depth:** 41.5 **Sample Number:** 7-B019 @ 41.5

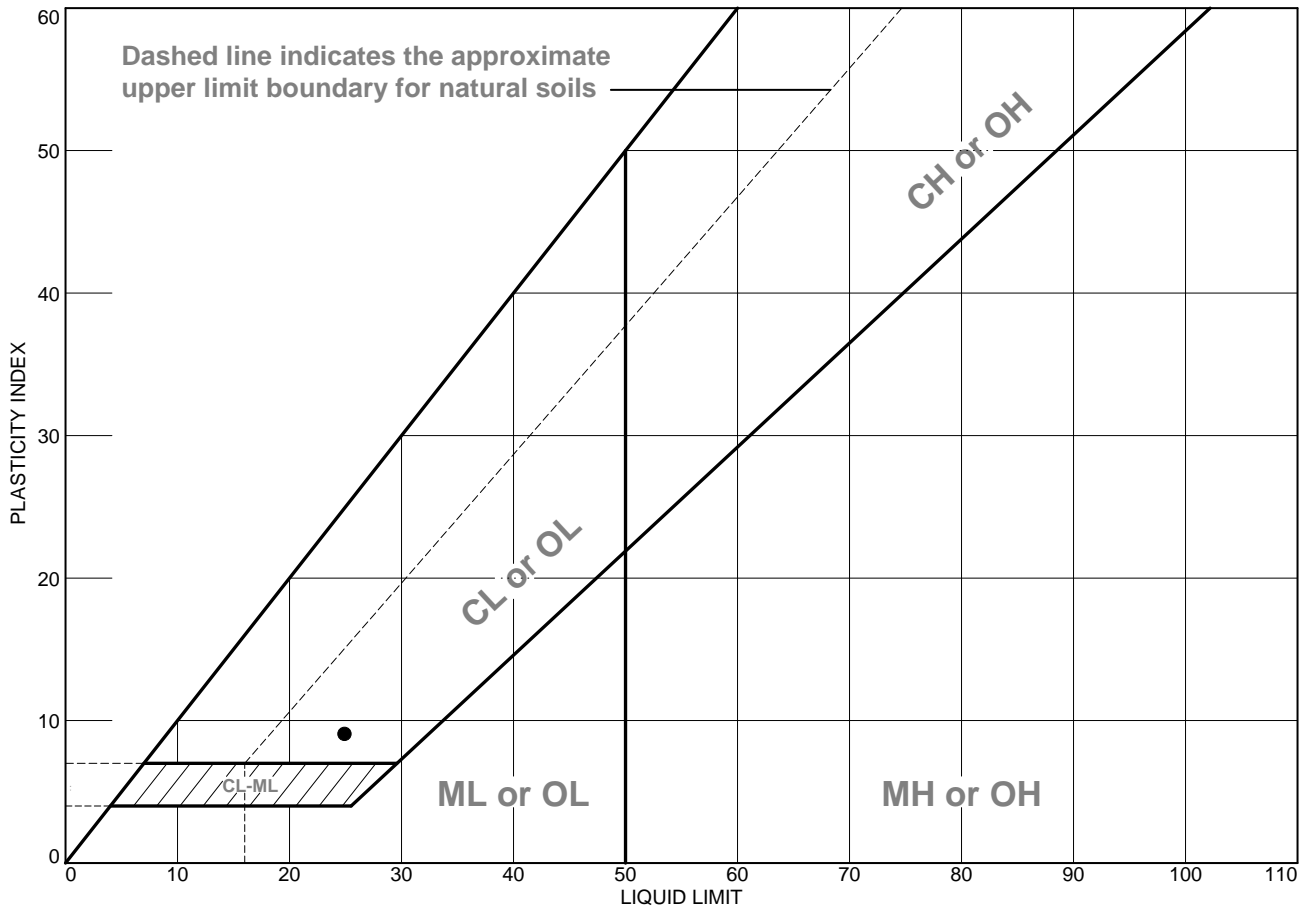
Remarks:



Figure

Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Log	25	16	9		63.8	
■	See Exploratory Log	NP	NP	NP		52.3	
▲	See Exploratory Log	NP	NP	NP	95.3	57.9	ML

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

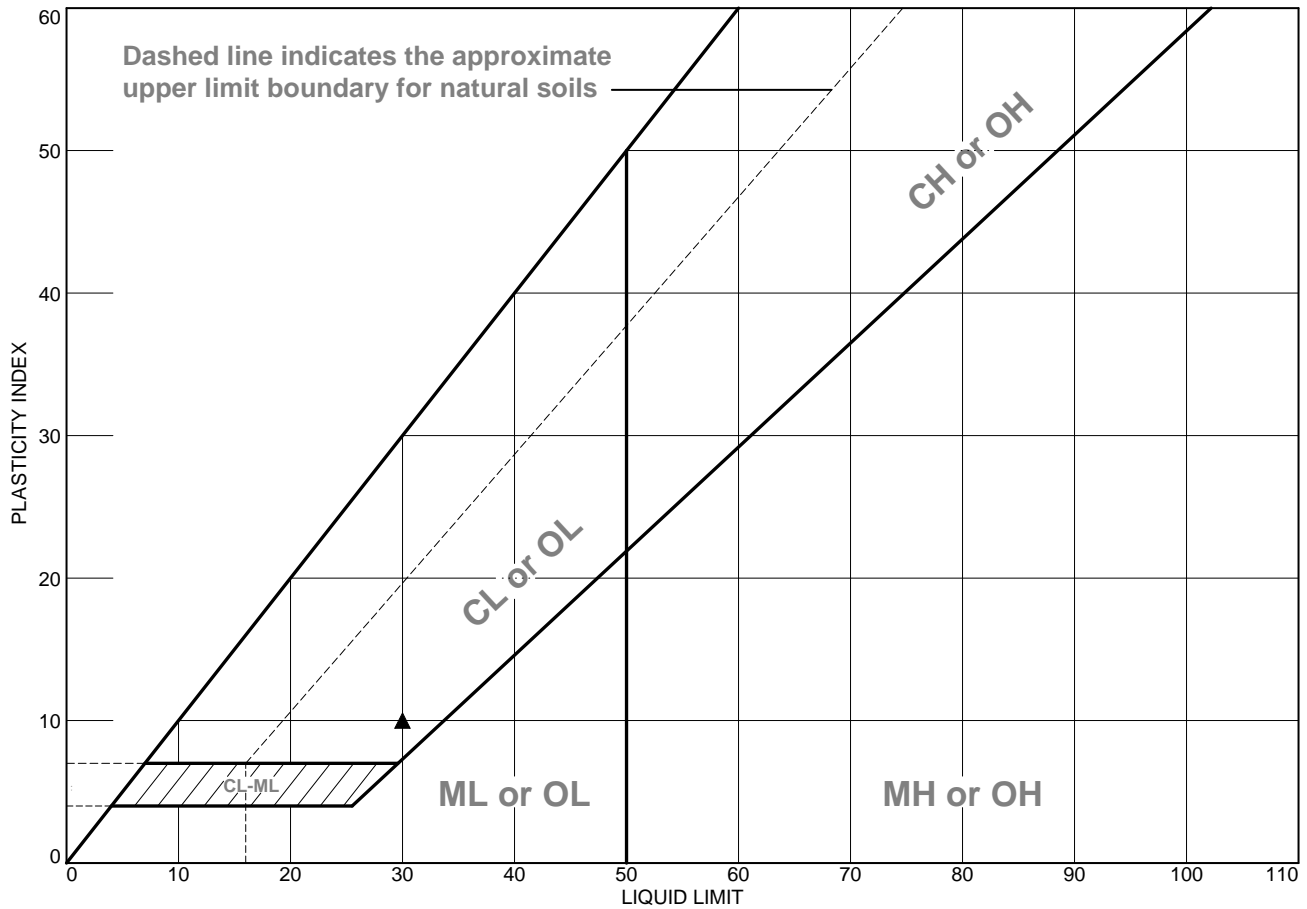
● Source of Sample: 7-B020 **Depth:** 5.0 **Sample Number:** 7-B020 @ 5.0
■ Source of Sample: 7-B020 **Depth:** 10.0 **Sample Number:** 7-B020 @ 10.0
▲ Source of Sample: 7-B020 **Depth:** 14.5 **Sample Number:** 7-B020 @ 14.5

Remarks:

Figure

Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Log	NP	NP	NP	98.8	54.1	ML
■	See Exploratory Log	NP	NP	NP	95.4	65.1	ML
▲	See Exploratory Log	30	20	10	95.3	70.9	CL

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC

● **Source of Sample:** 7-B020 **Depth:** 70.0 **Sample Number:** 7-B020 @ 70.0
 ■ **Source:** 7-B020 **Depth:** 105.5 **Sample No.:** 7-B020 @ 105.5
 ▲ **Source:** 7-B020 **Depth:** 115.0 **Sample No.:** 7-B020 @ 115.0

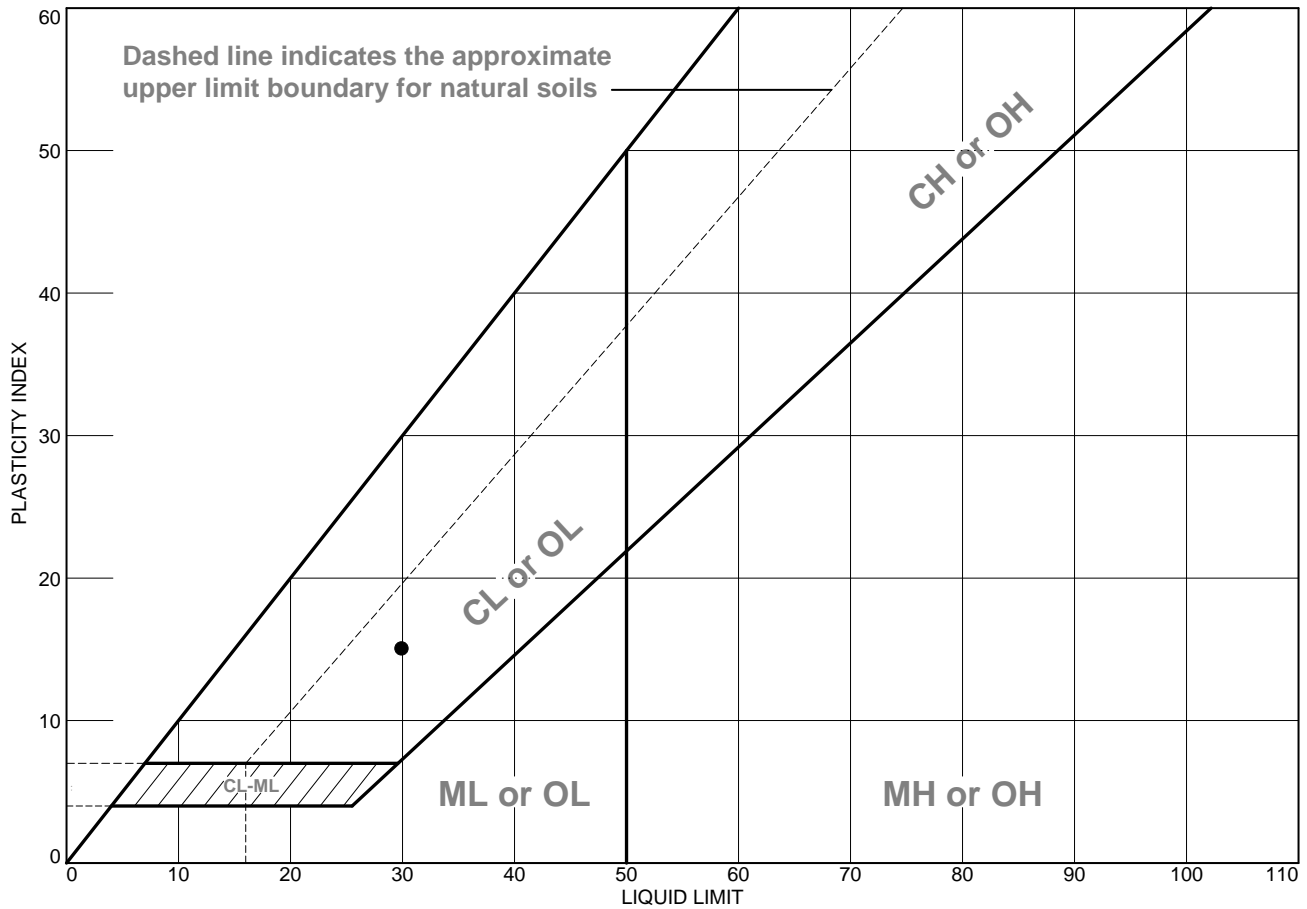
Remarks:



Figure

Tested By: KEL **Checked By:** RWS

LIQUID AND PLASTIC LIMITS TEST REPORT



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● SEE EXPLORATORY LOG	30	15	15		65.3	

Project No. 5747.005.000 **Client:** Peterson Brustad Incorporated
Project: RD-17 ULDC
● Source of Sample: 7-HA005 **Depth:** 5.5 **Sample Number:** 7-HA005 @ 5.5

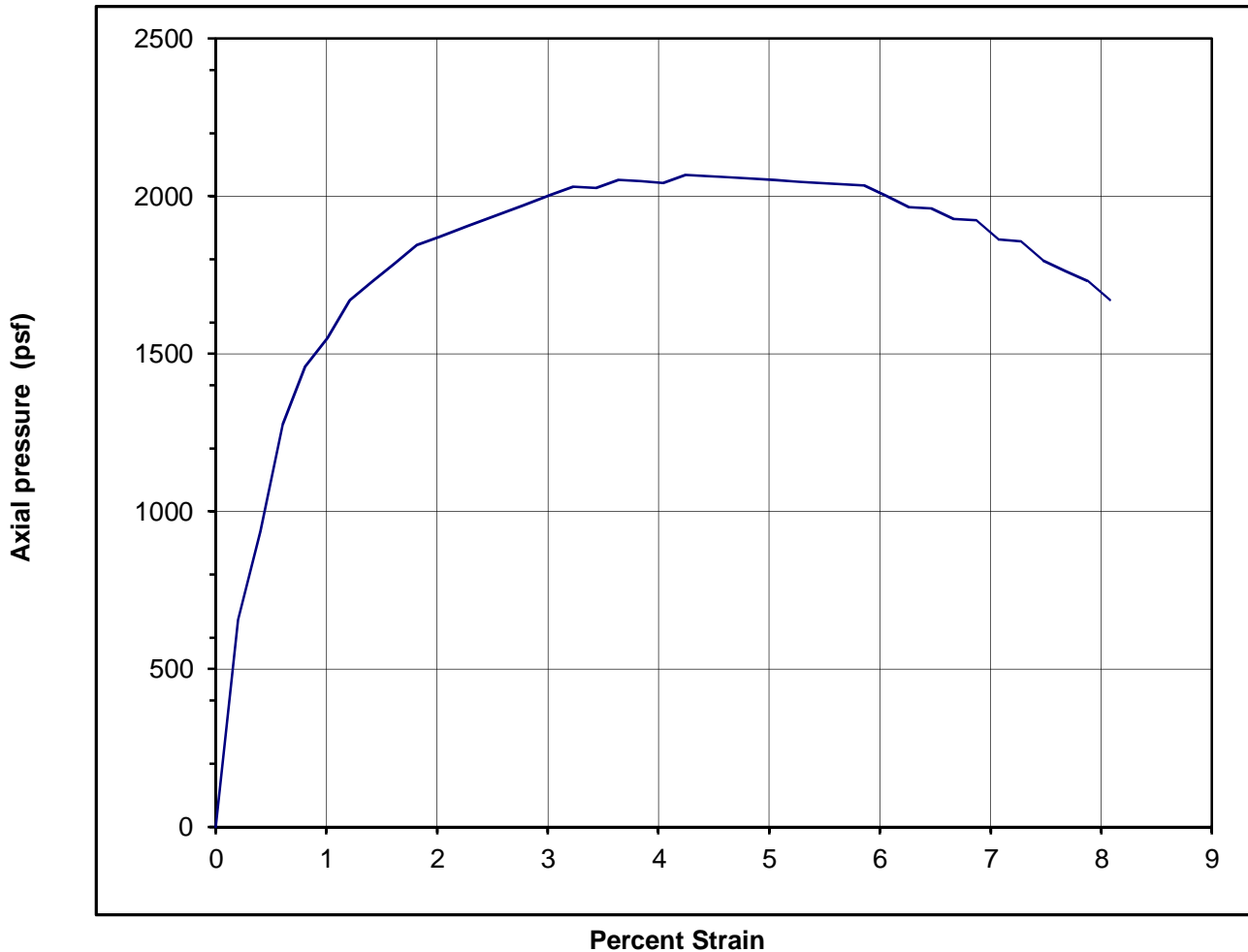
Remarks:
 ● ASTM D4318



Figure

Tested By: K. Lecce **Checked By:** I. McCauley

**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: 2060 psf 1.0 tsf

Sample Description: See exploration logs

Initial Diameter:	2.42 in.	Sample Number:	7-B003@8
Initial Height:	4.95 in.	Boring Number:	7-B003
Strain Rate:	1.67 %/min	Dry Unit Weight:	99.9 pcf
Total Strain:	8.08 %	Moisture Content:	22.8 %
		Depth of Sample:	8.0 ft.

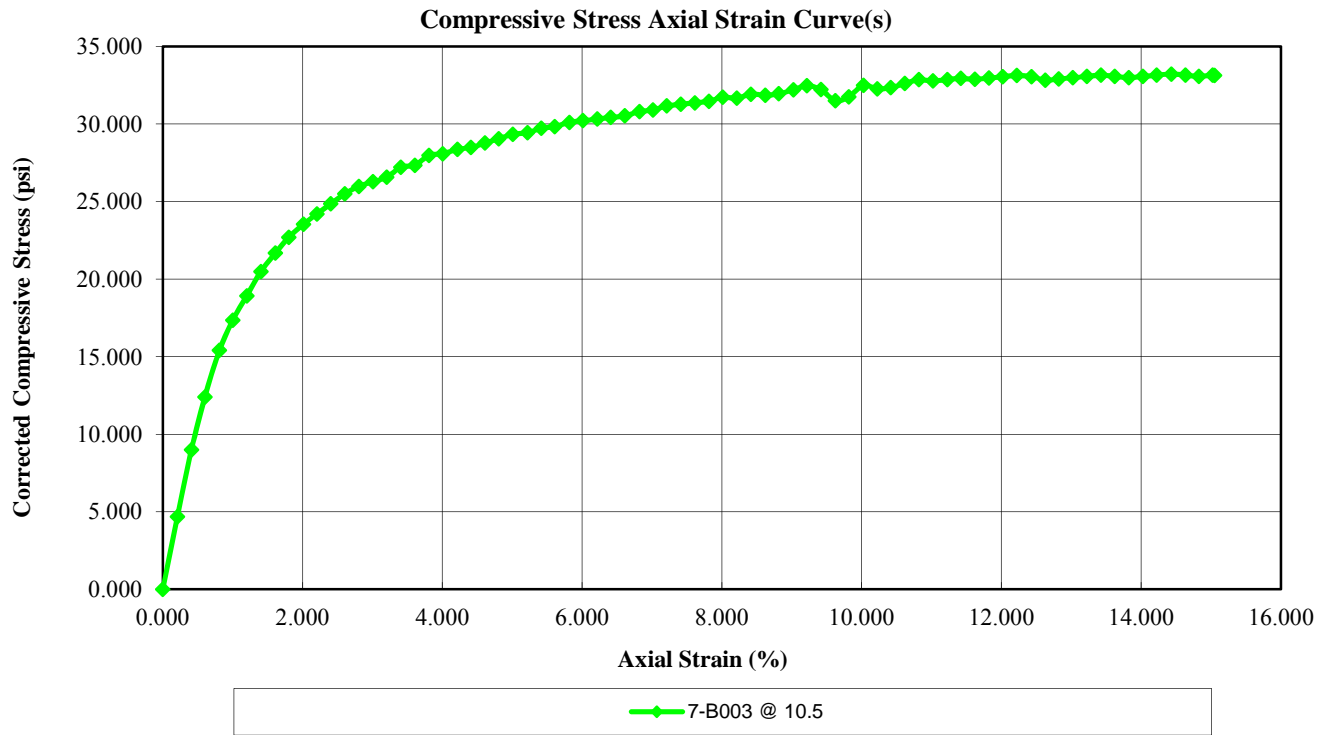
ENGEO
INCORPORATED

RD-17 (ULDC)
Stockton, CA

Job No.:	5747.005.000
Sample Number:	7-B003@8
Date:	11/20/2014

Figure No.


UNCONFINED COMPRESSION TEST REPORT (ASTM D2166)



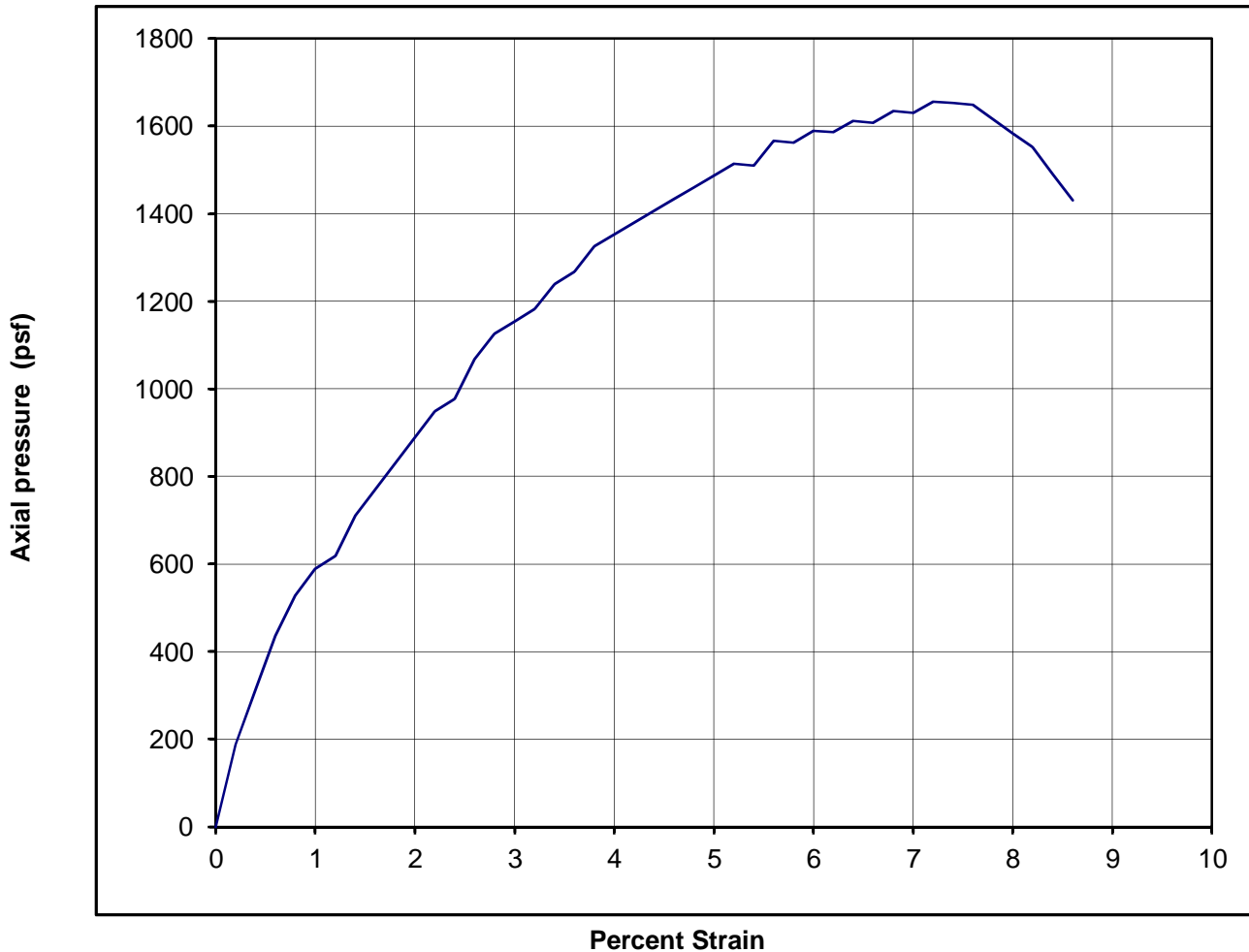
SPECIMEN	
BEFORE TEST	7-B003 @ 10.5
Moisture Content (%)	20.3
Dry Density (pcf)	107.3
Saturation (%)	99.30
Void Ratio	0.54
Diameter (in)	2.402
Height (in)	5.034
Height-To-Diameter Ratio	2.096

TEST DATA	
Unconfined Compressive Strength (psf)	4784.841
Undrained Shear Strength (psf)	2392.420
Strain Rate (in./min.)	0.05
Specific Gravity	2.65
Strain at Failure (%)	14.4
Liquid Limit	
Plastic Limit	
Test Remarks	

SPECIMEN	DESCRIPTION
7-B003 @ 10.5	See exploration logs

	<p>PROJECT NAME: ULDC Analysis and Identification</p> <p>PROJECT NO: 5747.005.000</p> <p>CLIENT: Peterson Brusted Incorporated</p> <p>LOCATION: N/A</p> <p>PHASE NO: T-004</p>	<p>Test Date: 11/26/2014</p> <p>Tested By: J Lawton</p> <p>Reviewed By: G Criste</p>
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**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: 1650 psf 0.8 tsf

Sample Description: See exploration logs

Initial Diameter:	2.42 in.	Sample Number:	7-B003@21
Initial Height:	5.00 in.	Boring Number:	7-B003
Strain Rate:	1.64 %/min	Dry Unit Weight:	91.7 pcf
Total Strain:	8.60 %	Moisture Content:	30.8 %
		Depth of Sample:	21.0 ft.

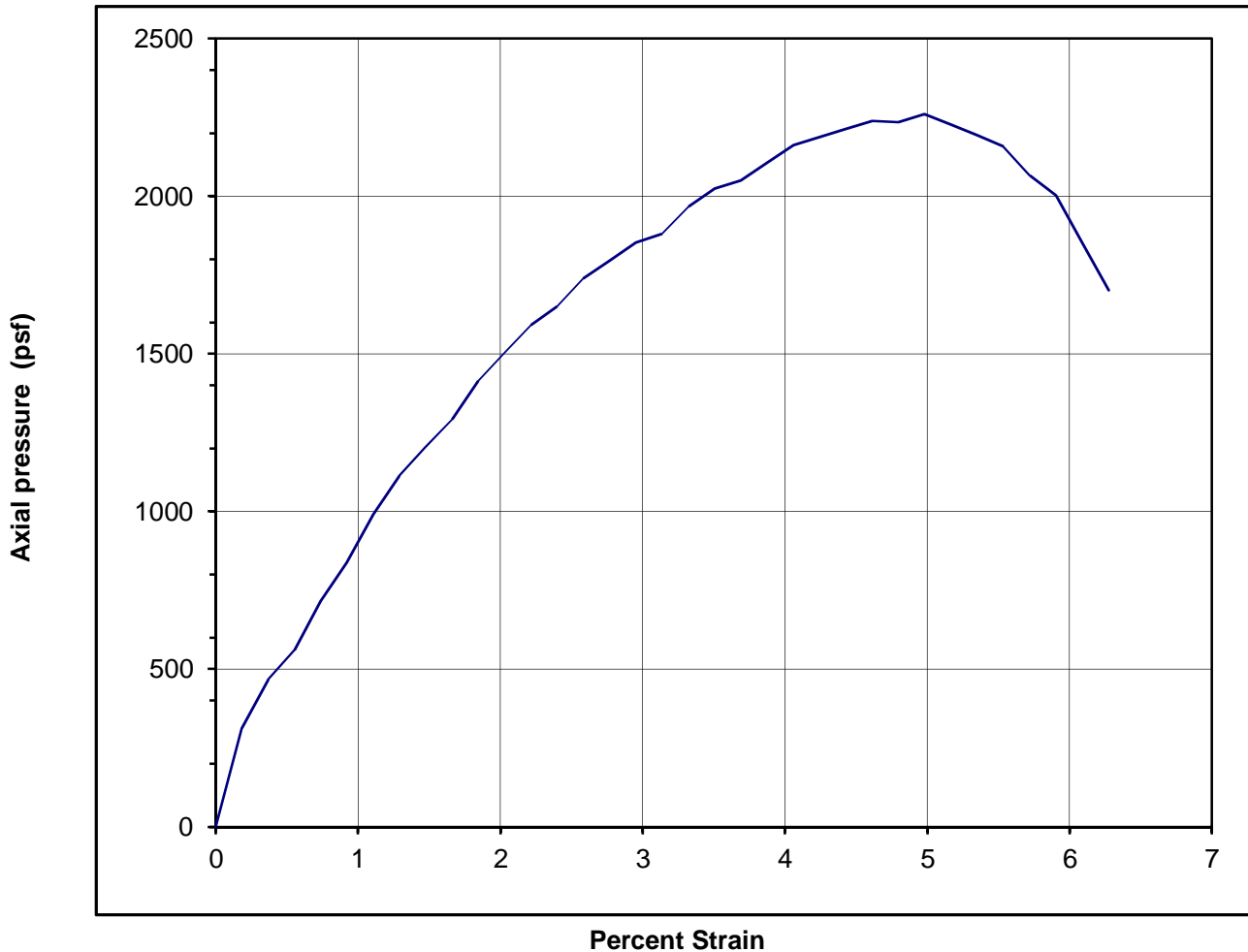
ENGEO
INCORPORATED

RD-17 (ULDC)
Stockton, CA

Job No.:	5747.005.000
Sample Number:	7-B003@21
Date:	11/20/2014

Figure No.

**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: 2250 psf 1.1 tsf

Sample Description: See exploration logs

Initial Diameter:	2.42 in.	Sample Number:	7-B003@26
Initial Height:	5.42 in.	Boring Number:	7-B003
Strain Rate:	1.20 %/min	Dry Unit Weight:	101.4 pcf
Total Strain:	6.27 %	Moisture Content:	25.1 %
		Depth of Sample:	26.0 ft.

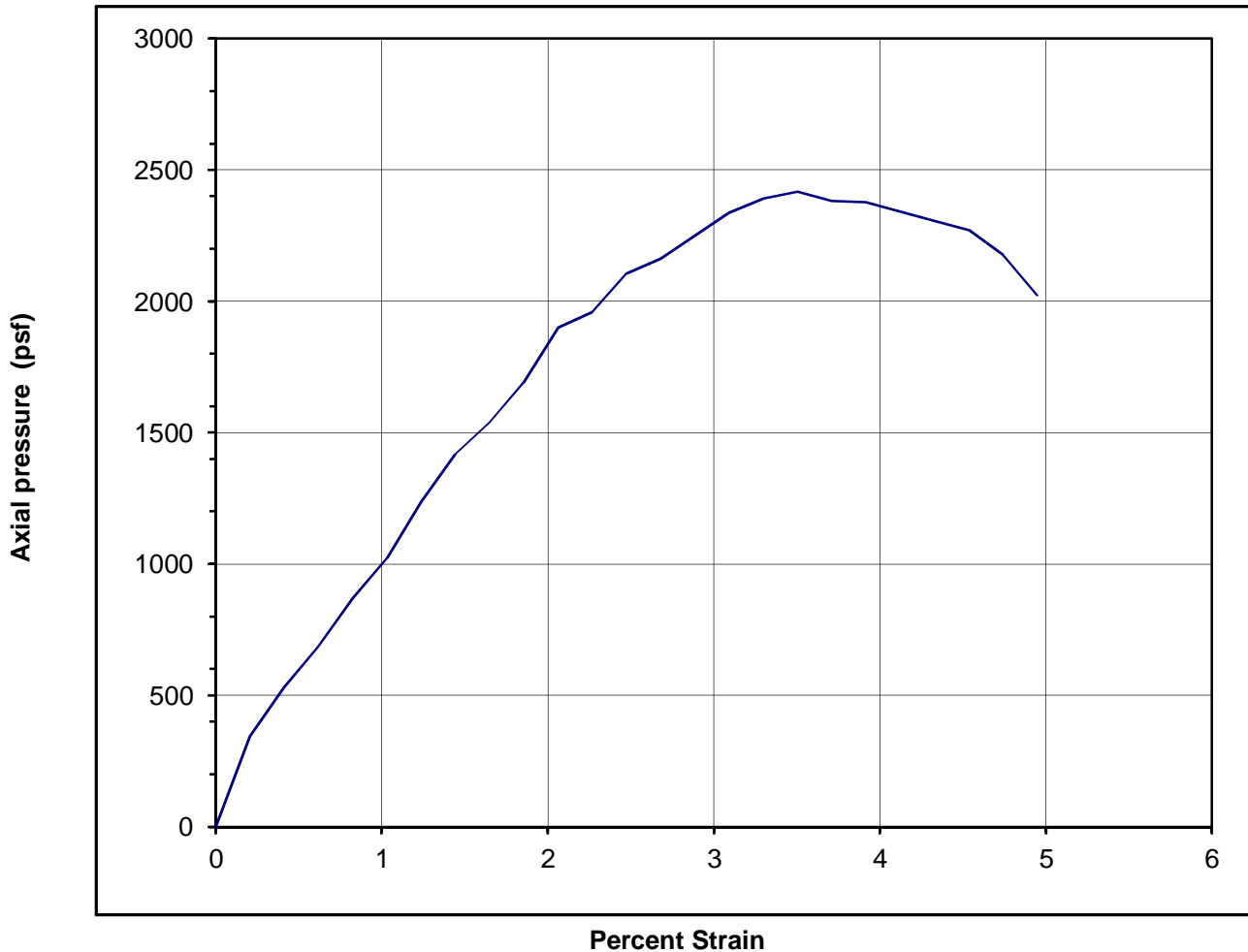
ENGEO
INCORPORATED

RD-17 (ULDC)
Stockton, CA

Job No.:	5747.005.000
Sample Number:	7-B003@26
Date:	11/20/2014

Figure No.

**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: 2410 psf 1.2 tsf

Sample Description: See exploration logs

Initial Diameter:	2.42 in.	Sample Number:	7-B004@11
Initial Height:	4.85 in.	Boring Number:	7-B004
Strain Rate:	1.72 %/min	Dry Unit Weight:	86.0 pcf
Total Strain:	4.95 %	Moisture Content:	37.6 %
		Depth of Sample:	11.0 ft.

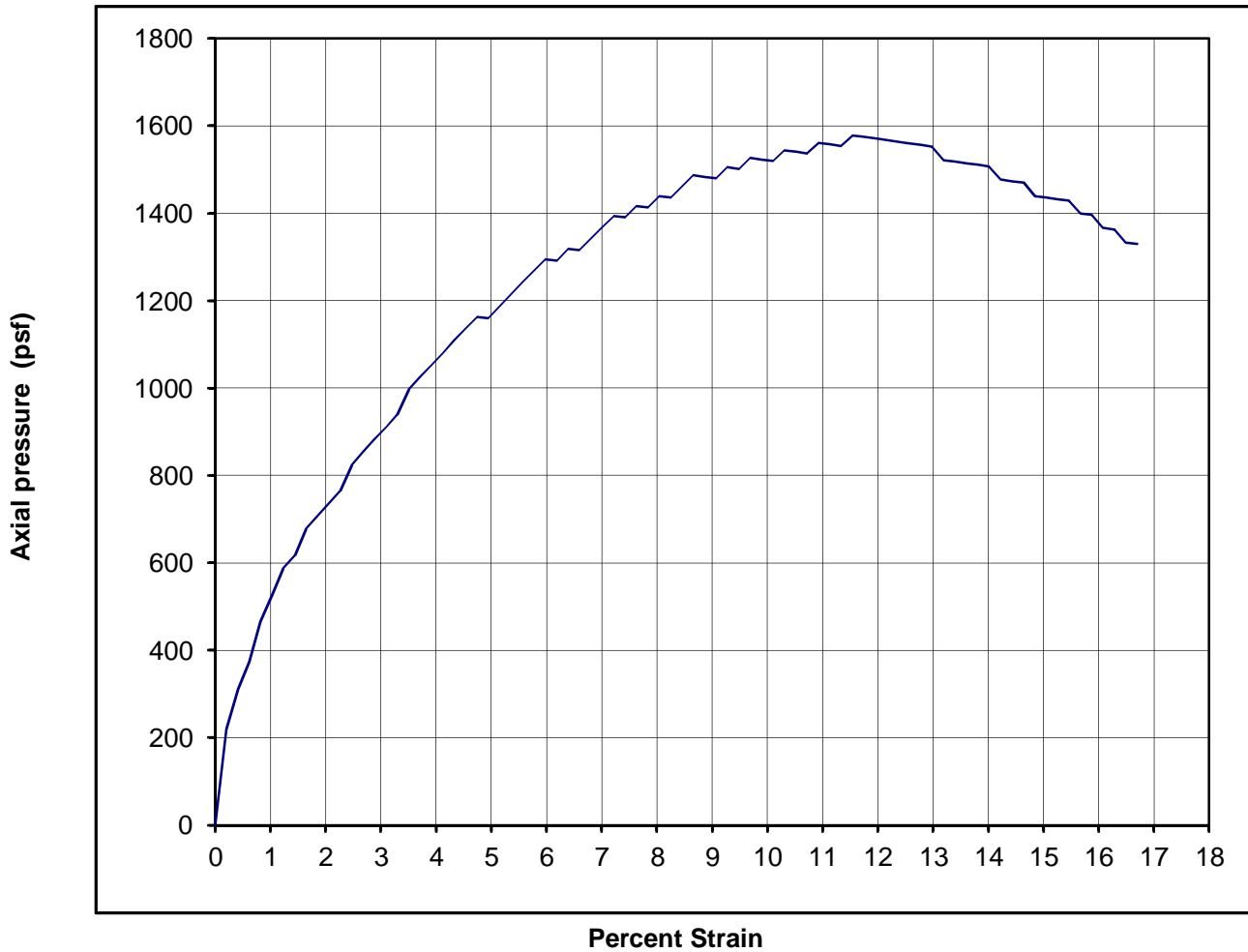
ENGEO
INCORPORATED

RD-17 (ULDC)
Stockton, CA

Job No.:	5747.005.000
Sample Number:	7-B004@11
Date:	11/20/2014

Figure No.

**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: 1570 psf 0.8 tsf

Sample Description: See exploration logs

Initial Diameter:	2.42 in.	Sample Number:	7-B004@25.5
Initial Height:	4.85 in.	Boring Number:	7-B004
Strain Rate:	1.90 %/min	Dry Unit Weight:	91.0 pcf
Total Strain:	16.70 %	Moisture Content:	31.8 %
		Depth of Sample:	25.5 ft.

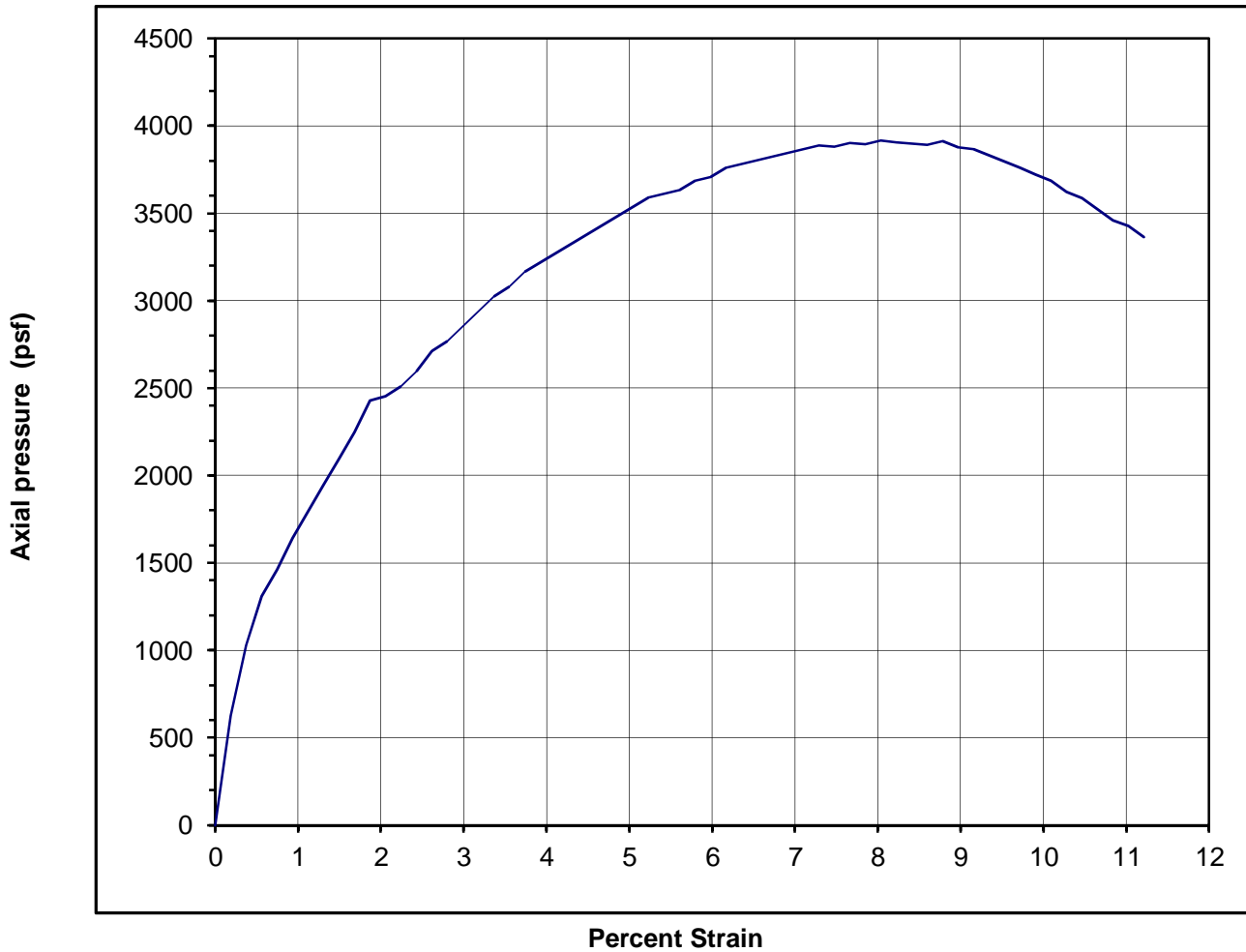
ENGEO
INCORPORATED

**RD-17 (ULDC)
Stockton, CA**

Job No.:	5747.005.000
Sample Number:	7-B004@25.5
Date:	11/20/2014

Figure No.

**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: 3910 psf 2.0 tsf

Sample Description: See exploration logs

Initial Diameter:	2.42 in.	Sample Number:	7-B004@31
Initial Height:	5.35 in.	Boring Number:	7-B004
Strain Rate:	1.50 %/min	Dry Unit Weight:	100.0 pcf
Total Strain:	11.21 %	Moisture Content:	24.5 %
		Depth of Sample:	31.0 ft.

ENGEO
INCORPORATED

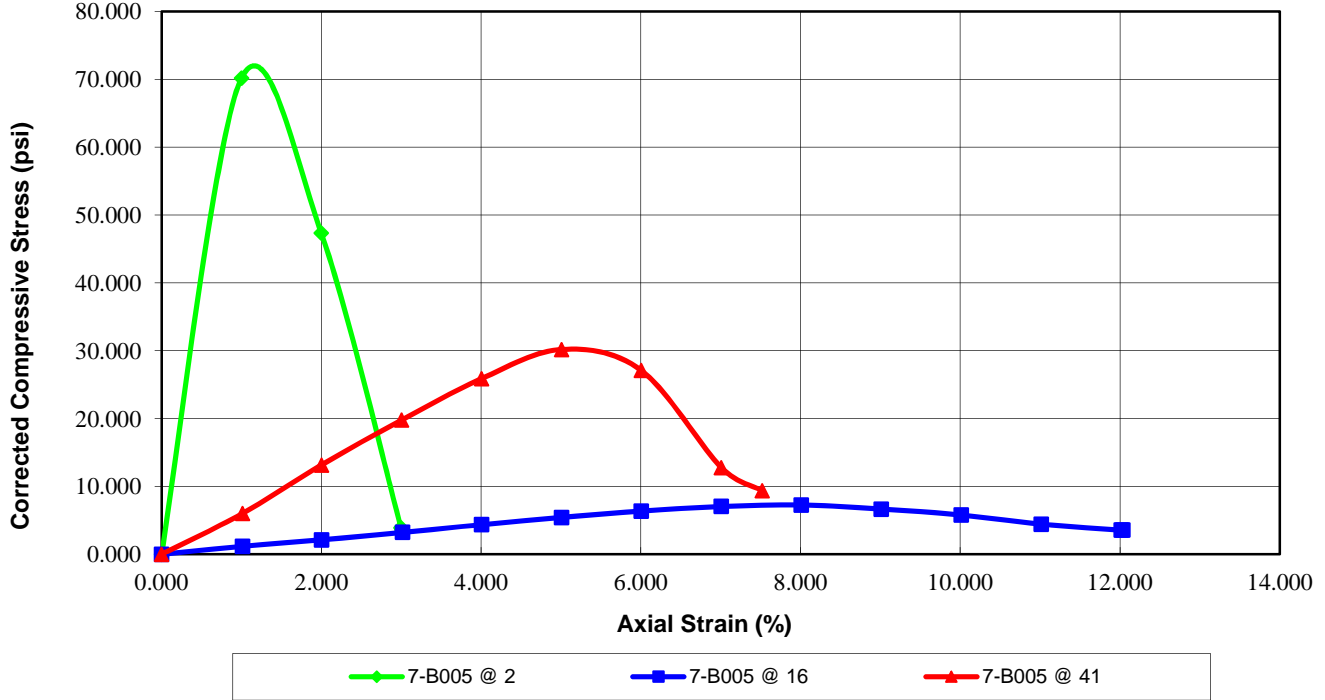
RD-17 (ULDC)
Stockton, CA

Job No.:	5747.005.000
Sample Number:	7-B004@31
Date:	11/20/2014

Figure No.

UNCONFINED COMPRESSION TEST REPORT (ASTM D2166)

Compressive Stress Axial Strain Curve(s)



SPECIMEN			
BEFORE TEST	7-B005 @ 2	7-B005 @ 16	7-B005 @ 41
Moisture Content (%)	13.9	33.1	22.0
Dry Density (pcf)	113.5	85.7	105.9
Saturation (%)	80.48	94.43	100.00
Void Ratio	0.46	0.93	0.56
Diameter (in)	2.405	2.385	2.425
Height (in)	5.010	5.000	5.000
Height-To-Diameter Ratio	2.083	2.096	2.062

TEST DATA			
Unconfined Compressive Strength (psf)	10107.085	1043.537	4346.366
Undrained Shear Strength (psf)	5053.542	521.769	2173.183
Strain Rate (in./min.)	0.05	0.05	0.05
Specific Gravity	2.65	2.65	2.65
Strain at Failure (%)	1.0	8.01	5.01
Liquid Limit	33.0	44.00	32.00
Plastic Limit	18.0	27.00	21.00
Test Remarks			

SPECIMEN	DESCRIPTION
7-B005 @ 2	See Exploratory Boring
7-B005 @ 16	See Exploratory Boring
7-B005 @ 41	See Exploratory Boring

PROJECT NAME: RD-17 - ULDC

Test Date: 11/17/2014

PROJECT NO: 5747.005.000 Ph T-004

Tested By: KEL

CLIENT: Peterson Brustad Incorporated

Reviewed By: RWS

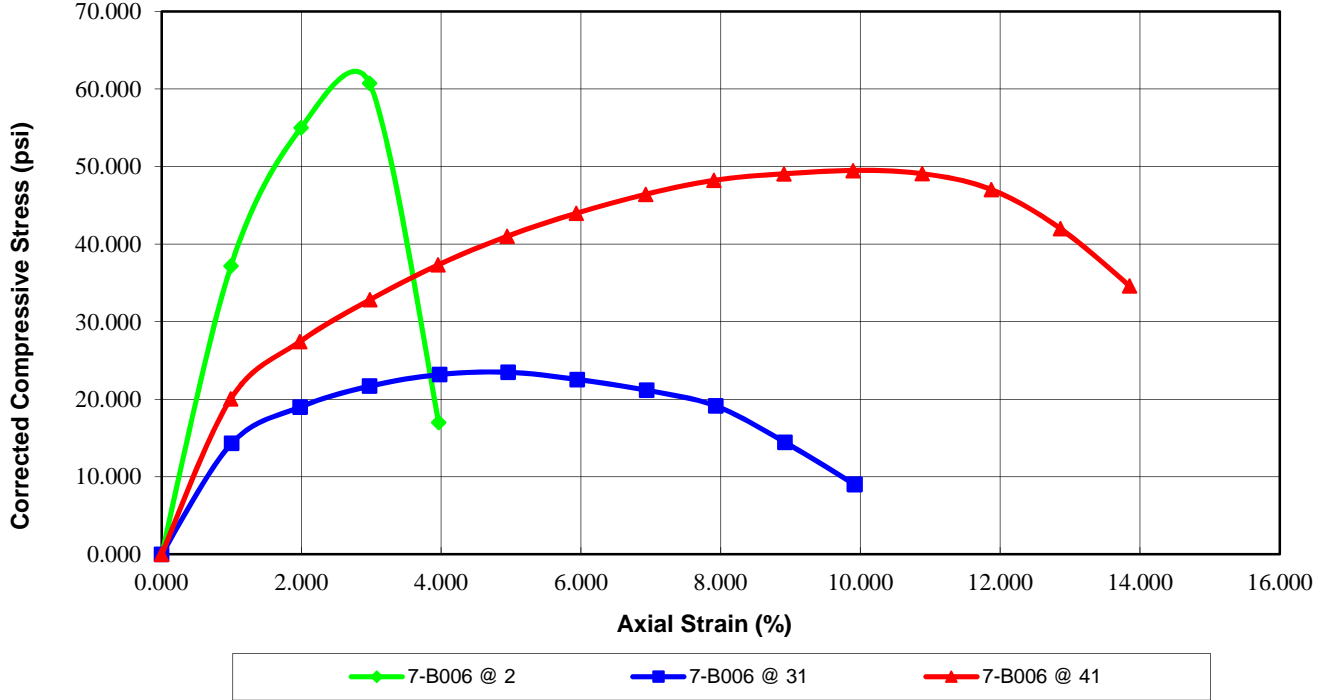
LOCATION: 7-B005

PHASE NO: T-004



UNCONFINED COMPRESSION TEST REPORT (ASTM D2166)

Compressive Stress Axial Strain Curve(s)



SPECIMEN			
BEFORE TEST	7-B006 @ 2	7-B006 @ 31	7-B006 @ 41
Moisture Content (%)	12.1	19.7	20.2
Dry Density (pcf)	118.0	94.6	112.3
Saturation (%)	79.90	69.84	100.00
Void Ratio	0.40	0.75	0.47
Diameter (in)	2.405	2.404	2.400
Height (in)	5.050	5.050	5.060
Height-To-Diameter Ratio	2.100	2.101	2.108

TEST DATA			
Unconfined Compressive Strength (psf)	8747.548	3381.019	7127.063
Undrained Shear Strength (psf)	4373.774	1690.509	3563.532
Strain Rate (in./min.)	0.05	0.05	0.05
Specific Gravity	2.65	2.65	2.65
Strain at Failure (%)	3.0	4.96	9.89
Liquid Limit	33.0	71.00	34.00
Plastic Limit	17.0	31.00	14.00
Test Remarks			

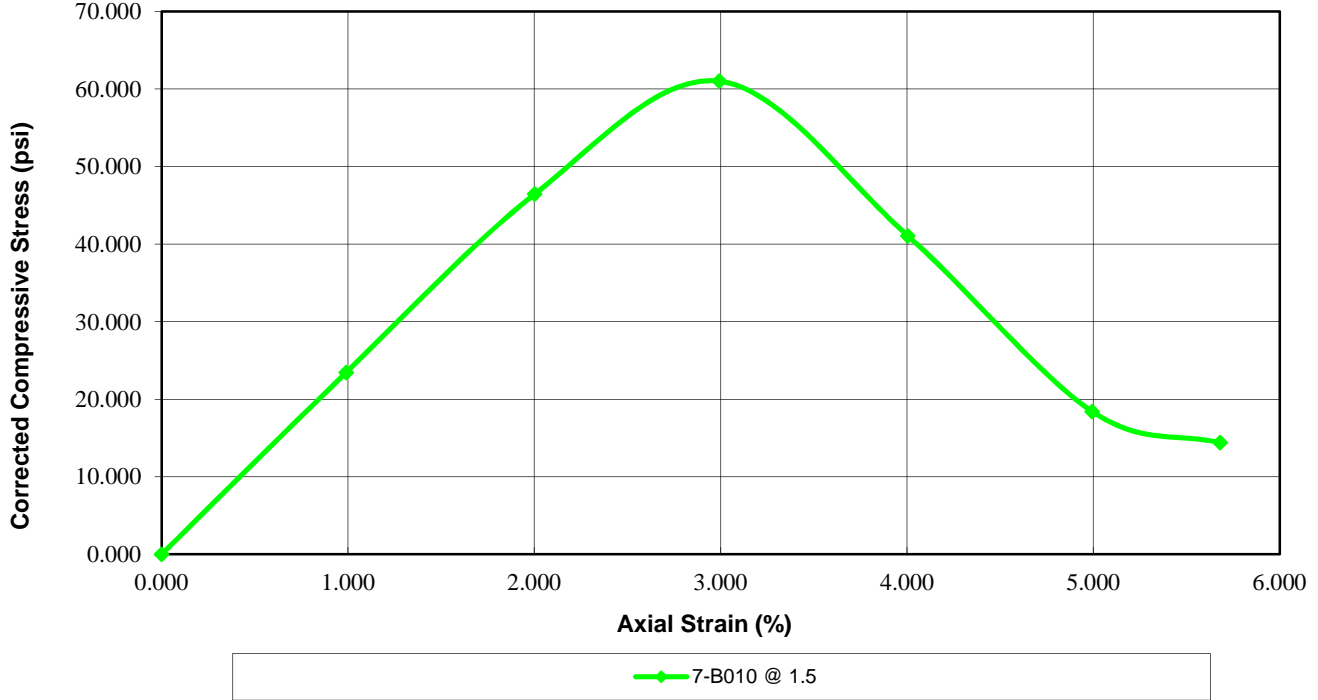
SPECIMEN	DESCRIPTION
7-B006 @ 2	See Exploratory Log
7-B006 @ 31	See Exploratory Log
7-B006 @ 41	See Exploratory Log

<p>PROJECT NAME: RD-17 - ULDC</p> <p>PROJECT NO: 55747.005.000</p> <p>CLIENT: Peterson Brustad Incorporated</p> <p>LOCATION: 7-B006</p> <p>PHASE NO: T-004</p>	<p>Test Date: 12/8/2014</p> <p>Tested By: KEL</p> <p>Reviewed By: RWS</p>
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UNCONFINED COMPRESSION TEST REPORT (ASTM D2166)

Compressive Stress Axial Strain Curve(s)

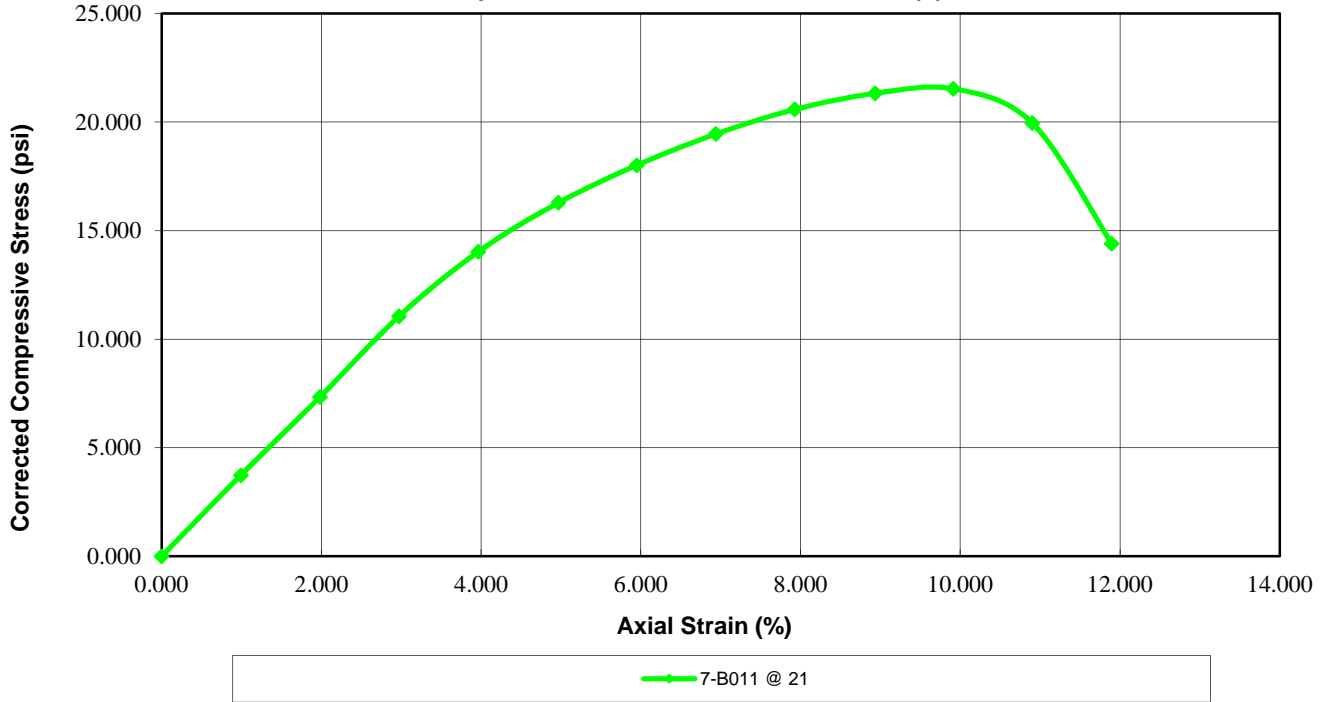


SPECIMEN	
BEFORE TEST	7-B010 @ 1.5
Moisture Content (%)	13.4
Dry Density (pcf)	121.6
Saturation (%)	98.64
Void Ratio	0.36
Diameter (in)	2.405
Height (in)	5.000
Height-To-Diameter Ratio	2.079
TEST DATA	
Unconfined Compressive Strength (psf)	8786.186
Undrained Shear Strength (psf)	4393.093
Strain Rate (in./min.)	0.05
Specific Gravity	2.65
Strain at Failure (%)	3.0
Liquid Limit	
Plastic Limit	
Test Remarks	
SPECIMEN	DESCRIPTION
7-B010 @ 1.5	See Exploratory Boring


	<p>PROJECT NAME: RD-17 ULDC</p> <p>PROJECT NO: 5747.005.000 Ph T-004</p> <p>CLIENT: Peterson Brustad Incorporated</p> <p>LOCATION: 7-B010</p> <p>PHASE NO: T-004</p>	<p>Test Date: 11/5/2014</p> <p>Tested By: KEL</p> <p>Reviewed By: RWS</p>
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UNCONFINED COMPRESSION TEST REPORT (ASTM D2166)

Compressive Stress Axial Strain Curve(s)

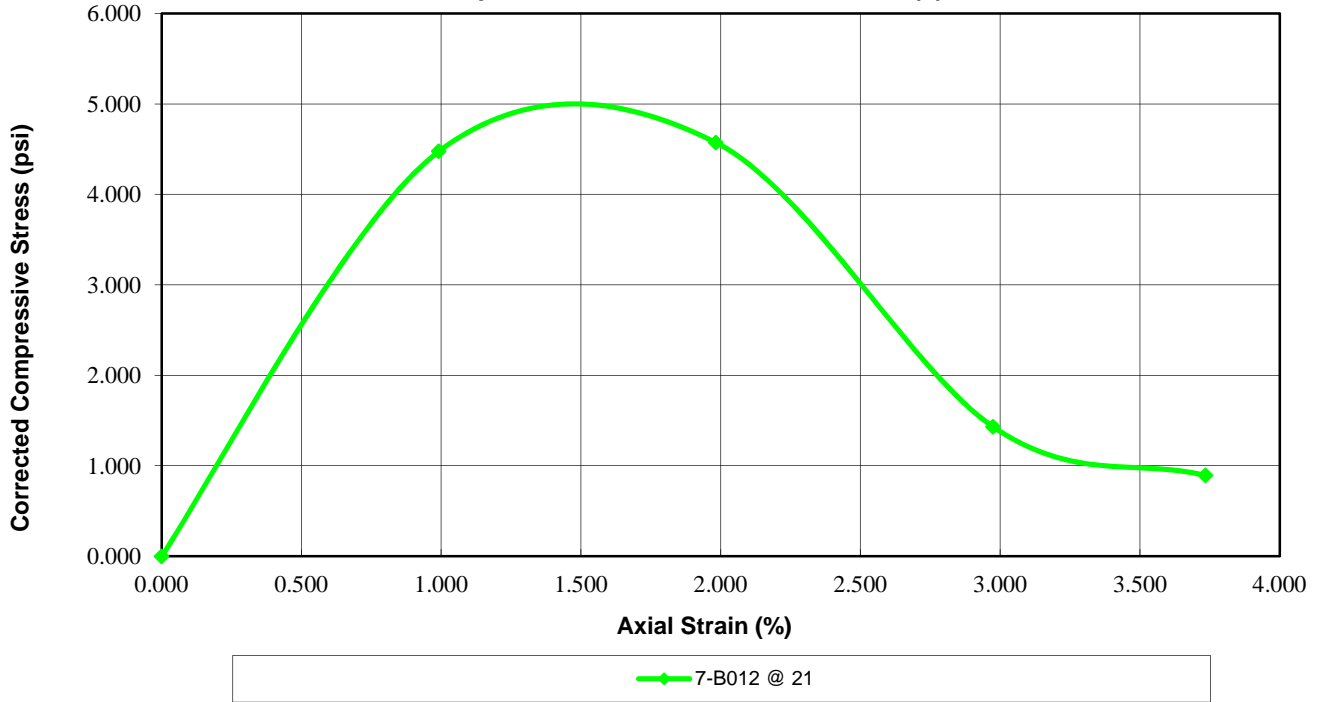


SPECIMEN	
BEFORE TEST	7-B011 @ 21
Moisture Content (%)	22.8
Dry Density (pcf)	107.2
Saturation (%)	100.00
Void Ratio	0.54
Diameter (in)	2.410
Height (in)	5.050
Height-To-Diameter Ratio	2.095
TEST DATA	
Unconfined Compressive Strength (psf)	3100.324
Undrained Shear Strength (psf)	1550.162
Strain Rate (in./min.)	0.05
Specific Gravity	2.65
Strain at Failure (%)	9.9
Liquid Limit	
Plastic Limit	
Test Remarks	
SPECIMEN	DESCRIPTION
7-B011 @ 21	See Exploratory Log

	<p>PROJECT NAME: RD-17 - ULDC</p> <p>PROJECT NO: 55747.005.000</p> <p>CLIENT: Peterson Brustad Incorporated</p> <p>LOCATION: 7-B011</p> <p>PHASE NO: T-004</p>	<p>Test Date: 12/8/2014</p> <p>Tested By: KEL</p> <p>Reviewed By: RWS</p>
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UNCONFINED COMPRESSION TEST REPORT (ASTM D2166)


Compressive Stress Axial Strain Curve(s)



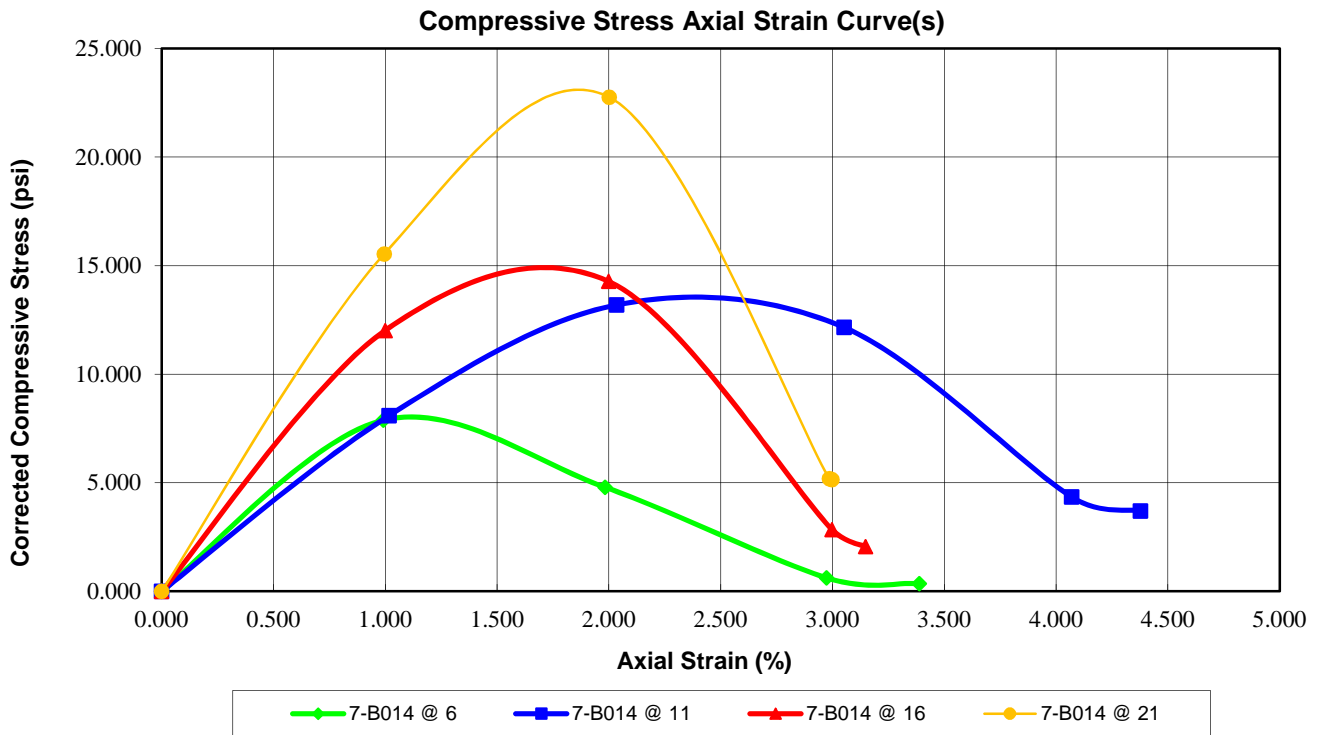
SPECIMEN	
BEFORE TEST	7-B012 @ 21
Moisture Content (%)	10.4
Dry Density (pcf)	93.1
Saturation (%)	35.50
Void Ratio	0.78
Diameter (in)	2.391
Height (in)	5.050
Height-To-Diameter Ratio	2.112

TEST DATA	
Unconfined Compressive Strength (psf)	658.653
Undrained Shear Strength (psf)	329.327
Strain Rate (in./min.)	0.05
Specific Gravity	2.65
Strain at Failure (%)	2.0
Liquid Limit	
Plastic Limit	
Test Remarks	

SPECIMEN	DESCRIPTION
7-B012 @ 21	See Exploratory Boring

	<p>PROJECT NAME: RD-17 - ULDC</p> <p>PROJECT NO: 5747.005.000 Ph T-004</p> <p>CLIENT: Peterson Brustad Incorporated</p> <p>LOCATION: 7-B012</p> <p>PHASE NO: T-004</p>	<p>Test Date: 11/15/2014</p> <p>Tested By: KEL</p> <p>Reviewed By: RWS</p>
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UNCONFINED COMPRESSION TEST REPORT (ASTM D2166)



BEFORE TEST	SPECIMEN			
	7-B014 @ 6	7-B014 @ 11	7-B014 @ 16	7-B014 @ 21
Moisture Content (%)	13.2	11.7	14.7	15.0
Dry Density (pcf)	109.5	113.0	112.9	110.9
Saturation (%)	68.61	67.05	83.60	80.68
Void Ratio	0.51	0.46	0.47	0.49
Diameter (in)	2.395	2.395	2.385	2.390
Height (in)	5.050	4.920	5.010	5.030
Height-To-Diameter Ratio	2.109	2.054	2.101	2.105

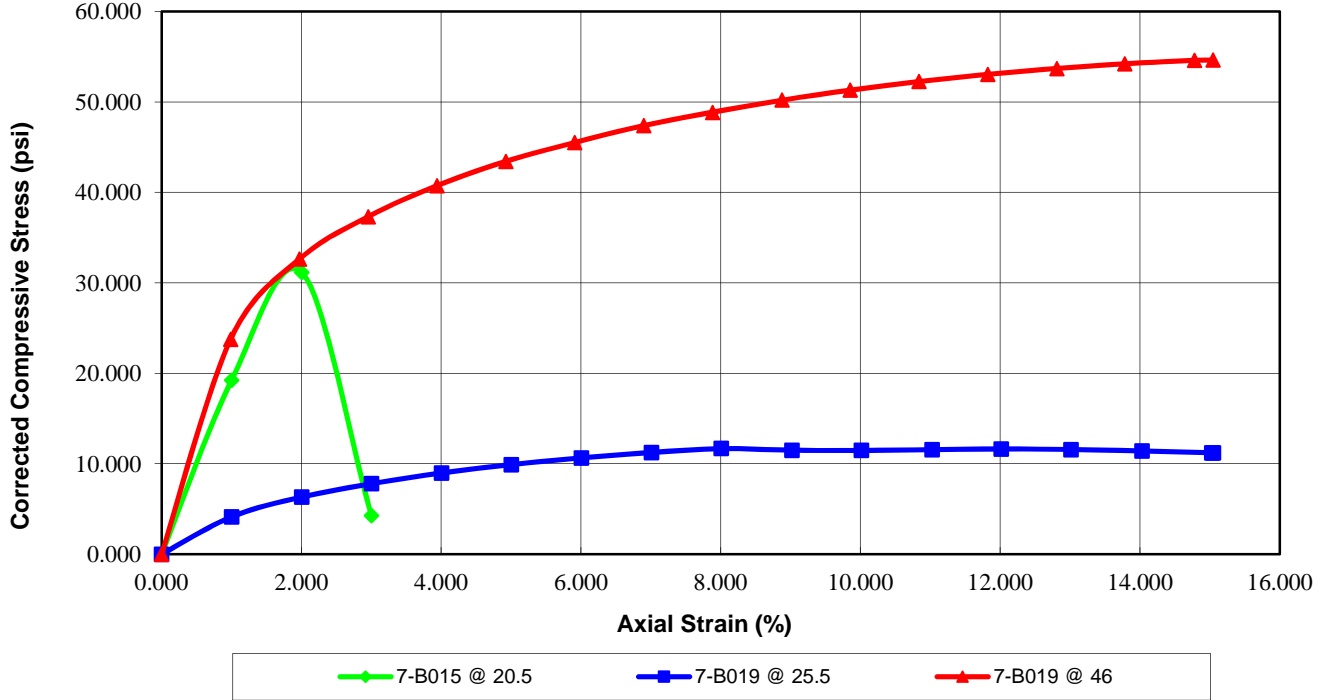
TEST DATA				
Unconfined Compressive Strength (psf)	1134.512	1899.114	2055.400	3277.347
Undrained Shear Strength (psf)	567.256	949.557	1027.700	1638.673
Strain Rate (in./min.)	0.05	0.05	0.05	0.05
Specific Gravity	2.65	2.65	2.65	2.65
Strain at Failure (%)	1.0	2.03	2.00	2.00
Liquid Limit				
Plastic Limit				
Test Remarks				

SPECIMEN	DESCRIPTION
7-B014 @ 6	See Exploratory Boring
7-B014 @ 11	See Exploratory Boring
7-B014 @ 16	See Exploratory Boring
7-B014 @ 21	See Exploratory Boring

 <p>— Expect Excellence —</p>	<p>PROJECT NAME: RD-17 - ULDC</p> <p>PROJECT NO: 5747.005.000 Ph T-004</p> <p>CLIENT: Peterson Brustad Incorporated</p> <p>LOCATION: 7-B014</p> <p>PHASE NO: T-004</p>	<p>Test Date: 7/15/2014</p> <p>Tested By: KEL</p> <p>Reviewed By: RWS</p>
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UNCONFINED COMPRESSION TEST REPORT (ASTM D2166)

Compressive Stress Axial Strain Curve(s)



SPECIMEN			
BEFORE TEST	7-B015 @ 20.5	7-B019 @ 25.5	7-B019 @ 46
Moisture Content (%)	24.8	21.8	22.3
Dry Density (pcf)	102.4	100.7	106.7
Saturation (%)	100.00	89.72	100.00
Void Ratio	0.62	0.64	0.55
Diameter (in)	2.390	2.385	2.395
Height (in)	5.000	5.000	5.080
Height-To-Diameter Ratio	2.092	2.096	2.121

TEST DATA			
Unconfined Compressive Strength (psf)	4487.348	1681.794	7867.852
Undrained Shear Strength (psf)	2243.674	840.897	3933.926
Strain Rate (in./min.)	0.05	0.05	0.05
Specific Gravity	2.65	2.65	2.65
Strain at Failure (%)	2.0	8.01	15.04
Liquid Limit			
Plastic Limit			
Test Remarks			

SPECIMEN	DESCRIPTION
7-B015 @ 20.5	See Exploratory Log
7-B019 @ 25.5	See Exploratory Log
7-B019 @ 46	See Exploratory Log

PROJECT NAME: RD-17 - ULDC

Test Date: 2/3/2015

PROJECT NO: 5747.005.000

Tested By: KEL

CLIENT: Peterson Brustad Incorporated

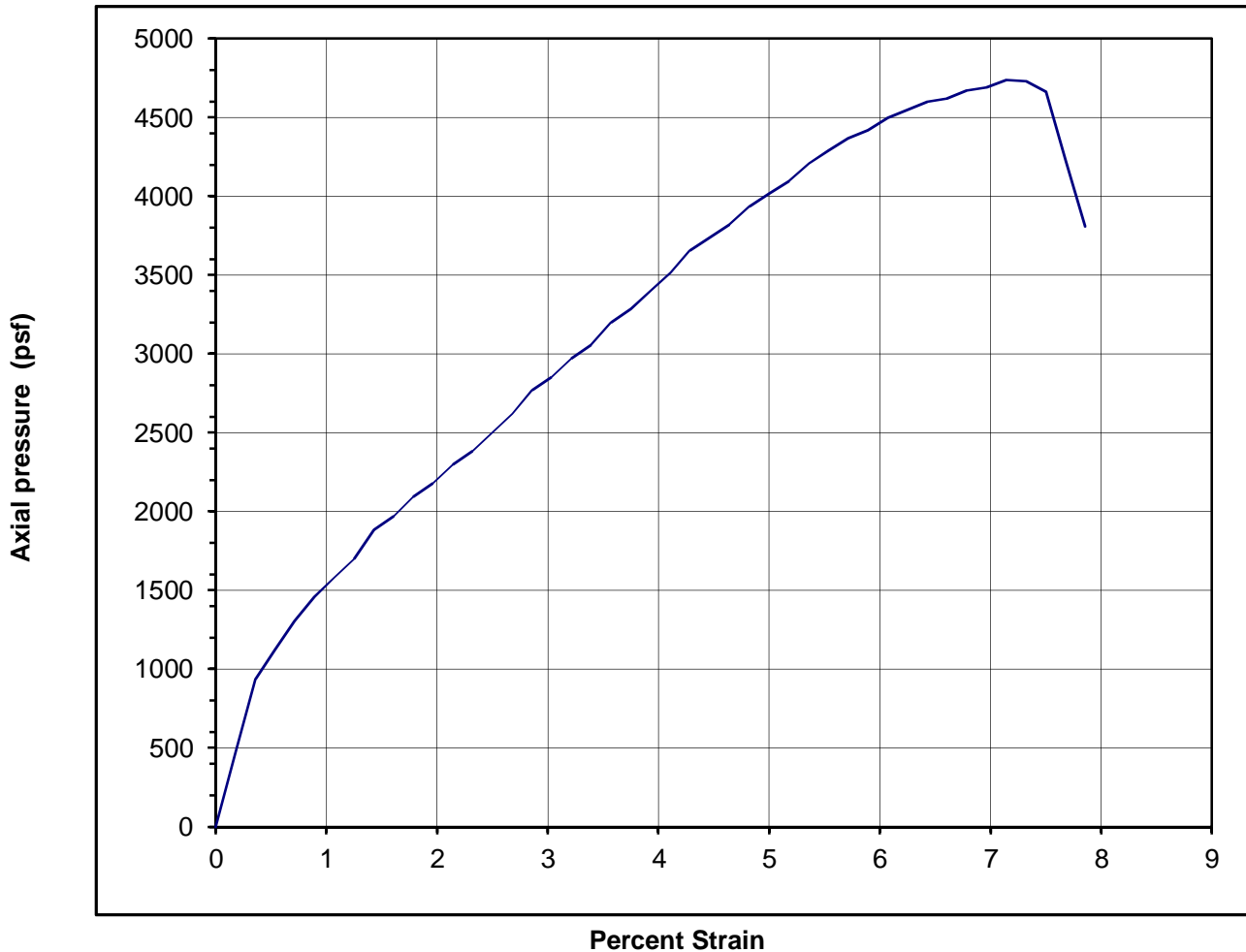
Reviewed By: RWS

LOCATION: 7-B015, 7-B019

PHASE NO: T-004



**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: 4730 psf 2.4 tsf

Sample Description: (See Exploration Log)

Initial Diameter:	2.42 in.	Sample Number:	7-B19-16
Initial Height:	5.60 in.	Boring Number:	7-B19
Strain Rate:	1.40 %/min	Dry Unit Weight:	96.3 pcf
Total Strain:	7.86 %	Moisture Content:	26.6 %
		Depth of Sample:	16.0 ft.

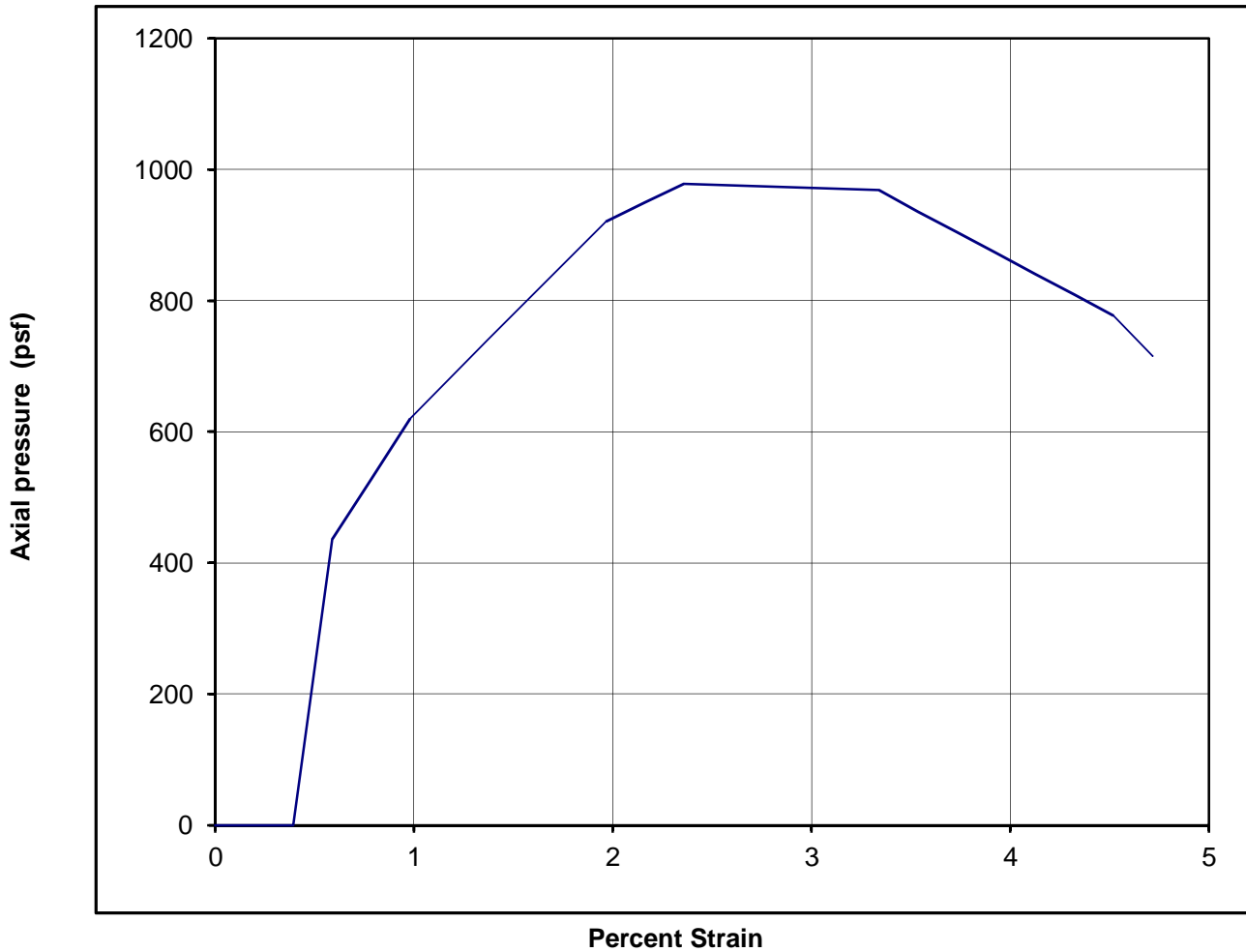
ENGEO
INCORPORATED

**RD-17, ULDC Analysis
Stockton, CA**

Job No.:	5747.005.000
Sample Number:	7-B19-16
Date:	1/30/2015

Figure No.

**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: 970 psf 0.5 tsf

Sample Description: (See Exploration Log)

Initial Diameter:	2.42 in.	Sample Number:	7-B19-20.5
Initial Height:	5.09 in.	Boring Number:	7-B19
Strain Rate:	1.80 %/min	Dry Unit Weight:	94.1 pcf
Total Strain:	4.72 %	Moisture Content:	28.5 %
		Depth of Sample:	20.5 ft.

ENGEO
INCORPORATED

**RD-17, ULDC Analysis
Stockton, CA**

Job No.:	5747.005.000
Sample Number:	7-B19-20.5
Date:	1/30/2015

Figure No.

EN GEO

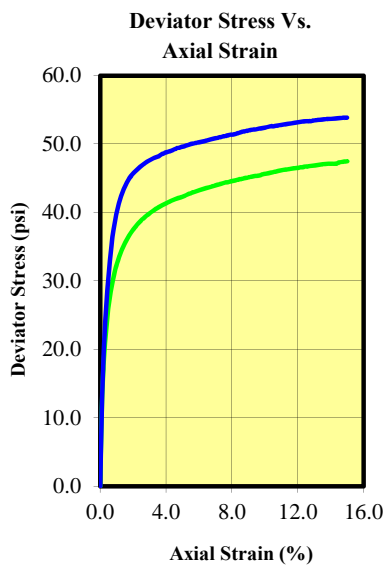
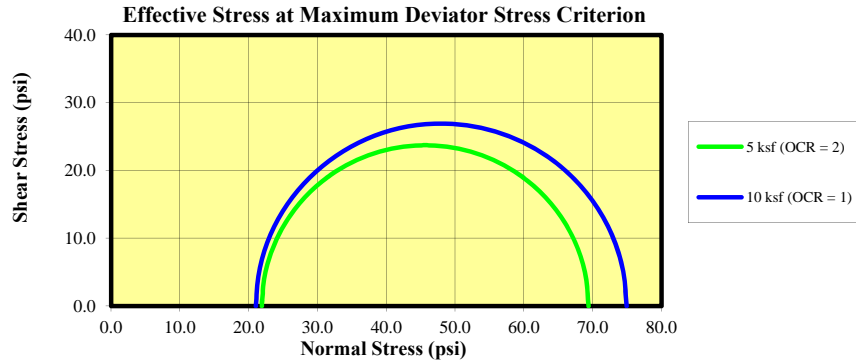
Consolidated Undrained Triaxial Test (ASTM D4767)

Date: 4.7.15

Checked By: C. Crawford

Date: 3.25.15

Tested By: D. Seibold



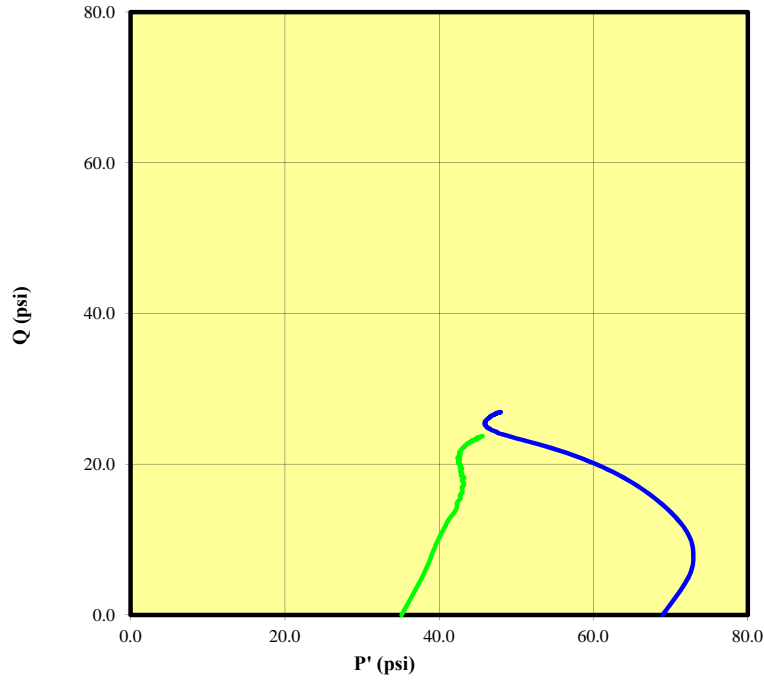
Initial	5 ksf	10 ksf		
Height-to-Diameter Ratio	2.159	2.152		
Water Content (%)	39.6	36.6		
Dry Density (pcf)	83.1	87.6		
Saturation (%)	103.15	106.10		
Void Ratio	1.040	0.935		
Diameter (in)	2.821	2.821		
Height (in)	6.090	6.070		
Specific Gravity (measured)	2.721	2.721		
Liquid Limit				
Plastic Limit				
After Consolidation	5 ksf	10 ksf		
B-Value	0.98	0.99		
Water Content (%)	31.21	28.38		
Dry Density (pcf)	92.26	97.13		
Saturation (%)	100.00	100.00		
Void Ratio	0.841	0.749		
Effective Stress (psi)	35.1	69.0		
Back Press. (psi)	57.8	24.7		
Rate of Strain (in./min.)	0.00254	0.00126		
Height-to-Diameter Ratio	2.141	2.145		
Maximum Deviator Stress Criterion	After Shear	5 ksf	10 ksf	
C (psi)	0.0	$\sigma'1$ at Failure (psi)	69.38	74.90
C' (psi)	0.0	$\sigma'3$ at Failure (psi)	21.90	21.03
ϕ (deg)	0.0	t_{50}	9.29	12.19
ϕ' (deg)	0.0	t_{90}	30.10	39.50

Project:	ULDC Analysis and Identification of Deficiencies
Location:	San Joaquin County, CA
Project Number:	5747.005.000
Boring Number:	7-B007
Sample Number:	7-B007@18-20
Depth:	18.5-19 ft.
Sample Type:	Undisturbed
Description:	See exploration logs
Test Type	Consolidated Undrained
Remarks	

Date: 4.7.15

Checked By: C. Crawford

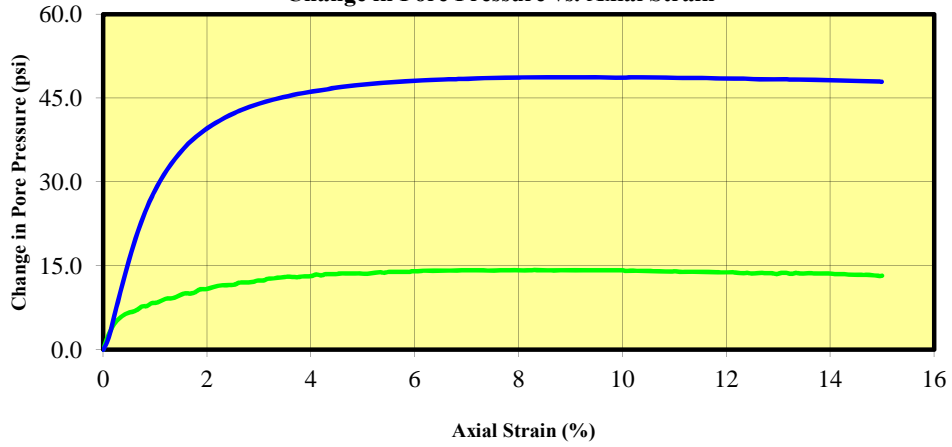
Stress Paths (Effective)



Date: 3.25.15

Tested By: D. Seibold

Change in Pore Pressure vs. Axial Strain



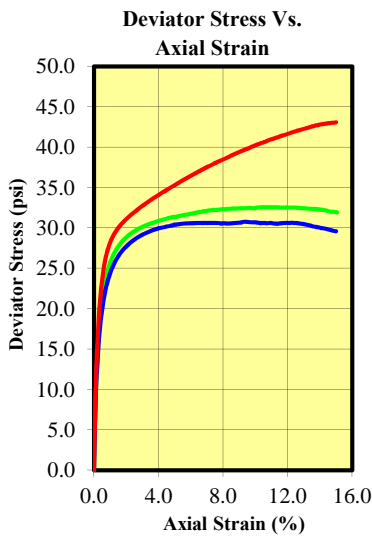
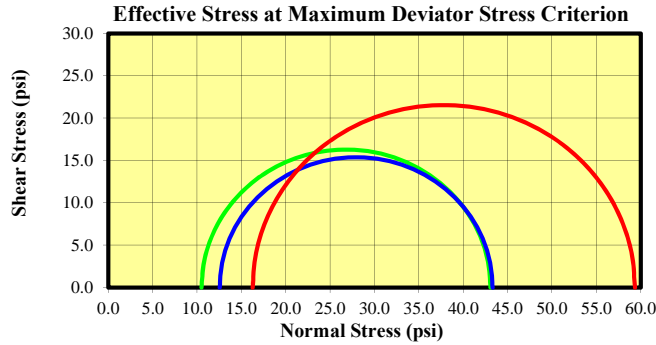
Consolidated Undrained Triaxial Test (ASTM D4767)

Date: 3.11.15

Checked By: C. Crawford

Date: 3.11.15

Tested By: D. Seibold



Initial	18.5-19 OCR = 2	20.5-21 OCR = 1	20-20.5 OCR = 1
Height-to-Diameter Ratio	2.141	2.206	2.184
Water Content (%)	37.4	45.1	36.7
Dry Density (pcf)	86.9	82.3	88.5
Saturation (%)	104.09	113.14	106.20
Void Ratio	0.994	1.105	0.952
Diameter (in)	2.770	2.770	2.770
Height (in)	5.930	6.110	6.050
Specific Gravity (measured)	2.780	2.780	2.780
Liquid Limit			
Plastic Limit			
After Consolidation	18.5-19 OCR = 2	20.5-21 OCR = 1	20-20.5 OCR = 1
B-Value	0.98	0.98	0.97
Water Content (%)	36.86	36.01	34.72
Dry Density (pcf)	90.20	92.52	90.38
Saturation (%)	100.00	100.00	100.00
Void Ratio	0.924	0.876	0.920
Effective Stress (psi)	20.6	41.9	41.9
Back Press. (psi)	67.4	36.8	44.2
Rate of Strain (in./min.)	0.00391	0.00134	0.00258
Height-to-Diameter Ratio	2.116	2.179	2.143
After Shear	18.5-19 OCR = 2	20.5-21 OCR = 1	20-20.5 OCR = 1
σ'_1 at Failure (psi)	43.07	43.31	59.34
σ'_3 at Failure (psi)	10.50	12.54	16.26
t_{50}	5.07	5.57	0.11
t_{90}	16.43	18.04	0.35

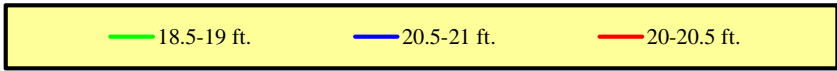
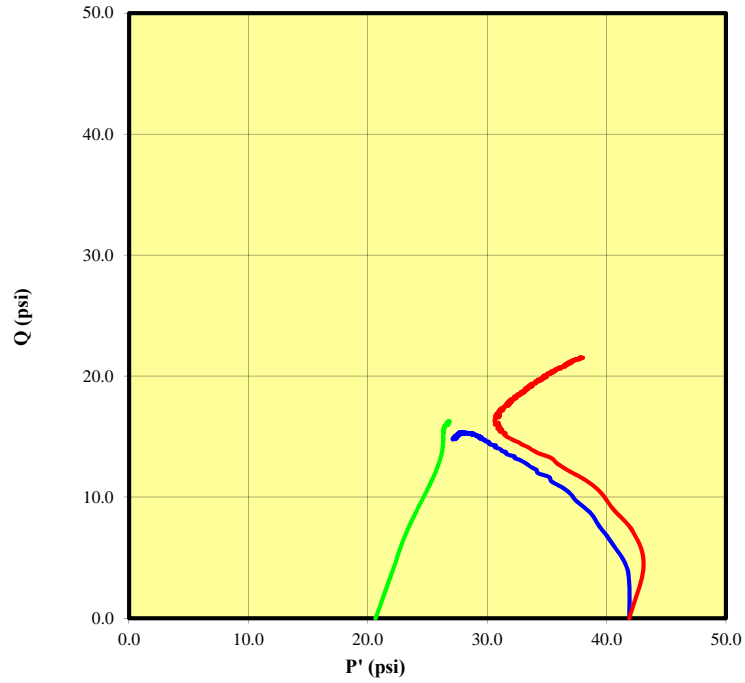
Maximum Deviator Stress Criterion	
C (psi)	0.0
C' (psi)	0.0
ϕ (deg)	0.0
ϕ' (deg)	0.0

Project:	ULDC Analysis and Identification of Deficiencies
Location:	San Joaquin County, California
Project Number:	5747.005.000
Boring Number:	7-B010
Sample Number:	7-B010A@19.5-21
Depth:	18.5-21.0 ft.
Sample Type:	Undisturbed
Description:	See exploration logs
Test Type	Consolidated Undrained
Remarks	

Date: 3.11.15

Checked By: C. Crawford

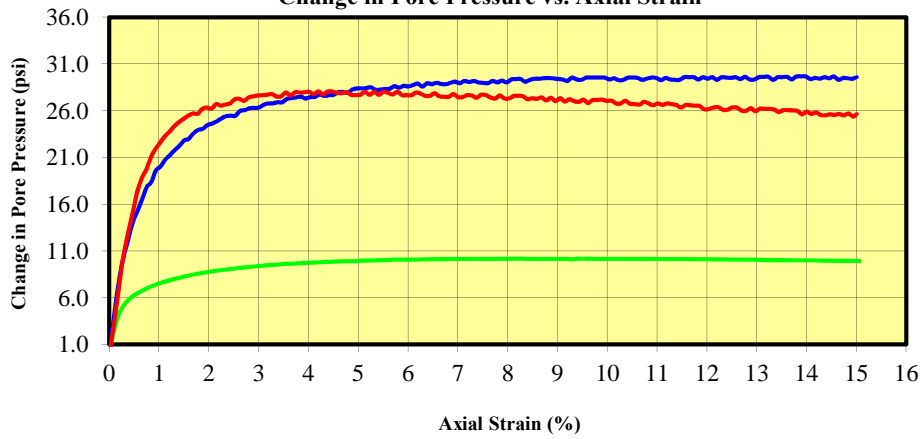
Stress Paths (Effective)



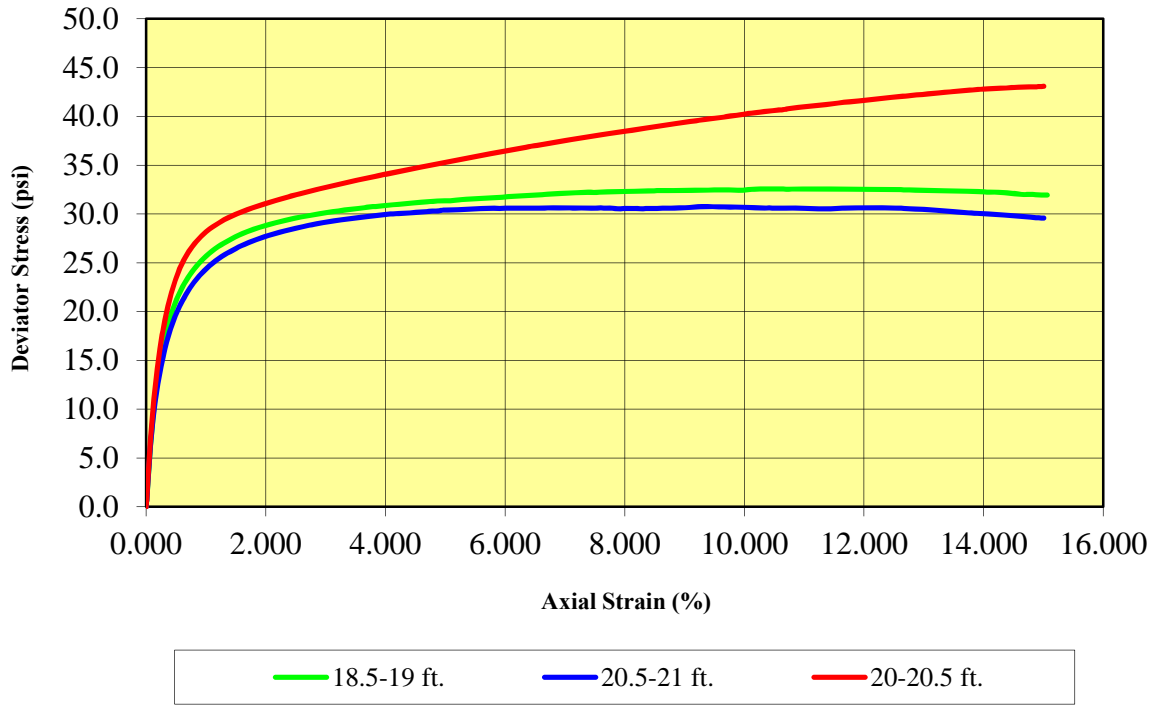
Date: 3.11.15

Tested By: D. Seibold

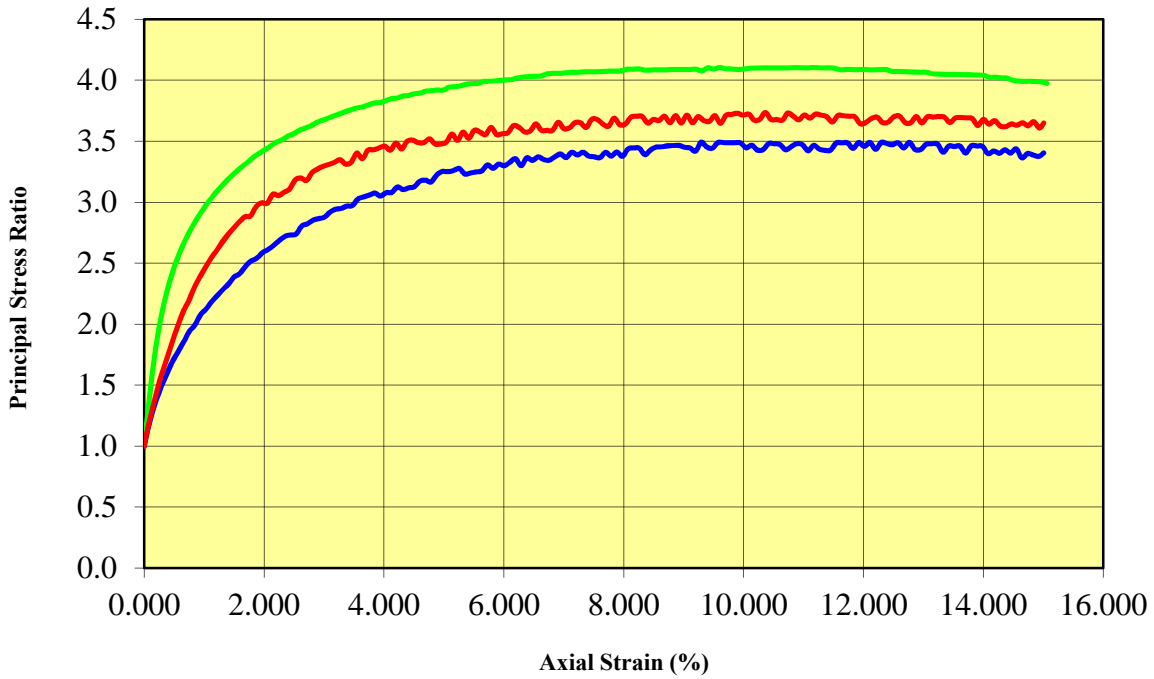
Change in Pore Pressure vs. Axial Strain



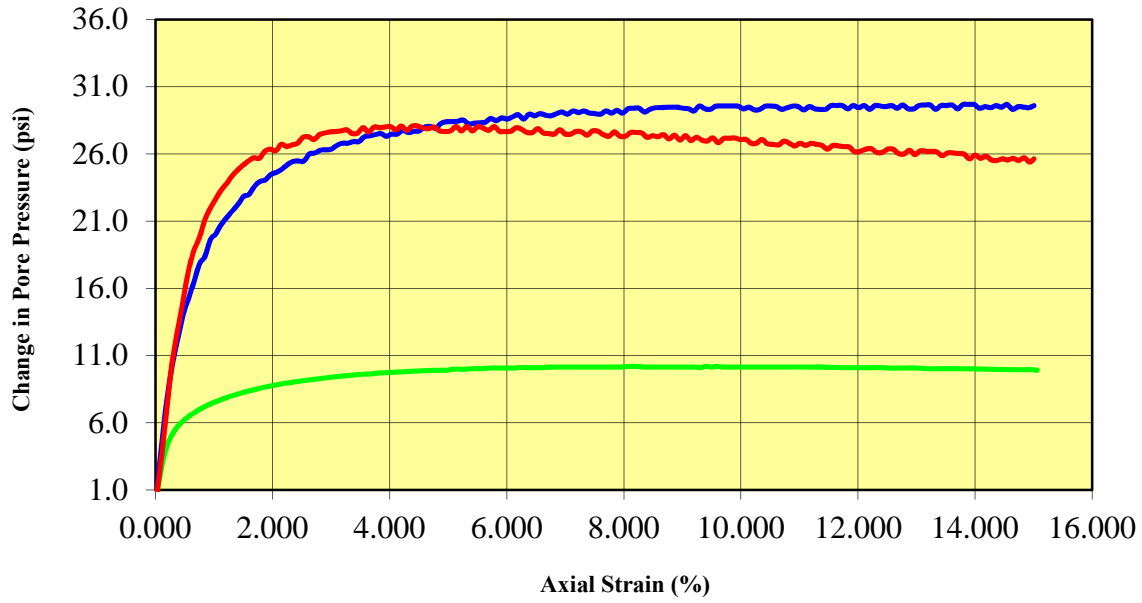
Deviator Stress vs. Axial Strain



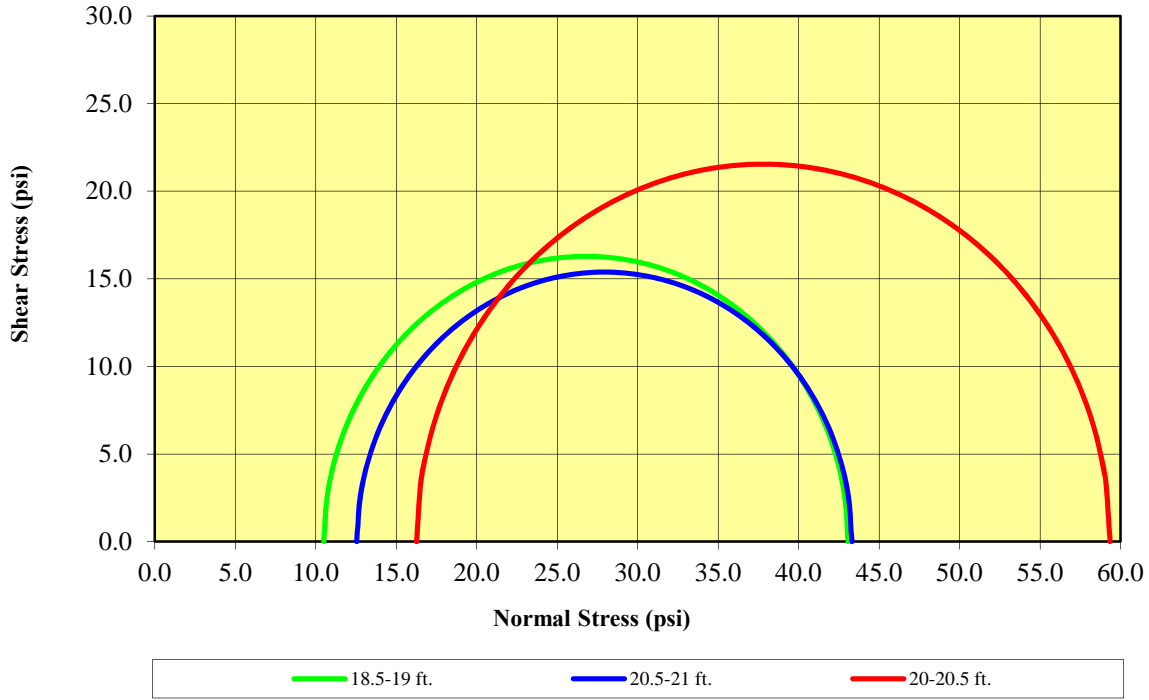
Principal Stress Ratio vs. Axial Strain



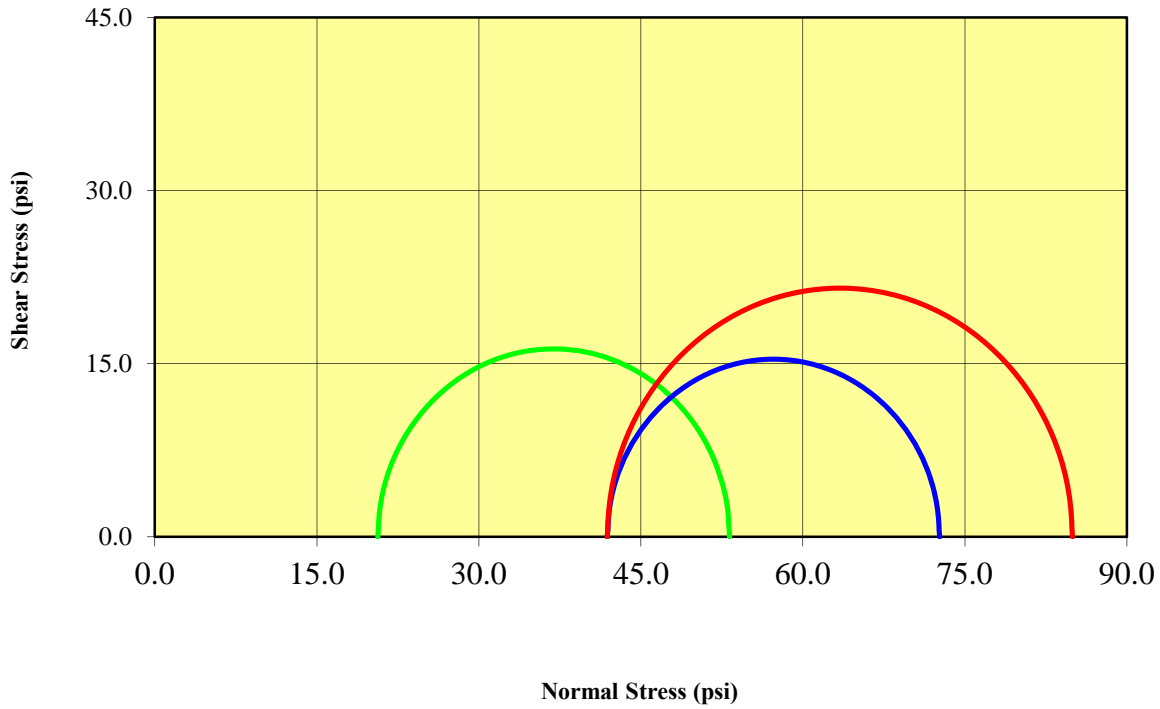
Change in Pore Pressure vs. Axial Strain



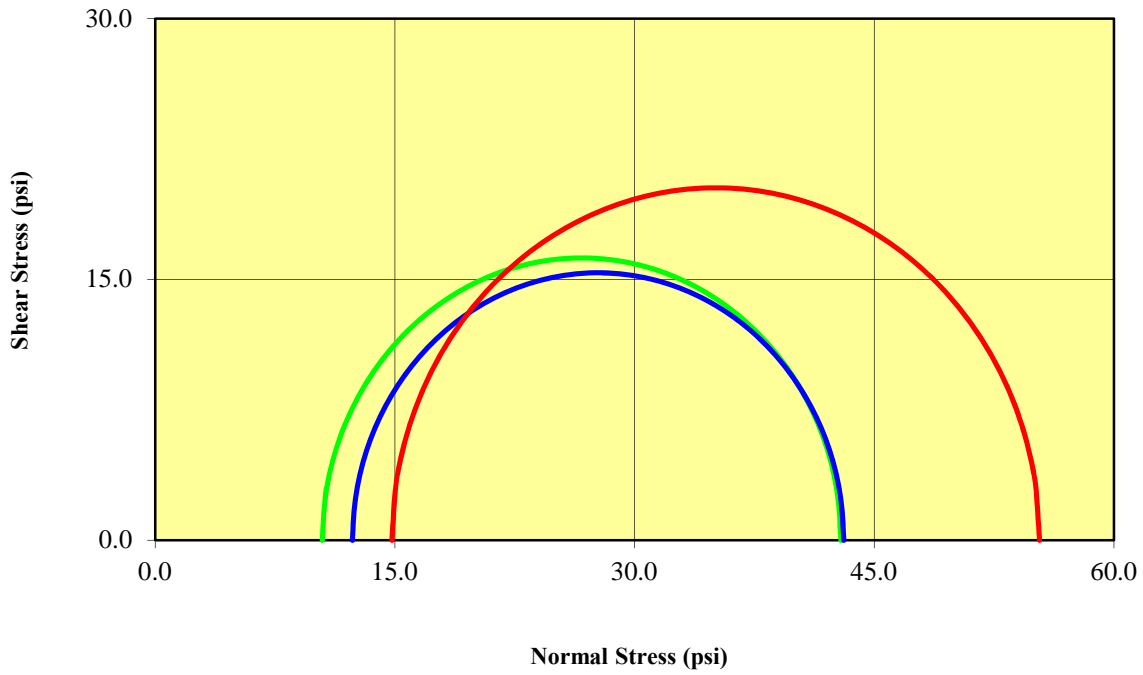
Mohr Stress Circles at Maximum Deviator Stress Criterion Effective Stress



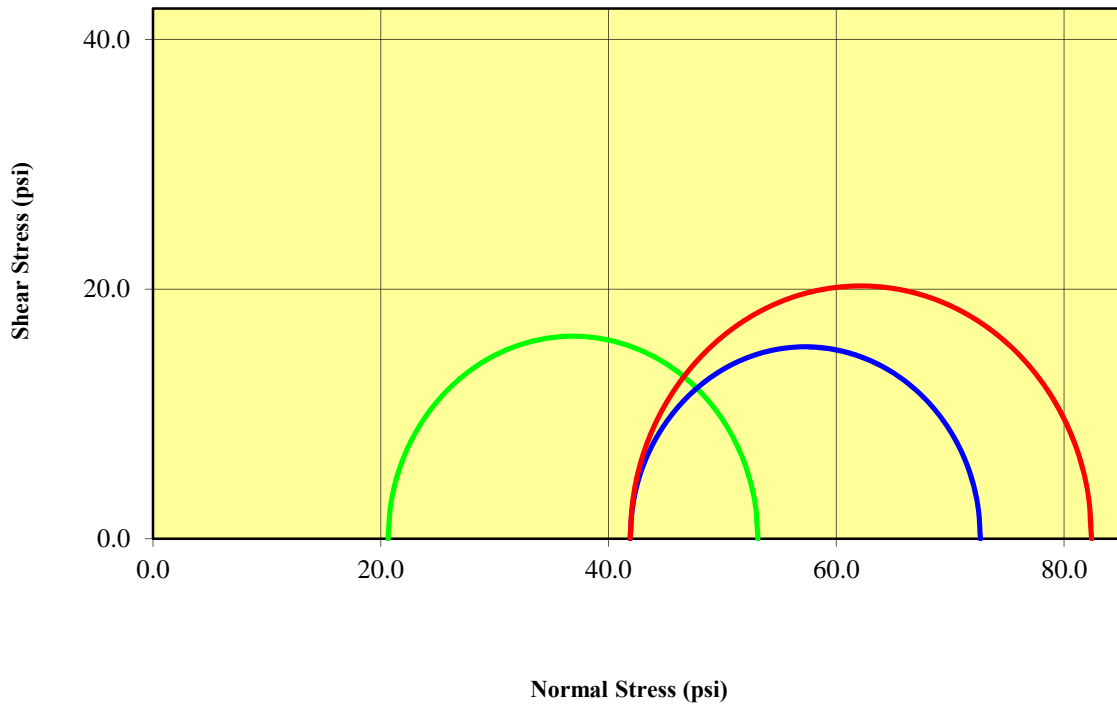
Total Stress



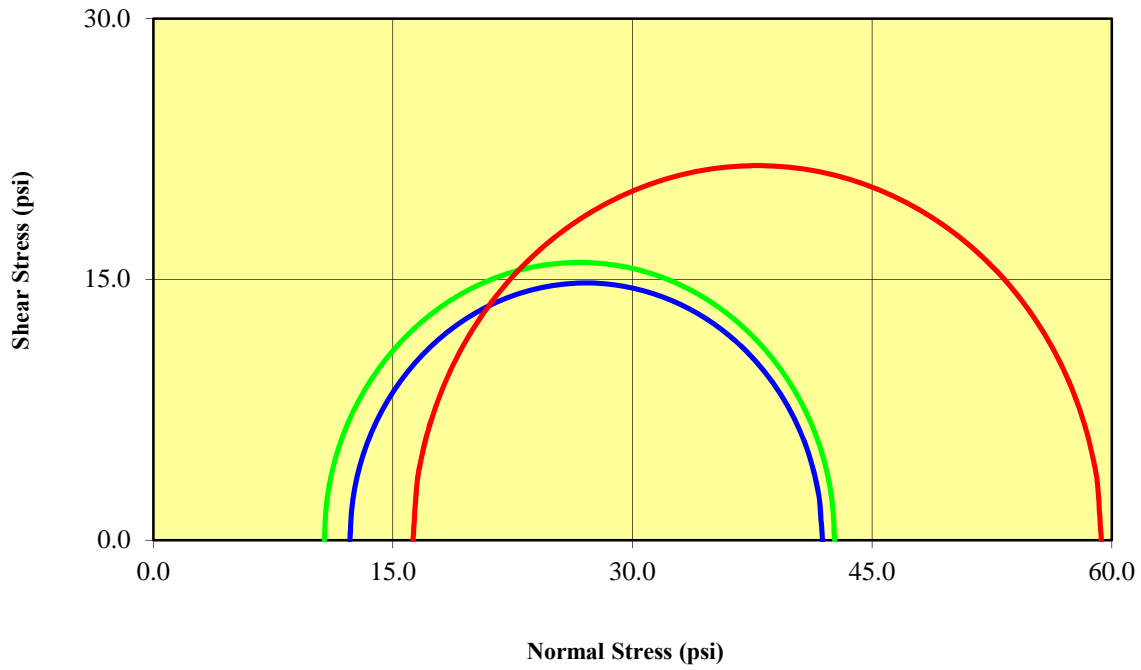
Mohr Stress Circles at Maximum Principal Stress Ratio Criterion Effective Stress



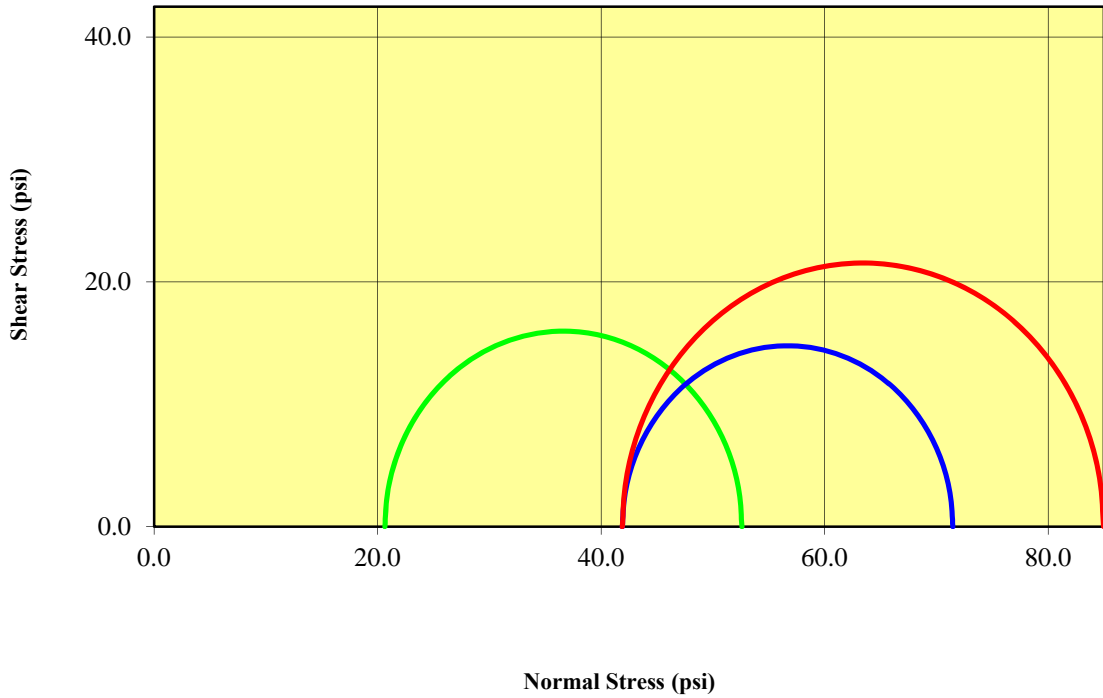
Total Stress



Mohr Stress Circles at 15% Axial Strain Criterion Effective Stress



Total Stress



EN GEO

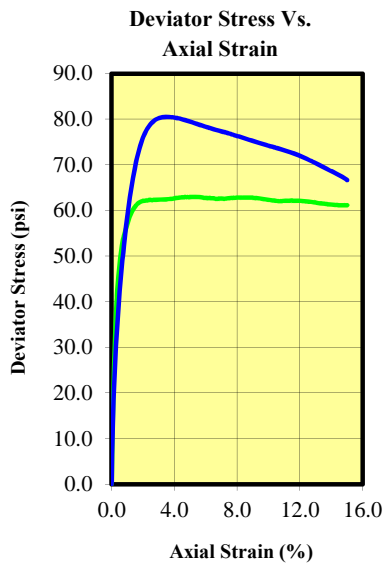
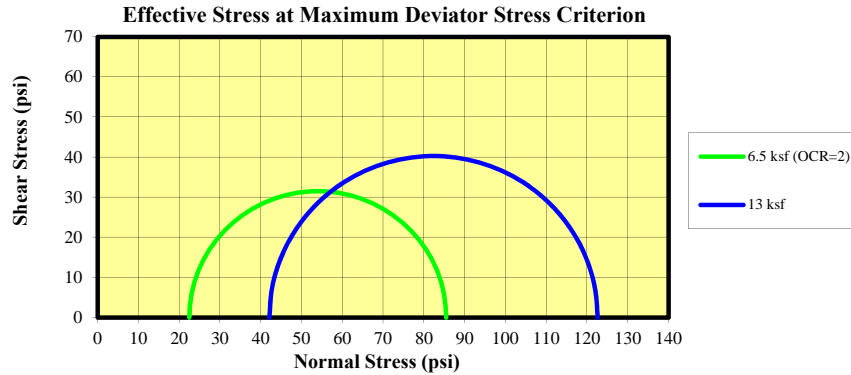
Consolidated Undrained Triaxial Test (ASTM D4767)

Date: 4.24.15

Checked By: C. Crawford

Date: 4.24.15

Tested By: D. Seibold



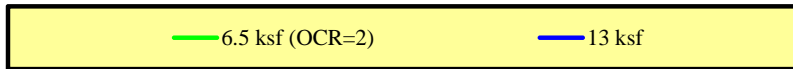
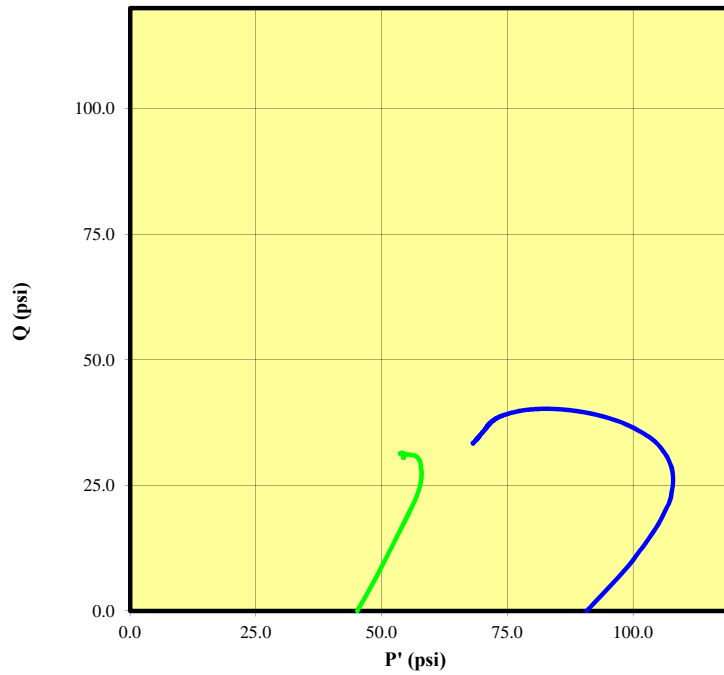
	Initial	6.5 ksf	13 ksf		
Height-to-Diameter Ratio	2.162	2.155			
Water Content (%)	56.8	38.4			
Dry Density (pcf)	72.4	82.6			
Saturation (%)	114.30	98.28			
Void Ratio	1.355	1.065			
Diameter (in)	2.863	2.863			
Height (in)	6.190	6.170			
Specific Gravity (measured)	2.736	2.736			
Liquid Limit					
Plastic Limit					
		6.5 ksf	13 ksf		
After Consolidation					
B-Value	0.96	0.99			
Water Content (%)	34.55	35.64			
Dry Density (pcf)	89.49	86.49			
Saturation (%)	100.00	100.00			
Void Ratio	0.909	0.975			
Effective Stress (psi)	45.2	90.7			
Back Press. (psi)	46.6	3.4			
Rate of Strain (in./min.)	0.00596	0.00938			
Height-to-Diameter Ratio	2.159	2.109			
		6.5 ksf	13 ksf		
Maximum Deviator Stress Criterion					
C (psi)	0.0	$\sigma'1$ at Failure (psi)	85.47	122.60	
C' (psi)	0.0	$\sigma'3$ at Failure (psi)	22.47	42.08	
ϕ (deg)	0.0	t_{50}	2.31	1.42	
ϕ' (deg)	0.0	t_{90}	7.47	4.60	

Project:	ULDC Analysis and Identification of Deficiencies
Location:	San Joaquin County, California
Project Number:	5747.005.000
Boring Number:	7-B018
Sample Number:	7-B018@25.5-26.5
Depth:	25.5-26 ft.
Sample Type:	Undisturbed
Description:	See exploration logs
Test Type	Consolidated Undrained
Remarks	Material composition of the test specimens was not the same

Date: 4.24.15

Checked By: C. Crawford

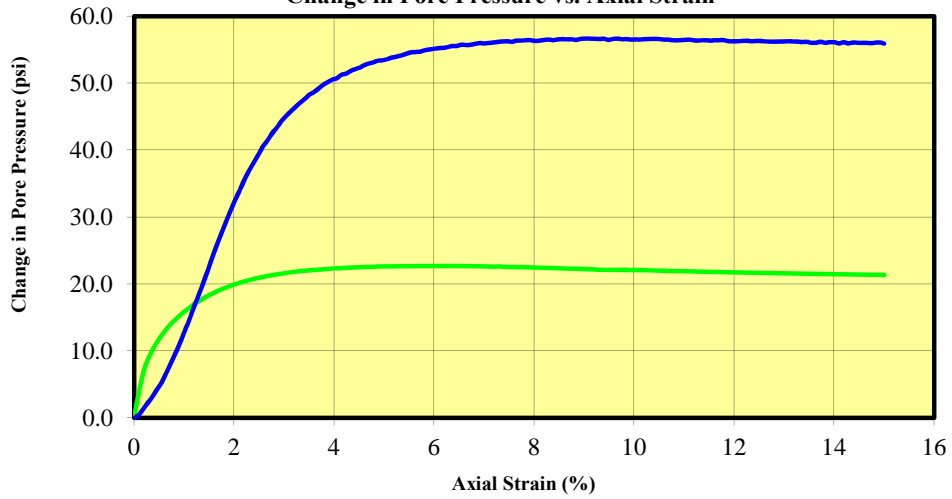
Stress Paths (Effective)



Date: 4.24.15

Tested By: D. Seibold

Change in Pore Pressure vs. Axial Strain



Unconsolidated Undrained Triaxial Test (ASTM D2850)

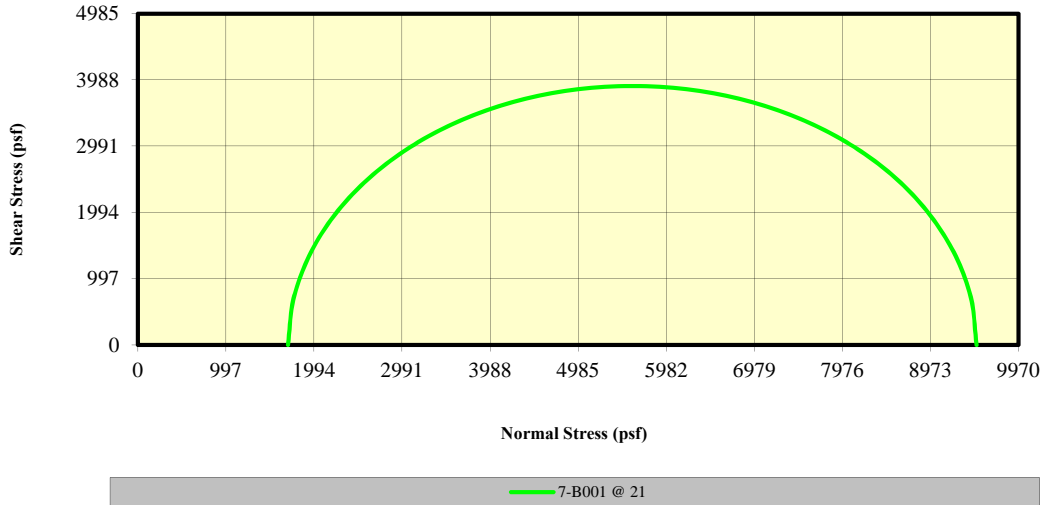
Date: 02/13/15

Checked By: RWS

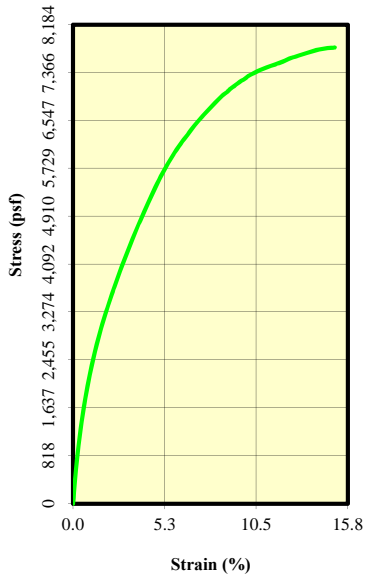
Date: 2/13/2015

Tested By: KEL

Mohr Circles



Stress-Strain Curve



		Specimen			
Before Test		7-B001 @ 21			
Water Content (%)	21.94				
Dry Density (pcf)	103.11				
Saturation (%)	96.19				
Void Ratio	0.60				
Diameter (in)	2.405				
Height (in)	5.101				
Liquid Limit	-				
Plastic Limit	-				
Specific Gravity	2.650				
Height-to-Diam. Ratio	2.121				
After Test		7-B001 @ 21			
Water Content (%)	21.76				
Saturation (%)	95.40				
Strain Rate (in/min)	0.05				
Peak Deviator Stress (psf)	7794.2				
Axial Strain @ Failure (%)	15.040				
		Cell Pressure			
Cell (psf)	1700.0				
Back (psf)	n/a				
		Principle Stresses at Failure			
σ_1 (psf)	9494.1				
σ_3 (psf)	1700.0				

Mohr-Coulomb Parameters with a Non-zero Friction Angle ($\phi \neq 0$)		Cohesion at Failure with a Zero Friction Angle ($\phi = 0$)			
Cohesion, c (psf)	0.0	3897.1			
Friction Angle ϕ	0.00	n/a			

Project Information			
Project Name:	RD-17 ULDC		
Project Number:	5747.005.000	Job Number:	5747.005.000
Location:	7-B001	Boring Number:	7-B001
Client:	Peterson Brustad Incorporation	Sample Number:	7-B001 @ 21
Description:	See Exploration Logs		

Unconsolidated Undrained Triaxial Test (ASTM D2850)

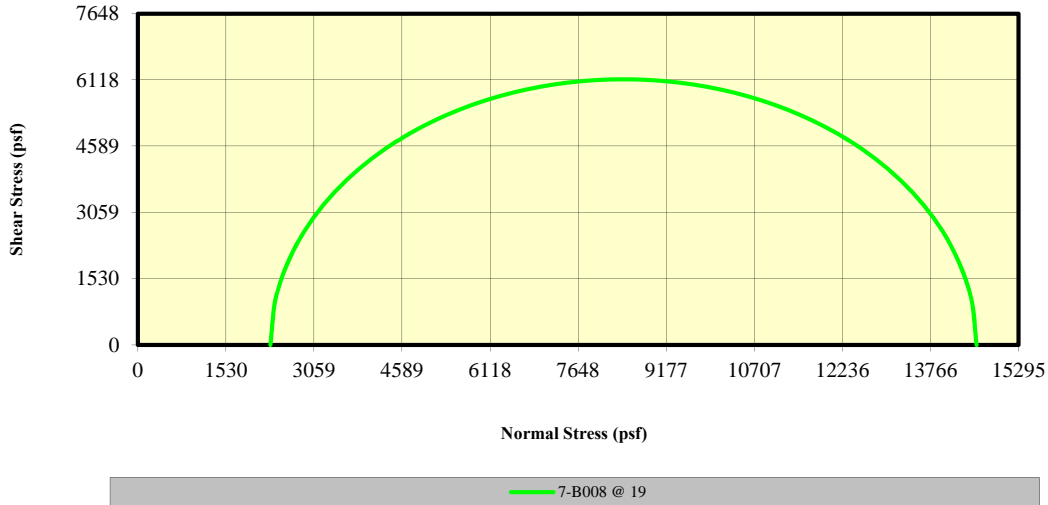
Date: 02/03/15

Checked By: RWS

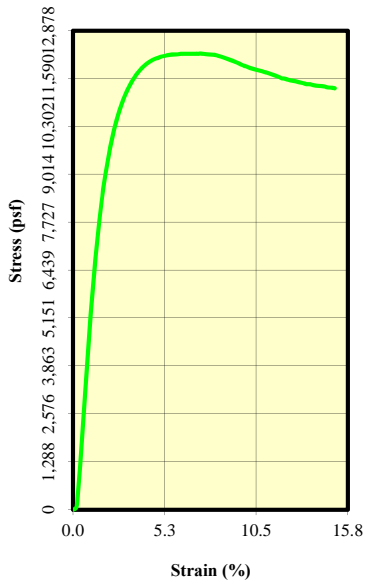
Date: 2/3/2015

Tested By: KEL

Mohr Circles



Stress-Strain Curve



Specimen			
Before Test		7-B008 @ 19	
Water Content (%)	25.97		
Dry Density (pcf)	93.94		
Saturation (%)	90.43		
Void Ratio	0.76		
Diameter (in)	2.400		
Height (in)	5.150		
Liquid Limit	-		
Plastic Limit	-		
Specific Gravity	2.650		
Height-to-Diam. Ratio	2.146		
After Test		7-B008 @ 19	
Water Content (%)	23.22		
Saturation (%)	80.85		
Strain Rate (in/min)	0.05		
Peak Deviator Stress (psf)	12264.5		
Axial Strain @ Failure (%)	7.313		
		Cell Pressure	
Cell (psf)	2299.7		
Back (psf)	n/a		
		Principle Stresses at Failure	
σ_1 (psf)	14564.1		
σ_3 (psf)	2299.7		

Mohr-Coulomb Parameters with a Non-zero Friction Angle ($\phi \neq 0$)		Cohesion at Failure with a Zero Friction Angle ($\phi = 0$)	
Cohesion, c (psf)	0.0	6132.2	
Friction Angle ϕ	0.00	n/a	

Project Information			
Project Name:	RD-17 - ULDC		
Project Number:	5747.005.000	Job Number:	5747.005.000
Location:	7-B008	Boring Number:	7-B008
Client:	Peterson Brustad Incorporation	Sample Number:	7-B008 @ 19
Description:	See exploration logs		

Unconsolidated Undrained Triaxial Test (ASTM D2850)

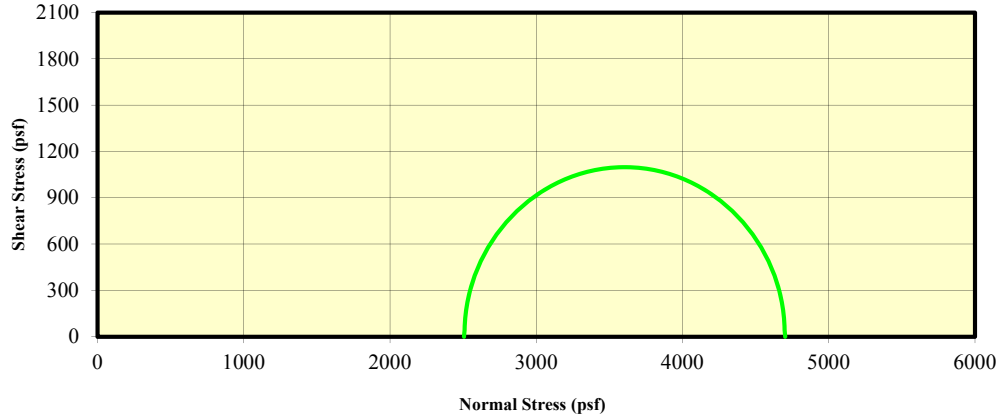
Date: 03/06/15

Checked by: D. Seibold

Date: 03/06/15

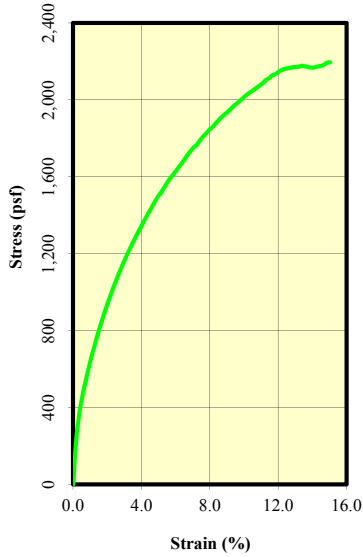
Tested by: G. Criste

Mohr Circles



— 7-B010A@36.5A

Stress-Strain Curve

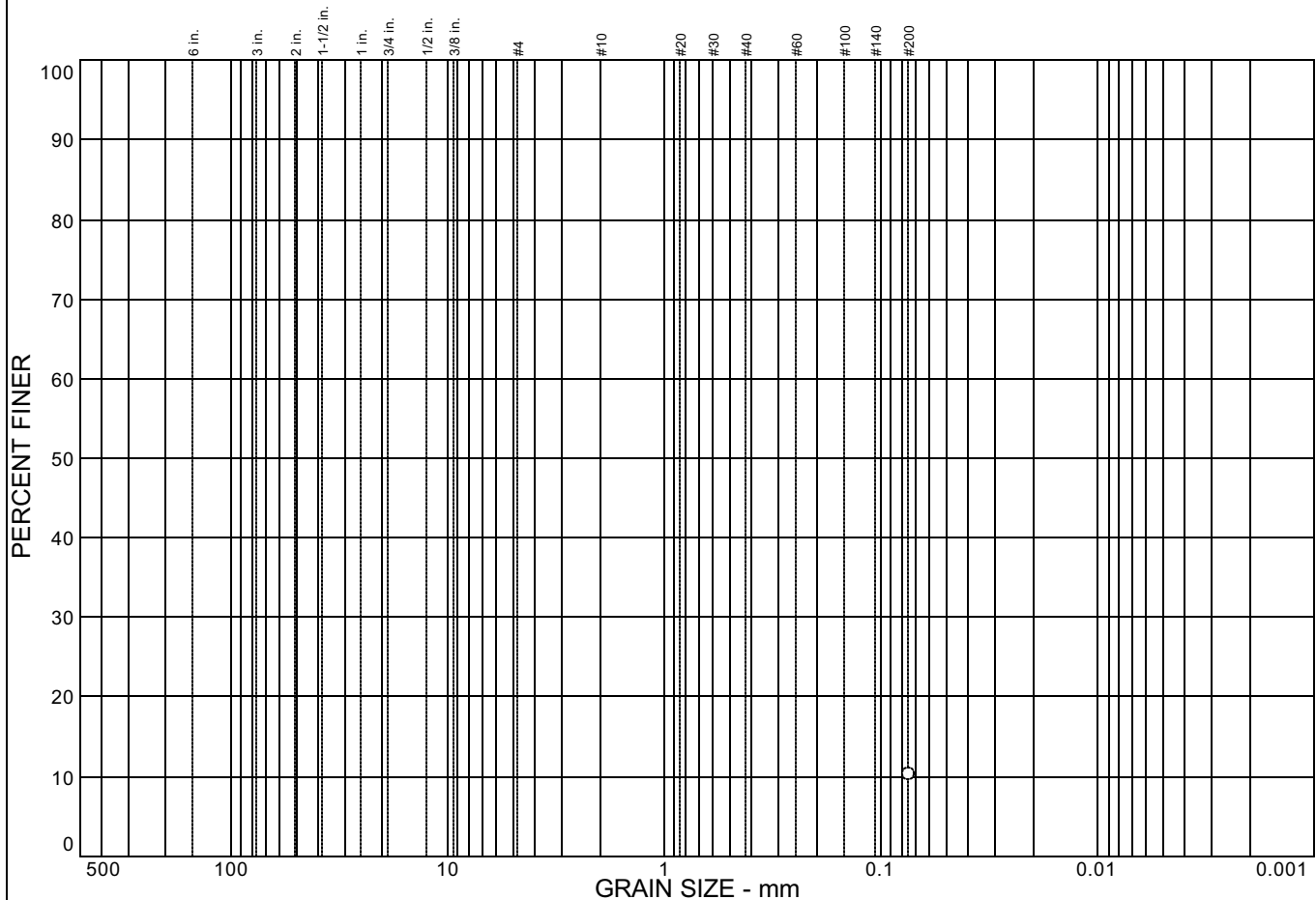


Specimen			
Before Test		7-B010A@36.5A	
Water Content (%)	36.98		
Dry Density (pcf)	83.66		
Saturation (%)	99.92		
Void Ratio	0.98		
Diameter (in)	2.853		
Height (in)	5.912		
Liquid Limit	-		
Plastic Limit	-		
Specific Gravity	2.659		
Height-to-Diameter Ratio	2.072		
After Test		7-B010A@36.5A	
Water Content (%)	0.00		
Saturation (%)	0.00		
Strain Rate (in/min)	0.05		
Peak Deviator Stress (psf)	2195.8		
Axial Strain @ Failure (%)	15.035		
Cell Pressure			
Cell (psf)	2505.6		
Back (psf)	n/a		
Principle Stresses at Failure			
σ_1 (psf)	4701.4		
σ_3 (psf)	2505.6		

Mohr-Coulomb Parameters with a Non-zero Friction Angle ($\phi \neq 0$)		Cohesion at Failure with a Zero Friction Angle ($\phi = 0$)	
Cohesion, c (psf)	0.0	1097.9	
Friction Angle ϕ	0.00	n/a	

Project Information			
Project Name:	ULDC Analysis and Identification of Deficiencies		
Project Number:	5747.005.000 PHT-004	Job Number:	5747.005.000
Location:	n/a	Boring Number:	7-B010A
Client:	Peterson Brustad Incorporated	Sample Number:	7-B010A@36.5A
Description:	See exploration logs		

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			10.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	10.3		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

See Exploratory Boring Logs

* (no specification provided)

Sample No.: 3-B1 @ 11'
Location:

Source of Sample:

Date: 1-09-09
Elev./Depth: 11'

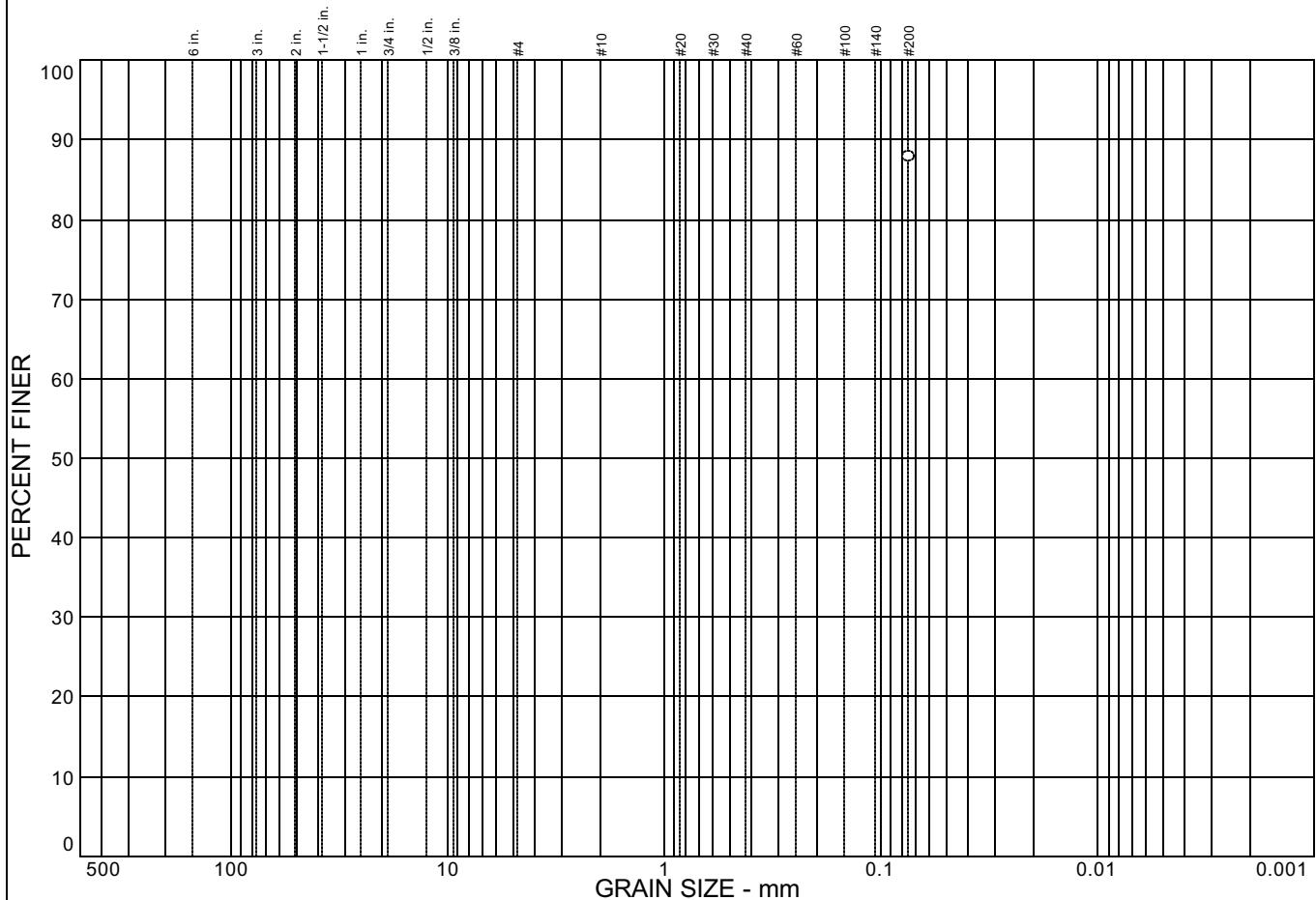


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			87.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	87.9		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

See Exploratory Boring Logs

* (no specification provided)

Sample No.: 3-B4 @ 8'
Location:

Source of Sample:

Date: 01-27-09
Elev./Depth: 8'

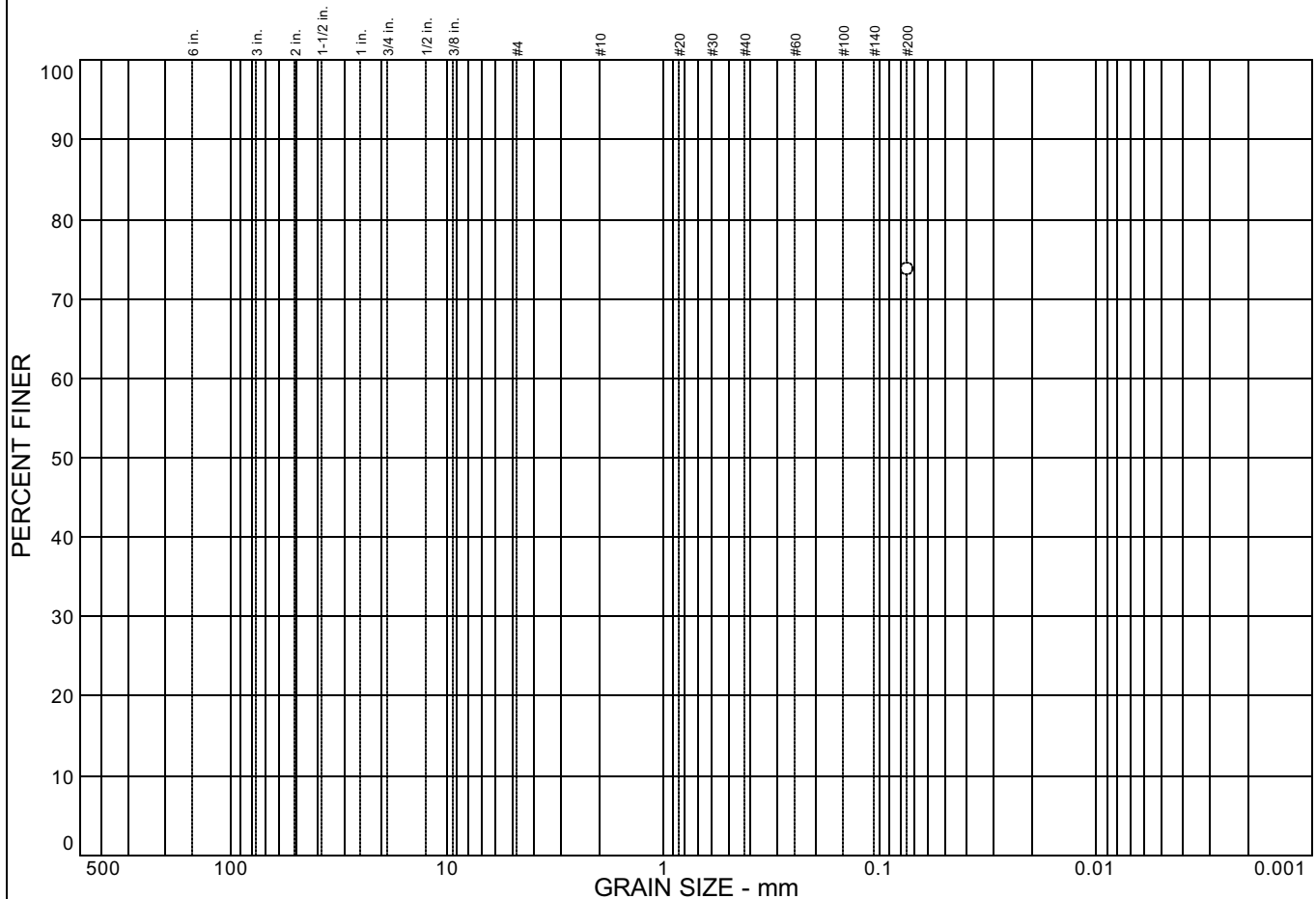


Client:
Project: RD-17 Levee Seepage Project

Project No: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			73.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	73.6		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

See Exploratory Boring Logs

* (no specification provided)

Sample No.: 3-B5 @ 10'
Location:

Source of Sample:

Date: 01-27-09
Elev./Depth: 10'

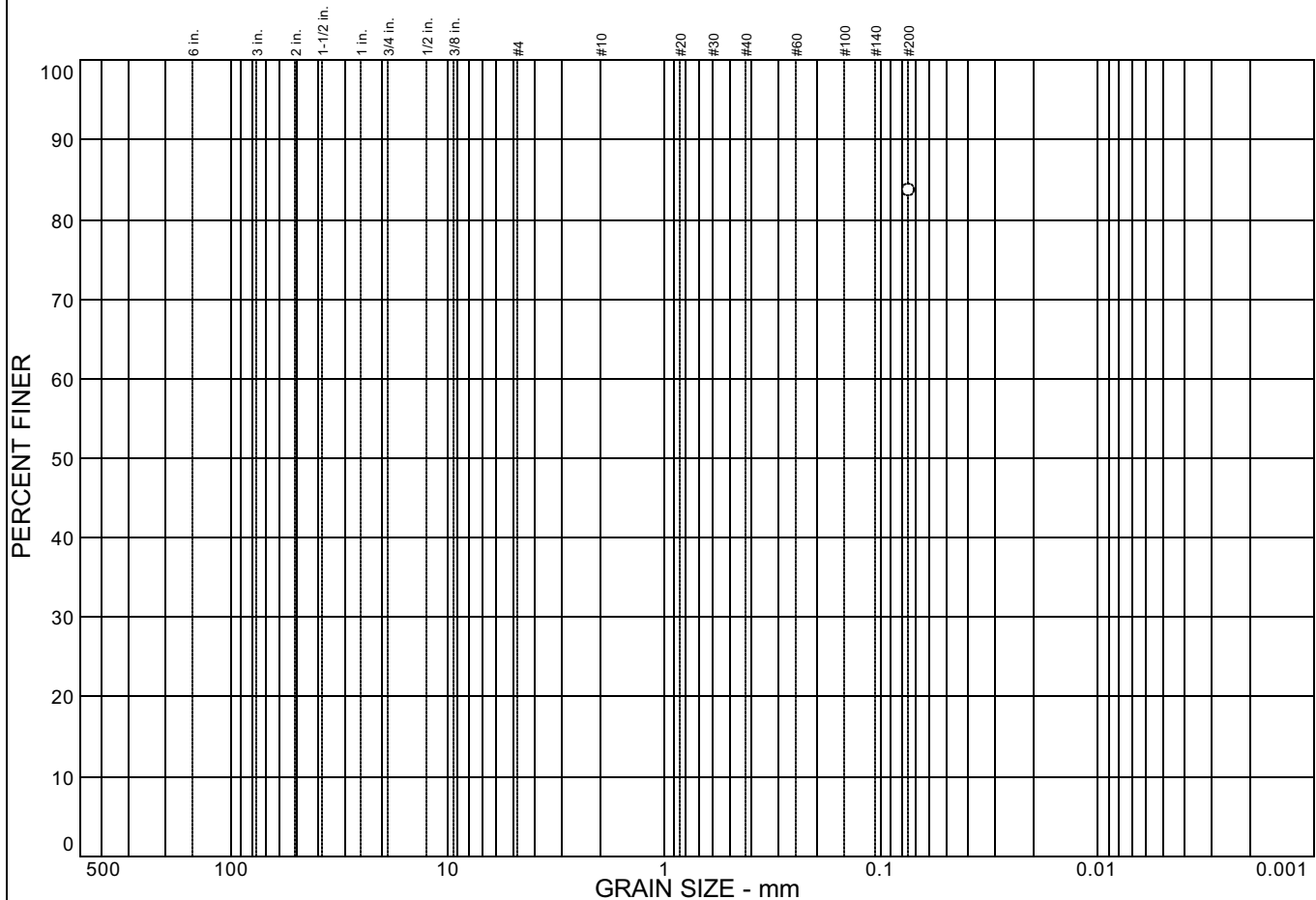


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			83.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	83.6		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

See Exploratory Boring Logs

* (no specification provided)

Sample No.: 3-B6 @ 10'
Location:

Source of Sample:

Date: 01-27-09
Elev./Depth: 10'

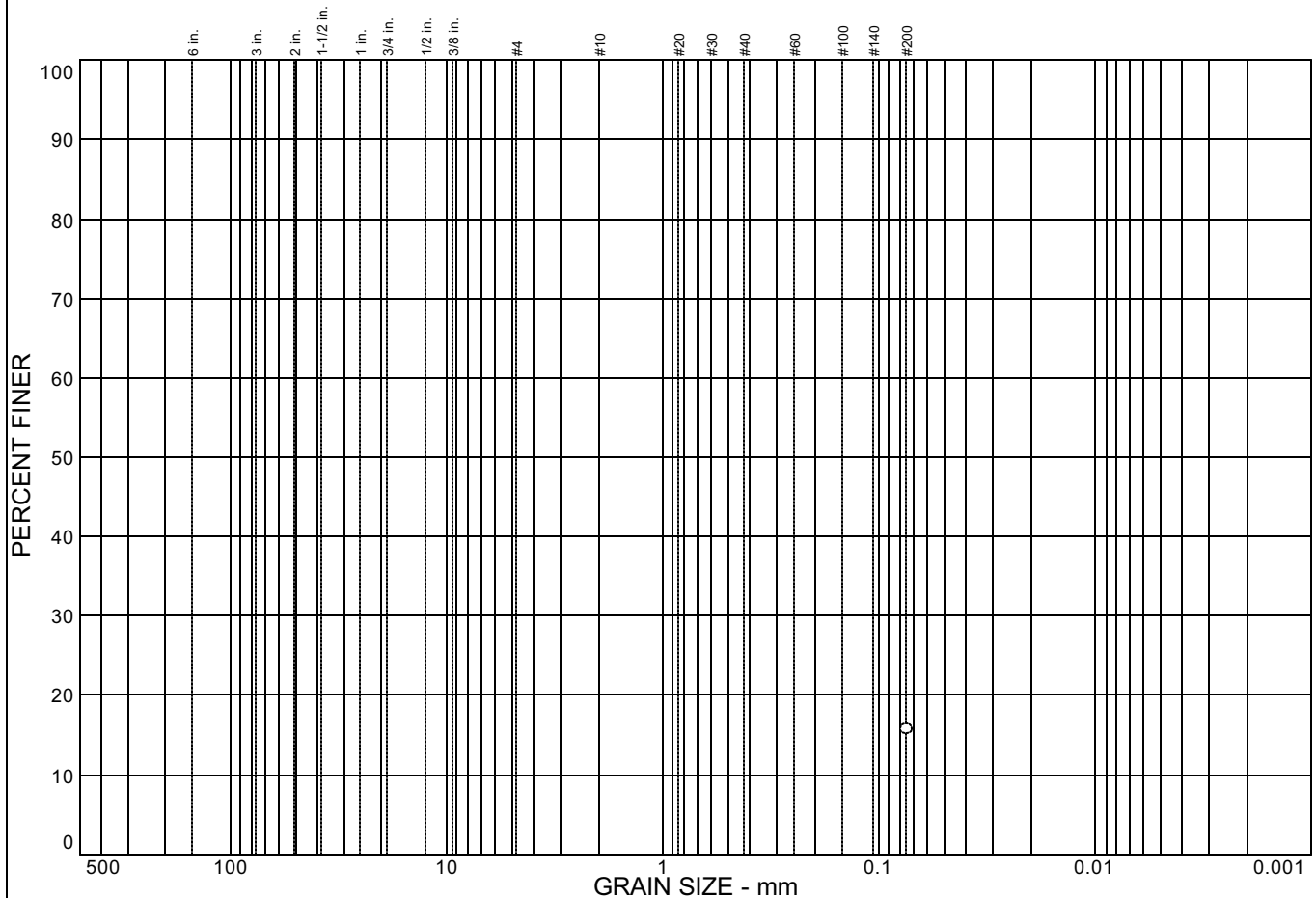


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			15.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	15.7		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 3-B8 @ 8'
Location:

Source of Sample:

Date: 2-20-09
Elev./Depth: 8'

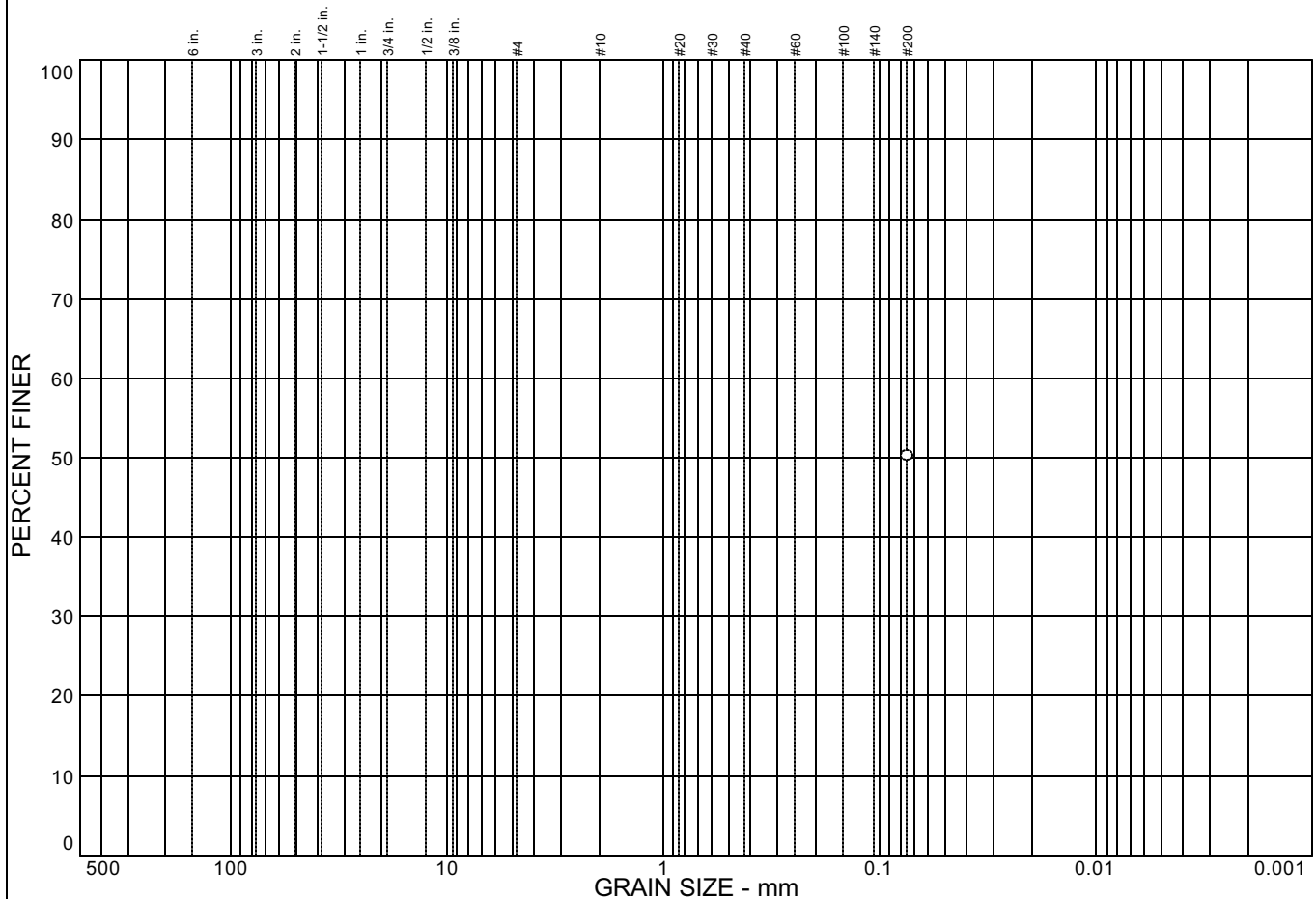


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			50.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	50.2		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 3-B8 @ 13'
Location:

Source of Sample:

Date: 2-20-09
Elev./Depth: 13'

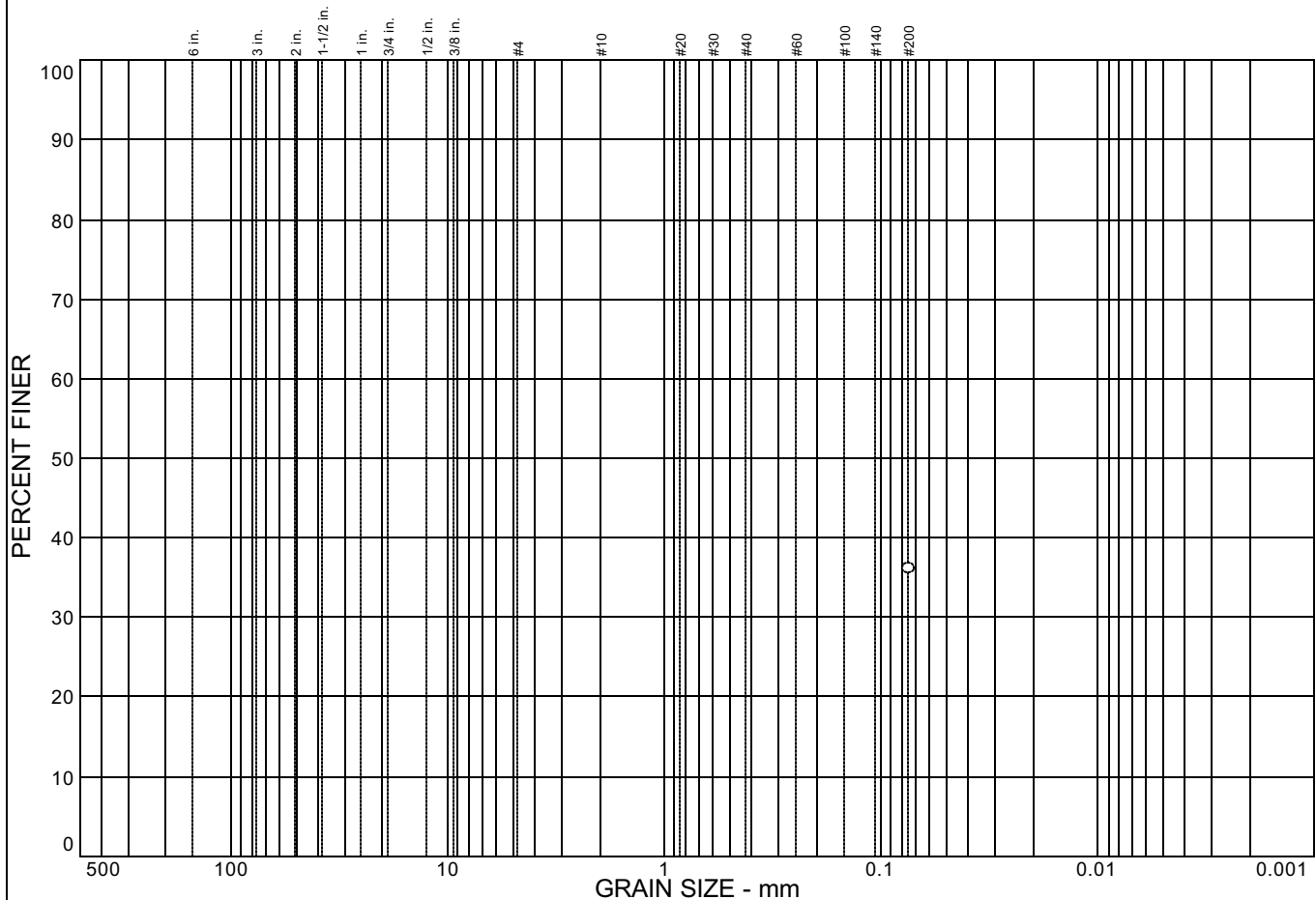


Client:
Project: RD-17 Levee Seepage Project

Project No: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			36.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	36.1		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 3-B10 @ 12'
Location:

Source of Sample:

Date: 2-20-09
Elev./Depth: 12'

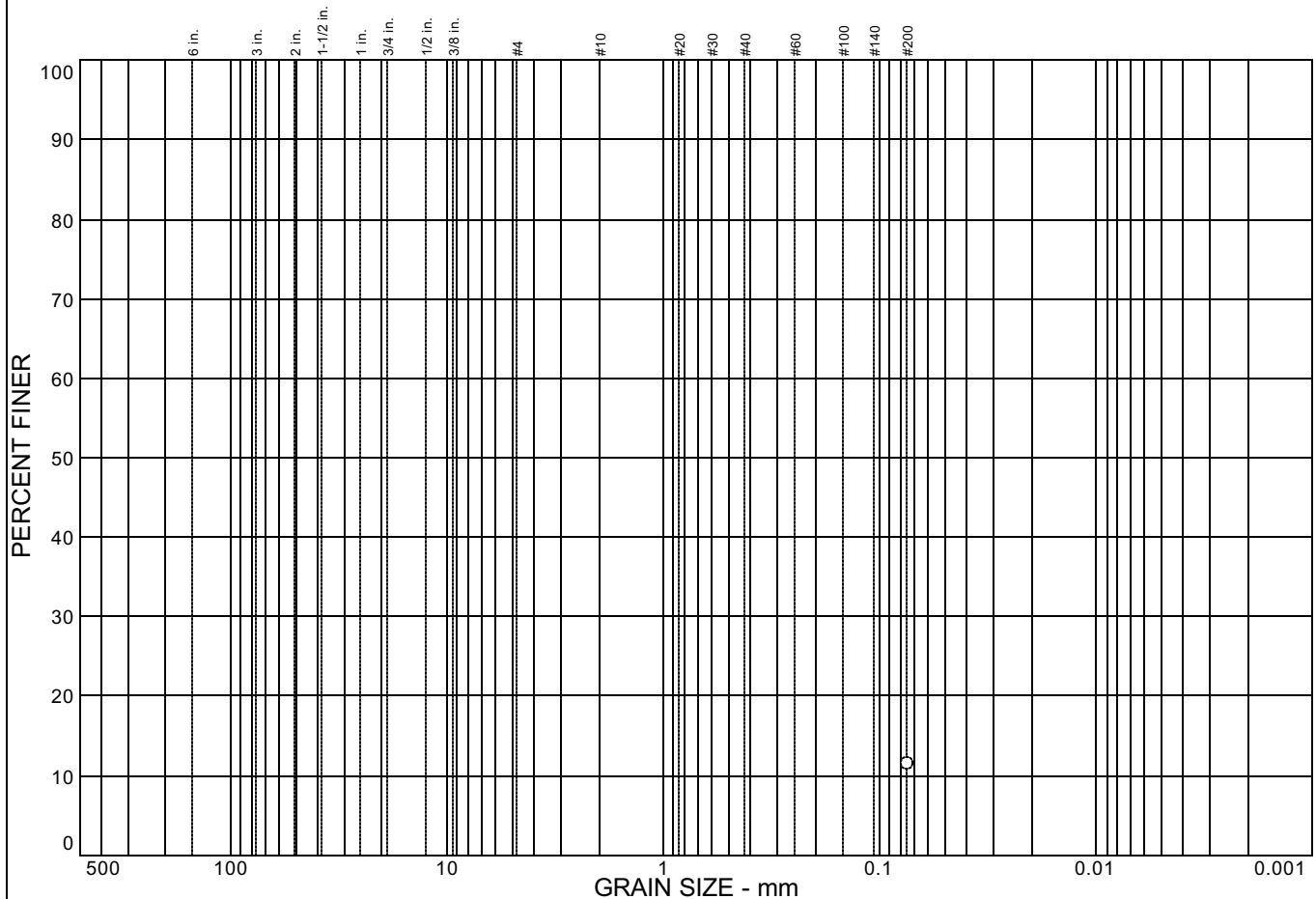


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			11.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	11.5		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 3-B12 @ 14'
Location:

Source of Sample:

Date: 2-20-09
Elev./Depth: 14'

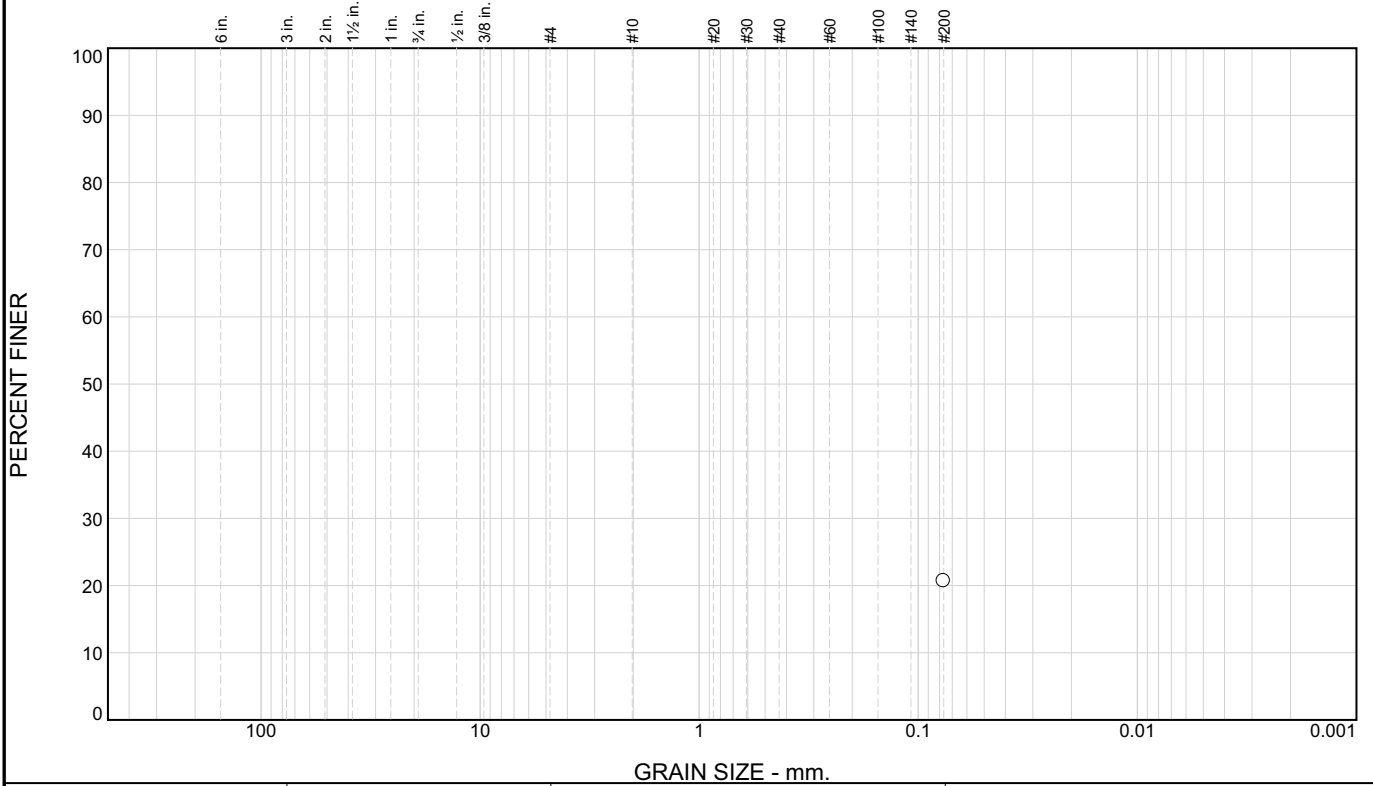


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						20.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	20.5		

Soil Description

See Exploratory Boring Logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

See Exploratory Boring Logs

* (no specification provided)

Sample No.: 4-B1 @ 2.5'
Location:

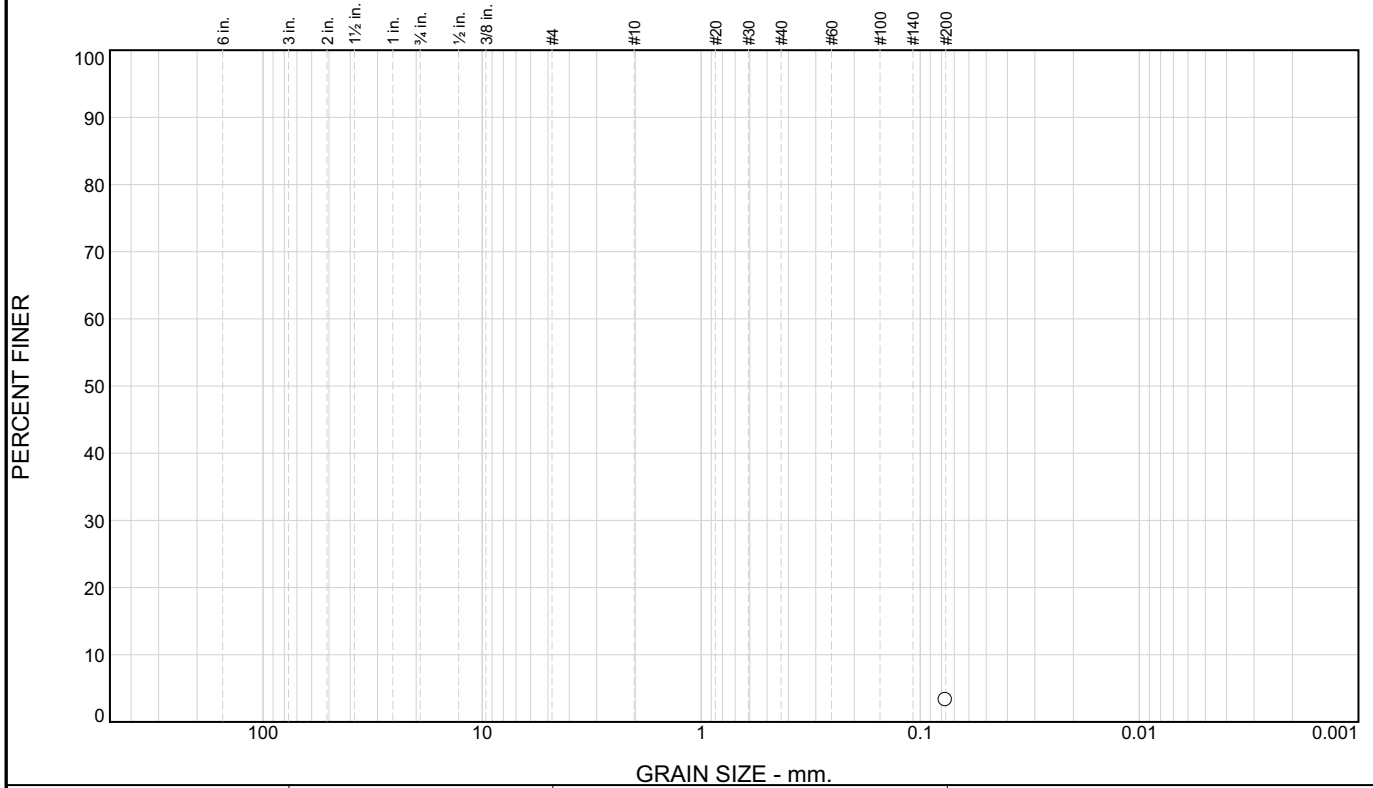
Source of Sample:

Date: 12-01-09
Elev./Depth: 2.5'

ENGEO, Inc. Ripon, California	Client: Project: RD-17 Levee Seepage Project Project No: 5747.000.000 (001)
Figure	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						3.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	3.0		

Soil Description

See Exploratory Boring Logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

See Exploratory Boring Logs

* (no specification provided)

Sample No.: 4-B1 @ 6'
Location:

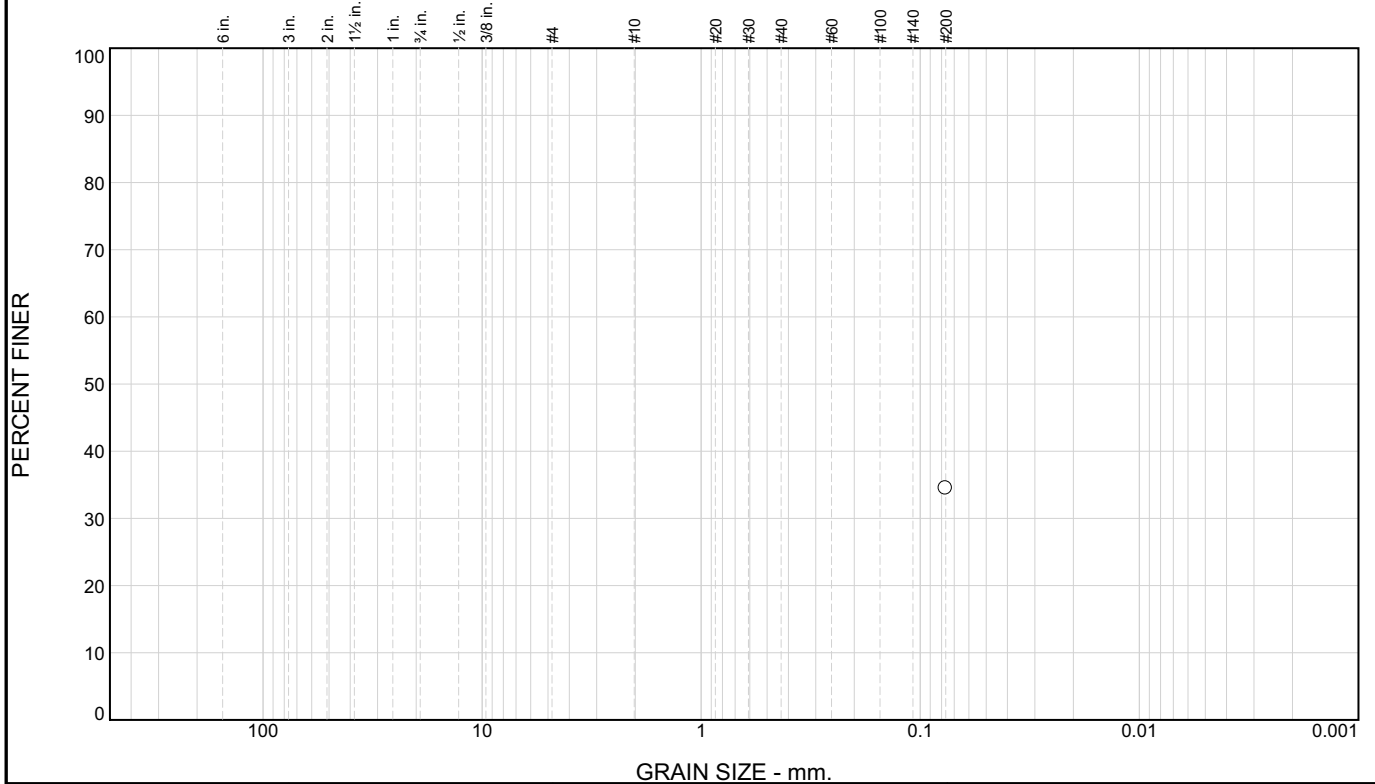
Source of Sample:

Date: 12-01-09
Elev./Depth: 6'

ENGEO, Inc. Ripon, California	Client: Project: RD-17 Levee Seepage Project Project No: 5747.000.000 (001)
Figure	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
							34.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	34.3		

Soil Description

See Exploratory Boring Logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 See Exploratory Boring Logs

* (no specification provided)

Sample No.: 4-B1 @ 17.5'
Location:

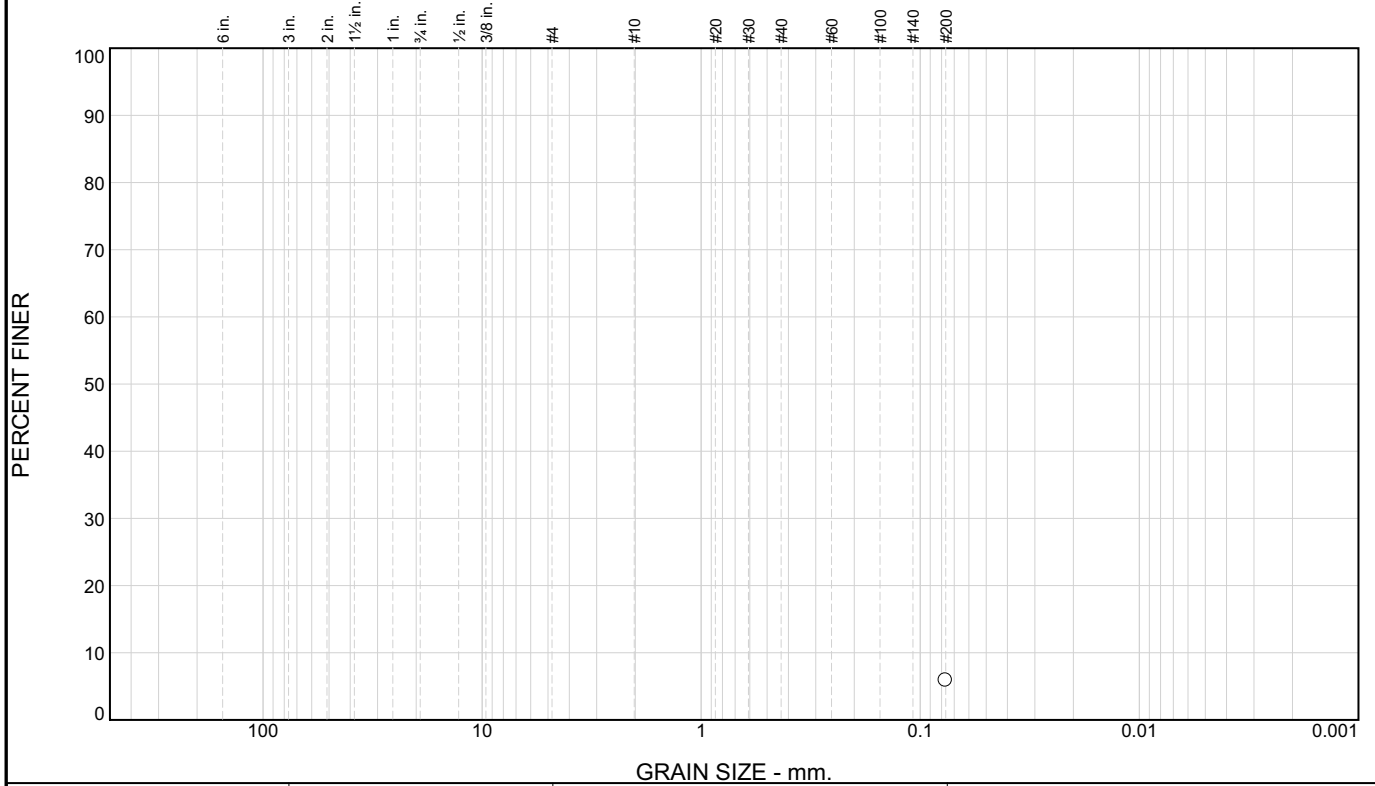
Source of Sample:

Date: 12-01-09
Elev./Depth: 17.5'

<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Project No: 5747.000.000 (001)</p> <p style="text-align: right;">Figure</p>
---	---

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						5.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	5.6		

Soil Description

See Exploratory Boring Logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 See Exploratory Boring Logs

* (no specification provided)

Sample No.: 4-B1 @ 31'
Location:

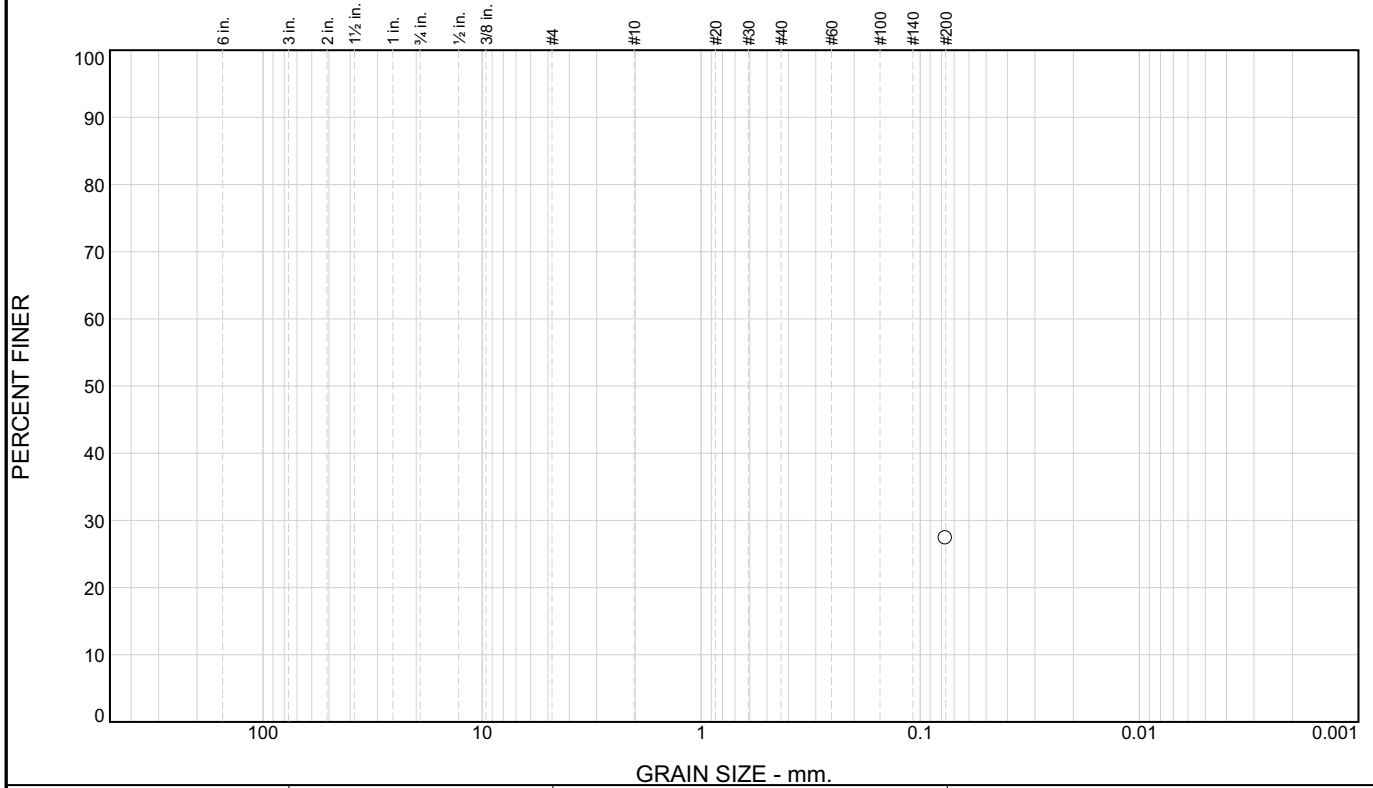
Source of Sample:

Date: 12-01-09
Elev./Depth: 31'

ENGEO, Inc. Ripon, California	Client: Project: RD-17 Levee Seepage Project Project No: 5747.000.000 (001)
Figure	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						27.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	27.1		

Soil Description

See Exploratory Boring Logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 See Exploratory Boring Logs

* (no specification provided)

Sample No.: 4-B1 @ 36'
Location:

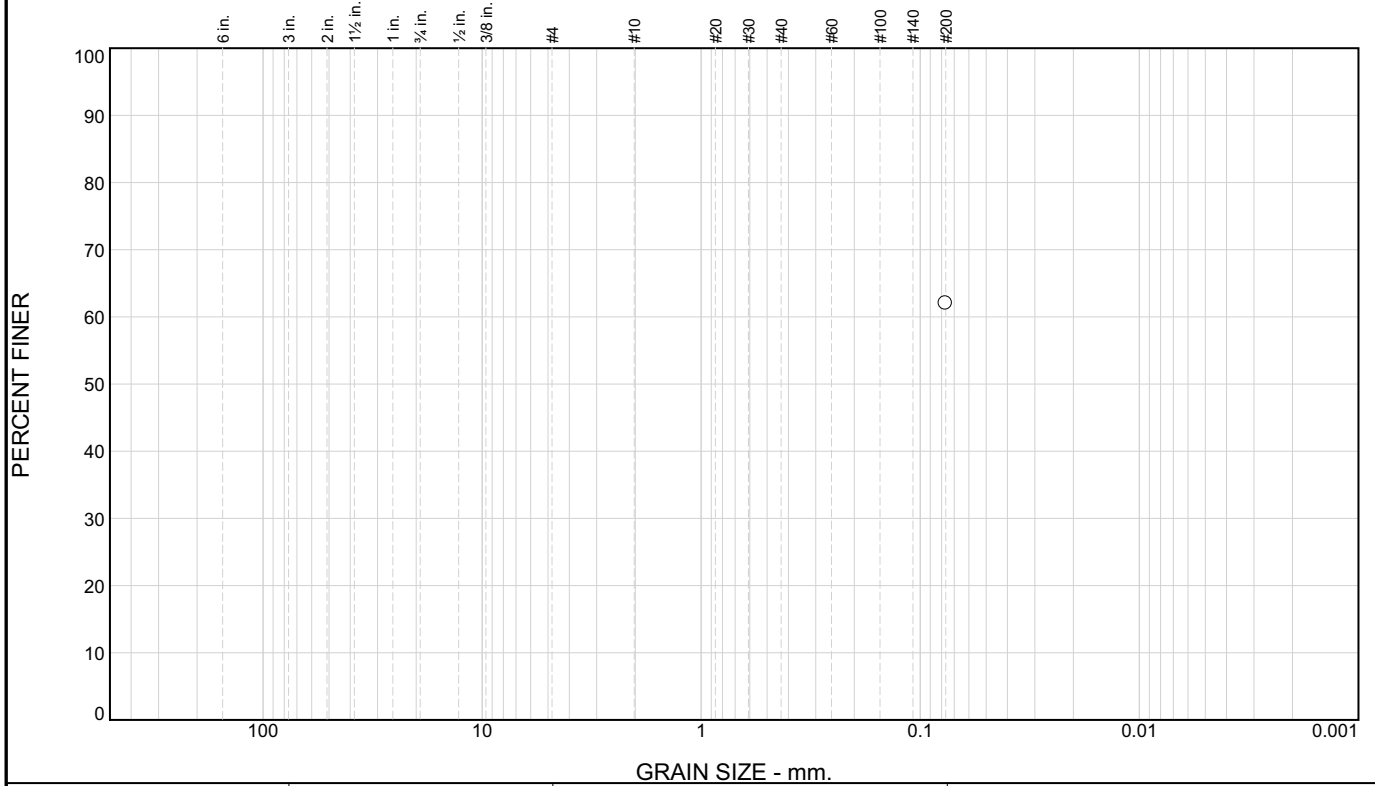
Source of Sample:

Date: 12-01-09
Elev./Depth: 36'

ENGEO, Inc. Ripon, California	Client: Project: RD-17 Levee Seepage Project Project No: 5747.000.000 (001)
Figure	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						61.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	61.9		

Soil Description

See Exploratory Boring Logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 See Exploratory Boring Logs

* (no specification provided)

Sample No.: 4-B1 @ 91'
Location:

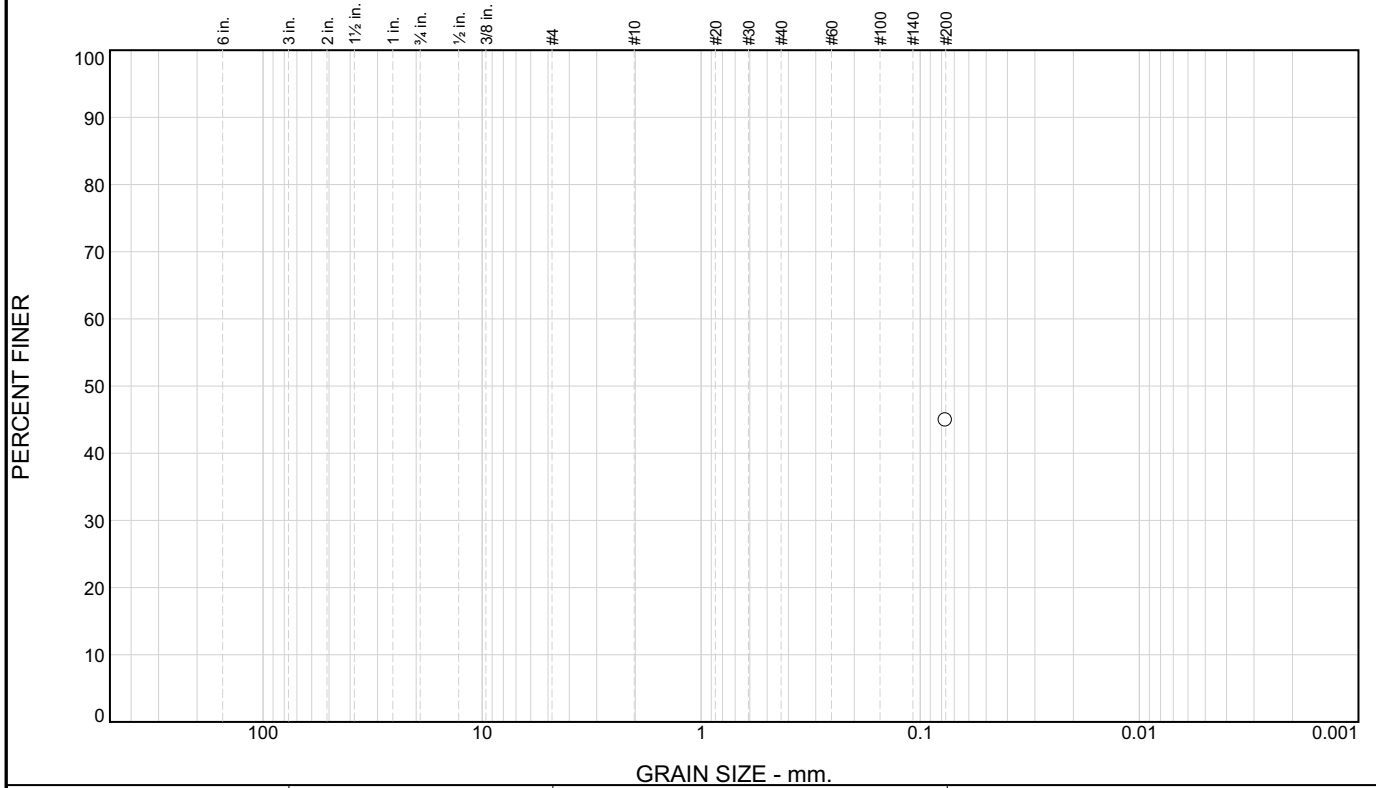
Source of Sample:

Date: 12-01-09
Elev./Depth: 91'

ENGEO, Inc. Ripon, California	Client: Project: RD-17 Levee Seepage Project Project No: 5747.000.000 (001)
Figure	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						44.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	44.7		

Soil Description

See Exploratory Boring Logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks
 See Exploratory Boring Logs

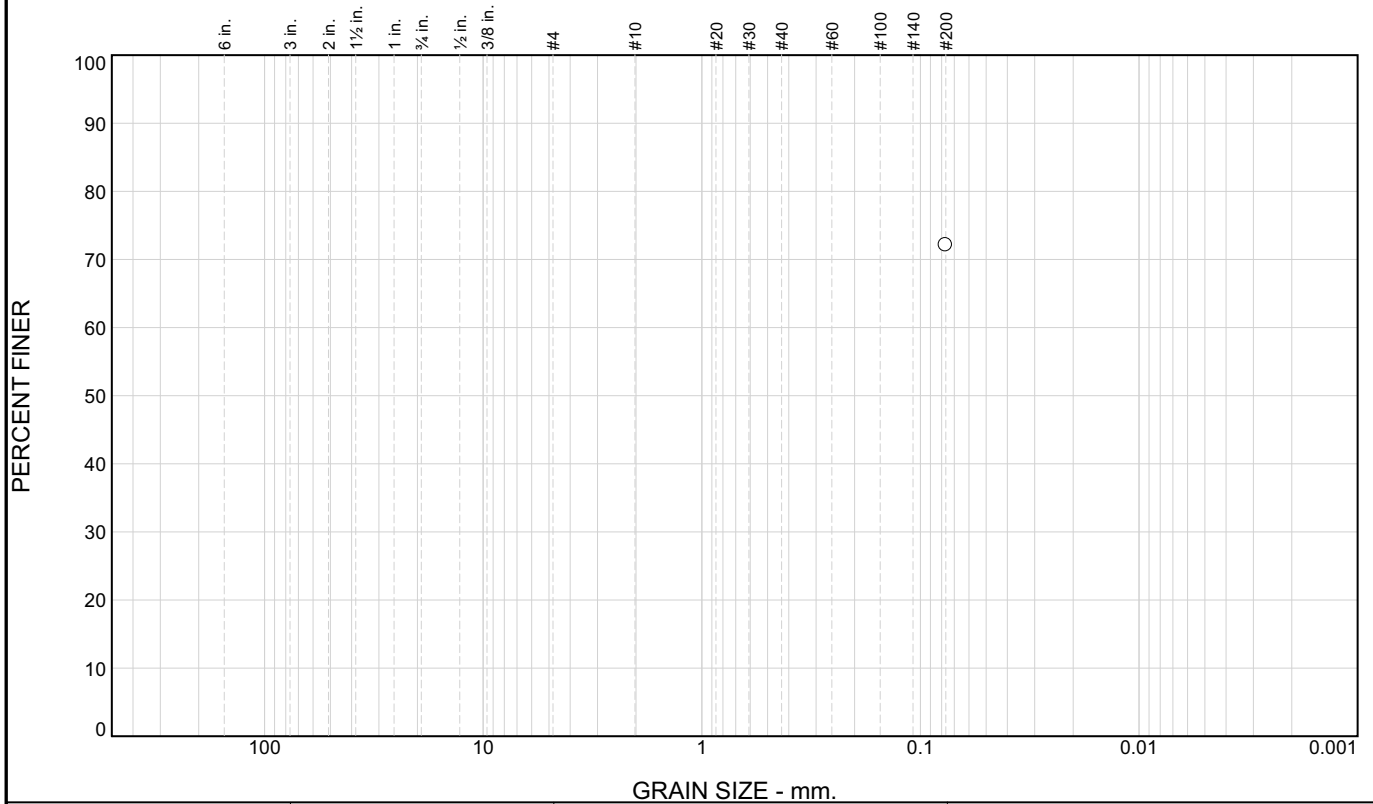
* (no specification provided)

Sample No.: 4-B1 @ 101' **Source of Sample:** **Date:** 12-01-09
Location: **Elev./Depth:** 101'

ENGEO, Inc. Ripon, California	Client: Project: RD-17 Levee Seepage Project Project No: 5747.000.000 (001)
Figure	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						72.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	72.0		

Material Description

See Exploratory Boring Logs

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS= AASHTO=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Date Tested: 11-13-09 **Tested By:** KEL

Remarks

* (no specification provided)

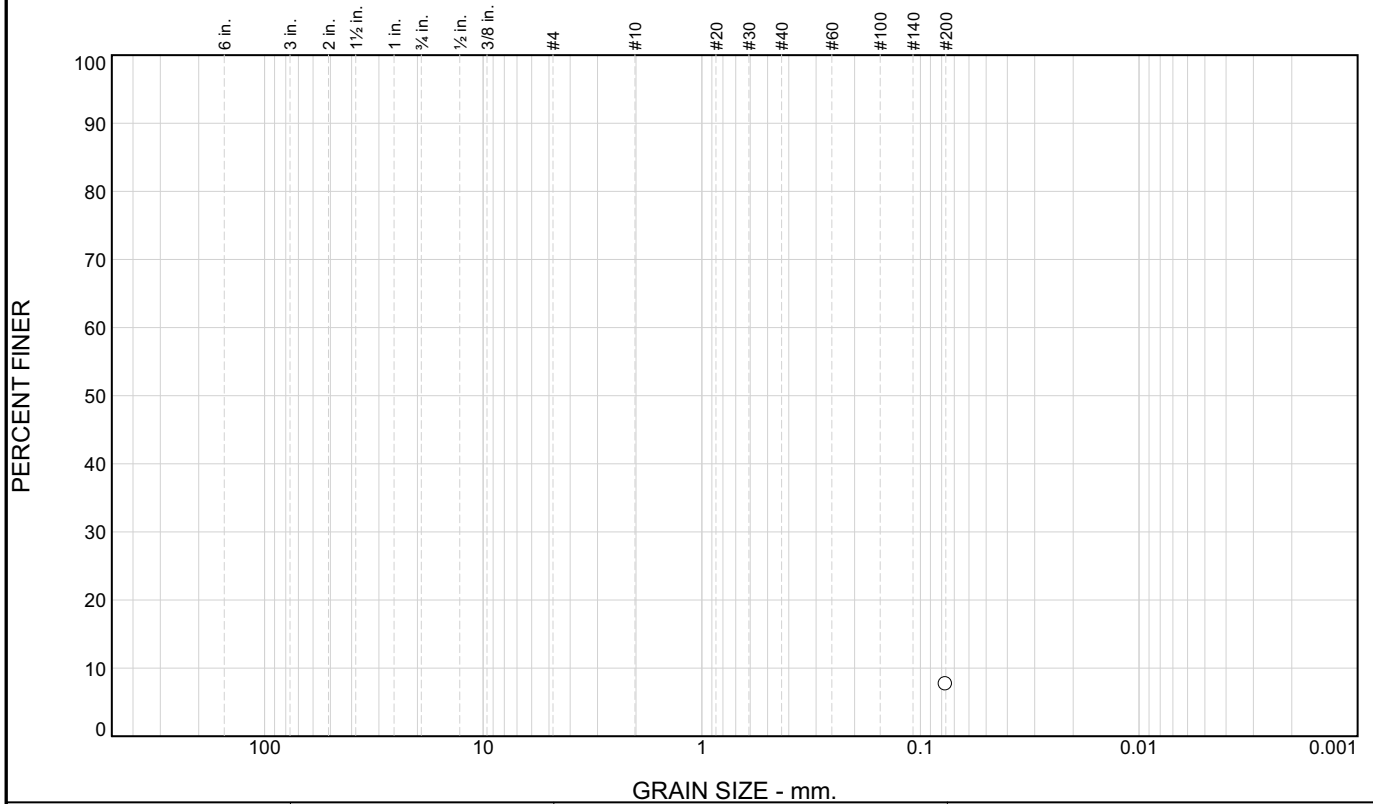
Sample No.: 4-B4 @ 21' **Source of Sample:**
Location:
Checked By: ZAC

Date Sampled:
Elev./Depth: 21'

Title:

<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Project No: 5747.000.000 (001)</p> <p style="text-align: right;">Figure</p>
---	---

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						7.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	7.4		

Material Description

See Exploratory Boring Logs

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS= AASHTO=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Date Tested: 11-13-09 **Tested By:** KEL

Remarks

* (no specification provided)

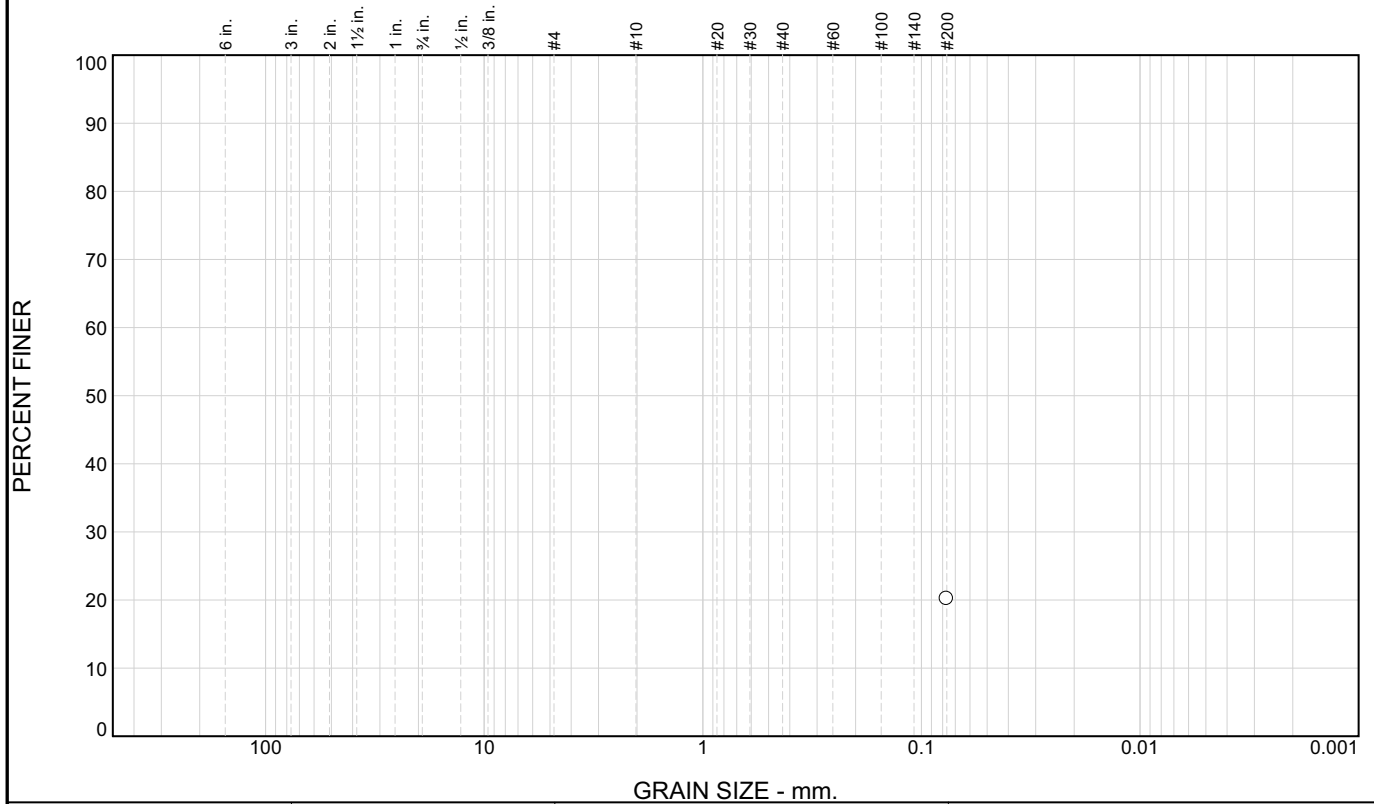
Sample No.: 4-B4 @ 41' **Source of Sample:**
Location:
Checked By: ZAC

Date Sampled:
Elev./Depth: 41'

Title:

<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Project No: 5747.000.000 (001)</p> <p style="text-align: right;">Figure</p>
---	---

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						20.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	20.0		

Material Description

See Exploratory Boring Logs

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS= AASHTO=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Date Tested: Tested By: KEL

Remarks

* (no specification provided)

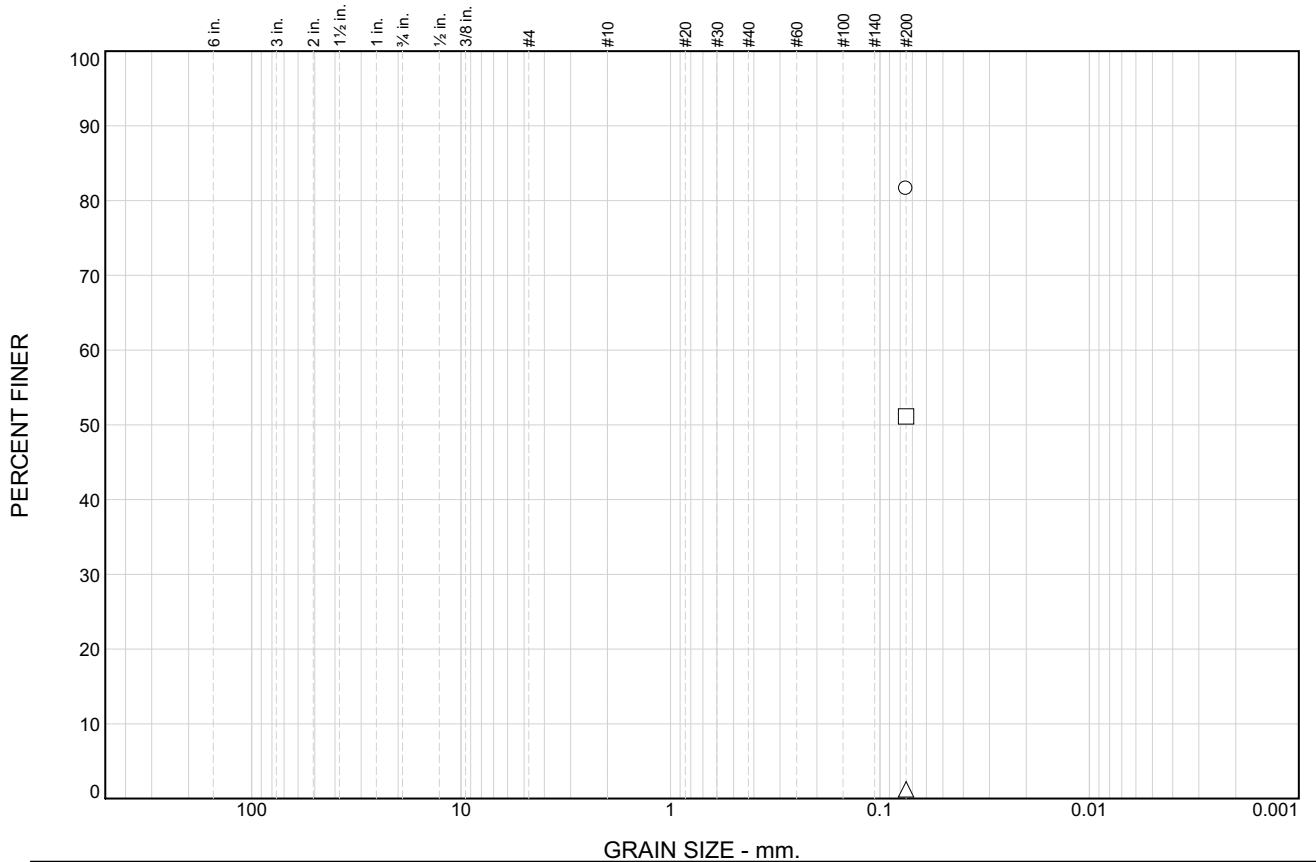
Sample No.: 4-B5 @ 41' Source of Sample:
 Location:
 Checked By: ZAC

Date Sampled:
 Elev./Depth: 41'

Title:

<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Client: Project: RD-17 Levee Seepage Project Project No: 5747.000.000 (001)</p>
<p>Figure</p>	

Particle Size Distribution Report



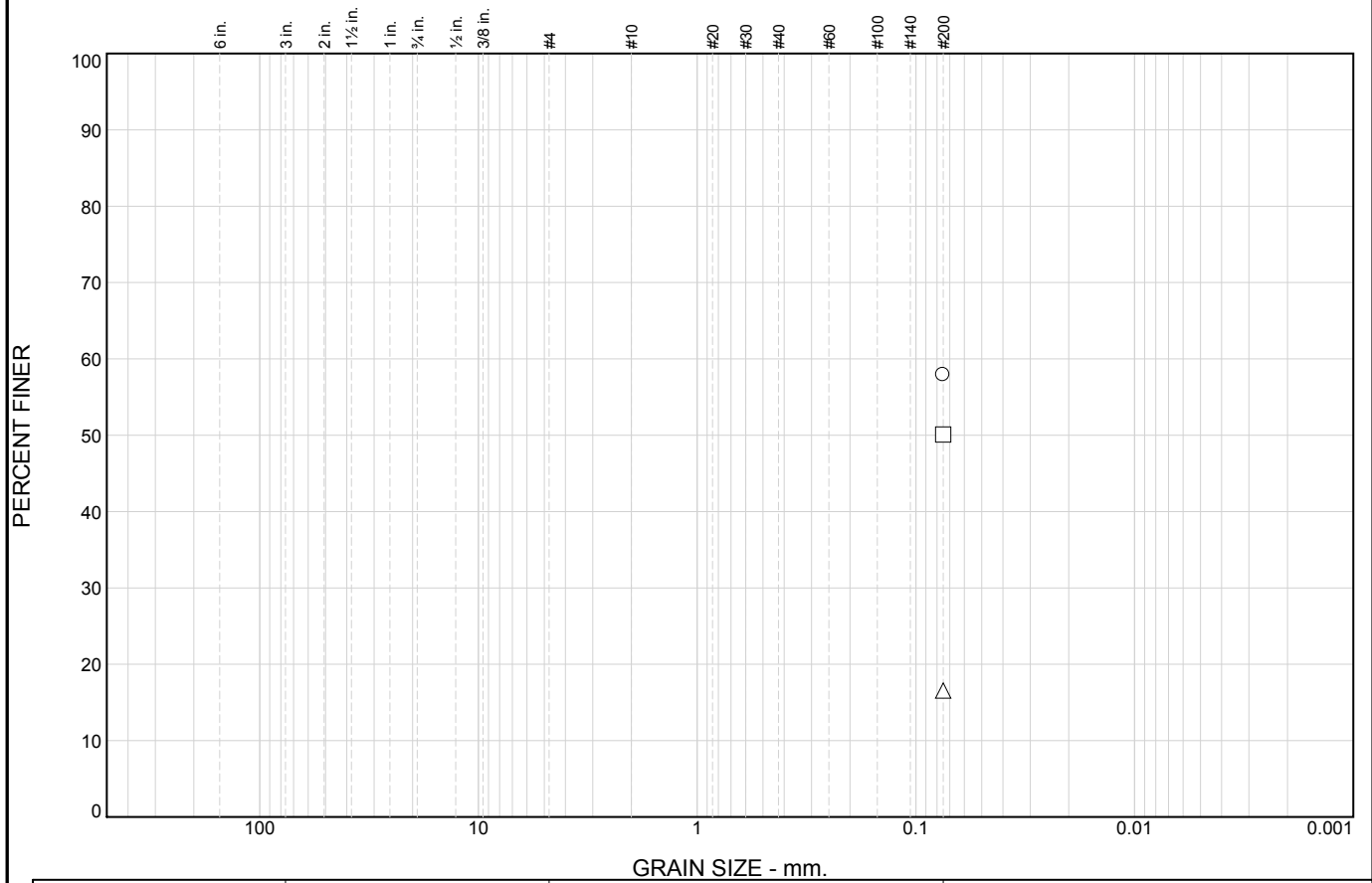
	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							81.6	
□							51.1	
△							1.2	

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○		4-B6 @ 2'	2'	See Boring Logs	
□		4-B6 @ 5'	5'	See Boring Logs	
△		4-B6 @ 8'	8'	See Boring Logs	

<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Project No.: 5747.000.000 (001)</p>
	<p>Figure</p>

Tested By: RS Checked By: KEL

Particle Size Distribution Report



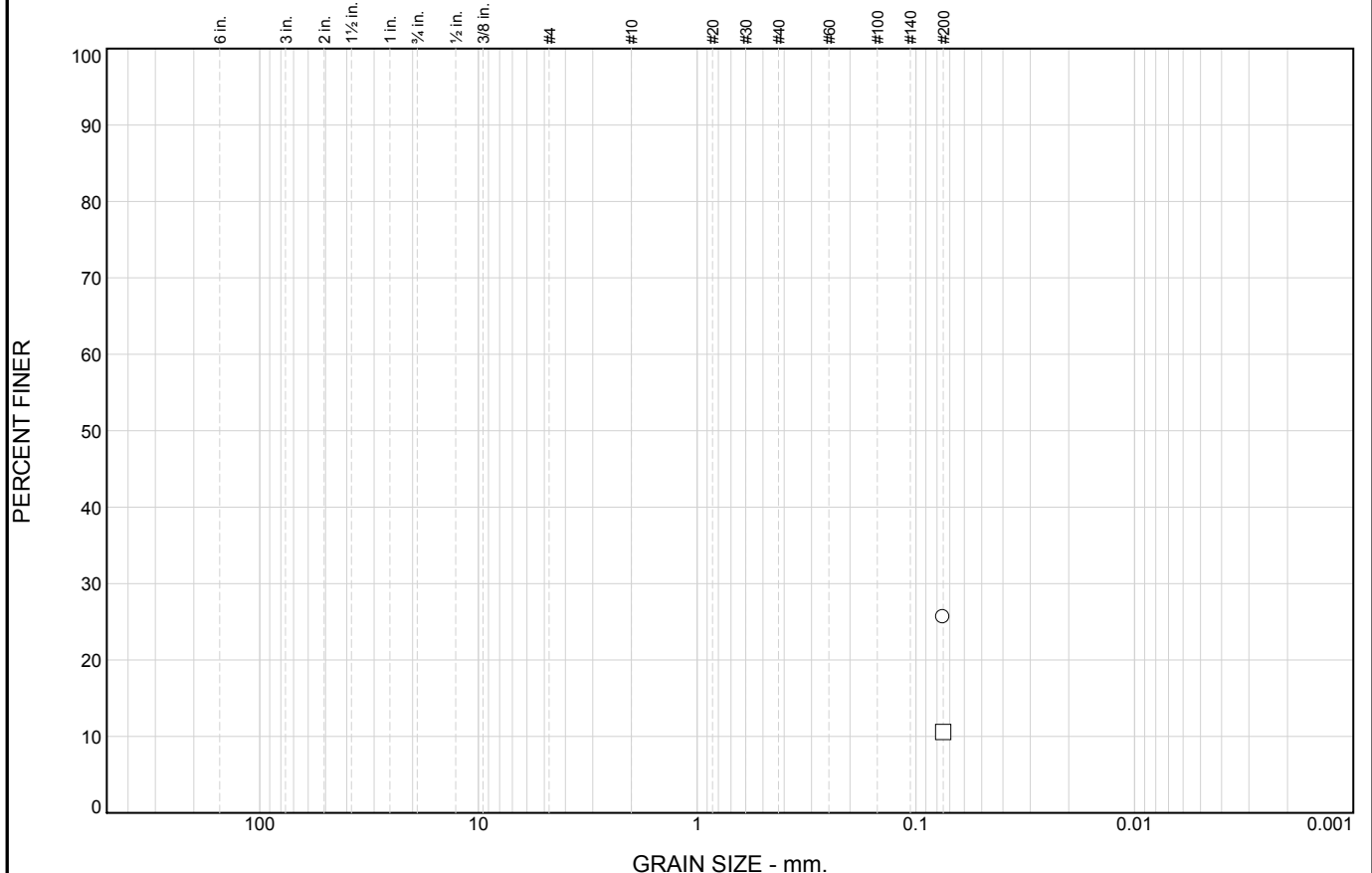
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○								57.9		
□								50.1		
△								16.6		
	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○										
□										
△										

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs □ See Exploratory Boring Logs △ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 1' Sample Number: 5-B1 @ 1'</p> <p>□ Depth: 17' Sample Number: 5-B1 @ 17'</p> <p>△ Depth: 51' Sample Number: 5-B1 @ 51'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



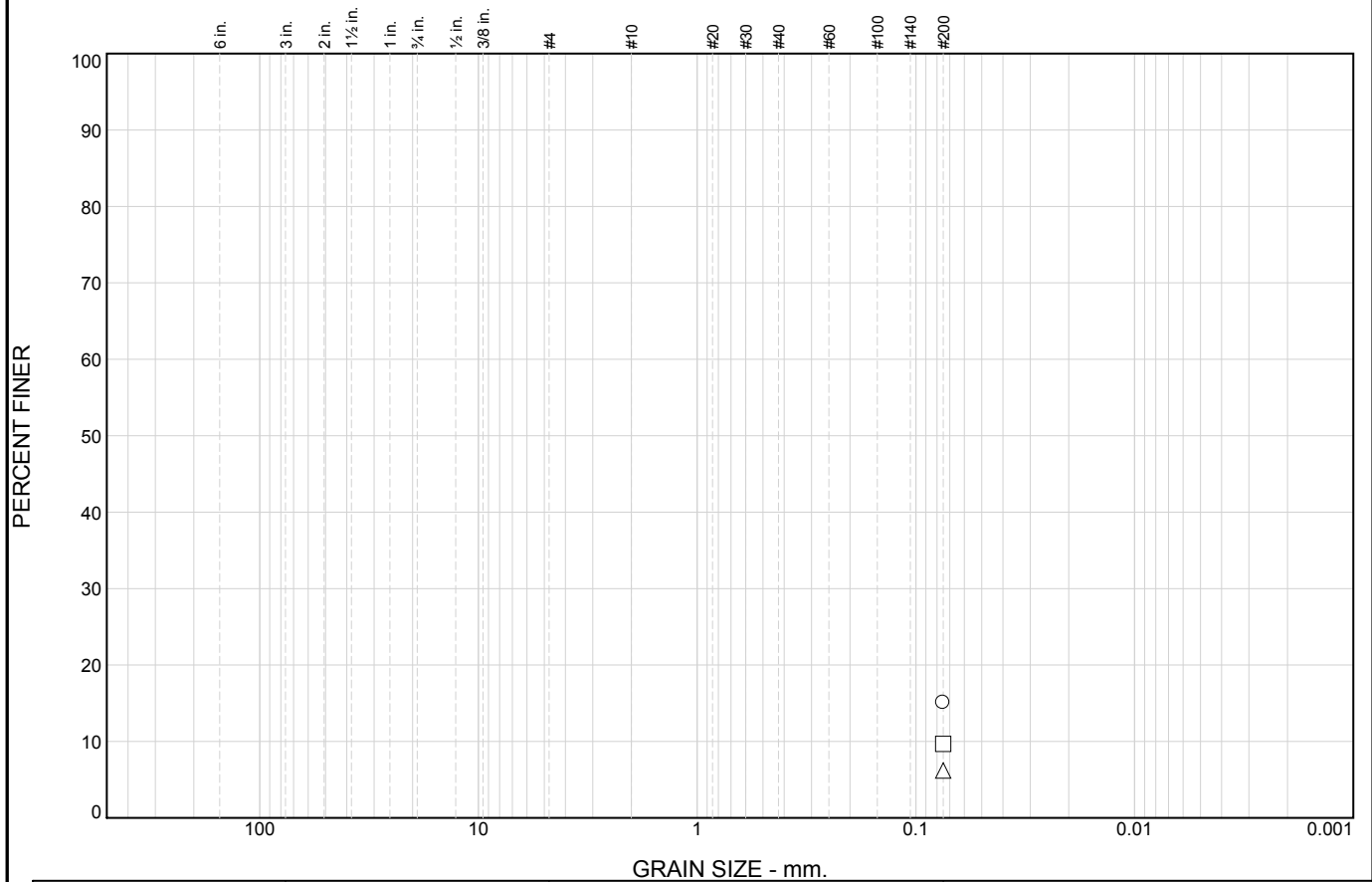
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="checkbox"/>								25.6		
<input type="checkbox"/>								10.6		
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description		USCS	AASHTO
<input type="checkbox"/> See Exploratory Boring Logs			
<input type="checkbox"/> See Exploratory Boring Logs			

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="checkbox"/> Depth: 56' Sample Number: 5-B1 @ 56'</p> <p><input type="checkbox"/> Depth: 65.5' Sample Number: 5-B1 @ 65.5'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
---	--

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



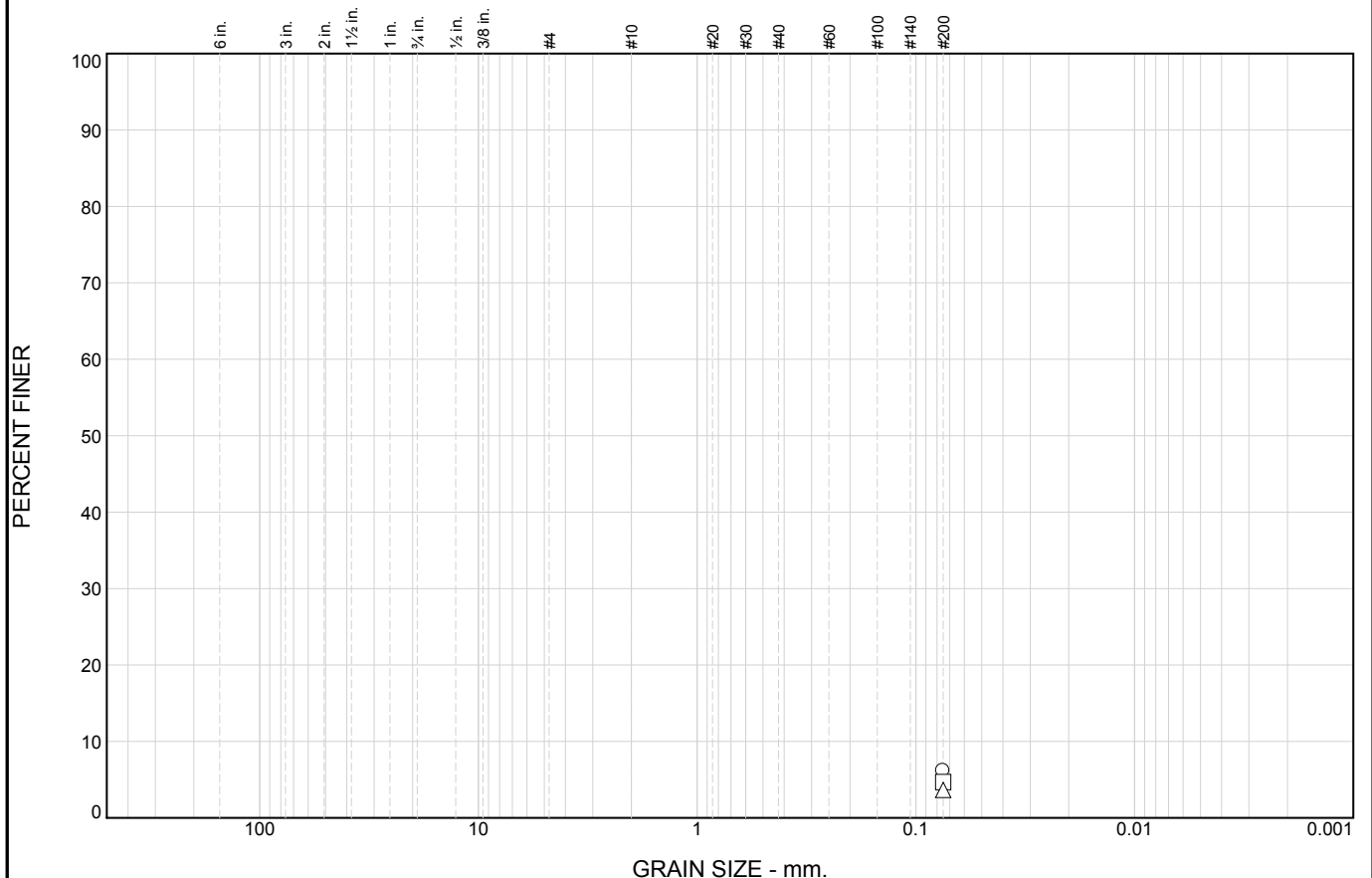
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○							15.1			
□							9.7			
△							6.2			
	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○										
□										
△										

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs □ See Exploratory Boring Logs △ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 35.5' Sample Number: 5-B2 @ 35.5' □ Depth: 55' Sample Number: 5-B2 @ 55' △ Depth: 60' Sample Number: 5-B2 @ 60'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: ○ KEL □ KEL △ KEL **Checked By:** ZAC

Particle Size Distribution Report



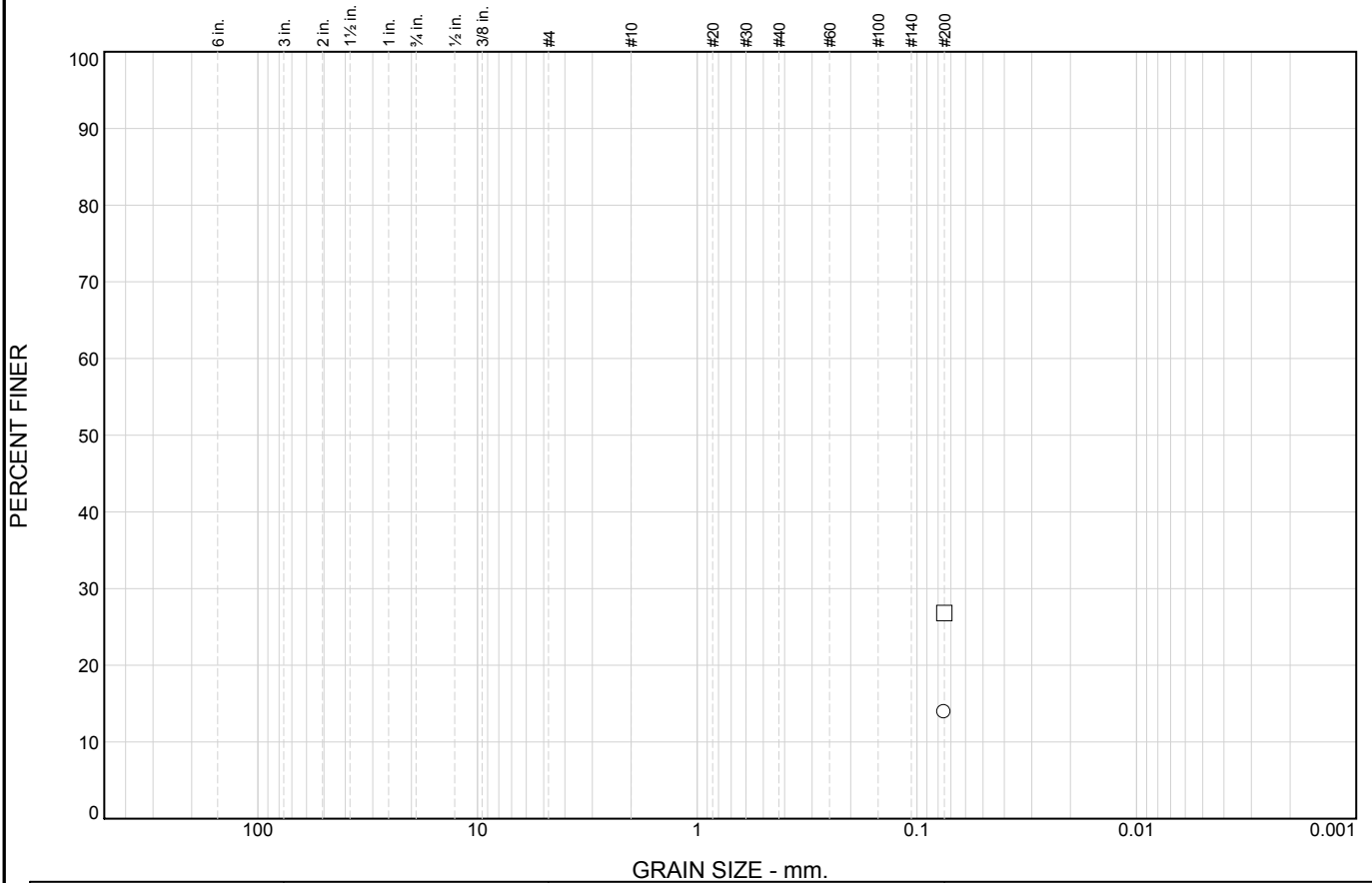
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="checkbox"/>								6.1		
<input type="checkbox"/>								4.7		
<input type="checkbox"/>								3.7		
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="checkbox"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="checkbox"/> Depth: 17.5' Sample Number: 5-B3 @ 17.5' <input type="checkbox"/> Depth: 36' Sample Number: 5-B3 @ 36' <input type="checkbox"/> Depth: 40.5' Sample Number: 5-B3 @ 40.5'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



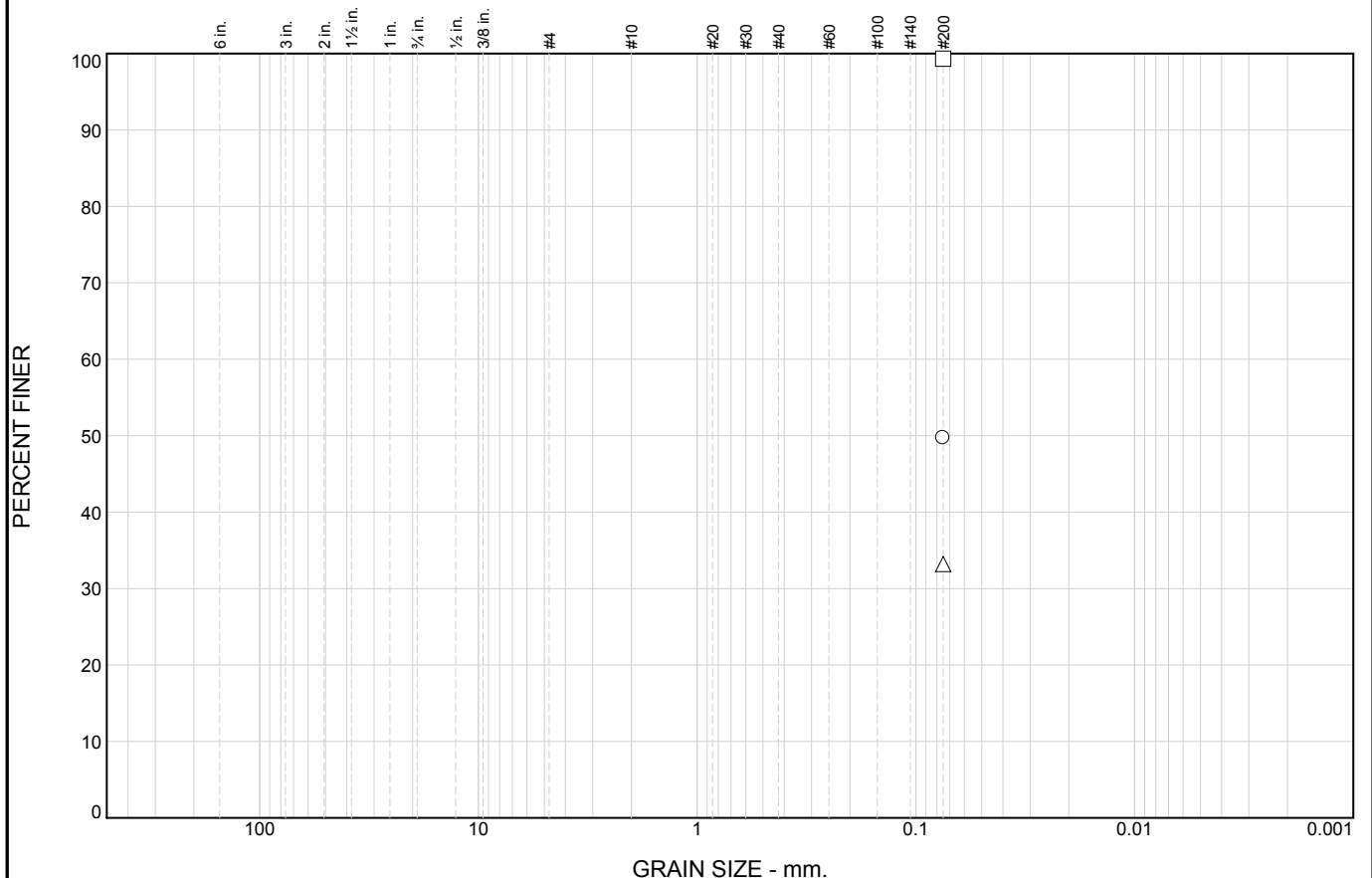
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							13.9			
<input type="checkbox"/>							26.8			
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 80' Sample Number: 5-B3 @ 80' <input type="checkbox"/> Depth: 95.5' Sample Number: 5-B3 @ 95.5'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



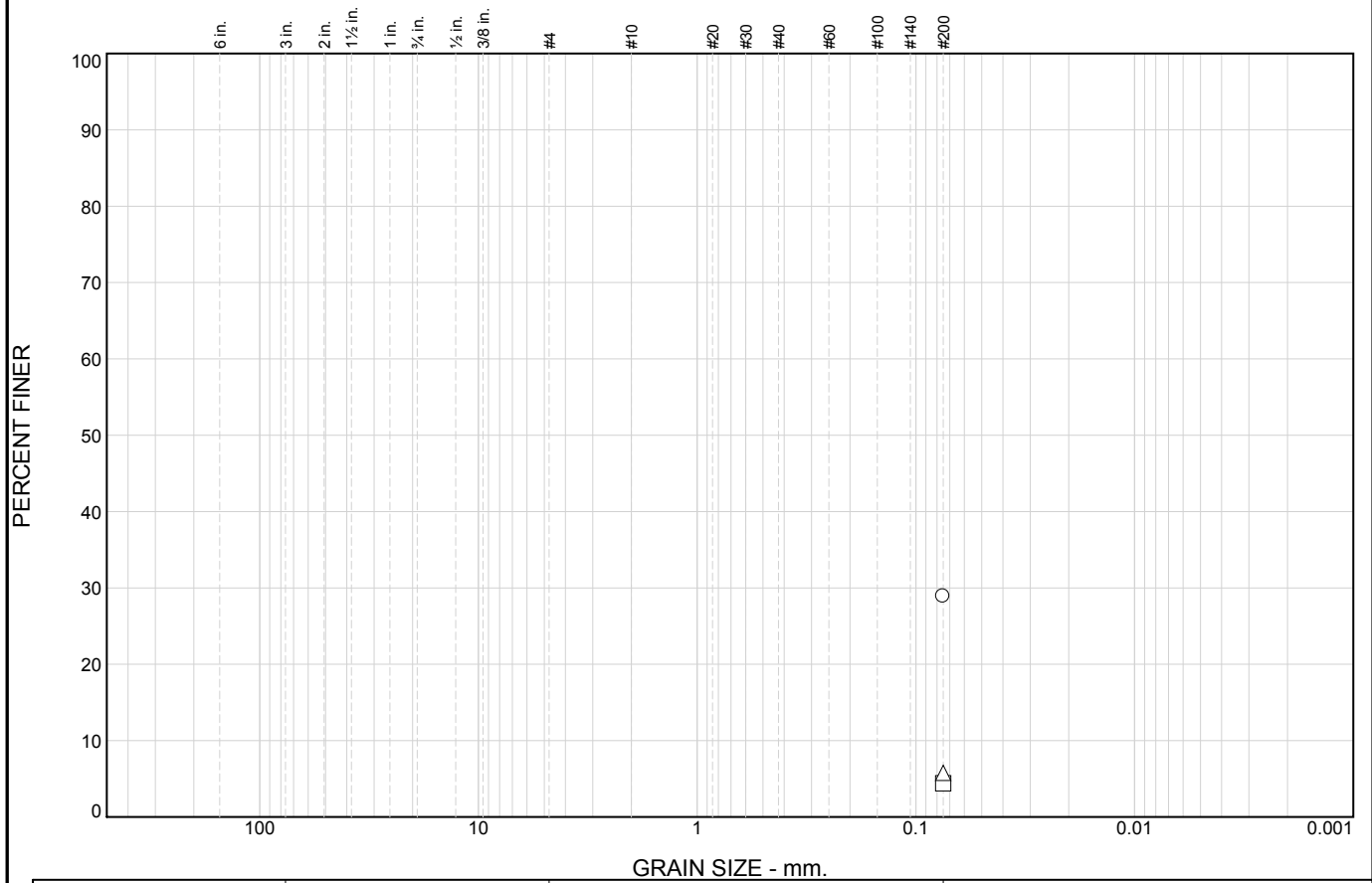
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○								49.7		
□								99.3		
△								33.2		
	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○										
□										
△										

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs □ See Exploratory Boring Logs △ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 5.5' Sample Number: 5-B4 @ 5.5'</p> <p>□ Depth: 16' Sample Number: 5-B4 @ 16'</p> <p>△ Depth: 20.5' Sample Number: 5-B4 @ 20.5'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



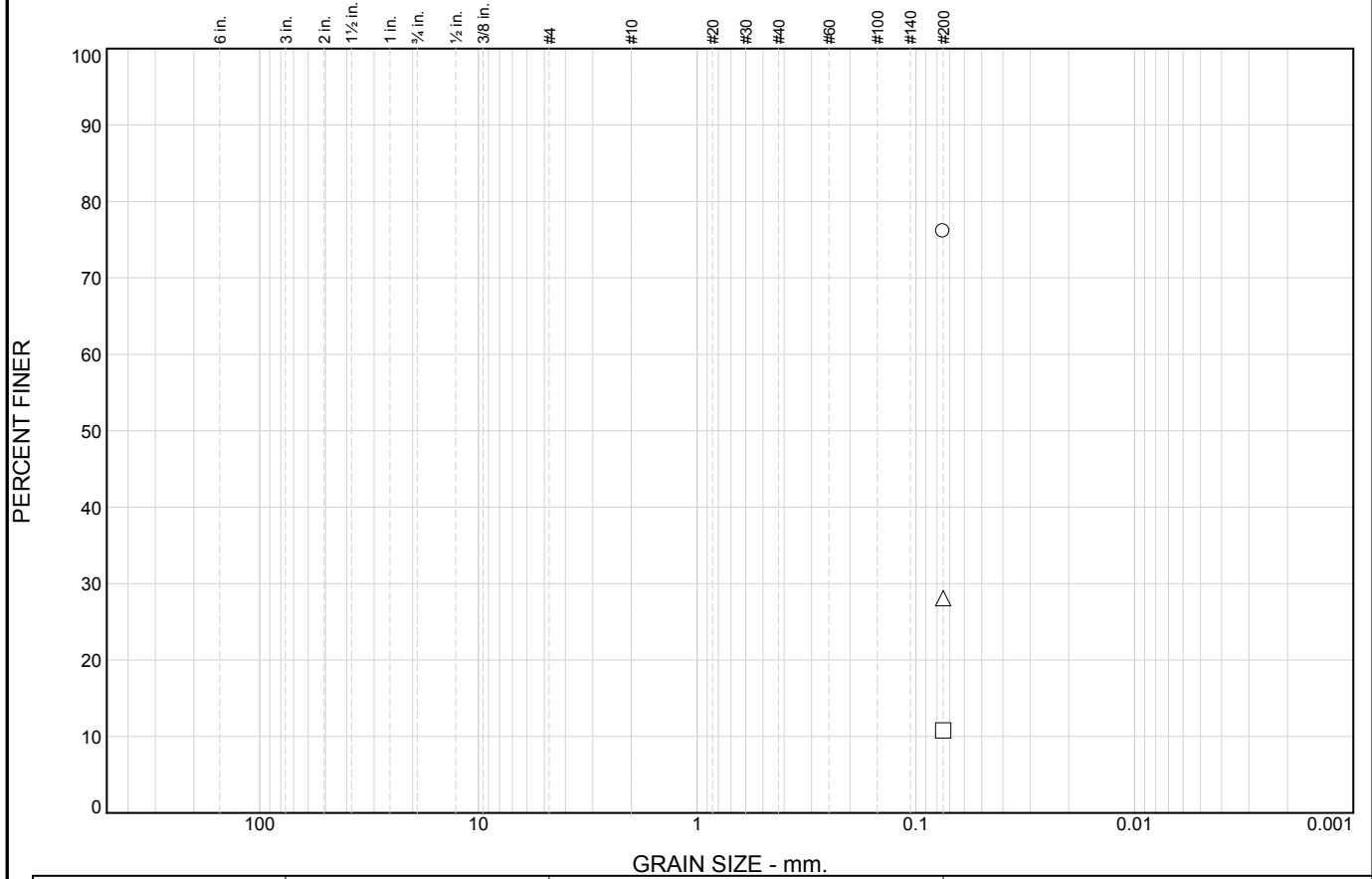
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							28.9			
<input type="checkbox"/>							4.4			
<input type="triangle-up"/>							5.8			
	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
<input type="radio"/>										
<input type="checkbox"/>										
<input type="triangle-up"/>										

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs <input type="triangle-up"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 25' Sample Number: 5-B4 @ 25' <input type="checkbox"/> Depth: 30' Sample Number: 5-B4 @ 30' <input type="triangle-up"/> Depth: 40' Sample Number: 5-B4 @ 40'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: KEL KEL KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○							76.1			
□							10.8			
△							28.1			
×	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○										
□										
△										

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs □ See Exploratory Boring Logs △ See Exploratory Boring Logs		

Project No. 5747.000.000 **Client:**
Project: RD-17 Levee Seepage Project

○ **Depth:** 46' **Sample Number:** 5-B4 @ 46'
 □ **Depth:** 71.5' **Sample Number:** 5-B4 @ 71.5'
 △ **Depth:** 78.5' **Sample Number:** 5-B4 @ 78.5'

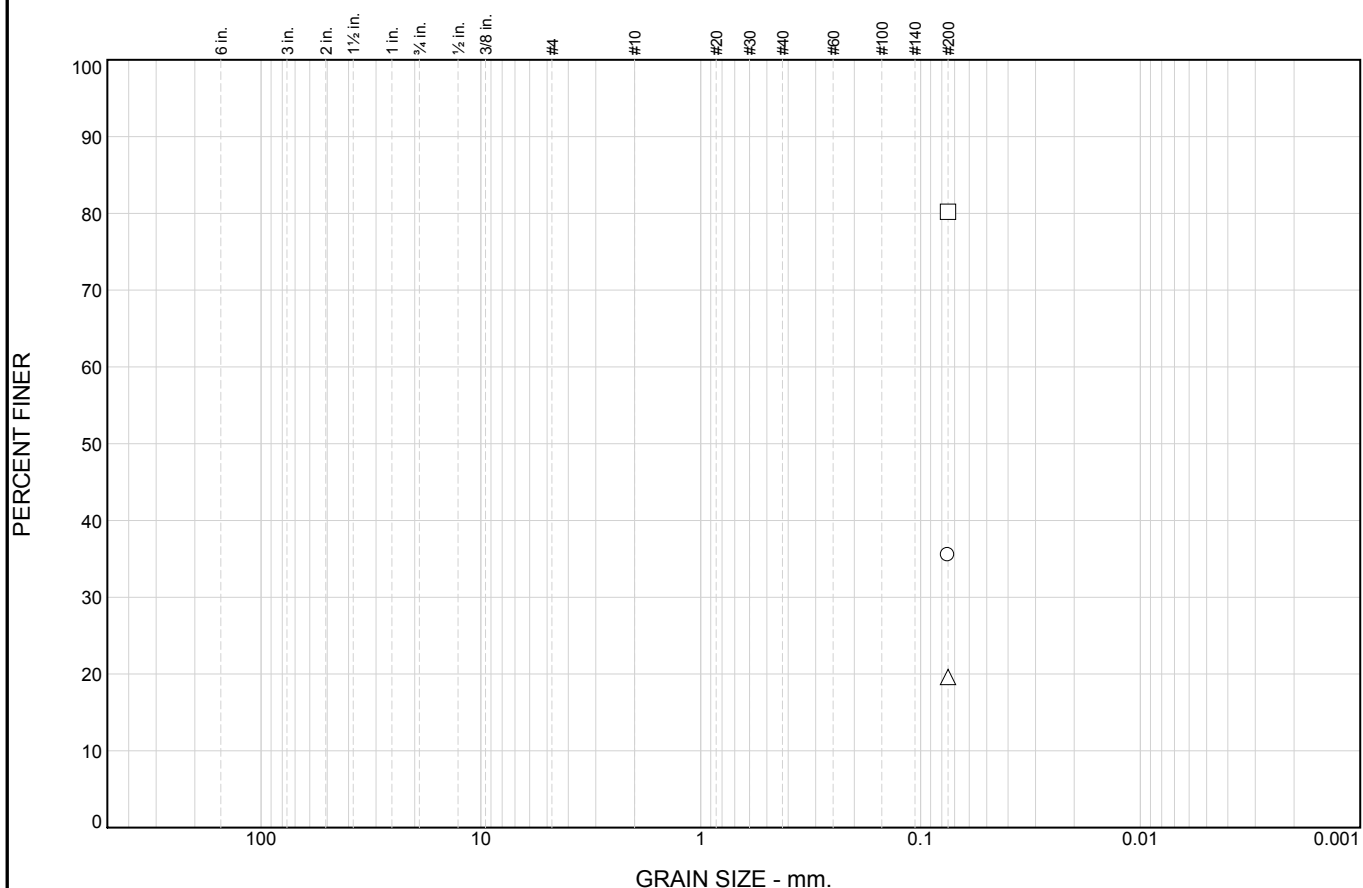
Remarks:

ENGEO, Inc.
Ripon, California

Figure

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



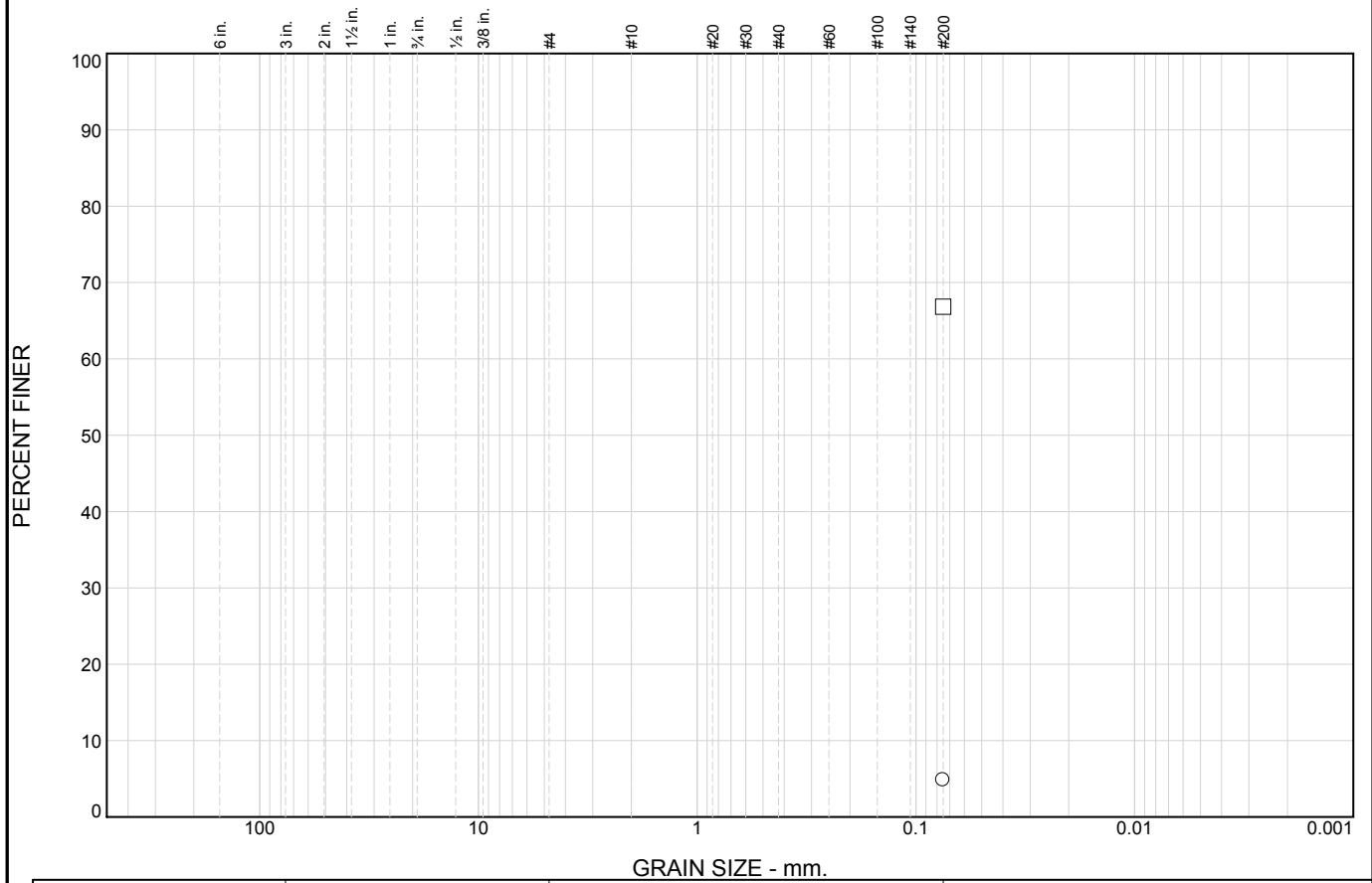
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○								35.5		
□								80.2		
△								19.6		
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○										
□										
△										

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs □ See Exploratory Boring Logs △ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 36' Sample Number: 5-B5 @ 36'</p> <p>□ Depth: 41' Sample Number: 5-B5 @ 41'</p> <p>△ Depth: 45' Sample Number: 5-B5 @ 45'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



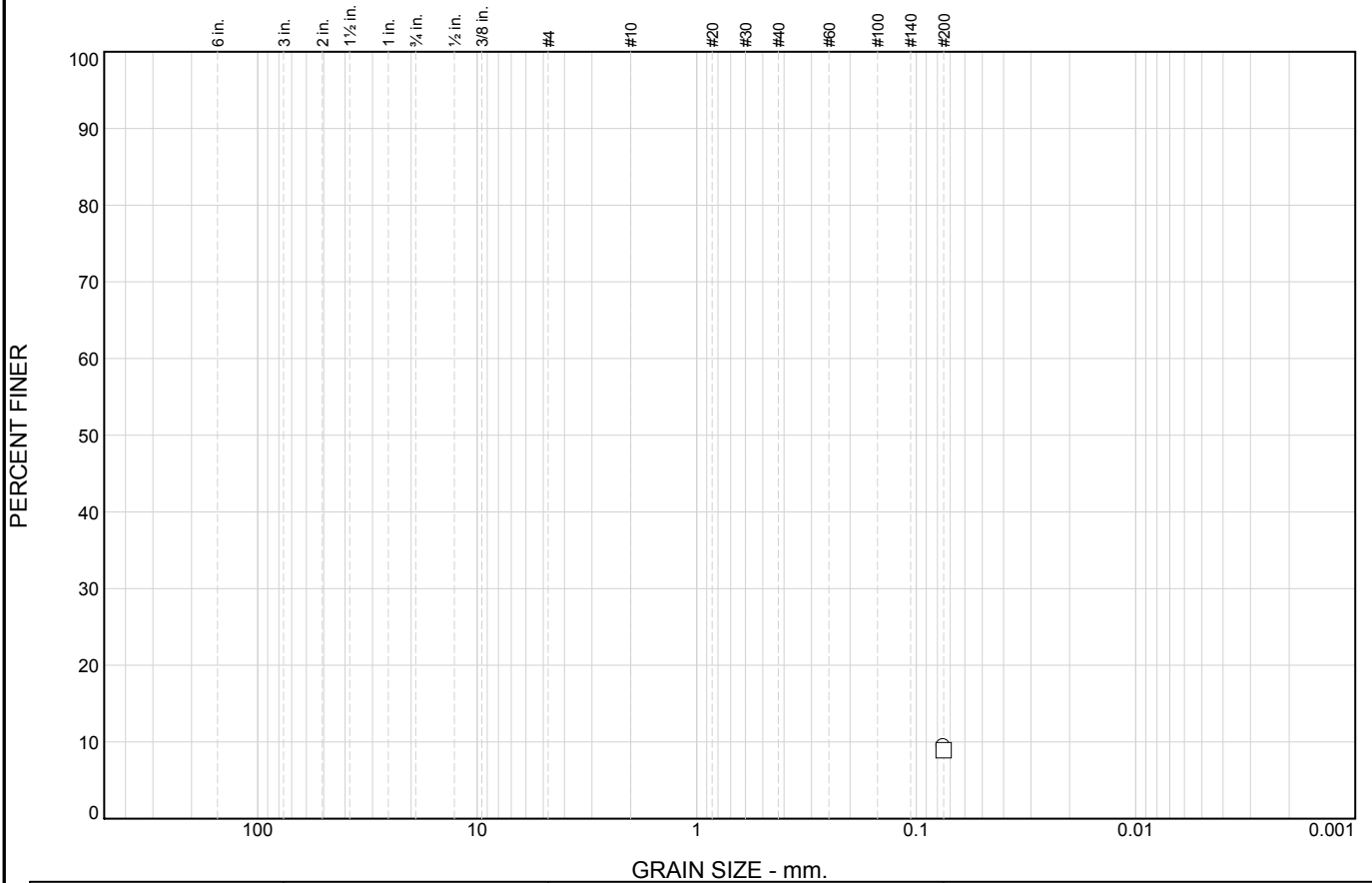
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="checkbox"/>							4.8			
<input type="checkbox"/>							66.8			
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="checkbox"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="checkbox"/> Depth: 60' Sample Number: 5-B5 @ 60'</p> <p><input type="checkbox"/> Depth: 86' Sample Number: 5-B5 @ 86'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



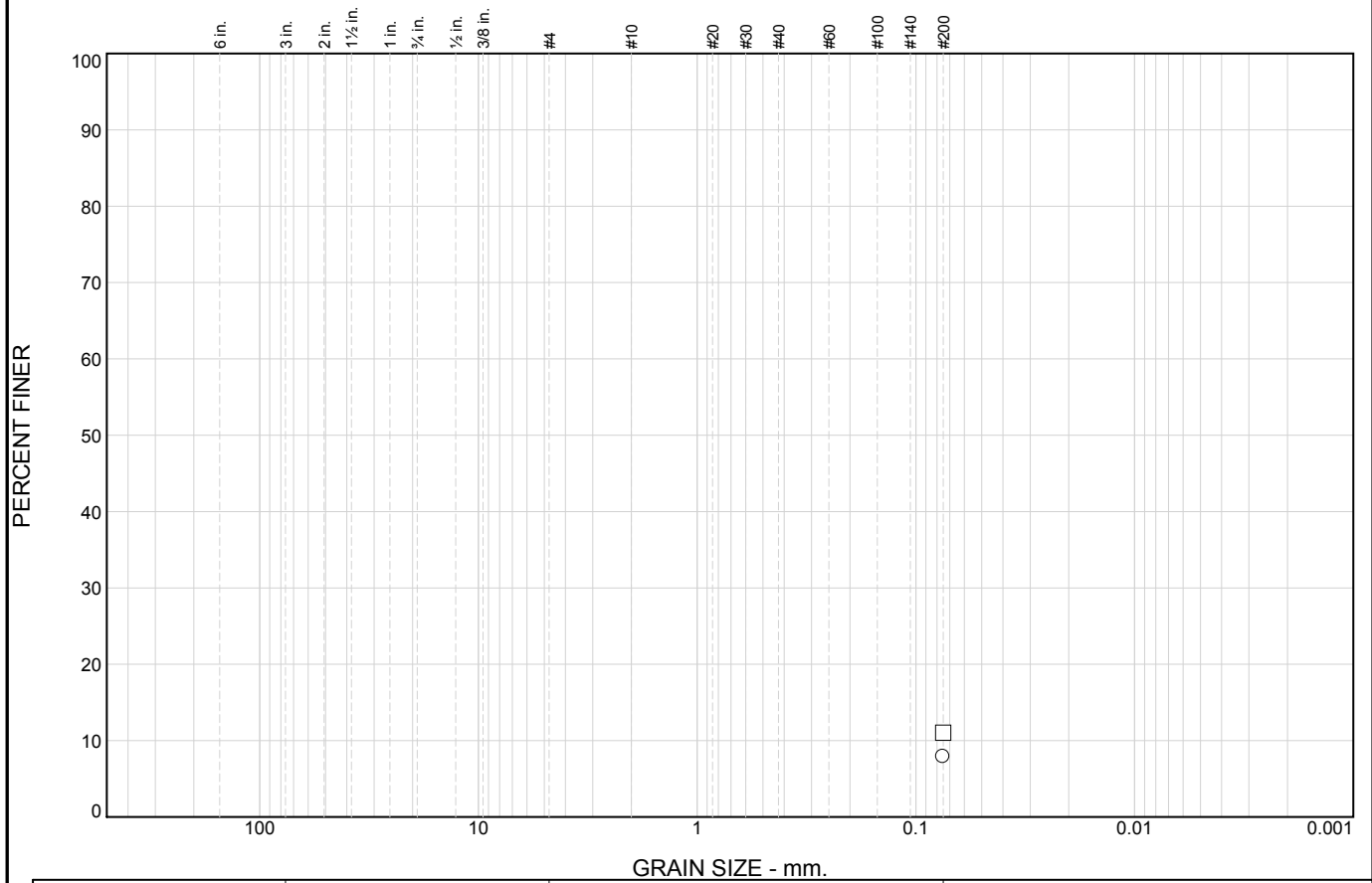
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="checkbox"/>								9.4		
<input type="checkbox"/>								8.9		
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description		USCS	AASHTO
<input type="checkbox"/>	See Exploratory Boring Logs		
<input type="checkbox"/>	See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="checkbox"/> Depth: 30.0' Sample Number: 5-B6 @ 30.0' <input type="checkbox"/> Depth: 40.0' Sample Number: 5-B6 @ 40.0'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							7.9	
<input type="checkbox"/>							11.0	

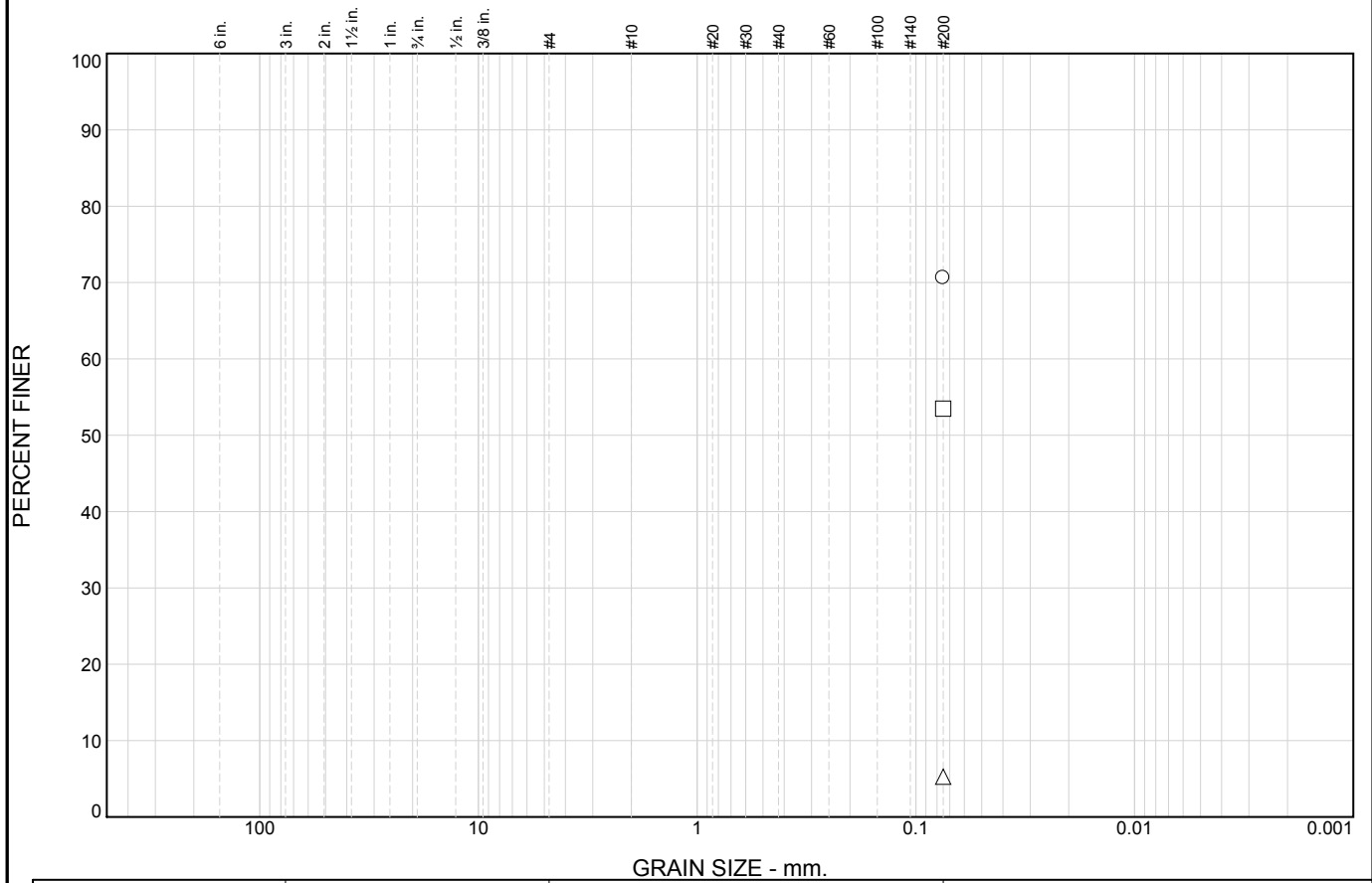
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 60.0' Sample Number: 5-B6 @ 60.0'</p> <p><input type="checkbox"/> Depth: 65.0' Sample Number: 5-B6 @ 65.0'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
--	--

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



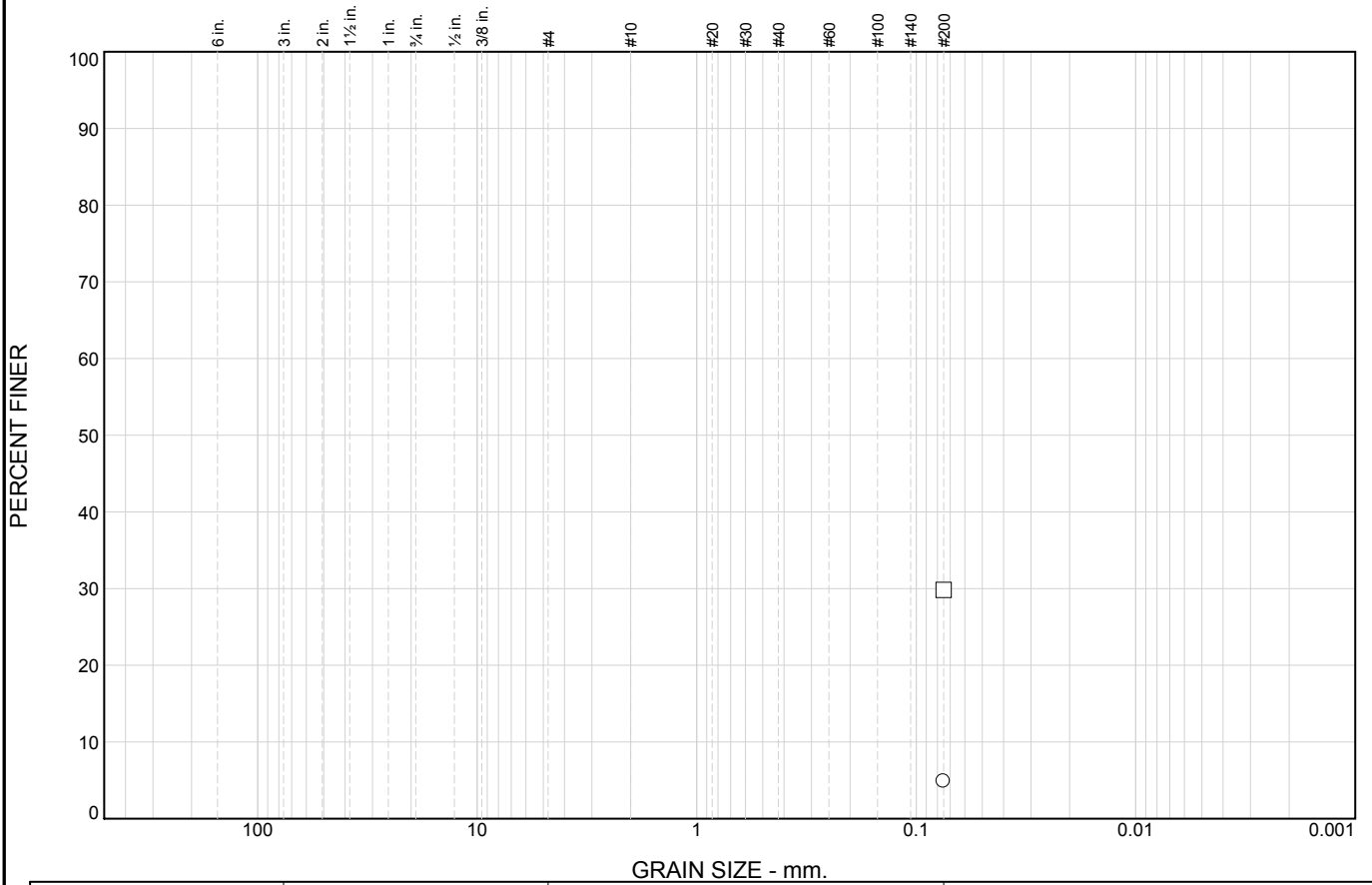
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○							70.6			
□							53.5			
△							5.3			
	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○										
□										
△										

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		
□ See Exploratory Boring Logs		
△ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 15.5' Sample Number: 5-B7 @ 15.5'</p> <p>□ Depth: 35.5' Sample Number: 5-B7 @ 35.5'</p> <p>△ Depth: 45' Sample Number: 5-B7 @ 45'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
--	--

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



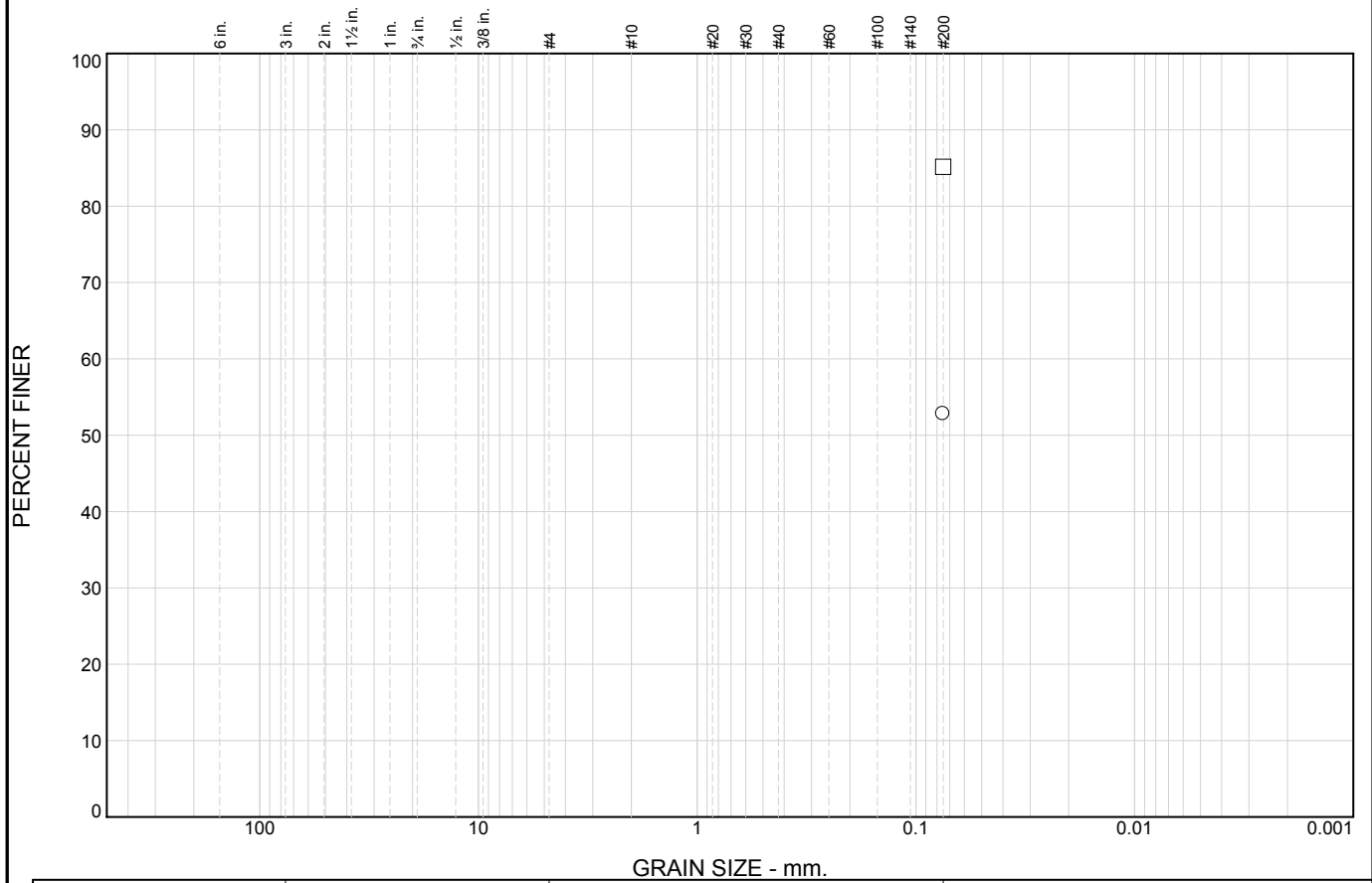
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="checkbox"/>							4.9			
<input type="checkbox"/>							29.8			
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="checkbox"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="checkbox"/> Depth: 50' Sample Number: 5-B7 @ 50'</p> <p><input type="checkbox"/> Depth: 71.5' Sample Number: 5-B7 @ 71.5'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
---	---

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							52.8	
<input type="checkbox"/>							85.2	

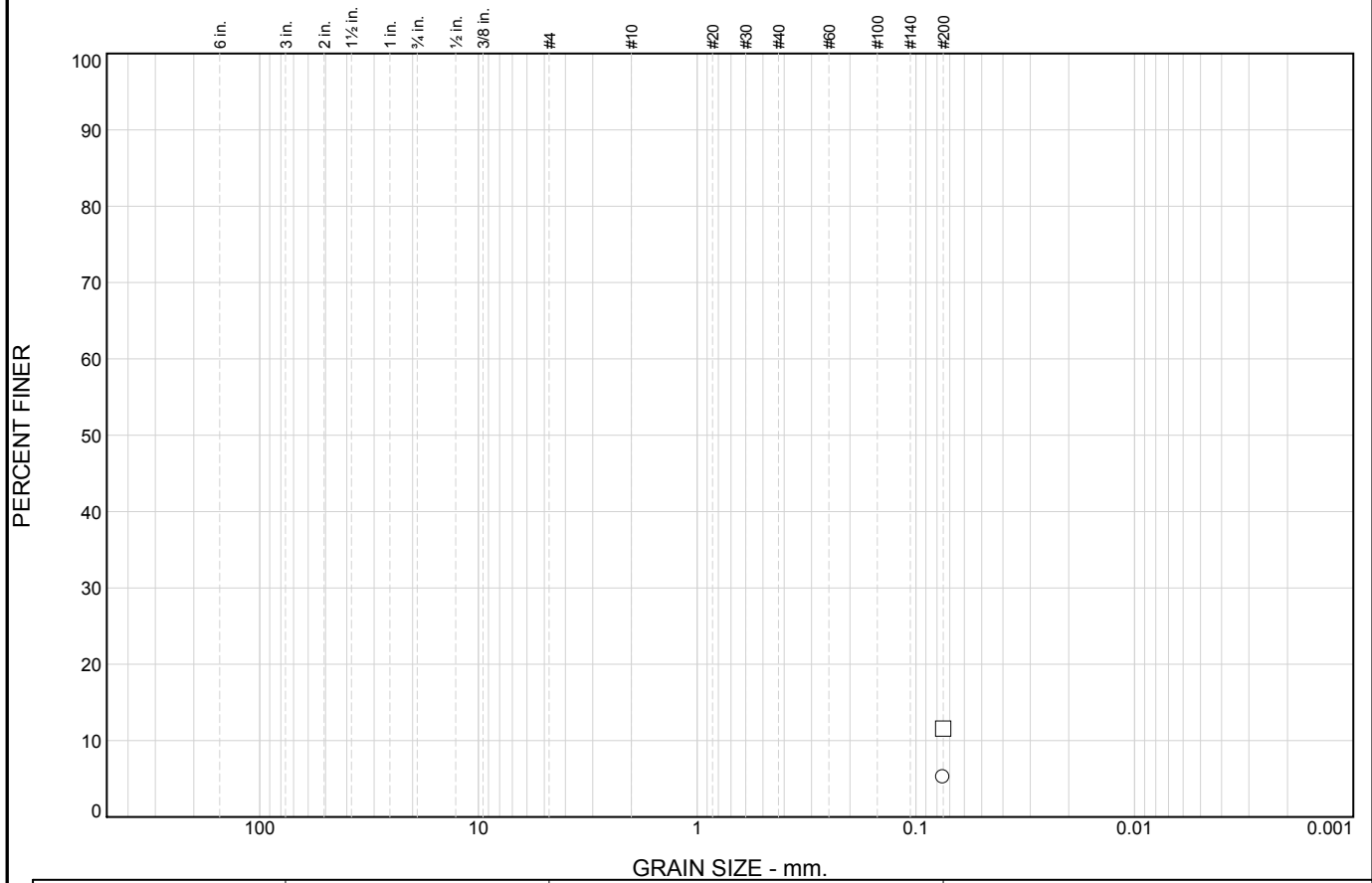
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 7' Sample Number: 5-B8 @ 7' <input type="checkbox"/> Depth: 16.5' Sample Number: 5-B8 @ 16.5'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: KEL KEL **Checked By:** ZAC

Particle Size Distribution Report



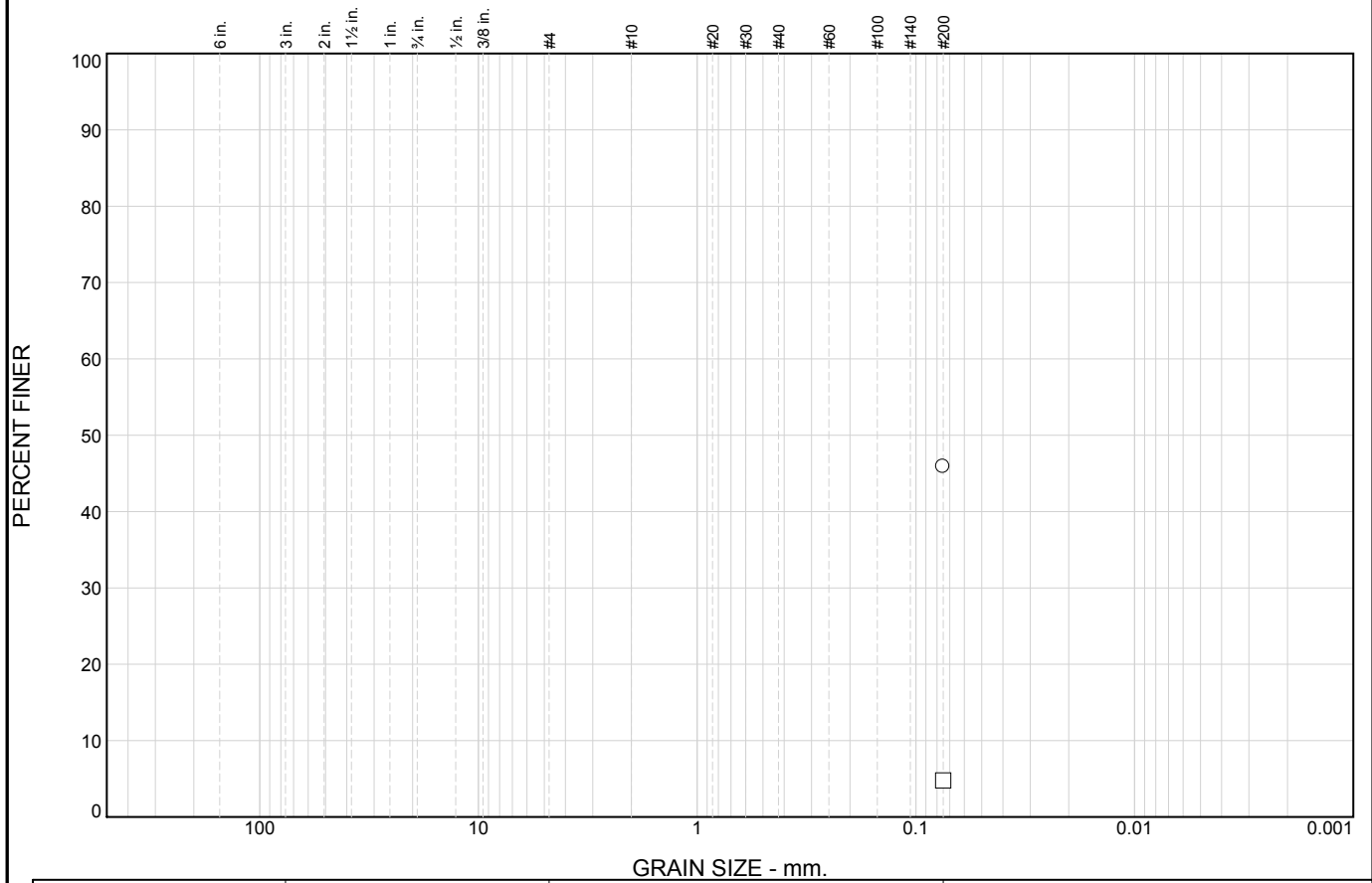
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="checkbox"/>							5.2			
<input type="checkbox"/>							11.6			
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="checkbox"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="checkbox"/> Depth: 25' Sample Number: 5-B8 @ 25' <input type="checkbox"/> Depth: 45' Sample Number: 5-B8 @ 45'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="checkbox"/>							45.9	
<input type="checkbox"/>							4.8	

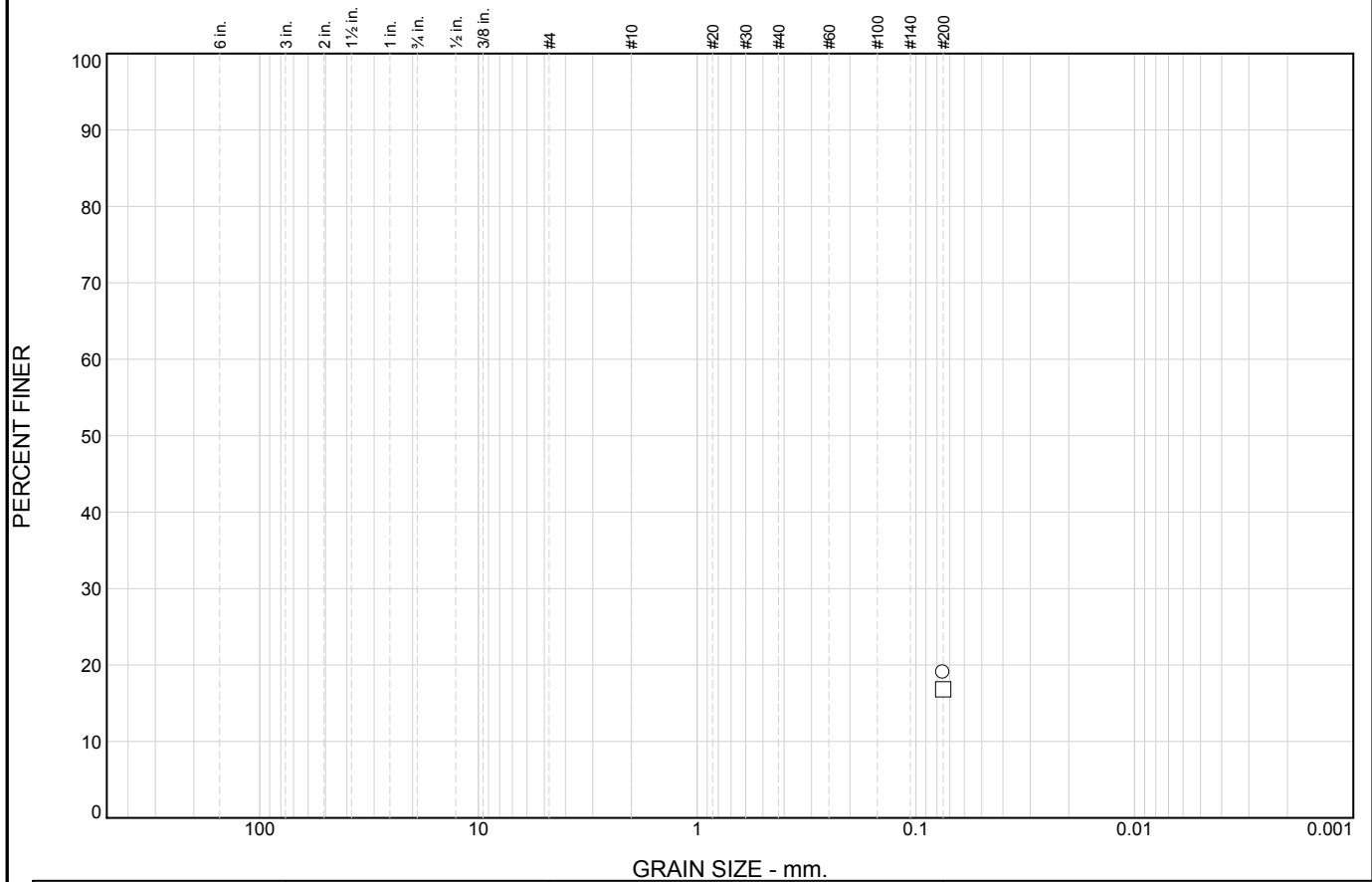
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="checkbox"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="checkbox"/> Depth: 14' Sample Number: 5-B9 @ 14' <input type="checkbox"/> Depth: 16' Sample Number: 5-B9 @ 16'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="checkbox"/>								19.0
<input type="checkbox"/>								16.8

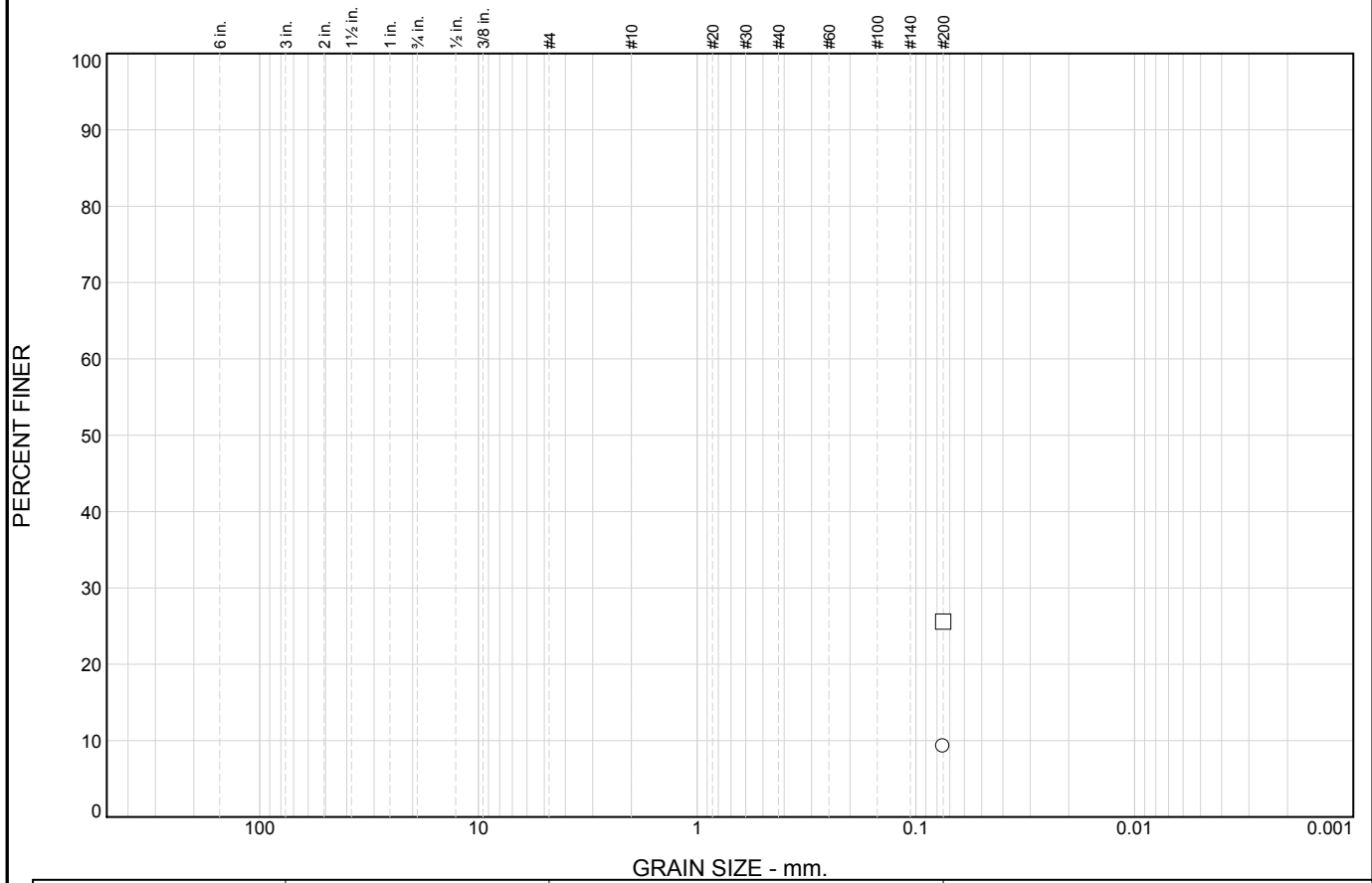
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="checkbox"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="checkbox"/> Depth: 20' Sample Number: 5-B9 @ 20' <input type="checkbox"/> Depth: 55' Sample Number: 5-B9 @ 55'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



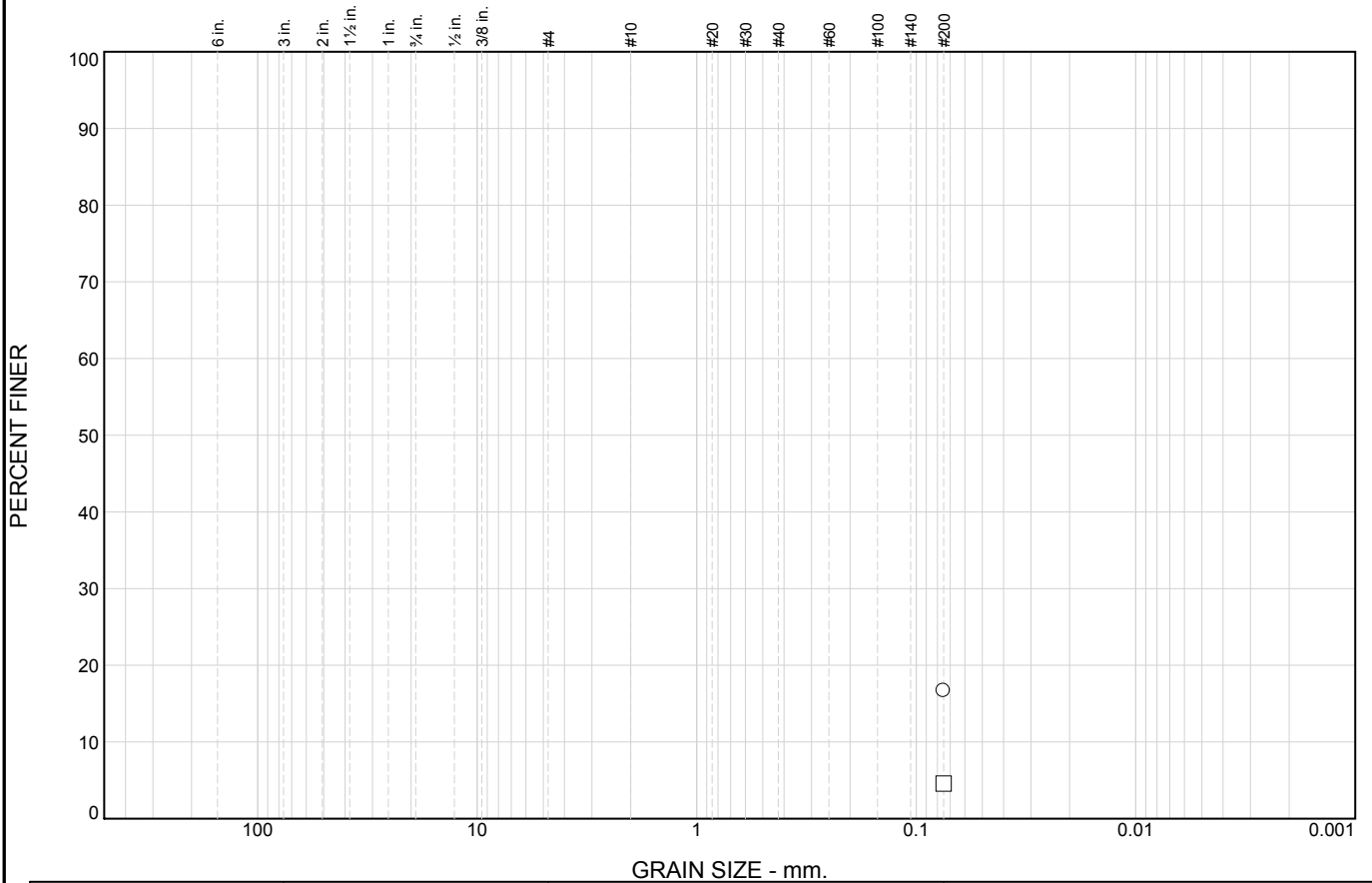
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="checkbox"/>							9.3			
<input type="checkbox"/>							25.6			
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="checkbox"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="checkbox"/> Depth: 10' Sample Number: 5-B11 @ 10' <input type="checkbox"/> Depth: 18.5' Sample Number: 5-B11 @ 18.5'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: JS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="checkbox"/>							16.7	
<input type="checkbox"/>							4.6	

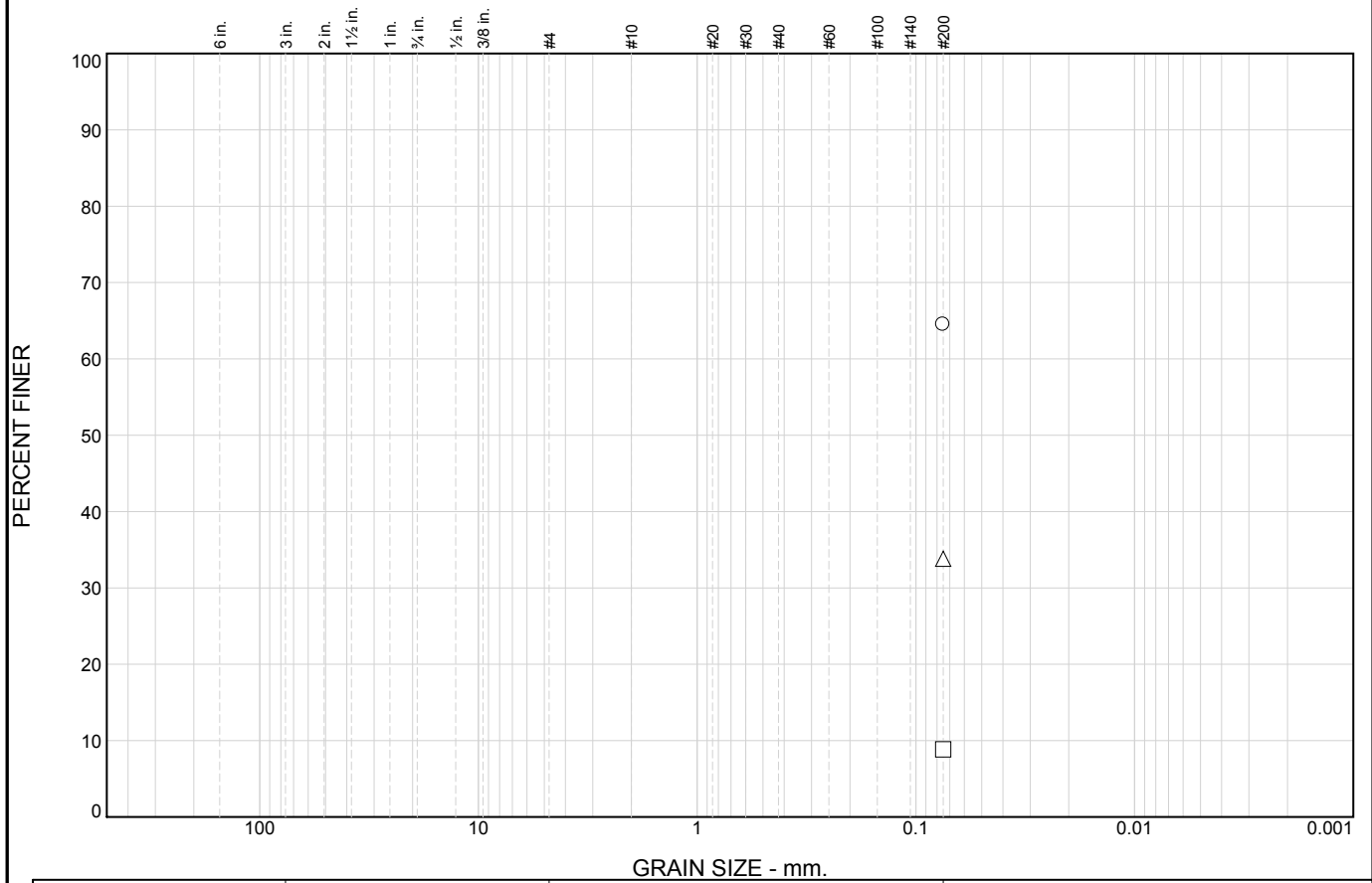
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="checkbox"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="checkbox"/> Depth: 21' Sample Number: 5-B11 @ 21'</p> <p><input type="checkbox"/> Depth: 40' Sample Number: 5-B11 @ 40'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
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Tested By: JS **Checked By:** KEL

Particle Size Distribution Report



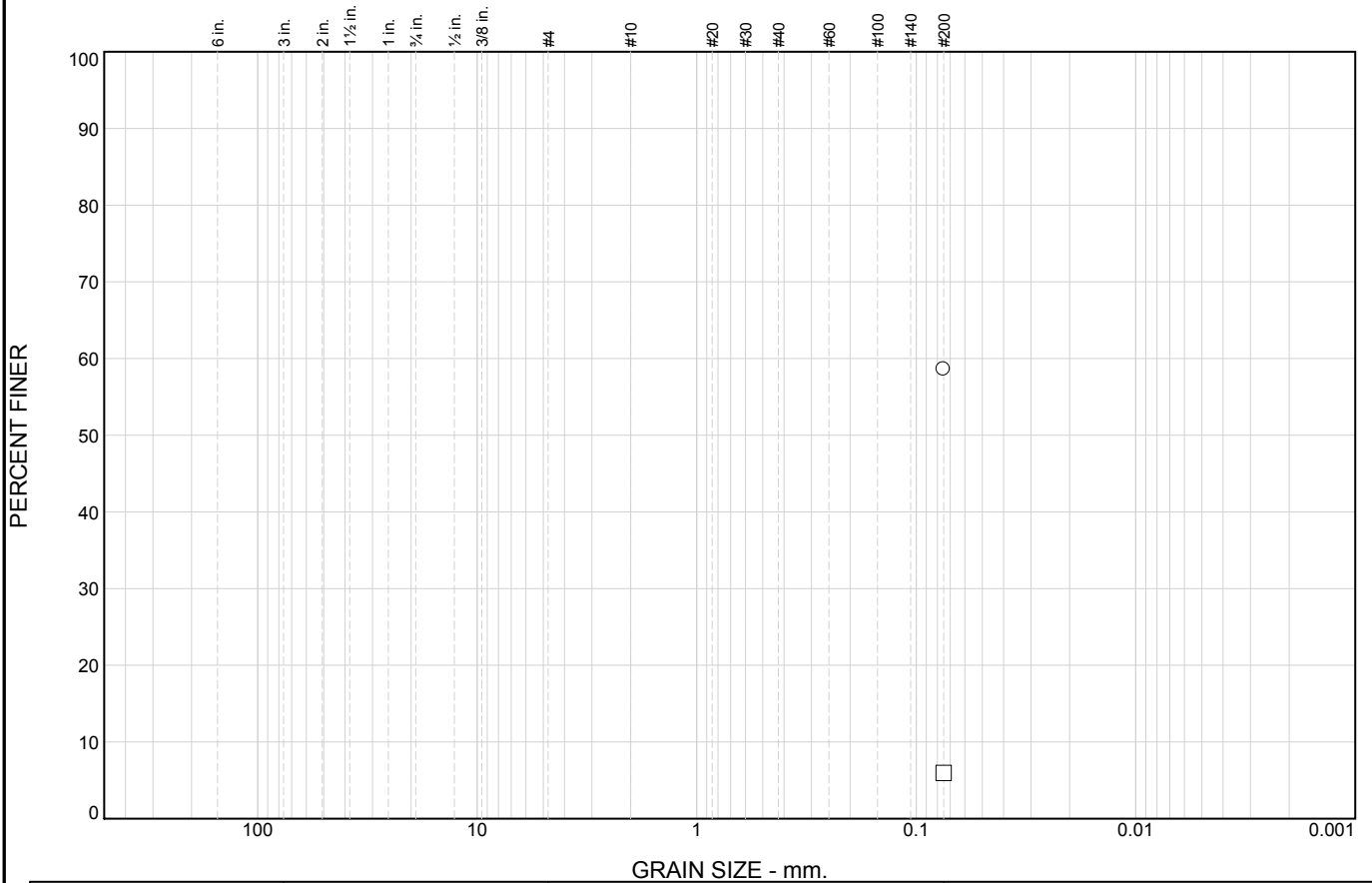
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○							64.5			
□							8.9			
△							33.8			
	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○										
□										
△										

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs □ See Exploratory Boring Logs △ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 0.5' Sample Number: 5-B13 @ 0.5'</p> <p>□ Depth: 3' Sample Number: 5-B13 @ 3'</p> <p>△ Depth: 30' Sample Number: 5-B13 @ 31'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
---	--

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



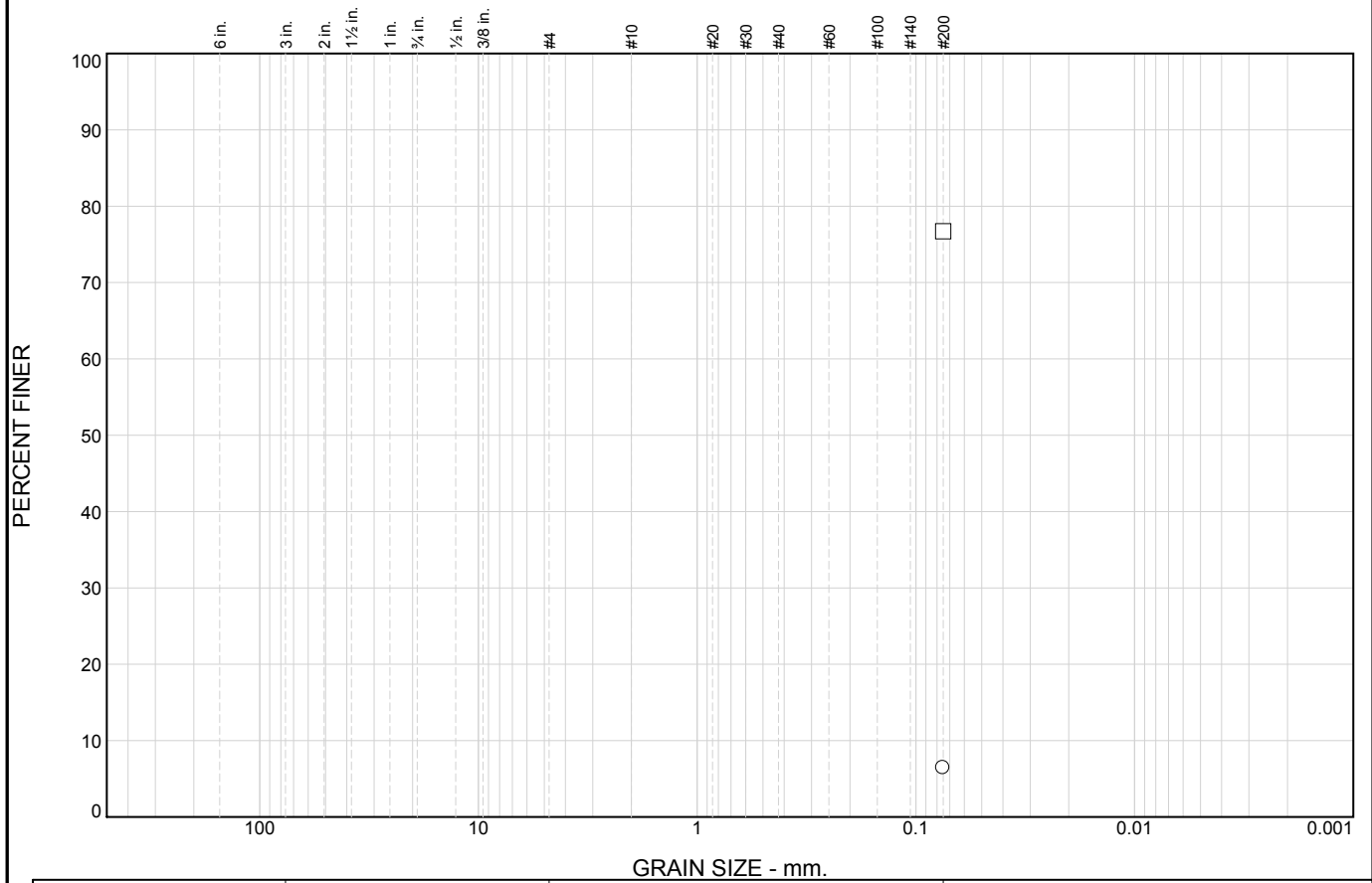
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="checkbox"/>							58.6			
<input type="checkbox"/>							6.0			
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="checkbox"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="checkbox"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="checkbox"/> Depth: 36' Sample Number: 5-B13 @ 36'</p> <p><input type="checkbox"/> Depth: 41' Sample Number: 5-B13 @ 41'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
---	--

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							6.4	
<input type="checkbox"/>							76.7	

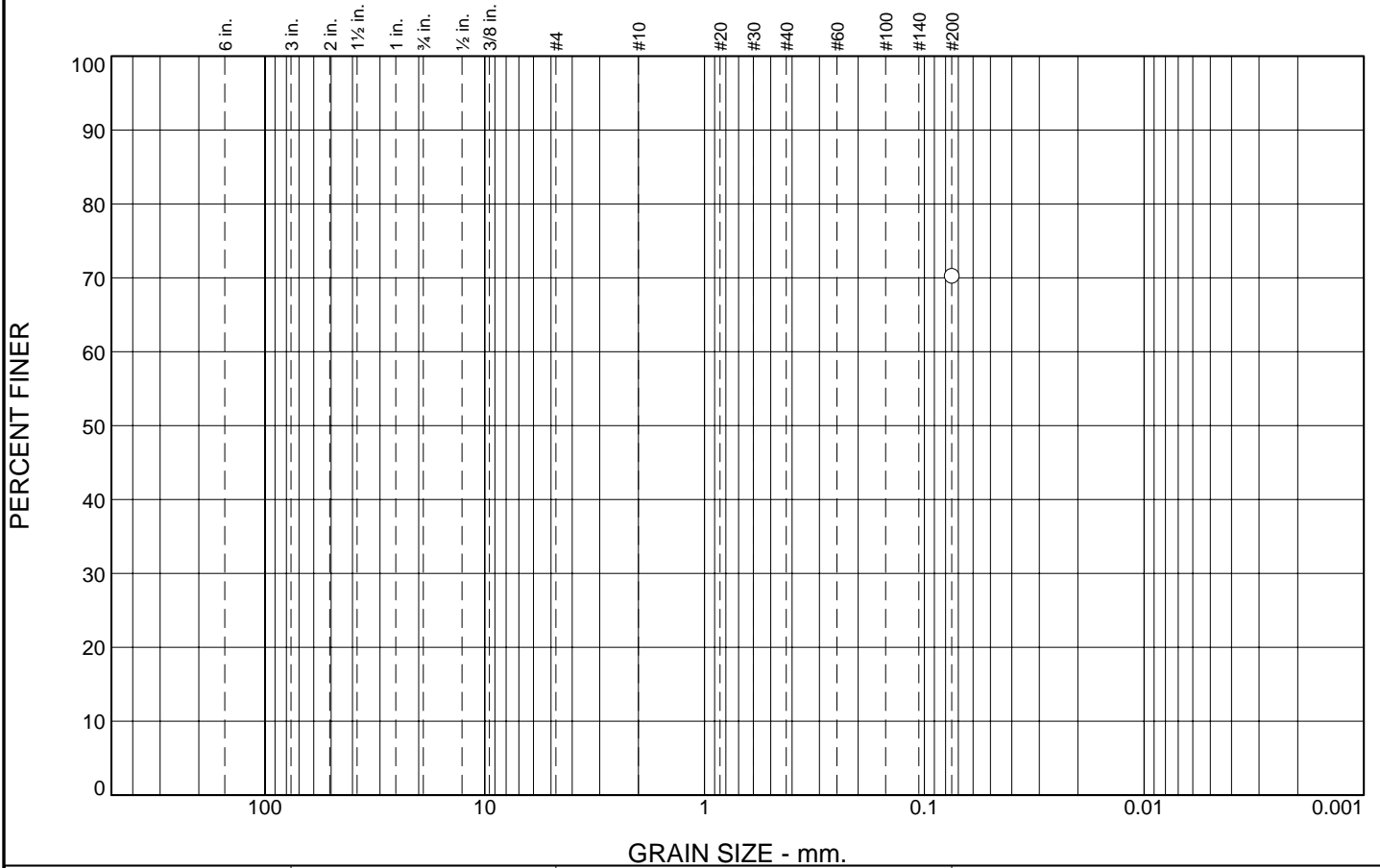
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>										
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs <input type="checkbox"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 46' Sample Number: 5-B13 @ 46'</p> <p><input type="checkbox"/> Depth: 61' Sample Number: 5-B13 @ 61'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
--	--

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						70.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	70.3		

Soil Description

See Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

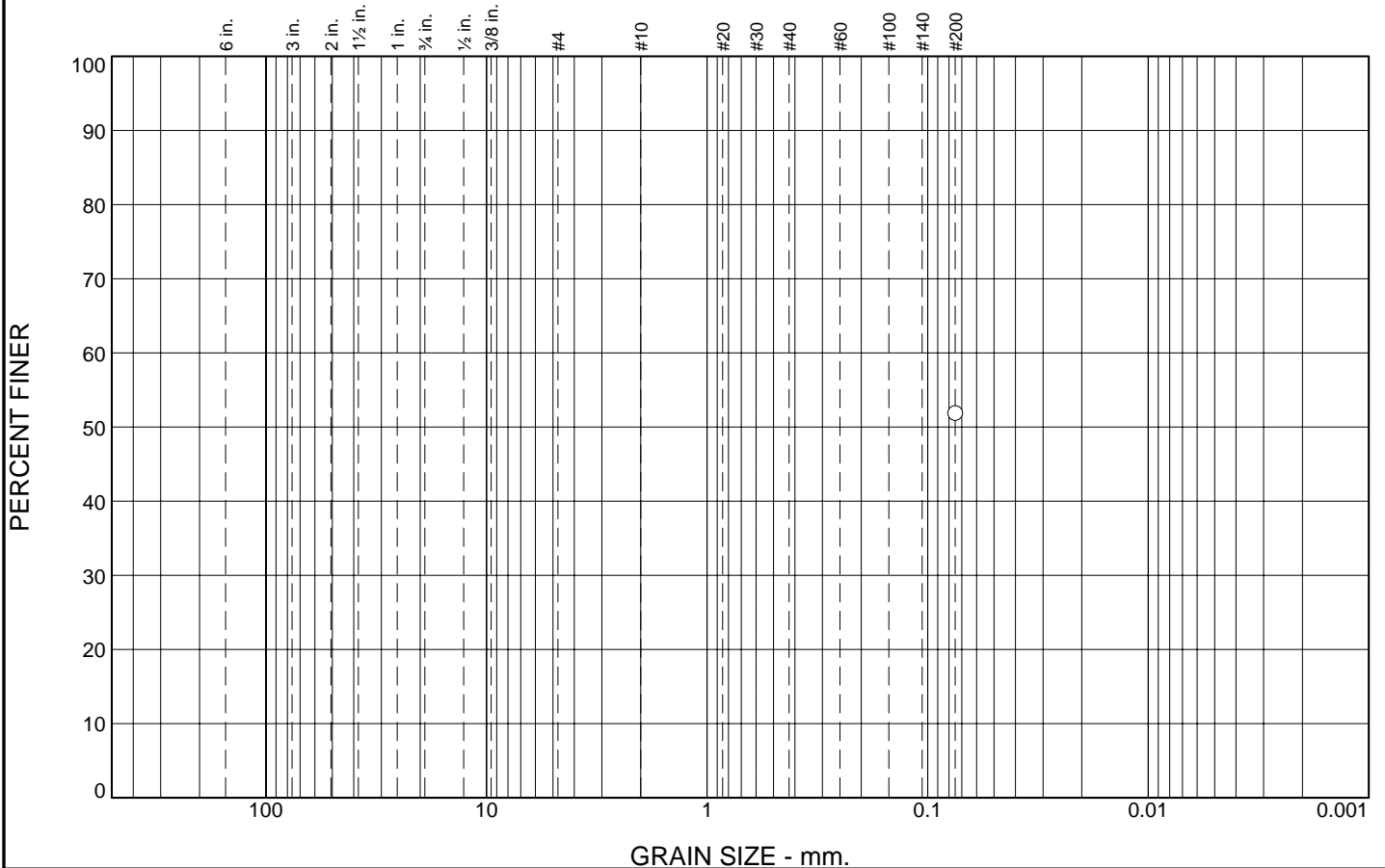
Sample No.: 5-B14@1.0
Location: RD-17

Source of Sample: GEX

Date: 01/03/2011
Elev./Depth: 1.0'

<p>ENGEO, Inc.</p> <p>Rocklin, CA</p>	<p>Client: Project: RD-17</p> <p>Project No: 5747.000.000</p>
<p>Figure</p>	

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						51.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	51.9		

Soil Description

See Boring Logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

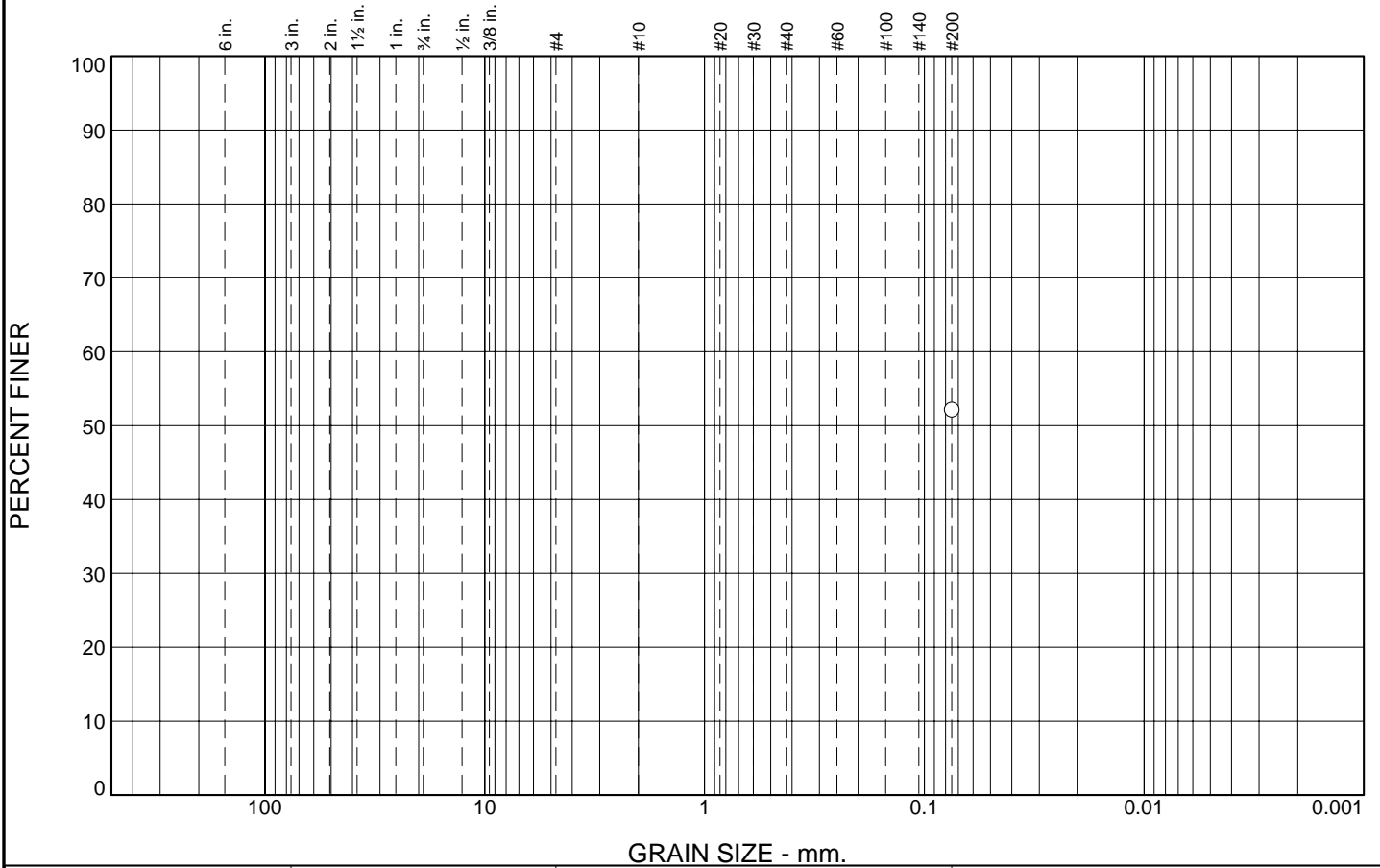
Sample No.: 5-B14@5.5
Location: RD-17

Source of Sample: GEX

Date: 01/03/2011
Elev./Depth: 5.5'

<p>ENGENEO, Inc.</p> <p>Rocklin, CA</p>	<p>Client: Project: RD-17</p> <p>Project No: 5747.000.000</p>
<p>Figure</p>	

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						52.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	52.2		

Soil Description

See Boring Logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

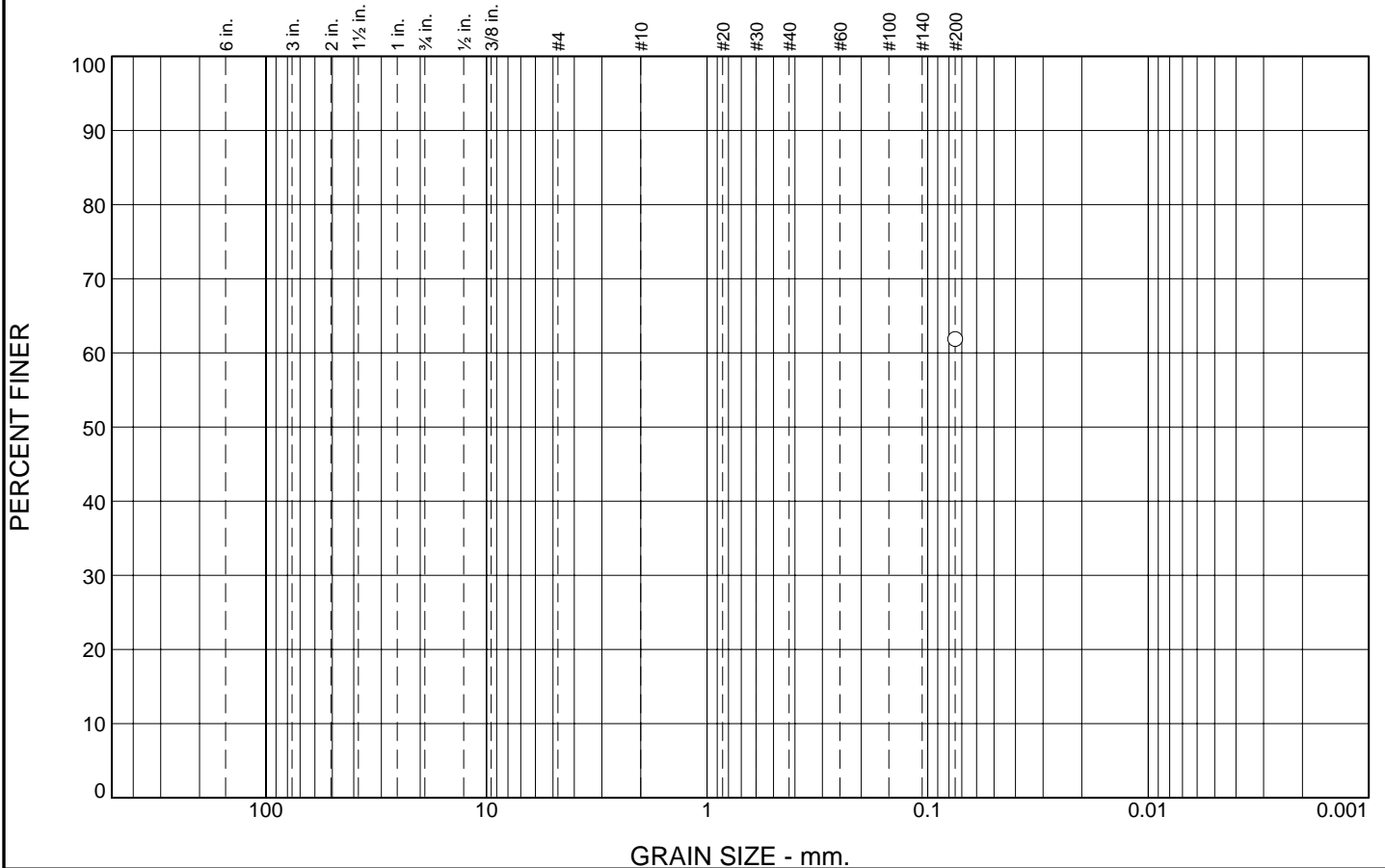
Sample No.: 5-B14@7.0
Location: RD-17

Source of Sample: GEX

Date: 01/03/2011
Elev./Depth: 7.0'

<p>ENGEO, Inc.</p> <p>Rocklin, CA</p>	<p>Client: Project: RD-17</p> <p>Project No: 5747.000.000</p>
<p>Figure</p>	

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						61.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	61.9		

Soil Description

See Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

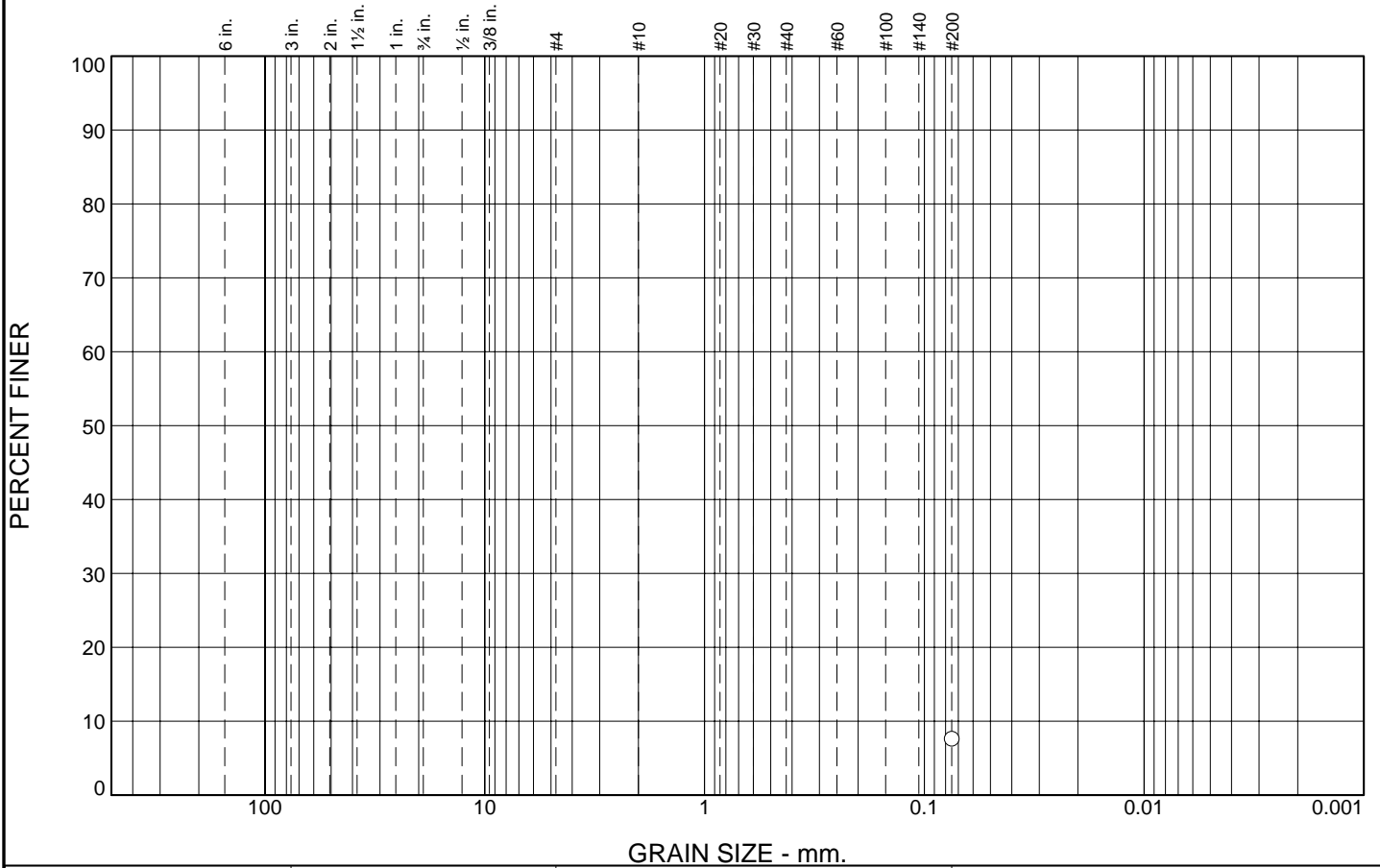
Remarks

* (no specification provided)

Sample No.: 5-B14@9.5	Source of Sample: GEX	Date: 01/03/2011
Location: RD-17		Elev./Depth: 9.5'

ENGENEO, Inc. Rocklin, CA	Client: Project: RD-17 Project No: 5747.000.000
Figure	

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						7.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	7.6		

Soil Description

See Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

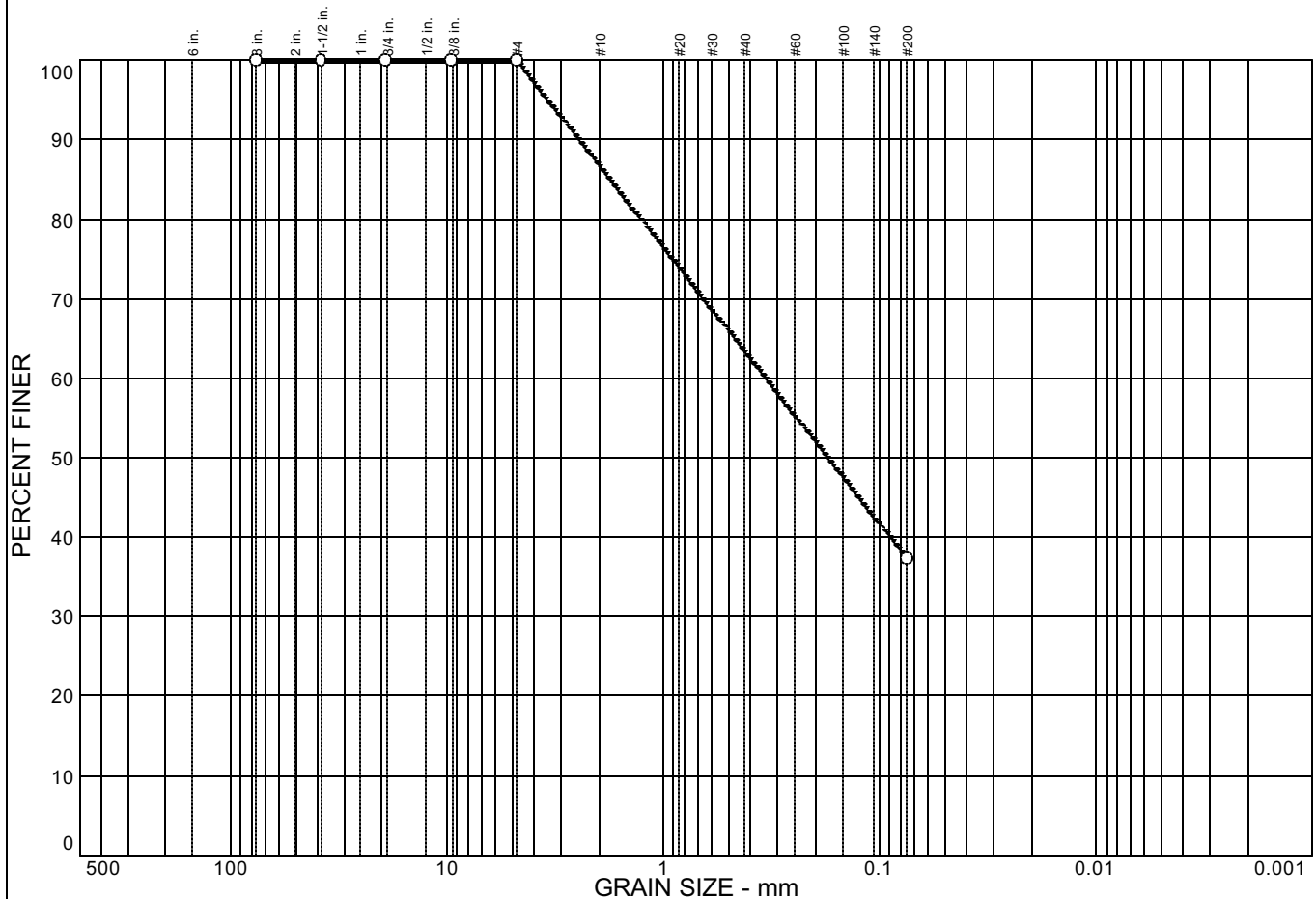
Sample No.: 5-B14@29.5
Location: RD-17

Source of Sample: GEX

Date: 01/03/2011
Elev./Depth: 29.5'

<p>ENGEO, Inc.</p> <p>Rocklin, CA</p>	<p>Client:</p> <p>Project: RD-17</p> <p>Project No: 5747.000.000</p>
	<p>Figure</p>

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	62.7	37.3	37.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
1.5 in.	100.0		
.75 in.	100.0		
.375 in.	100.0		
#4	100.0		
#200	37.3		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= 19 LL= 39 PI= 20

Coefficients

D₈₅= 1.76 D₆₀= 0.337 D₅₀= 0.174
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

See Exploratory Boring Logs

* (no specification provided)

Sample No.: 3-B2 @ 5.5'
Location:

Source of Sample:

Date: 01-09-09
Elev./Depth: 5.5'

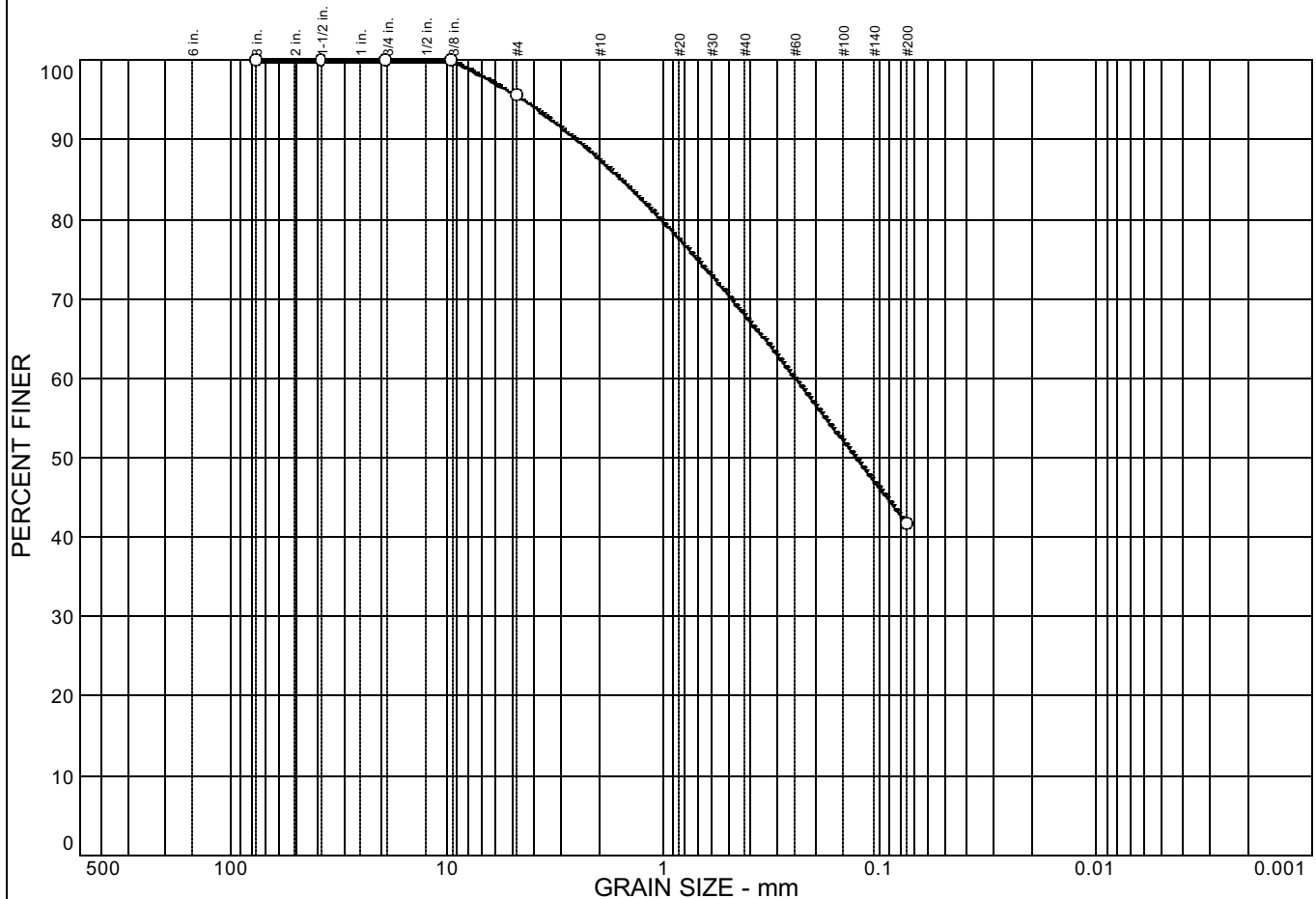


Client:
Project: RD-17 Levee Seepage Project

Project No: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	4.5	53.9	41.6	0.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
1.5 in.	100.0		
.75 in.	100.0		
.375 in.	100.0		
#4	95.5		
#200	41.6		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= 18 LL= 38 PI= 20

Coefficients

D₈₅= 1.56 D₆₀= 0.245 D₅₀= 0.128
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

See Exploratory Boring Logs

* (no specification provided)

Sample No.: 3-B3 @ 2'
Location:

Source of Sample:

Date: 01-09-09
Elev./Depth: 2'

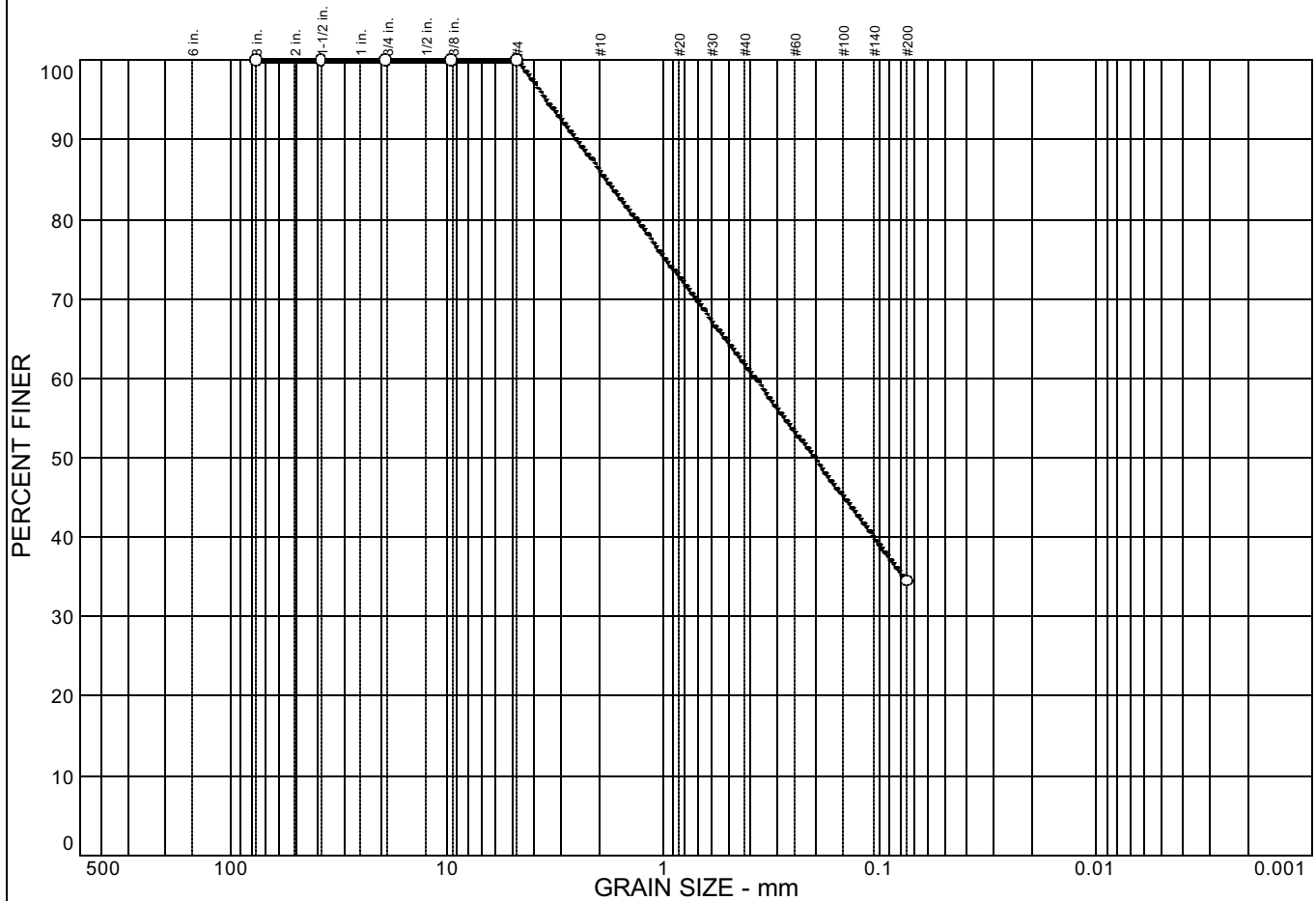


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	65.6	34.4	34.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
1.5 in.	100.0		
.75 in.	100.0		
.375 in.	100.0		
#4	100.0		
#200	34.4		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= 21 LL= 39 PI= 18

Coefficients

D₈₅= 1.84 D₆₀= 0.379 D₅₀= 0.201
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

See Exploratory Boring Logs

* (no specification provided)

Sample No.: 3-B3 @ 6'
Location:

Source of Sample:

Date: 01-09-09
Elev./Depth: 6'

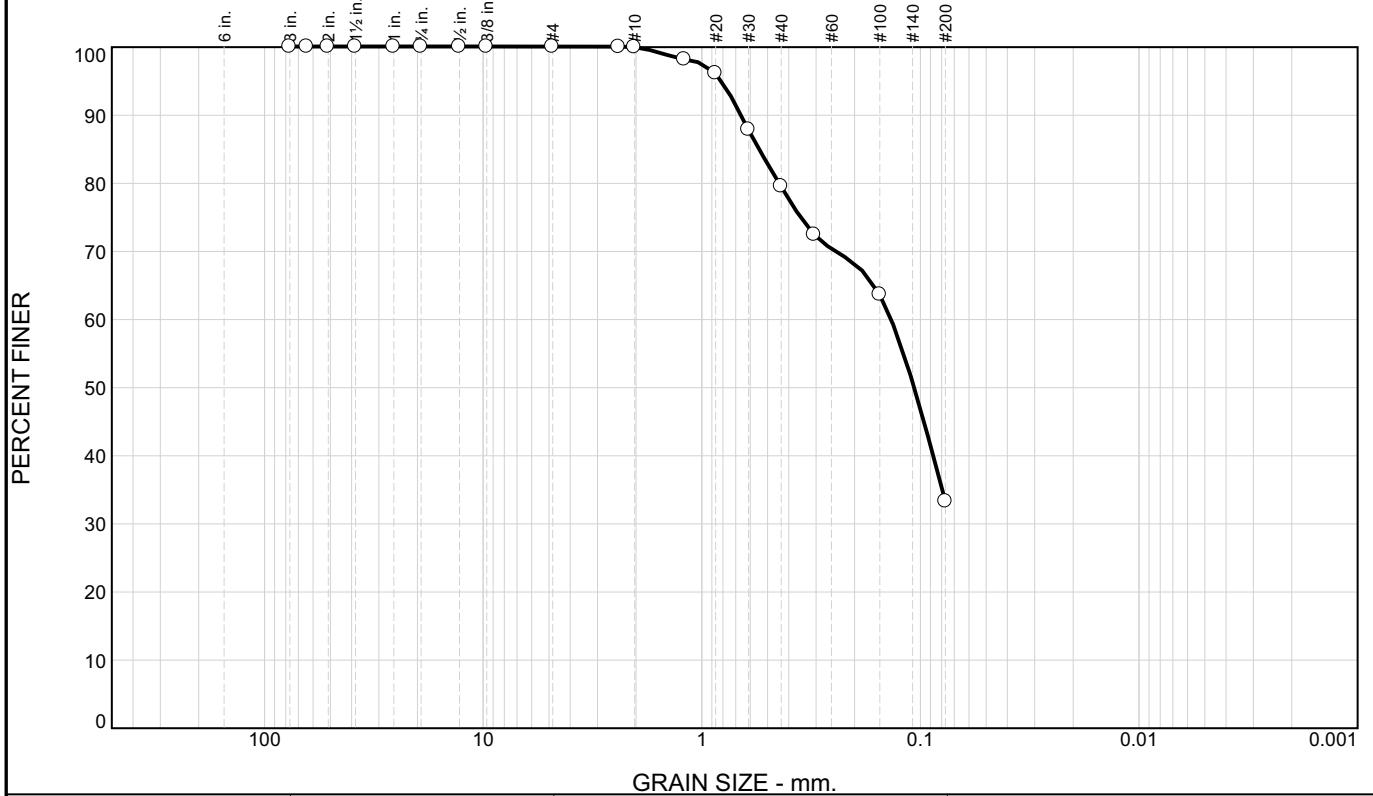


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	20.5	46.3	33.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
2.5	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
3/8	100.0		
#4	100.0		
#8	100.0		
#10	99.9		
#16	98.1		
#20	96.1		
#30	87.8		
#40	79.4		
#50	72.3		
#100	63.5		
#200	33.1		

Material Description

See Exploratory Boring Logs

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS= AASHTO=

Coefficients

D₈₅= 0.5378 D₆₀= 0.1334 D₅₀= 0.1045
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Date Tested: 11-13-09 **Tested By:** KEL

Remarks

* (no specification provided)

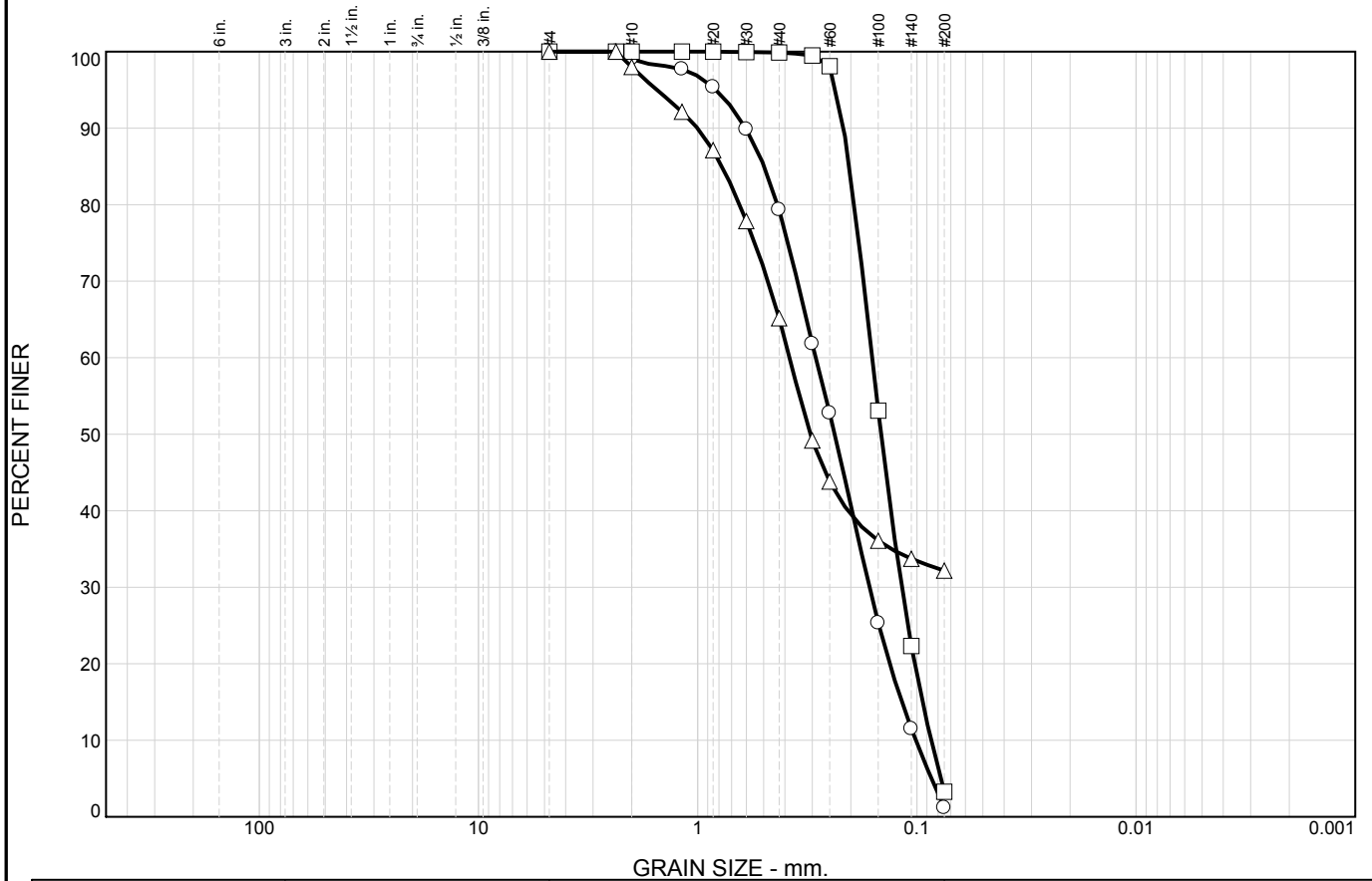
Sample No.: 4-B4 @ 36' **Source of Sample:**
Location:
Checked By: ZAC

Date Sampled:
Elev./Depth: 36'

Title:

<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Project No: 5747.000.000 (001)</p>
<p>Figure</p>	

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○	0.0	0.0	0.0	1.0	19.7	78.1	1.2			
□	0.0	0.0	0.0	0.0	0.1	96.6	3.3			
△	0.0	0.0	0.0	2.0	32.8	33.0	32.2			
×	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.4969	0.2893	0.2371	0.1646	0.1172	0.1012	0.93	2.86
□			0.2033	0.1599	0.1456	0.1174	0.0943	0.0860	1.00	1.86
△			0.7736	0.3811	0.3065					

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		
□ See Exploratory Boring Logs		
△ See Exploratory Boring Logs		

Project No. 5747.000.000 **Client:**

Project: RD-17 Levee Seepage Project

○ **Depth:** 3' **Sample Number:** 5-B1 @ 3'

□ **Depth:** 6' **Sample Number:** 5-B1 @ 6'

△ **Depth:** 16' **Sample Number:** 5-B1 @ 16'

ENGEO, Inc.

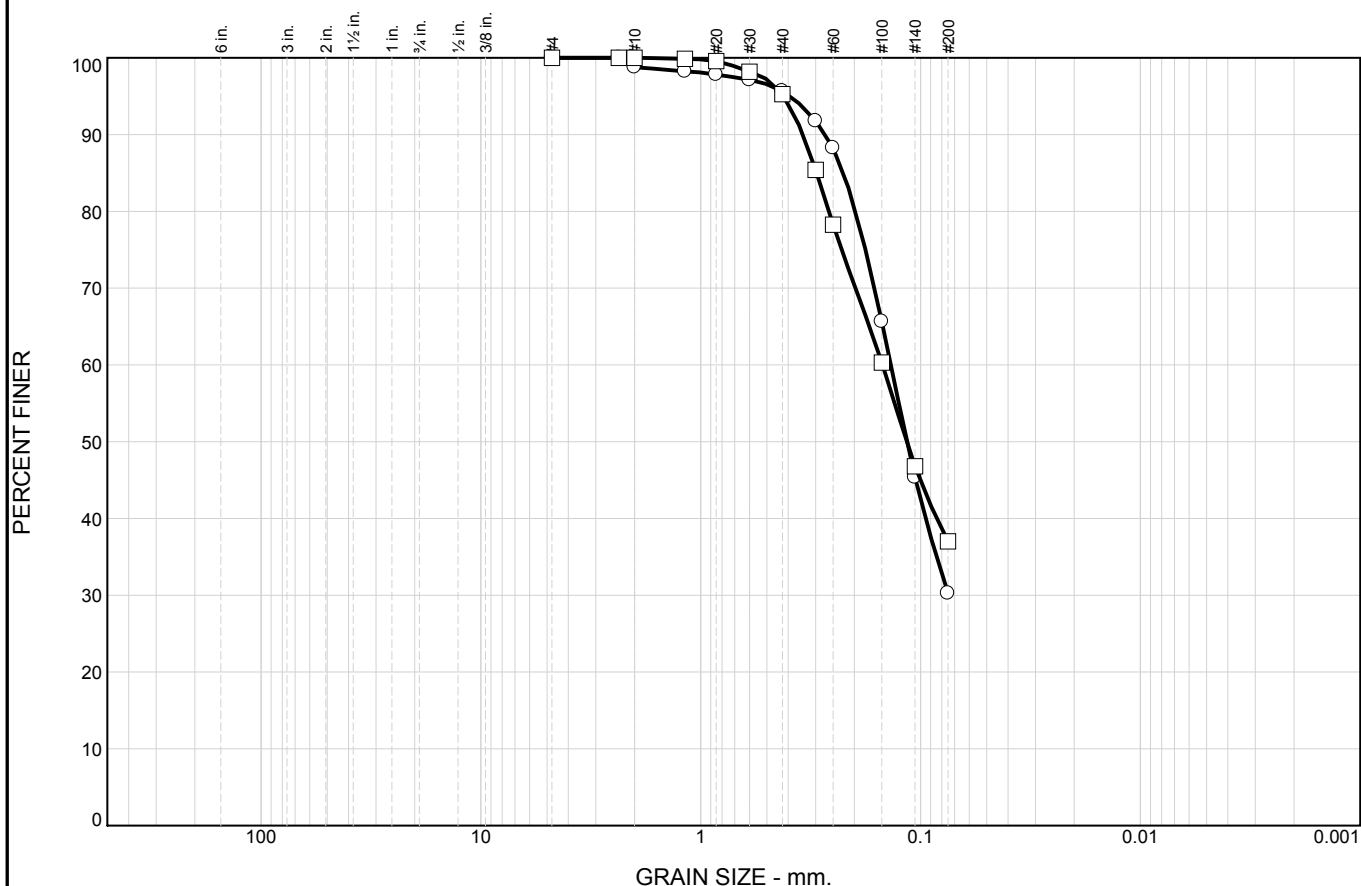
Ripon, California

Remarks:

Figure

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	1.2	3.1	65.4	30.3	
<input type="checkbox"/>	0.0	0.0	0.0	4.7	58.3	37.0	

LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>		0.2244	0.1365	0.1154					
<input type="checkbox"/>	27	23	0.2969	0.1488	0.1157				

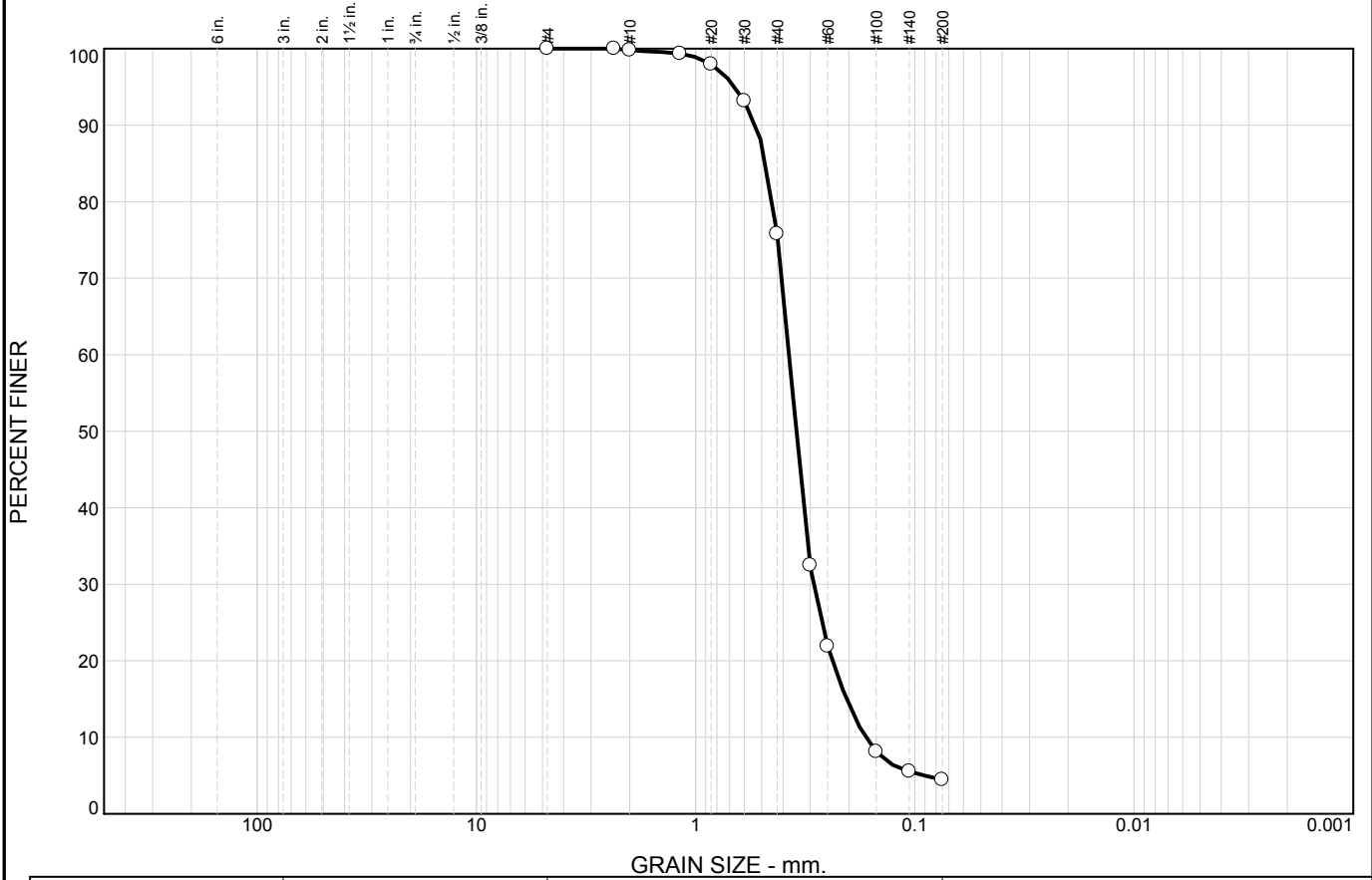
Material Description							USCS	AASHTO	
<input type="radio"/>	See Exploratory Boring Logs								
<input type="checkbox"/>	See Exploratory Boring Logs								

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 25' Sample Number: 5-B1 @ 25' <input type="checkbox"/> Depth: 50.5' Sample Number: 5-B1 @ 50.5'	Remarks:
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ENGEO, Inc. Ripon, California	Figure
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



%	% Gravel		% Sand			% Fines		
	+3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	0.2	24.0	71.4	4.4	

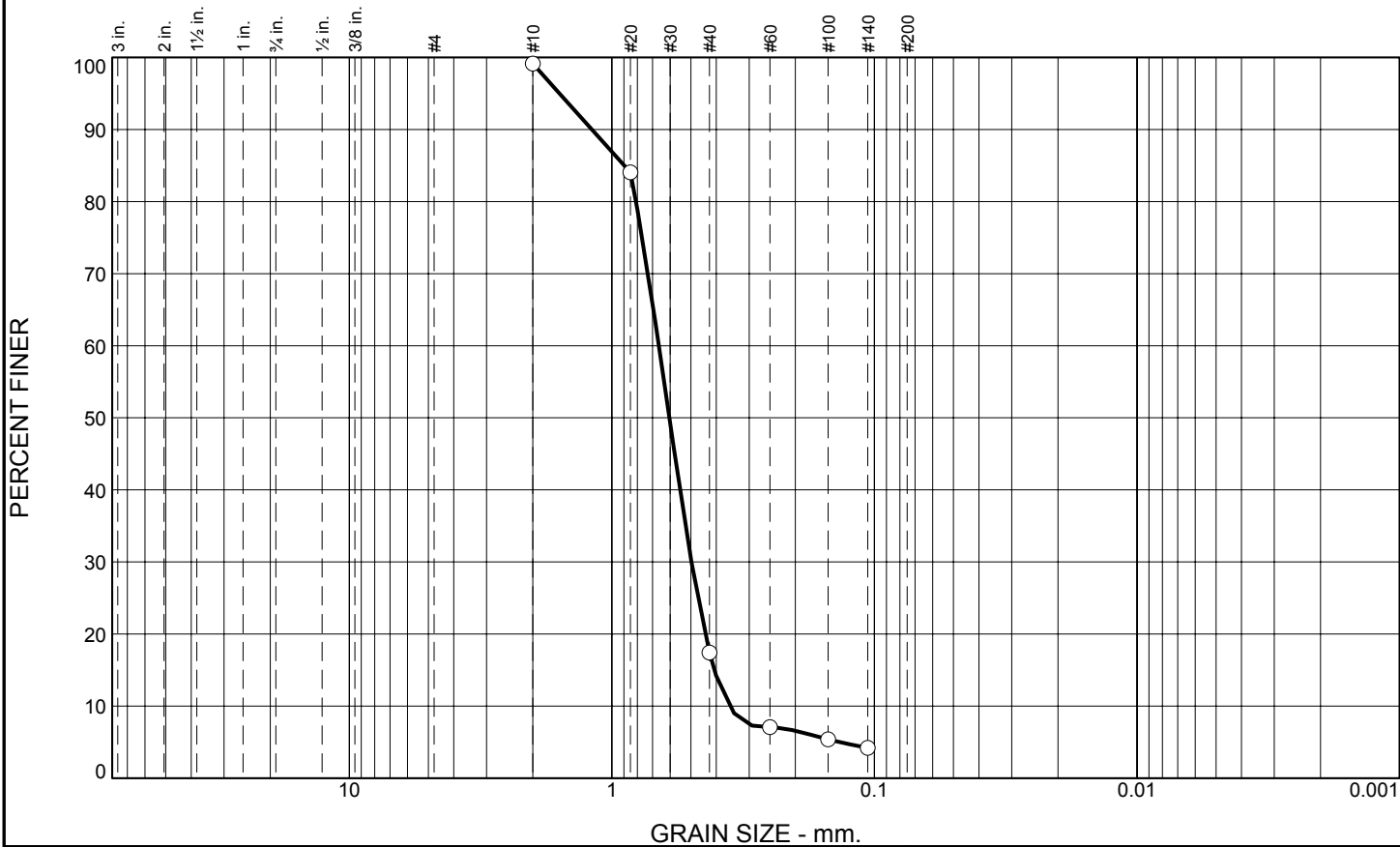
	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
<input type="radio"/>			0.4765	0.3741	0.3479	0.2912	0.2050	0.1678	1.35	2.23

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 7' Sample Number: 5-B2 @ 7'</p>	<p>Remarks:</p>
ENGEO, Inc. Ripon, California	Figure

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	99.1		
#20	84.0		
#40	17.4		
#60	7.1		
#100	5.4		
#140	4.2		

Material Description

PL= **Atterberg Limits** LL= PI=

D₈₅= 0.8972 **Coefficients** D₆₀= 0.6619 D₅₀= 0.6040

D₃₀= 0.4980 D₁₅= 0.4073 C_c= 1.05 D₁₀= 0.3577

C_u= 1.85

USCS= **Classification** AASHTO=

Remarks

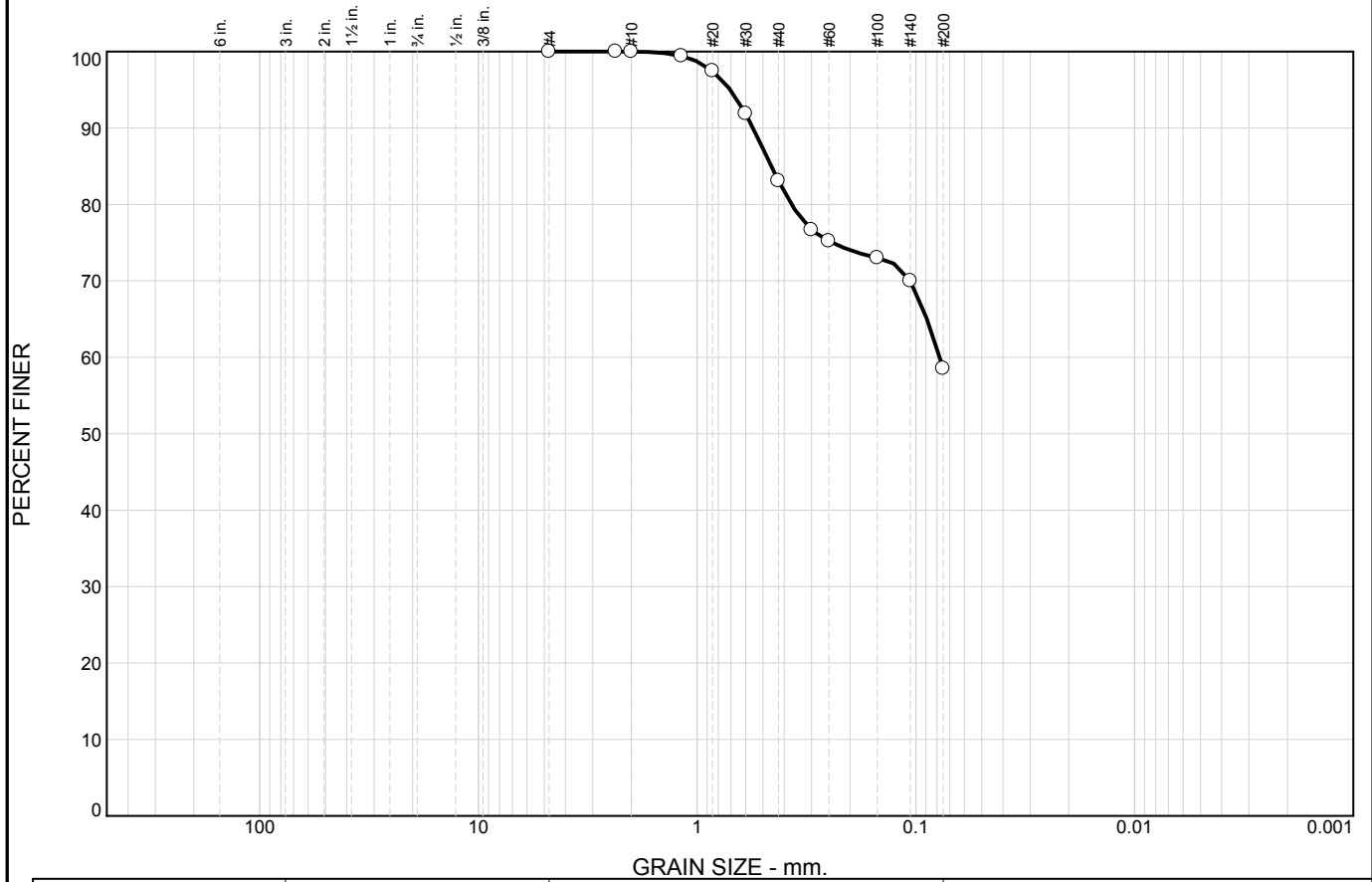
* (no specification provided)

Sample Number: 5-B2 @ 24 **Depth:** 24.0 ft. **Date:** 12/30/10
Source of Sample: Boring 5-B2

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS MATERIALS TESTING	Client: Project: RD-17 Project No: 5747.000.000 Plate
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Tested By: DS **Checked By:** GC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	0.0	16.9	24.6	58.5	

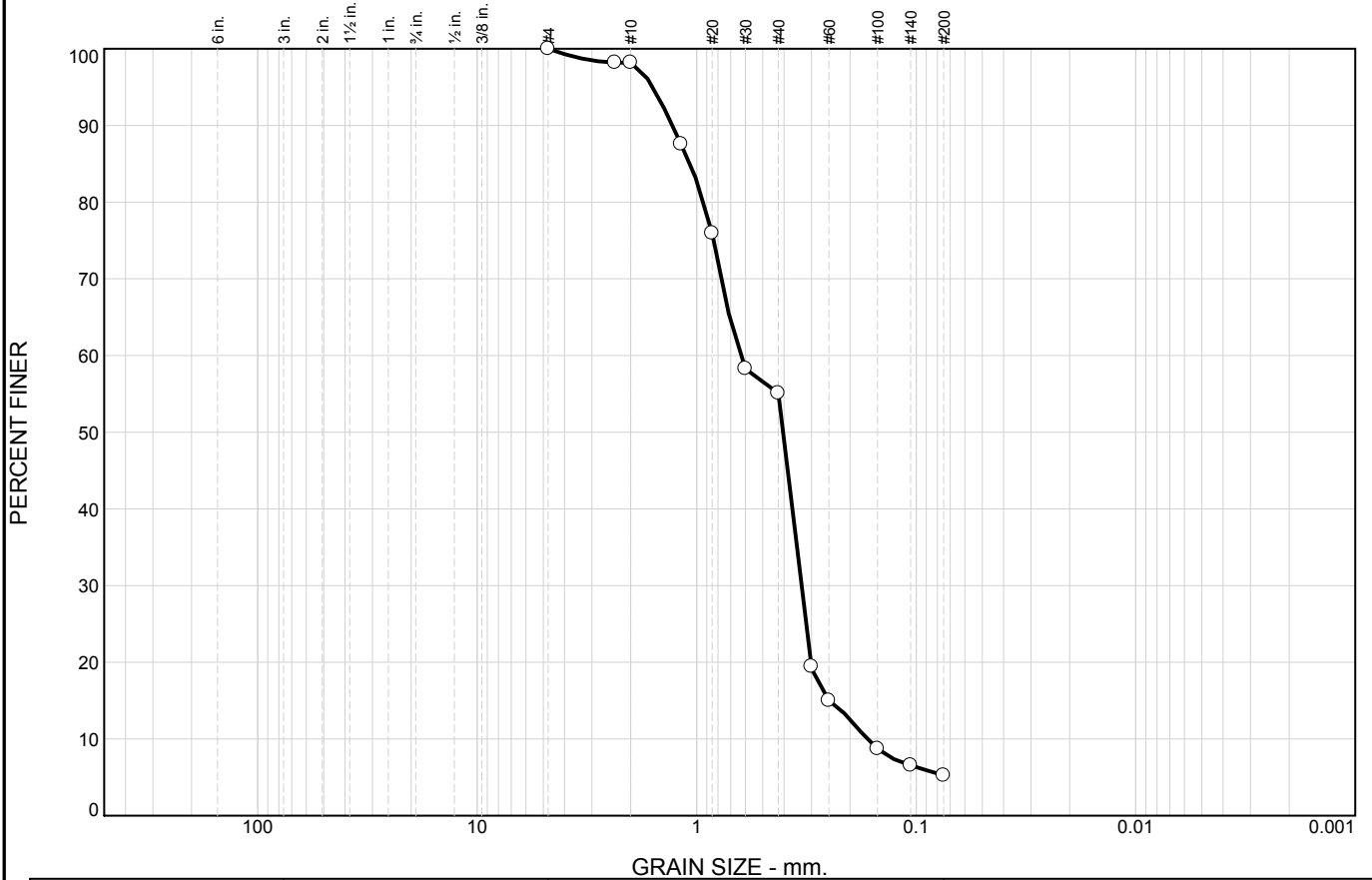
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input checked="" type="checkbox"/>	29	22	0.4585	0.0779						

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 40.5' Sample Number: 5-B2 @ 40.5'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	1.8	43.1	49.8	5.3	

<input checked="" type="checkbox"/>		LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>				1.0744	0.6399	0.3993	0.3359	0.2498	0.1670	1.06	3.83

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 **Client:**
Project: RD-17 Levee Seepage Project

Depth: 45' **Sample Number:** 5-B2 @ 45'

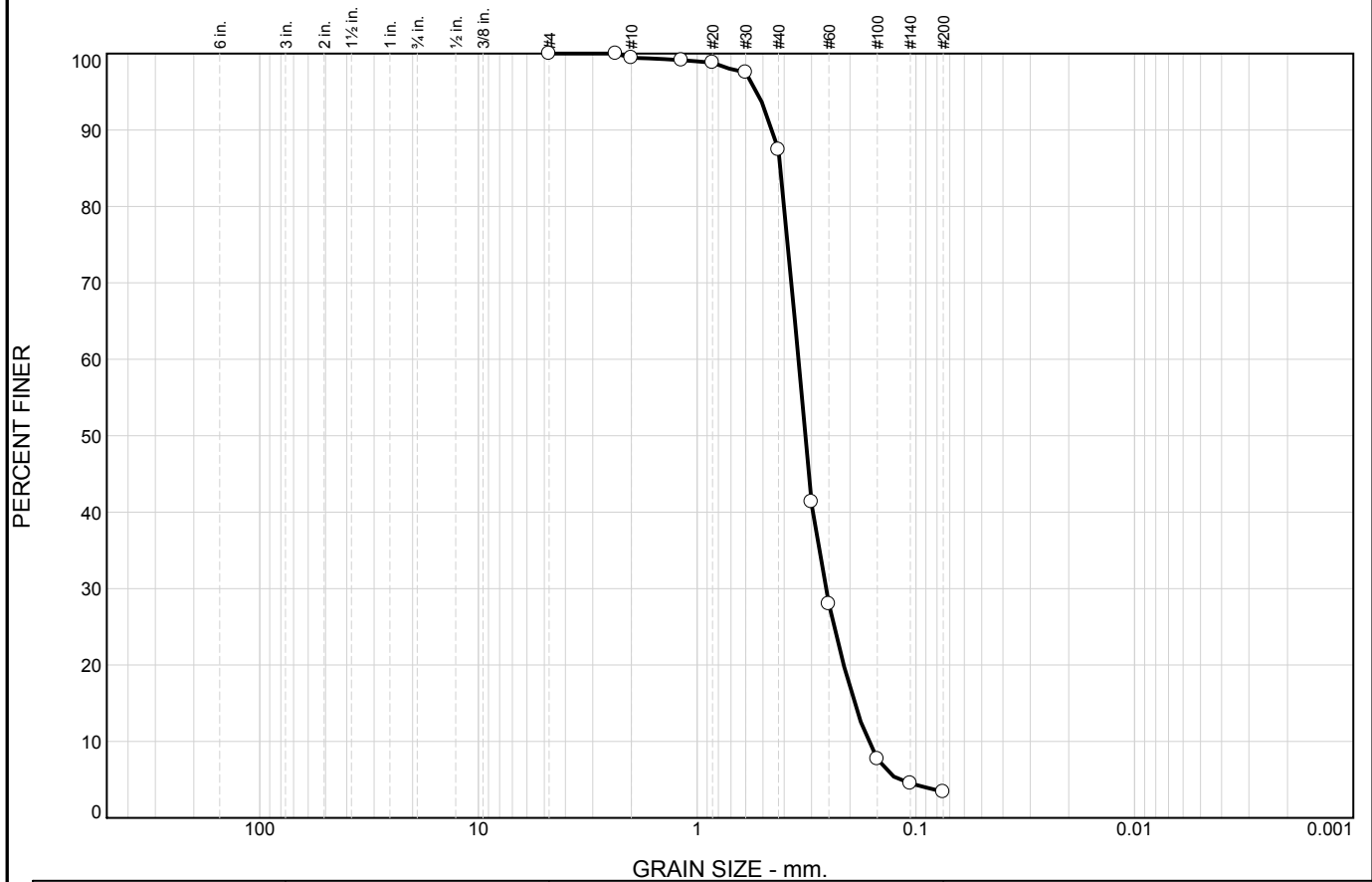
Remarks:

ENGEO, Inc.
Ripon, California

Figure

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.6	12.0	84.0	3.4	

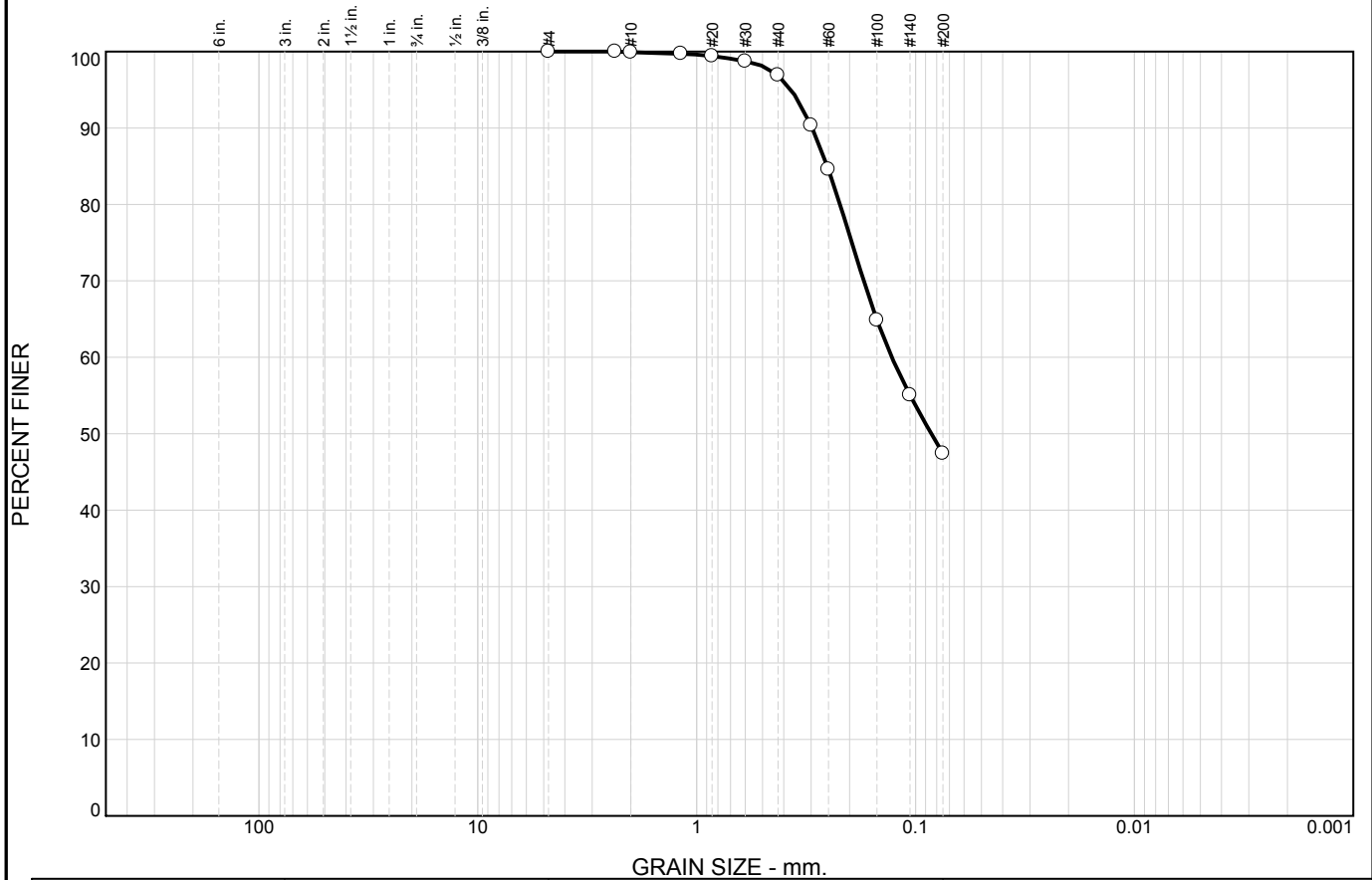
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.4149	0.3455	0.3221	0.2591	0.1906	0.1648	1.18	2.10

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 5.5' Sample Number: 5-B3 @ 5.5'	Remarks: <div style="text-align: right; font-weight: bold;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



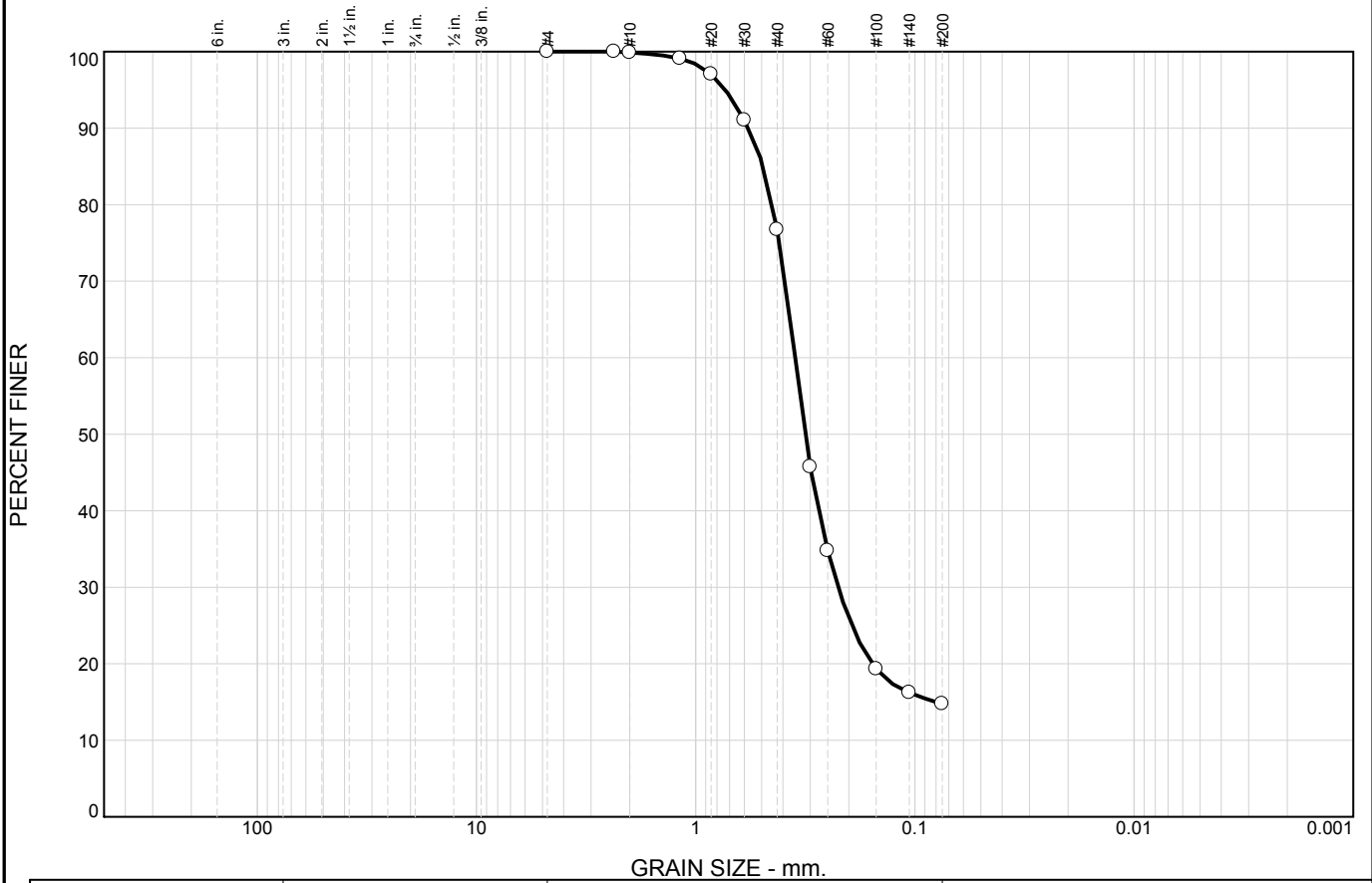
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	0.1	3.0	49.5	47.4			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.2530	0.1284	0.0847					

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 27.5' Sample Number: 5-B3 @ 27.5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	23.2	61.9	14.8	

LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
		0.4923	0.3519	0.3160	0.2242	0.0800			

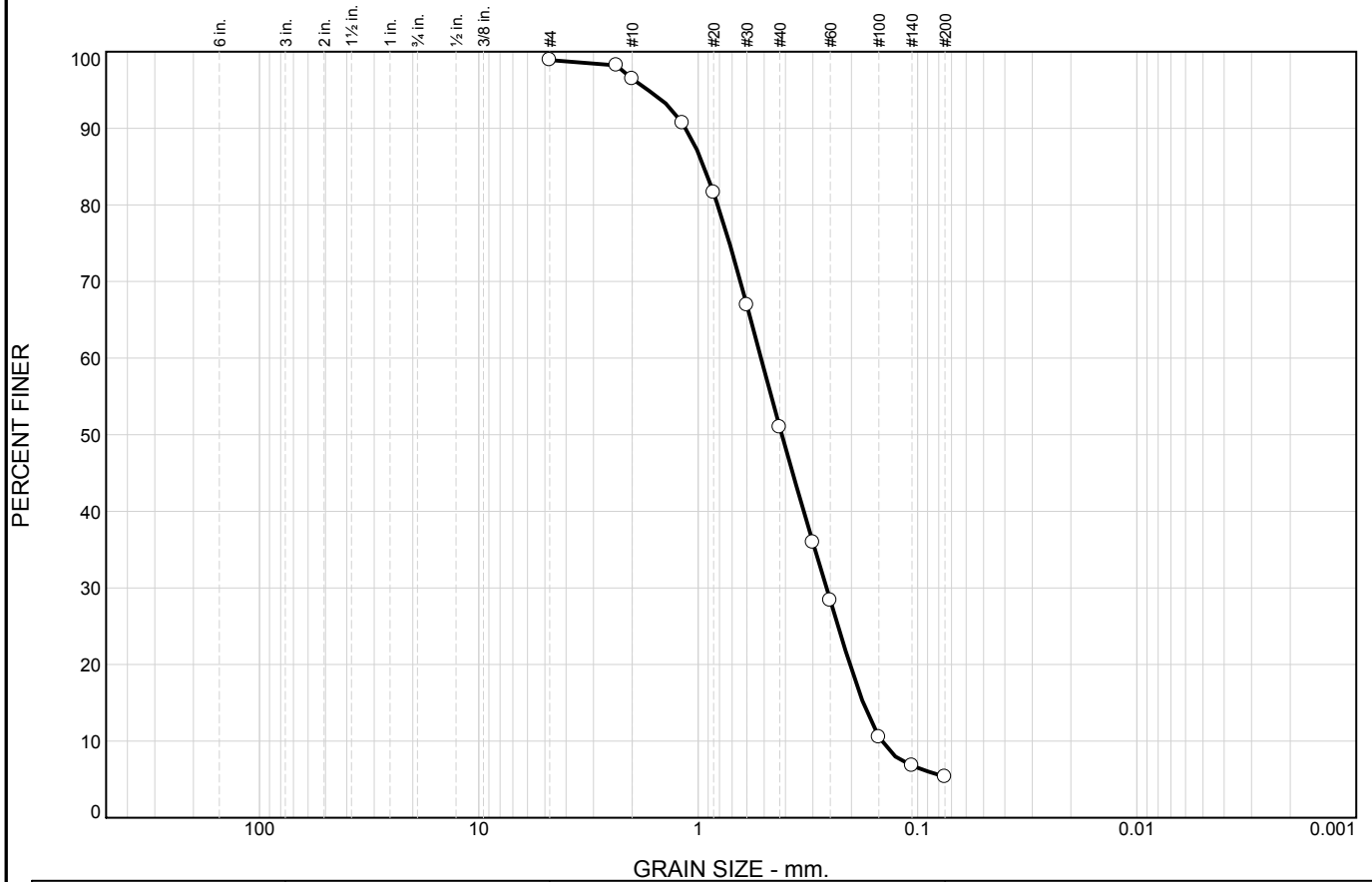
Material Description	USCS	AASHTO
See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 35.5' Sample Number: 5-B3 @ 35.5'	Remarks:
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ENGEO, Inc. Ripon, California	Figure
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



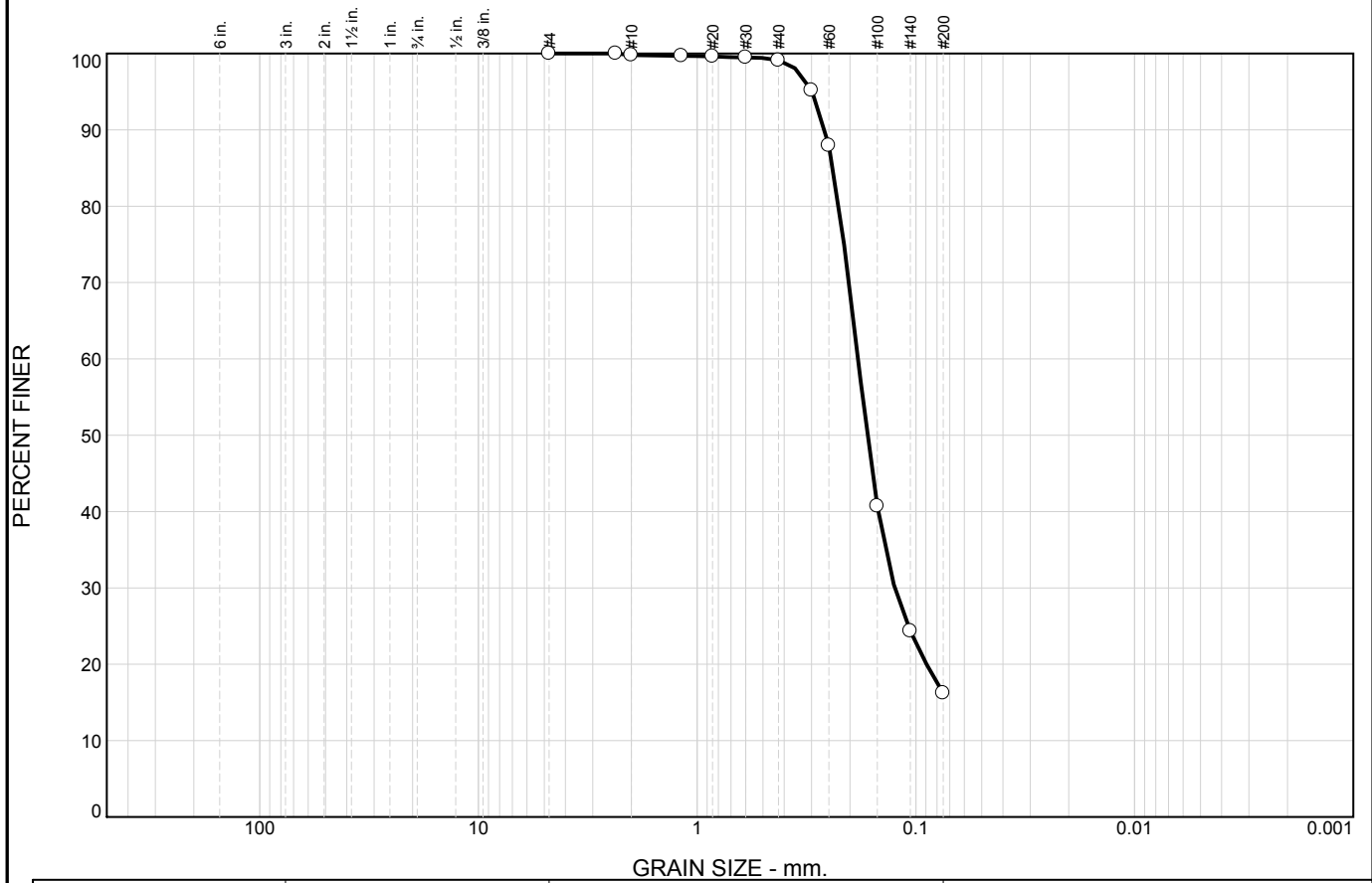
%	+3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>				2.4	45.5	45.7	5.3			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.9397	0.5169	0.4157	0.2599	0.1769	0.1461	0.89	3.54

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 45' Sample Number: 5-B3 @ 45'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.2	0.7	82.9	16.2	

	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
⊗			0.2393	0.1839	0.1667	0.1249				

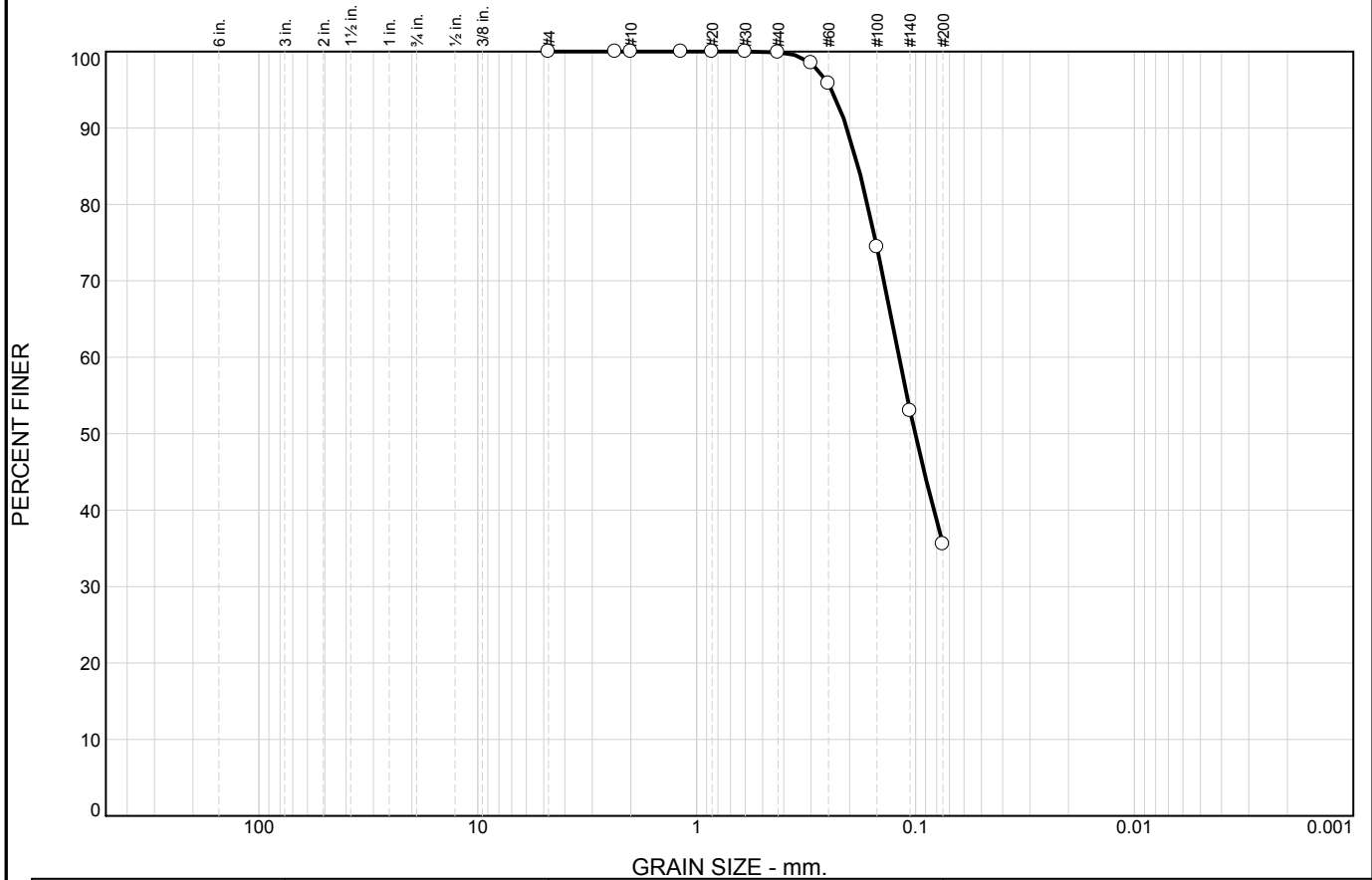
Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 75' Sample Number: 5-B3 @ 75'	Remarks:
ENGEO, Inc. Ripon, California	

Tested By: KEL **Checked By:** ZAC

Figure

Particle Size Distribution Report



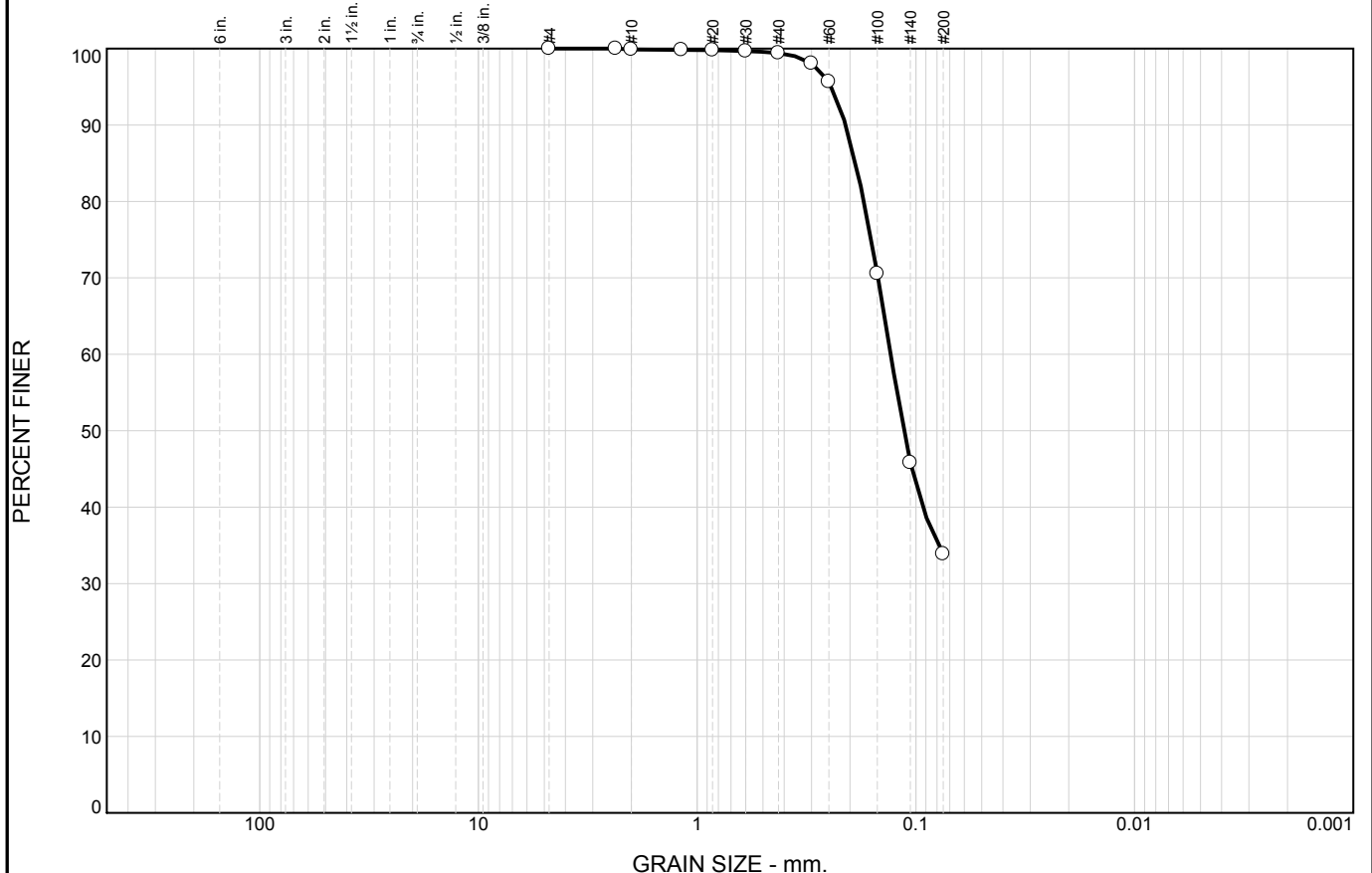
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	0.0	0.1	64.3	35.6			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.1830	0.1190	0.1005					

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 96' Sample Number: 5-B3 @ 96'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	0.1	0.5	65.5	33.9			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.1885	0.1305	0.1136					

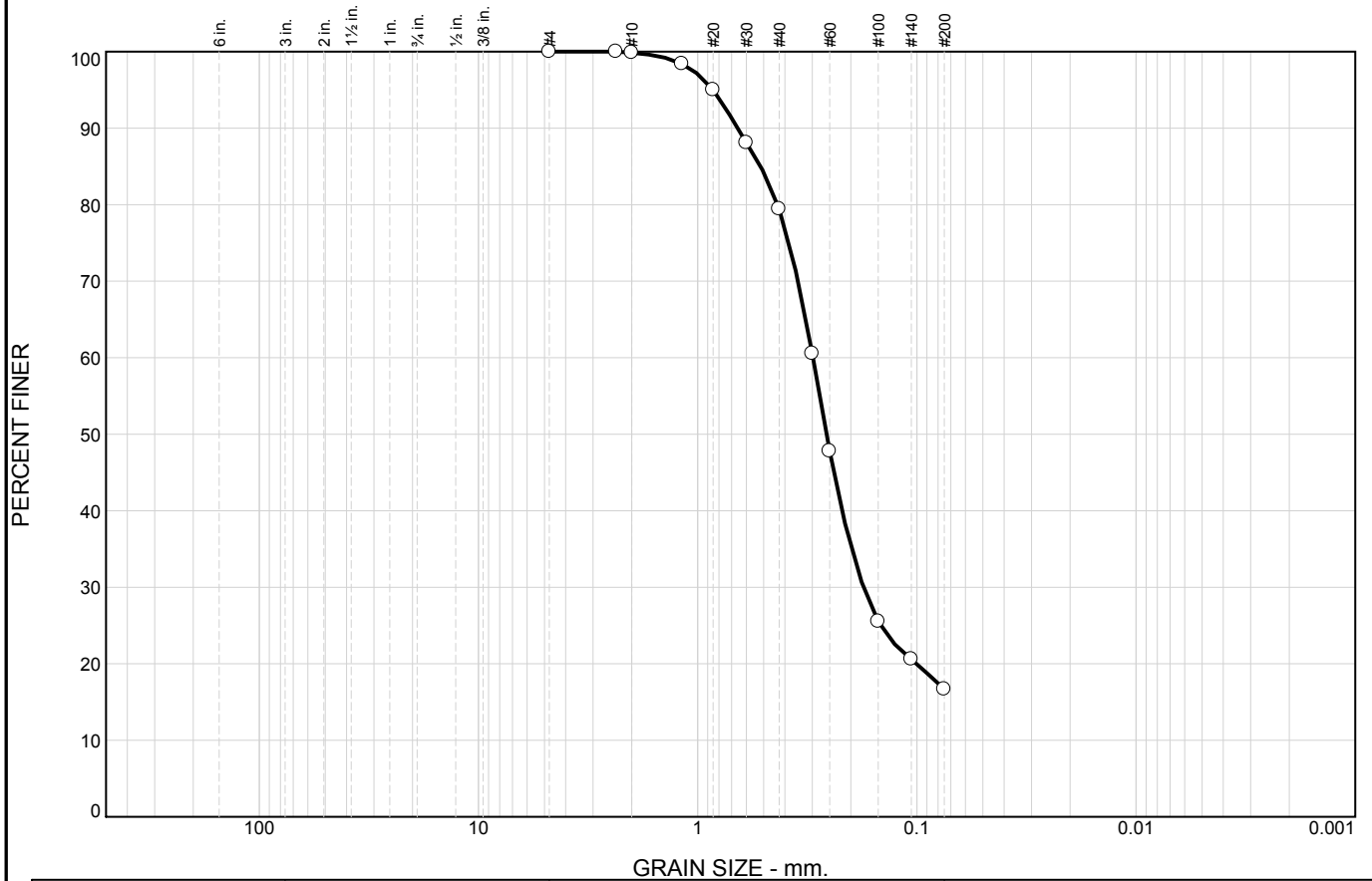
Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 2.5' Sample Number: 5-B4 @ 2.5'	Remarks:
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ENGEO, Inc. Ripon, California	Figure
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.2	20.4	62.7	16.7	

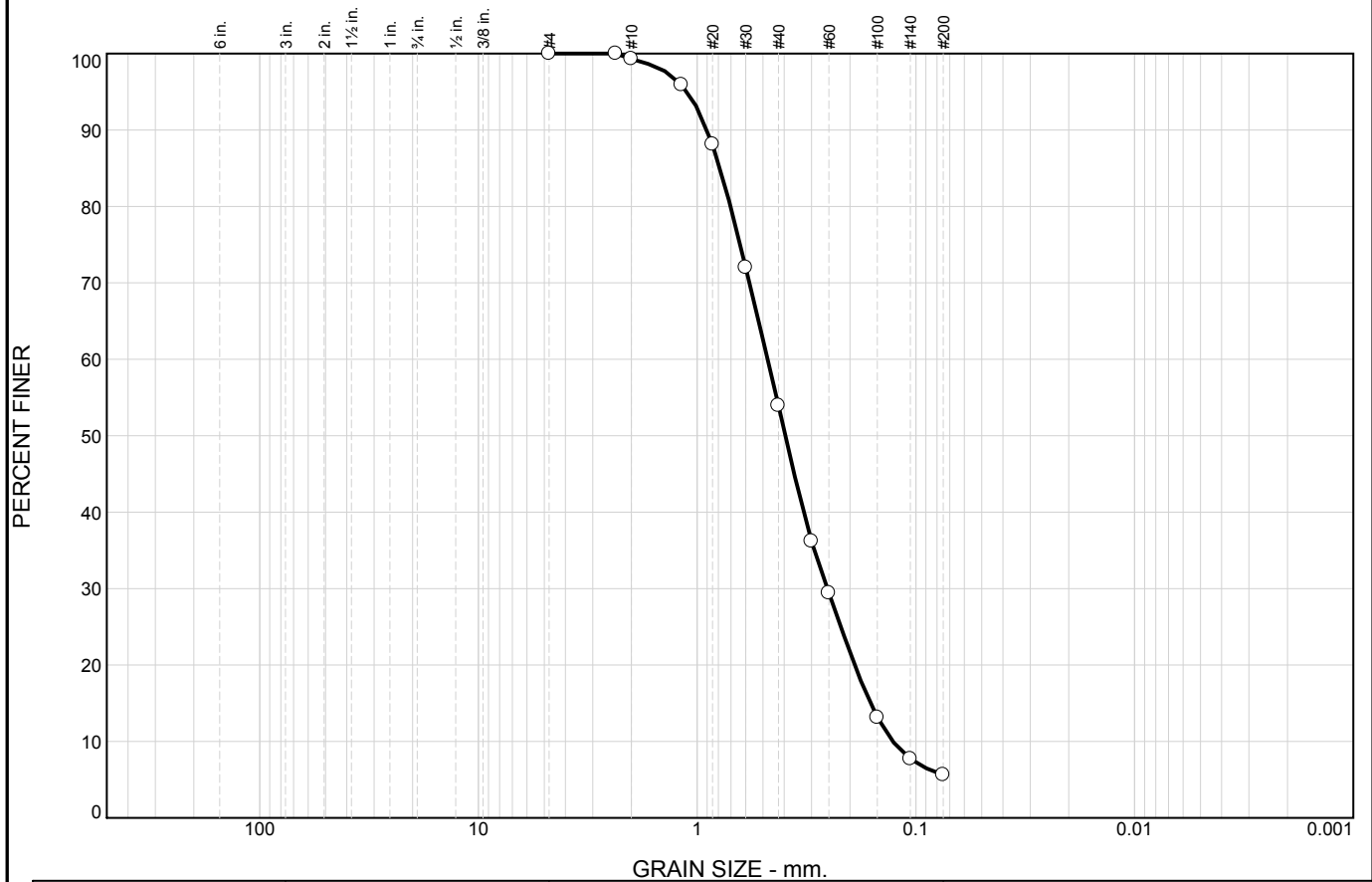
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
⊗			0.5166	0.2977	0.2583	0.1753				

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 21' Sample Number: 5-B4 @ 21'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.7	45.3	48.4	5.6	

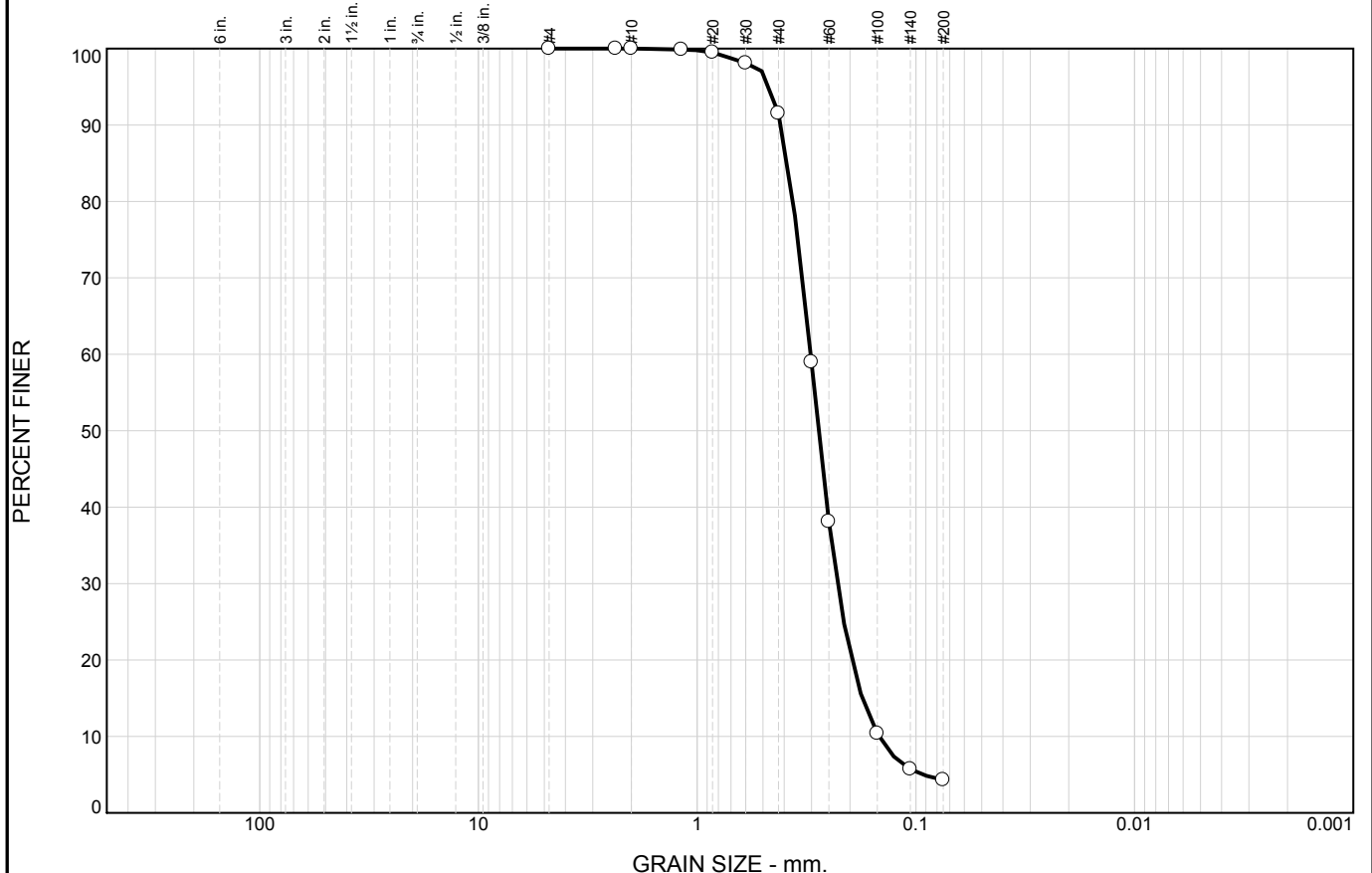
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.7851	0.4760	0.3952	0.2541	0.1614	0.1276	1.06	3.73

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 26' Sample Number: 5-B4 @ 26'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	8.5	87.2	4.3	

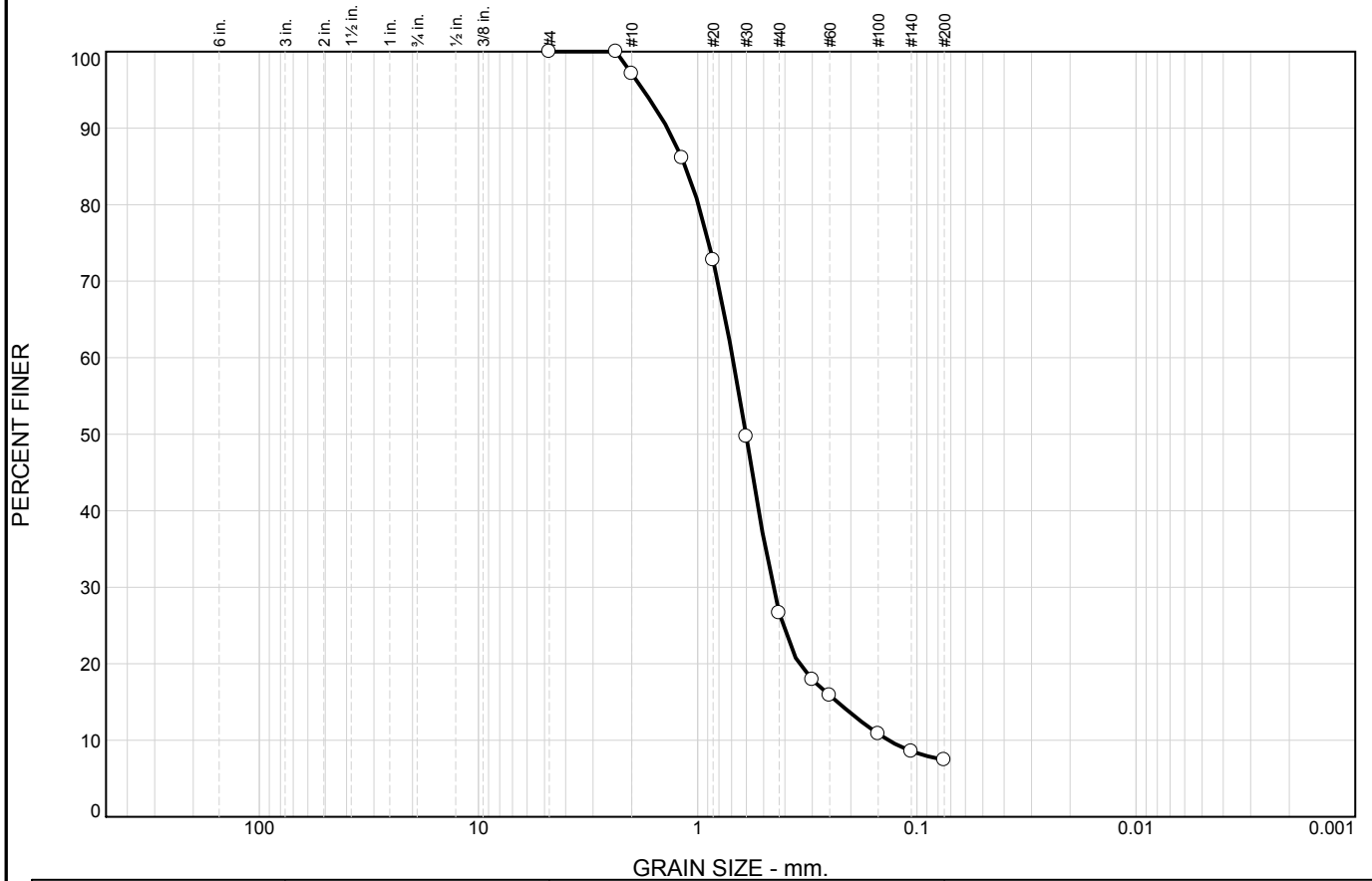
LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
		0.3860	0.3026	0.2782	0.2287	0.1759	0.1474	1.17	2.05

Material Description	USCS	AASHTO
See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Depth: 36' Sample Number: 5-B4 @ 36'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	
<p>Figure</p>	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	2.9	70.5	19.2	7.4	

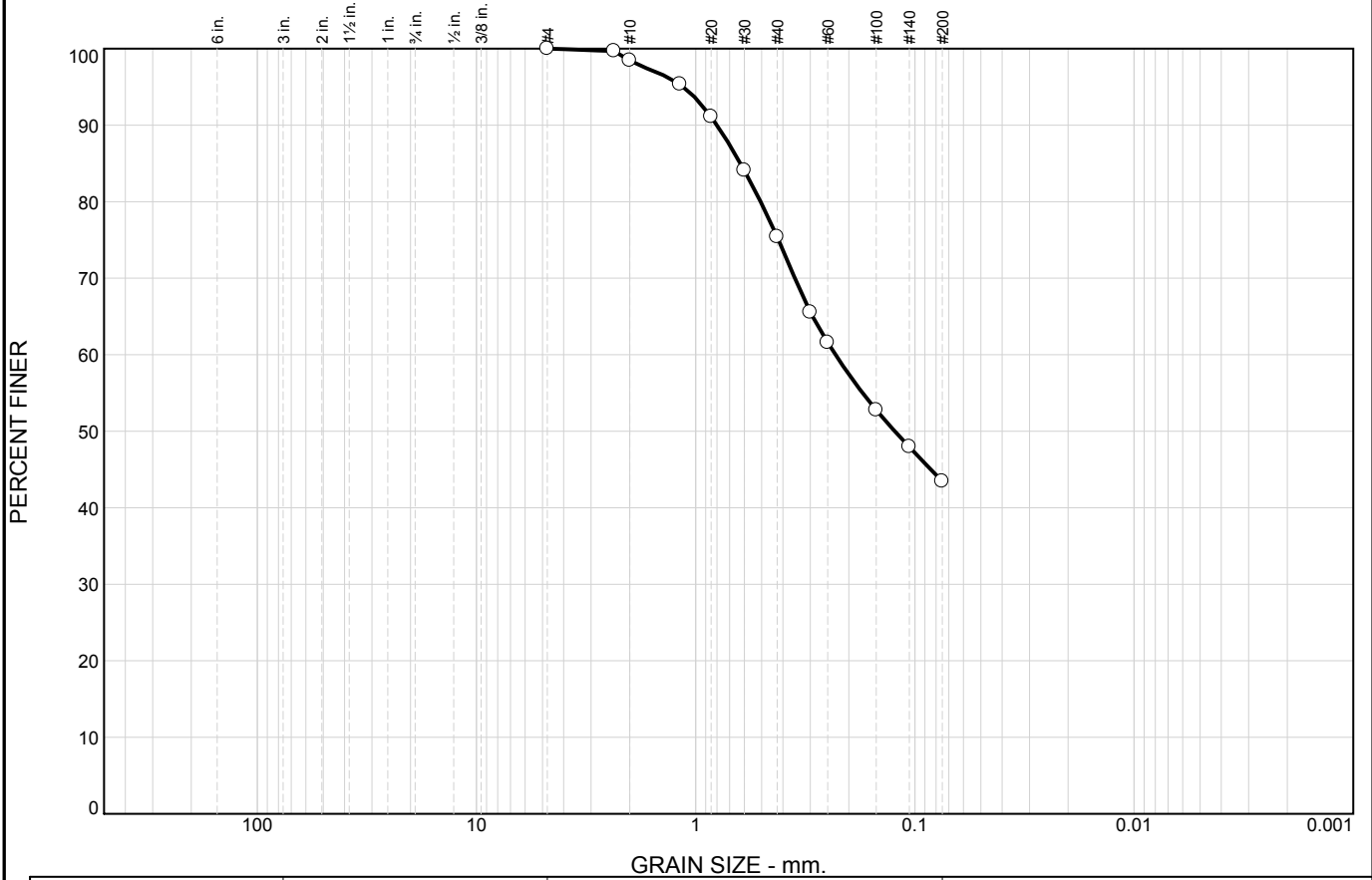
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="radio"/>			1.1381	0.6921	0.6024	0.4530	0.2302	0.1347	2.20	5.14

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 78' Sample Number: 5-B4 @ 78'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
	0.0	0.0	0.0	1.5	23.1	32.0	43.4	

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
		0.6251	0.2304	0.1235					

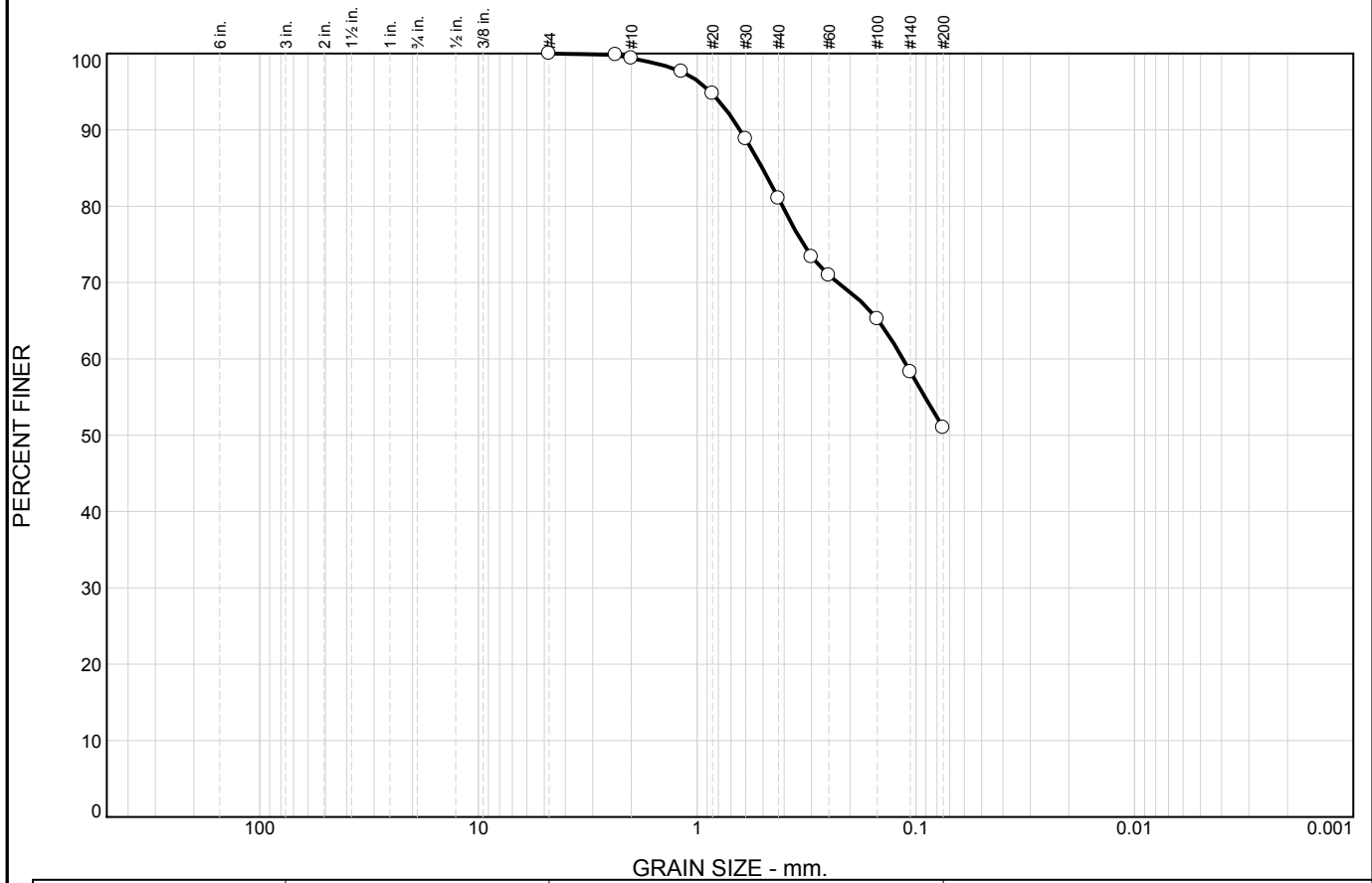
Material Description						USCS	AASHTO
See Exploratory Boring Logs							

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project	Remarks:
<input type="radio"/> Depth: 4' Sample Number: 5-B5 @ 4'	

ENGEO, Inc. Ripon, California	Figure
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	0.6	18.4	30.0	51.0			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.5034	0.1147						

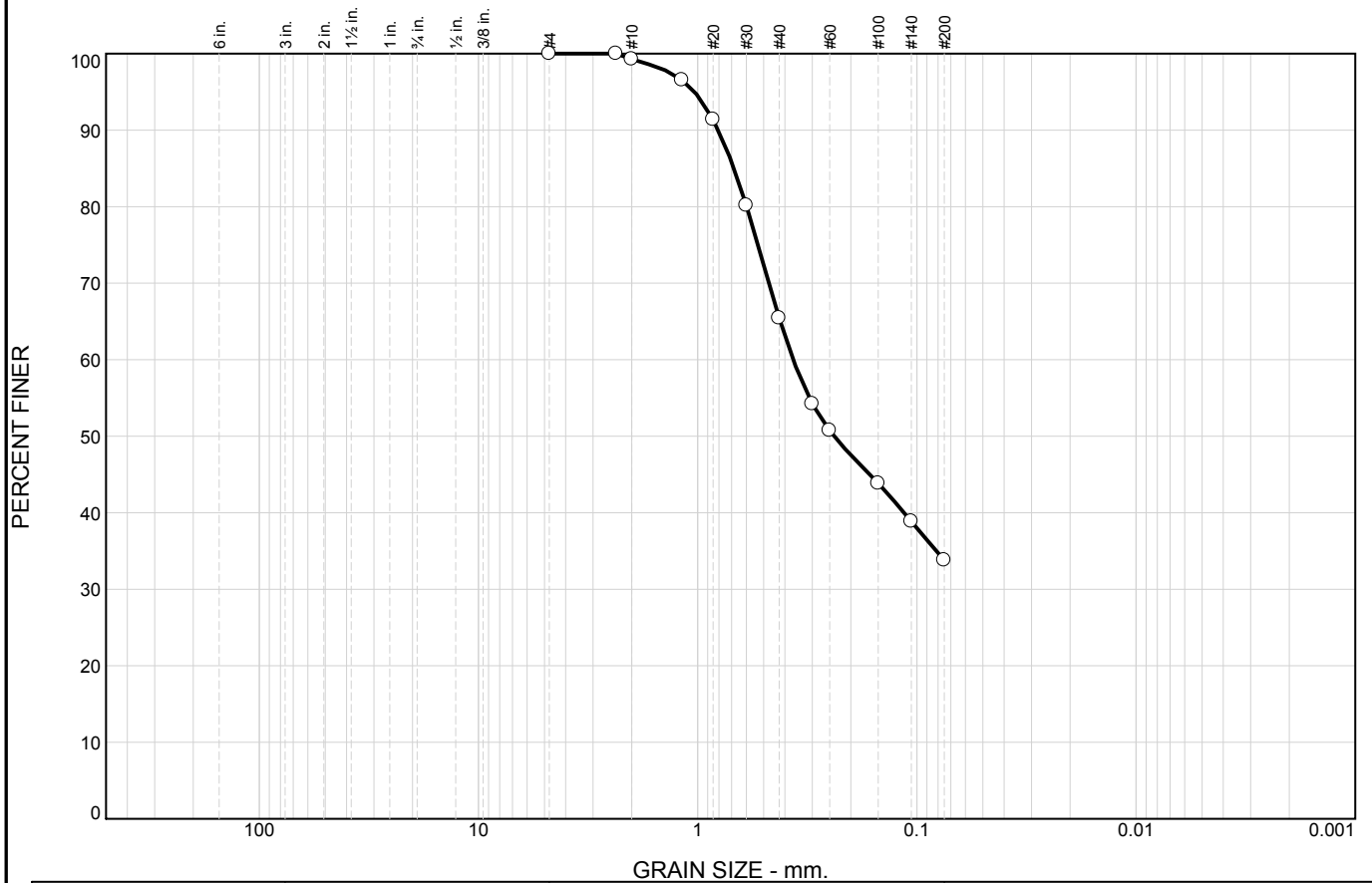
Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 8' Sample Number: 5-B5 @ 8'	Remarks:
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ENGEO, Inc. Ripon, California	Figure
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



%	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.7	33.9	31.6	33.8	

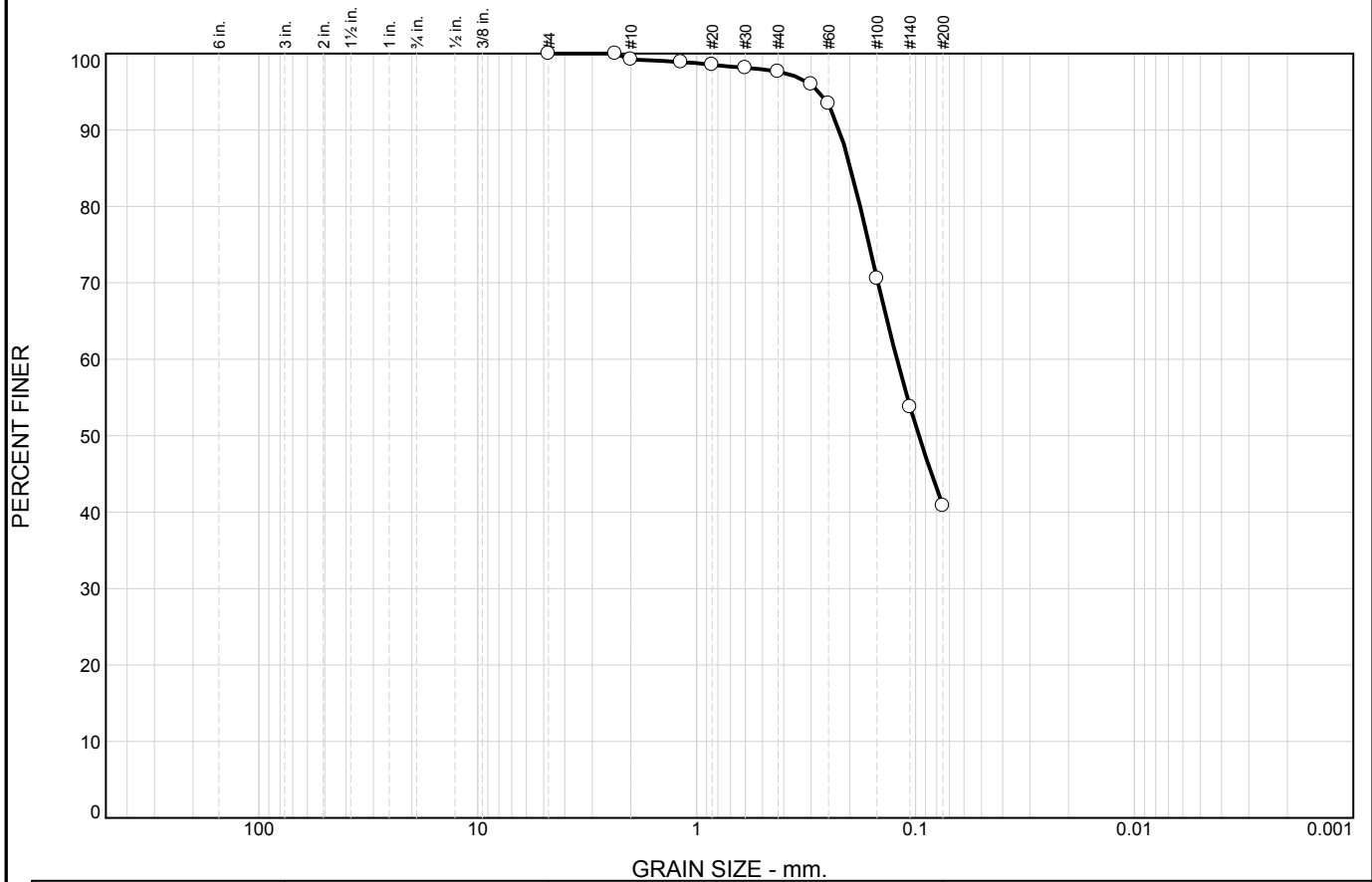
×	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.6825	0.3670	0.2387					

Material Description								USCS	AASHTO
○ See Exploratory Boring Logs									

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 15' Sample Number: 5-B5 @ 15'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	0.8	1.6	56.8	40.8	

<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.1979	0.1218	0.0966					

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 **Client:**
Project: RD-17 Levee Seepage Project

 Depth: 31' **Sample Number:** 5-B5 @ 31'

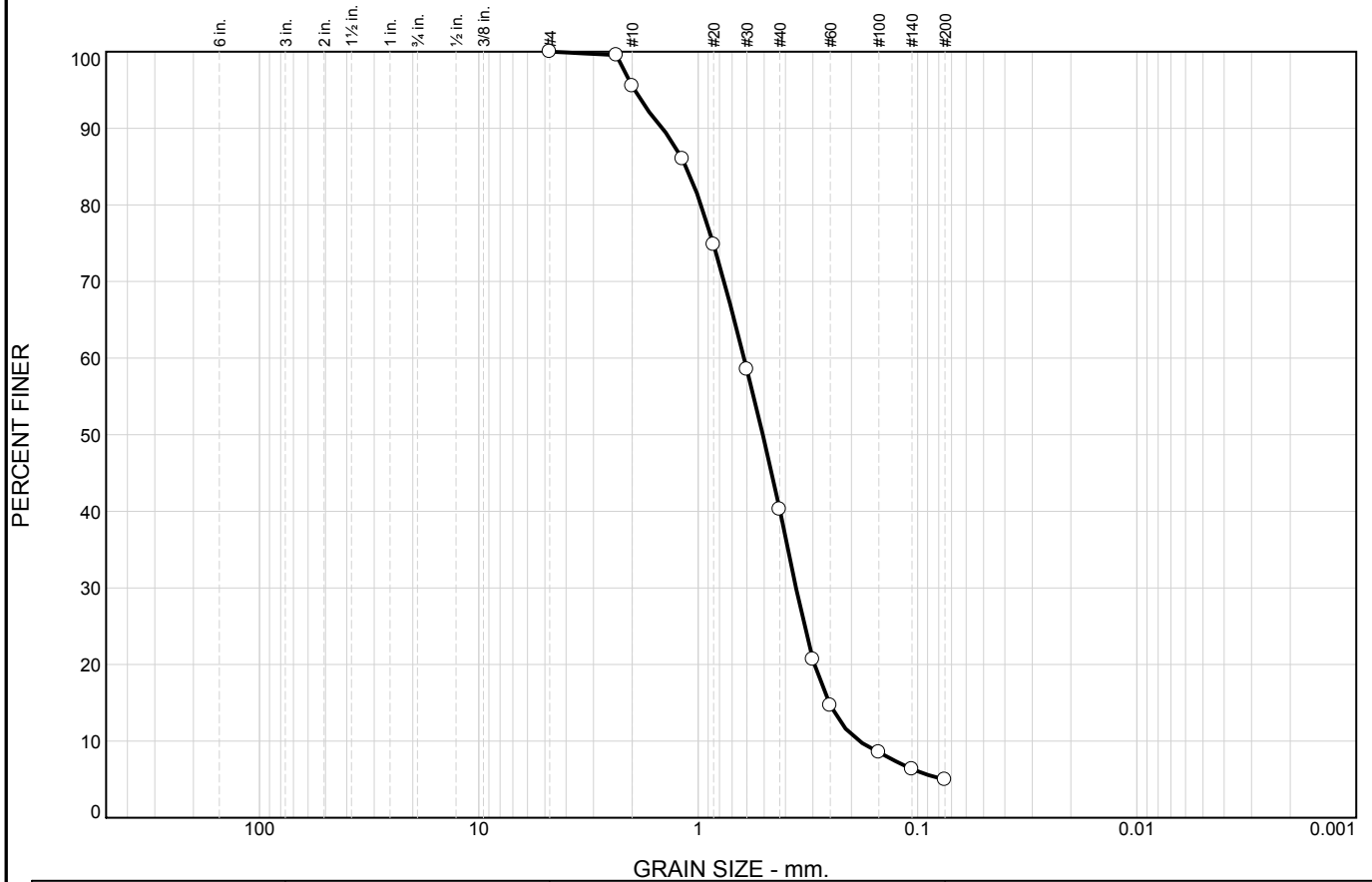
ENGEO, Inc.
Ripon, California

Remarks:

Figure

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	4.5	55.2	35.3	5.0	

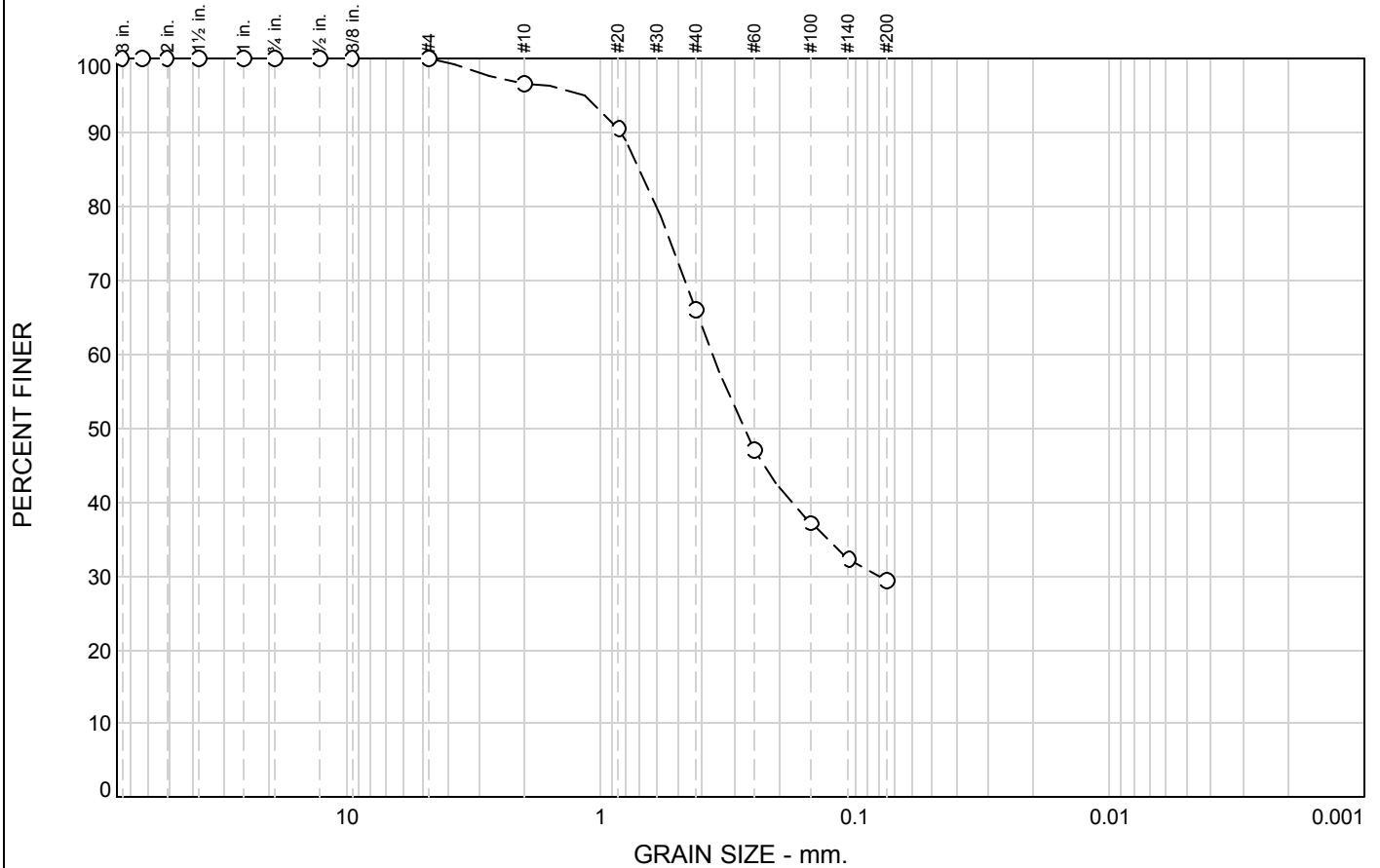
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			1.1355	0.6182	0.5071	0.3583	0.2534	0.1843	1.13	3.35

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 50' Sample Number: 5-B5 @ 50'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	
<p>Figure</p>	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	3.4	30.5	36.8	29.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
2.5	100.0		
2	100.0		
1.5	100.0		
1	100.0		
3/4	100.0		
1/2	100.0		
3/8	100.0		
#4	100.0		
#10	96.6		
#20	90.5		
#40	66.1		
#60	47.0		
#100	37.1		
#140	32.3		
#200	29.3		

Material Description

See boring logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.6953 D₆₀= 0.3654 D₅₀= 0.2765
D₃₀= 0.0825 D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

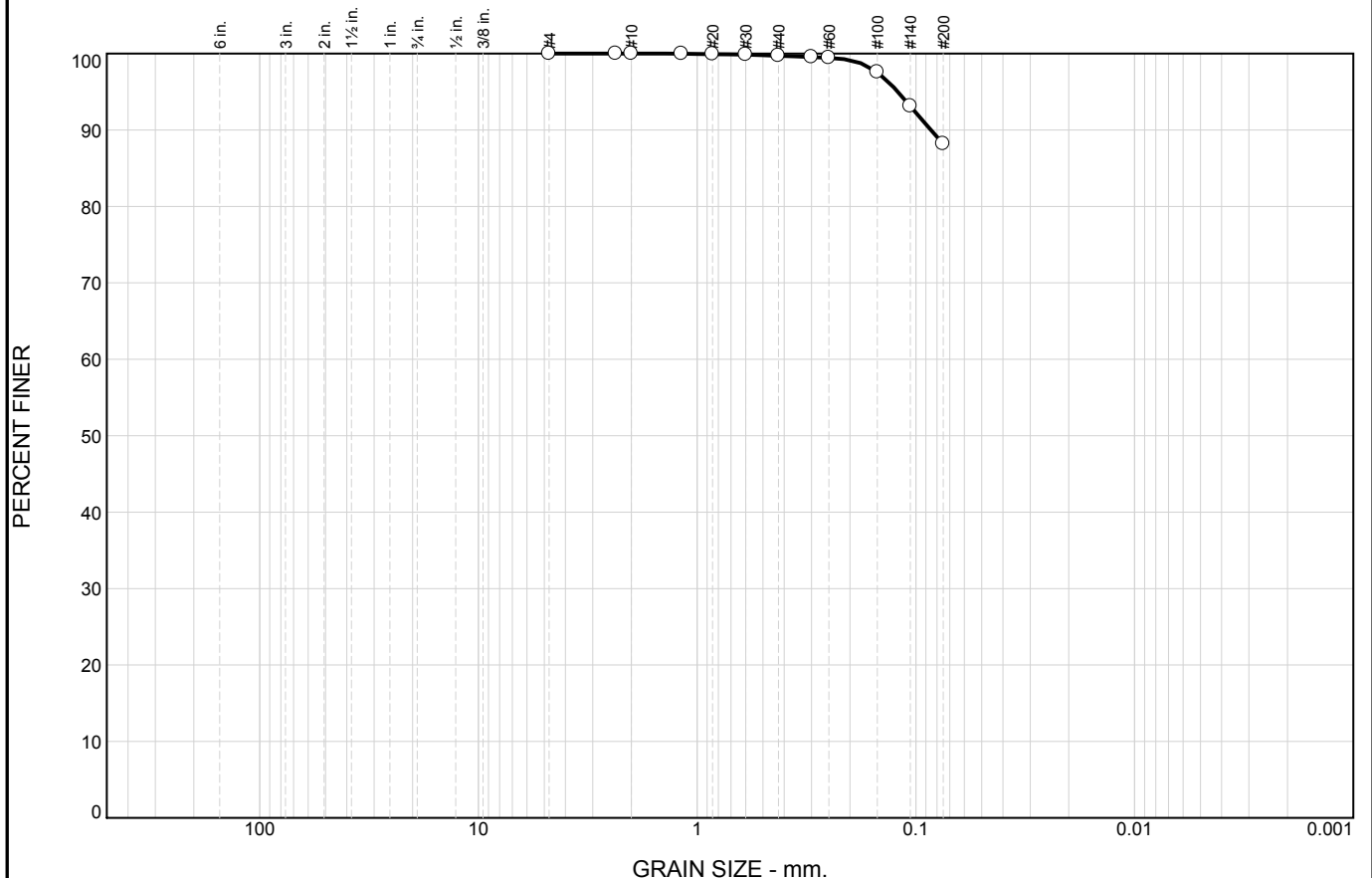
* (no specification provided)

Sample Number: 5-B7 @ 5.5
Location: 5-B7

Depth: 5.5 feet

Date: 01/28/11

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	0.0	0.3	11.5	88.2			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>										

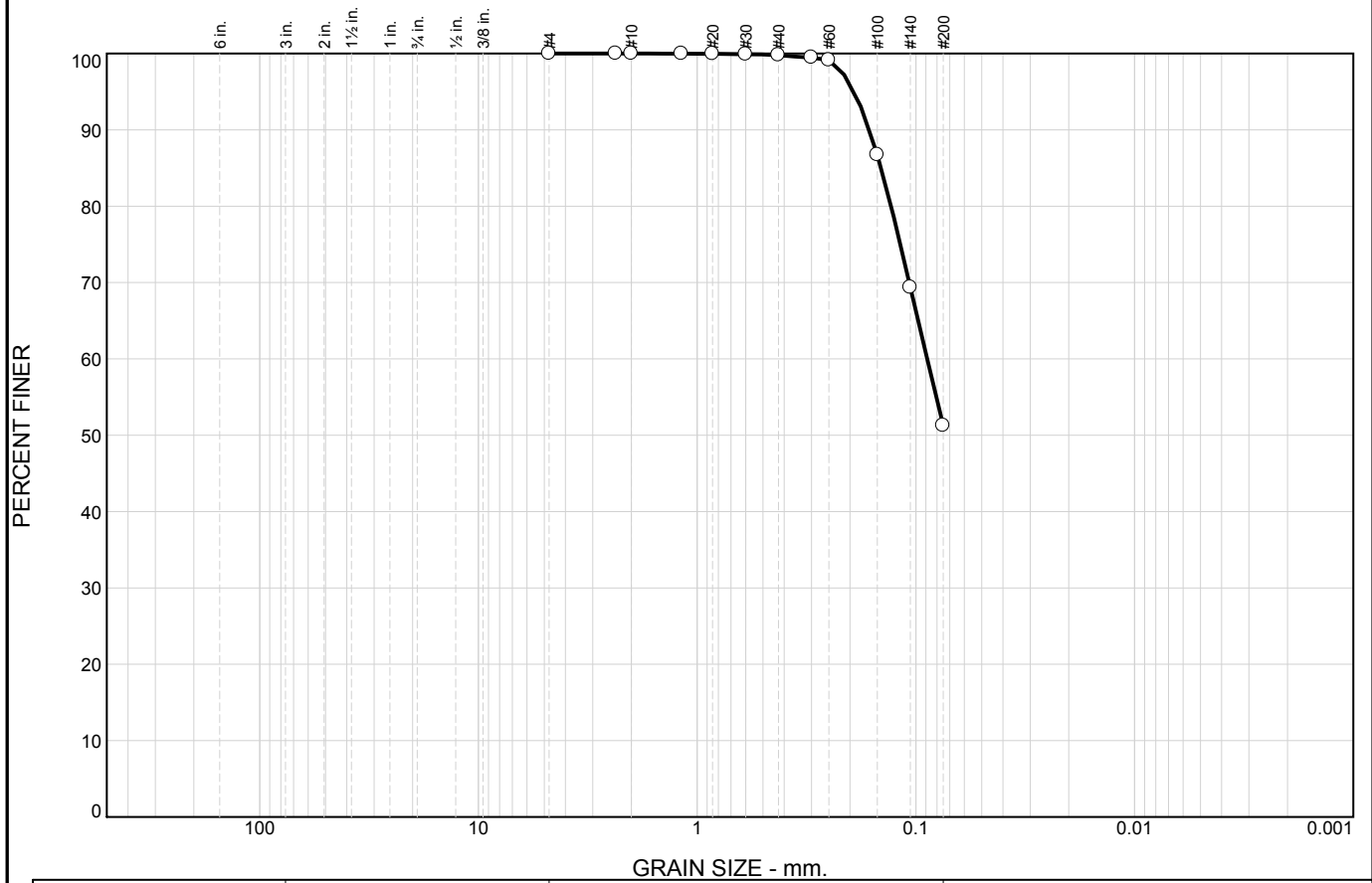
Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 21.5' Sample Number: 5-B7 @ 21.5'	Remarks:
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ENGEO, Inc. Ripon, California	Figure
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



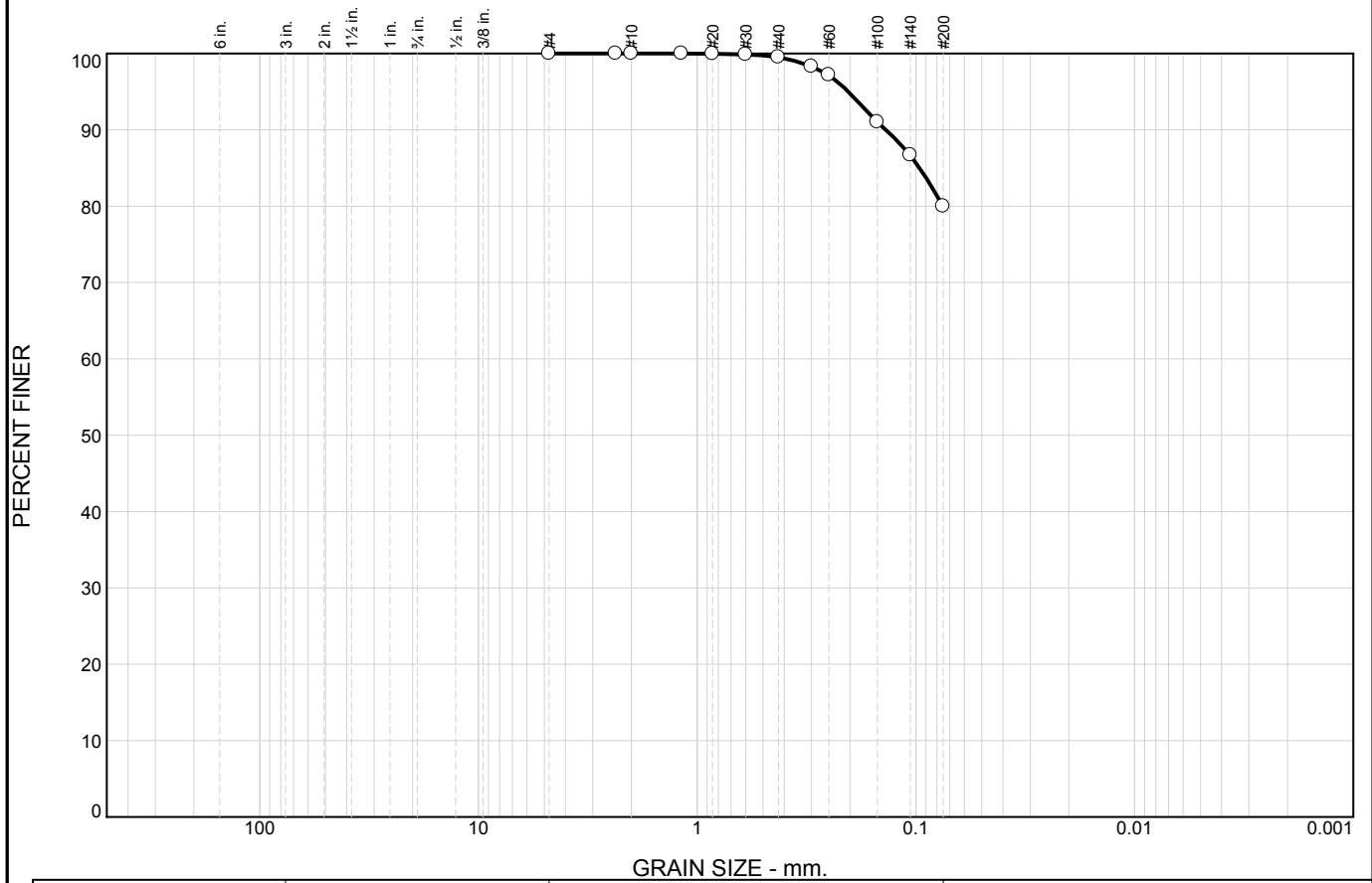
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	0.0	0.2	48.5	51.3			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.1442	0.0887						

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 72' Sample Number: 5-B7 @ 72'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



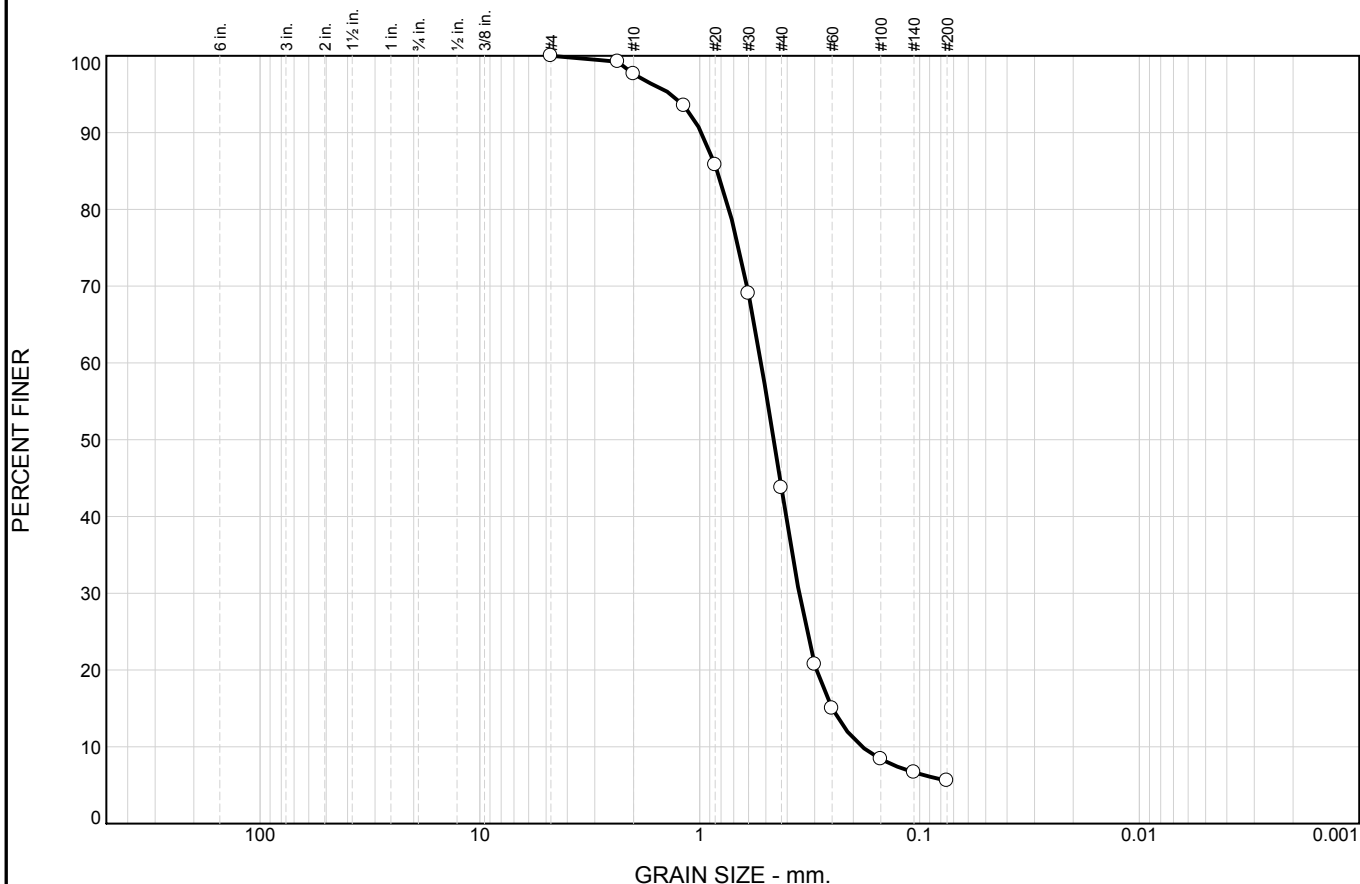
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	0.0	0.5	19.5	80.0			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.0959							

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 18.5' Sample Number: 5-B8 @ 18.5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	2.4	53.9	38.1	5.6	

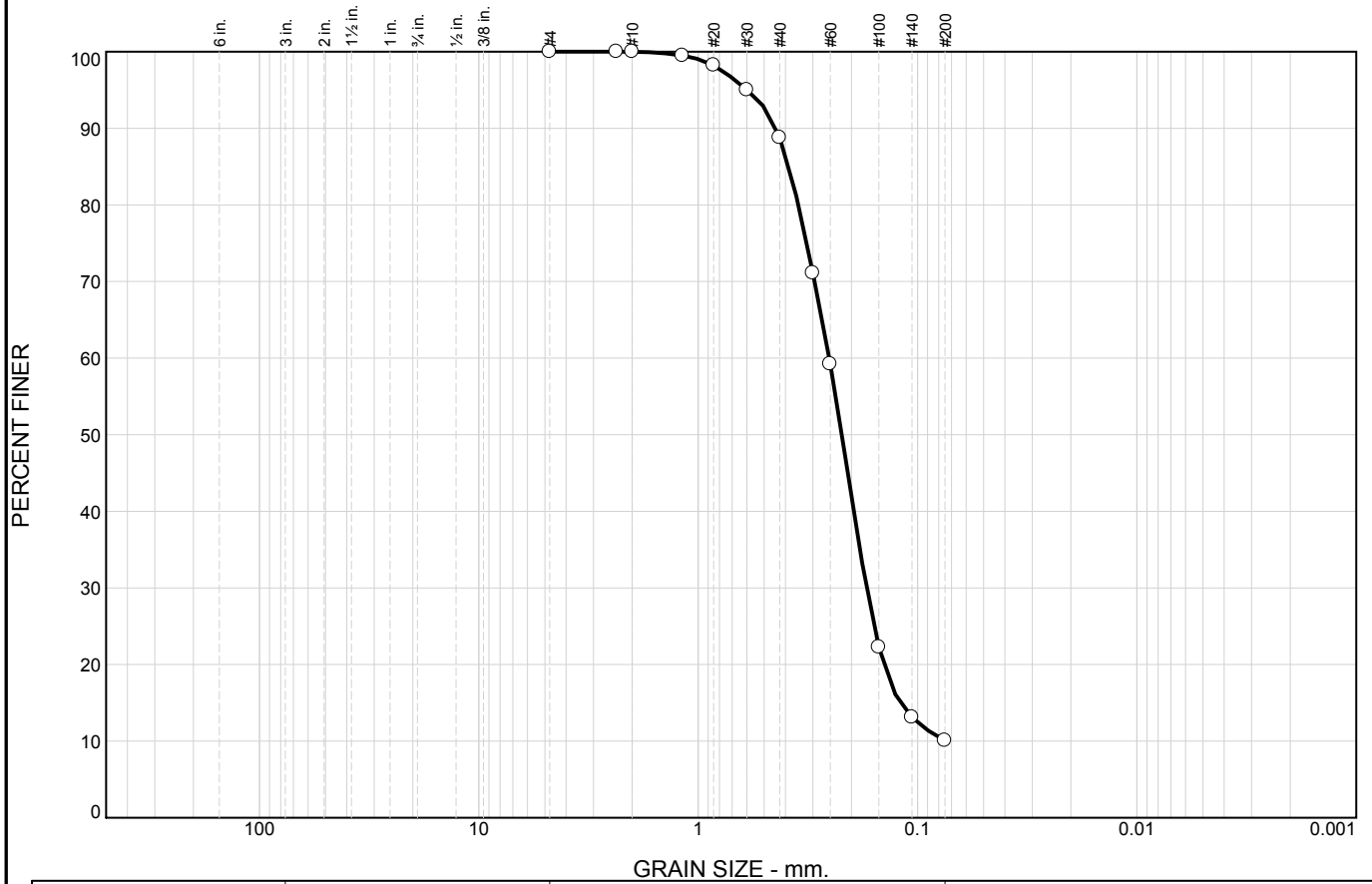
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
		0.8311	0.5257	0.4606	0.3530	0.2499	0.1823	1.30	2.88

Material Description	USCS	AASHTO
See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Depth: 30' Sample Number: 5-B8 @ 30'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	
<p>Figure</p>	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	11.2	78.7	10.1	

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
		0.3863	0.2527	0.2215	0.1708	0.1200			

Material Description	USCS	AASHTO
See Exploratory Boring Logs		

Project No. 5747.000.000 **Client:**
Project: RD-17 Levee Seepage Project

Depth: 40.5' **Sample Number:** 5-B8 @ 40.5'

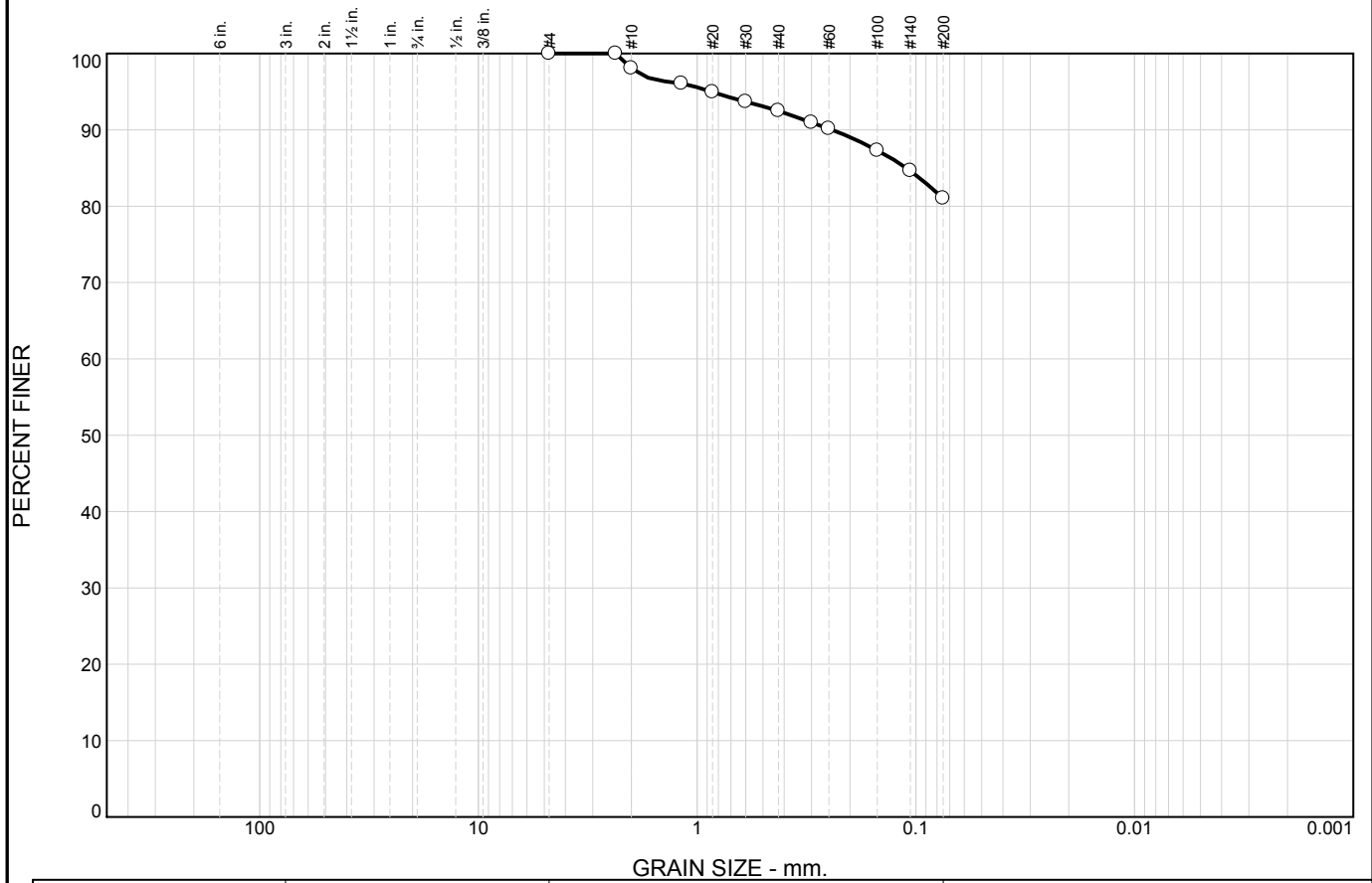
Remarks:

Figure

ENGEO, Inc.
Ripon, California

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	1.9	5.6	11.5	81.0			
<input checked="" type="checkbox"/>	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="radio"/>			0.1105							

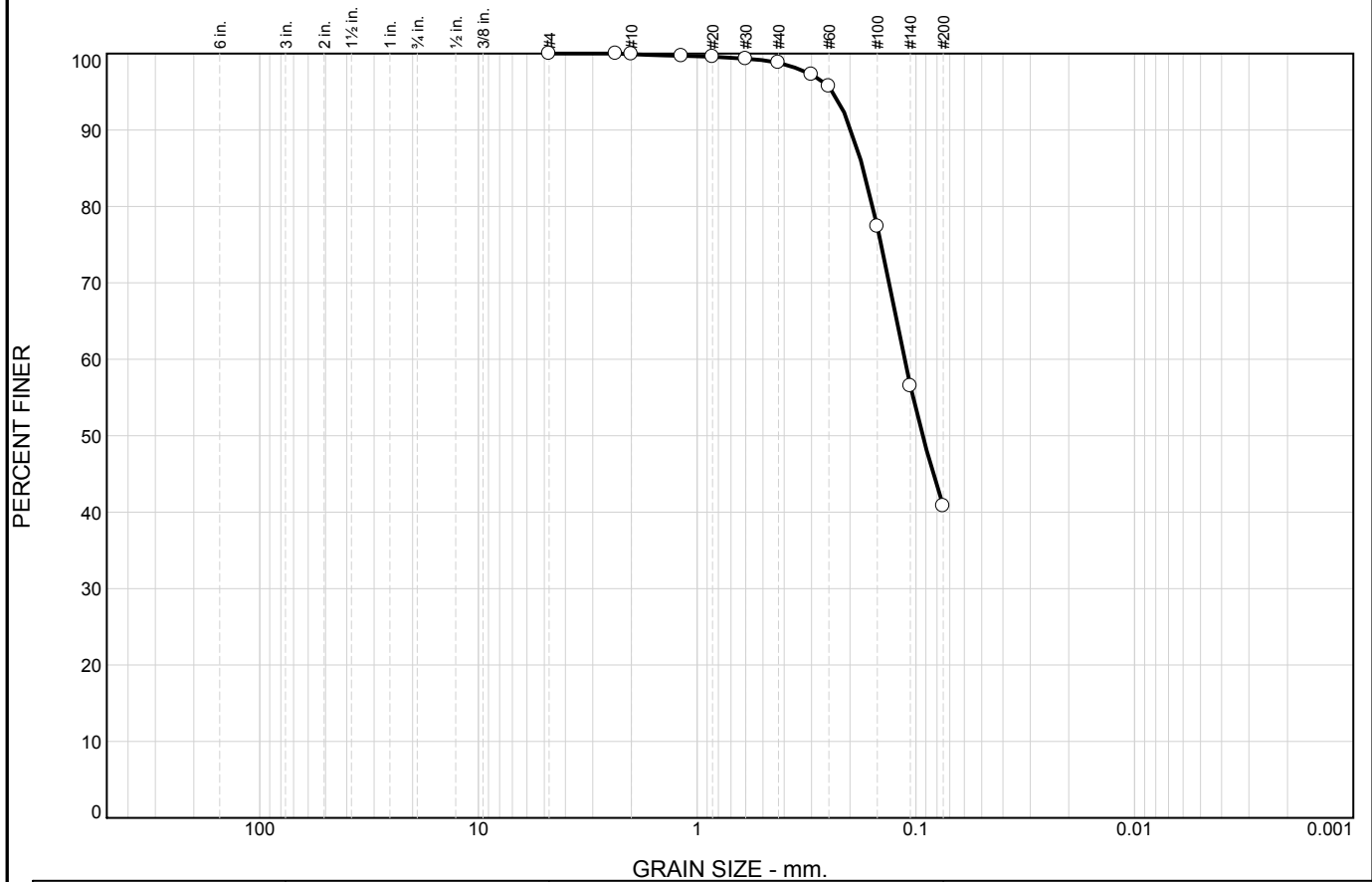
Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 10.5' Sample Number: 5-B9 @ 10.5</p>	<p>Remarks:</p>
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<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>
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Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.1	1.1	58.0	40.8	

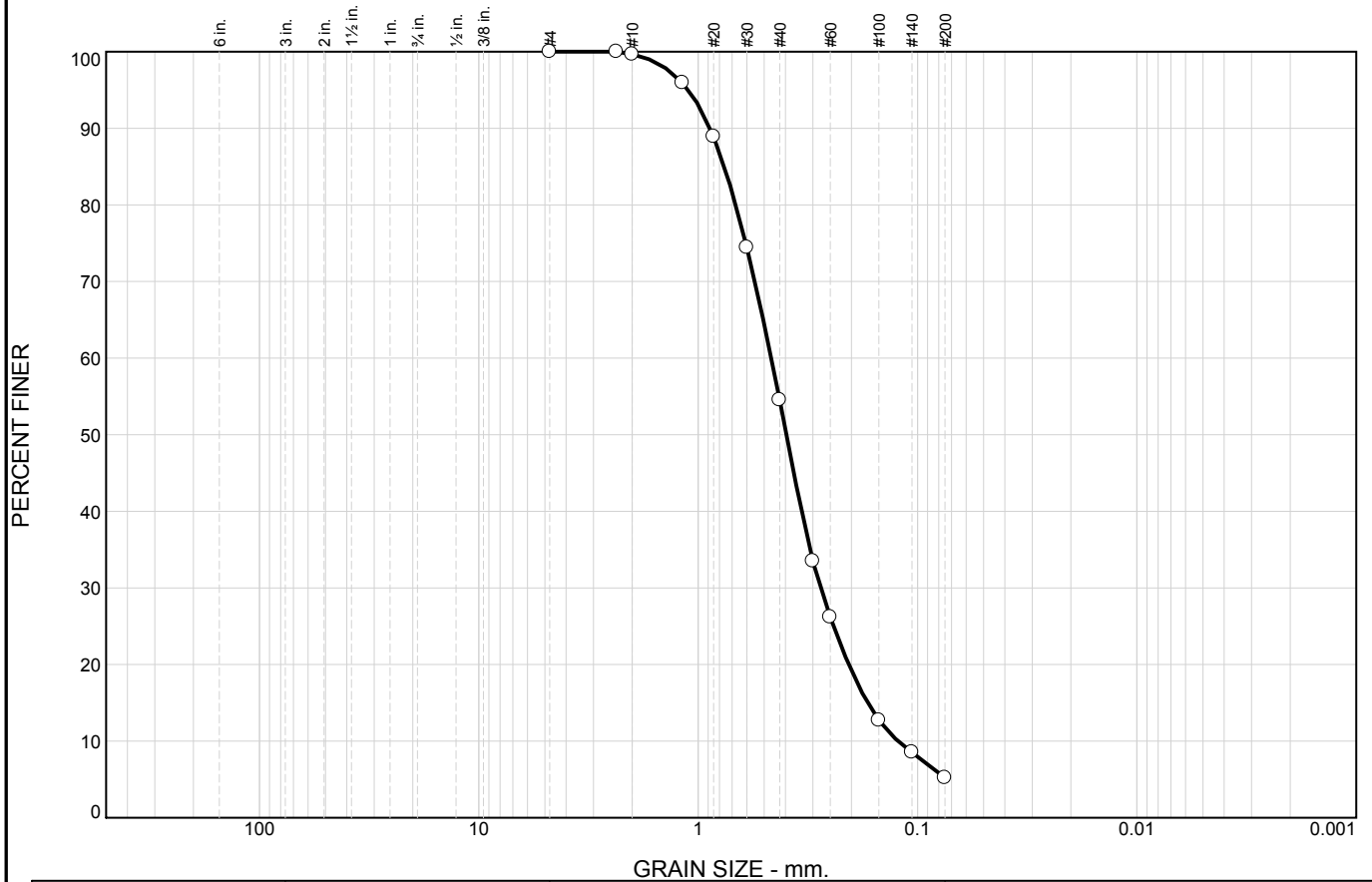
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.1744	0.1127	0.0931					

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 12' Sample Number: 5-B9 @ 12'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	45.1	49.3	5.2	

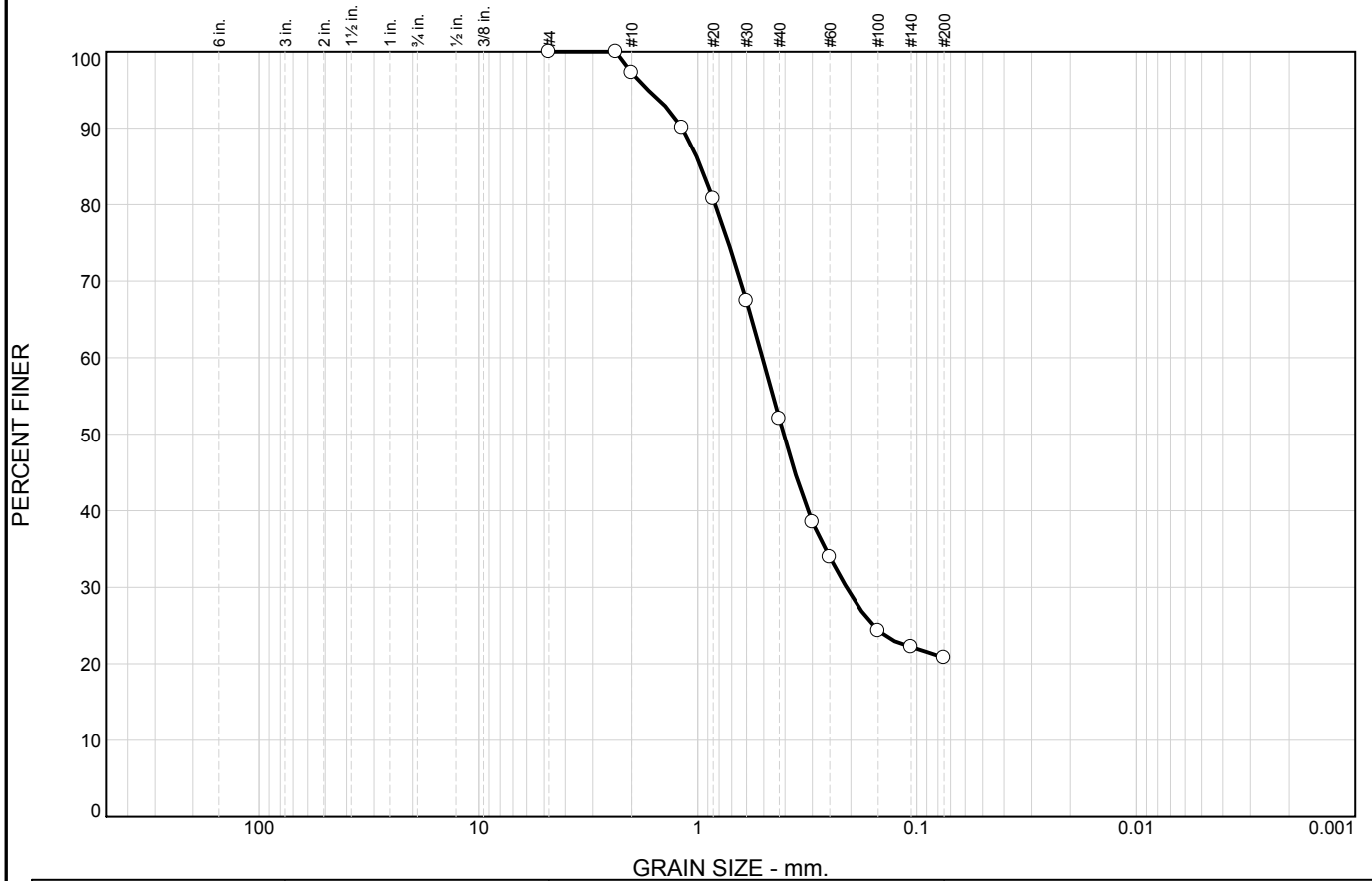
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
		0.7592	0.4640	0.3962	0.2771	0.1690	0.1227	1.35	3.78

Material Description	USCS	AASHTO
See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="checkbox"/> Depth: 30' Sample Number: 5-B9 @ 30'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	2.8	45.2	31.2	20.8	

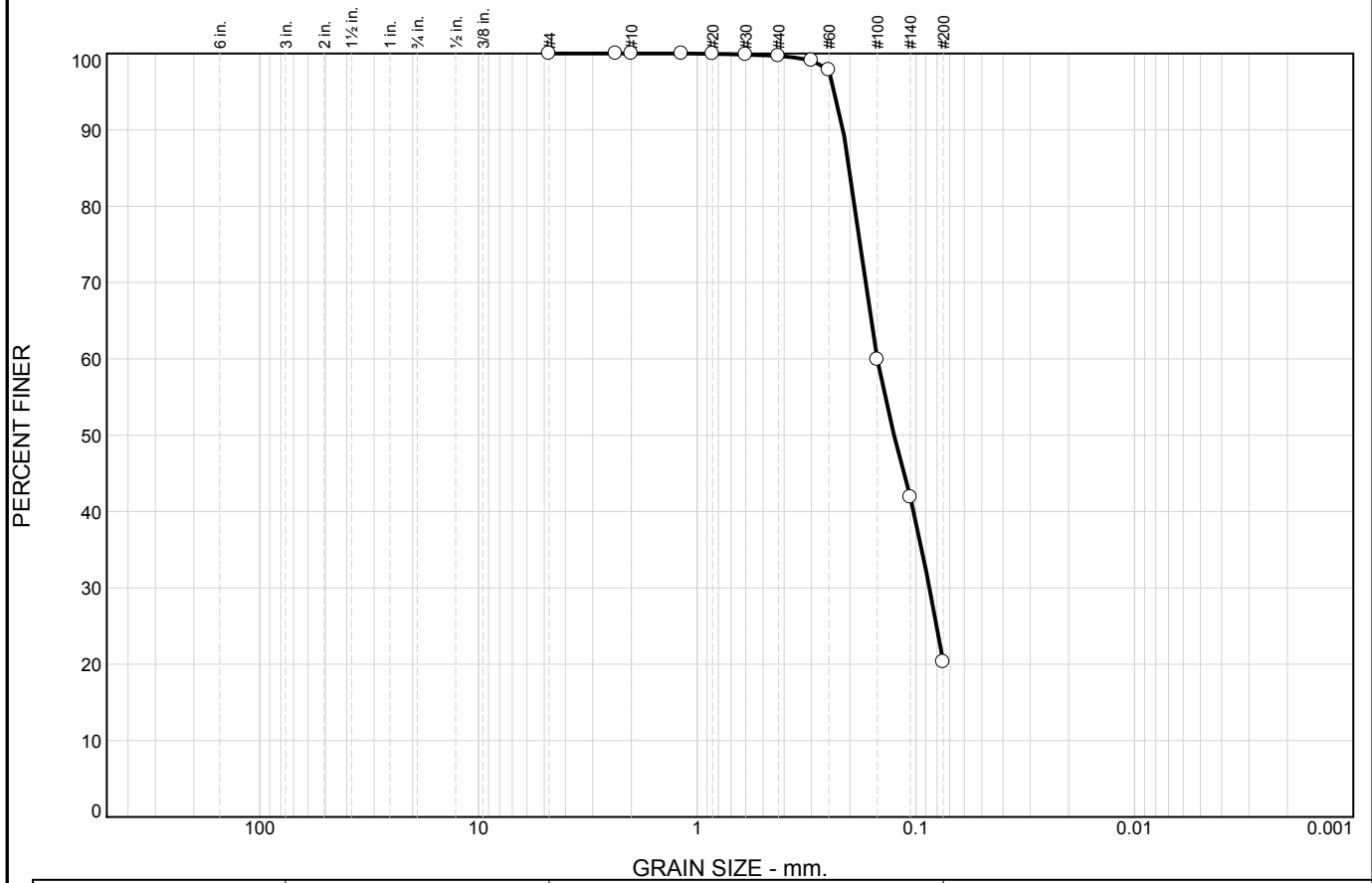
<input checked="" type="checkbox"/>	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="radio"/>			0.9694	0.5070	0.4058	0.2096				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 35' Sample Number: 5-B9 @ 35'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.3	79.4	20.3	

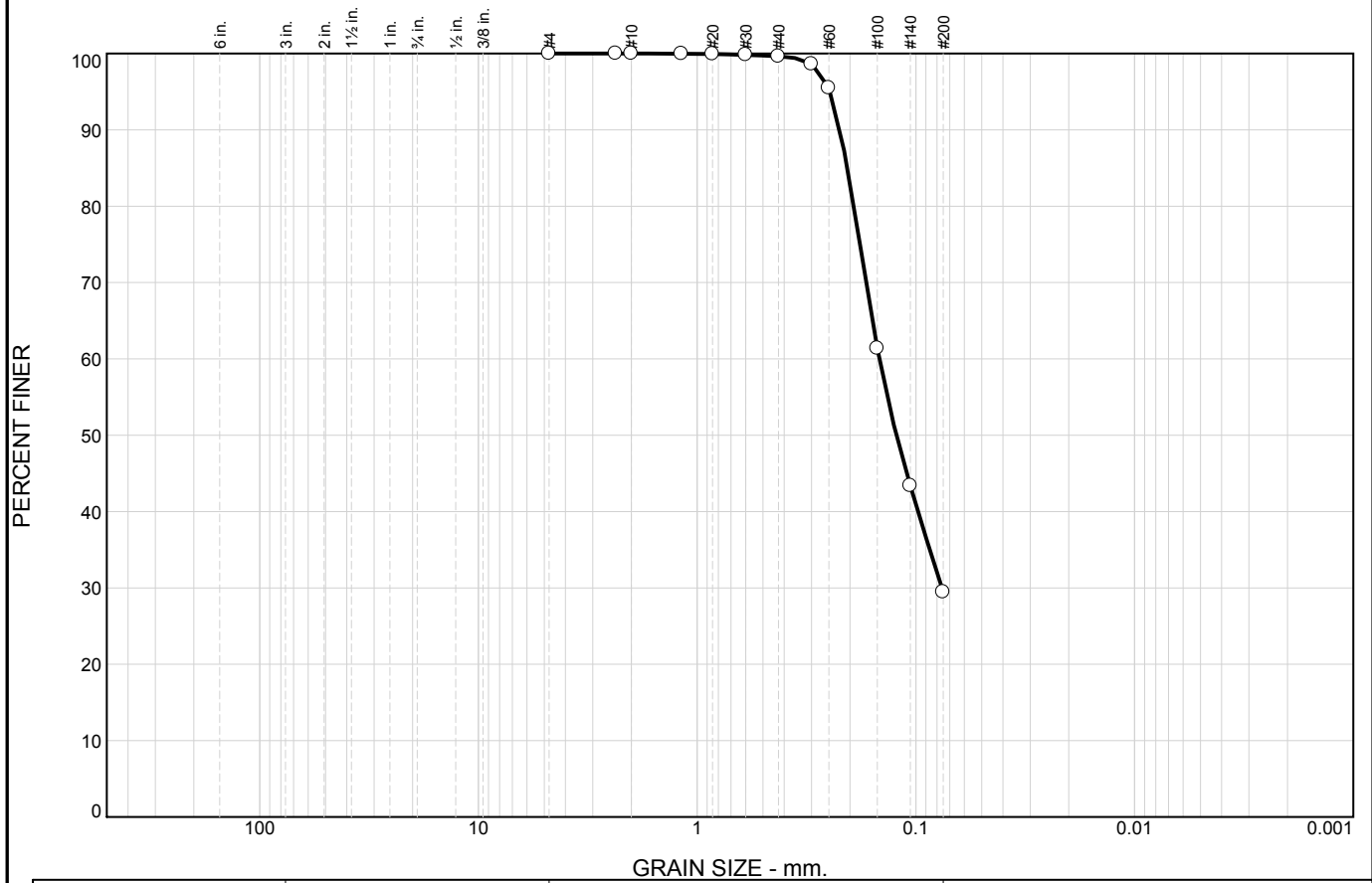
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.2017	0.1502	0.1259	0.0866				

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 51' Sample Number: 5-B9 @ 51'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.4	70.1	29.5	

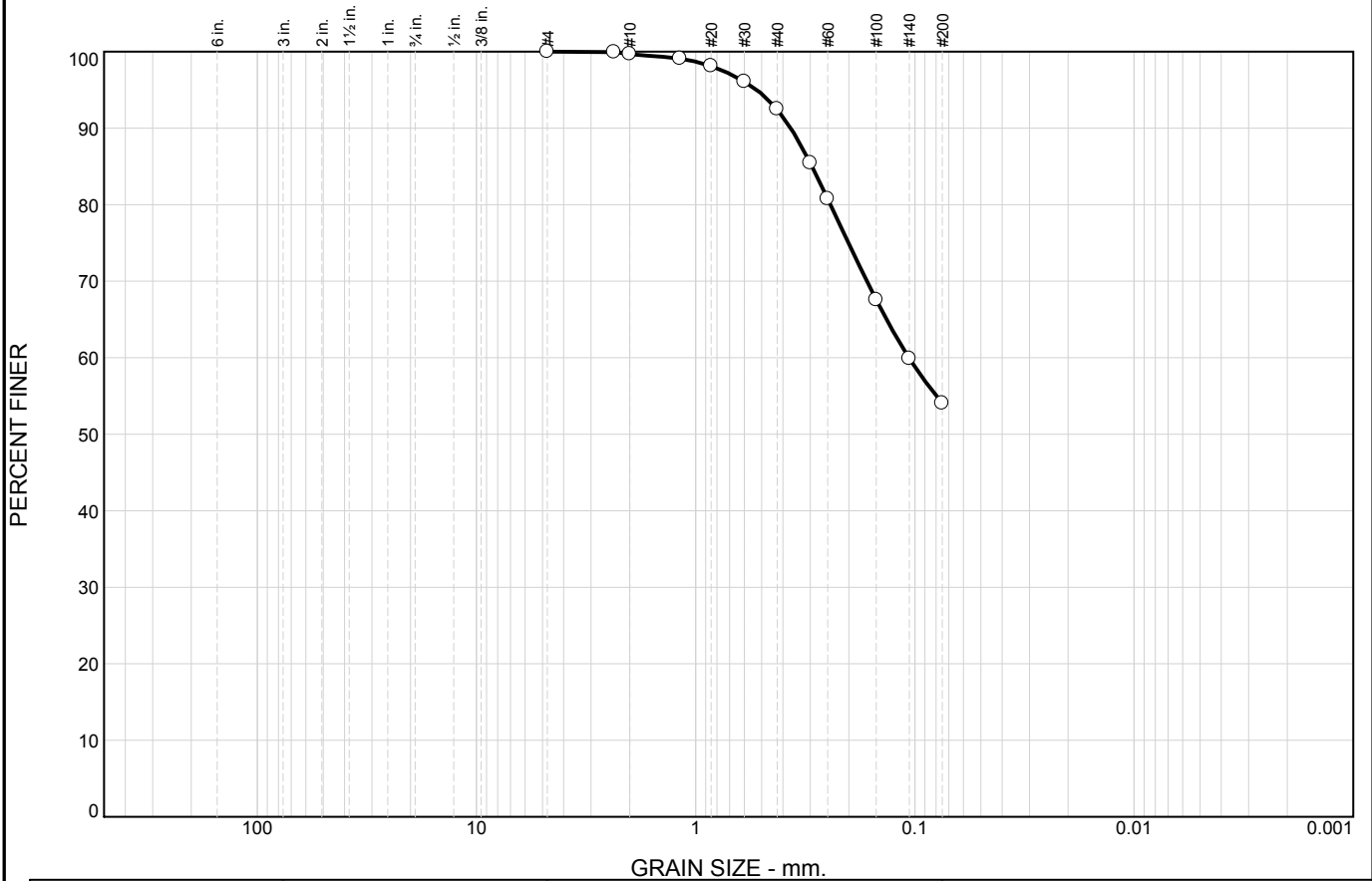
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
⊗			0.2059	0.1469	0.1228	0.0760				

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 60' Sample Number: 5-B9 @ 60'	Remarks: <div style="text-align: right; font-weight: bold;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.3	7.2	38.4	54.1	

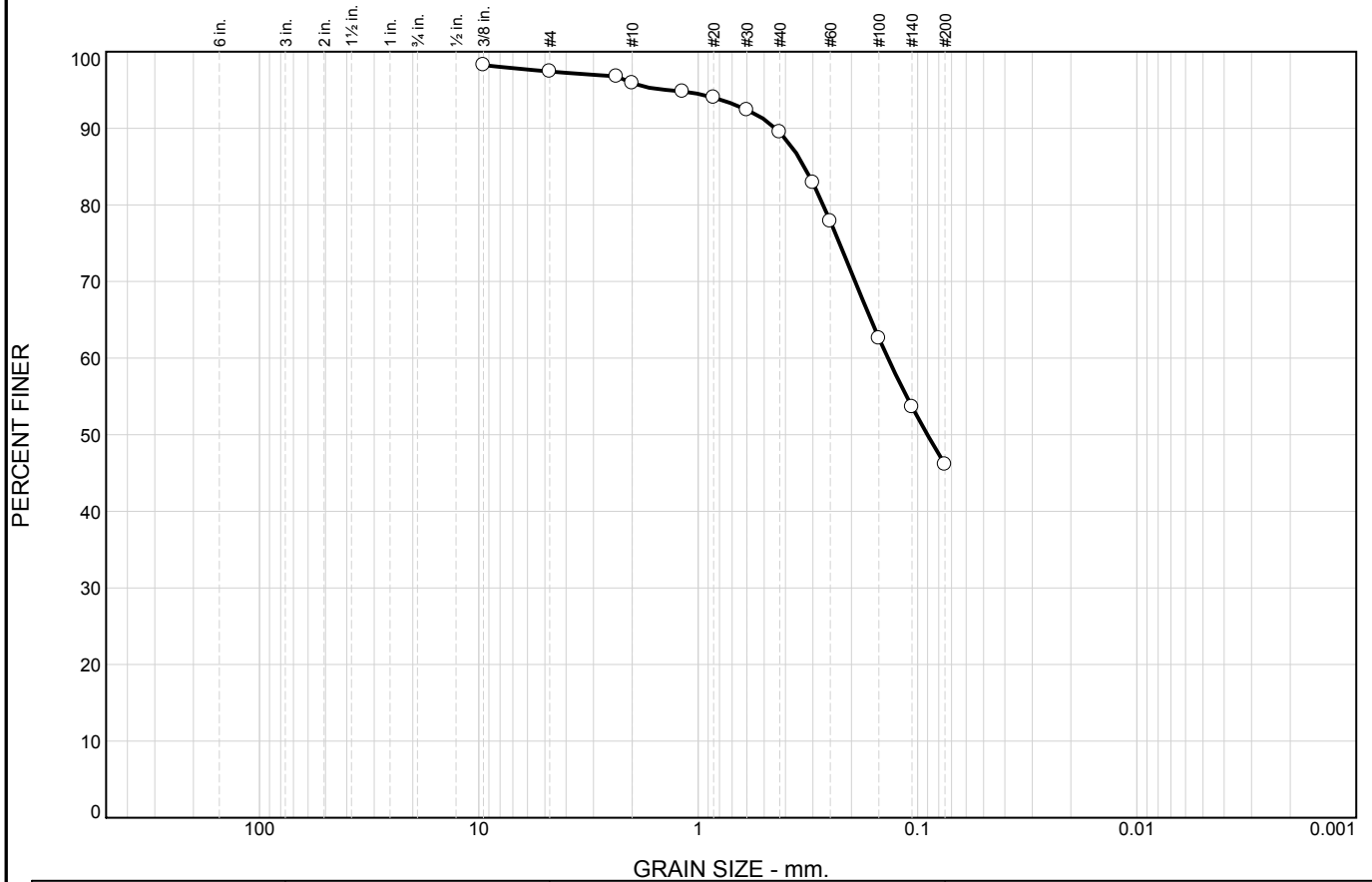
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.2945	0.1067						

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 1.5' Sample Number: 5-B10 @ 1.5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	
<p>Figure</p>	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report

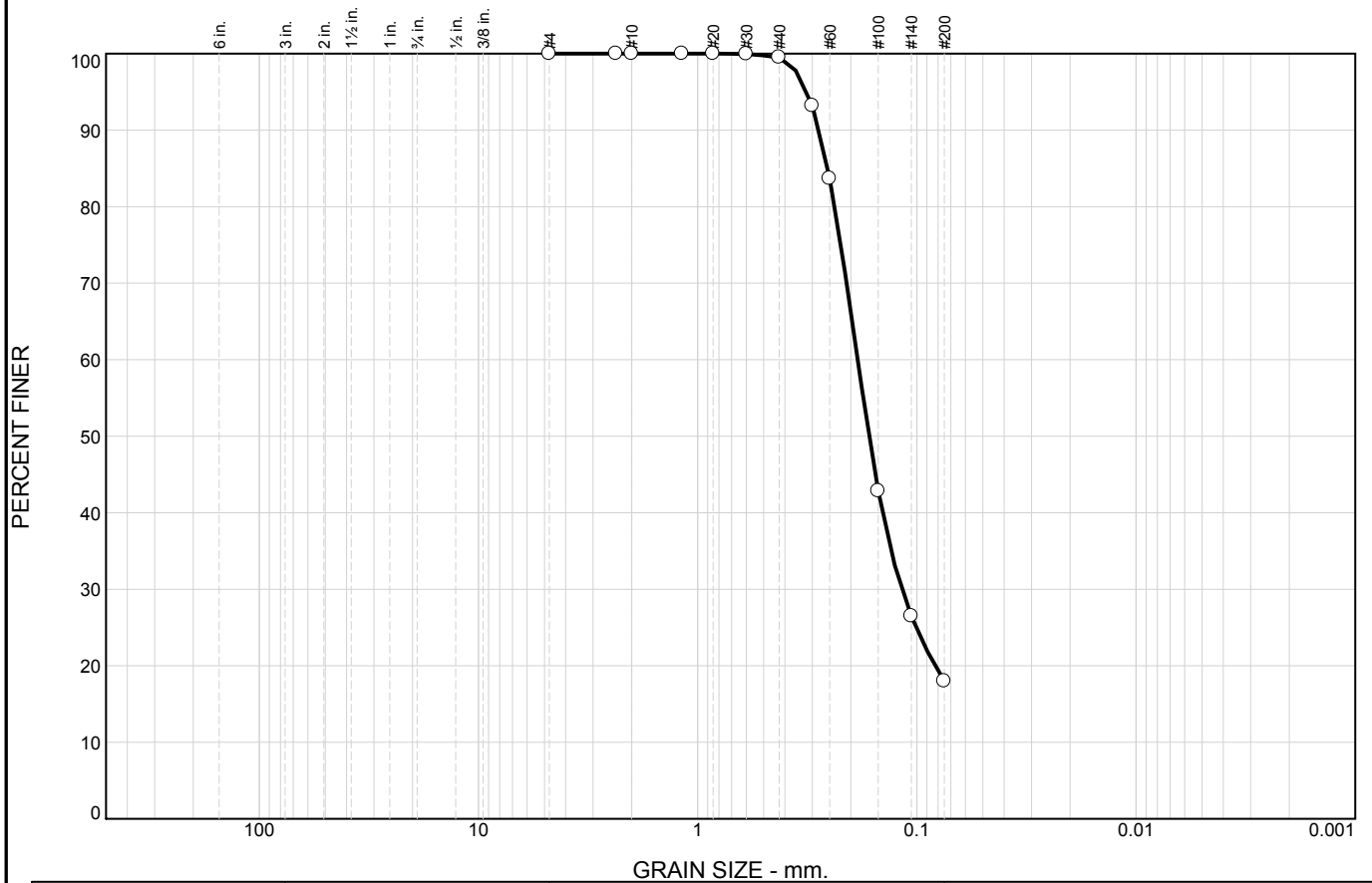


	% +3"		% Gravel		% Sand			% Fines		
			Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
<input type="radio"/>					1.5	6.4	43.4	46.1		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.3279	0.1366	0.0901					
Material Description								USCS	AASHTO	
○ See Exploratory Boring Logs										
Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 5.5' Sample Number: 5-B10 @ 5.5'								Remarks:		
ENGEO, Inc.										
Ripon, California								Figure		

Tested By: KEL

Checked By: ZAC

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.5	81.5	18.0	

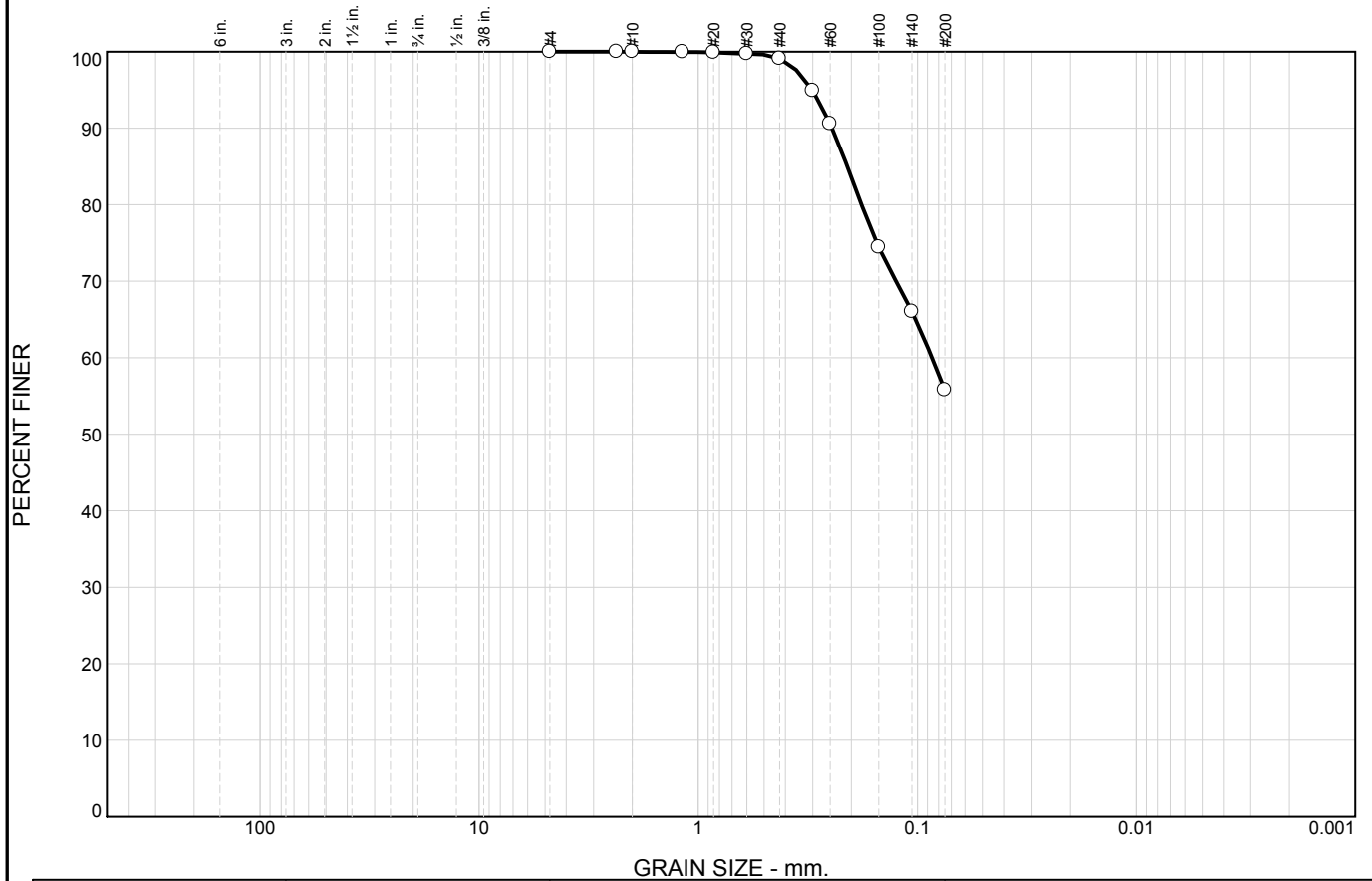
☒	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.2552	0.1863	0.1652	0.1172				

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 17' Sample Number: 5-B10 @ 17'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"		% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0		0.0	0.0	0.0	0.9	43.3	55.8	

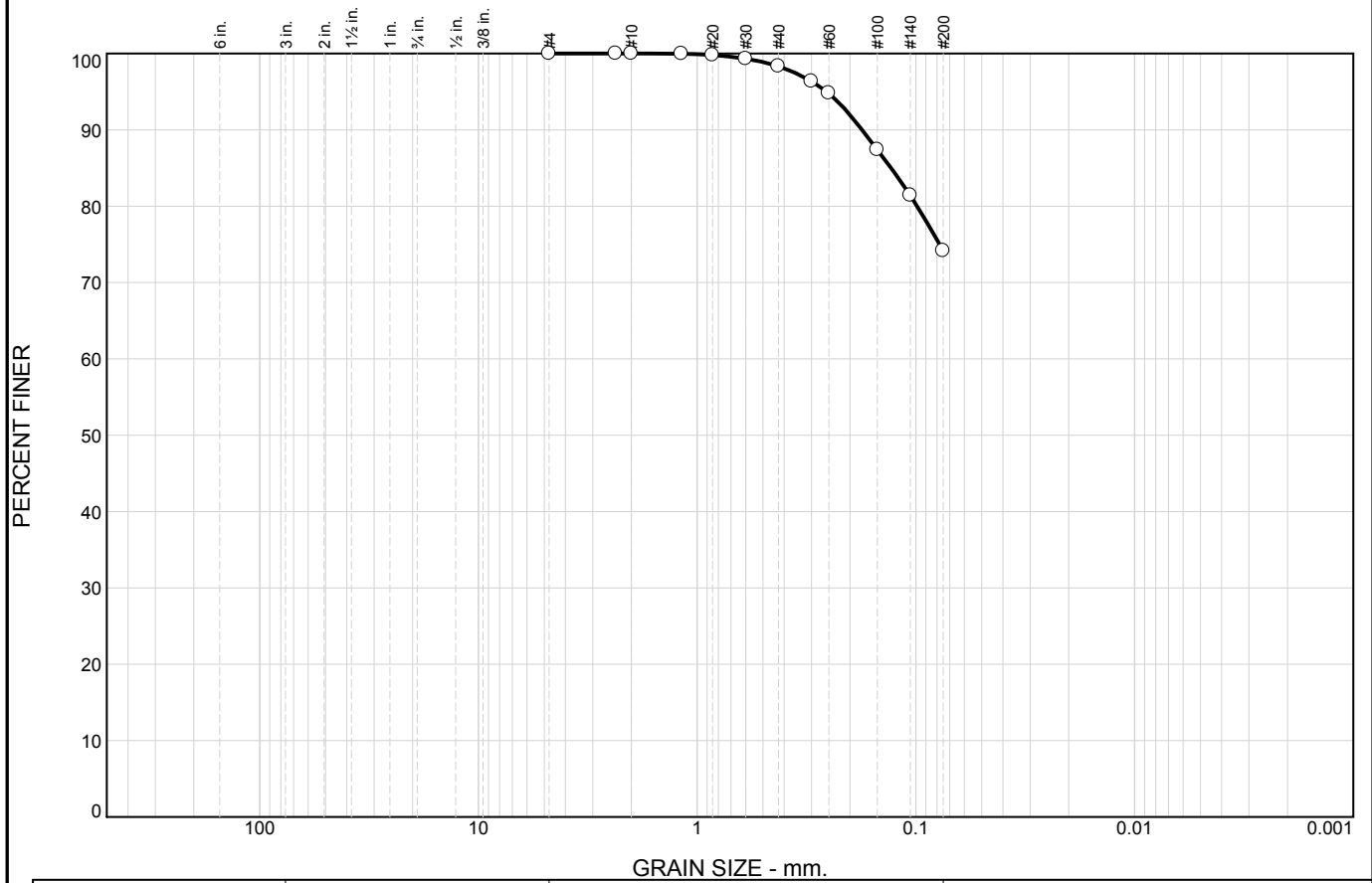
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input checked="" type="checkbox"/>			0.2089	0.0858						

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 23' Sample Number: 5-B10 @ 23'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	0.0	1.7	24.1	74.2			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.1298							

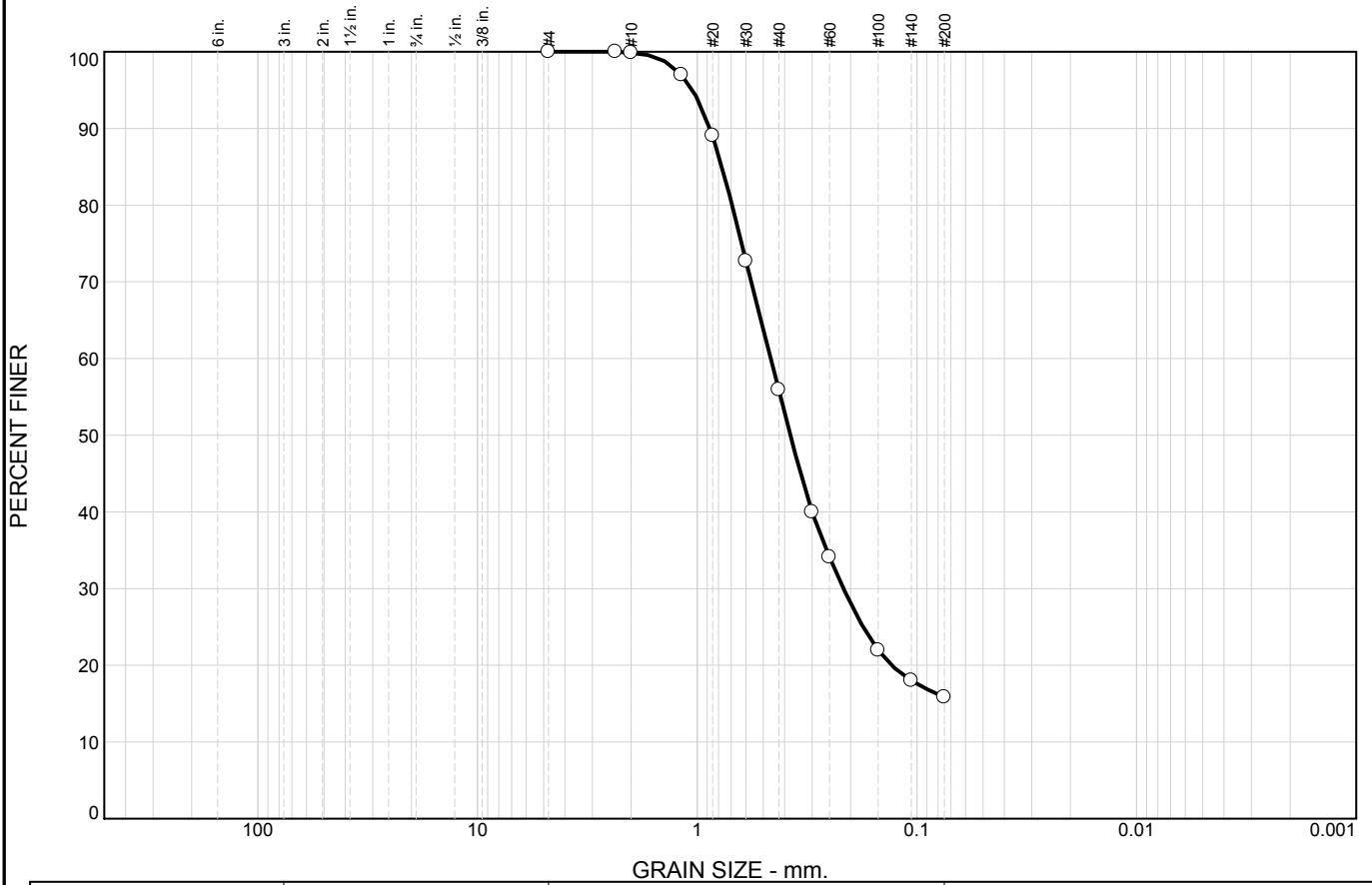
Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 70.5' Sample Number: 5-B10 @ 70.5'	Remarks:
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ENGEO, Inc. Ripon, California	Figure
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



%	% Gravel		% Sand			% Fines		
	+3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.1	44.0	40.1	15.8	

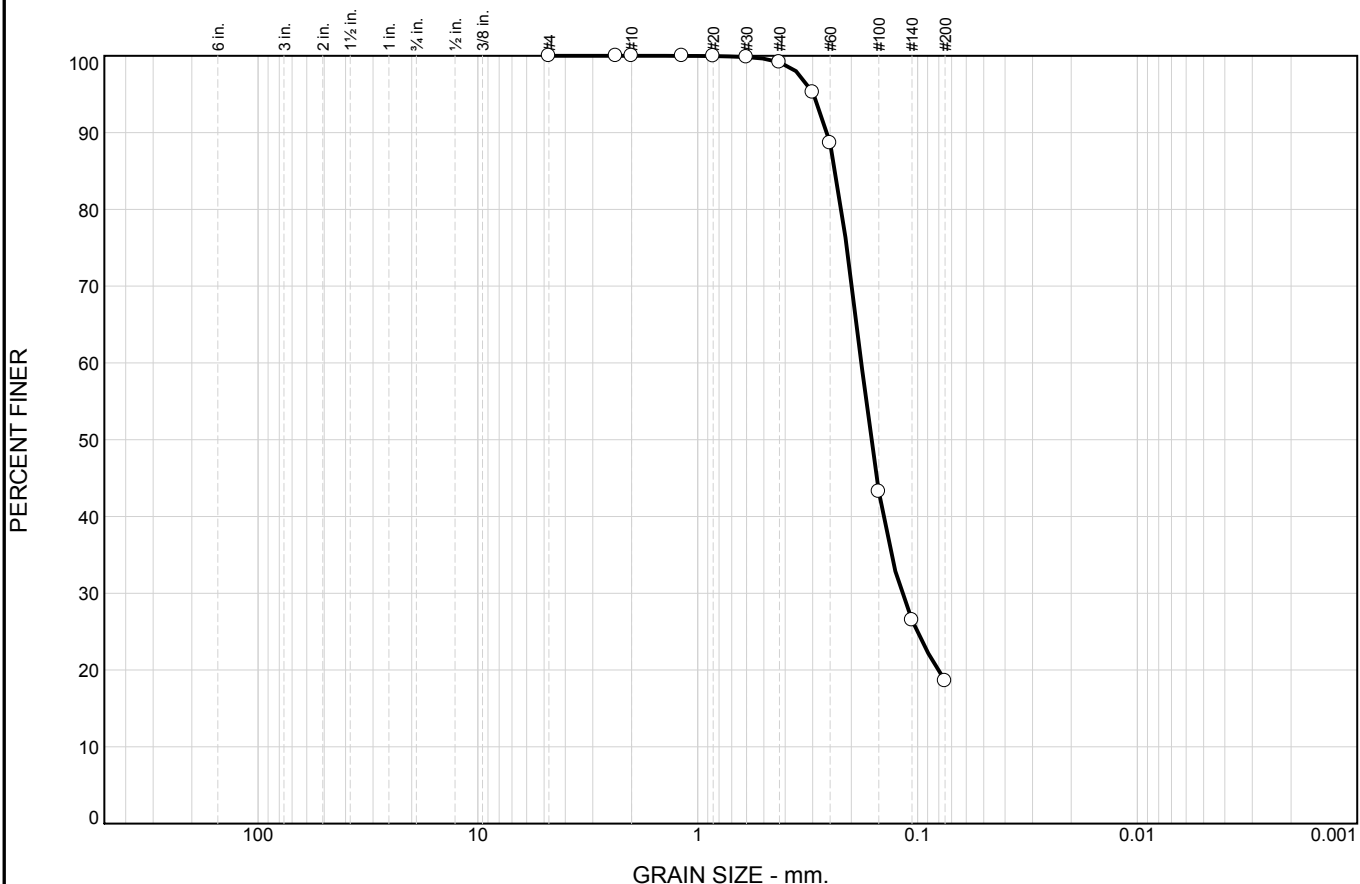
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.7702	0.4624	0.3767	0.2158				

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 5' Sample Number: 5-B11 @ 5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	
<p>Figure</p>	

Tested By: JS **Checked By:** KEL

Particle Size Distribution Report



○	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.8	80.6	18.6	

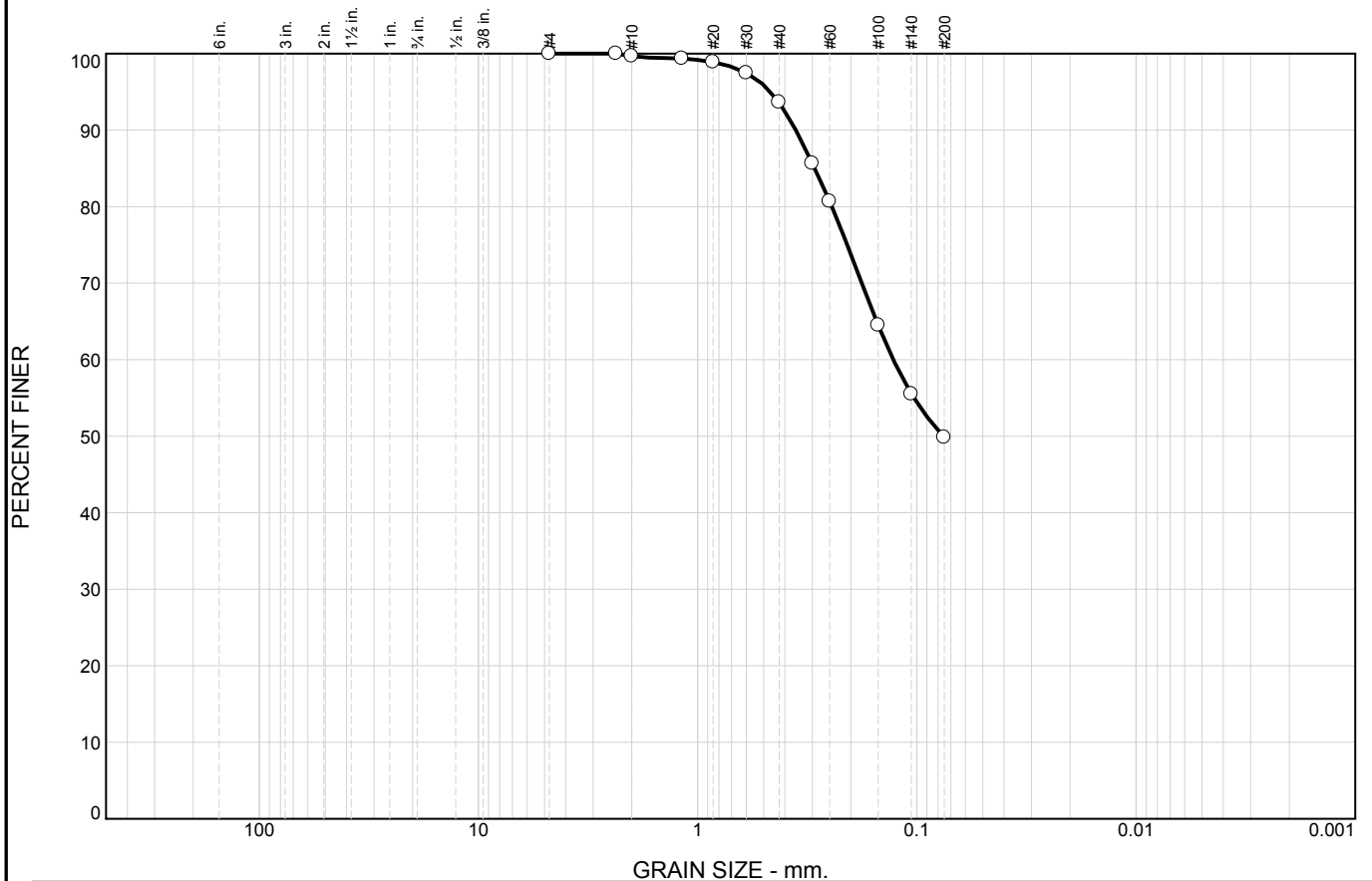
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
	○			0.2363	0.1802	0.1625	0.1179			

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 61' Sample Number: 5-B11 @ 61'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: JS **Checked By:** KEL

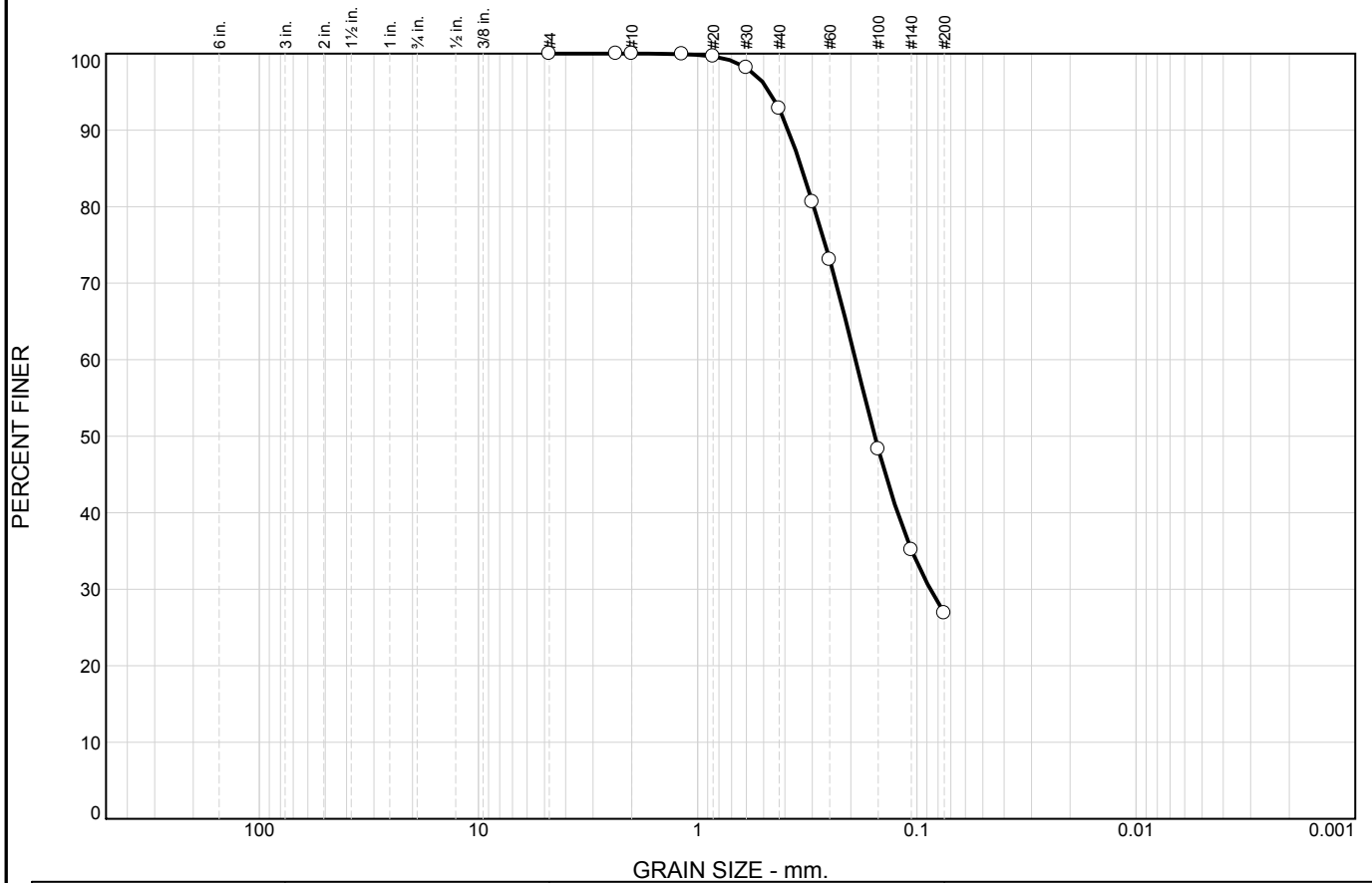
Particle Size Distribution Report



	% +3"		% Gravel		% Sand			% Fines		
			Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
<input type="radio"/>	0.0		0.0	0.0	0.3	6.1	43.8	49.8		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.2927	0.1282	0.0758					
Material Description								USCS	AASHTO	
<input type="radio"/> See Exploratory Boring Logs										
Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 5.5' Sample Number: 5-B12 @ 5.5'								Remarks:		
ENGEO, Inc. Ripon, California										
								Figure		

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



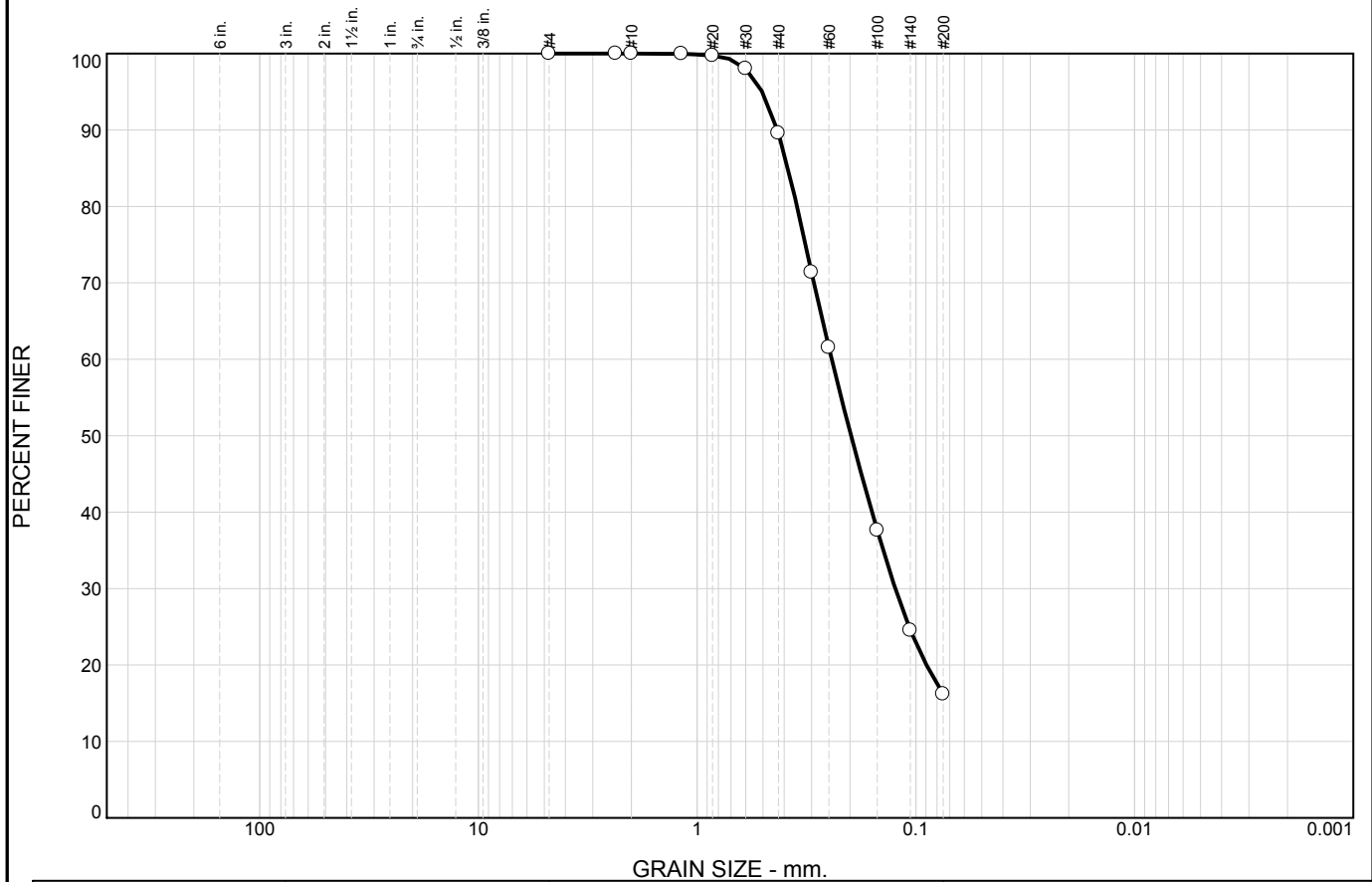
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○	0.0	0.0	0.0	0.0	7.1	66.0	26.9			
⊗	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.3354	0.1906	0.1555	0.0867				

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 6.5' Sample Number: 5-B12 @ 6.5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	10.4	73.4	16.2	

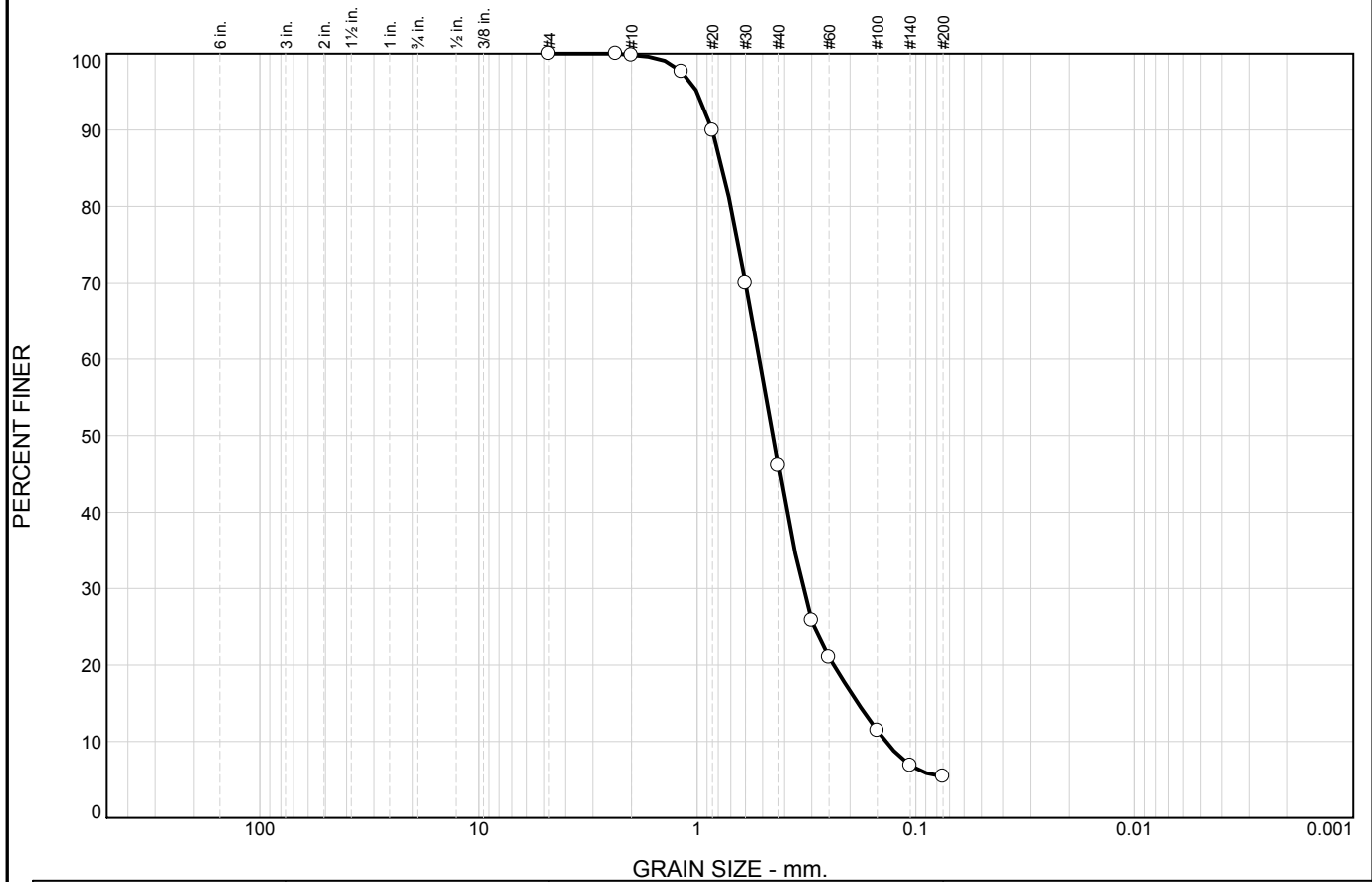
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
		0.3843	0.2427	0.1980	0.1243				

Material Description	USCS	AASHTO
See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="checkbox"/> Depth: 11.5' Sample Number: 5-B12 @ 11.5'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	0.2	53.7	40.7	5.4	

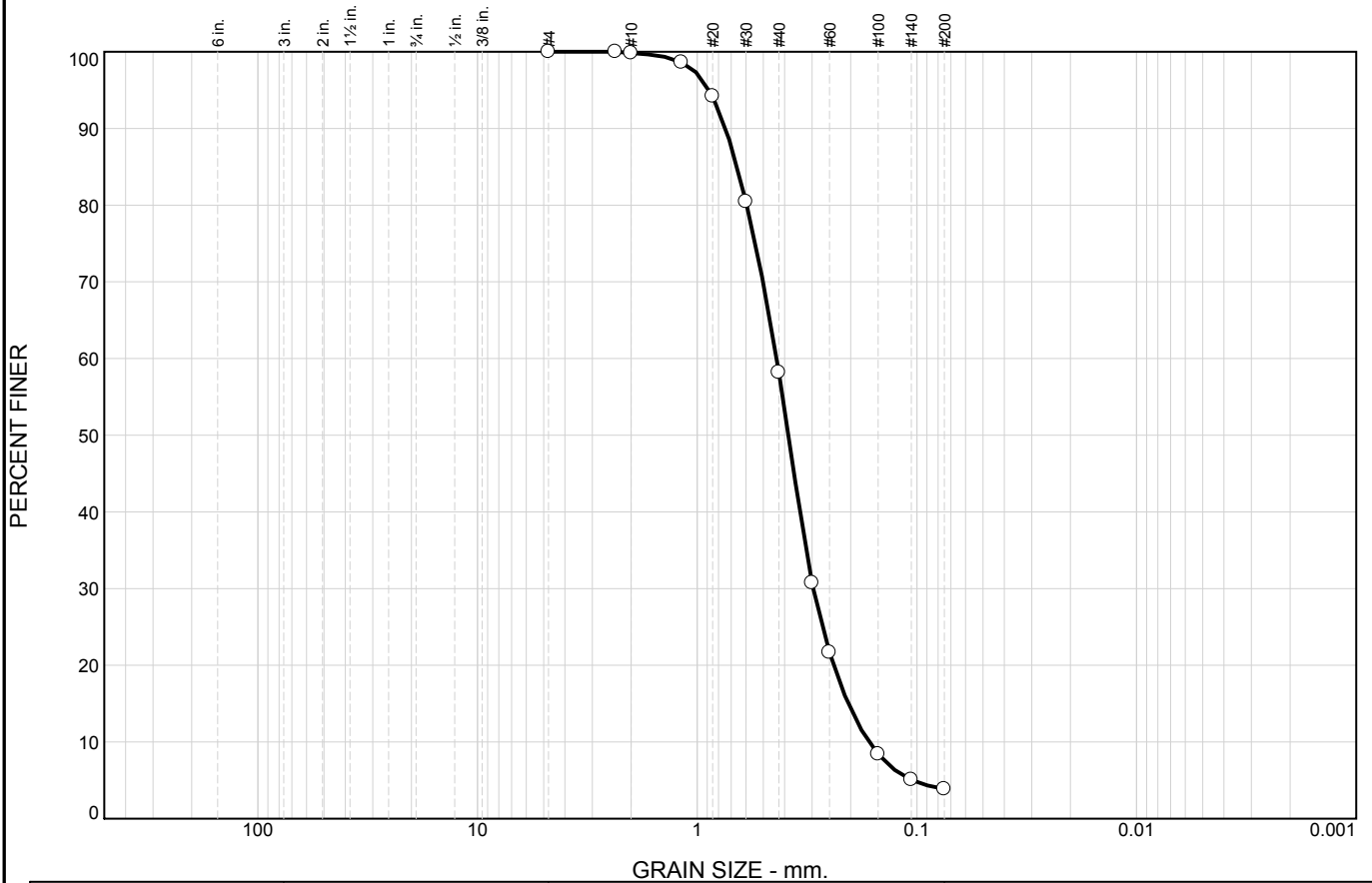
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input checked="" type="checkbox"/>			0.7653	0.5183	0.4491	0.3294	0.1839	0.1373	1.53	3.78

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 20' Sample Number: 5-B12 @ 20'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



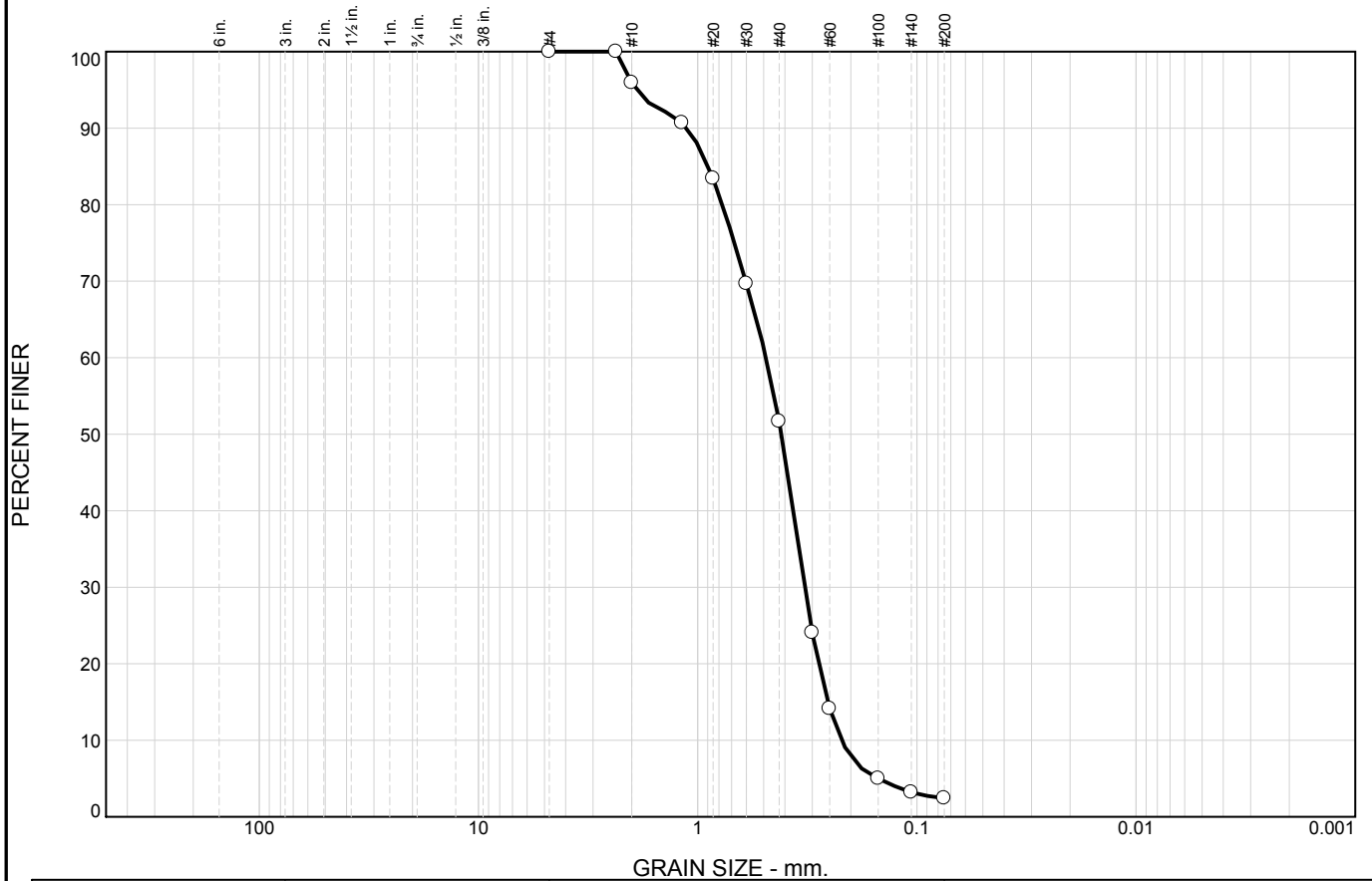
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○	0.0	0.0	0.0	0.2	41.6	54.3	3.9			
⊗	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.6581	0.4350	0.3846	0.2965	0.2054	0.1653	1.22	2.63

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 30' Sample Number: 5-B12 @ 30'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



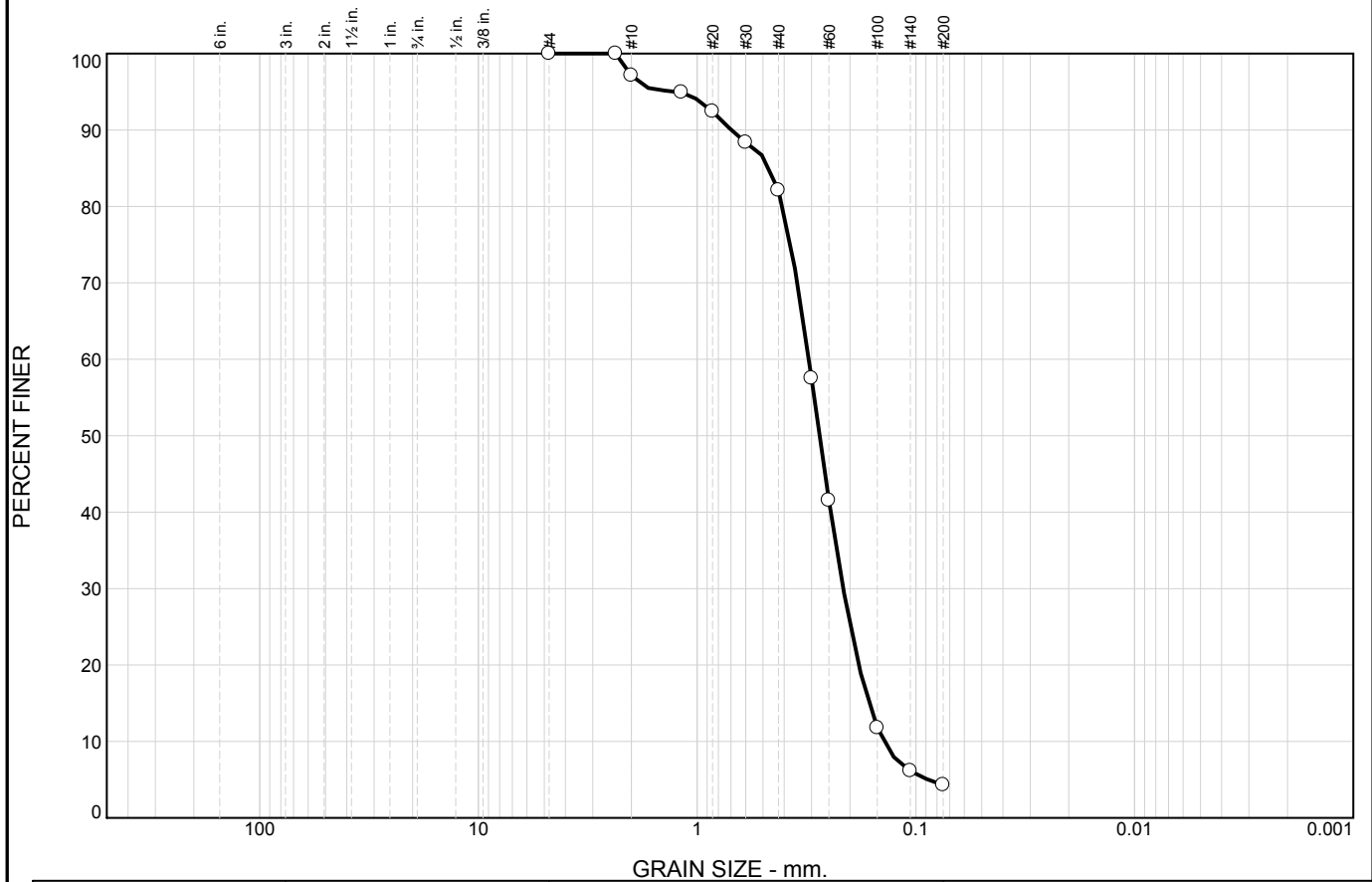
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○	0.0	0.0	0.0	4.1	44.2	49.3	2.4			
⊗	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○			0.8946	0.4870	0.4152	0.3247	0.2551	0.2209	0.98	2.20

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 35' Sample Number: 5-B12 @ 35'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	2.9	15.0	77.8	4.3	

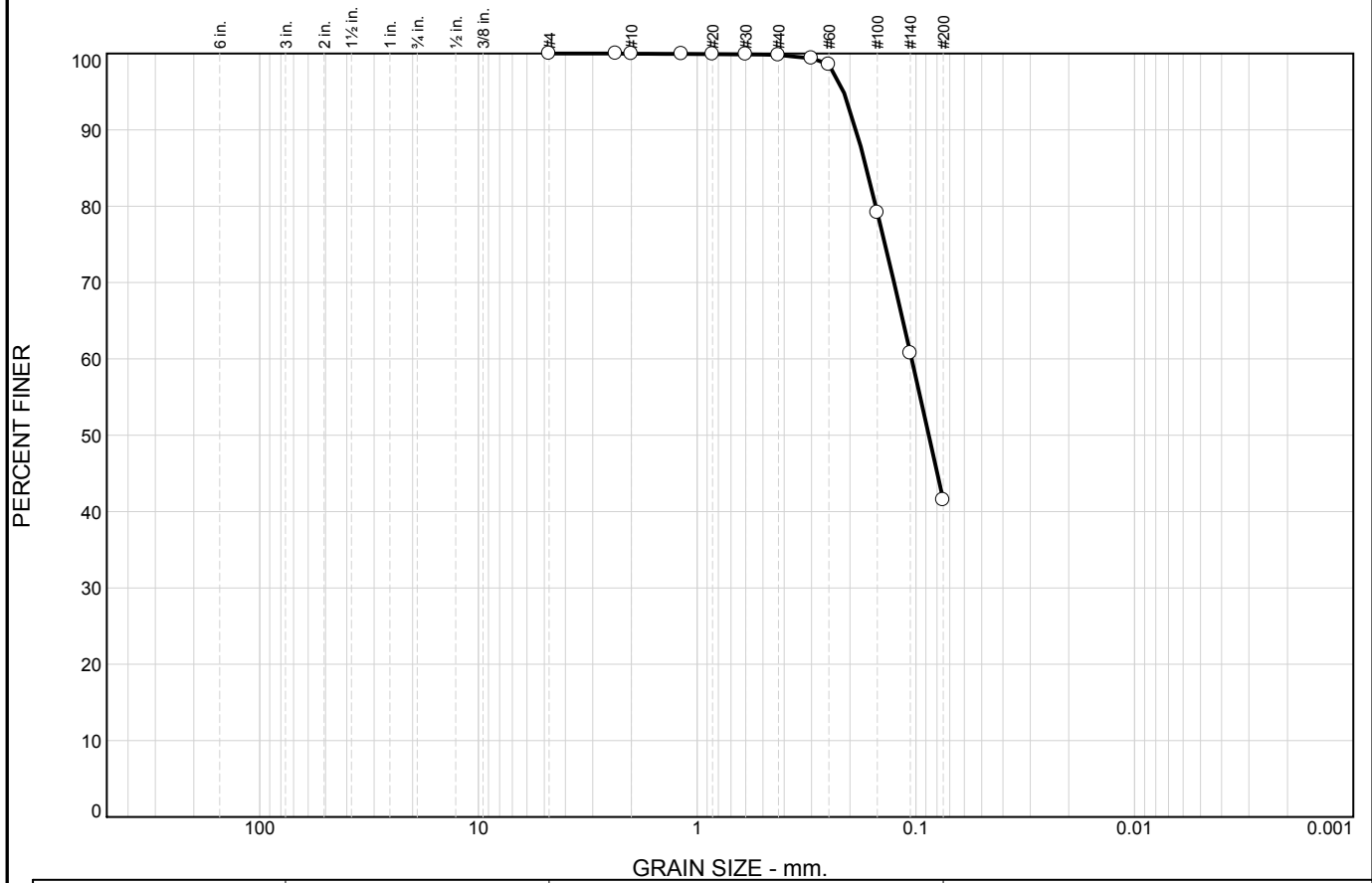
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="radio"/>			0.4634	0.3086	0.2756	0.2149	0.1640	0.1404	1.07	2.20

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 45' Sample Number: 5-B12 @ 45'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



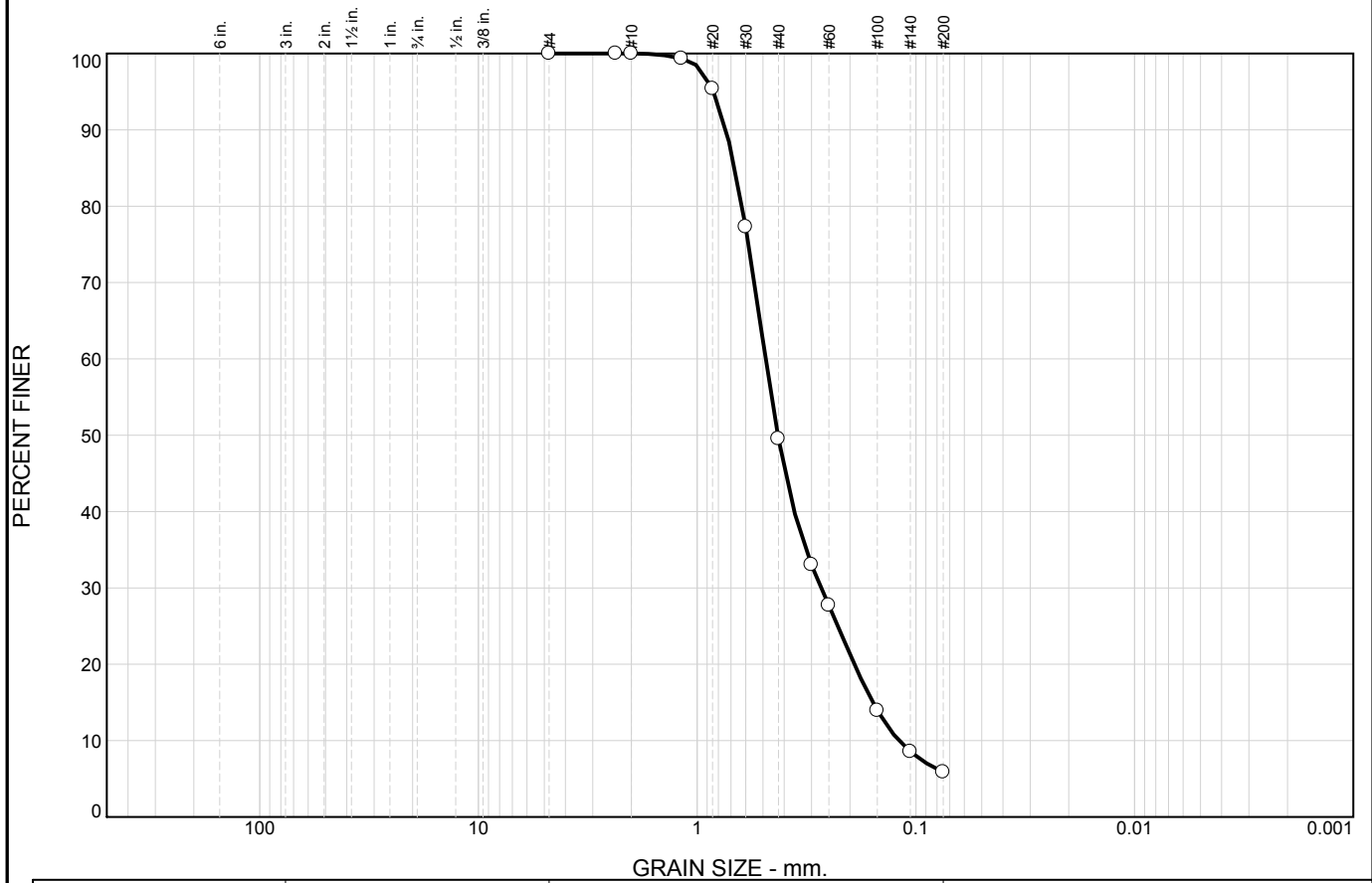
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	0.0	0.2	58.3	41.5			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.1684	0.1045	0.0873					

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 5.5' Sample Number: 5-B13 @ 5.5'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	50.5	43.6	5.9	

LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
		0.6724	0.4864	0.4279	0.2712	0.1574	0.1197	1.26	4.06

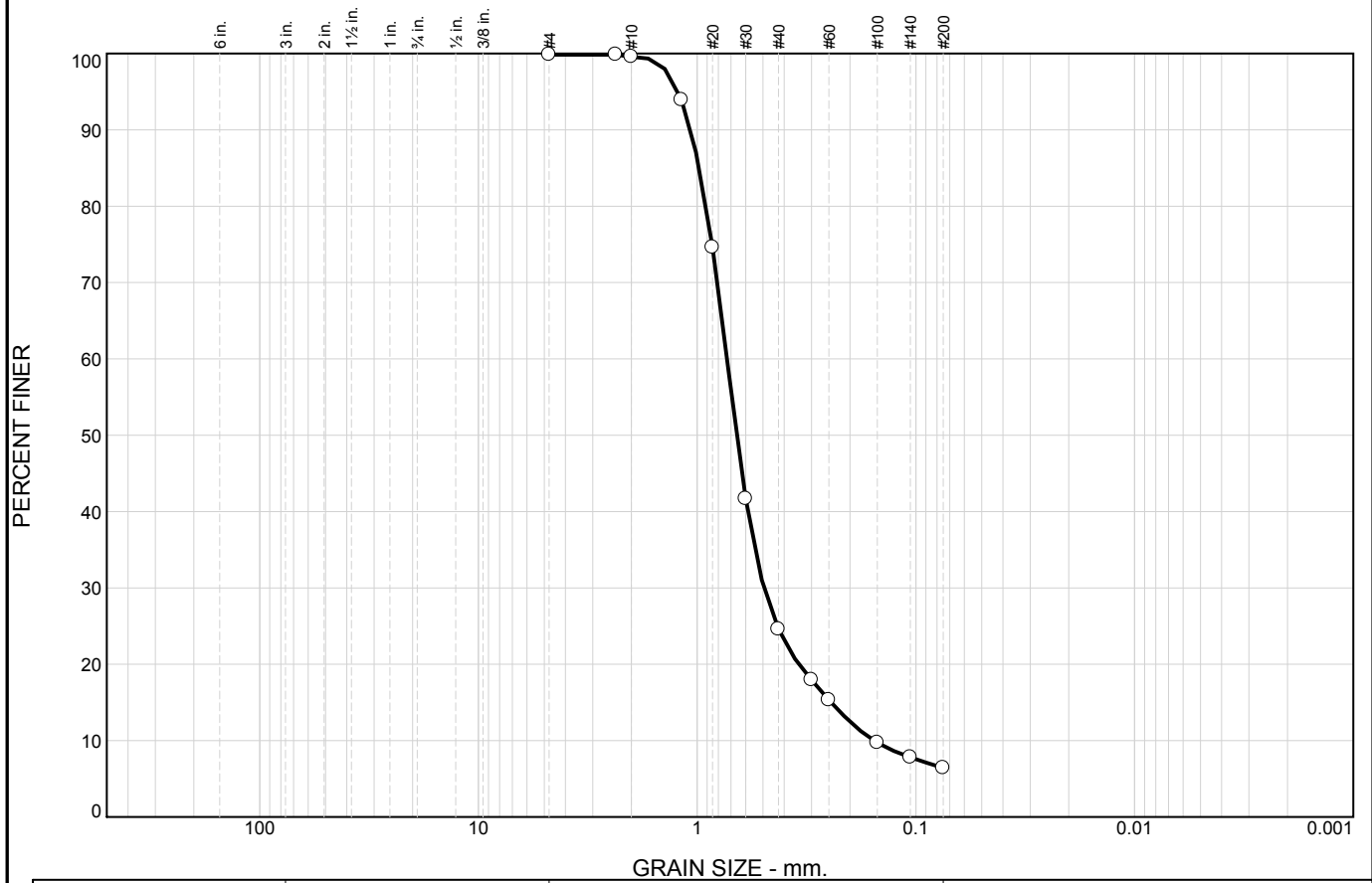
Material Description	USCS	AASHTO
See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Depth: 13.5' Sample Number: 5-B13 @ 13.5</p>	<p>Remarks:</p>
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<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>
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Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>				0.2	75.0	18.2	6.4	
<input type="checkbox"/>								

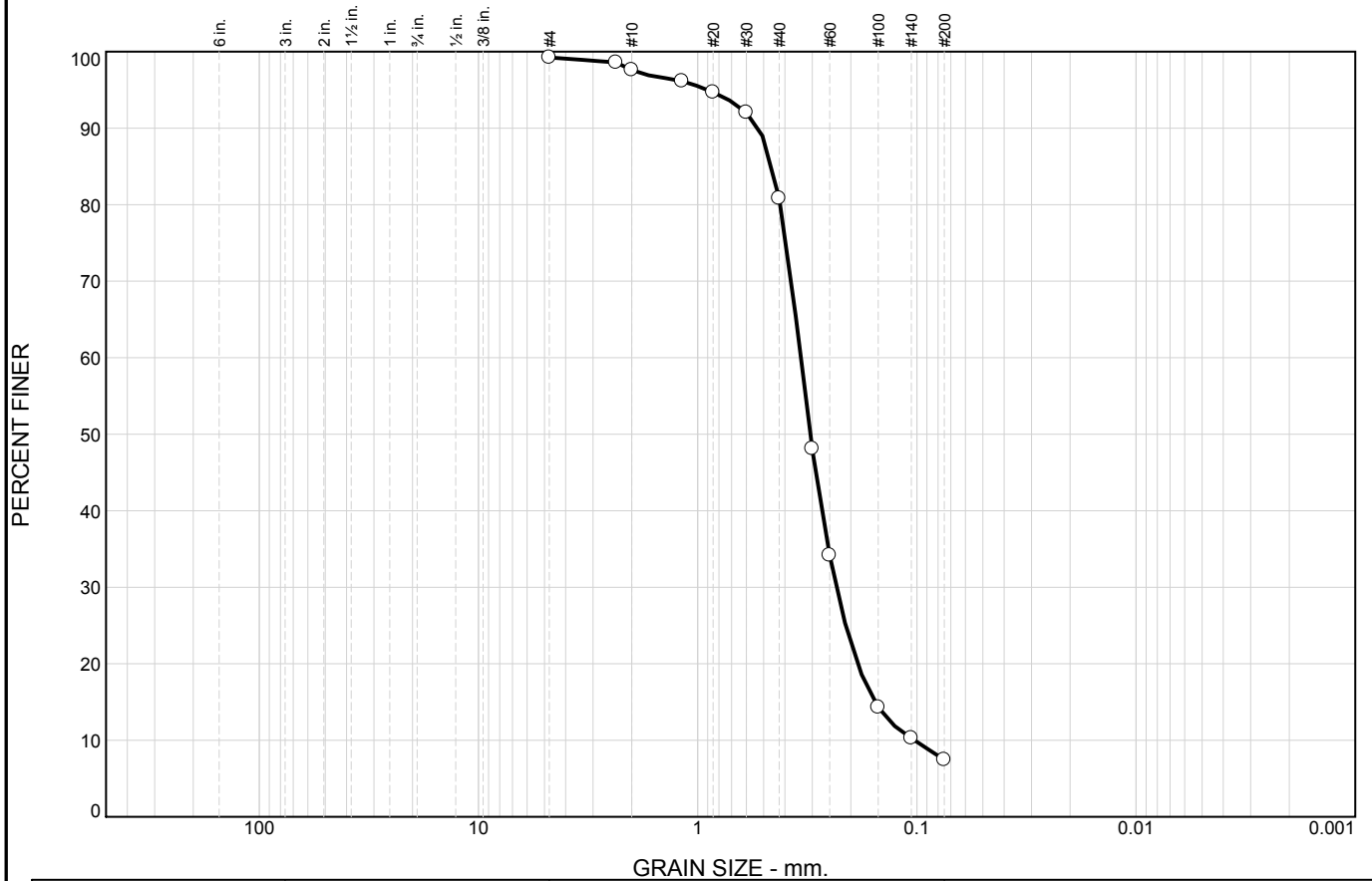
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="radio"/>			0.9779	0.7295	0.6593	0.4949	0.2443	0.1554	2.16	4.70
<input type="checkbox"/>										

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		
<input type="checkbox"/>		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 15.5' Sample Number: 5-B13 @ 15.5' <input type="checkbox"/>	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



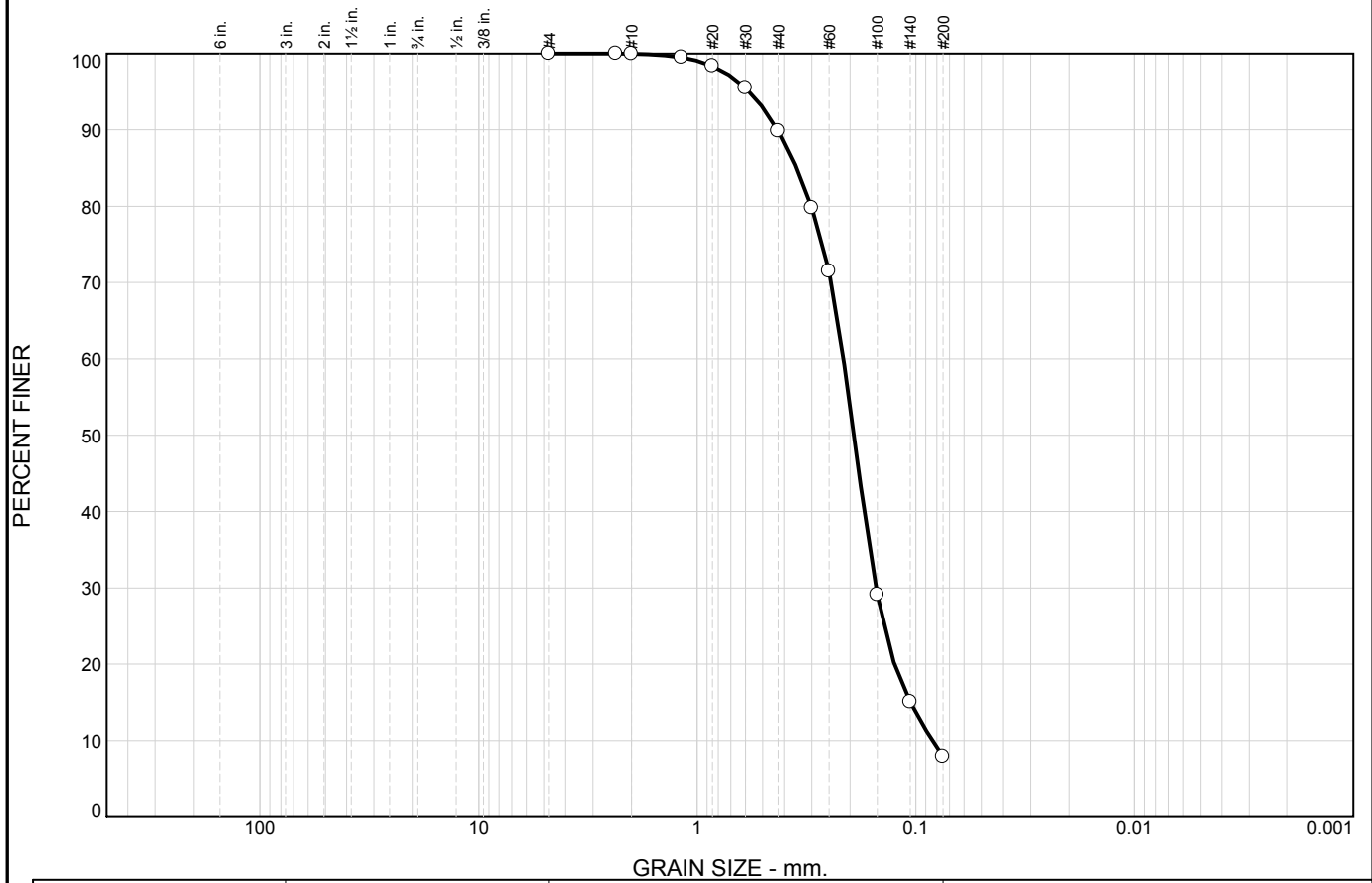
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>				1.6	16.8	73.3	7.5			
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
<input type="radio"/>			0.4560	0.3386	0.3062	0.2332	0.1553	0.1025	1.57	3.31

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 26' Sample Number: 5-B13 @ 26'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	10.2	81.9	7.9	

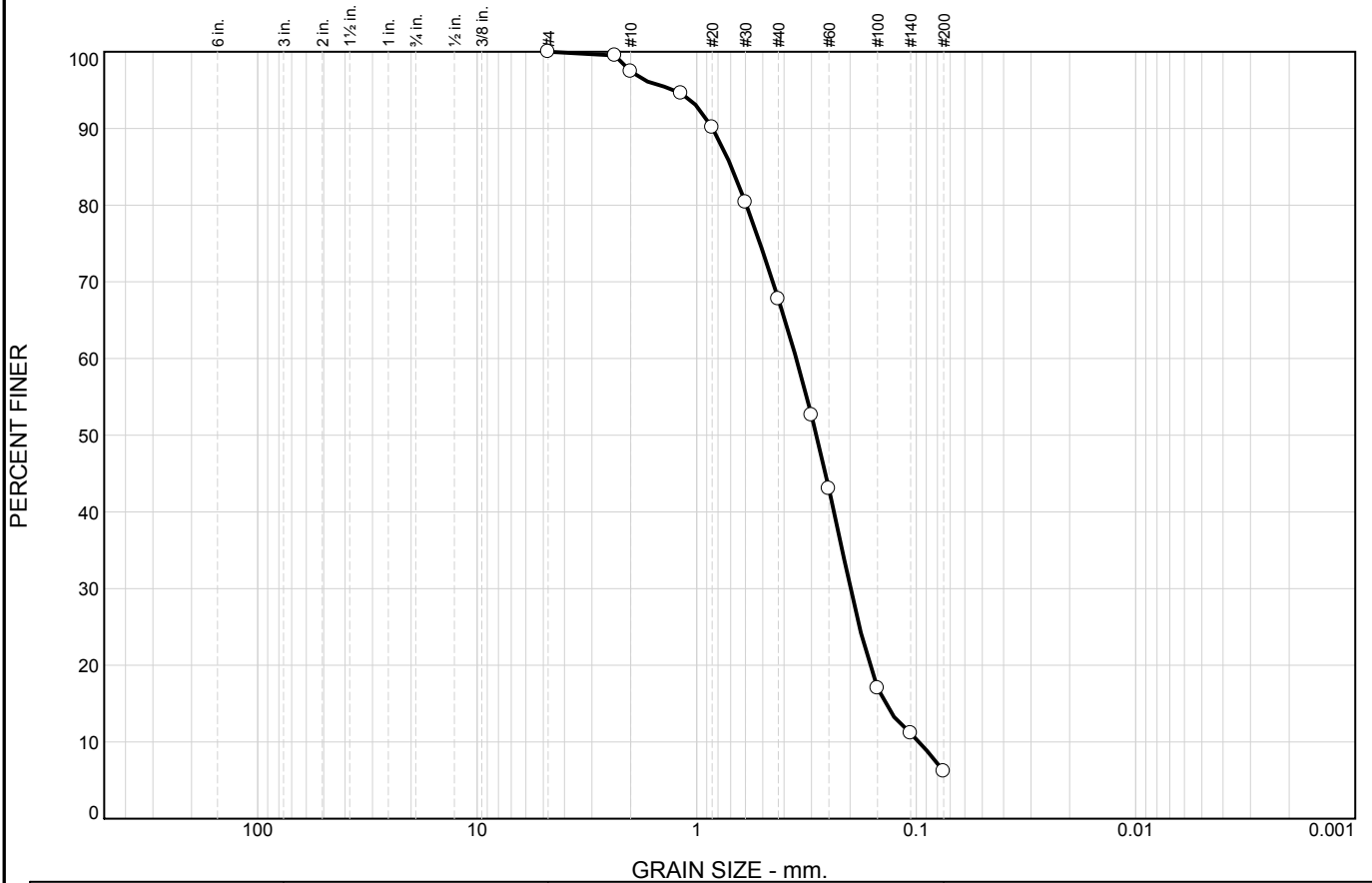
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.3521	0.2148	0.1923	0.1520	0.1059	0.0837	1.28	2.56

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 31' Sample Number: 5-B13 @ 30'	Remarks: <div style="text-align: right; font-weight: bold;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	2.6	29.6	61.6	6.2	

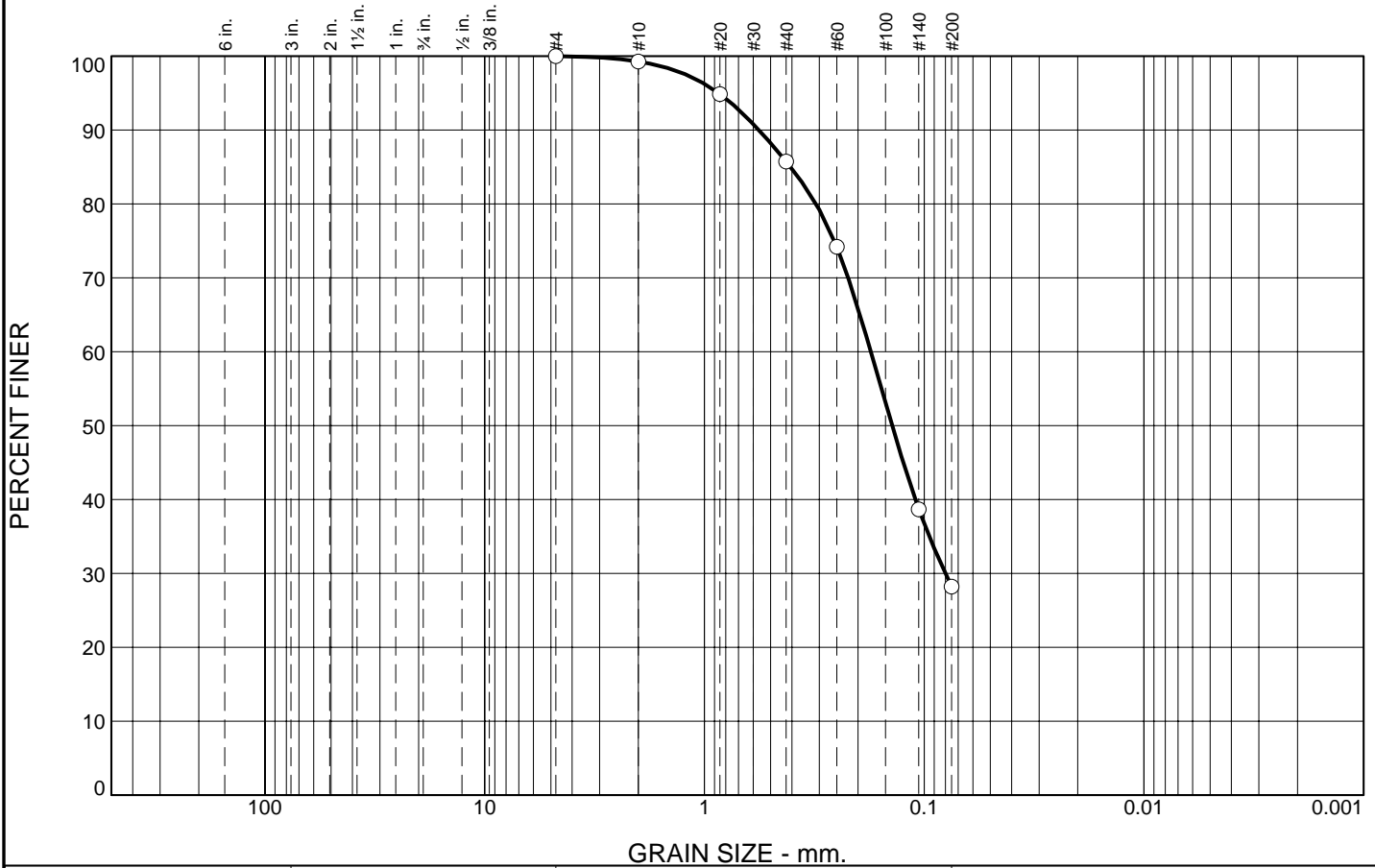
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input checked="" type="checkbox"/>			0.6950	0.3520	0.2847	0.1992	0.1389	0.0969	1.16	3.63

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 50.5' Sample Number: 5-B13 @ 50.5'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.7	13.6	57.5	28.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.3		
#20	94.9		
#40	85.7		
#60	74.2		
#140	38.7		
#200	28.2		

Soil Description

See Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.4059 D₆₀= 0.1747 D₅₀= 0.1399
D₃₀= 0.0800 D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

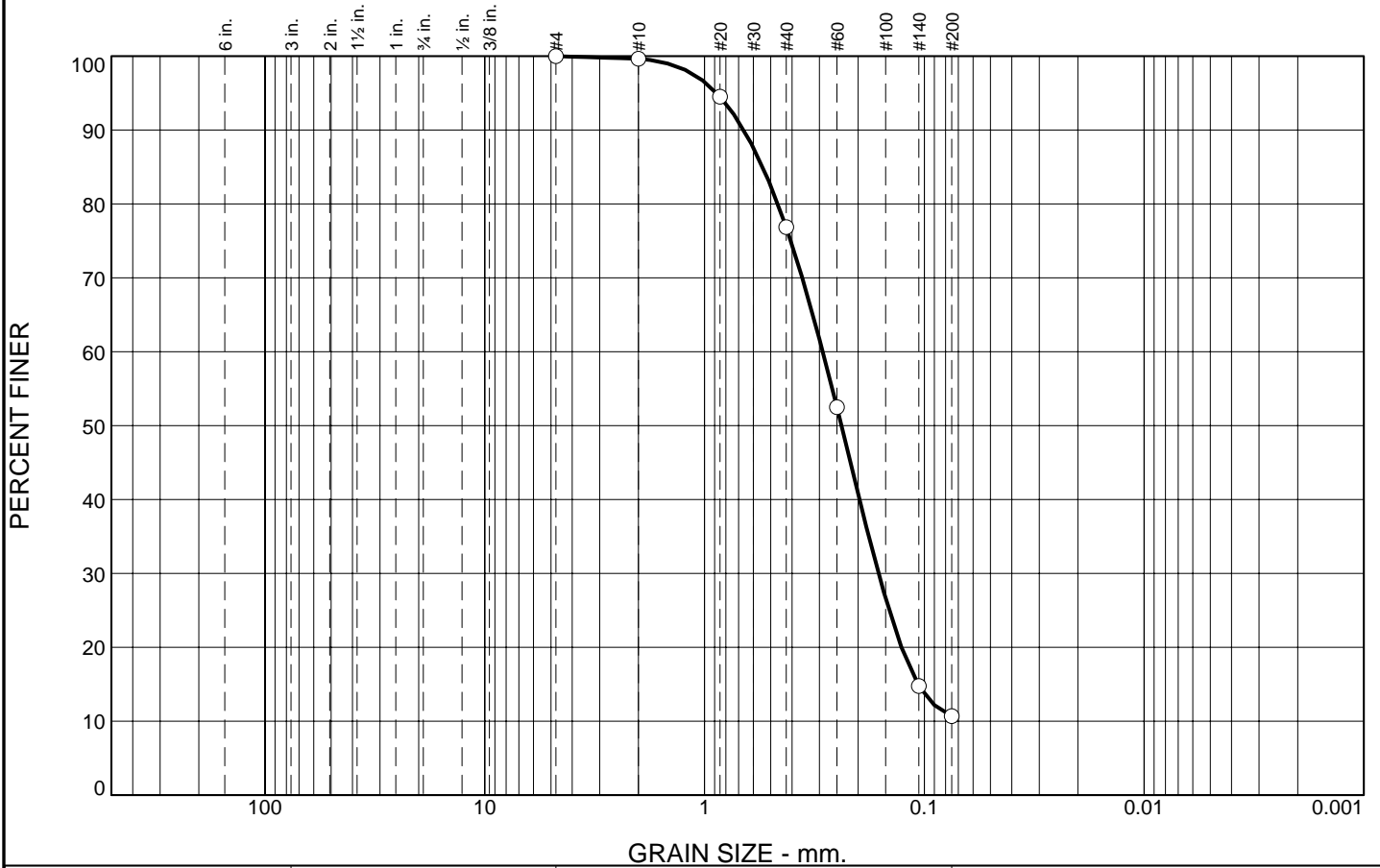
Remarks

* (no specification provided)

Sample No.: 5-B14@35.5 **Source of Sample:** GEX **Date:** 01/03/2011
Location: RD-17 **Elev./Depth:** 35.5'

ENGEO, Inc. Rocklin, CA	Client: Project: RD-17 Project No: 5747.000.000
Figure	

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	22.8	66.2	10.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.7		
#20	94.5		
#40	76.9		
#60	52.5		
#140	14.8		
#200	10.7		

Soil Description

See Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.5435 D₆₀= 0.2899 D₅₀= 0.2384
D₃₀= 0.1615 D₁₅= 0.1072 D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

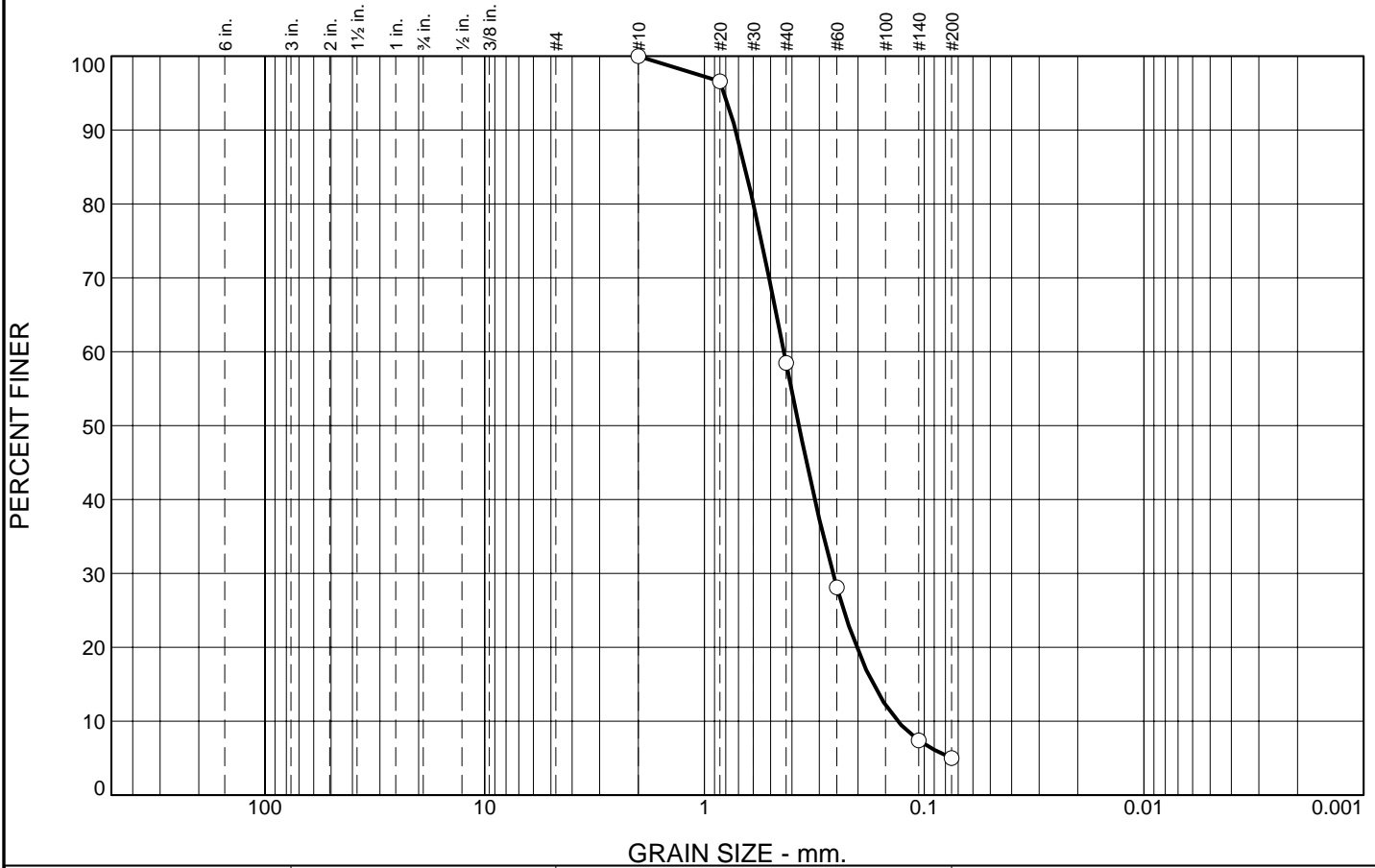
Remarks

* (no specification provided)

Sample No.: 5-B14@40.0 **Source of Sample:** GEX **Date:** 01/03/2011
Location: RD-17 **Elev./Depth:** 40.0'

ENGE, Inc. Rocklin, CA	Client: Project: RD-17 Project No: 5747.000.000
Figure	

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	41.5	53.5	5.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	96.6		
#40	58.5		
#60	28.1		
#140	7.4		
#200	5.0		

Soil Description

See Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.6538 D₆₀= 0.4351 D₅₀= 0.3719
D₃₀= 0.2604 D₁₅= 0.1706 D₁₀= 0.1320
C_u= 3.30 C_c= 1.18

Classification

USCS= AASHTO=

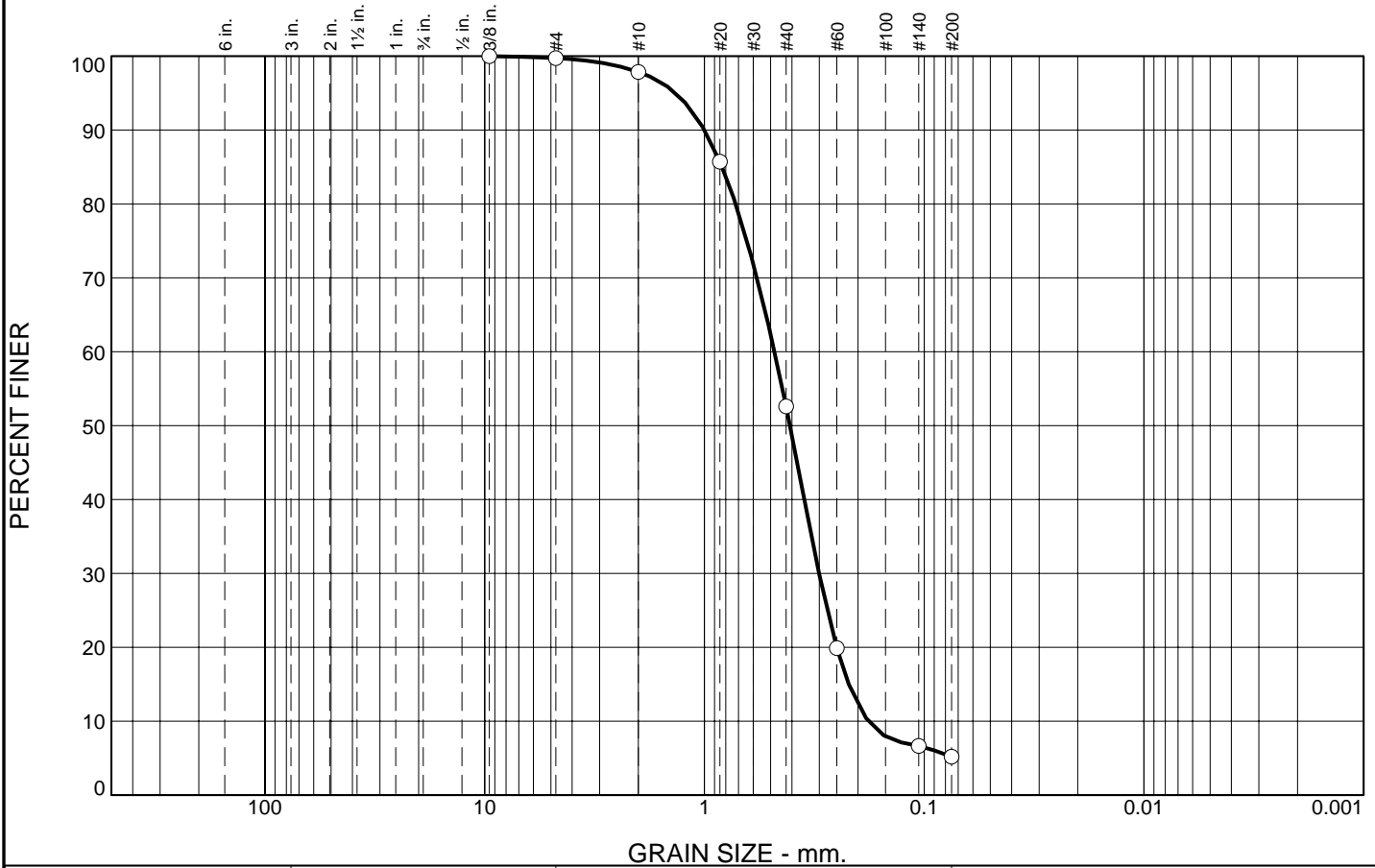
Remarks

* (no specification provided)

Sample No.: 5-B14@45.5 **Source of Sample:** GEX **Date:** 01/03/2011
Location: RD-17 **Elev./Depth:** 45.5'

ENGEO, Inc. Rocklin, CA	Client: Project: RD-17 Project No: 5747.000.000
Figure	

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	1.8	45.3	47.4	5.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.7		
#10	97.9		
#20	85.7		
#40	52.6		
#60	19.9		
#140	6.7		
#200	5.2		

Soil Description

See Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.8307 D₆₀= 0.4795 D₅₀= 0.4082
D₃₀= 0.3010 D₁₅= 0.2206 D₁₀= 0.1793
C_u= 2.67 C_c= 1.05

Classification

USCS= AASHTO=

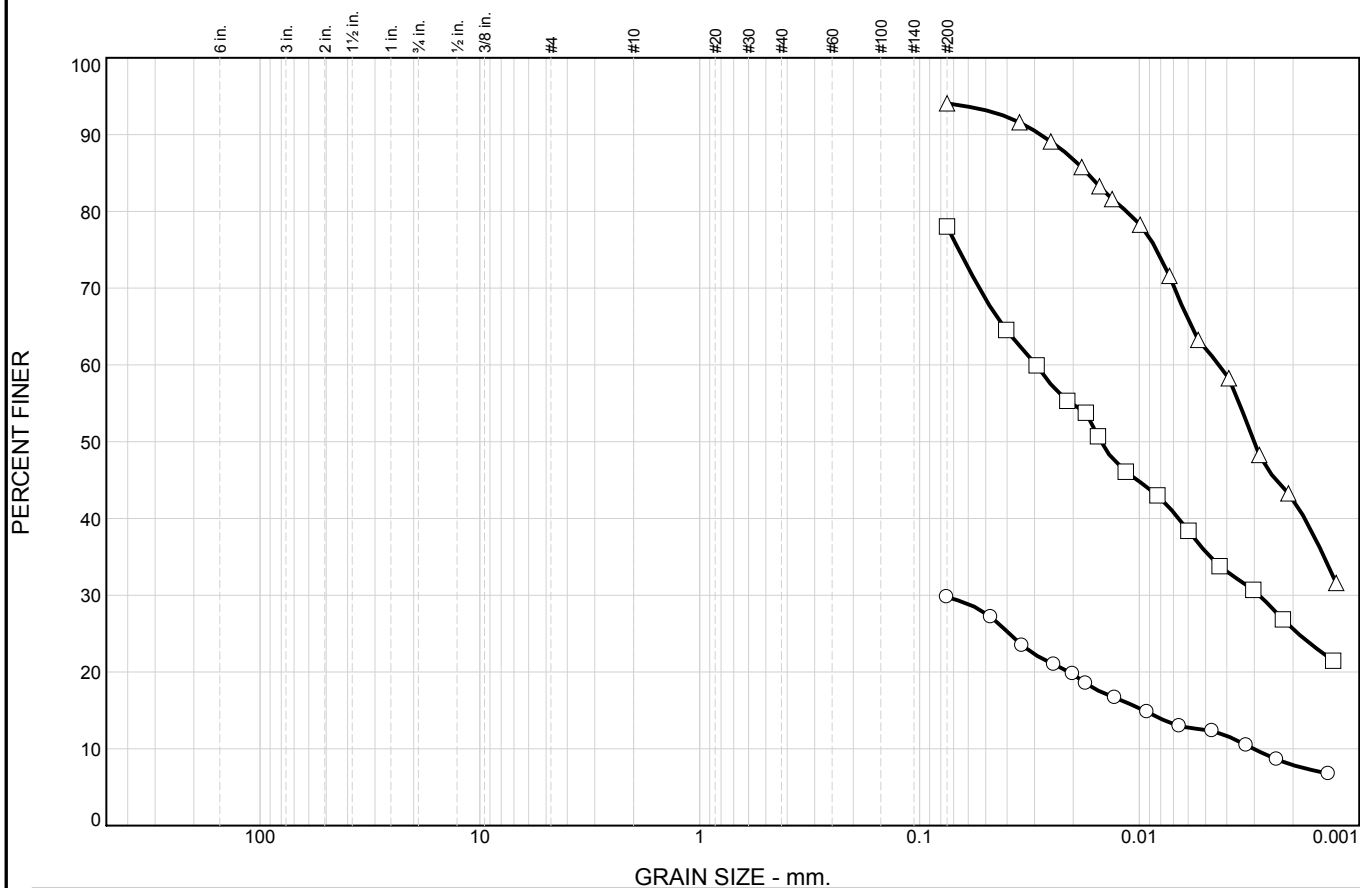
Remarks

* (no specification provided)

Sample No.: 5-B14@60.5 **Source of Sample:** GEX **Date:** 01/03/2011
Location: RD-17 **Elev./Depth:** 60.5'

ENGEO, Inc. Rocklin, CA	Client: Project: RD-17 Project No: 5747.000.000
Figure	

Particle Size Distribution Report



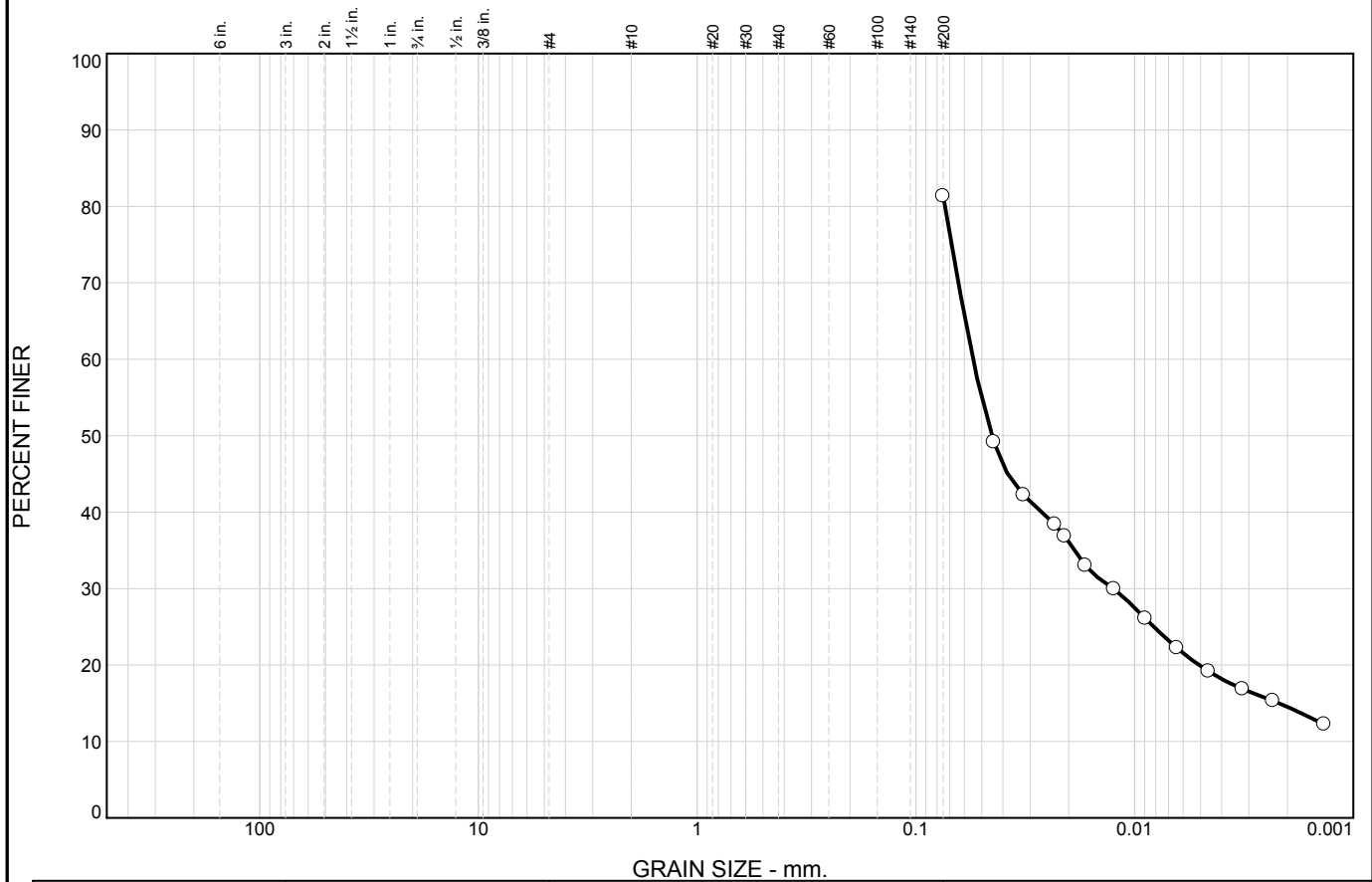
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○							17.3	12.5		
□							42.4	35.6		
△							32.1	62.0		
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○	NV	NP					0.0095	0.0030		
□				0.0295	0.0150	0.0028				
△			0.0173	0.0043	0.0030					

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs □ See Exploratory Boring Logs △ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 8' Sample Number: 5-B1 @ 8' □ Depth: 20' Sample Number: 5-B1 @ 20' △ Depth: 36' Sample Number: 5-B1 @ 36'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							61.5	19.9

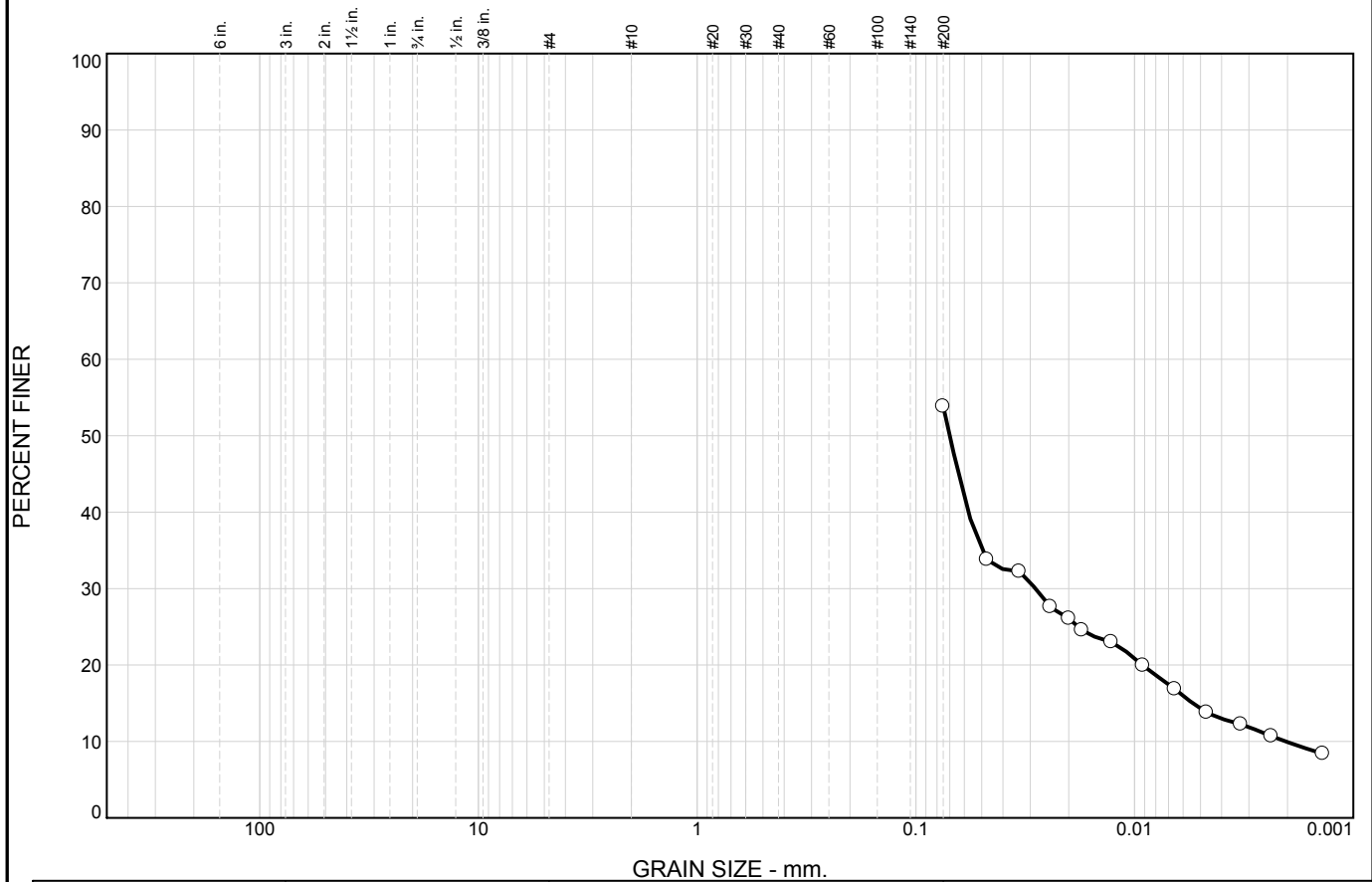
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input checked="" type="checkbox"/>	34	24		0.0548	0.0449	0.0125	0.0022			

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 14' Sample Number: 5-B2 @ 14'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



%	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○						39.5	14.3

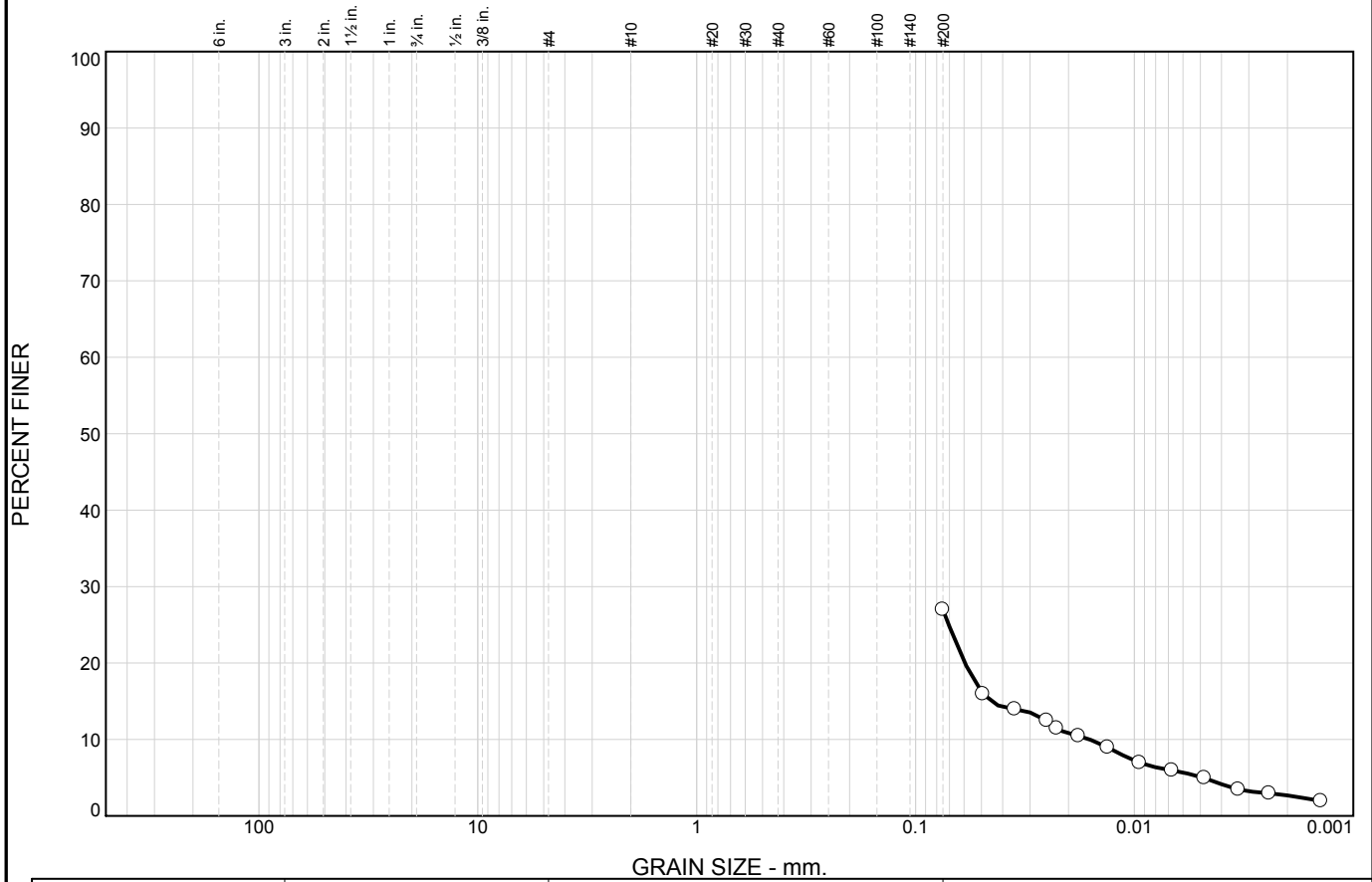
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○				0.0700	0.0284	0.0054	0.0020		

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 17.5' Sample Number: 5-B2 @ 17.5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



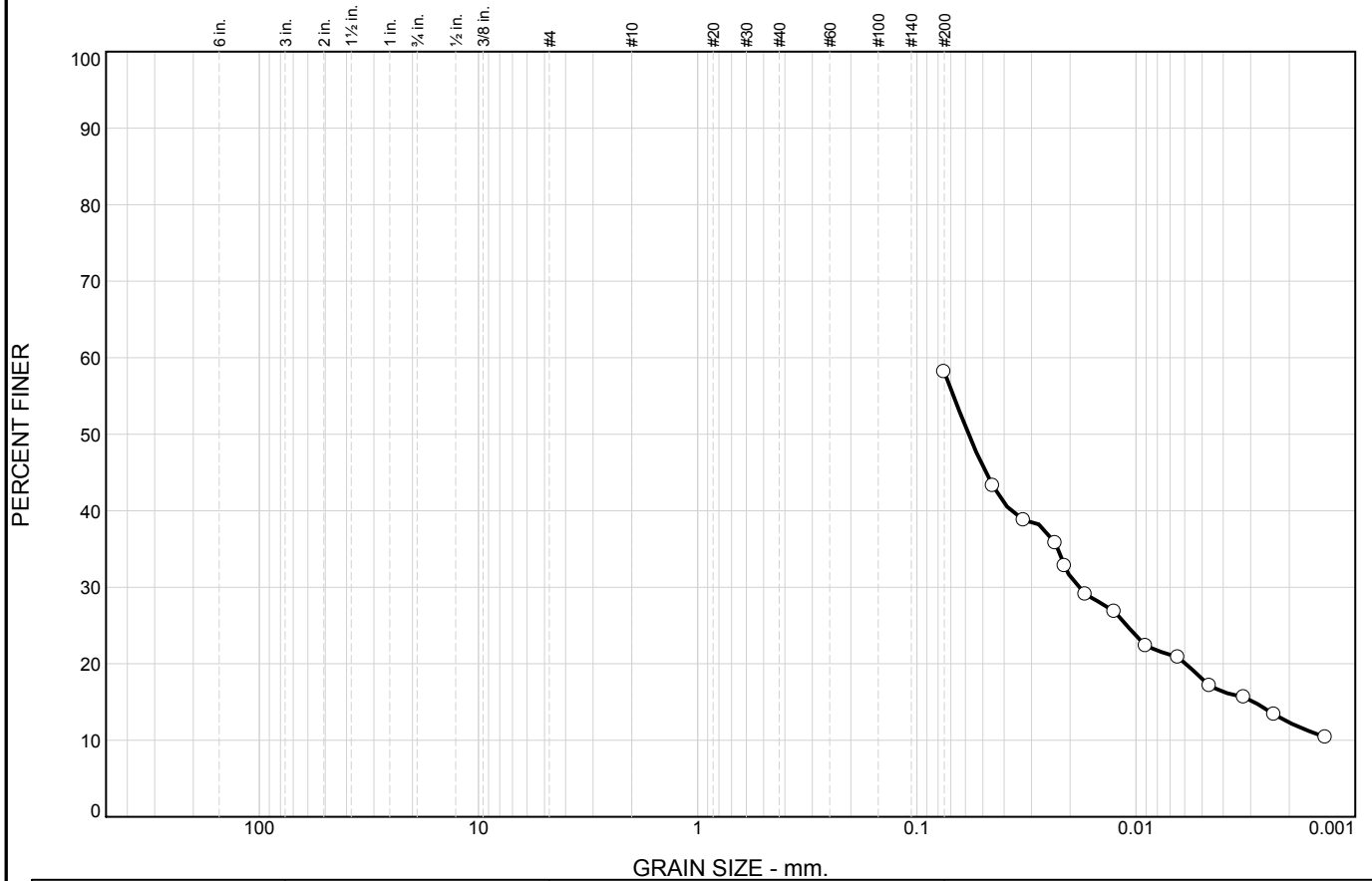
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							21.9	5.1		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>							0.0454	0.0160		

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 41' Sample Number: 5-B2 @ 41'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



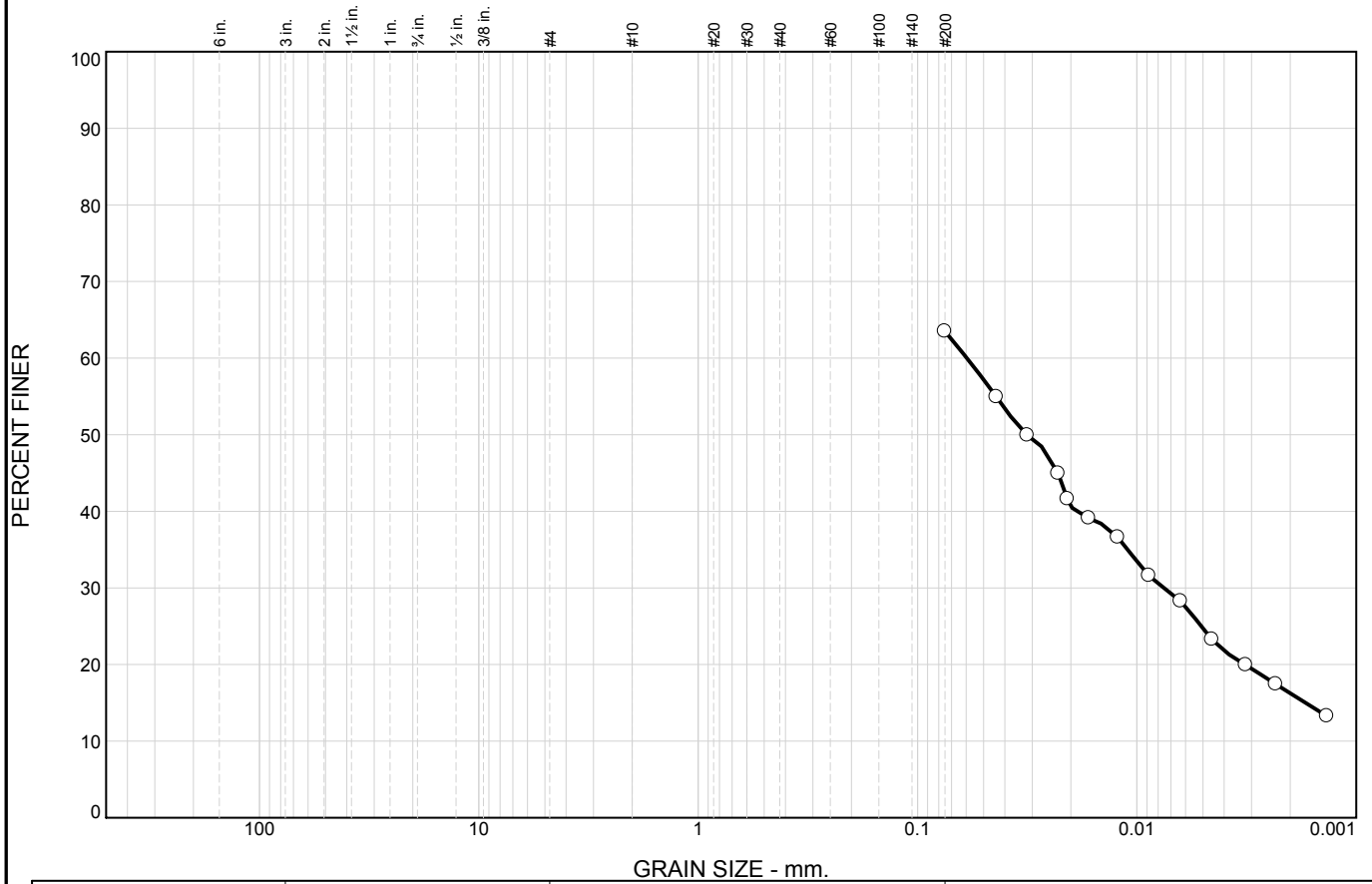
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							40.1	18.0		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>					0.0581	0.0185	0.0029			

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 65.5' Sample Number: 5-B2 @ 65.5'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



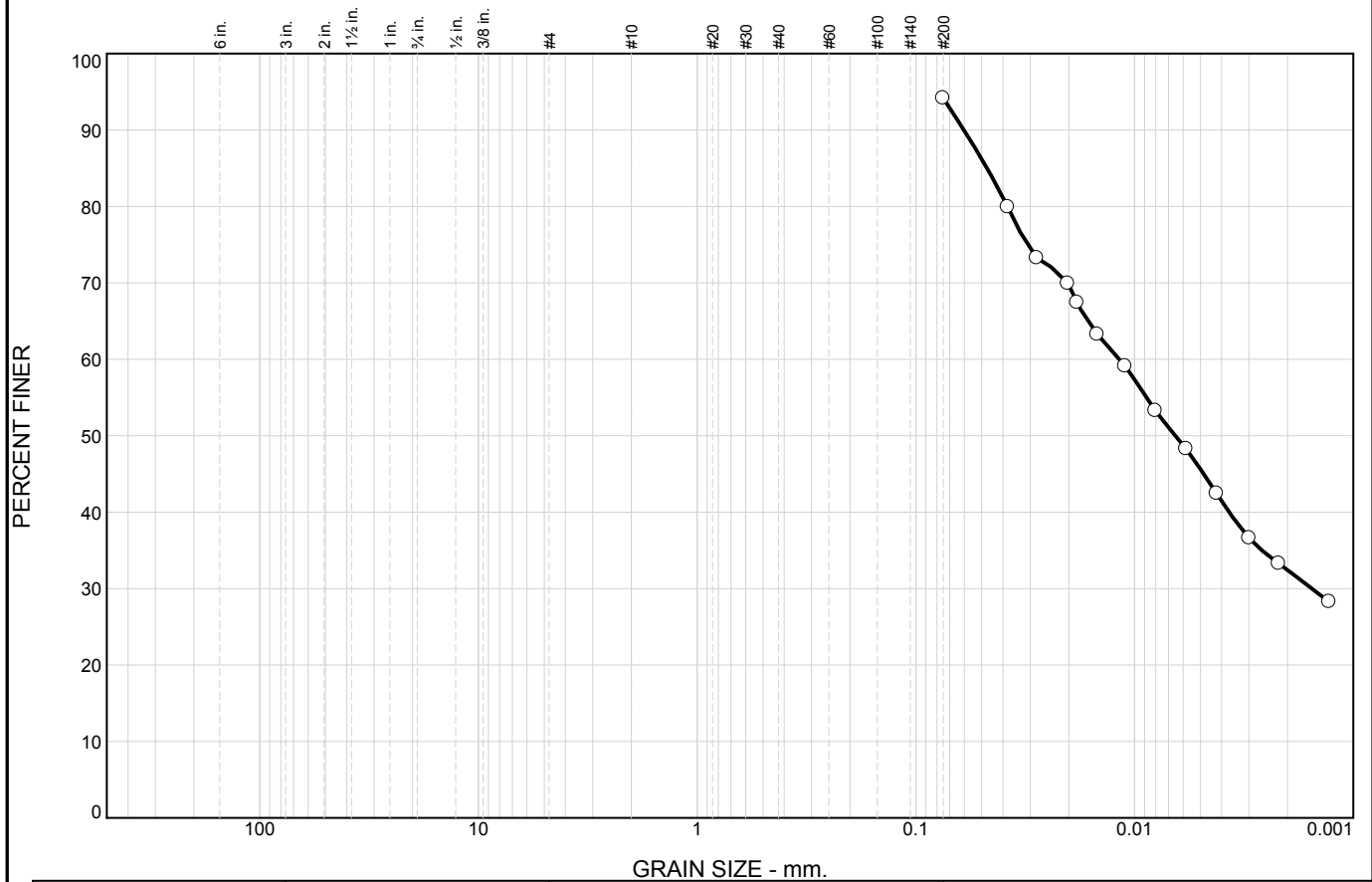
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							38.8	24.7		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	C_c	C_u
<input type="radio"/>	33	16		0.0596	0.0318	0.0075	0.0017			

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 66' Sample Number: 5-B2 @ 66'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							48.6	45.6

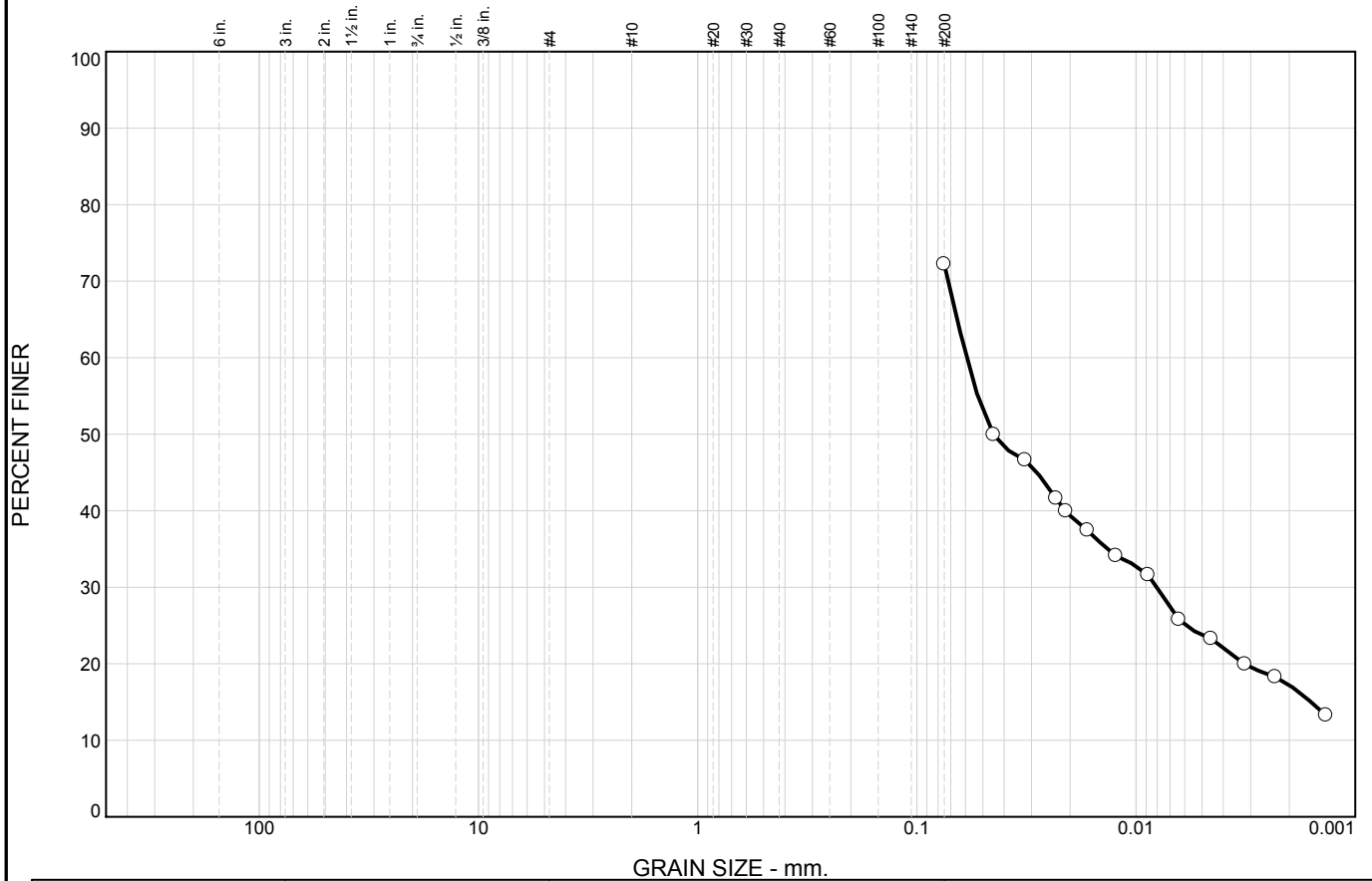
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input checked="" type="checkbox"/>			0.0473	0.0117	0.0065	0.0015				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 76' Sample Number: 5-B2 @ 76'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							48.4	23.8

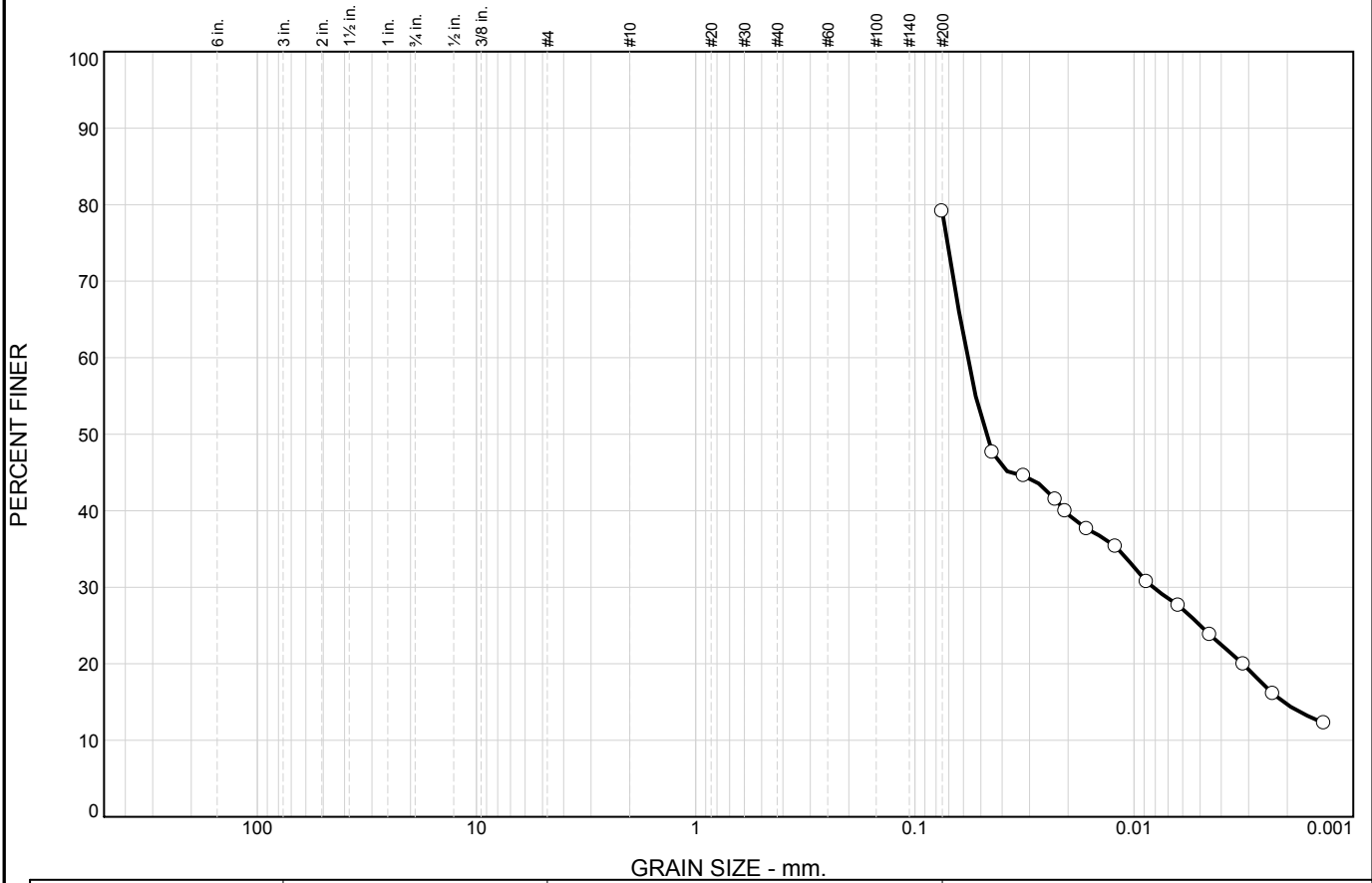
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="radio"/>				0.0592	0.0448	0.0080	0.0016			

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 61' Sample Number: 5-B3 @ 61'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○						54.1	25.0

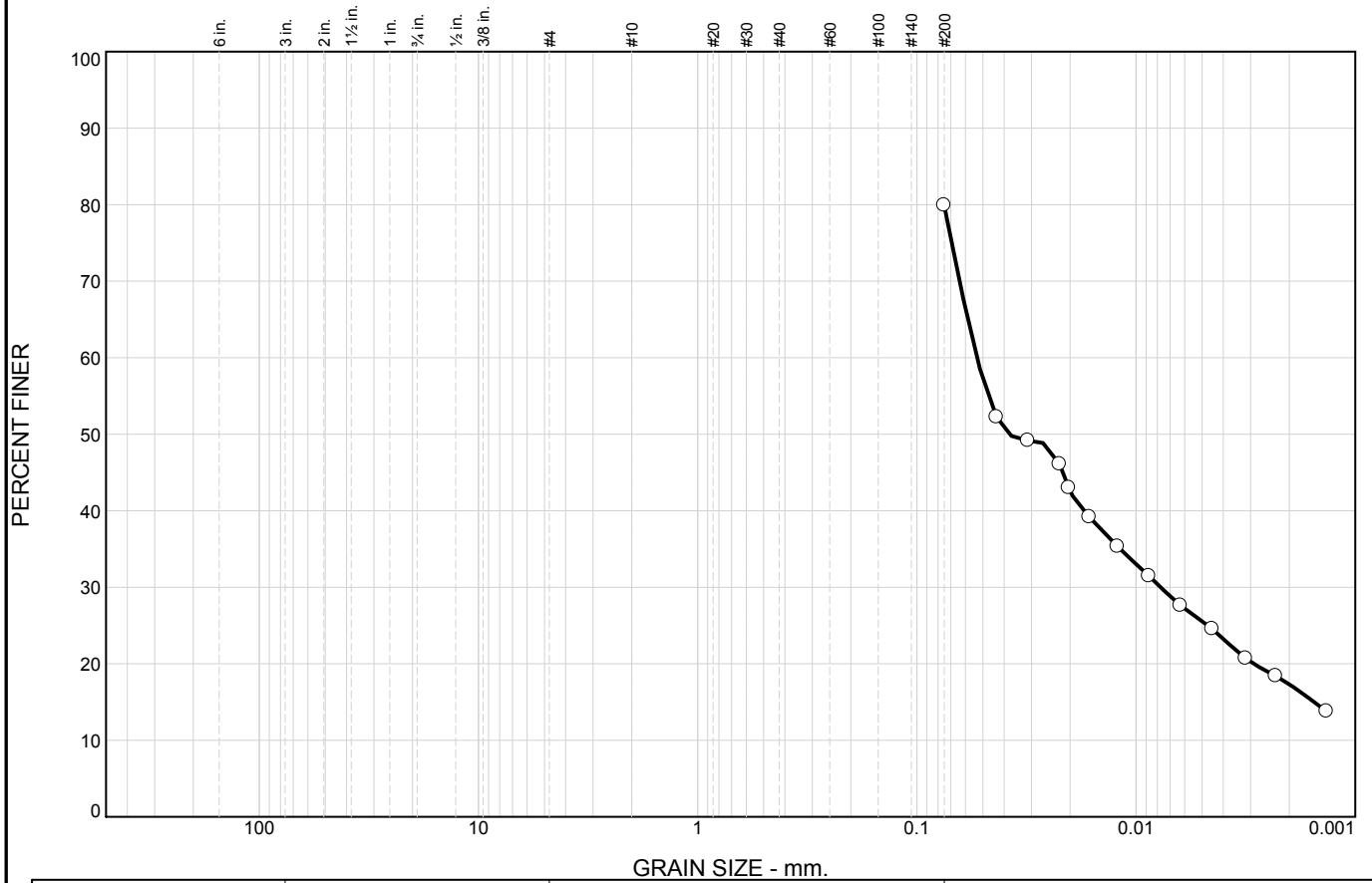
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.0575	0.0476	0.0082	0.0021			

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 66' Sample Number: 5-B3 @ 66'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



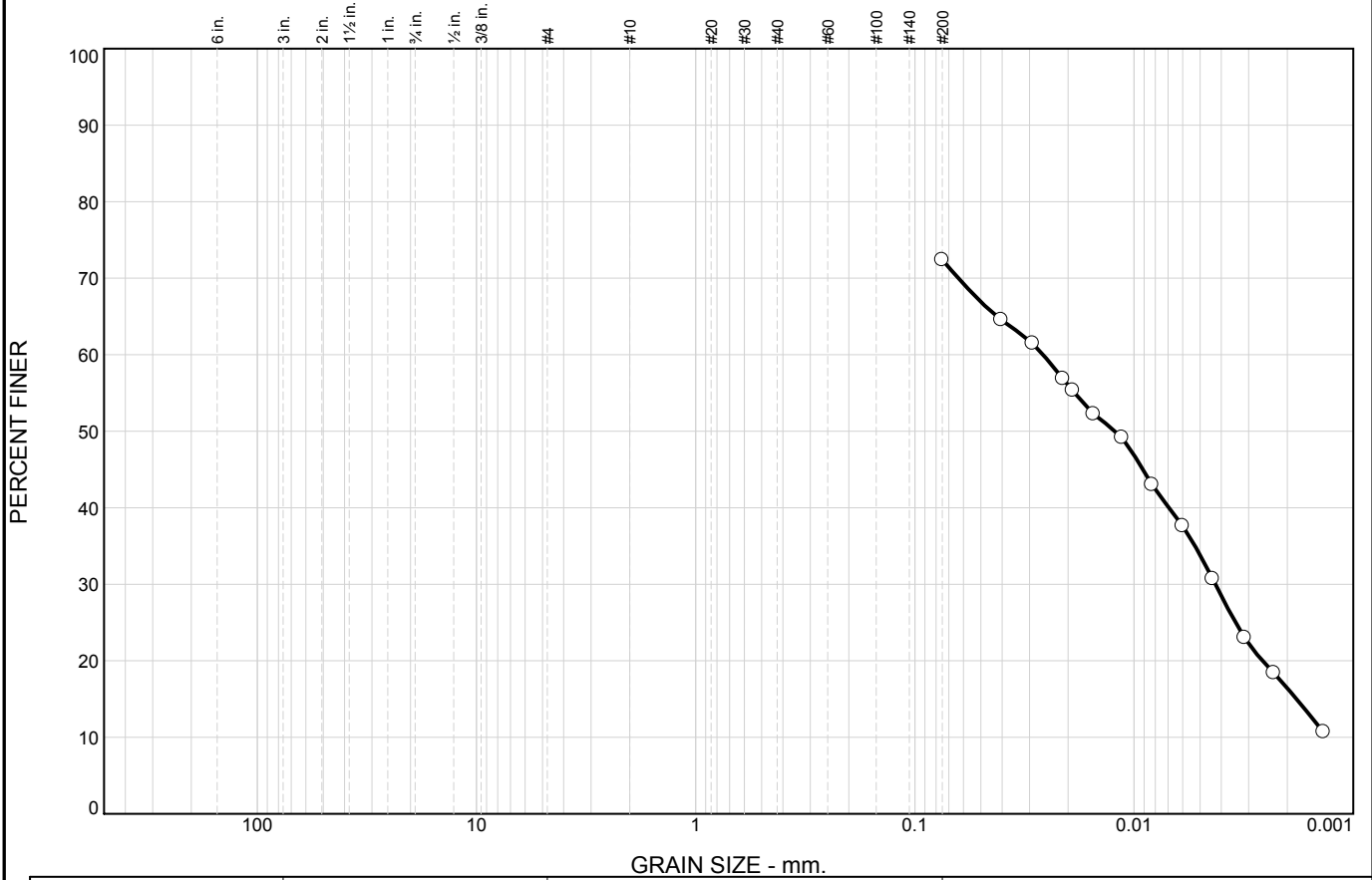
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							54.3	25.6		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>				0.0532	0.0380	0.0077	0.0015			

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 86' Sample Number: 5-B3 @ 86'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○						38.6	33.8

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○	33	15	0.0260	0.0121	0.0043	0.0018			

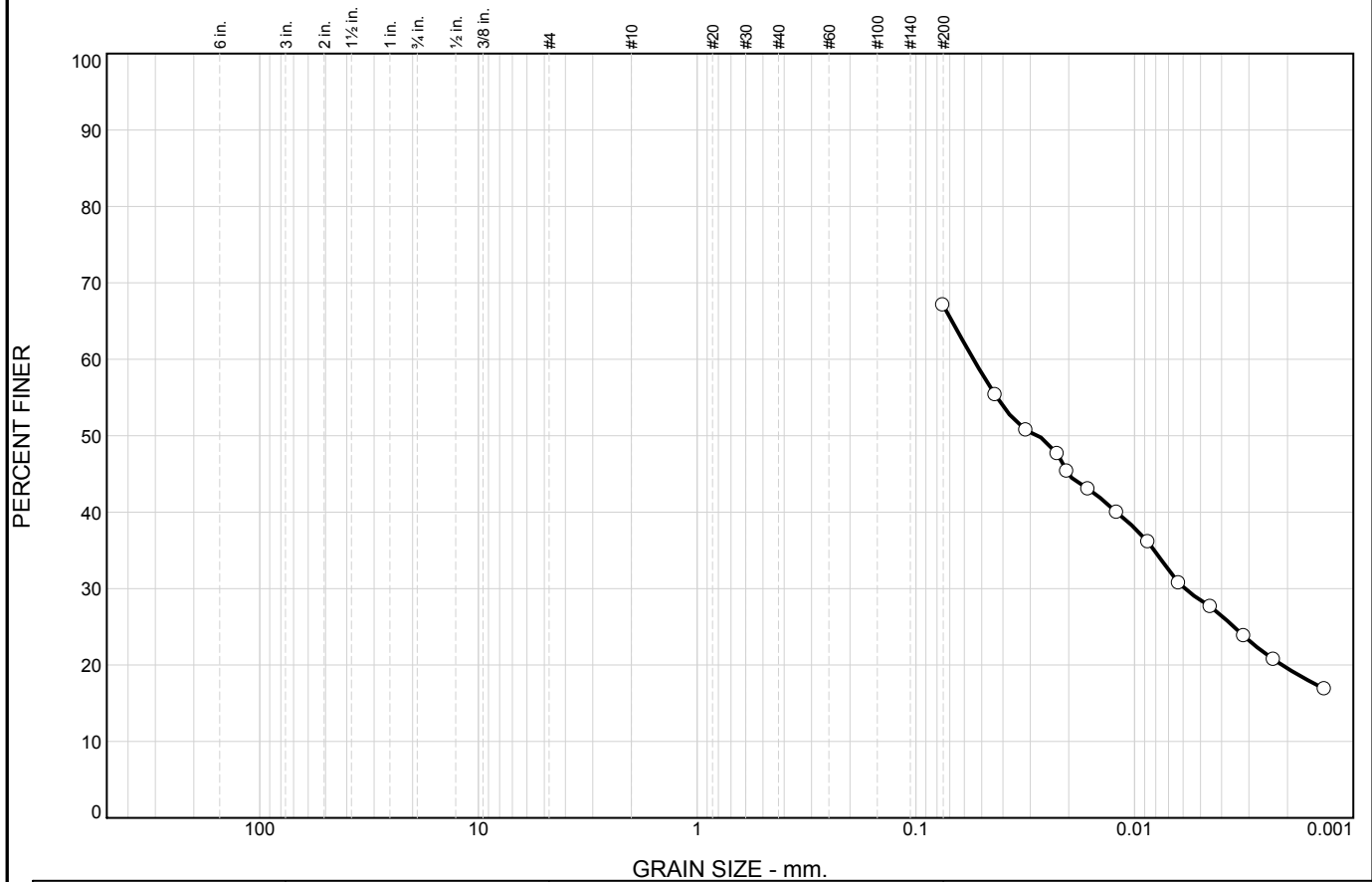
Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 100' Sample Number: 5-B3 @ 100'</p>	<p>Remarks:</p>
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<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>
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Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							38.6	28.5

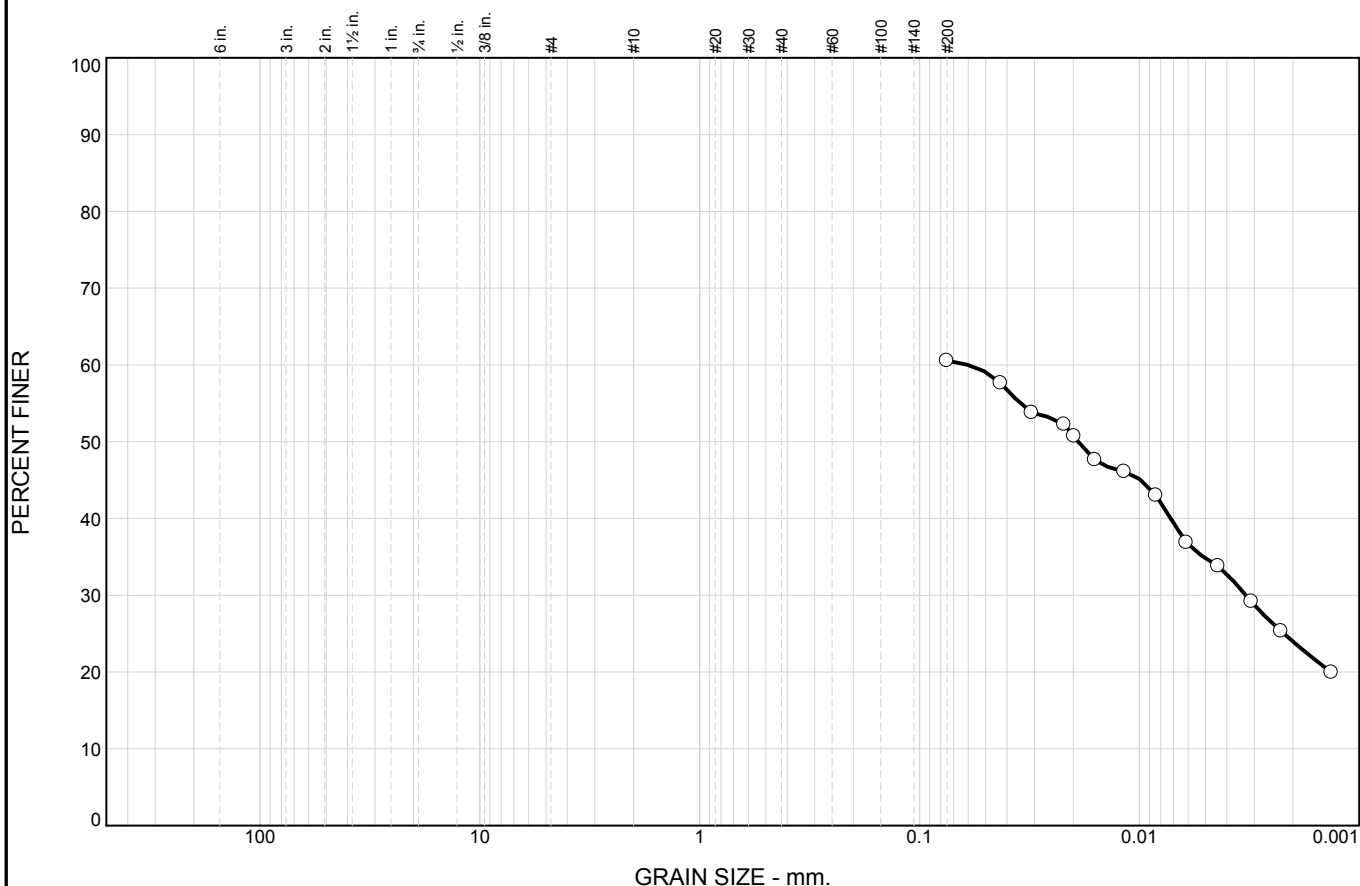
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input checked="" type="radio"/>	38	20		0.0546	0.0279	0.0059				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 1.5' Sample Number: 5-B4 @ 1.5'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



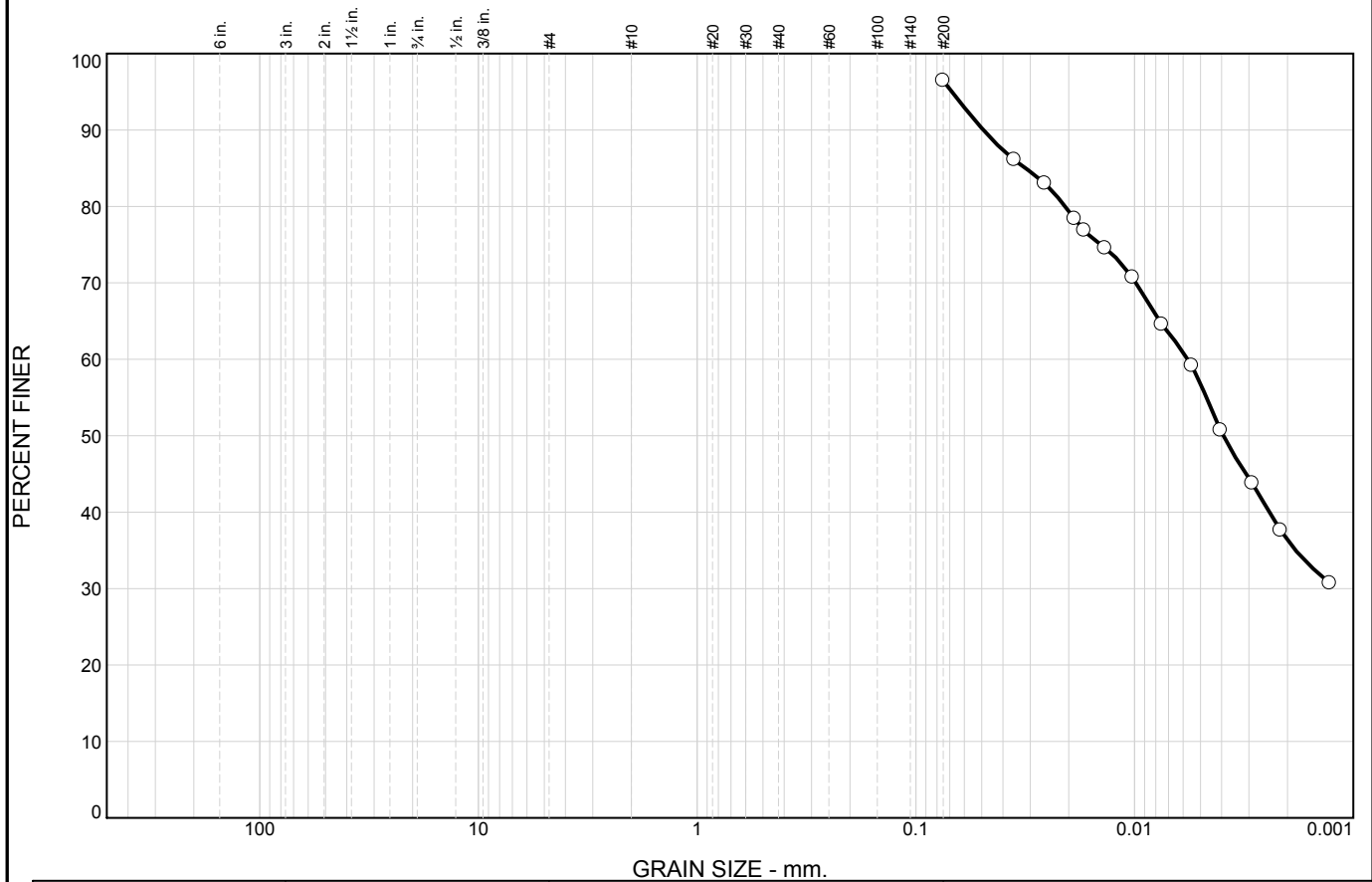
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							25.7	34.8		
<input type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>				0.0602	0.0190	0.0033				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 6' Sample Number: 5-B4 @ 6'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



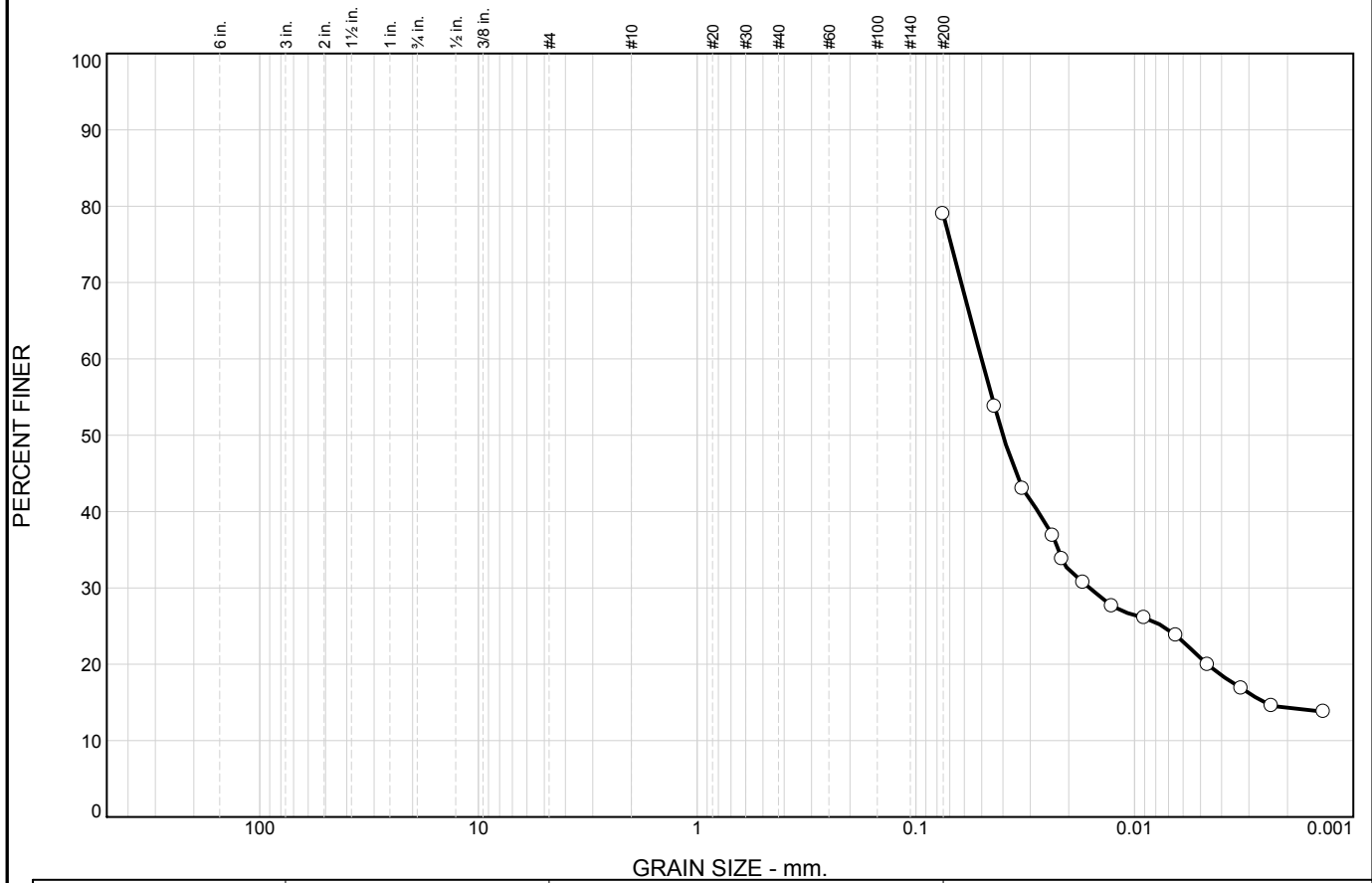
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							39.7	56.8		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>	56	23	0.0315	0.0057	0.0039					

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 7.5' Sample Number: 5-B4 @ 7.5'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							58.2	20.8

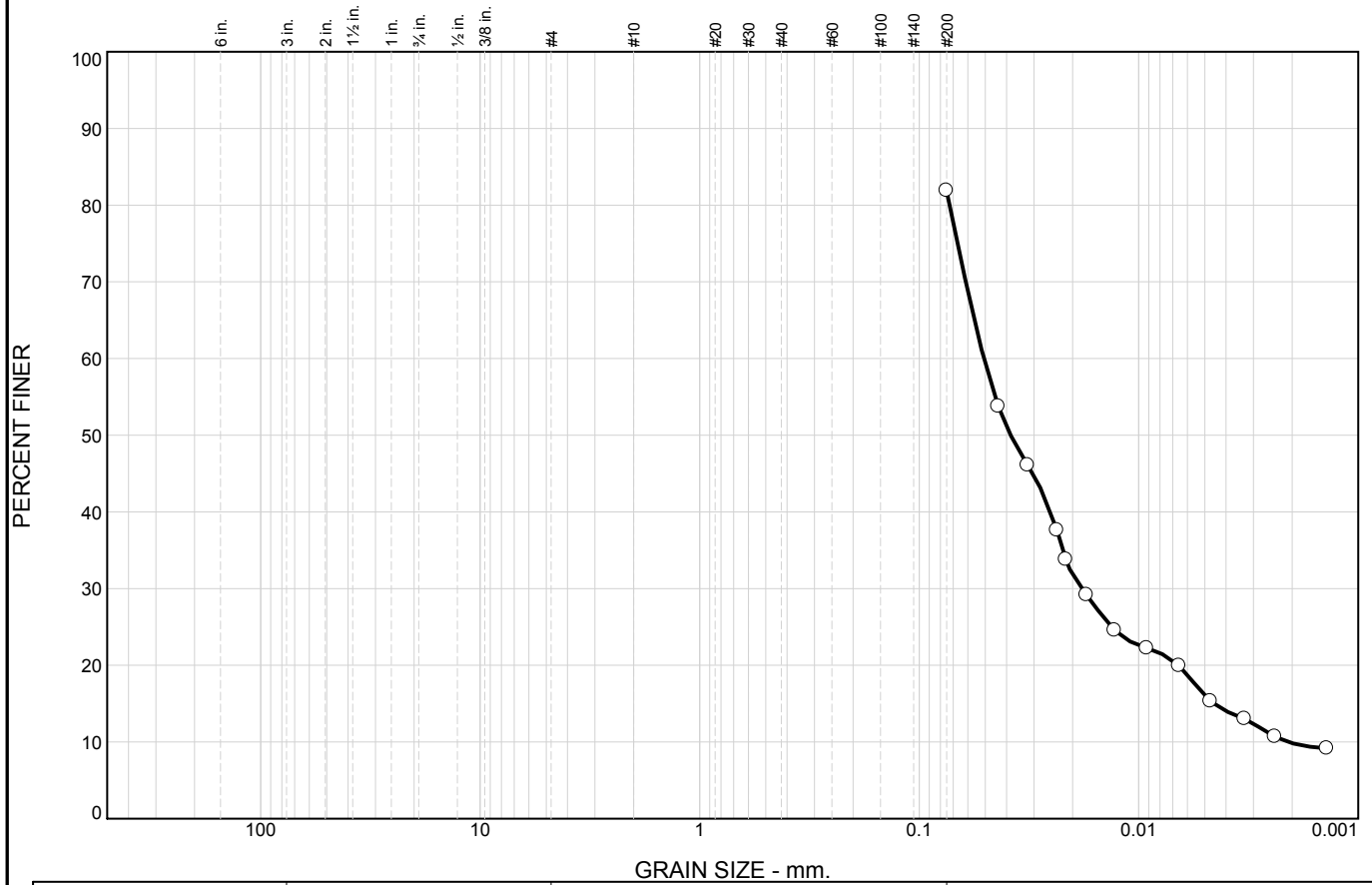
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○				0.0501	0.0400	0.0160	0.0025			

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 10.5' Sample Number: 5-B4 @ 10.5'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							65.9	16.0

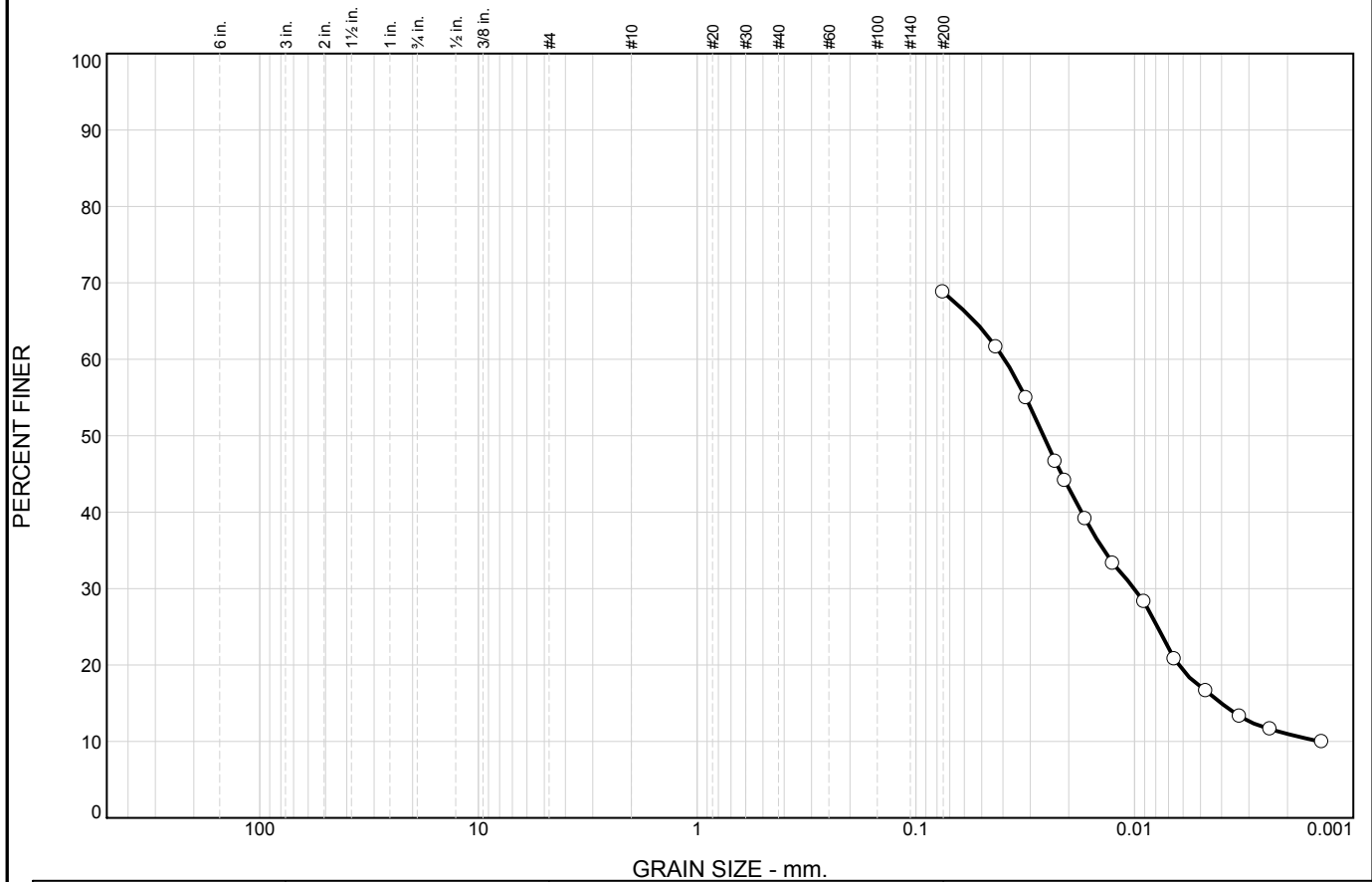
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="radio"/>				0.0508	0.0383	0.0183	0.0046	0.0021	3.14	24.31

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 12' Sample Number: 5-B4 @ 12'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							51.6	17.2

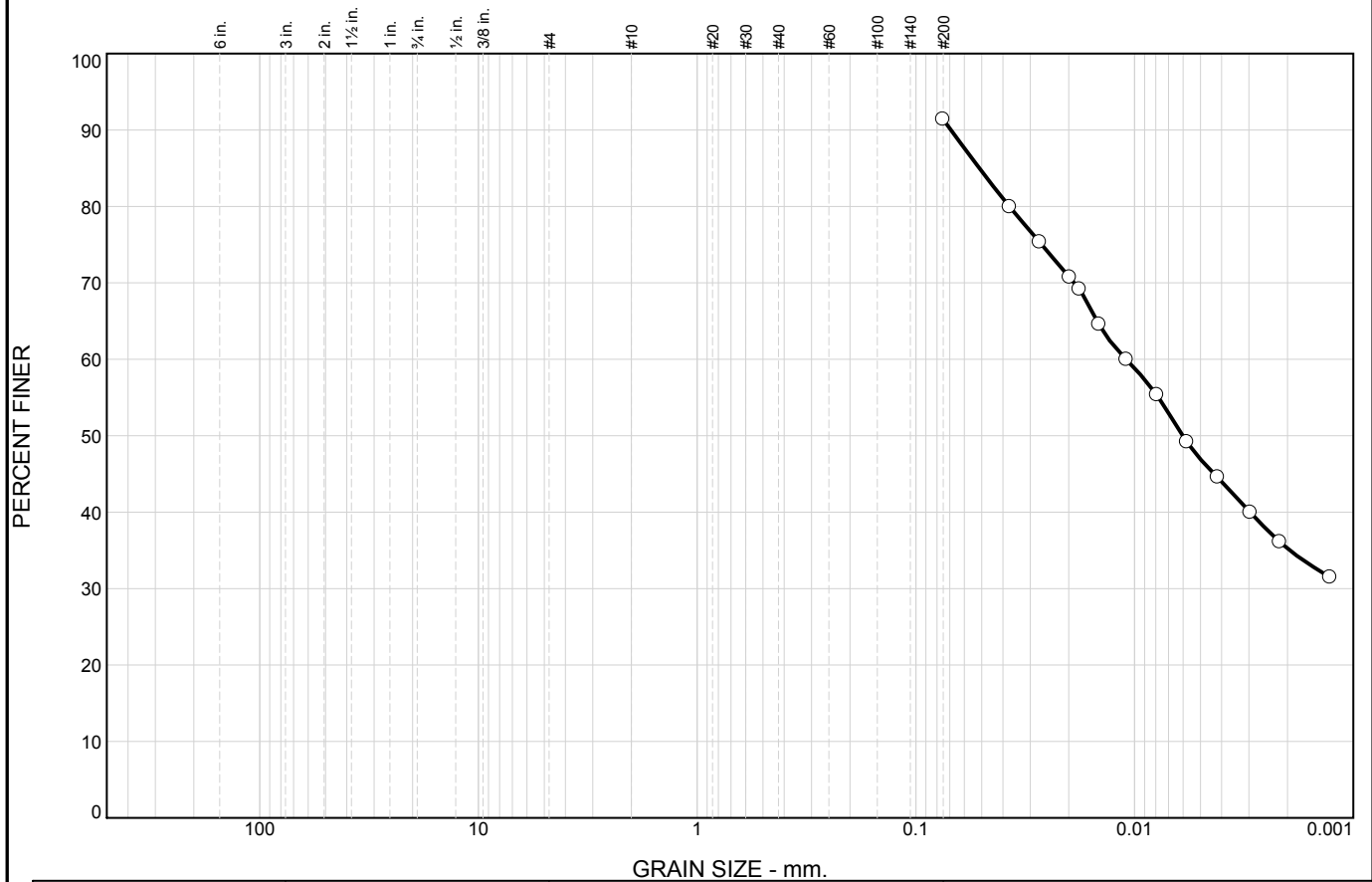
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input checked="" type="checkbox"/>				0.0393	0.0261	0.0100	0.0040	0.0014	1.78	27.57

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 16.5' Sample Number: 5-B4 @ 16.5'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



%	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○						44.5	46.9

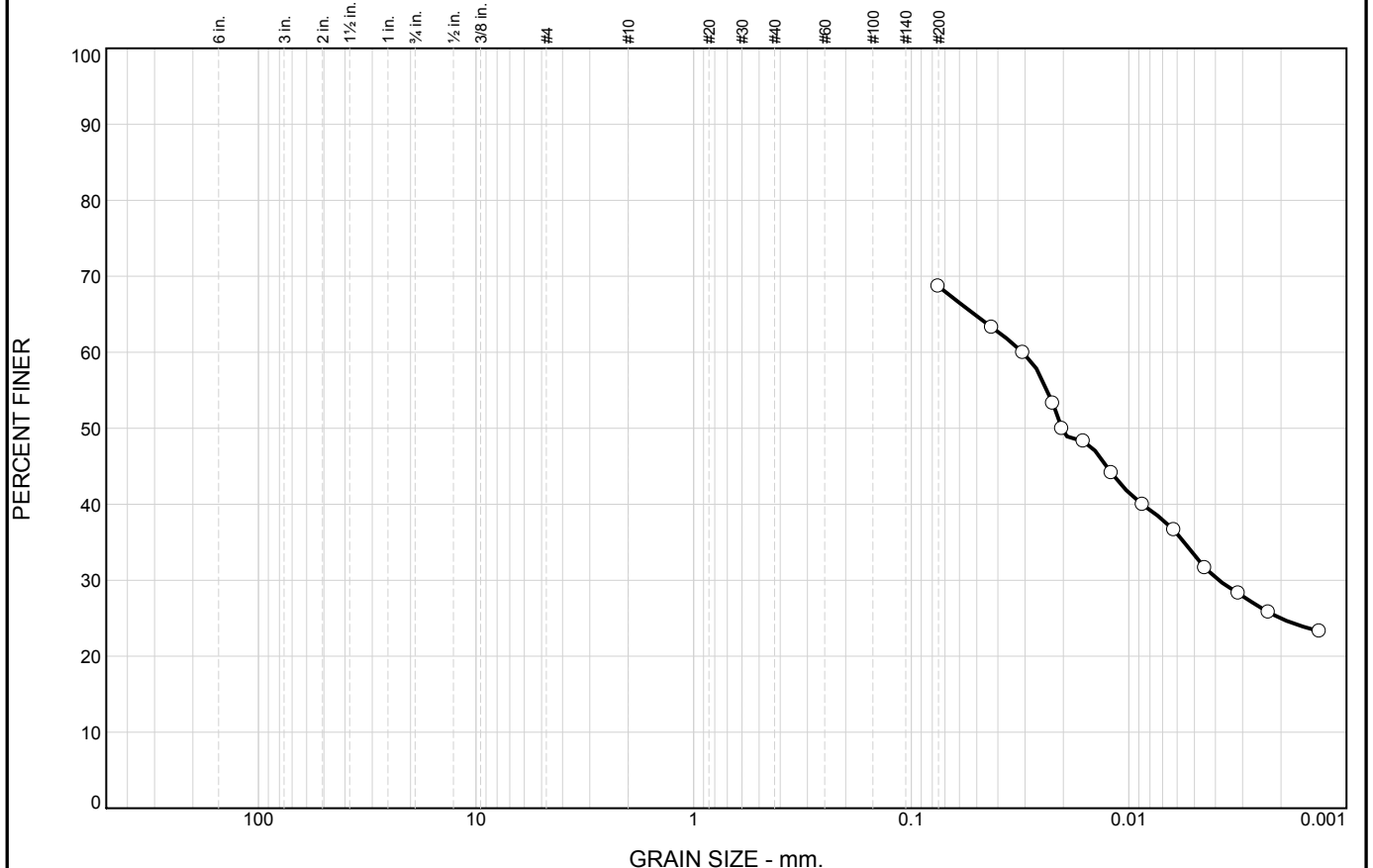
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○		0.0513	0.0110	0.0060					

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 51.5' Sample Number: 5-B4 @ 51.5'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



GRAIN SIZE - mm.

	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							35.4	33.3		
<input type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>				0.0308	0.0203	0.0039				

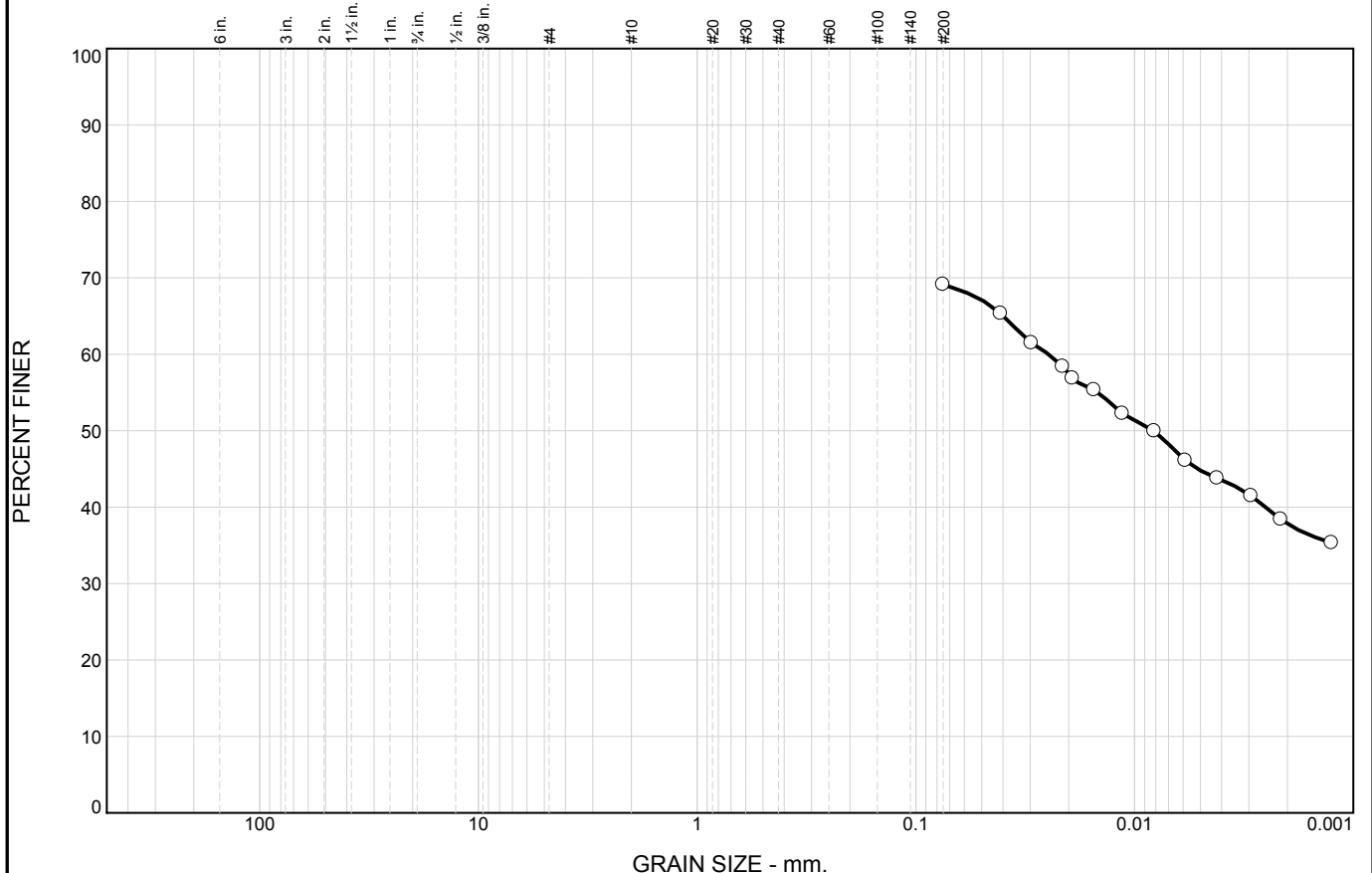
Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 62.5' Sample Number: 5-B4 @ 62.5'</p>	<p>Remarks:</p>
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ENGEO, Inc. Ripon, California	Figure
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Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							24.3	44.8		

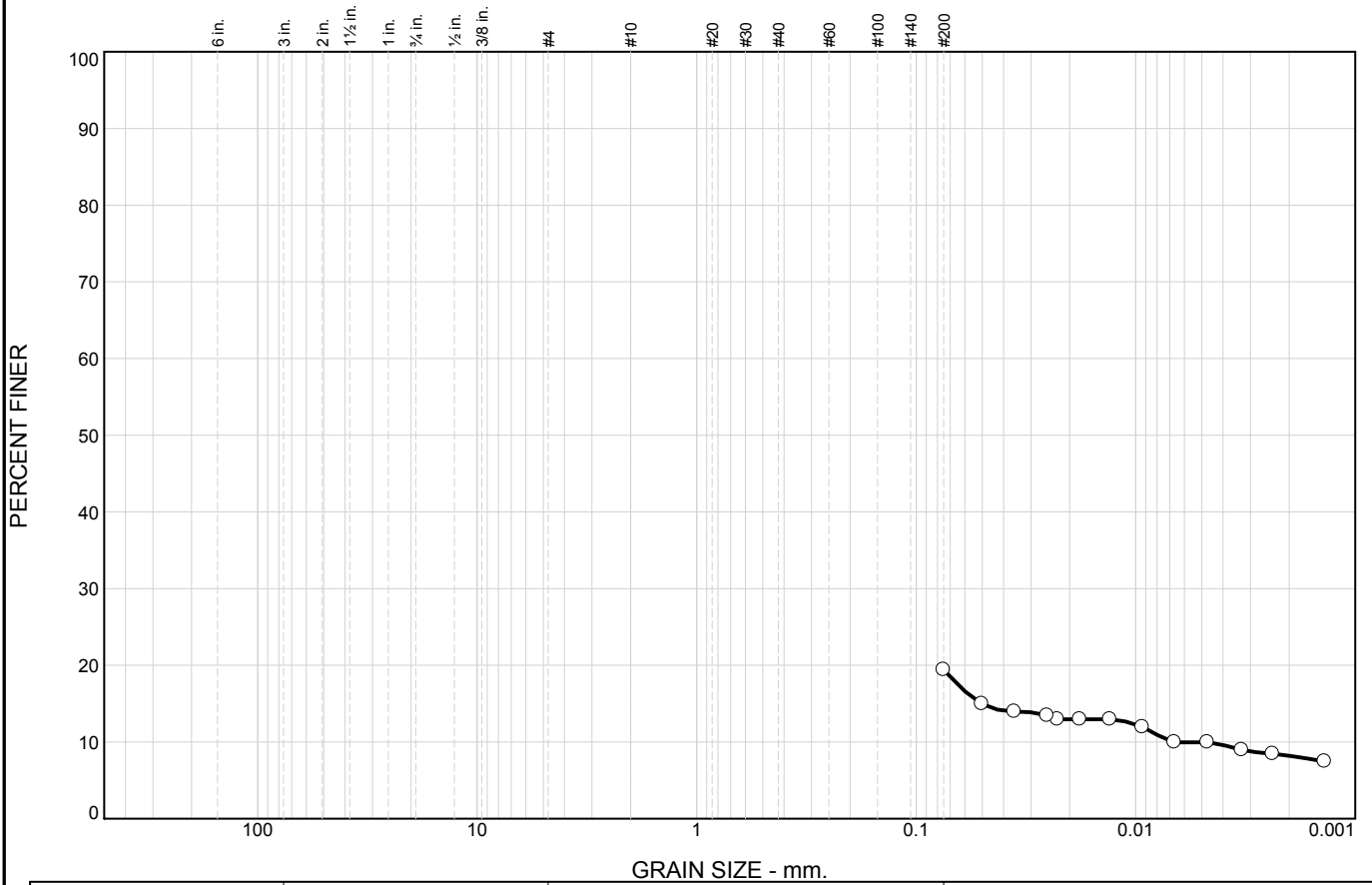
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input checked="" type="checkbox"/>	42	18		0.0247	0.0082					

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 70' Sample Number: 5-B4 @ 70'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○						9.4	10.0

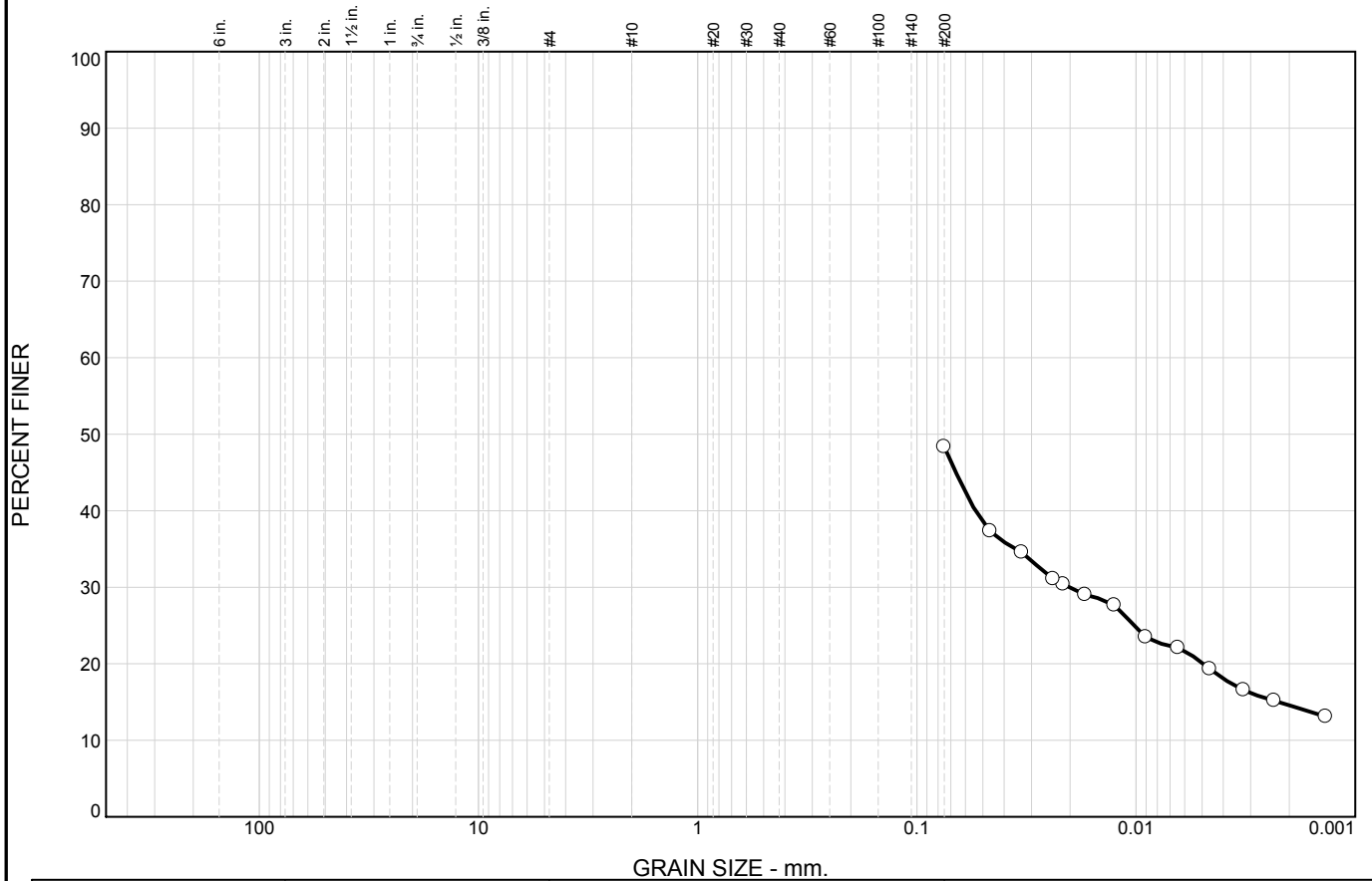
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○						0.0504	0.0068		

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 70.5' Sample Number: 5-B4 @ 70.5'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



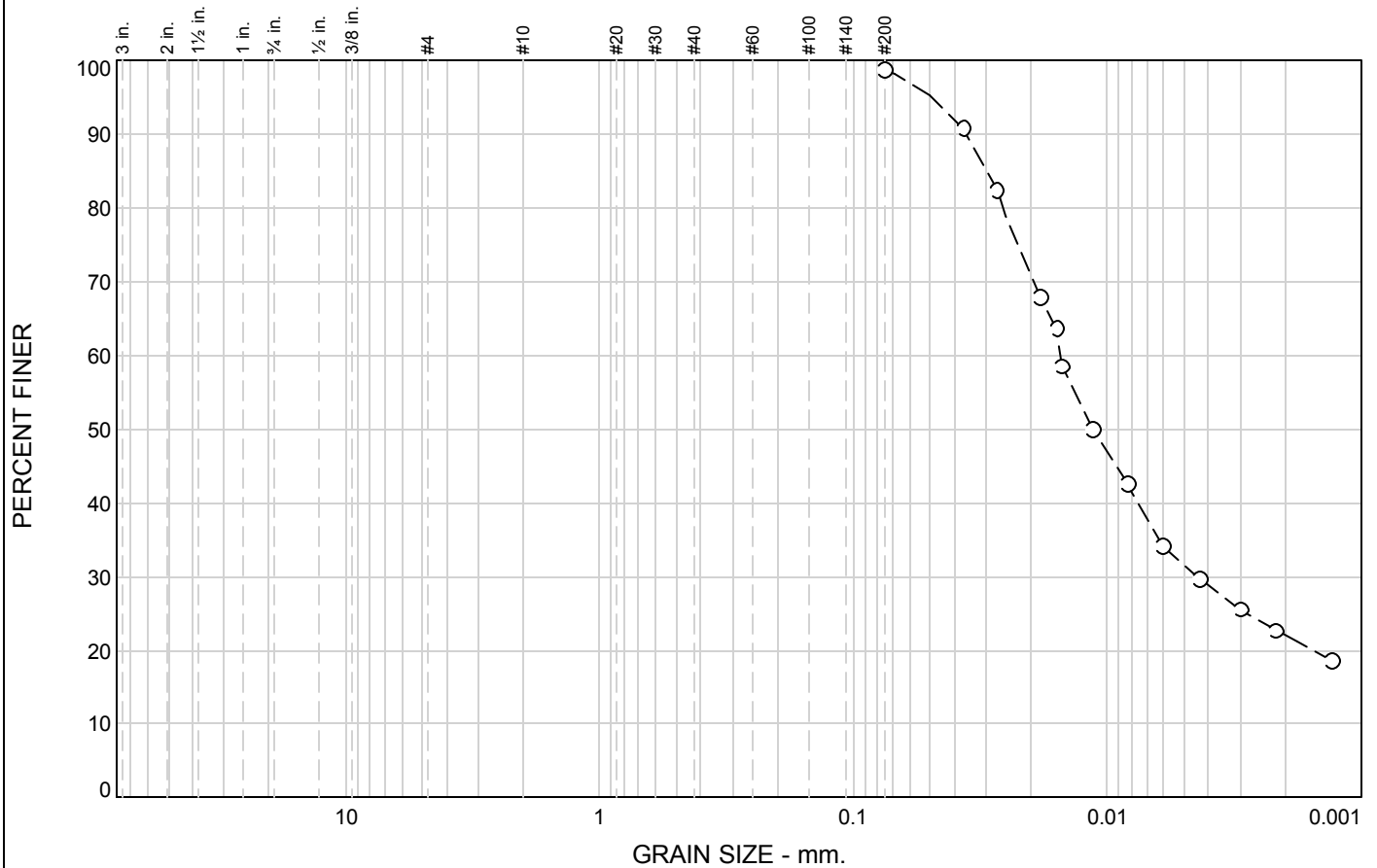
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							28.3	20.1		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>						0.0201	0.0022			

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 2' Sample Number: 5-B5 @ 2'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						76.7	22.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	98.7		

* (no specification provided)

Material Description

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.0293 D₆₀= 0.0153 D₅₀= 0.0120
D₃₀= 0.0044 D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample Number: 5-B5 @ 19.5
Source of Sample: Boring 5-B5

Depth: 19.5 feet

Date: 12/21/10

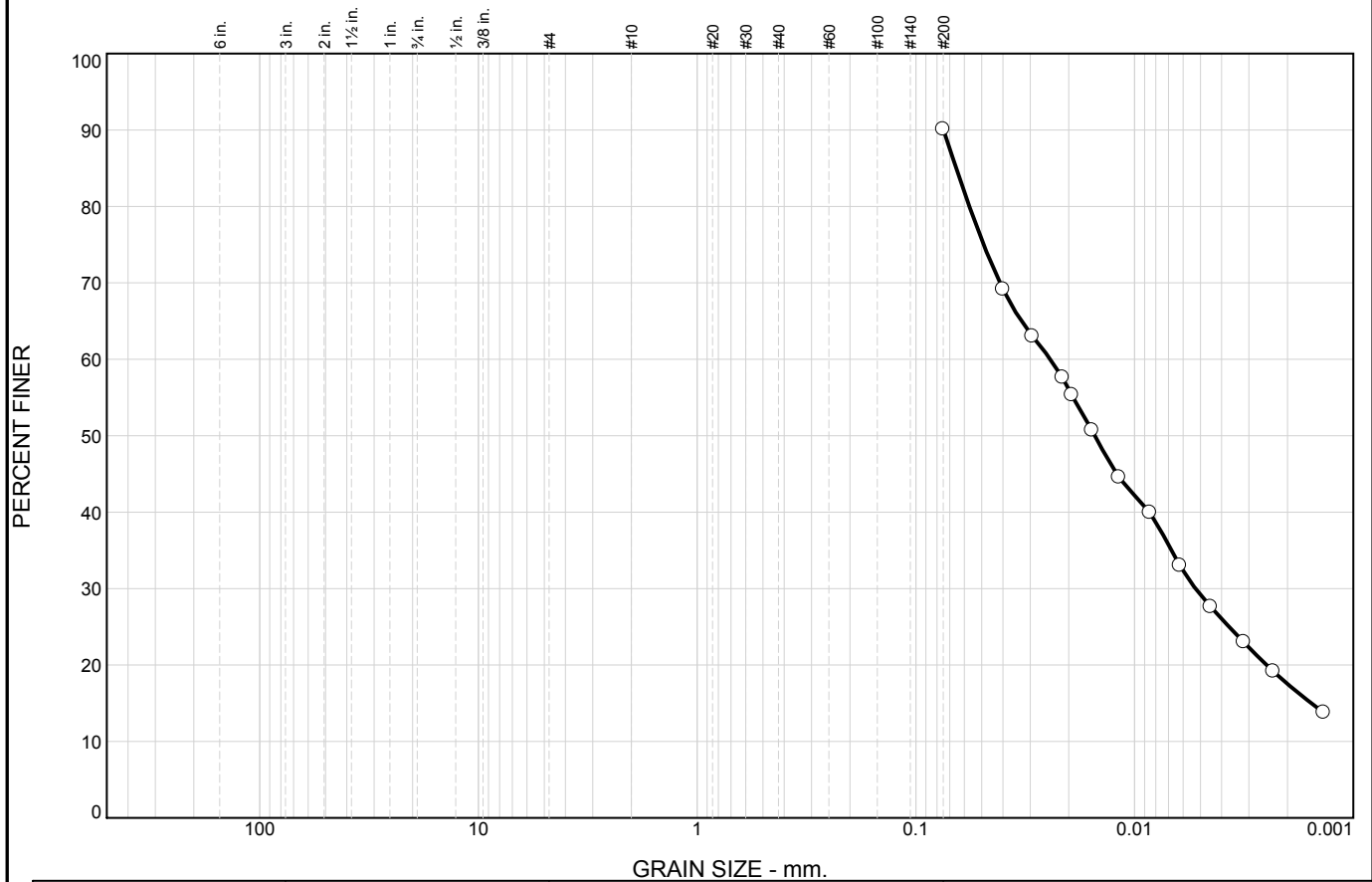


Client:
Project: RD-17

Project No: 5747.000.000

Plate

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							60.9	29.2

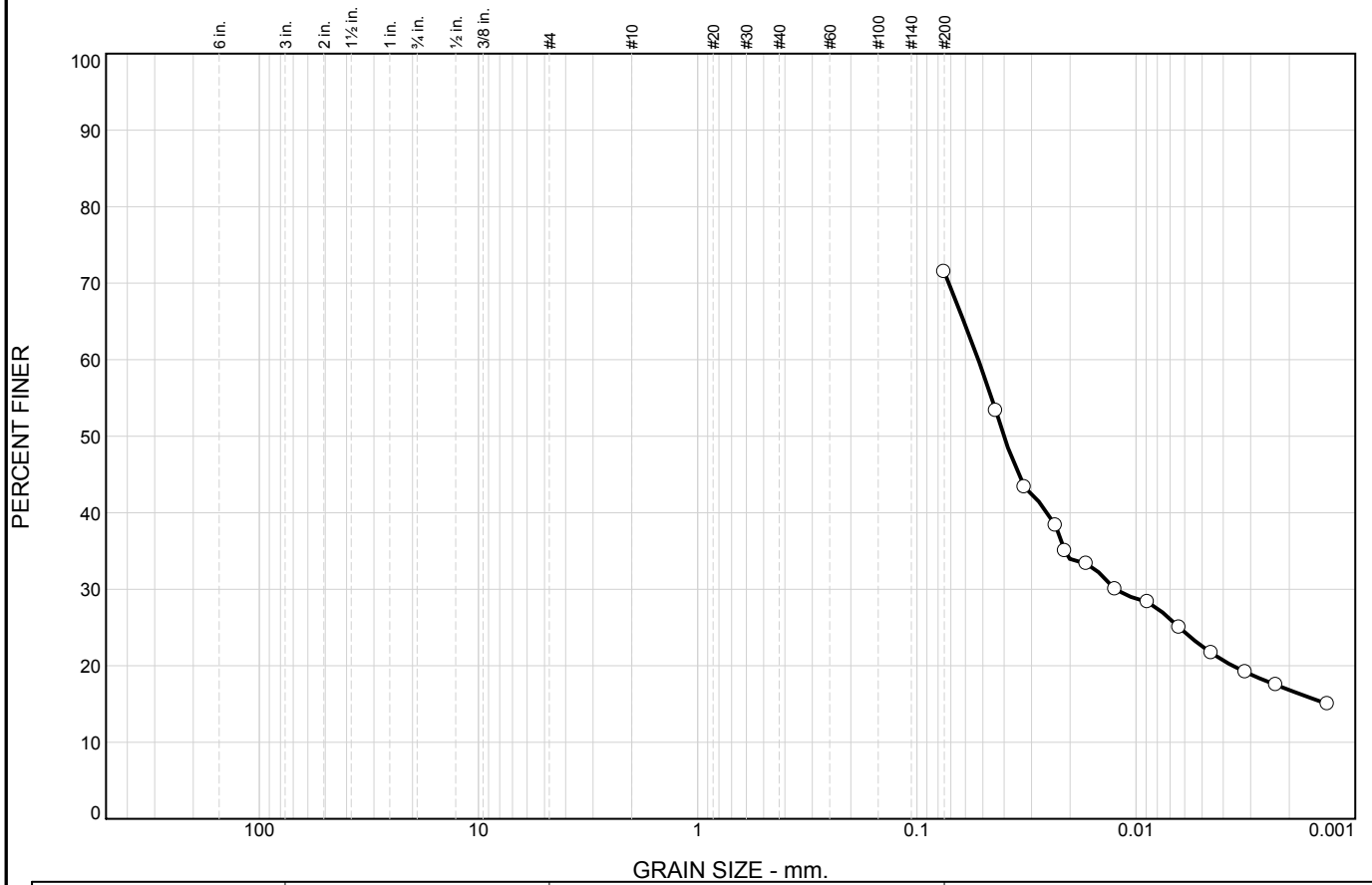
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.0654	0.0242	0.0152	0.0053	0.0016			

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 40.5' Sample Number: 5-B5 @ 40.5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



%	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○						49.0	22.5

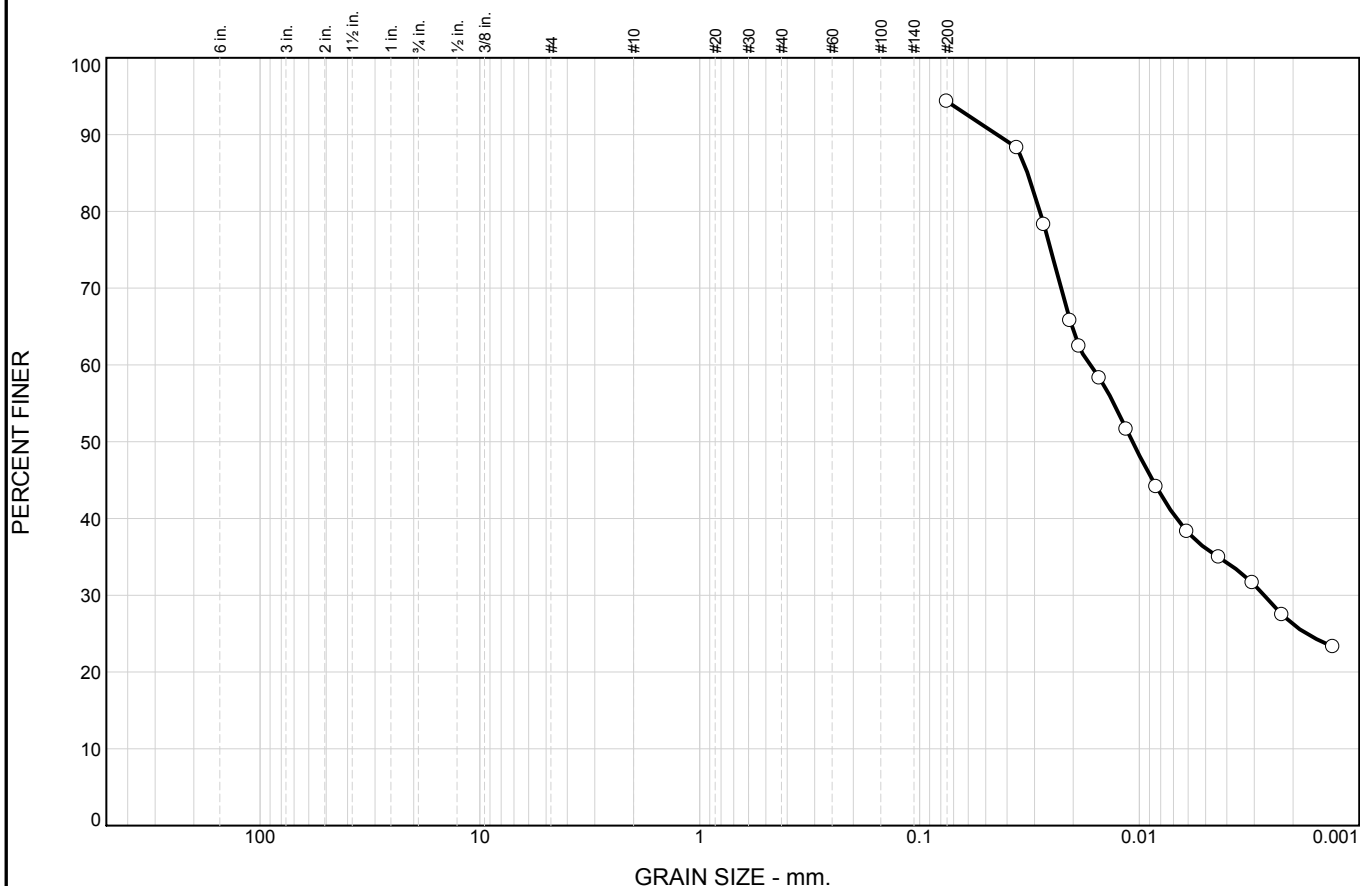
⊗	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○	31	24		0.0525	0.0400	0.0125	0.0013			

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 7.0' Sample Number: 5-B6 @ 7.0'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: KEL **Checked By:** MS

Particle Size Distribution Report



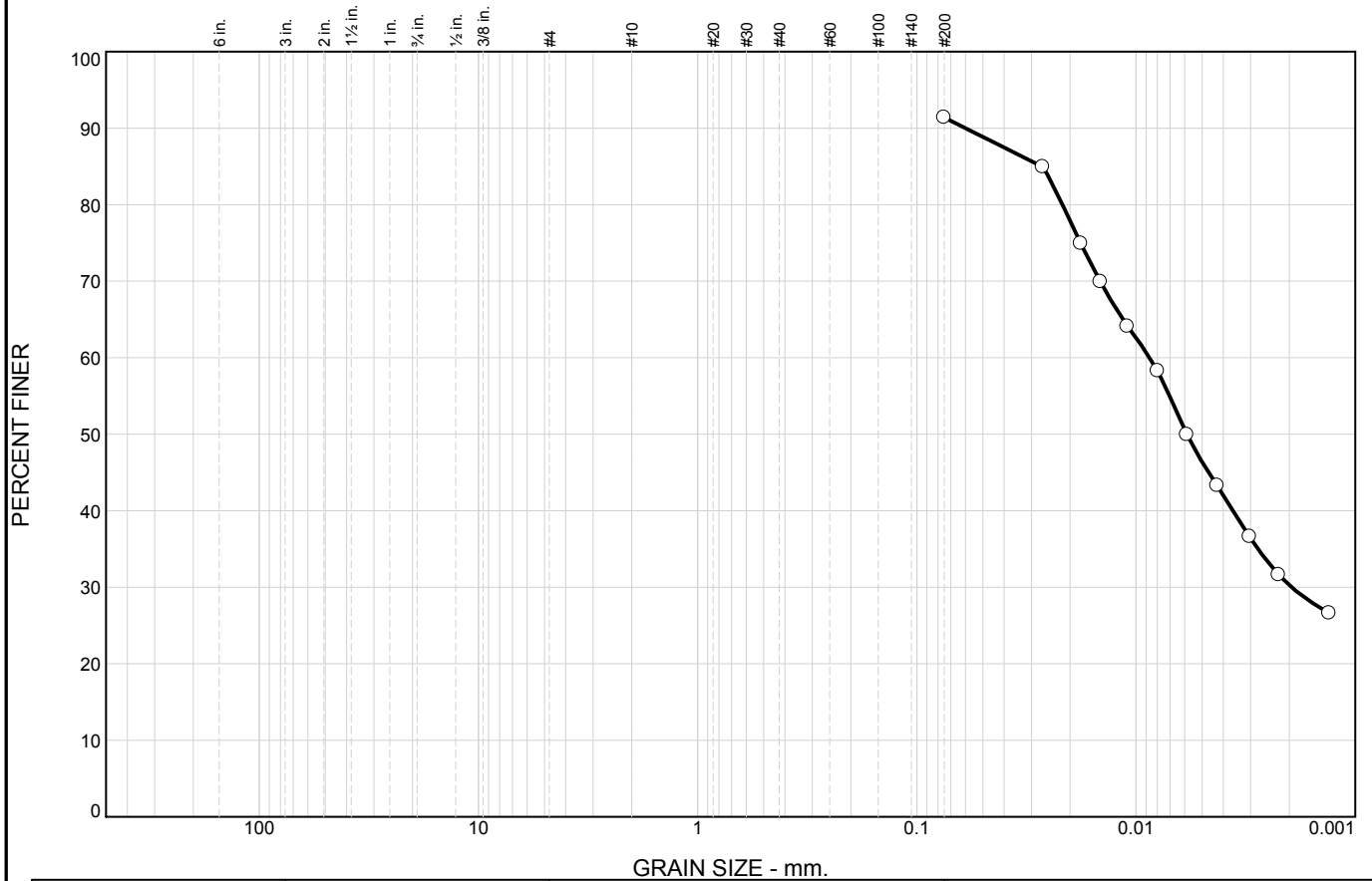
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							58.2	36.1		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>	37	21	0.0323	0.0168	0.0108	0.0027				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 50.0' Sample Number: 5-B6 @ 50.0'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: KEL **Checked By:** MS

Particle Size Distribution Report



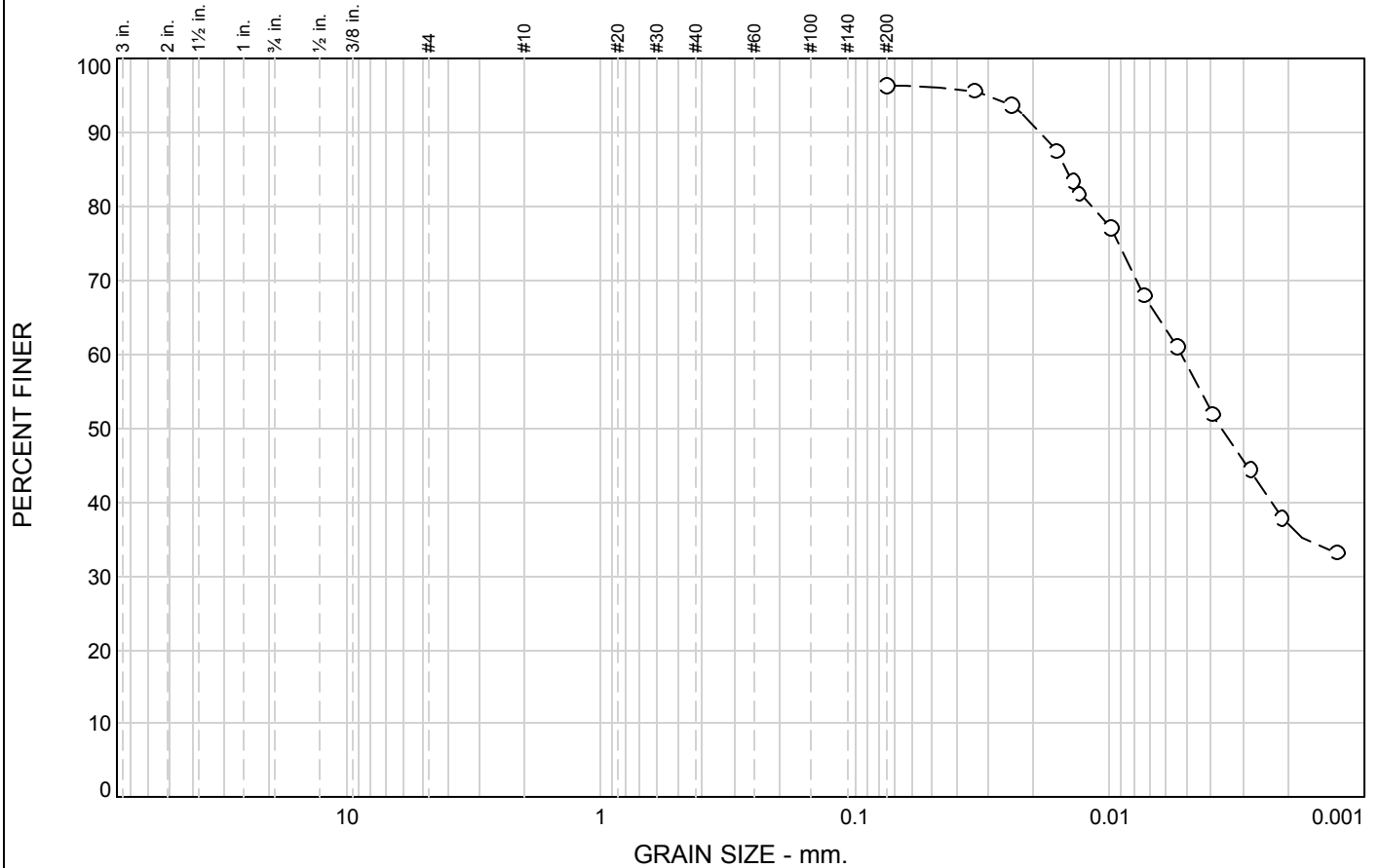
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							45.0	46.4		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>	46	21	0.0269	0.0086	0.0059	0.0020				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 15' Sample Number: 5-B7 @ 15'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						59.6	36.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	96.4		

Material Description

See Boring Logs

Atterberg Limits

PL= 24 LL= 50 PI= 26

Coefficients

D₈₅= 0.0148 D₆₀= 0.0052 D₅₀= 0.0037
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification

USCS= AASHTO=

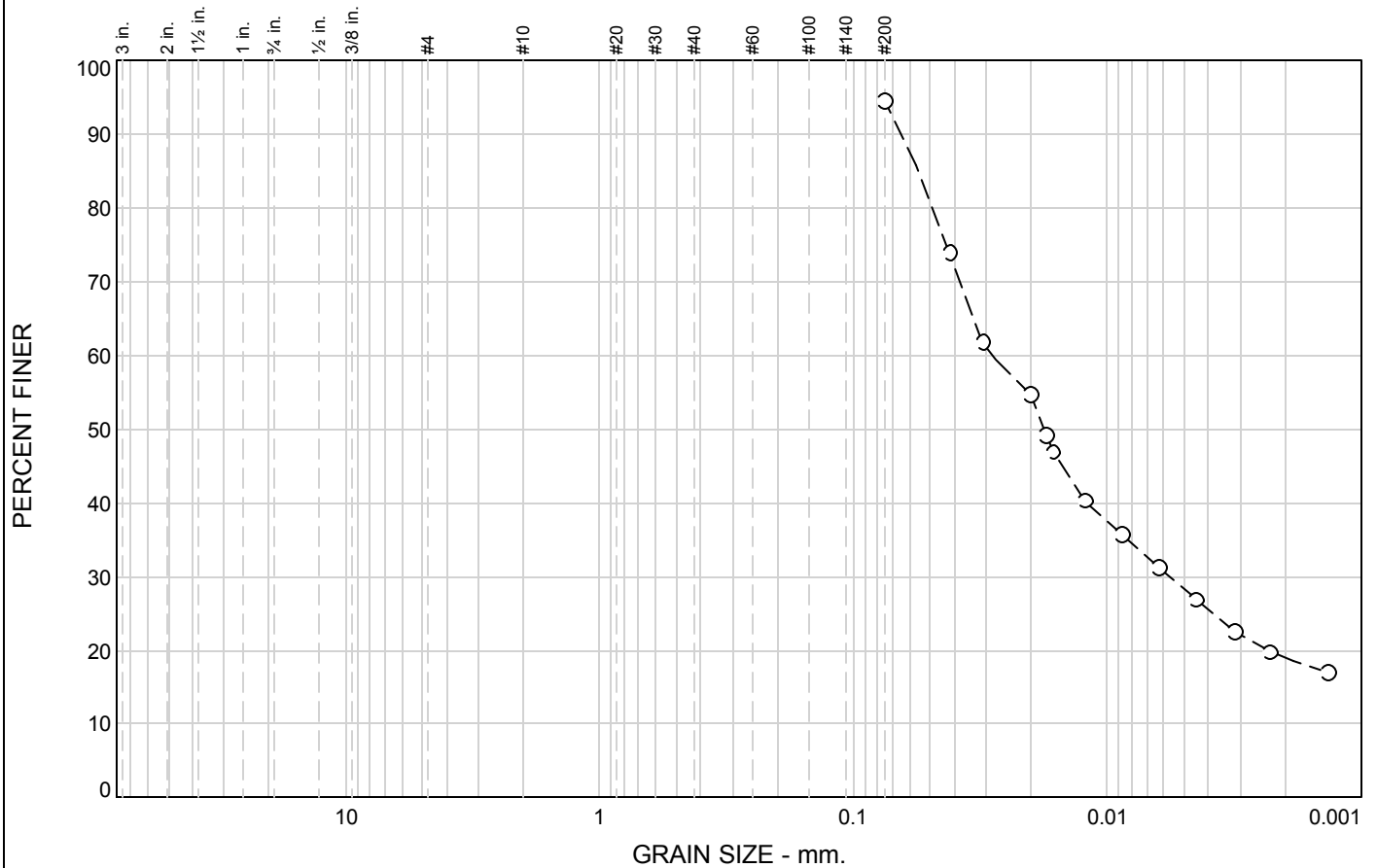
Remarks

* (no specification provided)

Sample Number: 5-B7 @ 24 **Depth:** 24.0 feet
Location: 5-B7

Date: 01/10/11

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						75.5	18.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	94.4		

* (no specification provided)

Material Description

See Boring Logs

Atterberg Limits

PL= 19 LL= 38 PI= 19

Coefficients

D₈₅= 0.0557 D₆₀= 0.0285 D₅₀= 0.0176
D₃₀= 0.0057 D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

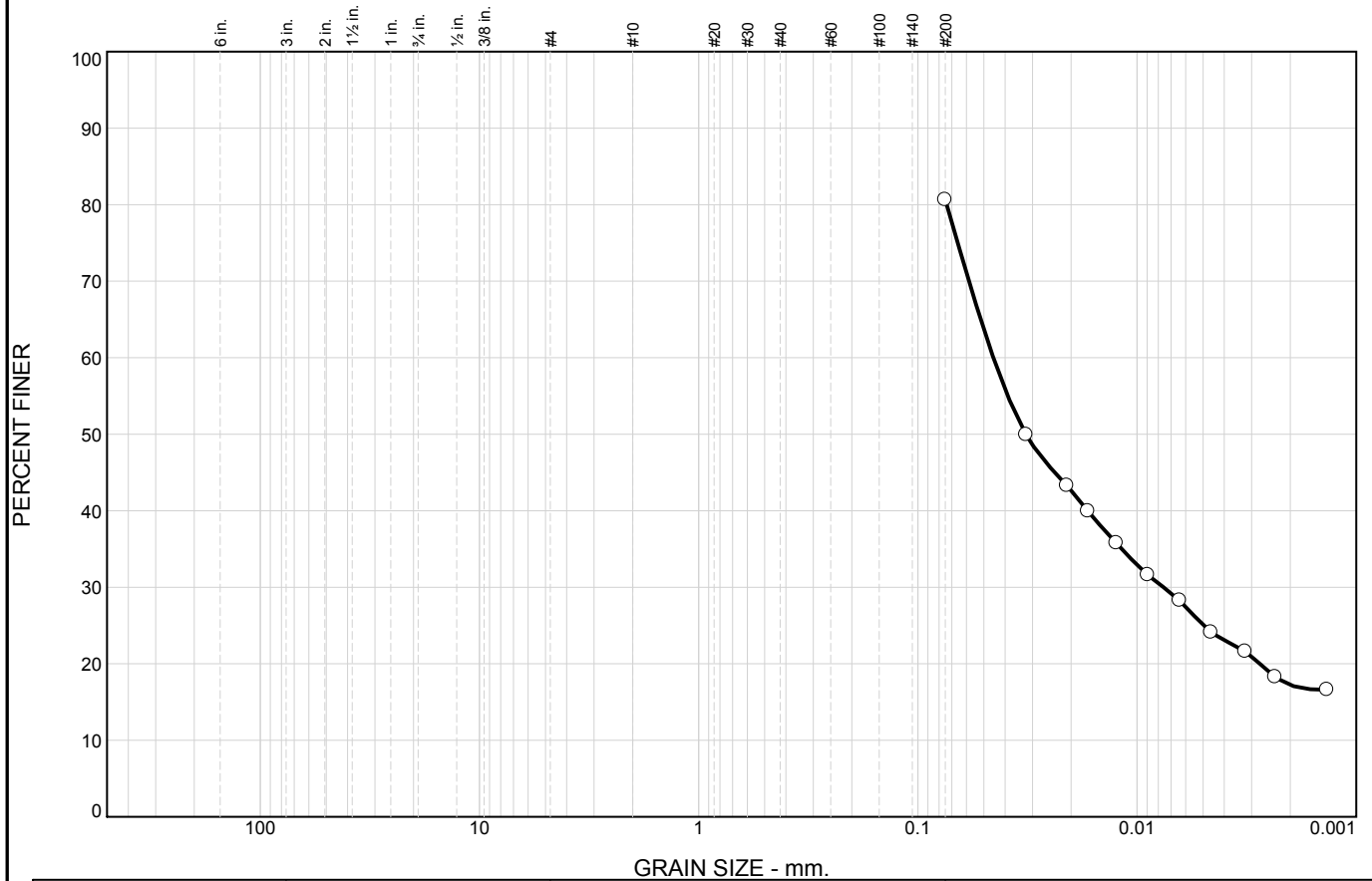
Remarks

Sample Number: 5-B7 @ 27
Location: 5-B7

Depth: 27.0 feet

Date: 01/14/11

Particle Size Distribution Report



GRAIN SIZE - mm.

%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							55.6	25.0

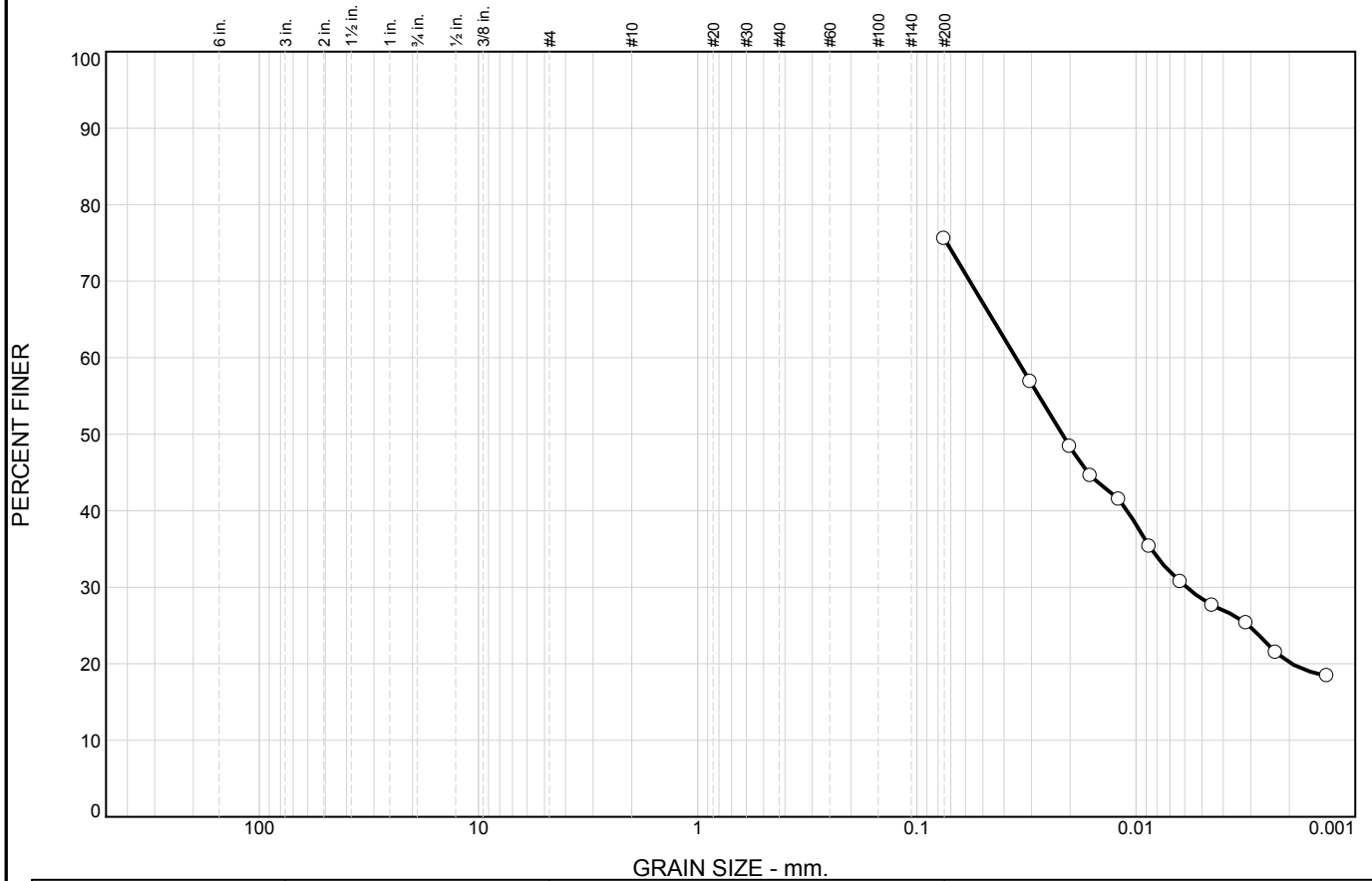
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
<input type="radio"/>	37	19		0.0452	0.0322	0.0076				

Material Description							USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs								

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 31.5' Sample Number: 5-B7 @ 31.5'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: center;">Figure</p>
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Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



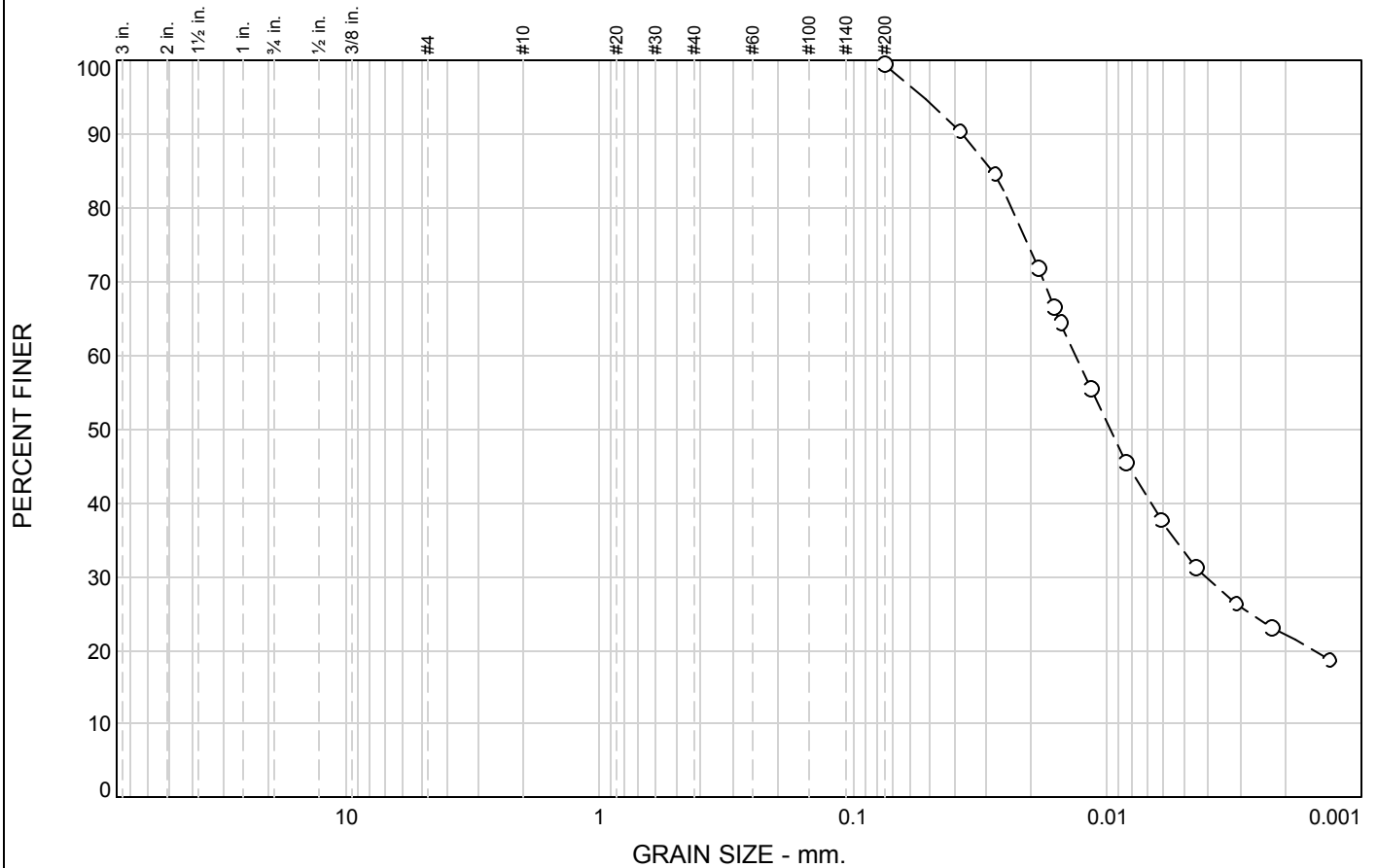
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							47.2	28.4		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>	36	18		0.0354	0.0217	0.0059				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 80.5' Sample Number: 5-B7 @ 80.5'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						77.3	22.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	99.4		

Material Description

See Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.0282 D₆₀= 0.0133 D₅₀= 0.0098
D₃₀= 0.0041 D₁₅= D₁₀=
C_u= C_c=

Classification

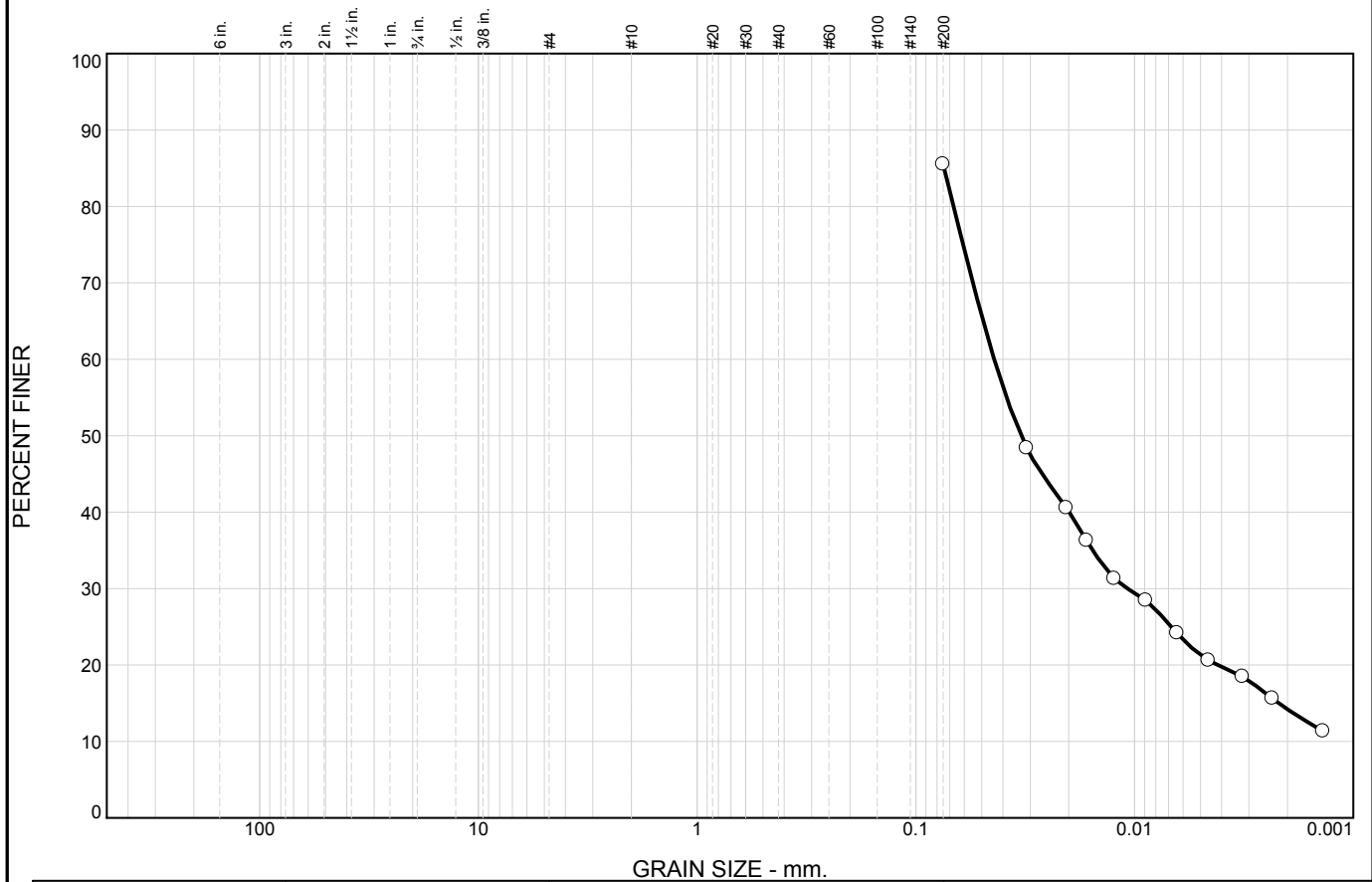
USCS= AASHTO=

Remarks

* (no specification provided)

Sample Number: 5-B8 @ 6 Depth: 6.0 ft. Date: 01/10/11
Location: 5-B8

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							64.2	21.3

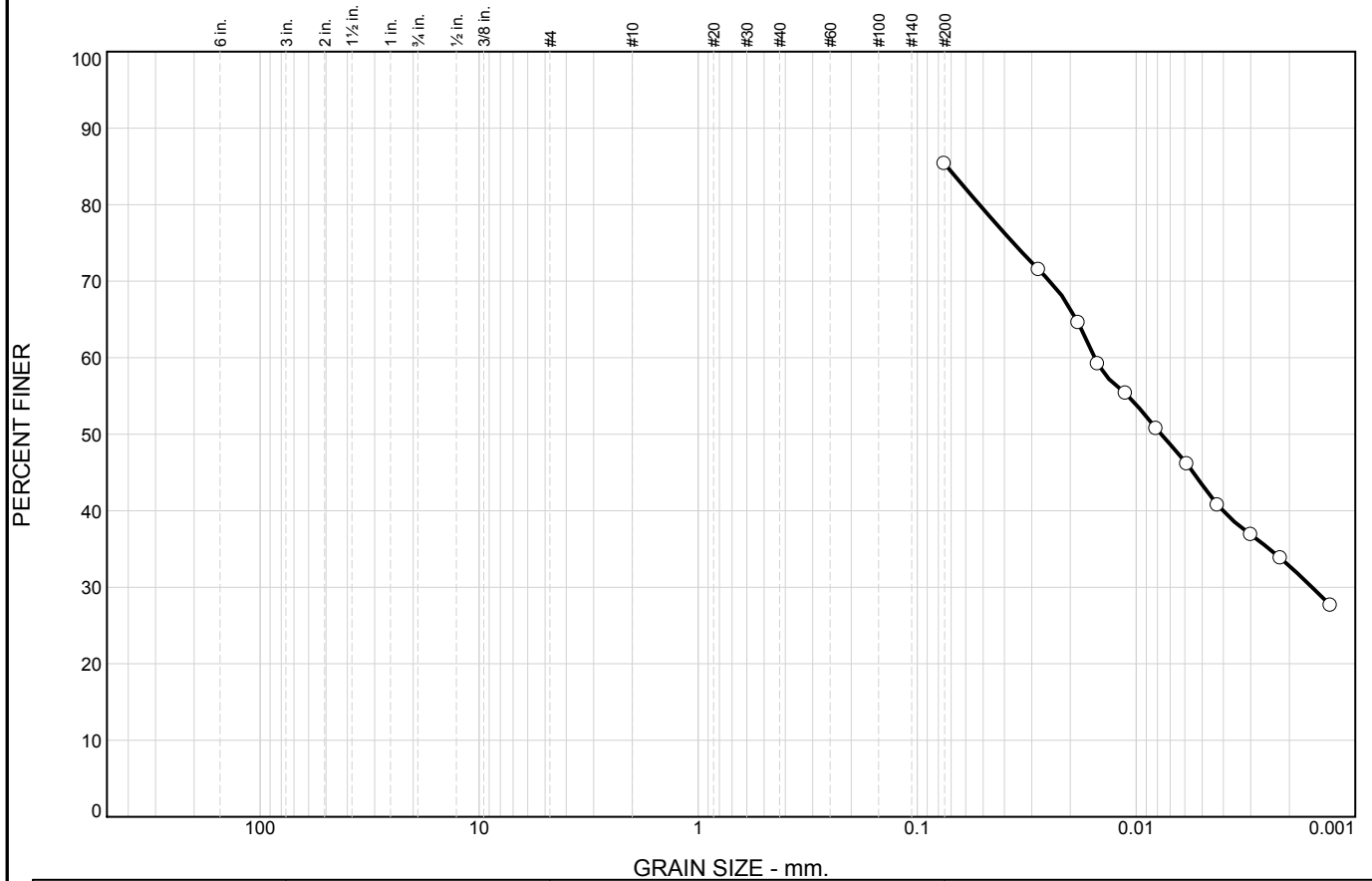
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.0743	0.0439	0.0330	0.0108	0.0022			

Material Description	USCS	AASHTO
○ See Exploration Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 15' Sample Number: 5-B8 @ 15'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



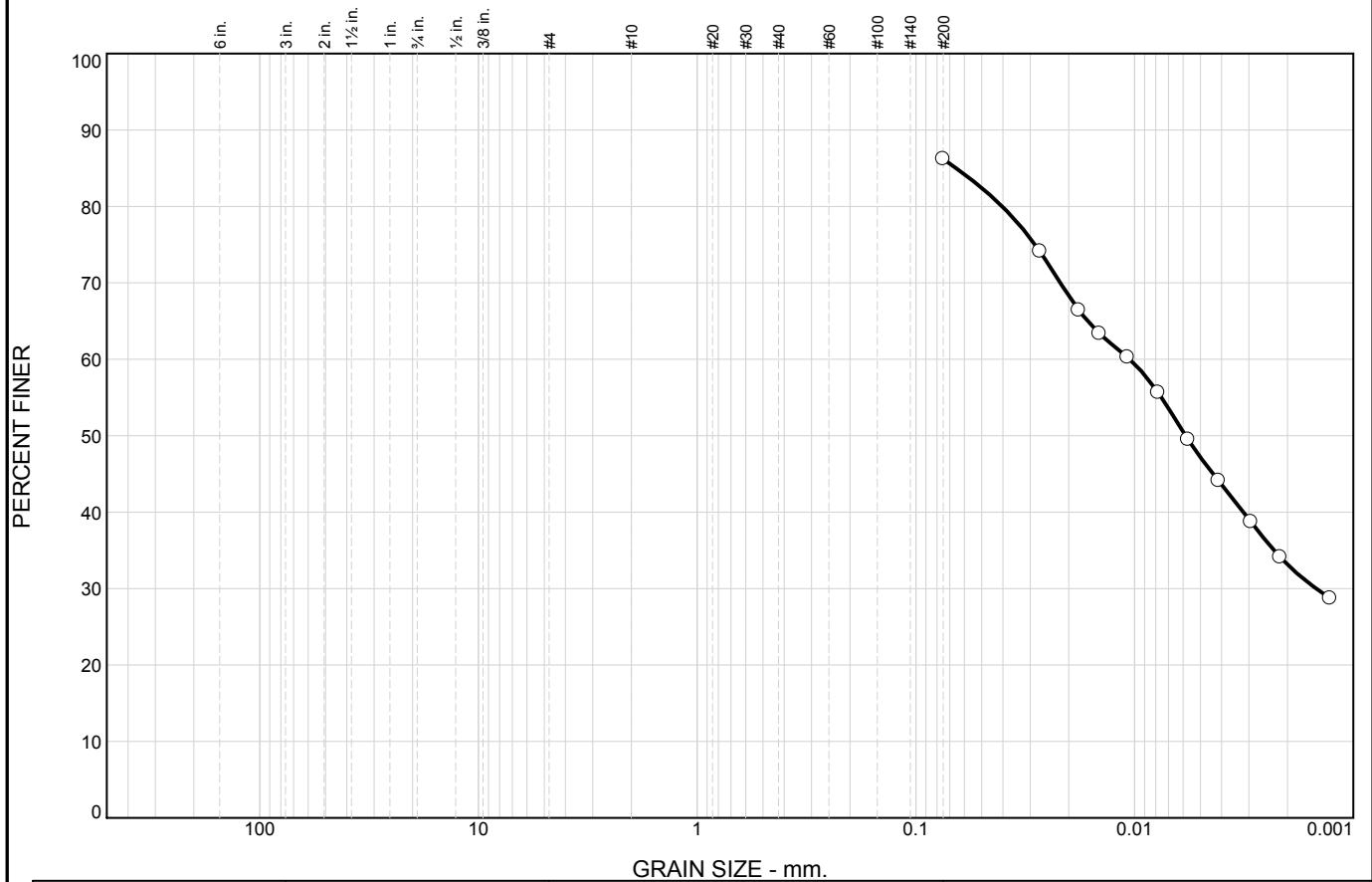
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							41.9	43.4		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.0733	0.0155	0.0077	0.0016				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 61' Sample Number: 5-B8 @ 61'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							39.0	47.2

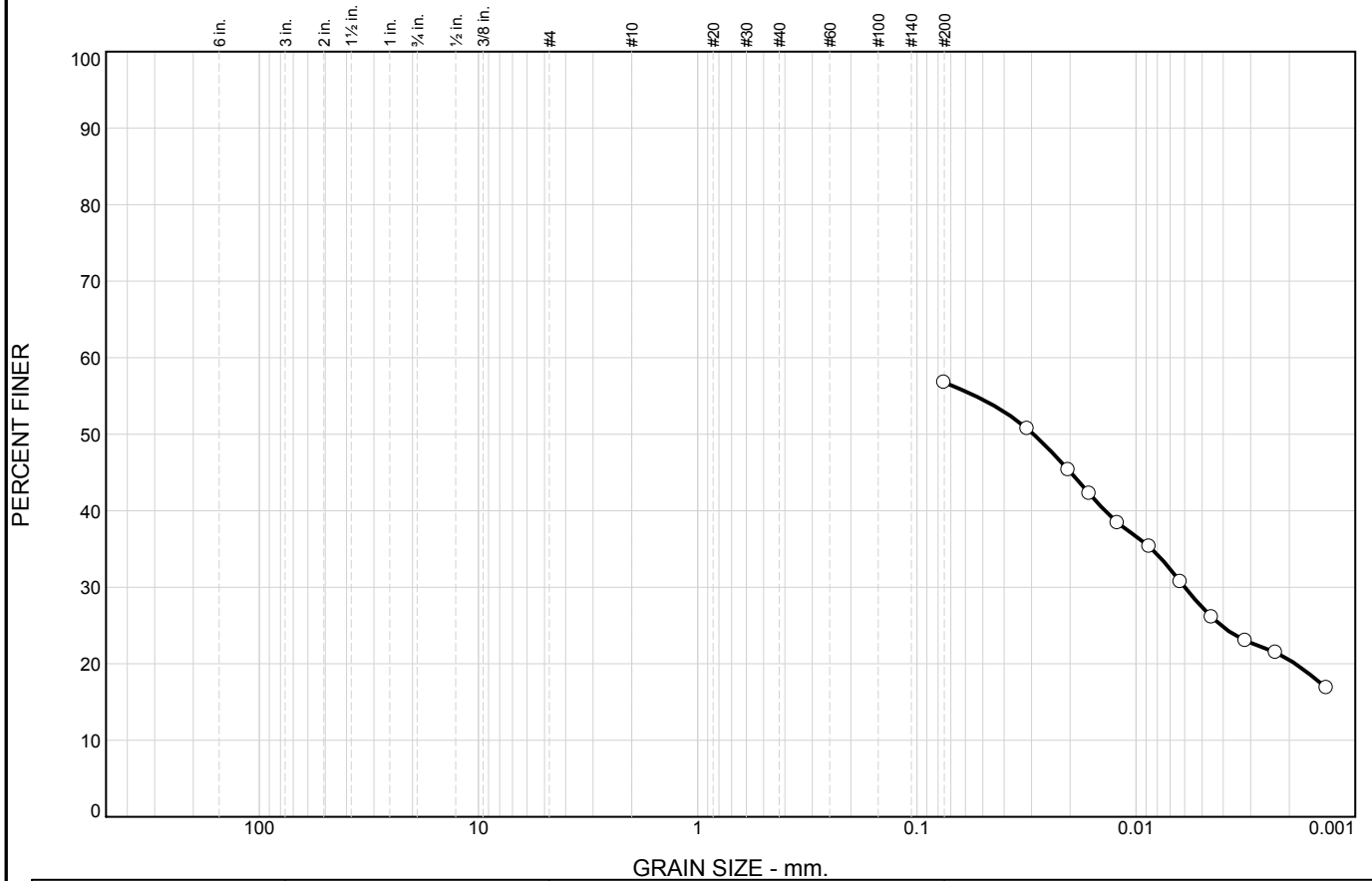
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input checked="" type="checkbox"/>	43	17	0.0654	0.0105	0.0058	0.0015				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 25' Sample Number: 5-B9 @ 25'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							29.4	27.4

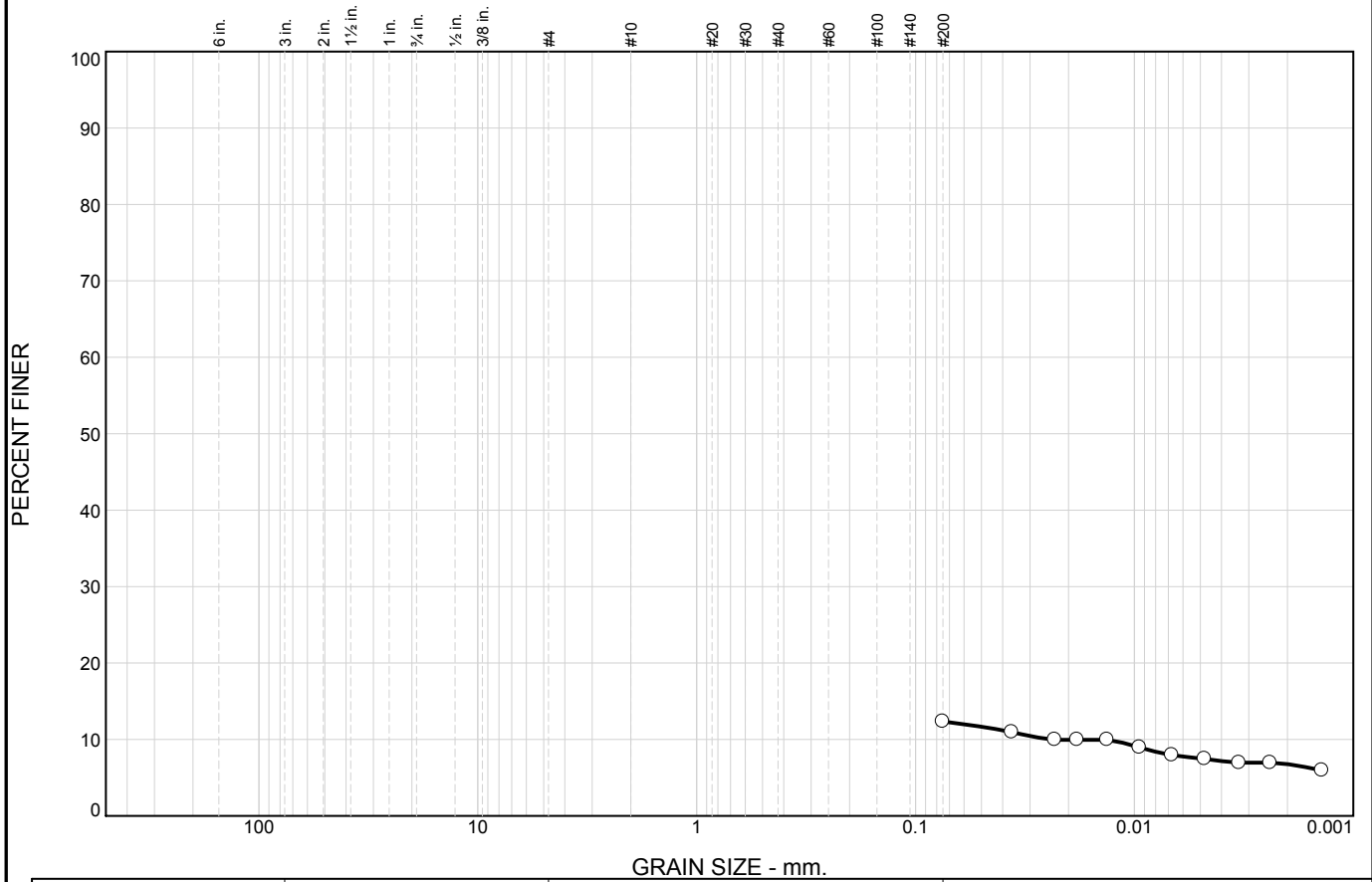
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input checked="" type="checkbox"/>					0.0294	0.0060				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 1' Sample Number: 5-B11 @ 1'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



%	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○						4.8	7.5

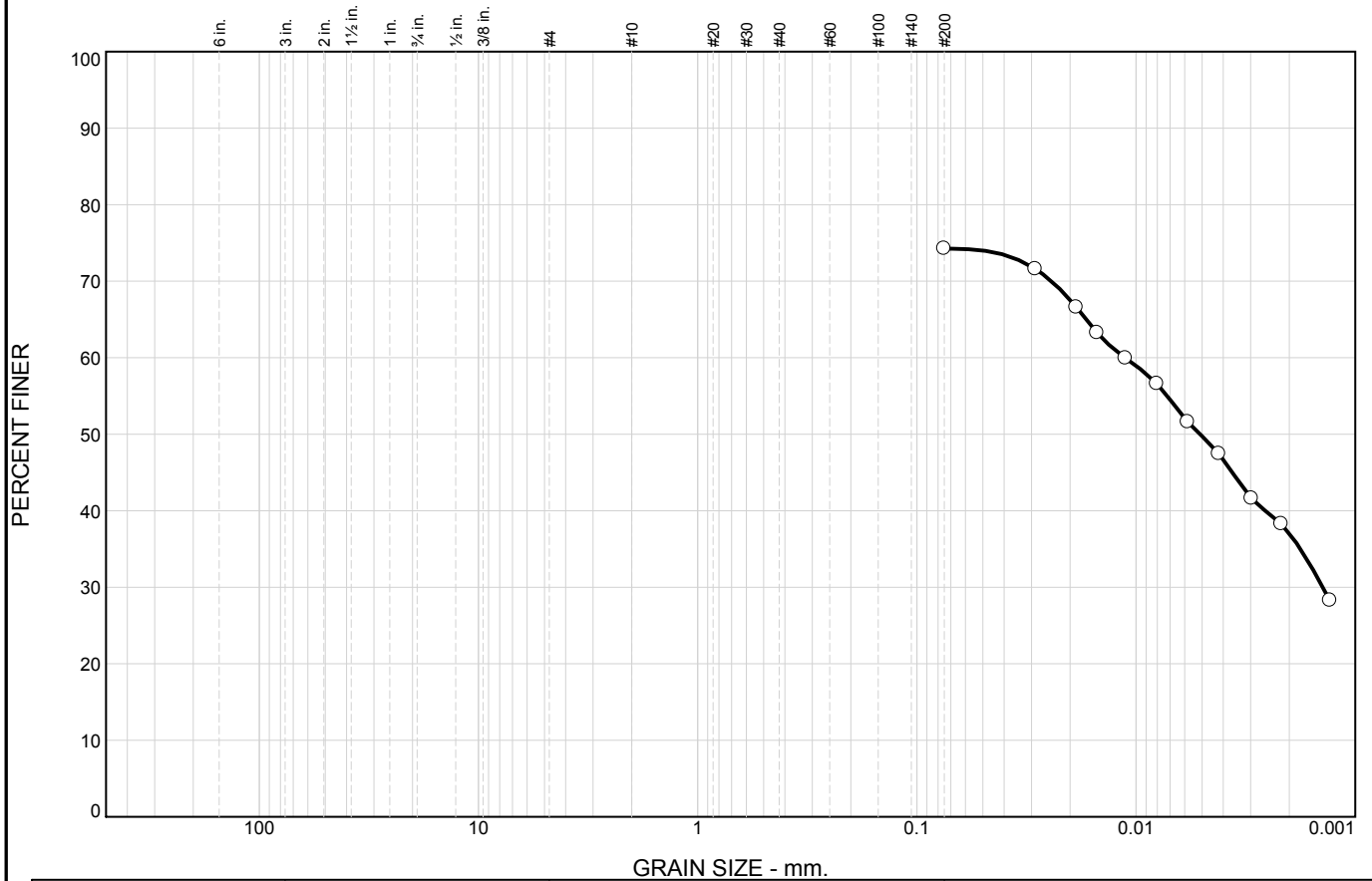
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○							0.0240		

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 3' Sample Number: 5-B11 @ 3'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



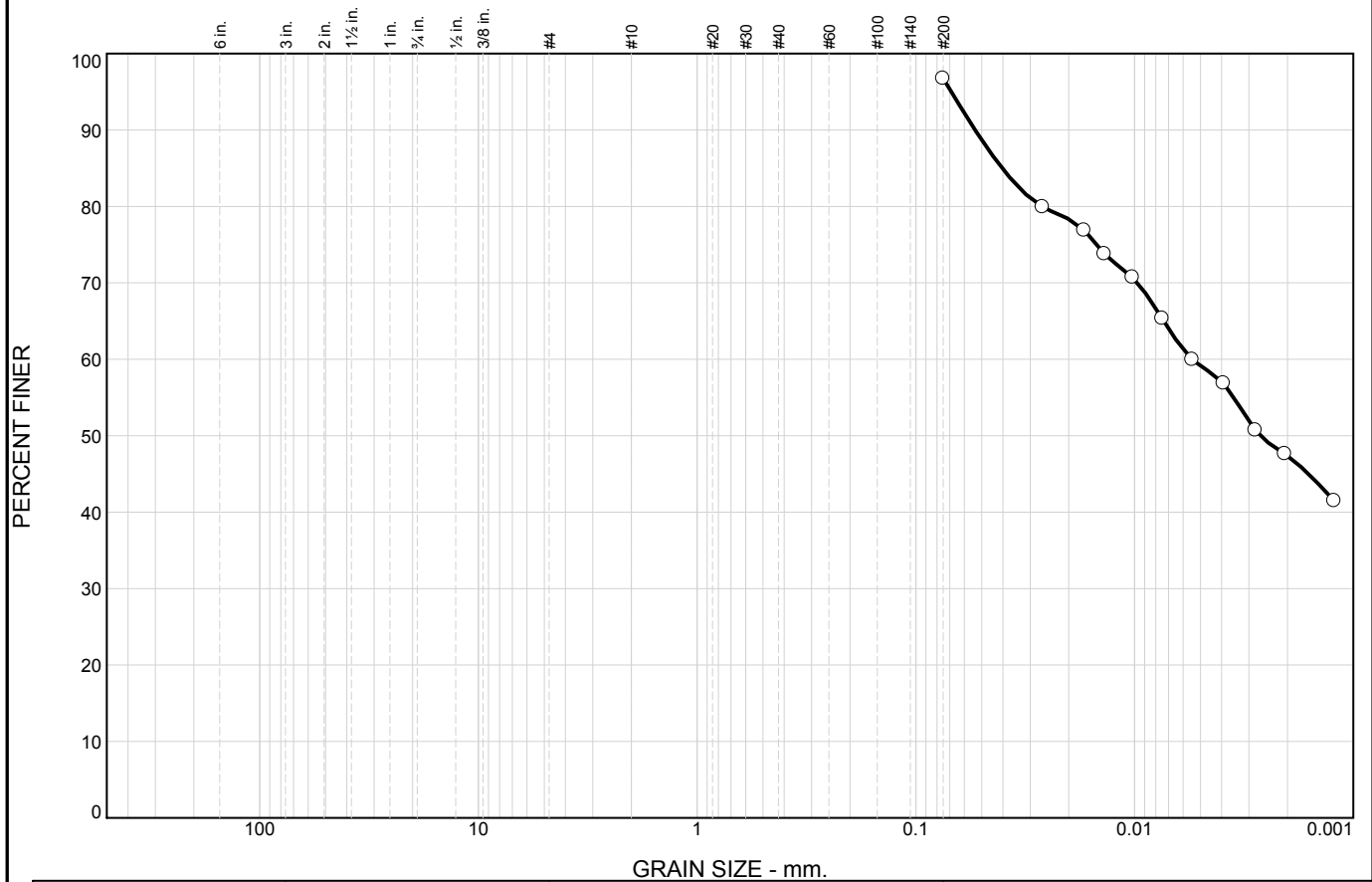
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							24.5	49.7		
<input type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>				0.0113	0.0051	0.0014				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 17' Sample Number: 5-B11 @ 17'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							37.6	59.1

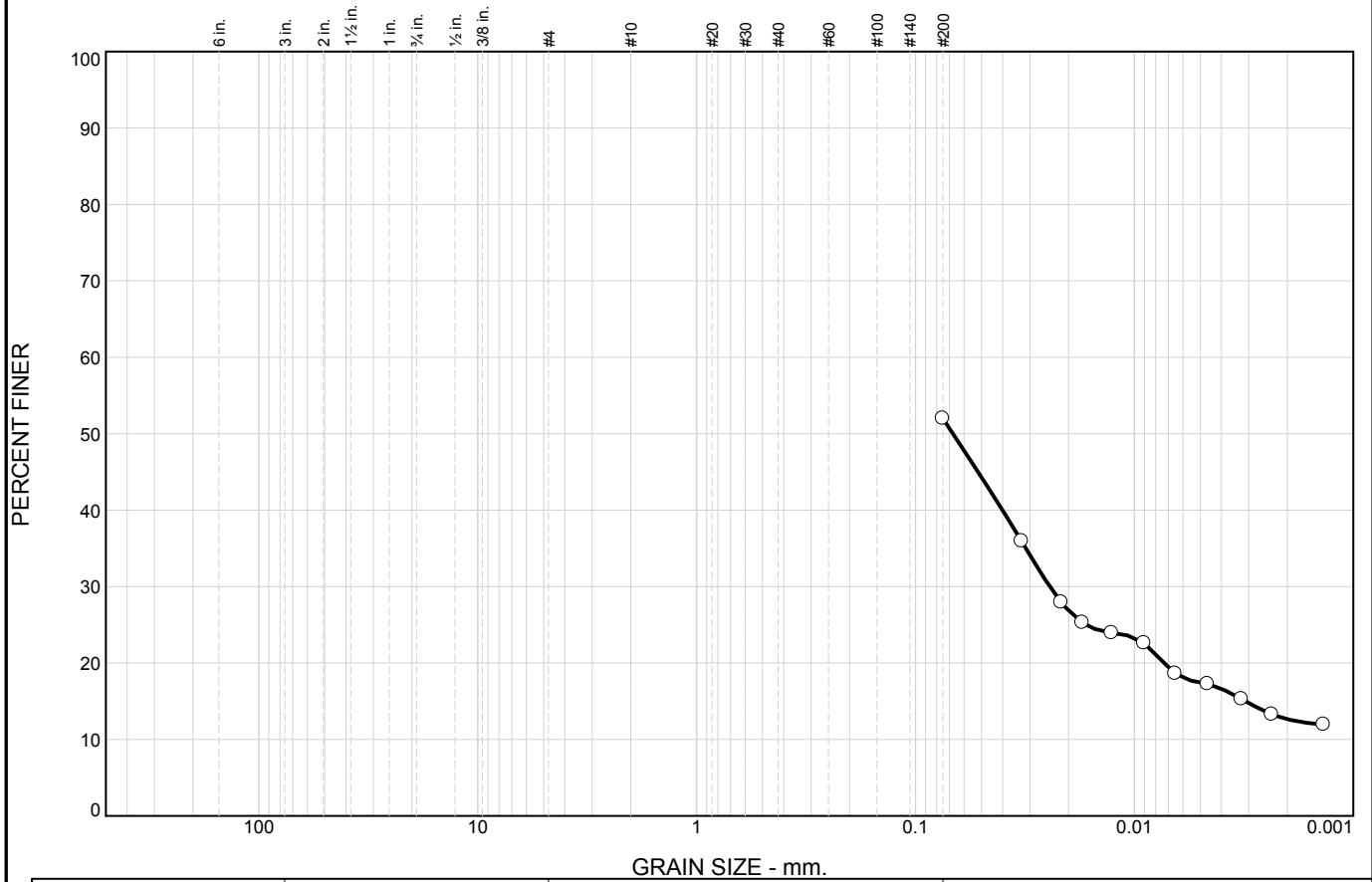
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input checked="" type="checkbox"/>			0.0403	0.0055	0.0027					

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 46' Sample Number: 5-B11 @ 46'	Remarks: <div style="text-align: right; margin-top: 20px;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



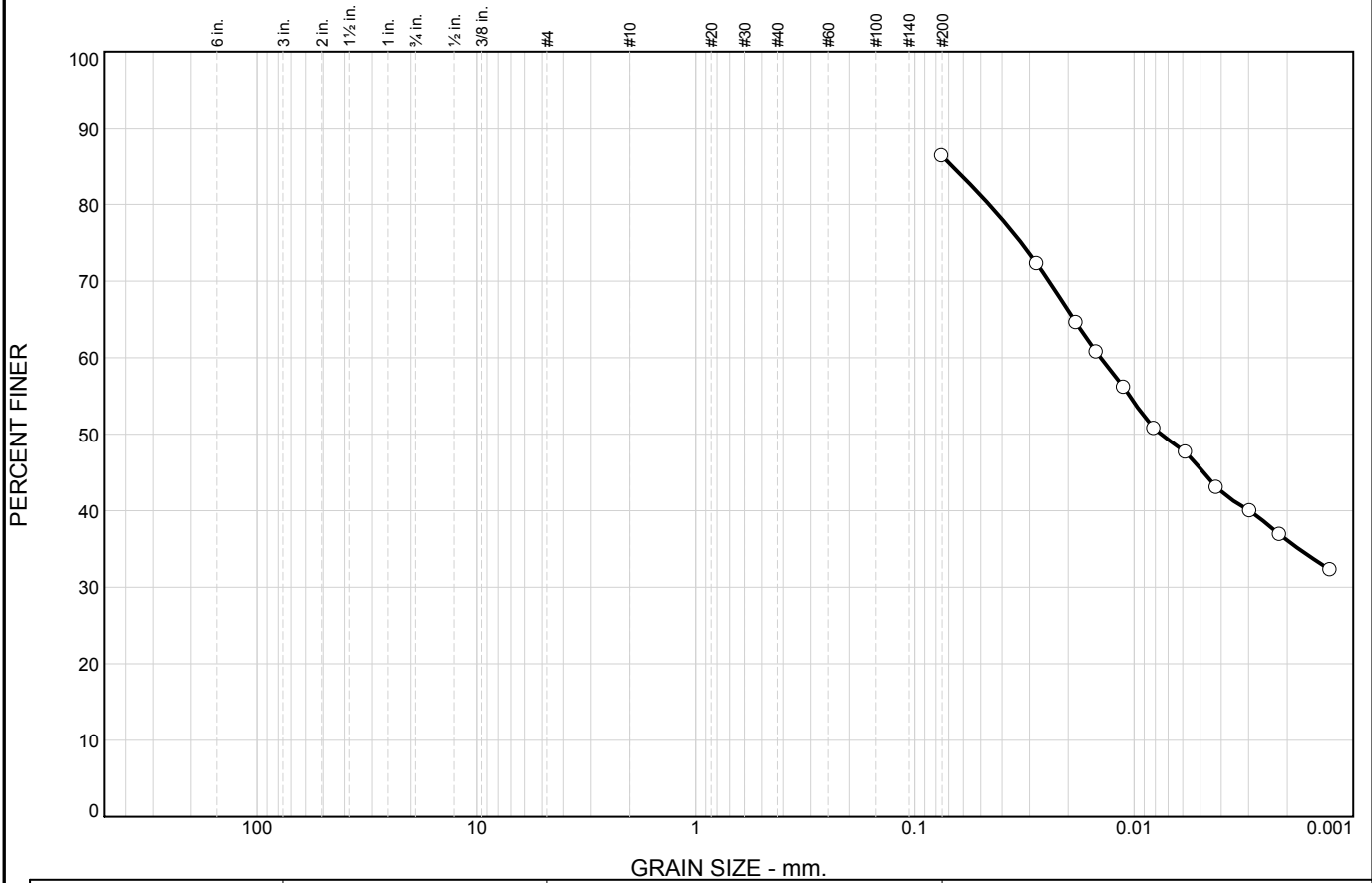
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							34.5	17.5		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>	NV	NP			0.0675	0.0244	0.0031			

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 50' Sample Number: 5-B12 @ 50'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>							40.8	45.5		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>	42	16	0.0674	0.0142	0.0076					

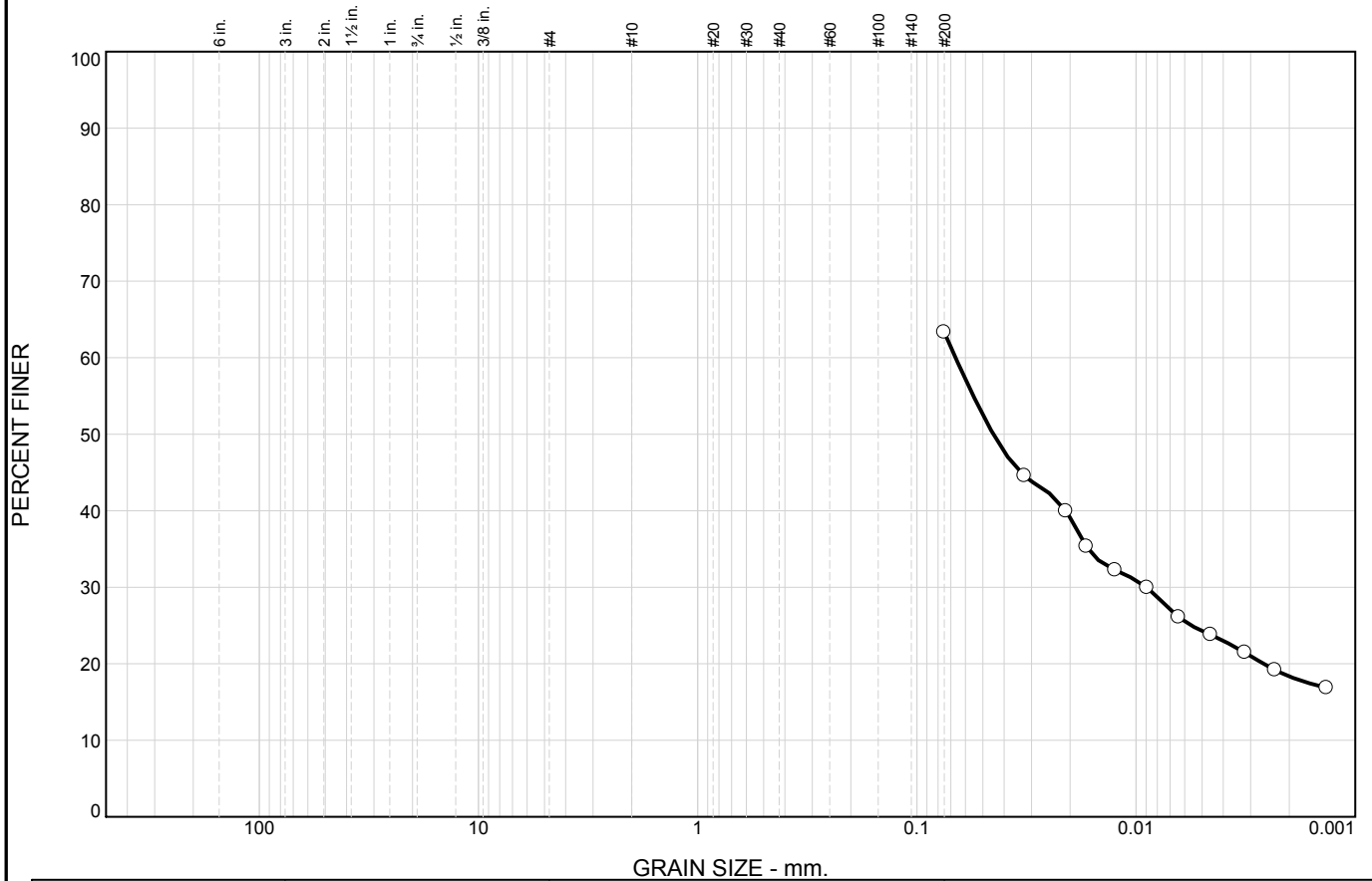
Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 55' Sample Number: 5-B12 @ 55'	Remarks:
--	-----------------------------

ENGEO, Inc. Ripon, California	Figure
--	---------------

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



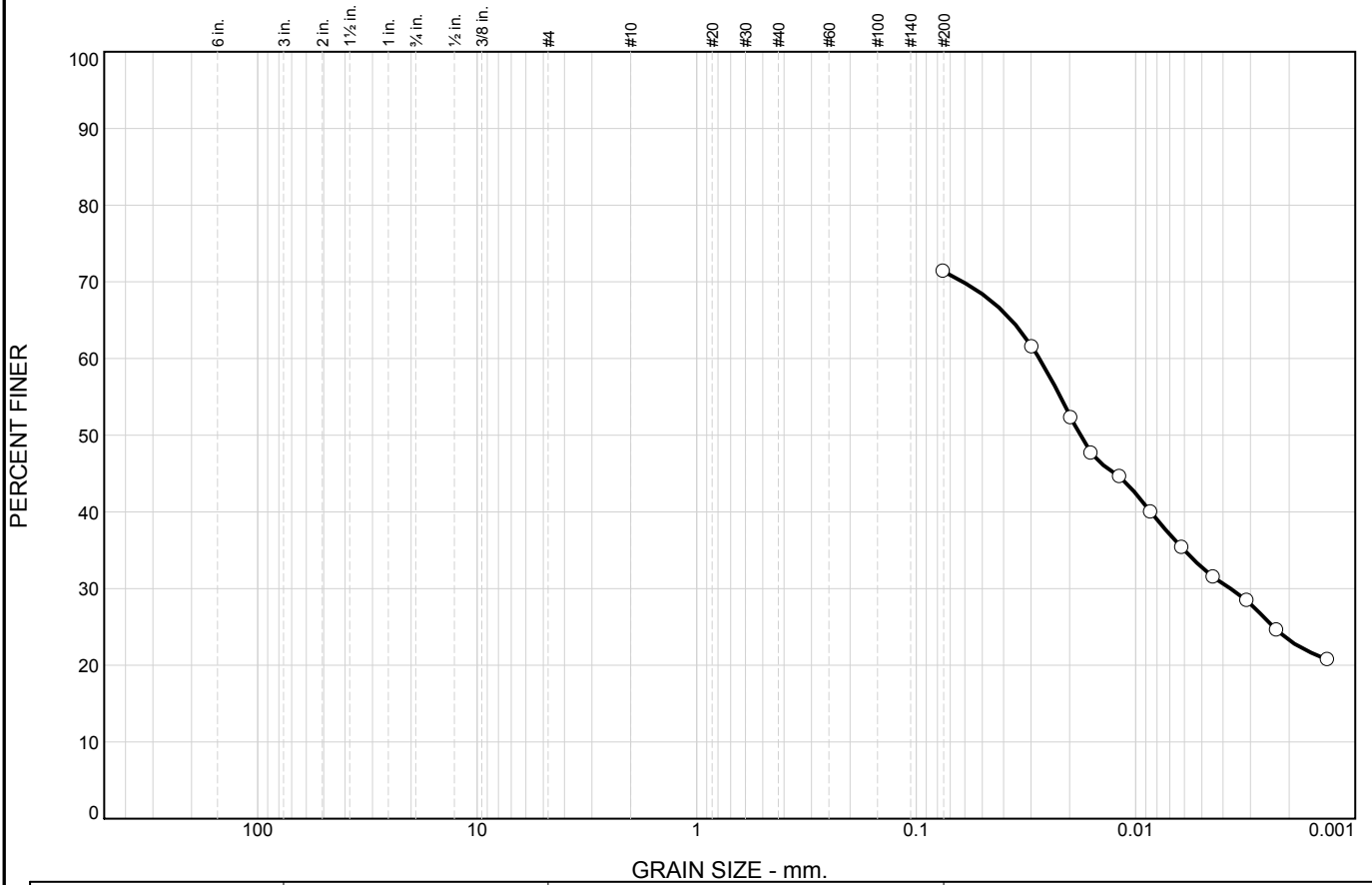
	% +3"		% Gravel		% Sand			% Fines		
	Coarse	Fine	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
<input type="radio"/>								39.0	24.3	
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>	30	20		0.0666	0.0448	0.0090				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 60' Sample Number: 5-B12 @ 60'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							38.6	32.7

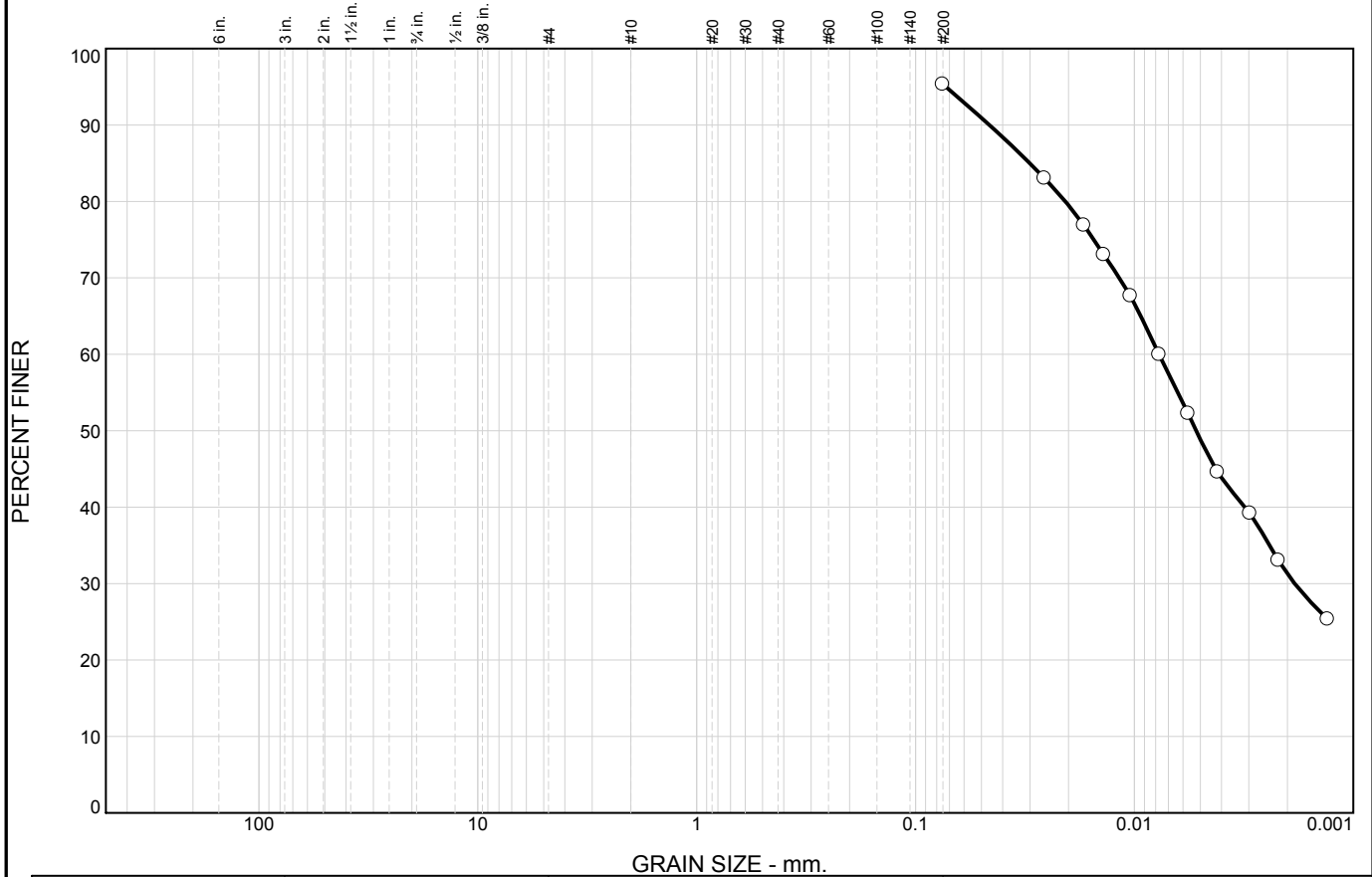
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input checked="" type="radio"/>	34	18		0.0275	0.0179	0.0037				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 1'-1.5' Sample Number: 5-CPT1 @ 1'-1.5'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



○	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							46.4	48.9

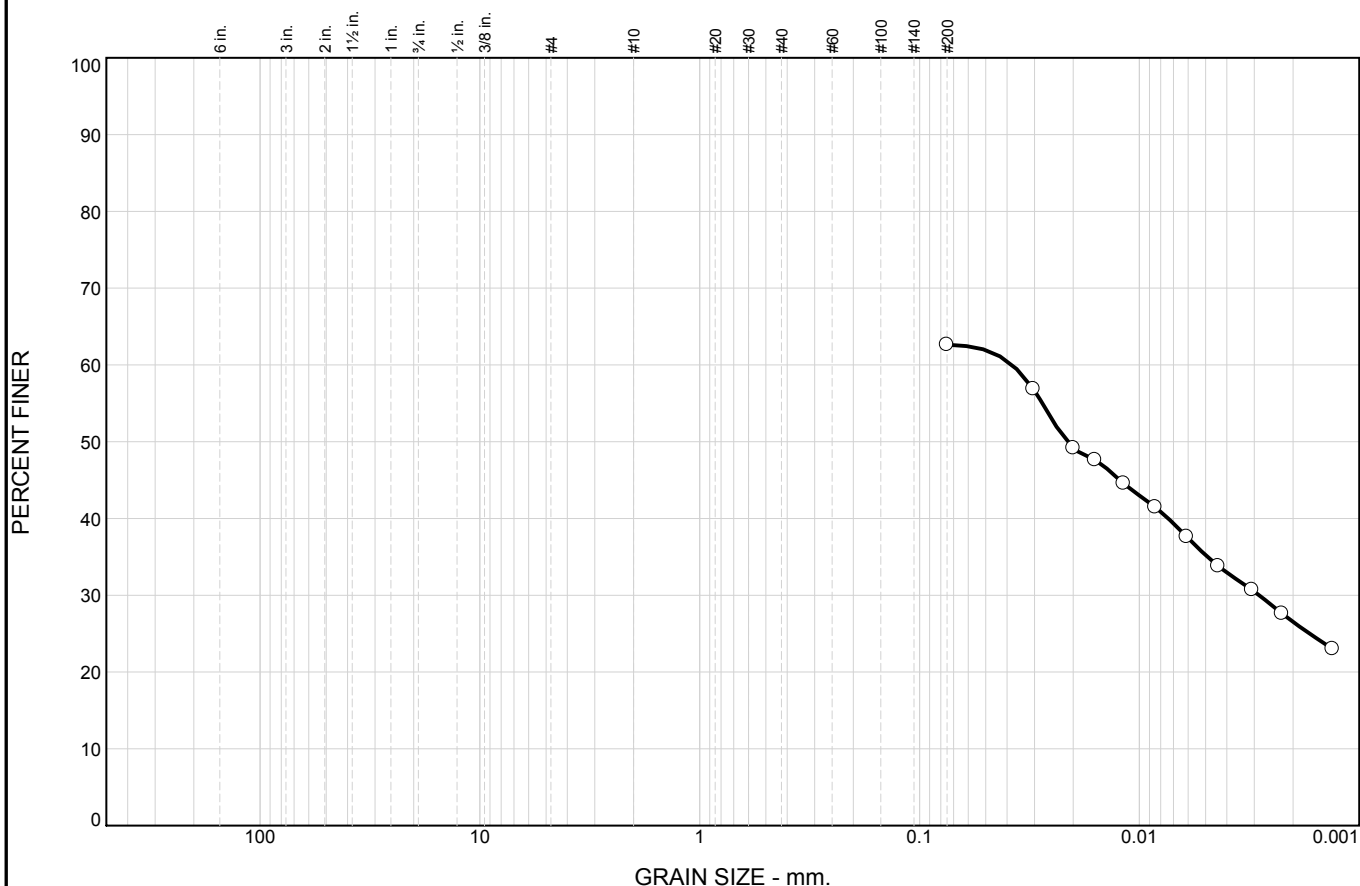
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
	○	59	29	0.0301	0.0077	0.0052	0.0019			

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 3.5'-4' Sample Number: 5-CPT1 @ 3.5'-4'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>							27.4	35.2

	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input checked="" type="checkbox"/>	43	14		0.0379	0.0213	0.0029				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 4'-4.5' Sample Number: 5-CPT1 @ 4'-4.5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	18.8	39.1	42.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	99.7		
#10	99.6		
#16	99.1		
#20	98.7		
#30	98.1		
#40	96.7		
#50	93.7		
#100	85.0		
#200	81.2		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.150 D₆₀= 0.0159 D₅₀= 0.0080
D₃₀= 0.0020 D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

See Exploratory Boring Logs

* (no specification provided)

Sample No.: 3-B8 @ 1'
Location:

Source of Sample:

Date: 03-09-09
Elev./Depth: 1'

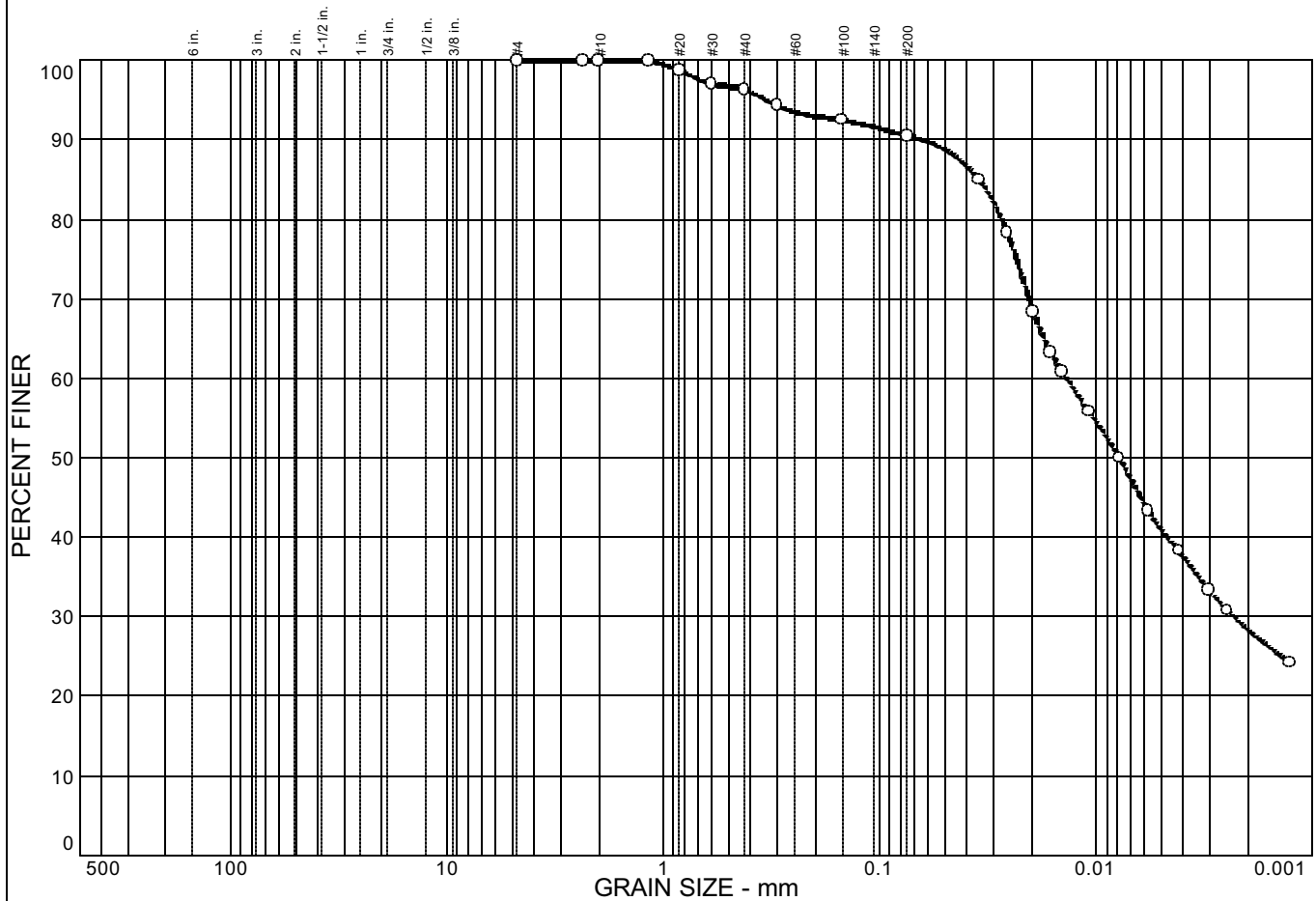


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	9.5	49.6	40.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	98.8		
#30	97.0		
#40	96.3		
#50	94.3		
#100	92.5		
#200	90.5		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.0351 D₆₀= 0.0138 D₅₀= 0.0079
D₃₀= 0.0023 D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 3-B9 @ 1'
Location:

Source of Sample:

Date: 03-12-09
Elev./Depth: 1'



Client:
Project: RD-17 Levee Seepage Project

Project No: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	33.0	39.2	27.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#20	100.0		
#30	99.9		
#40	99.9		
#50	99.8		
#100	91.5		
#200	67.0		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.121 D₆₀= 0.0613 D₅₀= 0.0425
D₃₀= 0.0062 D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 3-B11 @ 1'
Location:

Source of Sample:

Date: 03-12-09
Elev./Depth: 1'

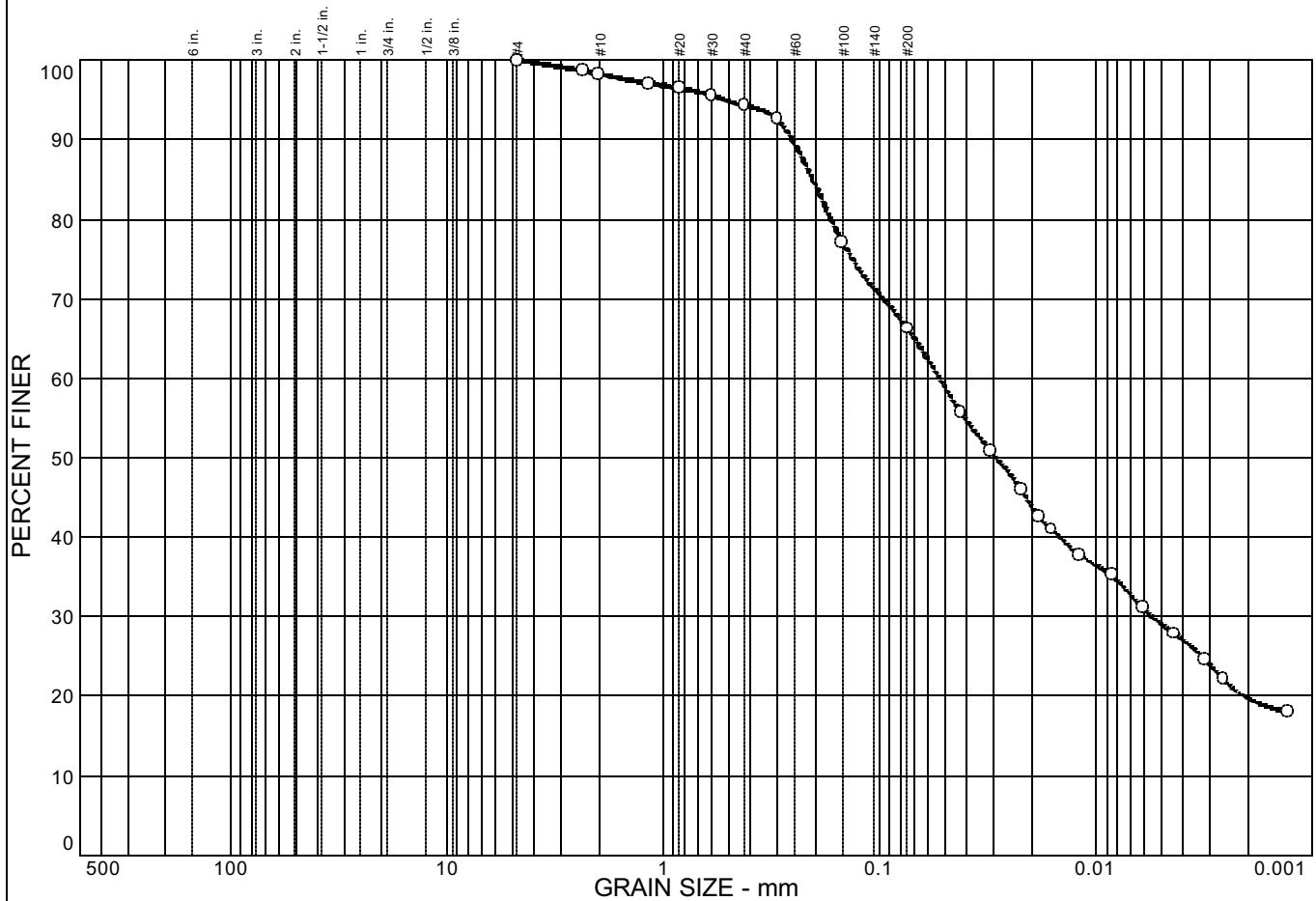


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	33.7	37.3	29.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#8	98.7		
#10	98.3		
#16	97.1		
#20	96.5		
#30	95.6		
#40	94.3		
#50	92.6		
#100	77.1		
#200	66.3		

Soil Description

See Exploratory Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.206 D₆₀= 0.0534 D₅₀= 0.0291

D₃₀= 0.0055 D₁₅= D₁₀=

C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 3-B12 @ 5'
Location:

Source of Sample:

Date: 03-12-09
Elev./Depth: 5'

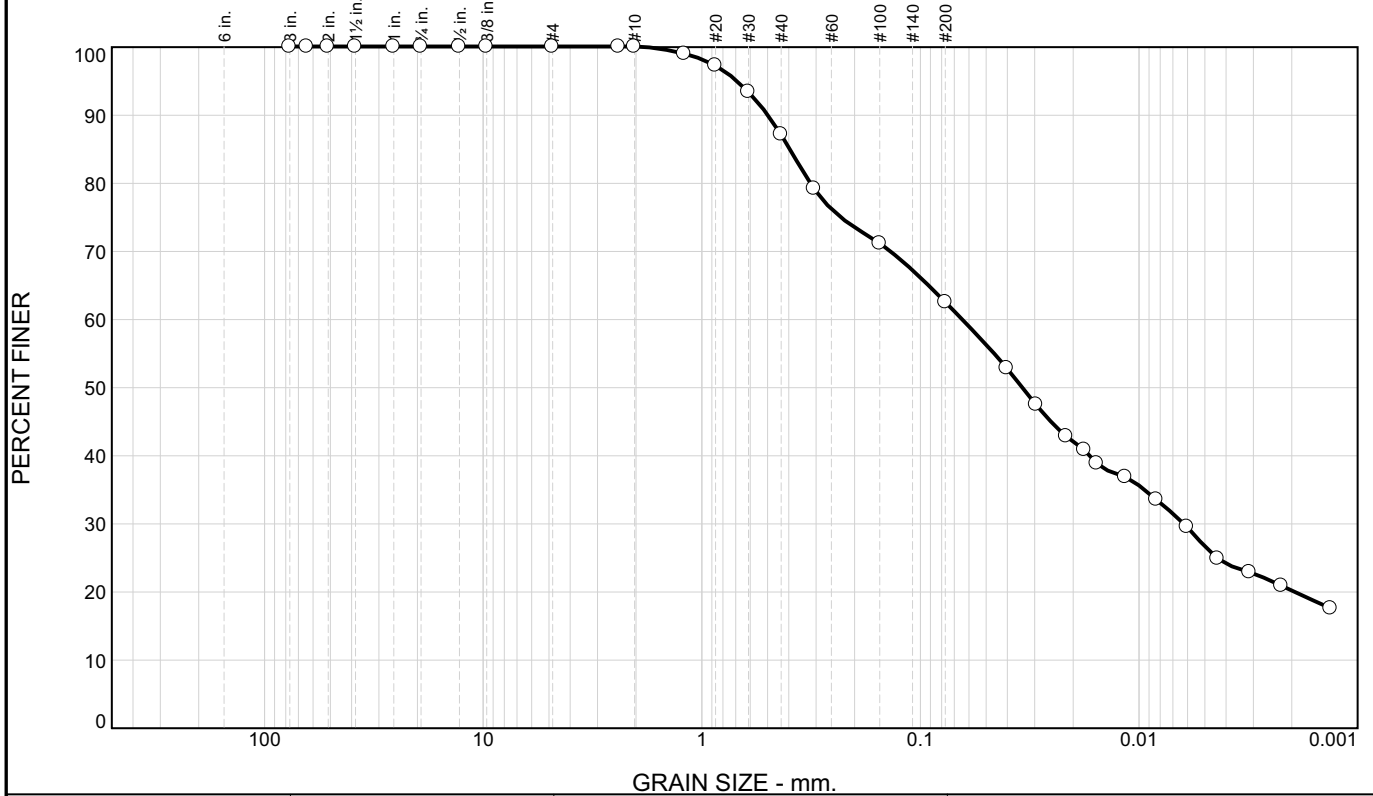


Client:
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Plate

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	12.9	24.7	35.5	26.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
2.5	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
3/8	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	98.9		
#20	97.2		
#30	93.3		
#40	87.1		
#50	79.1		
#100	71.0		
#200	62.4		

Material Description

See Exploratory Boring Logs

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS= AASHTO=

Coefficients

D₈₅= 0.3886 D₆₀= 0.0634 D₅₀= 0.0336
D₃₀= 0.0061 D₁₅= D₁₀=
C_u= C_c=

Date Tested: 11-13-09 **Tested By:** KEL

Remarks

* (no specification provided)

Sample No.: 4-B4 @ 6' **Source of Sample:**
Location:
Checked By: ZAC

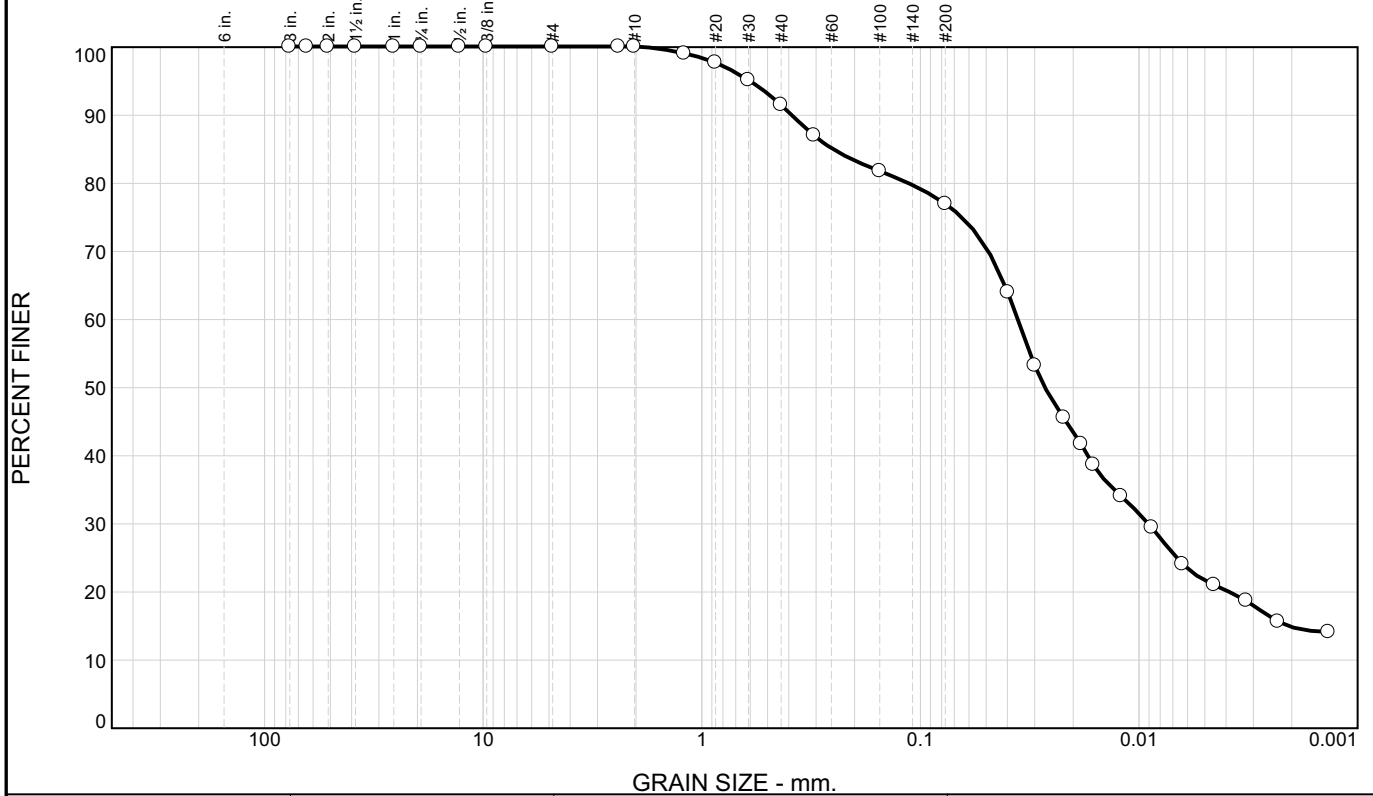
Date Sampled: 11-13-09
Elev./Depth: 6'

Title:

<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Project No: 5747.000.000 (001)</p>
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Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	8.6	14.6	55.1	21.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0		
2.5	100.0		
2	100.0		
1.5	100.0		
1	100.0		
.75	100.0		
.5	100.0		
3/8	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	99.0		
#20	97.6		
#30	95.1		
#40	91.4		
#50	86.9		
#100	81.7		
#200	76.8		

Material Description

See Exploratory Boring Logs

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS= AASHTO=

Coefficients

D₈₅= 0.2483 D₆₀= 0.0350 D₅₀= 0.0264
D₃₀= 0.0089 D₁₅= 0.0021 D₁₀=
C_u= C_c=

Date Tested: Tested By:

Remarks

* (no specification provided)

Sample No.: 4-B5 @ 6' Source of Sample:
 Location:
 Checked By:

Date Sampled:
 Elev./Depth: 6'

Title:

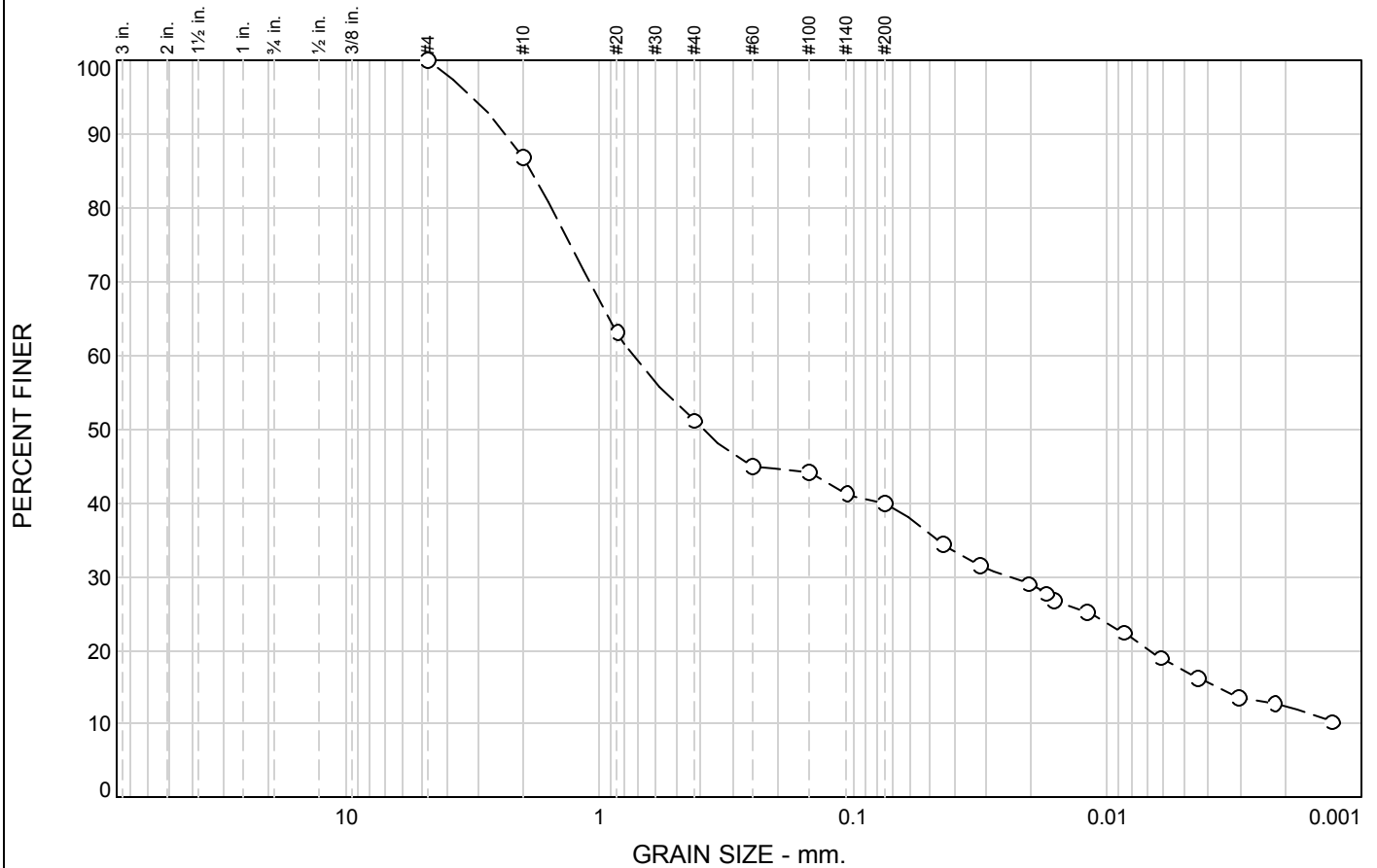
ENGEO, Inc.

Ripon, California

Client:
 Project: RD-17 Levee Seepage Project
 Project No: 5747.000.000 (001)

Figure

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	13.2	35.7	11.3	22.5	17.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	86.8		
#20	63.1		
#40	51.1		
#60	44.9		
#100	44.1		
#140	41.1		
#200	39.8		

Material Description

See Boring Logs.

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 1.8620 D₆₀= 0.7381 D₅₀= 0.3939
D₃₀= 0.0249 D₁₅= 0.0038 D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

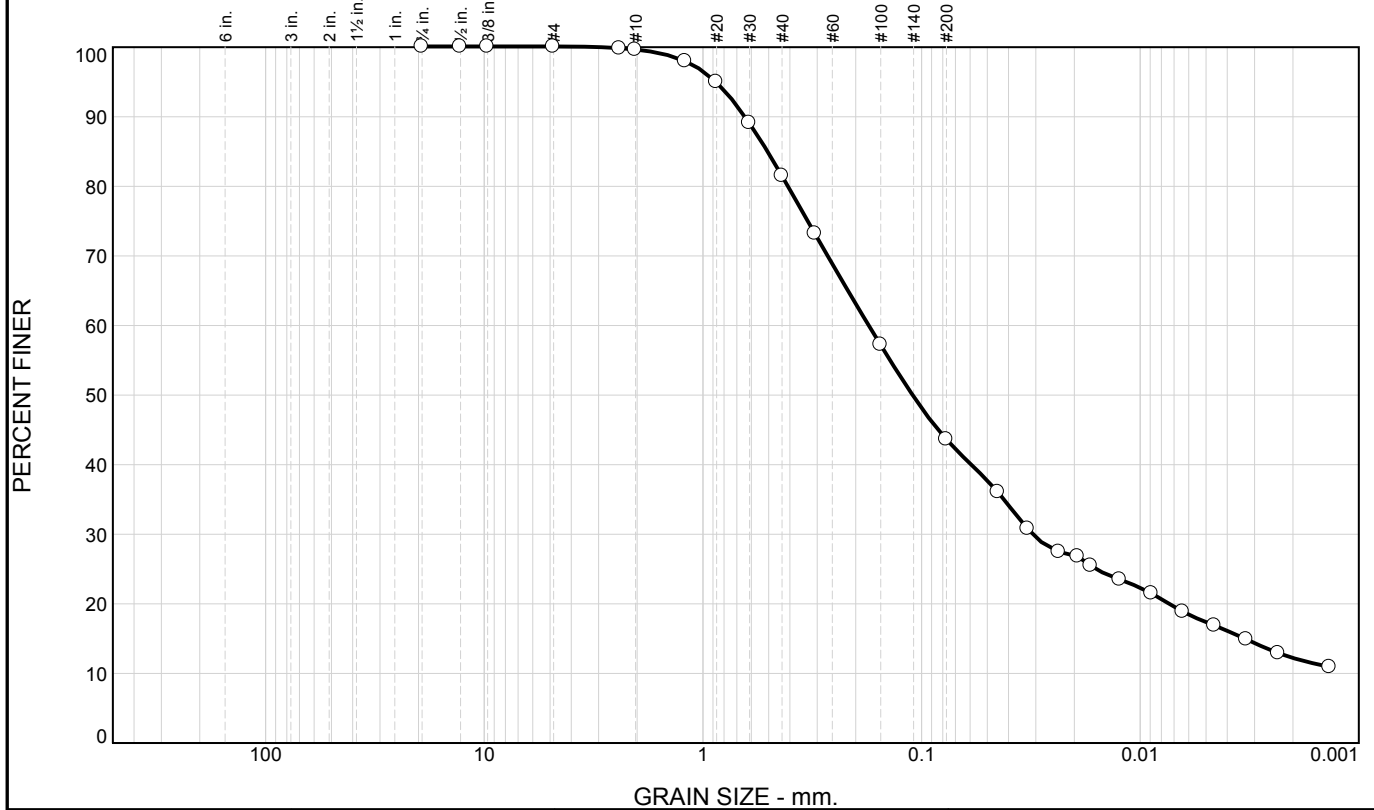
Remarks

* (no specification provided)

Sample Number: 5-B1 @ 30
Location: Boring 5-B1

Date: 12/03/10

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	18.2	38.0	26.1	17.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	99.7		
#10	99.6		
#16	97.9		
#20	94.9		
#30	89.0		
#40	81.4		
#50	73.1		
#100	57.1		
#200	43.4		
0.0435 mm.	35.8		
0.0317 mm.	30.5		
0.0228 mm.	27.2		
0.0187 mm.	26.5		
0.0163 mm.	25.2		
0.0120 mm.	25.2		
0.0086 mm.	21.2		
0.0062 mm.	18.6		
0.0044 mm.	16.6		
0.0032 mm.	14.6		
0.0023 mm.	12.6		
0.0013 mm.	10.6		

Soil Description

See Boring Logs

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= 0.4971 D₆₀= 0.1711 D₅₀= 0.1080
 D₃₀= 0.0306 D₁₅= 0.0034 D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 5-B1
Location:

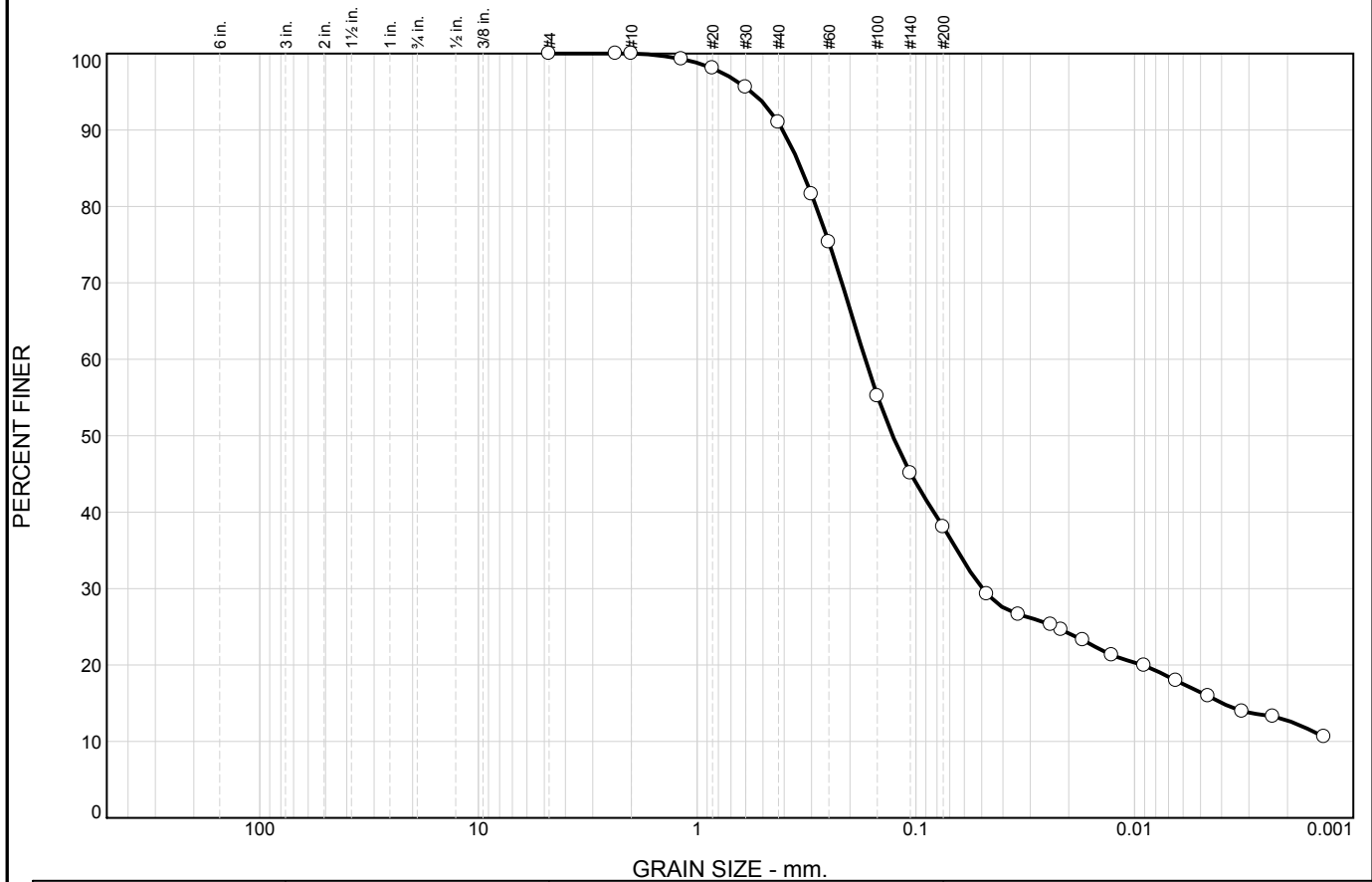
Source of Sample: GEX

Date:
Elev./Depth: 45'

ENGEO, Inc.
Ripon, California

Client:
Project: RD-17 Levee Seepage Project
Project No.: 5747.000.000 (001) **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	9.0	52.9	21.7	16.4

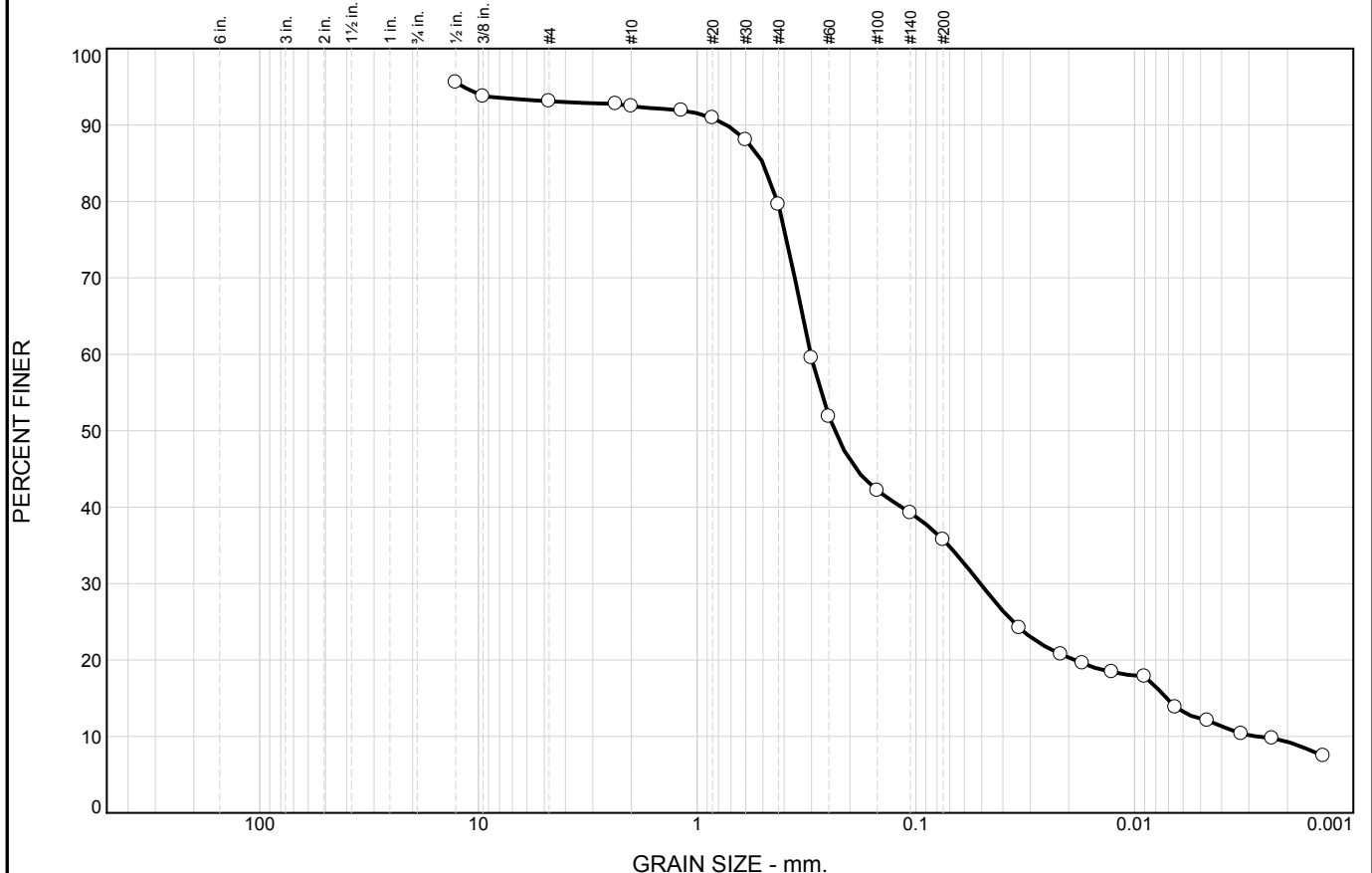
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
		0.3348	0.1704	0.1278	0.0497	0.0040			

Material Description	USCS	AASHTO
See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Depth: 3' Sample Number: 5-B2 @ 3'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
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Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



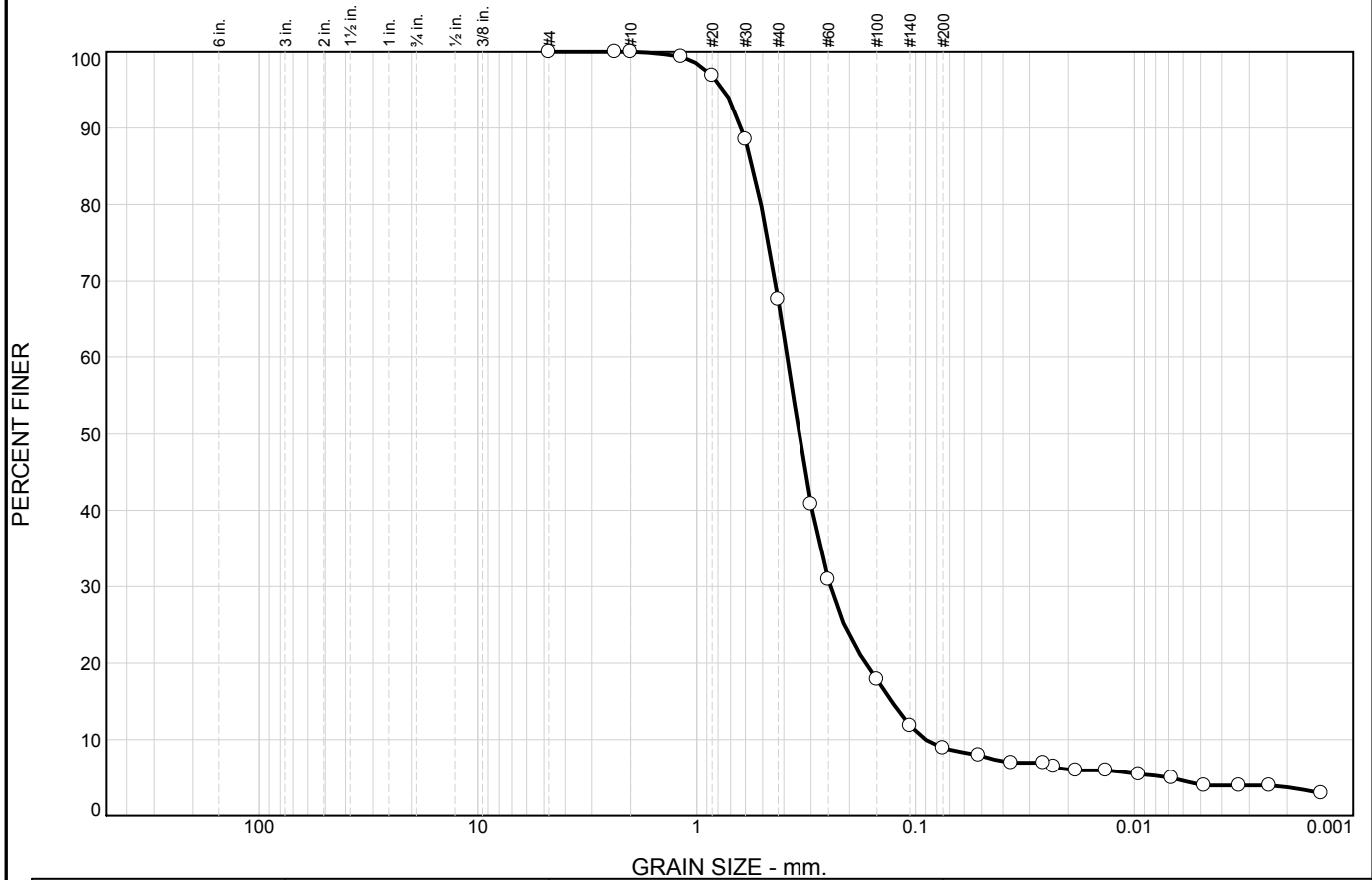
% +3"	% Gravel		% Sand			% Fines				
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay			
○			0.6	12.9	43.9	23.4	12.3			
×	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.4988	0.3027	0.2354	0.0507	0.0072	0.0027	3.10	110.46

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 16.5' Sample Number: 5-B2 @ 16.5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



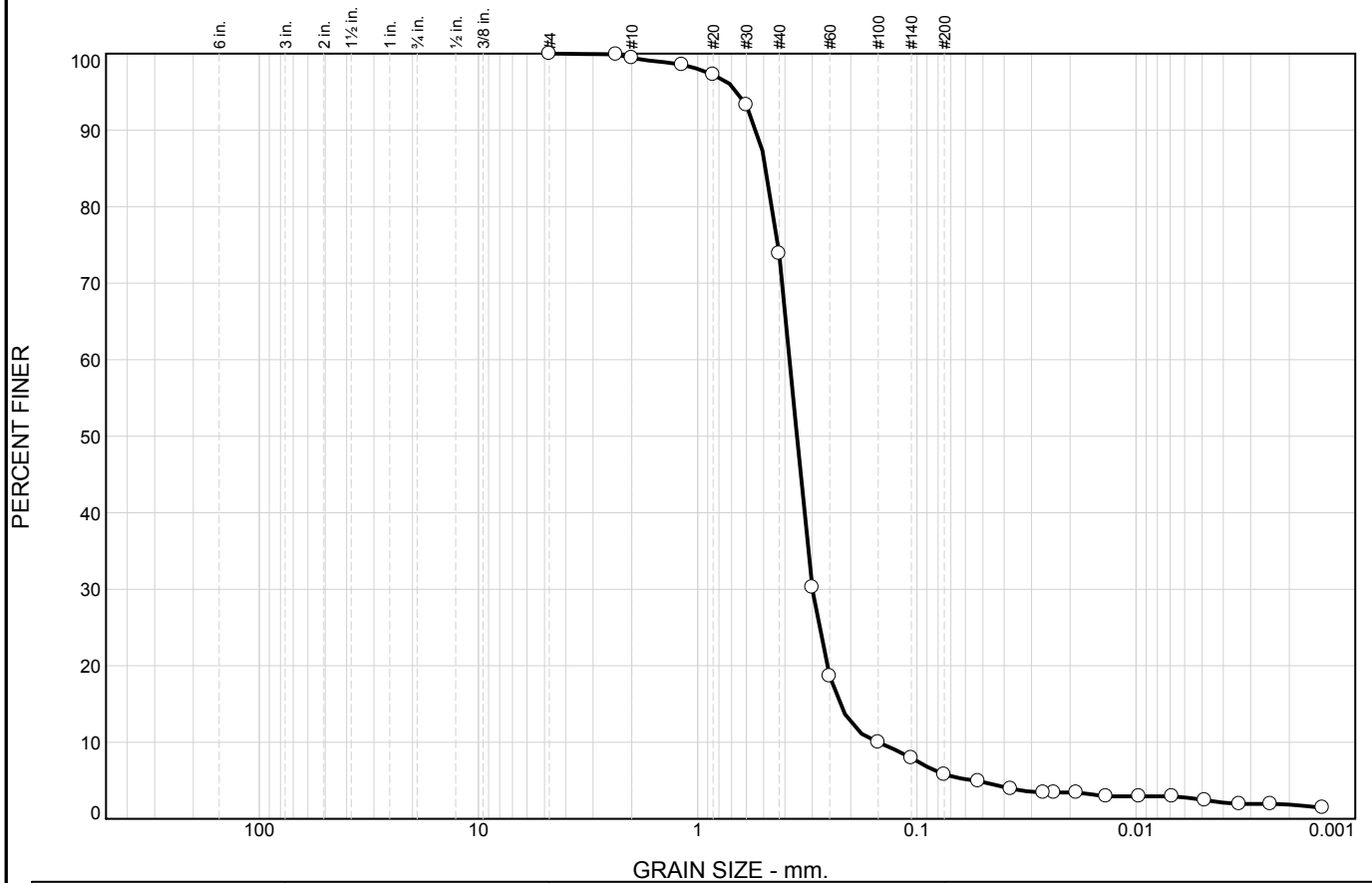
%	Gravel		Sand			Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	32.4	58.7	4.9	4.0

LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
		0.5562	0.3859	0.3405	0.2446	0.1284	0.0898	1.73	4.30

Material Description		USCS	AASHTO
See Exploratory Boring Logs			

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 31.5' Sample Number: 5-B2 @ 31.5'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Particle Size Distribution Report



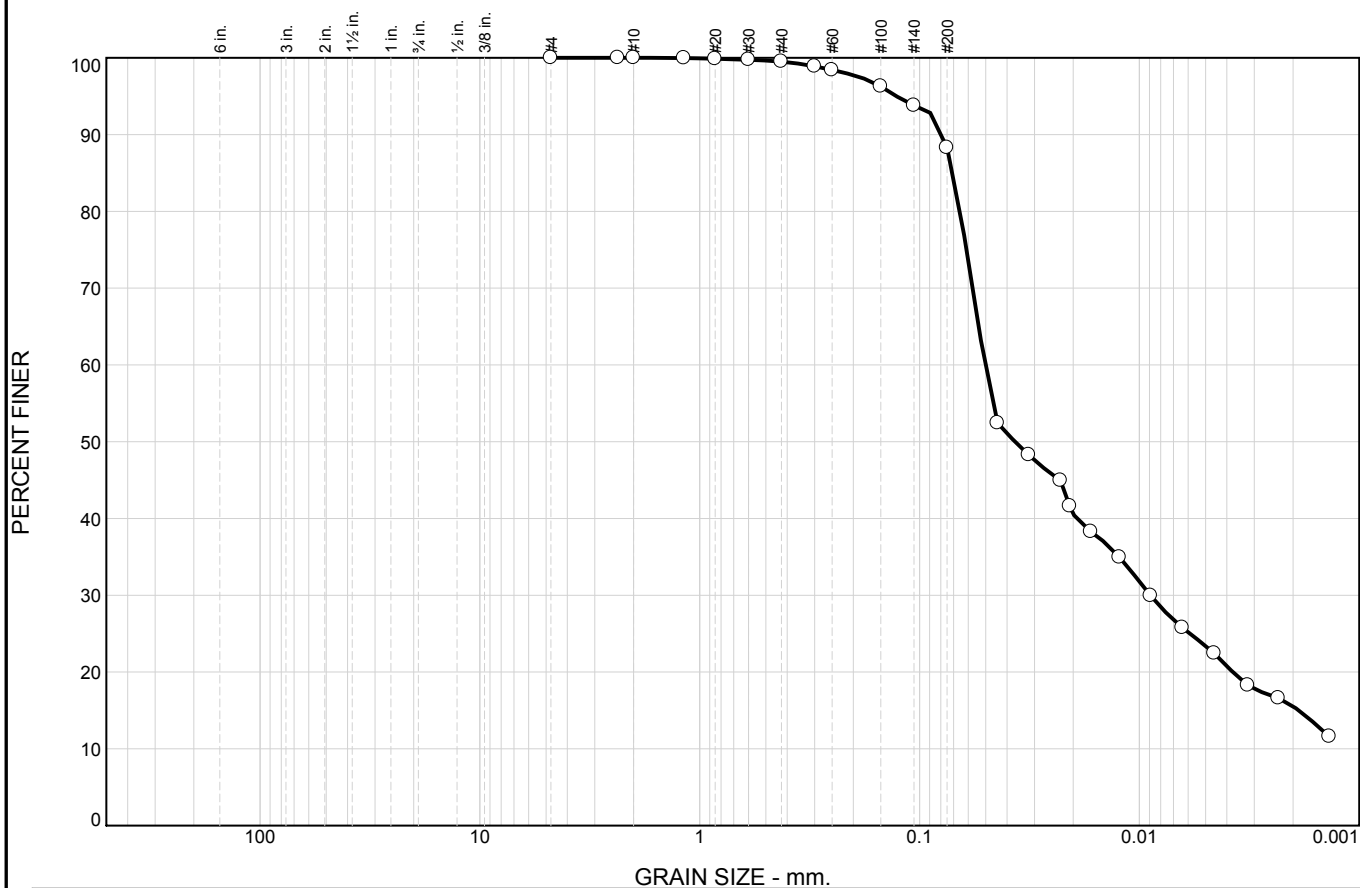
%	+3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
○	0.0	0.0	0.0	0.6	25.5	68.1	3.3	2.5		
⊗	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○			0.4860	0.3797	0.3529	0.2992	0.2247	0.1499	1.57	2.53

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 11.5' Sample Number: 5-B3 @ 11.5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.5	11.2	64.9	23.4

LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
28	20	0.0705	0.0504	0.0368	0.0089	0.0019			

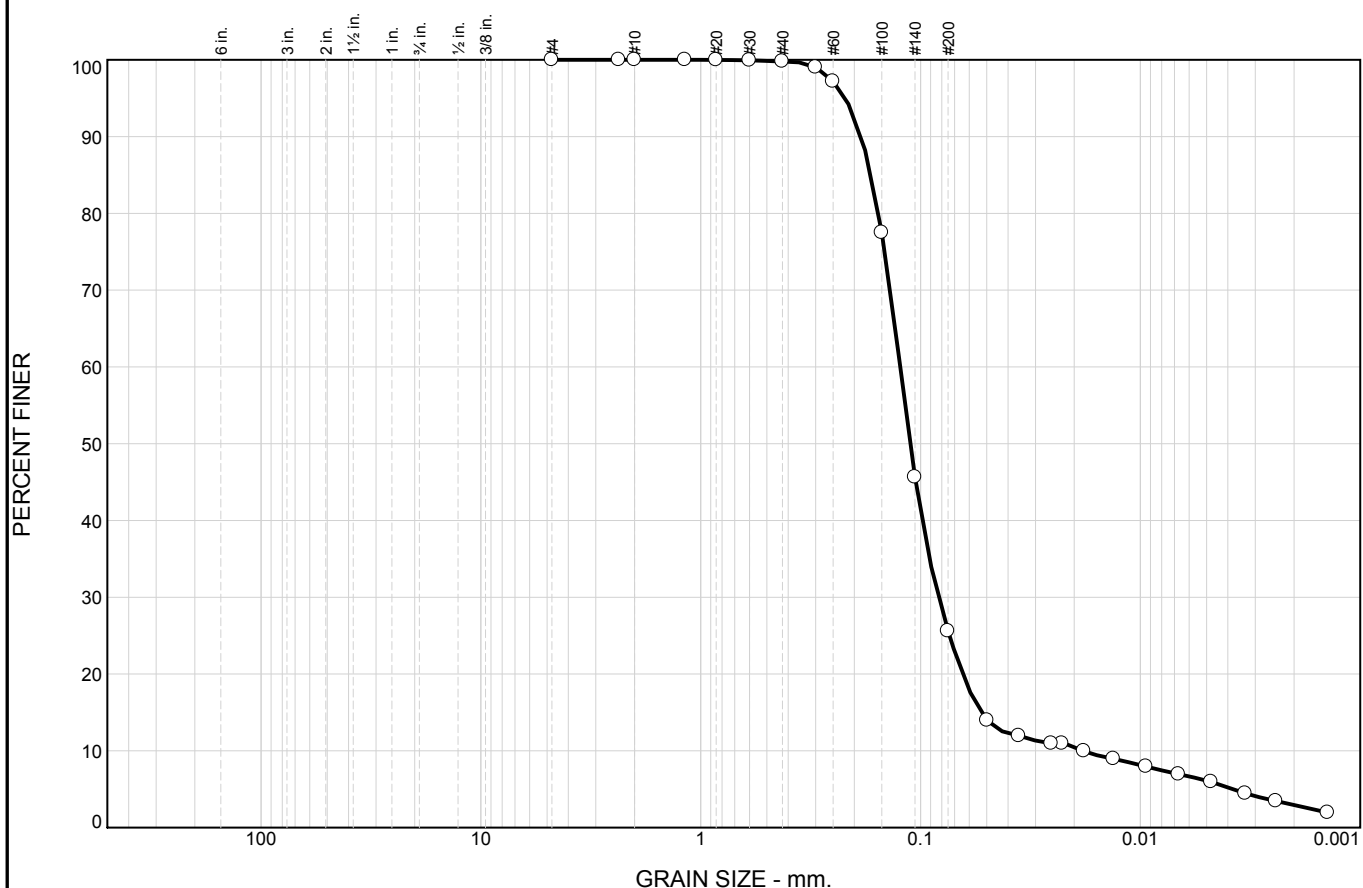
Material Description	USCS	AASHTO
See Exploratory Boring Logs		

Project No. 5747.000.000	Client:
Project: RD-17 Levee Seepage Project	
Depth: 30'	Sample Number: 5-B3 @ 30'
ENGEO, Inc.	
Ripon, California	

Remarks:
Figure

Tested By: KEL _____ **Checked By:** ZAC _____

Particle Size Distribution Report



%	#3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.2	74.2	19.5	6.1

×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.1678	0.1238	0.1115	0.0828	0.0531	0.0182	3.04	6.80

Material Description							USCS	AASHTO
○ See Exploratory Boring Logs								

Project No. 5747.000.000 **Client:**
Project: RD-17 Levee Seepage Project

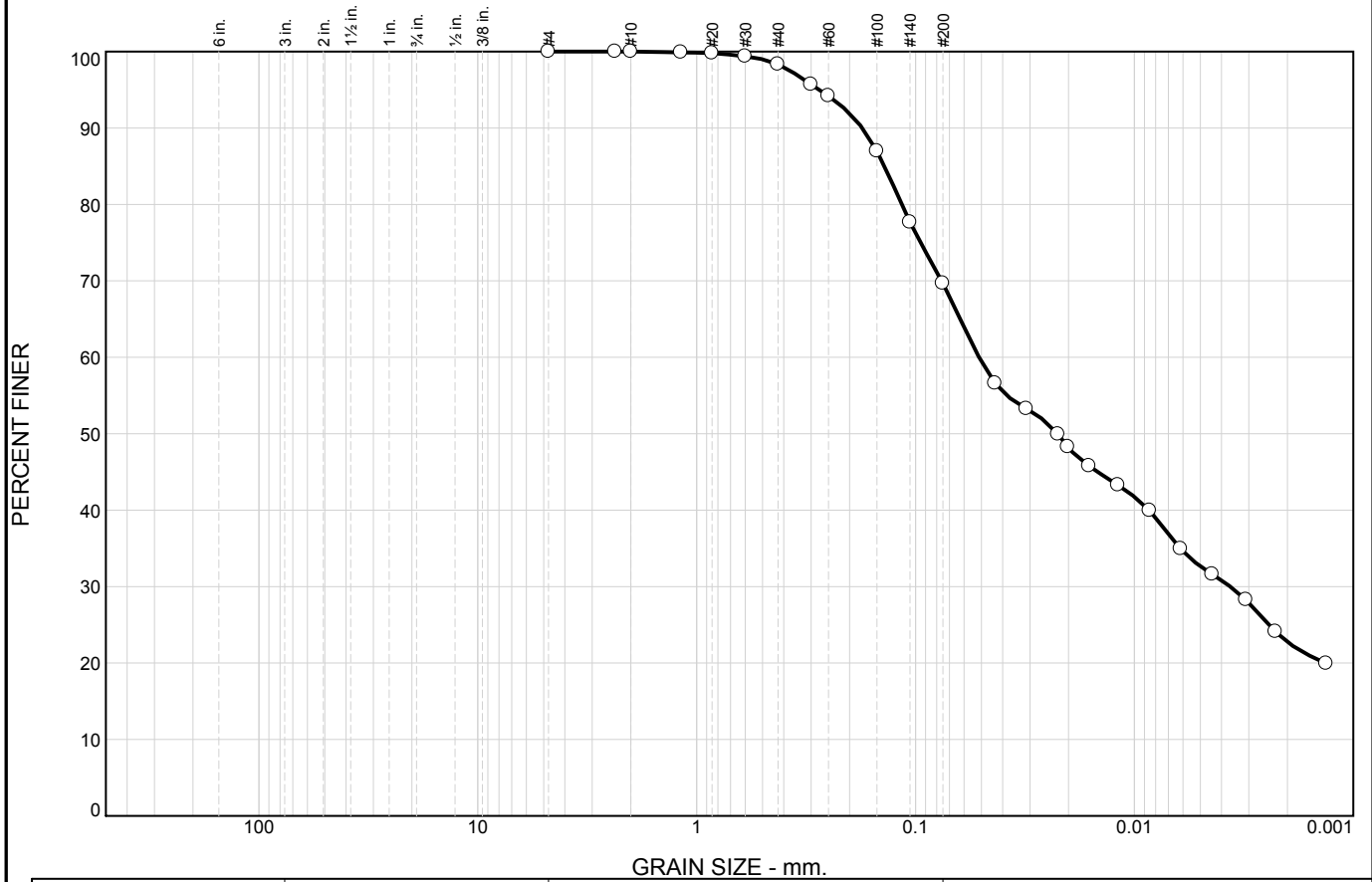
○ **Depth:** 70.5' **Sample Number:** 5-B3 @ 70.5'

ENGEO, Inc.
Ripon, California

Remarks:

Figure

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	1.7	28.6	37.0	32.7

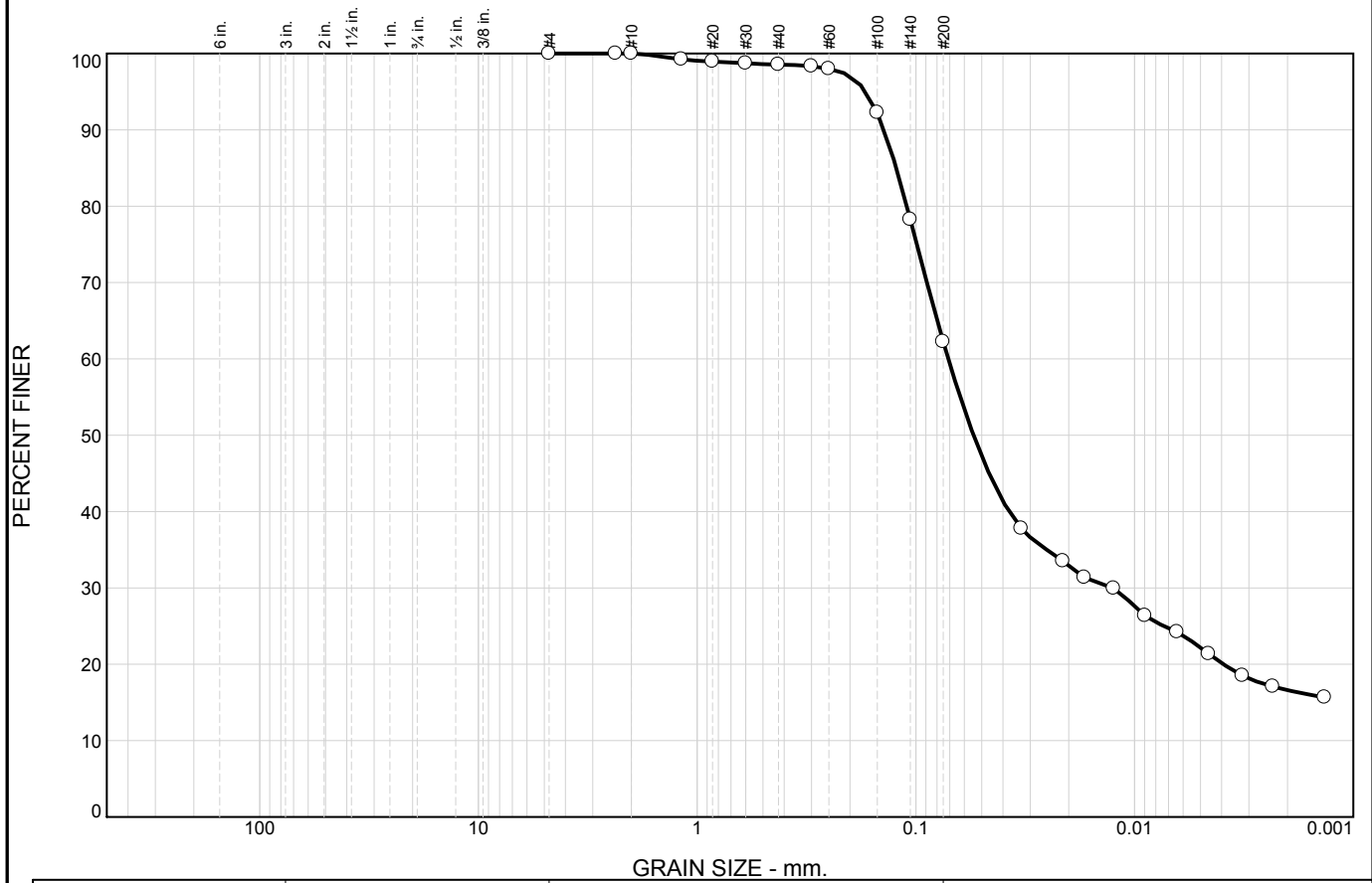
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○	35	17	0.1386	0.0513	0.0224	0.0036			

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 2' Sample Number: 5-B4 @ 2'	Remarks: Figure
ENGEO, Inc. Ripon, California	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	0.0	1.5	36.3	40.0	22.2

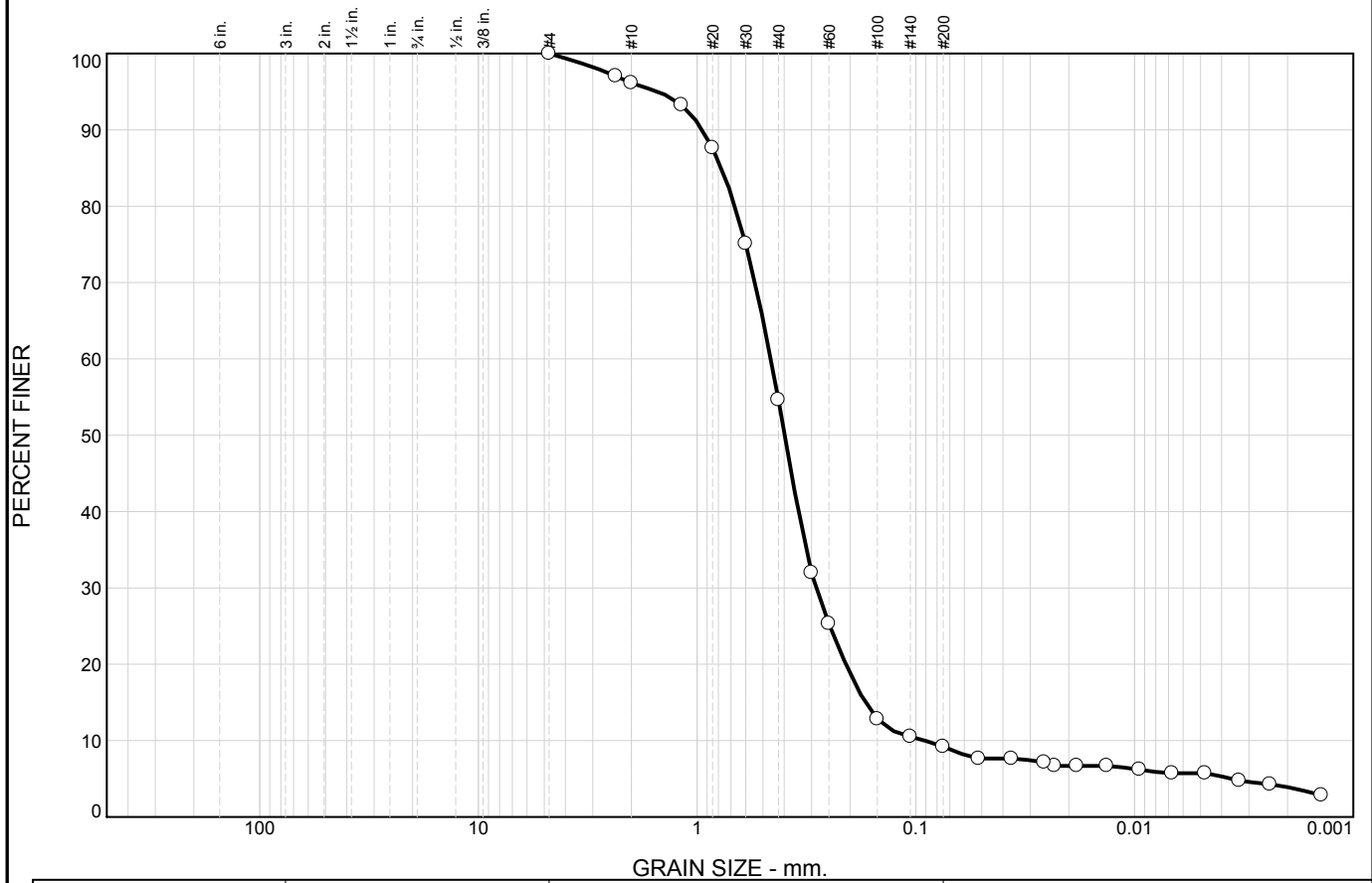
<input checked="" type="checkbox"/>	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="radio"/>			0.1230	0.0711	0.0545	0.0126				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 75.5' Sample Number: 5-B5 @ 75.5'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	3.9	41.5	45.4	3.5	5.7

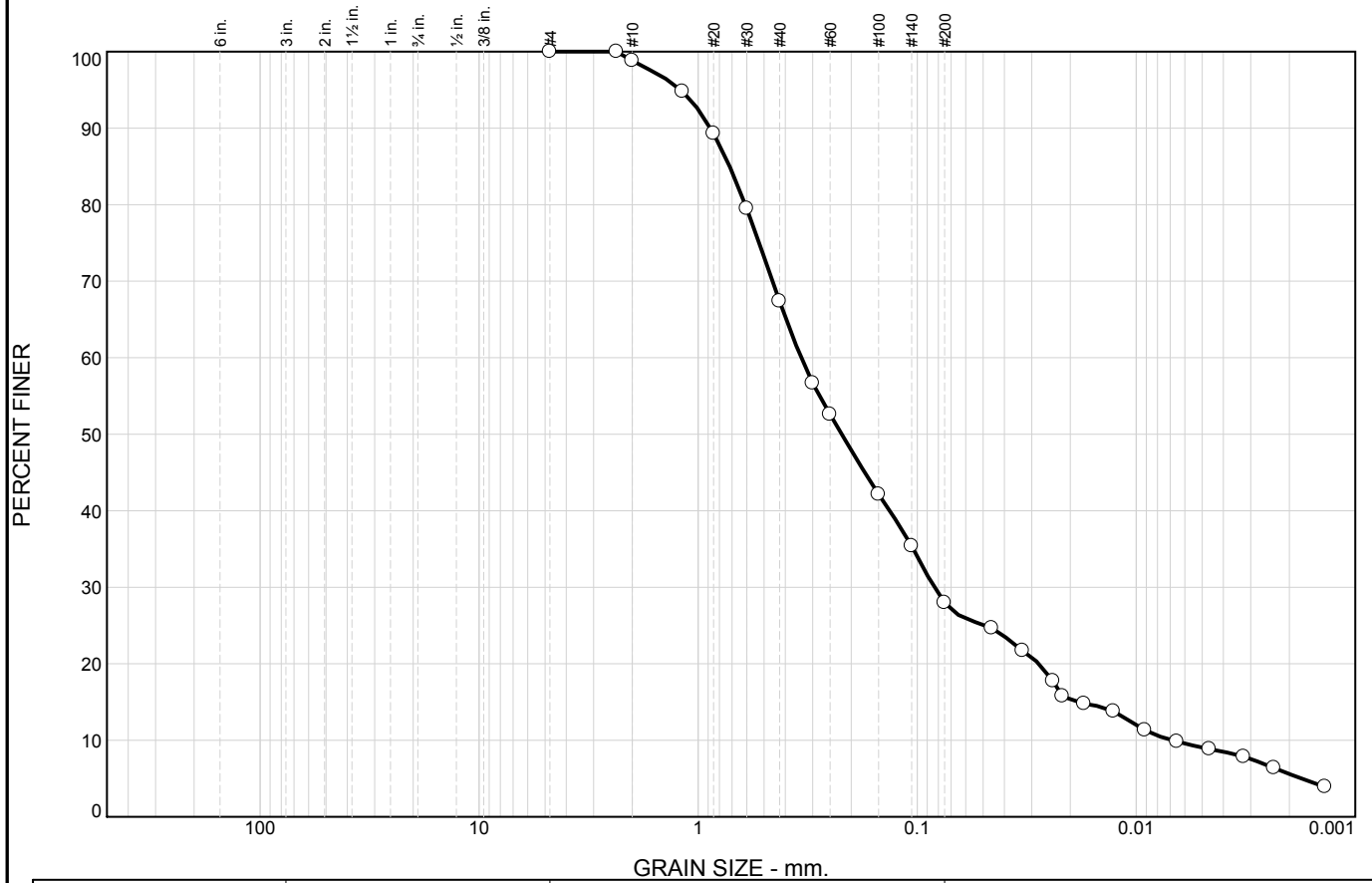
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.7733	0.4603	0.3980	0.2866	0.1704	0.0910	1.96	5.06

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>○ Depth: 21.5' Sample Number: 5-B6 @ 21.5'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	
<p>Figure</p>	

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	1.2	31.4	39.4	18.9	9.1

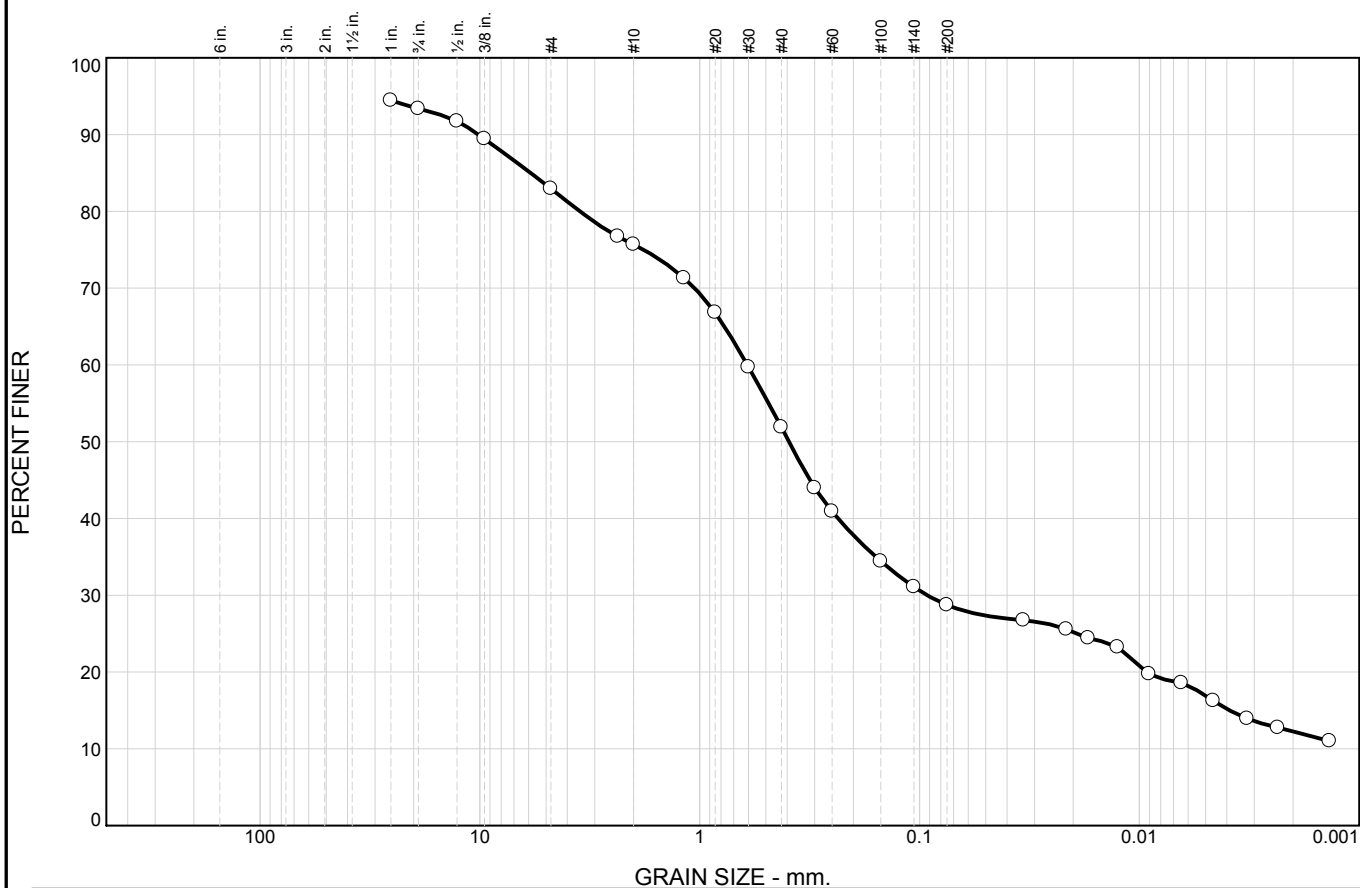
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input checked="" type="checkbox"/>			0.7176	0.3389	0.2211	0.0837	0.0183	0.0068	3.02	49.56

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 55.0' Sample Number: 5-B6 @ 55.0'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: SSJ **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>		10.4	7.3	23.8	23.2	11.8	16.9

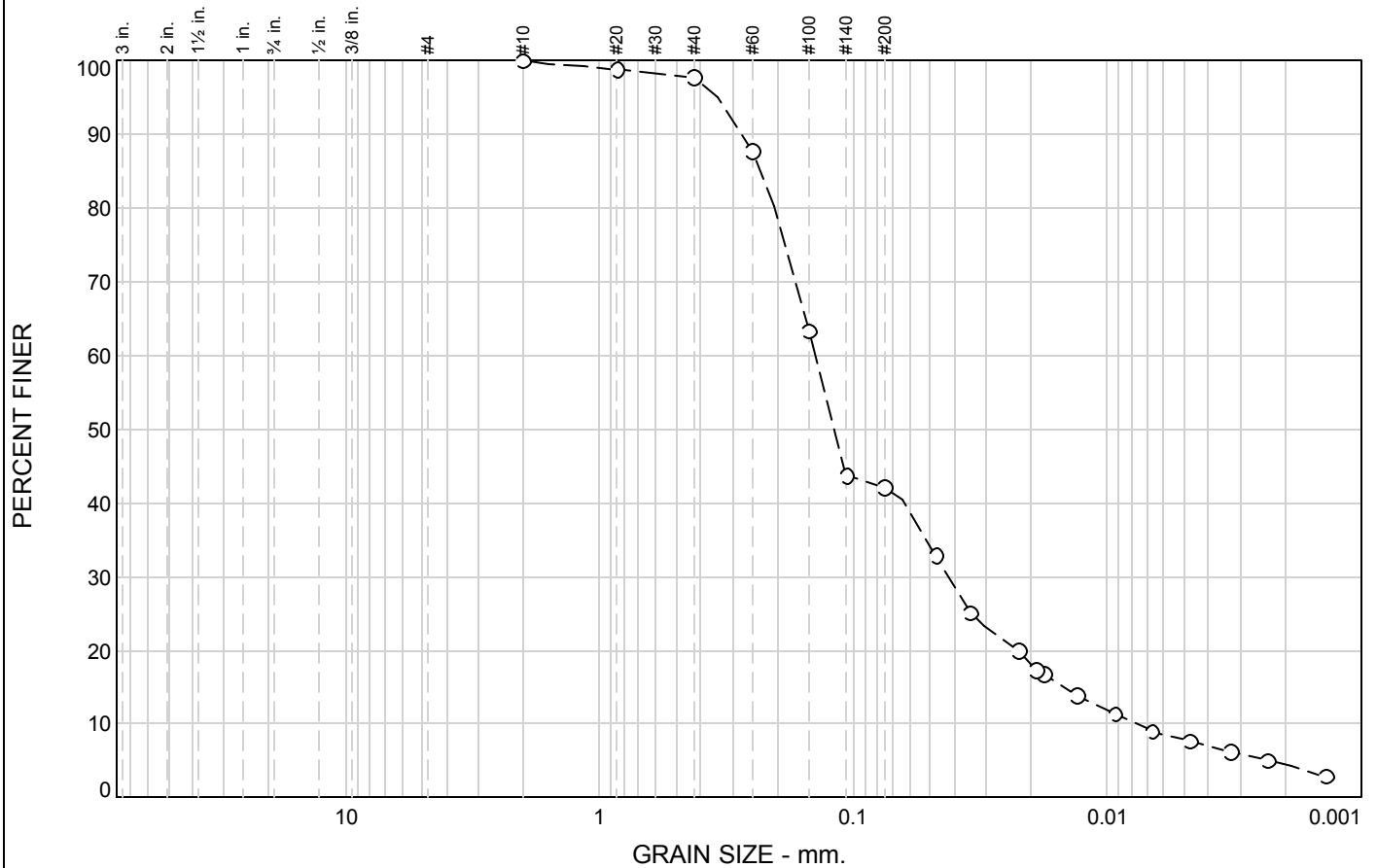
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input checked="" type="checkbox"/>		5.8753	0.6076	0.3926	0.0923	0.0039			

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p><input type="radio"/> Depth: 2' Sample Number: 5-B7 @ 2'</p>	<p>Remarks:</p>
<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
				2.2	55.7	37.6	4.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	99.9		
#20	98.7		
#40	97.7		
#60	87.6		
#100	63.3		
#140	43.6		
#200	42.0		

Material Description

See Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.2317 D₆₀= 0.1427 D₅₀= 0.1221
D₃₀= 0.0426 D₁₅= 0.0148 D₁₀= 0.0078
C_u= 18.36 C_c= 1.64

Classification

USCS= AASHTO=

Remarks

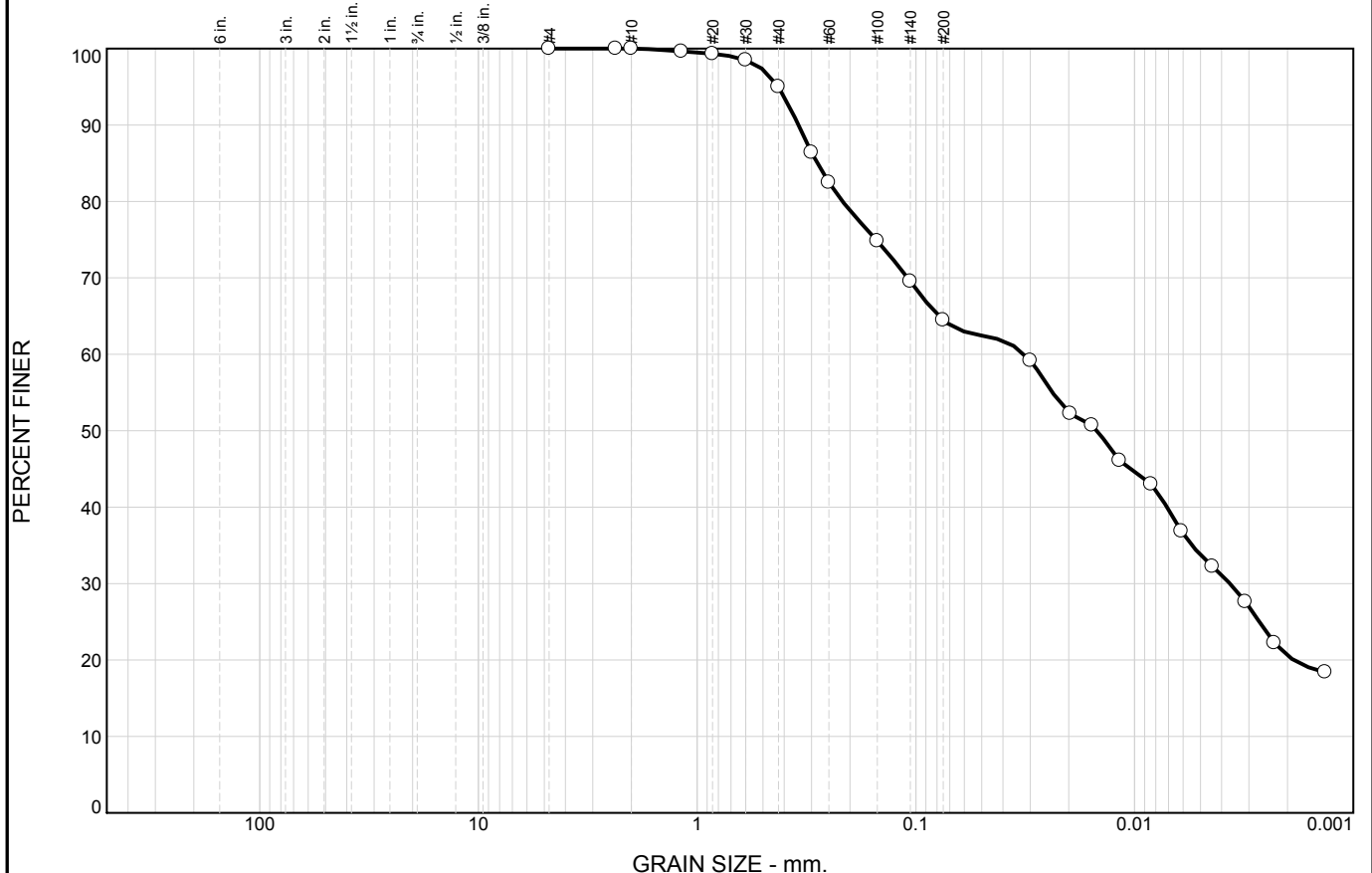
* (no specification provided)

Sample Number: 5-B7 @ 17
Location: 5-B7

Depth: 17.0 feet

Date: 01/10/11

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	0.0	5.0	30.5	30.7	33.8

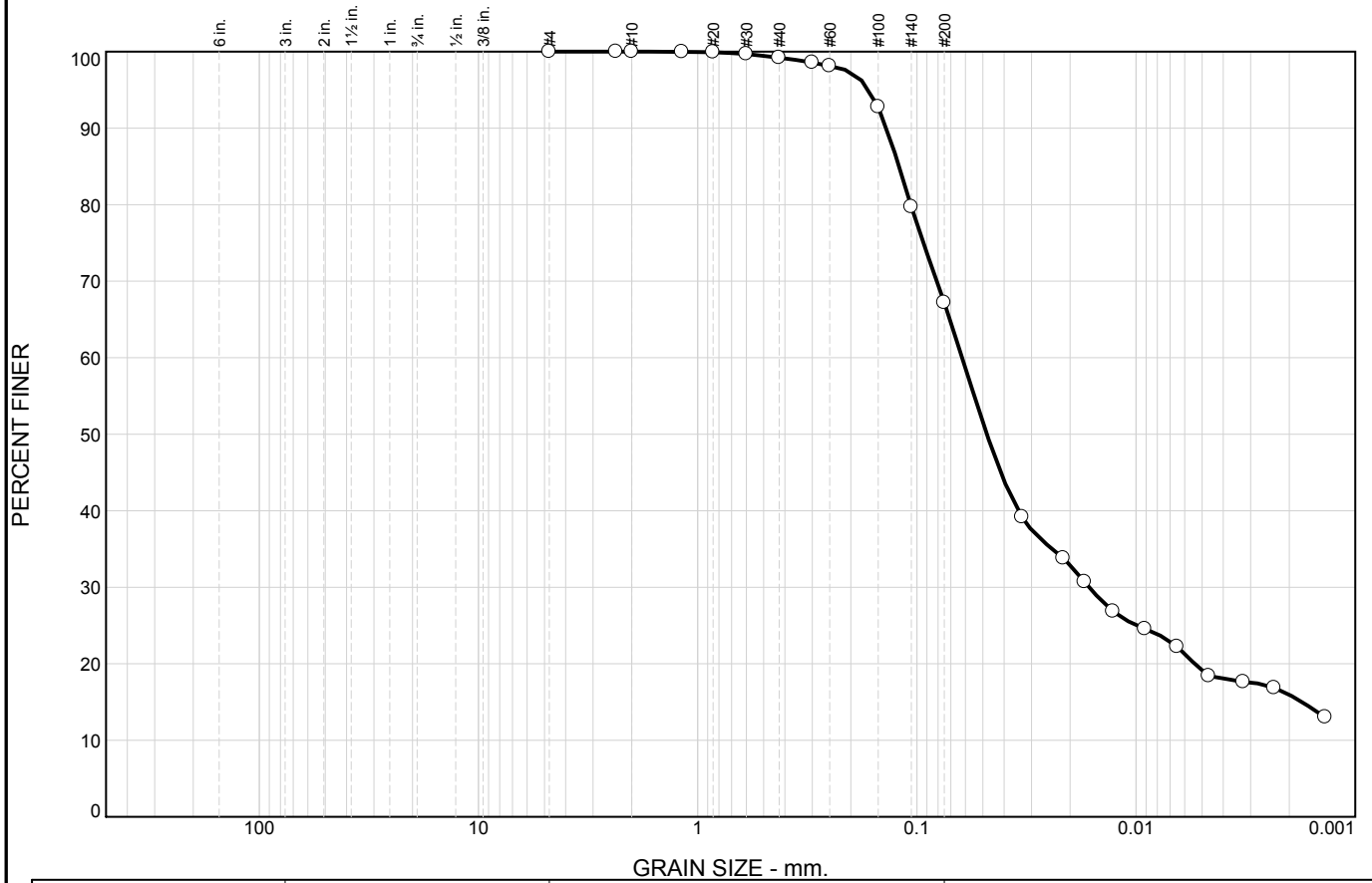
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.2826	0.0319	0.0148	0.0037				

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 70.5' Sample Number: 5-B7 @ 70.5'	Remarks: <div style="text-align: right;">Figure</div>
ENGEO, Inc. Ripon, California	

Tested By: KEL **Checked By:** ZAC

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.8	32.0	48.1	19.1

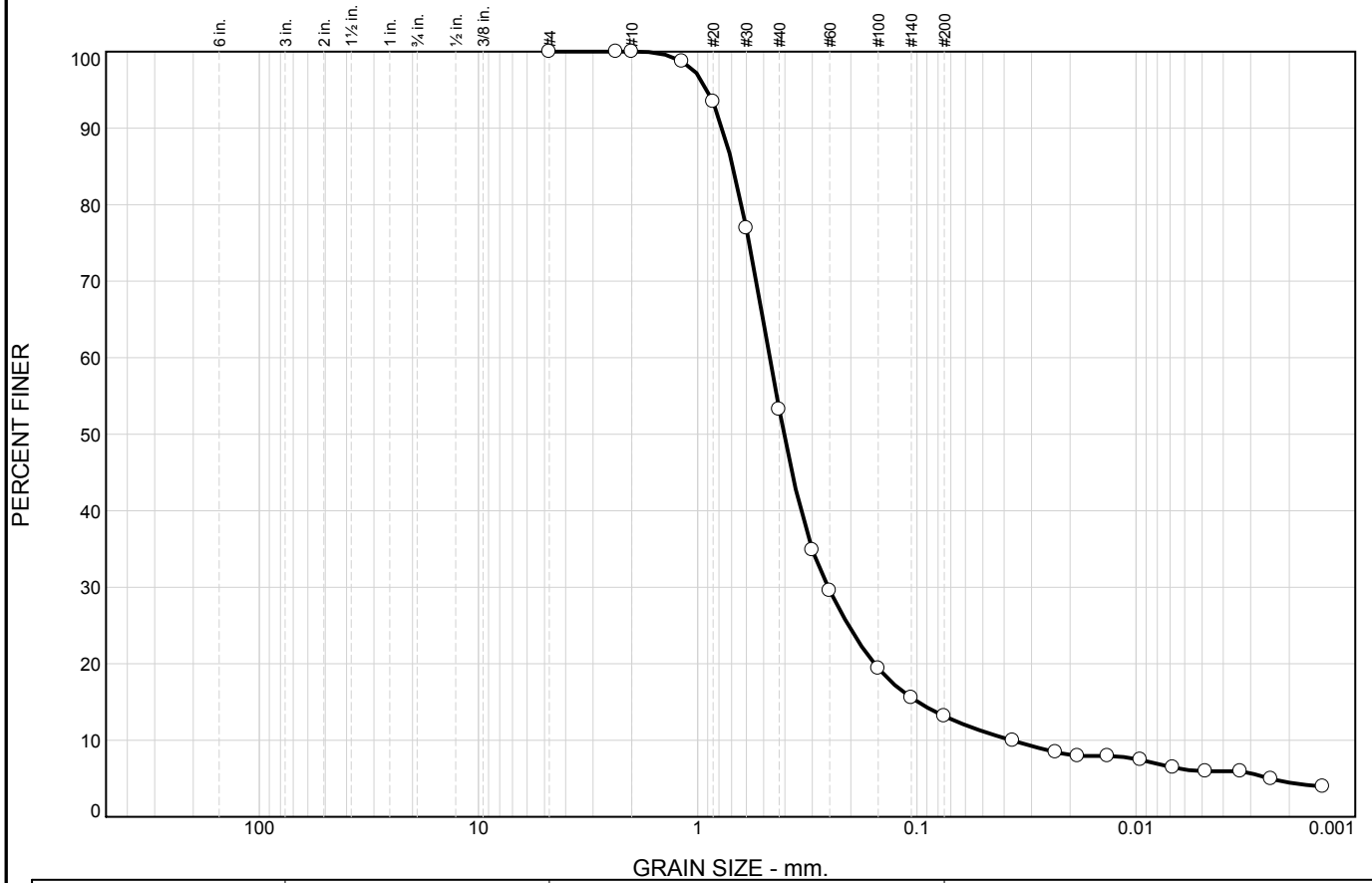
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
⊗			0.1207	0.0622	0.0479	0.0164	0.0017			

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 2' Sample Number: 5-B8 @ 2'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	46.7	40.1	7.2	6.0

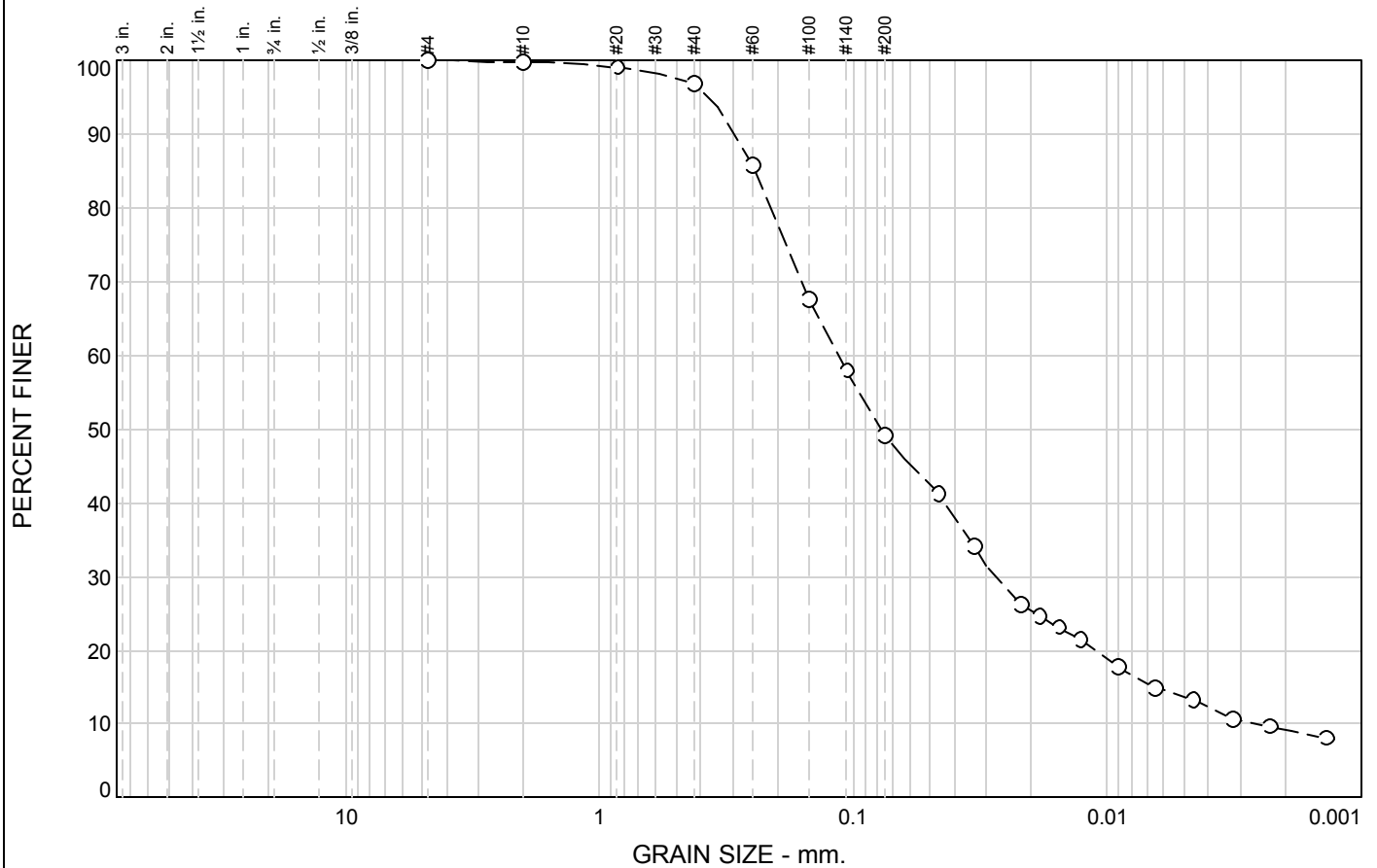
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
		0.6907	0.4689	0.4041	0.2544	0.0990	0.0369	3.74	12.70

Material Description	USCS	AASHTO
See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Depth: 4' Sample Number: 5-B8 @ 4'</p> <p style="text-align: center;">ENGEO, Inc.</p> <p style="text-align: center;">Ripon, California</p>	<p>Remarks:</p> <p style="text-align: right;">Figure</p>
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Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% Cobbles	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	2.9	47.8	39.7	9.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#20	99.0		
#40	96.9		
#60	85.8		
#100	67.6		
#140	58.0		
#200	49.1		

Material Description

See boring logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.2441 D₆₀= 0.1144 D₅₀= 0.0783
D₃₀= 0.0276 D₁₅= 0.0066 D₁₀= 0.0026
C_u= 43.31 C_c= 2.52

Classification

USCS= AASHTO=

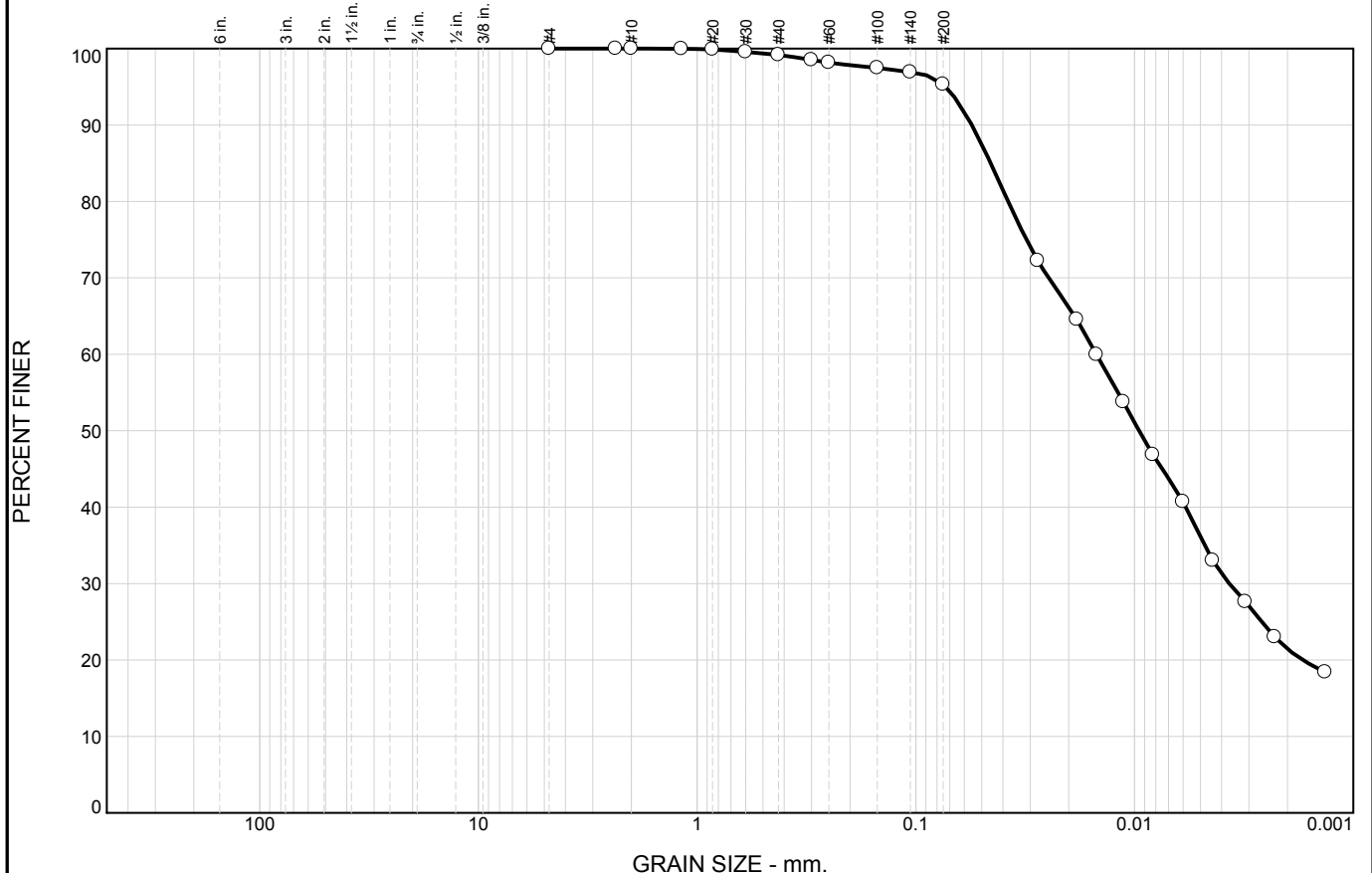
Remarks

* (no specification provided)

Sample Number: 5-B8 @ 10.5 **Depth:** 10.5 ft.
Location: 5-B8

Date: 1/6/11

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>	0.0	0.0	0.0	0.0	0.8	3.9	59.2	36.1		
<input checked="" type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.0455	0.0150	0.0095	0.0037				

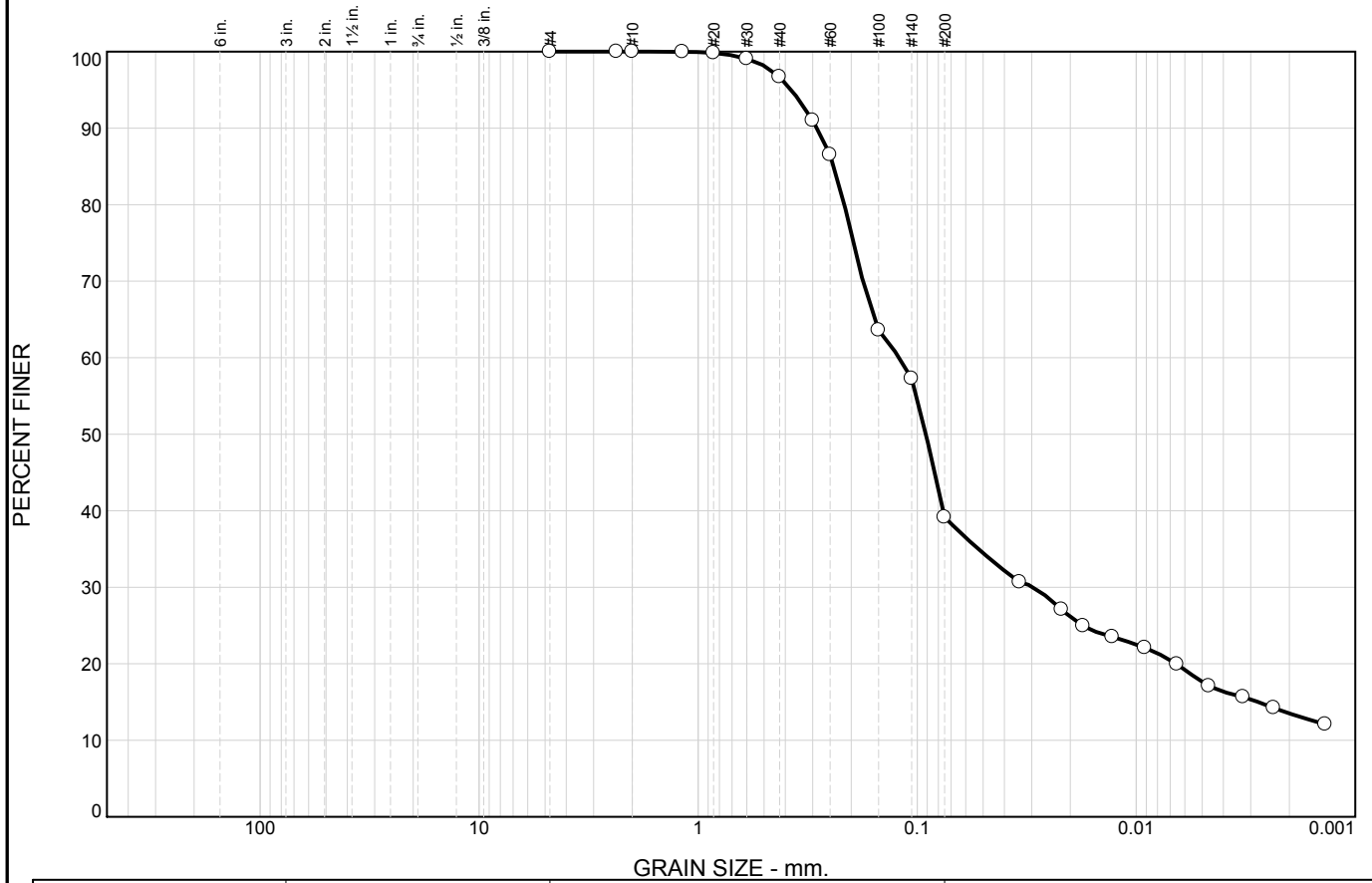
Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 1.5' Sample Number: 5-B9 @ 1.5'	Remarks:
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ENGEO, Inc. Ripon, California	Figure
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Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



%	+3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
<input type="radio"/>	0.0	0.0	0.0	0.0	3.3	57.5	21.6	17.6

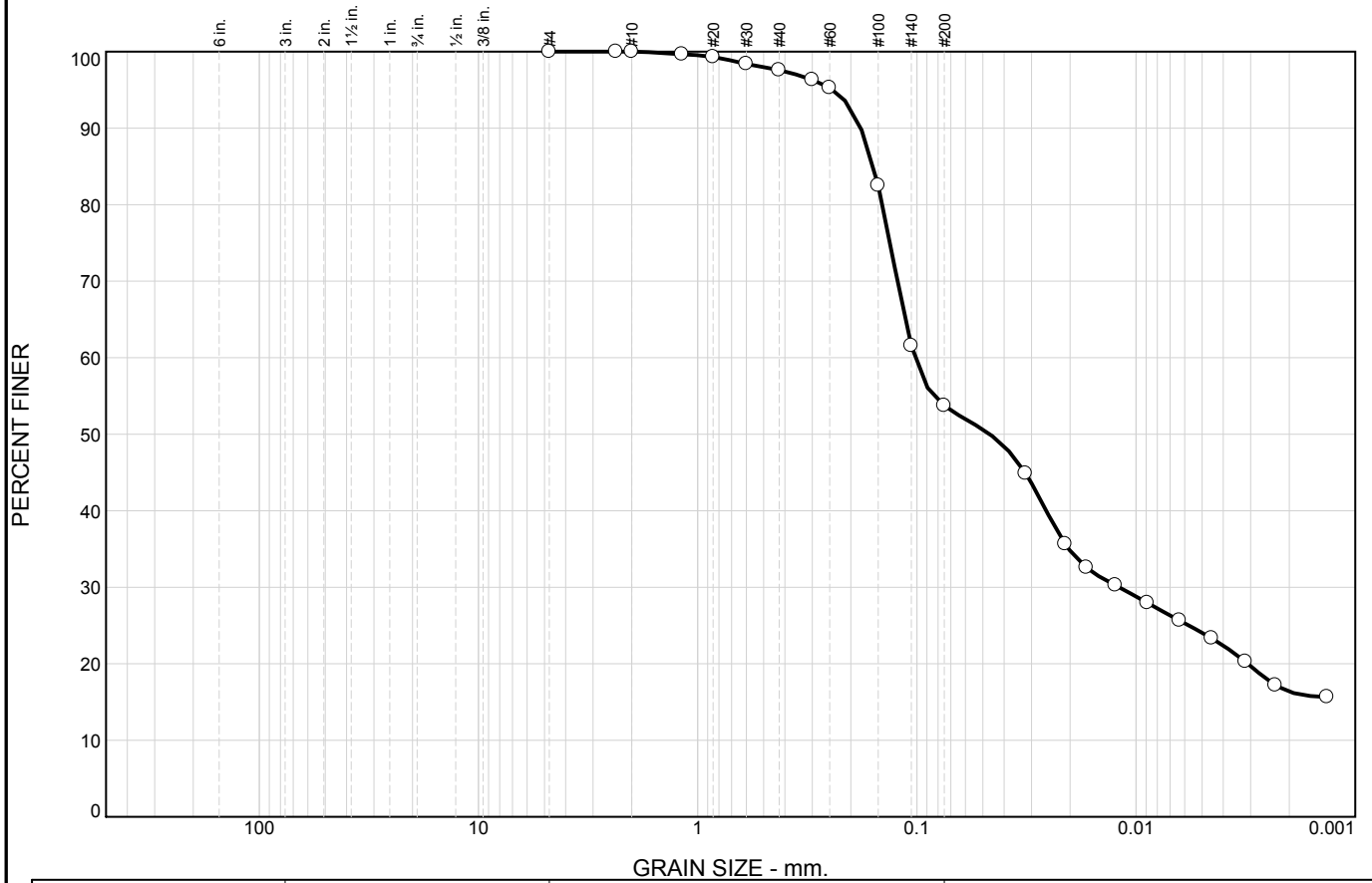
	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
<input type="radio"/>			0.2400	0.1189	0.0911	0.0295	0.0028			

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 8' Sample Number: 5-B9 @ 8'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.4	43.9	29.6	24.1

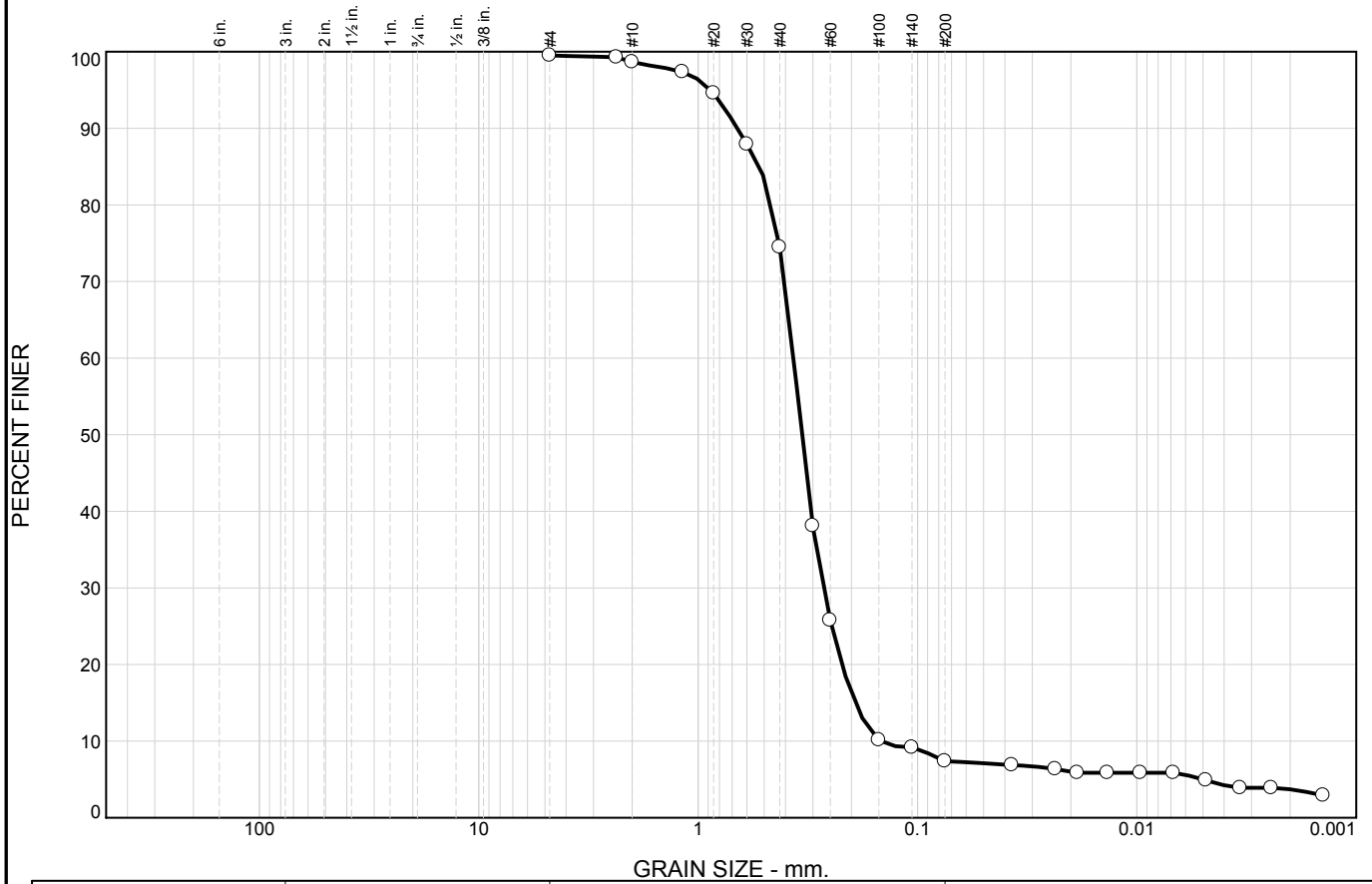
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
		0.1577	0.1022	0.0465	0.0119				

Material Description	USCS	AASHTO
See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="checkbox"/> Depth: 45' Sample Number: 5-B9 @ 45'	Remarks:
ENGEO, Inc. Ripon, California	
Figure	

Tested By: SSJ Checked By: KEL

Particle Size Distribution Report



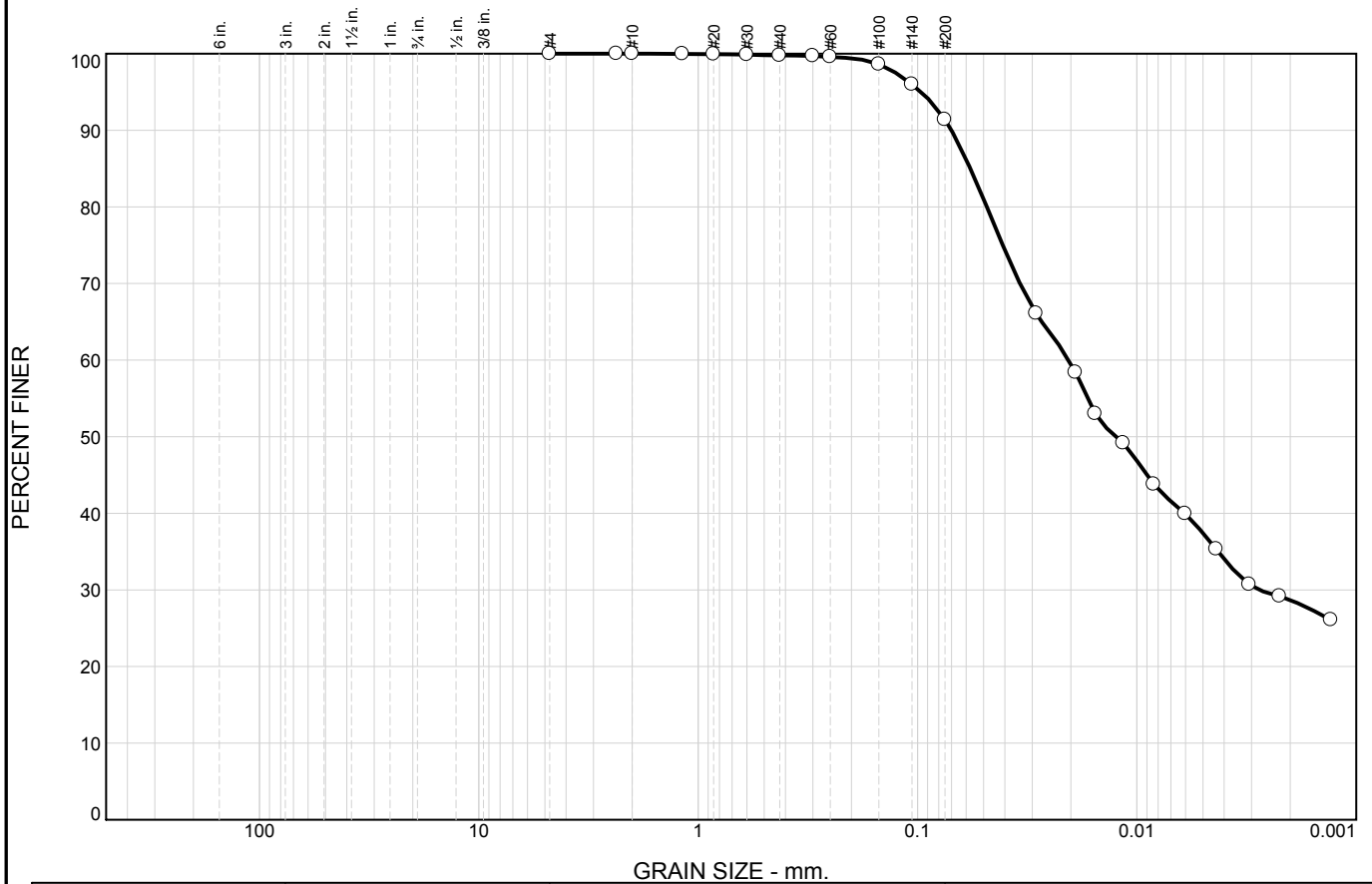
	% +3"	% Gravel		% Sand			% Fines			
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
<input type="radio"/>				0.8	24.2	67.1	2.4	5.0		
<input type="checkbox"/>	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
<input type="radio"/>			0.5254	0.3676	0.3366	0.2692	0.1924	0.1479	1.33	2.49

Material Description	USCS	AASHTO
<input type="radio"/> See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project <input type="radio"/> Depth: 35' Sample Number: 5-B11 @ 35'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



⊙	% +3"		% Gravel		% Sand			% Fines		
	Coarse	Fine	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
⊙	0.0	0.0	0.0	0.0	0.0	0.2	8.4	54.0	37.4	
⊗	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
⊙	37	30	0.0574	0.0204	0.0124	0.0028				

Material Description							USCS	AASHTO
⊙ See Exploratory Boring Logs								

Project No. 5747.000.000 **Client:**
Project: RD-17 Levee Seepage Project

⊙ **Depth:** 56.5' **Sample Number:** 5-B11 @ 56.5'

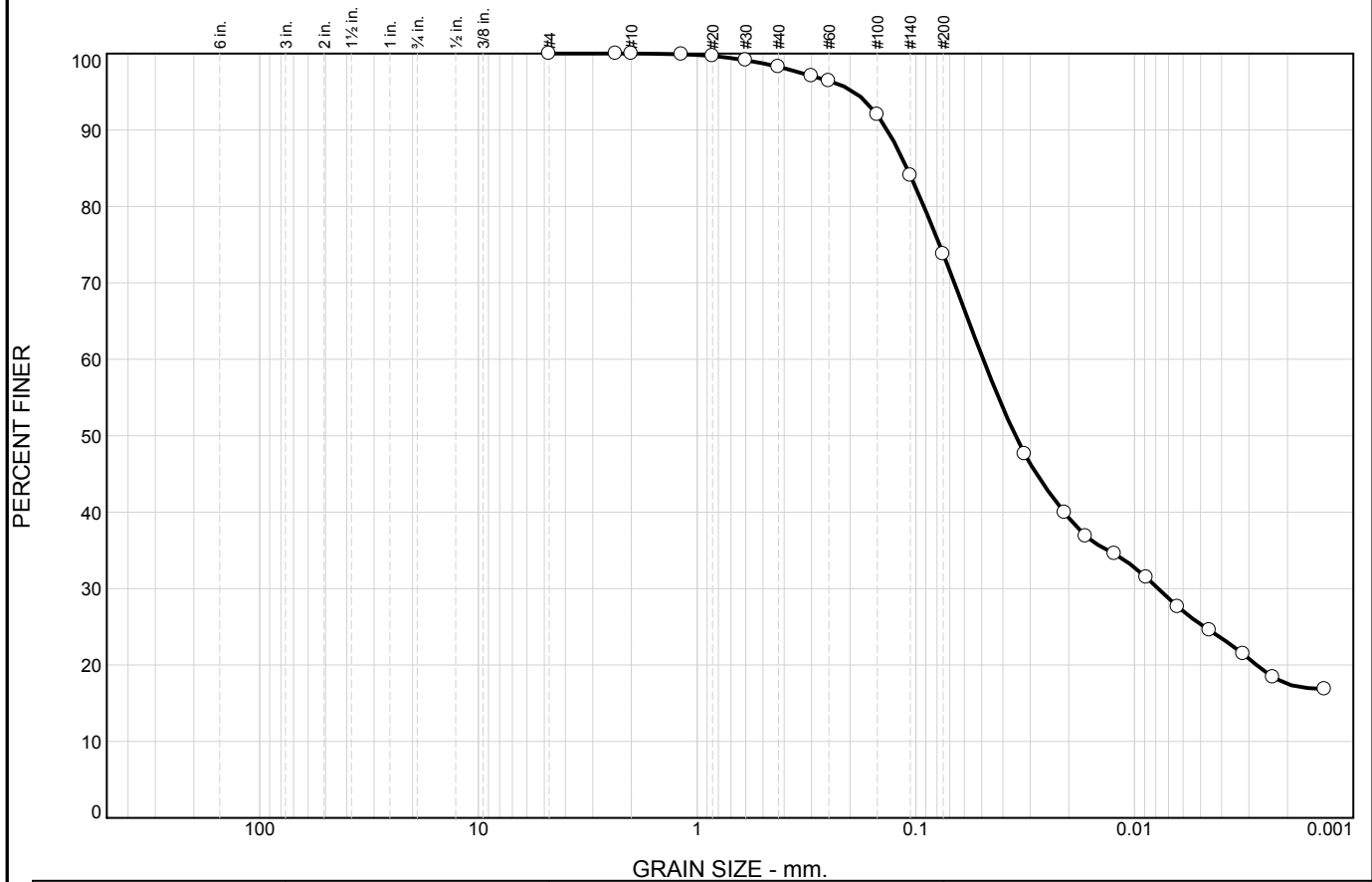
ENGEO, Inc.
Ripon, California

Remarks:

Figure

Tested By: JS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.7	24.5	48.5	25.3

LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
		0.1098	0.0492	0.0351	0.0078				

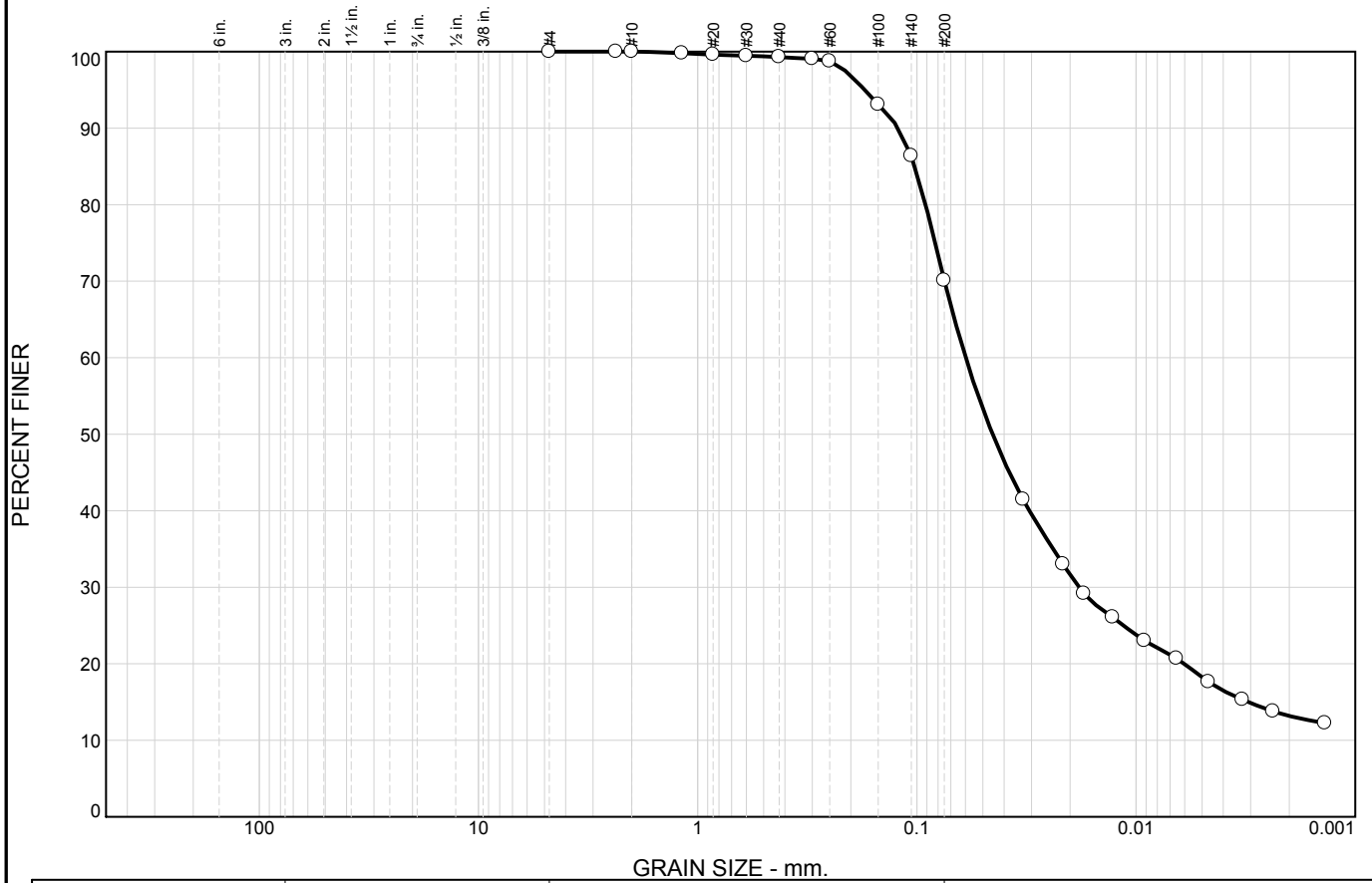
Material Description	USCS	AASHTO
See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Depth: 1' Sample Number: 5-B13 @ 1'</p>	<p>Remarks:</p>
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<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>
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Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.7	29.2	51.9	18.2

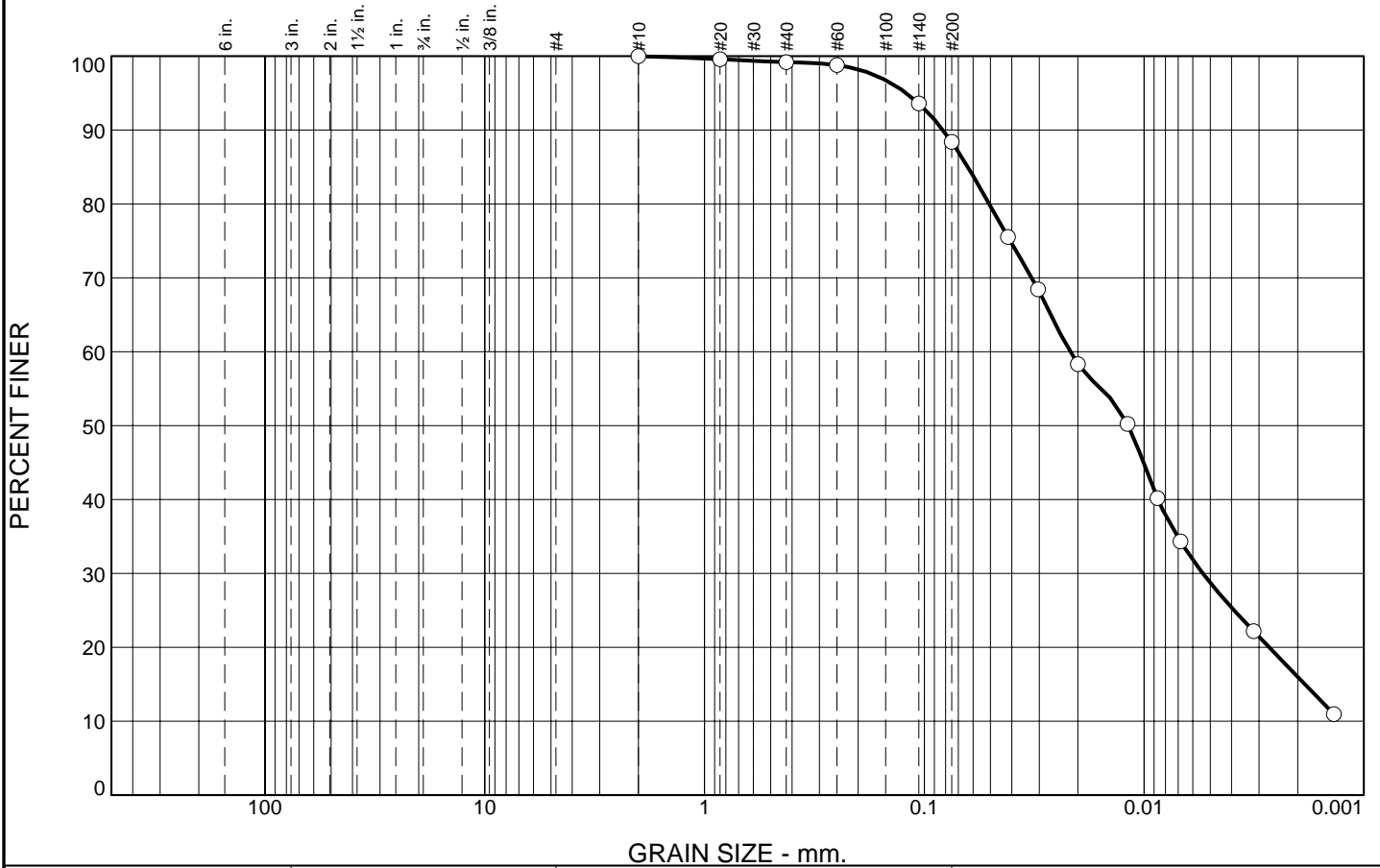
	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.1021	0.0599	0.0452	0.0183	0.0031			

Material Description	USCS	AASHTO
○ See Exploratory Boring Logs		

Project No. 5747.000.000 Client: Project: RD-17 Levee Seepage Project ○ Depth: 11' Sample Number: 5-B13 @ 11'	Remarks:
ENGEO, Inc. Ripon, California	Figure

Tested By: RWS **Checked By:** KEL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.8	10.8	59.7	28.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.6		
#40	99.2		
#60	98.8		
#140	93.6		
#200	88.4		
0.0417 mm.	75.5		
0.0304 mm.	68.4		
0.0200 mm.	58.3		
0.0119 mm.	50.2		
0.0087 mm.	40.2		
0.0068 mm.	34.3		
0.0032 mm.	22.2		
0.0014 mm.	11.0		

Soil Description

See Boring Logs

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.0634 D₆₀= 0.0217 D₅₀= 0.0118

D₃₀= 0.0054 D₁₅= 0.0019 D₁₀=

C_u= C_c=

Classification

USCS= AASHTO=

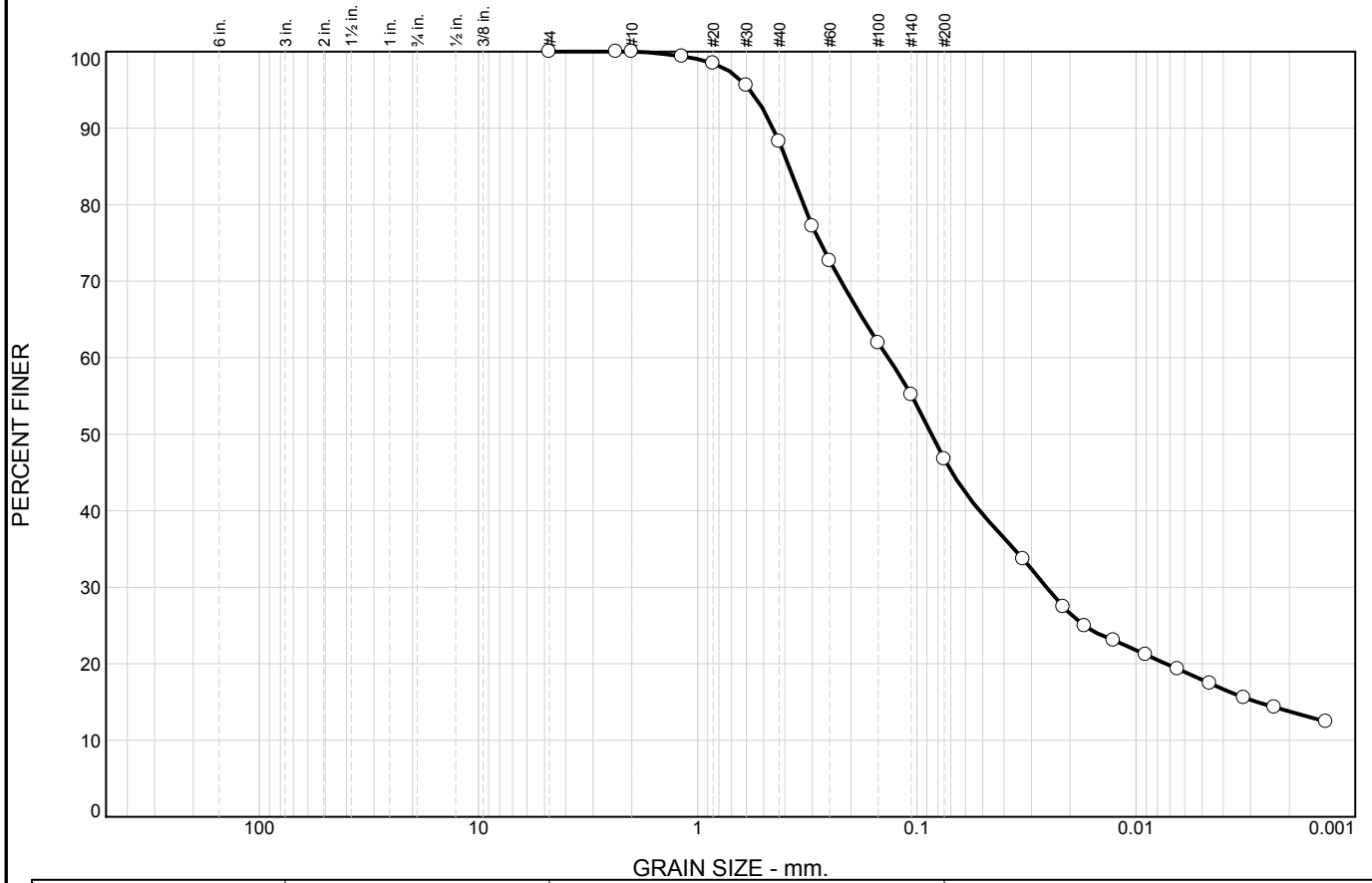
Remarks

* (no specification provided)

Sample No.: 5-B14@17' **Source of Sample:** GEX **Date:** 12/30/2010
Location: RD-17 **Elev./Depth:** 17.0'

ENGEO, Inc. Rocklin, CA	Client: Project: RD-17 Project No: 5747.000.000
Figure	

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	11.7	41.6	28.8	17.9

LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
31	23	0.3831	0.1352	0.0858	0.0256	0.0028			

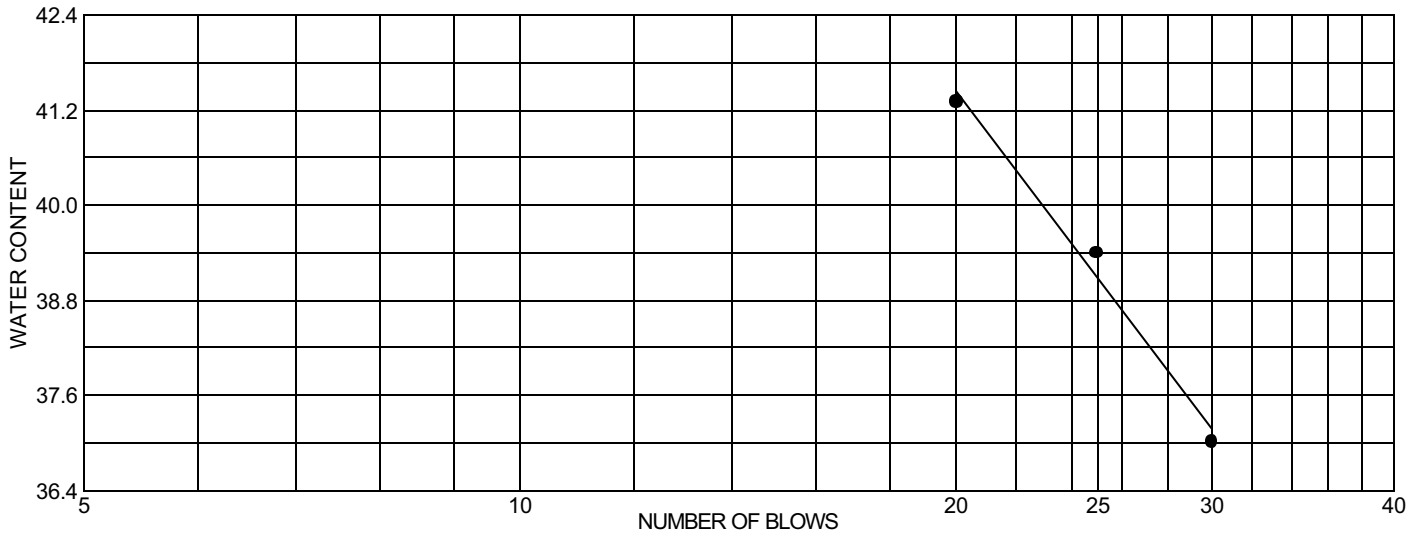
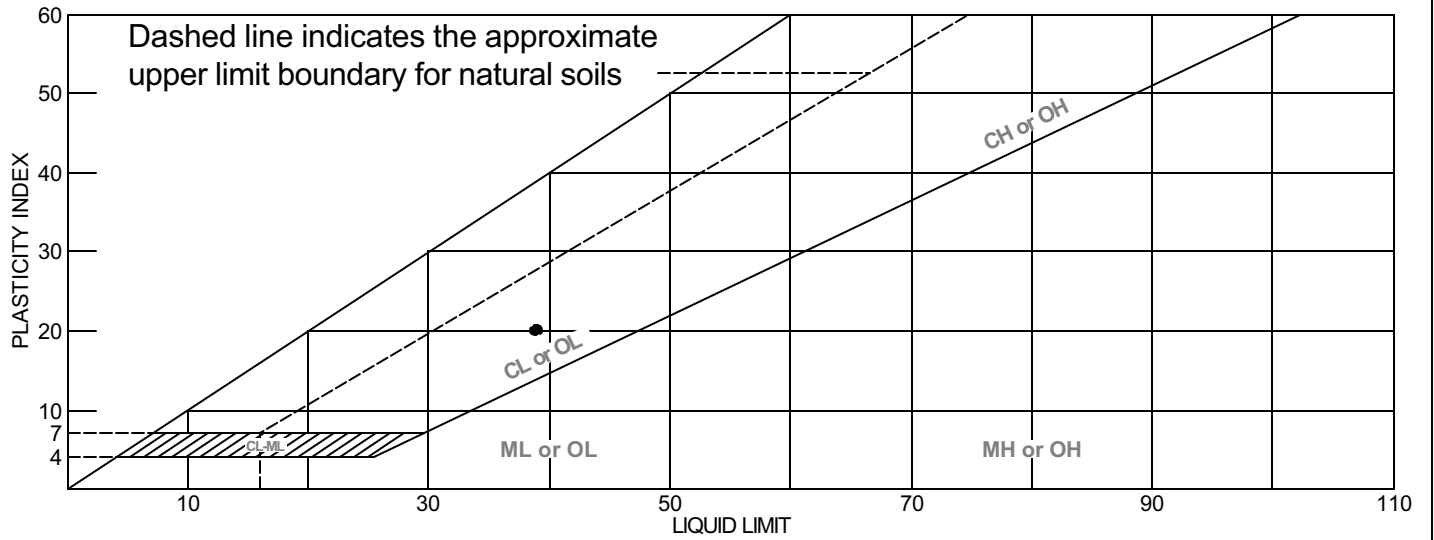
Material Description	USCS	AASHTO
See Exploratory Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Depth: 4.5'-5' Sample Number: 5-CPT1 @ 4.5'-5'</p>	<p>Remarks:</p>
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<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Figure</p>
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Tested By: RWS **Checked By:** KEL

LIQUID AND PLASTIC LIMITS TEST REPORT

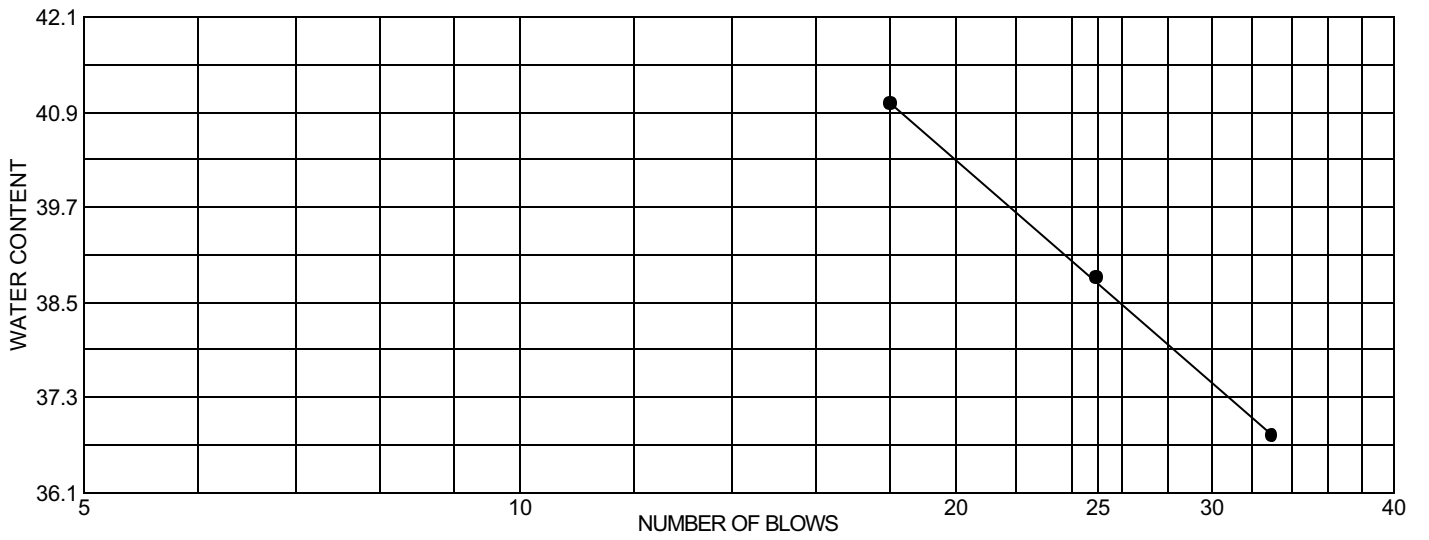
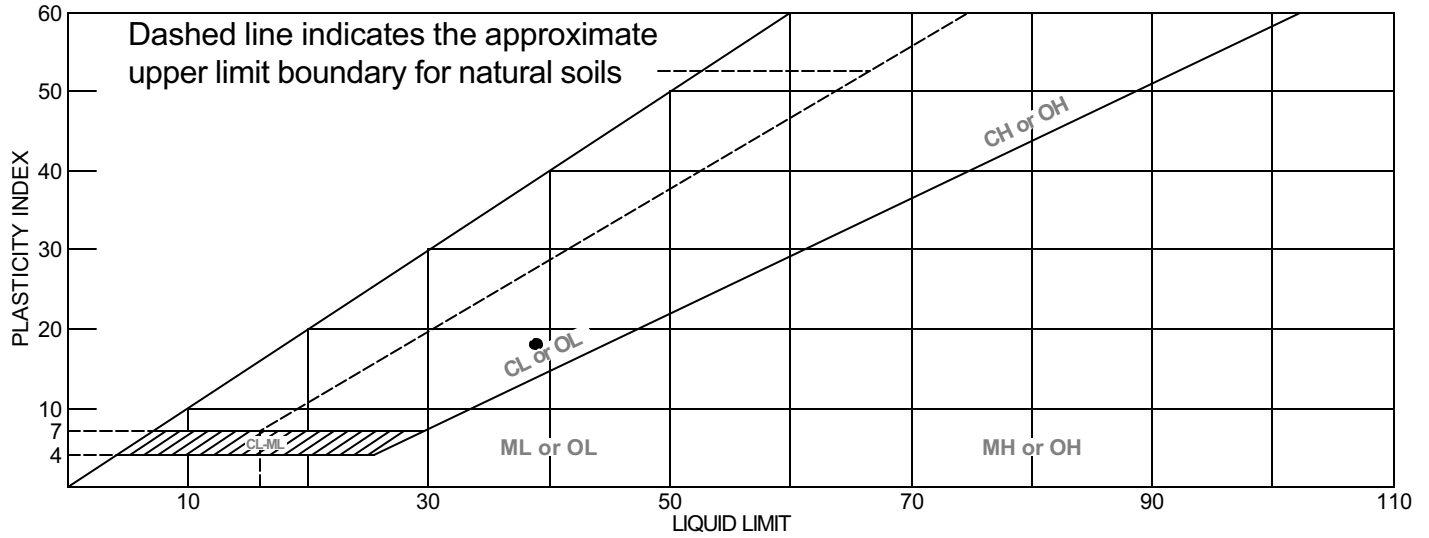


	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring Logs	39	19	20	63.5	37.3	

Project No. 5747.000.000 Client: _____
 Project: RD-17 Levee Seepage Project
 Source: _____ Sample No.: 3-B2 @ 5.5' Elev./Depth: 5.5'

Remarks:
 ● See Exploratory Boring Logs

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring Logs	39	21	18	61.8	34.4	

Project No. 5747.000.000 **Client:** _____

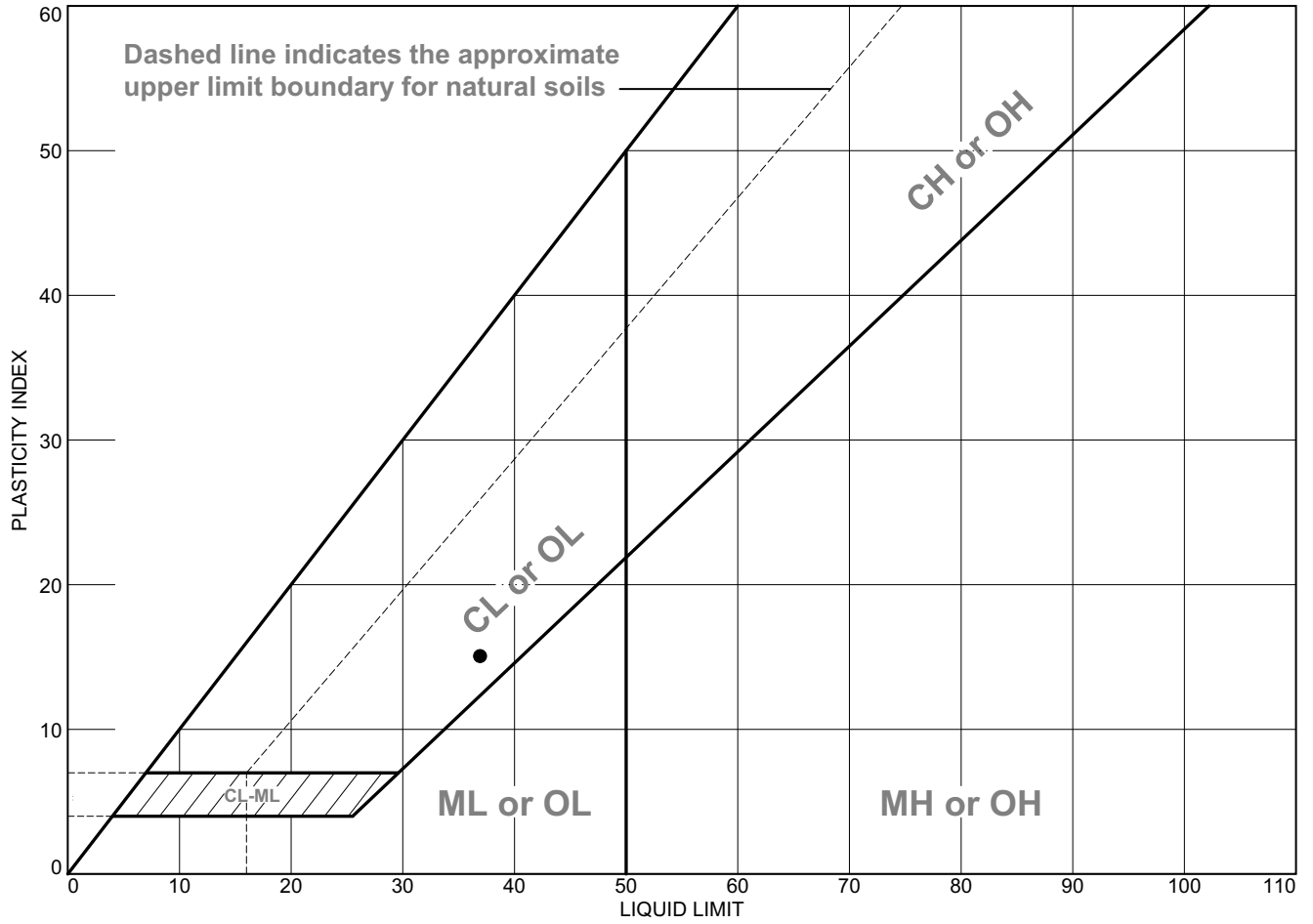
Project: RD-17 Levee Seepage Project

Source: _____ **Sample No.:** 3-B3 @ 6' **Elev./Depth:** 6'

Remarks:

● See Exploratory Boring Logs

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Exploratory Boring Logs	37	22	15		88.7	

Project No. 5747.000.000 **Client:**

Project: RD-17 Levee Seepage Project

● **Depth:** 21.5' **Sample Number:** 4-B2 @ 21.5'

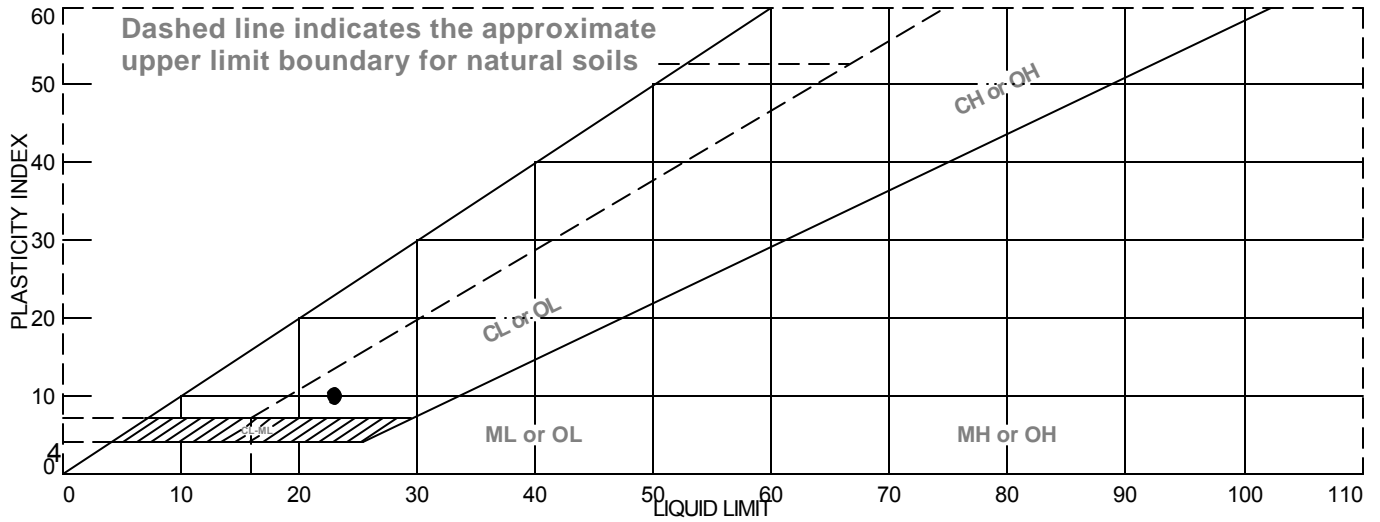
ENGEO, Inc.

Ripon, California

Remarks:

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT




MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● See Boring Logs	23	13	10			

Project No. 5747.000.000 **Client:** _____

Project: RD-17

● **Sample Source:** Boring 5-B1 **Depth:** 13 feet **Sample No.:** 5-B1 @ 13

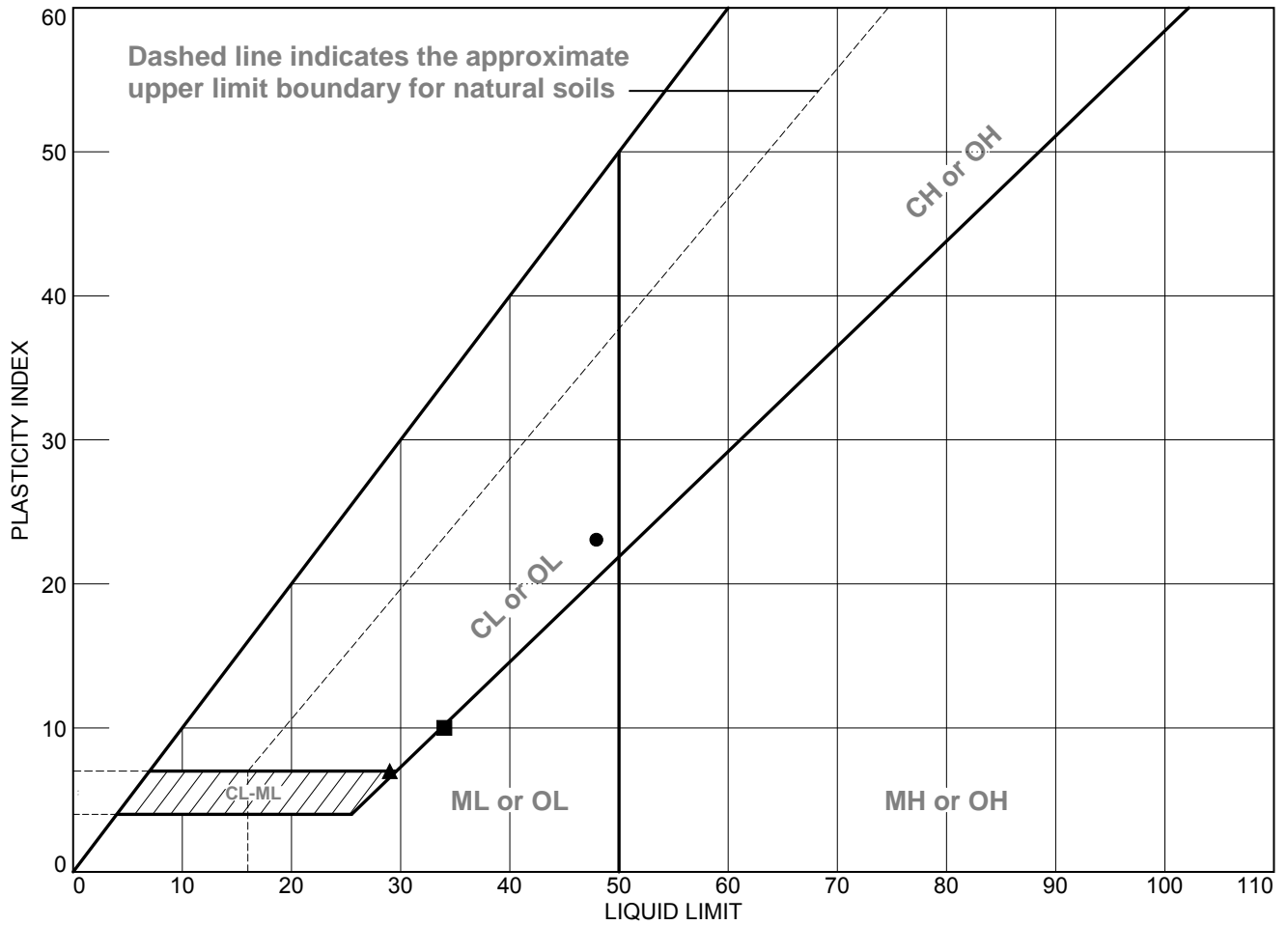


GEOCHEMICAL AND ENVIRONMENTAL CONSULTANTS
LABORATORY TESTING

Remarks:

Plate

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B2 @ 10'	10'		25	48	23	
■		5-B2 @ 14'	14'		24	34	10	
▲		5-B2 @ 40.5'	40.5'		22	29	7	

ENGEO, Inc.

Ripon, California

Client:

Project: RD-17 Levee Seepage Project

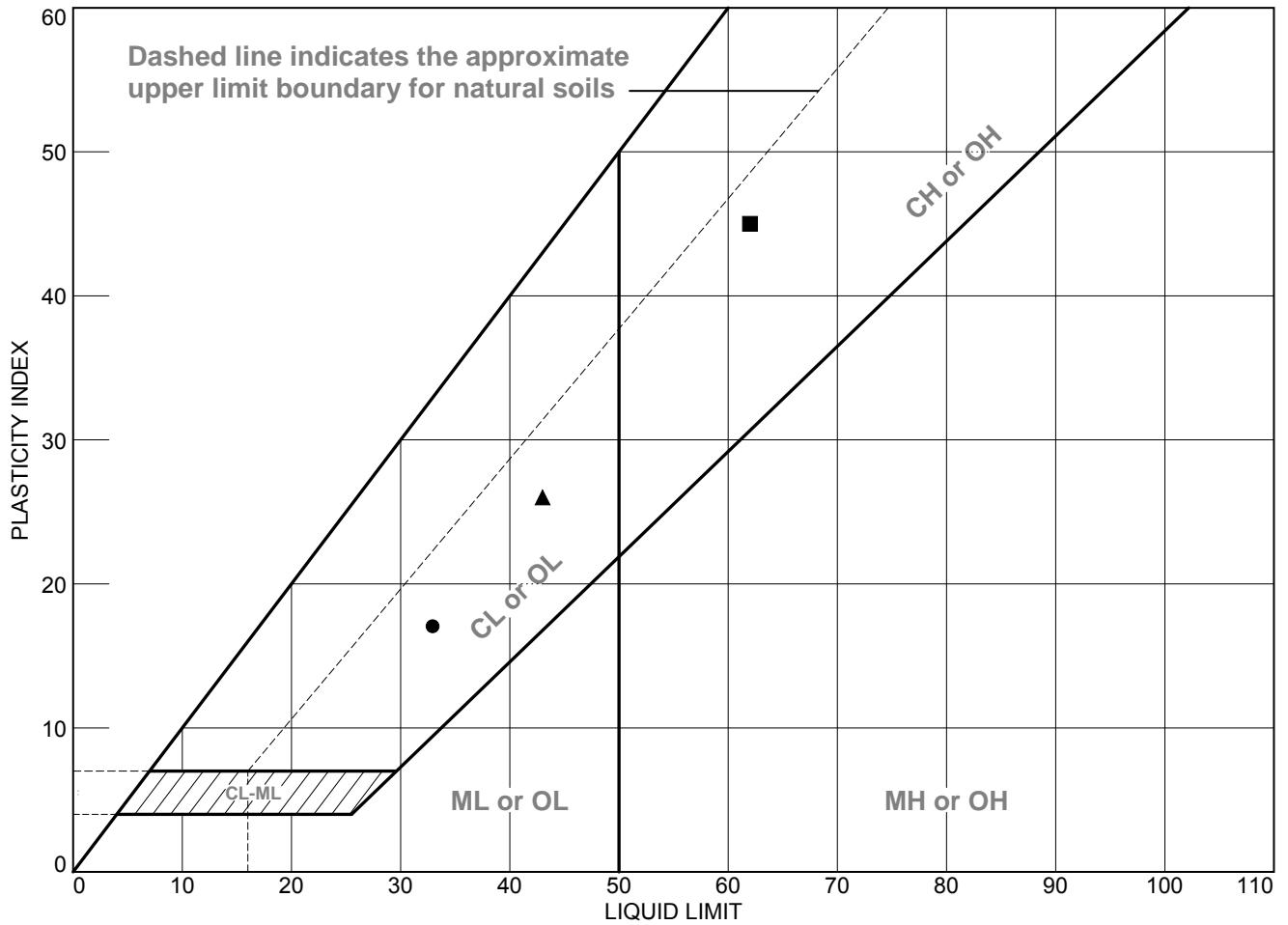
Project No.: 5747.000.000 (001)

Figure

Tested By: RWS

Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B2 @ 66'	66'		16	33	17	
■		5-B2 @ 70.5'	70.5'		17	62	45	
▲		5-B2 @ 75.5'	75.5'		17	43	26	

ENGEO, Inc.

Ripon, California

Client:

Project: RD-17 Levee Seepage Project

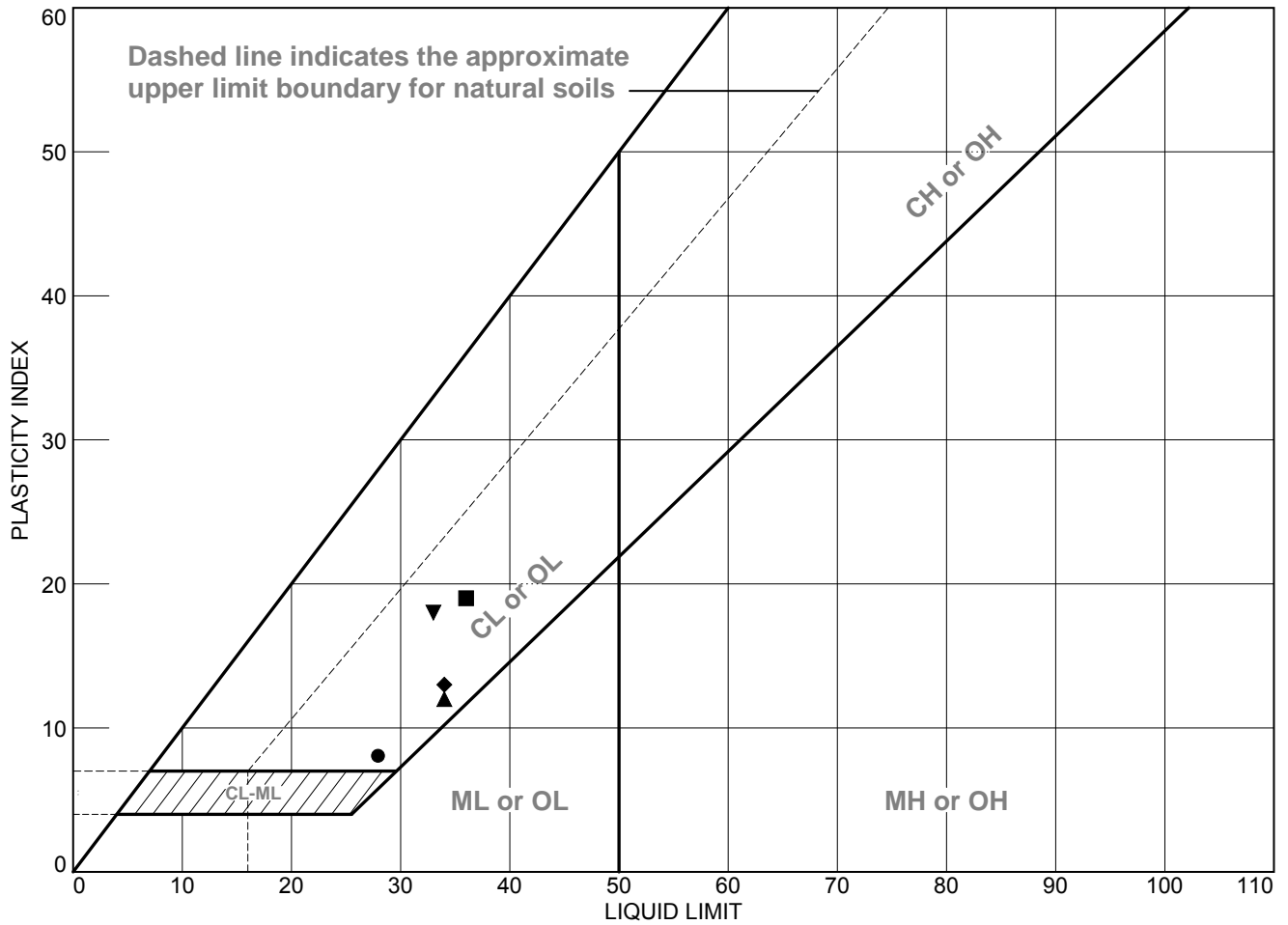
Project No.: 5747.000.000 (001)

Figure

Tested By: RWS

Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B3 @ 30'	30'		20	28	8	
■		5-B3 @ 60.5'	60.5'		17	36	19	
▲		5-B3 @ 85.5'	85.5'		22	34	12	
◆		5-B3 @ 91'	91'		21	34	13	
▼		5-B3 @ 100'	100'		15	33	18	

ENGEO, Inc.

Ripon, California

Client:

Project: RD-17 Levee Seepage Project

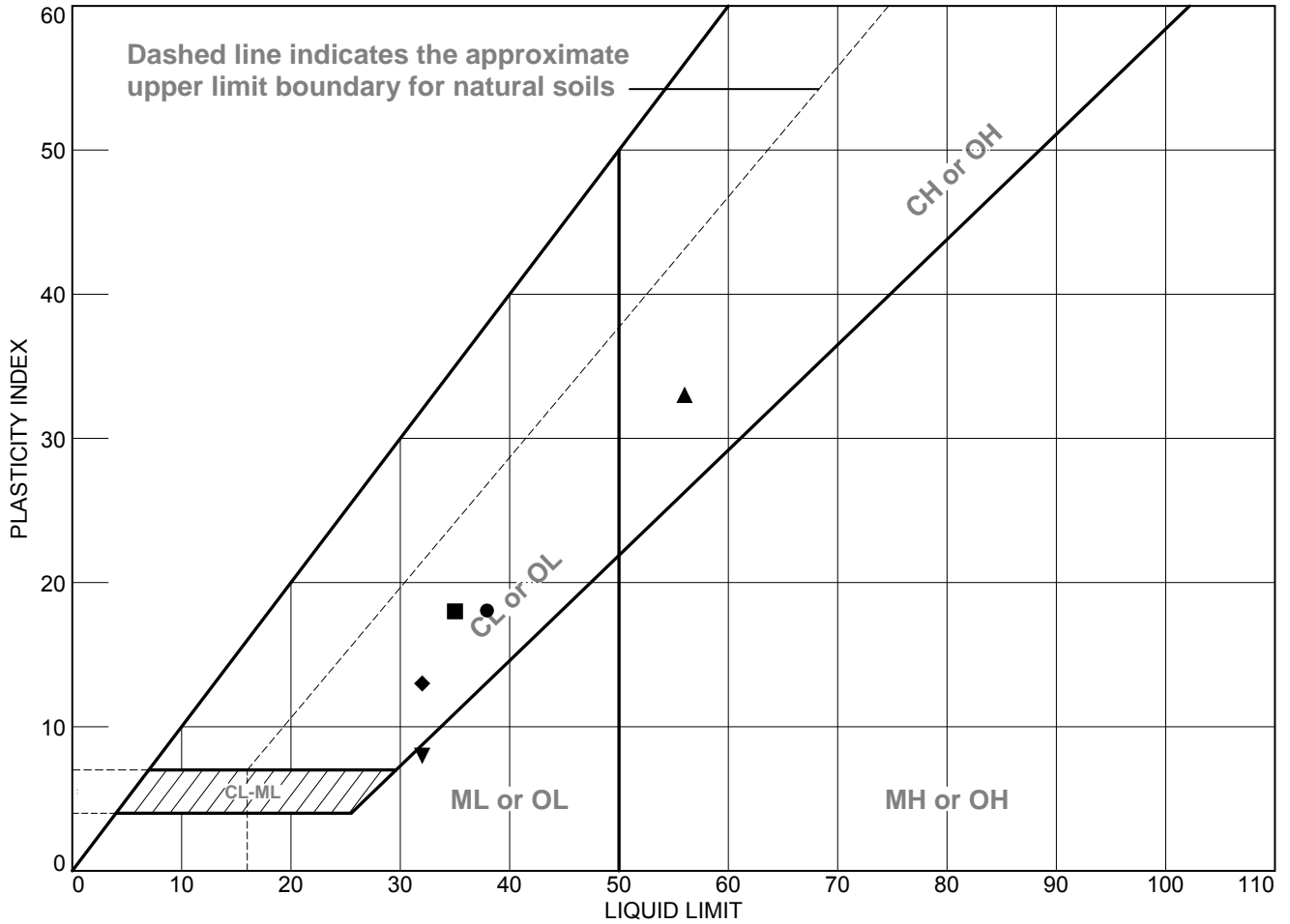
Project No.: 5747.000.000 (001)

Figure

Tested By: RWS

Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT

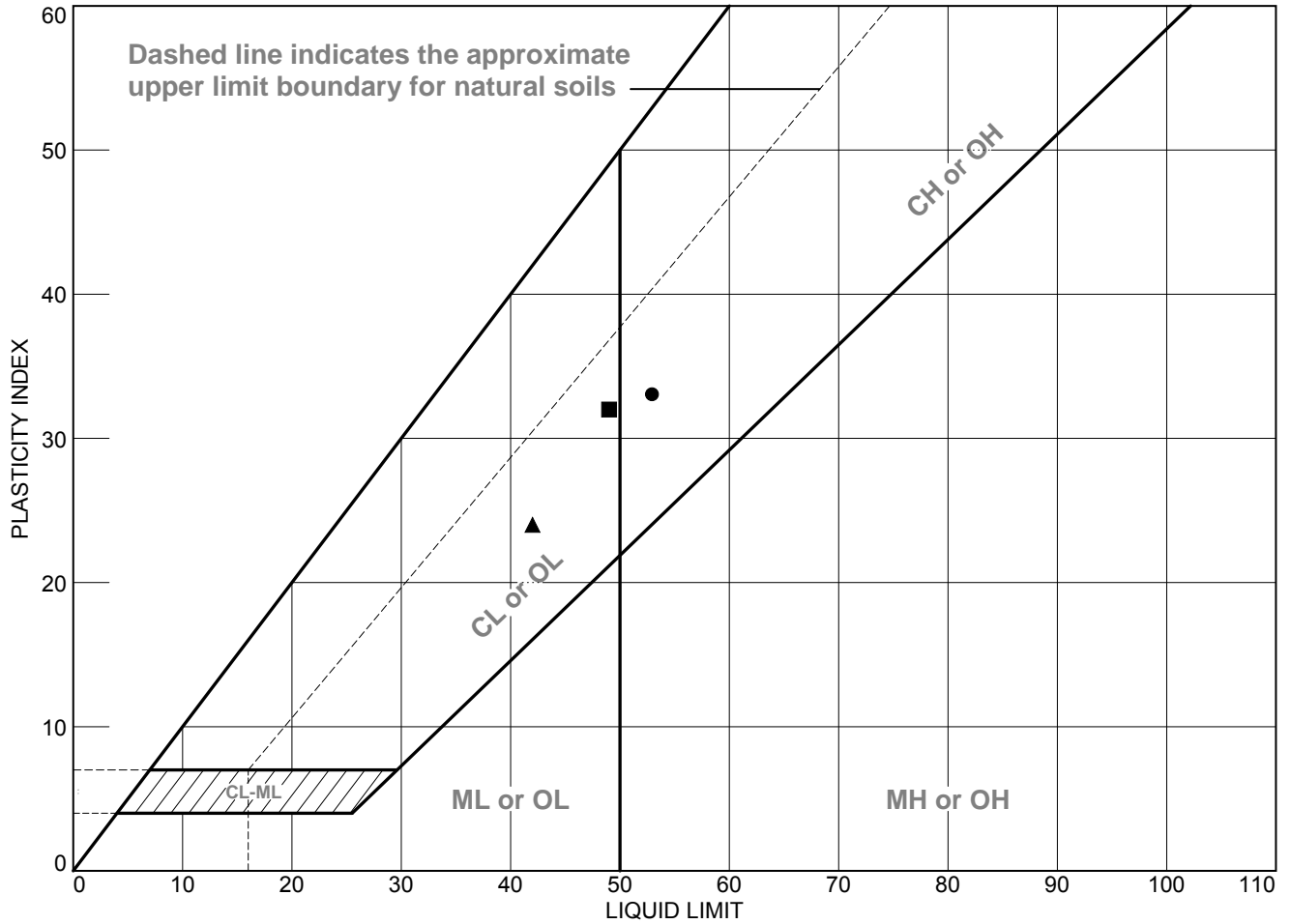


SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B4 @ 1.5'	1.5'		20	38	18	
■		5-B4 @ 2'	2'		17	35	18	
▲		5-B4 @ 7.5'	7.5'		23	56	33	
◆		5-B4 @ 11'	11'		19	32	13	
▼		5-B4 @ 15.5'	15.5'		24	32	8	

<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Project No.: 5747.000.000 (001)</p>
<p>Figure</p>	

Tested By: RWS Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B4 @ 51'	51'		20	53	33	
■		5-B4 @ 62'	62'		17	49	32	
▲		5-B4 @ 70'	70'		18	42	24	

ENGEO, Inc.

Ripon, California

Client:

Project: RD-17 Levee Seepage Project

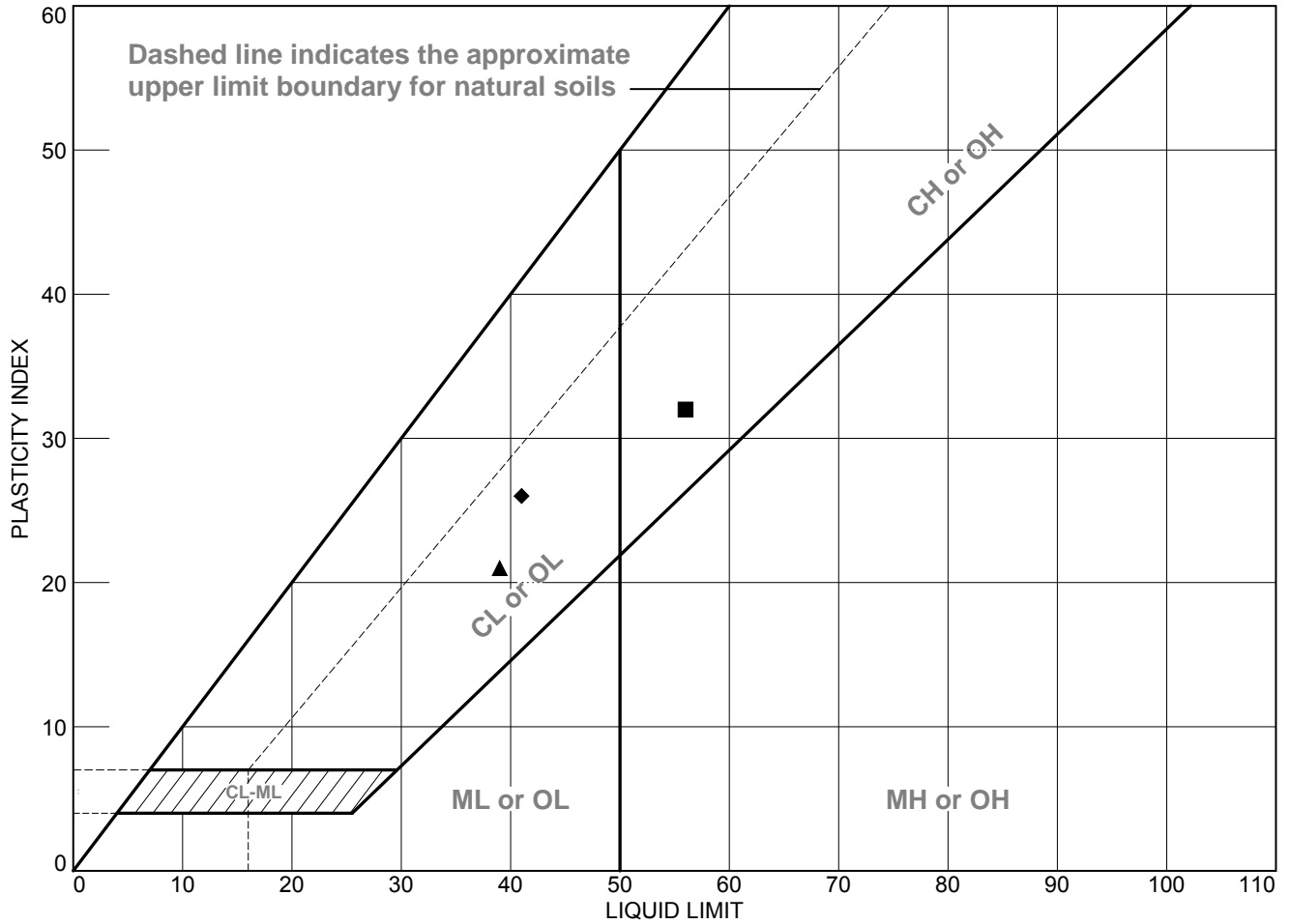
Project No.: 5747.000.000 (001)

Figure

Tested By: RWS

Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT

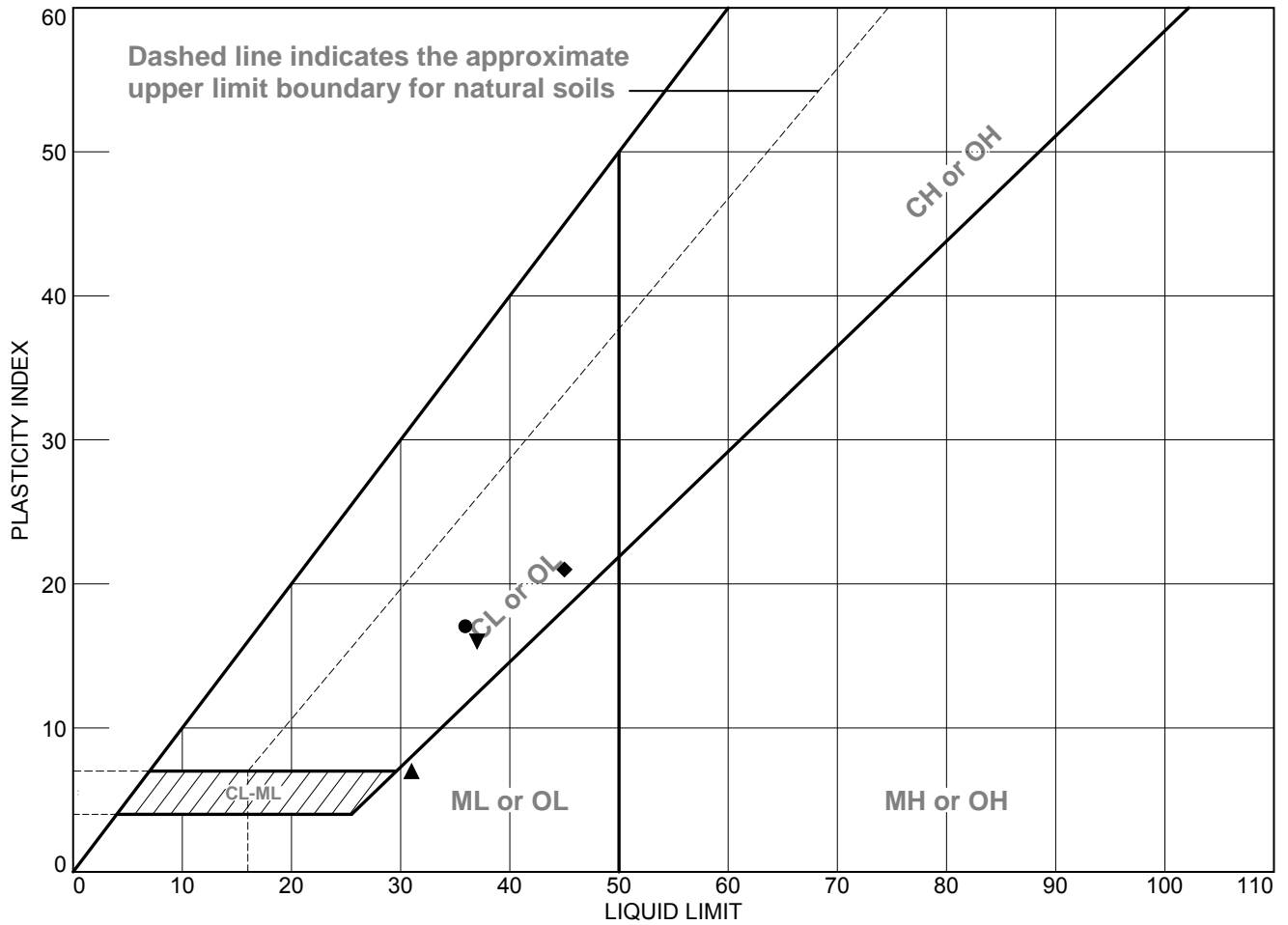


SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B5 @ 5'	5'		NP	NV	NP	
■		5-B5 @ 16'	16'		24	56	32	
▲		5-B5 @ 65.5'	65.5'		18	39	21	
◆		5-B5 @ 71'	71'		15	41	26	

<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Project No.: 5747.000.000 (001)</p>
<p>Figure</p>	

Tested By: RWS Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B6 @ 2.0'	2.0'		19	36	17	CL
■		5-B6 @ 4.0'	4.0'		NP	NV	NP	
▲		5-B6 @ 7.0'	7.0'		24	31	7	ML
◆		5-B6 @ 13.0'	13.0'		24	45	21	CL
▼		5-B6 @ 50.0'	50.0'		21	37	16	CL

ENGEO, Inc.

Ripon, California

Client:

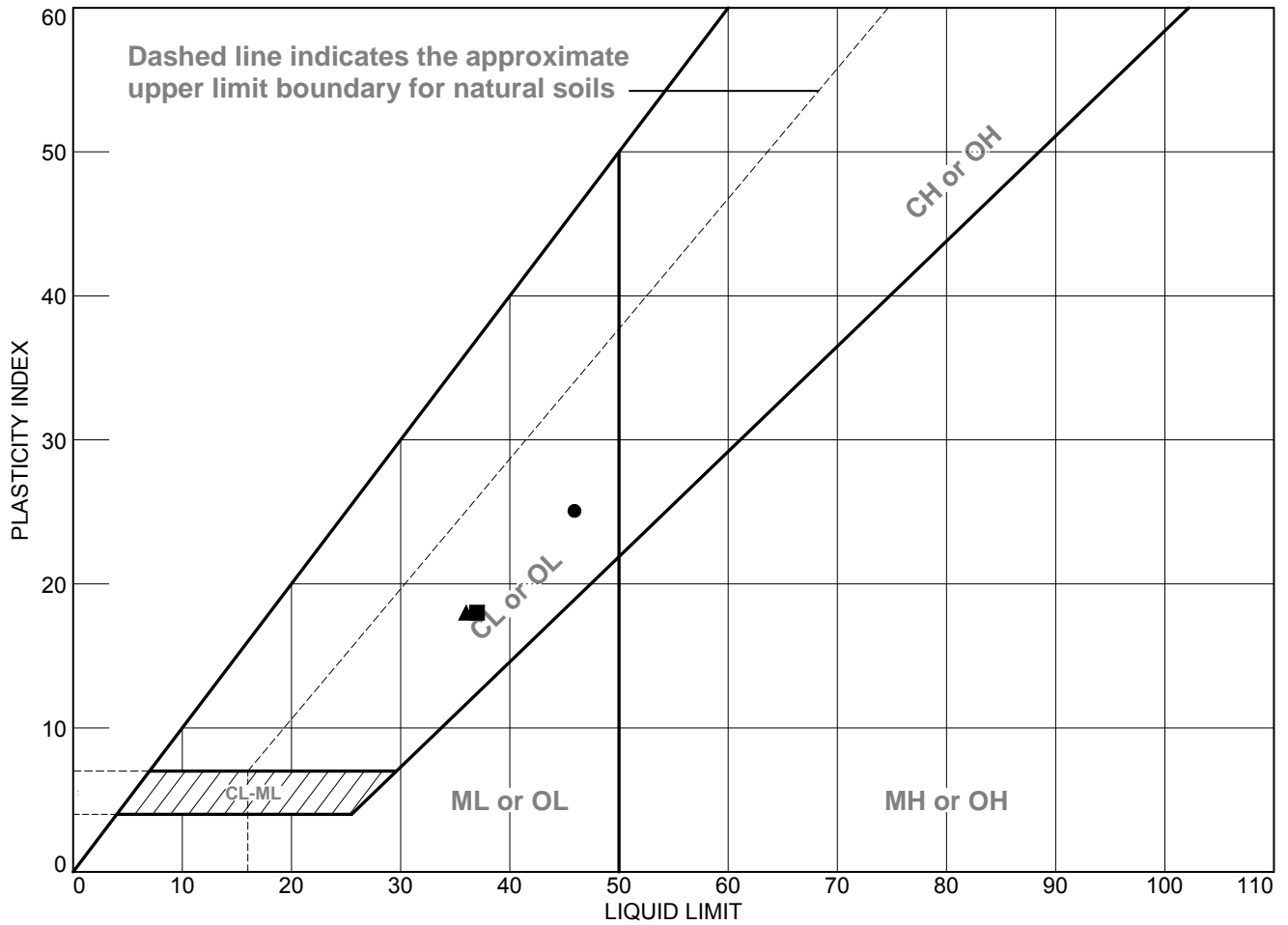
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Figure

Tested By: ○ SSJ □ KEL ▲ KEL ◆ SSJ ▼ SSJ Checked By: MS

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B7 @ 15'	15'		21	46	25	
■		5-B7 @ 31.5'	31.5'		19	37	18	
▲		5-B7 @ 80.5'	80.5'		18	36	18	

ENGEO, Inc.

Ripon, California

Client:

Project: RD-17 Levee Seepage Project

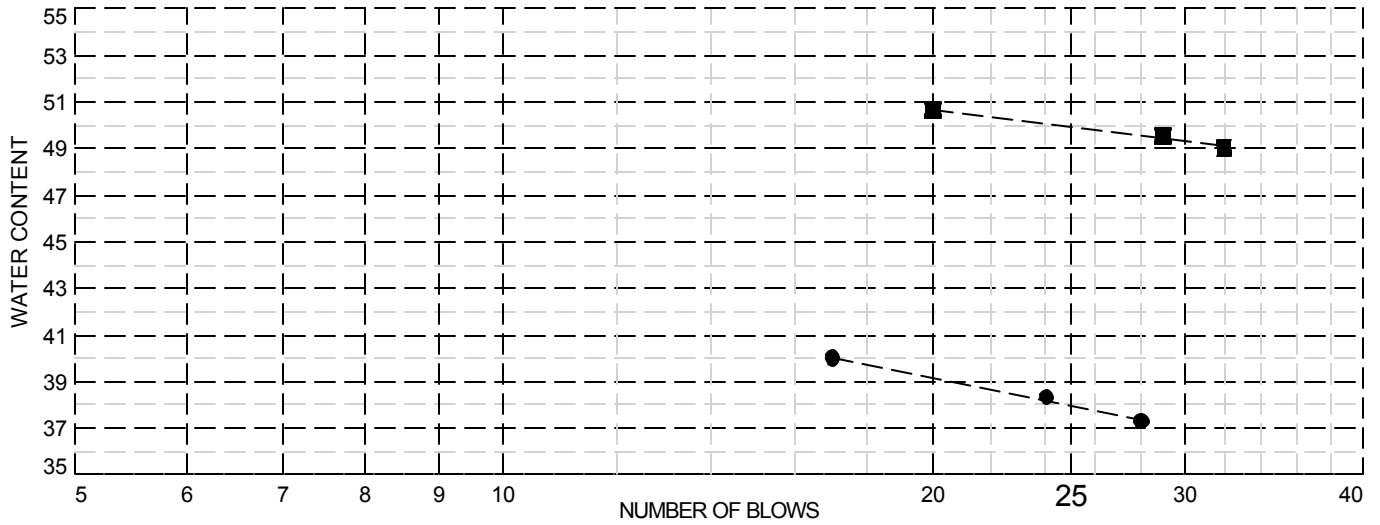
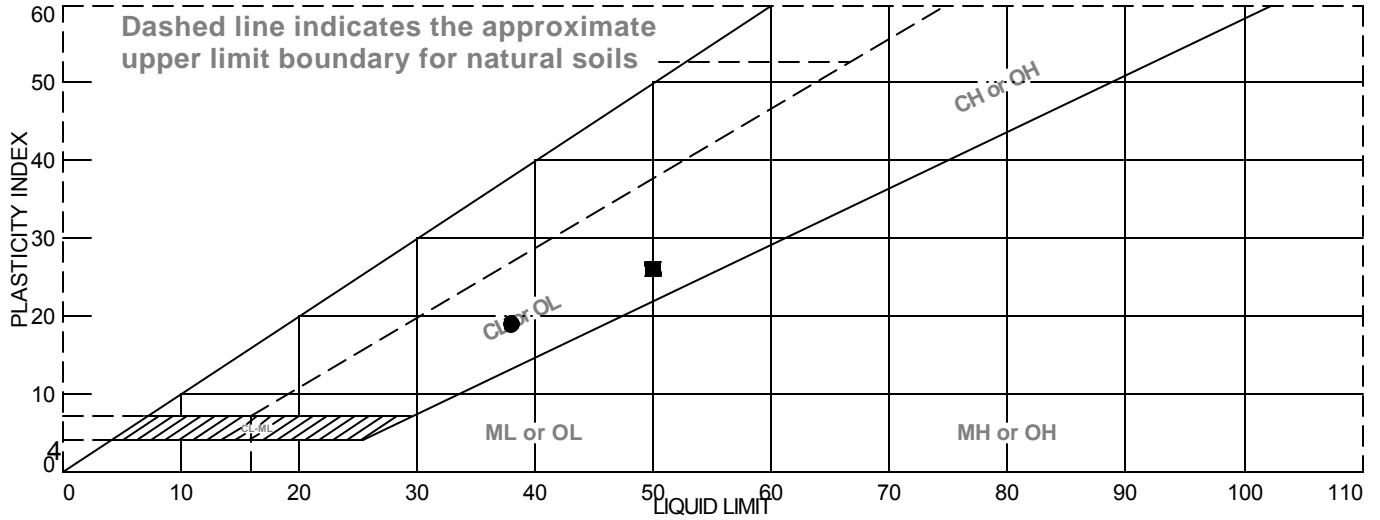
Project No.: 5747.000.000 (001)

Figure

Tested By: RWS

Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See Boring Logs	38	19	19		94.4	
■	See Boring Logs	50	24	26		96.4	

Project No. 5747.000.000 **Client:**

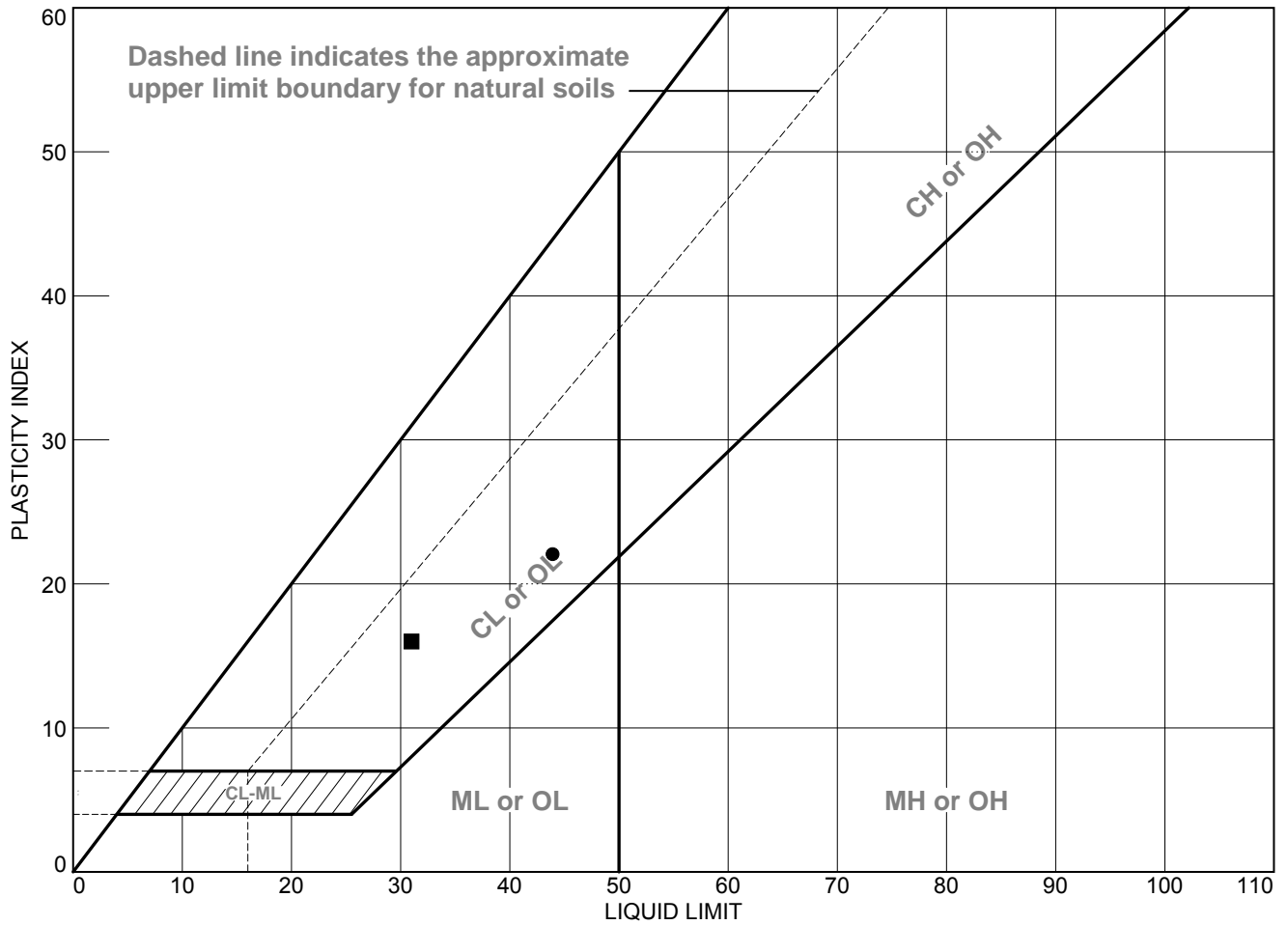
Project: RD-17

● **Location:** 5-B7 **Depth:** 27.0 feet **Sample Number:** 5-B7 @ 27

■ **Location:** 5-B7 **Depth:** 24.0 feet **Sample Number:** 5-B7 @ 24

Remarks:

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B8 @ 6.5'	6.5'		22	44	22	
■		5-B8 @ 51'	51'		15	31	16	

ENGEO, Inc.

Ripon, California

Client:

Project: RD-17 Levee Seepage Project

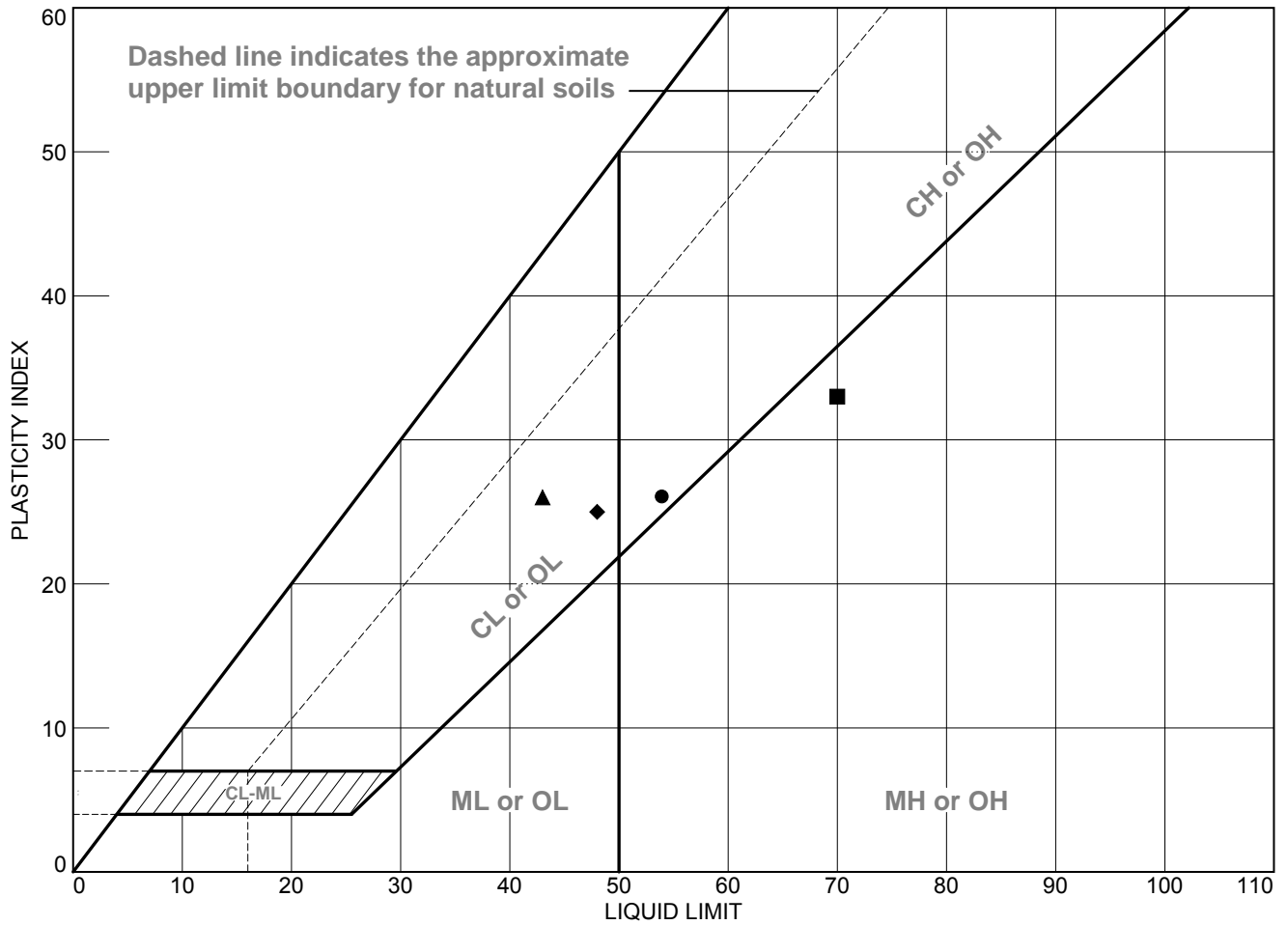
Project No.: 5747.000.000 (001)

Figure

Tested By: RWS

Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B9 @ 1'	1'		28	54	26	
■		5-B9 @ 6'	6'		37	70	33	
▲		5-B9 @ 25'	25'		17	43	26	
◆		5-B9 @ 40'	40'		23	48	25	

ENGEO, Inc.

Ripon, California

Client:

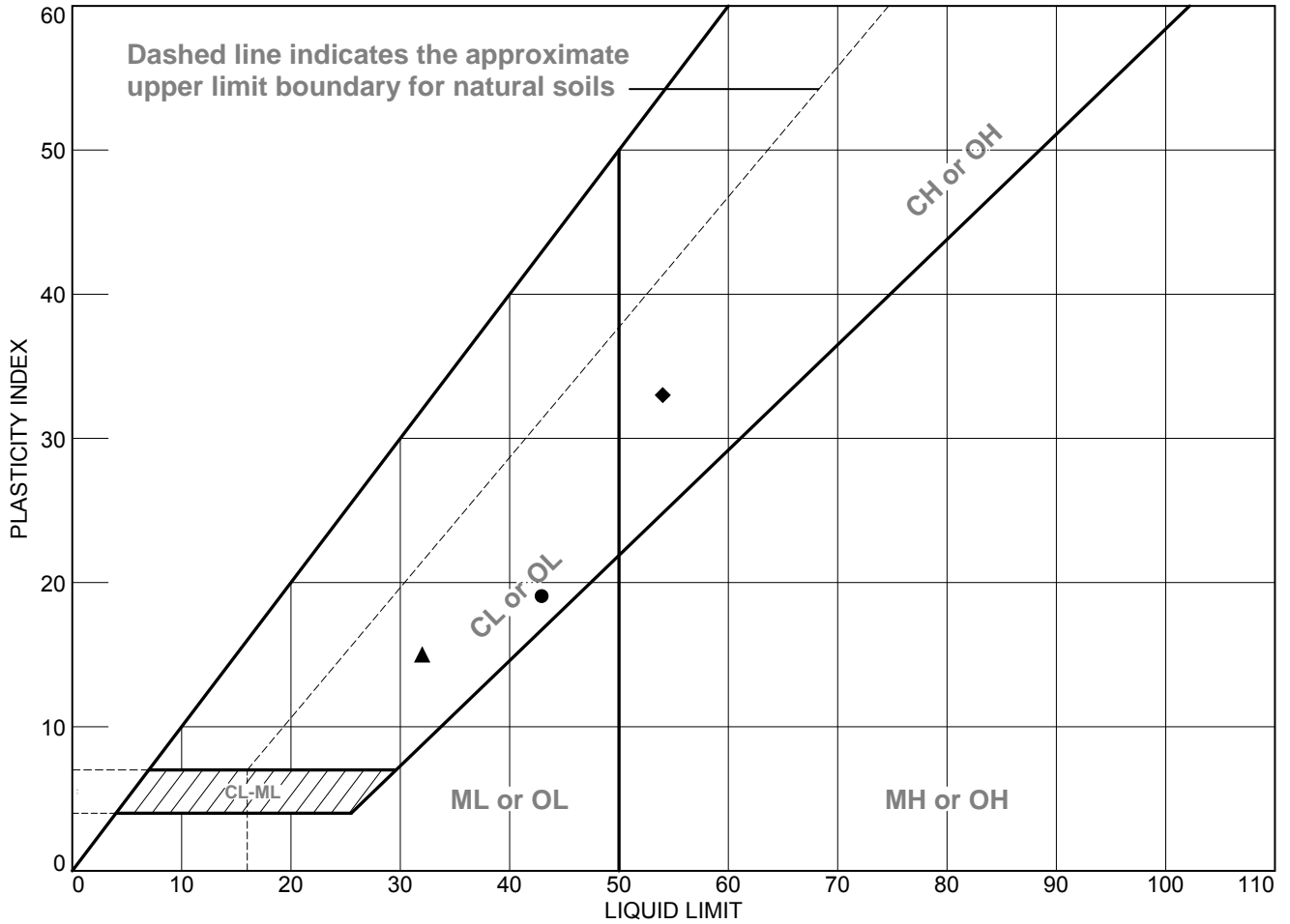
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Figure

Tested By: ○ RWS □ JS ▲ JS ◆ RWS **Checked By:** KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



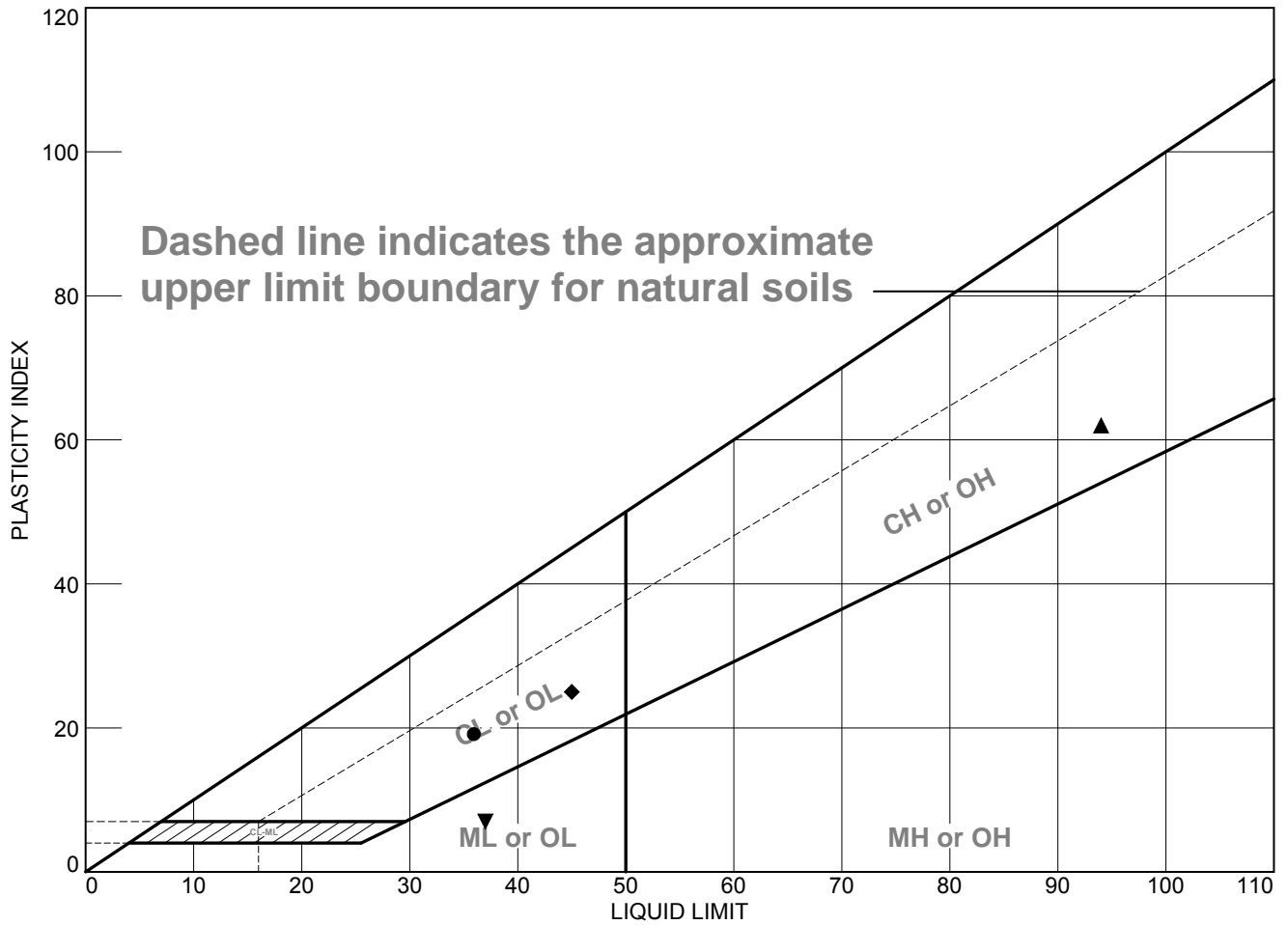
SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B10 @ 11.5'	11.5'		24	43	19	
■		5-B10 @ 14'	14'		NP	NV	NP	
▲		5-B10 @ 35'	35'		17	32	15	
◆		5-B10 @ 81'	81'		21	54	33	

<p>ENGEO, Inc.</p> <p>Ripon, California</p>	<p>Client:</p> <p>Project: RD-17 Levee Seepage Project</p> <p>Project No.: 5747.000.000 (001)</p>
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Figure

Tested By: RWS Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B11 @ .5'	.5'		17	36	19	
■		5-B11 @ 2.5'	2.5'		NP	NV	NP	
▲		5-B11 @ 14'	14'		32	94	62	
◆		5-B11 @ 45.5'	45.5'		20	45	25	
▼		5-B11 @ 56.5'	56.5'		30	37	7	

ENGEO, Inc.

Ripon, California

Client:

Project: RD-17 Levee Seepage Project

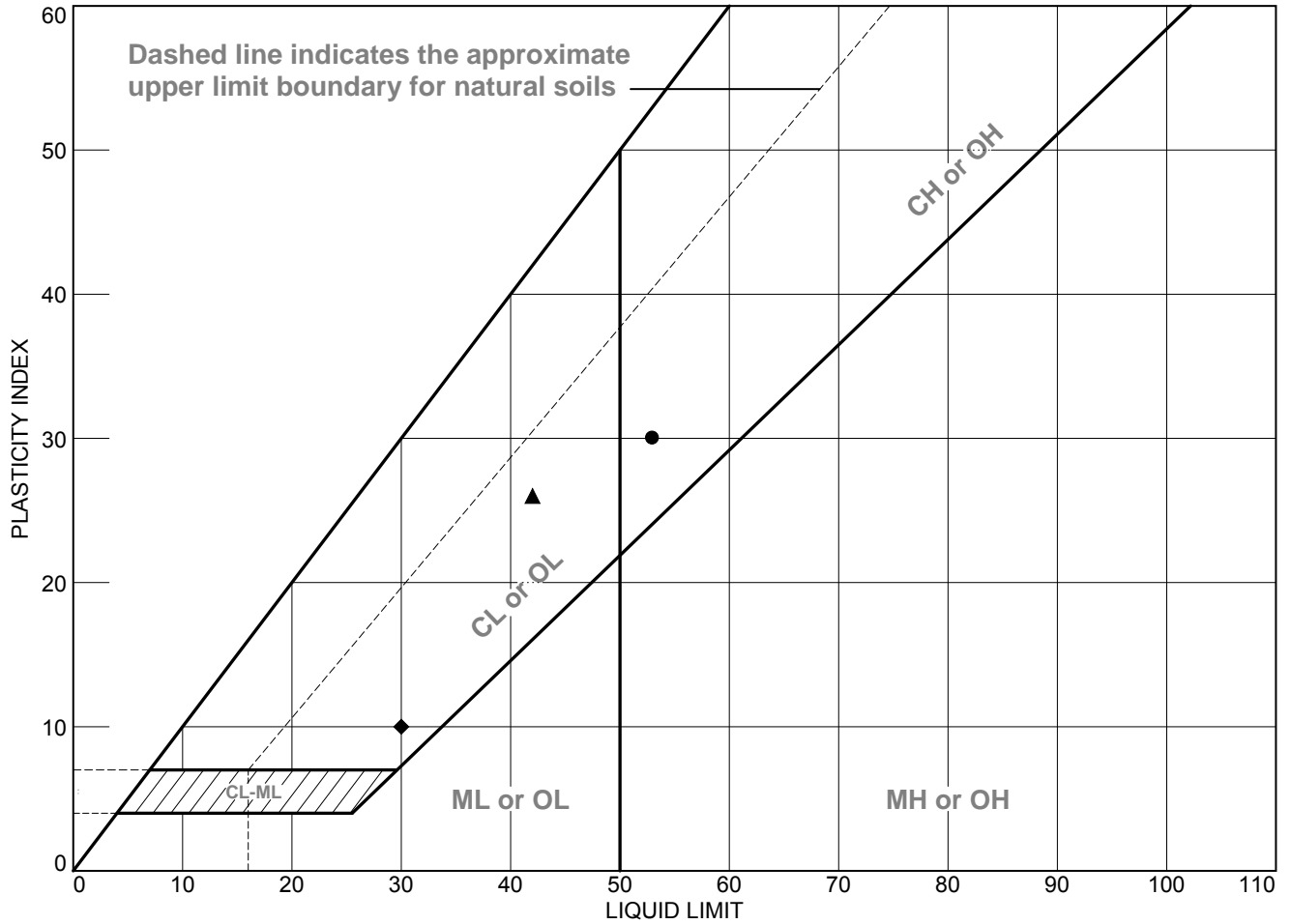
Project No.: 5747.000.000 (001)

Figure

Tested By: RWS

Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B12 @ 2.5'	2.5'		23	53	30	
■		5-B12 @ 50'	50'		NP	NV	NP	
▲		5-B12 @ 55'	55'		16	42	26	
◆		5-B12 @ 60'	60'		20	30	10	

ENGEO, Inc.

Ripon, California

Client:

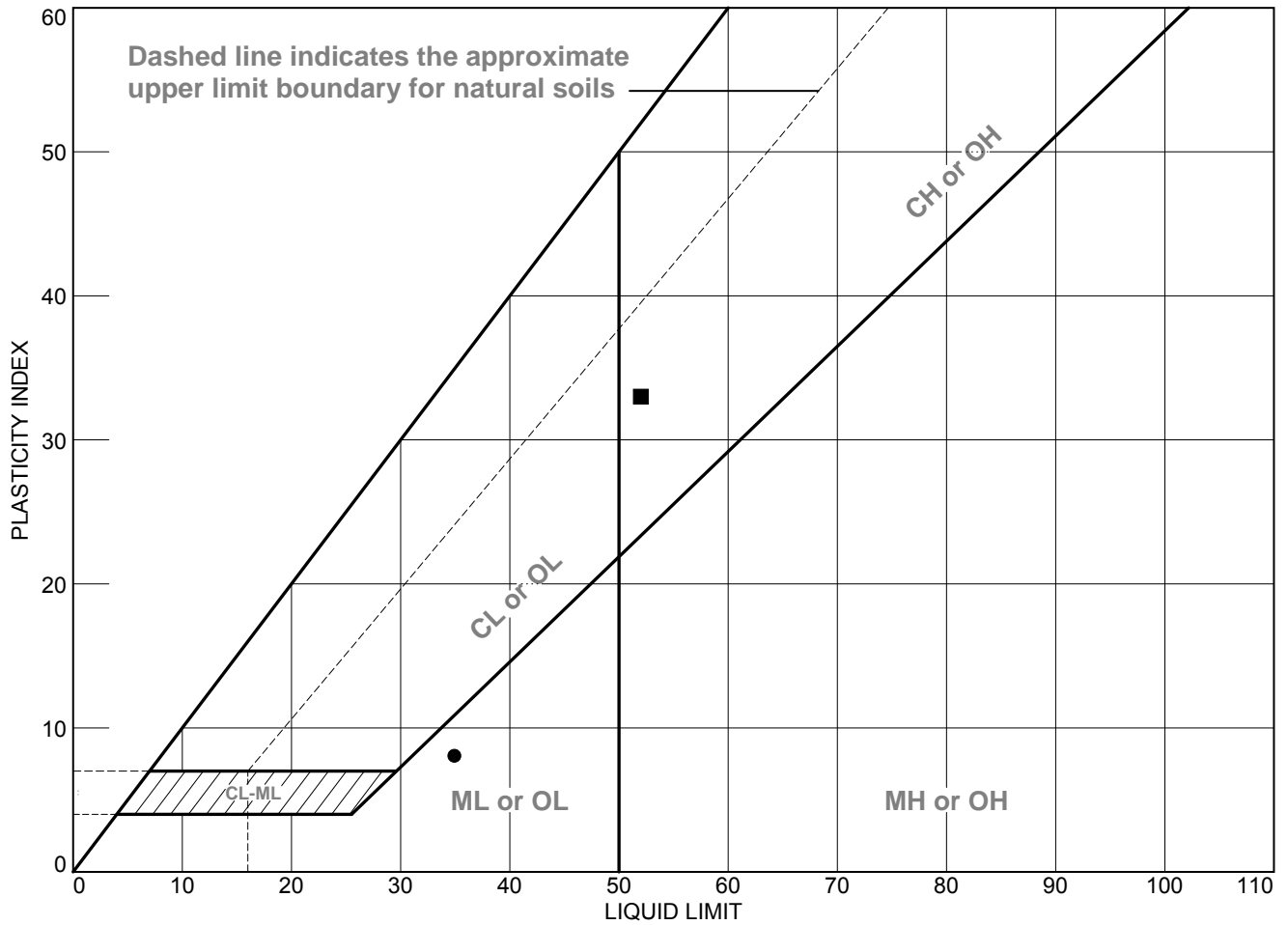
Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

Figure

Tested By: ○ SSJ □ SSJ △ RWS ◇ RWS **Checked By:** KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-B13 @ 7.5'	7.5'		27	35	8	
■		5-B13 @ 51'	51'		19	52	33	

ENGEO, Inc.

Ripon, California

Client:

Project: RD-17 Levee Seepage Project

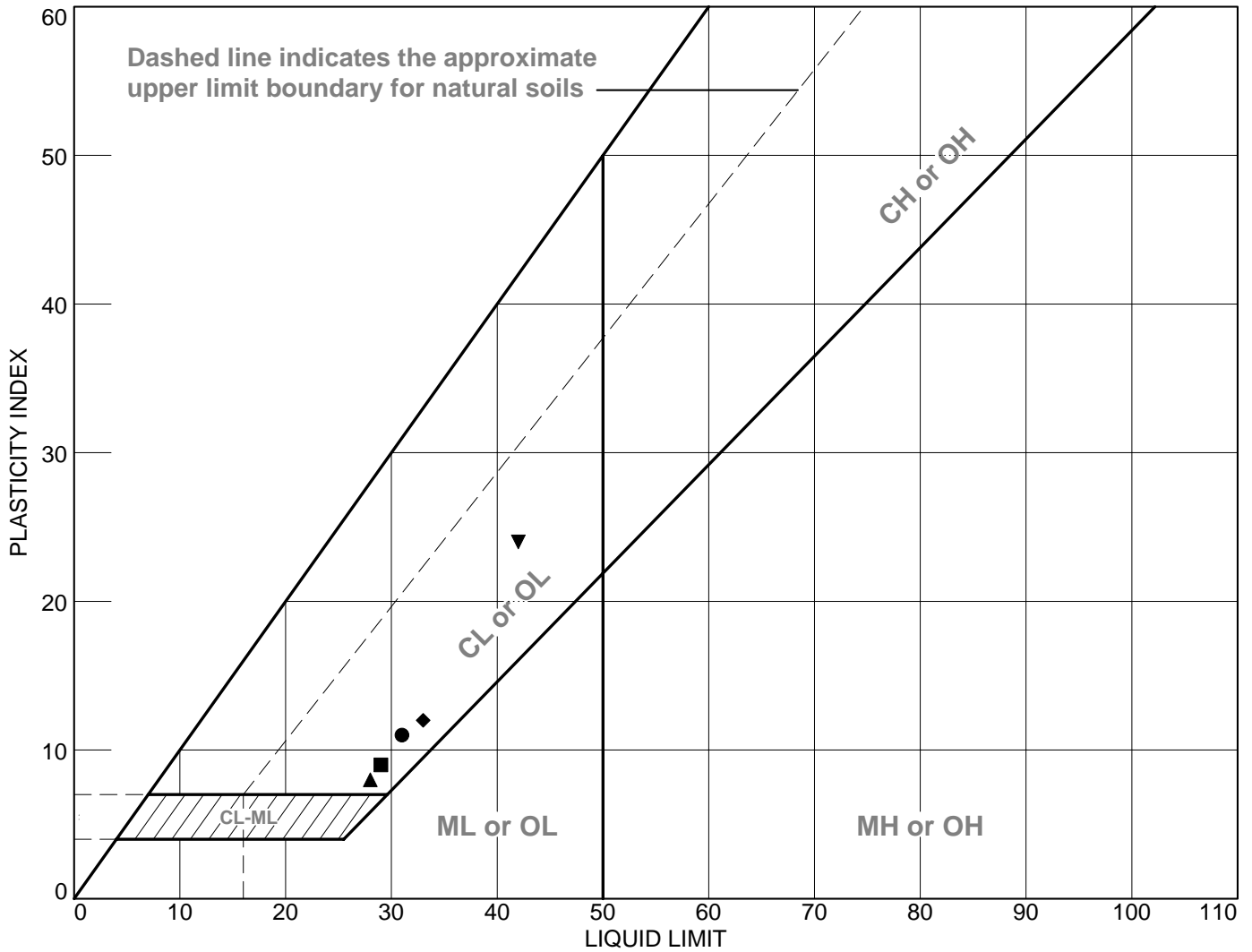
Project No.: 5747.000.000 (001)

Figure

Tested By: RWS

Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	GEX	5-B14@0.5	0.5'		20	31	11	
■	GEX	5-B14@6.5	6.5'		20	29	9	
▲	GEX	5-B14@16.0	16.0'		20	28	8	
◆	GEX	5-B14@19.0	19.0'		21	33	12	
▼	GEX	5-B14@30.5	30.5'		18	42	24	

ENGEO, Inc.

Rocklin, CA

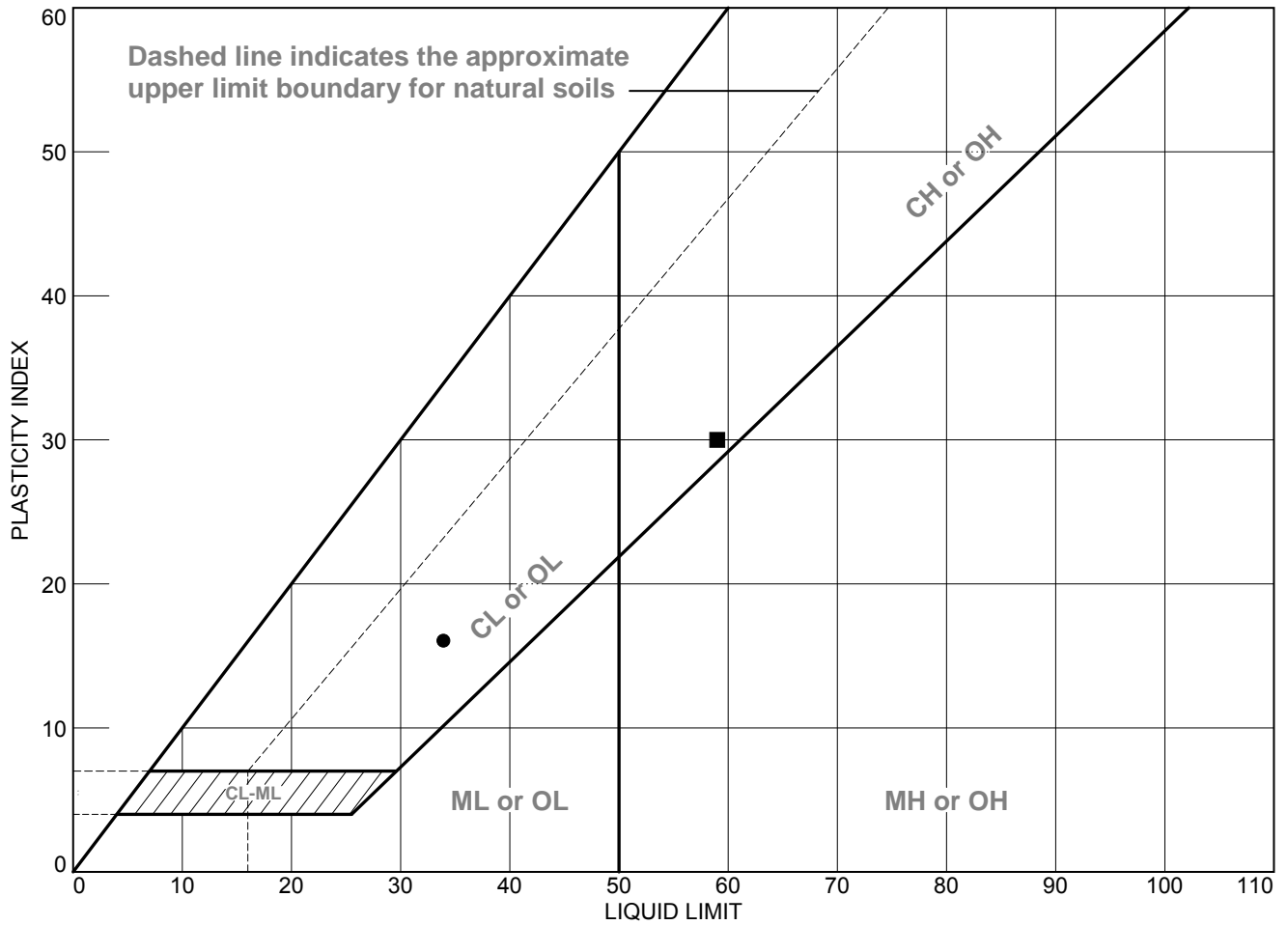
Client:
Project: RD-17

Project No.: 5747.000.000

Figure

Tested By: JIT

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-CPT1 @ 1'-1.5'	1'-1.5'		18	34	16	
■		5-CPT1 @ 3.5'-4'	3.5'-4'		29	59	30	

ENGEO, Inc.

Ripon , California

Client:

Project: RD-17 Levee Seepage Project

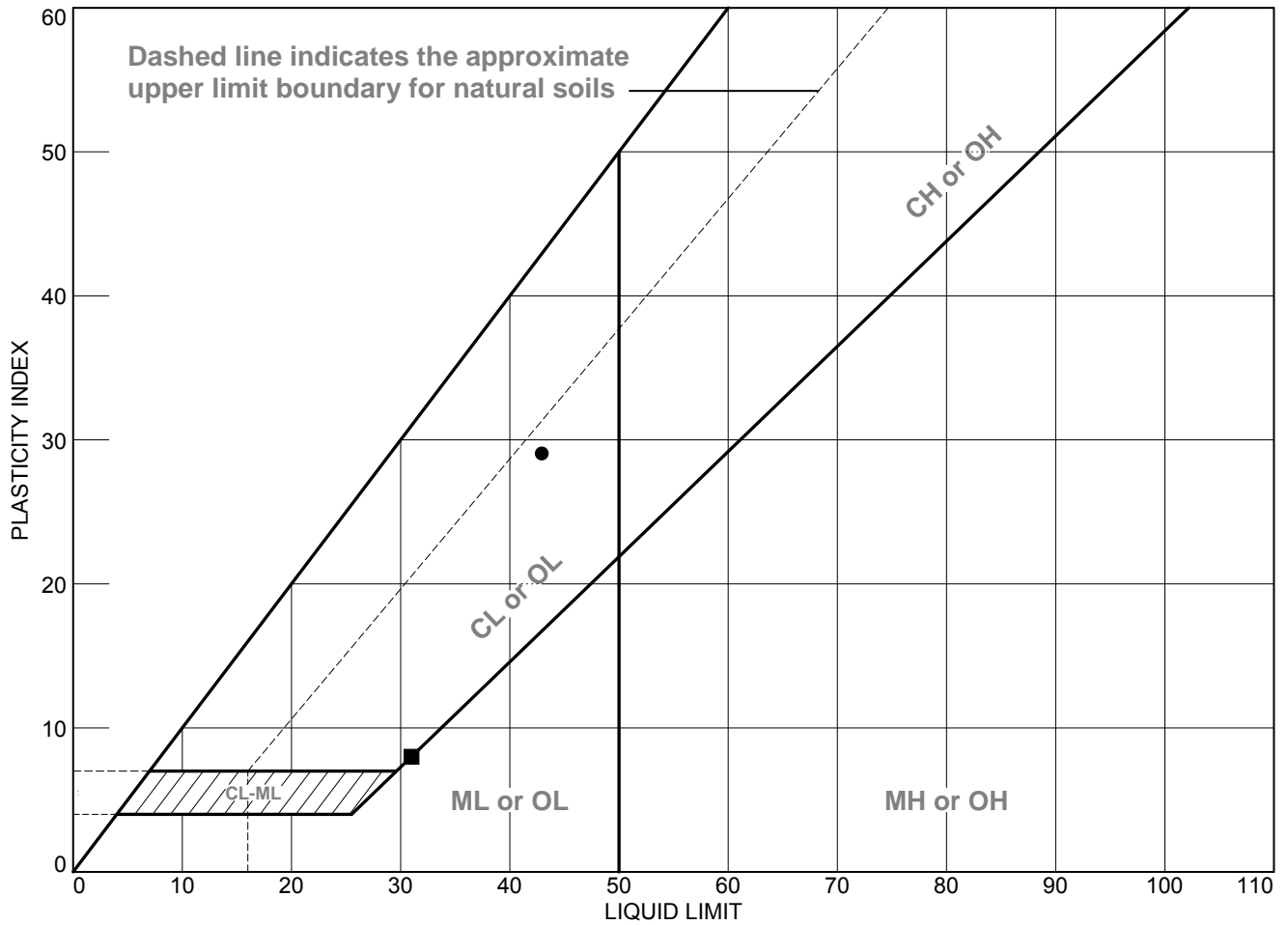
Project No.: 5747.000.000 (001)

Figure

Tested By: RWS

Checked By: KEL

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		5-CPT1 @ 4'-4.5'	4'-4.5'		14	43	29	
■		5-CPT1 @ 4.5'-5'	4.5'-5'		23	31	8	

ENGEO, Inc.

Ripon, California

Client:

Project: RD-17 Levee Seepage Project

Project No.: 5747.000.000 (001)

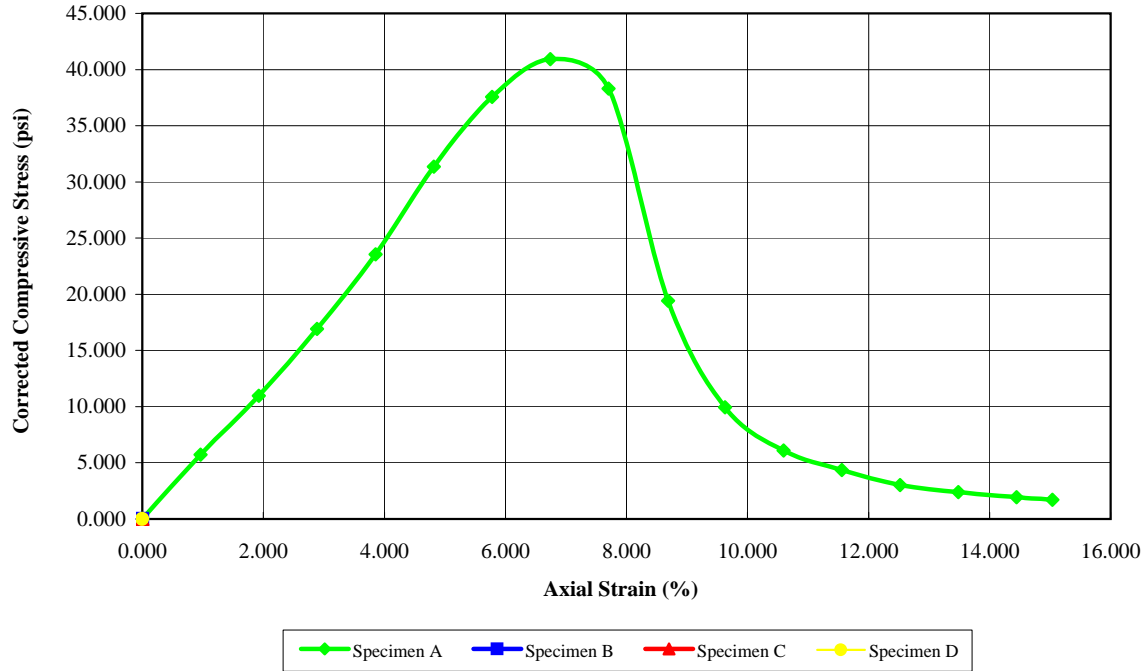
Figure

Tested By: RWS

Checked By: KEL

Unconfined Compression Test Report (ASTM D2166)

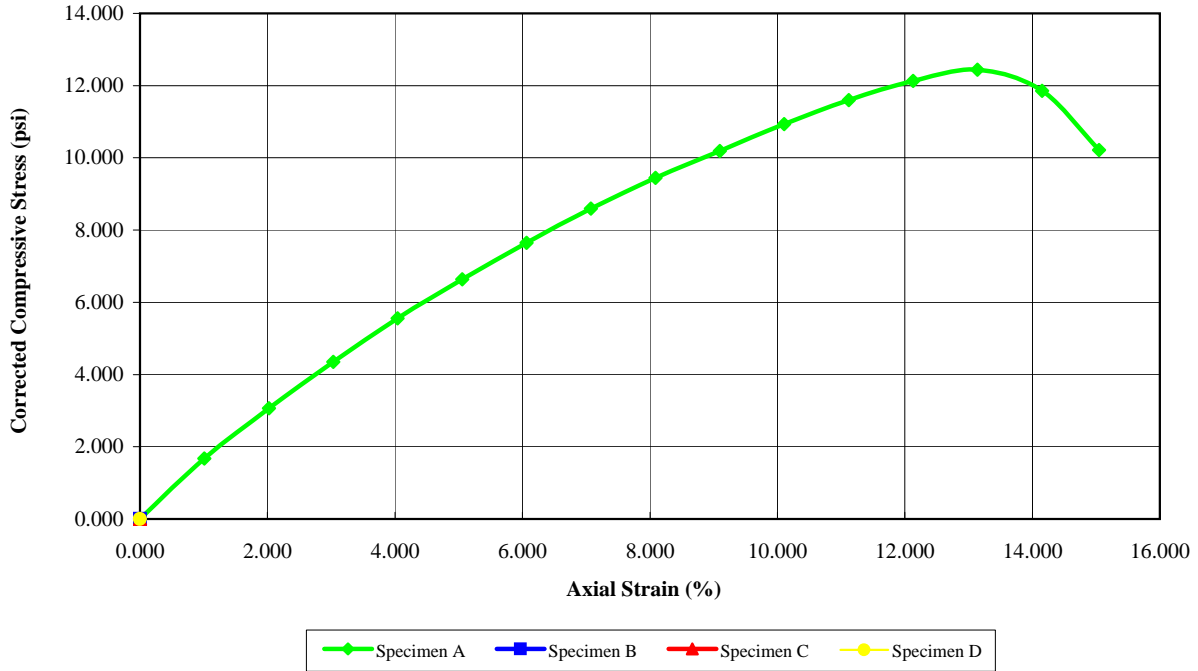
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	12.66			
Dry Density (pcf)	119.800			
Saturation (%)	88.08			
Void Ratio	0.38			
Diameter (in)	2.860			
Height (in)	5.300			
Test Data	A	B	C	D
Unconfined Strength (psi)	40.932			
Undrained Shear Strength (tsf)	1.474			
Undrained Shear Strength (psi)	20.466			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	6.74			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	Reclamation District No. 17	Specimen B		
Sampling Date	11/8/2010	Specimen C		
Sample #	5-B1@2'	Specimen D		
Client		Test Variables		
		Specific Gravity	2.65	
		Liquid Limit:		
		Plastic Limit:		
Remarks				

Unconfined Compression Test Report (ASTM D2166)

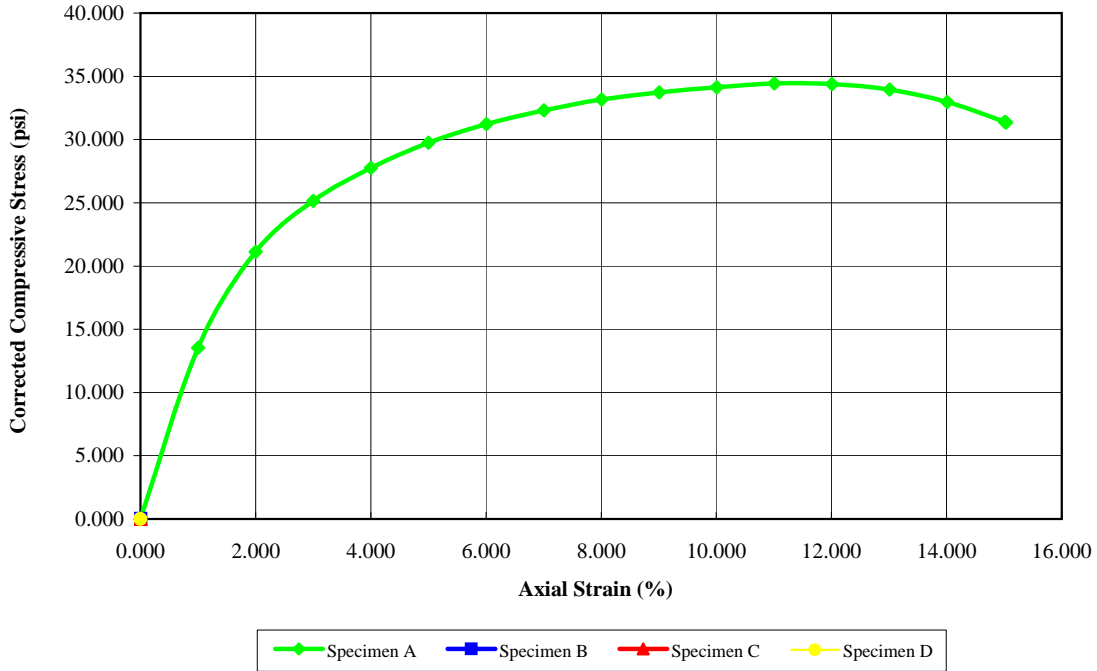
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	25.71			
Dry Density (pcf)	101.200			
Saturation (%)	107.43			
Void Ratio	0.63			
Diameter (in)	2.380			
Height (in)	5.050			
Test Data	A	B	C	D
Unconfined Strength (psi)	12.437			
Undrained Shear Strength (tsf)	0.448			
Undrained Shear Strength (psi)	6.218			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	13.14			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	11/3/2010	Specimen C		
Sample #	5-B4@11'	Specimen D		
Client		Test Variables		
		Specific Gravity	2.65	
		Liquid Limit:	32.0	
		Plastic Limit:	19.0	
Remarks				

Unconfined Compression Test Report (ASTM D2166)

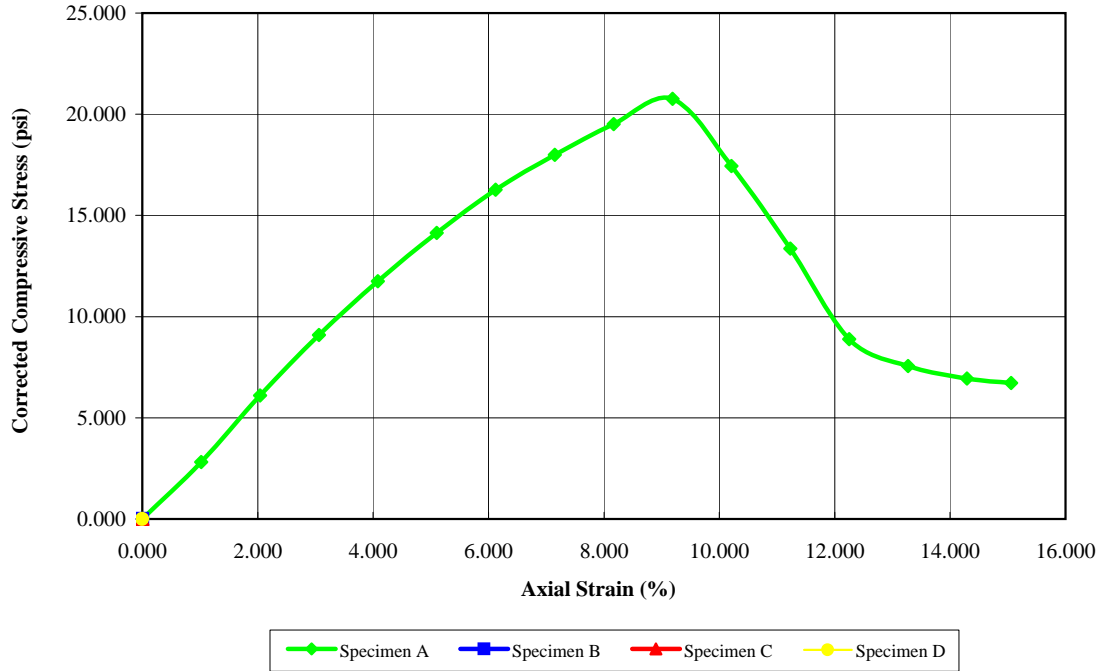
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	26.16			
Dry Density (pcf)	98.712			
Saturation (%)	102.56			
Void Ratio	0.68			
Diameter (in)	2.380			
Height (in)	5.100			
Test Data	A	B	C	D
Unconfined Strength (psi)	34.423			
Undrained Shear Strength (tsf)	1.239			
Undrained Shear Strength (psi)	17.211			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	11.01			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	11/3/2010	Specimen C		
Sample #	5-B4@51'	Specimen D		
Client	Test Variables			
	Specific Gravity	2.65		
	Liquid Limit:	53.0		
	Plastic Limit:	20.0		
Remarks				

Unconfined Compression Test Report (ASTM D2166)

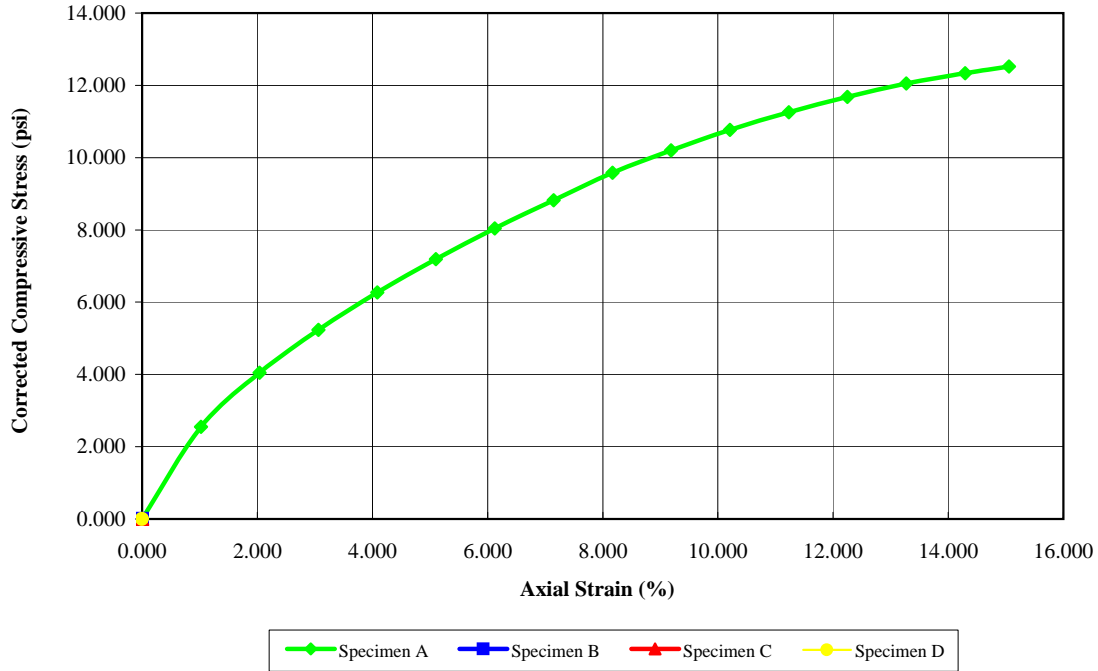
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	29.79			
Dry Density (pcf)	94.400			
Saturation (%)	104.91			
Void Ratio	0.75			
Diameter (in)	2.380			
Height (in)	5.000			
Test Data	A	B	C	D
Unconfined Strength (psi)	20.762			
Undrained Shear Strength (tsf)	0.747			
Undrained Shear Strength (psi)	10.381			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	9.19			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	11-4-10	Specimen C		
Sample #	5-B5 @ 40.5'	Specimen D		
Client	Test Variables			
	Specific Gravity	2.65		
	Liquid Limit:			
	Plastic Limit:			
Remarks				

Unconfined Compression Test Report (ASTM D2166)

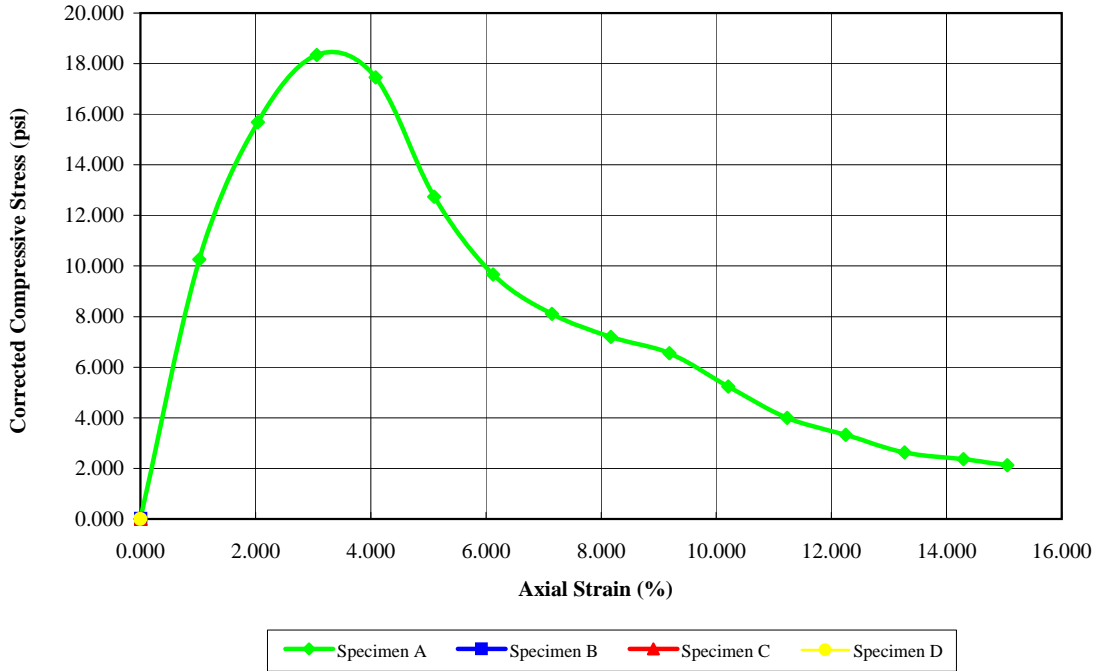
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	34.12			
Dry Density (pcf)	91.161			
Saturation (%)	110.98			
Void Ratio	0.81			
Diameter (in)	2.380			
Height (in)	5.000			
Test Data	A	B	C	D
Unconfined Strength (psi)	12.522			
Undrained Shear Strength (tsf)	0.451			
Undrained Shear Strength (psi)	6.261			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	15.06			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	11-4-10	Specimen C		
Sample #	5-B5 @ 66'	Specimen D		
Client	Test Variables			
	Specific Gravity	2.65		
	Liquid Limit:			
	Plastic Limit:			
Remarks				

Unconfined Compression Test Report (ASTM D2166)

Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	27.80			
Dry Density (pcf)	90.550			
Saturation (%)	89.08			
Void Ratio	0.83			
Diameter (in)	2.380			
Height (in)	5.000			
Test Data	A	B	C	D
Unconfined Strength (psi)	18.346			
Undrained Shear Strength (tsf)	0.660			
Undrained Shear Strength (psi)	9.173			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	3.06			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	11-4-10	Specimen C		
Sample #	5-B7 @ 14.5'	Specimen D		
Client		Test Variables		
		Specific Gravity	2.65	
		Liquid Limit:		
		Plastic Limit:		
Remarks				

ENGEO Incorporated
Unconfined Compression Test Report (ASTM D2166)

Date 1-7-2011

Checked By **JB**

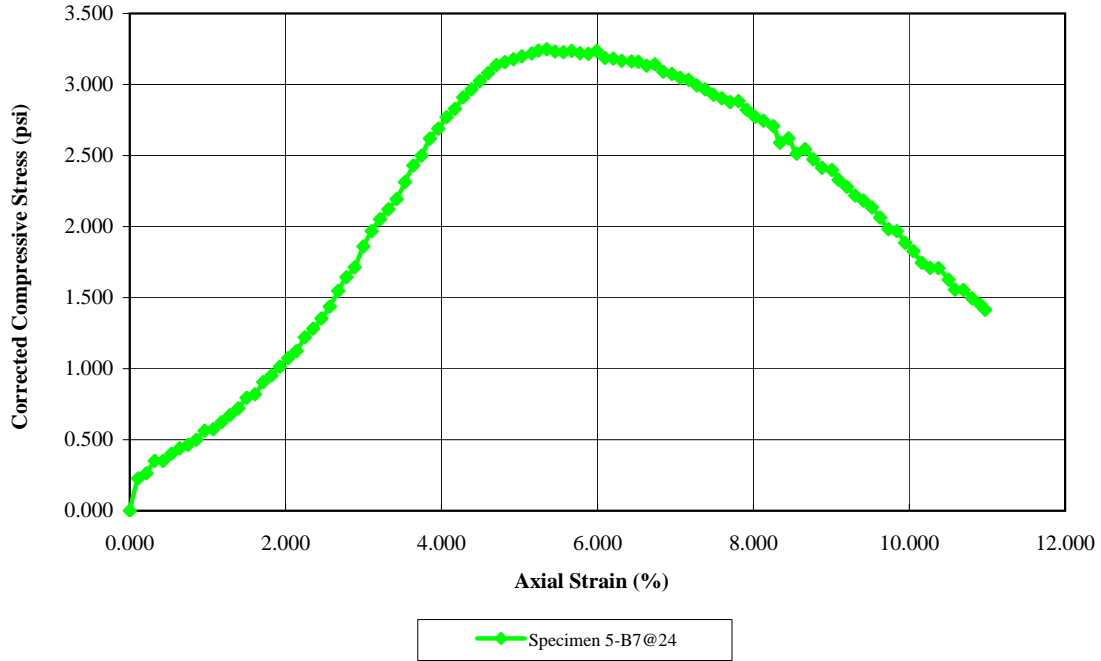
Date 1-7-11

Computed By DS

Date 2011

Tested By DS

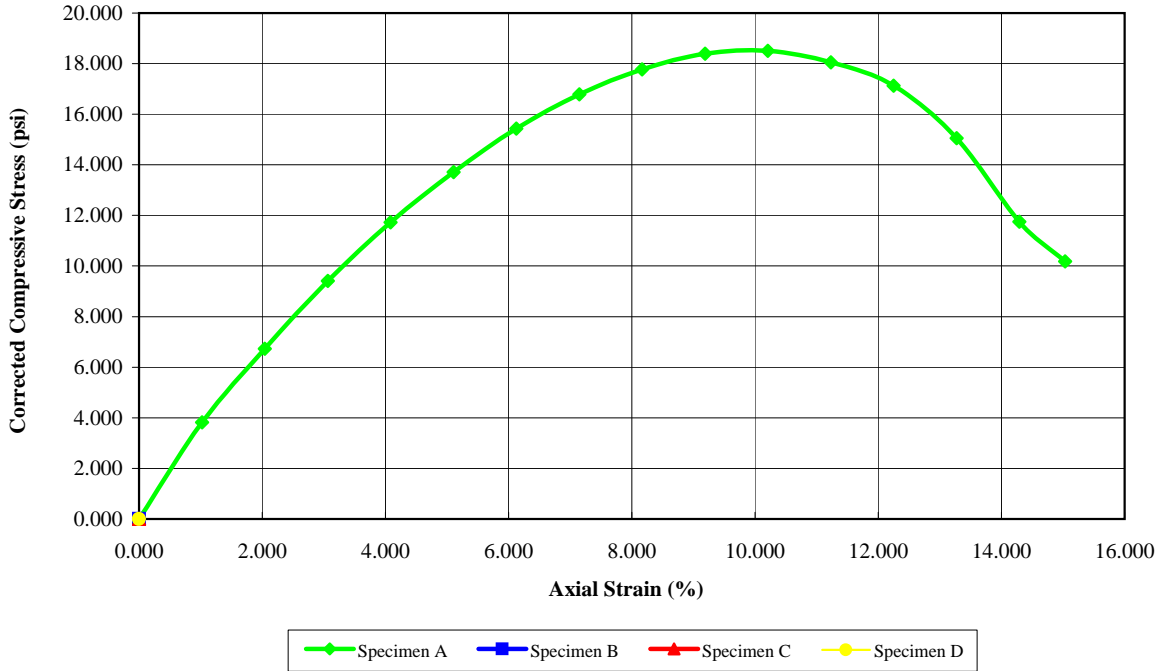
Compressive Stress Axial Strain Curve



Before Test		Specimen		
Water Content (%)	37.09			
Dry Density (pcf)	80.200			
Saturation (%)	92.53			
Void Ratio	1.06			
Diameter (in)	2.800			
Height (in)	5.270			
Test Data		A		
Unconfined Strength (psi)	3.247			
Undrained Shear Strength (tsf)	0.117			
Undrained Shear Strength (psi)	1.624			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	5.35			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	11-4-2010	Specimen C		
Sample #	5-B7@24	Specimen D		
Client		Test Variables		
		Specific Gravity	2.65	
		Liquid Limit:		
		Plastic Limit:		
Remarks				

Unconfined Compression Test Report (ASTM D2166)

Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	33.12			
Dry Density (pcf)	88.993			
Saturation (%)	102.18			
Void Ratio	0.86			
Diameter (in)	2.400			
Height (in)	5.000			
Test Data	A	B	C	D
Unconfined Compressive Strength (psi)	18.504			
Unconfined Compressive Strength (tsf)	1.331			
Undrained Shear Strength (psi)	9.252			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	10.21			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	12-3-10	Specimen C		
Sample #	5-B8 @ 6.5'	Specimen D		
Client	Test Variables			
	Specific Gravity	2.65		
	Liquid Limit:	44.0		
	Plastic Limit:	22.0		
Remarks				

ENGEO Incorporated
Unconfined Compression Test Report (ASTM D2166)

1-7-11

Date

Checked By **JB**

1-7-11

Date

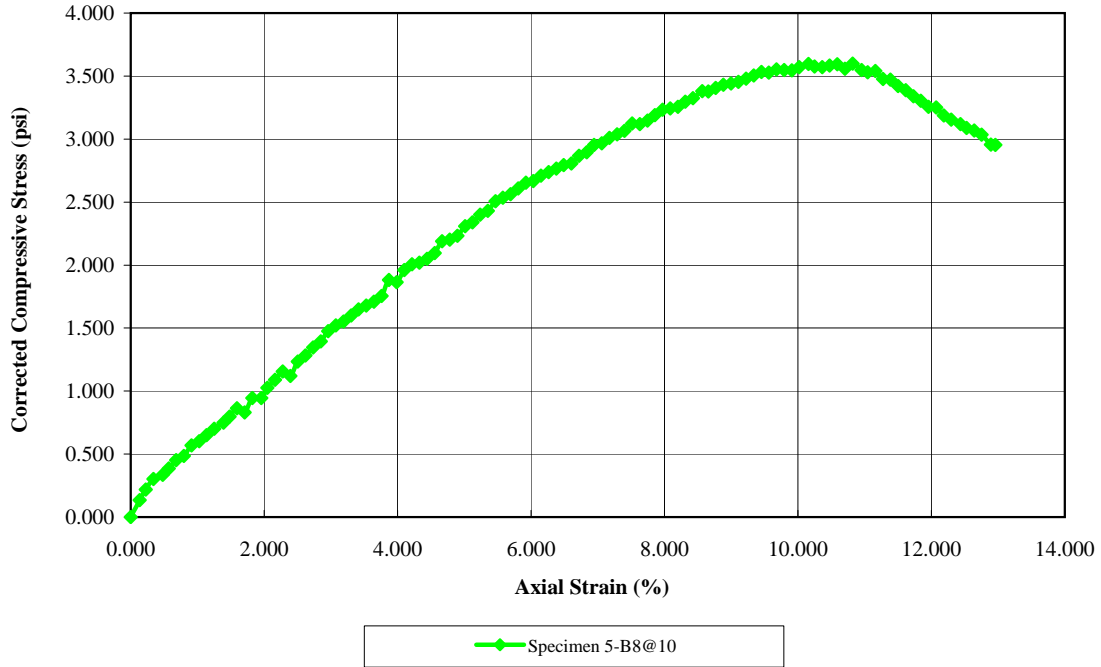
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Date

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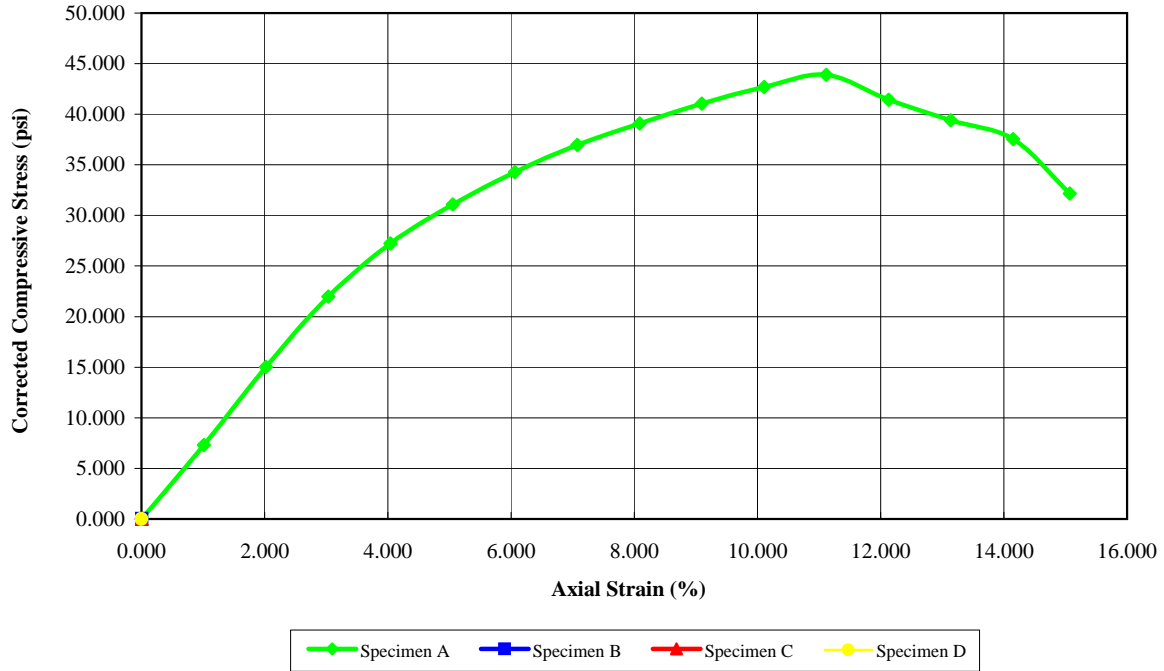
Compressive Stress Axial Strain Curve



Before Test		Specimen		
	A		C	
Water Content (%)	24.33			
Dry Density (pcf)	98.400			
Saturation (%)	94.58			
Void Ratio	0.68			
Diameter (in)	2.420			
Height (in)	4.950			
Test Data	A			
Unconfined Strength (psi)	3.599			
Undrained Shear Strength (tsf)	0.130			
Undrained Shear Strength (psi)	1.800			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	10.82			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	12-3-2010	Specimen C		
Sample #	5-B8@10	Specimen D		
Client		Test Variables		
		Specific Gravity	2.65	
		Liquid Limit:		
		Plastic Limit:		
Remarks				

Unconfined Compression Test Report (ASTM D2166)

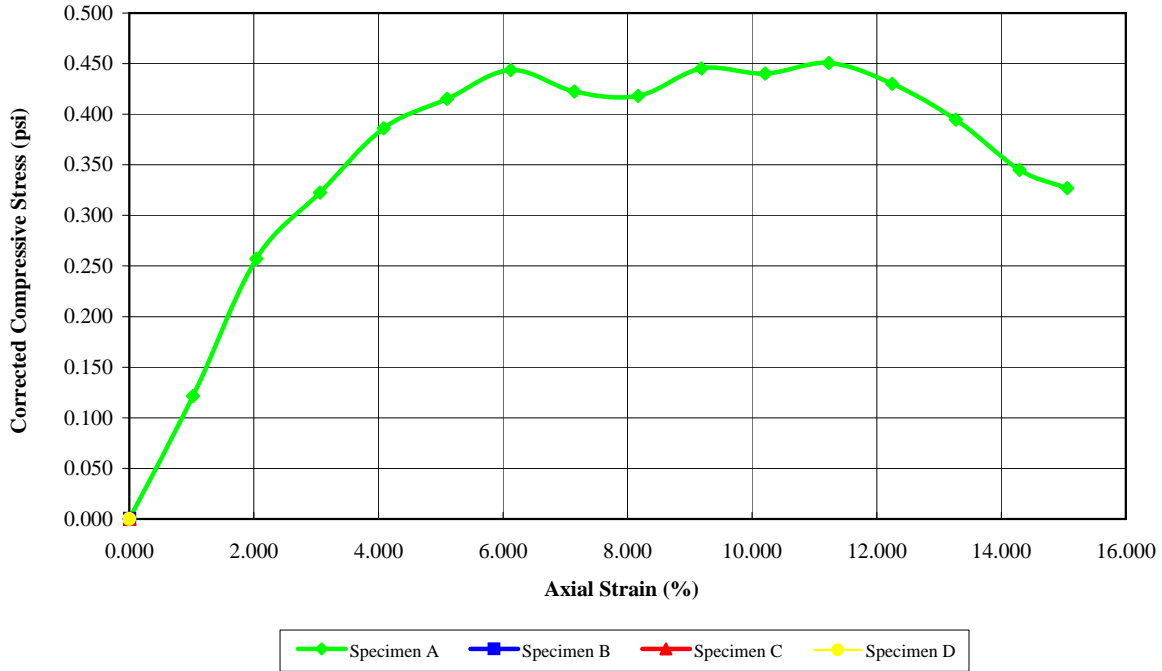
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	19.11			
Dry Density (pcf)	112.280			
Saturation (%)	106.97			
Void Ratio	0.47			
Diameter (in)	2.400			
Height (in)	5.050			
Test Data	A	B	C	D
Unconfined Compressive Strength (psi)	43.902			
Unconfined Compressive Strength (tsf)	3.158			
Undrained Shear Strength (psi)	21.951			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	11.12			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	12-3-10	Specimen C		
Sample #	5-B8 @ 51'	Specimen D		
Client		Test Variables		
		Specific Gravity	2.65	
		Liquid Limit:	31.0	
		Plastic Limit:	15.0	
Remarks				

Unconfined Compression Test Report (ASTM D2166)

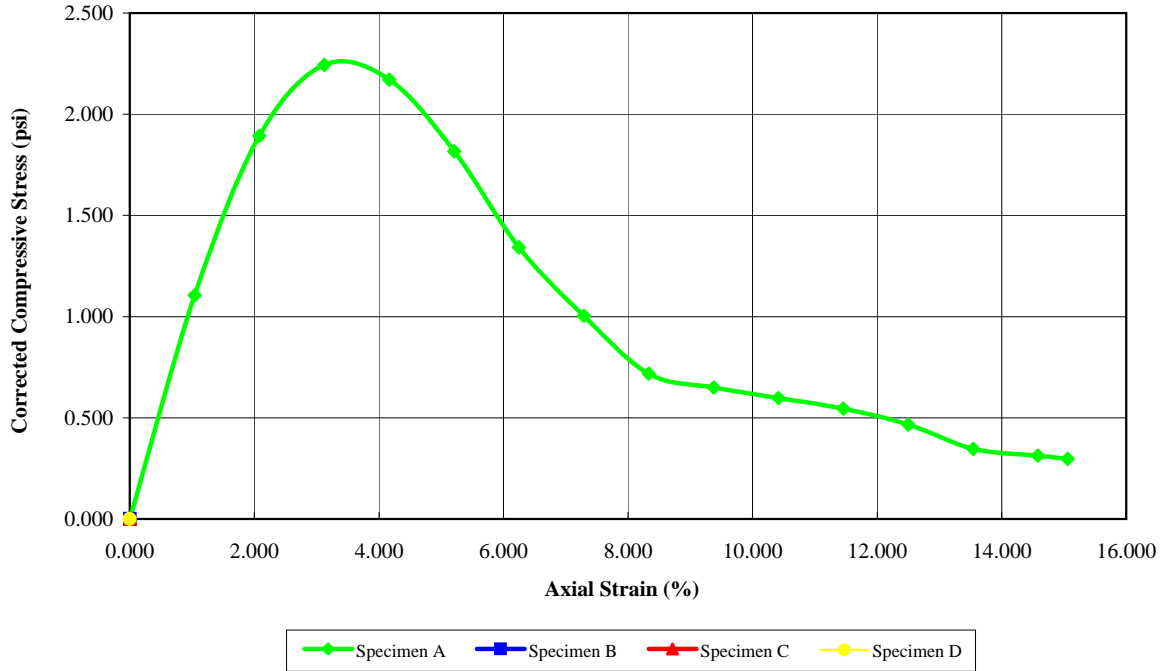
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	50.01			
Dry Density (pcf)	69.500			
Saturation (%)	96.04			
Void Ratio	1.38			
Diameter (in)	2.390			
Height (in)	5.000			
Test Data	A	B	C	D
Unconfined Compressive Strength (psi)	0.451			
Unconfined Compressive Strength (tsf)	0.032			
Undrained Shear Strength (psi)	0.225			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	11.23			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	12/10/2010	Specimen C		
Sample #	5-B9 @ 4.5'	Specimen D		
Client		Test Variables		
		Specific Gravity	2.65	
		Liquid Limit:		
		Plastic Limit:		
Remarks				

Unconfined Compression Test Report (ASTM D2166)

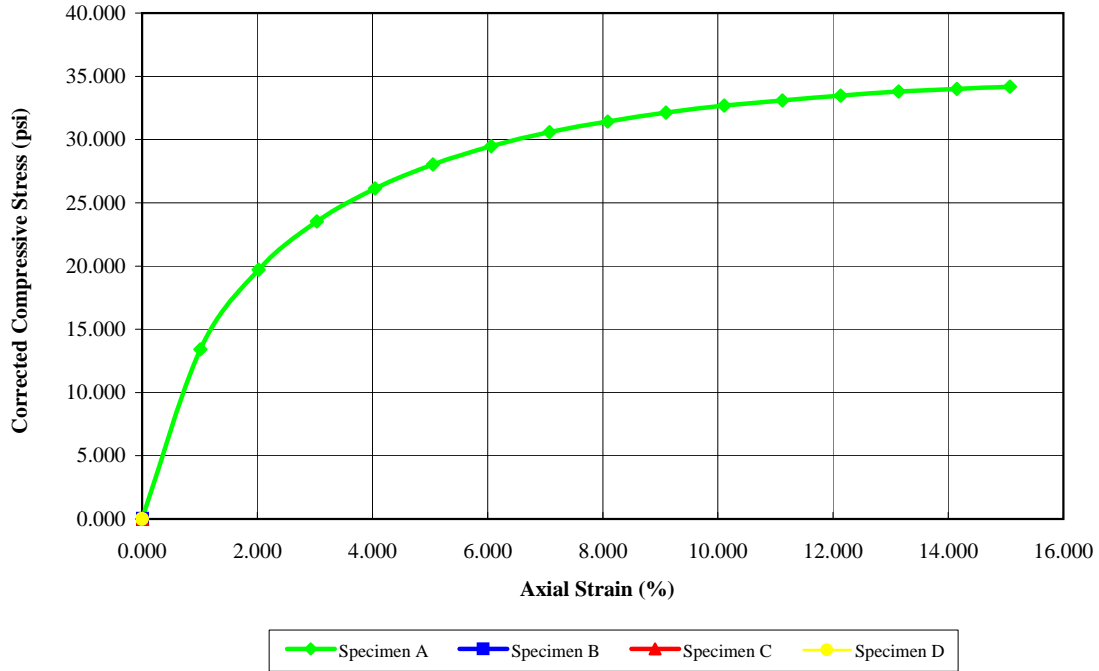
Compressive Stress Axial Strain Curve



Before Test		Specimen			
		A	B	C	D
Water Content (%)		26.27			
Dry Density (pcf)		92.800			
Saturation (%)		88.85			
Void Ratio		0.78			
Diameter (in)		2.450			
Height (in)		4.900			
Test Data		A	B	C	D
Unconfined Compressive Strength (psi)		2.243			
Unconfined Compressive Strength (tsf)		0.161			
Undrained Shear Strength (psi)		1.122			
Rate of Strain (in/min)		0.050000			
Strain at Failure (%)		3.13			
Description					
Project Information			Specimen Description		
Project Num	5747.000.000		Specimen A	See Exploratory Boring Logs	
Project	RD-17		Specimen B		
Sampling Date	11/22/2010		Specimen C		
Sample #	5-B10 @ 26'		Specimen D		
Client			Test Variables		
			Specific Gravity	2.65	
			Liquid Limit:		
			Plastic Limit:		
Remarks					

Unconfined Compression Test Report (ASTM D2166)

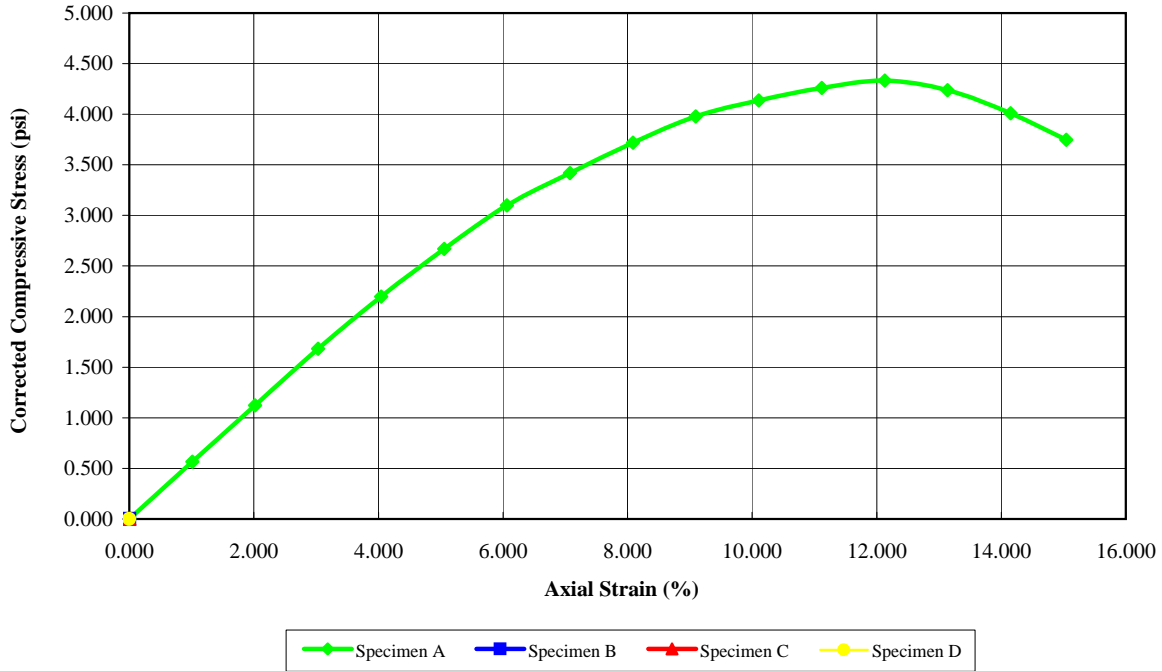
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	23.87			
Dry Density (pcf)	105.434			
Saturation (%)	111.16			
Void Ratio	0.57			
Diameter (in)	2.380			
Height (in)	5.050			
Test Data	A	B	C	D
Unconfined Strength (psi)	34.187			
Undrained Shear Strength (tsf)	1.231			
Undrained Shear Strength (psi)	17.093			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	15.07			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	11-22-10	Specimen C		
Sample #	5-B10 @ 71'	Specimen D		
Client		Test Variables		
		Specific Gravity	2.65	
		Liquid Limit:		
		Plastic Limit:		
Remarks				

Unconfined Compression Test Report (ASTM D2166)

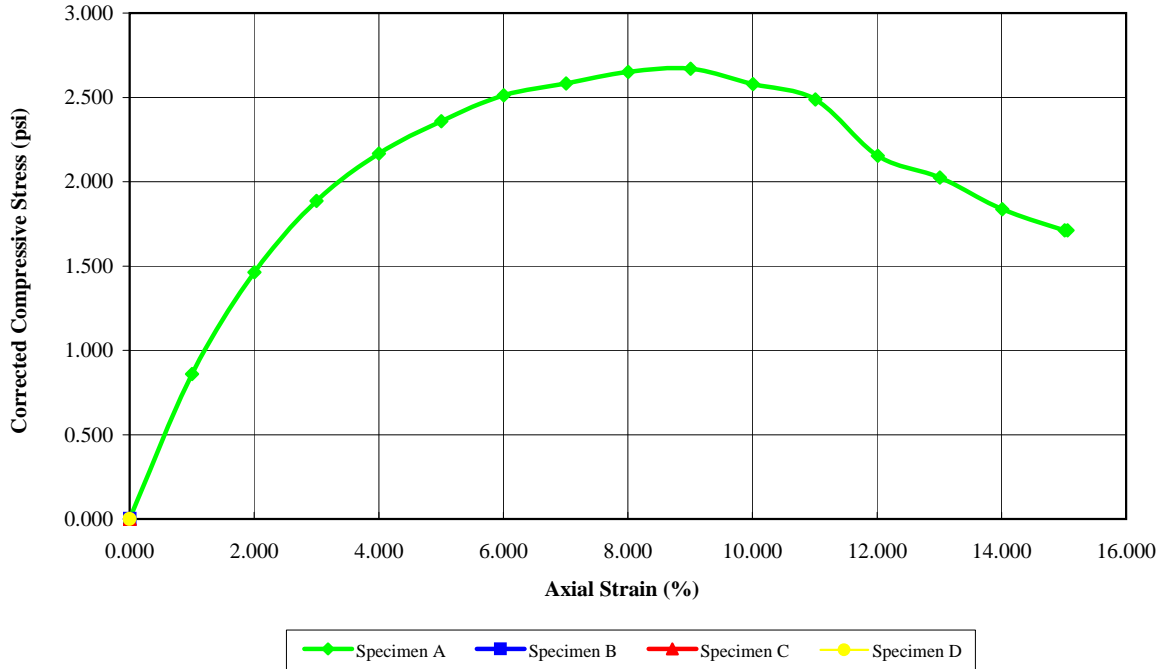
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	65.08			
Dry Density (pcf)	60.830			
Saturation (%)	100.29			
Void Ratio	1.72			
Diameter (in)	2.400			
Height (in)	5.050			
Test Data	A	B	C	D
Unconfined Compressive Strength (psi)	4.333			
Unconfined Compressive Strength (tsf)	0.312			
Undrained Shear Strength (psi)	2.166			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	12.13			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	12-3-10	Specimen C		
Sample #	5-B11 @ 12.5'	Specimen D		
Client	Test Variables			
	Specific Gravity	2.65		
	Liquid Limit:			
	Plastic Limit:			
Remarks				

Unconfined Compression Test Report (ASTM D2166)

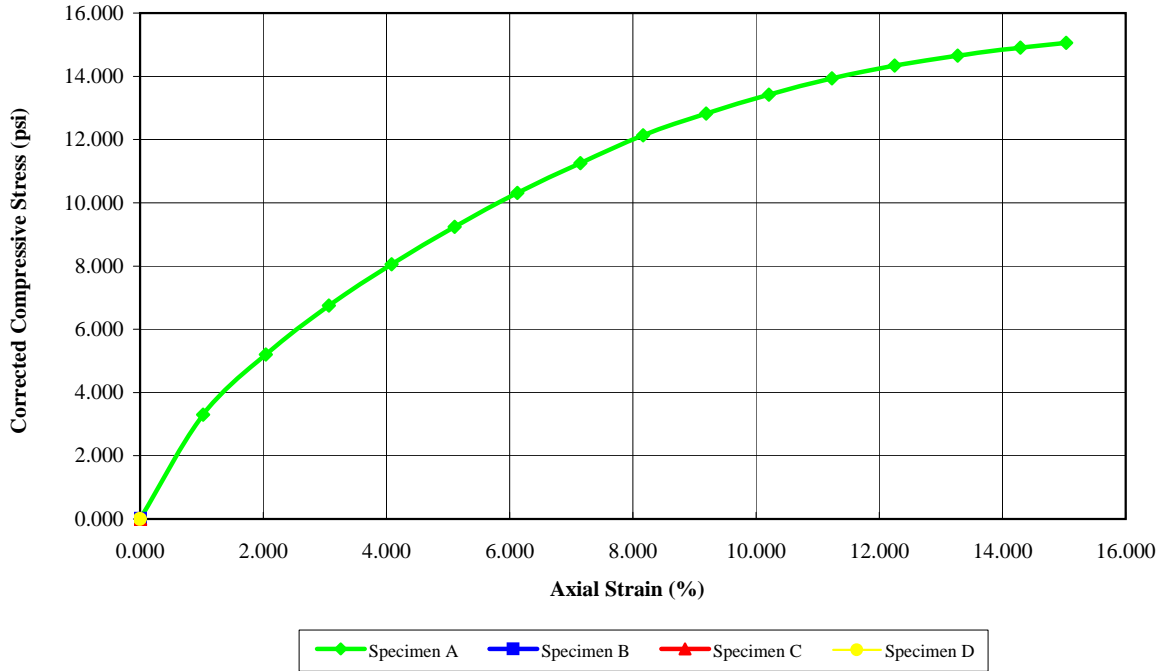
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	58.32			
Dry Density (pcf)	65.090			
Saturation (%)	100.25			
Void Ratio	1.54			
Diameter (in)	2.400			
Height (in)	5.100			
Test Data	A	B	C	D
Unconfined Compressive Strength (psi)	2.670			
Unconfined Compressive Strength (tsf)	0.192			
Undrained Shear Strength (psi)	1.335			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	9.01			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	12-3-10	Specimen C		
Sample #	5-B11 @ 16.5'	Specimen D		
Client	Test Variables			
	Specific Gravity	2.65		
	Liquid Limit:			
	Plastic Limit:			
Remarks				

Unconfined Compression Test Report (ASTM D2166)

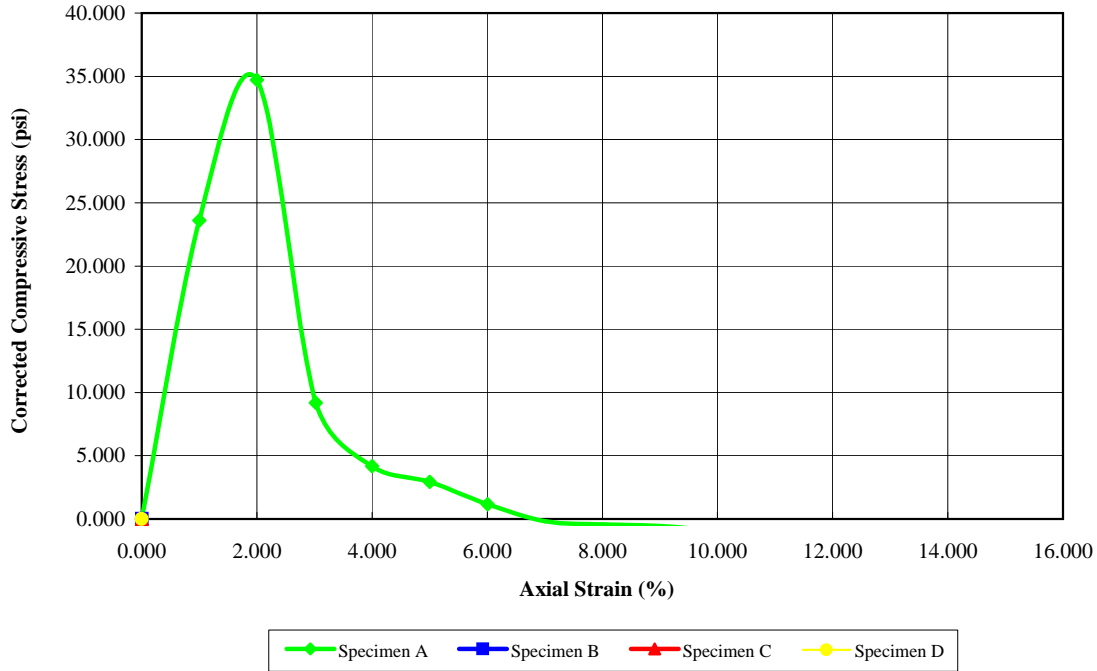
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	29.91			
Dry Density (pcf)	95.003			
Saturation (%)	106.92			
Void Ratio	0.74			
Diameter (in)	2.400			
Height (in)	5.000			
Test Data	A	B	C	D
Unconfined Compressive Strength (psi)	15.061			
Unconfined Compressive Strength (tsf)	1.084			
Undrained Shear Strength (psi)	7.531			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	15.03			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	12-3-10	Specimen C		
Sample #	5-B11 @ 45.5'	Specimen D		
Client	Test Variables			
	Specific Gravity	2.65		
	Liquid Limit:	45.0		
	Plastic Limit:	20.0		
Remarks				

Unconfined Compression Test Report (ASTM D2166)

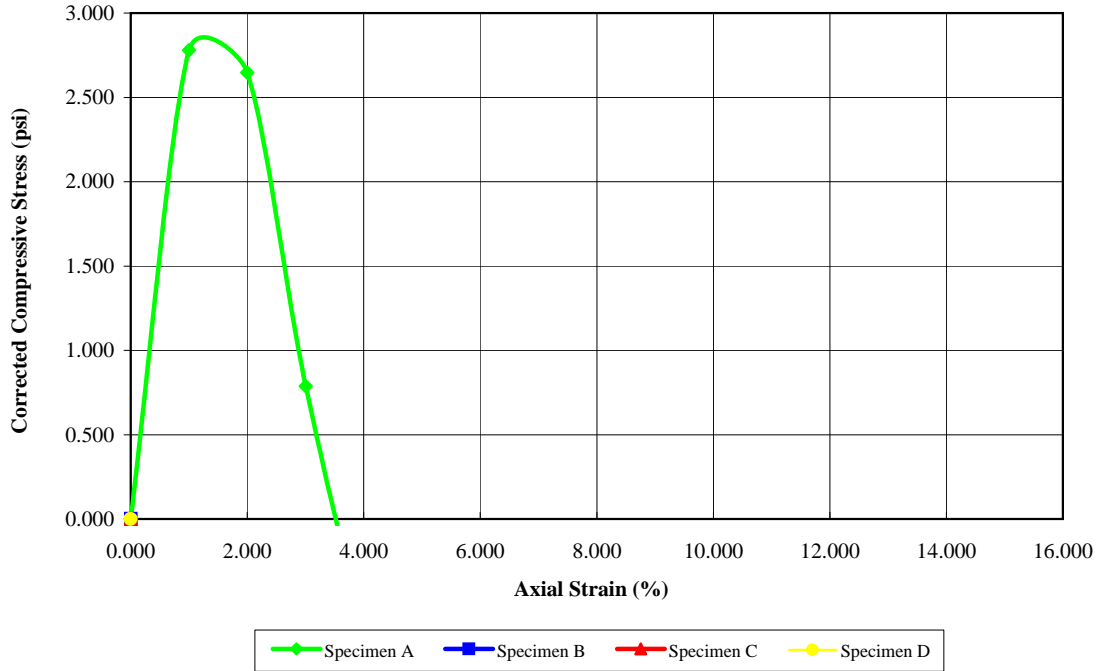
Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	14.05			
Dry Density (pcf)	98.000			
Saturation (%)	54.08			
Void Ratio	0.69			
Diameter (in)	2.380			
Height (in)	5.100			
Test Data	A	B	C	D
Unconfined Strength (psi)	34.706			
Undrained Shear Strength (tsf)	1.249			
Undrained Shear Strength (psi)	17.353			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	2.00			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	11-22-10	Specimen C		
Sample #	5-B12 @ 2'	Specimen D		
Client		Test Variables		
		Specific Gravity	2.65	
		Liquid Limit:		
		Plastic Limit:		
Remarks				

Unconfined Compression Test Report (ASTM D2166)

Compressive Stress Axial Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	11.84			
Dry Density (pcf)	110.400			
Saturation (%)	63.00			
Void Ratio	0.50			
Diameter (in)	2.380			
Height (in)	5.100			
Test Data	A	B	C	D
Unconfined Strength (psi)	2.779			
Undrained Shear Strength (tsf)	0.100			
Undrained Shear Strength (psi)	1.389			
Rate of Strain (in/min)	0.050000			
Strain at Failure (%)	1.00			
Description				
Project Information		Specimen Description		
Project Num	5747.000.000	Specimen A	See Exploratory Boring Logs	
Project	RD-17	Specimen B		
Sampling Date	11-22-10	Specimen C		
Sample #	5-B12 @ 7.5'	Specimen D		
Client		Test Variables		
		Specific Gravity	2.65	
		Liquid Limit:		
		Plastic Limit:		
Remarks				



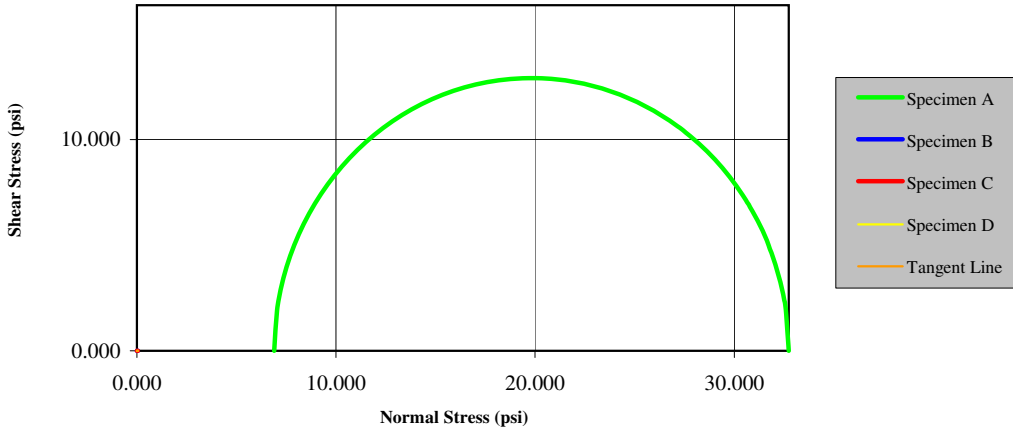
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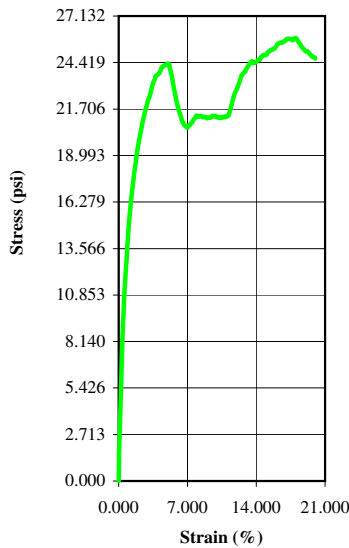
Date: 11/10/2009

Tested By: DS

Mohr Circles



Stress-Strain Curve



	Specimen				
	Before Test	A	B	C	D
Water Content (%)	19.27	0.00	0.00	0.00	0.00
Dry Density (pcf)	99.44	0.00	0.00	0.00	0.00
Saturation (%)	76.94	0.00	0.00	0.00	0.00
Void Ratio	0.66	0.00	0.00	0.00	0.00
Diameter (in)	2.820	0.000	0.000	0.000	0.000
Height (in)	5.400	0.000	0.000	0.000	0.000
Liquid Limit					
Plastic Limit					
Specific Gravity	2.650	2.650	2.650	2.650	2.650
After Test	A	B	C	D	
Water Content (%)	19.27	0.00	0.00	0.00	0.00
Test Data	A	B	C	D	
Strain Rate (in/min)	0.05	0.00	0.00	0.00	0.00
Peak Deviator Stress (psi)	25.840	0.000	0.000	0.000	0.000
Axial Strain @ Failure (%)	18.074	0.000	0.000	0.000	0.000
	Cell Pressure				
Cell (psi)	6.9	0.0	0.0	0.0	0.0
Back (psi)	n/a	n/a	n/a	n/a	n/a
	Principle Stresses at Failure				
σ1 (psi)	32.7	0.0	0.0	0.0	0.0
σ3 (psi)	6.9	0.0	0.0	0.0	0.0

Mohr-Coulomb Strength Parameters		Sample Description	
C (psi)	0.0	See Boring Logs	
Friction Angle Ø	0.00		
Project Information			
Project Name:	Reclamation District 17 Levee Evaluation		
Project Number:	5747.000.000	Job Number:	5747.000.000
Location:		Boring Number:	B2
Client:		Sample Number:	4-B2@9
Remarks:			

Unconsolidated Undrained Triaxial Test (ASTM D2850)



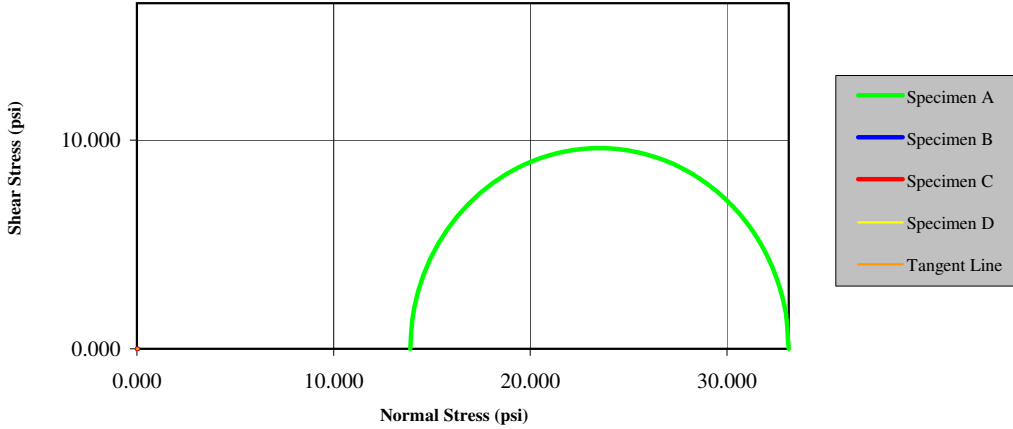
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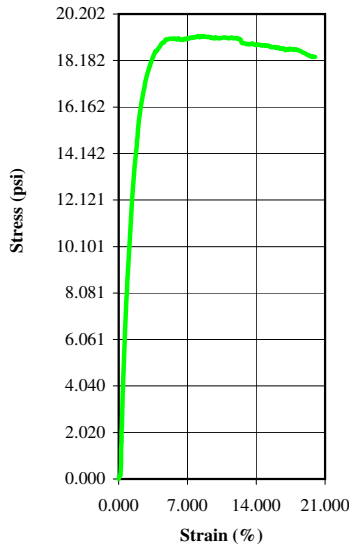
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Tested By: DS

Mohr Circles



Stress-Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	27.96	0.00	0.00	0.00
Dry Density (pcf)	83.39	0.00	0.00	0.00
Saturation (%)	75.32	0.00	0.00	0.00
Void Ratio	0.98	0.00	0.00	0.00
Diameter (in)	2.820	0.000	0.000	0.000
Height (in)	6.020	0.000	0.000	0.000
Liquid Limit				
Plastic Limit				
Specific Gravity	2.650			
After Test	A	B	C	D
Water Content (%)	27.96	0.00	0.00	0.00
Test Data	A	B	C	D
Strain Rate (in/min)	0.02	0.00	0.00	0.00
Peak Deviator Stress (psi)	19.240	0.000	0.000	0.000
Axial Strain @ Failure (%)	8.056	0.000	0.000	0.000
Cell Pressure				
Cell (psi)	13.9	0.0	0.0	0.0
Back (psi)	n/a	n/a	n/a	n/a
Principle Stresses at Failure				
σ_1 (psi)	33.1	0.0	0.0	0.0
σ_3 (psi)	13.9	0.0	0.0	0.0

Mohr-Coulomb Strength Parameters		Sample Description	
C (psi)	0.0	See Boring Logs	
Friction Angle ϕ	0.00		
Project Information			
Project Name:	Reclamation District 17 Levee Evaluation		
Project Number:	5747.000.000	Job Number:	5747.000.000
Location:		Boring Number:	B2
Client:		Sample Number:	4-B2: 18 feet
Remarks:			

Unconsolidated Undrained Triaxial Test (ASTM D2850)



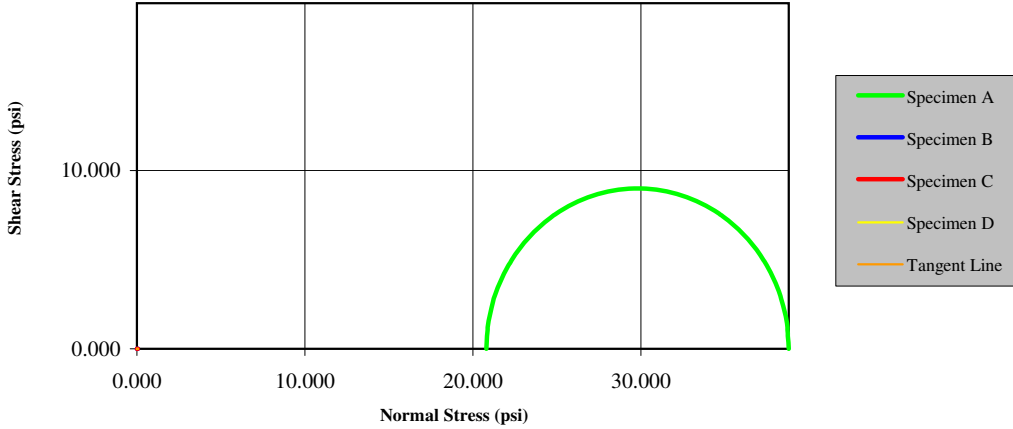
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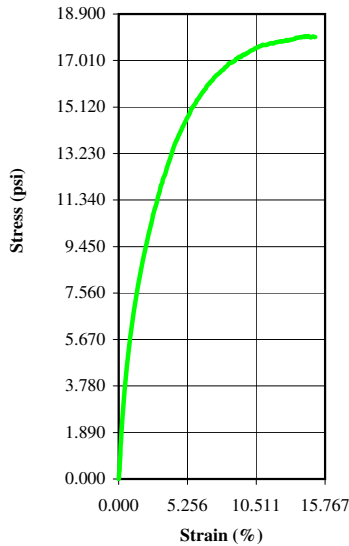
Date: 10/30/2009

Tested By: DS

Mohr Circles



Stress-Strain Curve



	Specimen				
	Before Test	A	B	C	D
Water Content (%)	29.90	0.00	0.00	0.00	0.00
Dry Density (pcf)	98.77	0.00	0.00	0.00	0.00
Saturation (%)	117.39	0.00	0.00	0.00	0.00
Void Ratio	0.67	0.00	0.00	0.00	0.00
Diameter (in)	2.820	0.000	0.000	0.000	0.000
Height (in)	6.100	0.000	0.000	0.000	0.000
Liquid Limit					
Plastic Limit					
Specific Gravity	2.650				
After Test	A	B	C	D	
Water Content (%)	29.90	0.00	0.00	0.00	
Test Data	A	B	C	D	
Strain Rate (in/min)	0.02	0.00	0.00	0.00	
Peak Deviator Stress (psi)	18.000	0.000	0.000	0.000	
Axial Strain @ Failure (%)	14.508	0.000	0.000	0.000	
Cell Pressure					
Cell (psi)	20.8	0.0	0.0	0.0	
Back (psi)	n/a	n/a	n/a	n/a	
Principle Stresses at Failure					
σ_1 (psi)	38.8	0.0	0.0	0.0	
σ_3 (psi)	20.8	0.0	0.0	0.0	

Mohr-Coulomb Strength Parameters		Sample Description	
C (psi)	0.0	See Boring Logs	
Friction Angle ϕ	0.00		
Project Information			
Project Name:	Reclamation District 17 Levee Evaluation		
Project Number:	5747.000.000	Job Number:	5747.000.000
Location:		Boring Number:	B2
Client:		Sample Number:	4-B2: 27 feet
Remarks:			

Unconsolidated Undrained Triaxial Test (ASTM D2850)



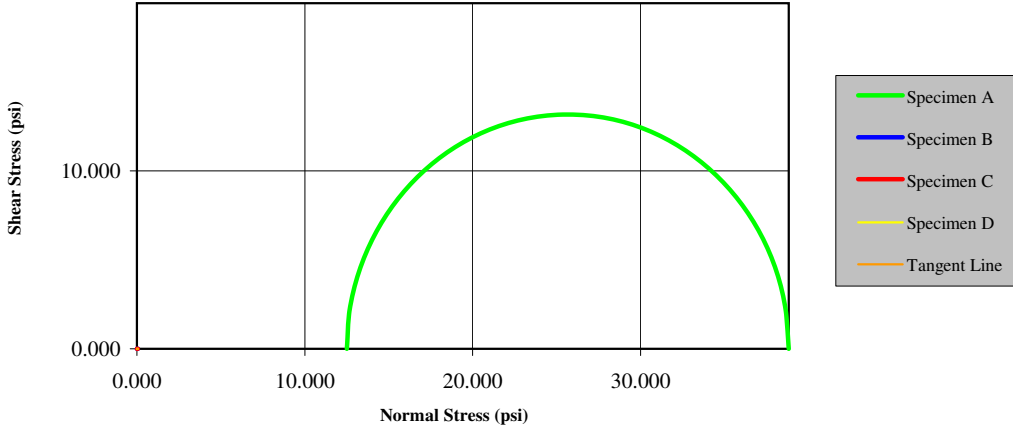
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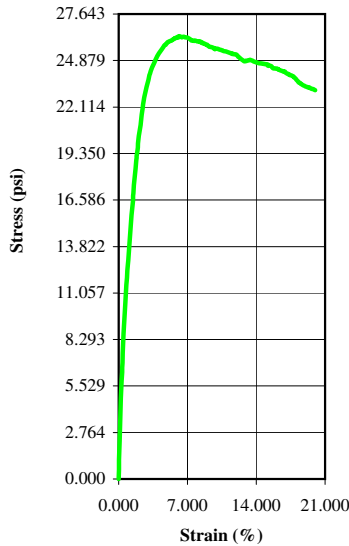
Date: 10/30/2009

Tested By: DS

Mohr Circles



Stress-Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	32.85	0.00	0.00	0.00
Dry Density (pcf)	83.32	0.00	0.00	0.00
Saturation (%)	88.32	0.00	0.00	0.00
Void Ratio	0.99	0.00	0.00	0.00
Diameter (in)	2.820	0.000	0.000	0.000
Height (in)	6.000	0.000	0.000	0.000
Liquid Limit				
Plastic Limit				
Specific Gravity	2.650			
After Test	A	B	C	D
Water Content (%)	32.85	0.00	0.00	0.00
Test Data	A	B	C	D
Strain Rate (in/min)	0.04	0.00	0.00	0.00
Peak Deviator Stress (psi)	26.327	0.000	0.000	0.000
Axial Strain @ Failure (%)	6.200	0.000	0.000	0.000
Cell Pressure				
Cell (psi)	12.5	0.0	0.0	0.0
Back (psi)	n/a	n/a	n/a	n/a
Principle Stresses at Failure				
σ_1 (psi)	38.8	0.0	0.0	0.0
σ_3 (psi)	12.5	0.0	0.0	0.0

Mohr-Coulomb Strength Parameters		Sample Description	
C (psi)	0.0	See Boring Logs	
Friction Angle ϕ	0.00		
Project Information			
Project Name:	Reclamation District 17 Levee Evaluation		
Project Number:	5745.000.000	Job Number:	5745.000.000
Location:		Boring Number:	B3
Client:		Sample Number:	4-B3: 17 feet
Remarks:			

Unconsolidated Undrained Triaxial Test (ASTM D2850)



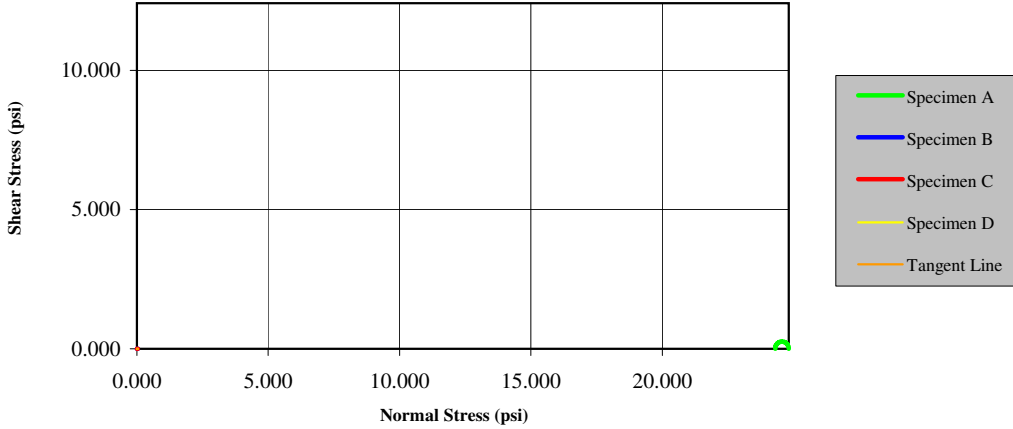
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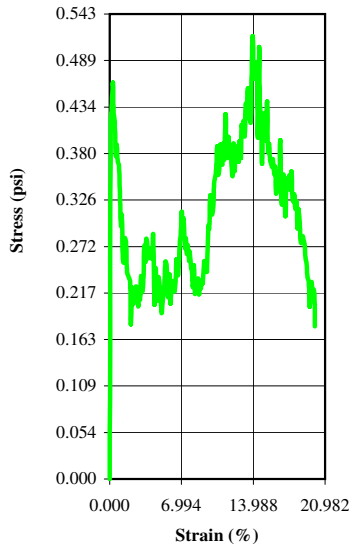
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Tested By: DS

Mohr Circles



Stress-Strain Curve



Before Test	Specimen			
	A	B	C	D
Water Content (%)	20.61	0.00	0.00	0.00
Dry Density (pcf)	88.54	0.00	0.00	0.00
Saturation (%)	62.90	0.00	0.00	0.00
Void Ratio	0.87	0.00	0.00	0.00
Diameter (in)	2.820	0.000	0.000	0.000
Height (in)	5.700	0.000	0.000	0.000
Liquid Limit				
Plastic Limit				
Specific Gravity	2.650			
After Test	A	B	C	D
Water Content (%)	20.61	0.00	0.00	0.00
Test Data	A	B	C	D
Strain Rate (in/min)	0.04	0.00	0.00	0.00
Peak Deviator Stress (psi)	0.517	0.000	0.000	0.000
Axial Strain @ Failure (%)	13.947	0.000	0.000	0.000
Cell Pressure				
Cell (psi)	24.3	0.0	0.0	0.0
Back (psi)	n/a	n/a	n/a	n/a
Principle Stresses at Failure				
σ_1 (psi)	24.8	0.0	0.0	0.0
σ_3 (psi)	24.3	0.0	0.0	0.0

Mohr-Coulomb Strength Parameters		Sample Description	
C (psi)	0.0	See Boring Logs	
Friction Angle ϕ	0.00		
Project Information			
Project Name:	Reclamation District 17 Levee Evaluation		
Project Number:	5747.000.000	Job Number:	5747.000.000
Location:		Boring Number:	B3
Client:		Sample Number:	4-B3@33
Remarks:			

ENGEO Incorporated
Unconsolidated Undrained Triaxial Test (ASTM D2850)

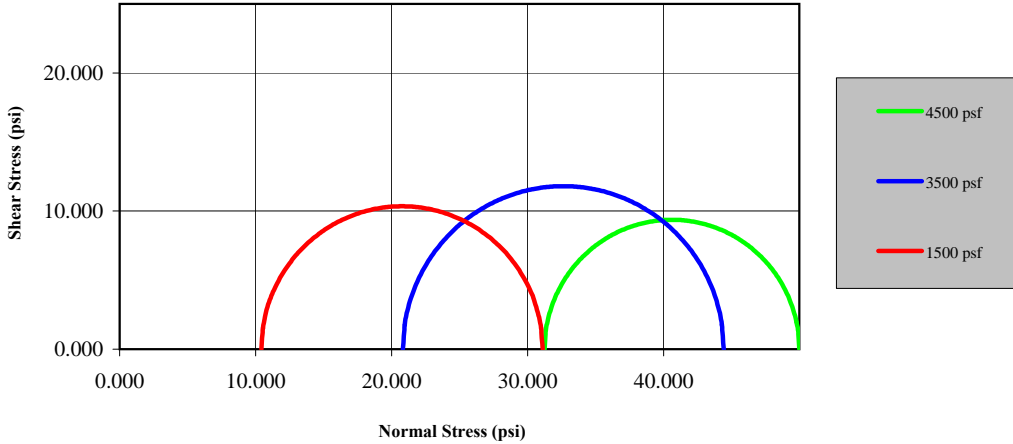
Date: 01/10/11

Checked By: JB

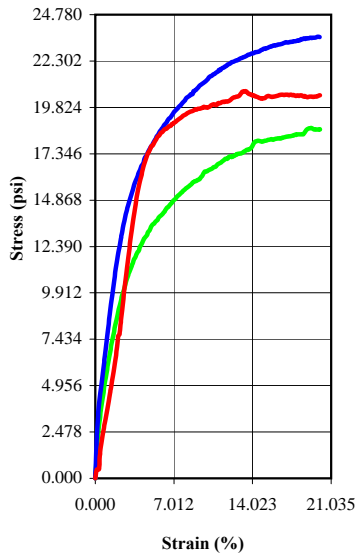
Date: 1/7/2011

Tested By: DS

Mohr Circles



Stress-Strain Curves



	Specimen		
Before Test	4500	3500	1500
Water Content (%)	29.48	29.36	34.11
Dry Density (pcf)	96.38	97.60	88.89
Saturation (%)	109.02	111.96	104.97
Void Ratio	0.72	0.69	0.86
Diameter (in)	2.800	2.800	2.800
Height (in)	5.380	5.210	5.190
Liquid Limit			
Plastic Limit			
Specific Gravity	2.650	2.650	2.650
After Test	4500	3500	1500
Water Content (%)	29.48	29.36	34.11
Test Data	4500	3500	1500
Strain Rate (in/min)	0.05	0.05	0.05
Peak Deviator Stress (psi)	18.734	23.600	20.687
Axial Strain @ Failure (%)	19.279	19.800	13.359
	Cell Pressure		
Cell (psi)	31.3	20.8	10.4
Back (psi)	n/a	n/a	n/a
	Principle Stresses at Failure		
σ_1 (psi)	50.0	44.4	31.1
σ_3 (psi)	31.3	20.8	10.4

Mohr-Coulomb Strength Parameters		Sample Description	
C (psi)	0.0	See Boring Logs	
Friction Angle ϕ	0.00		
Project Information			
Project Name:	RD-17	Job Number:	5747.000.000
Project Number:	5747.000.000	Boring Number:	5-B7
Location:		Sample Number:	5-B7@27
Client:			
Remarks:			



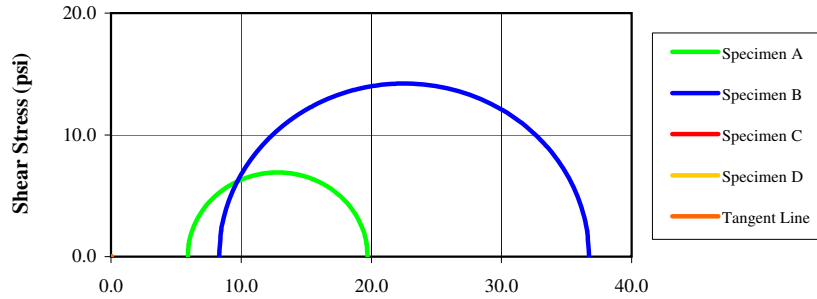
Date:

Checked By: MS

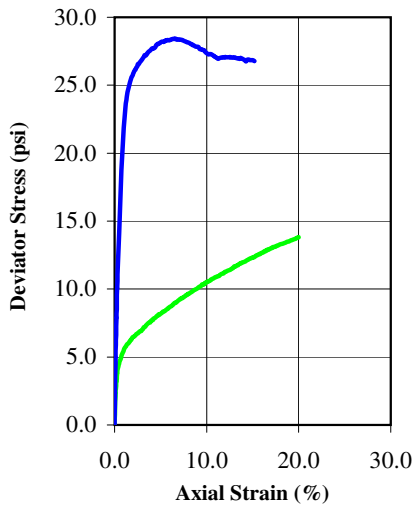
Date : 11/19/2009

Tested By: DS

Effective Stress at Maximum Deviator Stress Criterion



Deviator Stress Vs. Axial Strain



Normal Stress (psi)

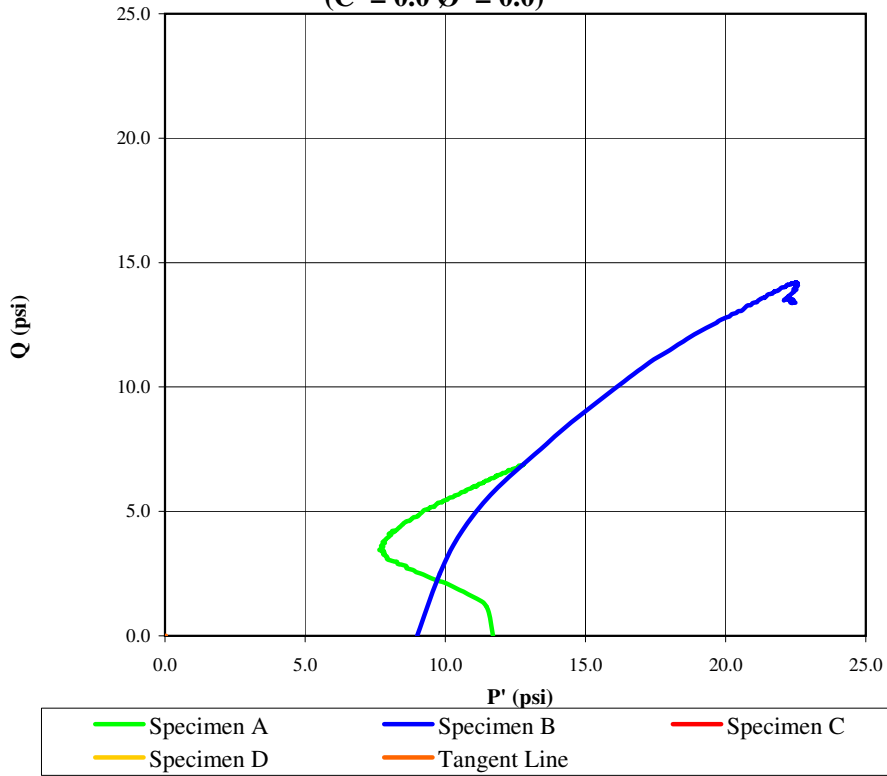
	Specimen					
	Initial	A	B	C	D	
Water Content (%)		96.1	17.6			
Dry Density (pcf)		46.6	99.3			
Saturation (%)		99.89	70.30			
Void Ratio		-0.053	0.533			
Diameter (in)		2.850	2.840			
Height (in)		5.880	6.200			
Specific Gravity		2.65	2.65			
Liquid Limit		0	0			
Plastic Limit		0	0			
After Consolidation		A	B	C	D	
B-Value		0.00	0.00			
Water Content (%)		89.7	20.3			
Dry Density (pcf)		60.99	65.17			
Saturation (%)		100.00	100.00			
Void Ratio		1.712	1.538			
Effective Stress (psi)		11.7	9.0			
Back Press. (psi)		48.2	80.8			
Rate of Strain		0.001	0.001			
Maximum Deviator Stress Criterion		After Shear				
C (psi)	0.0	σ'1 at Failure (psi)	19.72	36.73		
C' (psi)	0.0	σ'3 at Failure (psi)	5.90	8.30		
Ø (deg)	0.0					
Ø' (deg)	0.0					

Project:	Reclamation District 17 Levee Evaluation			
Location:				
Project Number:	5747.000.000	N/A	N/A	N/A
Boring Number:	4-B3			
Sample Number:	4-B3@25			
Depth:	25 feet			
Sample Type:	Undisturbed	Failure Photographs		
Description:	See Boring Logs			
Test Type	Consolidated Undrained			
Remarks				

Date:

Checked By:

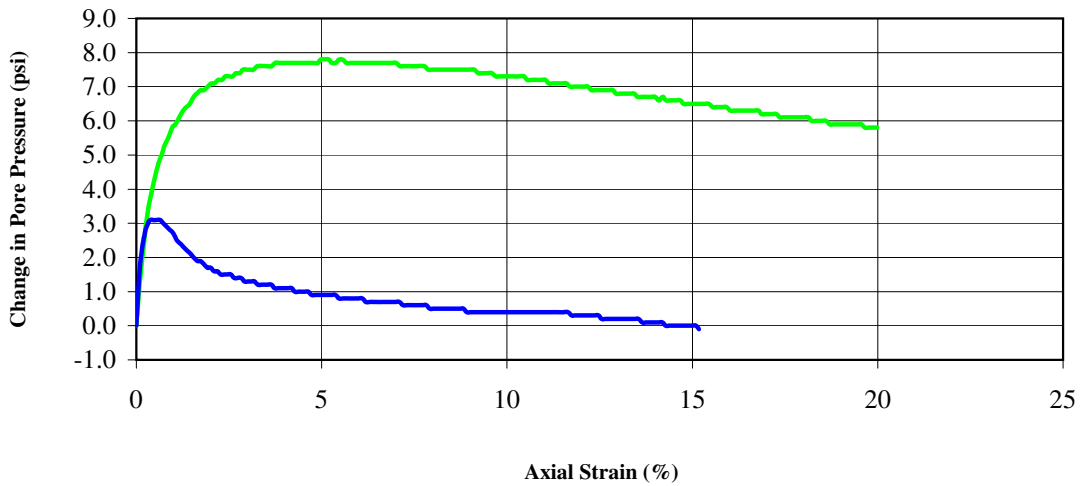
Stress Paths (Effective)
 ($C' = 0.0$ $\phi' = 0.0$)



Date:

Tested By:

Change in Pore Pressure vs. Axial Strain



Consolidated Undrained Triaxial Test (ASTM D4767)



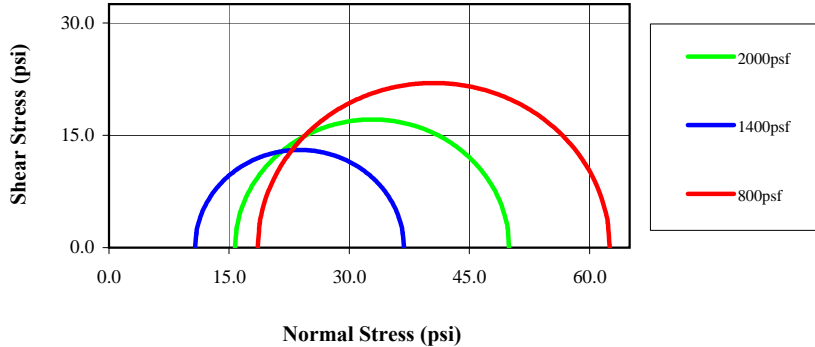
Date: Dec-10

Checked By: RL

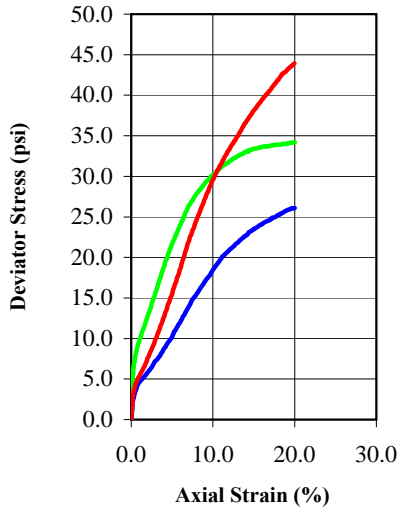
Date : 12/28/2010

Tested By: DS

Effective Stress at Maximum Deviator Stress Criterion



Deviator Stress Vs. Axial Strain



	Specimen			
	Initial	2000psf	1400psf	800psf
Water Content (%)	14.2	15.3	15.7	
Dry Density (pcf)	114.4	111.9	116.9	
Saturation (%)	84.22	84.88	99.96	
Void Ratio	0.444	0.476	0.413	
Diameter (in)	2.820	2.820	2.820	
Height (in)	6.120	5.610	5.480	
Specific Gravity	2.65	2.65	2.65	
Liquid Limit	0	0	0	
Plastic Limit	0	0	0	
After Consolidation				
	A	B	C	
B-Value	0.97	0.92	0.88	
Water Content (%)	16.2	16.5	17.0	
Dry Density (pcf)	111.21	111.75	118.89	
Saturation (%)	100.00	100.00	100.00	
Void Ratio	0.488	0.480	0.392	
Effective Stress (psi)	14.3	5.6	10.2	
Back Press. (psi)	66.1	69.4	66.5	
Rate of Strain	0.00075	0.00075	0.00075	

Maximum Deviator Stress Criterion		After Shear			
		A	B	C	
C (psi)	0.0	$\sigma'1$ at Failure (psi)	49.95	36.83	62.51
C' (psi)	0.0	$\sigma'3$ at Failure (psi)	15.75	10.75	18.57
\emptyset (deg)	0.0				
\emptyset' (deg)	0.0				

Project:	Reclamation District 17	N/A	N/A	N/A	N/A
Location:					
Project Number:	5747.000.000				
Boring Number:	5-B1				
Sample Number:	5-B1@11				
Depth:	11.0 ft.	Failure Photographs			
Sample Type:	Undisturbed				
Description:	See Boring Logs				
Test Type	Consolidated Undrained				
Remarks					

Consolidated Undrained Triaxial Test (ASTM D4767)



Dec-10

Date:

RL

Checked By:

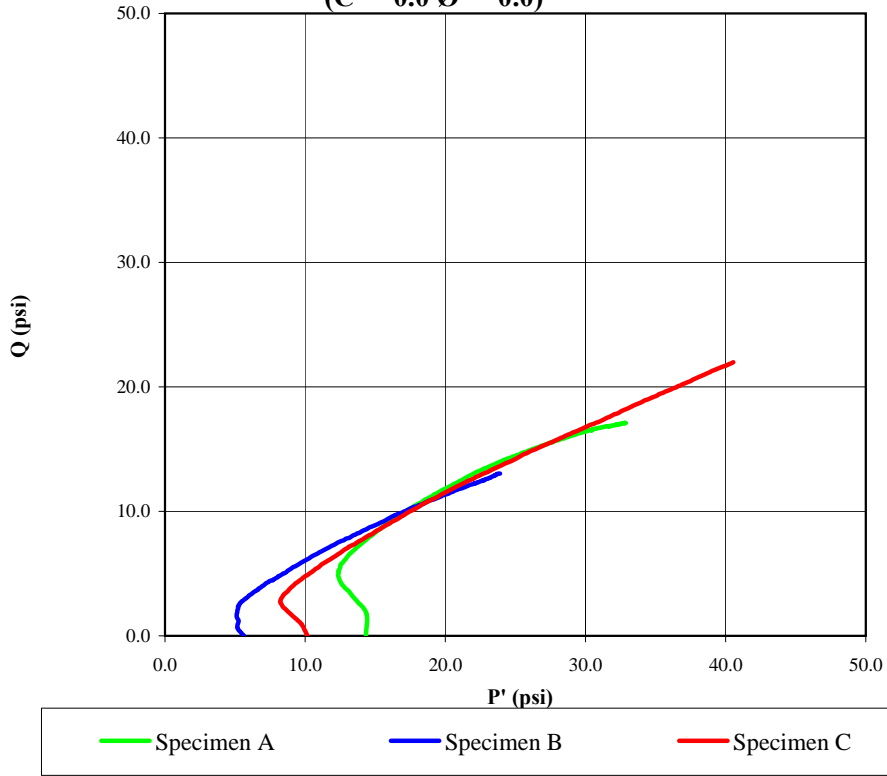
12/28/2010

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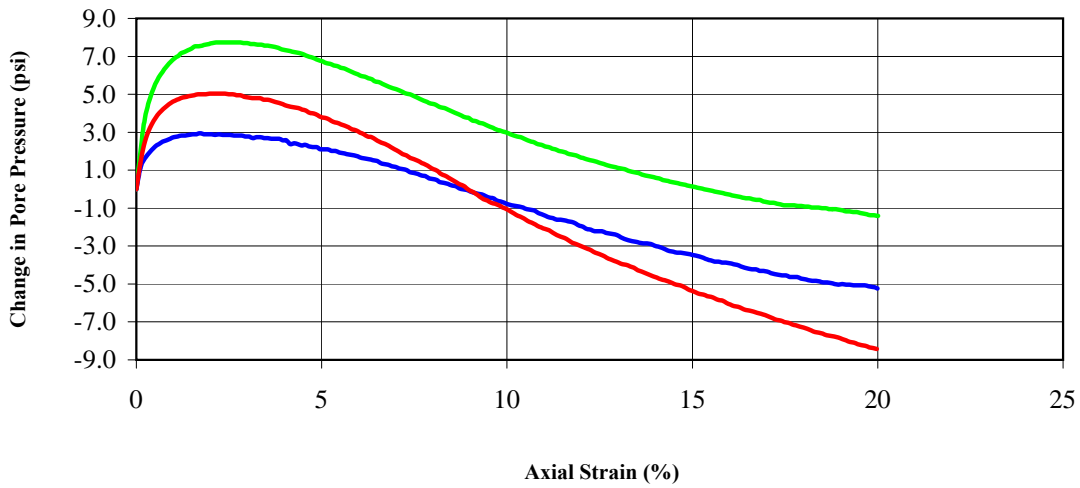
DS

Tested By:

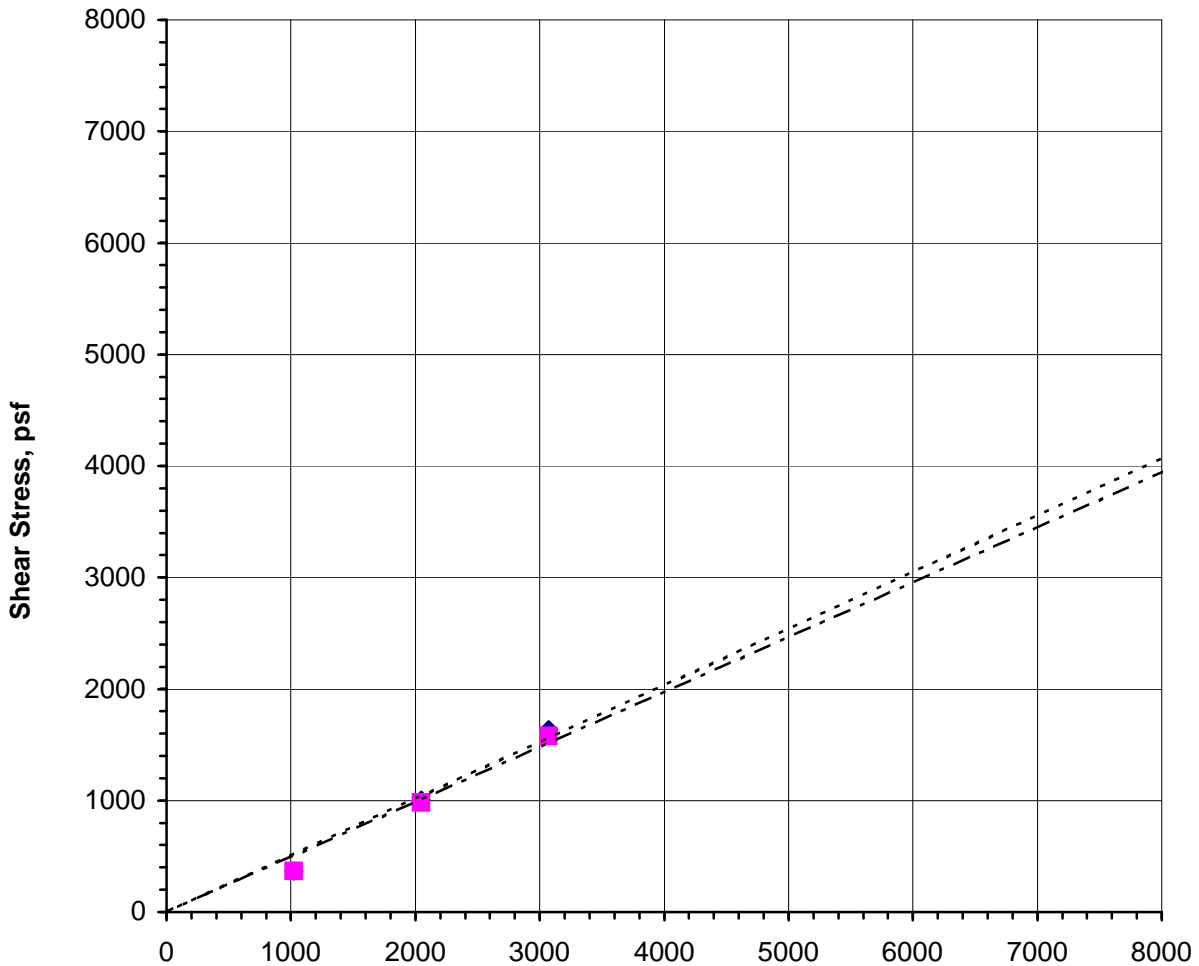
Stress Paths (Effective)
($C' = 0.0$ $\phi' = 0.0$)



Change in Pore Pressure vs. Axial Strain



**Direct Shear Test
ASTM Test Method D3080**



Normal Stress, psf

Sample Type: Undisturbed
Compaction: N/A
Diameter: 2.42 in.
Height: 1.00 in.
Depth(ft.): 24.0

PRE-TEST CONDITION	
Dry Density:	96.3 pcf
Moisture Content:	21.4 %

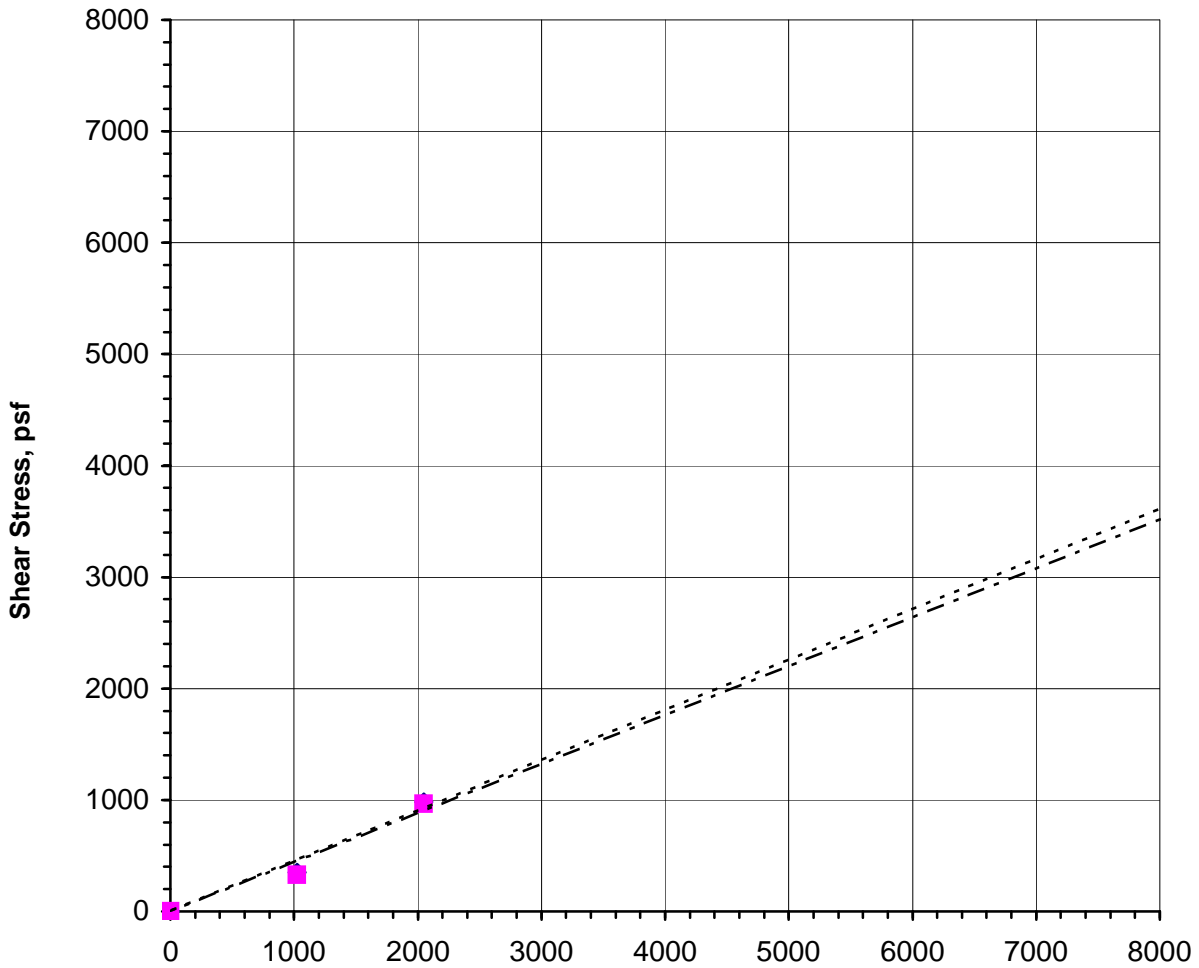
	FRICTION ANGLE	COHESION
Peak	32 degrees	0 psf
Softened	31 degrees	0 psf

POST-TEST CONDITION	
Dry Density:	103.5 pcf
Moisture Content:	25.6 %
USCS Classification:	
Shear Type:	UU
Shear Rate:	0.058 mm/min.

Remarks: Specimens were saturating prior to and during testing. The normal loads applied during testing were 1000, 2000, and 3000 psf.

ENGEO INCORPORATED	RD-17	Job No.:	5747.000.000
		Sample Number:	5-B2@24
		Date:	1/3/2011
		Tested By: D. Seibold Checked By: J. Botelho	

**Direct Shear Test
ASTM Test Method D3080**



Normal Stress, psf

Sample Type: Undisturbed
Compaction: N/A
Diameter: 2.42 in.
Height: 1.00 in.
Depth(ft.): 7.5

PRE-TEST CONDITION	
Dry Density:	88.3 pcf
Moisture Content:	32.0%

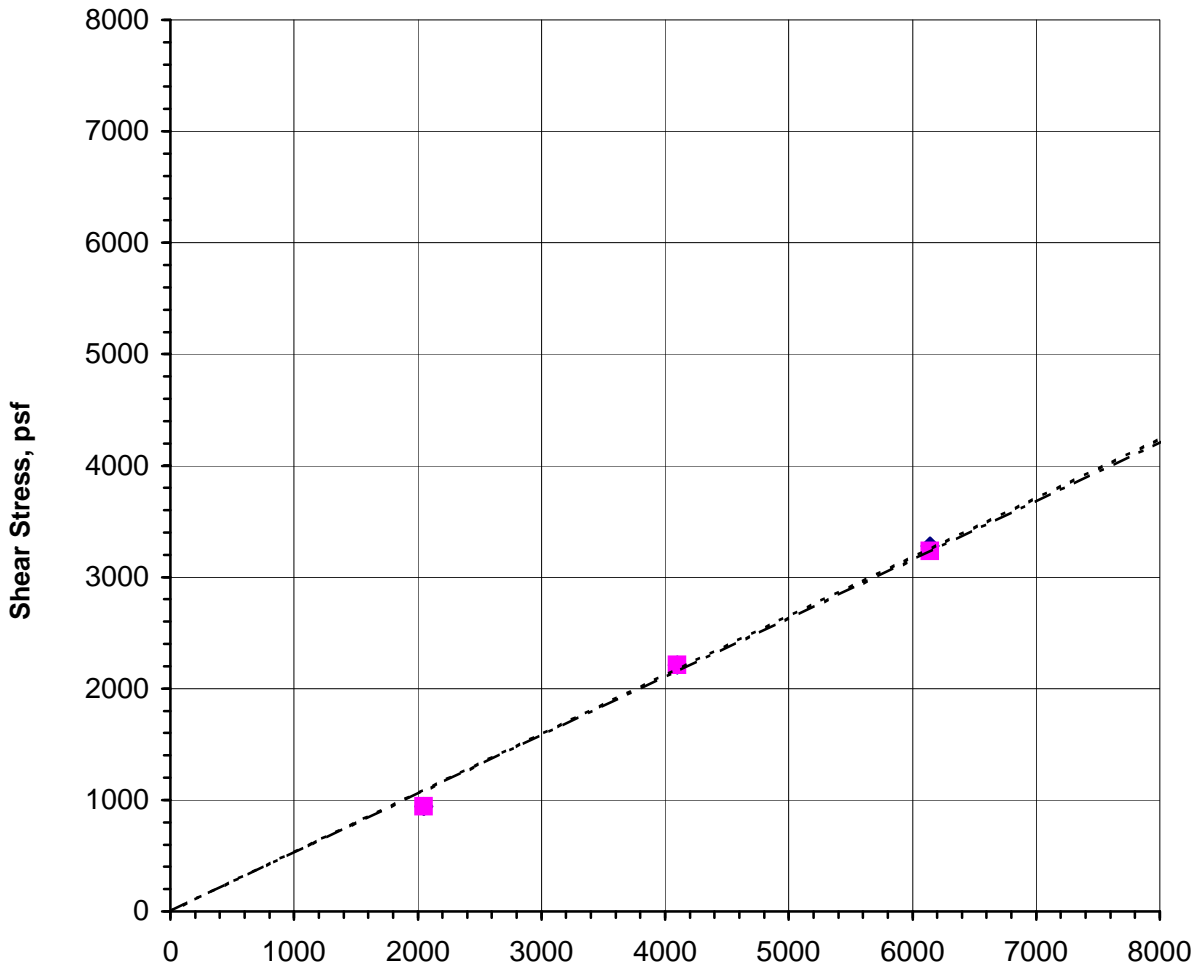
	FRICTION ANGLE	COHESION
Peak	26 degrees	0 psf
Softened	25 degrees	0 psf

POST-TEST CONDITION	
Dry Density:	98.6 pcf
Moisture Content:	28.5 %
USCS Classification:	
Shear Type:	UU
Shear Rate:	0.058 mm/min.

Remarks: Specimens were saturating prior to and during testing. The normal loads applied during testing were 1000, and 2000 psf.

ENGEO INCORPORATED	RD-17	Job No.:	5747.000.000
		Sample Number:	5-B3@7.5
		Date:	1/5/2011
		Tested By: D. Seibold Checked By: M. Swanson	

**Direct Shear Test
ASTM Test Method D3080**



Normal Stress, psf

Sample Type: Undisturbed
Compaction: N/A
Diameter: 2.42 in.
Height: 1.00 in.
Depth(ft.): 35.5

PRE-TEST CONDITION	
Dry Density:	92.0 pcf
Moisture Content:	23.3 %

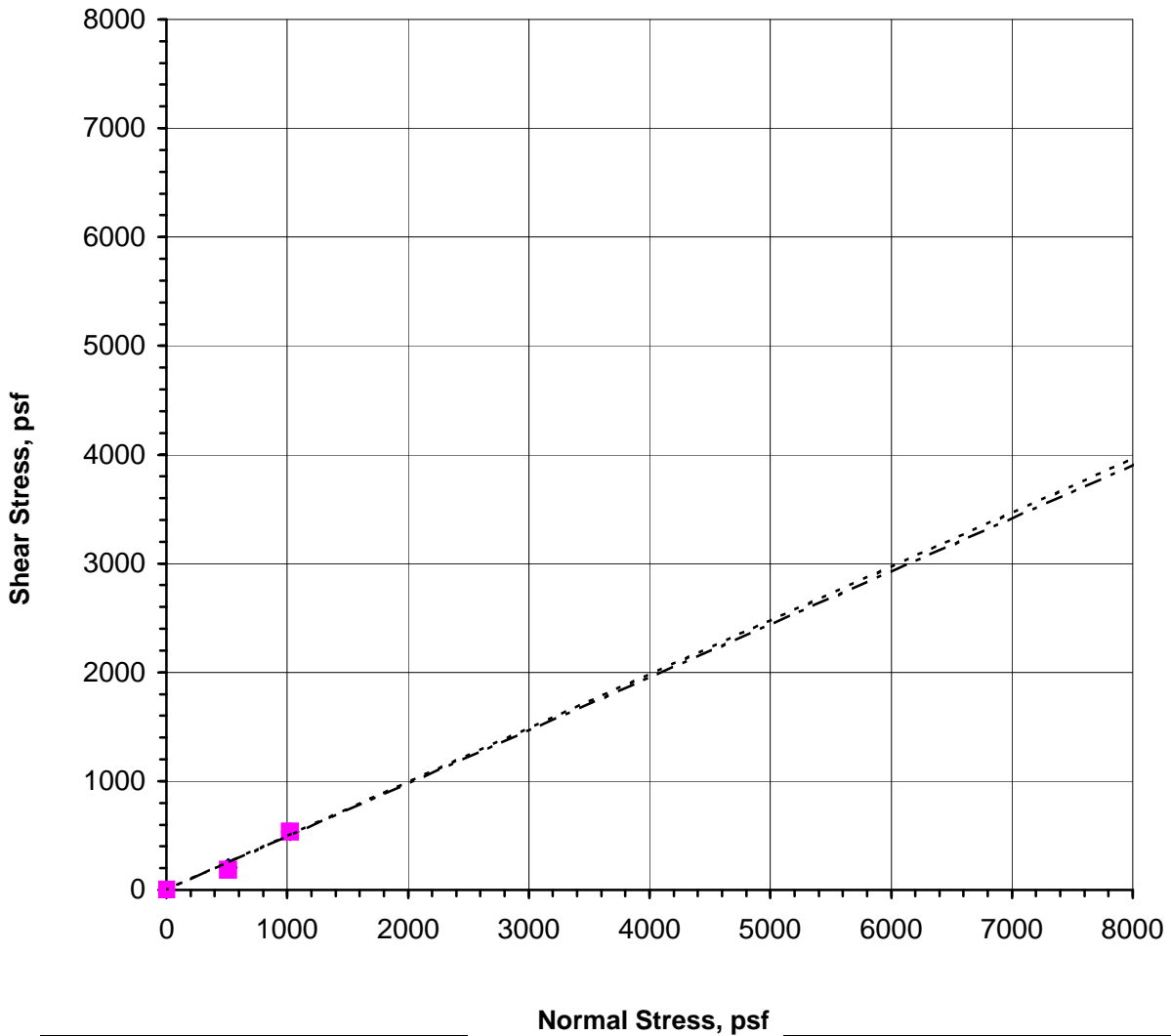
	FRICTION ANGLE	COHESION
Peak	26 degrees	0 psf
Softened	25 degrees	0 psf

POST-TEST CONDITION	
Dry Density:	87.4 pcf
Moisture Content:	27.9 %
USCS Classification:	
Shear Type:	UU
Shear Rate:	0.058 mm/min.

Remarks: Specimens were saturating prior to and during testing. The normal loads applied during testing were 2000, 4000, and 6000 psf.

ENGEO INCORPORATED	RD-17	Job No.:	5747.000.000
		Sample Number:	5-B4@35.5
		Date:	1/21/2011
		Tested By: D. Seibold Checked By: G. Criste	

**Direct Shear Test
ASTM Test Method D3080**



Sample Type: Undisturbed
Compaction: N/A
Diameter: 2.42 in.
Height: 1.00 in.
Depth(ft.): 24.0

PRE-TEST CONDITION
Dry Density: 113.0 pcf
Moisture Content: 10.0 %

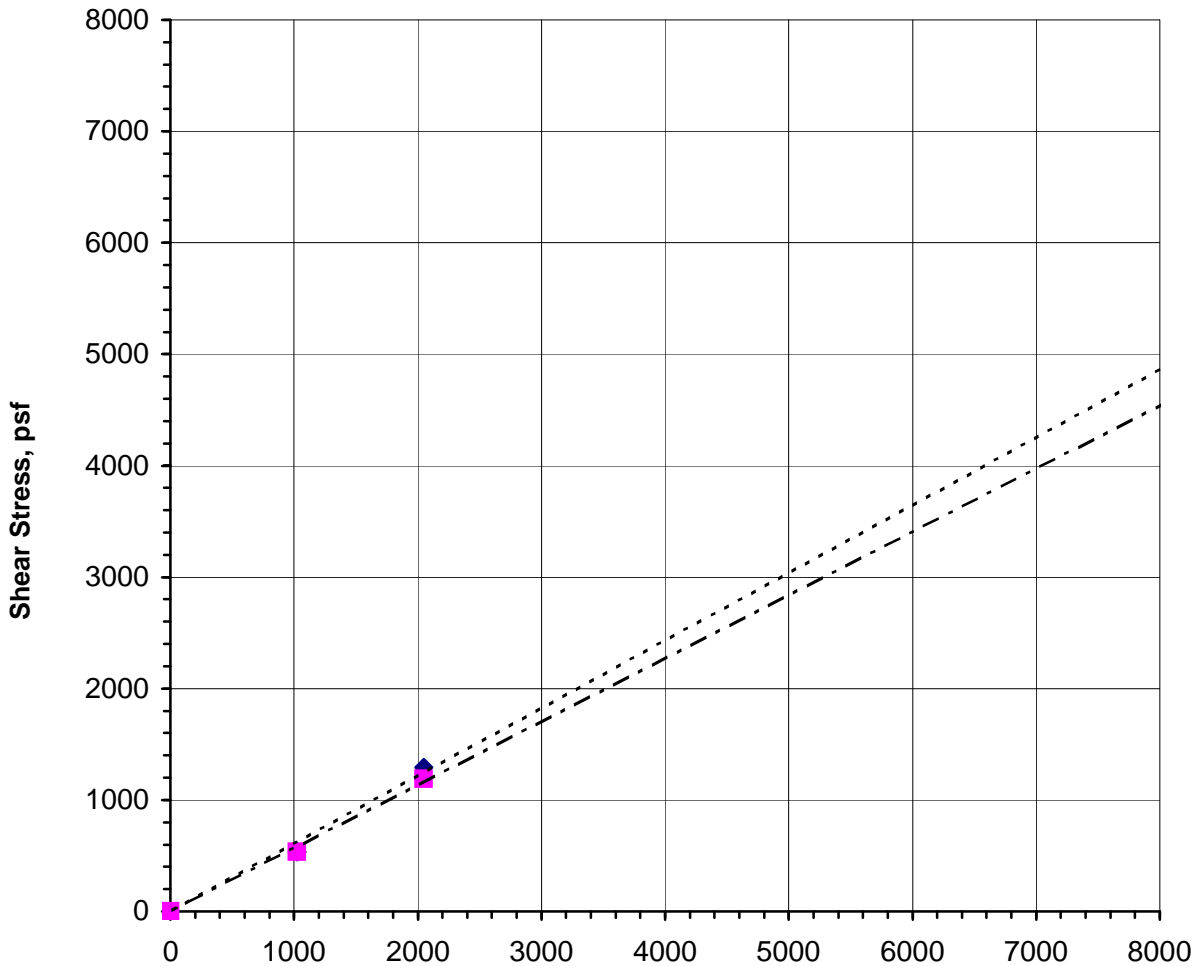
	FRICTION ANGLE	COHESION
Peak	26 degrees	0 psf
Softened	25 degrees	0 psf

POST-TEST CONDITION
Dry Density: 108.6 pcf
Moisture Content: 19.8 %
USCS Classification:
Shear Type: UU
Shear Rate: Slow

Remarks: Specimens were saturating prior to and during testing. The normal loads applied during testing were 500 and 1000 psf.

ENGEO INCORPORATED	RD-17 Tested By: D. Seibold Checked By: G. Criste	Job No.:	5747.000.000
		Sample Number:	5-B7@5.5
		Date:	1/12/2011

**Direct Shear Test
ASTM Test Method D3080**



Normal Stress, psf

Sample Type: Undisturbed
Compaction: N/A
Diameter: 2.42 in.
Height: 1.00 in.
Depth(ft.): 24.0

PRE-TEST CONDITION	
Dry Density:	108.1 pcf
Moisture Content:	18.4 %

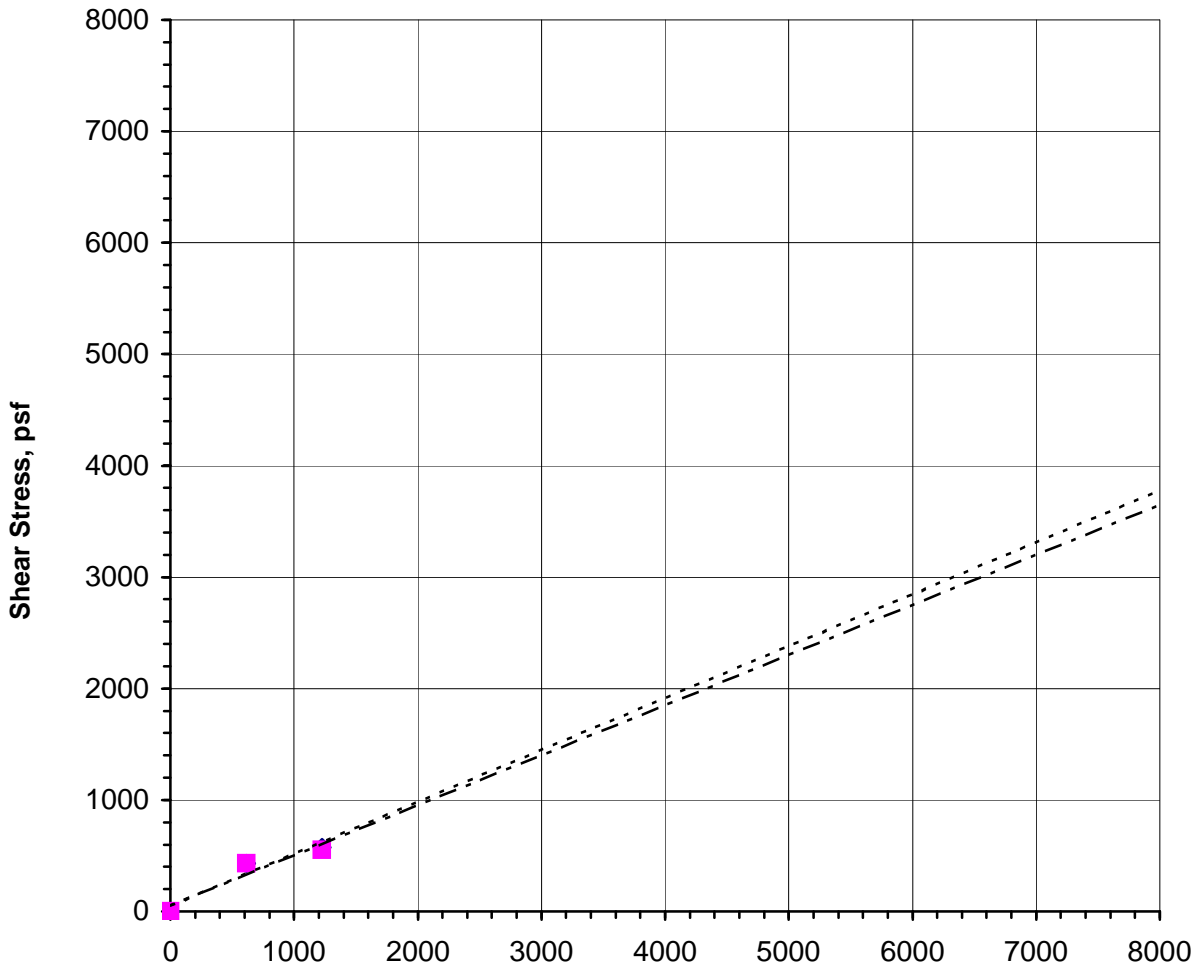
	FRICTION ANGLE	COHESION
Peak	32 degrees	0 psf
Softened	30 degrees	0 psf

POST-TEST CONDITION	
Dry Density:	103.8 pcf
Moisture Content:	20.9 %
USCS Classification:	
Shear Type:	UU
Shear Rate:	0.058 mm/min.

Remarks: Specimens were saturating prior to and during testing. The normal loads applied during testing were 1000, and 2000 psf.

ENGEO INCORPORATED	RD-17	Job No.:	5747.000.000
		Sample Number:	5-B8@10.5
		Date:	1/10/2011
Tested By: D. Seibold Checked By: MS			

**Direct Shear Test
ASTM Test Method D3080**



Normal Stress, psf

Sample Type: Undisturbed
Compaction: N/A
Diameter: 2.42 in.
Height: 1.00 in.
Depth(ft.): 5.0

PRE-TEST CONDITION	
Dry Density:	94.9 pcf
Moisture Content:	6.4 %

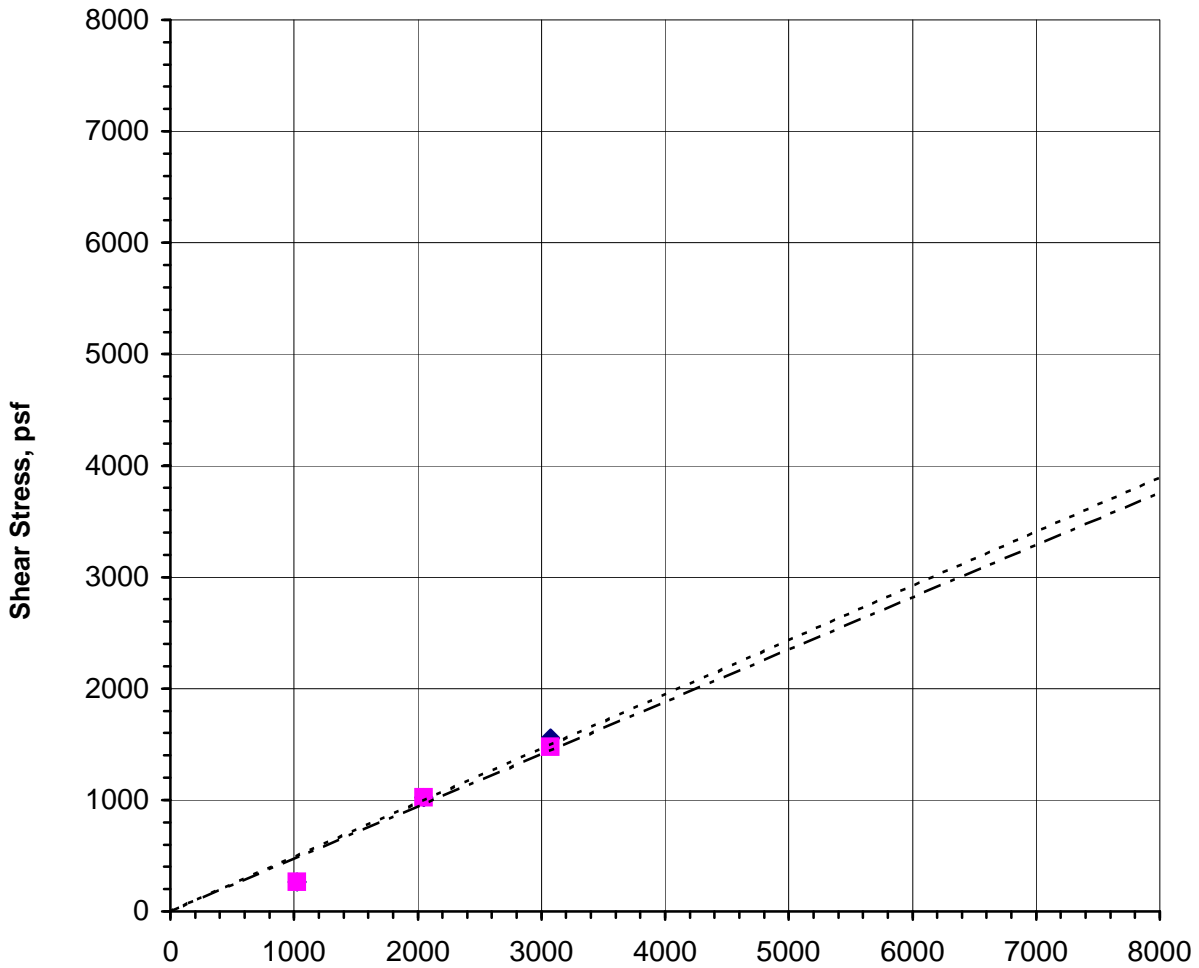
	FRICTION ANGLE	COHESION
Peak	25 degrees	48 psf
Softened	24 degrees	51 psf

POST-TEST CONDITION	
Dry Density:	93.1 pcf
Moisture Content:	16.6 %
USCS Classification:	
Shear Type:	UU
Shear Rate:	0.058 mm/min.

Remarks: Specimens were saturated prior to and during testing. The normal loads applied during testing were 600, and 1200 psf.

ENGEO INCORPORATED	RD-17	Job No.:	5747.000.000
		Sample Number:	5-B10@5
		Date:	2/1/2011
		Tested By: D. Seibold Checked By: G. Criste	

**Direct Shear Test
ASTM Test Method D3080**



Normal Stress, psf

Sample Type: Undisturbed
Compaction: N/A
Diameter: 2.42 in.
Height: 1.00 in.
Depth(ft.): 20.0

PRE-TEST CONDITION	
Dry Density:	95.5 pcf
Moisture Content:	4.9 %

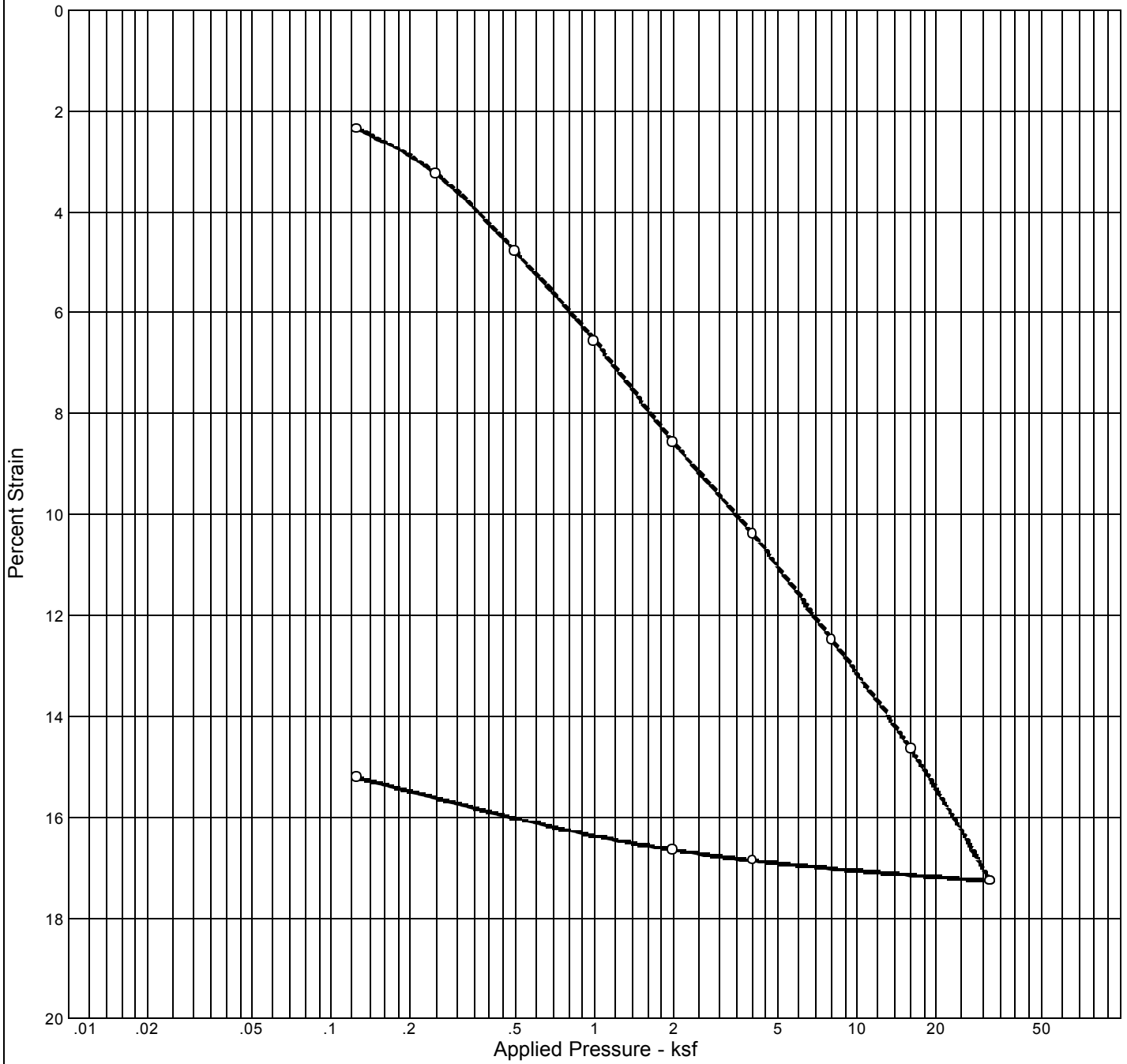
	FRICTION ANGLE	COHESION
Peak	32 degrees	0 psf
Softened	31 degrees	0 psf

POST-TEST CONDITION	
Dry Density:	82.9 pcf
Moisture Content:	33.6 %
USCS Classification:	
Shear Type:	UU
Shear Rate:	0.058 mm/min.

Remarks: Specimens were saturating prior to and during testing. The normal loads applied during testing were 1000, 2000, and 3000 psf.

ENGEO INCORPORATED	RD-17	Job No.:	5747.000.000
		Sample Number:	5-B10@20
		Date:	1/21/2011
		Tested By: D. Seibold Checked By: G. Criste	

CONSOLIDATION TEST REPORT

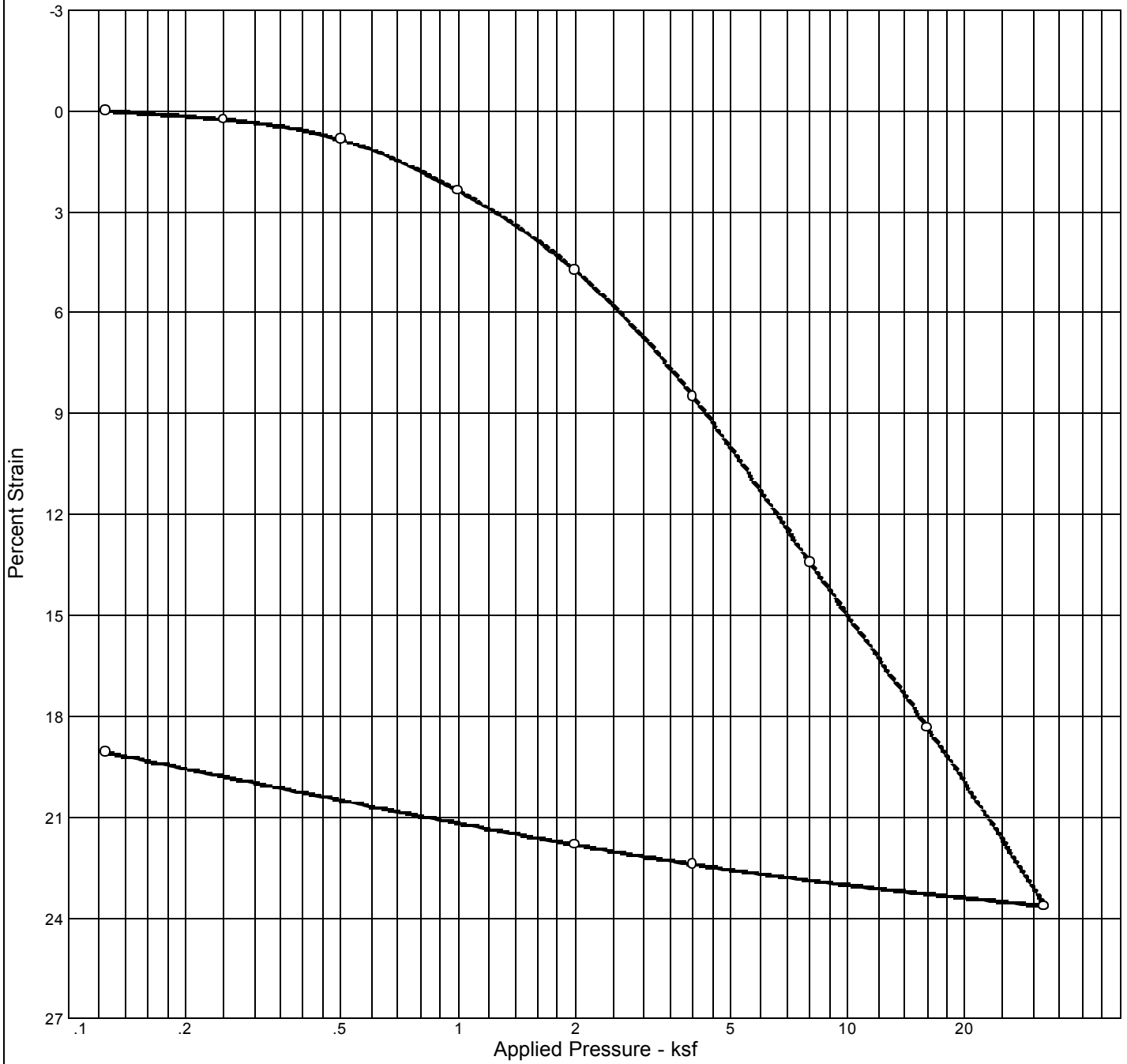


Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (ksf)	P _c (ksf)	C _c	C _r	Swell Press. (ksf)	Swell %	e ₀
Sat.	Moist.											
48.3 %	12.0 %	98.7	23	10	2.60	0.13	1.15	0.14	0.01			0.644

MATERIAL DESCRIPTION	USCS	AASHTO
See Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17</p> <p>Source: Boring 5-B1 Sample No.: 5-B1 @ 13 Elev./Depth: 13 feet</p>	<p>Remarks:</p>
<div style="display: inline-block; vertical-align: middle; font-size: small; margin-left: 10px;"> GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS MATERIALS TESTING </div>	<p>Plate</p>

CONSOLIDATION TEST REPORT

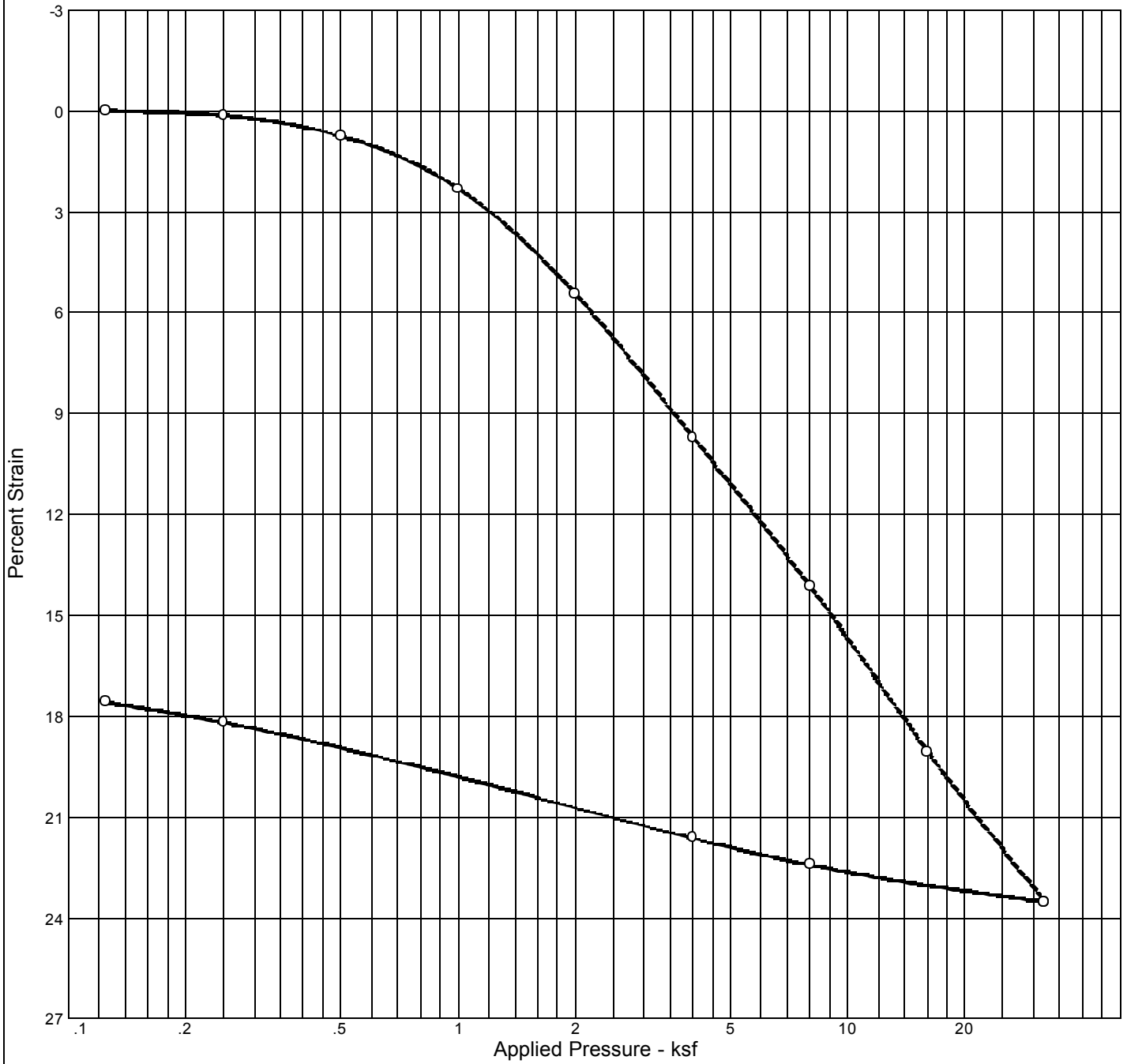


Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (ksf)	P _c (ksf)	C _c	C _r	Swell Press. (ksf)	Swell %	e ₀
Sat.	Moist.											
100.0 %	35.7 %	78.0			2.252	0.13	3.13	0.32	0.03			0.803

MATERIAL DESCRIPTION	USCS	AASHTO
See Boring Logs		

<p>Project No. 5747.000.000 Client:</p> <p>Project: RD-17</p> <p>Source: Boring 5-B5 Sample No.: 5-B5 @ 19.5 Elev./Depth: 19.5 feet</p>	<p>Remarks:</p>
<div style="display: inline-block; vertical-align: middle; font-size: small; margin-left: 10px;"> GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS MATERIALS TESTING </div>	
Plate	

CONSOLIDATION TEST REPORT

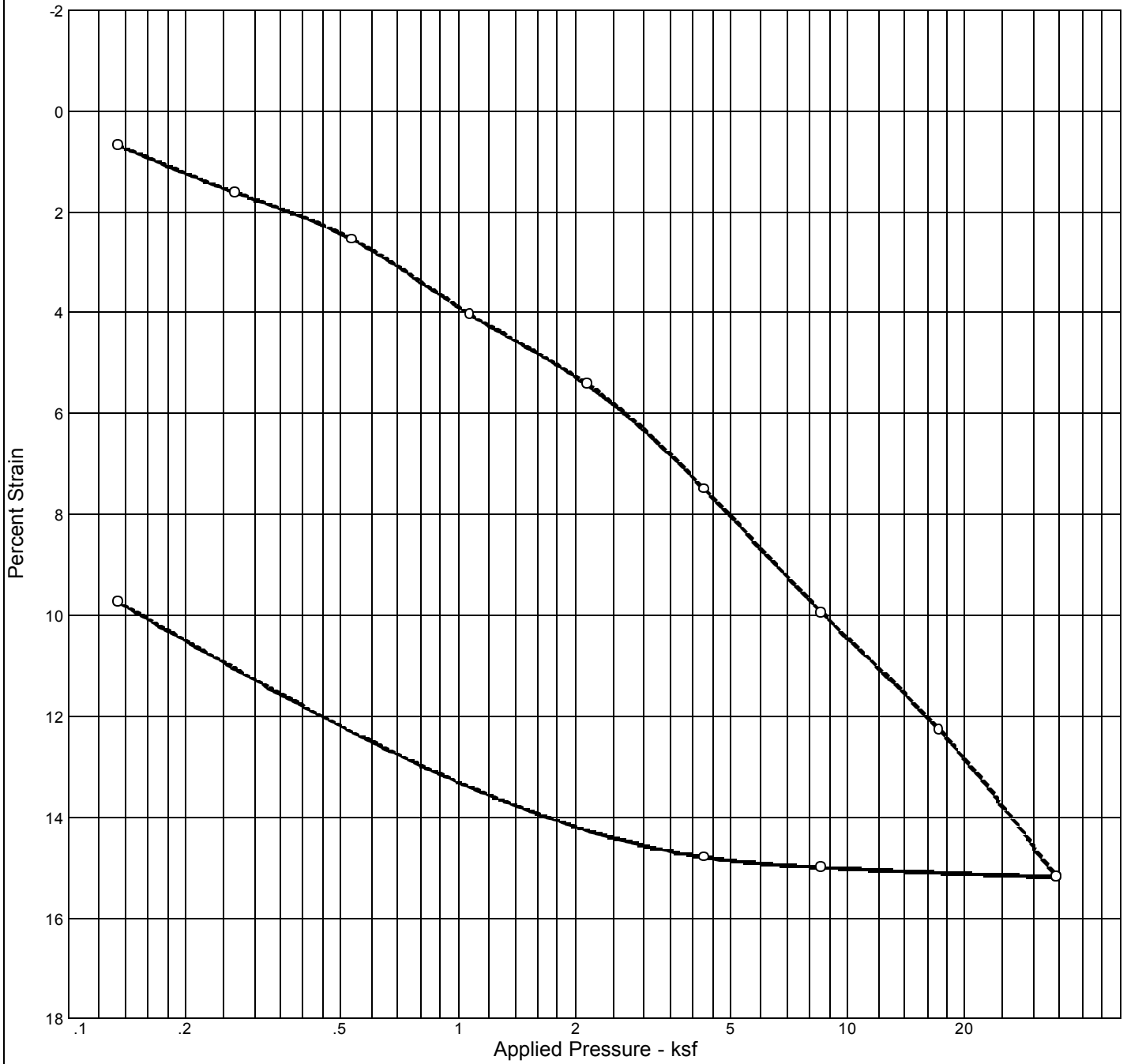


Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (ksf)	P _c (ksf)	C _c	C _r	Swell Press. (ksf)	Swell %	e ₀
Sat.	Moist.											
100.0 %	37.1 %	82.2	50	26	2.569	0.13	1.21	0.29	0.05			0.952

MATERIAL DESCRIPTION	USCS	AASHTO
See Boring Logs		

Project No. 5747.000.000 Project: RD-17 Source: Boring 5-B7	Client: Sample No.: 5-B7 @ 24 Elev./Depth: 24.0 feet	Remarks: <div style="text-align: center;"> <small>GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS MATERIALS TESTING</small> </div>
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CONSOLIDATION TEST REPORT

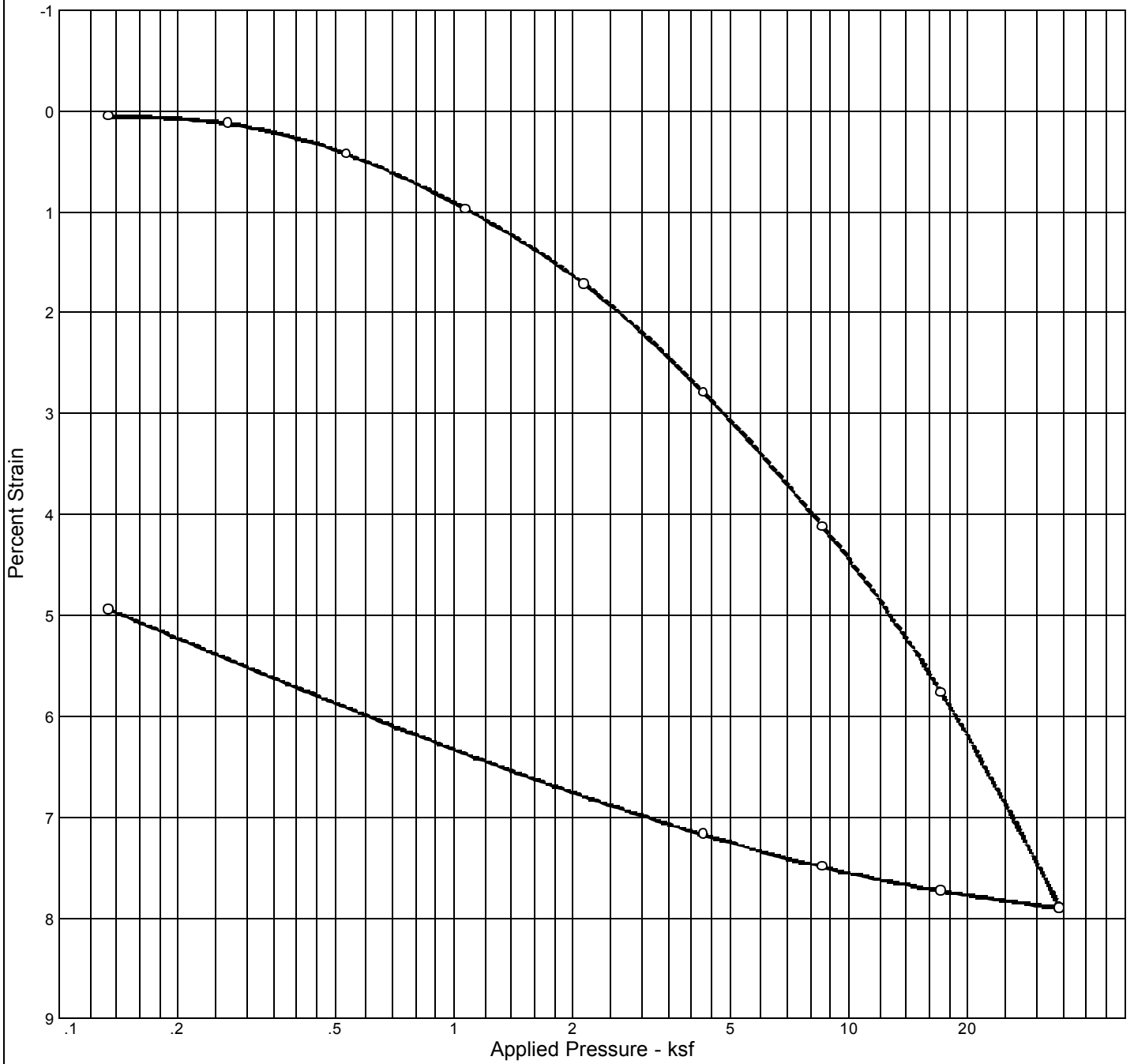


Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (ksf)	P _c (ksf)	C _c	C _r	Swell Press. (ksf)	Swell %	e ₀
Sat.	Moist.											
100.0 %	36.1 %	80.5			2.415	0.13	2.49	0.18	0.03			0.873

MATERIAL DESCRIPTION	USCS	AASHTO
See Boring Logs		

Project No. 5747.000.000 Project: RD-17 Source: Boring 5-B8	Client: Sample No.: 5-B8 @ 6 Elev./Depth: 6.0 ft.	Remarks: <div style="text-align: center;"> <small>GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS MATERIALS TESTING</small> </div>
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CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (ksf)	P _c (ksf)	C _c	C _r	Swell Press. (ksf)	Swell %	e ₀
Sat.	Moist.											
100.0 %	23.3 %	106.6			2.835	0.13	5.89	0.12	0.02			0.660

MATERIAL DESCRIPTION	USCS	AASHTO
See Boring Logs		

Project No. 5747.000.000 Project: RD-17 Source: Boring 5-B8	Client: Sample No.: 5-B8 @ 14.5 Elev./Depth: 14.5 ft.	Remarks:
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS MATERIALS TESTING		

PERMEABILITY TEST REPORT

TEST DATA:

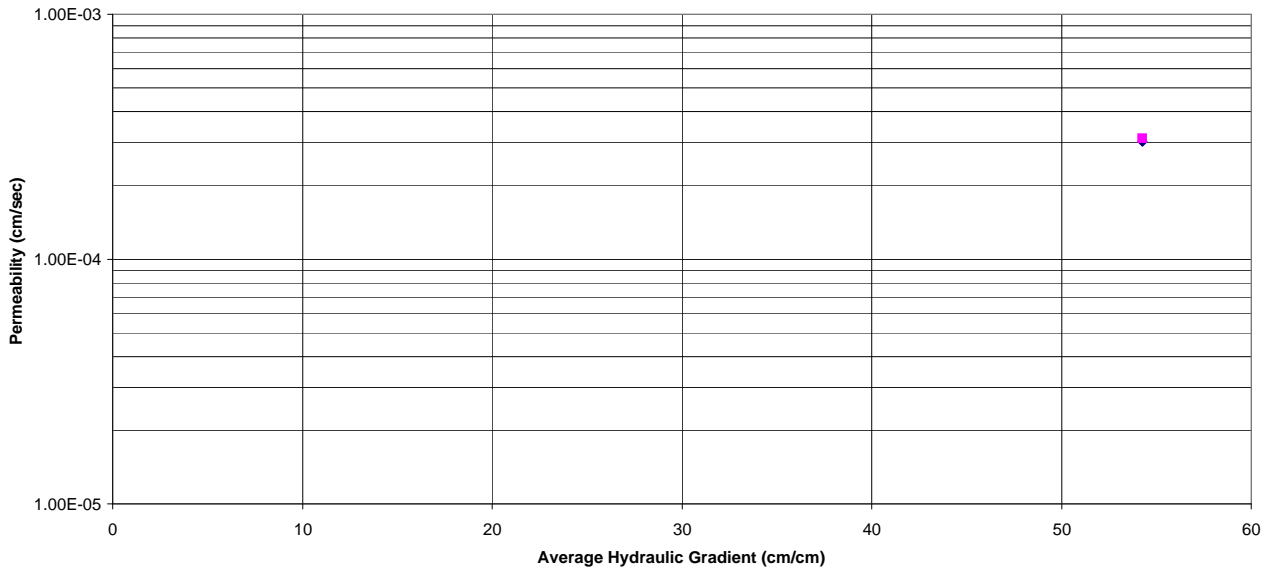
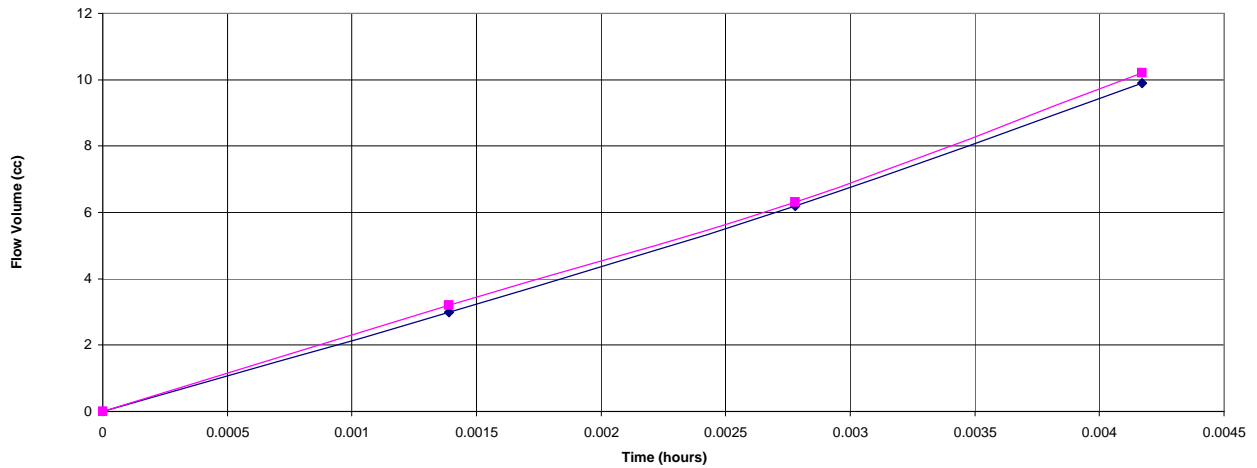
SAMPLE DATA

Specimen Height (cm): 2.55
 Specimen Diameter (cm): 2.82
 Dry Density (pcf): 94.6
 Moisture Content Before Test (%): 1%
 Moisture Content After Test (%): 41%
Run Number: 1 2
 Cell Pressure (psi): 5 5
 Back Pressure (psi): 0 0
 Differential Head (psi): 5 5
 Flow Rate (cc/sec): 0.6594724 0.6794564
 Permeability (cm/sec): 3.0154E-04 3.1068E-04

Sample Number: 5-B1@30
 Description: See Boring Logs

Remarks: USCS:

Maximum Dry Density (pcf): N/A
 Optimum Moisture Content (%): N/A
 Compaction (%): N/A
 Permeameter Type: Flexible Wall
 Sample Type: Undisturbed
 Type of Test: **Constant Head**



Project Name: Reclamation District 17
 Project Location:
 Project Number: 5747.000.000

Date: December 3, 2010
 Tested By: DS
 Checked By: GC

PERMEABILITY TEST REPORT

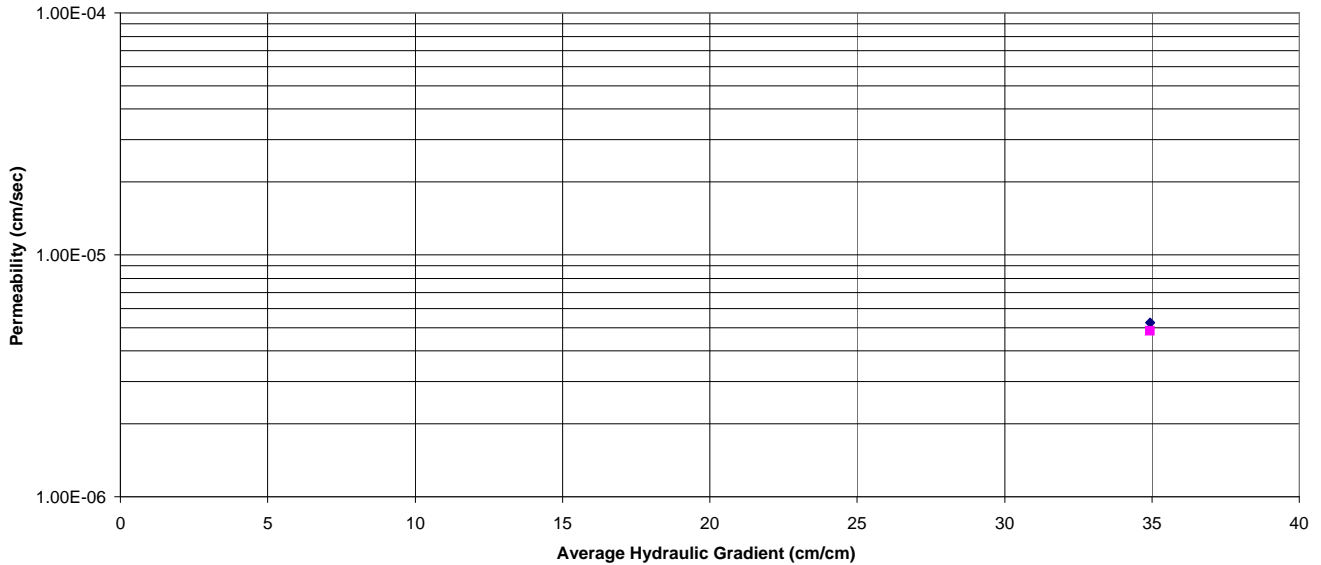
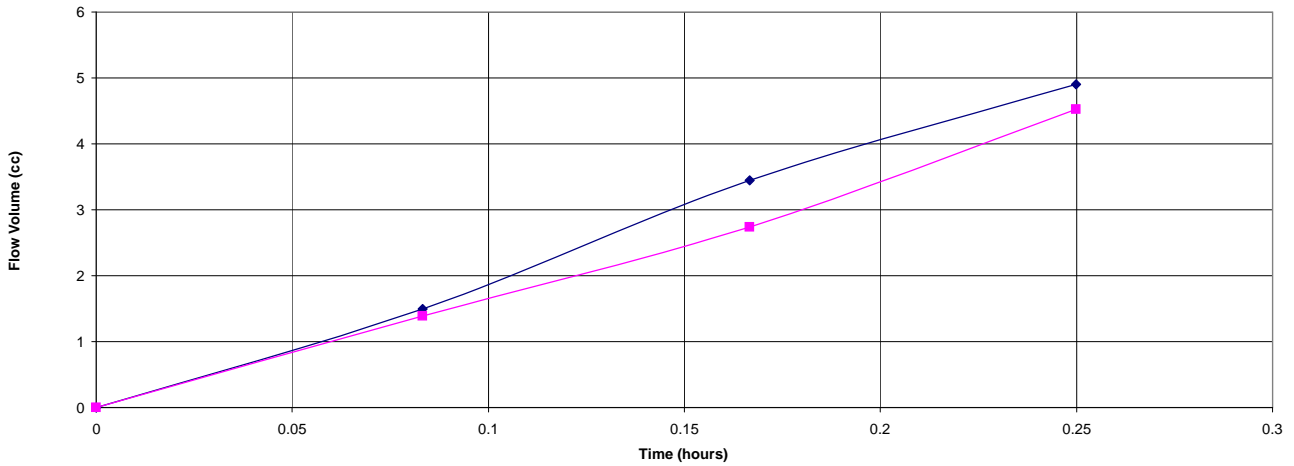
ASTM D2434

TEST DATA

Specimen Diameter (cm): 6.15
 Specimen Height (cm): 10.0584
 Dry Density (pcf): 96.3
 Moisture Content Before Test (%): 21%
 Moisture Content After Test (%): 26%
Run Number: **1** **2**
 Cell Pressure (psi): 10 10
 Back Pressure (psi): 5 5
 Differential Head (psi): 5 5
 Flow Rate (cc/sec): 5.447E-03 5.024E-03
 Permeability (cm/sec): 5.252E-06 4.84E-06

SAMPLE DATA

Sample Number: 5-B2@24
 Description: See Boring Logs.
 Remarks: USCS:
 Maximum Dry Density (pcf): 96.3 (in-situ)
 Optimum Moisture Content (%): 21.4
 Compaction (%): 100%
 Permeameter Type: Flexible Wall
 Sample Type: Remolded
 Type of Test: **Constant Head**



Project Name: RD17
 Project Location:
 Project Number: 5747.000.000

Date: January 4, 2011
 Tested By: DS
 Reviewed By: MS

PERMEABILITY TEST REPORT

ASTM D2434

TEST DATA

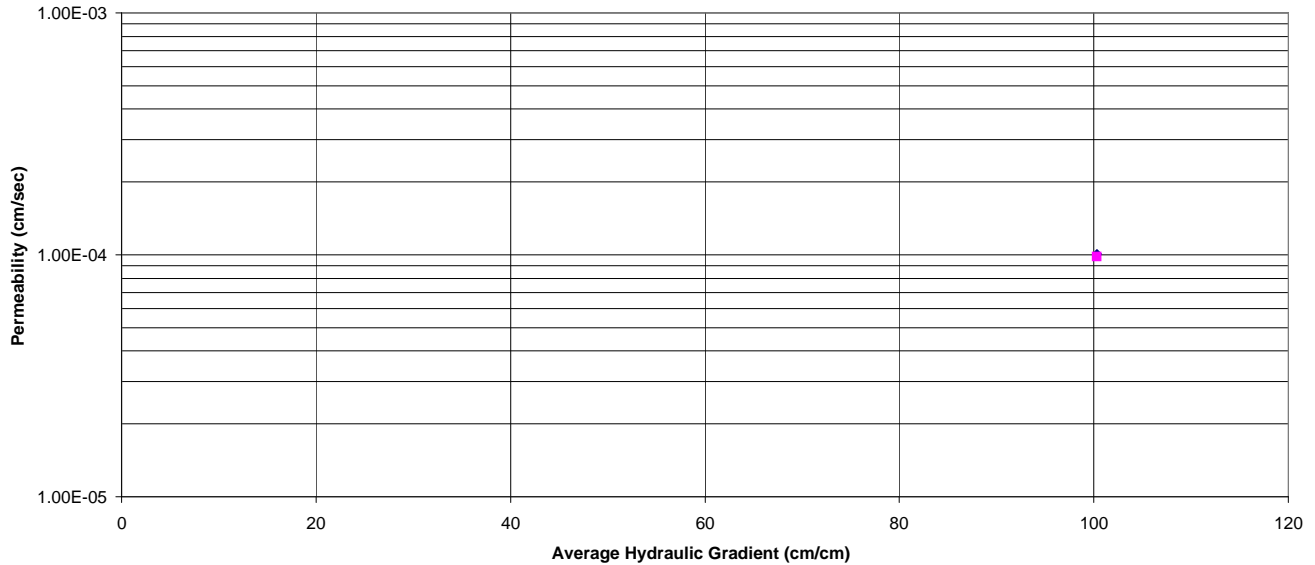
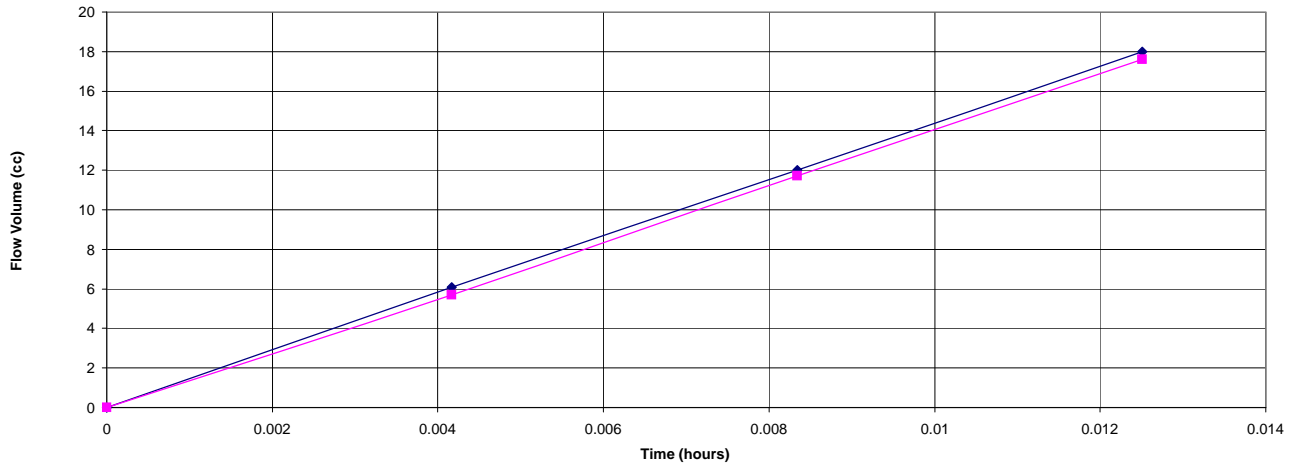
Specimen Diameter (cm): 2.80
 Specimen Height (cm): 2.76
 Dry Density (pcf):
 Moisture Content Before Test (%): 3%
 Moisture Content After Test (%): 4%
Run Number: 1 2
 Cell Pressure (psi): 20 20
 Back Pressure (psi): 10 10
 Differential Head (psi): 10 10
 Flow Rate (cc/sec): 0.39968 0.3908
 Permeability (cm/sec): 1.00E-04 9.81E-05

SAMPLE DATA

Sample Number: 5-B3@7.5
 Description: See Boring Logs

Remarks:

Maximum Dry Density (pcf):
 Optimum Moisture Content (%):
 Compaction (%):
 Permeameter Type: Solid Wall
 Sample Type: Undisturbed
 Type of Test: **Constant Head**



Project Name: RD-17
 Project Location:
 Project Number: 5747.000.000

Date: January 7, 2011
 Tested By: DS
 Reviewed By: MS

PERMEABILITY TEST REPORT

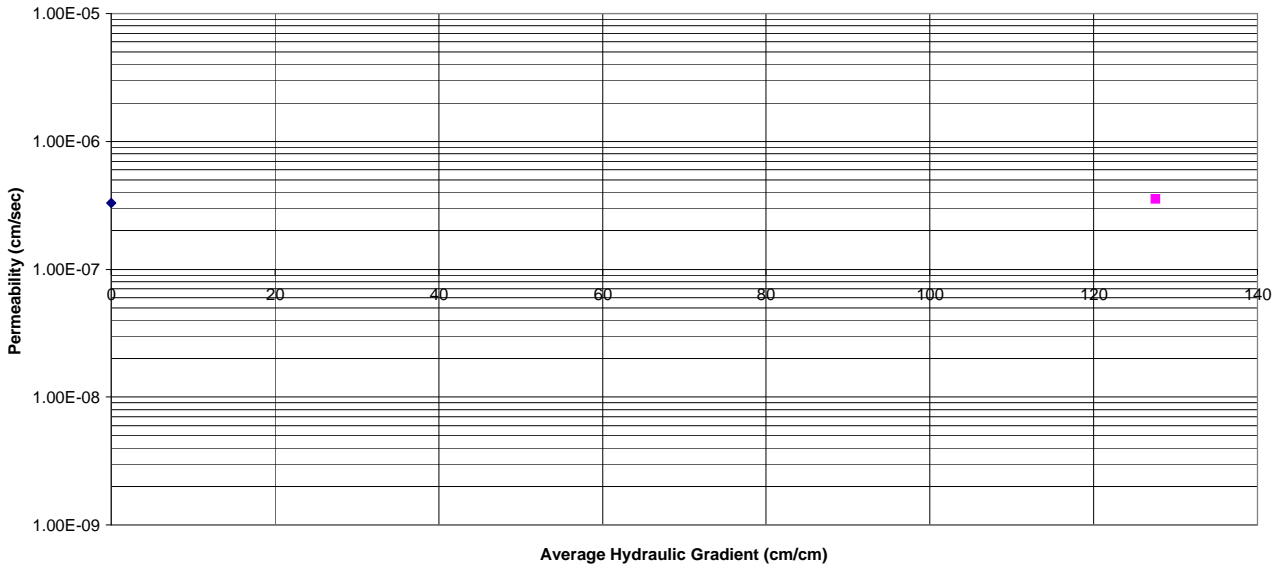
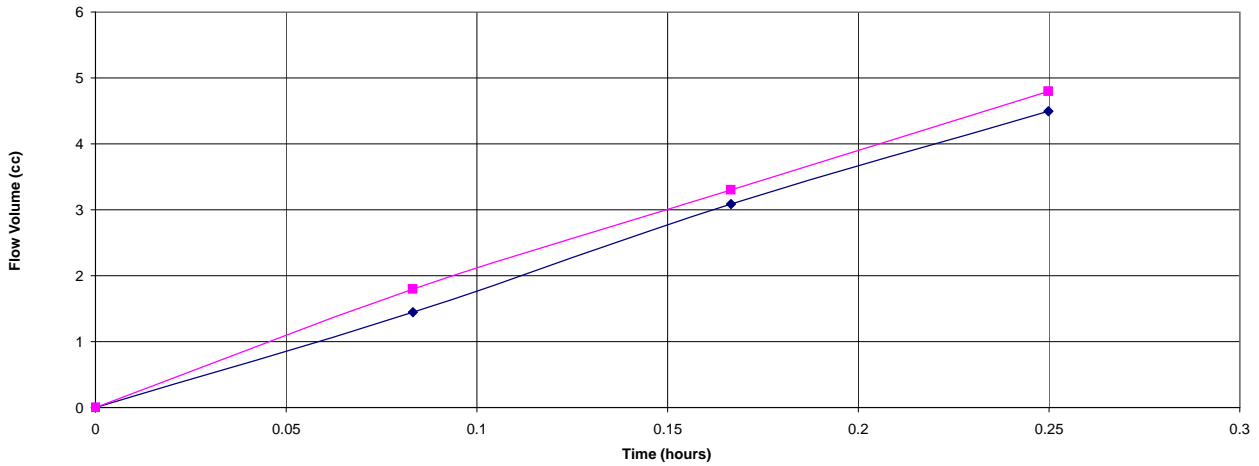
ASTM D2434

TEST DATA

Specimen Diameter (in):	2.42	
Specimen Height (in):	2.17	
Dry Density (pcf):		
Moisture Content Before Test (%):	11.8%	11.8%
Moisture Content After Test (%):	30.9%	0.3
Run Number:	1	2
Cell Pressure (psi):	15	15
Back Pressure (psi):	5	5
Differential Head (psi):	10	10
Flow Rate (cc/sec):	0.005002	0.005335
Permeability (cm/sec):	3.30E-07	3.52E-07

SAMPLE DATA

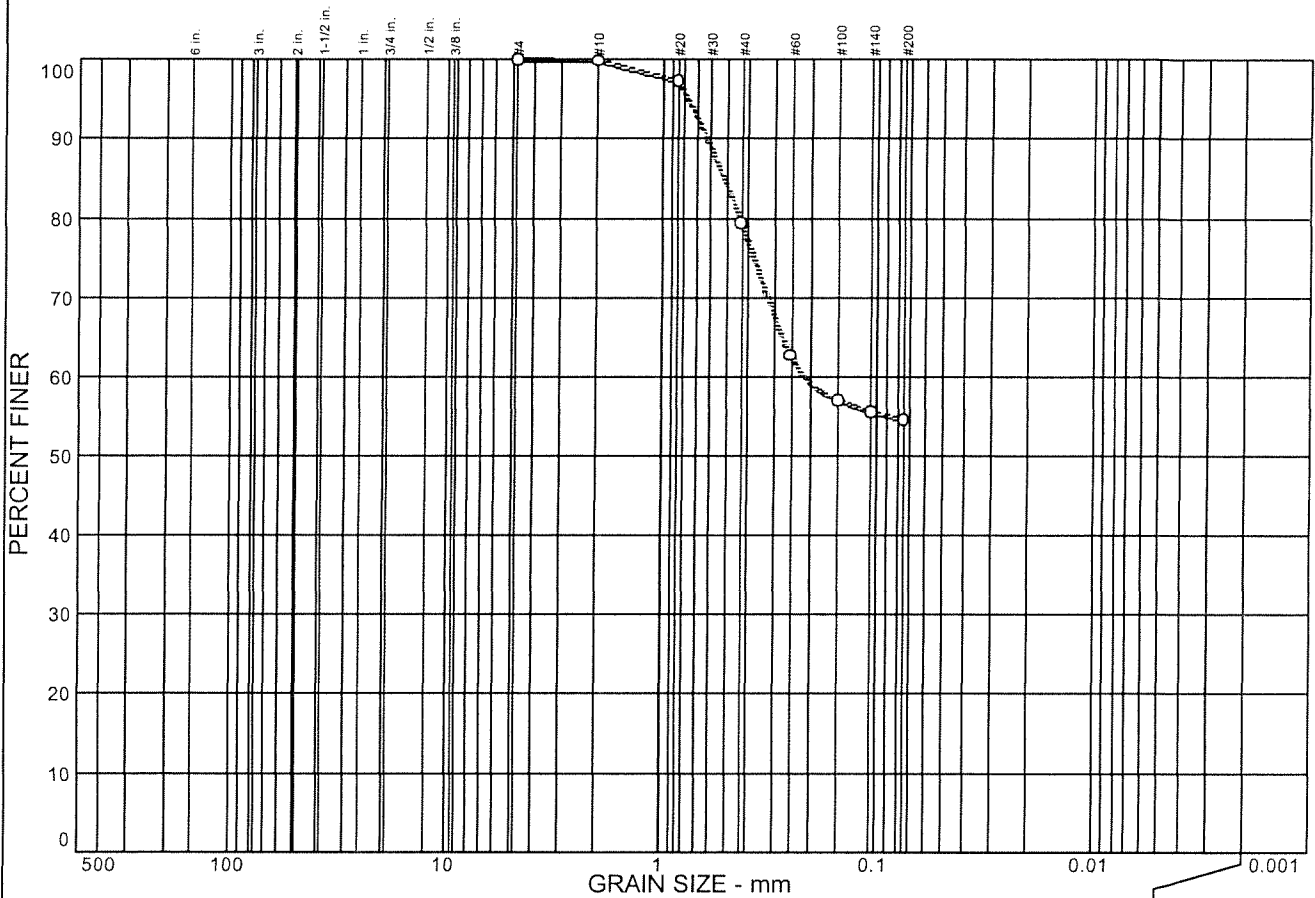
Sample Number:	5-B7@17
Description:	See Boring Logs
USCS:	
Remarks:	
Maximum Dry Density (pcf):	
Optimum Moisture Content (%):	
Compaction (%):	
Permeameter Type:	Solid Wall
Sample Type:	Undisturbed
Type of Test:	Constant Head



Project Name: RD-17
Project Location:
Project Number: 5747.000.000

Date: 1/12/2011
Tested By: D. Seibold
Reviewed By: G. Criste

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
		45.4	54.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	99.9		
#10	99.8		
#20	97.3		
#40	79.2		
#60	62.6		
#100	57.0		
#140	55.5		
#200	54.5		

Soil Description

Light olive brown sandy SILT

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.516 D₆₀= 0.216 D₅₀=

D₃₀= D₁₅= D₁₀=

C_u= C_c=

Classification

USCS= ML AASHTO=

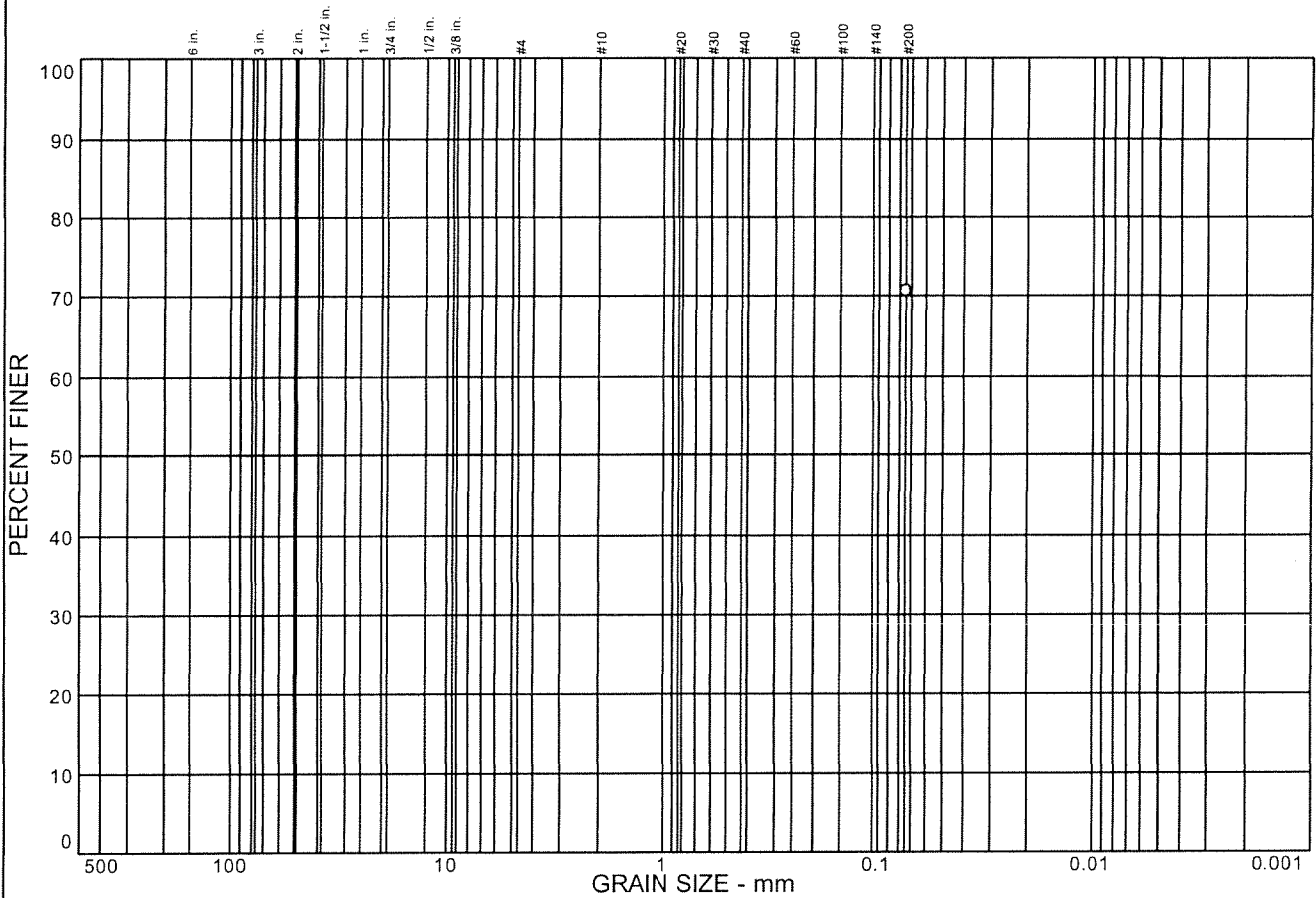
Remarks

* (no specification provided)

Sample No.: B1@ 10.5-11 Source of Sample: Date: 4/19/06
 Location: Elev./Depth:

<p style="font-size: small; text-align: center;">GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS MATERIALS TESTING</p>	<p>Client:</p> <p>Project: River Run- Levee Evaluation</p> <p>Project No: 6720.1.004.03</p>
---	--

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			70.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	70.7		

Soil Description

Dark grayish brown sandy silty CLAY to silty CLAY with sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

* (no specification provided)

Sample No.: B1@15.5-16
Location:

Source of Sample:

Date: 4-20-06
Elev./Depth: 15.5-16 ft.

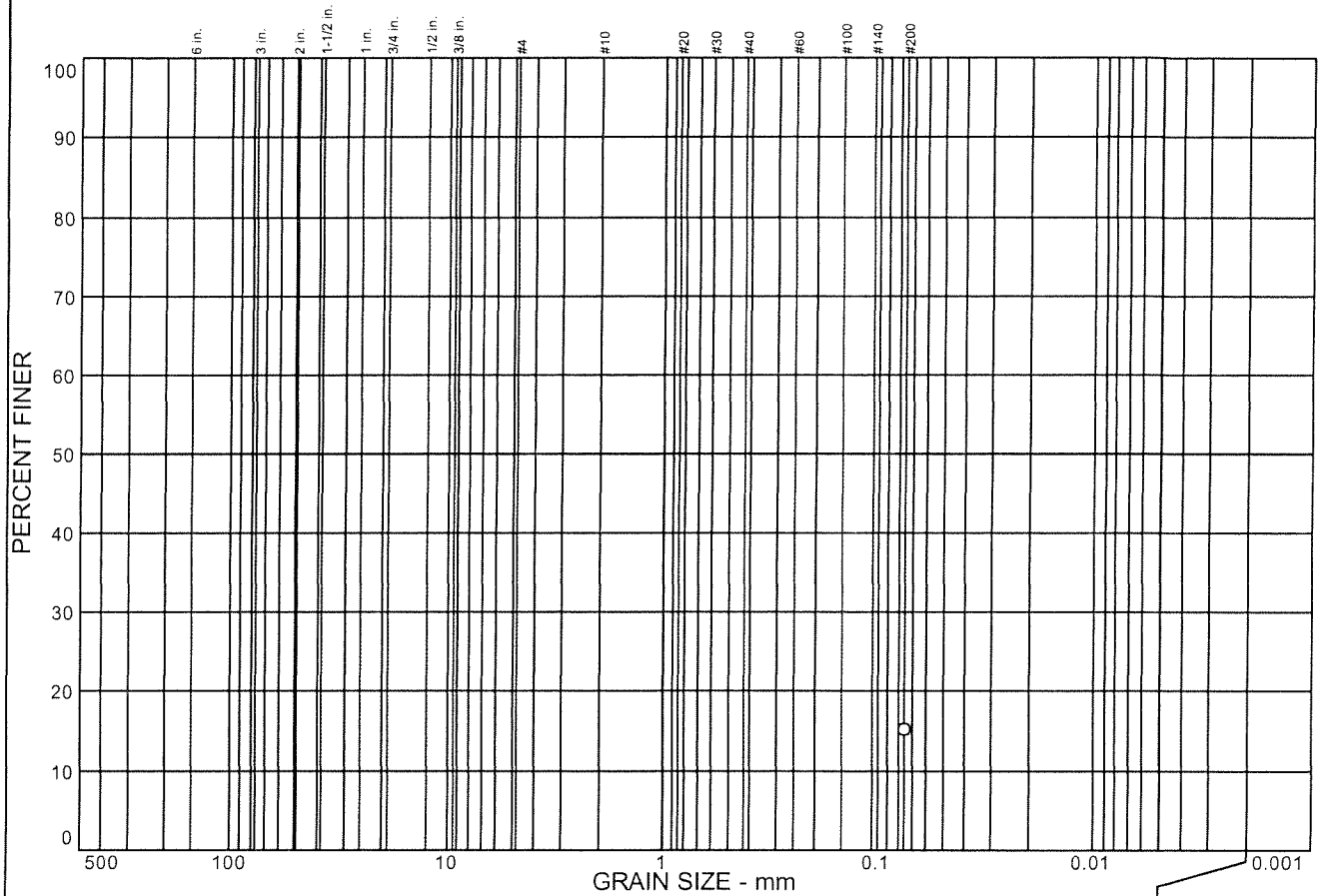


Client:
Project: River Run- Levee Evaluation

Project No.: 6720.1.004.03

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			15.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	15.1		

Soil Description

Dark yellowish brown silty SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

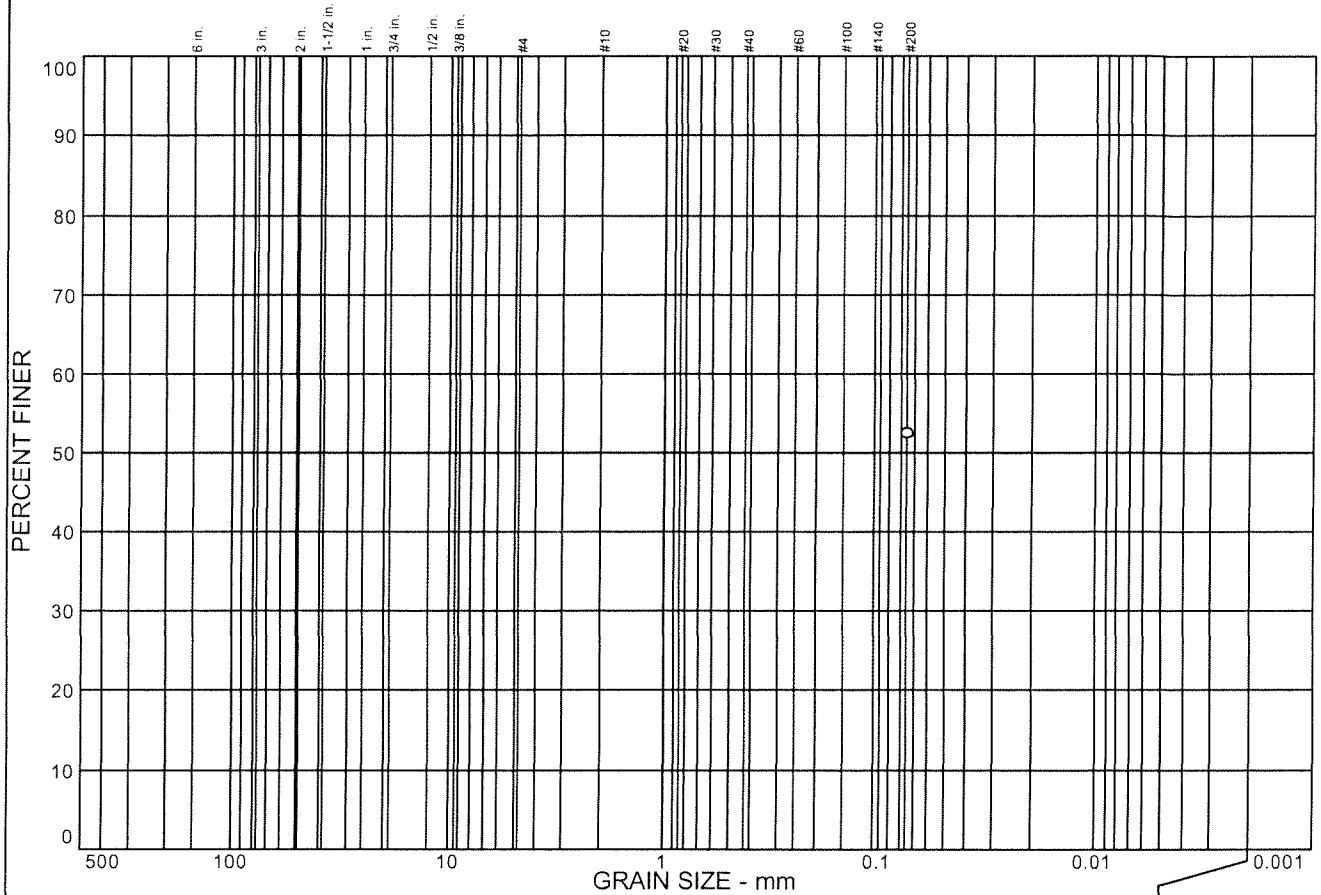
USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: B1, 19-19.5 Source of Sample: Date: 4/7/06
Location: Elev./Depth:

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			52.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	52.4		

Soil Description

Dark brown sandy CLAY

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

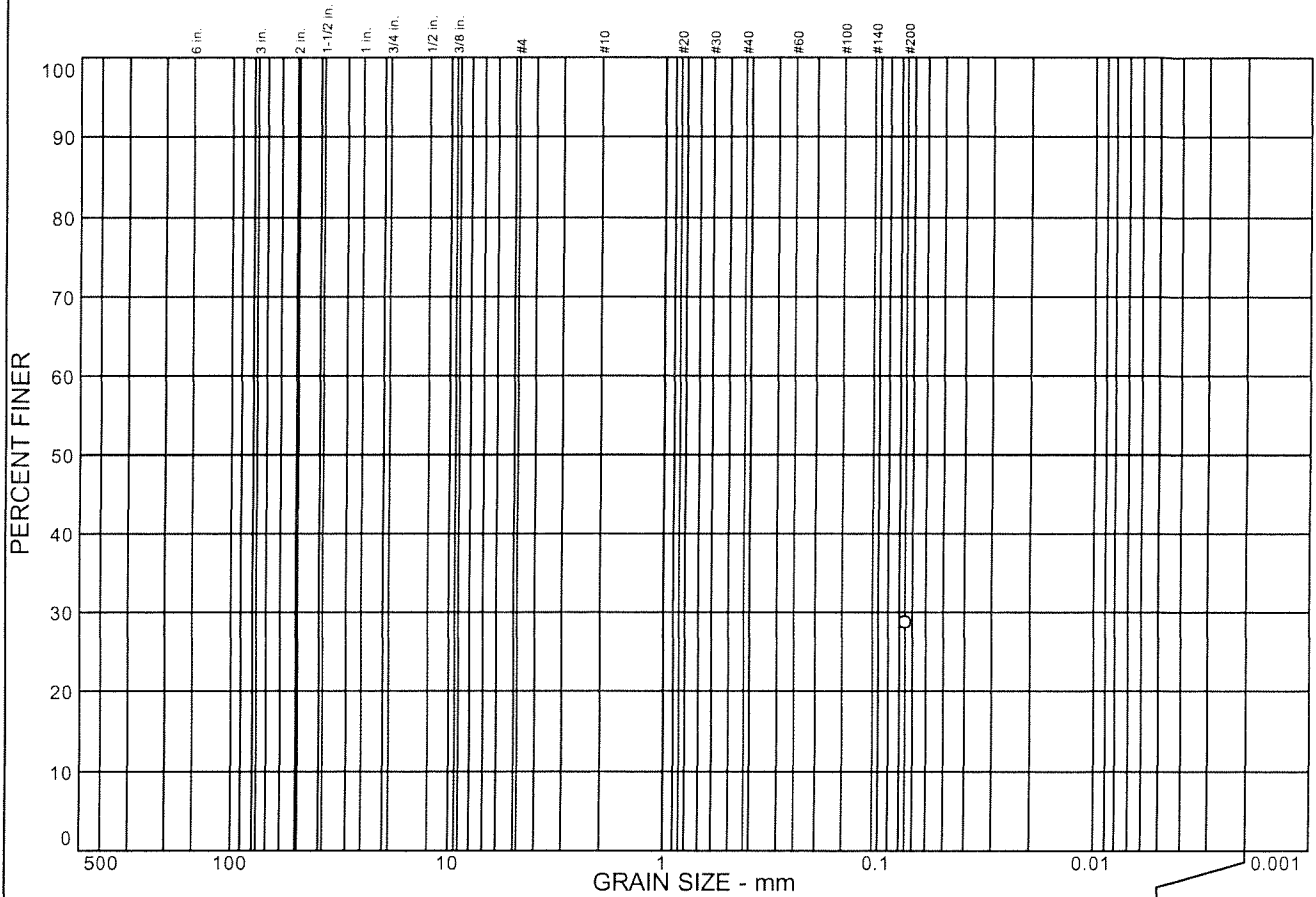
USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: B2, 1-1.5 **Source of Sample:** **Date:** 4/7/06
Location: **Elev./Depth:**

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			28.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	28.8		

Soil Description

Dark yellowish brown clayey SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

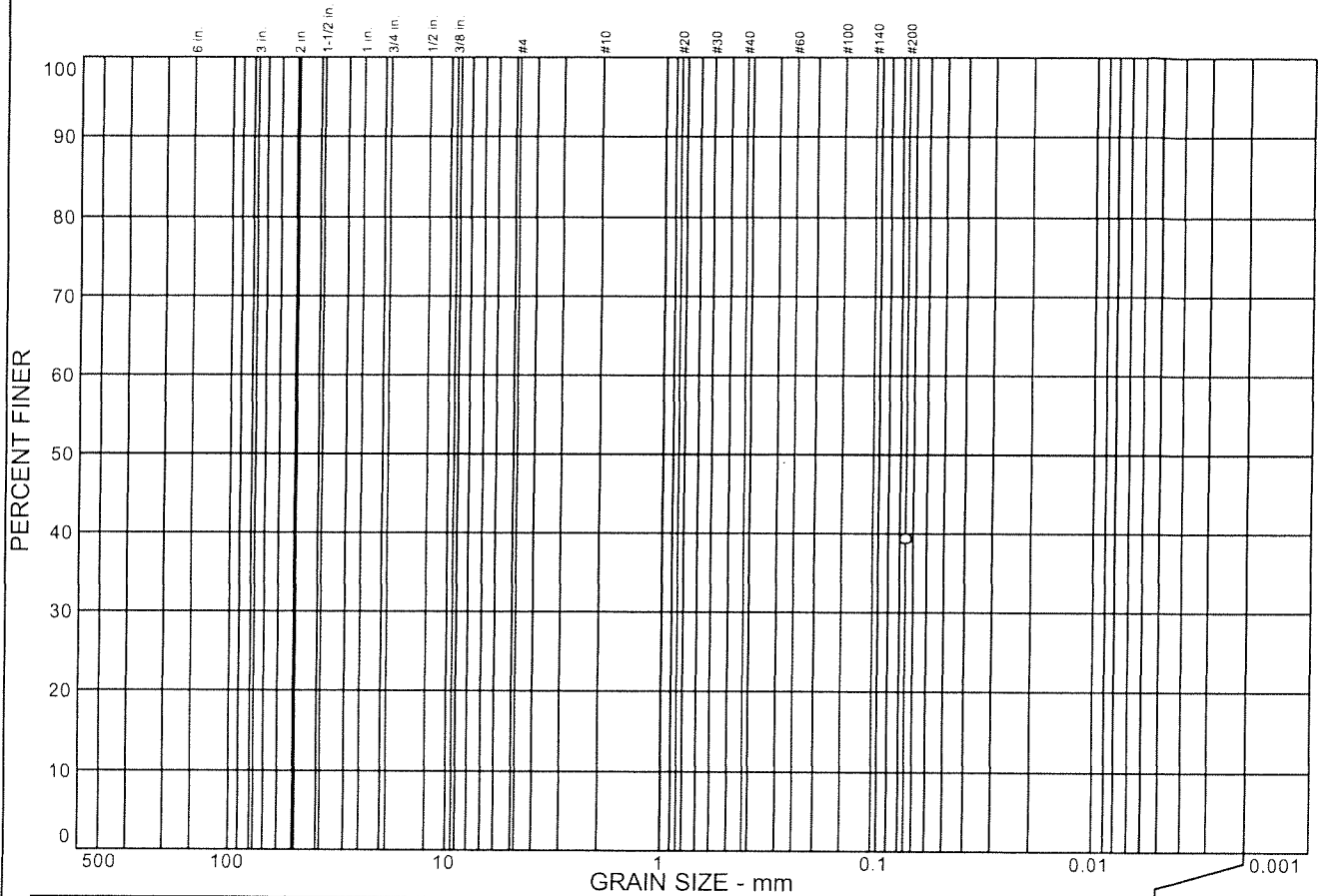
USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: B2, 10.5-11 Source of Sample: Date: 4/7/06
Location: Elev./Depth:

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			39.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	39.3		

Soil Description

Yellowish brown silty SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: B4, 10.5-11
 Location:

Source of Sample:

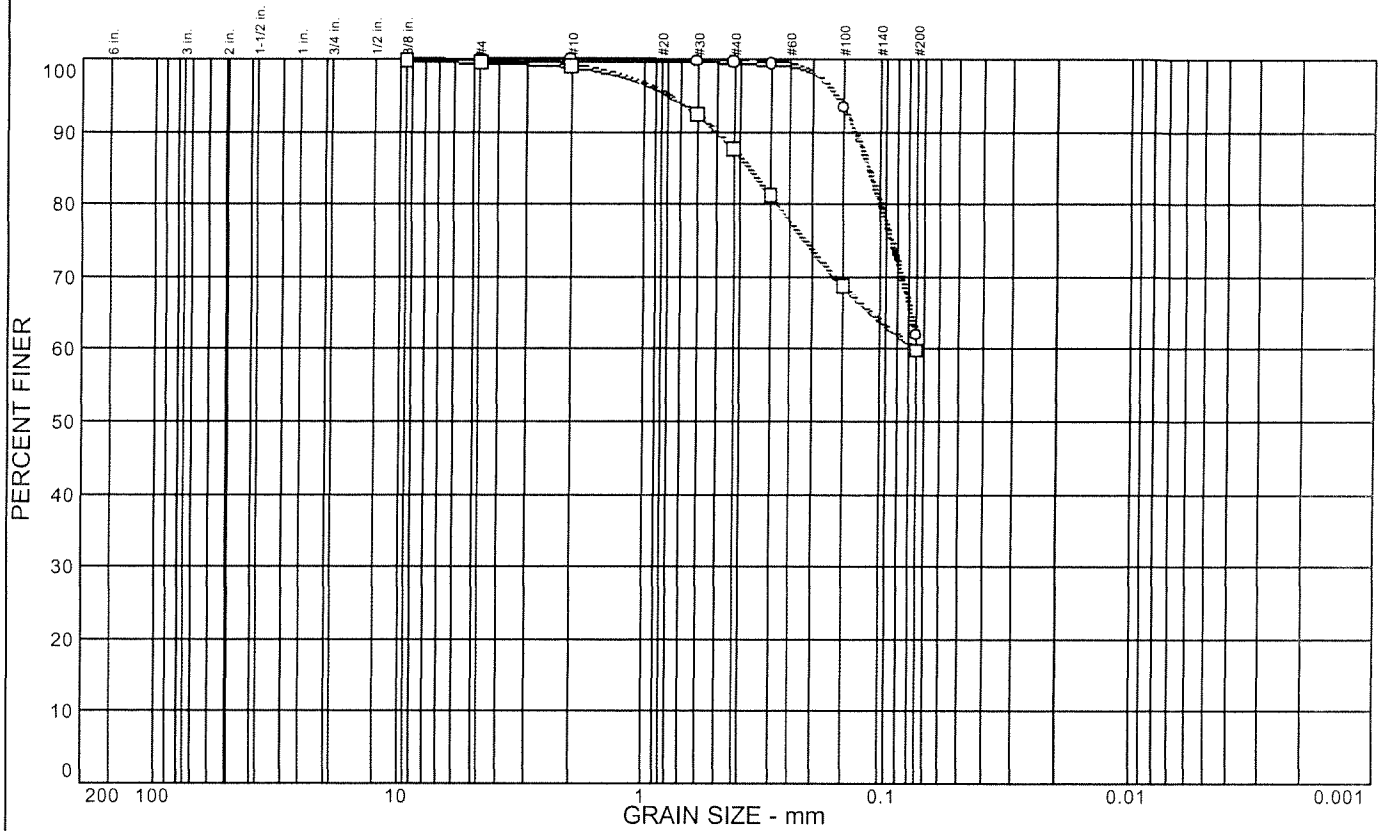
Date: 03/16/06
 Elev./Depth: 10.5-11.0 feet



Client:
 Project: River Run Levee Evaluation- Stockton, CA

Project No: 6720.4.001.03

Particle Size Distribution Report



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○			38.0	62.0					
□		0.3	39.8	59.9		ML			

SIEVE inches size	PERCENT FINER	
	○	□
3/8		100.0
GRAIN SIZE		
D ₆₀		0.0756
D ₃₀		
D ₁₀		
COEFFICIENTS		
C _c		
C _u		

SIEVE number size	PERCENT FINER	
	○	□
#4	100.0	99.7
#10	99.9	99.1
#30	99.8	92.4
#40	99.7	87.6
#50	99.4	81.2
#100	93.4	68.8
#200	62.0	59.9

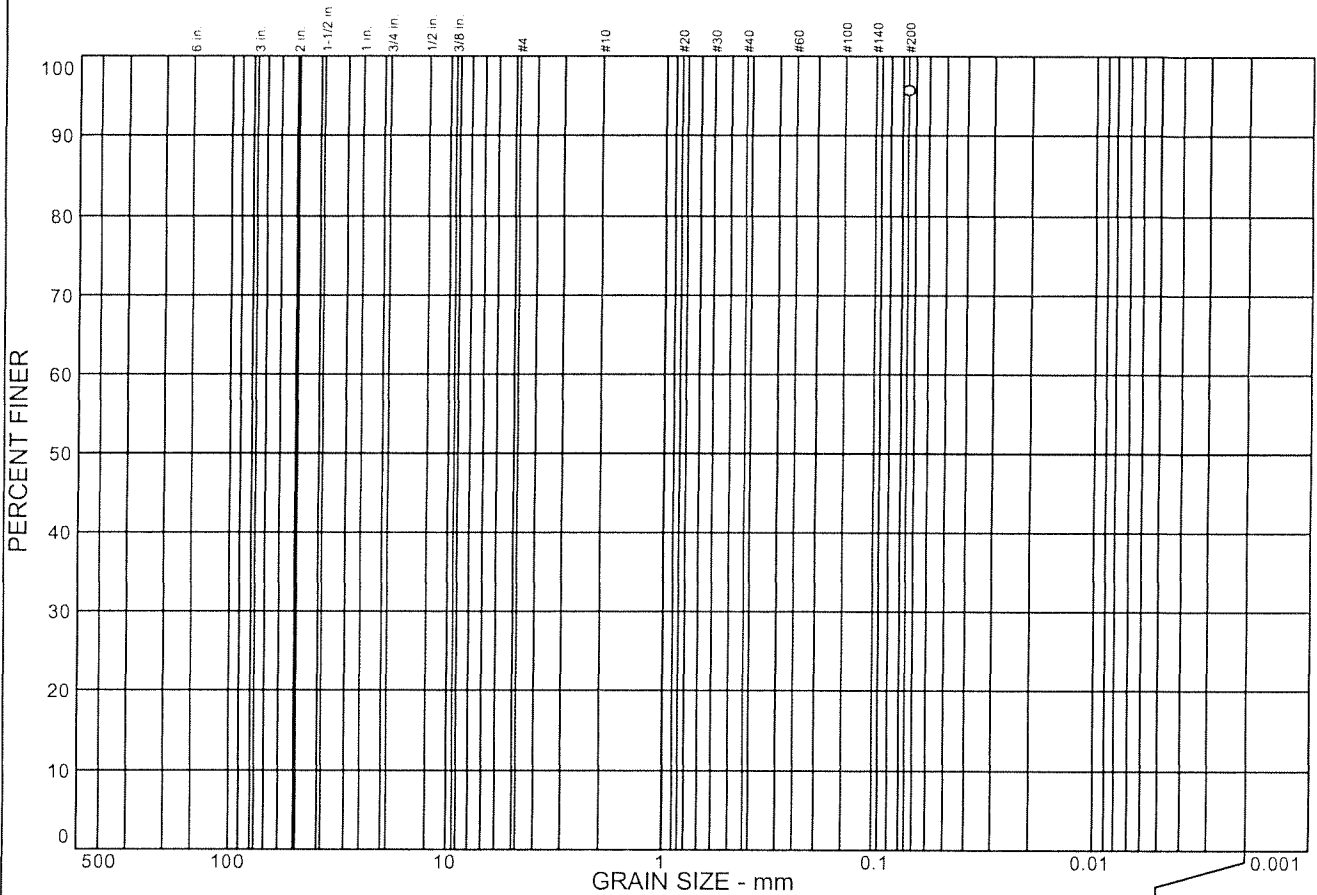
SOIL DESCRIPTION
 ○ Brown Sandy SILT grading near Silty SAND
 □ Gray Sandy SILT changing to Silty SAND

REMARKS:
 ○
 □

○ Source: B4
 □ Source: B7

Elev./Depth: 16-16.5'
 Elev./Depth: 5.5-6'

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			95.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	95.7		

Soil Description

Dark grayish brown silty CLAY

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: B5, 28-28.5
Location:

Source of Sample:

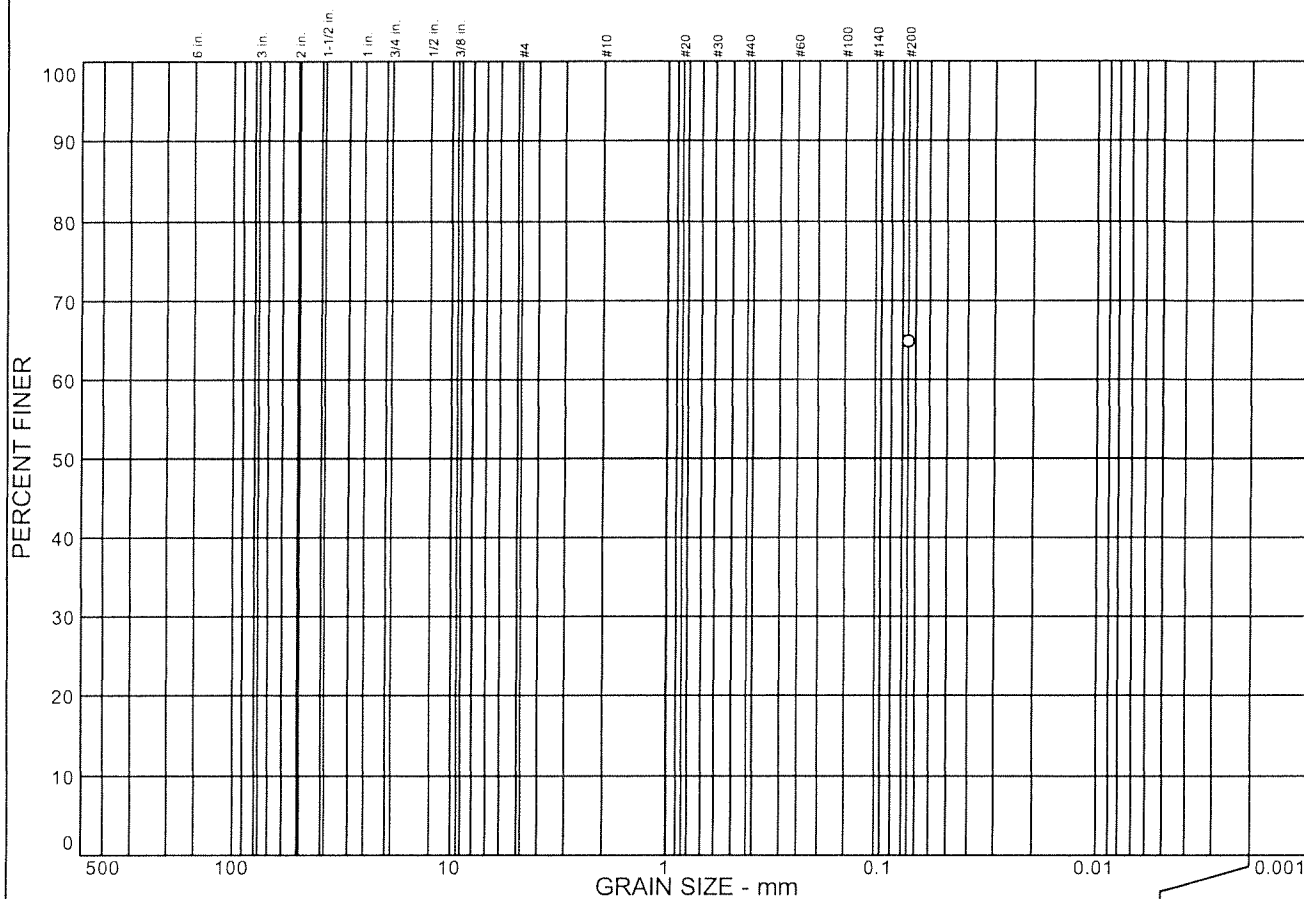
Date: 3/15/06
Elev./Depth: 28.0-28.5 feet



Client:
Project: River Run Levee Evaluation- Stockton, CA

Project No: 6720.4.001.03

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			64.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	64.7		

Soil Description		
Dark yellowish brown sandy CLAY		
Atterberg Limits		
PL=	LL=	PI=
Coefficients		
D ₈₅ =	D ₆₀ =	D ₅₀ =
D ₃₀ =	D ₁₅ =	D ₁₀ =
C _u =	C _c =	
Classification		
USCS=	AASHTO=	
Remarks		

* (no specification provided)

Sample No.: B10, 0.5-1
Location:

Source of Sample:

Date: 3/15/06
Elev./Depth: 0.5-1.0 foot

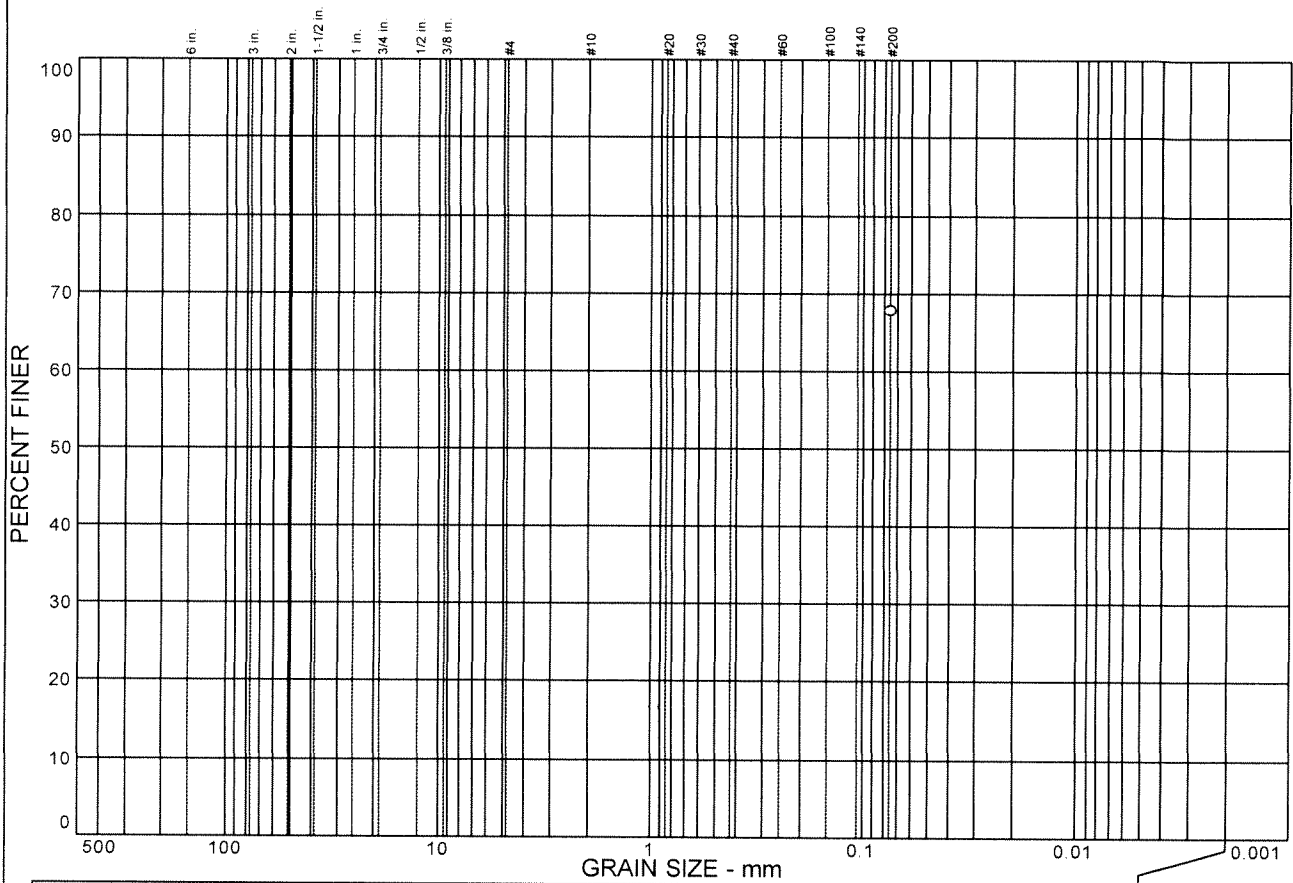
ENGEO
INCORPORATED

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS
MATERIALS TESTING

Client:
Project: River Run Levee Evaluation- Stockton, CA

Project No: 6720.4.001.03

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			67.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	67.7		

Soil Description

Very dark grayish brown sandy silty Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

USCS= **Classification** AASHTO=

Remarks

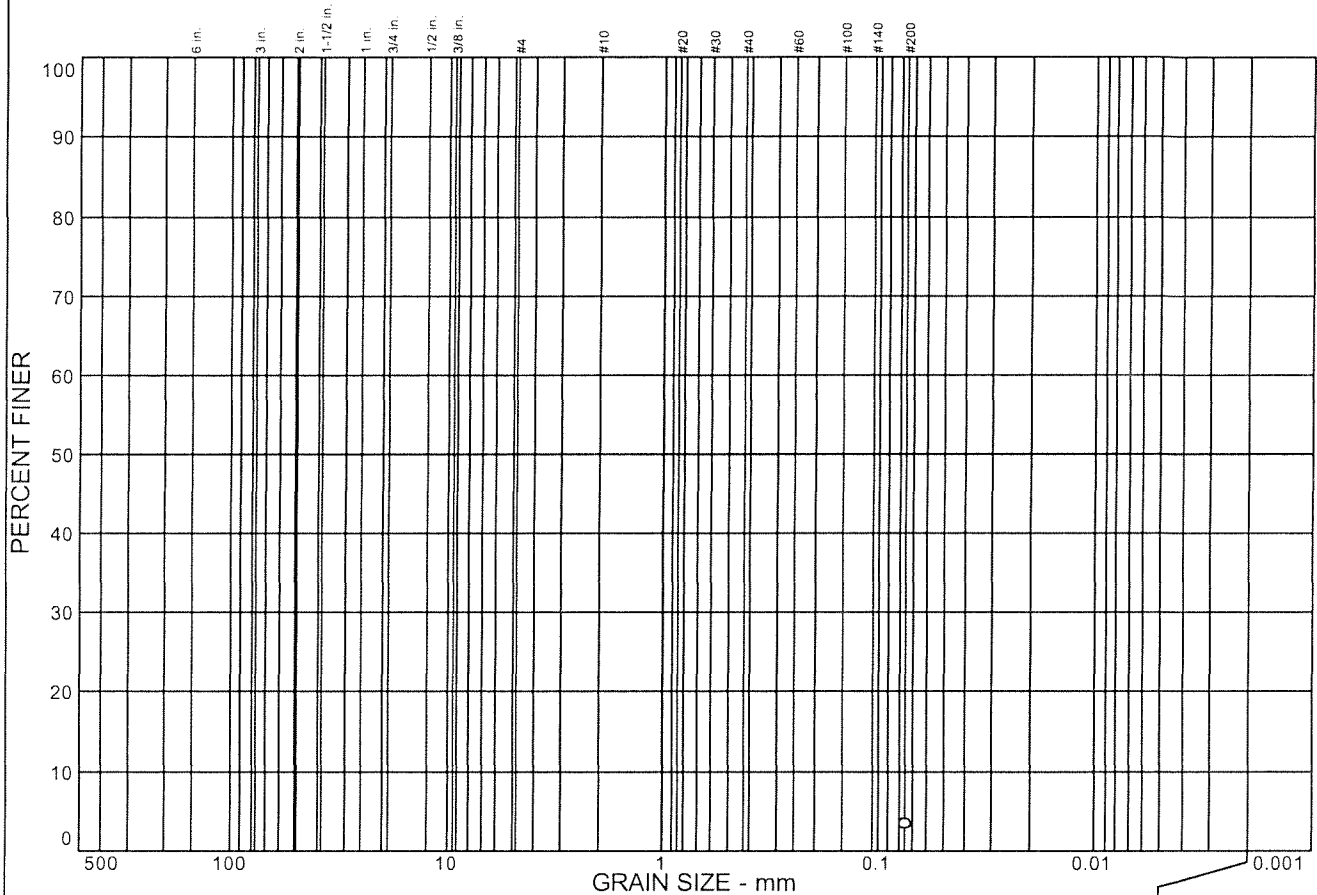
* (no specification provided)

Sample No.: 10 @ 5.5'
Location:

Source of Sample: %200

Date: 07/22/05
Elev./Depth: 5.5 feet

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			3.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	3.3		

Soil Description

Dark greenish gray SAND with trace silt.

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

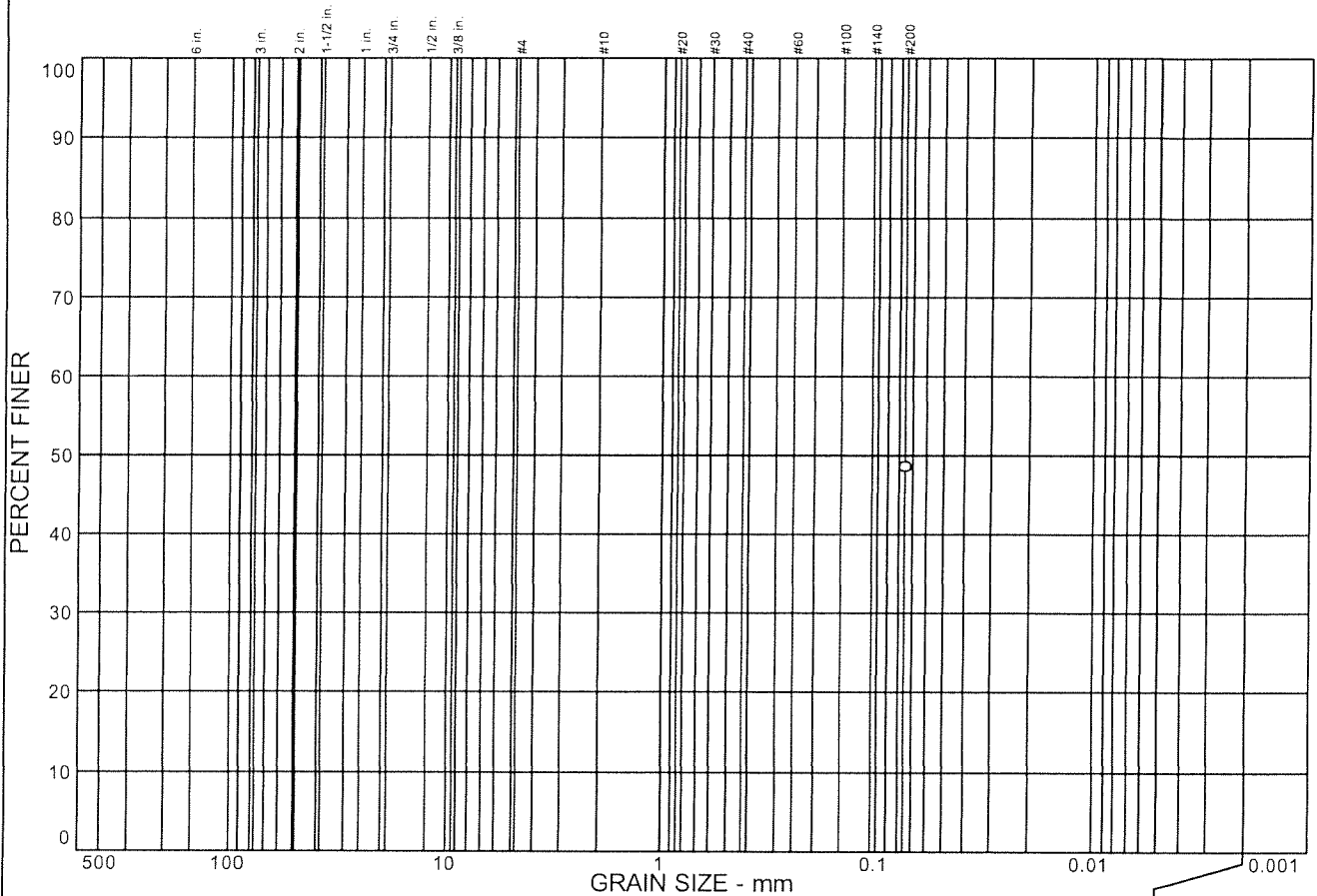
Remarks

* (no specification provided)

Sample No.: B10, 11-11.5 Source of Sample: Date: 03/15/06
Location: Elev./Depth: 11.0-11.5 feet

<p style="font-size: small; margin-top: 5px;">GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS MATERIALS TESTING</p>	<p>Client:</p> <p>Project: River Run Levee Evaluation- Stockton, CA</p> <p>Project No: 6720.4.001.03</p>
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Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			48.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	48.5		

* (no specification provided)

Soil Description

Dark greenish gray silty clayey SAND.

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample No.: B10, 16-16.5
Location:

Source of Sample:

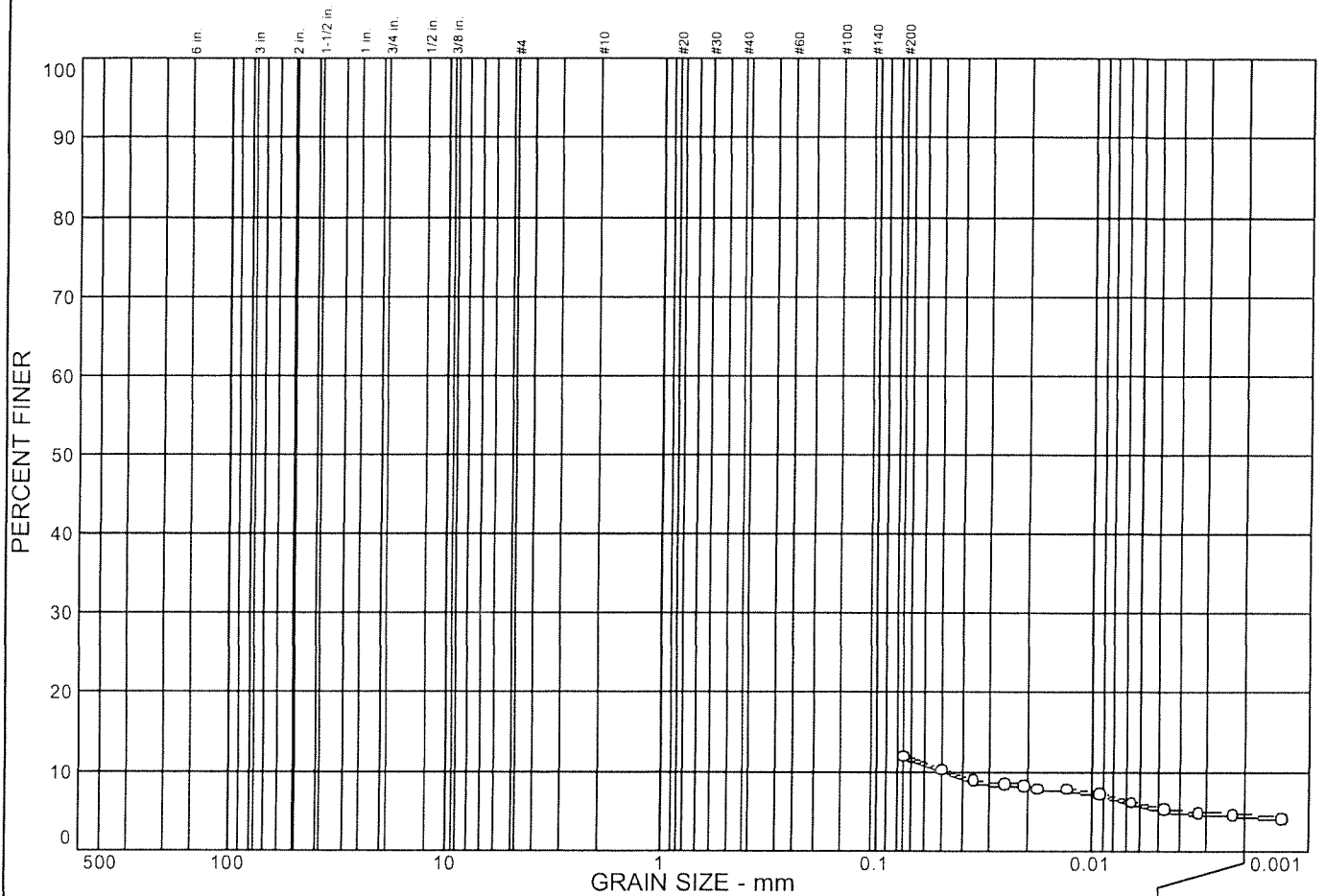
Date: 3/15/06
Elev./Depth: 16.0-16.5 feet



Client:
Project: River Run Levee Evaluation- Stockton, CA

Project No: 6720.4.001.03

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT 7.4	% CLAY 4.4
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SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	11.8		

* (no specification provided)

Soil Description

Yellowish brown SAND with some silt.

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀= 0.0484
 C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Sample No.: B10, 31-31.5
Location:

Source of Sample:

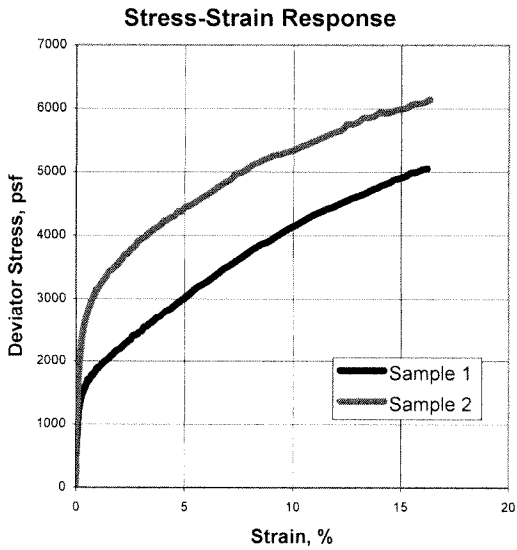
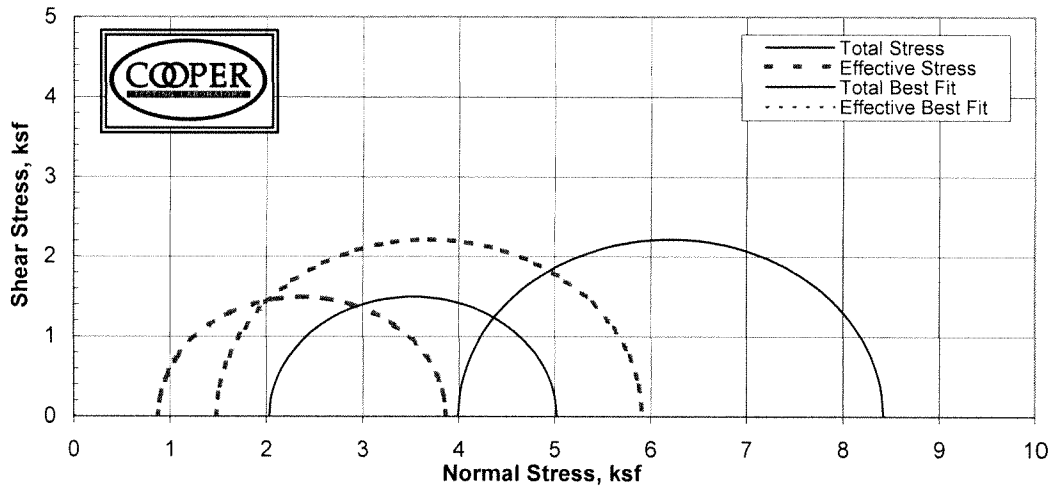
Date: 3/15/06
Elev./Depth: 31.0-31.5 feet



Client:
Project: River Run Levee Evaluation- Stockton, CA

Project No: 6720.4.001.03

Triaxial ICU, ASTM D4767m



Sample:	1	2	3	4
MC, %	21.8	22.2		
Dry Den, pcf.	106.7	105.0		
Sat. %	98.4	99.3		
Void Ratio	0.609	0.604		
Diameter in	2.42	2.42		
Height, in	4.96	4.99		
Final				
MC, %	20.0	19.5		
Dry Den, pcf.	110.7	110.4		
Sat. %	100.0	100.0		
Void Ratio	0.550	0.526		
Diameter, in	2.39	2.38		
Height, in	4.90	4.92		
Cell, psi	52.4	66.3		
BP, psi	38.3	38.6		
Effective Stresses At:				
Strain, %	5.0	5.0		
Deviator ksf	2.991	4.429		
Excess PP	1.158	2.515		
Sigma 1	3.864	5.908		
Sigma 3	0.873	1.478		
P, ksf	2.369	3.693		
Q, ksf	1.496	2.215		
Stress Ratio	4.427	3.997		
Rate in/min	0.001	0.001		
Total C	ksf			
Total Phi	Degrees			
Eff. C	ksf			
Eff. Phi	Degrees			

Job No.: 414-023a Date: 3/21/2006

Client: ENGEO BY:DC

River Run Levee Evaluation -

Project: 6720.4.001.03

Sample 1) B4 @ 22.5-23' Grayish Brown Sandy CLAY (silty) / Clayey SAND

Sample 2) B4 @ 23-23.5' Grayish Brown Sandy CLAY (silty) / Clayey SAND

Sample 3)

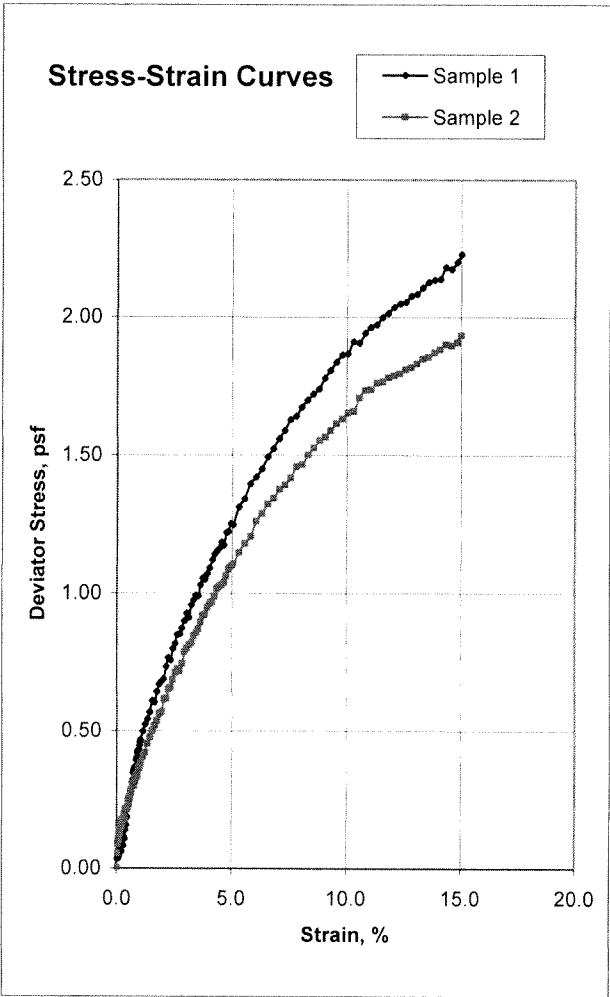
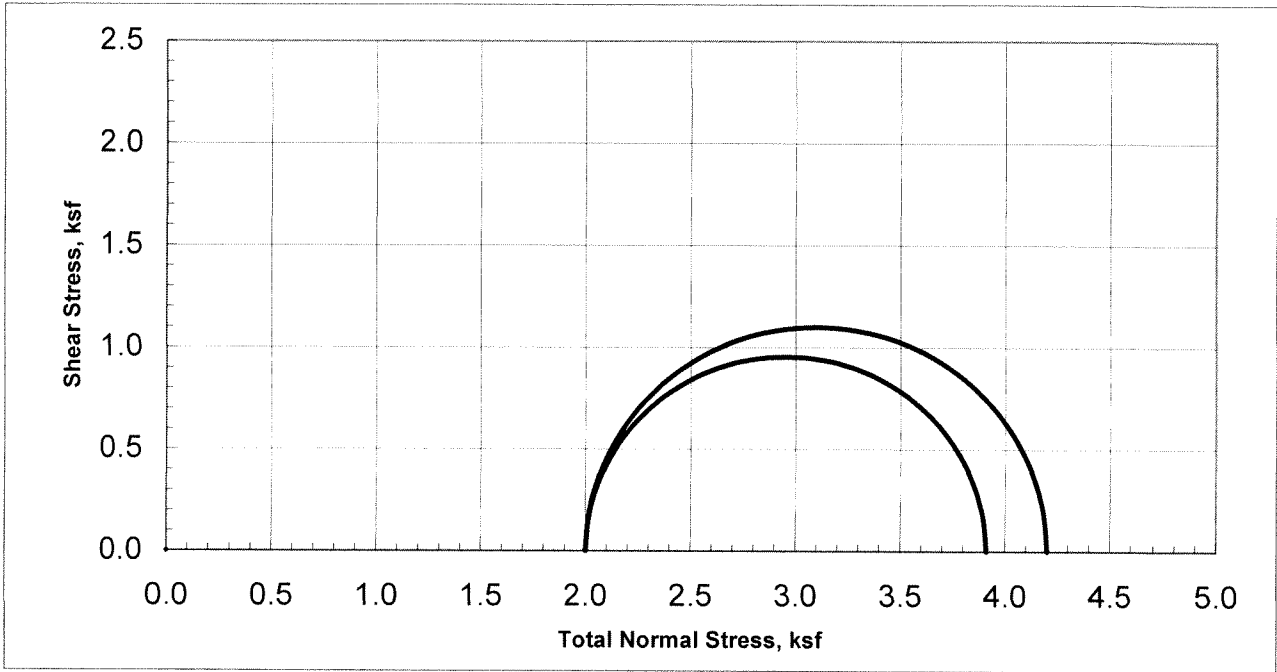
Sample 4)

REMARKS: Values picked at 5% strain.



Unconsolidated-Undrained Triaxial Test

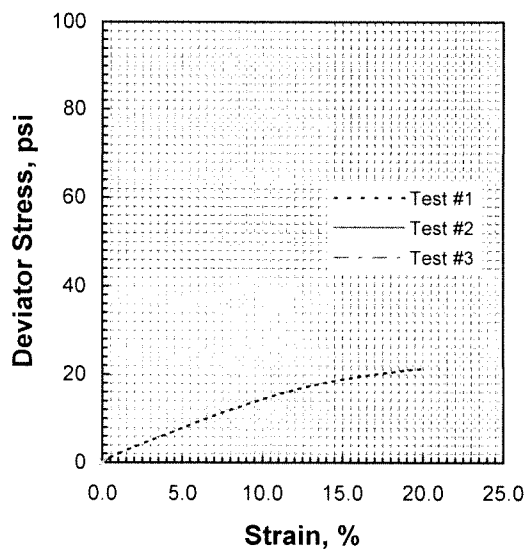
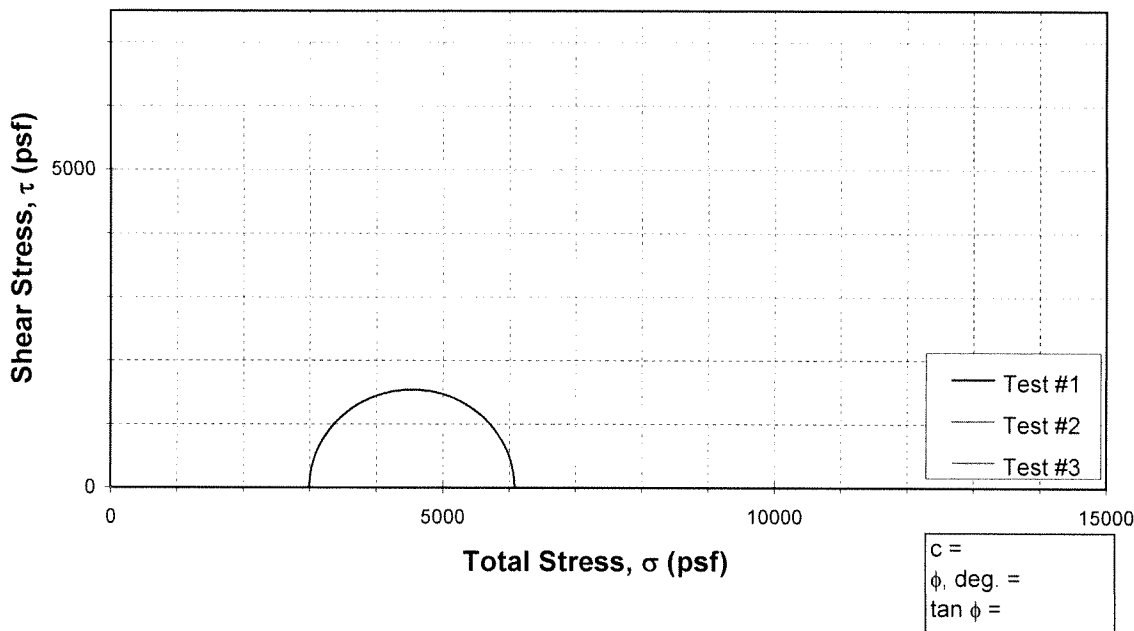
ASTM D-2850



Sample Data				
	1	2	3	4
Moisture %	32.3	22.0		
Dry Den,psf	87.0	106.9		
Void Ratio	0.937	0.606		
Saturation %	93.0	99.9		
Height in	4.95	4.98		
Diameter in	2.41	2.43		
Cell psi	13.9	13.9		
Strain %	15.00	15.00		
Deviator, ksf	2.227	1.934		
Rate %/min	1.01	1.00		
in/min	0.050	0.050		
Job No.:	414-023			
Client:	ENGEO			
Project:	River Run Levee Evaluation -			
Boring:	B5	B6		
Sample:				
Depth ft:	16-16.5	23-23.5		
Visual Soil Description				
Sample #				
1	Grayish Brown SILT (slightly plastic)			
2	Grayish Brown SILT w/ Sand			
3				
4				
Remarks:				

TRIAXIAL COMPRESSION TEST REPORT

TRIAXIAL TEST - UNCONSOLIDATED UNDRAINED (UU)



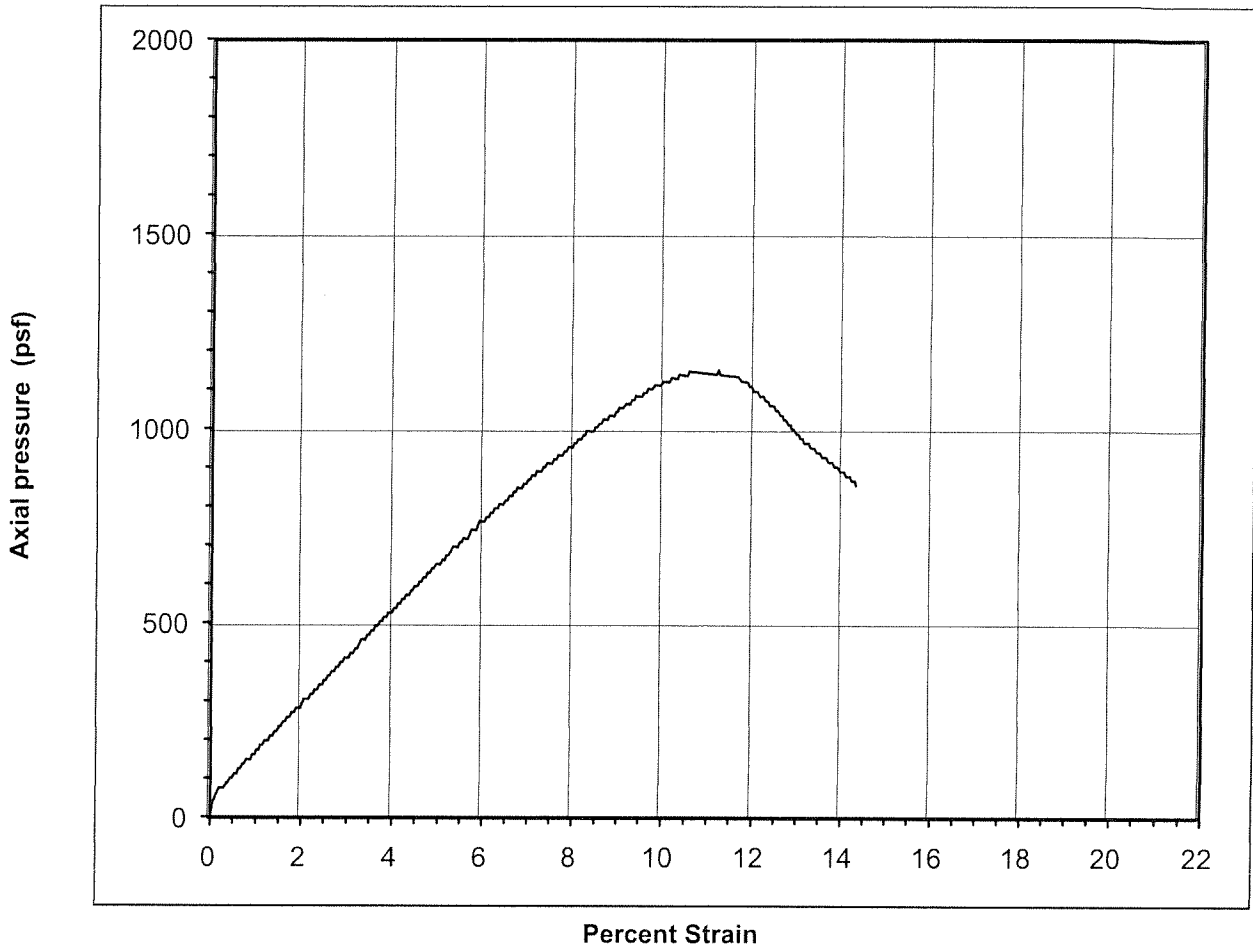
Test Data

Test No.	1	2	3	4
Initial				
Water Content, %	20%			
Dry Density, pcf	111.3			
Saturation, %	99%			
Void Ratio	0.54			
Minor Principal Stress, psf	2999.5	0.0	0.0	0.0
Maximum Deviator Stress, psf	3083.0	0.0	0.0	0.0
Time of Failure, min				
Rate of Strain Increments, %/min				
Initial Diameter, in	2.42	0.00	0.00	0.00
Initial Height, in	4.70	0.00	0.00	0.00
B- Value				

Test No.	Description of Specimens:	Sample No.	Sample Depth	LL	PI
1	Dark brown sandy silty CLAY	B1, 24.5-25	24.5-25		
2					
3					
4					

Comments:	Boring Number:
	Project Name: River Run Levee Evaluation
	Project Number: 6720.4.001.03
	Technician: D. Seibold
	Date:

**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: 1140 psf 0.6 tsf

Sample Description: Dark grayish brown clayey Sand

Initial Diameter:	2.420 in.	Sample Number:	5@23-23.5
Initial Height:	4.90 in.	Dry Unit Weight:	105.7 pcf
Strain Rate:	1.378 %/min	Moisture Content:	22.9 %
Total Strain:	14.31 %	Depth of Sample:	23-23.5 ft.

ENGEO
INCORPORATED

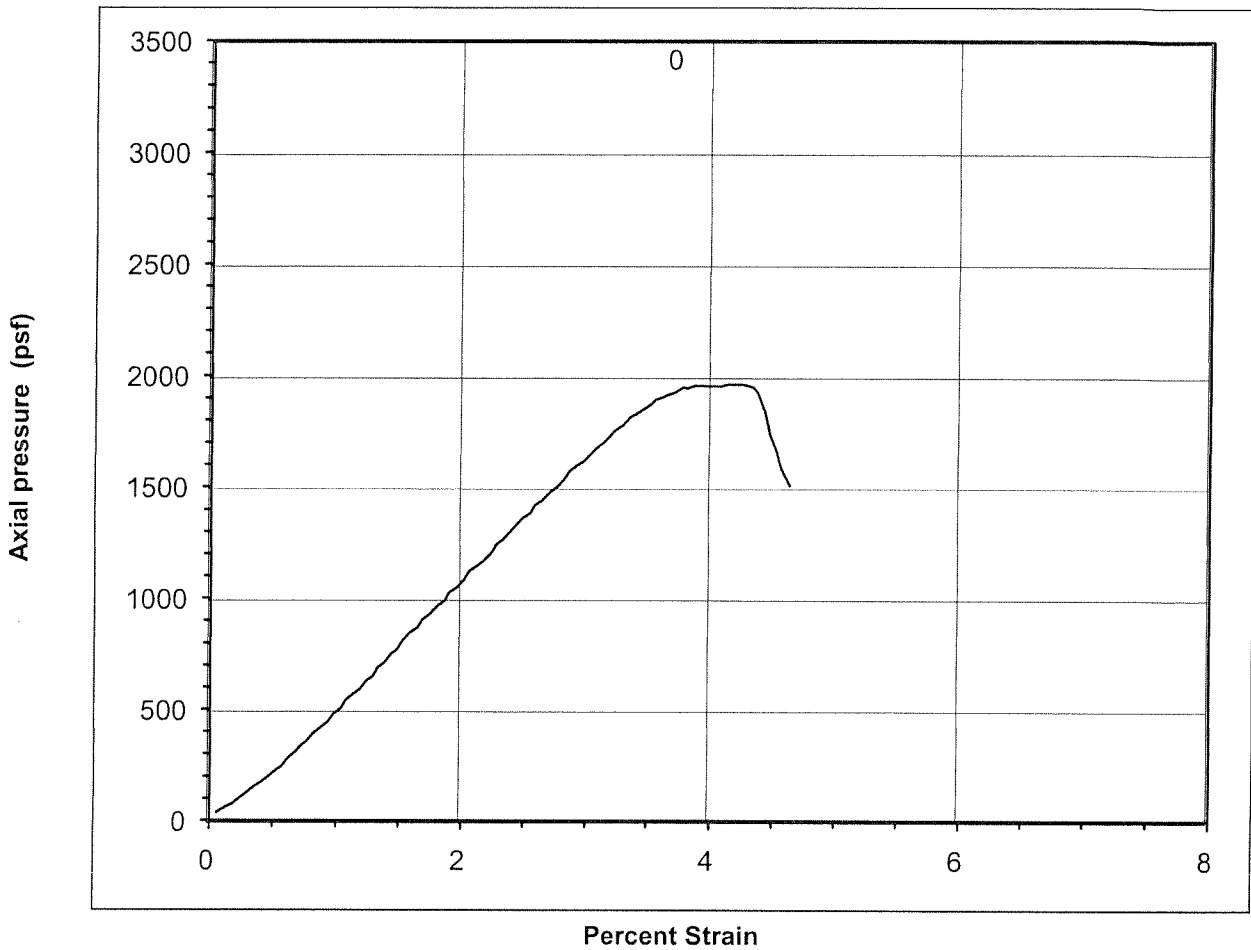
RIVER RUN LEVEE EVALUATION

Stockton, CA

Job No.:	6720.4.001.03
Sample Number:	5@23-23.5
Date:	3/9/2006

Figure No.

**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: 1950 psf 1.0 tsf

Sample Description: Yellowish brown silty Clay with fine sand

Initial Diameter:	2.420 in.	Sample Number:	10@ 21-21.5
Initial Height:	4.90 in.	Dry Unit Weight:	98.8 pcf
Strain Rate:	1.587 %/min	Moisture Content:	25.7 %
Total Strain:	4.63 %	Depth of Sample:	21-21.5 ft.

ENGEO
INCORPORATED

RIVER RUN LEVEE EVALUATION

Stockton, CA

Job No.:	6720.4.003.01
Sample Number:	10@ 21-21.5
Date:	3/9/2006

Figure No.



Hydraulic Conductivity
ASTM D 5084
 Method C: Falling Head Rising Tailwater

Job No: 414-024a Boring: B1 Date: 04/17/06
 Client: Engeo Sample: _____ By: MD/PJ
 Project: 6720.4.001.04 Depth, ft.: 16-16.5 Remolded: _____
 Visual Classification: Brown Silty fine SAND

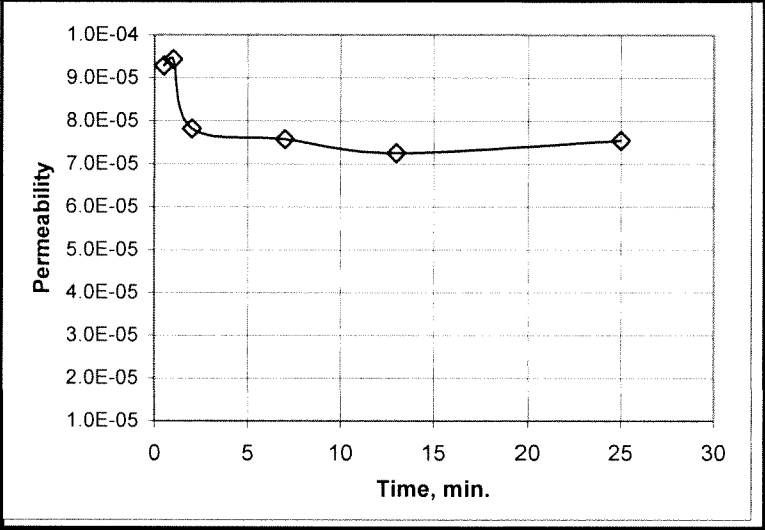
Max Sample Pressures, psi:

Cell:	Bottom	Top	Avg. Sigma 3
63.5	59	58	5

B: = >0.95 ("B" is an indication of saturation)

Max Hydraulic Gradient: = 17

Date	Minutes	Head, (in)	K,cm/sec
4/10/2006	0.00	51.69	Start of Test
4/10/2006	0.50	50.09	9.3E-05
4/10/2006	1.00	48.49	9.4E-05
4/10/2006	2.00	46.49	7.8E-05
4/10/2006	7.00	36.09	7.6E-05
4/10/2006	13.00	27.29	7.3E-05
4/10/2006	25.00	14.39	7.6E-05



Average Permeability: 8.E-05 cm/sec

Sample Data:	Initial	Final
Height, in	2.98	2.96
Diameter, in	2.42	2.43
Area, in ²	4.60	4.63
Volume in ³	13.71	13.69
Total Volume, cc	224.6	224.4
Volume Solids, cc	119.7	119.7
Volume Voids, cc	104.9	104.7
Void Ratio	0.9	0.9
Porosity, %	46.7	46.7
Saturation, %	66.2	98.3
Specific Gravity	2.70	2.70
	Assumed	
Wet Weight, gm	392.6	426.1
Dry Weight, gm	323.1	323.1
Tare, gm	0.00	0.00
Moisture, %	21.5	31.9
Dry Density, pcf	89.8	89.8

Remarks: _____



Hydraulic Conductivity

ASTM D 5084

Method C: Falling Head Rising Tailwater

Job No:	414-025	Boring:	B4	Date:	04/13/06
Client:	ENGEO	Sample:		By:	MD/PJ
Project:	6720.4.001.03	Depth, ft.:	11-11.5	Remolded:	

Visual Classification: Brown Clayey SAND (silty) / Silty, Clayey SAND

Max Sample Pressures, psi:

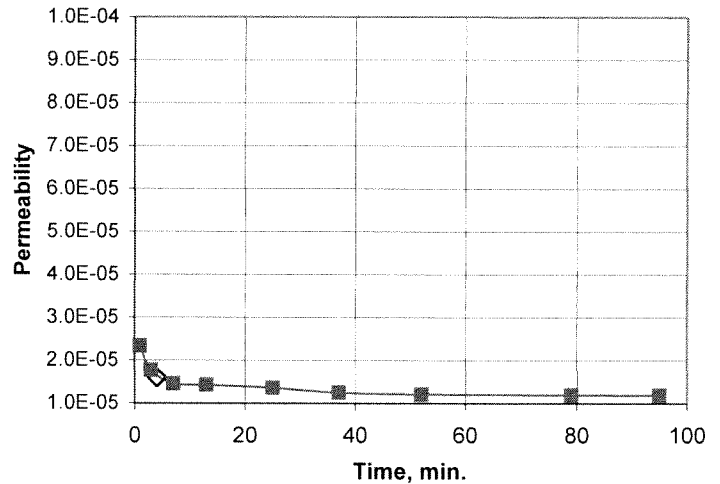
B: = >0.95

("B" is an indication of saturation)

Cell:	Bottom	Top	Avg. Sigma 3
63.5	59	58.5	4.75

Max Hydraulic Gradient: = 17

Date	Minutes	Head, (in)	K, cm/sec
4/10/2006	0.00	24	Start of Test
4/10/2006	4.00	23.00	1.6E-05
4/10/2006	1.00	50.89	2.3E-05
4/10/2006	3.00	49.89	1.8E-05
4/10/2006	7.00	48.29	1.5E-05
4/10/2006	13.00	45.69	1.4E-05
4/10/2006	25.00	41.19	1.4E-05
4/10/2006	37.00	37.99	1.2E-05
4/10/2006	52.00	33.99	1.2E-05
4/10/2006	79.00	27.59	1.2E-05
4/10/2006	95.00	24.39	1.2E-05



Average Permeability:

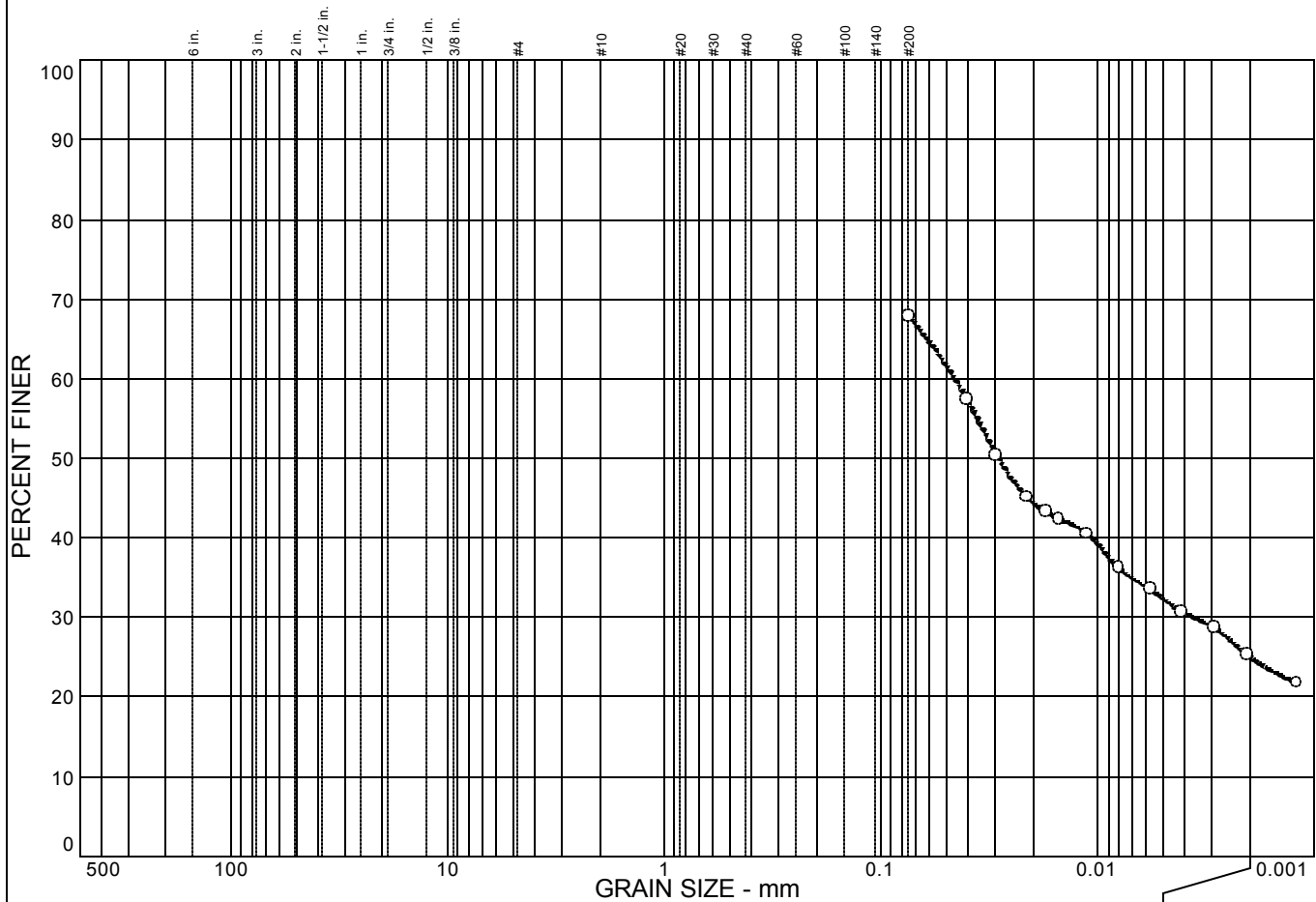
1.E-05

cm/sec

Sample Data:	Initial	Final
Height, in	2.98	3.00
Diameter, in	2.41	2.43
Area, in ²	4.58	4.62
Volume in ³	13.64	13.86
Total Volume, cc	223.5	227.1
Volume Solids, cc	141.6	141.6
Volume Voids, cc	81.9	85.5
Void Ratio	0.6	0.6
Porosity, %	36.7	37.7
Saturation, %	73.2	95.7
Specific Gravity	2.70	2.70
	Assumed	
Wet Weight, gm	442.2	464.0
Dry Weight, gm	382.2	382.2
Tare, gm	0.00	0.00
Moisture, %	15.7	21.4
Dry Density, pcf	106.7	105.0

Remarks:

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			42.9	25.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	67.9		

Soil Description

Dark grayish brown sandy silty Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= 0.0460 D₅₀= 0.0289
D₃₀= 0.0036 D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 1-3
Location:

Source of Sample: Hydro

Date: 07/13/05
Elev./Depth:

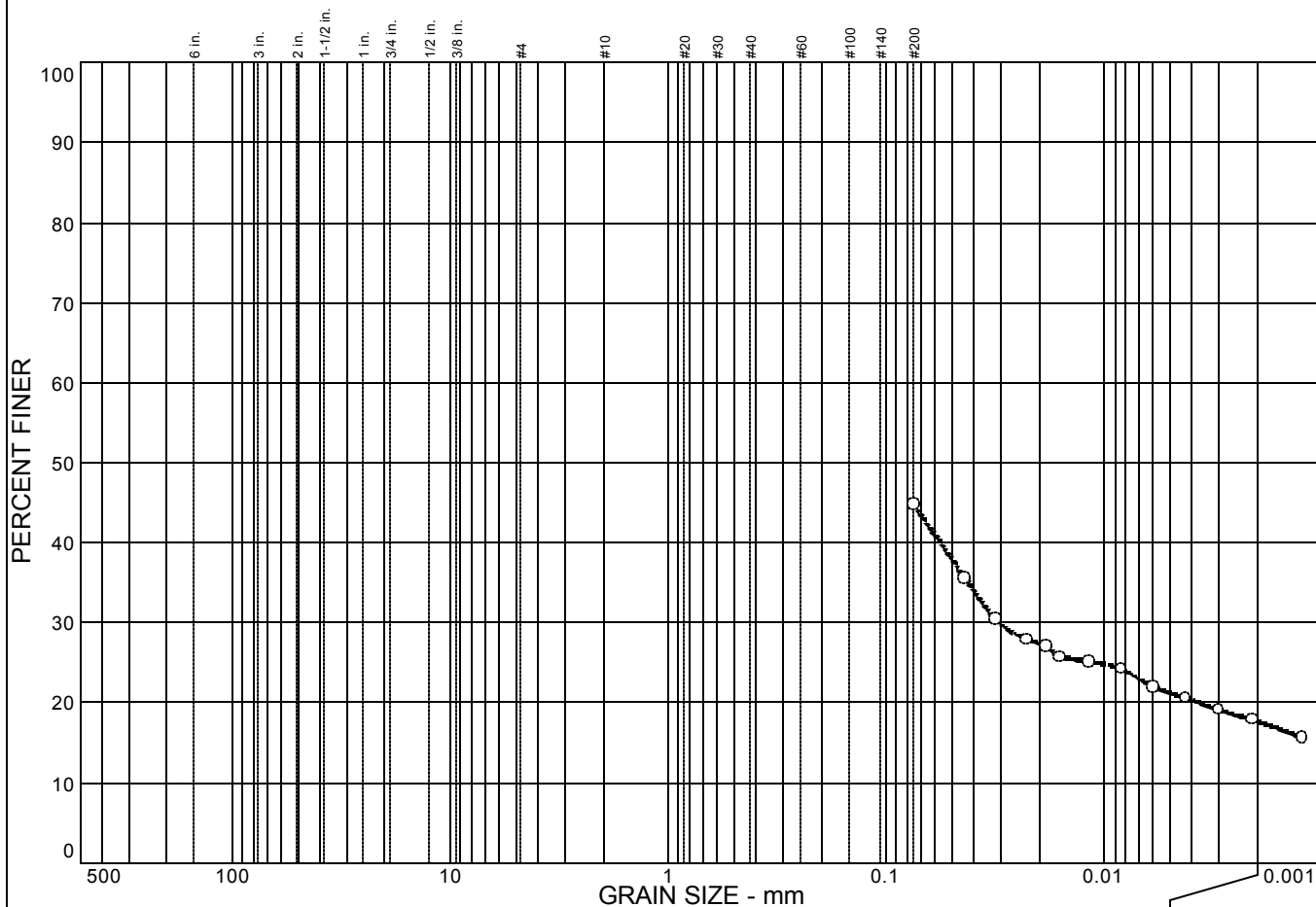


Client:
Project: River Run

Project No.: 6720.4.001.01

Plate B-2N

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			27.0	17.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	44.7		

Soil Description

Dark yellowish brown clayey Sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= 0.0303 D₁₅= D₁₀=
C_u=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 2-3
Location:

Source of Sample: Hydro

Date: 07/13/05
Elev./Depth:

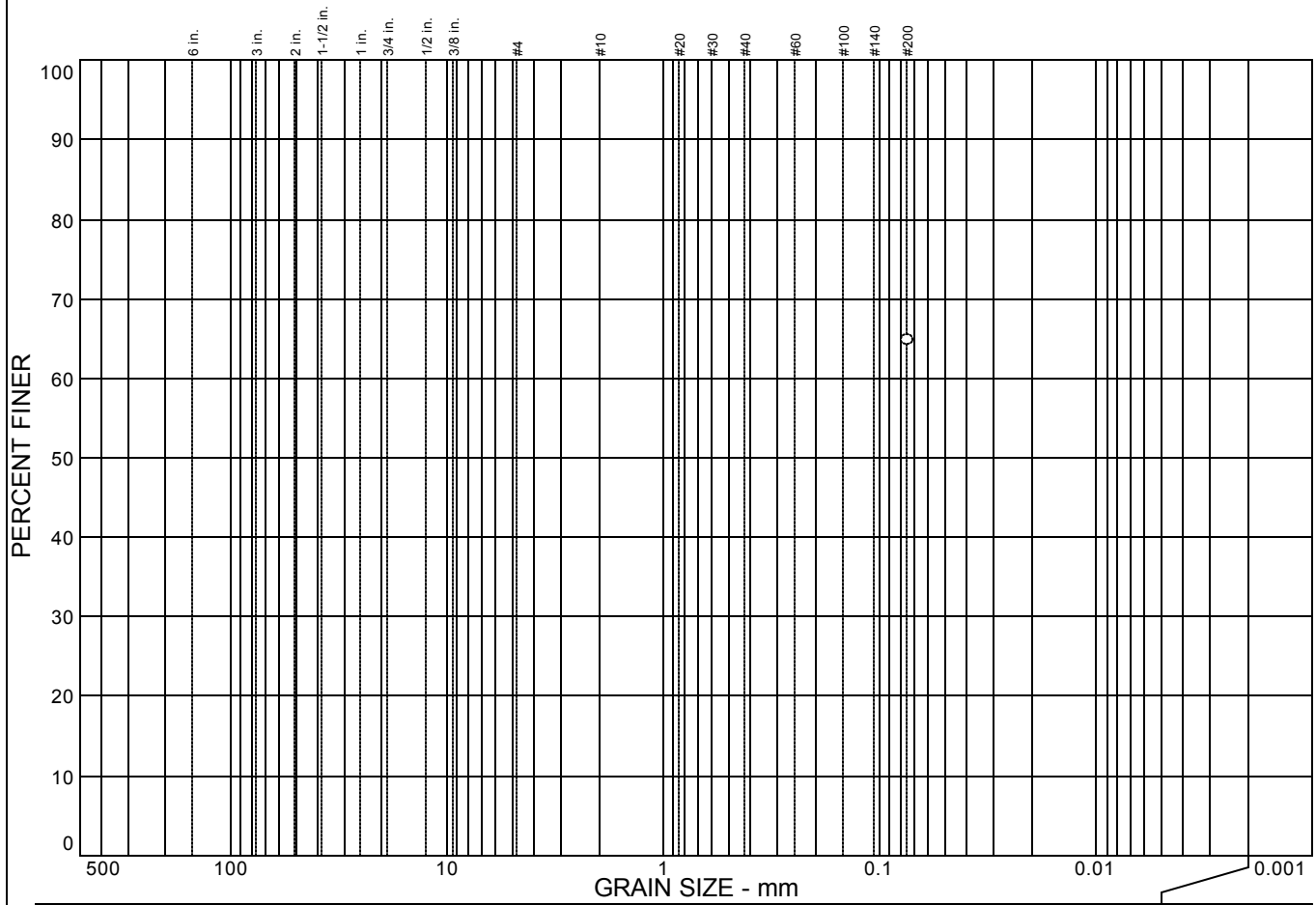


Client:
Project: River Run

Project No.: 6720.4.001.01

Plate B-20

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			64.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	64.8		

Soil Description

Dark yellowish brown sandy silty Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 2-4
Location:

Source of Sample: %200

Date: 07/13/05
Elev./Depth:

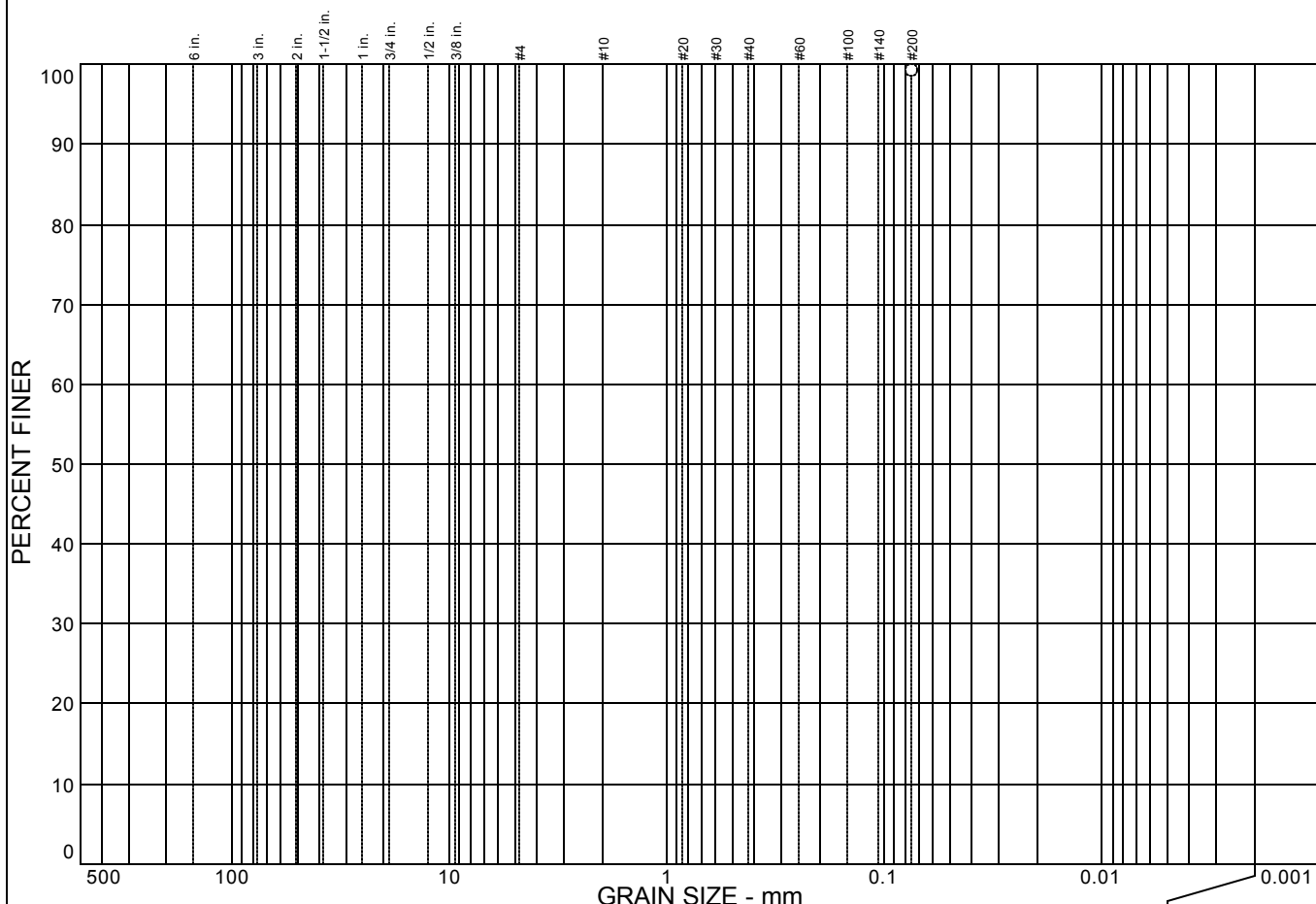


Client:
Project: River Run

Project No.: 6720.4.001.01

Plate B-2F

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			99.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	99.2		

Soil Description

Light olive brown silty Clay. Trace sand.

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 2-5
Location:

Source of Sample: %200

Date: 07/13/05
Elev./Depth:

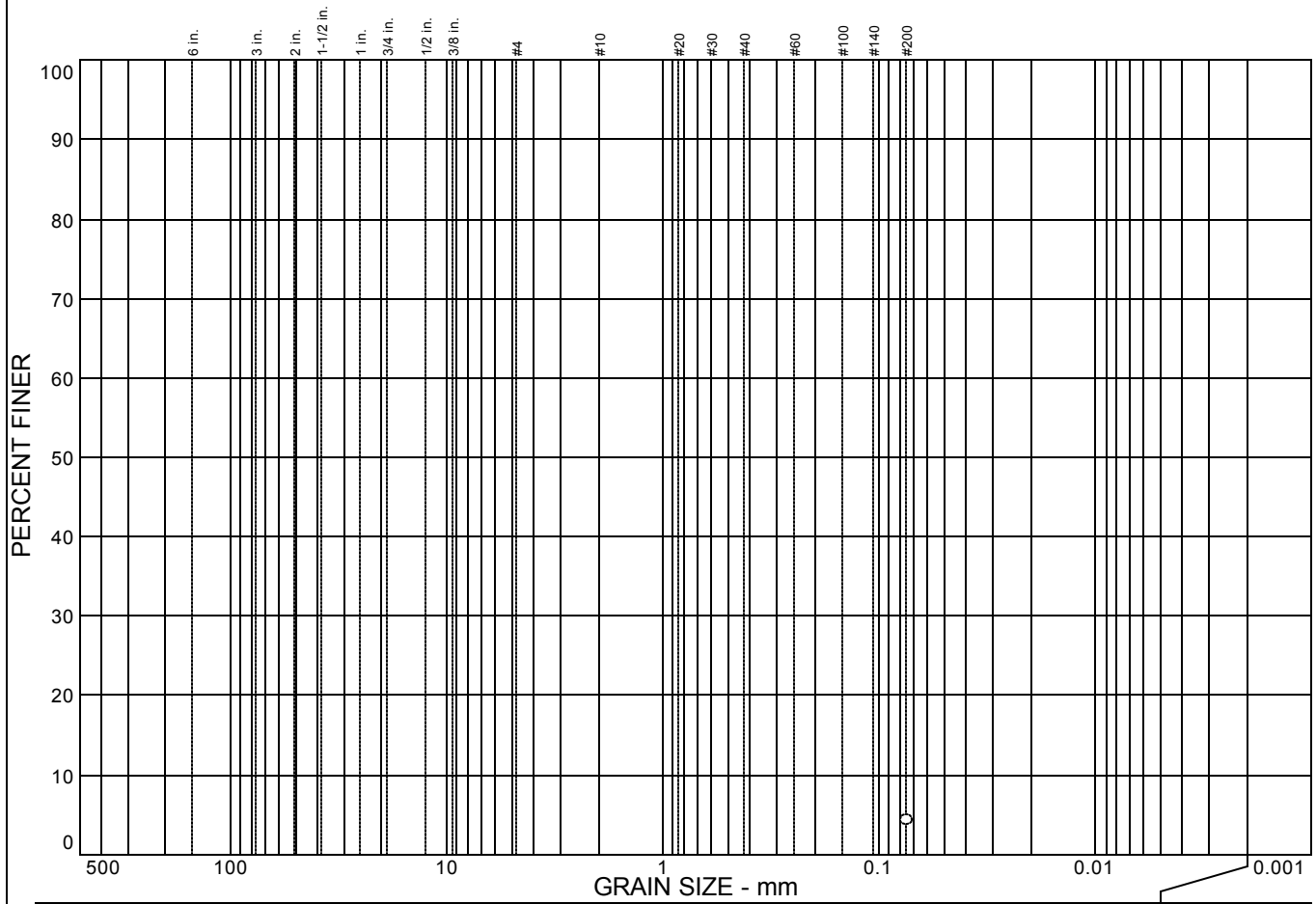


Client:
Project: River Run

Project No.: 6720.4.001.01

Plate B-2G

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			4.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.3		

Soil Description

Dark yellowish brown Sand. Trace silt.

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 2-6-2
Location:

Source of Sample: %200

Date: 07/13/05
Elev./Depth:

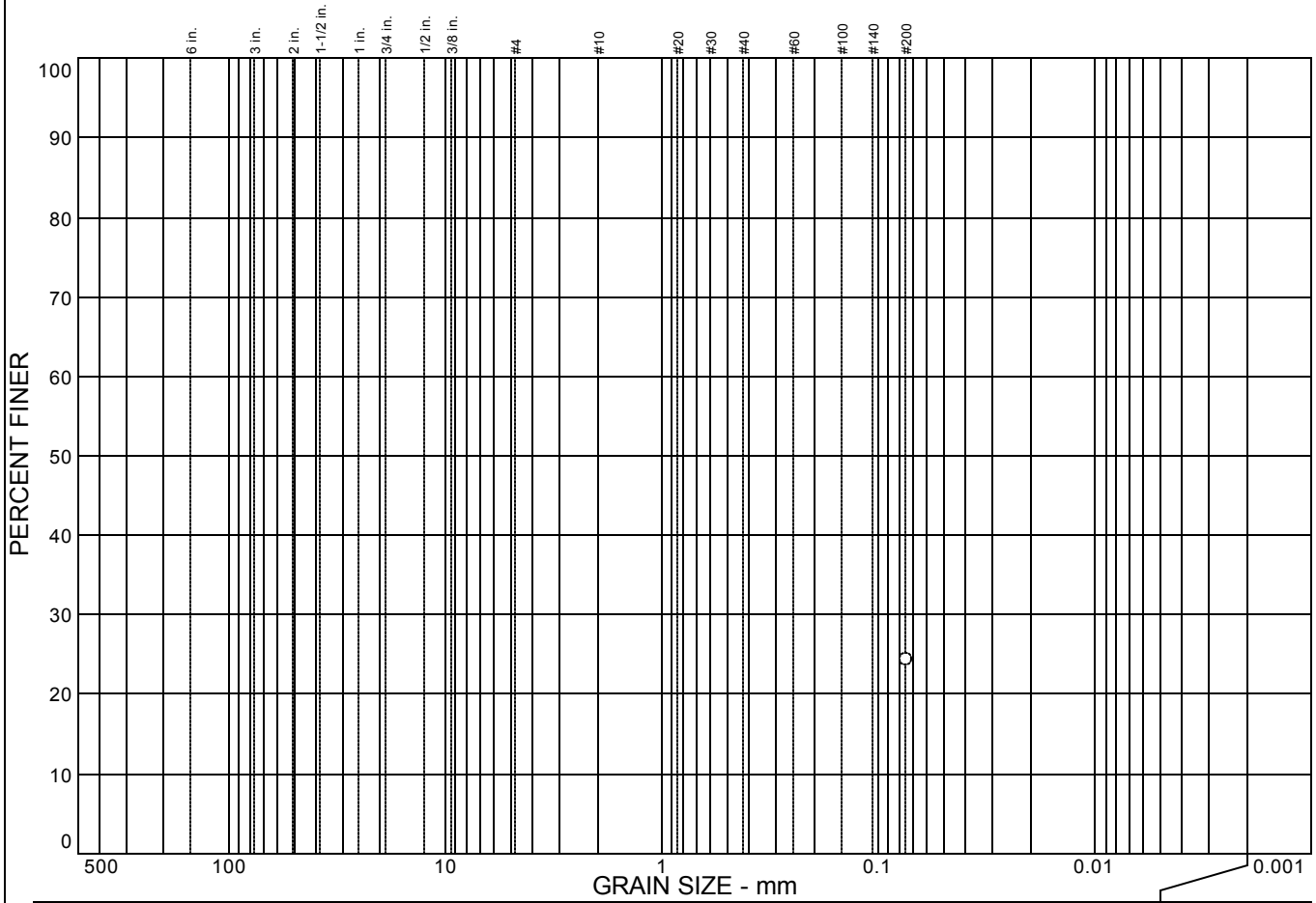


Client:
Project: River Run

Project No: 6720.4.001.01

Plate B-2H

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			24.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	24.4		

Soil Description
Dark yellowish brown silty Sand

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= AASHTO=

Remarks

* (no specification provided)

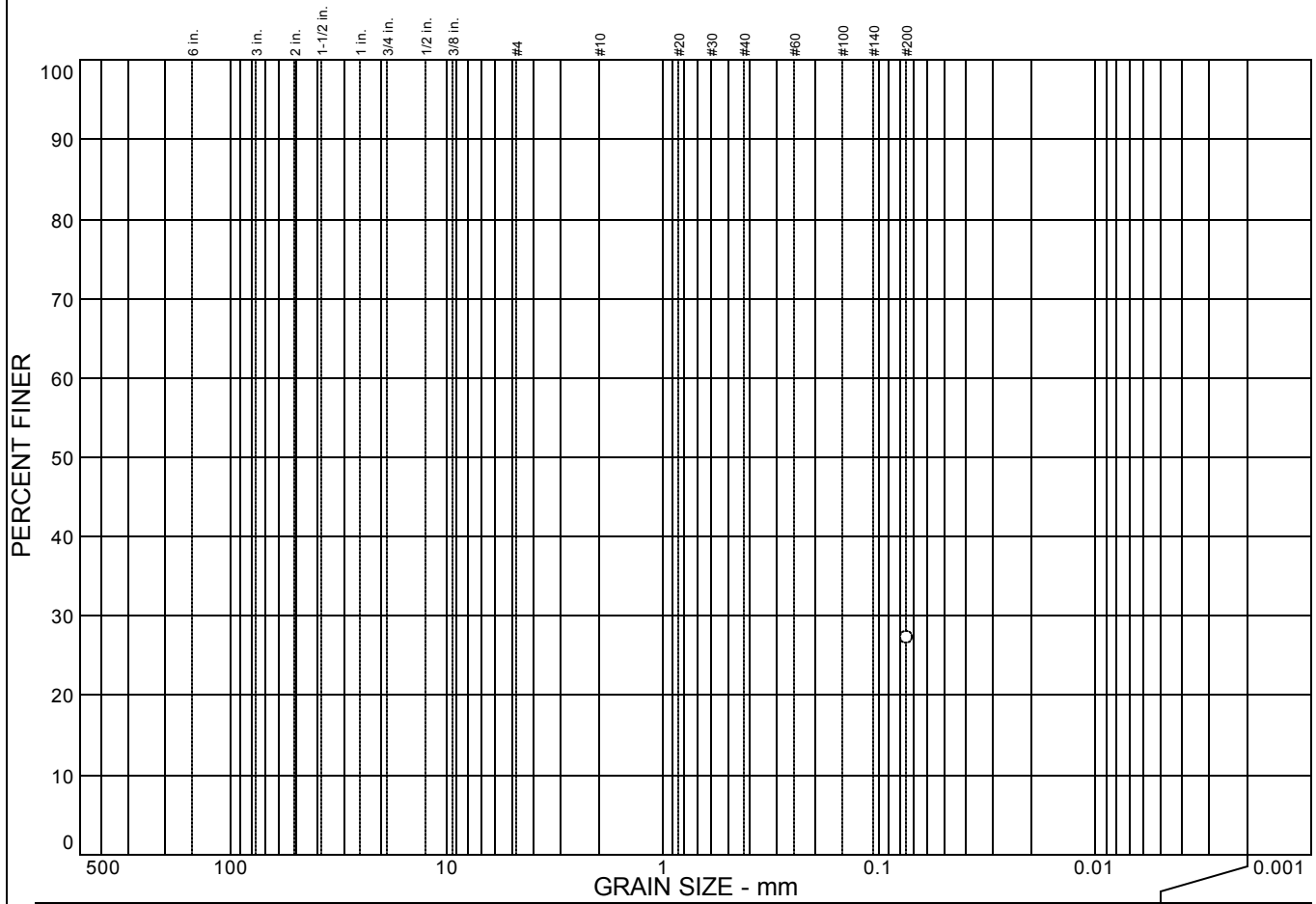
Sample No.: 2-7
Location:

Source of Sample: %200

Date: 07/13/05
Elev./Depth:

<p style="font-size: small; margin-top: 5px;">GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS MATERIALS TESTING</p>	<p>Client:</p> <p>Project: River Run</p> <p>Project No.: 6720.4.001.01</p>	<p>Plate B-2I</p>
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Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			27.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	27.2		

Soil Description

Dark gray silty Sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 2-10
Location:

Source of Sample: %200

Date: 07/13/05
Elev./Depth:

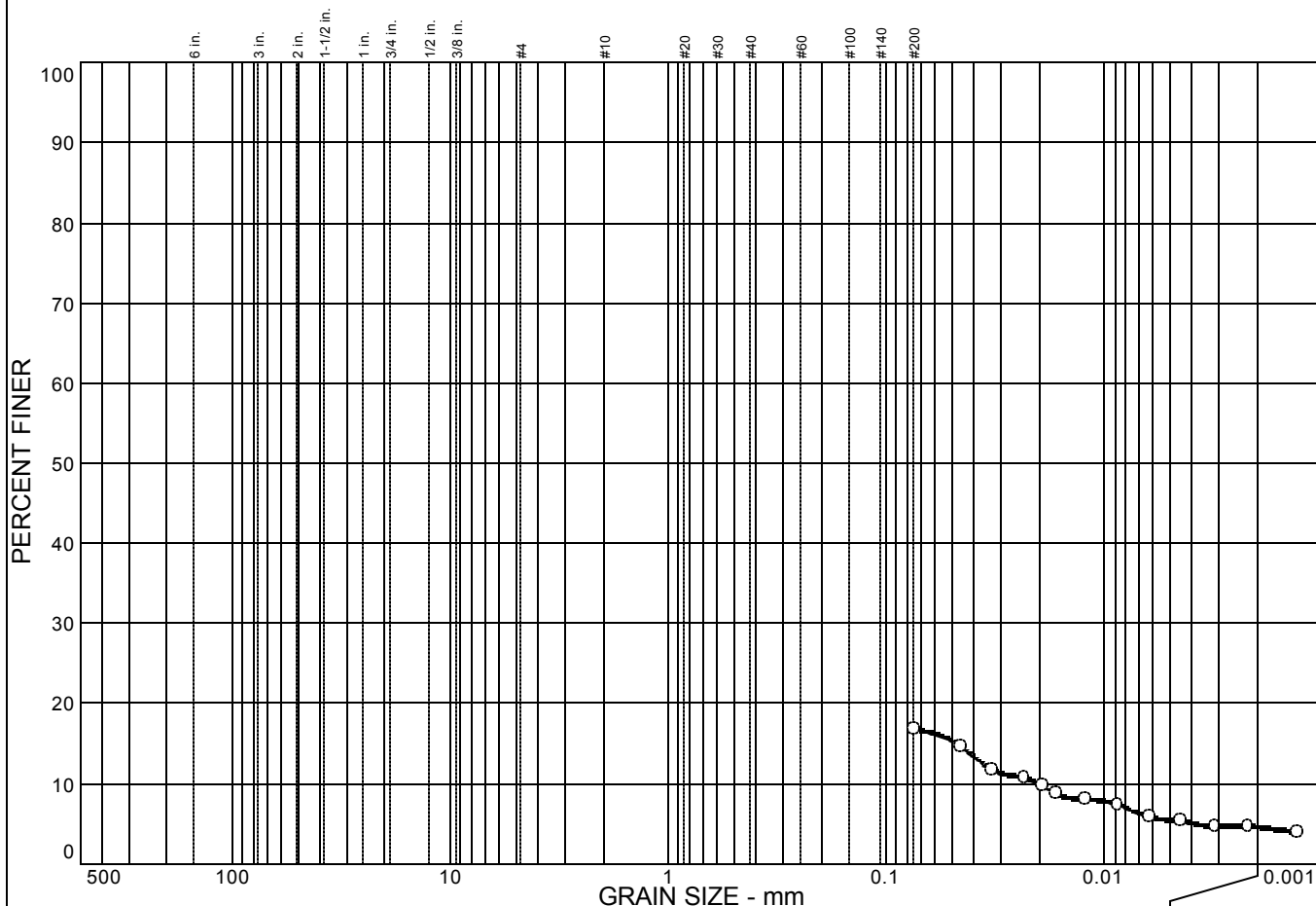


Client:
Project: River Run

Project No.: 6720.4.001.01

Plate B-2J

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			12.2	4.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	16.8		

Soil Description

Dark grayish brown silty Sand. Abundant strong rust stains.

Atterberg Limits

PL= 27 LL= 19 PI= NP

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= 0.0473 D₁₀= 0.0201
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: 11 @ 31'
Location:

Source of Sample: PI

Date: 07/22/05
Elev./Depth: 31.0 feet

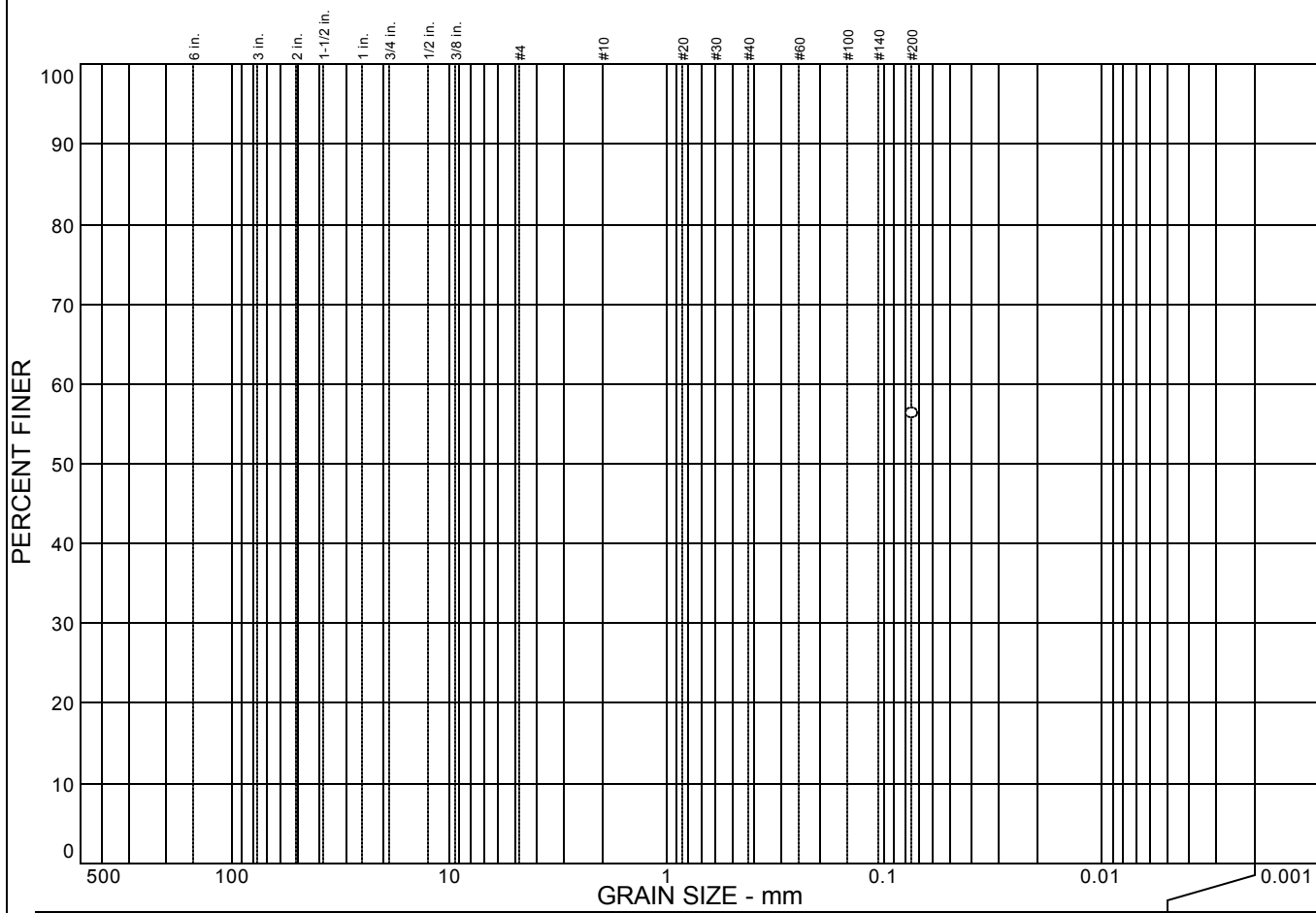


Client:
Project: River Run

Project No.: 6720.4.001.01

Plate B-2P

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			56.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	56.3		

Soil Description

Dark grayish brown sandy Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 12 @ 6'
Location:

Source of Sample: %200

Date: 07/21/05
Elev./Depth: 6.0 feet

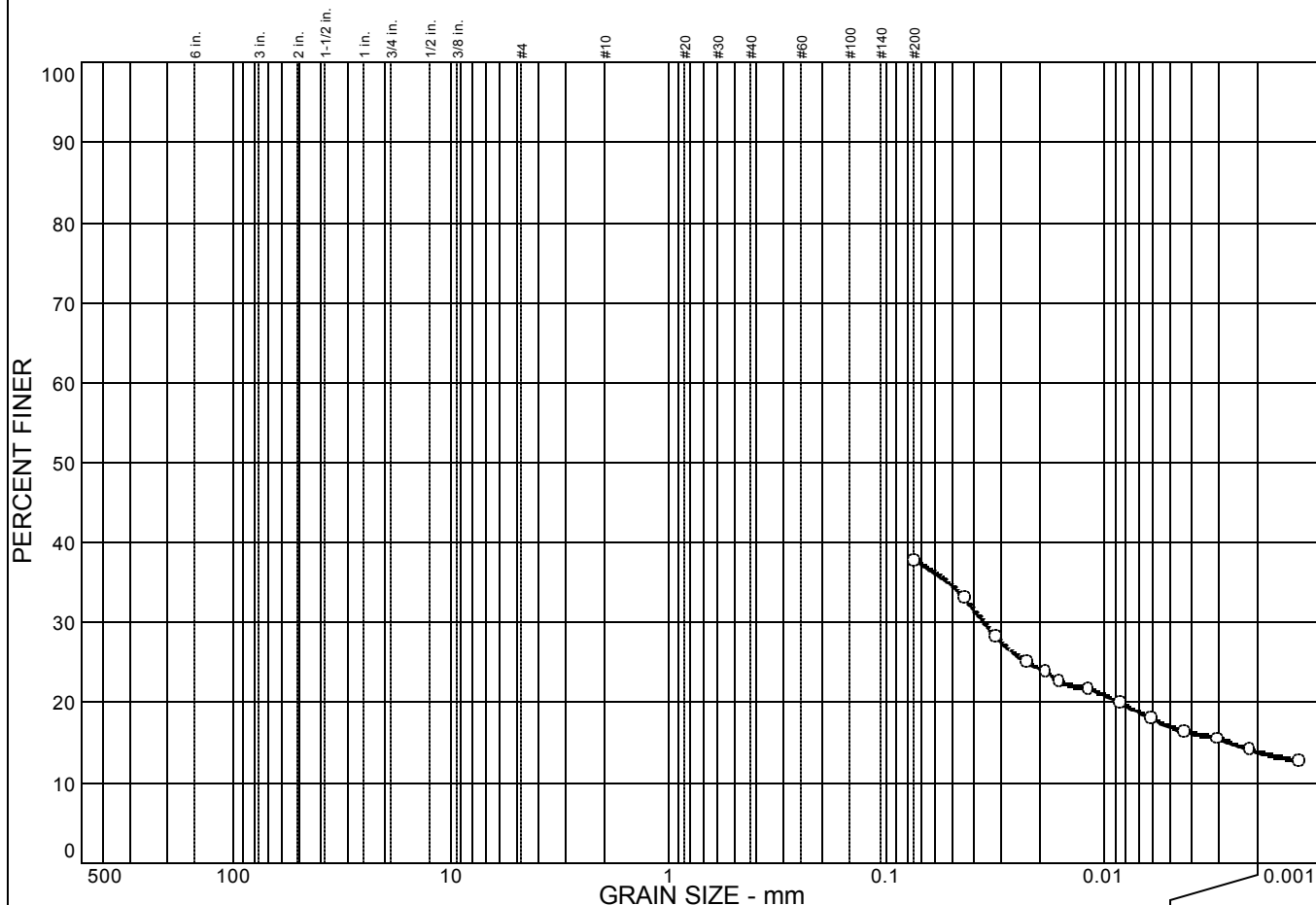


Client:
Project: River Run

Project No.: 6720.4.001.01

Plate B-2E

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			24.0	13.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	37.8		

Soil Description

Dark grayish brown silty clayey Sand.

Atterberg Limits

PL= 22 LL= 23 PI= 1

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= 0.0357 D₁₅= 0.0027 D₁₀=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: 13 @ 8'
Location:

Source of Sample: PI

Date: 07/22/05
Elev./Depth: 8.0 feet

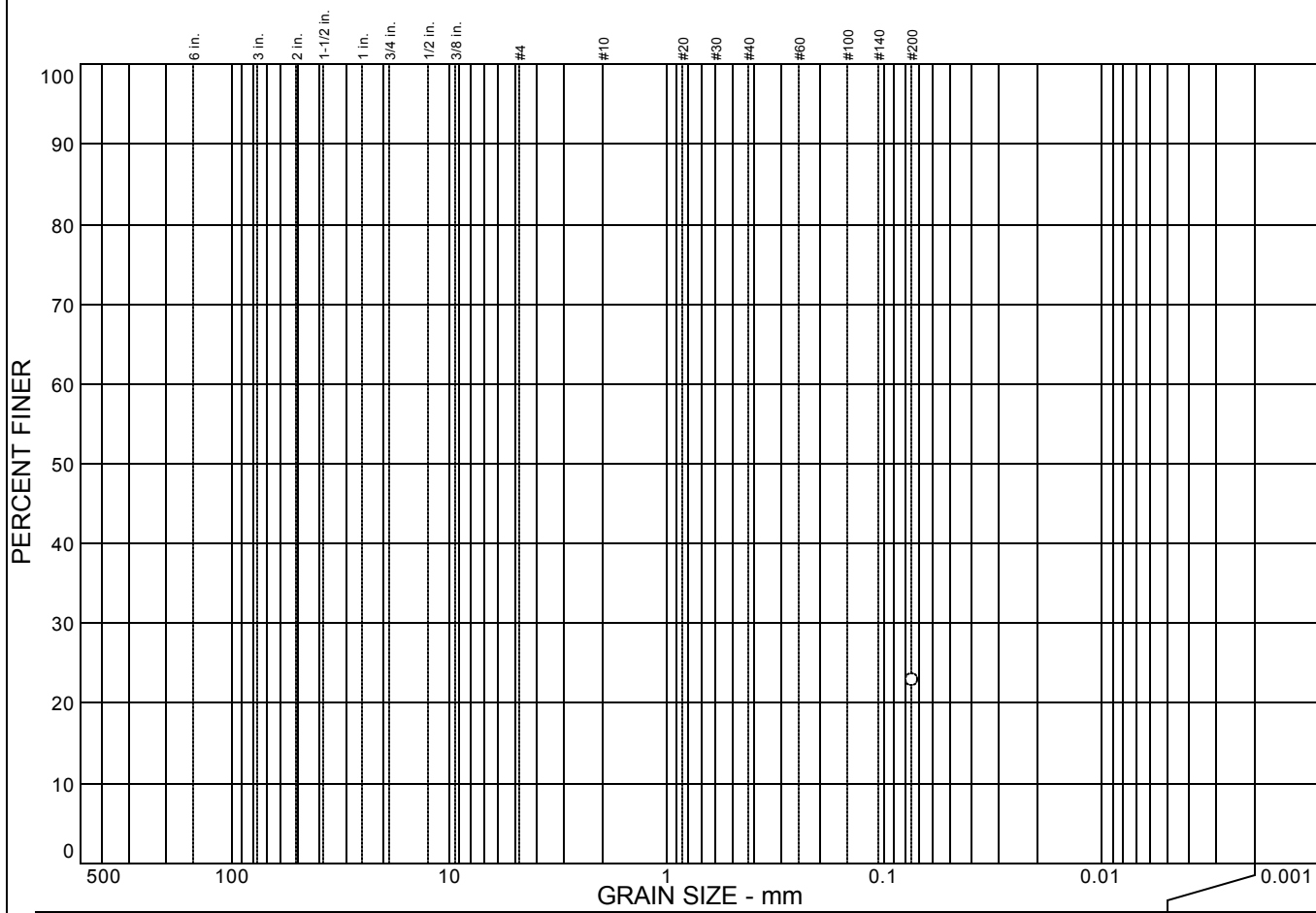


Client:
Project: River Run

Project No.: 6720.4.001.01

Plate B-2Q

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			22.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	22.9		

Soil Description

Dark grayish brown silty clayey Sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

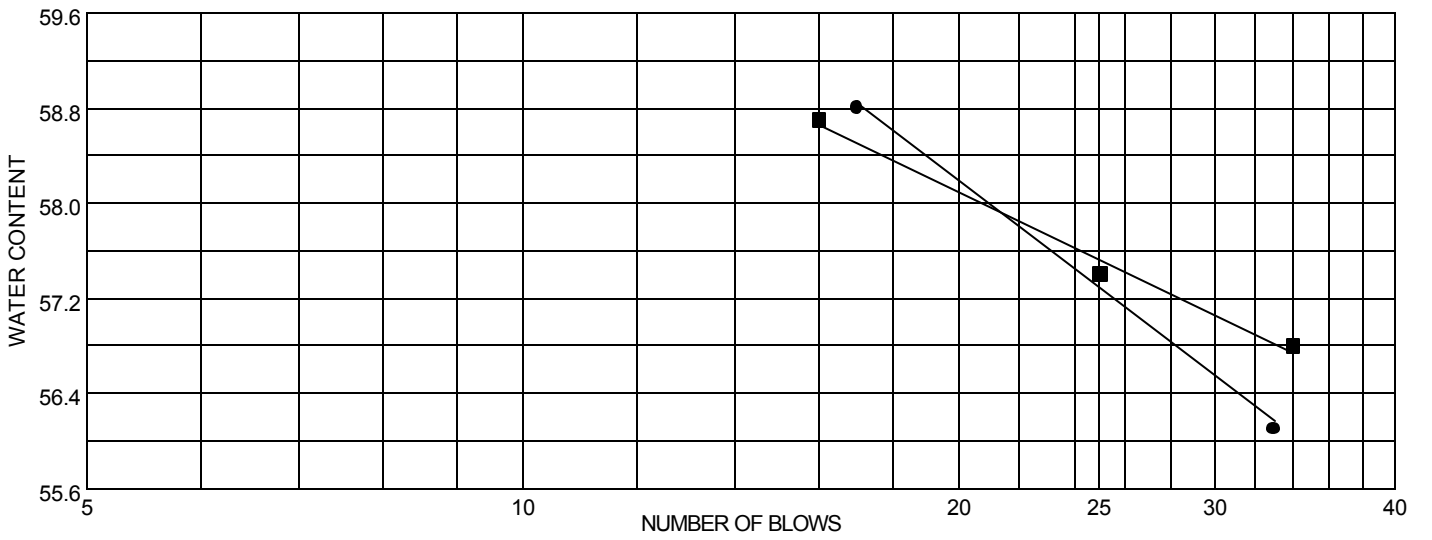
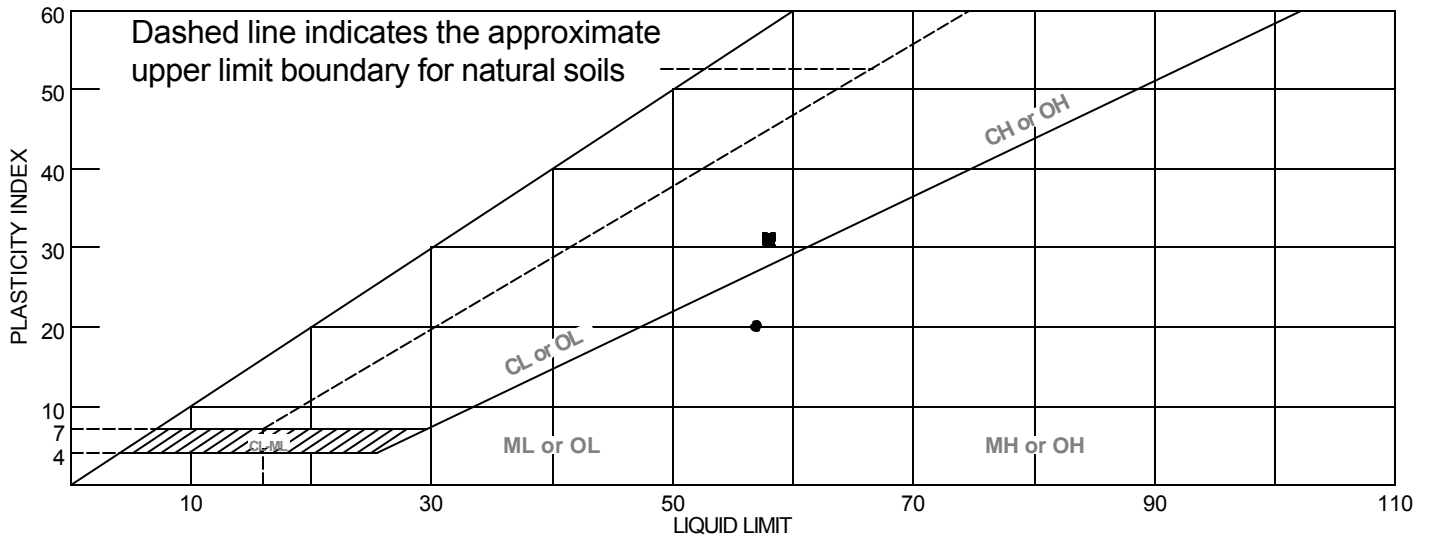
USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: 14 @ 31' **Source of Sample:** %200 **Date:** 07/21/05
Location: **Elev./Depth:** 31.0 feet

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Dark grayish brown clayey Silt with sand	57	37	20			MH
■	Dark grayish brown Clay with sand	58	27	31			CH

Project No. 6720.4.001.01 **Client:**

Project: River Run

● **Source:** PI

Sample No.: 2-1

■ **Source:** PI

Sample No.: 7 @ 3'

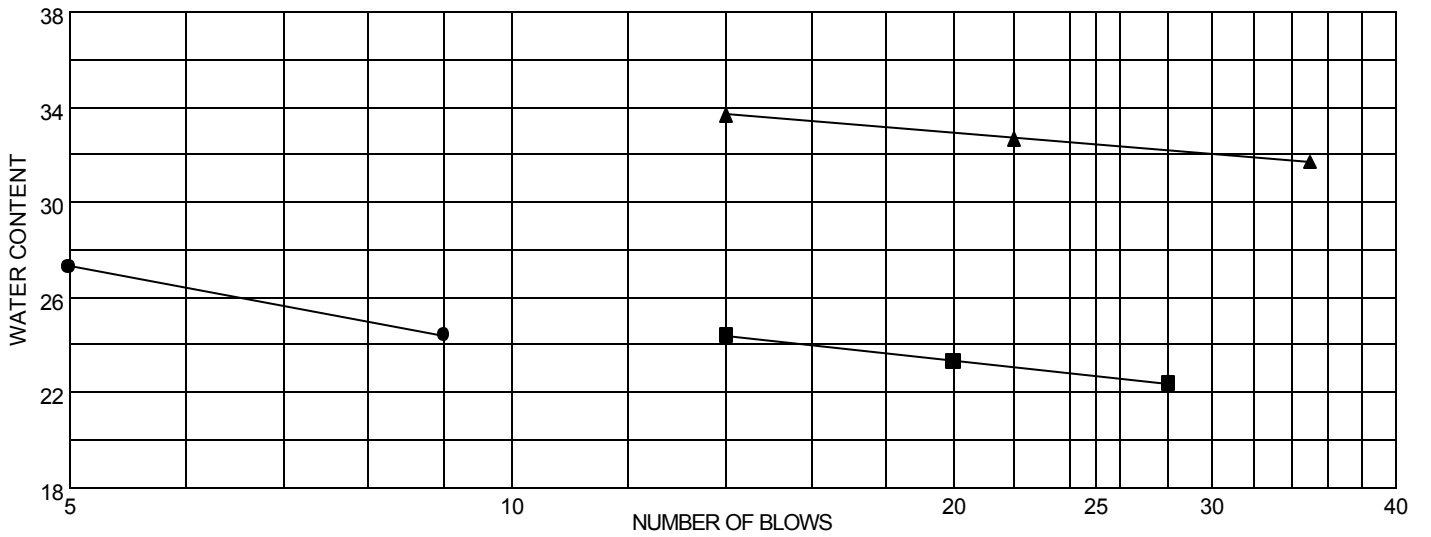
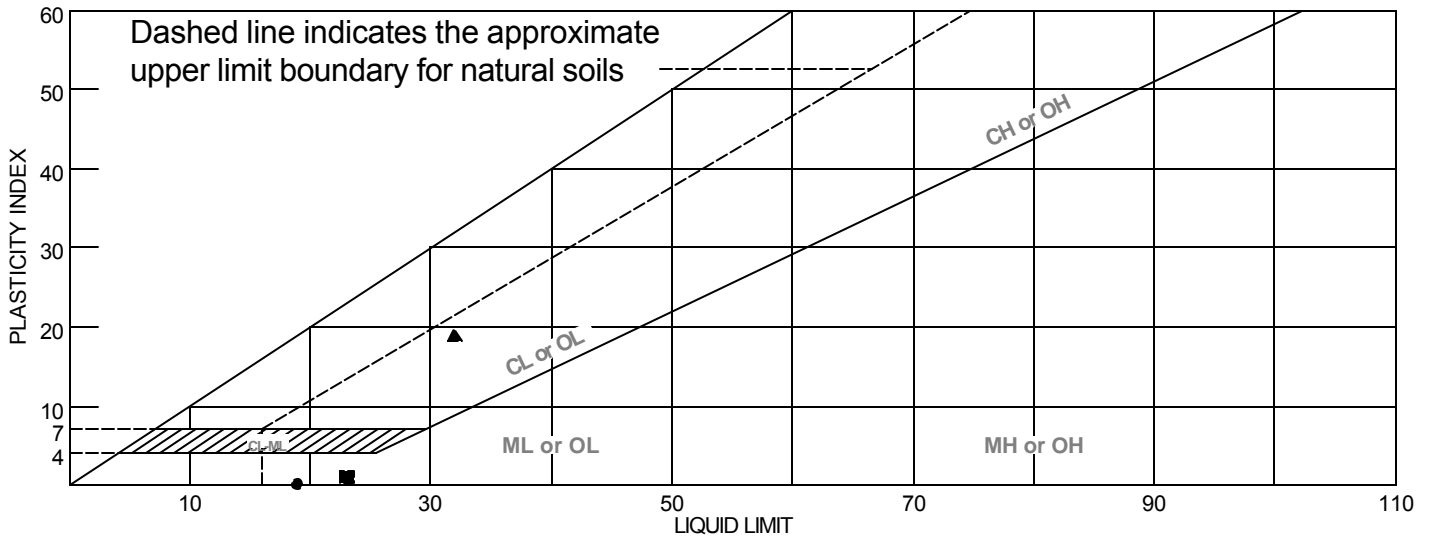
Remarks:

- 2-1
- 7 @ 3'



GEO TECHNICAL AND ENVIRONMENTAL CONSULTANTS
MATERIALS TESTING

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Dark grayish brown silty Sand. Abundant strong rust stains	19	27	NP		16.8	ML
■	Dark grayish brown silty clayey Sand.	23	22	1		37.8	ML
▲	Dark grayish brown grading to very dark grayish brown sandy silty Clay. Trace strong rust stains	32	13	19			CL

Project No. 6720.4.001.01 **Client:**

Project: River Run

● **Source:** PI

■ **Source:** PI

▲ **Source:** PI

Sample No.: 11 @ 31'

Sample No.: 13 @ 8'

Sample No.: 14 @ 3.5'

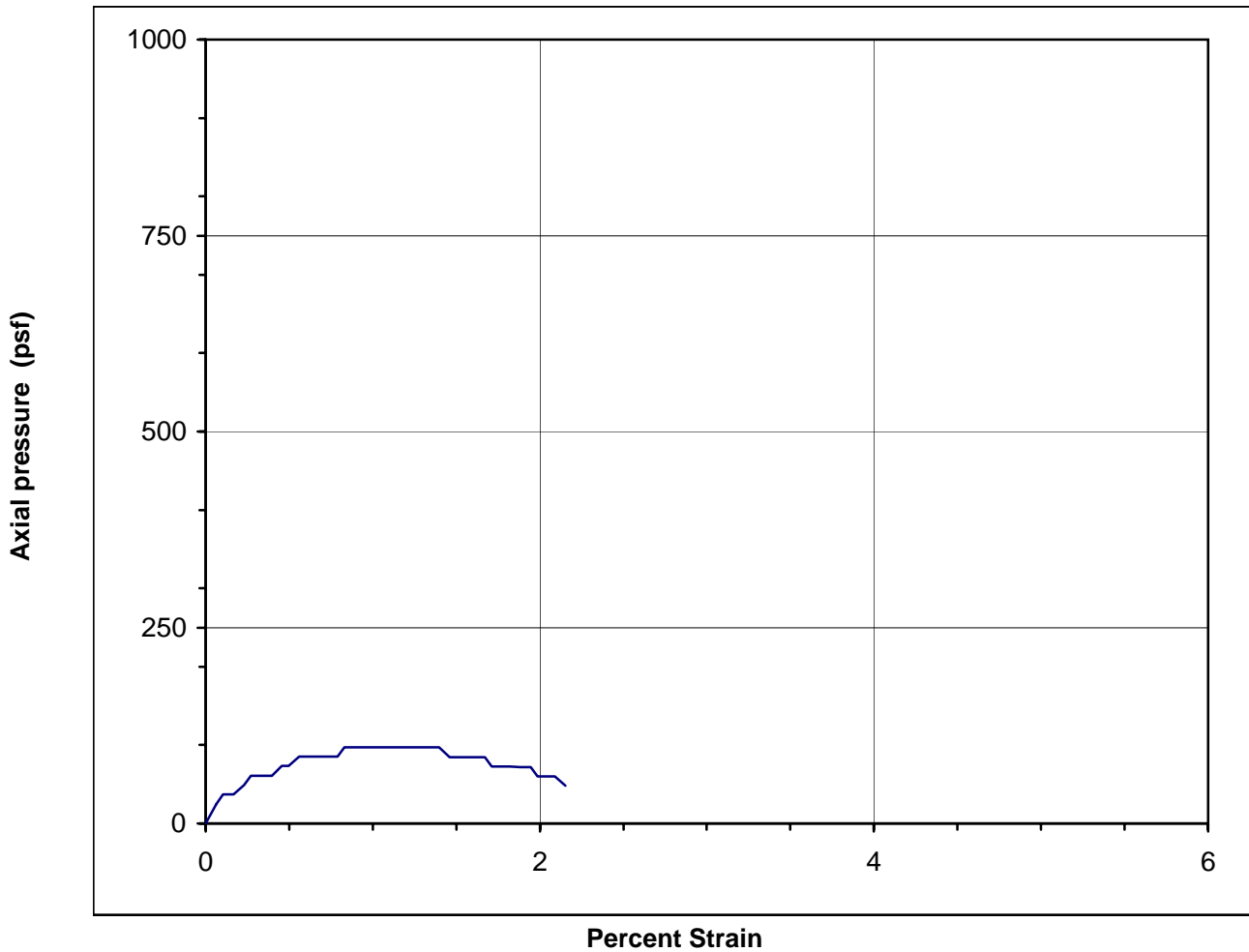
Remarks:

- B11 @ 31'
- B13 @ 8'
- ▲ B14 @ 3.5'

ENGEO
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GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS
MATERIALS TESTING

**Unconfined Compression Test
ASTM Test Method D2166**



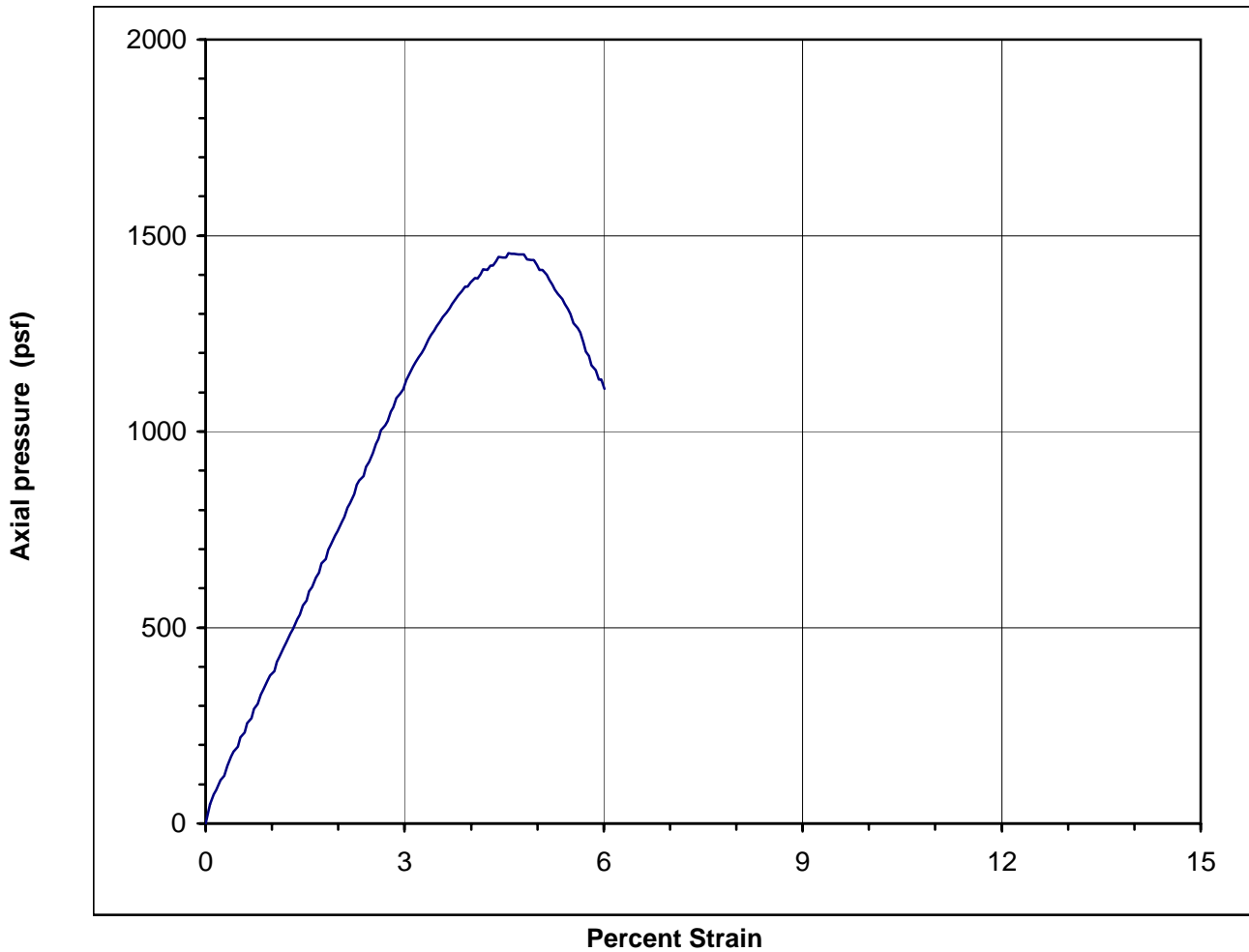
Unconfined Compressive Strength: **94.89 psf** **0.0 tsf**

Sample Description: **Dark grayish brown silty clayey Sand**

Initial Diameter:	2.420 in.	Sample Number:	11@3
Initial Height:	4.96 in.	Dry Unit Weight:	97.8 pcf
Strain Rate:	1.608 %/min	Moisture Content:	11.6 %
Total Strain:	2.16 %	Depth of Sample:	3.0 ft.

ENGEO INCORPORATED	RIVER RUN Stockton, California	Job No.: 6720.4.001.01	Figure No. 3-B
		Sample Number: 11@3	
		Date: 7/18/2005	

**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: **1450 psf** **0.7 tsf**

Sample Description: **Very dark grayish brown silty Clay**

Initial Diameter:	2.420 in.	Sample Number:	15@6.5
Initial Height:	5.10 in.	Dry Unit Weight:	58.6 pcf
Strain Rate:	1.442 %/min	Moisture Content:	61.9 %
Total Strain:	6.01 %	Depth of Sample:	6.5 ft.

ENGEO
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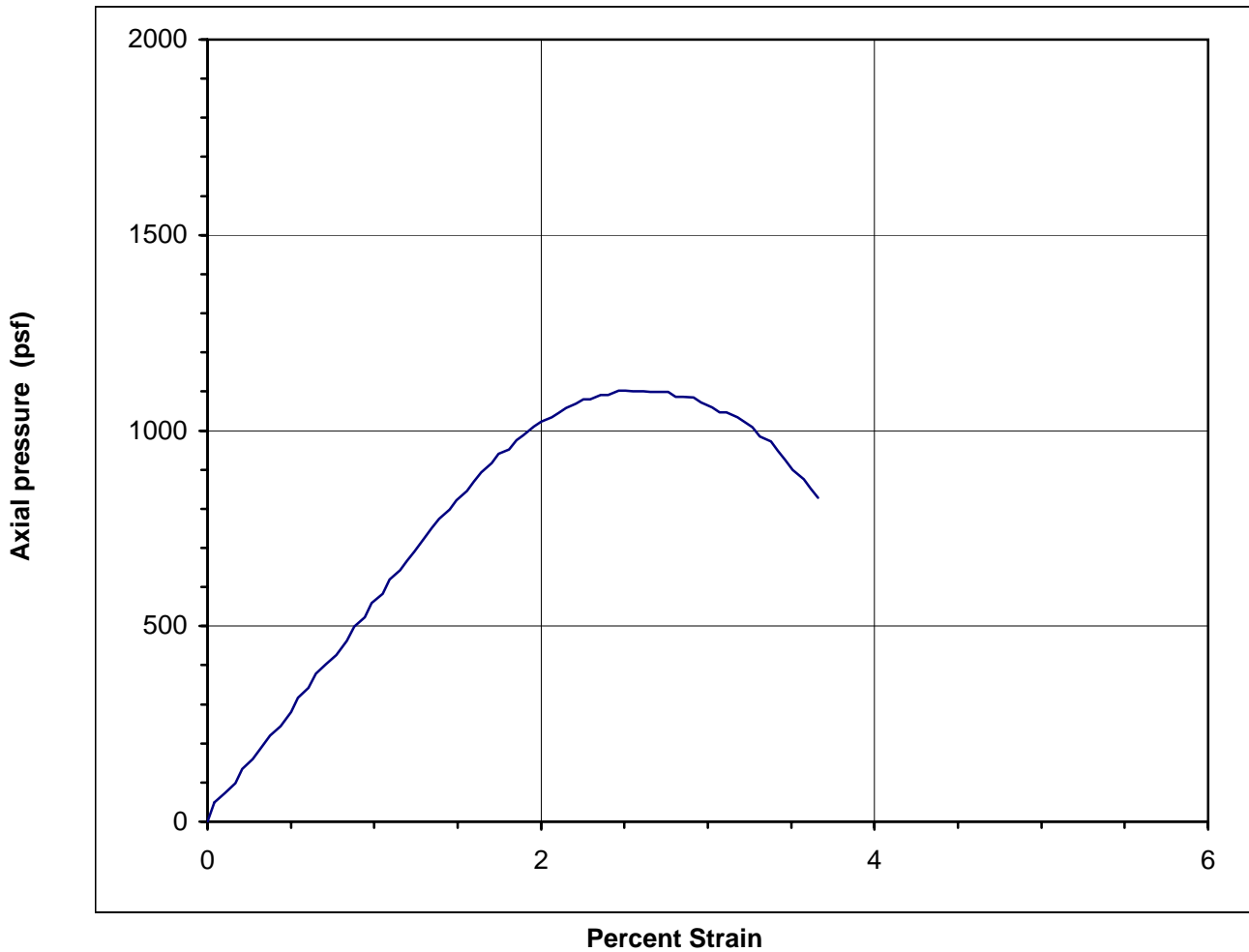
RIVER RUN
Stockton, California

Job No.:	6720.4.001.01
Sample Number:	15@6.5
Date:	7/18/2005

Figure No.

3-C

**Unconfined Compression Test
ASTM Test Method D2166**



Unconfined Compressive Strength: **1090 psf** **0.6 tsf**

Sample Description: **Dark grayish brown clayey Silt with sand**

Initial Diameter:	2.420 in.	Sample Number:	2-1
Initial Height:	4.93 in.	Dry Unit Weight:	57.6 pcf
Strain Rate:	1.557 %/min	Moisture Content:	48.9 %
Total Strain:	3.66 %	Depth of Sample:	1.0 ft.

ENGEO
INCORPORATED

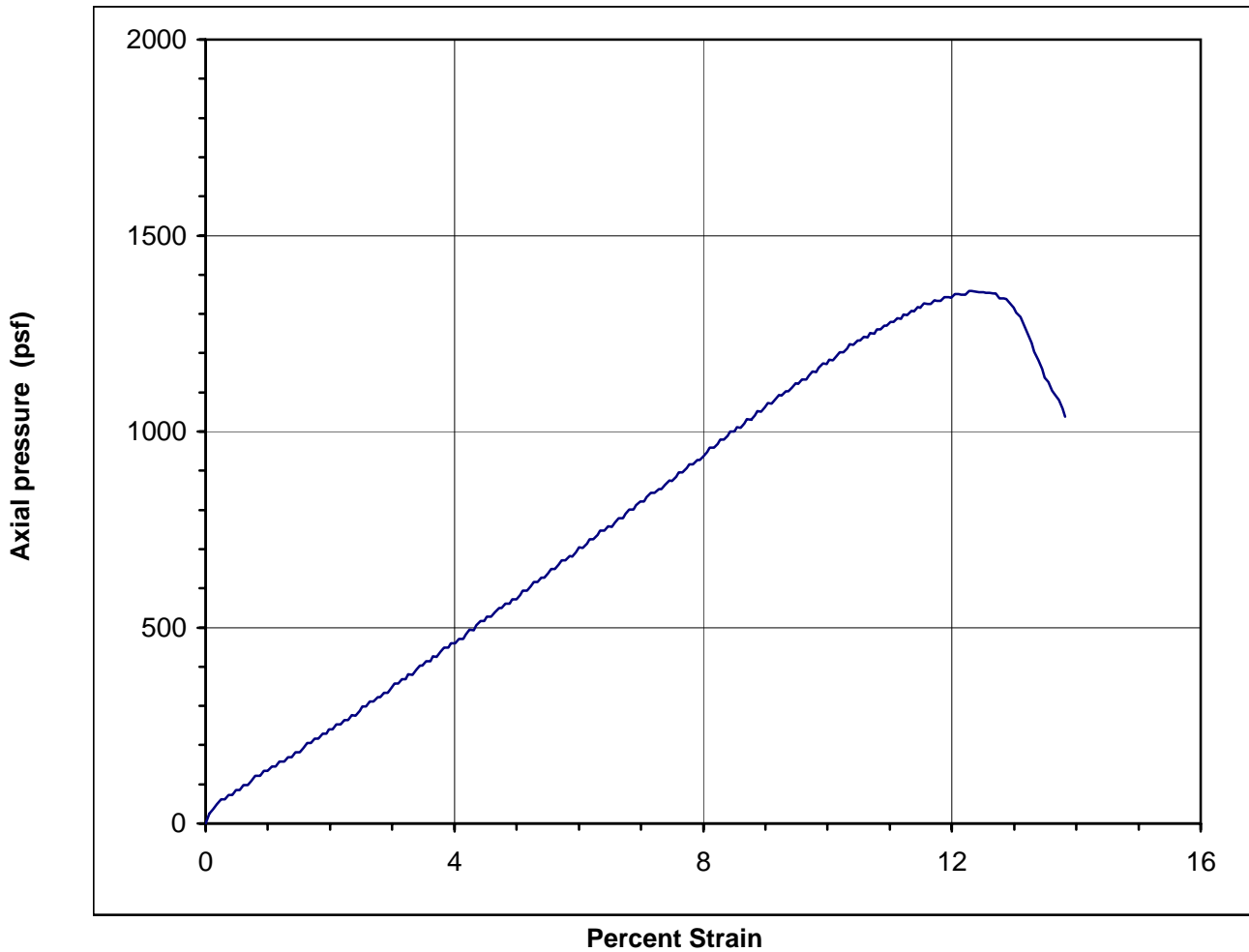
RIVER RUN
Stockton, California

Job No.:	6720.4.001.01
Sample Number:	2-1
Date:	7/9/2005

Figure No.

3-D

**Unconfined Compression Test
ASTM Test Method D2166**



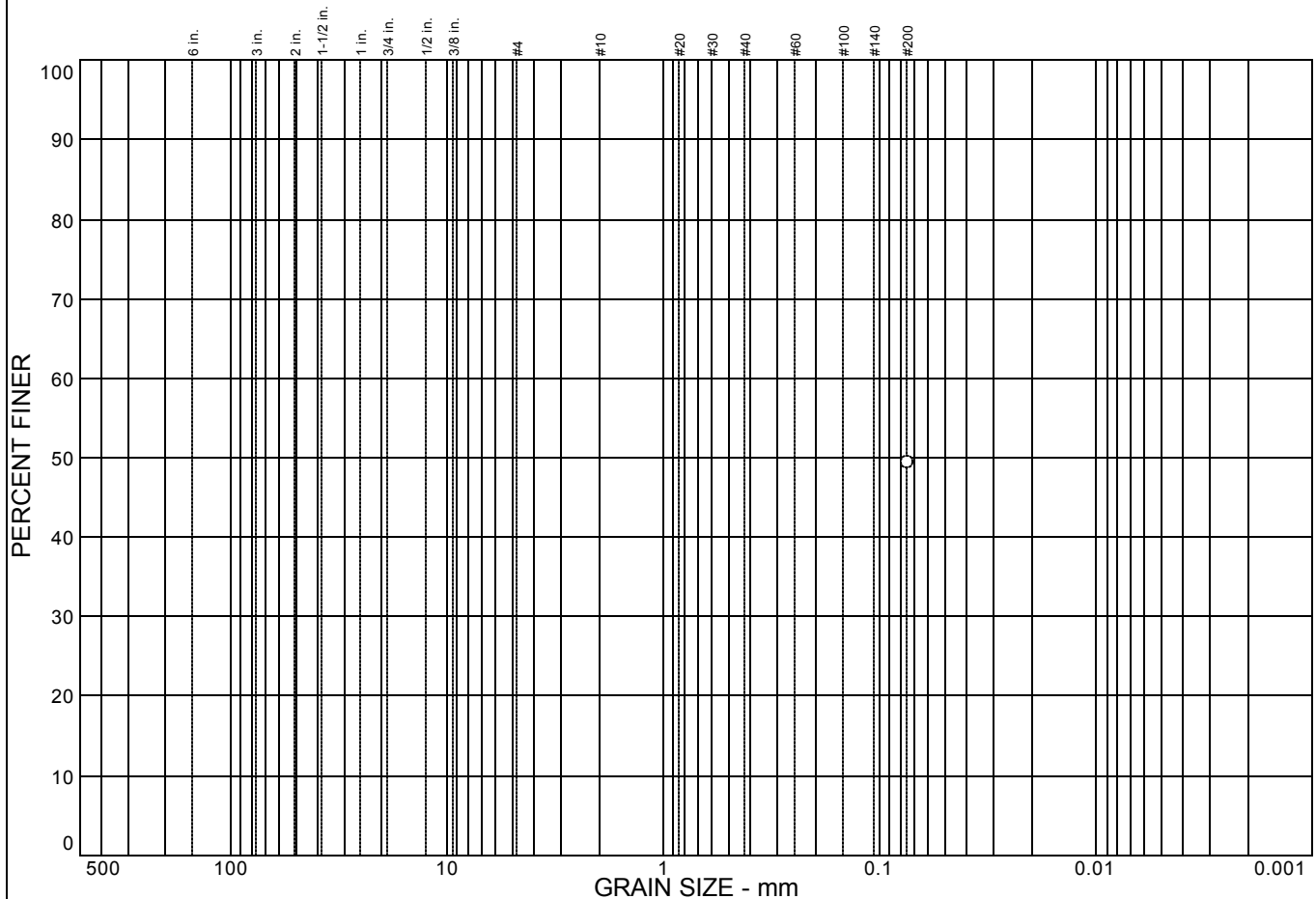
Unconfined Compressive Strength: 1350 psf 0.7 tsf

Sample Description: Dark yellowish brown silty Clay with sand

Initial Diameter:	2.420 in.	Sample Number:	7@6
Initial Height:	5.05 in.	Dry Unit Weight:	104.6 pcf
Strain Rate:	1.713 %/min	Moisture Content:	21.0 %
Total Strain:	13.82 %	Depth of Sample:	6.0 ft.

ENGEO INCORPORATED	RIVER RUN Stockton, California	Job No.: 6720.4.001.01	Figure No. 3-F
		Sample Number: 7@6	
		Date: 7/11/2005	

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			49.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	49.4		

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Sample No.: B1 @ 7.5'
Location:

Source of Sample:

Date: 5-1-06
Elev./Depth: 7.5'

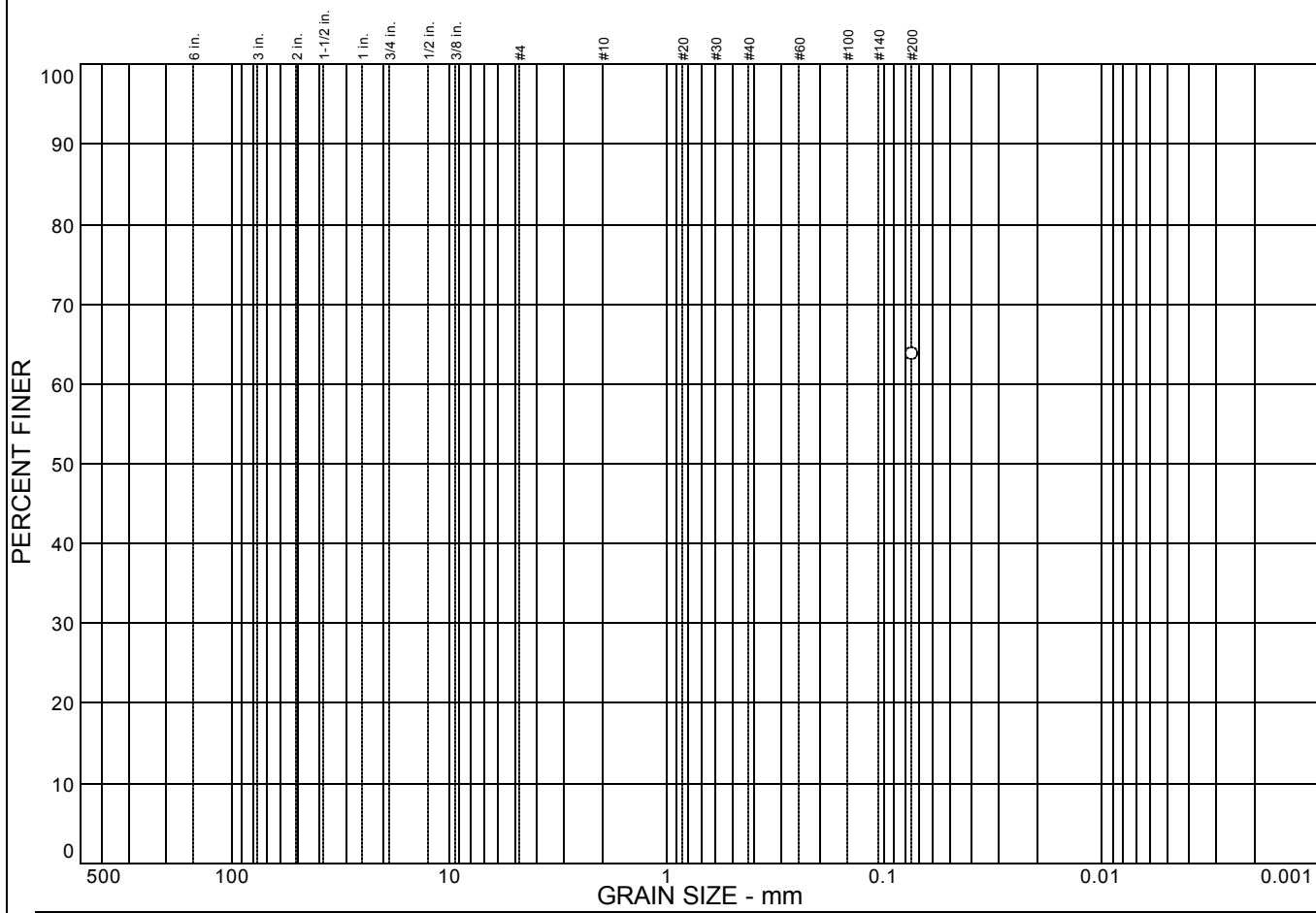


Client:
Project: Land Park Water Tank

Project No.: 5747.4.101.01

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			63.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	63.7		

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= AASHTO=

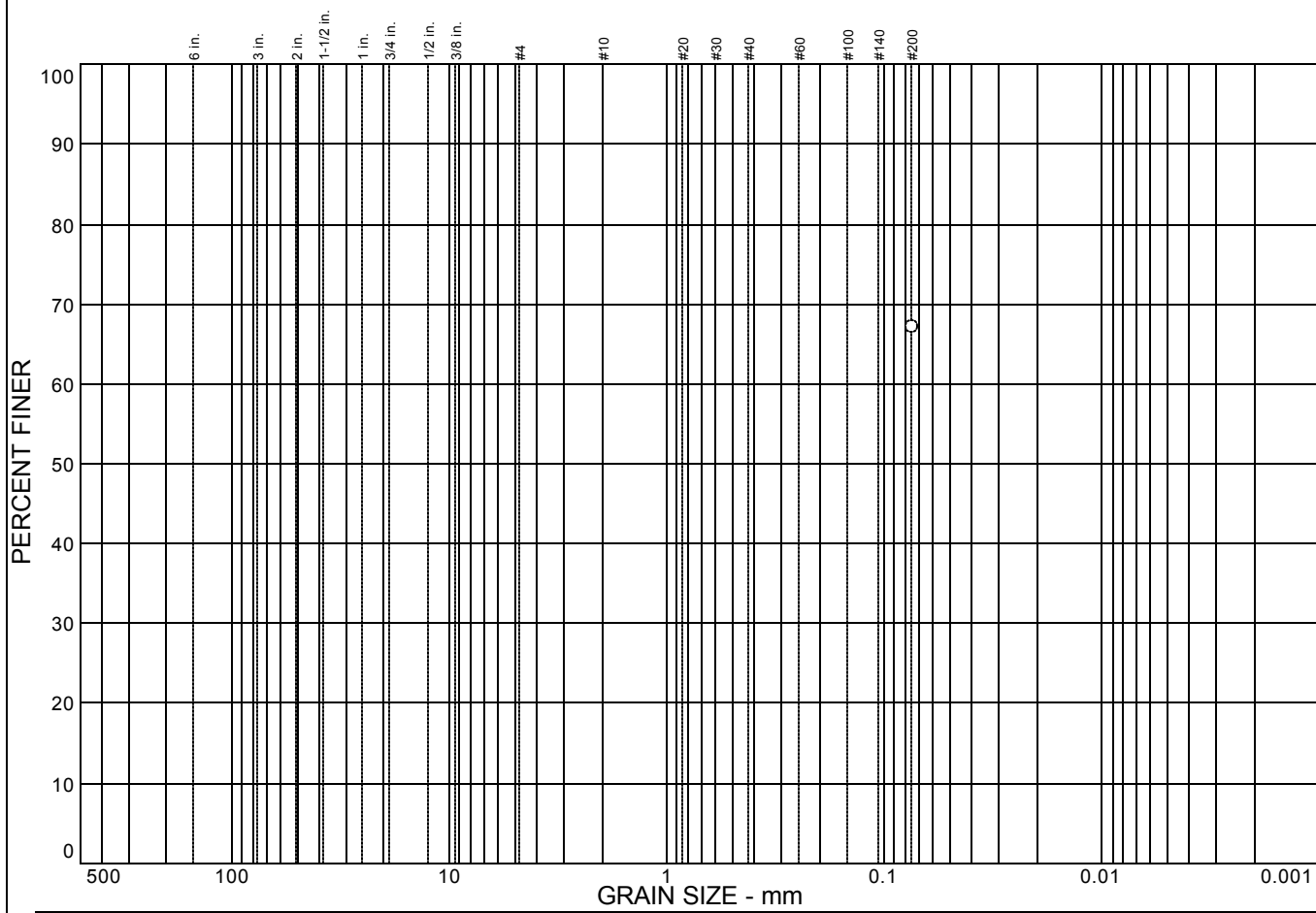
Remarks

* (no specification provided)

Sample No.: B1 @ 11' **Source of Sample:** **Date:** 5-1-06
Location: **Elev./Depth:** 11'

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS MATERIALS TESTING	<p>Client:</p> <p>Project: Land Park Water Tank</p> <p>Project No.: 5747.4.101.01</p> <p style="text-align: right;">Plate</p>
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Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			67.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	67.2		

Soil Description

PL= **Atterberg Limits** LL= PI=
 D₈₅= **Coefficients** D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

USCS= **Classification** AASHTO=
Remarks

* (no specification provided)

Sample No.: B2 @ 6.5'
Location:

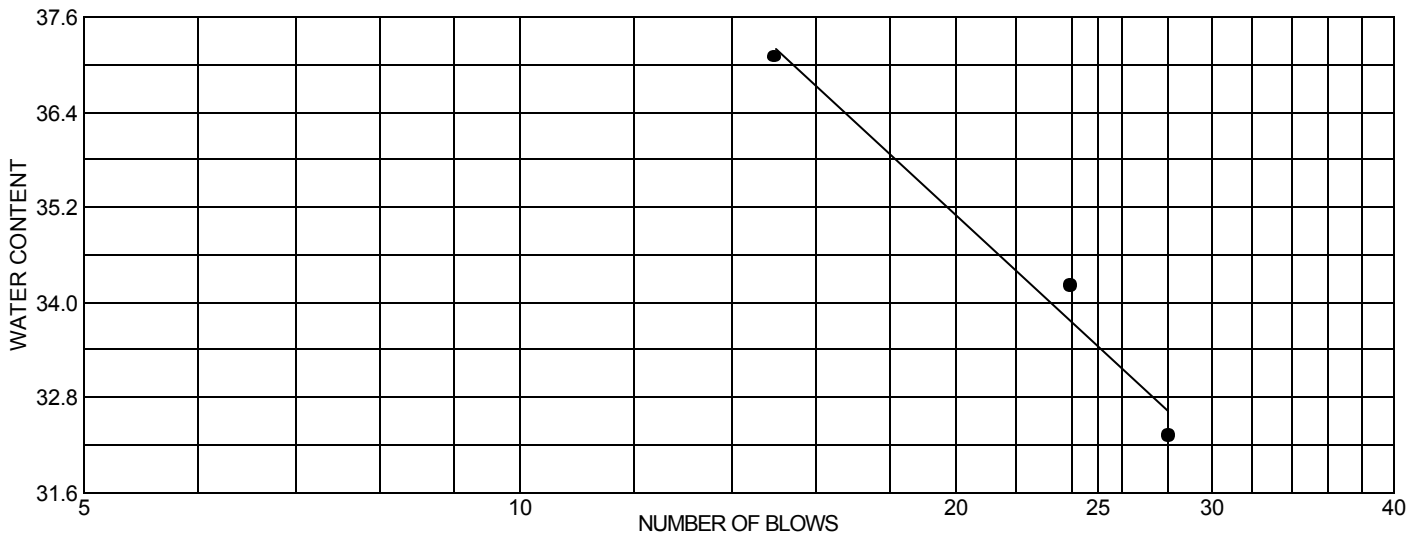
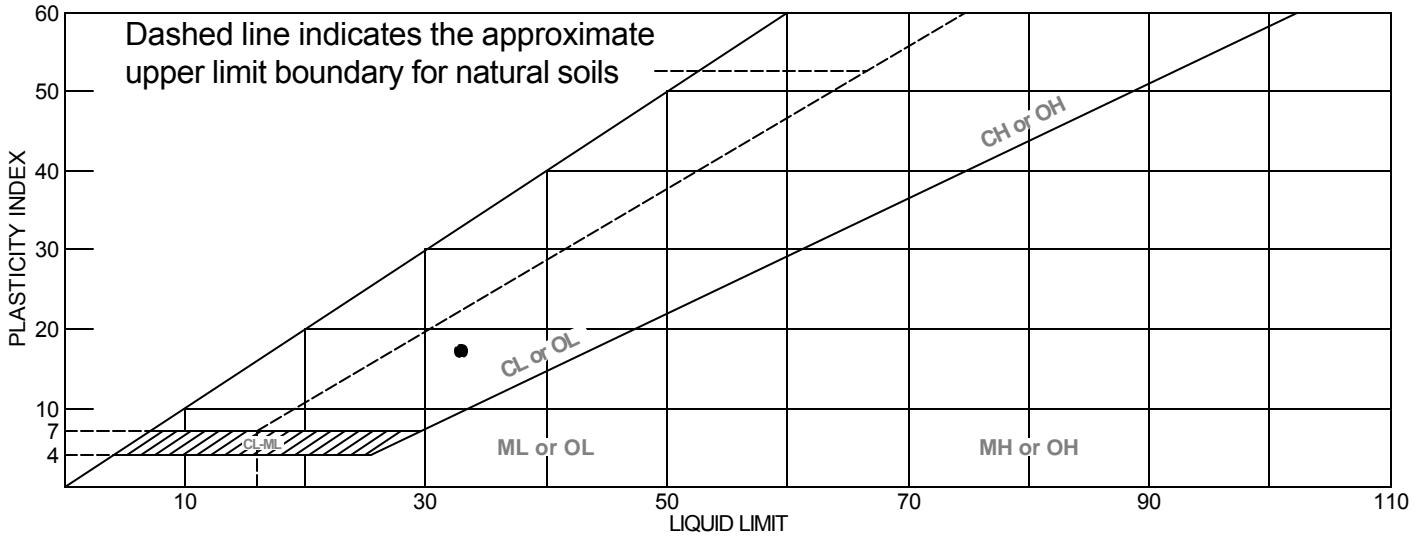
Source of Sample:

Date: 5-1-06
Elev./Depth: 6.5'

ENGEO GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
 INCORPORATED MATERIALS TESTING

Client:
Project: Land Park Water Tank
Project No.: 5747.4.101.01 **Plate**

LIQUID AND PLASTIC LIMITS TEST REPORT

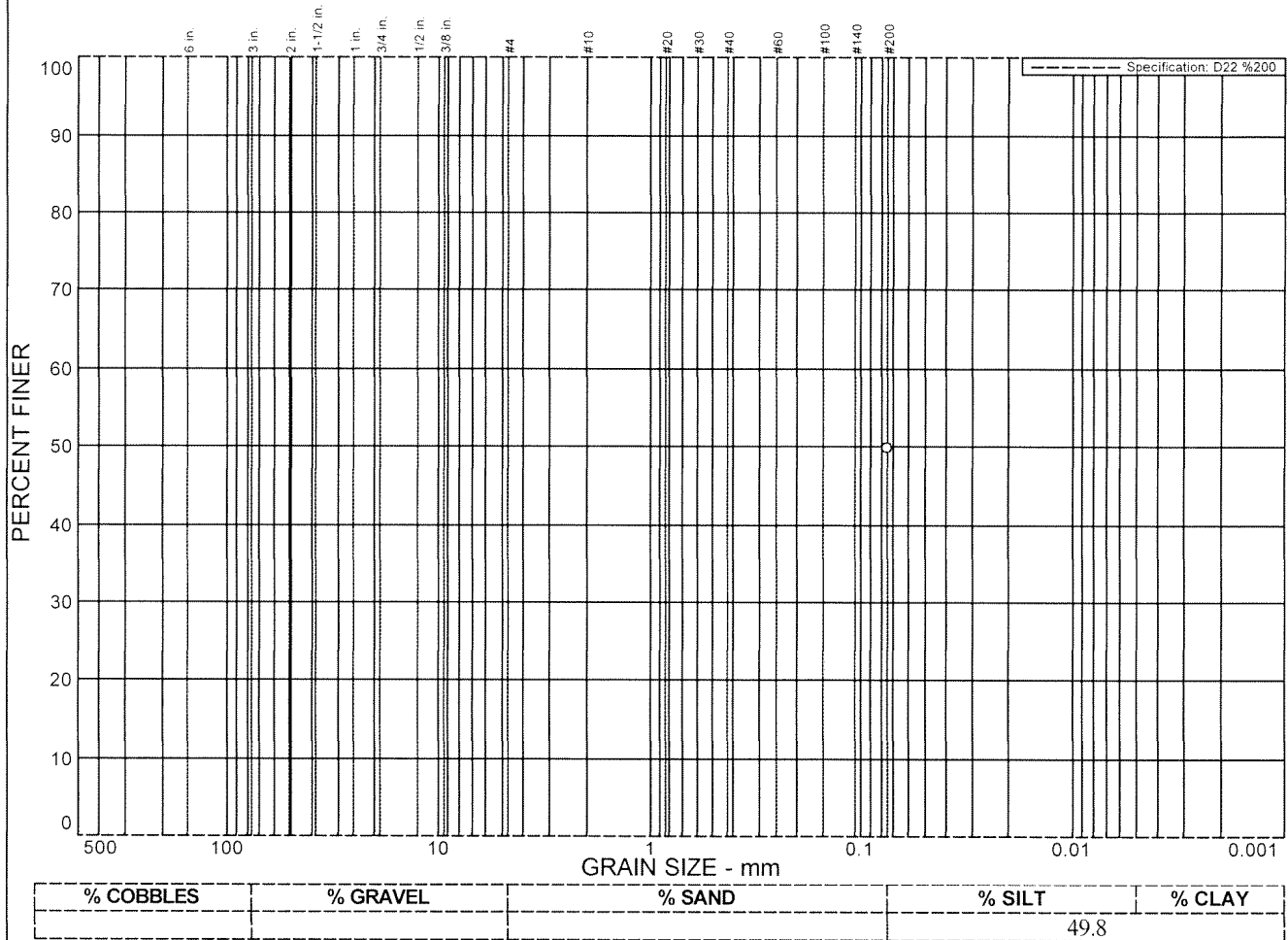


	LL	PL	PI	%<#40	%<#200	USCS
●	33	16	17			

Project No. 5747.4.101.01 **Client:** _____
Project: Land Park Water Tank
Source: _____ **Sample No.:** B1 @ 2' **Elev./Depth:** 2'

Remarks:
 ●

Particle Size Distribution Report



SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	49.8		

Soil Description

Dark grayish brown silty SAND to sandy SILT

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SM-ML AASHTO=

Remarks

* D22 %200

Sample No.: 3@2.5'
 Location:

Source of Sample:

Date: 3-21-06
 Elev./Depth: 2.5 ft.

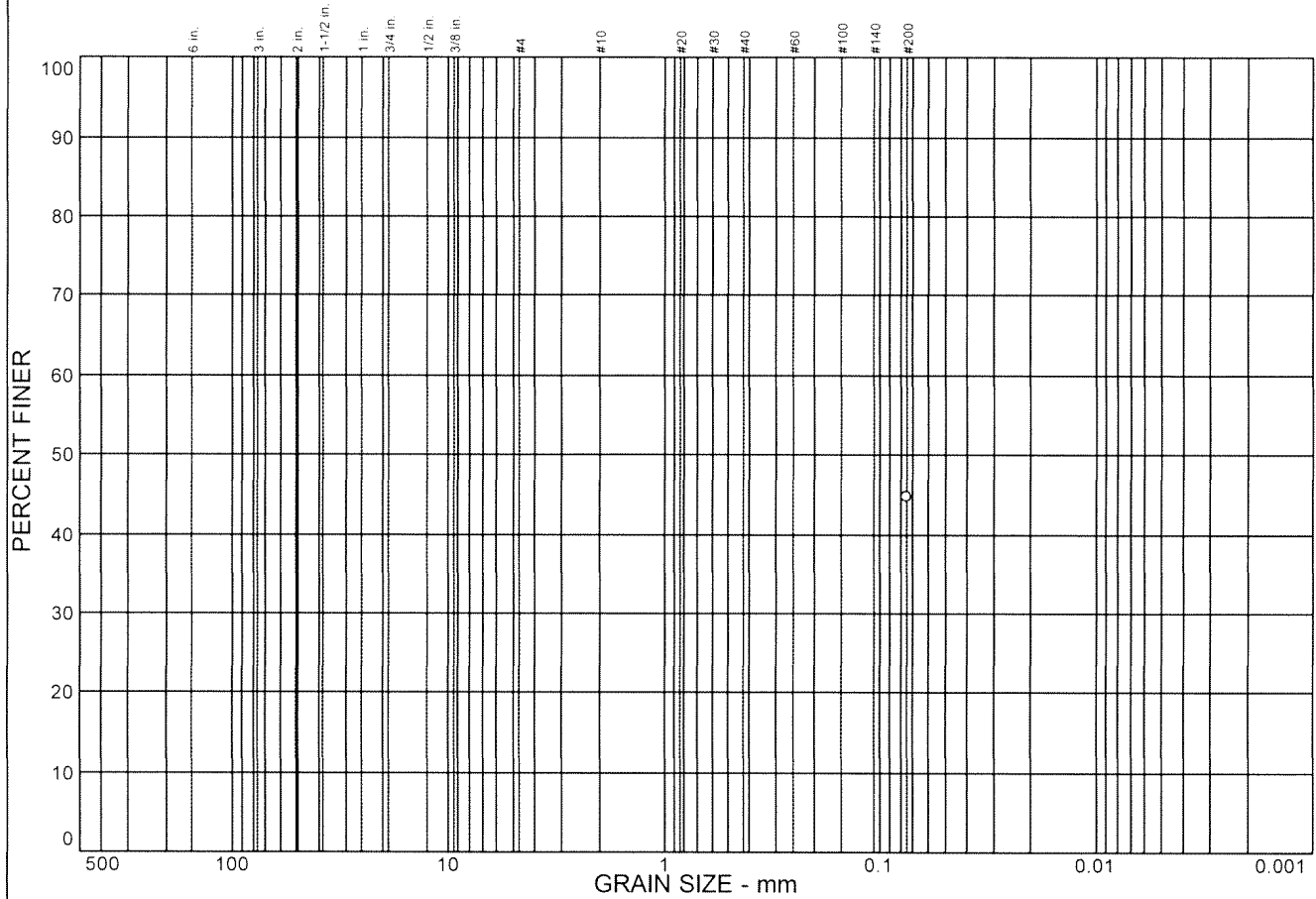


Client:
 Project: Bradshaw's Crossing, Lathrop, CA
 River Islands Rd. 2062

Project No: 5044.4.014.01

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			44.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	44.7		

Soil Description

Dark grayish brown clayey SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

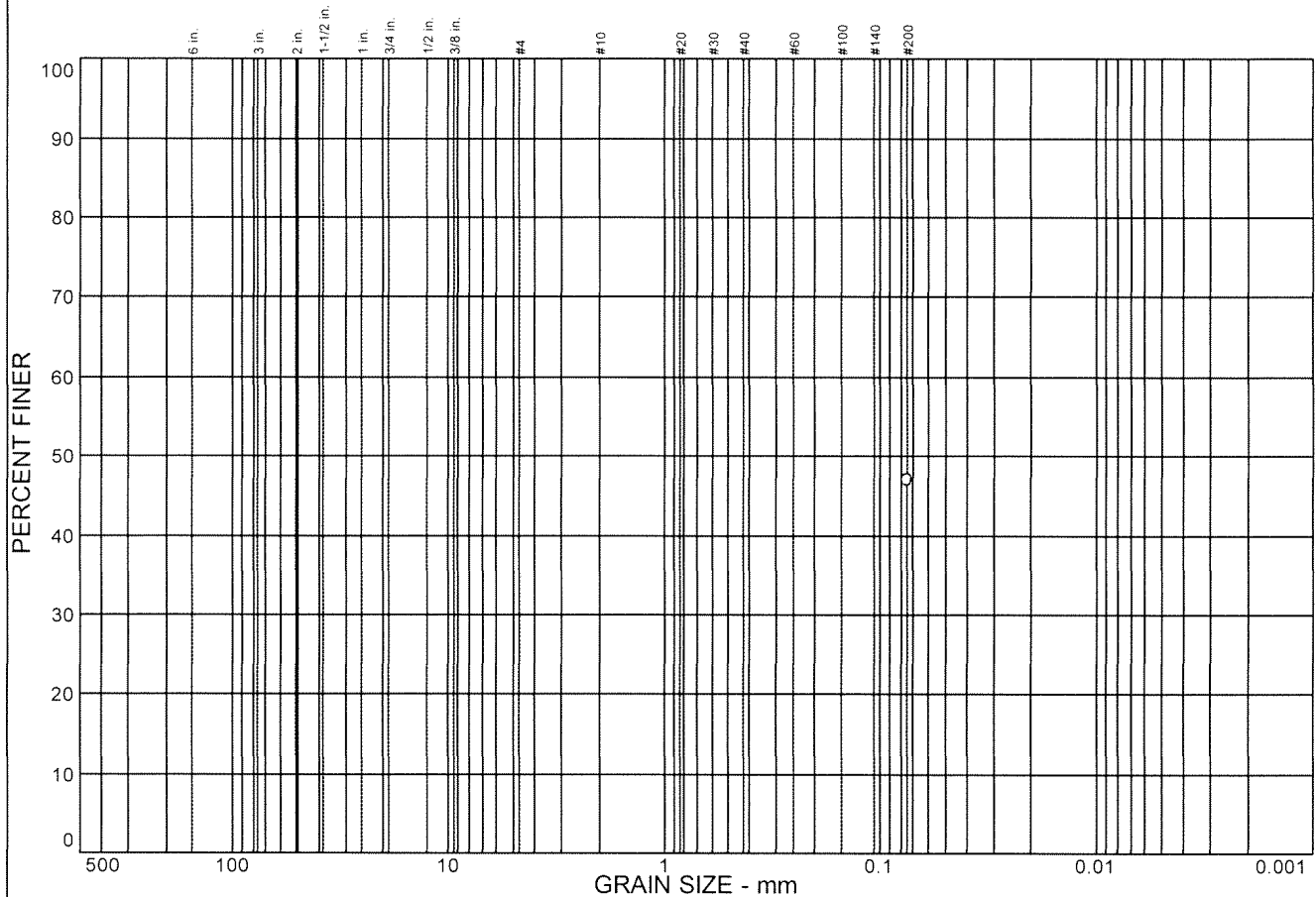
USCS= SC AASHTO=

Remarks

* (no specification provided)

Sample No.: 3@4.5' Source of Sample: Date: 3-21-06
Location: Elev./Depth: 4.5 ft.

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			47.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	47.0		

Soil Description

Olive brown clayey SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification

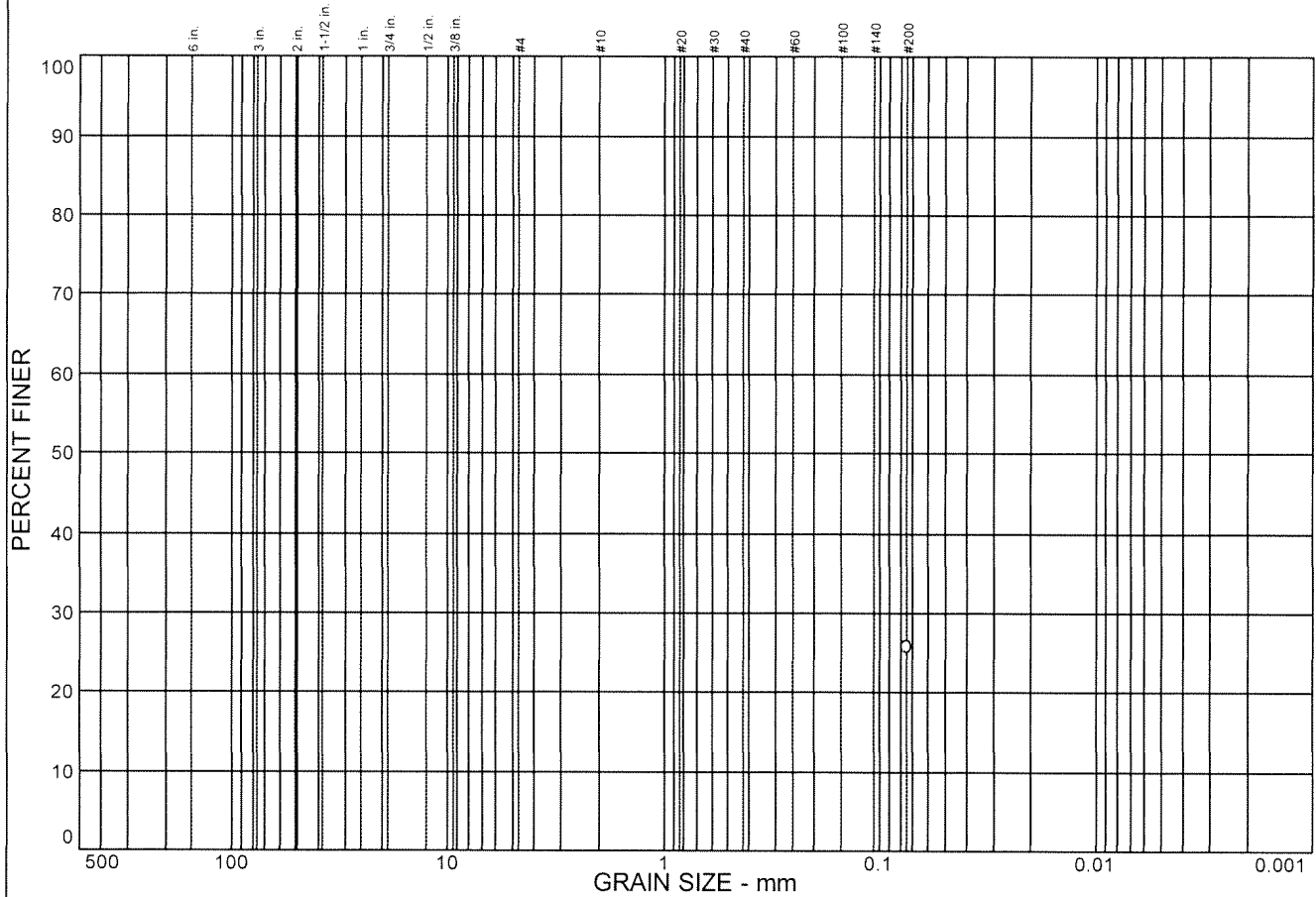
USCS= SC AASHTO=

Remarks

* (no specification provided)

Sample No.: 3@6' Source of Sample: Date: 3-21-06
 Location: Elev./Depth: 6 ft.

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			25.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	25.7		

Soil Description

Light olive brown silty SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: 3@11'
 Location:

Source of Sample:

Date: 3-21-06
 Elev./Depth: 11 ft.

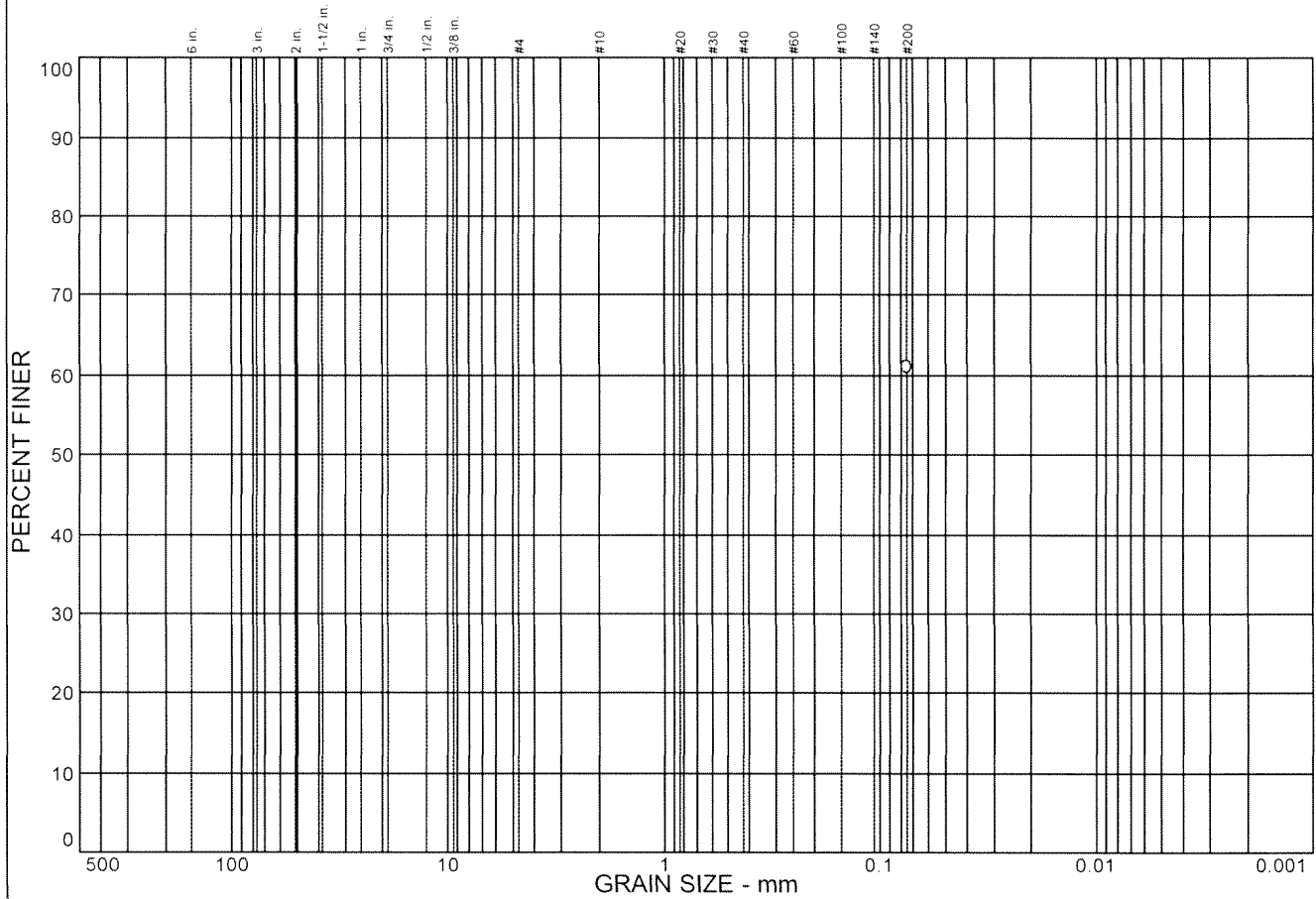


Client:
 Project: Bradshaw's Crossing, Lathrop, CA
 River Islands Rd. 2062

Project No: 5044.4.014.01

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			61.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	61.1		

Soil Description

Very dark grayish brown sandy silty CLAY

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=

D₃₀= D₁₅= D₁₀=

C_u= C_c=

Classification

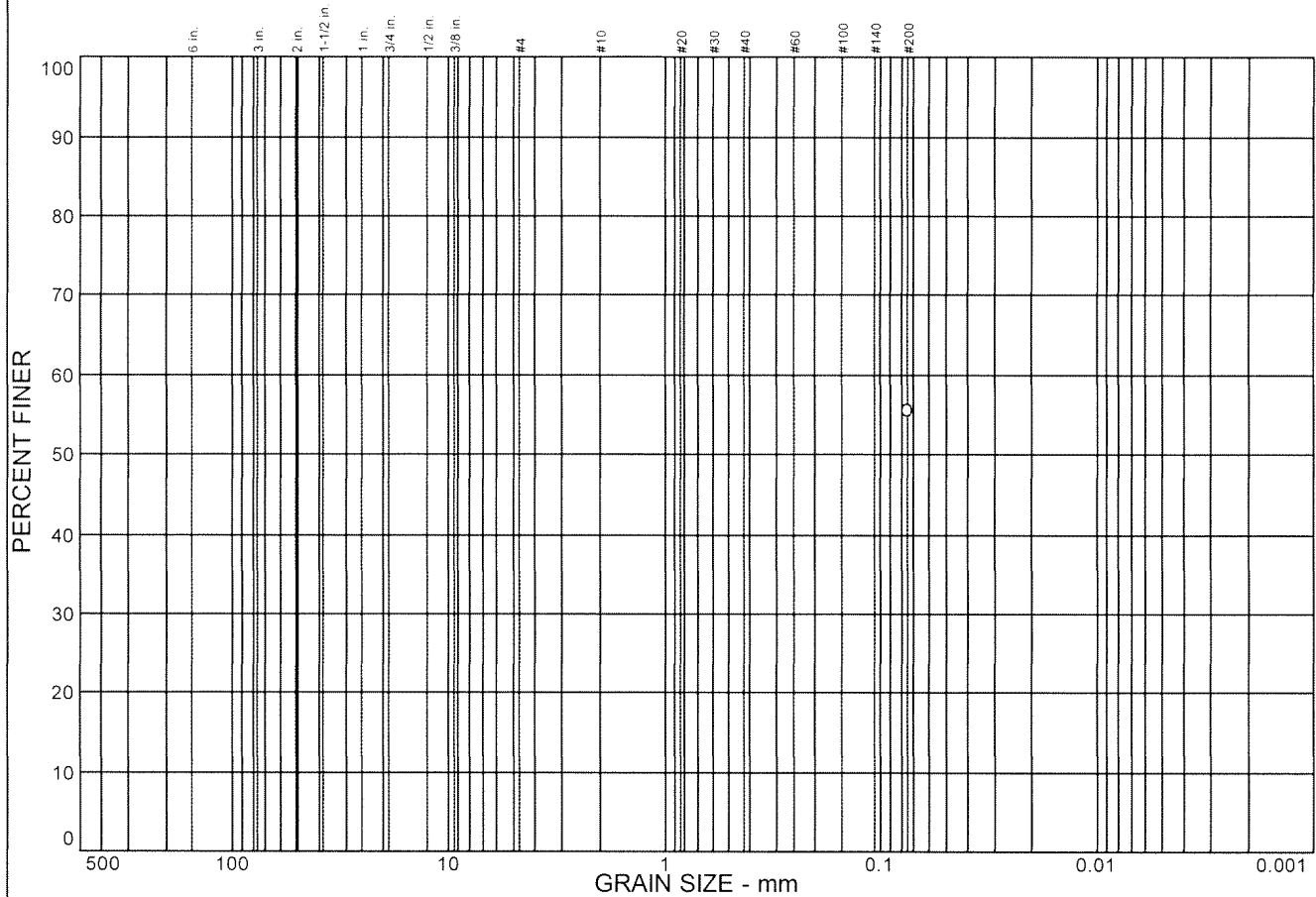
USCS= CL AASHTO=

Remarks

* (no specification provided)

Sample No.: 3@16' **Source of Sample:** **Date:** 3-21-06
Location: **Elev./Depth:** 16 ft.

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			55.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	55.4		

Soil Description

Very dark grayish brown sandy SILT

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

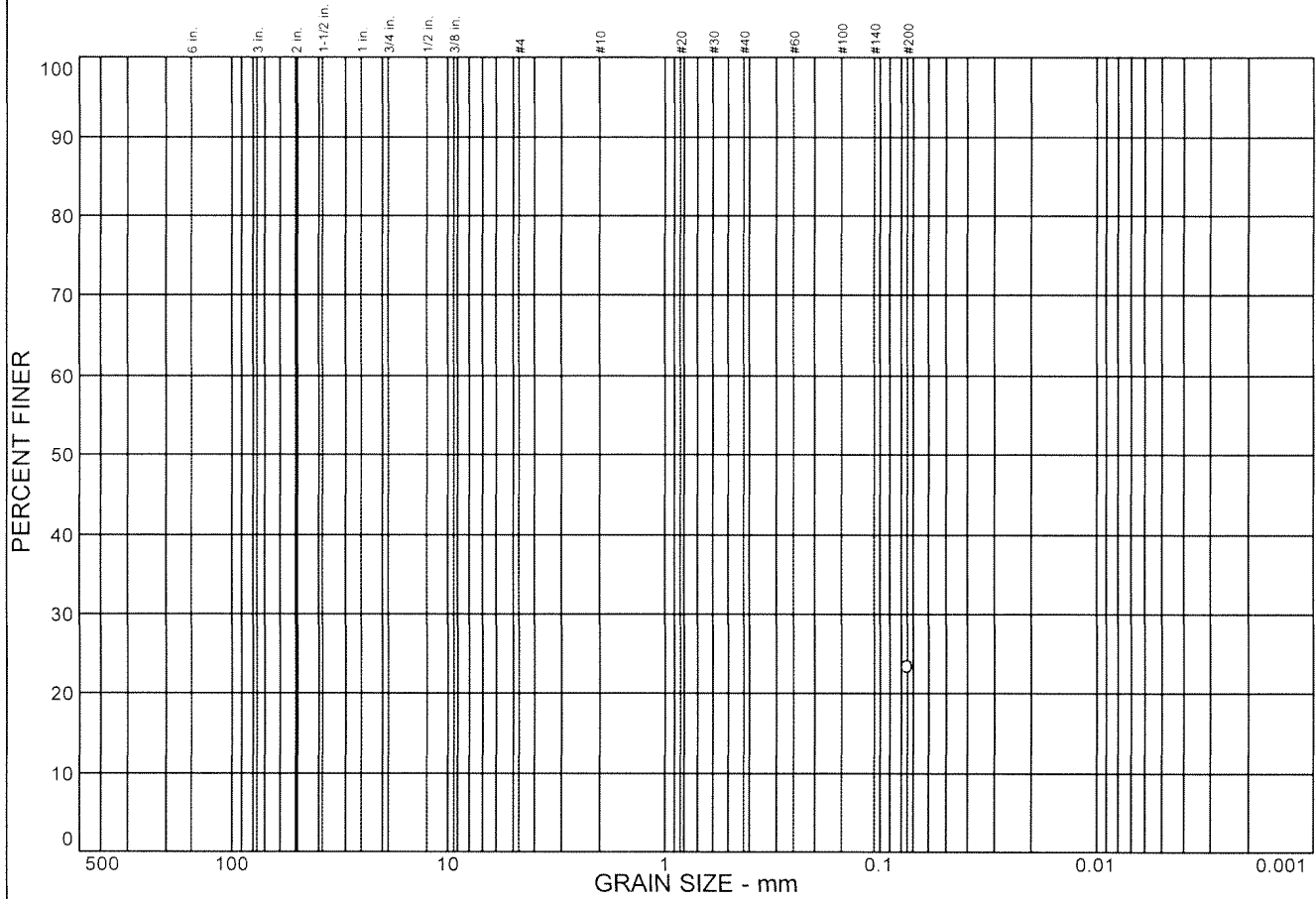
USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: 3@20.5' **Source of Sample:** **Date:** 3-21-06
Location: **Elev./Depth:** 20.5 FT.

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			23.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	23.3		

Soil Description

Very dark grayish brown silty SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

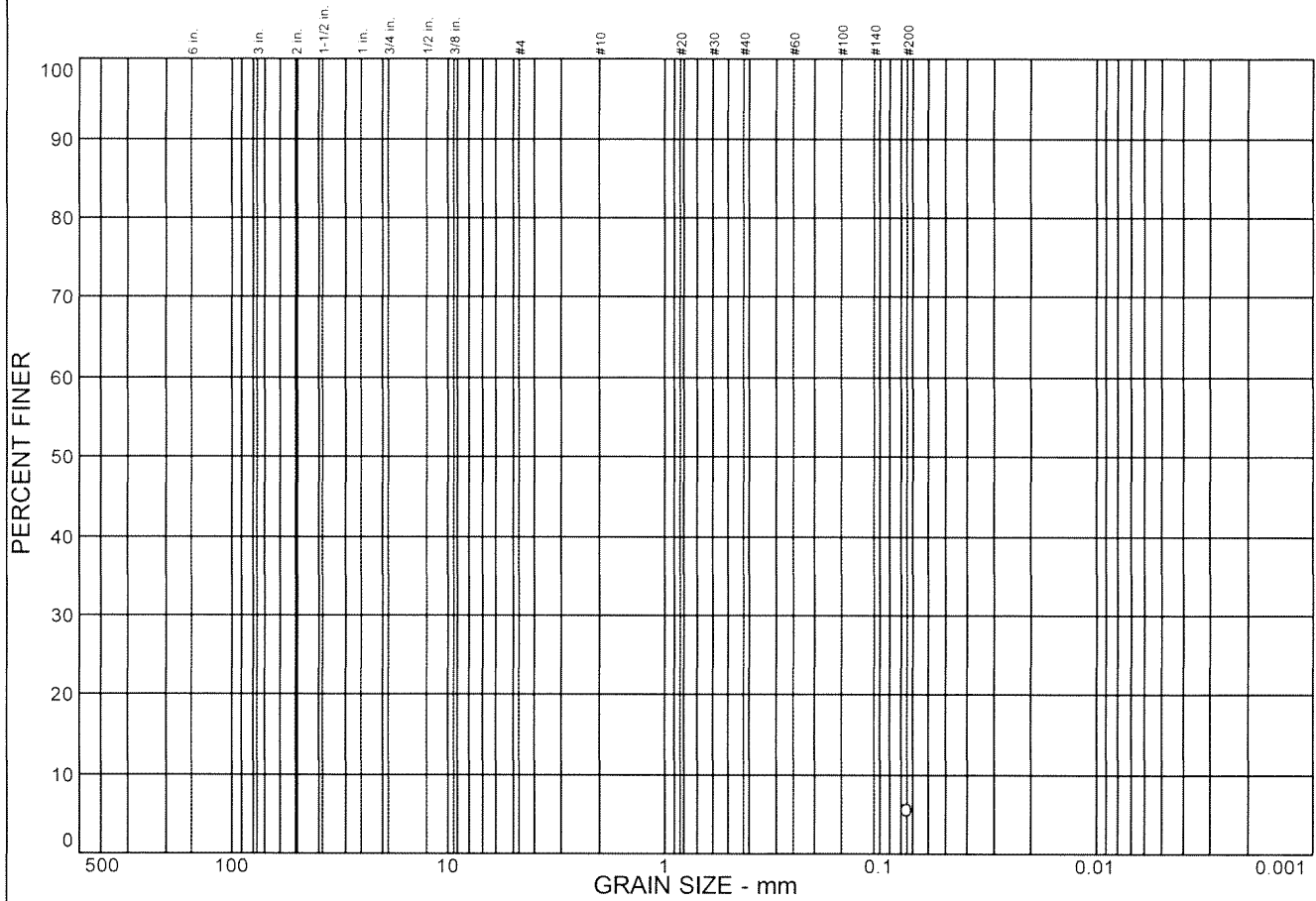
USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: 3@21' **Source of Sample:** **Date:** 3-21-06
Location: **Elev./Depth:** 21 ft.

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			5.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	5.4		

Soil Description

Light olive brown SAND with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification

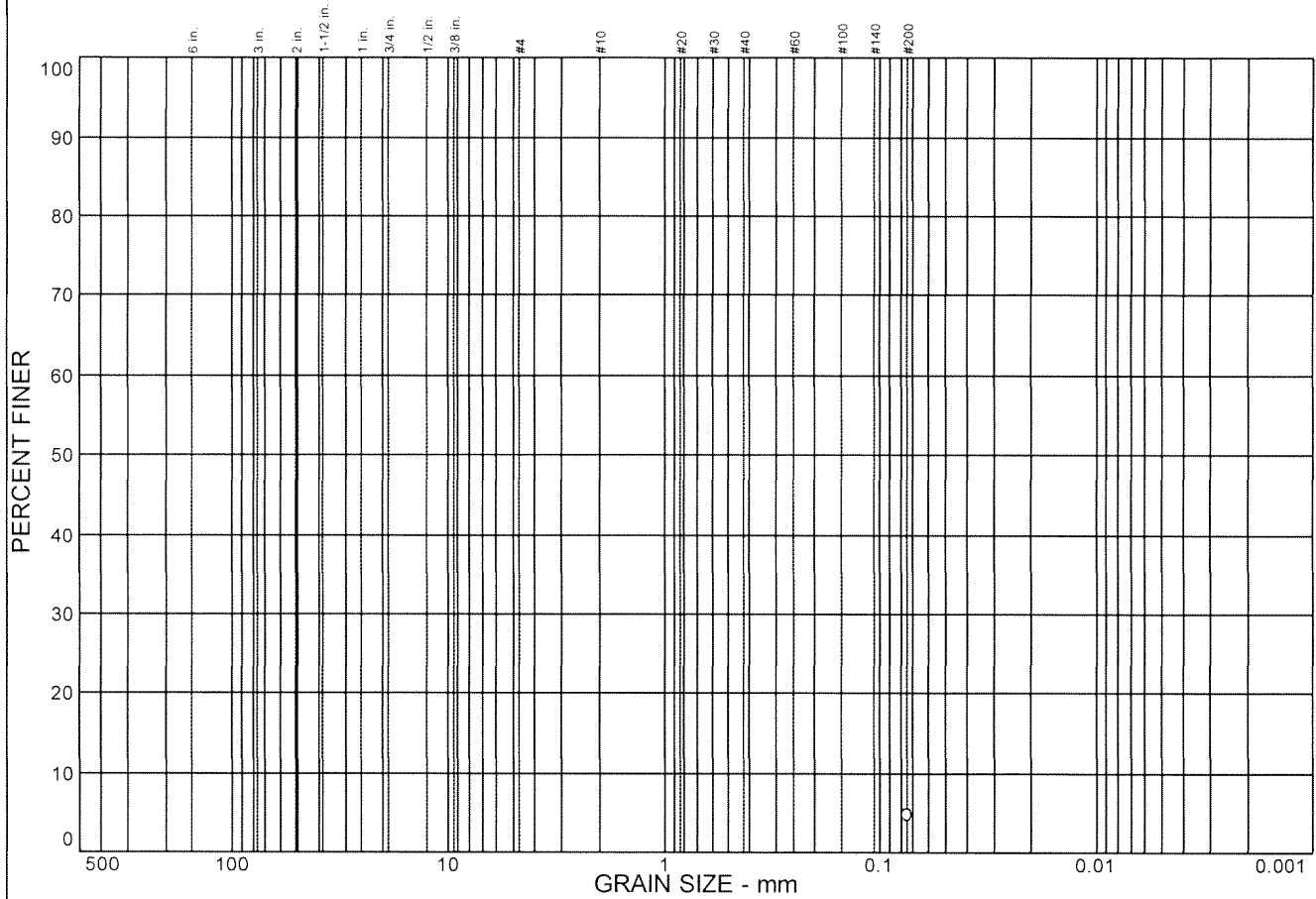
USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample No.: 3@41' **Source of Sample:** **Date:** 3-21-06
Location: **Elev./Depth:** 41 FT.

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			4.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.7		

Soil Description

Light olive brown SAND with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

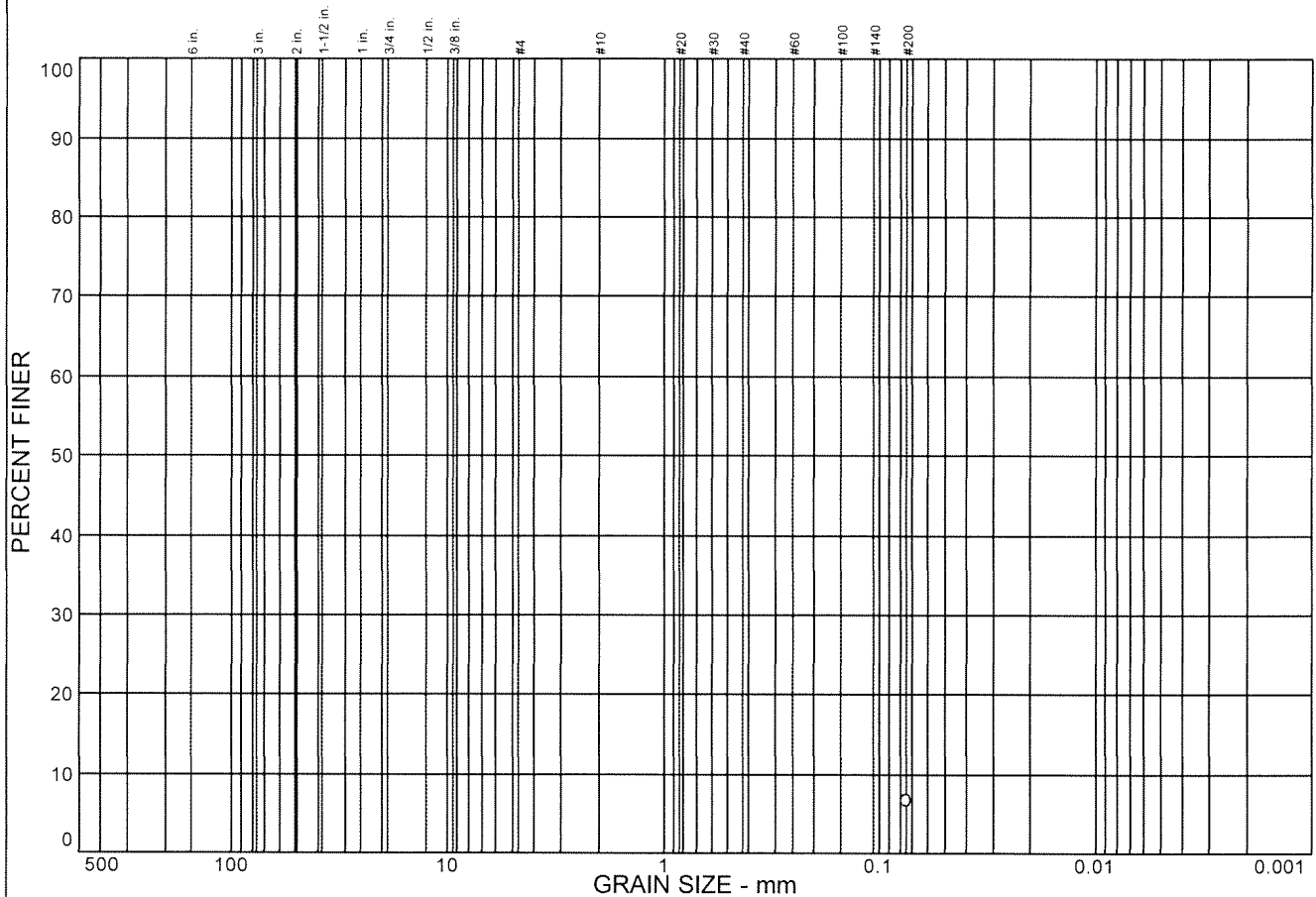
USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample No.: 3@46' **Source of Sample:** **Date:** 3-21-06
Location: **Elev./Depth:** 46 ft.

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			6.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	6.6		

Soil Description

Light olive brown SAND with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

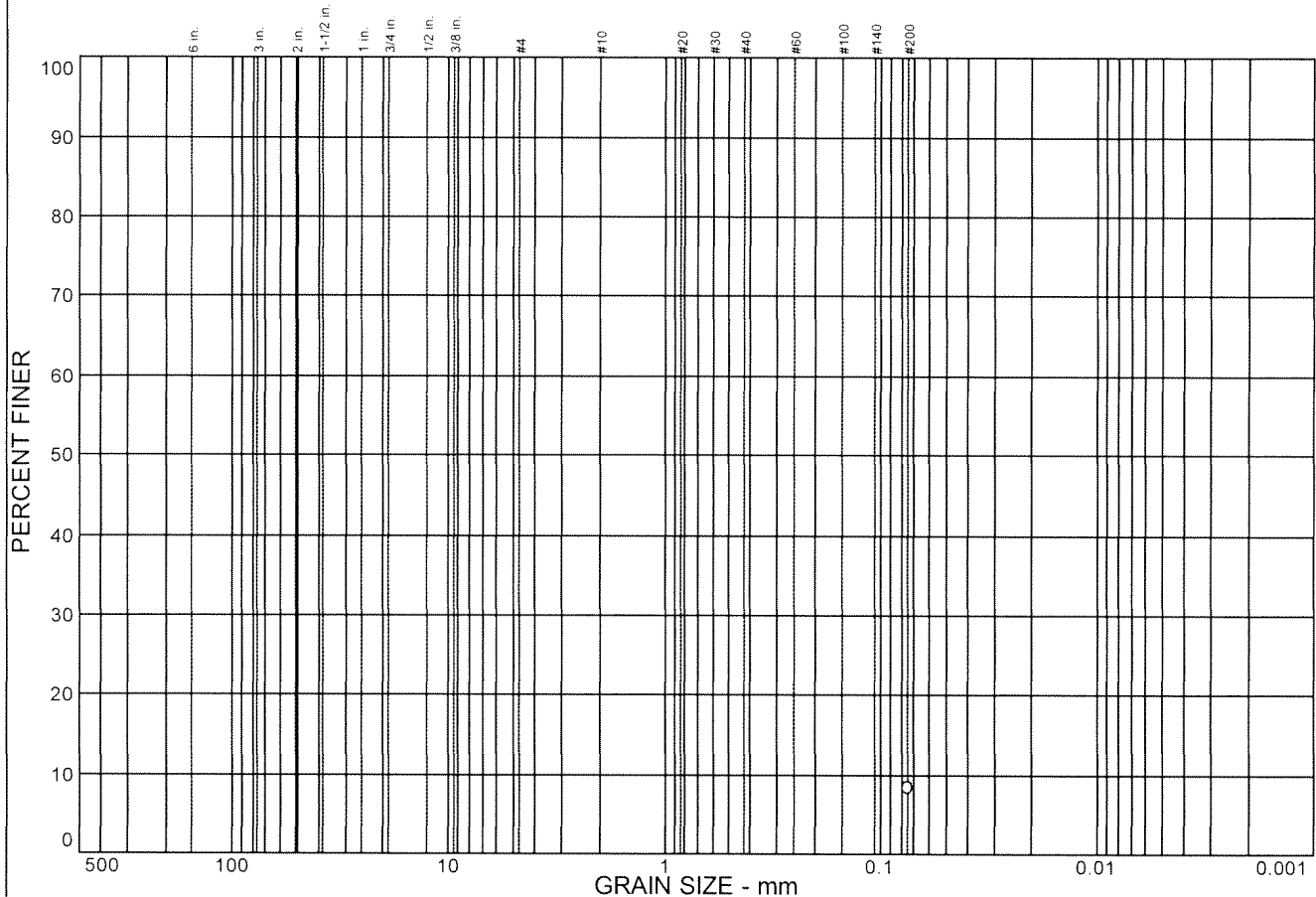
Sample No.: 3@51' Source of Sample: Date: 3-21-06
Location: Elev./Depth: 51 ft.



Client:
Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062

Project No: 5044.4.014.01 **Plate**

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			8.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	8.4		

Soil Description

Dark gray SAND trace silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample No.: 3@111'
 Location:

Source of Sample:

Date: 3-21-06
 Elev./Depth: 111 ft.

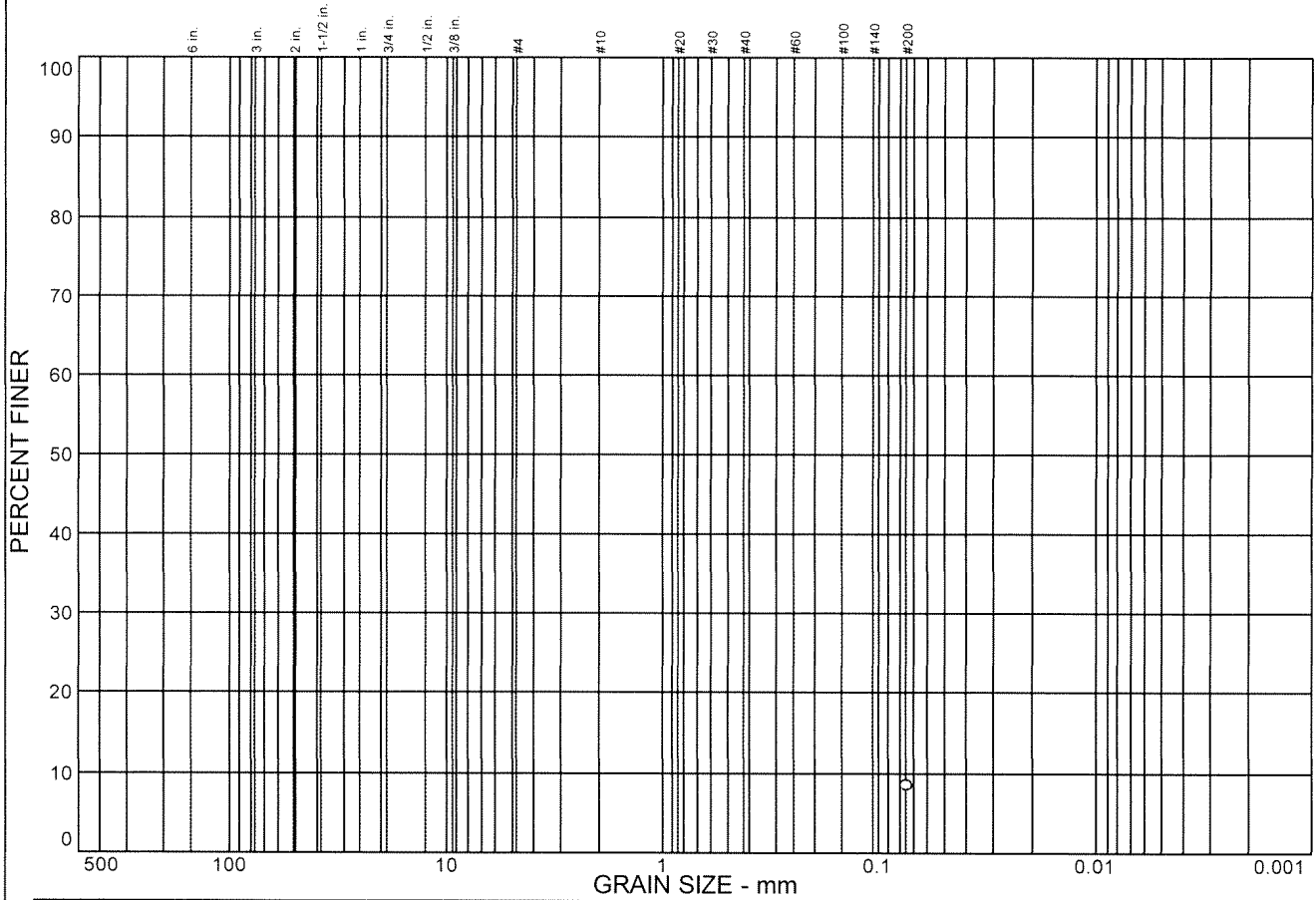


Client:
 Project: Bradshaw's Crossing, Lathrop, CA
 River Islands Rd. 2062

Project No: 5044.4.014.01

Plate

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			8.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	8.4		

Soil Description

Dark gray SAND trace silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample No.: 3@111'
Location:

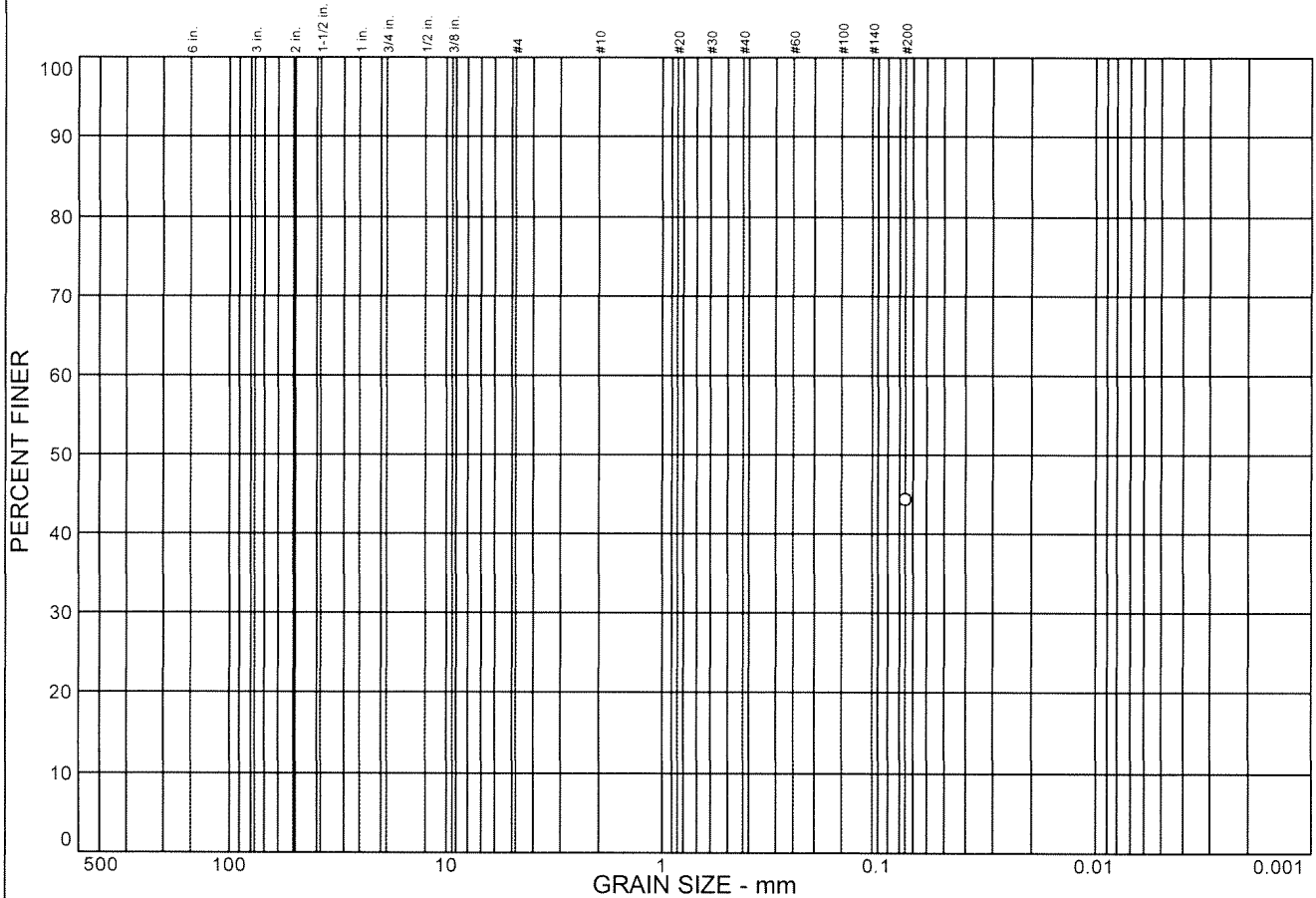
Source of Sample:

Date: 3-21-06
Elev./Depth: 111 ft.



Client:
Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062
Project No.: 5044.4.014.01

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			44.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	44.2		

Soil Description

Dark grayish brown sandy SILT

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: 4@3'
Location:

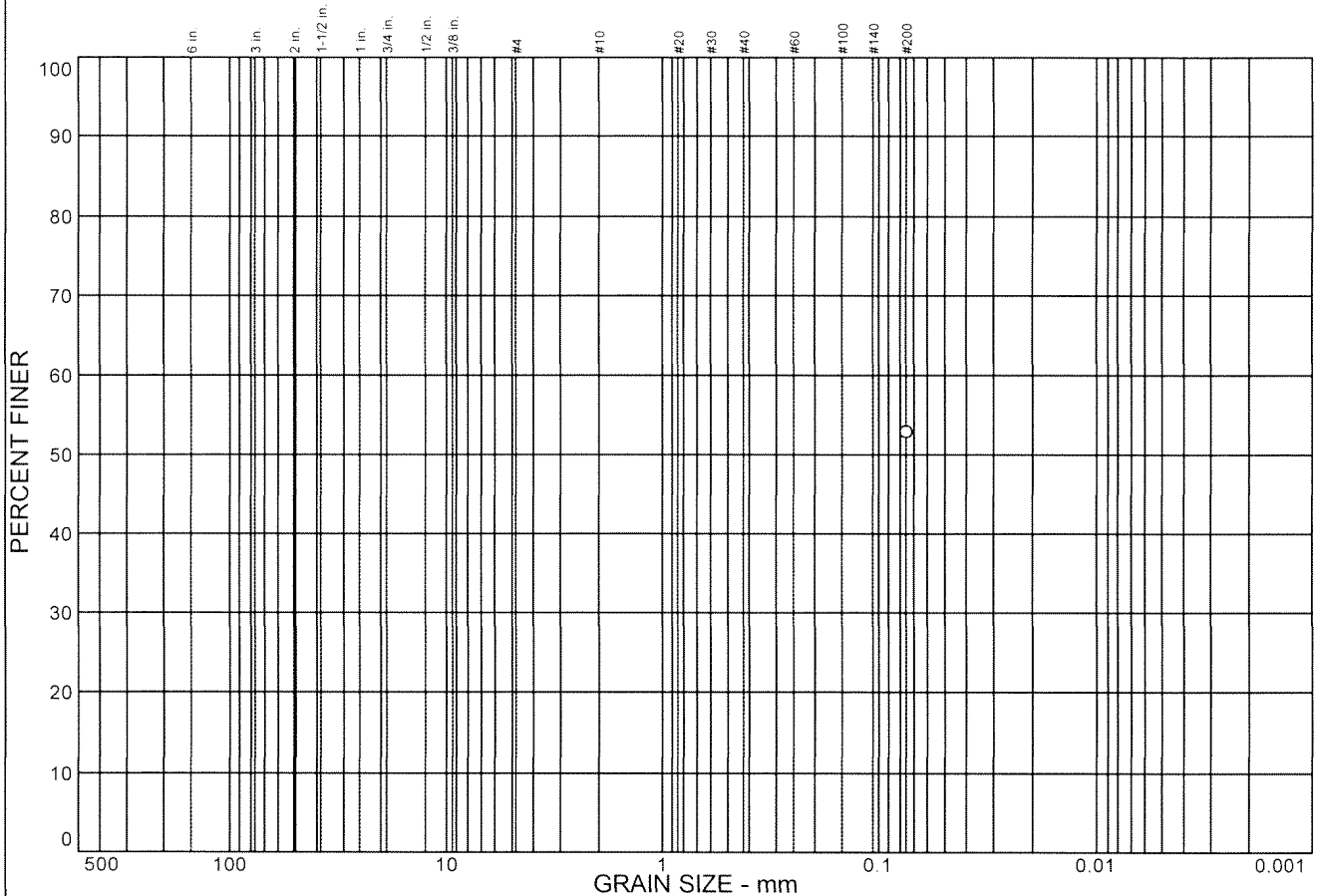
Source of Sample:

Date: 3-21-06
Elev./Depth: 3 ft.



Client:
Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062
Project No: 5044.4.014.01

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			52.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	52.7		

Soil Description

Dark grayish brown sandy SILT

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: 4@4.5'
Location:

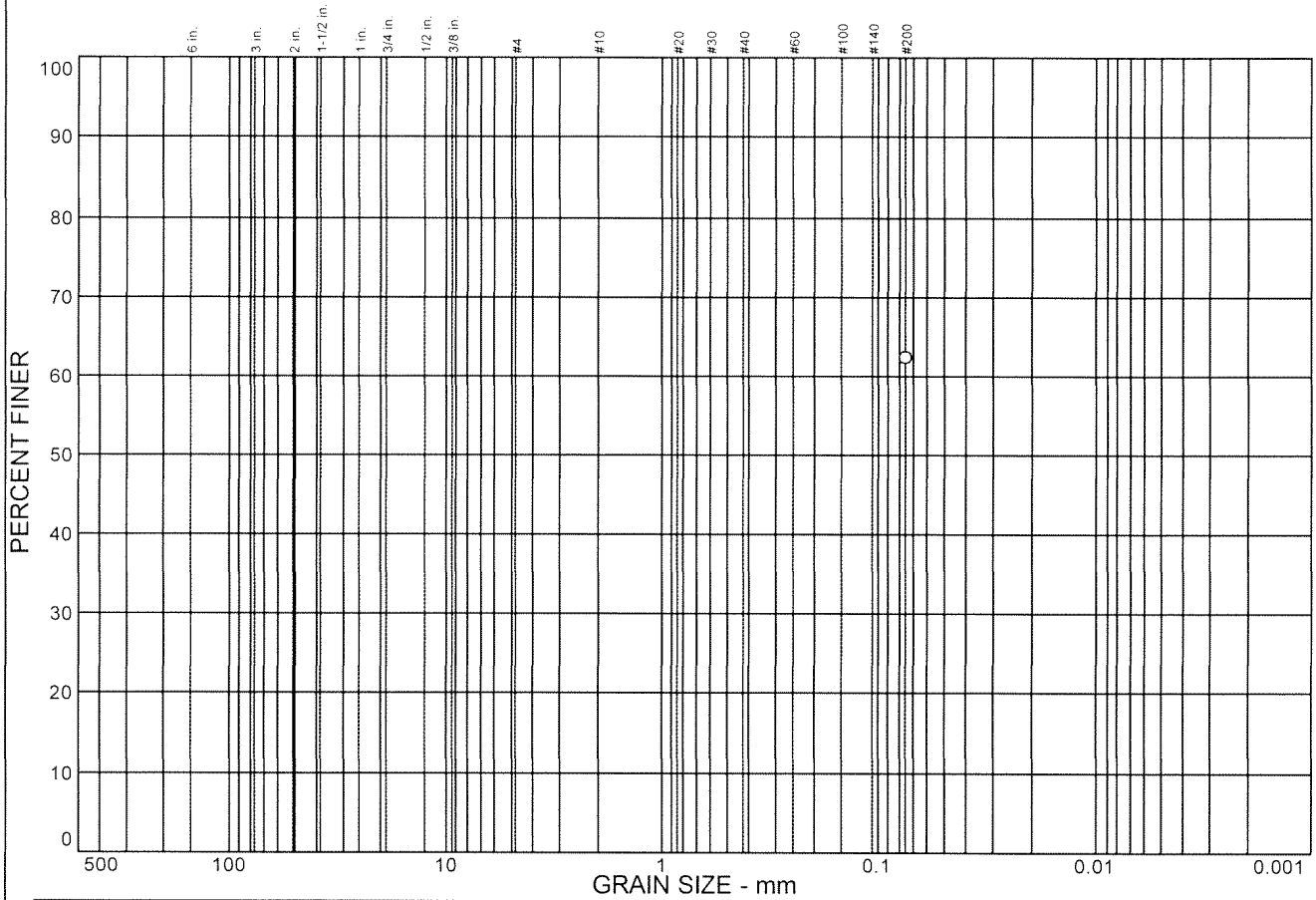
Source of Sample:

Date: 3-21-06
Elev./Depth: 4.5 ft.



Client:
Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062
Project No.: 5044.4.014.01

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			62.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	62.3		

Soil Description

Dark grayish brown sandy SILT

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: 4@10.5'
Location:

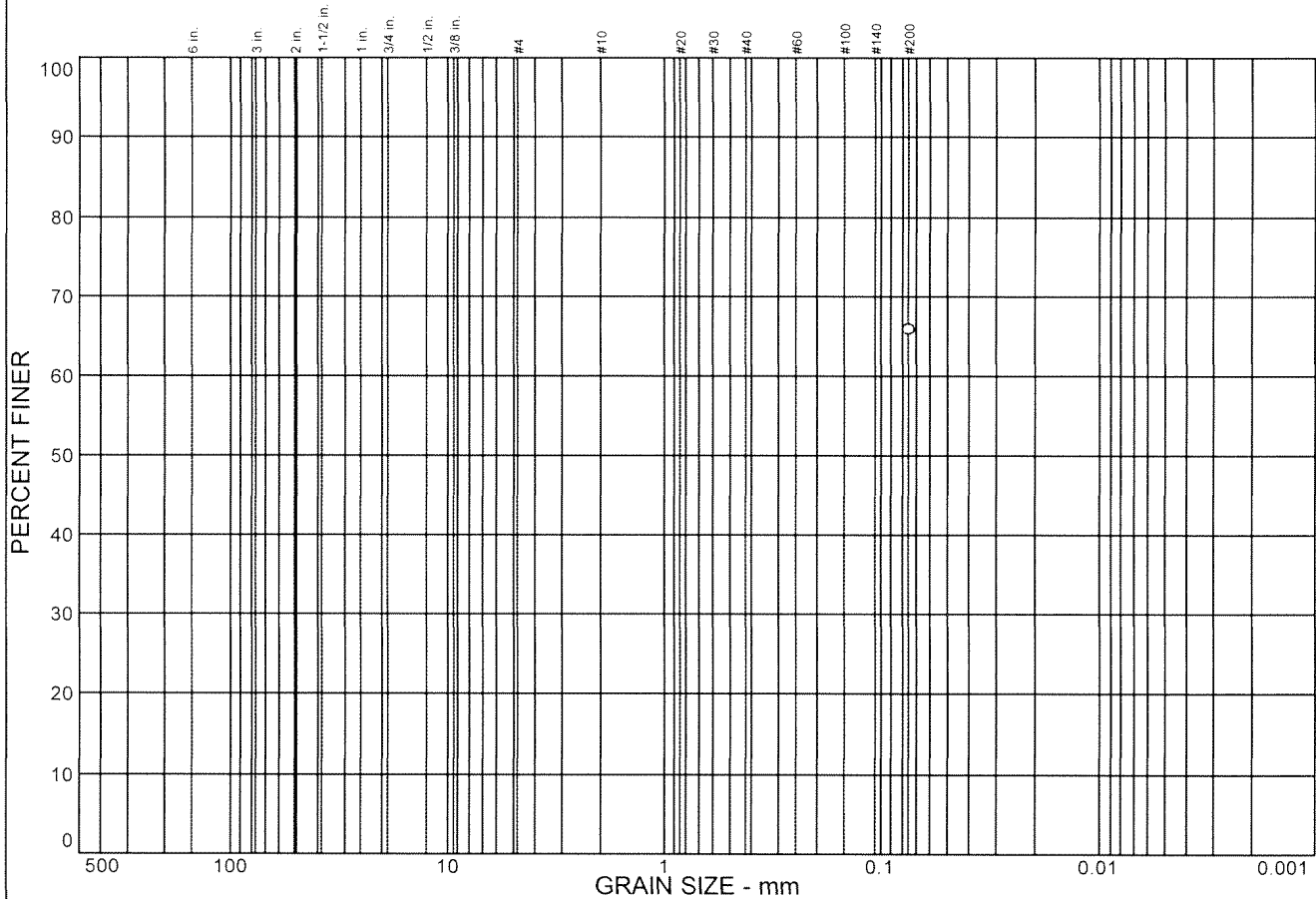
Source of Sample:

Date: 3-21-06
Elev./Depth: 10.5 ft.



Client:
Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062
Project No: 5044.4.014.01

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			65.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	65.8		

Soil Description

Dark grayish brown silty SAND

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: 4@11'
Location:

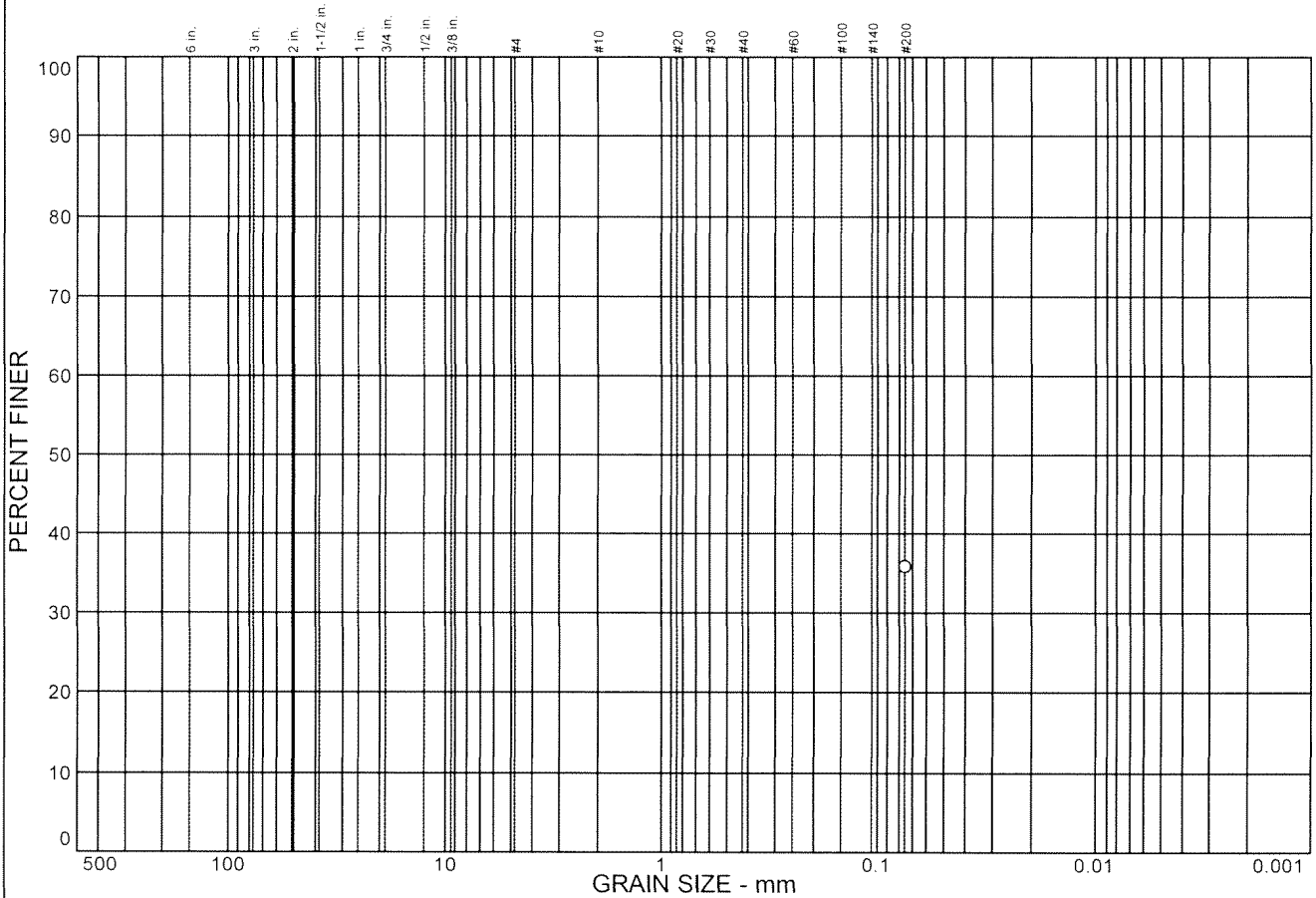
Source of Sample:

Date: 3-21-06
Elev./Depth: 11 FT.



Client:
Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062
Project No: 5044.4.014.01

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			35.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	35.7		

Soil Description

Dark brown sandy SILT

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: 4@16'
Location:

Source of Sample:

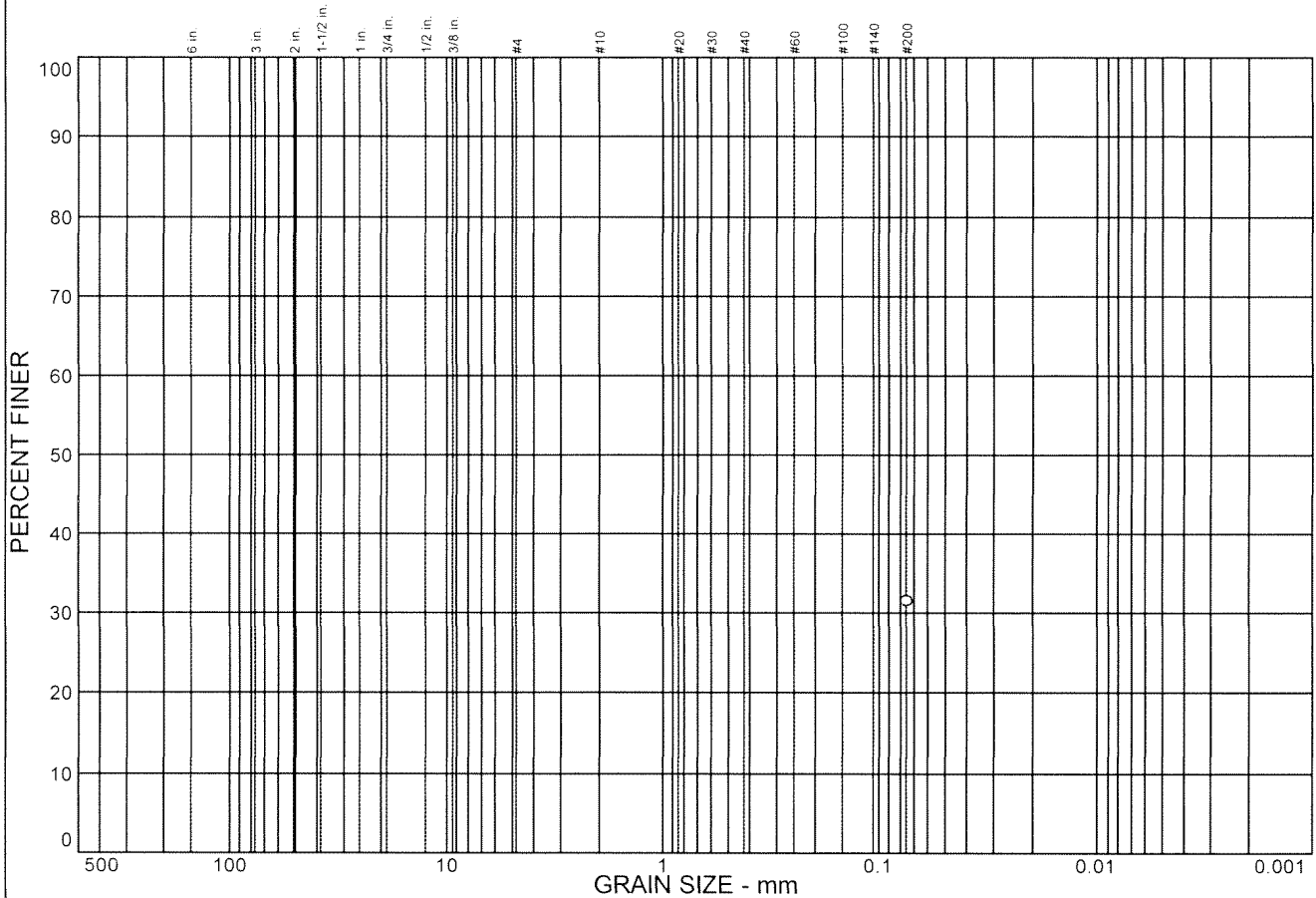
Date: 3-21-06
Elev./Depth: 16 ft.



Client:
Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062

Project No.: 5044.4.014.01

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			31.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	31.5		

Soil Description

Grayish brown sandy SILT

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: 4@21'
 Location:

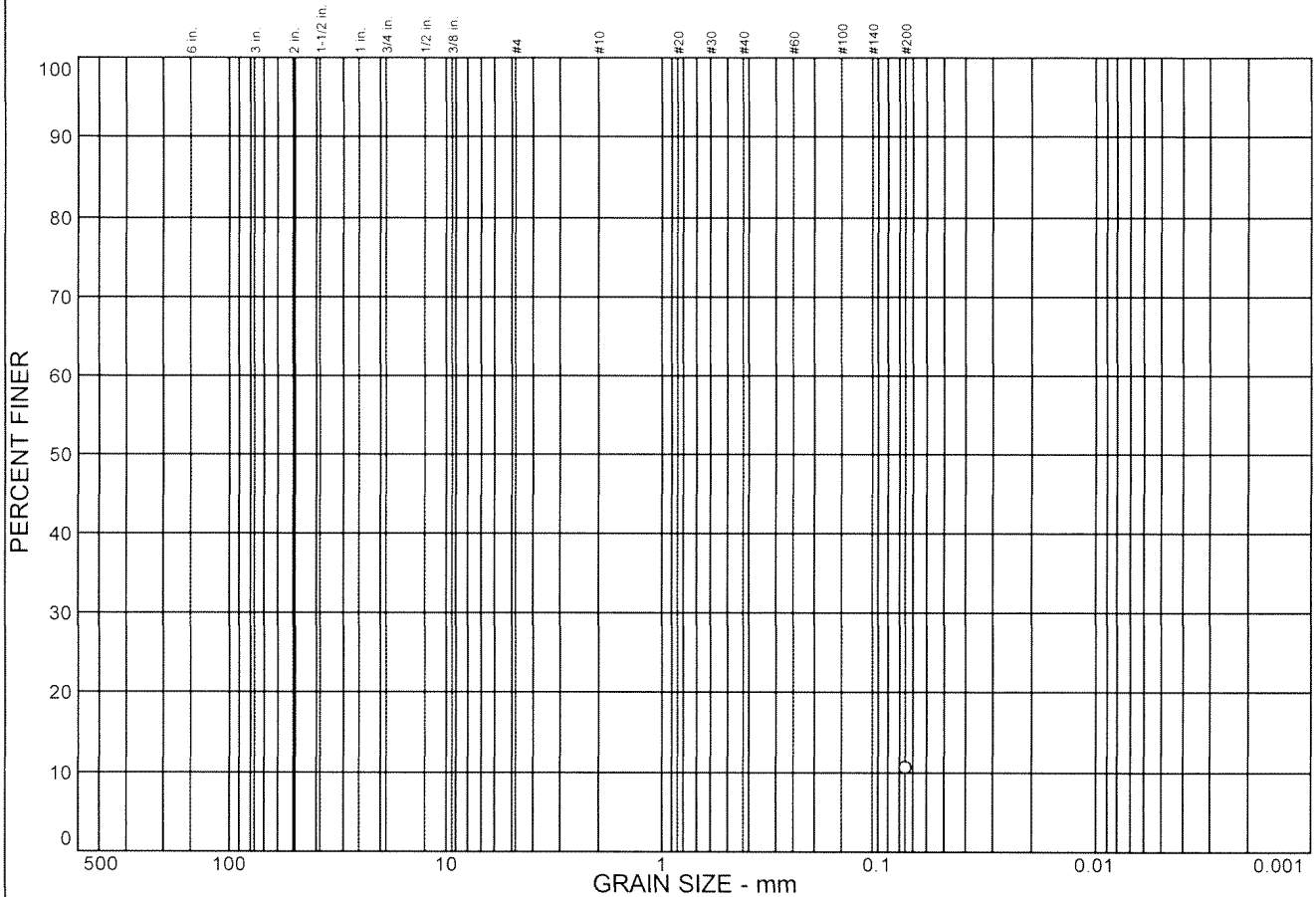
Source of Sample:

Date: 3-21-06
 Elev./Depth: 21 ft.



Client:
Project: Bradshaw's Crossing, Lathrop, CA
 River Islands Rd. 2062
Project No: 5044.4.014.01

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
				10.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	10.4		

Soil Description

Dark yellowish brown SAND with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample No.: 4@36'
 Location:

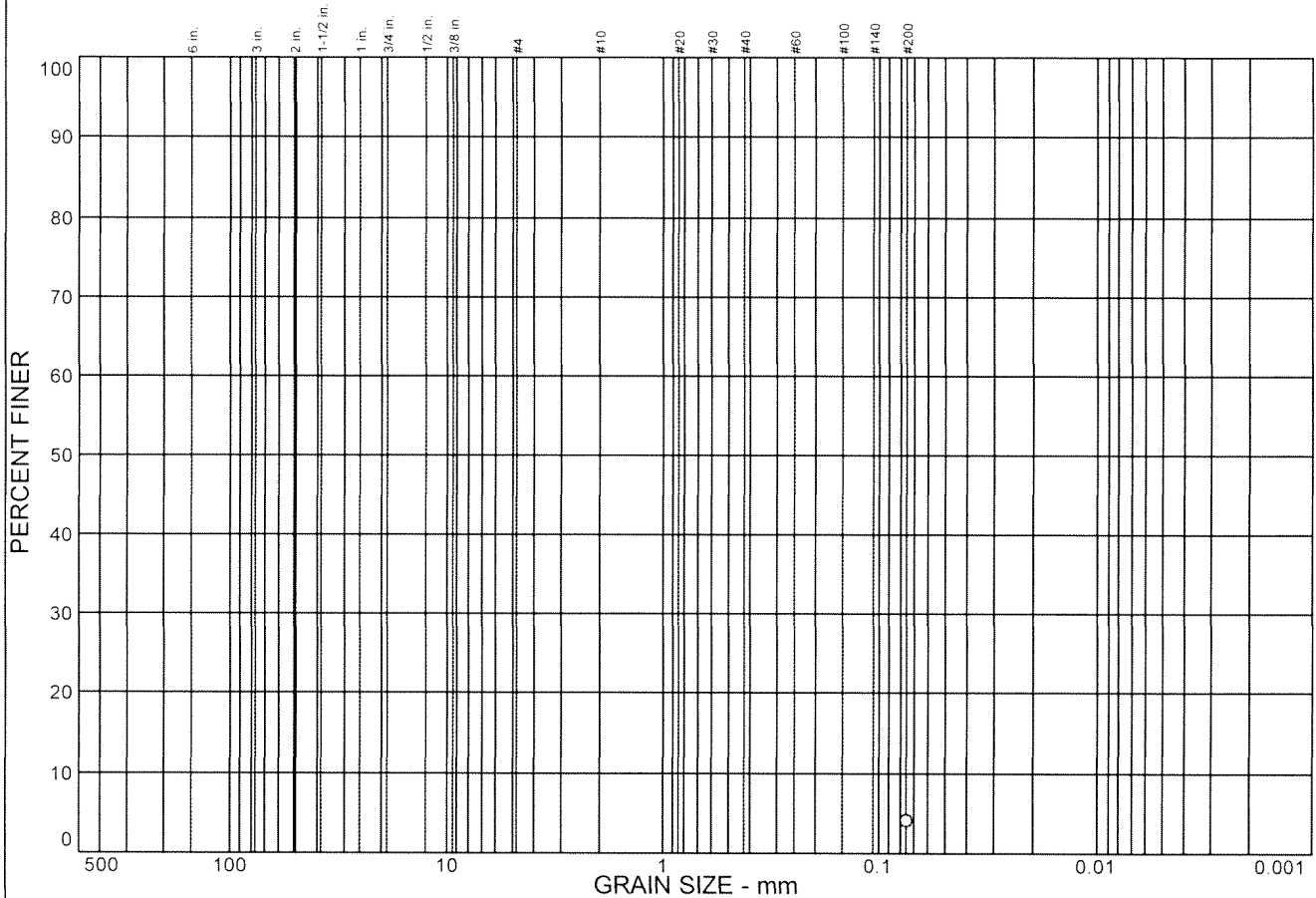
Source of Sample:

Date: 3-21-06
 Elev./Depth: 36 ft.



Client:
 Project: Bradshaw's Crossing, Lathrop, CA
 River Islands Rd. 2062
 Project No: 5044.4.014.01

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			4.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.0		

Soil Description

Olive brown SAND with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: 4@41'
Location:

Source of Sample:

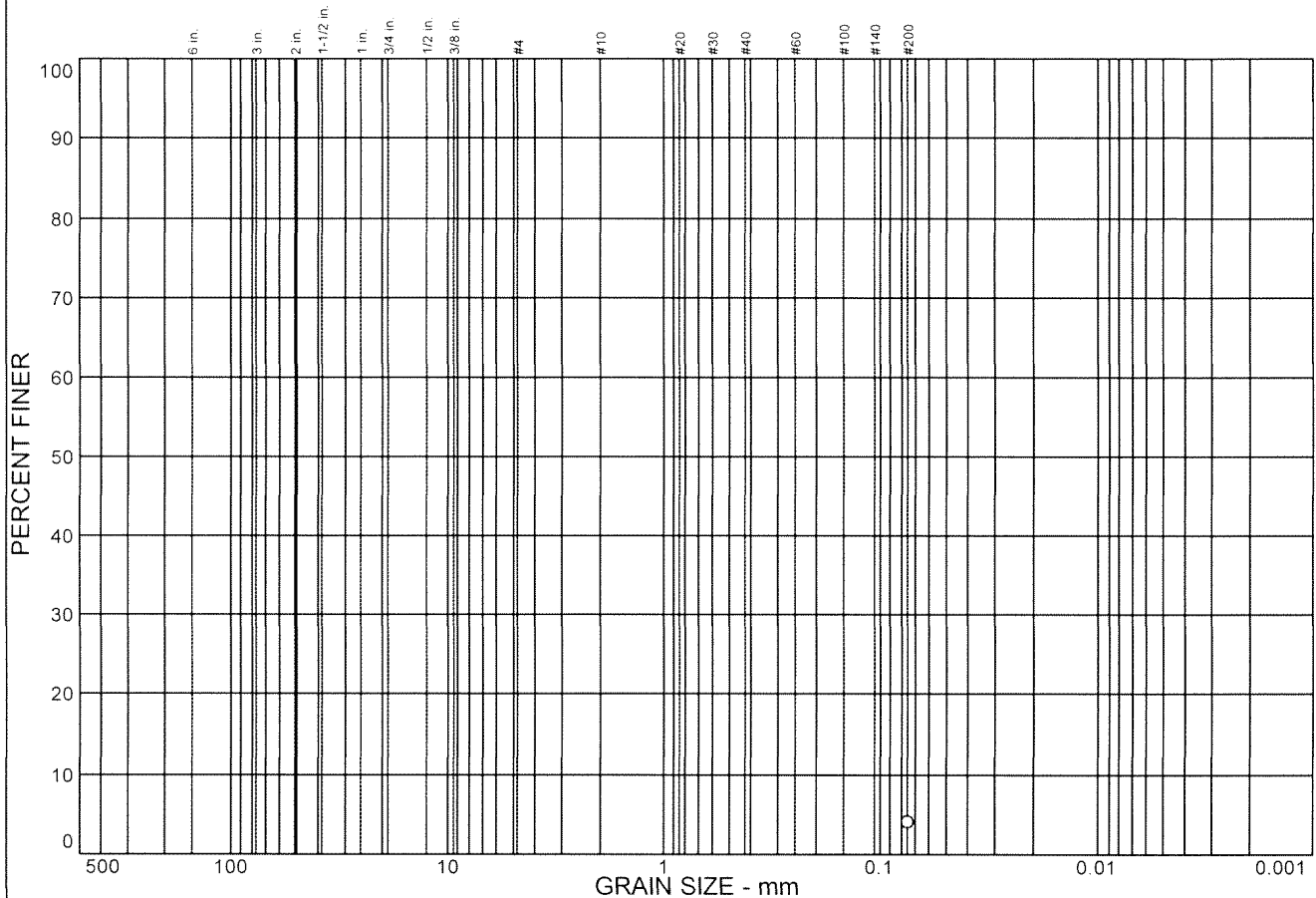
Date: 3-21-06
Elev./Depth: 41 ft.



Client:
Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062

Project No.: 5044.4.014.01

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			3.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	3.9		

Soil Description

Olive brown SAND. Trace silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample No.: 4@46'
Location:

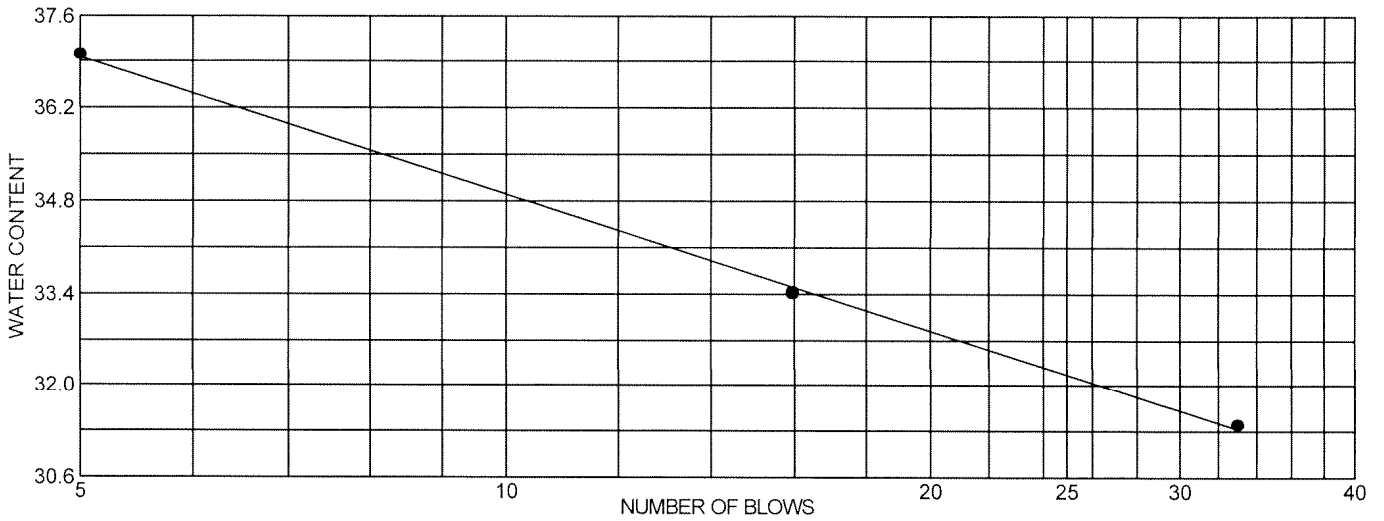
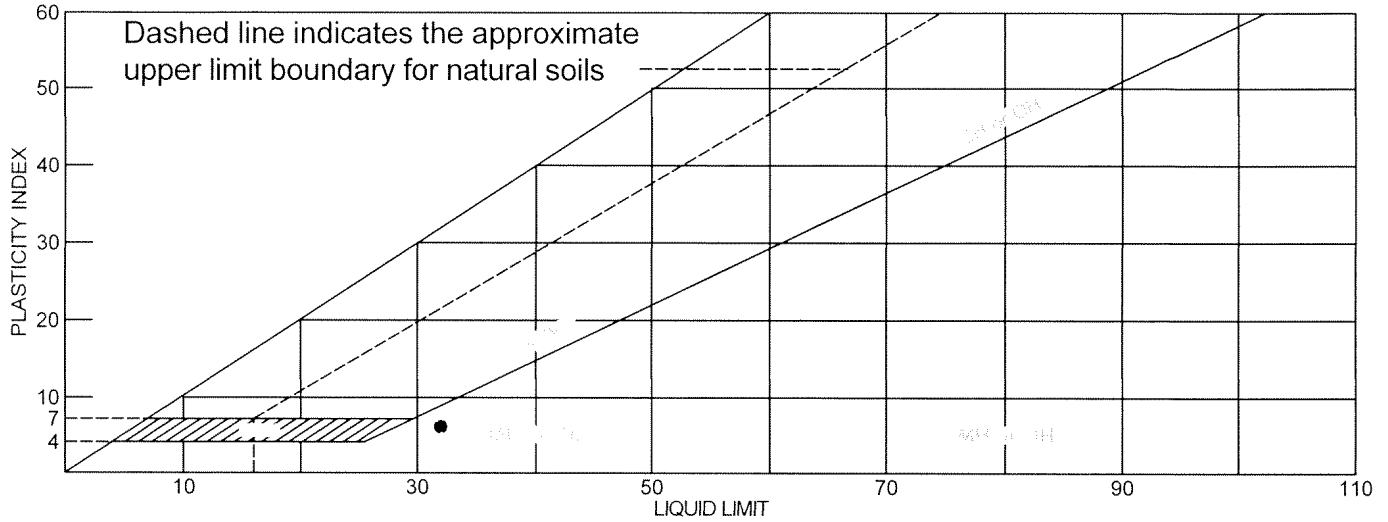
Source of Sample:

Date: 3-21-06
Elev./Depth: 46 ft.



Client:
Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062
Project No.: 5044.4.014.01

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Light gray SILT	32	26	6			ML

Project No. 5044.4.014.01 **Client:**

Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062

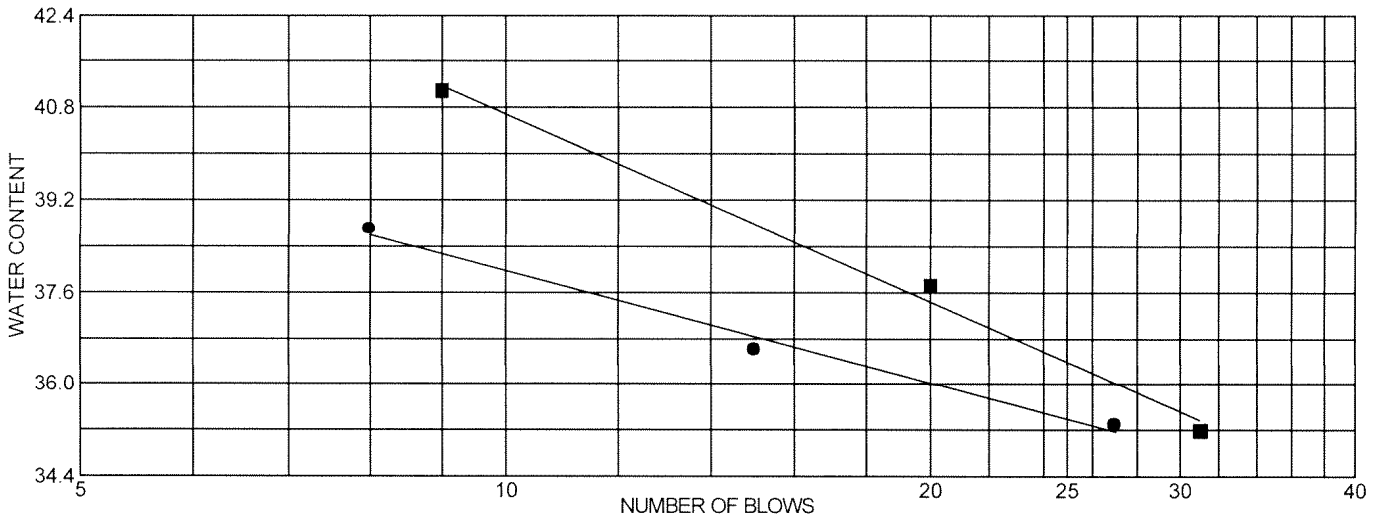
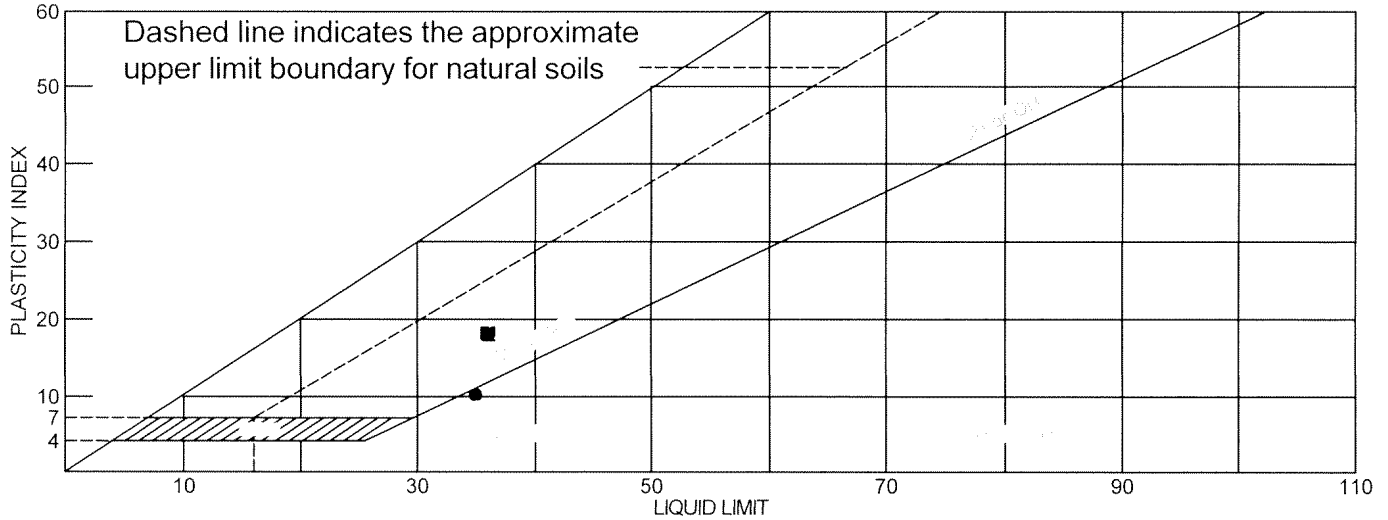
● **Source:**

Sample No.: 3@26'

Remarks:

● 3@26'

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Grayish brown silty CLAY to clayey SILT	35	25	10			CL-ML
■	Olive gray sandy silty CLAY	36	18	18			CL

Project No. 5044.4.014.01 **Client:**

Project: Bradshaw's Crossing, Lathrop, CA
River Islands Rd. 2062

● **Source:**

Sample No.: 4@26

■ **Source:**

Sample No.: 4@81

Remarks:

- 4@26'
- 4@81'

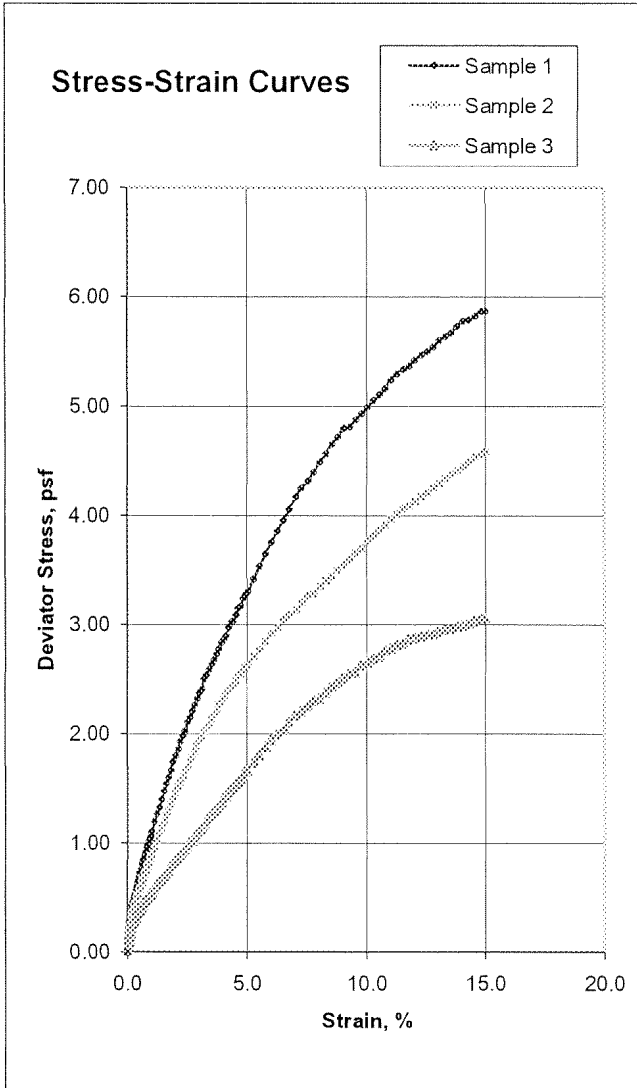
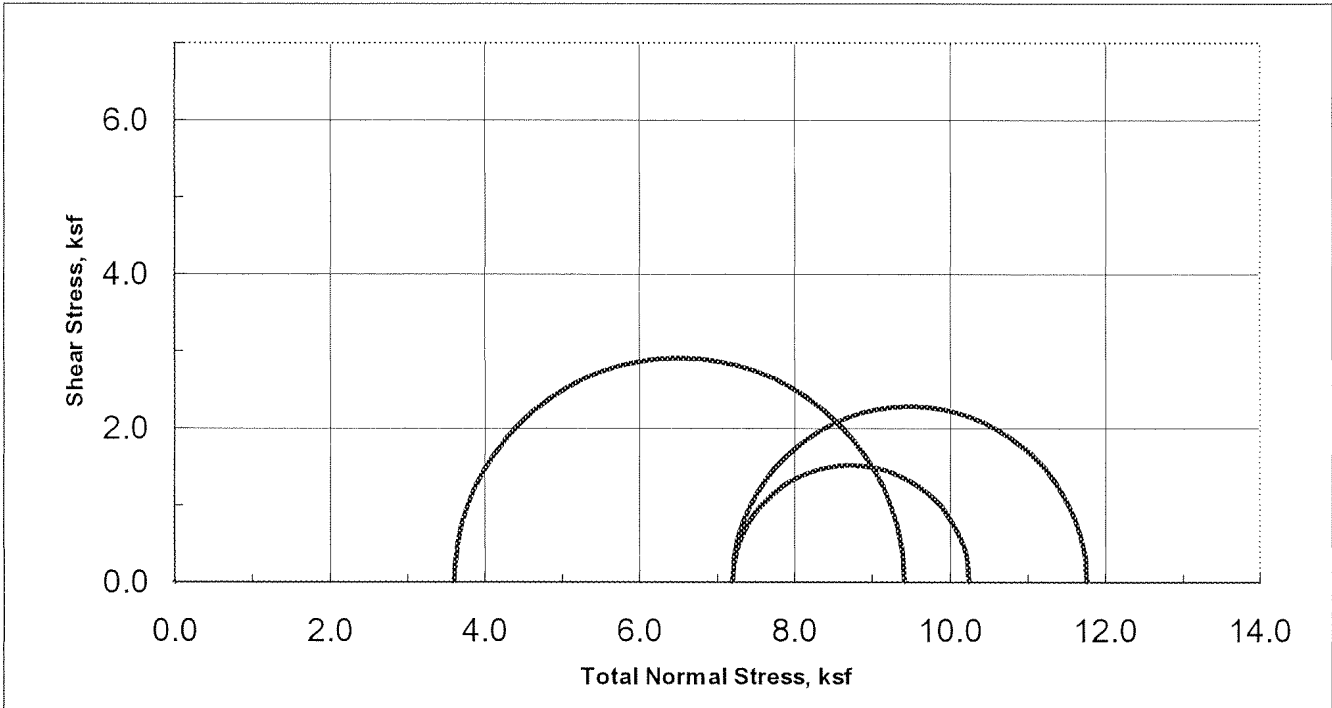


GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS
MATERIALS TESTING



Unconsolidated-Undrained Triaxial Test

ASTM D-2850



Sample Data			
	1	2	3
Moisture %	31.2	24.6	29.6
Dry Den, psf	92.2	102.3	94.5
Void Ratio	0.862	0.678	0.816
Saturation %	99.5	99.5	99.9
Height in	5.05	5.00	4.98
Diameter in	2.41	2.42	2.43
Cell psi	25.0	50.0	50.0
Strain %	14.80	15.00	14.80
Deviator, ksf	5.862	4.579	3.051
Rate %/min	0.99	1.00	1.00
in/min	0.050	0.050	0.050
Job No.:	414-022b		
Client:	ENGEO		
Project:	Bradshaw's Crossing - 5044.4.0		
Boring:	A3	A3	A4
Sample:			
Depth ft:	30.5	81	80.5

Visual Soil Description	
Sample #	
1	Light Greenish Gray SILT (slightly Silty CLAY)
2	Greenish Gray SILT (slightly plast)
3	Greenish Gray SILT (slightly plast)
4	

Remarks:



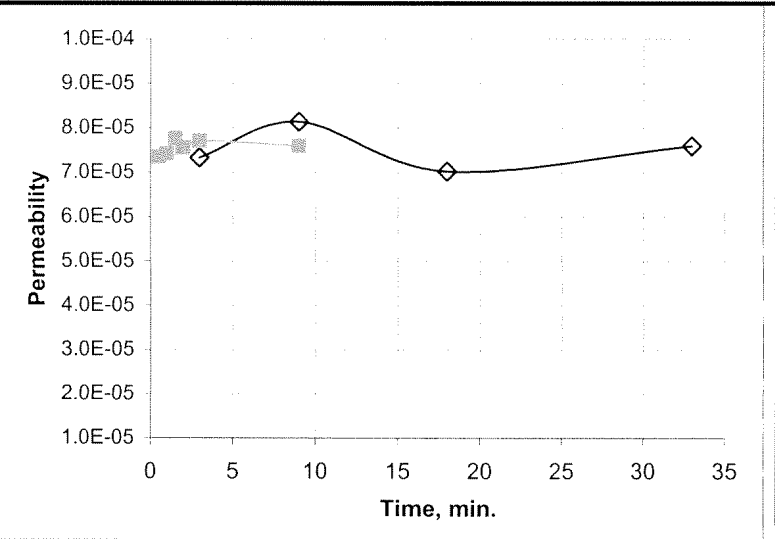
Hydraulic Conductivity
ASTM D 5084
 Method C: Falling Head Rising Tailwater

Job No: 414-022 Boring: A3 Date: 03/23/06
 Client: Engeo Sample: By: MD/PJ
 Project: Bradshaw's Crossing - 5044.4.014.01 Depth, ft.: 3 Remolded:
 Visual Classification: Brown silty Sand

Max Sample Pressures, psi:			
Cell:	Bottom	Top	Avg. Sigma 3
73.5	69	68.5	4.75

B: = >0.95 ("B" is an indication of saturation)
Max Hydraulic Gradient: = 13

Date	Minutes	Head, (in)	K, cm/sec
3/13/2006	0.00	28	Start of Test
3/13/2006	3.00	25.00	7.3E-05
3/13/2006	9.00	19.20	8.1E-05
3/13/2006	18.00	14.60	7.0E-05
3/13/2006	33.00	7.70	7.6E-05
3/13/2006	0.50	96.53	7.3E-05
3/13/2006	1.00	94.73	7.4E-05
3/13/2006	1.50	92.73	7.8E-05
3/13/2006	2.00	91.13	7.6E-05
3/13/2006	3.00	87.53	7.7E-05
3/13/2006	9.00	69.73	7.6E-05



Average Permeability: 8.E-05 cm/sec

Sample Data:	Initial	Final
Height, in	2.96	2.94
Diameter, in	2.42	2.40
Area, in ²	4.60	4.52
Volume in ³	13.61	13.30
Total Volume, cc	223.1	218.0
Volume Solids, cc	131.6	131.6
Volume Voids, cc	91.5	86.3
Void Ratio	0.7	0.7
Porosity, %	41.0	39.6
Saturation, %	57.0	94.2
Specific Gravity	2.65 Assumed	2.65
Wet Weight, gm	400.9	430.1
Dry Weight, gm	348.8	348.8
Tare, gm	0.00	0.00
Moisture, %	14.9	23.3
Dry Density, pcf	97.6	99.9

Remarks:



Hydraulic Conductivity
ASTM D 5084
 Method C: Falling Head Rising Tailwater

Job No: 414-022 Boring: A4 Date: 03/23/06
 Client: Engeo Sample: _____ By: MD/PJ
 Project: Bradshaw's Crossing - 5044.4.014.01 Depth, ft.: 6 Remolded: _____
Visual Classification: Brown Clayey SAND Change to Yellowish Brown Silty SAND (clayey end tested)

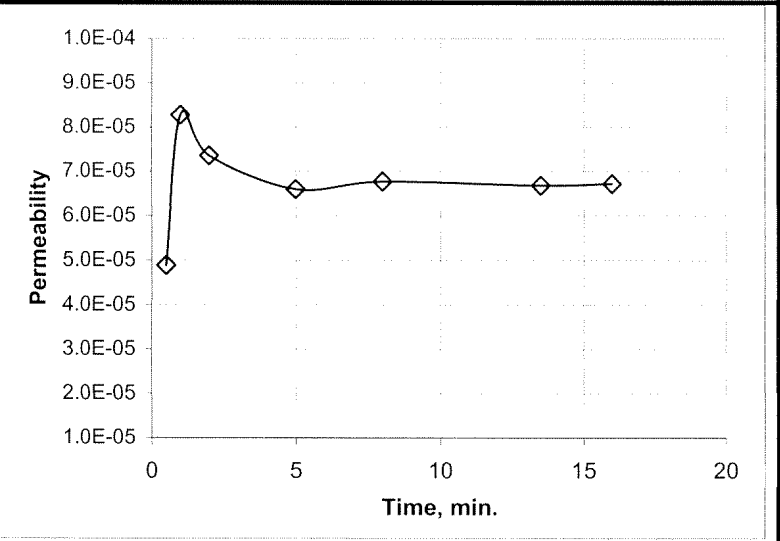
Max Sample Pressures, psi:

Cell:	Bottom	Top	Avg. Sigma 3
63.5	59	58	5

B: = >0.95 ("B" is an indication of saturation)

Max Hydraulic Gradient: = 13

Date	Minutes	Head, (in)	K, cm/sec
3/15/2006	0.00	98.33	Start of Test
3/15/2006	0.50	97.13	4.9E-05
3/15/2006	1.00	94.33	8.3E-05
3/15/2006	2.00	91.33	7.4E-05
3/15/2006	5.00	83.33	6.6E-05
3/15/2006	8.00	74.93	6.8E-05
3/15/2006	13.50	62.53	6.7E-05
3/15/2006	16.00	57.33	6.7E-05

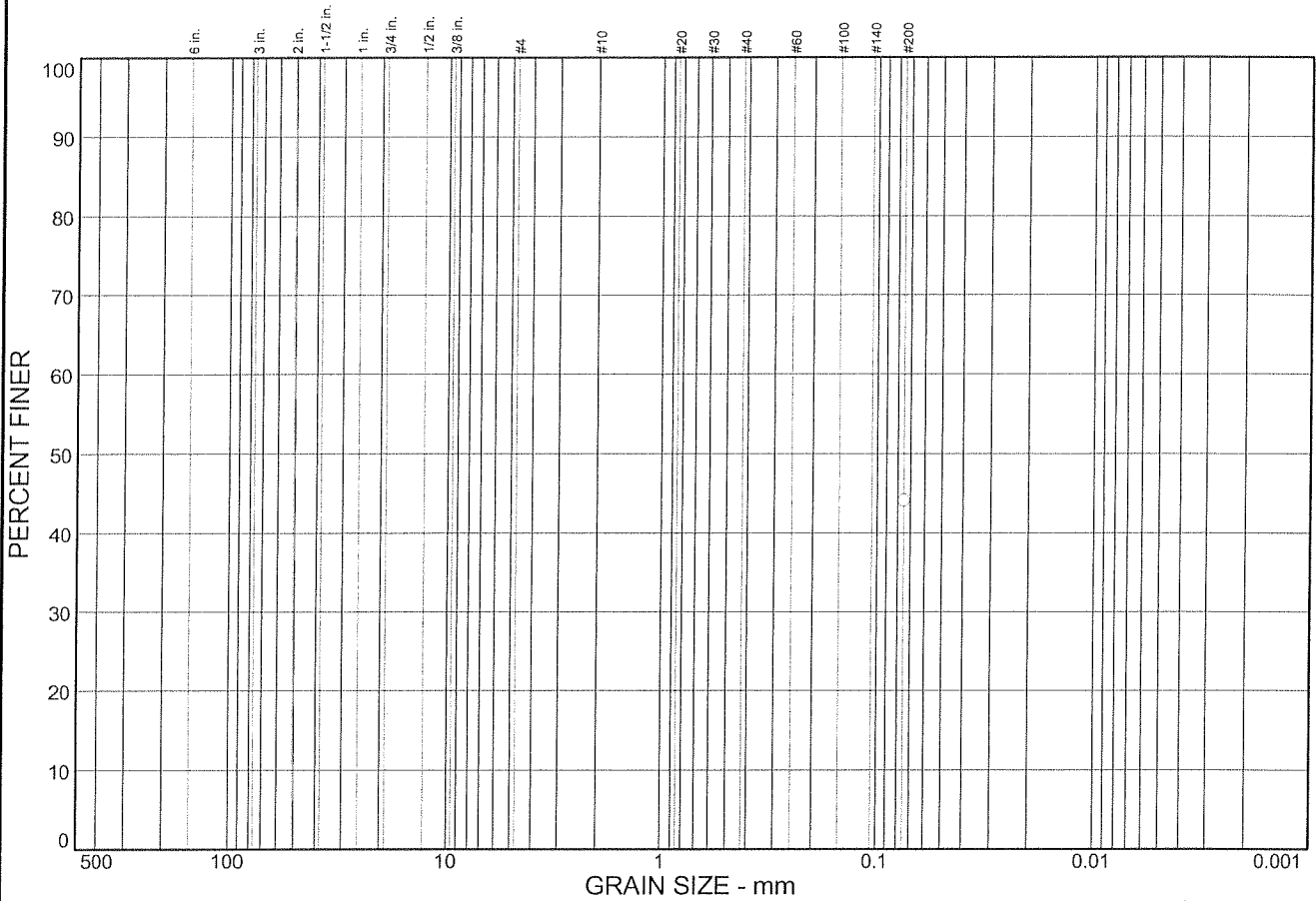


Average Permeability: 7.E-05 cm/sec

Sample Data:	Initial	Final
Height, in	2.96	3.02
Diameter, in	2.42	2.43
Area, in ²	4.60	4.64
Volume in ³	13.61	14.01
Total Volume, cc	223.1	229.5
Volume Solids, cc	136.2	136.2
Volume Voids, cc	86.9	93.3
Void Ratio	0.6	0.7
Porosity, %	38.9	40.6
Saturation, %	68.5	93.5
Specific Gravity	2.70 Assumed	2.70
Wet Weight, gm	427.3	455.0
Dry Weight, gm	367.8	367.8
Tare, gm	0.00	0.00
Moisture, %	16.2	23.7
Dry Density, pcf	102.9	100.0

Remarks: _____

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			44.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	44.1		

Soil Description

Dark Brn clayey sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SC AASHTO=

Remarks

Minus #200 wash only

* (no specification provided)

Sample No.: B2-1b
 Location:

Source of Sample: GEX

Date: 12-1-03
 Elev./Depth: 2.0 feet

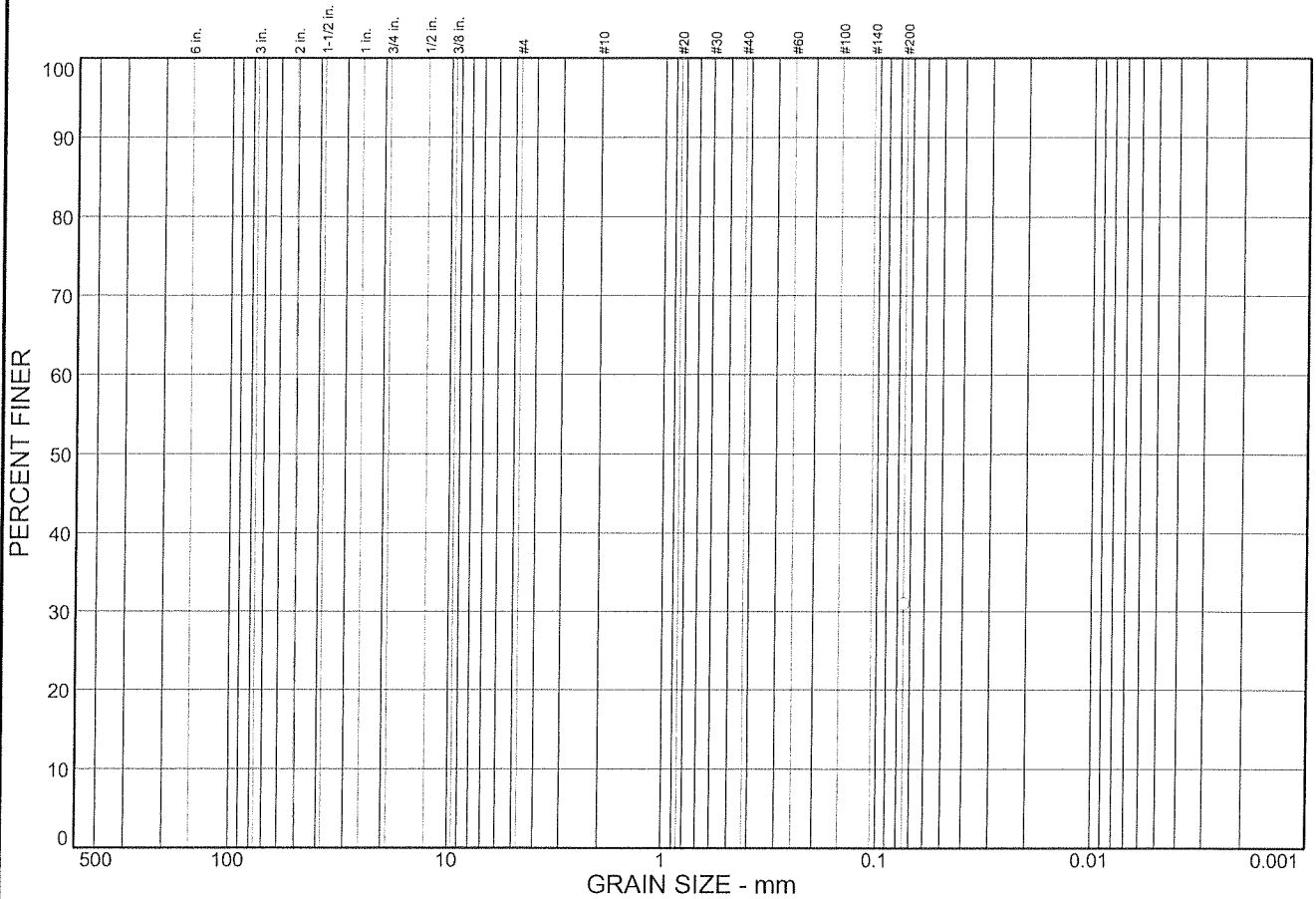
ENGEO INCORPORATED

Client:
 Project: Central Lathrop Specific Plan

Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			31.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	31.0		

Soil Description

Olive brn clayey sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SC AASHTO=

Remarks

Minus #200 wash only

* (no specification provided)

Sample No.: B2-3
Location:

Source of Sample: GEX

Date: 12-1-03
Elev./Depth: 6.0 feet

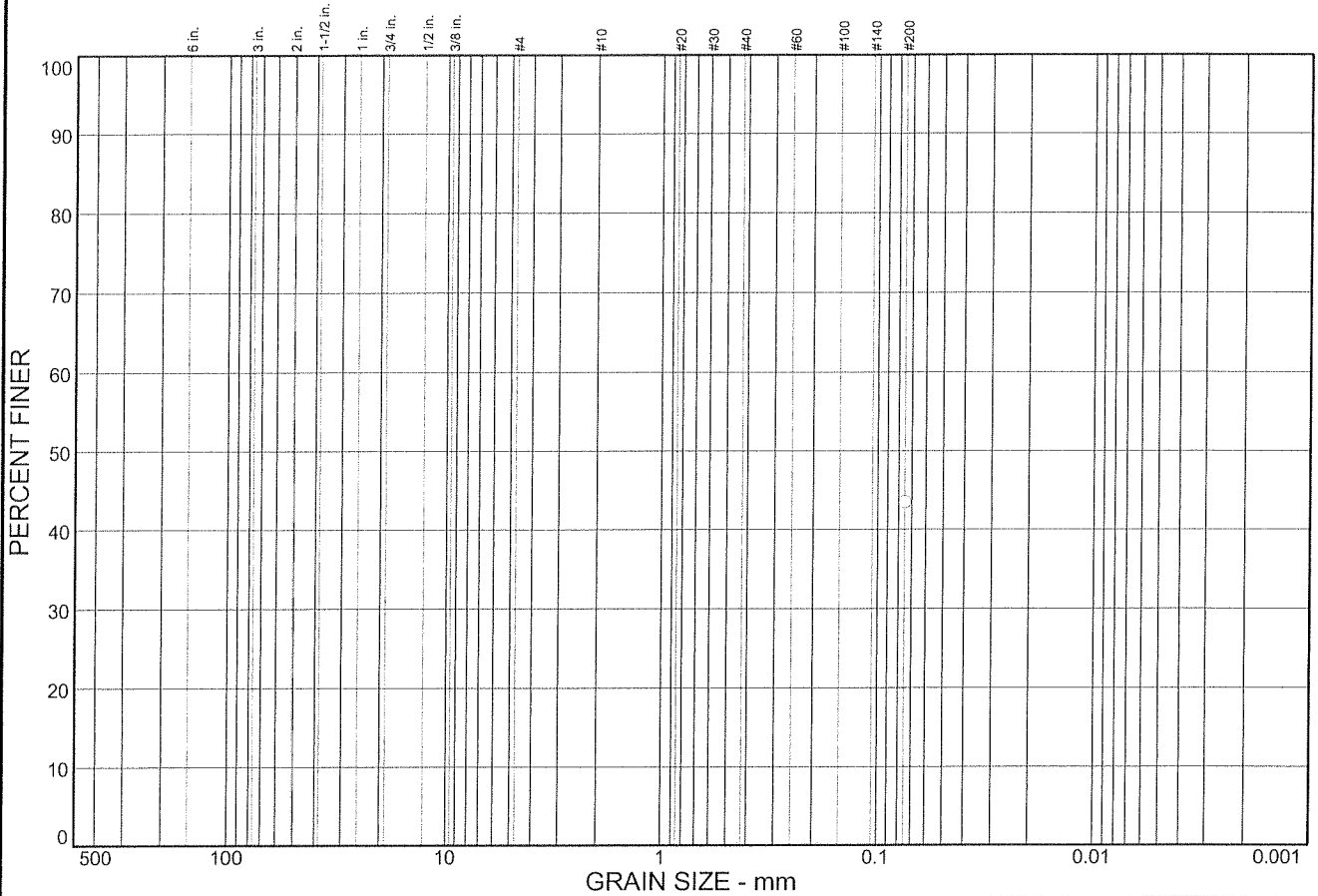
ENGEO INCORPORATED

Client:
Project: Central Lathrop Specific Plan

Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			43.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	43.5		

Soil Description

Olive Brn clayey sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification

USCS= SC AASHTO=

Remarks

Minus #200 wash only

* (no specification provided)

Sample No.: B2-4
 Location:

Source of Sample: GEX

Date: 12-1-03
 Elev./Depth: 8.5 feet

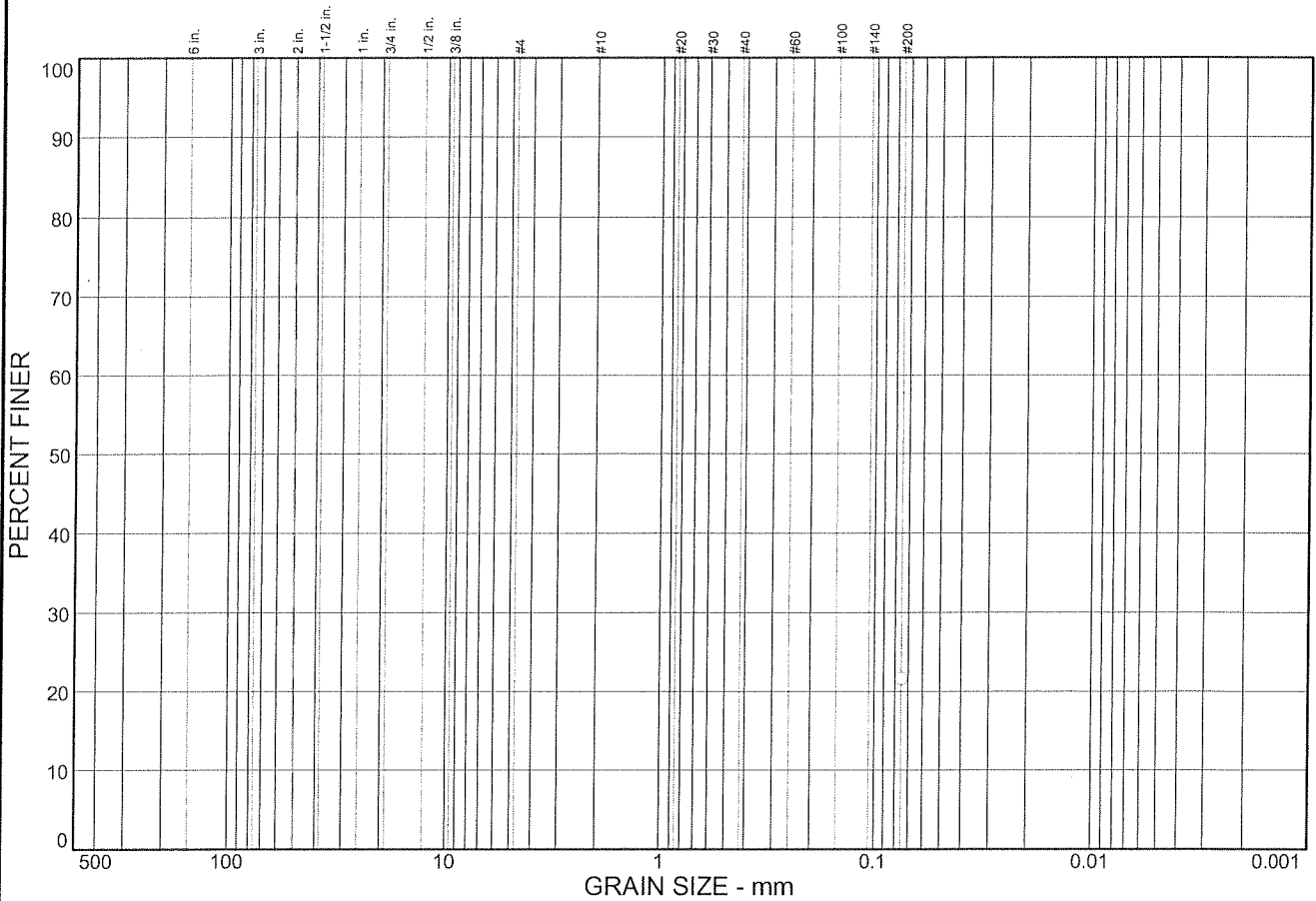
ENGE INCORPORATED

Client:
 Project: Central Lathrop Specific Plan

Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			21.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	21.6		

Soil Description

Olive Brn-Olive gray silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Minus #200 wash only

* (no specification provided)

Sample No.: B3-3
 Location:

Source of Sample: GEX

Date: 12-1-03
 Elev./Depth: 9.5 feet

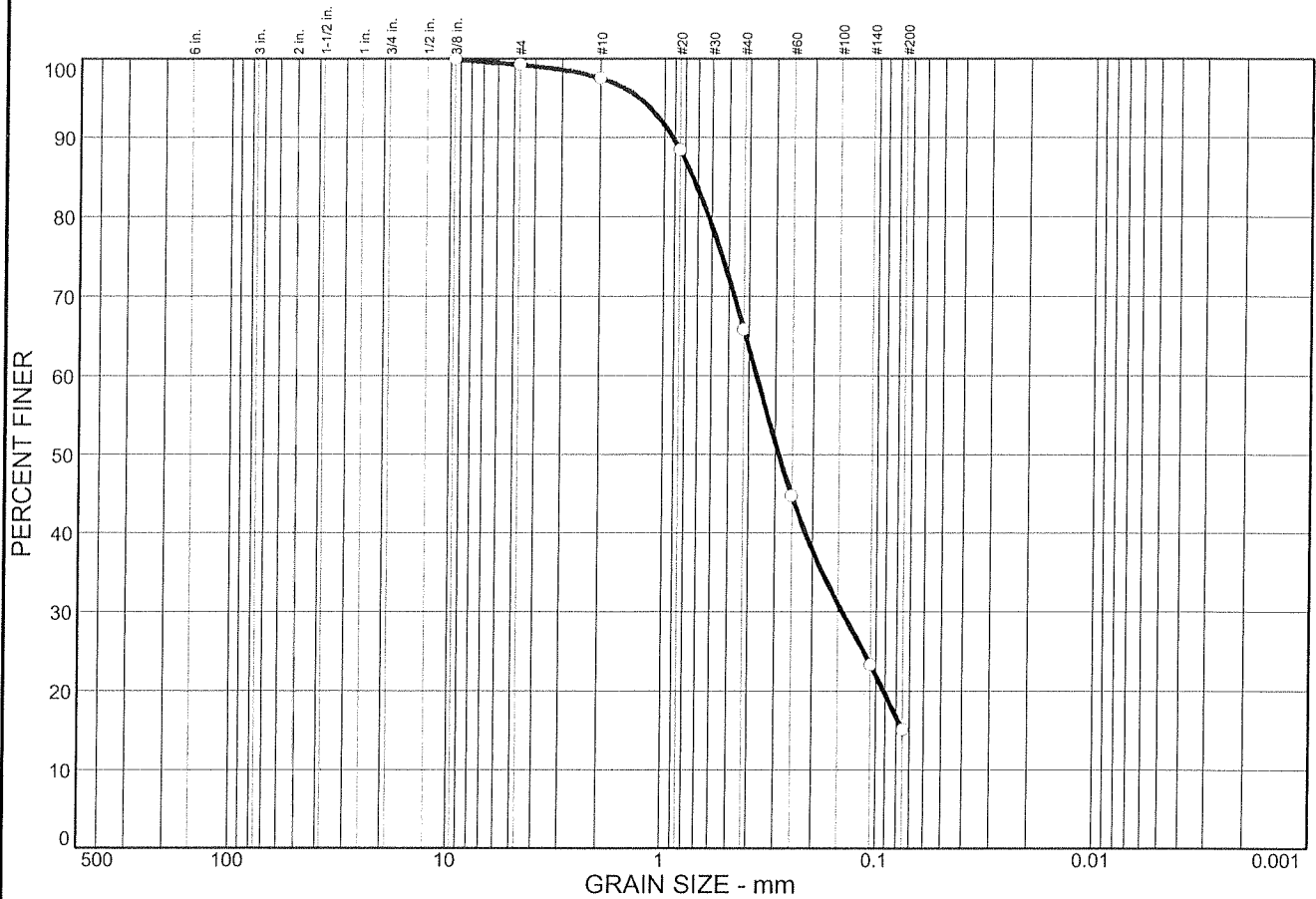
ENGE
 INCORPORATED

Client:
 Project: Central Lathrop Specific Plan

Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.7	84.2	15.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.3		
#10	97.6		
#20	88.4		
#40	65.8		
#60	44.7		
#140	23.3		
#200	15.1		

Soil Description

Brn sand with silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.741 D₆₀= 0.369 D₅₀= 0.289

D₃₀= 0.144 D₁₅= D₁₀=

C_u=

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: B5-4
Location:

Source of Sample: GEX

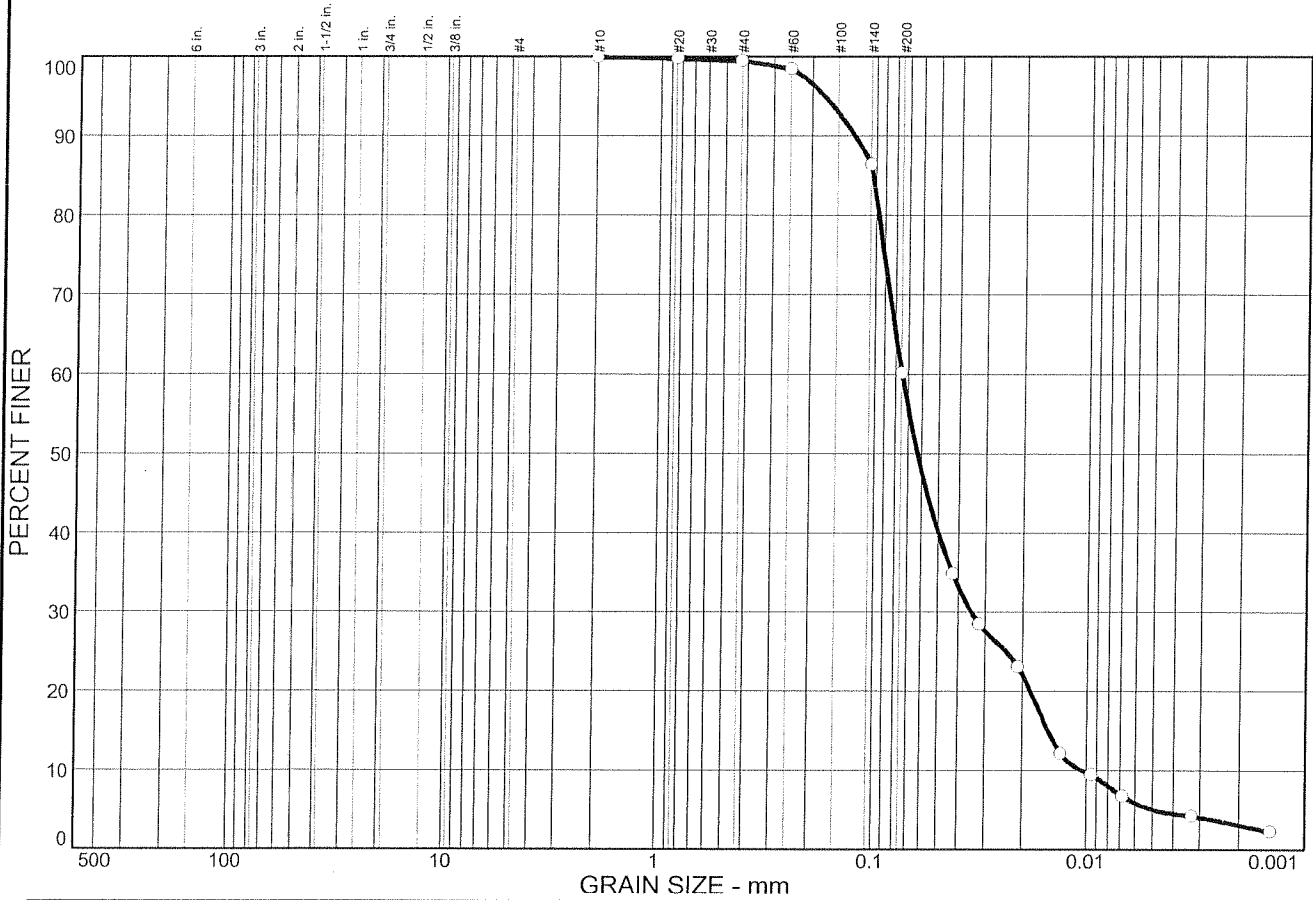
Date: 12-1-03
Elev./Depth: 8.5 feet

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Client:
Project: Central Lathrop Specific Plan
Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	39.8	55.0	5.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.8		
#40	99.5		
#60	98.5		
#140	86.4		
#200	60.2		

Soil Description

Brown sandy silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.104 D₆₀= 0.0748 D₅₀= 0.0630
D₃₀= 0.0347 D₁₅= 0.0151 D₁₀= 0.0104
C_u= 7.22 C_c= 1.56

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: B7-1
 Location:

Source of Sample: Liquefaction Study

Date: 3/22/04
 Elev./Depth: 5 feet

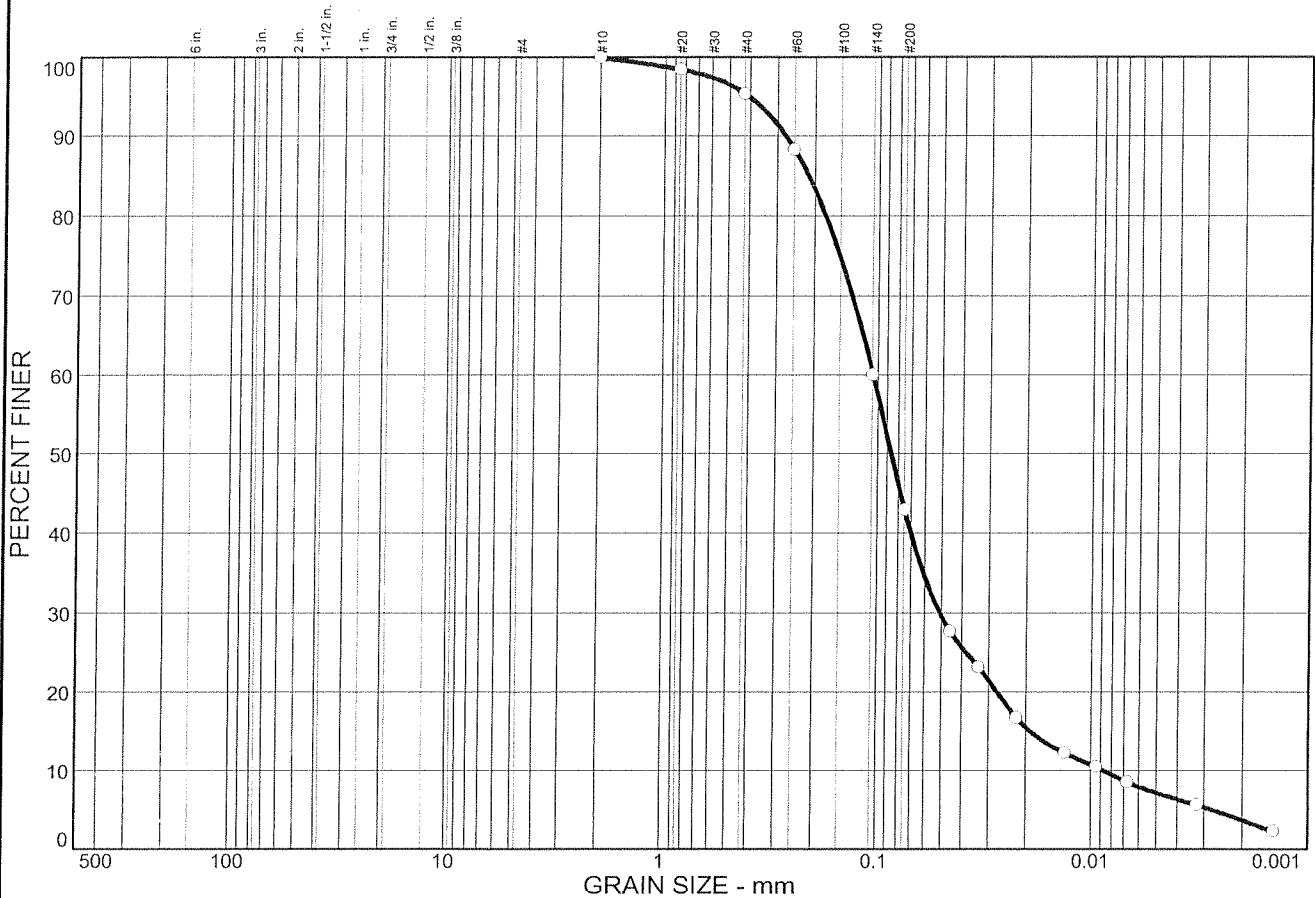
ENGEO INCORPORATED

Client:
 Project: Central Lathrop Specific Plan

Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	57.1	35.6	7.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	98.5		
#40	95.4		
#60	88.3		
#140	60.0		
#200	42.9		

Soil Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.215 D₆₀= 0.106 D₅₀= 0.0869
D₃₀= 0.0509 D₁₅= 0.0190 D₁₀= 0.0087
C_u= 12.25 C_c= 2.82

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: B7-5
Location:

Source of Sample: Liquefaction Study

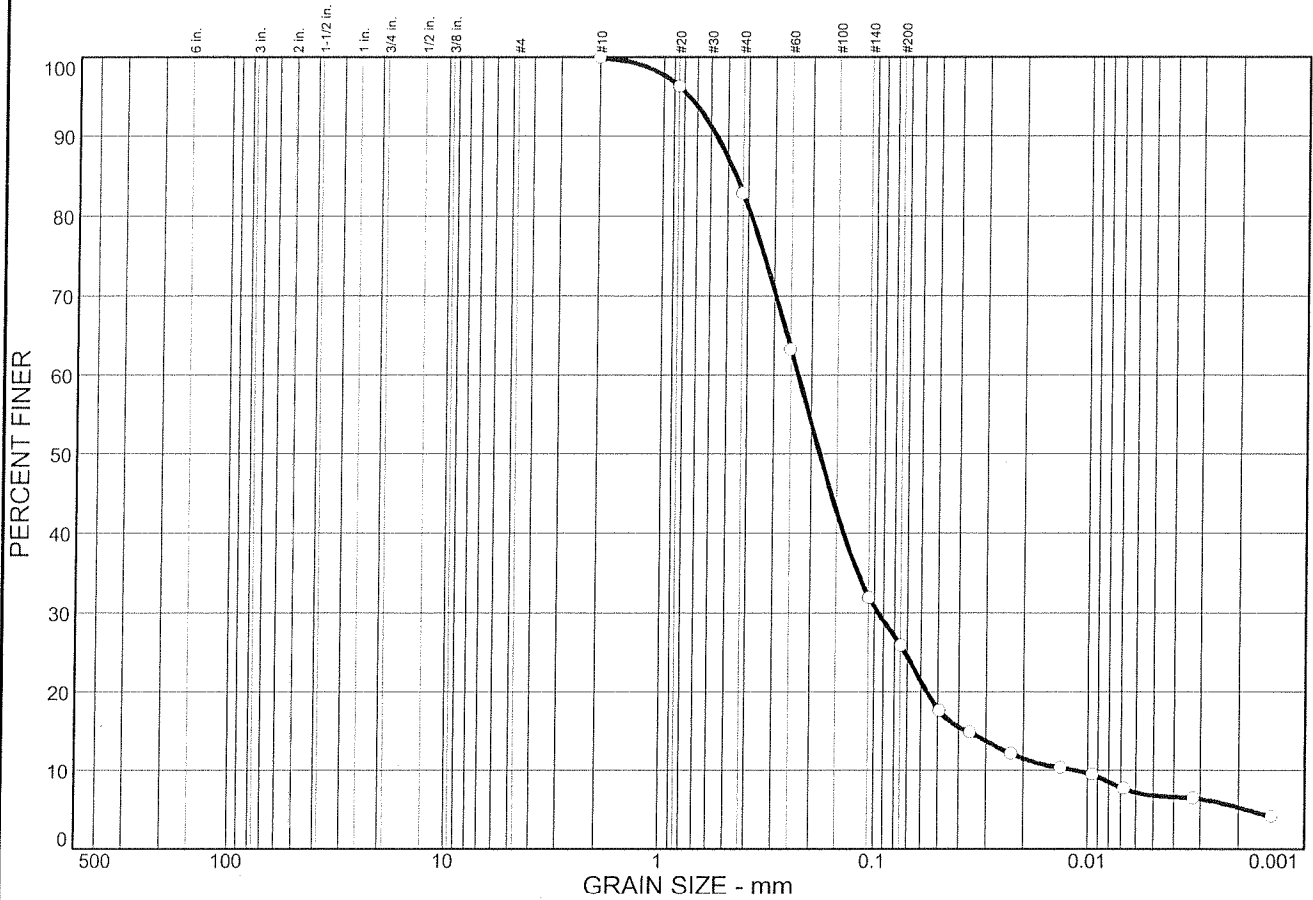
Date: 3/22/04
Elev./Depth: 25 feet

ENGEO INCORPORATED

Client:
Project: Central Lathrop Specific Plan
Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	74.1	19.0	6.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	96.3		
#40	82.8		
#60	63.2		
#140	31.9		
#200	25.9		

Soil Description

Dark brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.459 D₆₀= 0.232 D₅₀= 0.183
D₃₀= 0.0961 D₁₅= 0.0361 D₁₀= 0.0110
C_u= 20.99 C_c= 3.61

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: B9-1
 Location:

Source of Sample: Liquefaction Study

Date: 3/22/04
 Elev./Depth: 2 feet

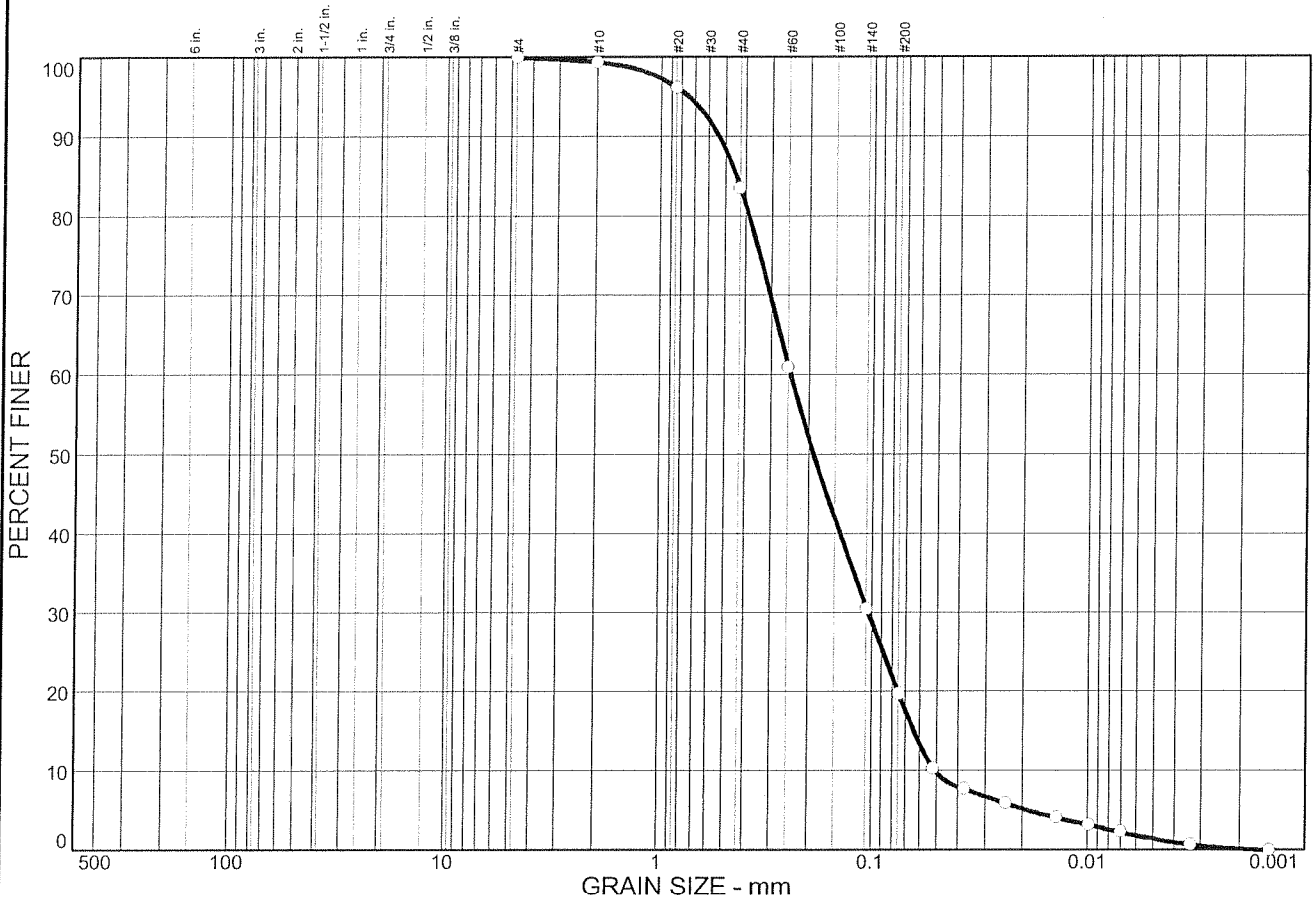
ENGEO INCORPORATED

Client:
 Project: Central Lathrop Specific Plan

Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	80.3	18.2	1.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.4		
#20	96.2		
#40	83.5		
#60	60.9		
#140	30.5		
#200	19.7		

Soil Description

Dark brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.445 D₆₀= 0.245 D₅₀= 0.190
D₃₀= 0.104 D₁₅= 0.0639 D₁₀= 0.0507
C_u= 4.83 C_c= 0.88

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: B9-2
 Location:

Source of Sample: Liquefaction Study

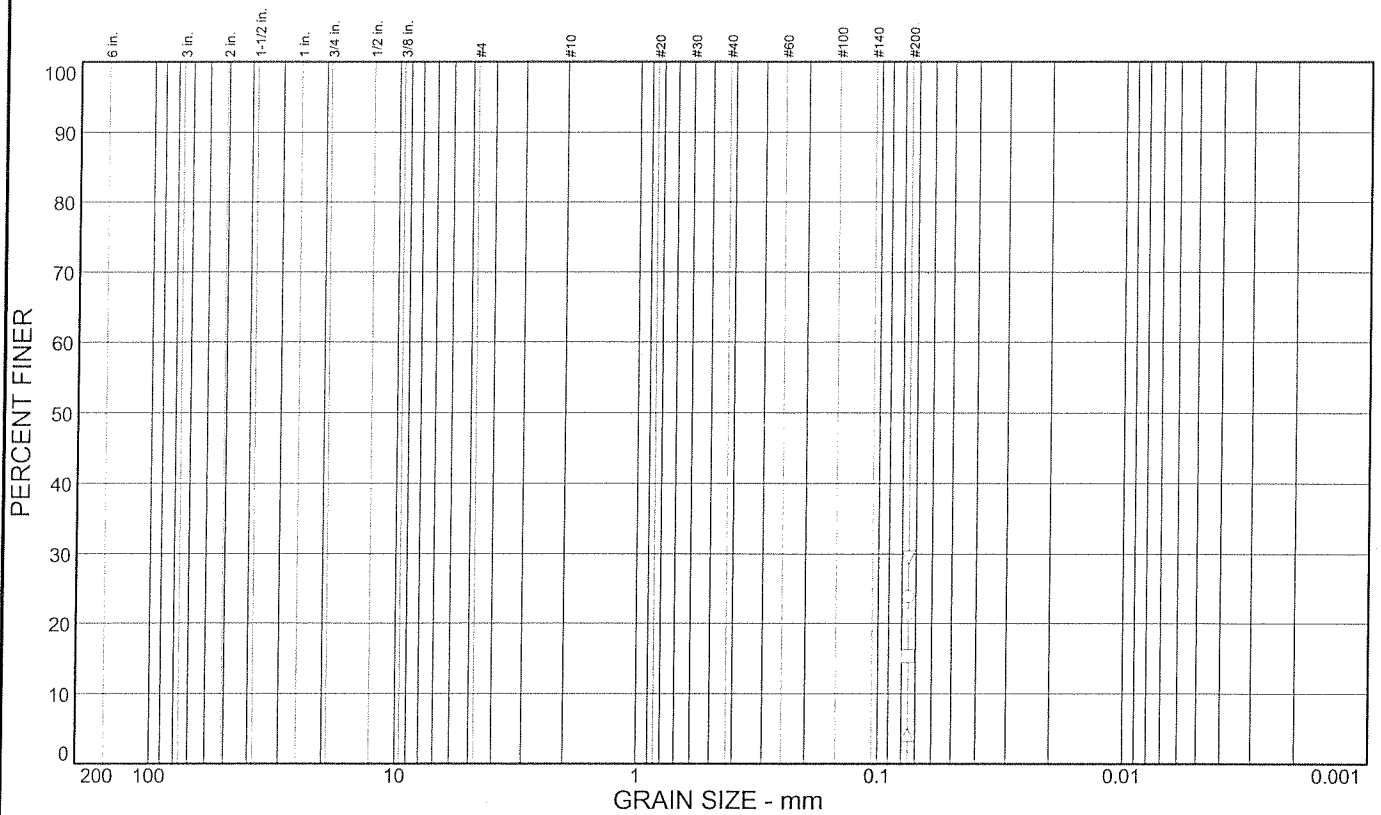
Date: 3/22/04
 Elev./Depth: 5 feet

ENGEO INCORPORATED

Client:
 Project: Central Lathrop Specific Plan
 Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES		% GRAVEL		% SAND			% SILT		% CLAY	
<input type="checkbox"/>										23.9
<input type="checkbox"/>										15.3
<input type="checkbox"/>										4.1
<input type="checkbox"/>										21.3
<input type="checkbox"/>										29.5
LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u	
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										

MATERIAL DESCRIPTION	USCS	AASHTO
<input type="checkbox"/> Dark brown silty sand	SM	
<input type="checkbox"/> Dark brown silty sand	SM	
<input type="checkbox"/> Gray poorly graded sand	SP	
<input type="checkbox"/> Brown silty sand	SM	
<input type="checkbox"/> Brown silty sand	SM	

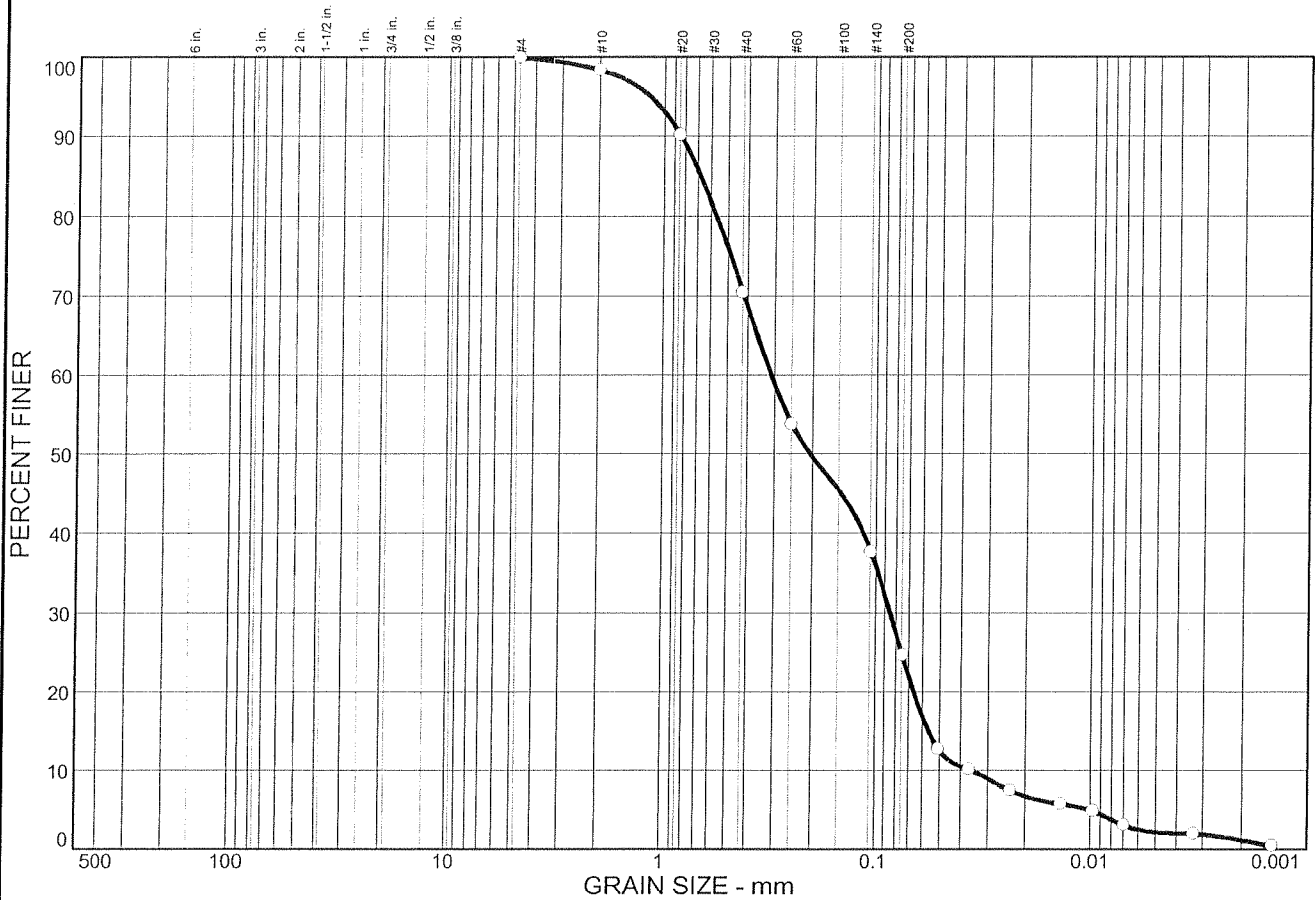
Project No. 5747.5.003.01 Client: Project: Central Lathrop Specific Plan <input type="checkbox"/> Source: Liquefaction #200 Sample No.: B9-1 Elev./Depth: 2 feet <input type="checkbox"/> Source: Liquefaction #200 Sample No.: B9-2 Elev./Depth: 5 feet <input type="checkbox"/> Source: Liquefaction #200 Sample No.: B9-3 Elev./Depth: 10 feet <input type="checkbox"/> Source: Liquefaction #200 wash Sample No.: B10-1 Elev./Depth: 2 feet <input type="checkbox"/> Source: Liquefaction #200 wash Sample No.: B10-2 Elev./Depth: 5 feet	Remarks: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
---	---

Particle Size Distribution Report

ENGEO INCORPORATED

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	75.3	22.5	2.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	98.4		
#20	90.2		
#40	70.5		
#60	53.8		
#140	37.7		
#200	24.7		

Soil Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.679 D₆₀= 0.312 D₅₀= 0.206
D₃₀= 0.0857 D₁₅= 0.0562 D₁₀= 0.0351
C_u= 8.88 C_c= 0.67

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: B10-1
 Location:

Source of Sample: Liquefaction Study

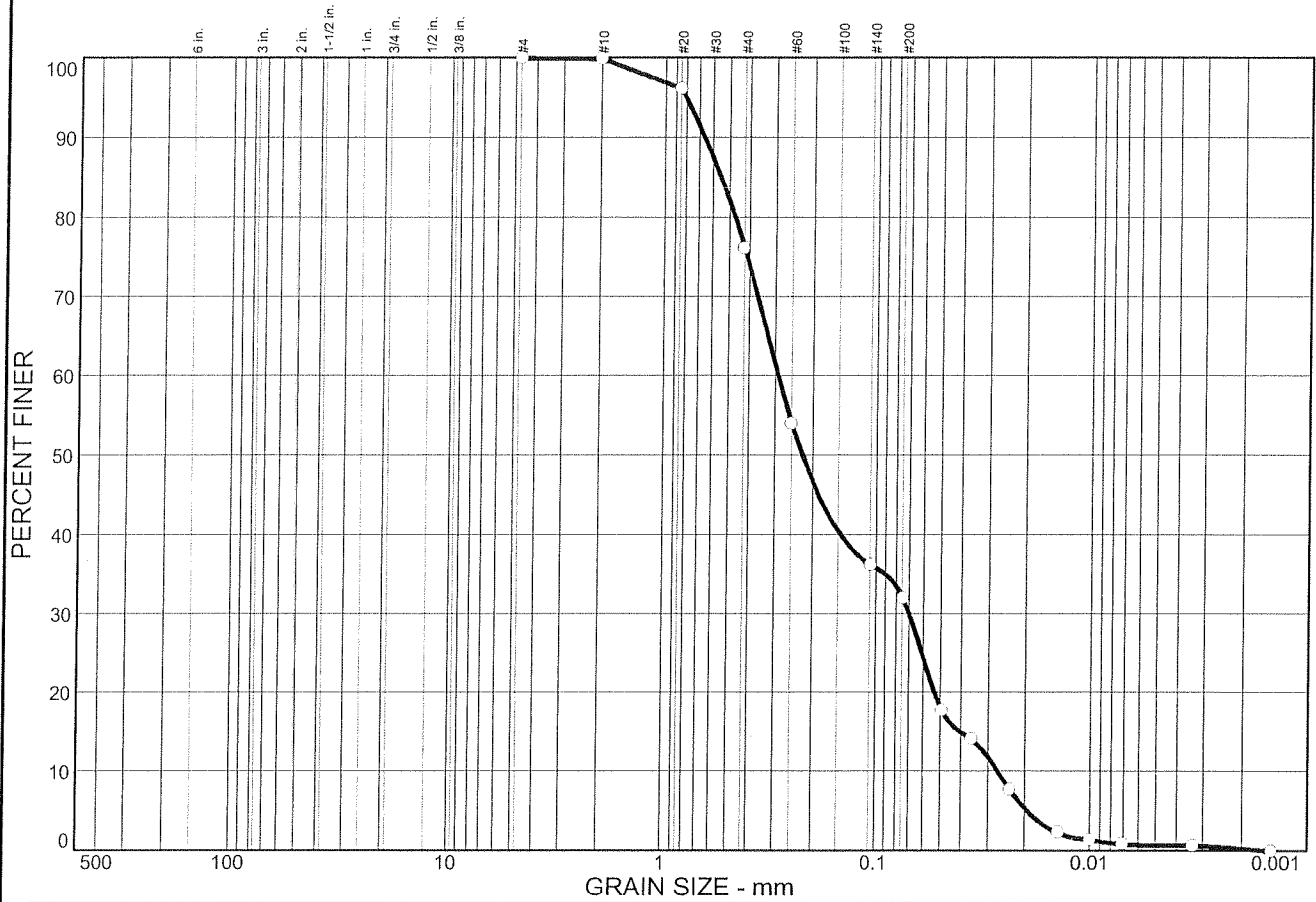
Date: 3/22/04
 Elev./Depth: 2 feet

ENGEO INCORPORATED

Client:
 Project: Central Lathrop Specific Plan
 Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	68.0	31.3	0.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	96.2		
#40	76.1		
#60	53.9		
#140	36.2		
#200	32.0		

Soil Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.553 D₆₀= 0.291 D₅₀= 0.223
D₃₀= 0.0701 D₁₅= 0.0401 D₁₀= 0.0270
C_u= 10.79 C_c= 0.63

Classification

USCS= SM AASHTO=

Remarks

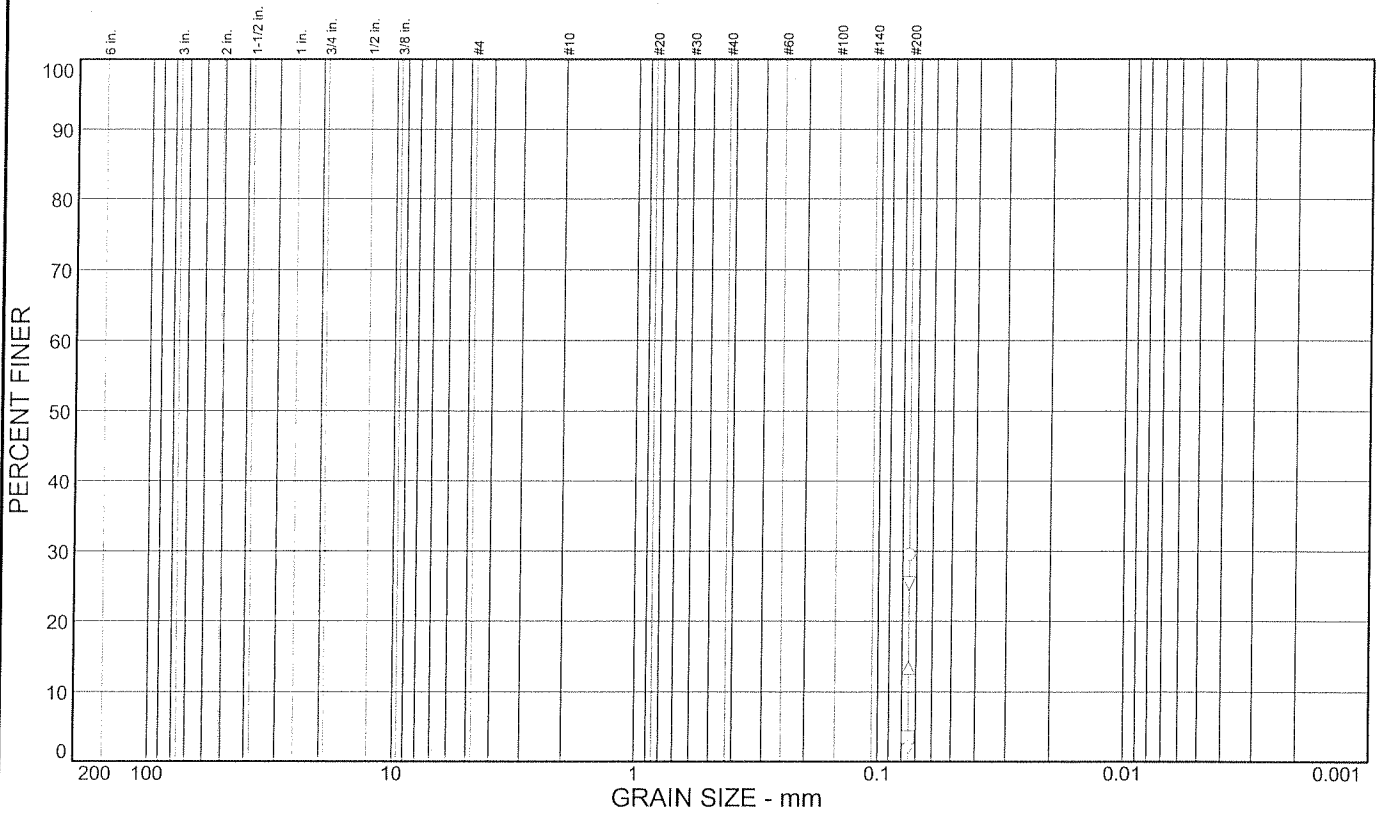
* (no specification provided)

Sample No.: B10-2
Location:

Source of Sample: Liquefaction Study

Date: 3/22/04
Elev./Depth: 5 feet

Particle Size Distribution Report



% COBBLES		% GRAVEL		% SAND			% SILT		% CLAY	
<input type="checkbox"/>										29.5
<input type="checkbox"/>										3.5
<input type="checkbox"/>										13.4
<input type="checkbox"/>										2.2
<input type="checkbox"/>										25.4
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu	
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										

MATERIAL DESCRIPTION							USCS	AASHTO
<input type="checkbox"/>	Brown silty sand						SM	
<input type="checkbox"/>	Brown poorly graded sand						SP	
<input type="checkbox"/>	Brown silty sand						SM	
<input type="checkbox"/>	Brown poorly graded sand						SP	
<input type="checkbox"/>	Gray silty sand						SM	

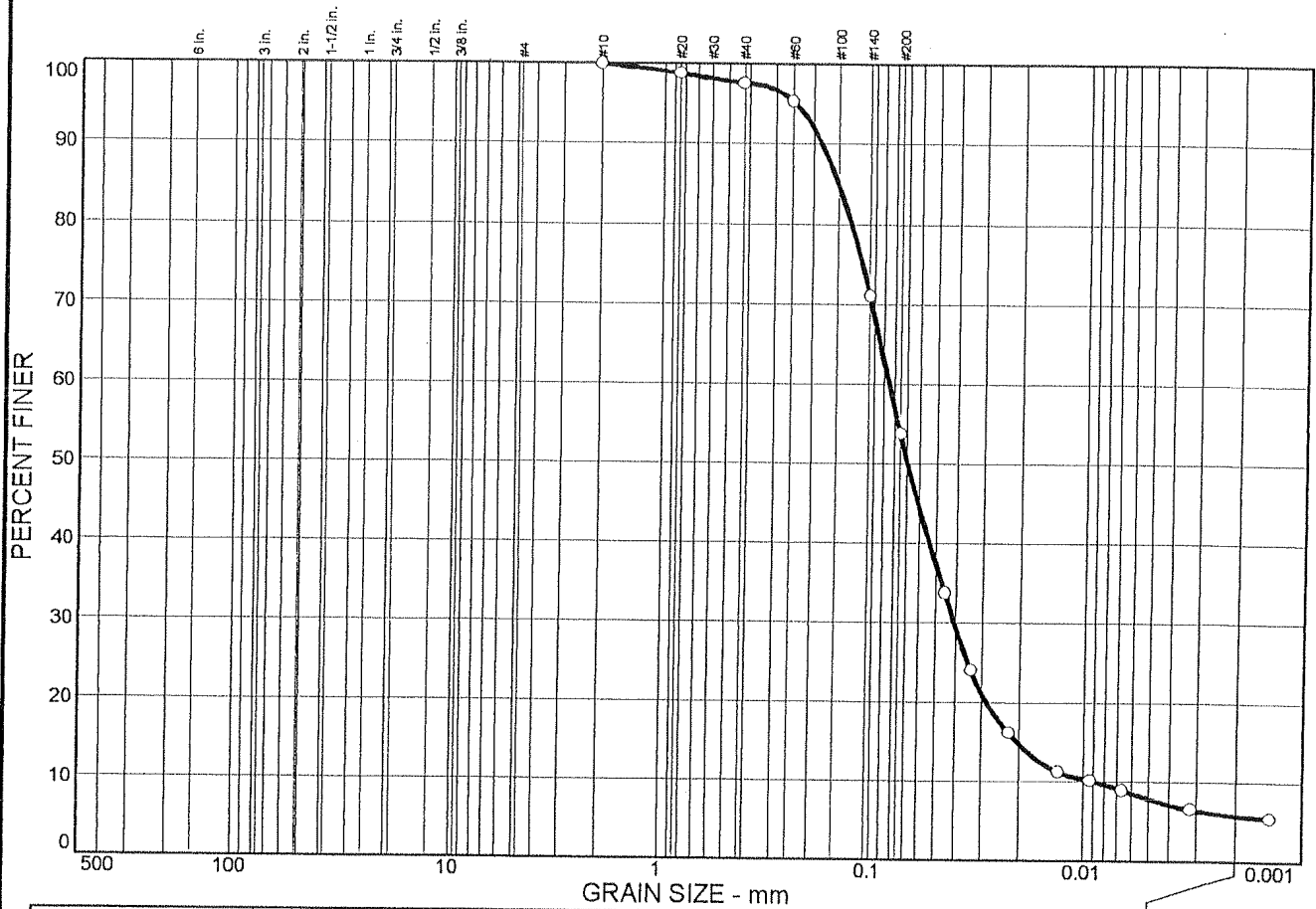
Project No. 5747.5.003.01 Client: Project: Central Lathrop Specific Plan <input type="checkbox"/> Source: Liquefaction #200 Sample No.: B10-2 Elev./Depth: 5 feet <input type="checkbox"/> Source: Liquefaction #200 Sample No.: B10-3 Elev./Depth: 7 feet <input type="checkbox"/> Source: Liquefaction #200 Sample No.: B10-4 Elev./Depth: 10 feet <input type="checkbox"/> Source: Liquefaction #200 wash Sample No.: B10-6 Elev./Depth: 15 feet <input type="checkbox"/> Source: Liquefaction #200 wash Sample No.: B10-10 Elev./Depth: 35 feet	Remarks: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
---	---

Particle Size Distribution Report

ENGEO INCORPORATED

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	46.2	48.0	5.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	98.8		
#40	97.6		
#60	95.4		
#140	71.1		
#200	53.8		

Soil Description

Light brown sandy silt with clay

Atterberg Limits

PL= LL= NV PI= NP

Coefficients

D₈₅= 0.151 D₆₀= 0.0850 D₅₀= 0.0690
D₃₀= 0.0406 D₁₅= 0.0203 D₁₀= 0.0087
C_u= 9.72 C_c= 2.22

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: B11-2
 Location:

Source of Sample: GEX

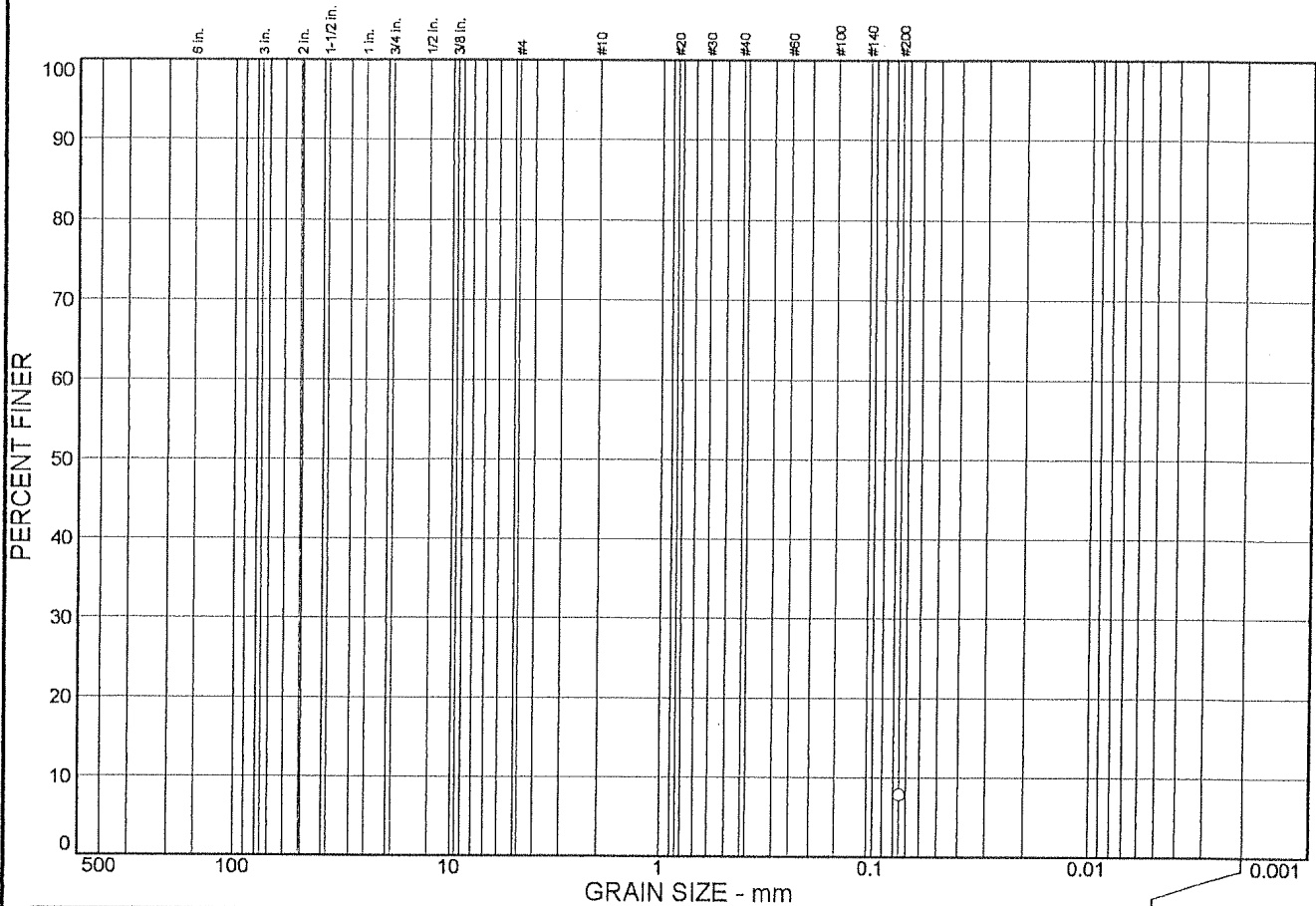
Date: 5/10/05
 Elev./Depth: 6 feet

ENGEO INCORPORATED

Client:
 Project: Central Lathrop Specific Plan - Phase 1
 Project No: 5747.5.003.02

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			7.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	7.9		

Soil Description

Light brown silty sand

PL= **Atterberg Limits** PI=

LL=

Coefficients

D₈₅= D₆₀= D₅₀=

D₃₀= D₁₅= D₁₀=

C_u= C_c=

USCS= SM **Classification** AASHTO=

Remarks

* (no specification provided)

Sample No.: B12-2
Location:

Source of Sample: GEX

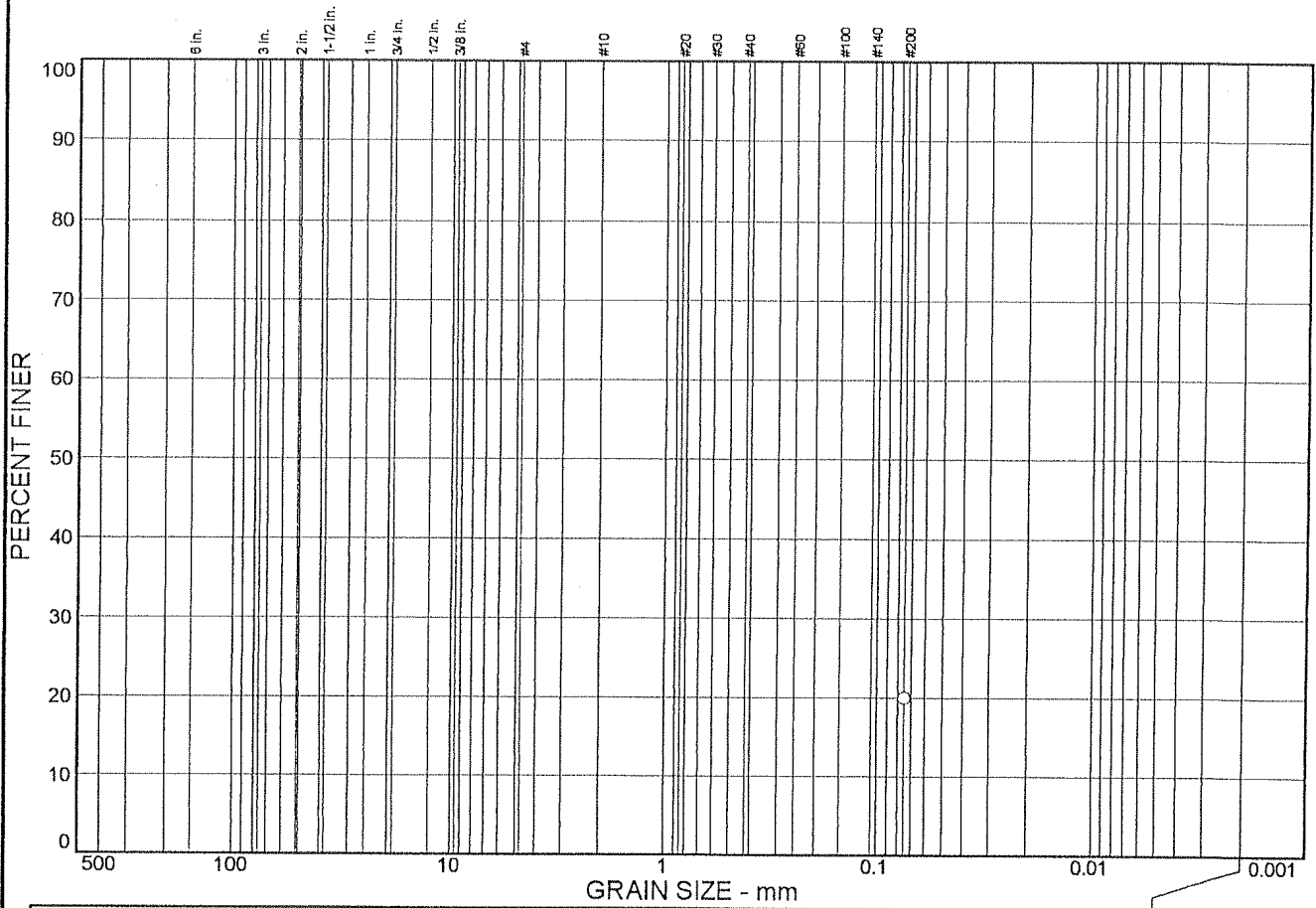
Date: 5/9/05
Elev./Depth: 8 feet

ENGEO INCORPORATED

Client:
Project: Central Lathrop Specific Plan - Phase 1
Project No: 5747.5.003.02

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			20.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	20.0		

Soil Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: B13-2
 Location:

Source of Sample: GEX

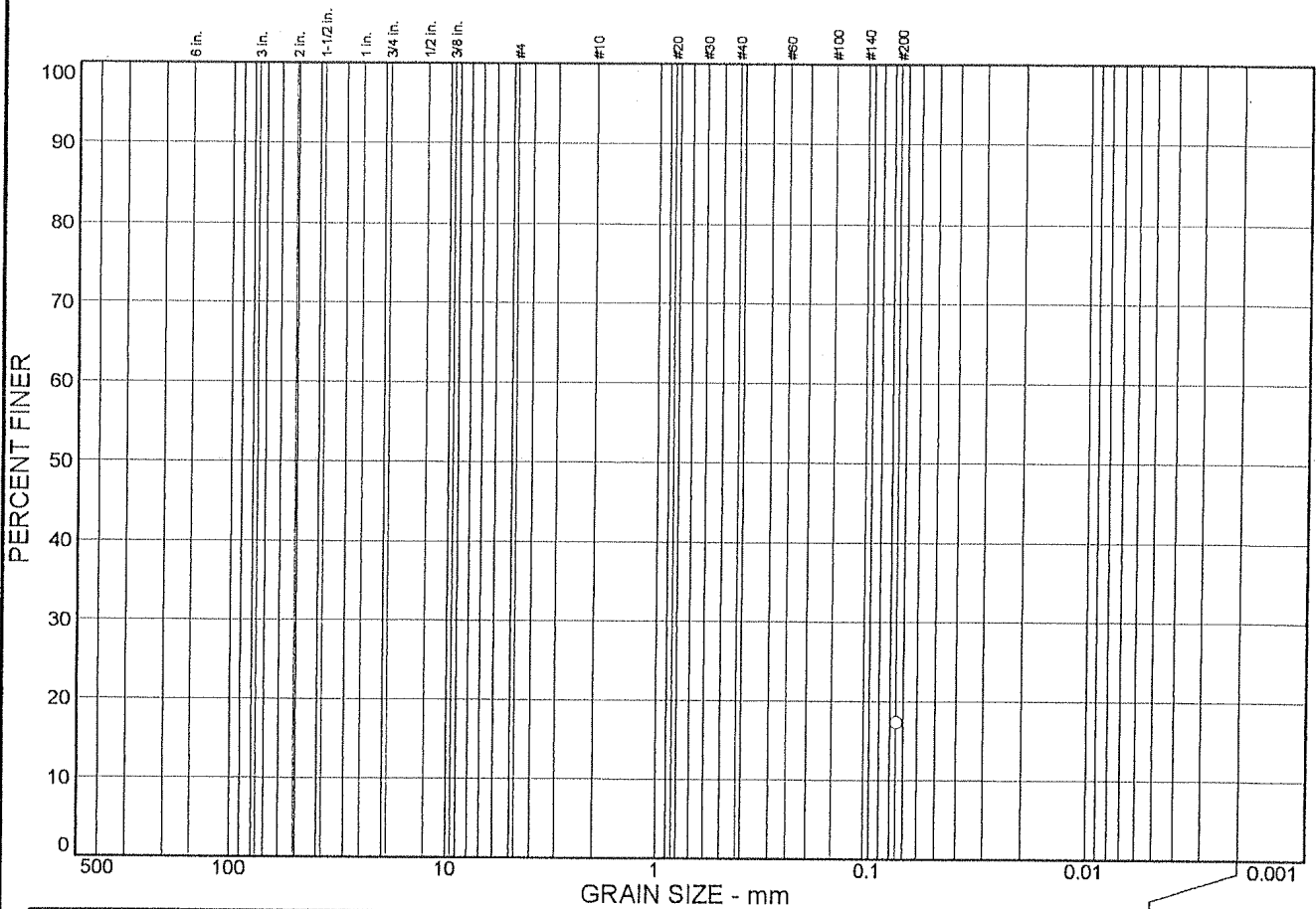
Date: 5/9/05
 Elev./Depth: 3 1/2 feet

ENGEO INCORPORATED

Client:
 Project: Central Lathrop Specific Plan - Phase I
 Project No: 5747.5.003.02

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			17.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	17.3		

Soil Description

Brown silty sand

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= SM AASHTO=

Remarks

* (no specification provided)

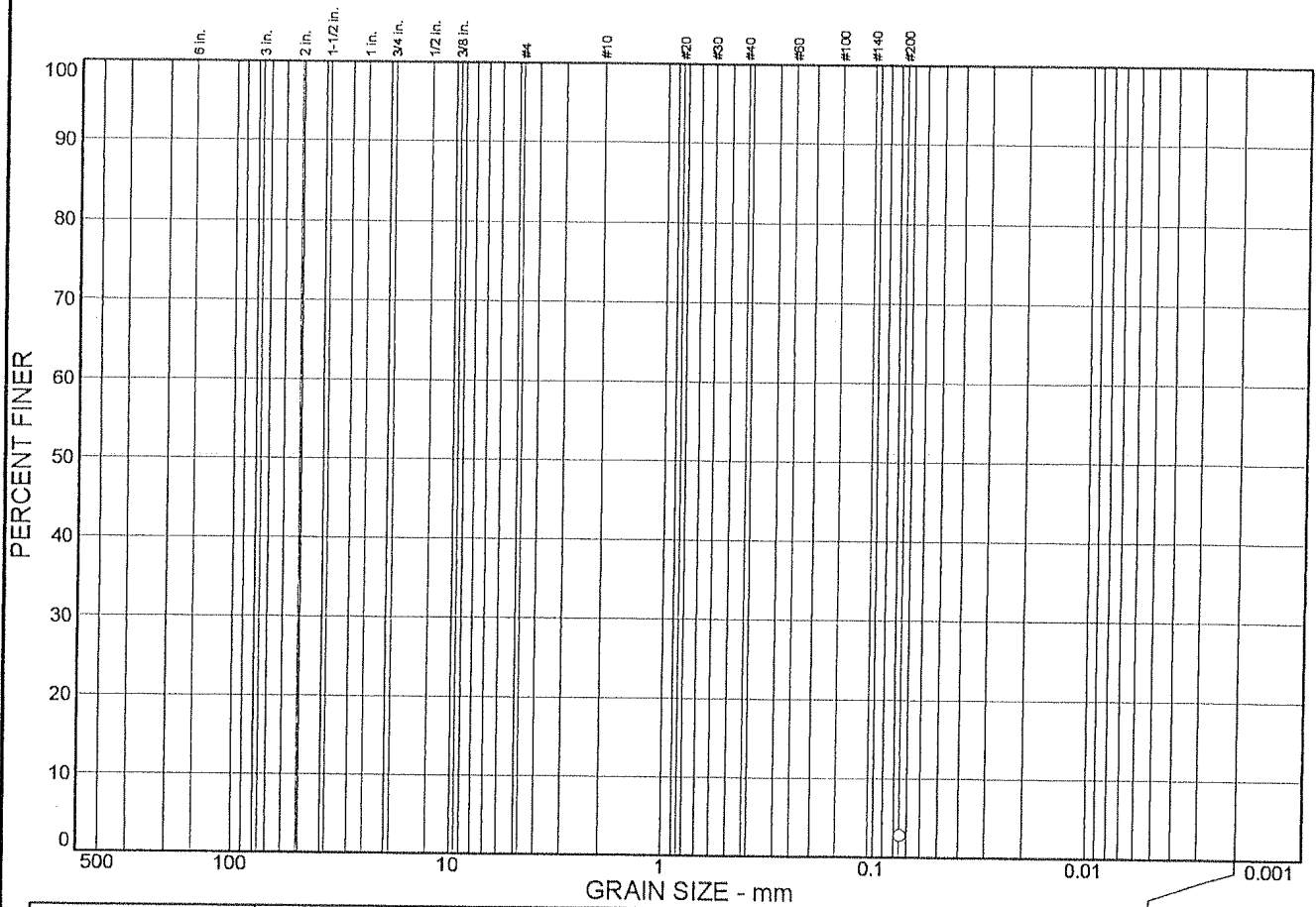
Sample No.: B17-2
Location:

Source of Sample: GEX

Date: 5/9/05
Elev./Depth: 3 1/2 feet

<h2 style="margin: 0;">ENGEO INCORPORATED</h2>	Client: Project: Central Lathrop Specific Plan - Phase 1 Project No: 5747.5.003.02
Figure	

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			2.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	2.8		

Soil Description
Brown sand

Atterberg Limits
 PL= LL= PI=

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= SW AASHTO=

Remarks

* (no specification provided)

Sample No.: B17-3
Location:

Source of Sample: GEX

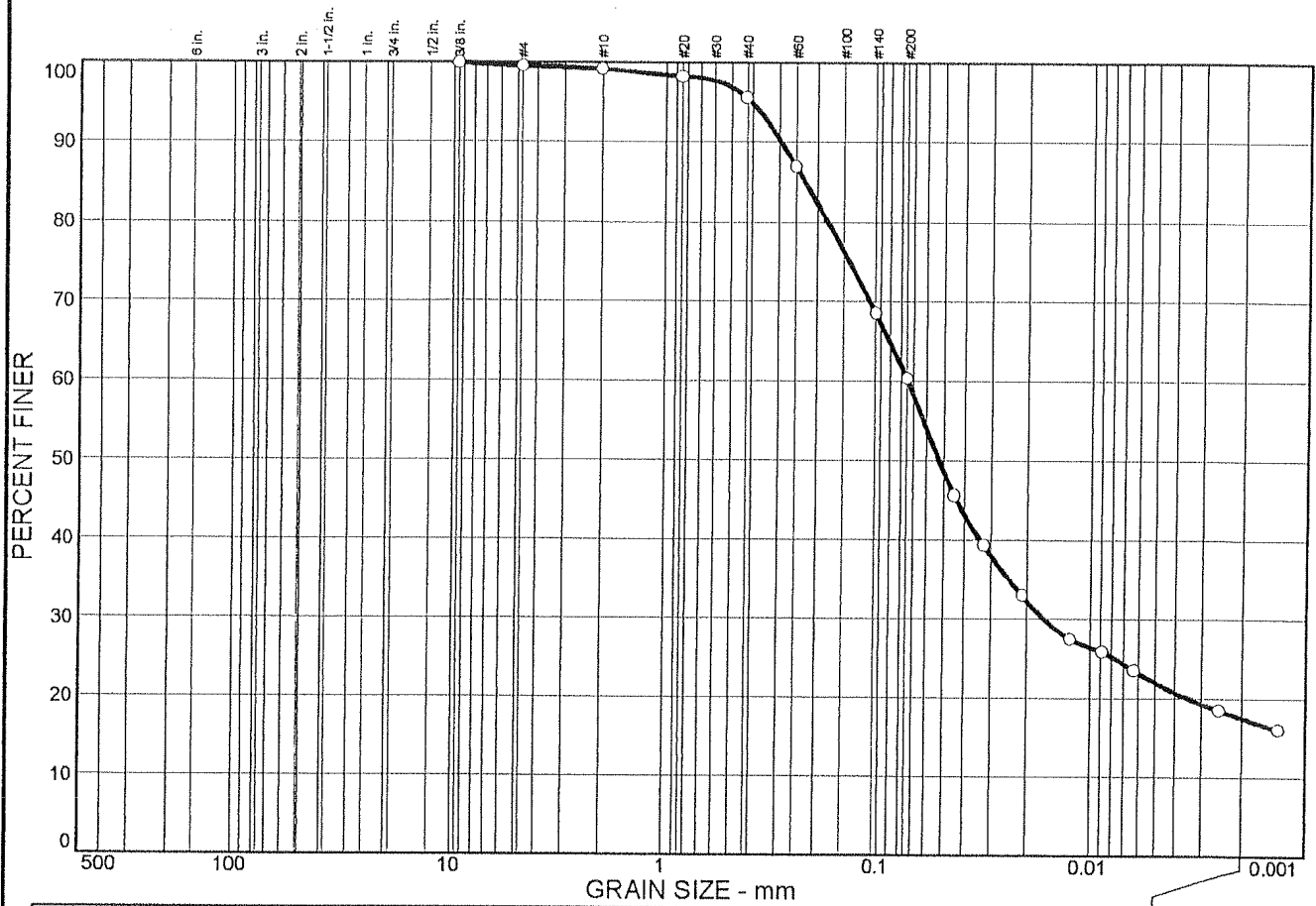
Date: 5/9/05
Elev./Depth: 9 feet

ENGEO INCORPORATED

Client:
Project: Central Lathrop Specific Plan - Phase 1
Project No: 5747.5.003.02

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.4	39.3	42.7	17.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.6		
#10	99.2		
#20	98.3		
#40	95.6		
#60	87.0		
#140	68.5		
#200	60.3		

Soil Description

grayish brown sandy silt with clay

Atterberg Limits

PL= LL= 29 PI= NP

Coefficients

D₈₅= 0.226 D₆₀= 0.0742 D₅₀= 0.0524
D₃₀= 0.0165 D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: B18-2
 Location:

Source of Sample: GEX

Date: 5/9/05
 Elev./Depth: 3 1/2 feet

ENGE INCORPORATED

Client:
 Project: Central Lathrop Specific Plan - Phase 1
 Project No: 5747.5.003.02

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.5	30.9	58.3	10.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.5		
#10	97.2		
#20	95.1		
#40	92.8		
#60	90.2		
#140	77.1		
#200	68.6		

Soil Description
Brown sandy silt with clay

Atterberg Limits
PL= LL= 26 PI= NP

Coefficients
 D₈₅= 0.163 D₆₀= 0.0580 D₅₀= 0.0426
 D₃₀= 0.0178 D₁₅= 0.0035 D₁₀= 0.0019
 C_u= 30.16 C_c= 2.85

Classification
USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: B20-2
Location:

Source of Sample: GEX

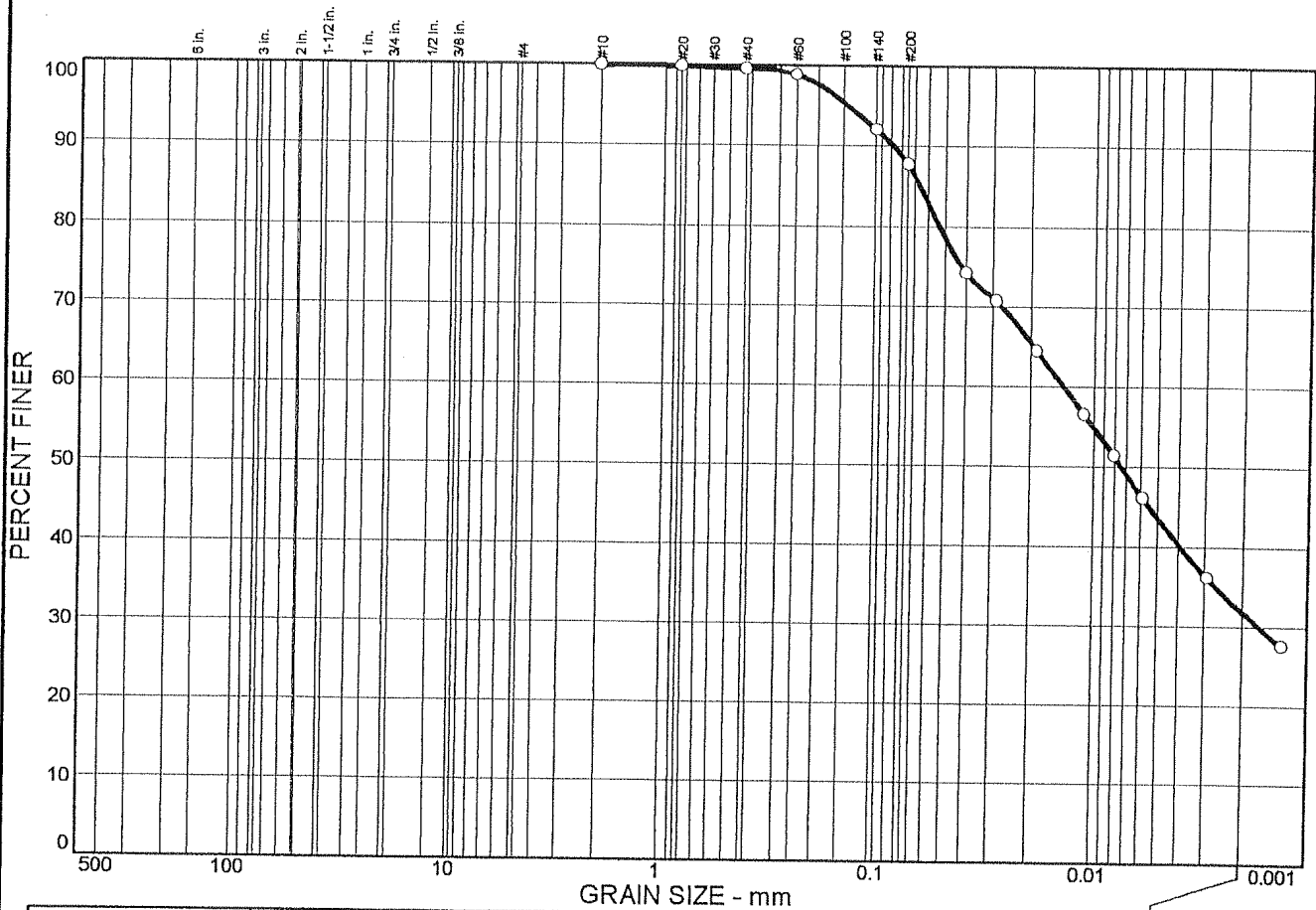
Date: 5/10/05
Elev./Depth: 3 1/2 feet

**ENGEO
INCORPORATED**

Client:
Project: Central Lathrop Specific Plan - Phase I
Project No: 5747.5.003.02

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	12.2	55.9	31.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	99.6		
#60	98.9		
#140	92.1		
#200	87.8		

* (no specification provided)

Soil Description

Dark brown clayey silt with some sand

Atterberg Limits

PL= LL= 45 PI= NP

Coefficients

D₈₅= 0.0653 D₆₀= 0.0140 D₅₀= 0.0074
 D₃₀= 0.0017 D₁₅= D₁₀=
 C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Sample No.: B21-1
Location:

Source of Sample: GEX

Date: 5/10/05
Elev./Depth: 1 1/2 feet

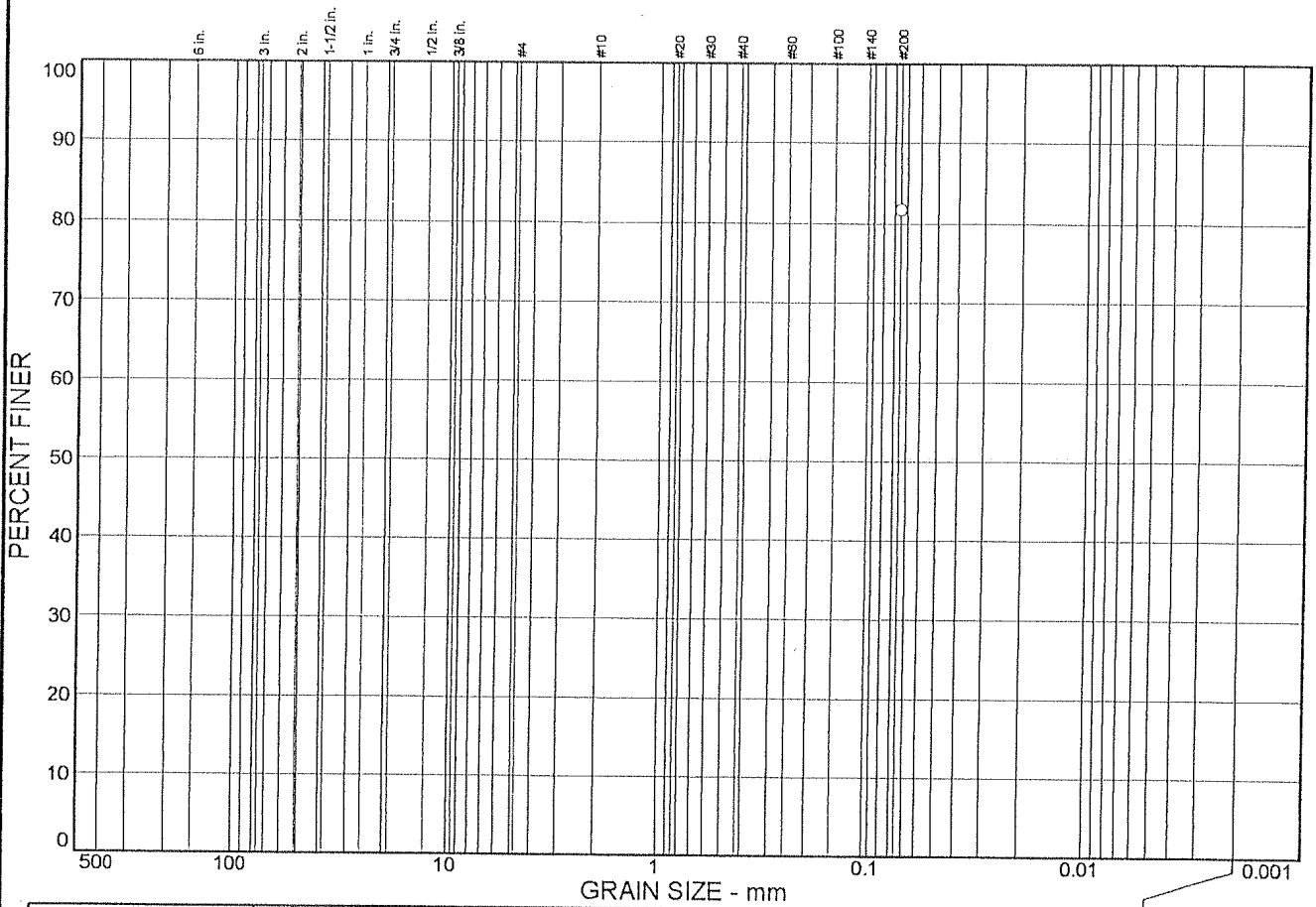
ENGEO INCORPORATED

Client:
Project: Central Lathrop Specific Plan - Phase 1

Project No: 5747.5.003.02

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			81.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	81.7		

Soil Description

Gray silt with sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

* (no specification provided)

Sample No.: B21-4
 Location:

Source of Sample: GEX

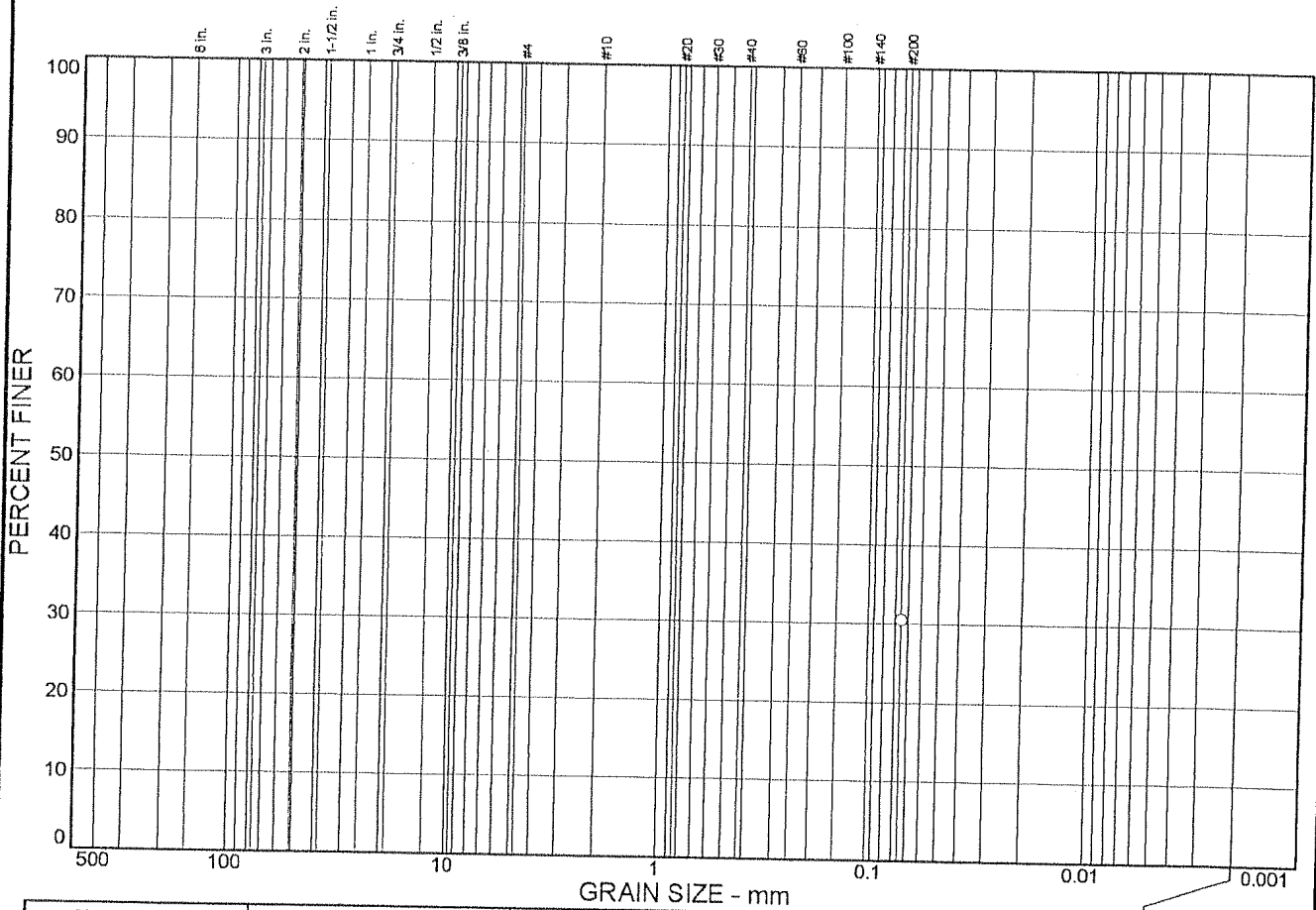
Date: 5/10/05
 Elev./Depth: 9 feet

ENGEO
 INCORPORATED

Client:
 Project: Central Lathrop Specific Plan - Phase 1
 Project No: 5747.5.003.02

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			30.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	30.5		

Soil Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=

D₃₀= D₁₅= D₁₀=

C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: B22-2
Location:

Source of Sample: GEX

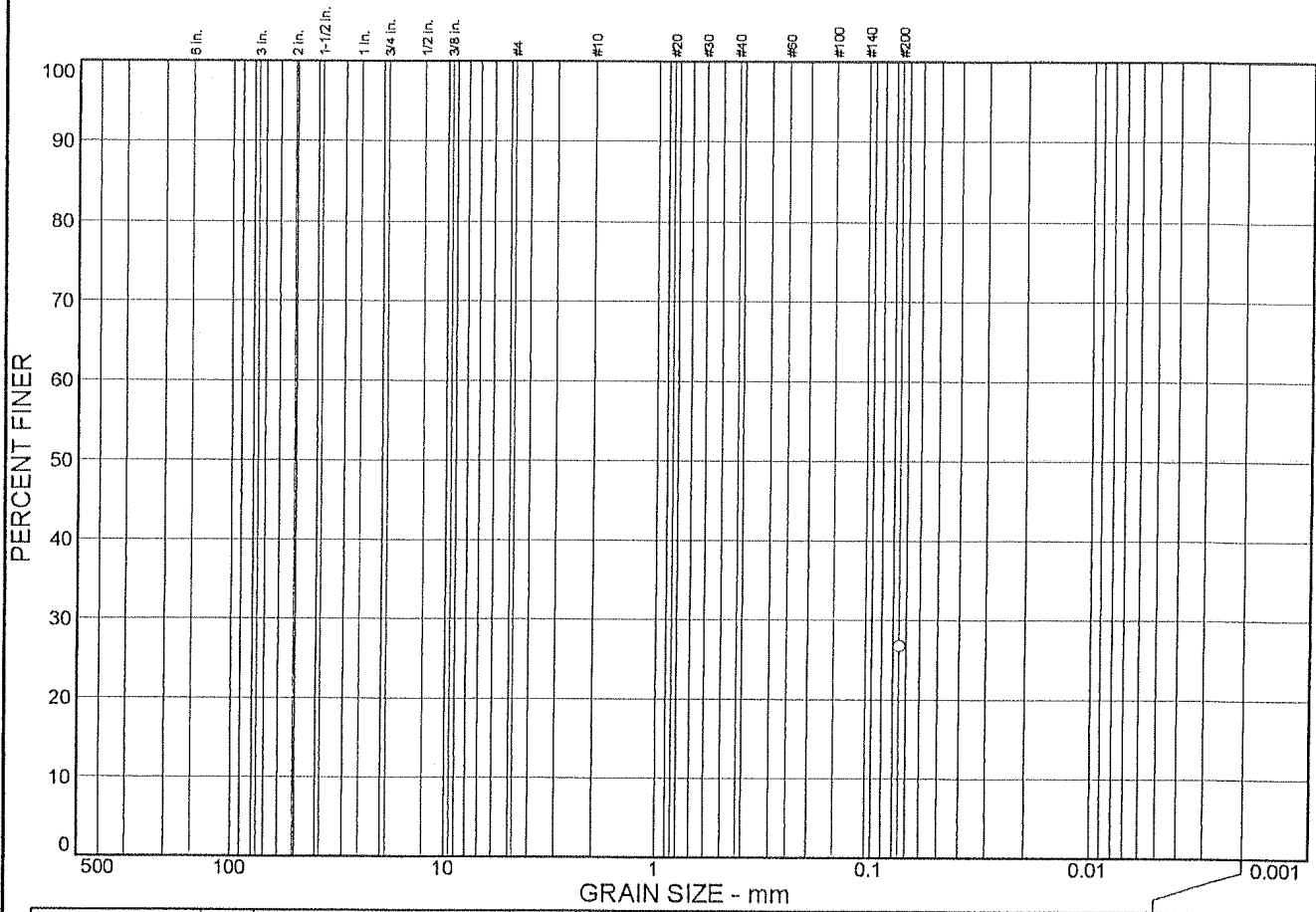
Date: 5/9/05
Elev./Depth: 4 feet

ENGEO INCORPORATED

Client:
Project: Central Lathrop Specific Plan - Phase I
Project No: 5747.5.003.02

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			26.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	26.8		

Soil Description

Gray silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

Sample No.: B22-3
Location:

Source of Sample: GEX

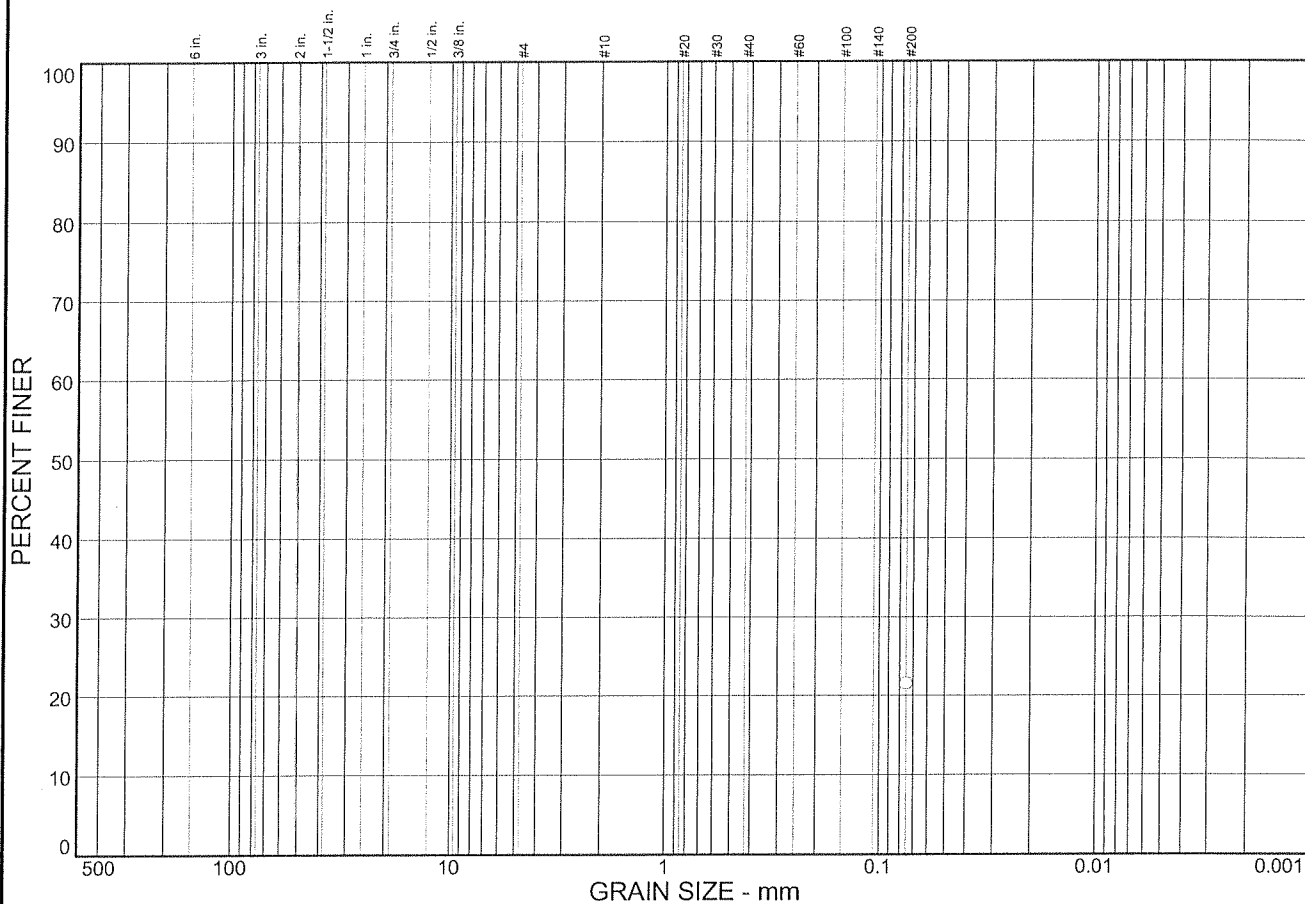
Date: 5/9/05
Elev./Depth: 9 feet

ENGE INCORPORATED

Client:
Project: Central Lathrop Specific Plan - Phase 1
Project No: 5747.5.003.02

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			21.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	21.5		

Soil Description

Olive Brn Silty Sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Minus #200 wash only

* (no specification provided)

Sample No.: MW6-2b
 Location:

Source of Sample: GEX

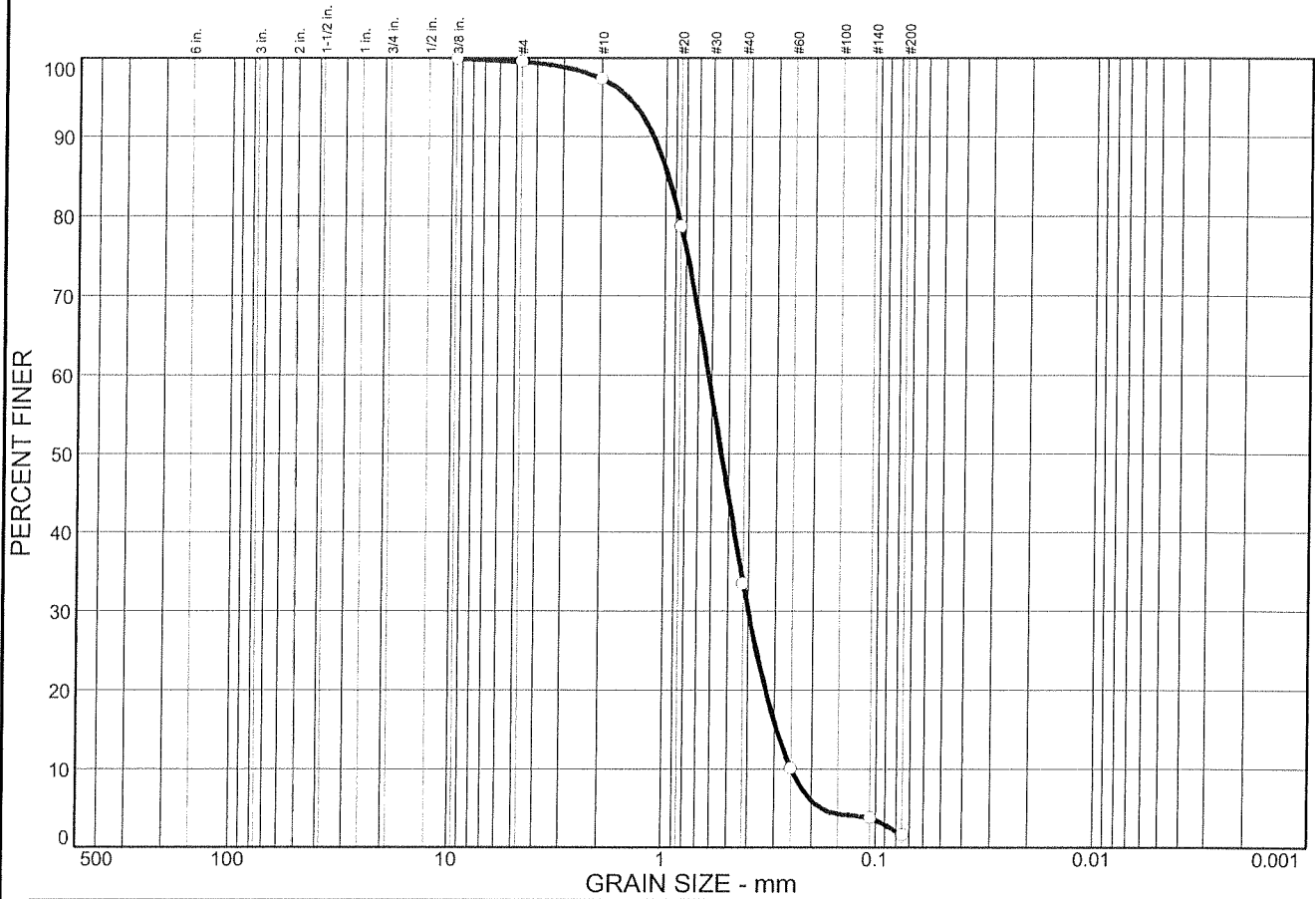
Date: 12-1-03
 Elev./Depth: 6.0

ENGE INCORPORATED

Client:
 Project: Central Lathrop Specific Plan
 Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.4	98.0	1.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.6		
#10	97.4		
#20	78.7		
#40	33.5		
#60	10.1		
#140	3.8		
#200	1.6		

Soil Description

Gray brn sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.981 D₆₀= 0.627 D₅₀= 0.543

D₃₀= 0.401 D₁₅= 0.293 D₁₀= 0.249

C_u= 2.52 C_c= 1.03

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample No.: MW6-3
Location:

Source of Sample: GEX

Date: 12-1-03
Elev./Depth: 10 feet

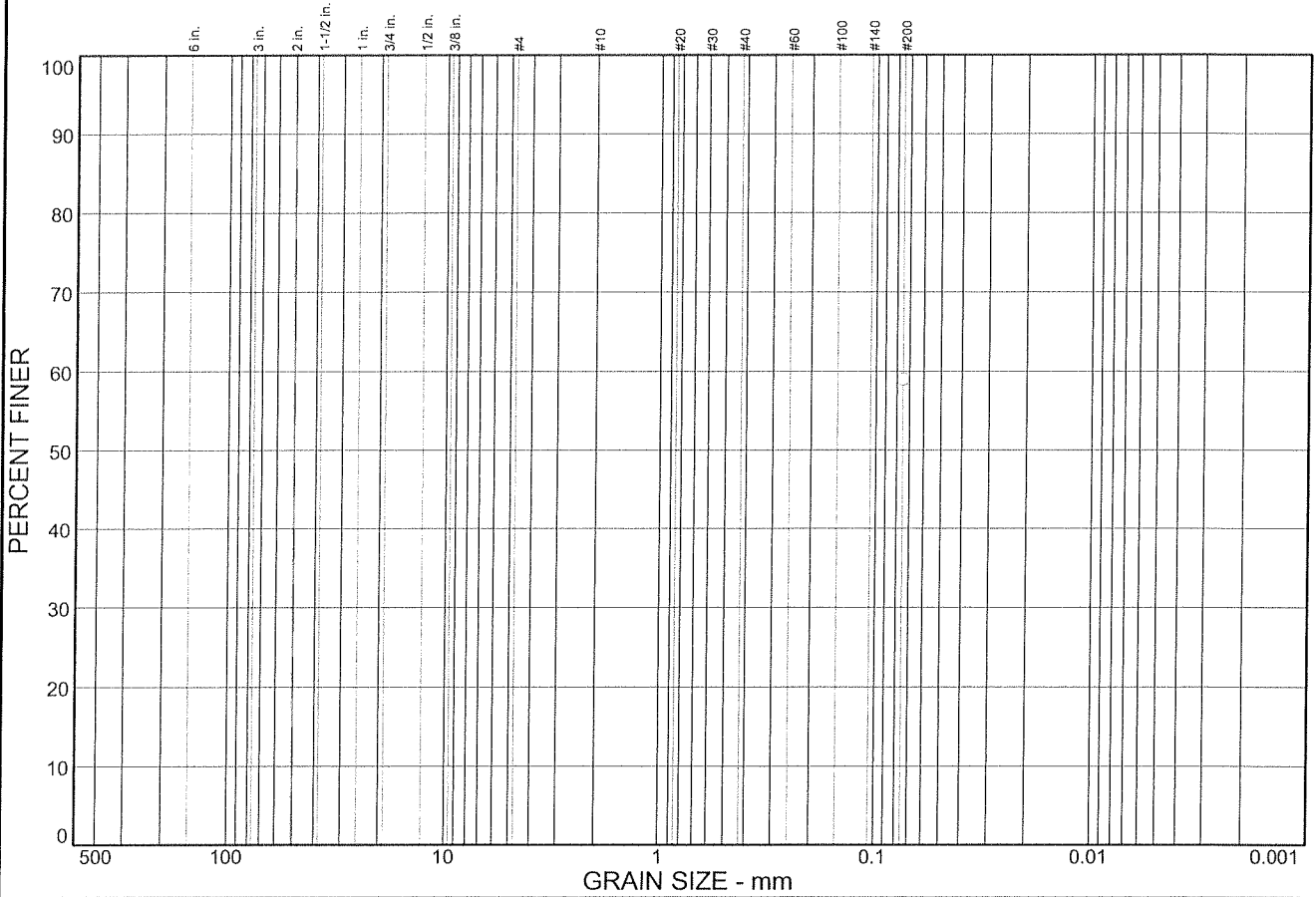
ENGEO INCORPORATED

Client:
Project: Central Lathrop Specific Plan

Project No: 5747.5.003.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			58.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	58.9		

* (no specification provided)

Soil Description

Dark Brn Sandy clay with Silt

Atterberg Limits
 PL= 18 LL= 27 PI= 9

Coefficients
 D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification
 USCS= CL AASHTO=

Remarks
 Minus #200 wash only

Sample No.: MW-8-1
Location:

Source of Sample: GEX

Date: 12-1-03
Elev./Depth: 1.5 feet

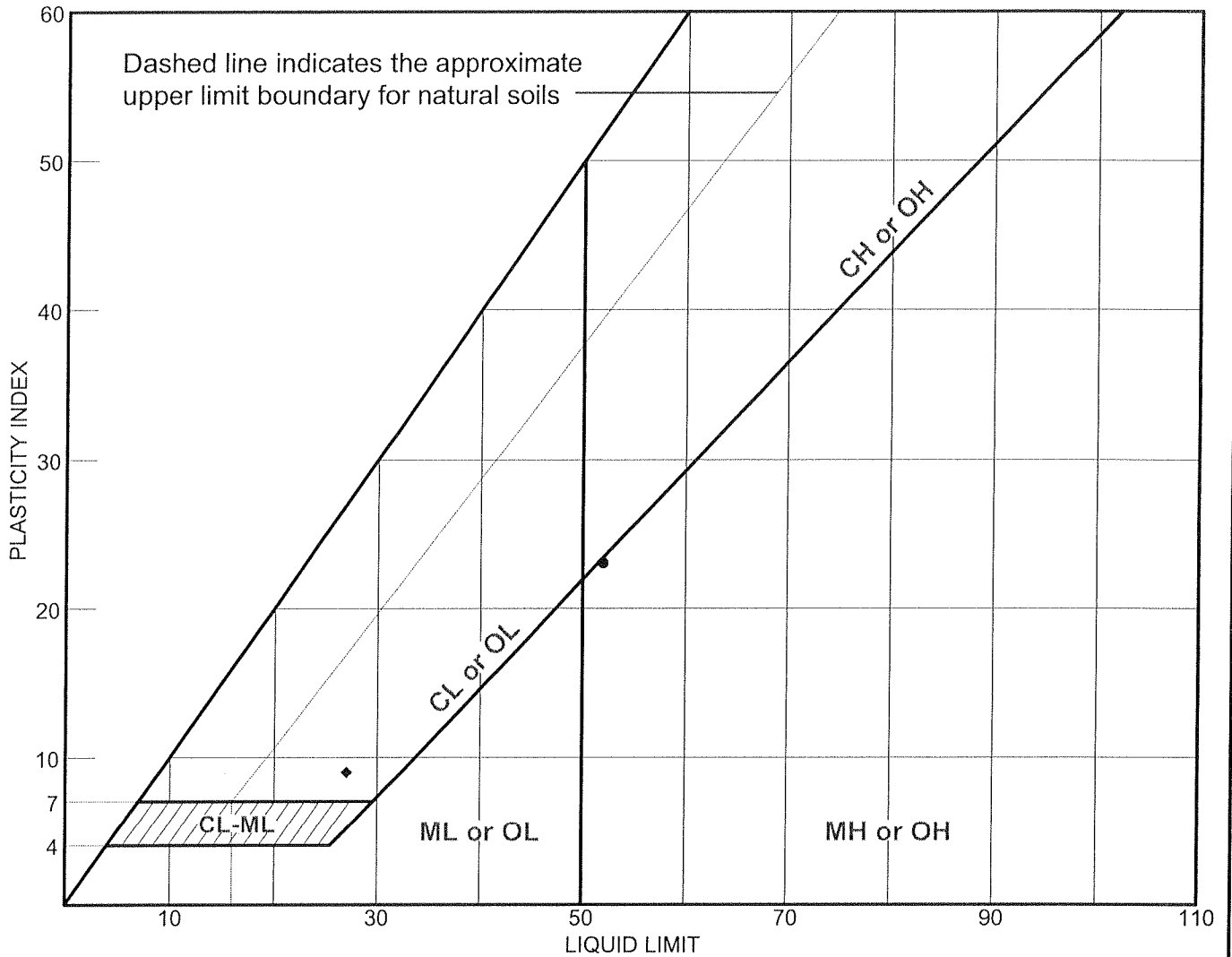
ENGE INCORPORATED

Client:
Project: Central Lathrop Specific Plan

Project No: 5747.5.003.01

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	GEX	TP1-4	3 feet		29	52	23	MH
■	GEX	B1-1b	2 feet		NP	NV	NP	SM
▲	GEX	B2-1b	2.0 feet		NP	NV	NP	SC
◆	GEX	MW-8-1	1.5 feet		18	27	9	CL

LIQUID AND PLASTIC LIMITS TEST REPORT

**ENGEO
INCORPORATED**

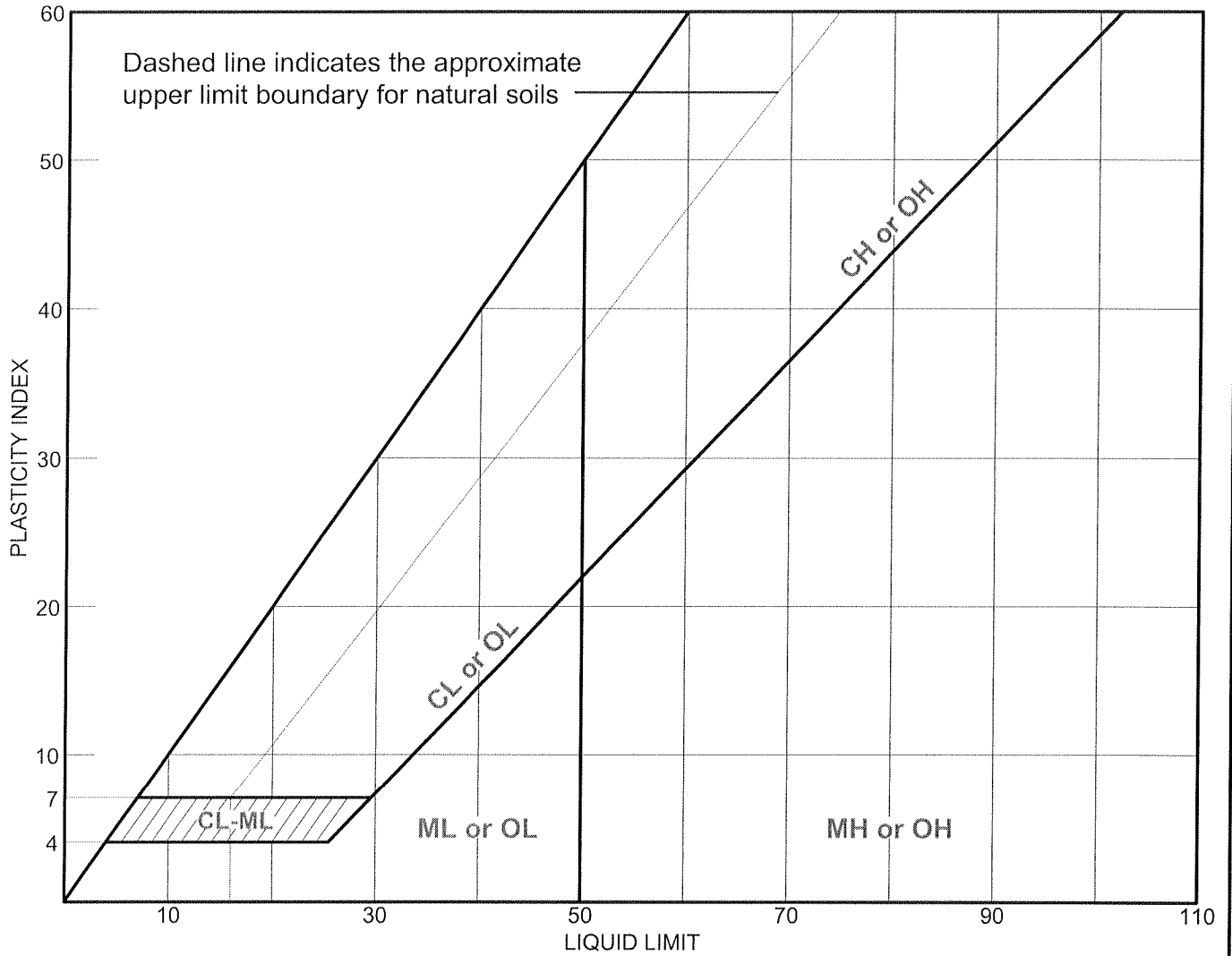
Client:

Project: Central Lathrop Specific Plan

Project No.: 5747.5.003.01

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Liquefaction	B6-1	5 feet			NV	NP	SM
■	Liquefaction	B6-5	25 feet			NV	NP	SM
▲	Liquefaction	B7-1	5 feet			NV	NP	ML
◆	Liquefaction	B7-5	25 feet			NV	NP	SM
▼	Liquefaction	B8-1	5 feet			NV	NP	SM

LIQUID AND PLASTIC LIMITS TEST REPORT

**ENGE
INCORPORATED**

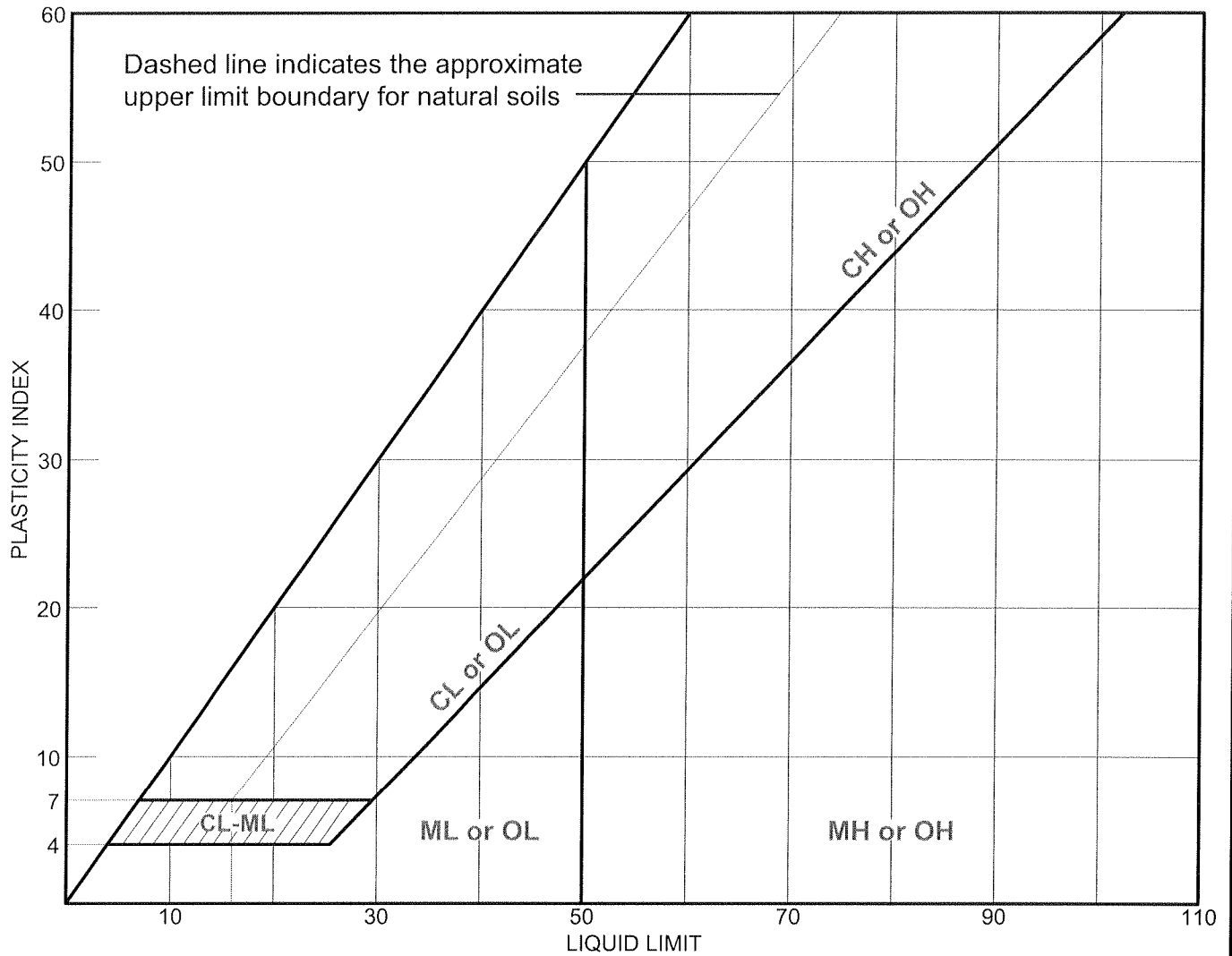
Client:

Project: Central Lathrop Specific Plan

Project No.: 5747.5.003.01

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Liquefaction	B8-2	10 feet			NV	NP	ML
■	Liquefaction	B9-1	2 feet			NV	NP	SM
▲	Liquefaction	B9-2	5 feet			NV	NP	SM
◆	Liquefaction	B10-1	2 feet			NV	NP	SM
▼	Liquefaction	B10-2	5 feet			NV	NP	SM

LIQUID AND PLASTIC LIMITS TEST REPORT

**ENGE
INCORPORATED**

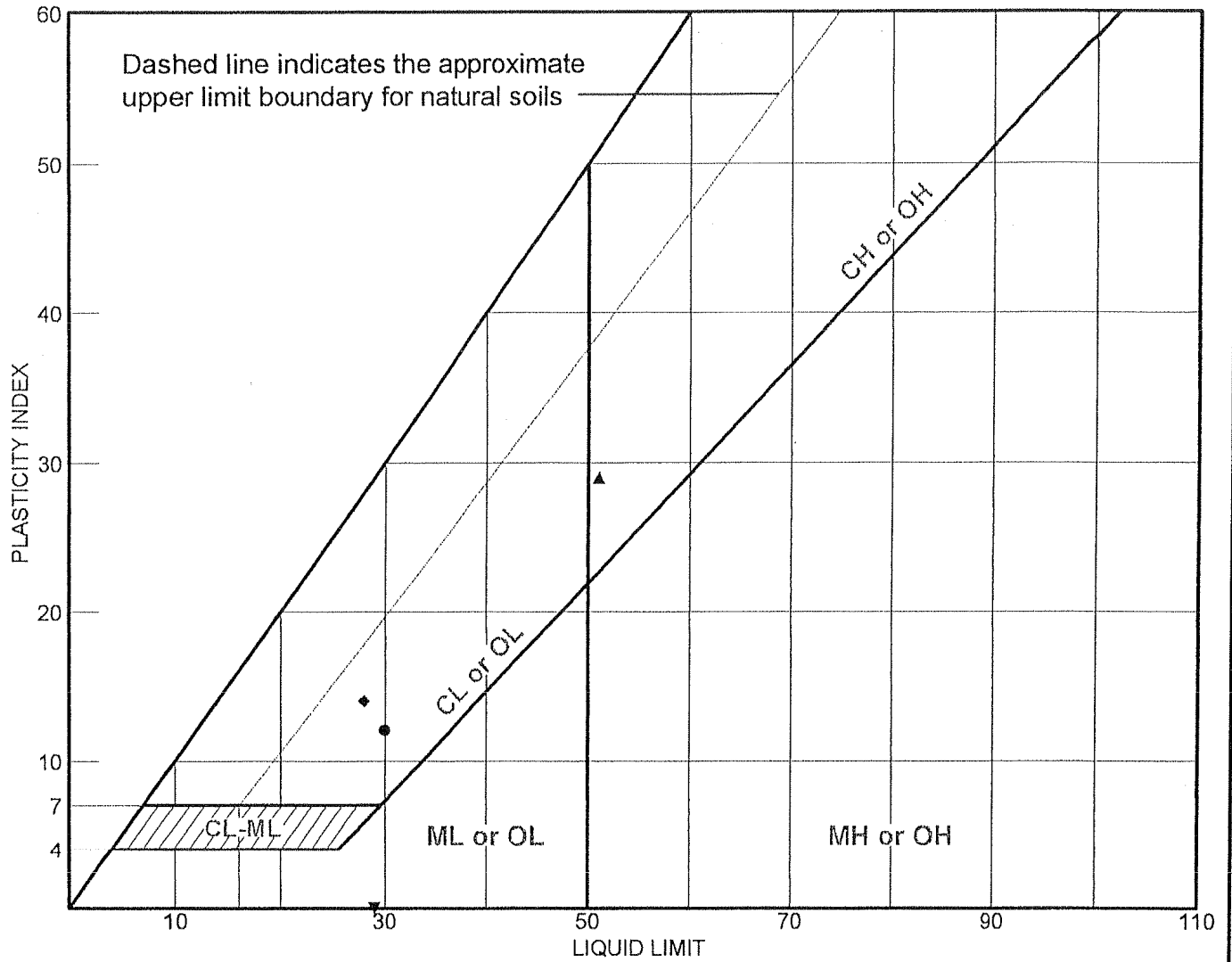
Client:

Project: Central Lathrop Specific Plan

Project No.: 5747.5.003.01

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	GEX	B11-1	4 1/2 feet		18	30	12	CL
■	GEX	B11-2	6 feet			NV	NP	ML
▲	GEX	B15-3	11 1/2 feet		22	51	29	CH
◆	GEX	B18-1	2 1/2 feet		14	28	14	CL
▼	GEX	B18-2	3 1/2 feet			29	NP	ML

LIQUID AND PLASTIC LIMITS TEST REPORT

**ENGEO
INCORPORATED**

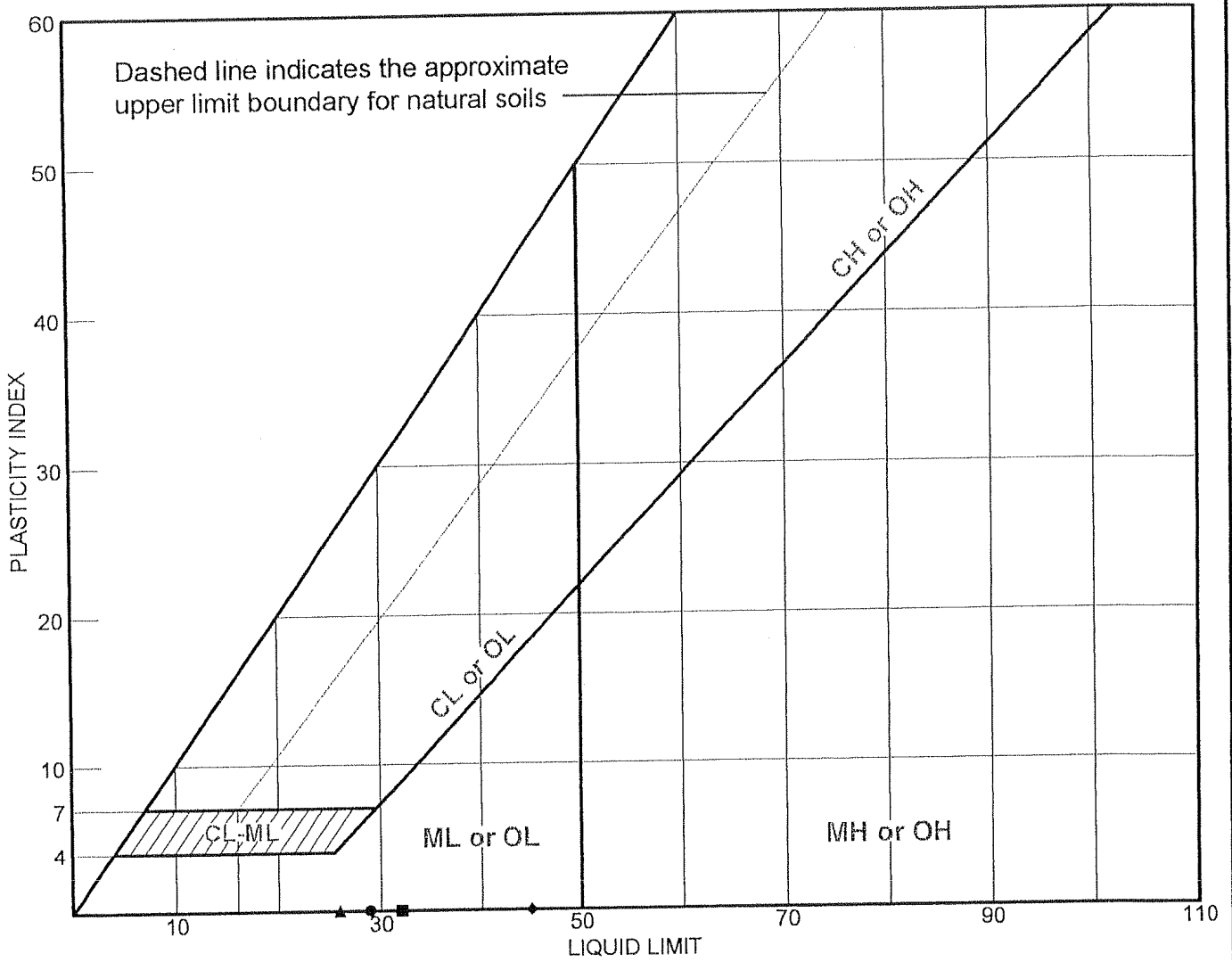
Client:

Project: Central Lathrop Specific Plan - Phase 1

Project No.: 5747.5.003.02

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	GEX	B18-2	3 1/2 feet			29	NP	ML
■	GEX	B19-5	15 1/2 feet			32	NP	ML
▲	GEX	B20-2	3 1/2 feet			26	NP	ML
◆	GEX	B21-1	1 1/2 feet			45	NP	ML

LIQUID AND PLASTIC LIMITS TEST REPORT

**ENGEO
INCORPORATED**

Client:

Project: Central Lathrop Specific Plan - Phase 1

Project No.: 5747.5.003.02

Figure

EXPANSION INDEX TEST RESULTS

ASTM D 4829

DATE: 12/3/03

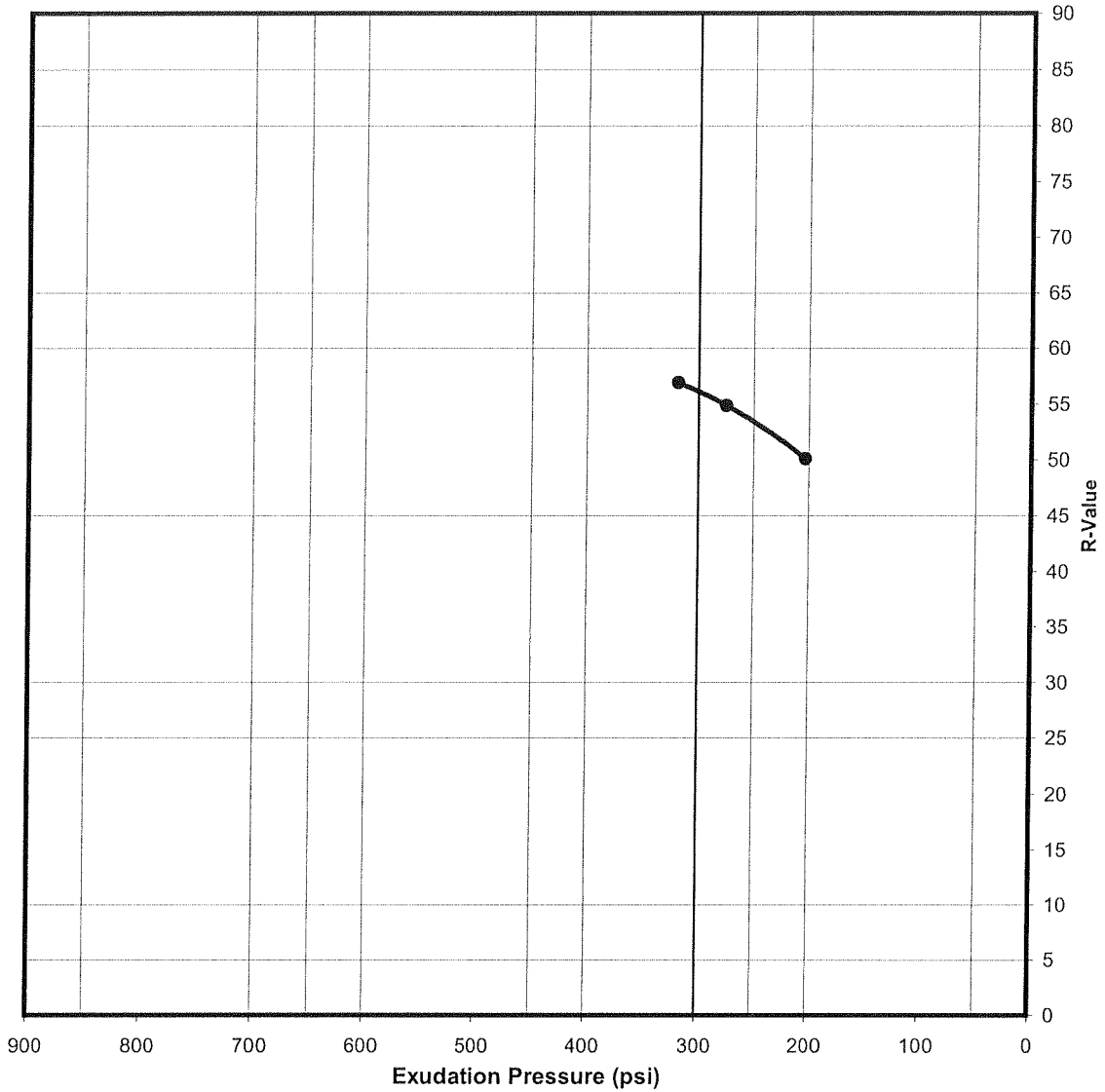
JOB NO.: 5747.5.003.01

JOB NAME: Central Lathrop Specific Plan

SAMPLE I.D.	SOIL DESCRIPTION	INITIAL DRY DENSITY (pcf)	INITIAL MOISTURE CONTENT (%)	FINAL MOISTURE CONTENT (%)	EXPANSION INDEX
B3-1a&b 1 ½ feet	Dark brown fine clayey sand (SC)	97.6	12.0	26.4	28
B4-1a&b 1 ½ feet	Dark brown silty fine sand (SM)	113.7	9.0	14.1	0
B5-1a&b 1 ½ feet	Dark brown silty sand (SM)	115.3	9.0	13.9	0
MW6-1a&b 1 1 ½ feet	Olive brown silty sand (SM)	112.3	8.0	15.0	0

CLASSIFICATION OF EXPANSIVE SOIL ASTM D 4829

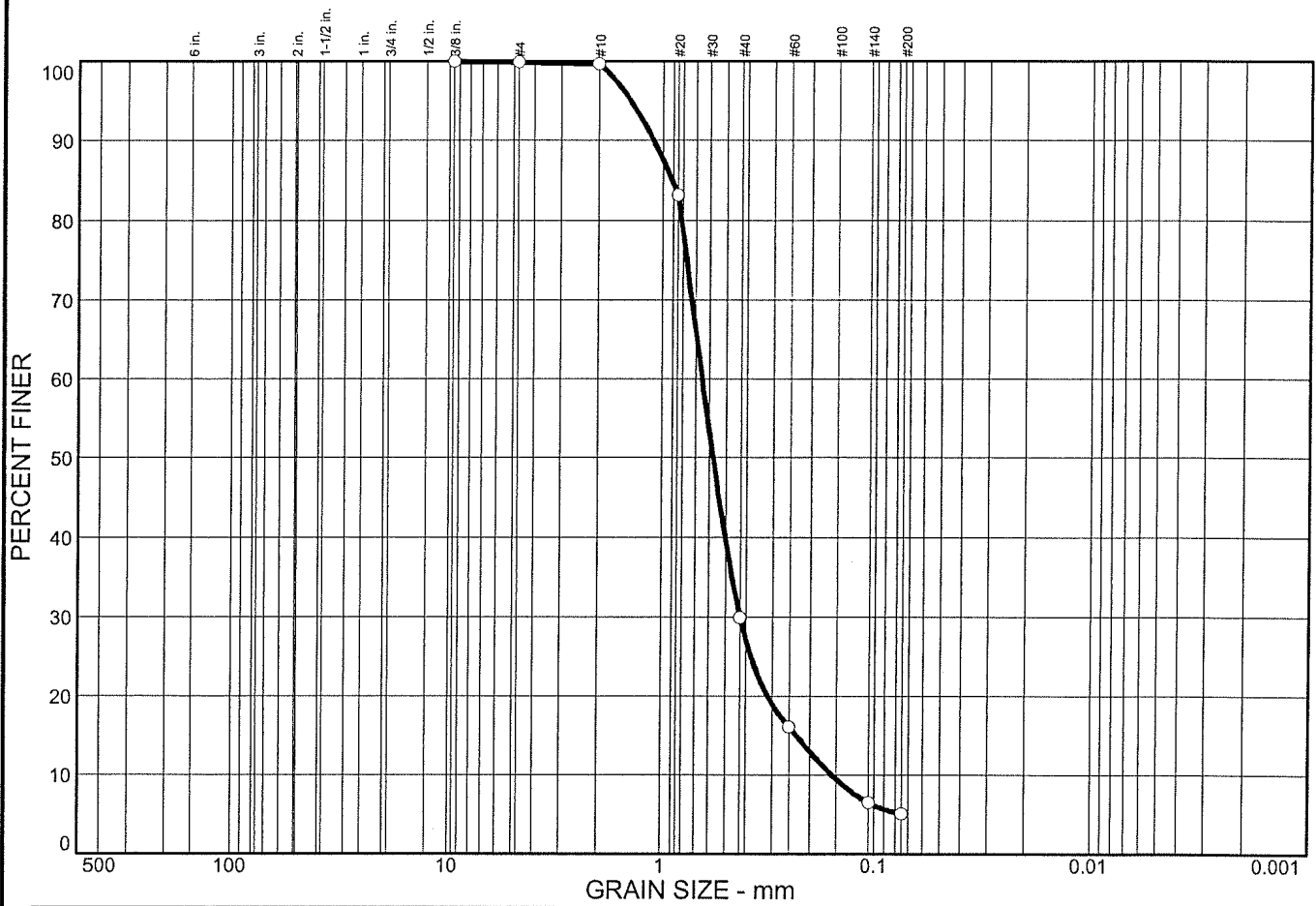
EXPANSION INDEX	POTENTIAL EXPANSION
0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
Above 130	Very High



Date: 12/5/2003
 Project Name: Central Lathrop Specific Plan
 Project Number: 5747.5.003.01
 Sample: TP4-3; 2 - 3 feet
 Description: Light olive brown silty sand (SM)

Specimen	A	B	C
Exudation Pressure, p.s.i.	318	274	203
Expansion dial (.0001")	12	8	9
Expansion Pressure, p.s.f.	52	35	39
Resistance Value, "R"	57	55	50
% Moisture at Test	12.6	13.1	13.5
Dry Density at Test, p.c.f.	118.7	117.6	116.4
"R" Value at 300 p.s.i., Exudation Pressure	56		

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.1	94.8	5.1	5.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.9		
#10	99.7		
#20	83.1		
#40	29.9		
#60	16.1		
#140	6.5		
#200	5.1		

Soil Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.909 D₆₀= 0.652 D₅₀= 0.577

D₃₀= 0.426 D₁₅= 0.231 D₁₀= 0.157

C_u= 4.16 C_c= 1.77

Classification

USCS= SP-SM AASHTO=

Remarks

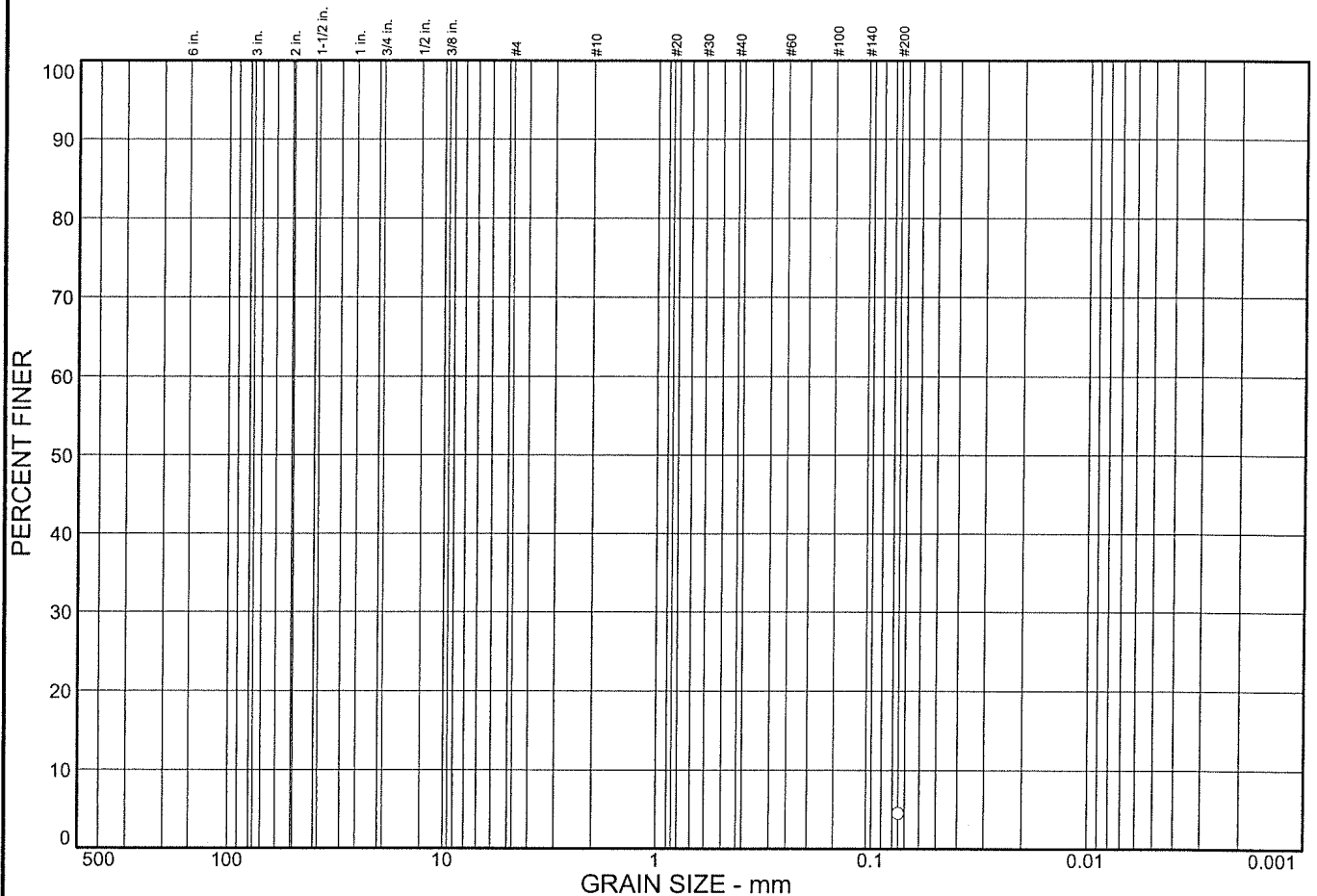
* (no specification provided)

Sample No.: B3-3
Location:

Source of Sample: GEX2

Date: 11/3/04
Elev./Depth: 8 feet

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			4.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.5		

Soil Description

Light brownish gray sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

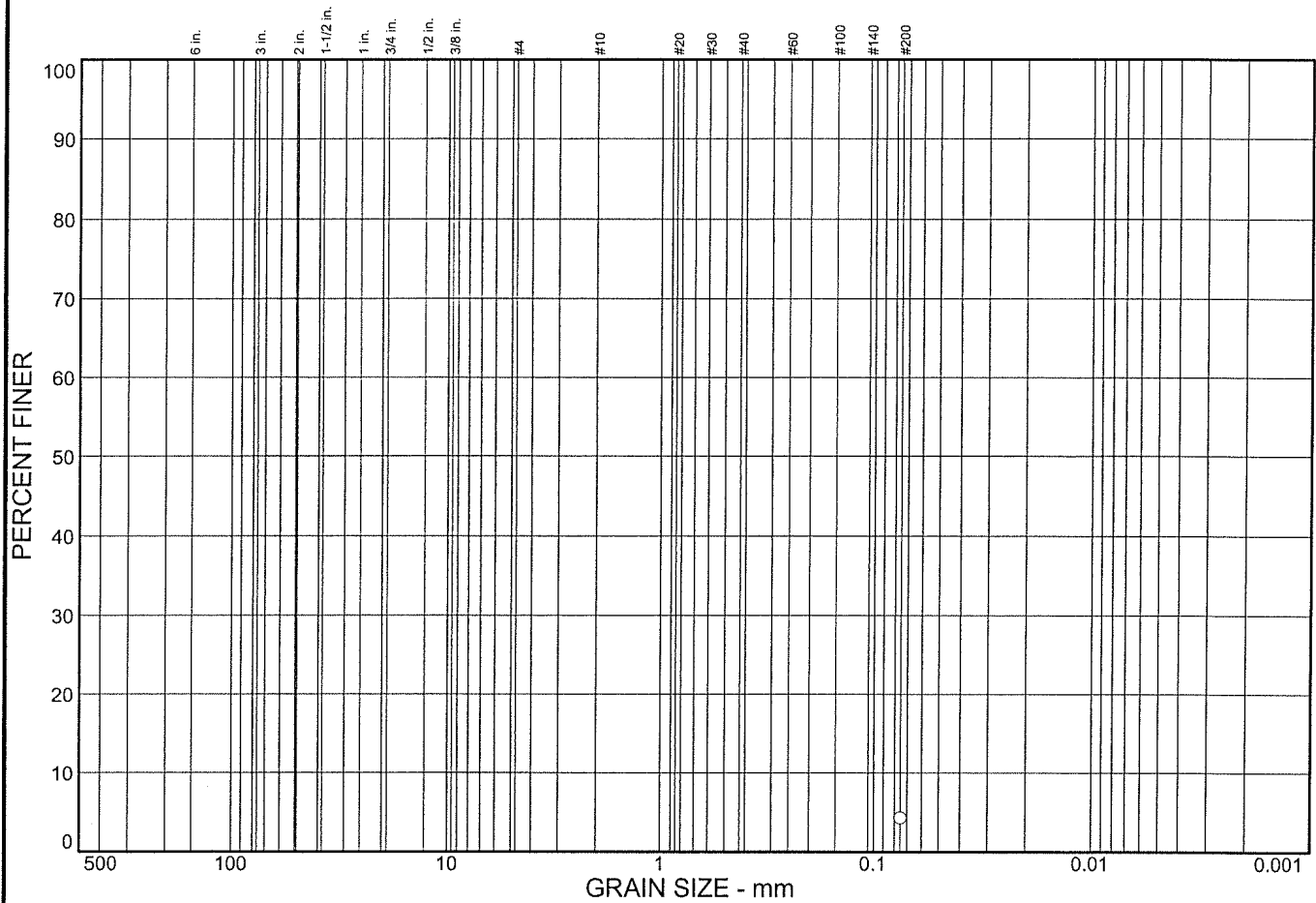
Sample No.: B3-4
Location:

Source of Sample: GEX2

Date: 11/3/04
Elev./Depth: 13 feet

<h2 style="margin: 0;">ENGEO INCORPORATED</h2>	<p>Client: 220 Acre Mixed Use Development</p> <p>Project No: 6282.5.002.01</p>
<p>Figure</p>	

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			4.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.3		

Soil Description

Light brownish gray sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample No.: B3-5
 Location:

Source of Sample: GEX2

Date: 11/3/04
 Elev./Depth: 18 feet

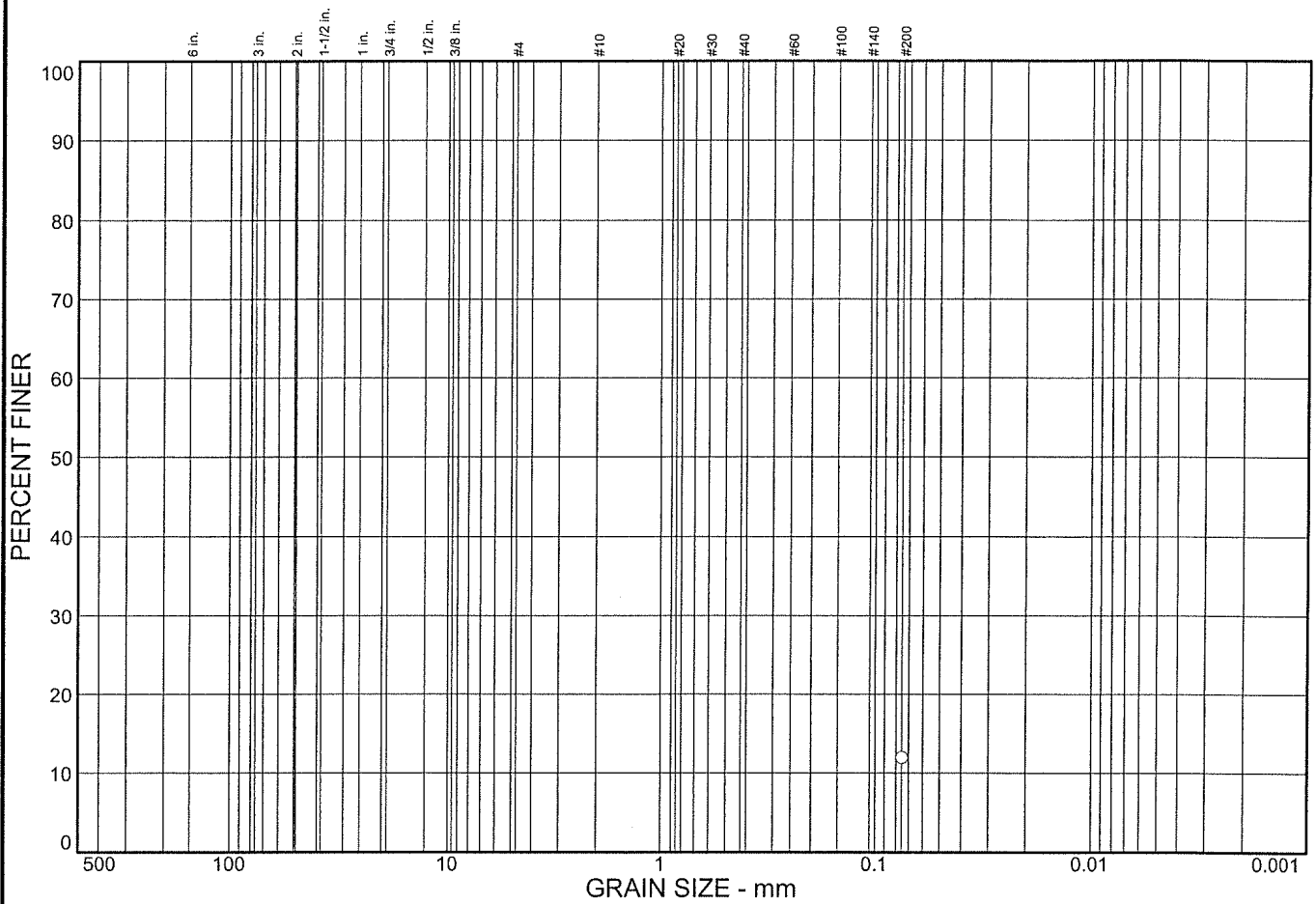
ENGEO INCORPORATED

Client:
 Project: 220 Acre Mixed Use Development

Project No: 6282.5.002.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			11.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	11.9		

Soil Description

Brown sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

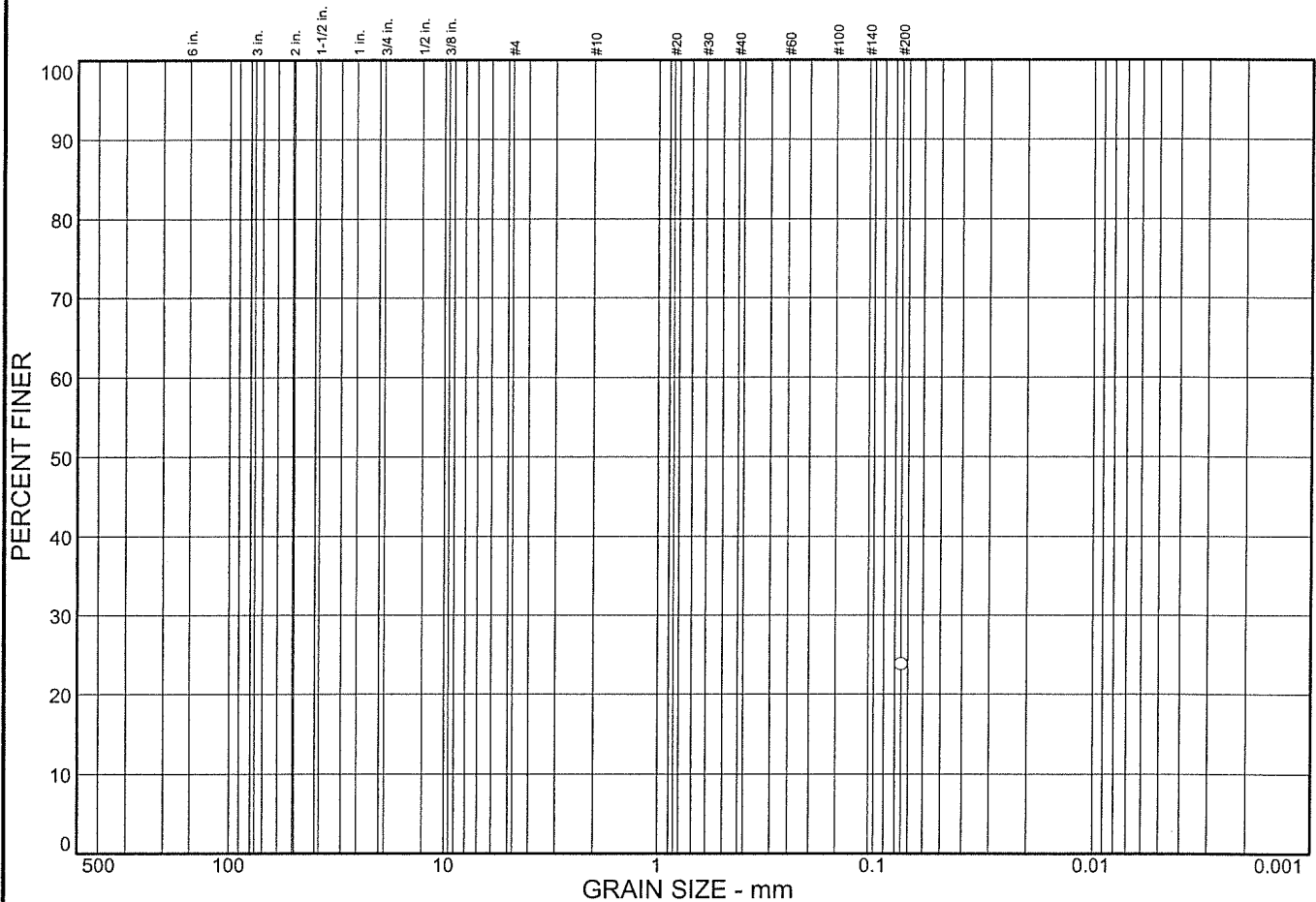
Sample No.: B3-7
 Location:

Source of Sample: GEX2

Date: 11/3/04
 Elev./Depth: 28 feet

<h2 style="margin: 0;">ENGEO INCORPORATED</h2>	Client: Project: 220 Acre Mixed Use Development Project No: 6282.5.002.01
	Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			23.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	23.8		

Soil Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

* (no specification provided)

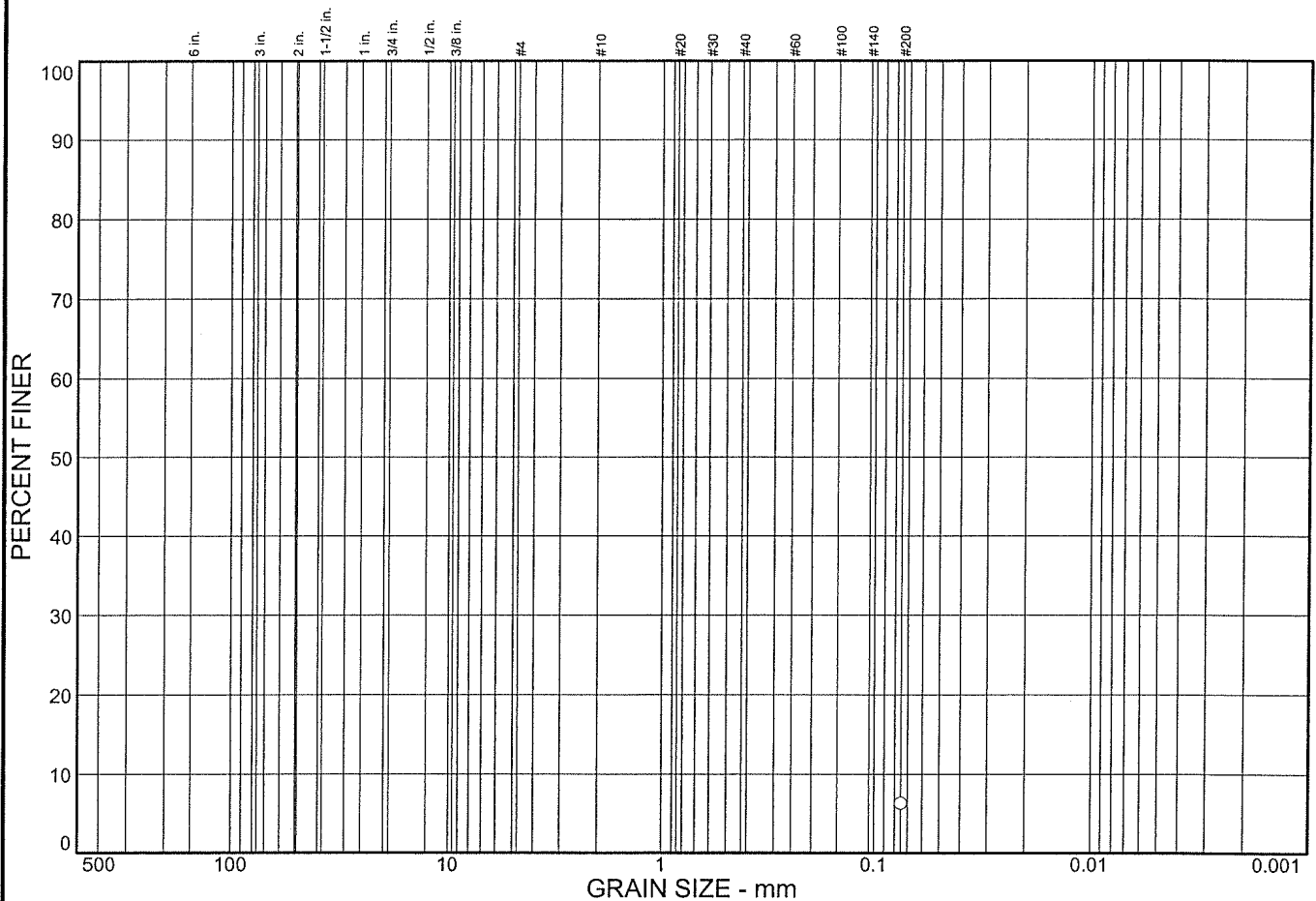
Sample No.: B4-4
 Location:

Source of Sample: GEX2

Date: 11/3/04
 Elev./Depth: 8 feet

<h2 style="margin: 0;">ENGEO INCORPORATED</h2>	<p>Client: Project: 220 Acre Mixed Use Development</p> <p>Project No: 6282.5.002.01 Figure</p>
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Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			6.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	6.3		

Soil Description

Light grayish brown sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

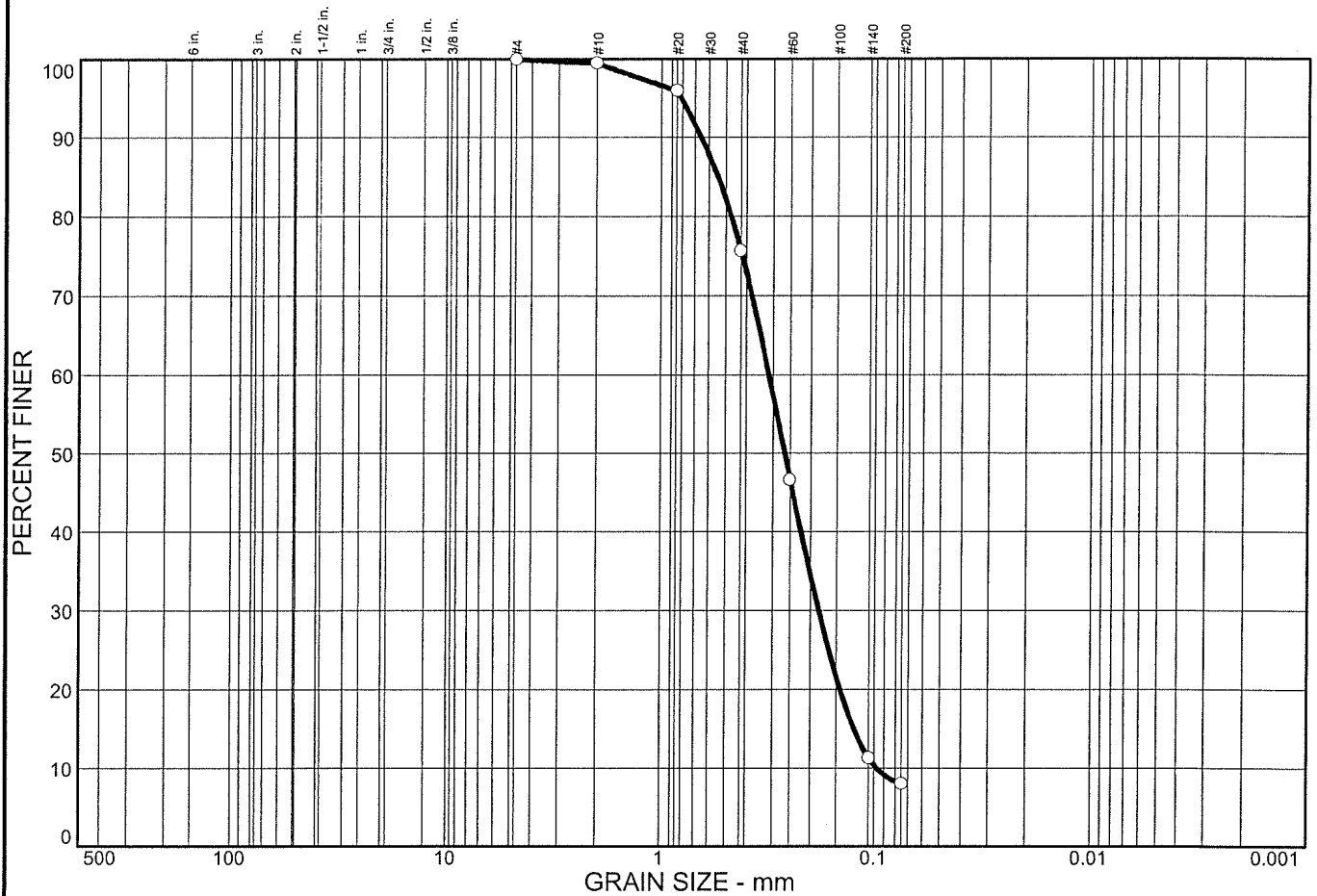
* (no specification provided)

Sample No.: B4-5
 Location:

Source of Sample: GEX2

Date: 11/3/04
 Elev./Depth: 13 feet

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	92.0	8.0	8.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.5		
#20	96.0		
#40	75.6		
#60	46.6		
#140	11.3		
#200	8.0		

Soil Description

Light grayish brown sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= 0.546 D₆₀= 0.315 D₅₀= 0.265
D₃₀= 0.183 D₁₅= 0.124 D₁₀= 0.0972
C_u= 3.24 C_c= 1.09

Classification

USCS= SP-SM AASHTO=

Remarks

* (no specification provided)

Sample No.: B4-6
 Location:

Source of Sample: GEX2

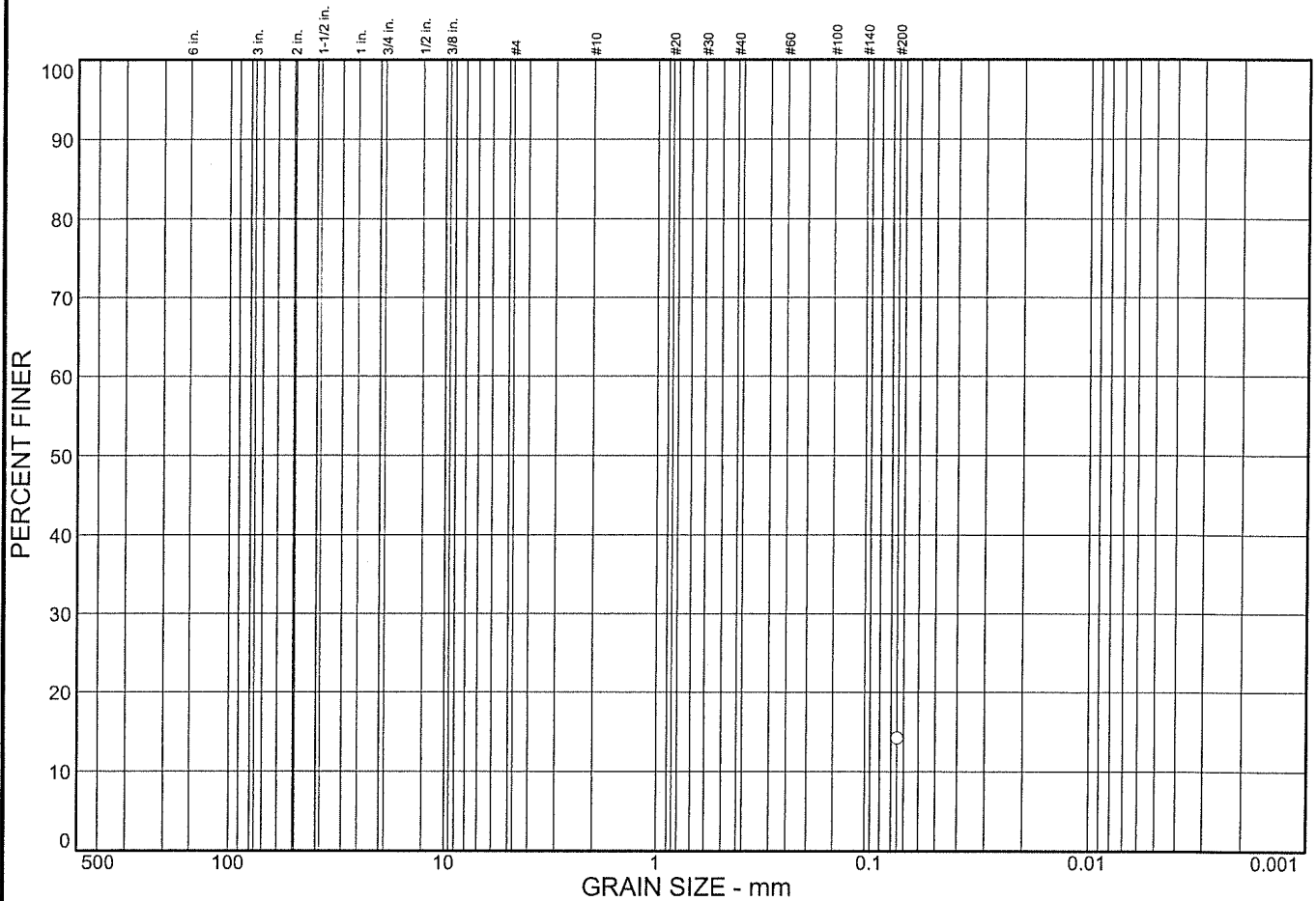
Date: 11/3/04
 Elev./Depth: 18 feet

ENGEO INCORPORATED

Client:
 Project: 220 Acre Mixed Use Development
 Project No: 6282.5.002.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			14.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	14.2		

Soil Description

Light grayish brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

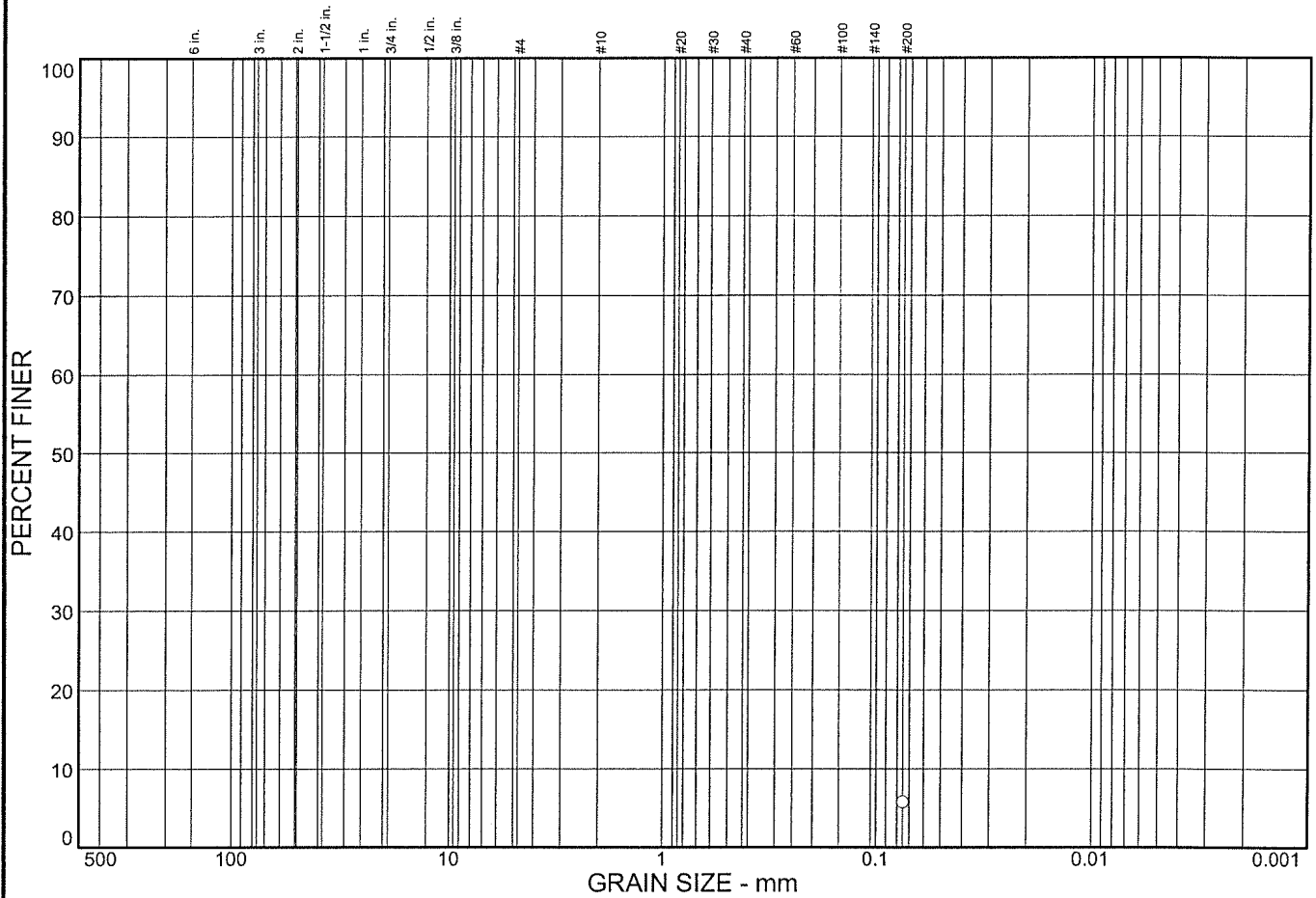
* (no specification provided)

Sample No.: B4-7
 Location:

Source of Sample: GEX2

Date: 11/3/04
 Elev./Depth: 23 feet

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			5.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	5.8		

Soil Description

Light brownish gray sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
 D₃₀= D₁₅= D₁₀=
 C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

Sample No.: B4-8
 Location:

Source of Sample: GEX2

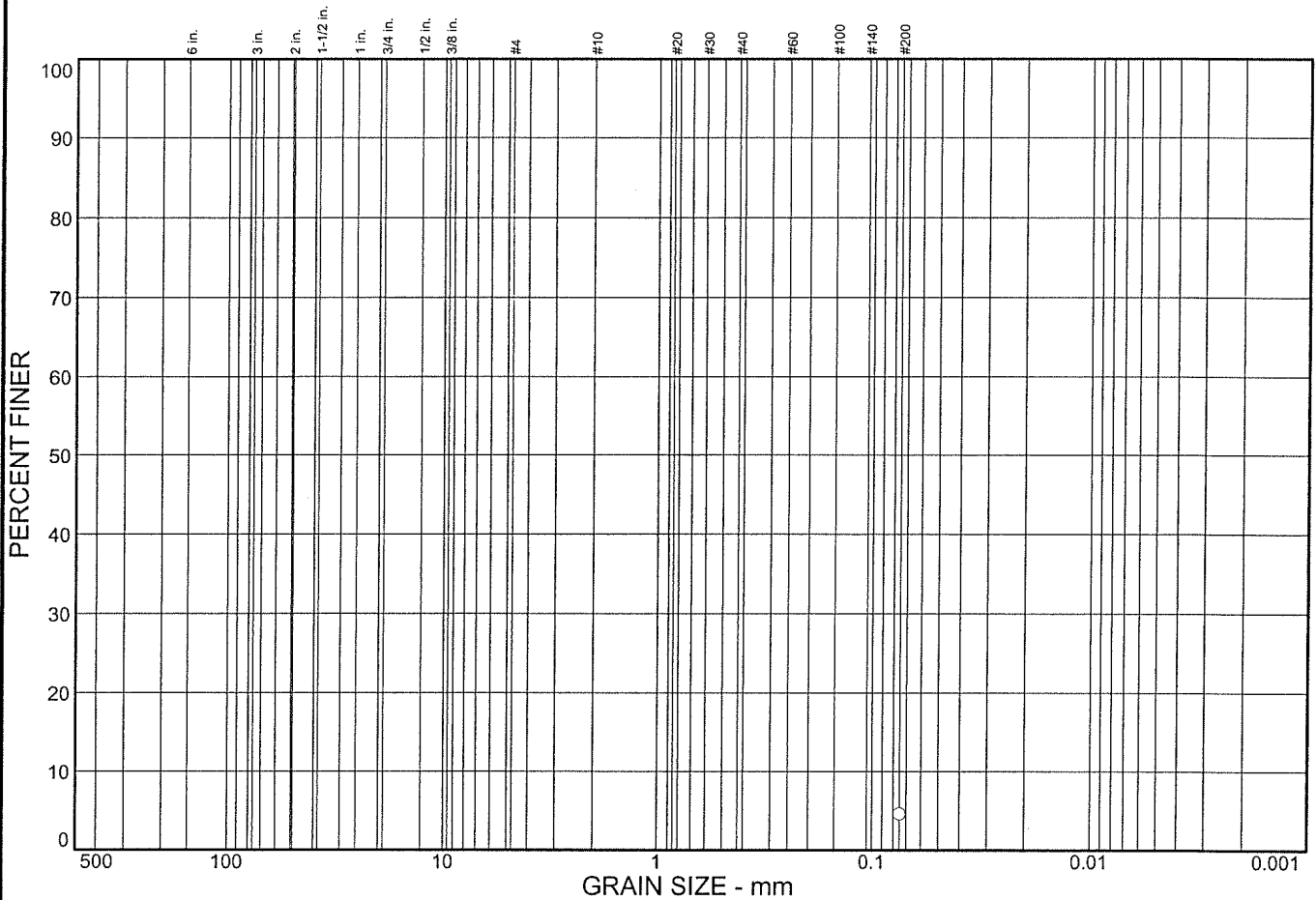
Date: 11/3/04
 Elev./Depth: 28 feet

ENGEO INCORPORATED

Client:
 Project: 220 Acre Mixed Use Development
 Project No: 6282.5.002.01

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			4.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	4.6		

Soil Description

Light brownish gray sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

Remarks

* (no specification provided)

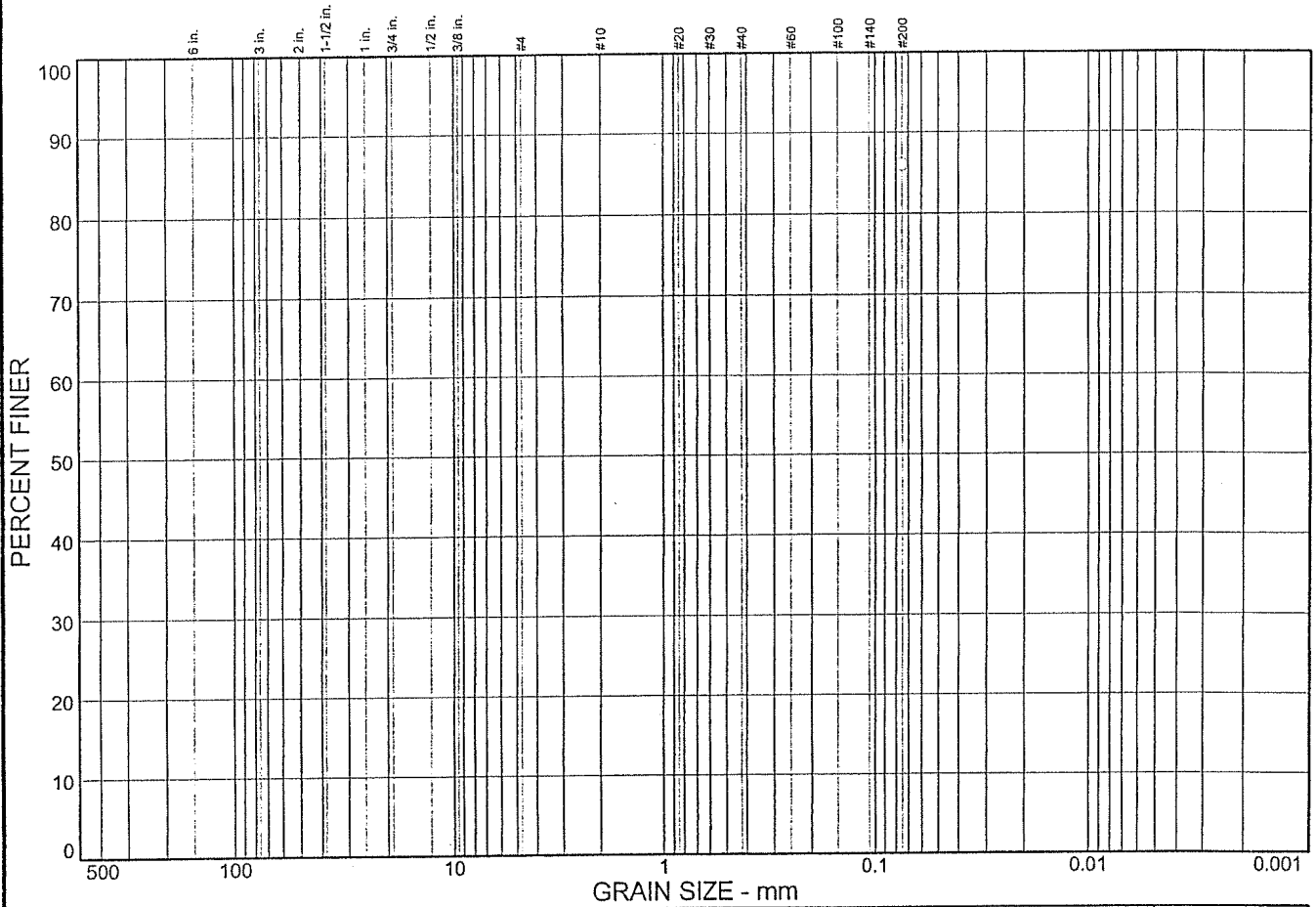
Sample No.: B4-9
 Location:

Source of Sample: GEX2

Date: 11/3/04
 Elev./Depth: 33 feet

<h2 style="margin: 0;">ENGEO INCORPORATED</h2>	Client: Project: 220 Acre Mixed Use Development Project No: 6282.5.002.01
	Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
			86.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	86.0		

Soil Description

Light brown silt with sand

Atterberg Limits

PL= LL= PI=

Coefficients

D₈₅= D₆₀= D₅₀=
D₃₀= D₁₅= D₁₀=
C_u= C_c=

Classification

USCS= SP AASHTO=

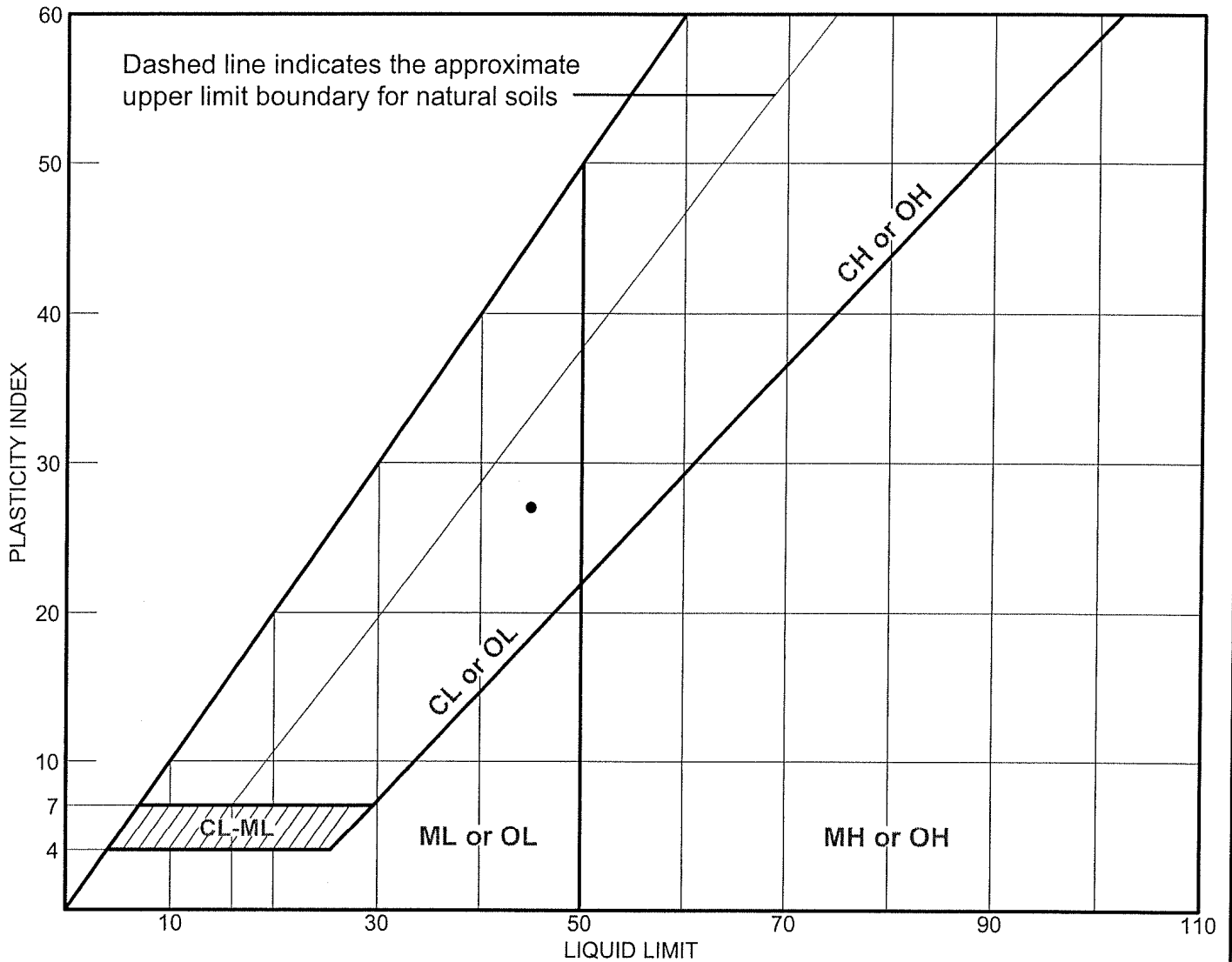
Remarks

* (no specification provided)
Sample No.: MW-51-1
Location:

Source of Sample: GEX

Date: 5/31/04
Elev./Depth: 6 feet

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
•	GEX2	B4-2	3 feet		18	45	27	CL

LIQUID AND PLASTIC LIMITS TEST REPORT

**ENGEO
INCORPORATED**

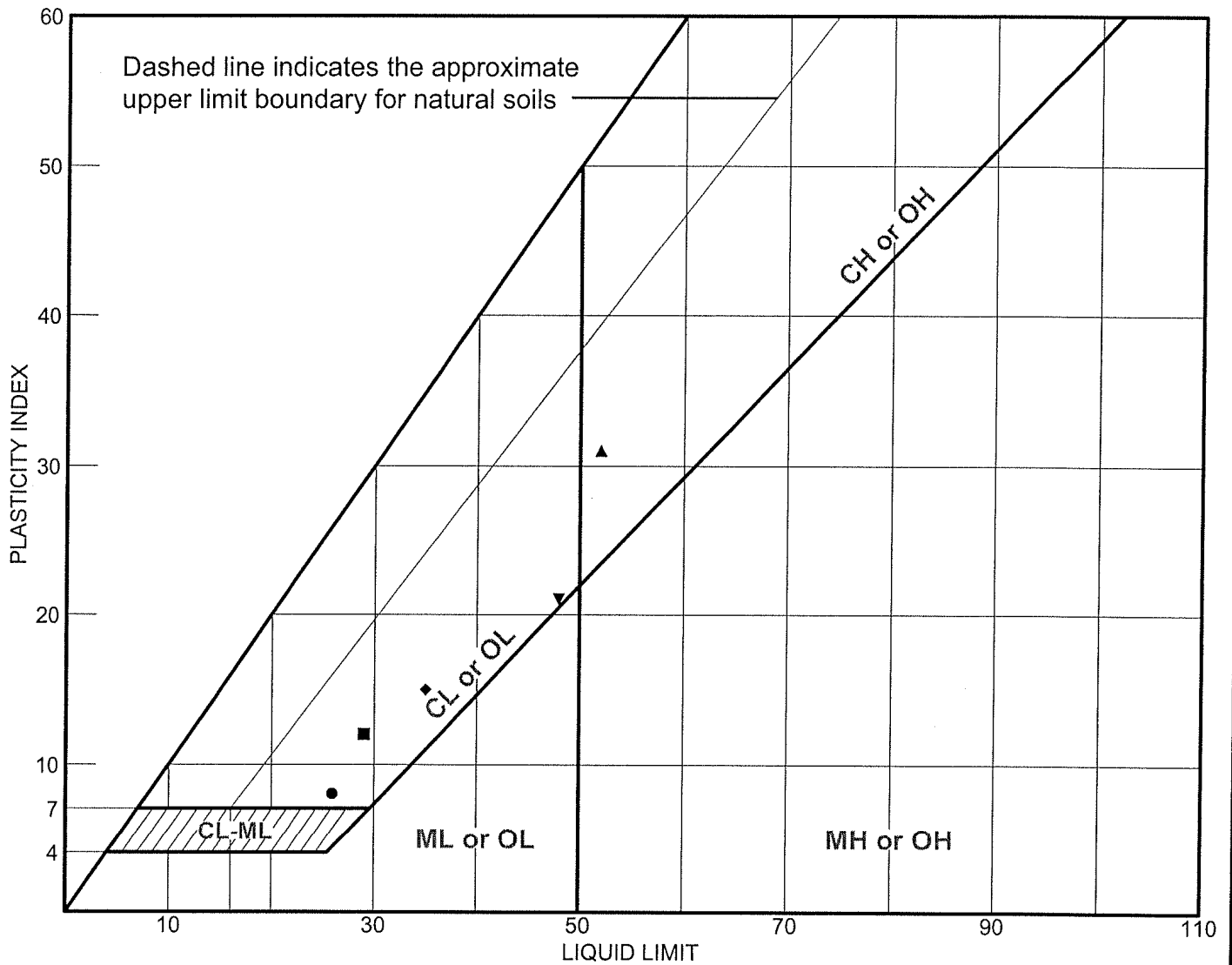
Client:

Project: 220 Acre Mixed Use Development

Project No.: 6282.5.002.01

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	GEX2	B1-1	1 feet		18	26	8	CL
■	GEX2	B2-1	1 feet		17	29	12	CL
▲	GEX2	B2-2	3 feet		21	52	31	CH
◆	GEX2	B3-1	1 feet		20	35	15	CL
▼	GEX2	B4-1	1 feet		27	48	21	CL

LIQUID AND PLASTIC LIMITS TEST REPORT

**ENGEO
INCORPORATED**

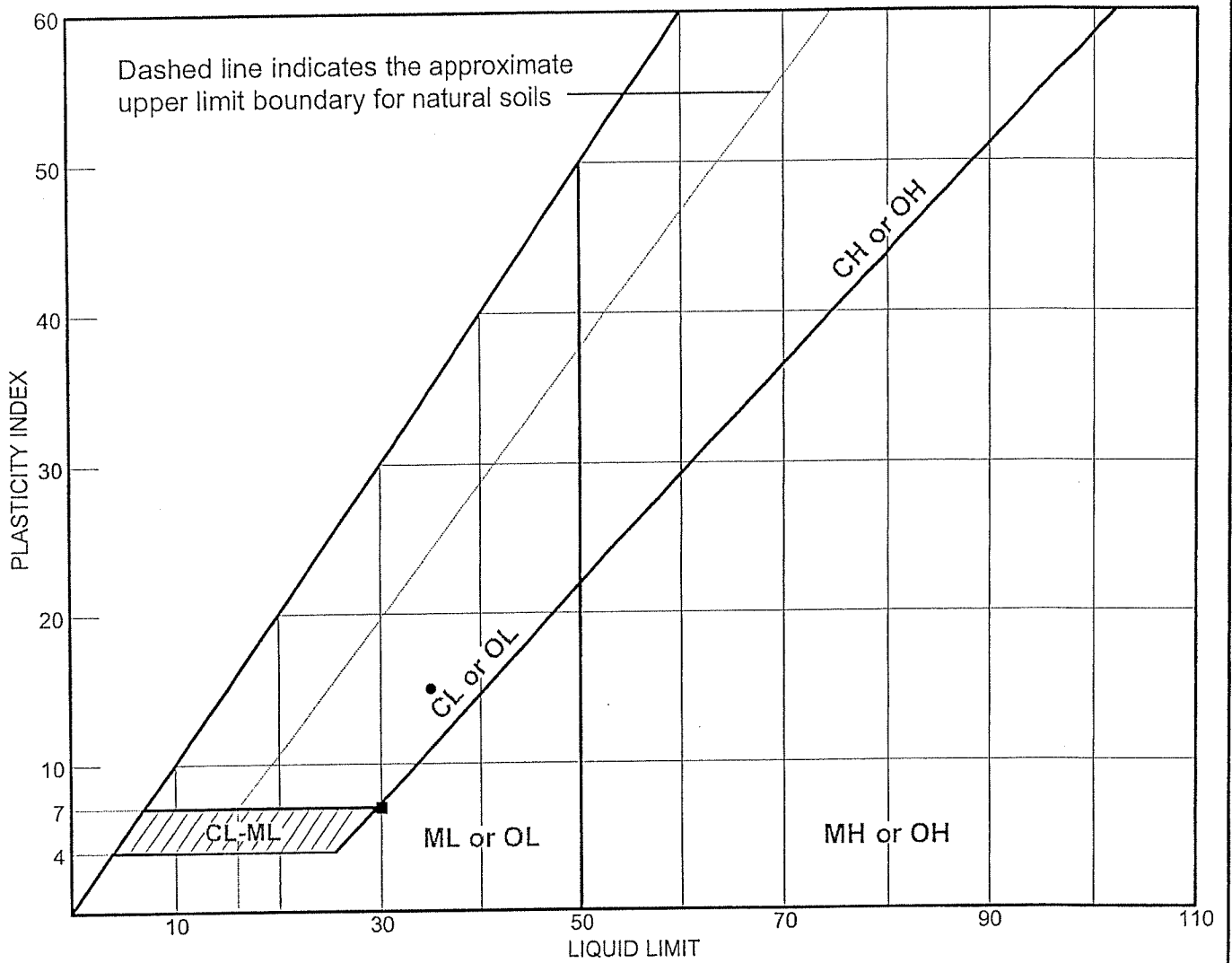
Client:

Project: 220 Acre Mixed Use Development

Project No.: 6282.5.002.01

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	GEX	4-1	2 feet		20	35	15	CL <i>med</i>
■	GEX	4-2	6 Feet		23	30	7	CL-ML <i>low</i>

LIQUID AND PLASTIC LIMITS TEST REPORT

**ENGEO
INCORPORATED**

Client:

Project: 220 Acre Spray Field

Project No.: 6282.5.001.01

Figure

EXPANSION INDEX TEST RESULTS

ASTM D 4829

DATE: 11/5/04

JOB NO.: 6282.5.002.01

JOB NAME: 220 Acre Mixed Use Development

SAMPLE I.D.	SOIL DESCRIPTION	INITIAL DRY DENSITY (pcf)	INITIAL MOISTURE CONTENT (%)	FINAL MOISTURE CONTENT (%)	EXPANSION INDEX
B1-1 1 feet	Dark brown silty clay (CL)	106.7	10.7	19.8	33
B4-1 1 feet	Dark brown silty clay (CL)	93.7	15.1	31.2	78

CLASSIFICATION OF EXPANSIVE SOIL ASTM D 4829

EXPANSION INDEX	POTENTIAL EXPANSION
0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
Above 130	Very High