



APPENDIX H – LABORATORY TEST RESULTS

APPENDIX H.1 – STRUCTURAL FILL LABORATORY TEST RESULTS

APPENDIX H.2 – LEAK DETECTION FILL LABORATORY TEST RESULTS

APPENDIX H.3 – SOIL LINER FILL LABORATORY TEST RESULTS

APPENDIX H.4 – DRAIN COVER FILL LABORATORY TEST RESULTS

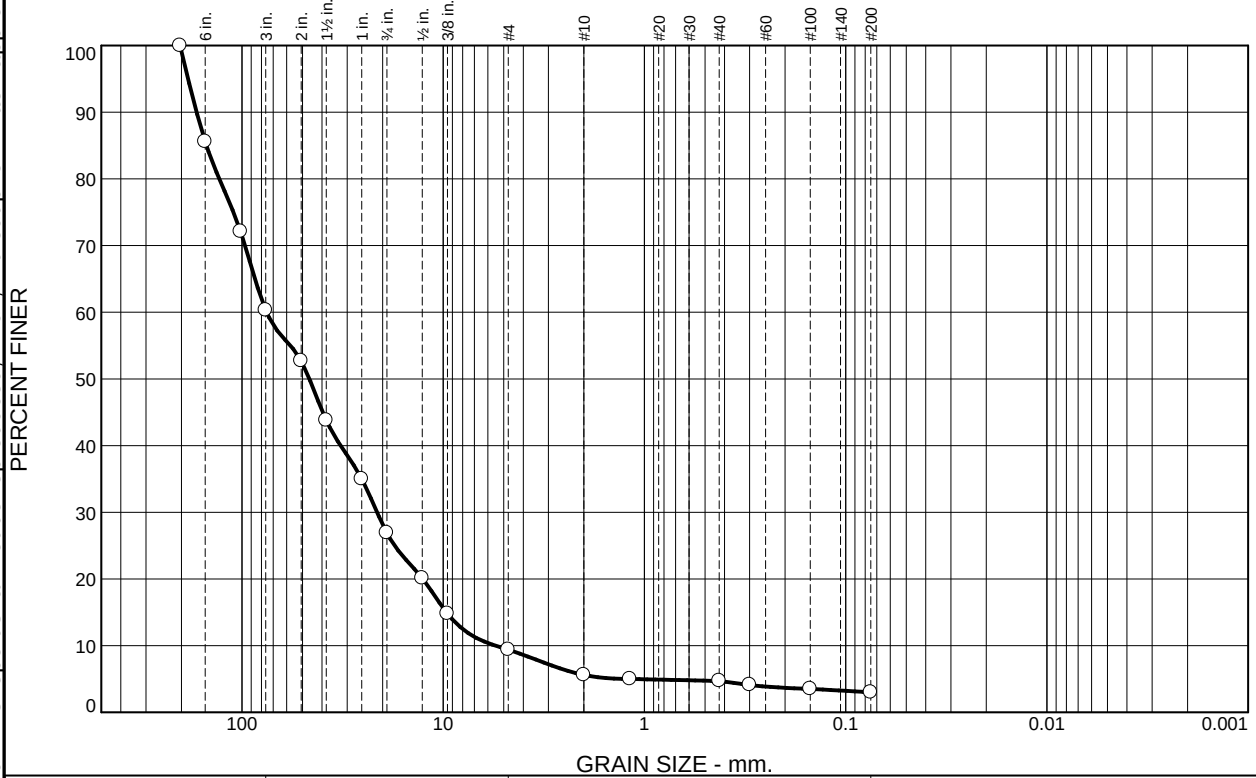
APPENDIX H.5 – DRAIN COVER FILL (CRUSHED ORE) LABORATORY TEST RESULTS



APPENDIX H.1 – STRUCTURAL FILL LABORATORY TEST RESULTS

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
39.7	33.4	17.5	3.8	0.9	1.7	3.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
8	100.0		
6	85.6		
4	72.1		
3	60.3		
2	52.7		
1.5	43.8		
1	35.0		
.75	26.9		
.5	20.1		
.375	14.8		
#4	9.4		
#10	5.6		
#16	5.0		
#40	4.7		
#50	4.1		
#100	3.5		
#200	3.0		

* (no specification provided)

Material Description

Gray well-graded gravel

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 168.1199 D₈₅= 150.1162 D₆₀= 75.4538
D₅₀= 46.1936 D₃₀= 21.3292 D₁₅= 9.6402
D₁₀= 5.4930 C_u= 13.74 C_c= 1.10

Classification

USCS= GW AASHTO= A-1-a

Remarks

Location: N 56,590.0 E 37,304
Sample Number: NFSF-14-R

Depth: FG

Date: 05/10/2020



Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

Figure NFSF-14-R

Tested By: TW

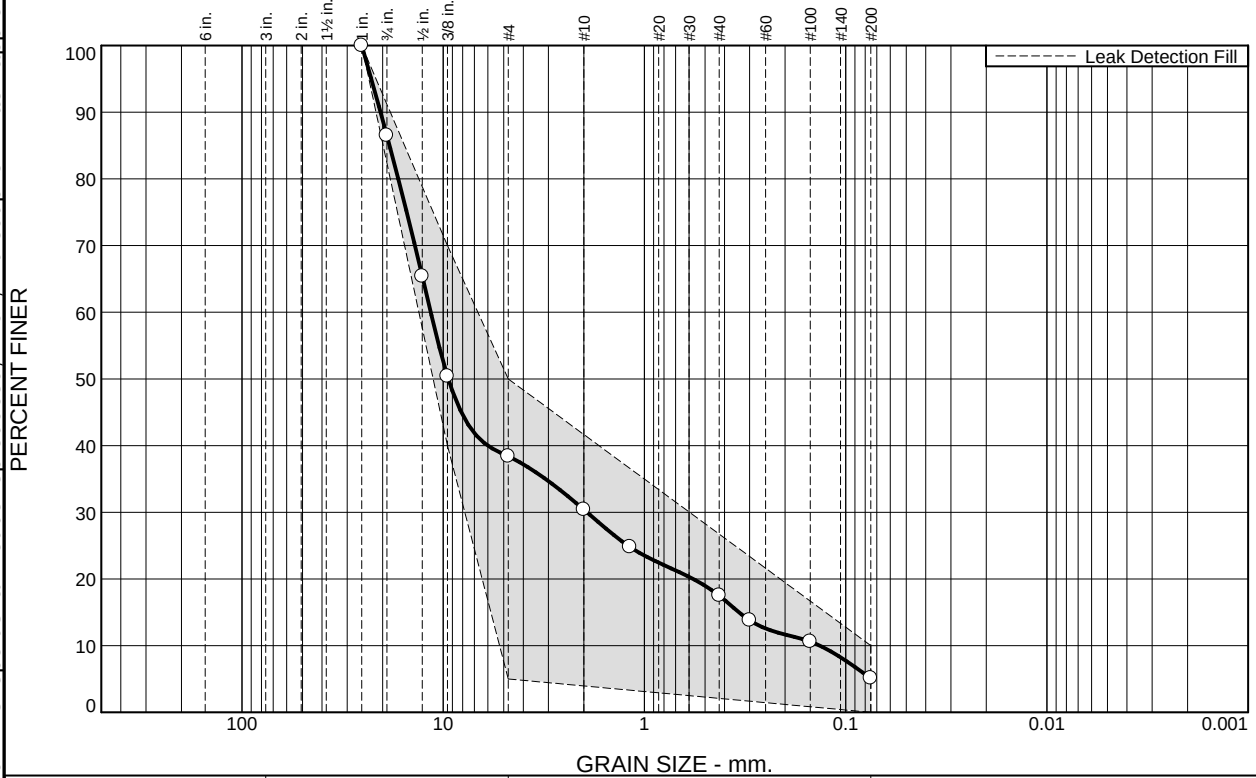
Checked By: TW



APPENDIX H.2 – LEAK DETECTION FILL LABORATORY TEST RESULTS

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	13.5	48.1	8.0	12.9	12.4	5.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0	100.0	
.75	86.5		
.5	65.4		
.375	50.4	40.0 - 70.0	
#4	38.4	5.0 - 50.0	
#10	30.4		
#16	24.8		
#40	17.5		
#50	13.8		
#100	10.6		
#200	5.1	0.0 - 10.0	

* Leak Detection Fill

Material Description

Grayish brown well-graded gravel with silt and sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 20.4921 D₈₅= 18.4731 D₆₀= 11.5310
D₅₀= 9.4341 D₃₀= 1.9304 D₁₅= 0.3387
D₁₀= 0.1346 C_u= 85.64 C_c= 2.40

Classification

USCS= GW-GM AASHTO= A-1-a

Remarks

Location: N 57,297 E 36,593
Sample Number: NFLDF-5-R

Depth: FG

Date: 04/23/2020



Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

Figure NFLDF-5-R

Tested By: TW

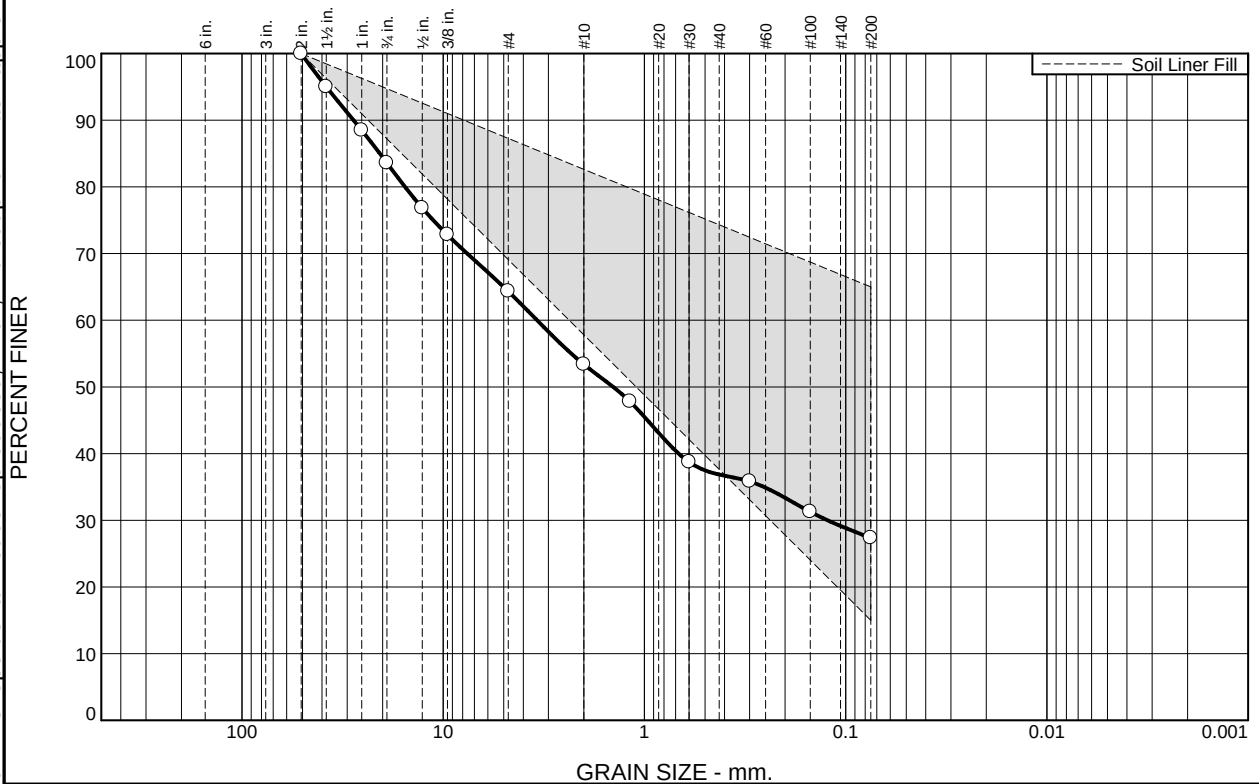
Checked By: TW



APPENDIX H.3 – SOIL LINER FILL LABORATORY TEST RESULTS

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Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	16.4	19.3	10.9	16.5	9.5	27.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	95.0		
1"	88.5		
3/4"	83.6		
1/2"	76.8		
3/8"	72.8		
#4	64.3		
#10	53.4		
#16	47.8		
#30	38.7		
#50	35.8		
#100	31.3		
#200	27.4	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 14 LL= 43 PI= 29

Coefficients

D₉₀= 27.8955 D₈₅= 20.6583 D₆₀= 3.4158
D₅₀= 1.4303 D₃₀= 0.1230 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SC AASHTO= A-2-7(2)

Remarks

Natural Moisture: 12.4%

Location: Tezak Processing Plant
Sample Number: NFSLF-73-C

Depth: Stockpile

Date: 05/08/19



Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

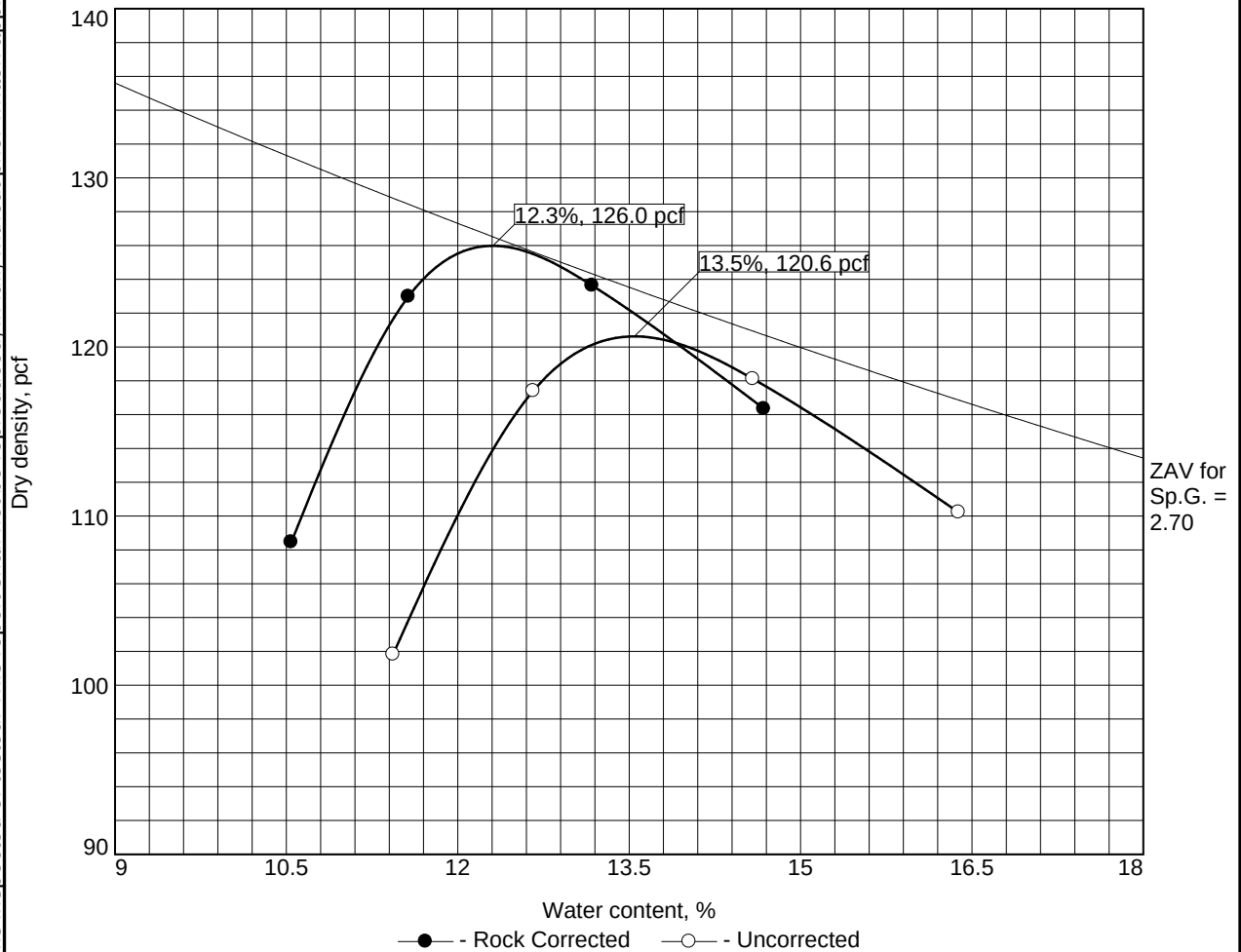
Figure NFSLF-73-C

Tested By: JB

Checked By: TW

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COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-7(2)		2.60	43	29	16.4	27.4

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 126.0 pcf		120.6 pcf	Brown clayey sand with gravel
Optimum moisture = 12.3 %		13.5 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company			Remarks:
Project: Squaw Gulch VLF Phase 2			
Location: Tezak Processing Plant Sample Number: NFSLF-73-C			
NewFields			

Figure NFSLF-73-C

Tested By: JB Checked By: TW

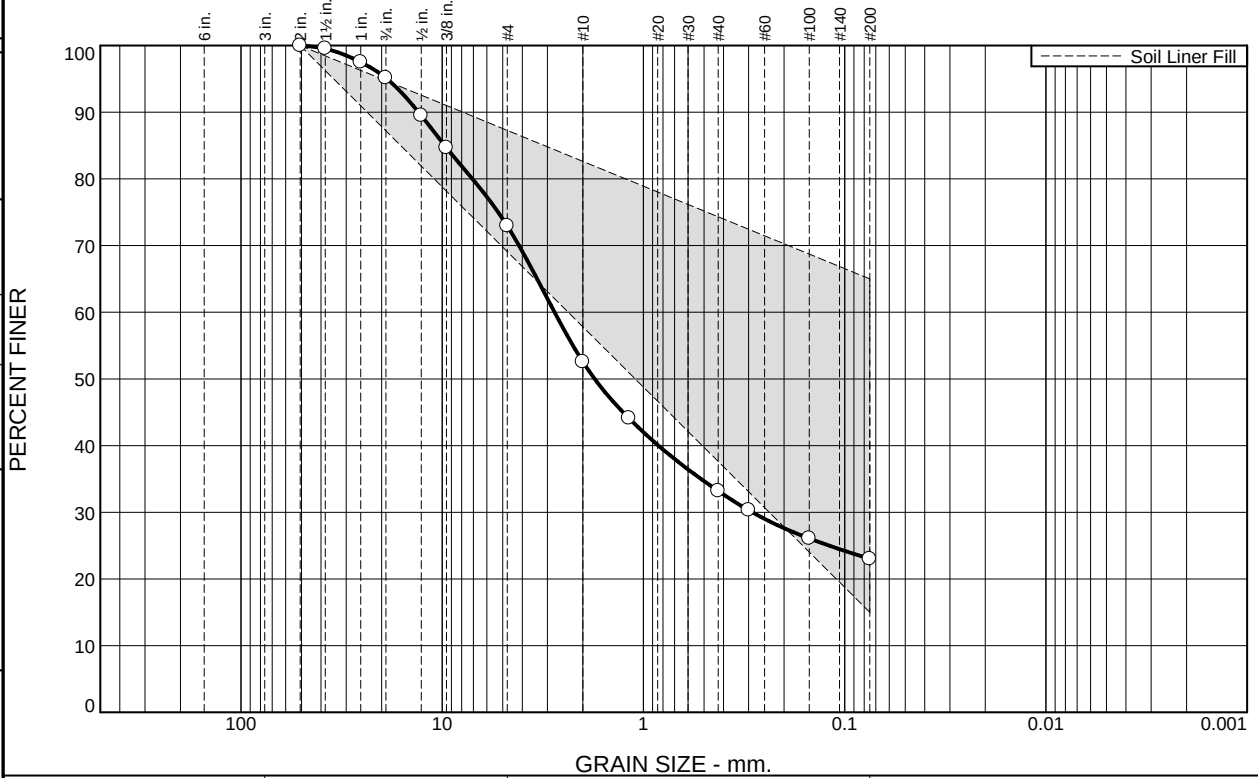
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-73-C
Project: Squaw VLF PIIA	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW
Test Started: 6/20/2019	Checked By: TW
Test Finished: 7/8/2019	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	40		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	20		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	642		746.10
Dry Soil + Tare (g)	571.83		682.50
Tare (g)	0.00		221.90
Wt. of Water (g)	70.17		63.60
Dry Soil (g)	571.83		460.60
Moisture Content (%)	12.3		13.8
Sample Volume (ft ³)	0.01043	0.01040	
Dry Density (pcf)	120.8	121.0	
Wet Density (pcf)	135.7	137.8	
Saturation (%)	88.4	100.0	
Percent Compaction	95.9	96.0	
Height (in)	2.999	2.997	
Diameter (in)	2.766	2.764	
Area (in ²)	6.010	6.002	
Est. Moisture Content after Consolidation (%)		13.8%	
Est. Void Ratio after Consolidation		0.366	
Specific Gravity*	2.65		
*Specific gravity is assumed	Maximum Dry Density (pcf):		
Maximum Dry Density:	Initial Remolded Dry Density (pcf):		
ASTM D 698	Initial Percent Compaction:		
	Initial Void Ratio:		
	Optimum Moisture Content(%):		
	Initial Water Content (%):		
	Confining Pressure (psi):		
	Hydraulic Conductivity, k₂₀ (cm/s):		
	Gradient Range (h/L):		

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Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.9	22.1	20.4	19.4	10.2	23.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	99.5		
1"	97.5		
3/4"	95.1		
1/2"	89.5		
3/8"	84.7		
#4	73.0		
#10	52.6		
#16	44.1		
#40	33.2		
#50	30.3		
#100	26.1		
#200	23.0	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 15 LL= 37 PI= 22

Coefficients

D₉₀= 13.0961 D₈₅= 9.7145 D₆₀= 2.7639
D₅₀= 1.7476 D₃₀= 0.2881 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SC AASHTO= A-2-6(1)

Remarks

Natural Moisture: 11.7%

Location: Tezak Processing Plant
Sample Number: NFSLF-76-C

Depth: Stockpile

Date: 05/20/19



Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

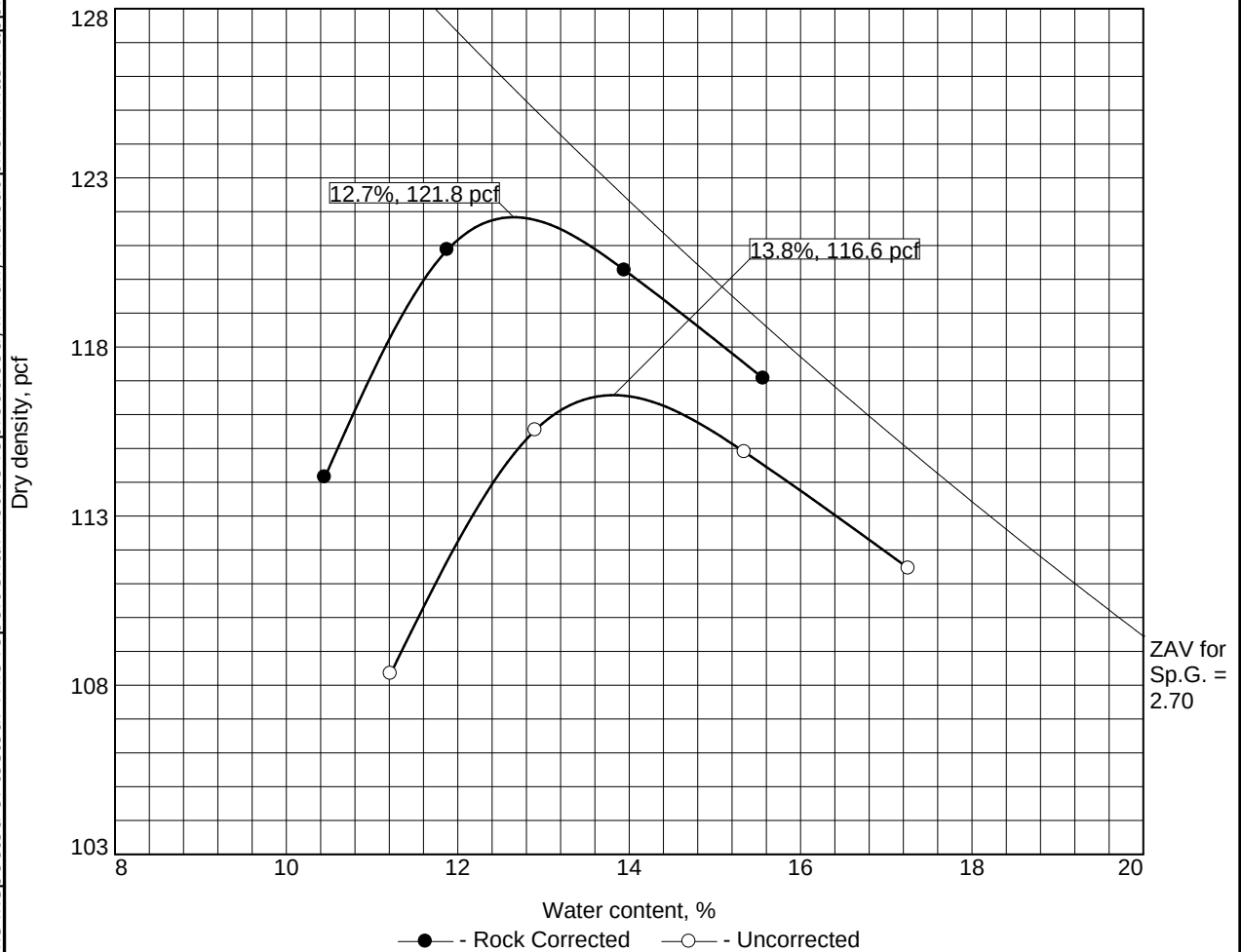
Figure NFSLF-76-C

Tested By: JB

Checked By: TW

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COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-6(1)		2.6	37	22	15.3	23.0

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 121.8 pcf		116.6 pcf	Brown clayey sand with gravel
Optimum moisture = 12.7 %		13.8 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company			Remarks:
Project: Squaw Gulch VLF Phase 2			
○ Location: Tezak Processing Plant Sample Number: NFSLF-76-C			
			

Figure NFSLF-76-C

Tested By: TS Checked By: TW

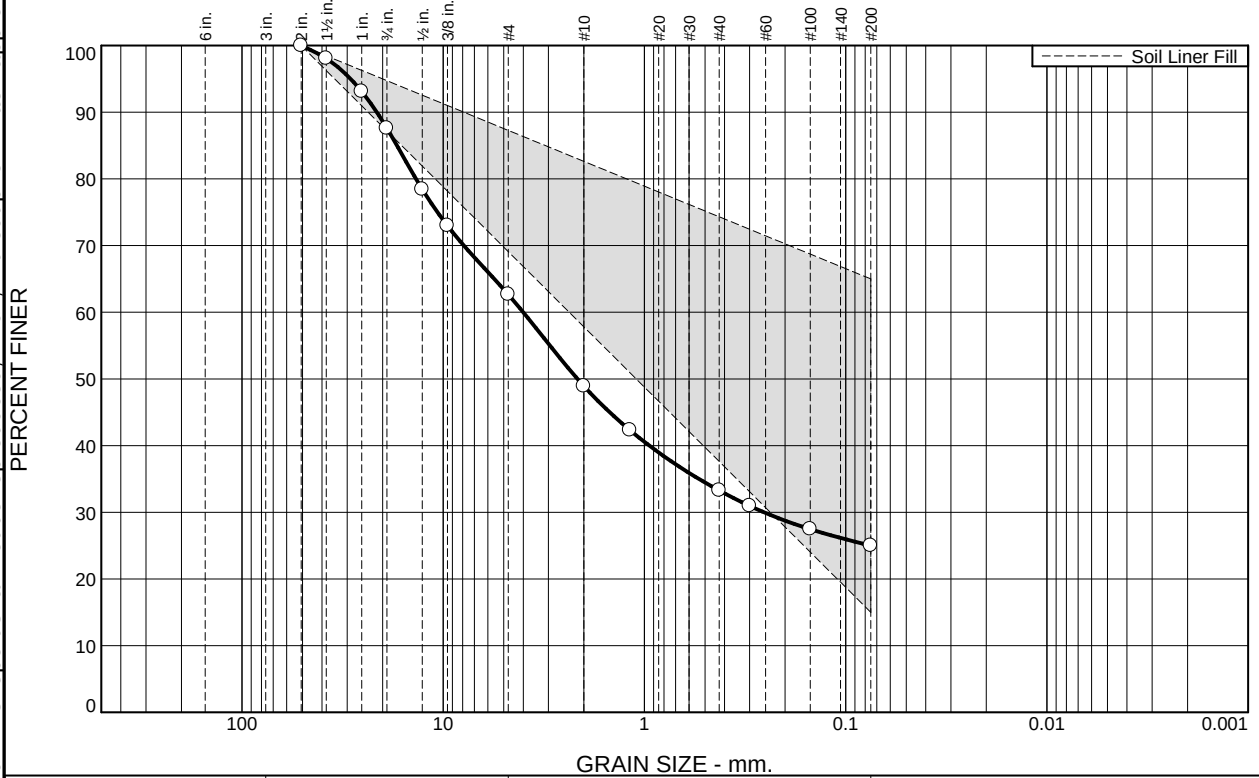
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-76-C
Project: Squaw VLF P2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW
Test Started: 7/15/2019	Checked By: TW
Test Finished: 7/18/2019	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	50		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	636.2		789.20
Dry Soil + Tare (g)	564.27		705.40
Tare (g)	0.00		132.00
Wt. of Water (g)	71.93		83.80
Dry Soil (g)	564.27		573.40
Moisture Content (%)	12.7		14.6
Sample Volume (ft ³)	0.01067	0.01064	
Dry Density (pcf)	116.6	116.7	
Wet Density (pcf)	131.4	135.2	
Saturation (%)	80.4	100.0	
Percent Compaction	95.7	95.8	
Height (in)	3.028	3.026	
Diameter (in)	2.785	2.783	
Area (in ²)	6.092	6.084	
Est. Moisture Content after Consolidation (%)		15.7%	
Est. Void Ratio after Consolidation		0.416	
Specific Gravity*	2.65		
*Specific gravity is assumed	Maximum Dry Density (pcf):		
Maximum Dry Density:	Initial Remolded Dry Density (pcf):		
ASTM D 698	Initial Percent Compaction:		
	Initial Void Ratio:		
	Optimum Moisture Content(%):		
	Initial Water Content (%):		
	Confining Pressure (psi):		
	Hydraulic Conductivity, k₂₀ (cm/s):		
	Gradient Range (h/L):		

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Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.4	24.9	13.8	15.6	8.3	25.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	98.1		
1"	93.1		
0.75"	87.6		
0.5"	78.4		
0.375"	73.0		
#4	62.7		
#10	48.9		
#16	42.3		
#40	33.3		
#50	31.0		
#100	27.5		
#200	25.0	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 13 LL= 46 PI= 33

Coefficients

D₉₀= 21.3884 D₈₅= 16.9645 D₆₀= 4.0043
D₅₀= 2.1508 D₃₀= 0.2546 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SC AASHTO= A-2-7(2)

Remarks

Natural Moisture: 10.4%

Location: Tezak Processing Plant
Sample Number: NFSLF-79-C

Depth: Stockpile

Date: 06/07/19



Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

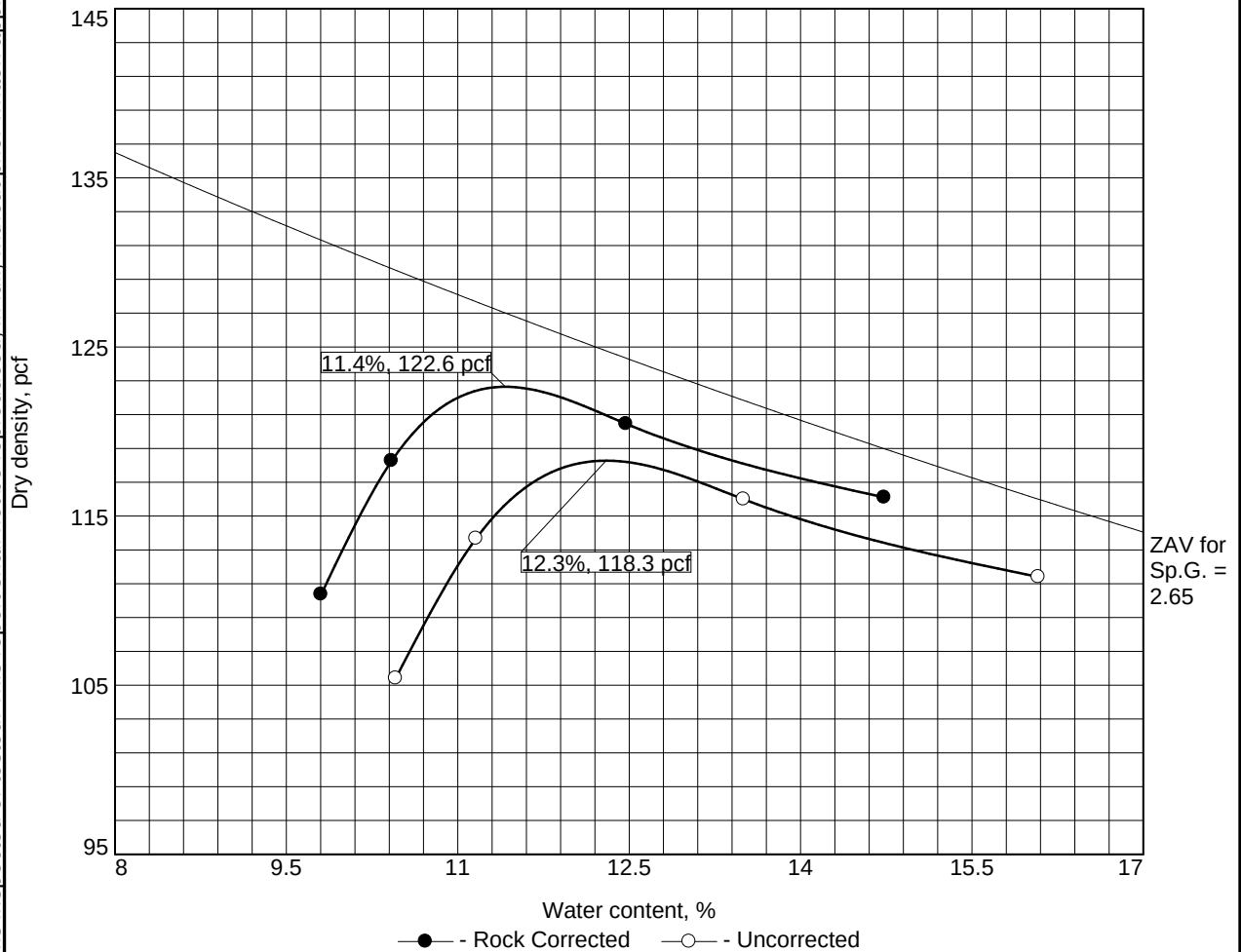
Figure NFSLF-79-C

Tested By: JB

Checked By: TW

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COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method C Modified
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-7(2)		2.65	46	33	12.4	25.0
ROCK CORRECTED TEST RESULTS			UNCORRECTED		MATERIAL DESCRIPTION			
Maximum dry density = 122.6 pcf			118.3 pcf		Brown clayey sand with gravel			
Optimum moisture = 11.4 %			12.3 %					
Project No. 475.0106.032 Client: CC&V Gold Mining Company					Remarks:			
Project: Squaw Gulch VLF Phase 2								
Location: Tezak Processing Plant Sample Number: NFSLF-79-C								
NewFields					Figure NFSLF-79-C			

Tested By: JB Checked By: TW

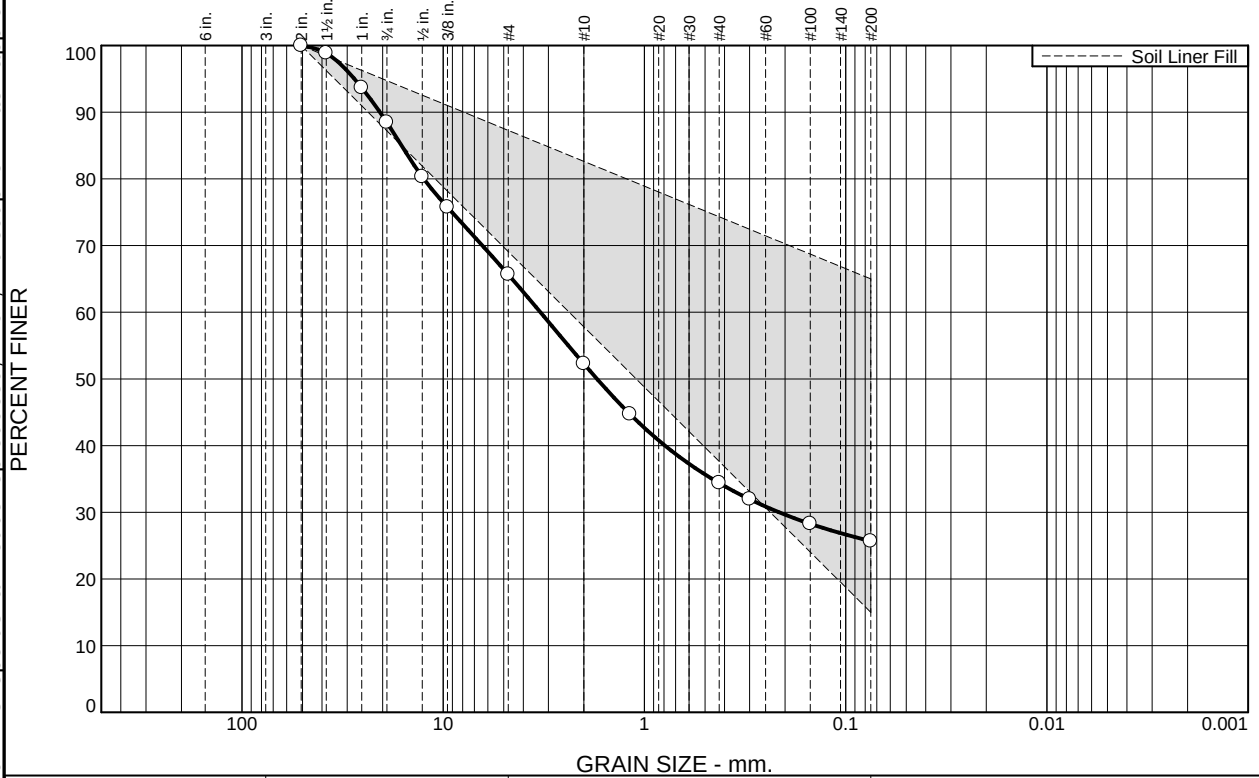
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-79-C
Project: Squaw VLF PIIA	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 1	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW
Test Started: 7/15/2019	Checked By: TW
Test Finished: 7/18/2019	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	45		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burette Area (cm ²)	0.263		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	623.8		726.50
Dry Soil + Tare (g)	559.98		655.00
Tare (g)	0.00		125.90
Wt. of Water (g)	63.82		71.50
Dry Soil (g)	559.98		529.10
Moisture Content (%)	11.4		13.5
Sample Volume (ft ³)	0.01055	0.01052	
Dry Density (pcf)	117.0	117.1	
Wet Density (pcf)	130.4	135.4	
Saturation (%)	73.2	100.0	
Percent Compaction	95.5	95.5	
Height (in)	3.017	3.015	
Diameter (in)	2.774	2.772	
Area (in ²)	6.042	6.037	
Est. Moisture Content after Consolidation (%)		15.5%	
Est. Void Ratio after Consolidation		0.412	
Specific Gravity*	2.65		
*Specific gravity is assumed	Maximum Dry Density (pcf):		122.6
Maximum Dry Density:	Initial Remolded Dry Density (pcf):		117.0
ASTM D 698	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.413
	Optimum Moisture Content(%):		11.4
	Initial Water Content (%):		11.4
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k₂₀ (cm/s):		6.7E-08
	Gradient Range (h/L):		3.0 3.5

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Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	11.5	22.8	13.4	17.9	8.7	25.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	98.9		
1"	93.7		
0.75"	88.5		
0.5"	80.3		
0.375"	75.8		
#4	65.7		
#10	52.3		
#16	44.7		
#40	34.4		
#50	32.0		
#100	28.3		
#200	25.7	15.0 - 65.0	

* Soil Liner Fill

Material Description

Dark brown clayey sand with gravel

Atterberg Limits

PL= 18 LL= 43 PI= 25

Coefficients

D₉₀= 20.6203 D₈₅= 16.0892 D₆₀= 3.2880
D₅₀= 1.7203 D₃₀= 0.2143 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SC AASHTO= A-2-7(2)

Remarks

Natural Moisture: 10.7%

Location: Tezak Processing Plant
Sample Number: NFSLF-80-C

Depth: Stockpile

Date: 06/10/19

NewFields

Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

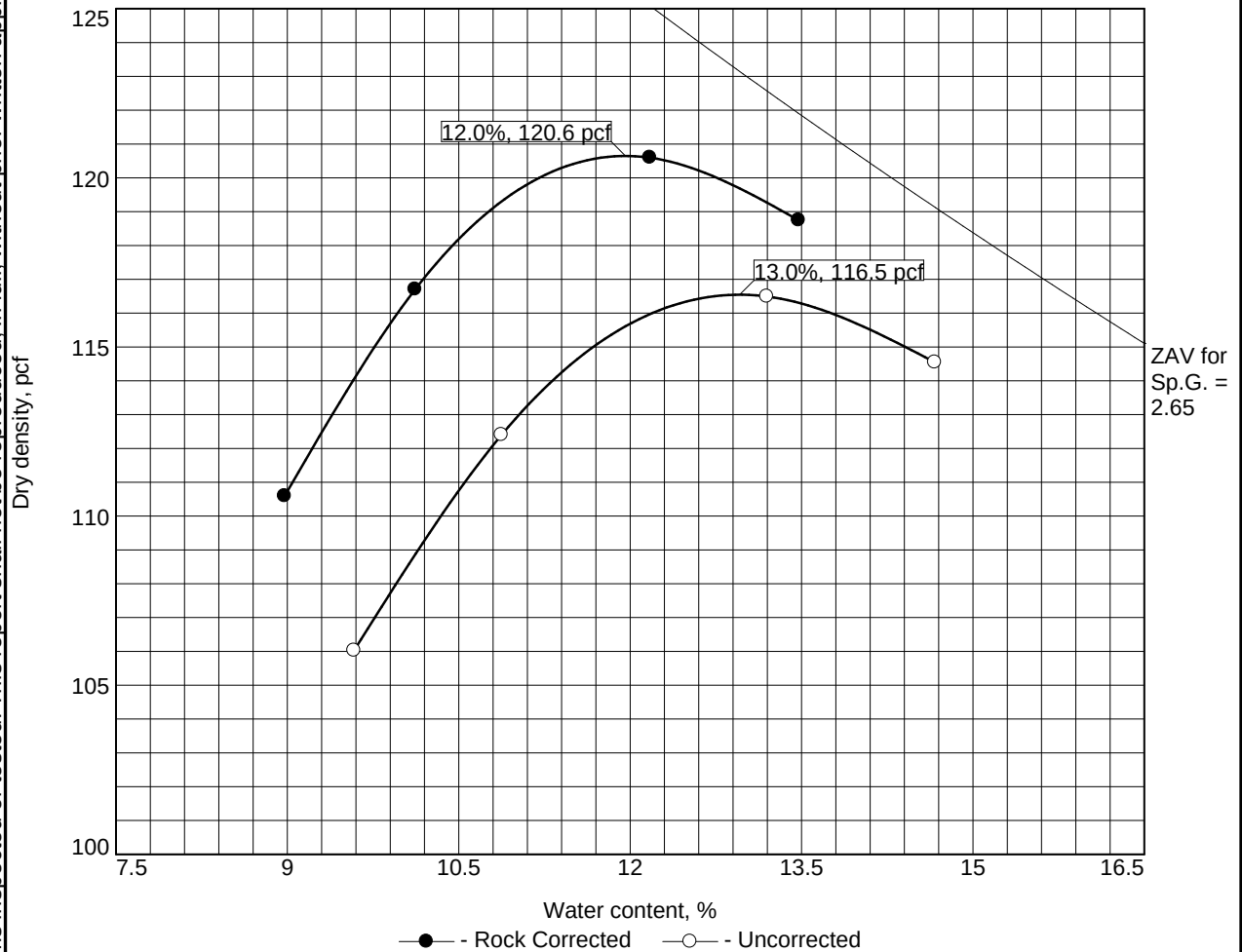
Figure NFSLF-80-C

Tested By: JB

Checked By: TW

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COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method C Modified
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-7(2)		2.65	43	25	11.5	25.7

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 120.6 pcf		116.5 pcf	Dark brown clayey sand with gravel
Optimum moisture = 12.0 %		13.0 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company		Remarks:
Project: Squaw Gulch VLF Phase 2		
Location: Tezak Processing Plant Sample Number: NFSLF-80-C		
NewFields		Figure NFSLF-80-C

Tested By: JB Checked By: TW

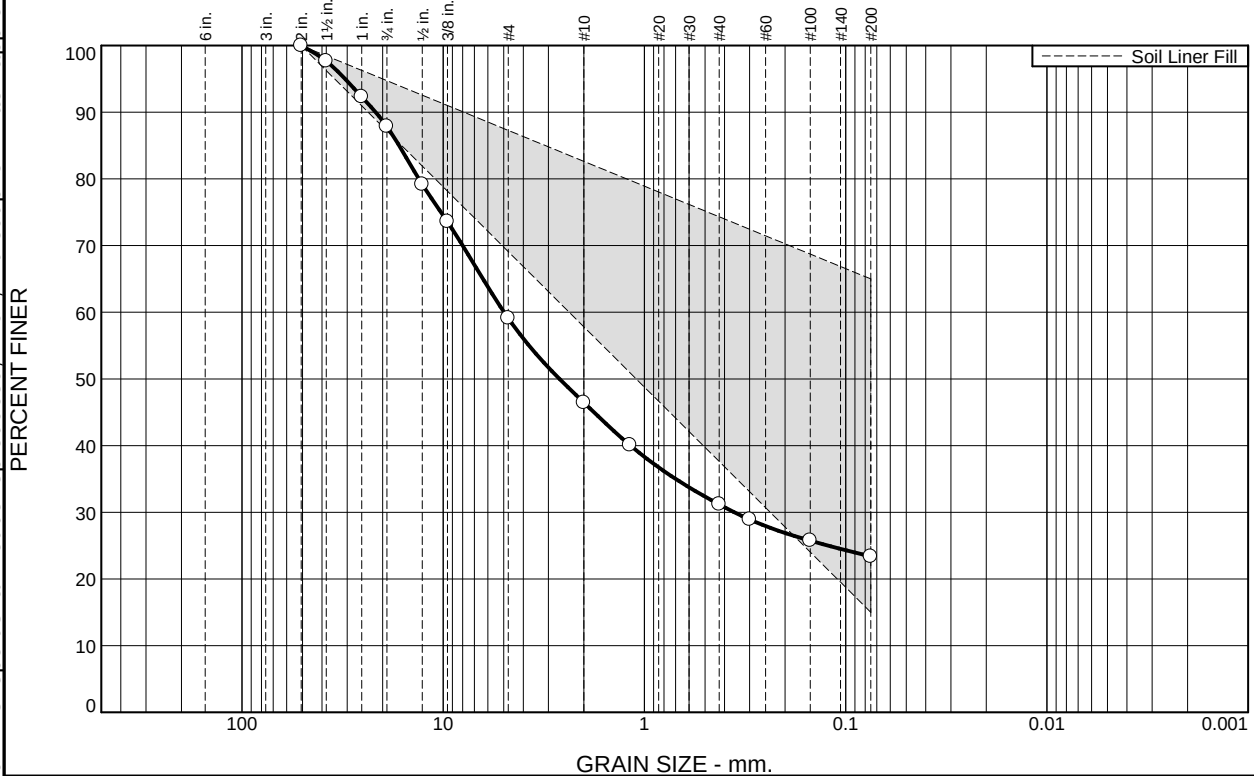
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-80-C
Project: Squaw VLF PIIA	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW
Test Started: 7/15/2019	Checked By: TW
Test Finished: 7/18/2019	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	40		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burrete Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	627.3		873.91
Dry Soil + Tare (g)	551.82		785.34
Tare (g)	0.00		235.58
Wt. of Water (g)	75.48		88.57
Dry Soil (g)	551.82		549.76
Moisture Content (%)	13.7		16.1
Sample Volume (ft ³)	0.01059	0.01055	
Dry Density (pcf)	114.6	114.7	
Wet Density (pcf)	130.6	134.7	
Saturation (%)	80.4	100.0	
Percent Compaction	95.0	95.1	
Height (in)	3.025	3.023	
Diameter (in)	2.775	2.773	
Area (in ²)	6.047	6.039	
Est. Moisture Content after Consolidation (%)		17.3%	
Est. Void Ratio after Consolidation		0.468	
Specific Gravity*	2.70		
*Specific gravity is assumed Maximum Dry Density: ASTM D 1557	Maximum Dry Density (pcf):		120.6
	Initial Remolded Dry Density (pcf):		114.6
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.470
	Optimum Moisture Content(%):		12.0
	Initial Water Content (%):		13.7
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		5.2E-08
	Gradient Range (h/L):		3.7 3.7

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.1	28.8	12.7	15.2	7.8	23.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	97.7		
1"	92.3		
0.75"	87.9		
0.5"	79.2		
0.375"	73.6		
#4	59.1		
#10	46.4		
#16	40.1		
#40	31.2		
#50	28.9		
#100	25.7		
#200	23.4	15.0 - 65.0	

* Soil Liner Fill

Material Description

Dark brown clayey gravel with sand

Atterberg Limits

PL= 11 LL= 39 PI= 28

Coefficients

D₉₀= 21.6707 D₈₅= 16.5460 D₆₀= 4.9798
D₅₀= 2.6415 D₃₀= 0.3568 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= GC AASHTO= A-2-6(1)

Remarks

Natural Moisture: 10.9%

Location: Tezak Processing Plant
Sample Number: NFSLF-81-C

Depth: Stockpile

Date: 06/13/2019

NewFields

Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

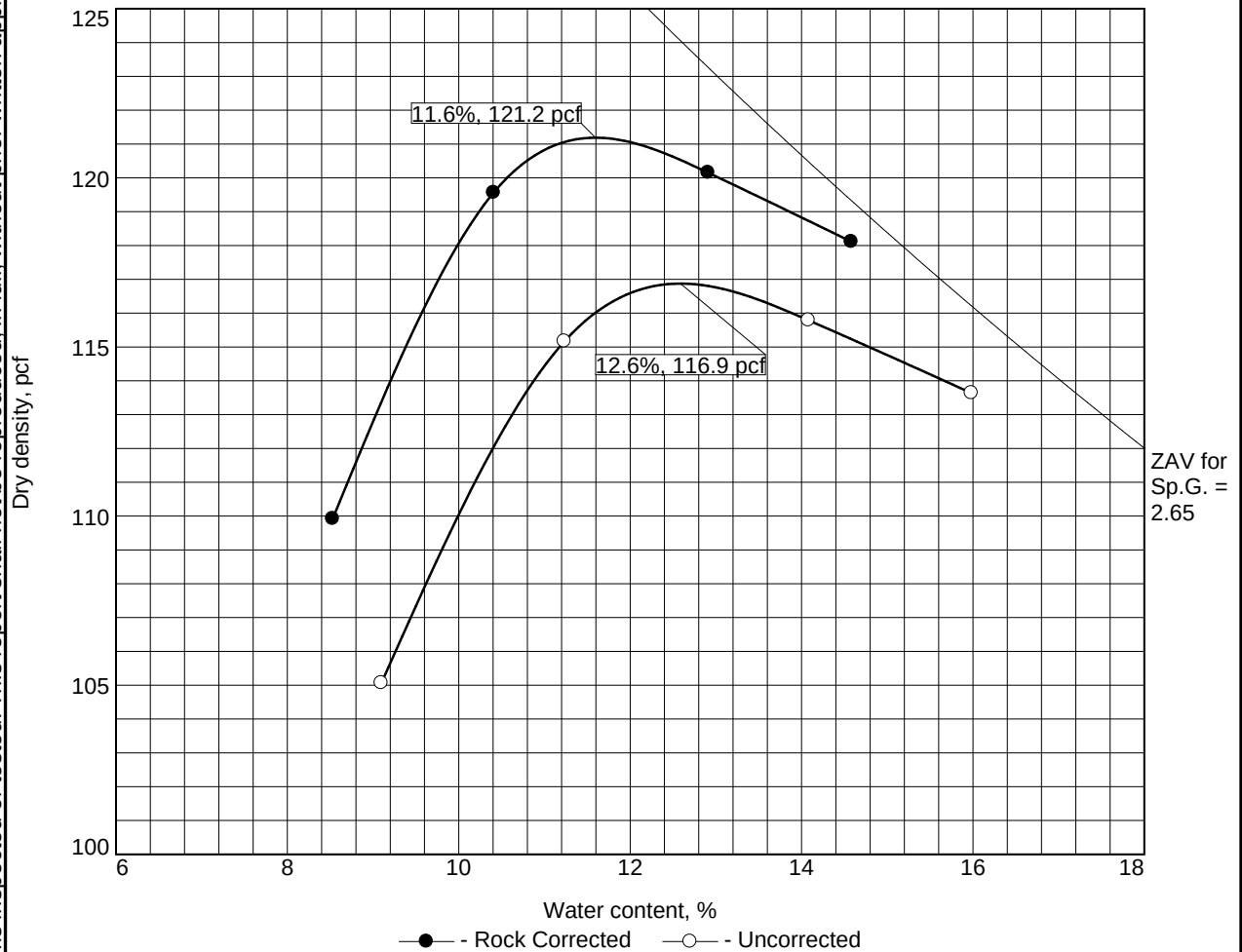
Figure NFSLF-81-C

Tested By: JB

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method C Modified
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	GC	A-2-6(1)		2.65	39	28	12.1	23.4

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 121.2 pcf		116.9 pcf	Dark brown clayey gravel with sand
Optimum moisture = 11.6 %		12.6 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company		Remarks:
Project: Squaw Gulch VLF Phase 2		
Location: Tezak Processing Plant Sample Number: NFSLF-81-C		
NewFields		

Figure NFSLF-81-C

Tested By: JB Checked By: TW

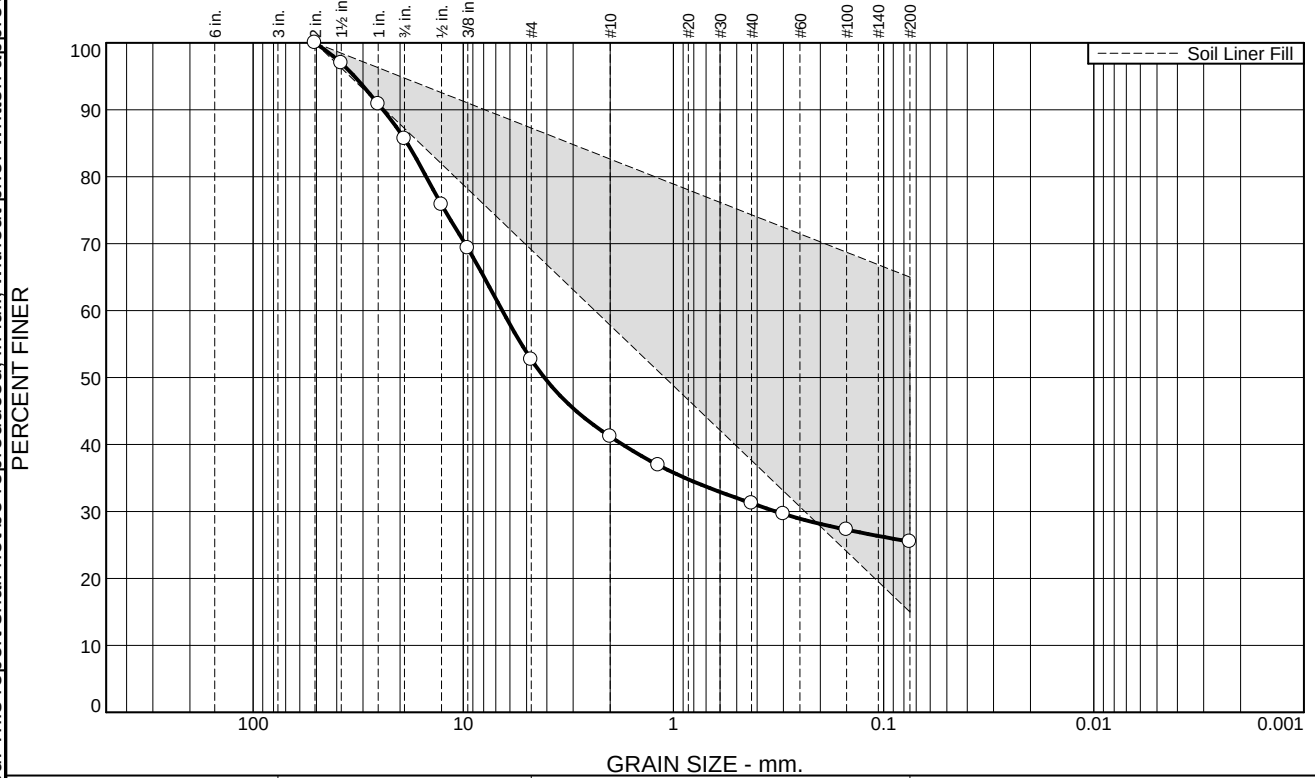
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-81-C
Project: Squaw VLF PIIA	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 1	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW/KE
Test Started: 7/15/2019	Checked By: TW
Test Finished: 7/18/2019	Sample Description: Dark brown clayey gravel with sand

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	40		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	617.6		721.00
Dry Soil + Tare (g)	554.83		645.20
Tare (g)	0.00		119.50
Wt. of Water (g)	62.77		75.80
Dry Soil (g)	554.83		525.70
Moisture Content (%)	11.3		14.4
Sample Volume (ft ³)	0.01055	0.01052	
Dry Density (pcf)	115.7	115.7	
Wet Density (pcf)	129.1	134.5	
Saturation (%)	71.6	100.0	
Percent Compaction	95.4	95.5	
Height (in)	3.017	3.016	
Diameter (in)	2.773	2.772	
Area (in ²)	6.041	6.037	
Est. Moisture Content after Consolidation (%)		16.2%	
Est. Void Ratio after Consolidation		0.429	
Specific Gravity*	2.65		
*Specific gravity is assumed	Maximum Dry Density (pcf):		
Maximum Dry Density:	Initial Remolded Dry Density (pcf):		
ASTM D 698	Initial Percent Compaction:		
	Initial Void Ratio:		
	Optimum Moisture Content(%):		
	Initial Water Content (%):		
	Confining Pressure (psi):		
	Hydraulic Conductivity, k₂₀ (cm/s):		
	Gradient Range (h/L):		

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	14.3	33.0	11.5	10.0	5.7	25.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2.0"	100.0	100.0	
1.5"	97.0		
1"	90.9		
3/4"	85.7		
1/2"	75.8		
3/8"	69.3		
#4	52.7		
#10	41.2		
#16	36.9		
#40	31.2		
#50	29.6		
#100	27.3		
#200	25.5	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey gravel with sand

Atterberg Limits

PL= 13

LL= 46

PI= 33

Coefficients

D₉₀= 24.1096

D₈₅= 18.4662

D₆₀= 6.5213

D₅₀= 4.1145

D₃₀= 0.3260

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= GC

AASHTO= A-2-7(3)

Remarks

Natural Moisture: 8.6%

Location: Tezak Processing Plant
Sample Number: NFSLF-88-C

Depth: Stockpile

Date: 06/28/19



Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

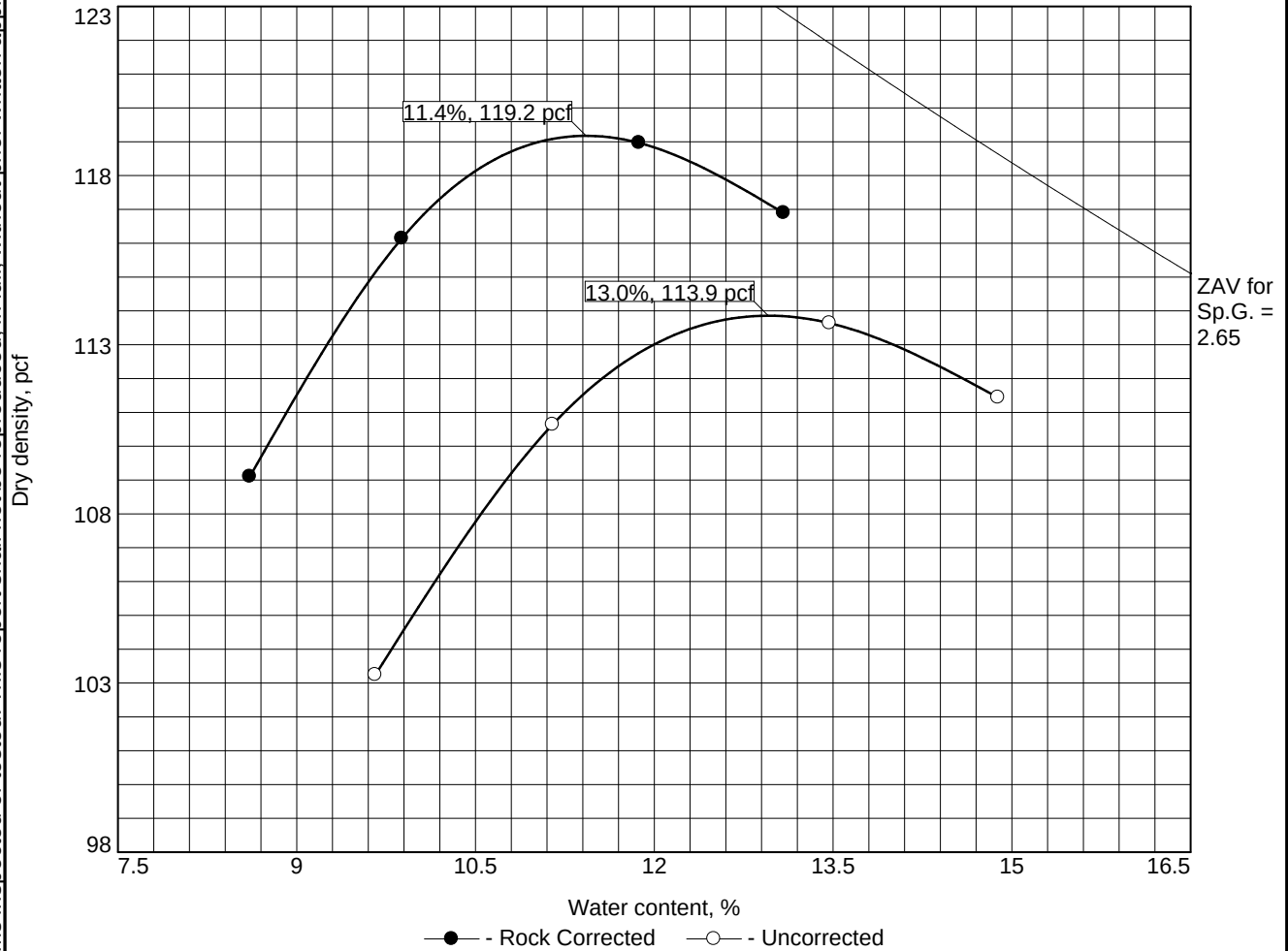
Figure NFSLF-88-C

Tested By: JB

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	GC	A-2-7(3)		2.65	46	33	14.3	25.5

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 119.2 pcf	113.9 pcf	Brown clayey gravel with sand
Optimum moisture = 11.4 %	13.0 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company	Remarks:
Project: Squaw Gulch VLF Phase 2	
Location: Tezak Processing Plant Sample Number: NFSLF-88-C	

NewFields

Figure NFSLF-88C

Tested By: JB

Checked By: TW

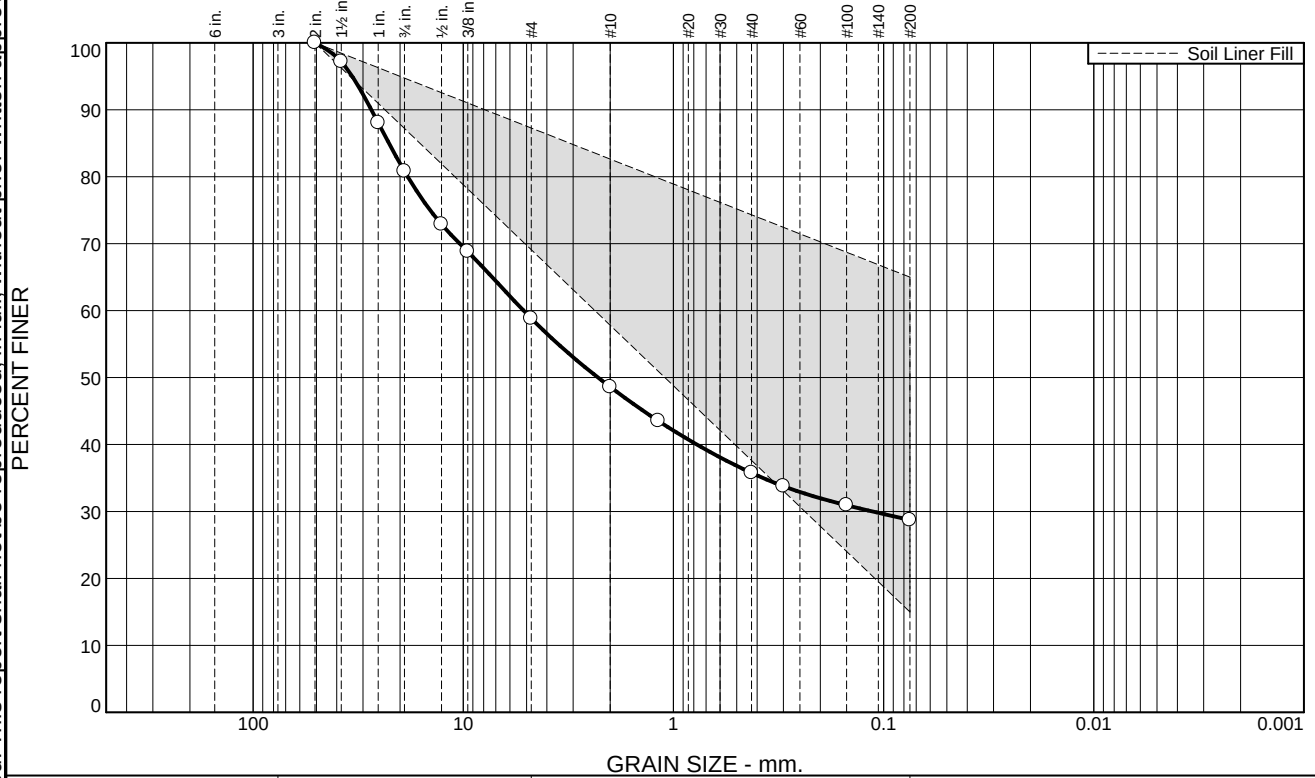
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-88-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW
Test Started: 8/16/2019	Checked By: TW
Test Finished: 8/26/2019	Sample Description: Brown clayey gravel with sand

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	40		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	20		
Sample Type	Remolded		
Burrete Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	617.15		862.35
Dry Soil + Tare (g)	545.49		775.02
Tare (g)	0.00		253.53
Wt. of Water (g)	71.66		87.33
Dry Soil (g)	545.49		521.49
Moisture Content (%)	13.1		16.7
Sample Volume (ft ³)	0.01058	0.01056	
Dry Density (pcf)	113.4	113.4	
Wet Density (pcf)	128.6	133.1	
Saturation (%)	77.4	100.0	
Percent Compaction	95.0	95.0	
Height (in)	3.024	3.023	
Diameter (in)	2.775	2.774	
Area (in ²)	6.047	6.043	
Est. Moisture Content after Consolidation (%)		17.3%	
Est. Void Ratio after Consolidation		0.458	
Specific Gravity*	2.65		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		119.4
	Initial Remolded Dry Density (pcf):		113.4
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.459
	Optimum Moisture Content(%):		11.4
	Initial Water Content (%):		13.1
	Confining Pressure (psi):		20.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		2.3E-07
	Gradient Range (h/L):		5.1 5.7

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	19.2	22.0	10.2	12.8	7.1	28.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	97.2		
1"	88.0		
3/4"	80.8		
1/2"	72.9		
3/8"	68.8		
#4	58.8		
#10	48.6		
#16	43.5		
#40	35.8		
#50	33.8		
#100	30.9		
#200	28.7	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey gravel with sand

Atterberg Limits

PL= 13

LL= 46

PI= 33

Coefficients

D₉₀= 27.3788

D₈₅= 22.5788

D₆₀= 5.1625

D₅₀= 2.2845

D₃₀= 0.1129

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= GC

AASHTO= A-2-7(3)

Remarks

Natural Moisture: 12.5%

Location: Tezak Processing Plant
Sample Number: NFSLF-89-C

Depth: Stockpile

Date: 07/03/19

NewFields

Client: CC&V Gold Mining Company

Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

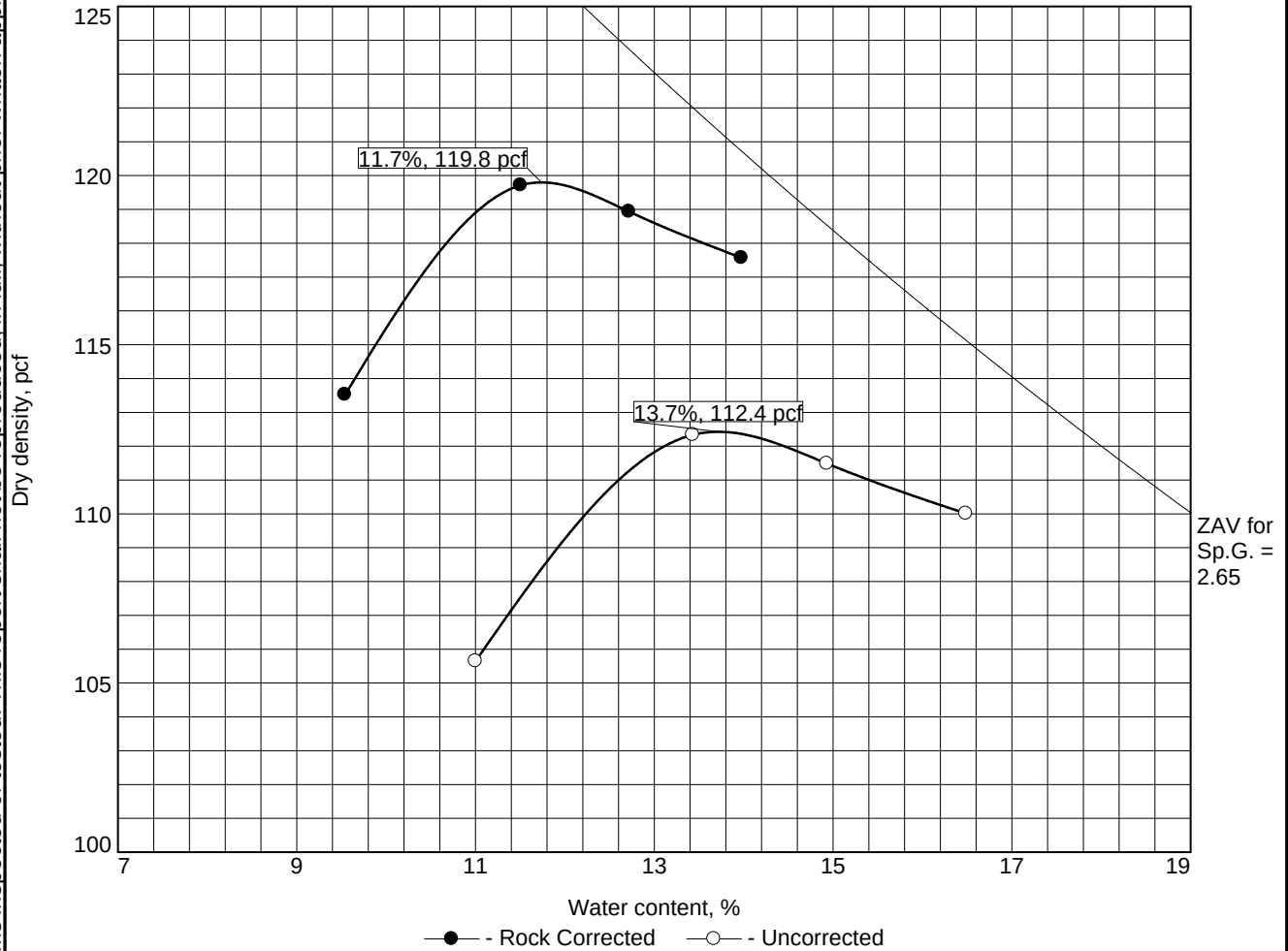
Figure NFSLF-89-C

Tested By: JB

Checked By: TW

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COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	GC	A-2-7(3)		2.65	46	33	19.2	28.7

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 119.8 pcf	112.4 pcf	Brown clayey gravel with sand
Optimum moisture = 11.7 %	13.7 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company

Project: Squaw Gulch VLF Phase 2

Location: Tezak Processing Plant

Sample Number: NFSLF-89-C

NewFields

Remarks:

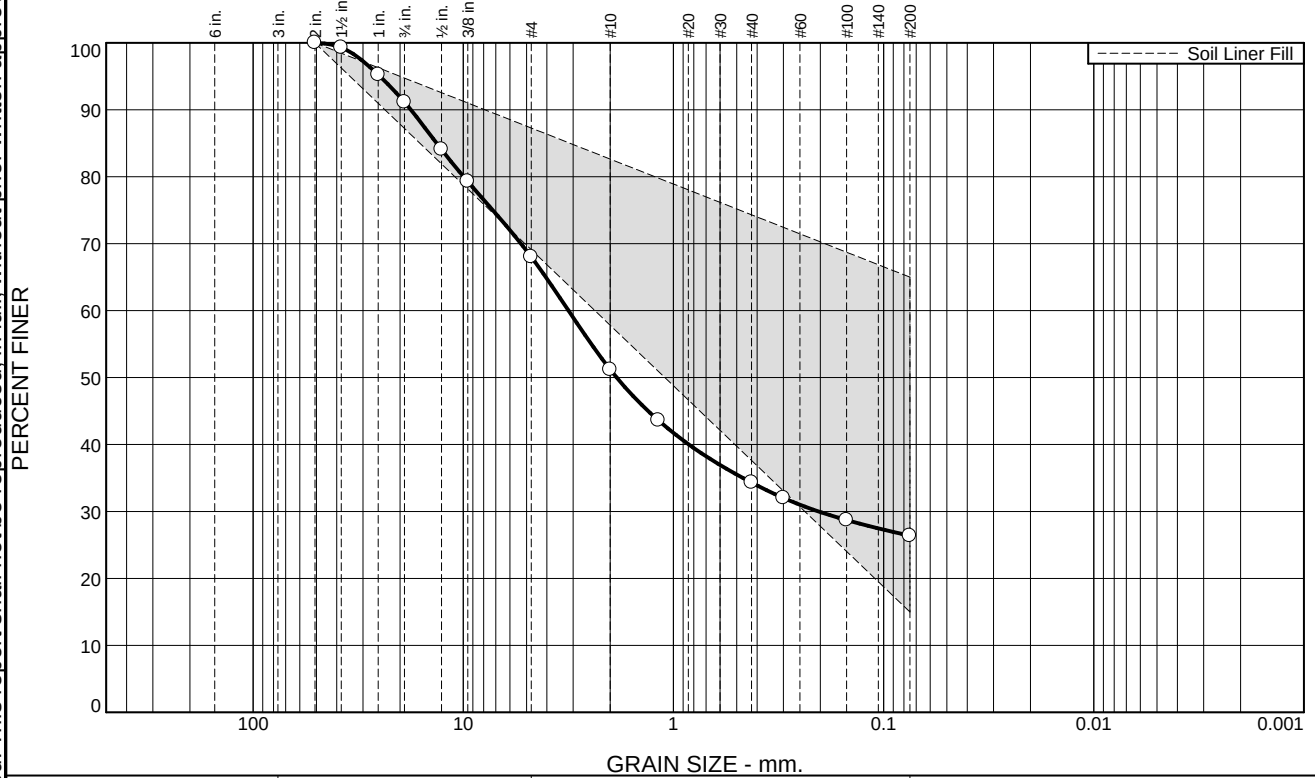
Figure NFSLF-89C

Tested By: HW

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	8.9	23.1	16.8	16.9	7.9	26.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	99.3		
1"	95.2		
3/4"	91.1		
1/2"	84.1		
3/8"	79.3		
#4	68.0		
#10	51.2		
#16	43.6		
#40	34.3		
#50	32.0		
#100	28.7		
#200	26.4	15.0 - 65.0	

* Soil Liner Fill

Material Description

Dark brown clayey sand with gravel

Atterberg Limits

PL= 10 LL= 42 PI= 32

Coefficients

D₉₀= 17.7653 D₈₅= 13.3908 D₆₀= 3.1581
D₅₀= 1.8629 D₃₀= 0.2040 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SC AASHTO= A-2-7(2)

Remarks

Natural Moisture: 13.0%

Location: Tezak Processing Plant
Sample Number: NFSLF-93-C

Depth: Stockpile

Date: 07/12/19

NewFields

Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

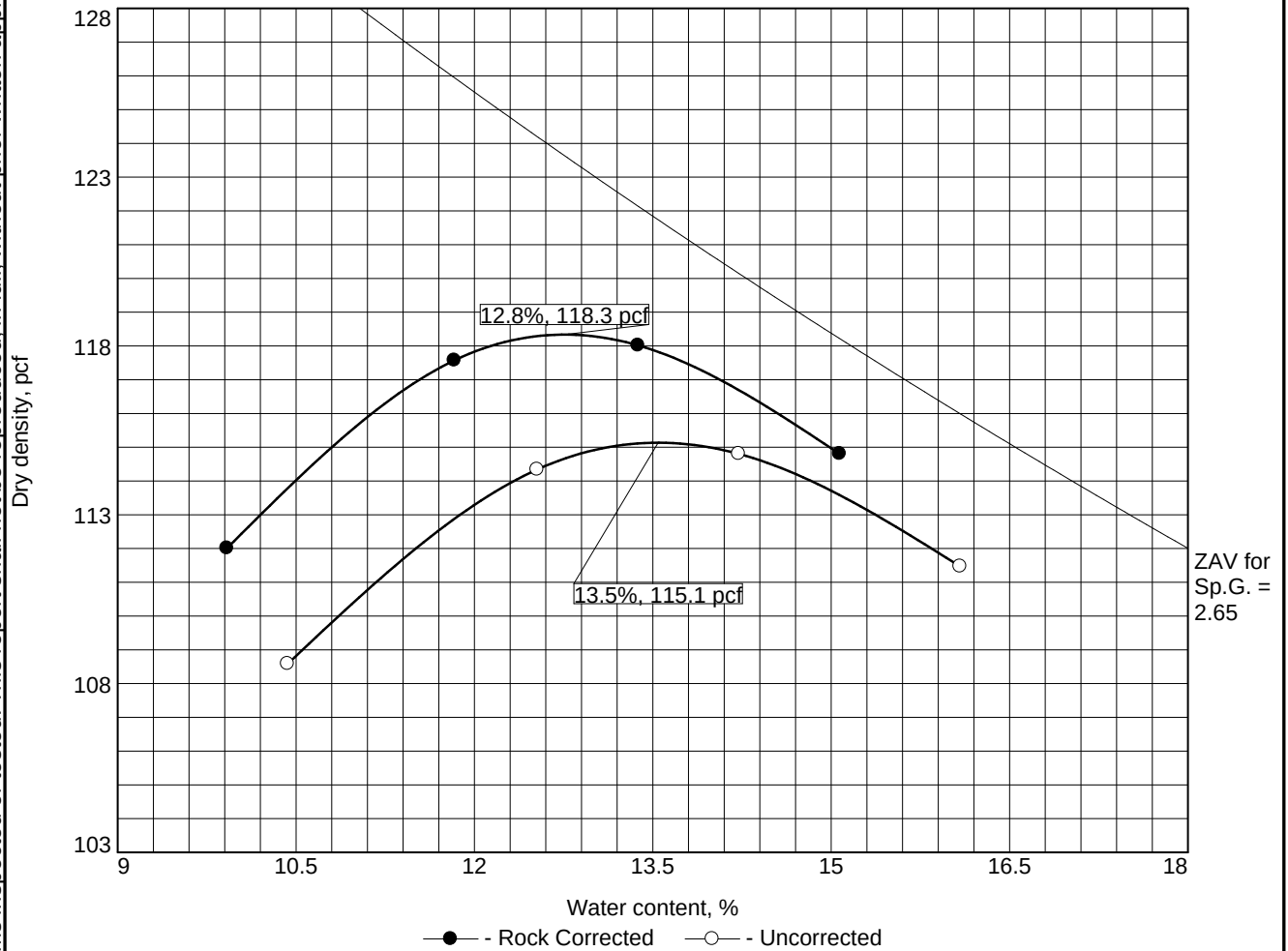
Figure NFSLF-93-C

Tested By: JB

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-7(2)		2.65	42	32	8.9	26.4

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 118.3 pcf	115.1 pcf	Dark brown clayey sand with gravel
Optimum moisture = 12.8 %	13.5 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company	Remarks:
Project: Squaw Gulch VLF Phase 2	
Location: Tezak Processing Plant Sample Number: NFSLF-93-C	

NewFields

Figure NFSLF-93C

Tested By: JB

Checked By: TW

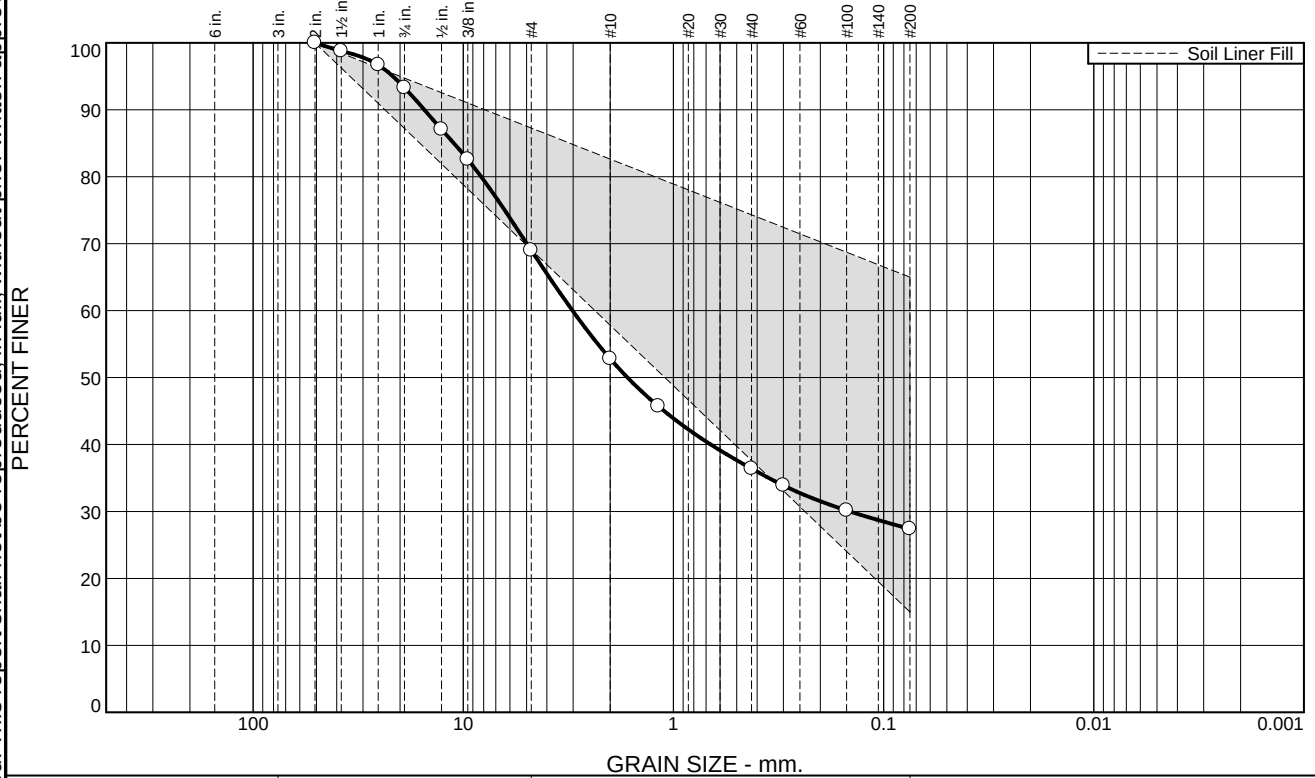
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-93-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Stockpile
Phase: 2A	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW/EN
Test Started: 8/16/2019	Checked By: TW/EN
Test Finished: 9/3/2019	Sample Description: Dark brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	40		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	20		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	620.05		862.45
Dry Soil + Tare (g)	541.18		779.51
Tare (g)	0.00		236.87
Wt. of Water (g)	78.87		82.94
Dry Soil (g)	541.18		542.64
Moisture Content (%)	14.6		15.3
Sample Volume (ft ³)	0.01063	0.01061	
Dry Density (pcf)	112.0	112.0	
Wet Density (pcf)	128.6	133.0	
Saturation (%)	79.2	100.0	
Percent Compaction	94.7	94.7	
Height (in)	3.028	3.027	
Diameter (in)	2.780	2.779	
Area (in ²)	6.068	6.064	
Est. Moisture Content after Consolidation (%)		18.7%	
Est. Void Ratio after Consolidation		0.504	
Specific Gravity*	2.70		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		118.3
	Initial Remolded Dry Density (pcf):		112.0
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.504
	Optimum Moisture Content(%):		12.8
	Initial Water Content (%):		14.6
	Confining Pressure (psi):		20.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		5.0E-08
	Gradient Range (h/L):		10.7 10.7

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	6.7	24.3	16.2	16.4	9.0	27.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	98.8		
1"	96.7		
3/4"	93.3		
1/2"	87.1		
3/8"	82.6		
#4	69.0		
#10	52.8		
#16	45.7		
#40	36.4		
#50	33.9		
#100	30.1		
#200	27.4	15.0 - 65.0	

* Soil Liner Fill

Material Description

Dark brown clayey sand with gravel

Atterberg Limits

PL= 12 LL= 40 PI= 28

Coefficients

D₉₀= 15.3191 D₈₅= 11.0927 D₆₀= 3.0227
D₅₀= 1.6541 D₃₀= 0.1451 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SC AASHTO= A-2-6(2)

Remarks

Natural Moisture: 11.6%

Location: Tezak Processing Plant
Sample Number: NFSLF-94-C

Depth: Stockpile

Date: 07/12/19

NewFields

Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

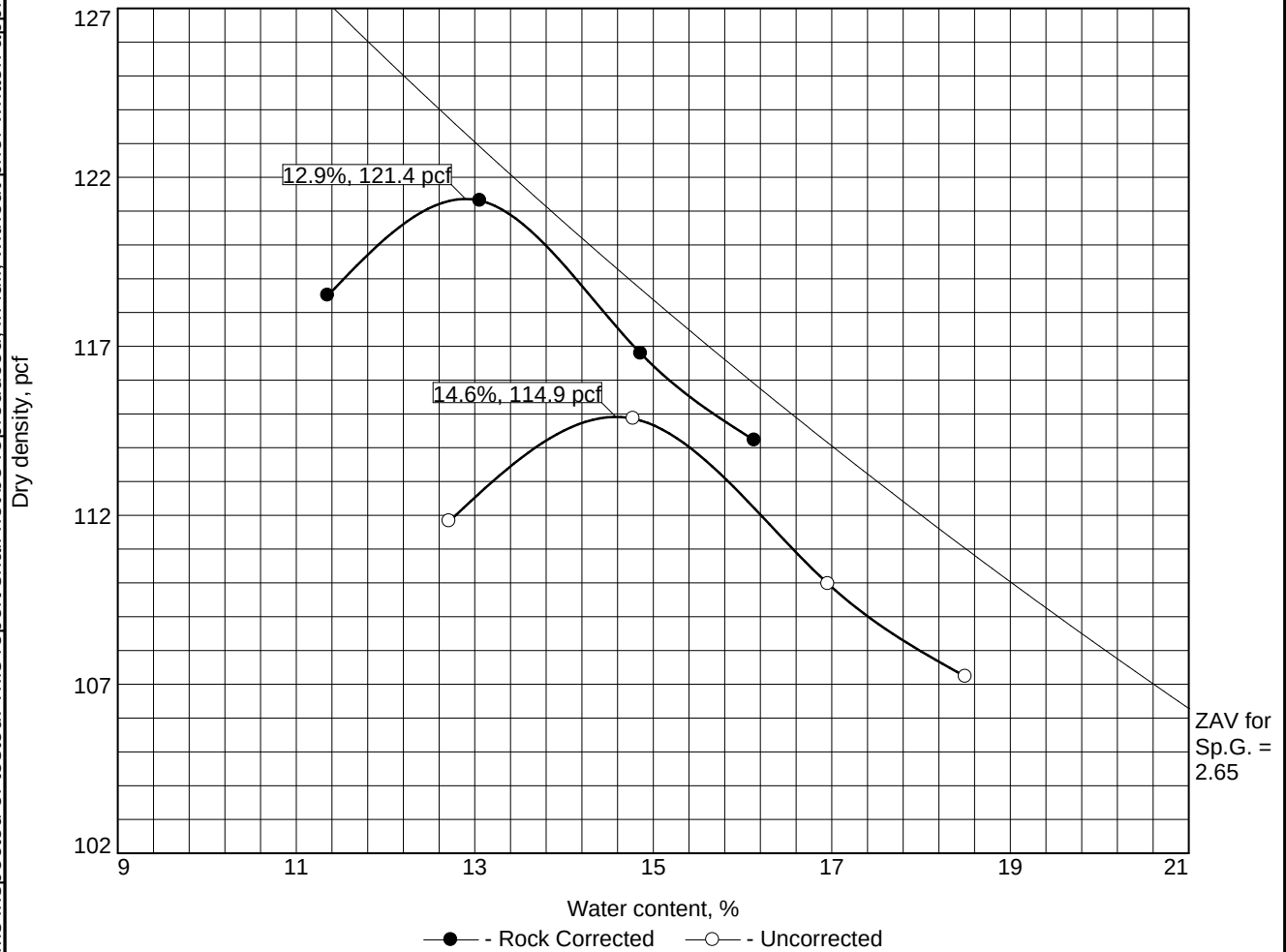
Figure NFSLF-94-C

Tested By: JB

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-6(2)		2.65	40	28	17.4	27.4

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 121.4 pcf	114.9 pcf	Dark brown clayey sand with gravel
Optimum moisture = 12.9 %	14.6 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company	Remarks:
Project: Squaw Gulch VLF Phase 2	
Location: Tezak Processing Plant Sample Number: NFSLF-94-C	

NewFields	Figure NFSLF-94C

Tested By: JB

Checked By: TW

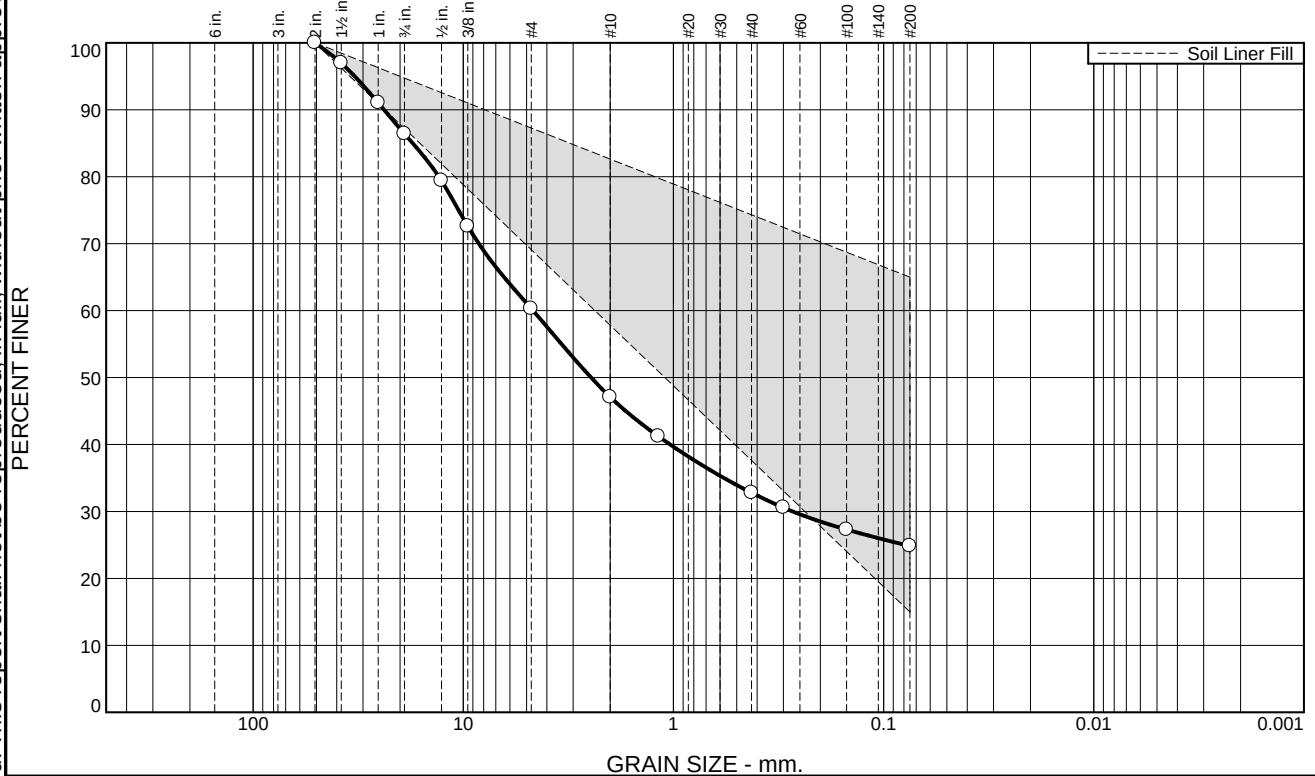
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-94-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: EN	Tested By: EN/TW
Test Started: 8/26/2019	Checked By: TW
Test Finished: 9/3/2019	Sample Description: Dark brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	40		
Saturated (Y/N):	Yes		
Stage 2: Effective Stress (psi)	20		
Sample Type	Remolded		
Burrete Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	637.41		787.64
Dry Soil + Tare (g)	555.49		698.26
Tare (g)	0.00		145.82
Wt. of Water (g)	81.92		89.38
Dry Soil (g)	555.49		552.44
Moisture Content (%)	14.7		16.2
Sample Volume (ft ³)	0.01050	0.01040	
Dry Density (pcf)	116.1	117.5	
Wet Density (pcf)	135.6	136.4	
Saturation (%)	100.0%	100.0	
Percent Compaction	95.6	96.8	
Height (in)	3.010	3.000	
Diameter (in)	2.759	2.749	
Area (in ²)	5.977	5.936	
Est. Moisture Content after Consolidation (%)		16.1%	
Est. Void Ratio after Consolidation		0.435	
Specific Gravity*	2.70		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		121.4
	Initial Remolded Dry Density (pcf):		115.9
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.454
	Optimum Moisture Content(%):		12.9
	Initial Water Content (%):		14.7
	Confining Pressure (psi):		20.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		2.1E-08
	Gradient Range (h/L):		4.7 4.7

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	13.6	26.1	13.2	14.3	8.0	24.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	97.0		
1"	91.0		
3/4"	86.4		
1/2"	79.4		
3/8"	72.6		
#4	60.3		
#10	47.1		
#16	41.2		
#40	32.8		
#50	30.6		
#100	27.3		
#200	24.8	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey gravel with sand

Atterberg Limits

PL= 13

LL= 39

PI= 27

Coefficients

D₉₀= 23.8193

D₈₅= 17.4002

D₆₀= 4.6568

D₅₀= 2.4647

D₃₀= 0.2708

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= GC

AASHTO= A-2-6(2)

Remarks

Natural Moisture: 15.5%

Location: Tezak Processing Plant
Sample Number: NFSLF-95-C

Depth: Stockpile

Date: 07/17/19

 NewFields

Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

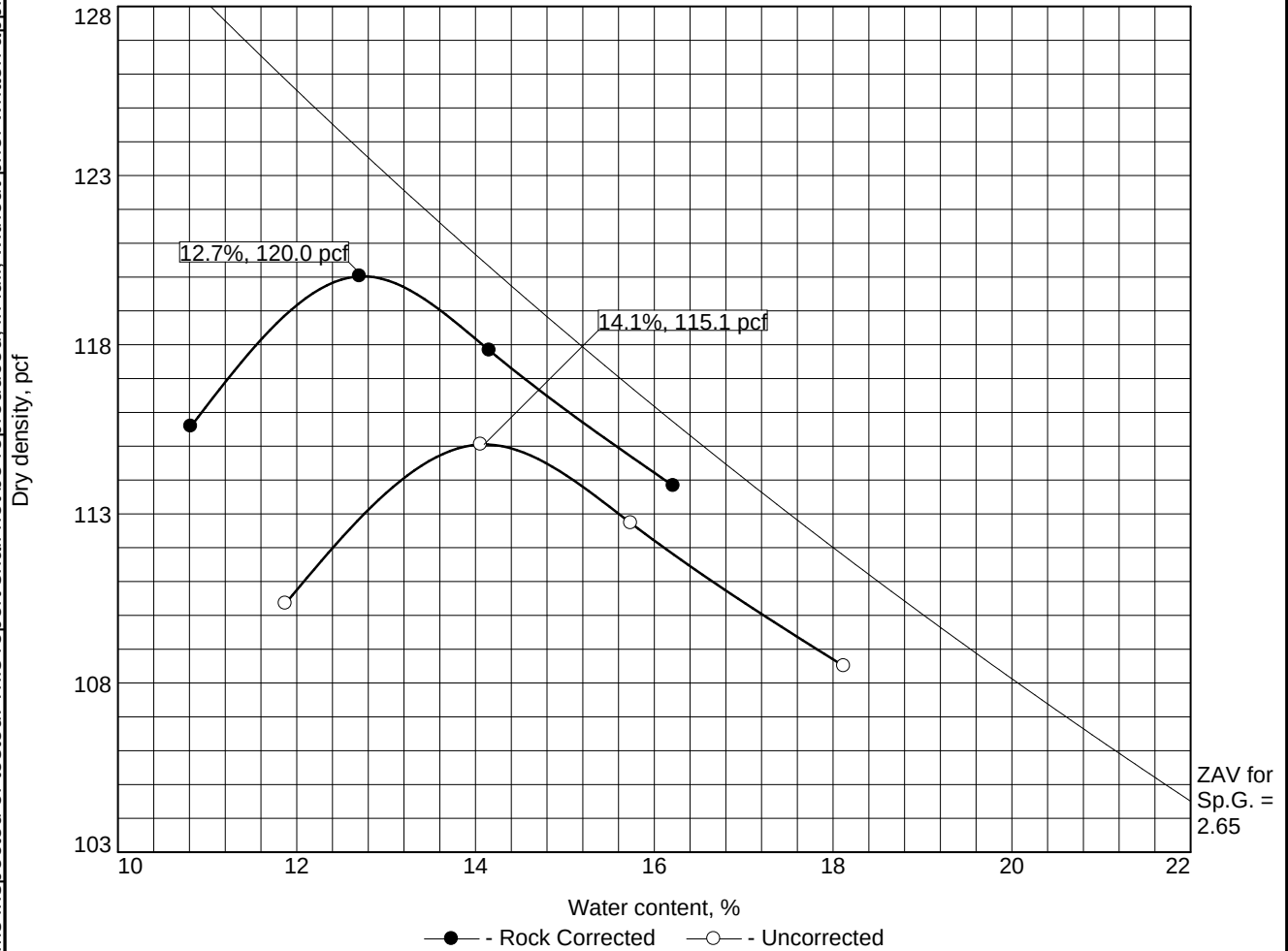
Figure NFSLF-95-C

Tested By: JG

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	GC	A-2-6(2)		2.65	39	27	13.6	24.8

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 120.0 pcf	115.1 pcf	Brown clayey gravel with sand
Optimum moisture = 12.7 %	14.1 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company	Remarks:
Project: Squaw Gulch VLF Phase 2	
Location: Tezak Processing Plant Sample Number: NFSLF-95-C	

	Figure NFSLF-95C

Tested By: HW

Checked By: TW

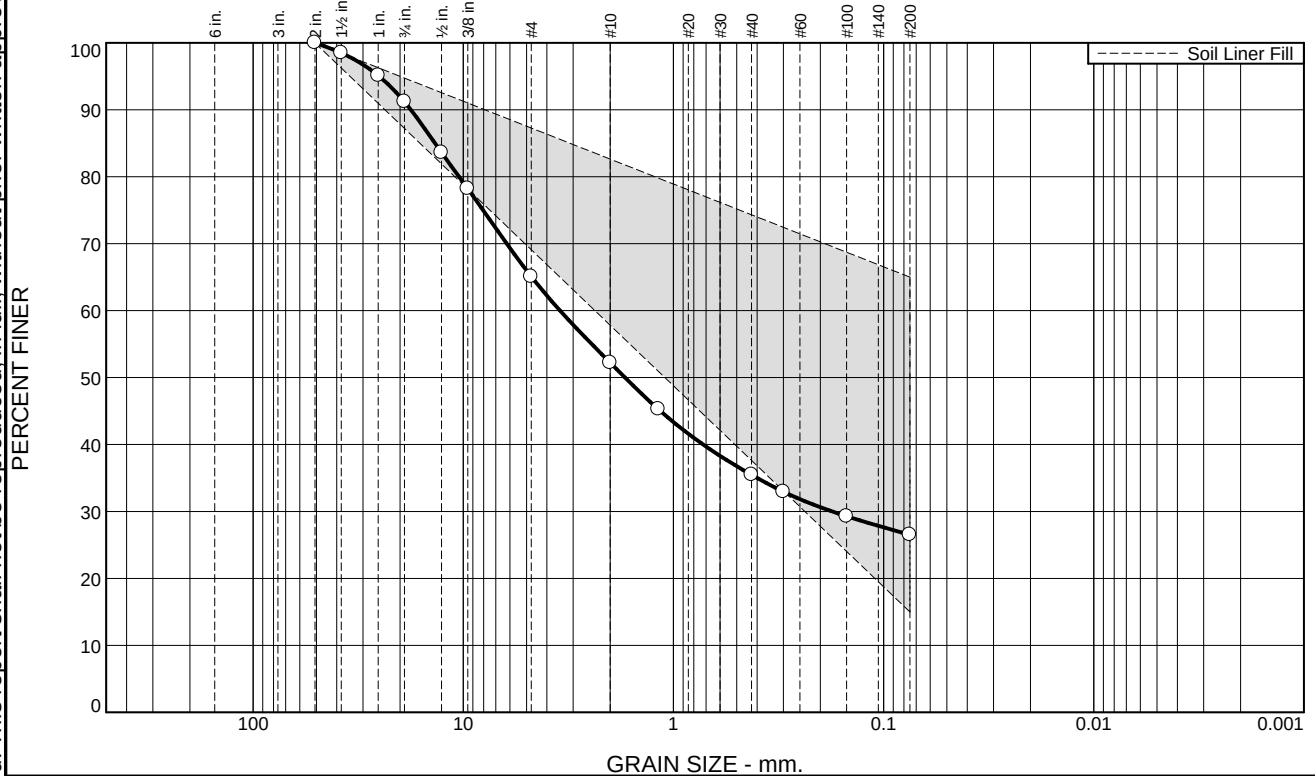
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-95-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW
Test Started: 9/16/2019	Checked By: TW
Test Finished: 9/18/2019	Sample Description: Brown clayey gravel with sand

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	40		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	20		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	619.43		846.17
Dry Soil + Tare (g)	549.14		770.26
Tare (g)	0.00		221.98
Wt. of Water (g)	70.29		75.91
Dry Soil (g)	549.14		548.28
Moisture Content (%)	12.8		13.8
Sample Volume (ft ³)	0.01064	0.01061	
Dry Density (pcf)	113.9	114.0	
Wet Density (pcf)	128.4	133.4	
Saturation (%)	74.5	100.0	
Percent Compaction	94.9	95.0	
Height (in)	3.013	3.012	
Diameter (in)	2.787	2.786	
Area (in ²)	6.100	6.096	
Est. Moisture Content after Consolidation (%)		17.0%	
Est. Void Ratio after Consolidation		0.451	
Specific Gravity*	2.65		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		120
	Initial Remolded Dry Density (pcf):		113.9
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.452
	Optimum Moisture Content(%):		12.7
	Initial Water Content (%):		12.8
	Confining Pressure (psi):		20.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		1.1E-07
	Gradient Range (h/L):		4.7 4.7

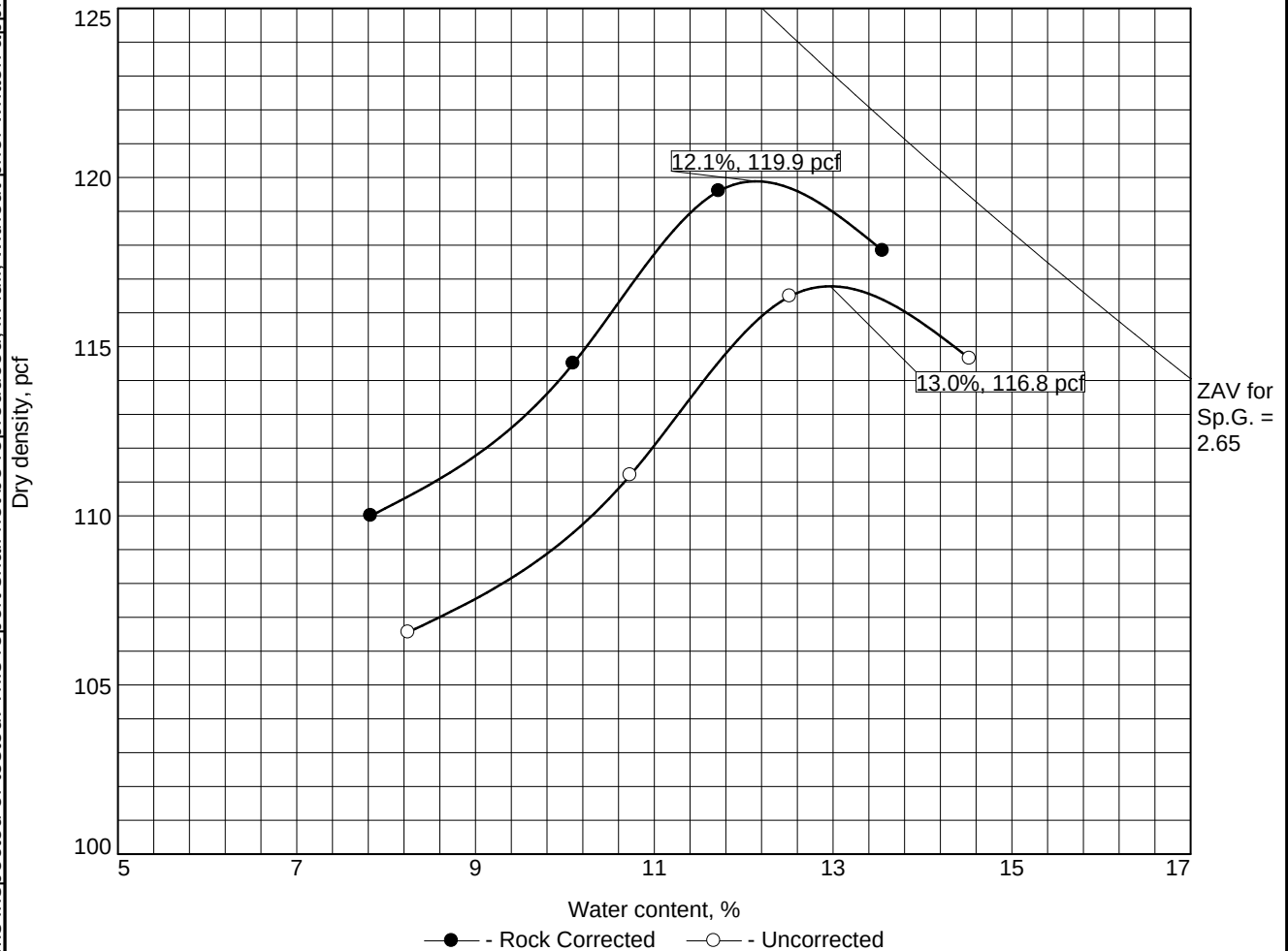
Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-91 Procedure C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-6(1)		2.65	36	23	8.8	26.5

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 119.9 pcf	116.8 pcf	Brown clayey sand with gravel
Optimum moisture = 12.1 %	13.0 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company Project: Squaw Gulch VLF Phase 2 Location: Tezak Processing Plant Sample Number: NFSLF-96-C	Remarks:
NewFields	

Figure NFSLF-96C

Tested By: HW

Checked By: TW

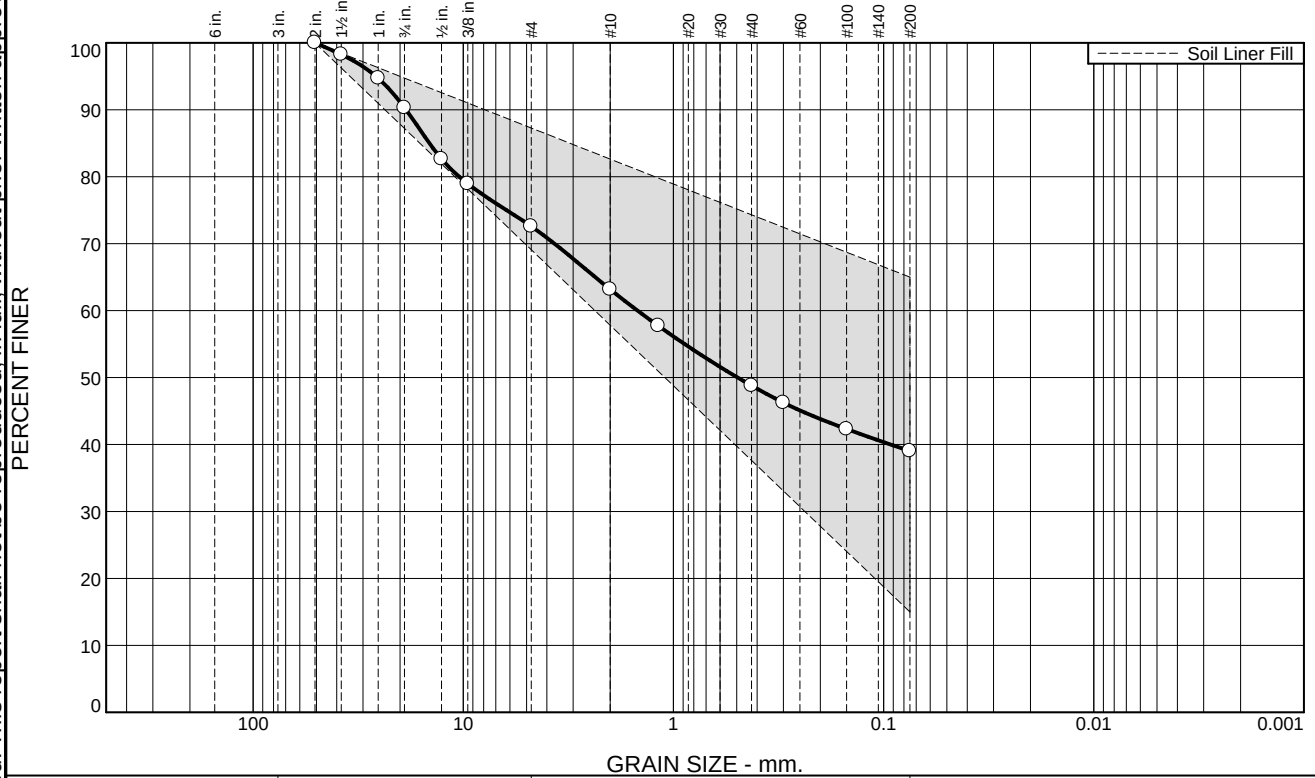
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-96-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW
Test Started: 9/16/2019	Checked By: TW
Test Finished: 9/18/2019	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	40		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	20		
Sample Type	Remolded		
Burrete Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	615		804.42
Dry Soil + Tare (g)	552.31		728.57
Tare (g)	0.00		189.40
Wt. of Water (g)	62.69		75.85
Dry Soil (g)	552.31		539.17
Moisture Content (%)	11.3		14.1
Sample Volume (ft ³)	0.01058	0.01055	
Dry Density (pcf)	114.4	114.4	
Wet Density (pcf)	128.2	133.7	
Saturation (%)	71.9	100.0	
Percent Compaction	95.4	95.4	
Height (in)	3.015	3.014	
Diameter (in)	2.778	2.777	
Area (in ²)	6.061	6.057	
Est. Moisture Content after Consolidation (%)		16.8%	
Est. Void Ratio after Consolidation		0.445	
Specific Gravity*	2.65		
*Specific gravity is assumed	Maximum Dry Density (pcf):		119.9
Maximum Dry Density:	Initial Remolded Dry Density (pcf):		114.4
ASTM D 698	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.446
	Optimum Moisture Content(%):		12.1
	Initial Water Content (%):		11.3
	Confining Pressure (psi):		20.0
	Hydraulic Conductivity, k₂₀ (cm/s):		5.9E-07
	Gradient Range (h/L):		4.7 4.7

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Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	9.7	17.7	9.4	14.4	9.8	39.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	98.3		
1"	94.7		
3/4"	90.3		
1/2"	82.7		
3/8"	79.0		
#4	72.6		
#10	63.2		
#16	57.7		
#40	48.8		
#50	46.3		
#100	42.3		
#200	39.0	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 11 LL= 38 PI= 27

Coefficients

D₉₀= 18.7302 D₈₅= 14.4933 D₆₀= 1.4811
D₅₀= 0.4945 D₃₀= C_u=
D₁₀= C_c=

Classification

USCS= SC AASHTO= A-6(5)

Remarks

Natural Moisture: 11.5%

Location: Tezak Processing Plant
Sample Number: NFSLF-100-C

Depth: Stockpile

Date: 08/02/19

NewFields

Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

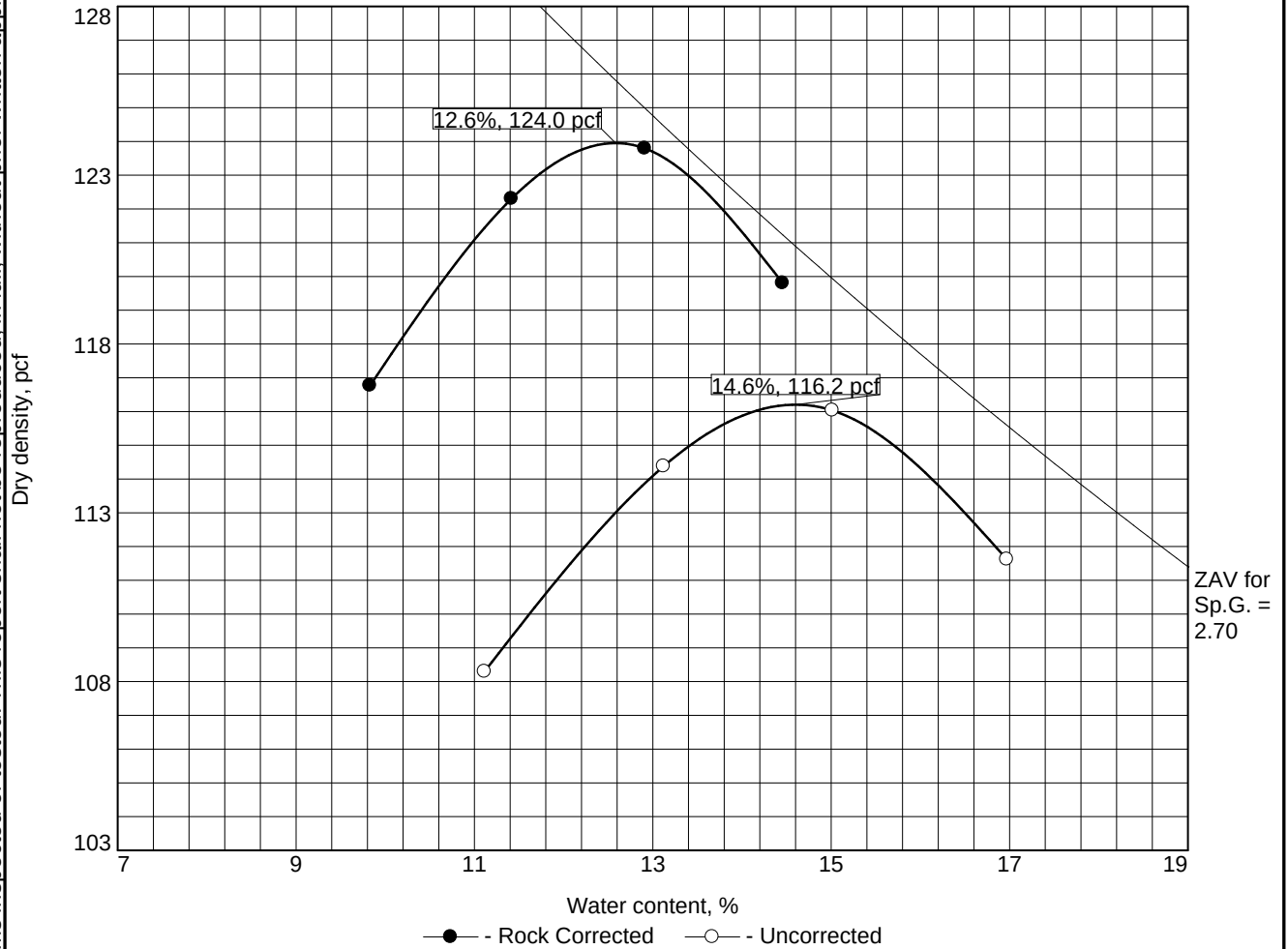
Figure NFSLF-100-C

Tested By: JB

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-91 Procedure B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-6(5)		2.65	38	27	21.0	39.0

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 124.0 pcf	116.2 pcf	Brown clayey sand with gravel
Optimum moisture = 12.6 %	14.6 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company	Remarks:
Project: Squaw Gulch VLF Phase 2	
Location: Tezak Processing Plant Sample Number: NFSLF-100-C	

	Figure NFSLF-100C

Tested By: JB

Checked By: TW

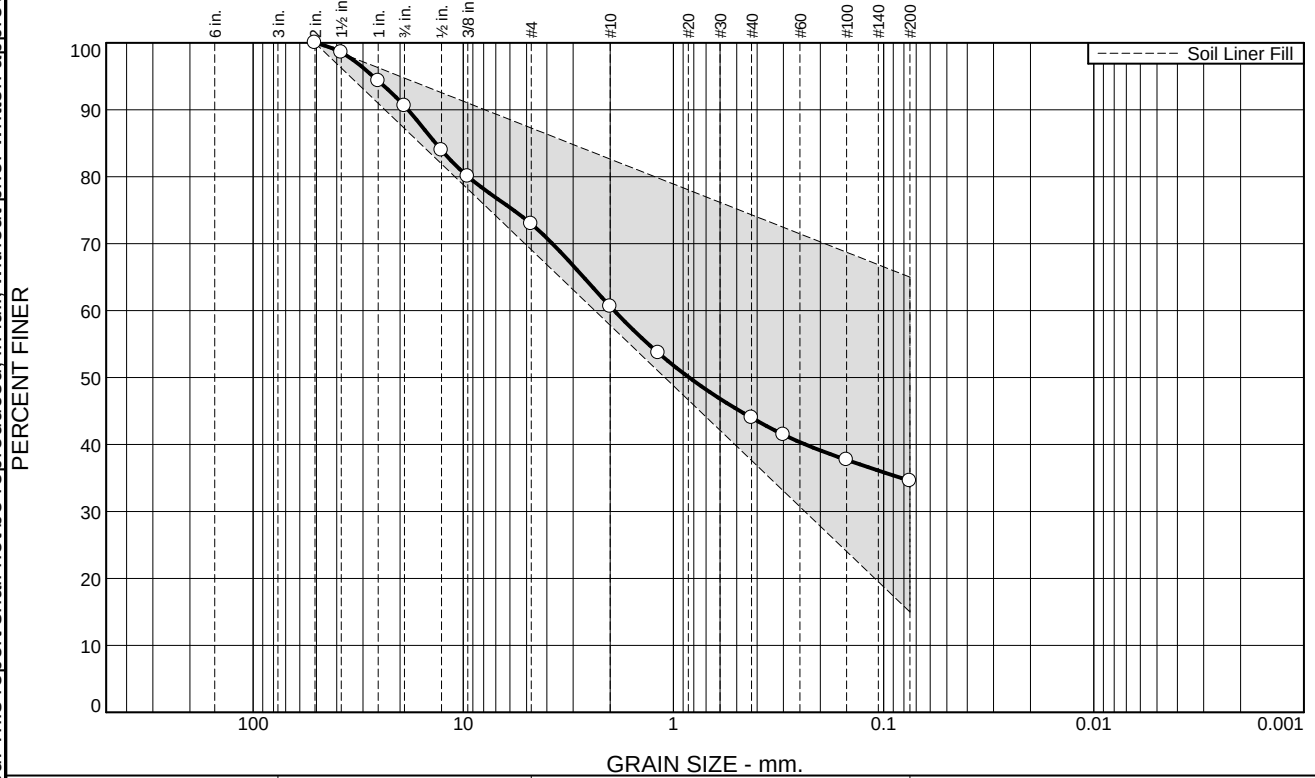
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-100-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW
Test Started: 9/16/2019	Checked By: TW
Test Finished: 9/18/2019	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	40		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	638.41		837.99
Dry Soil + Tare (g)	570.30		754.47
Tare (g)	0.00		192.10
Wt. of Water (g)	68.11		83.52
Dry Soil (g)	570.30		562.37
Moisture Content (%)	11.9		14.9
Sample Volume (ft ³)	0.01057	0.01055	
Dry Density (pcf)	118.2	118.3	
Wet Density (pcf)	133.1	136.1	
Saturation (%)	83.7	100.0	
Percent Compaction	95.3	95.4	
Height (in)	3.019	3.018	
Diameter (in)	2.776	2.775	
Area (in ²)	6.051	6.047	
Est. Moisture Content after Consolidation (%)		15.0%	
Est. Void Ratio after Consolidation		0.398	
Specific Gravity*	2.65		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		124
	Initial Remolded Dry Density (pcf):		118.2
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.399
	Optimum Moisture Content(%):		12.6
	Initial Water Content (%):		11.9
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		5.3E-08
	Gradient Range (h/L):		10.1 10.2

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	9.4	17.6	12.4	16.6	9.4	34.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	98.6		
1"	94.3		
3/4"	90.6		
1/2"	84.0		
3/8"	80.1		
#4	73.0		
#10	60.6		
#16	53.7		
#40	44.0		
#50	41.5		
#100	37.7		
#200	34.6	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 11

LL= 35

PI= 24

Coefficients

D₉₀= 18.3172

D₈₅= 13.5398

D₆₀= 1.9143

D₅₀= 0.8413

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-2-6(3)

Remarks

Natural Moisture: 9.3%

Location: Tezak Processing Plant
Sample Number: NFSLF-112-C

Depth: Stockpile

Date: 08/19/19

NewFields

Client: CC&V Gold Mining Company
Project: Squaw Gulch VLF Phase 2

Project No: 475.0106.032

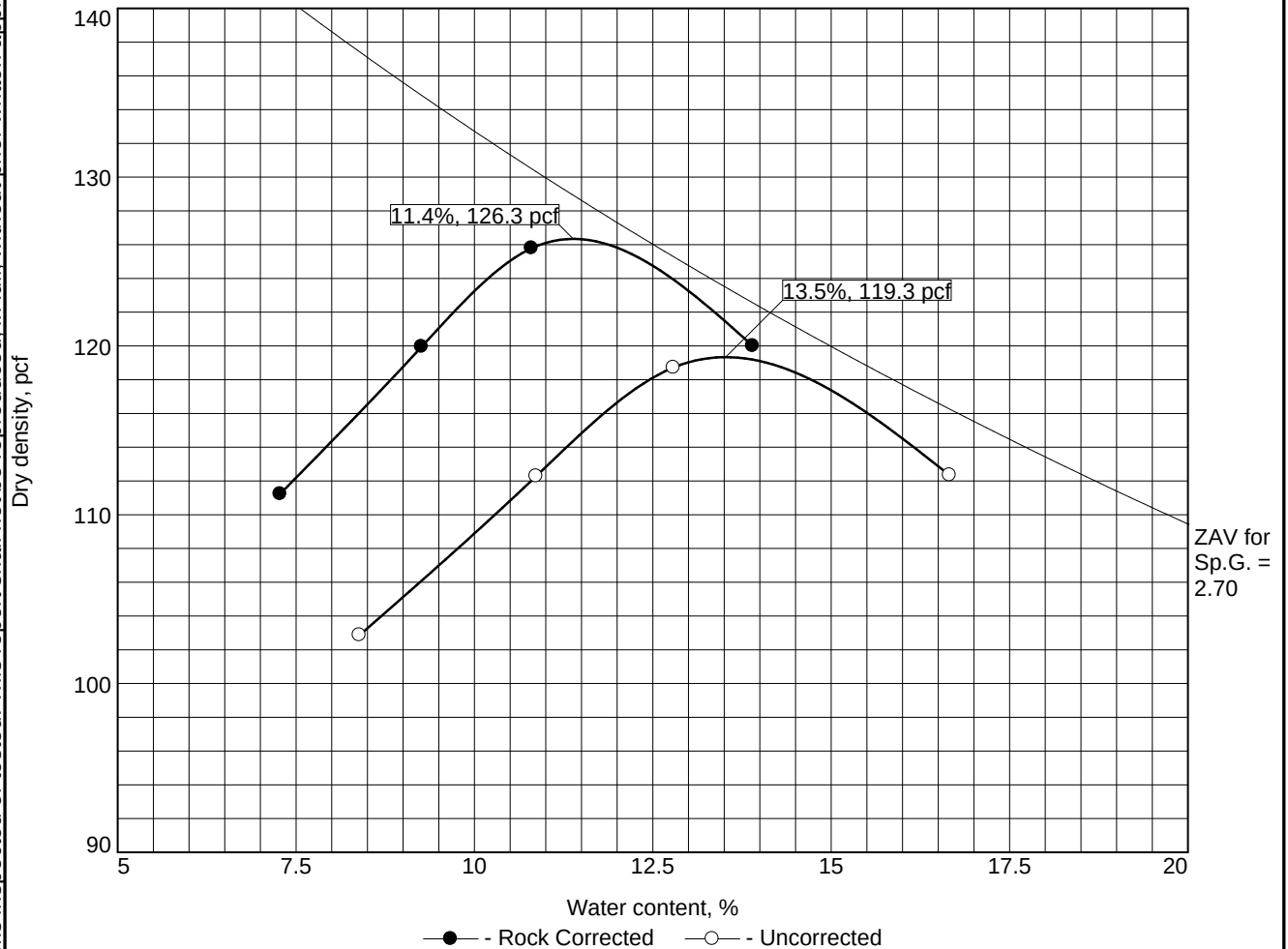
Figure NFSLF-112-C

Tested By: JB

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-6(3)		2.65	35	24	19.9	34.6

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 126.3 pcf	119.3 pcf	Brown clayey sand with gravel
Optimum moisture = 11.4 %	13.5 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company	Remarks:
Project: Squaw Gulch VLF Phase 2	
Location: Tezak Processing Plant Sample Number: NFSLF-112-C	
NewFields	

Figure NFSLF-112C

Tested By: JB

Checked By: TW

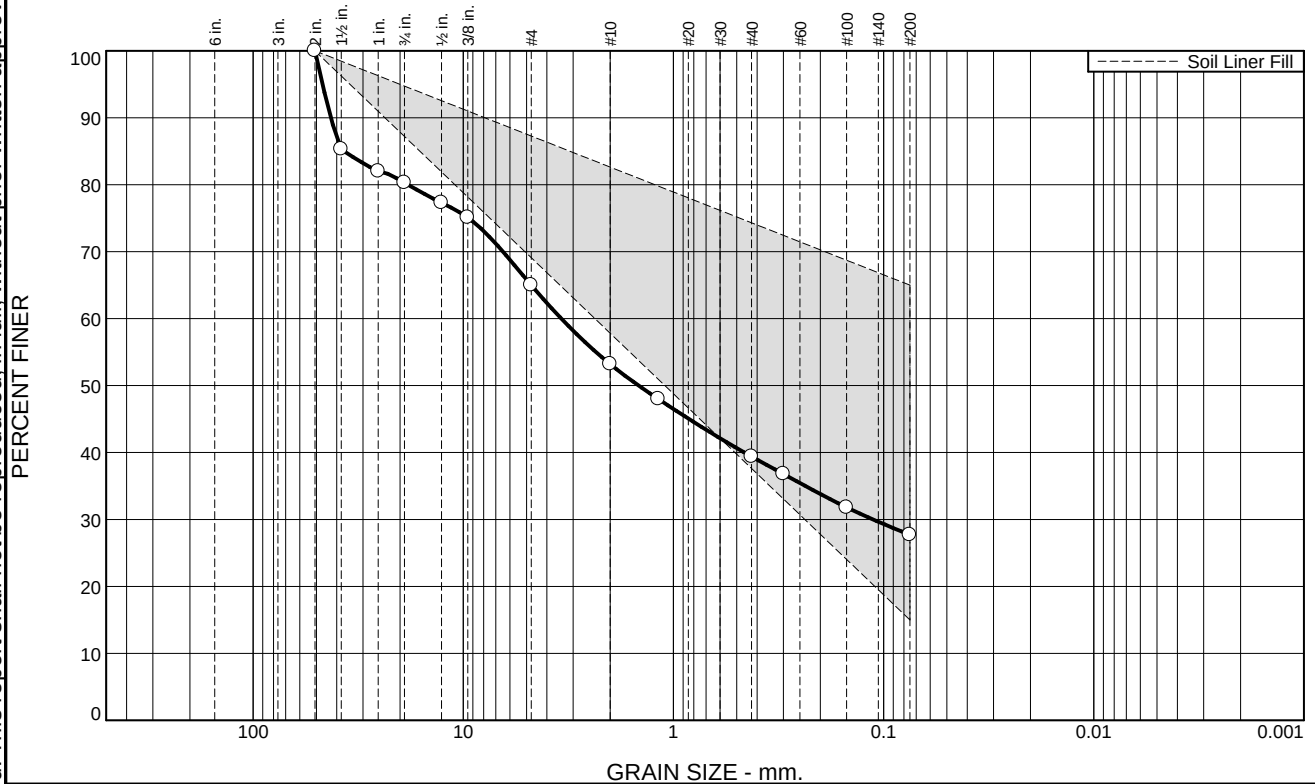
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-112-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2	Elevation/Depth: Stockpile
Requested By: EN	Tested By: TW
Test Started: 9/19/2019	Checked By: TW
Test Finished: 9/24/2019	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	40		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	642.8		855.30
Dry Soil + Tare (g)	577.23		764.50
Tare (g)	0.00		119.00
Wt. of Water (g)	65.57		90.80
Dry Soil (g)	577.23		645.50
Moisture Content (%)	11.4		14.1
Sample Volume (ft ³)	0.01060	0.01057	
Dry Density (pcf)	120.1	120.1	
Wet Density (pcf)	133.8	137.3	
Saturation (%)	80.1	100.0	
Percent Compaction	95.1	95.1	
Height (in)	3.016	3.015	
Diameter (in)	2.780	2.779	
Area (in ²)	6.070	6.066	
Est. Moisture Content after Consolidation (%)		14.2%	
Est. Void Ratio after Consolidation		0.377	
Specific Gravity*	2.65		
*Specific gravity is assumed	Maximum Dry Density (pcf):		126.3
Maximum Dry Density:	Initial Remolded Dry Density (pcf):		120.1
ASTM D 698	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.377
	Optimum Moisture Content(%):		11.4
	Initial Water Content (%):		11.4
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k₂₀ (cm/s):		2.1E-07
	Gradient Range (h/L):		10.1 10.2

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	19.7	15.3	11.8	13.8	11.7	27.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	85.3		
1"	82.0		
3/4"	80.3		
1/2"	77.3		
3/8"	75.1		
#4	65.0		
#10	53.2		
#16	48.0		
#40	39.4		
#50	36.8		
#100	31.8		
#200	27.7	15.0 - 65.0	

* Soil Liner Fill

Material Description

Dark brown clayey sand with gravel

Atterberg Limits

PL= 16

LL= 41

PI= 25

Coefficients

D₉₀= 42.6458

D₈₅= 36.8956

D₆₀= 3.4155

D₅₀= 1.4633

D₃₀= 0.1124

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-2-7(2)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-113-C

Depth: Stockpile

Date: 10/23/2019

NewFields

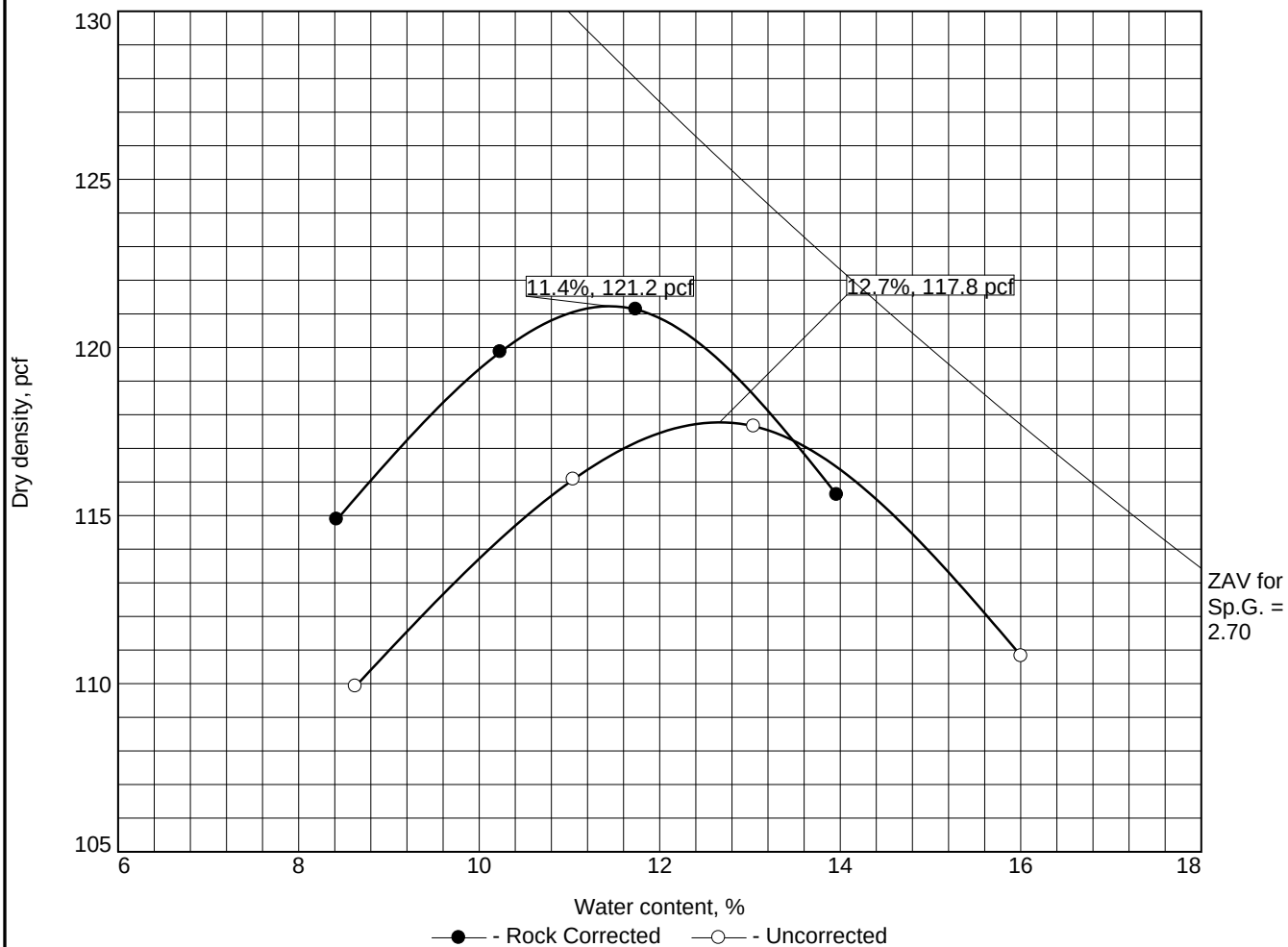
Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

Figure NFSLF-113-C

Tested By: AR

Checked By: JH



Test specification: ASTM D 1557-12 Method B Modified
 ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	SC	A-2-7(2)		2.70	41	25	24.9	27.7

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 121.2 pcf		117.8 pcf	Dark Brown clayey sand with gravel
Optimum moisture = 11.4 %		12.7 %	
Project No. 475.0106.032 Client: Newmont-Cripple Creek & Victor Gold Mine Project: VLF 2 Phase 2B Date: 12/10/2019 ☐ Location: Tezak Processing Plant Sample Number: NFSLF-113-C			Remarks: *Assumed Specific Gravity
			
			Figure 19-415-01

Figure 19-415-01

Tested By: KG Checked By: JH

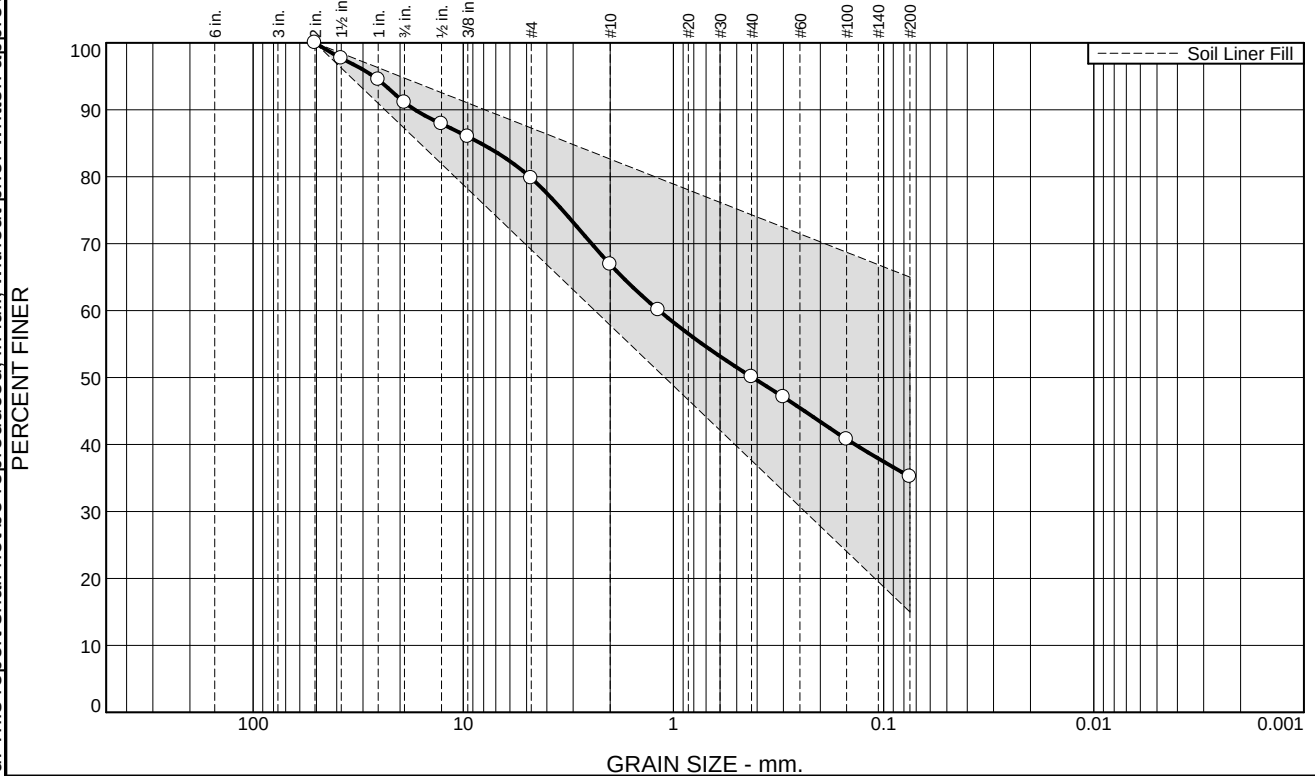
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: CC & V Gold Mining Company	Lab Sample No.: NFSLF-113-C
Project: VLF 2	Field Sample No.: NFSLF-113-C
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: JM	Tested By: TW
Test Started: 12/6/2019	Checked By: TW
Test Finished: 12/9/2019	Sample Description: Dark brown clayey sand w/ gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	50		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burrete Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	624.91		665.00
Dry Soil + Tare (g)	562.90		598.00
Tare (g)	0.00		119.00
Wt. of Water (g)	62.01		67.00
Dry Soil (g)	562.90		479.00
Moisture Content (%)	11.0		14.0
Sample Volume (ft ³)	0.01072	0.01067	
Dry Density (pcf)	115.4	115.6	
Wet Density (pcf)	128.6	135.3	
Saturation (%)	66.9	100.0	
Percent Compaction	95.2	95.4	
Height (in)	3.029	3.027	
Diameter (in)	2.790	2.787	
Area (in ²)	6.112	6.101	
Est. Moisture Content after Consolidation (%)		16.9%	
Est. Void Ratio after Consolidation		0.457	
Specific Gravity*	2.70		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		121.2
	Initial Remolded Dry Density (pcf):		115.4
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.460
	Optimum Moisture Content(%):		11.4
	Initial Water Content (%):		11.0
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		5.1E-07
	Gradient Range (h/L):		4.7 4.7

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Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	8.9	11.3	12.9	16.8	14.9	35.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	97.7		
1"	94.5		
3/4"	91.1		
1/2"	87.9		
3/8"	86.0		
#4	79.8		
#10	66.9		
#16	60.1		
#40	50.1		
#50	47.1		
#100	40.8		
#200	35.2	15.0 - 65.0	

* Soil Liner Fill

Material Description

Red clayey sand with gravel

Atterberg Limits

PL= 14 LL= 37 PI= 23

Coefficients

D₉₀= 17.0105 D₈₅= 8.2677 D₆₀= 1.1697
D₅₀= 0.4201 D₃₀= C_u=
D₁₀= C_c=

Classification

USCS= SC AASHTO= A-2-6(3)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-114-C

Depth: Stockpile

Date: 10/26/2019

NewFields

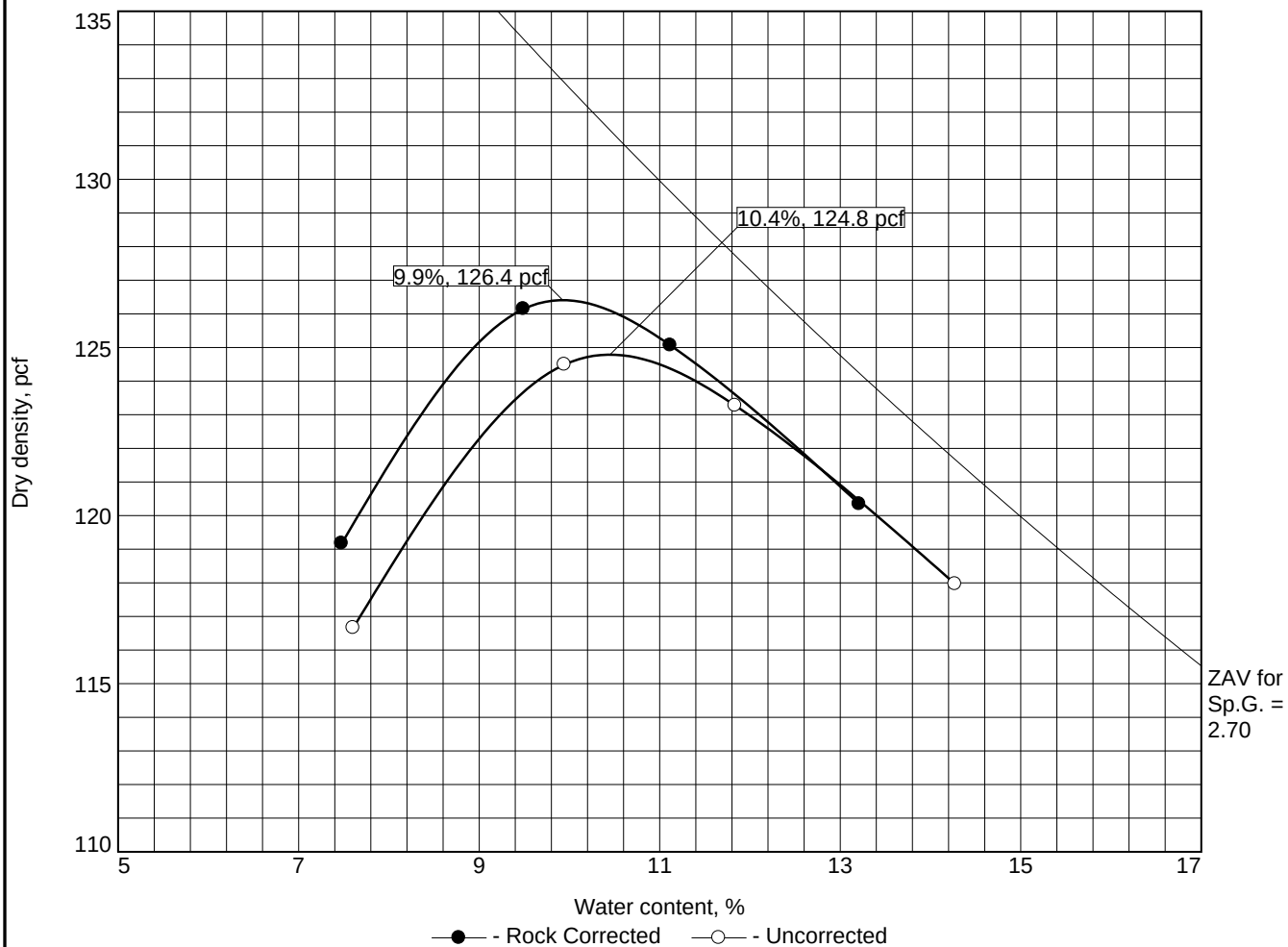
Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

Figure NFSLF-114-C

Tested By: AR

Checked By: JH



Test specification: ASTM D 1557-12 Method B Modified
 ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	SC	A-2-6(3)		2.70	37	23	14.0	35.2

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 126.4 pcf		124.8 pcf	Red clayey sand with gravel
Optimum moisture = 9.9 %		10.4 %	
Project No. 475.0106.032 Client: Newmont-Cripple Creek & Victor Gold Mine Project: VLF 2 Phase 2B Date: 12/9/2019 Location: Tezak Processing Plant Sample Number: NFSLF-114-C			Remarks: *Assumed Specific Gravity
NewFields			

Figure 19-415-03

Tested By: KS Checked By: JH

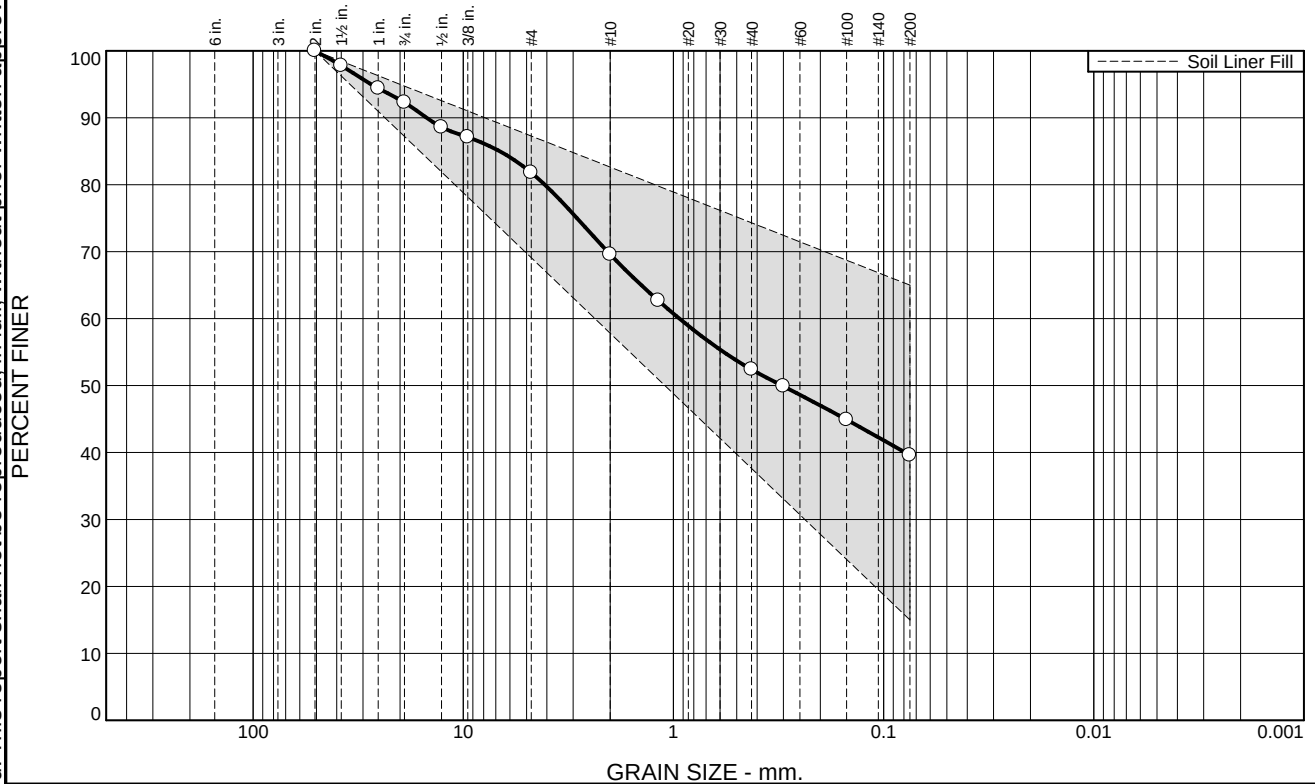
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: CC & V Gold Mining Company	Lab Sample No.: NFSLF-114-C
Project: VLF	Field Sample No.: NFSLF-114-C
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: JM	Tested By: TW
Test Started: 12/6/2019	Checked By: TW
Test Finished: 12/9/2019	Sample Description: Red clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	50		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burrete Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	644.1		658.60
Dry Soil + Tare (g)	584.64		598.00
Tare (g)	0.00		119.00
Wt. of Water (g)	59.46		60.60
Dry Soil (g)	584.64		479.00
Moisture Content (%)	10.2		12.7
Sample Volume (ft ³)	0.01076	0.01072	
Dry Density (pcf)	120.1	120.3	
Wet Density (pcf)	132.0	138.2	
Saturation (%)	66.4	100.0	
Percent Compaction	95.0	95.1	
Height (in)	3.032	3.030	
Diameter (in)	2.794	2.792	
Area (in ²)	6.130	6.122	
Est. Moisture Content after Consolidation (%)		14.8%	
Est. Void Ratio after Consolidation		0.400	
Specific Gravity*	2.70		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		126.4
	Initial Remolded Dry Density (pcf):		120.1
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.402
	Optimum Moisture Content(%):		9.9
	Initial Water Content (%):		10.2
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		3.5E-07
	Gradient Range (h/L):		4.7 4.7

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	7.7	10.5	12.2	17.2	12.8	39.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	97.8		
1"	94.4		
3/4"	92.3		
1/2"	88.6		
3/8"	87.1		
#4	81.8		
#10	69.6		
#16	62.7		
#40	52.4		
#50	49.9		
#100	44.9		
#200	39.6	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 15

LL= 35

PI= 20

Coefficients

D₉₀= 14.9506

D₈₅= 6.7077

D₆₀= 0.9362

D₅₀= 0.3043

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-6(3)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-115-C

Depth: Stockpile

Date: 10/26/2019

NewFields

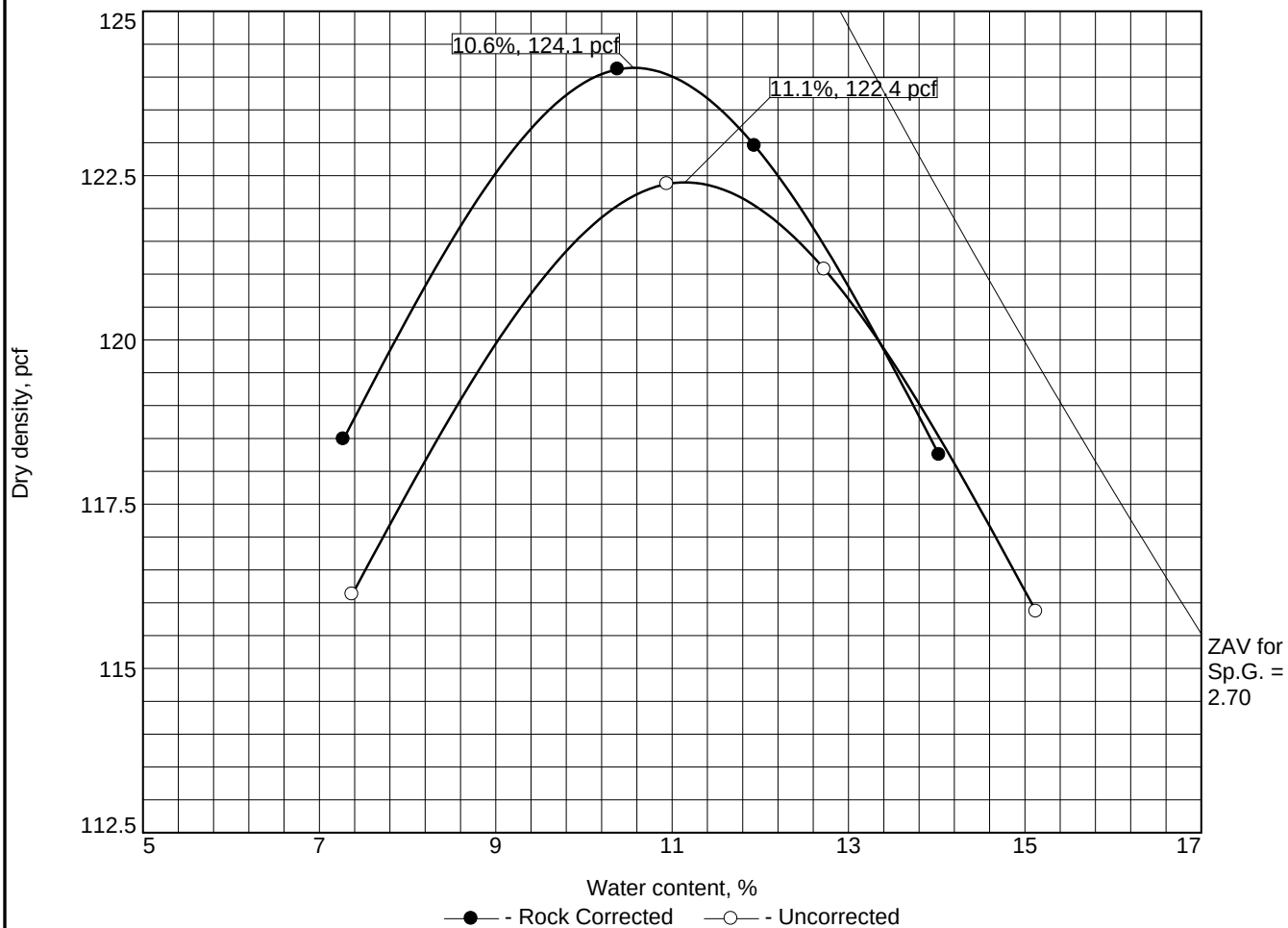
Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

Figure NFSLF-115-C

Tested By: AR

Checked By: JH



Test specification: ASTM D 1557-12 Method B Modified
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	SC	A-6(3)		2.70	35	20	12.9	39.6

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 124.1 pcf		122.4 pcf	Brown clayey sand with gravel
Optimum moisture = 10.6 %		11.1 %	
Project No. 475.0106.032 Client: Newmont-Cripple Creek & Victor Gold Mine Project: VLF 2 Phase 2B Date: 12/9/2019 Location: Tezak Processing Plant Sample Number: NFSLF-115-C			Remarks: *Assumed Specific Gravity
NewFields			
			Figure 19-415-04

Figure 19-415-04

Tested By: KS Checked By: JH

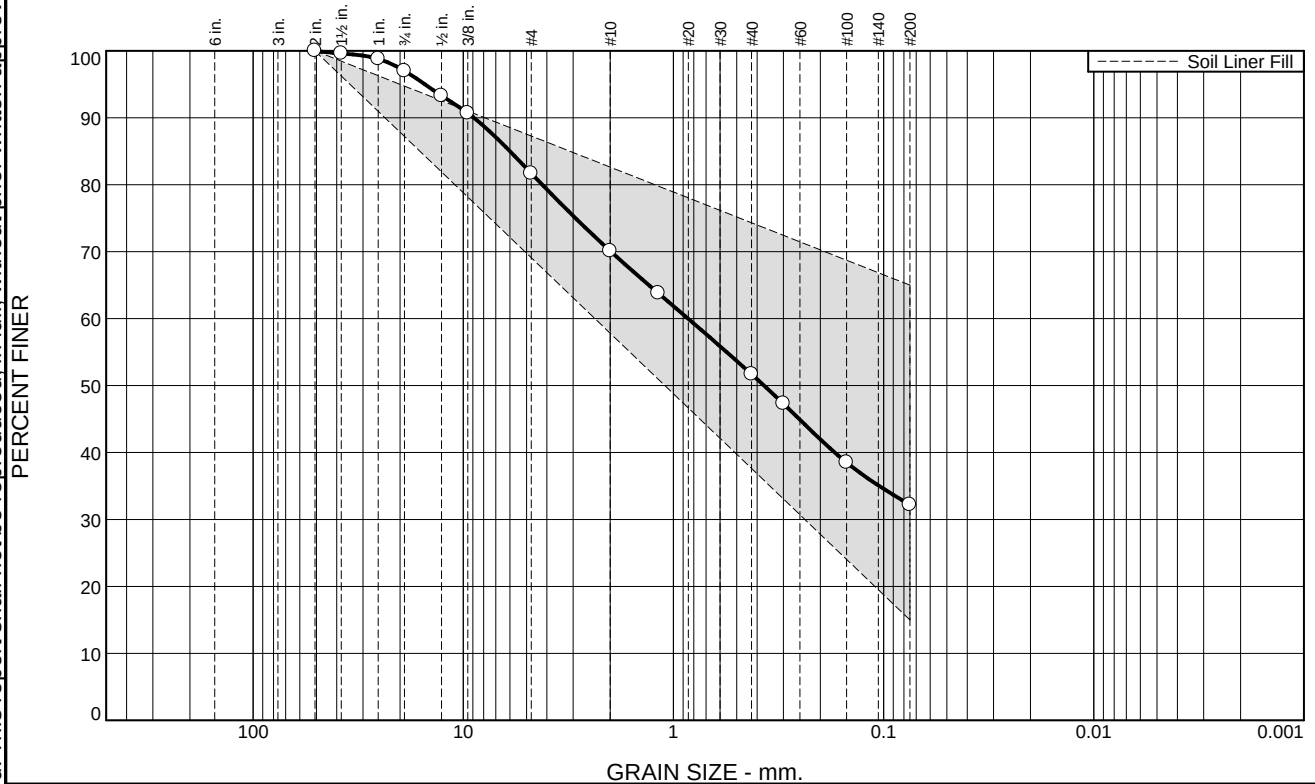
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: CC & V Gold Mining Company	Lab Sample No.: NFSLF-115-C
Project: VLF	Field Sample No.: NFSLF-115-C
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: JM	Tested By: TW
Test Started: 12/6/2019	Checked By: TW
Test Finished: 12/10/2019	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	50		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burrete Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	634.9		705.30
Dry Soil + Tare (g)	576.20		634.20
Tare (g)	0.00		119.00
Wt. of Water (g)	58.70		71.10
Dry Soil (g)	576.20		515.20
Moisture Content (%)	10.2		13.8
Sample Volume (ft ³)	0.01074	0.01068	
Dry Density (pcf)	117.8	118.1	
Wet Density (pcf)	130.3	136.9	
Saturation (%)	66.6	100.0	
Percent Compaction	95.0	95.2	
Height (in)	3.030	3.026	
Diameter (in)	2.793	2.789	
Area (in ²)	6.125	6.109	
Est. Moisture Content after Consolidation (%)		15.7%	
Est. Void Ratio after Consolidation		0.425	
Specific Gravity*	2.70		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		124.1
	Initial Remolded Dry Density (pcf):		117.8
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.430
	Optimum Moisture Content(%):		10.6
	Initial Water Content (%):		10.2
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		2.7E-07
	Gradient Range (h/L):		4.7 4.7

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.0	15.3	11.6	18.4	19.5	32.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	99.6		
1"	98.8		
3/4"	97.0		
1/2"	93.3		
3/8"	90.7		
#4	81.7		
#10	70.1		
#16	63.8		
#40	51.7		
#50	47.3		
#100	38.5		
#200	32.2	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 15

LL= 42

PI= 27

Coefficients

D₉₀= 8.9072

D₈₅= 5.9991

D₆₀= 0.8520

D₅₀= 0.3706

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-2-7(3)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-116-C

Depth: Stockpile

Date: 12/05/2019

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

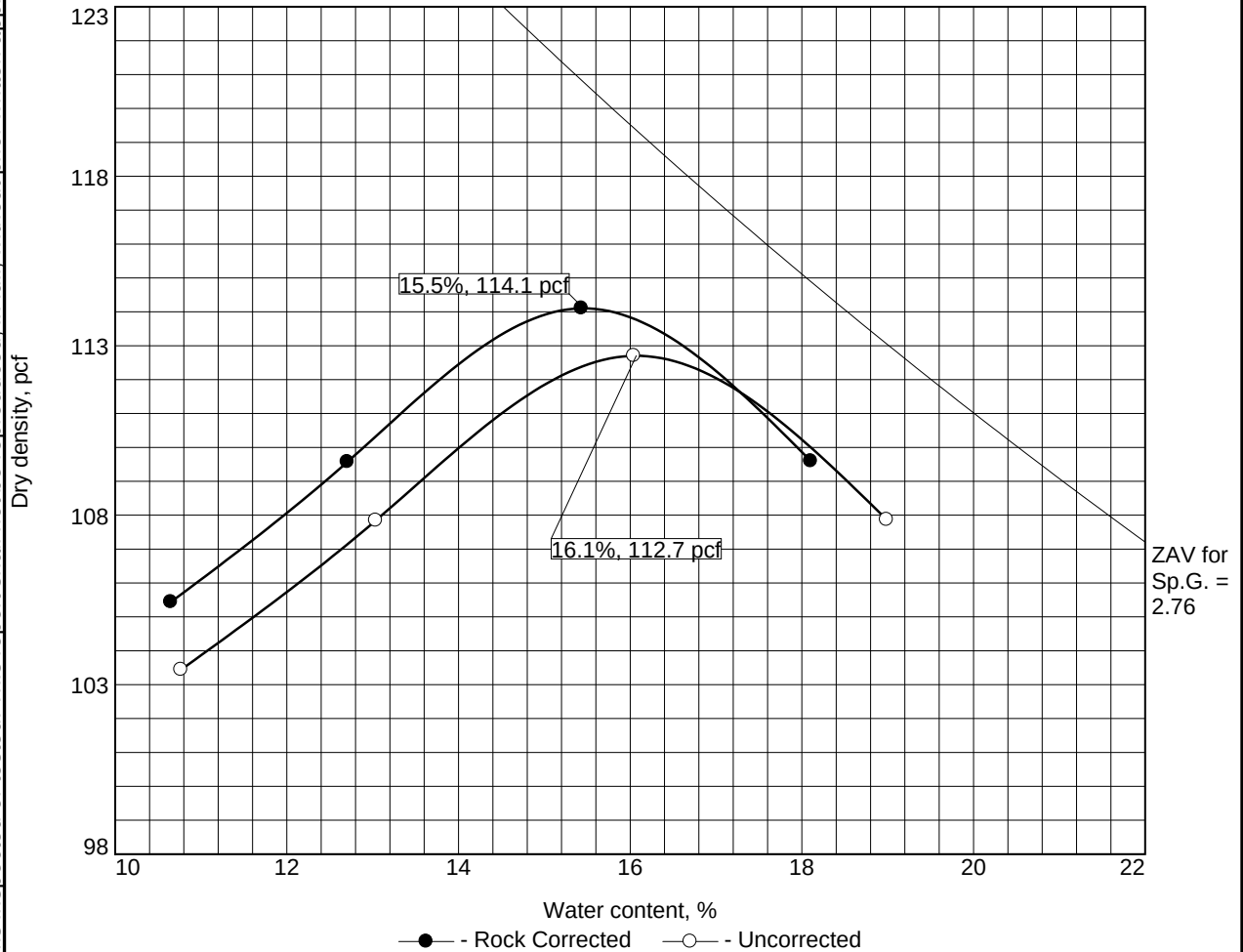
Figure NFSLF-116-C

Tested By: AR

Checked By: KS

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	SC	A-2-7(3)		2.76	42	27	9.3	32.2
ROCK CORRECTED TEST RESULTS			UNCORRECTED		MATERIAL DESCRIPTION			
Maximum dry density = 114.1 pcf			112.7 pcf		Brown clayey sand with gravel			
Optimum moisture = 15.5 %			16.1 %					
Project No. 475.0106.032 Client: Newmont-Cripple Creek & Victor Gold Mine					Remarks:			
Project: VLF 2 Phase 2B								
Date: 12-20-19								
Location: SLF-116-C Sample Number: 19-426-01								
NewFields					Figure 19-426-01			

Figure 19-426-01

Tested By: AR Checked By: KS

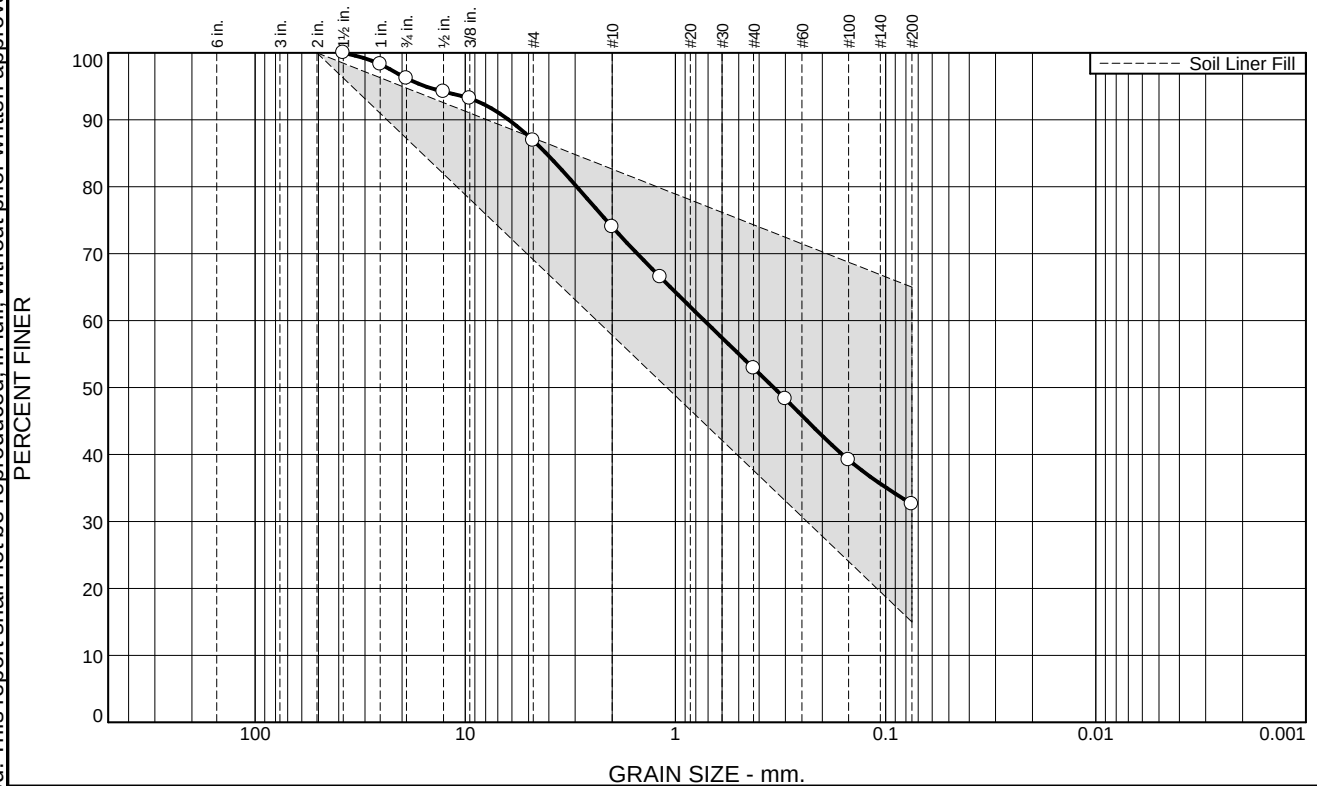
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: CC & V Gold Mining Company	Lab Sample No.: NFSLF-116-C
Project: VLF	Field Sample No.: NFSLF-116-C
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: JM	Tested By: TW
Test Started: 2/8/2020	Checked By: TW
Test Finished: 2/12/2020	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	50		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burrete Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	605.22		748.20
Dry Soil + Tare (g)	528.33		655.10
Tare (g)	0.00		119.00
Wt. of Water (g)	76.89		93.10
Dry Soil (g)	528.33		536.10
Moisture Content (%)	14.6		17.4
Sample Volume (ft ³)	0.01073	0.01066	
Dry Density (pcf)	108.6	108.9	
Wet Density (pcf)	124.4	131.2	
Saturation (%)	71.1	100.0	
Percent Compaction	95.2	95.5	
Height (in)	3.029	3.024	
Diameter (in)	2.791	2.787	
Area (in ²)	6.119	6.099	
Est. Moisture Content after Consolidation (%)		20.1%	
Est. Void Ratio after Consolidation		0.544	
Specific Gravity*	2.70		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		114.1
	Initial Remolded Dry Density (pcf):		108.6
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.551
	Optimum Moisture Content(%):		14.5
	Initial Water Content (%):		14.6
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		2.4E-07
	Gradient Range (h/L):		4.7 4.7

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.8	9.3	12.9	21.1	20.3	32.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5"	100.0		
1"	98.3		
3/4"	96.2		
1/2"	94.2		
3/8"	93.2		
#4	86.9		
#10	74.0		
#16	66.5		
#40	52.9		
#50	48.3		
#100	39.2		
#200	32.6	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand

Atterberg Limits

PL= 15

LL= 39

PI= 24

Coefficients

D₉₀= 6.2120

D₈₅= 4.1251

D₆₀= 0.7285

D₅₀= 0.3407

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-2-6(3)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-117-C

Depth: Stockpile

Date: 12/05/2019

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

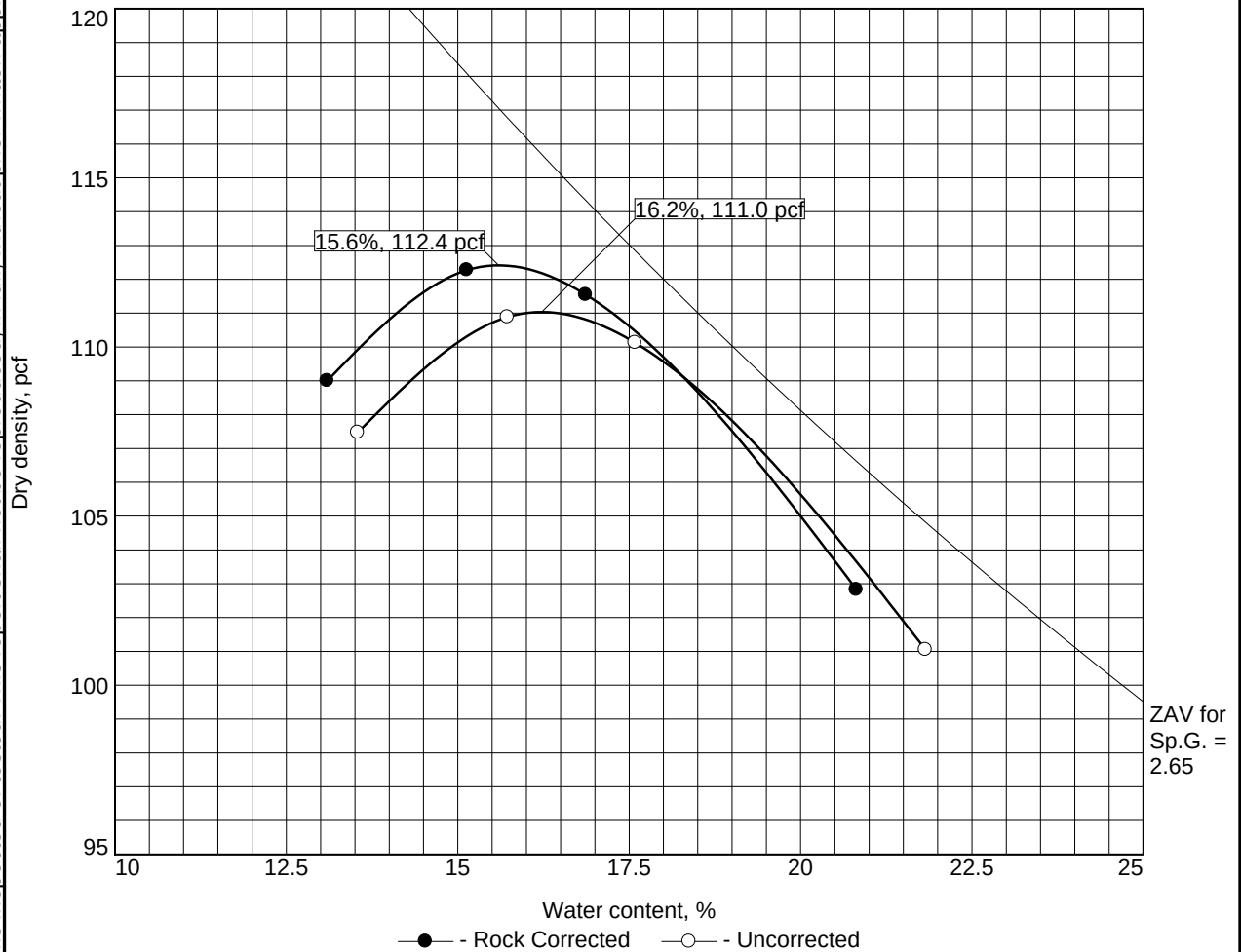
Figure NFSLF-117-C

Tested By: AR

Checked By: KS

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
	SC	A-2-6(3)		2.65	39	24	6.8	32.6

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 112.4 pcf		111.0 pcf	
Optimum moisture = 15.6 %		16.2 %	

Project No. 475.0106.032 Client: Newmont-Cripple Creek & Victor Gold Mine	Remarks:
Project: VLF 2 Phase 2B Date: 12/20/	
Location: SLF-117-C Sample Number: 19-426-02	

NewFields	Figure 19-426-02
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Tested By: KG Checked By: KS

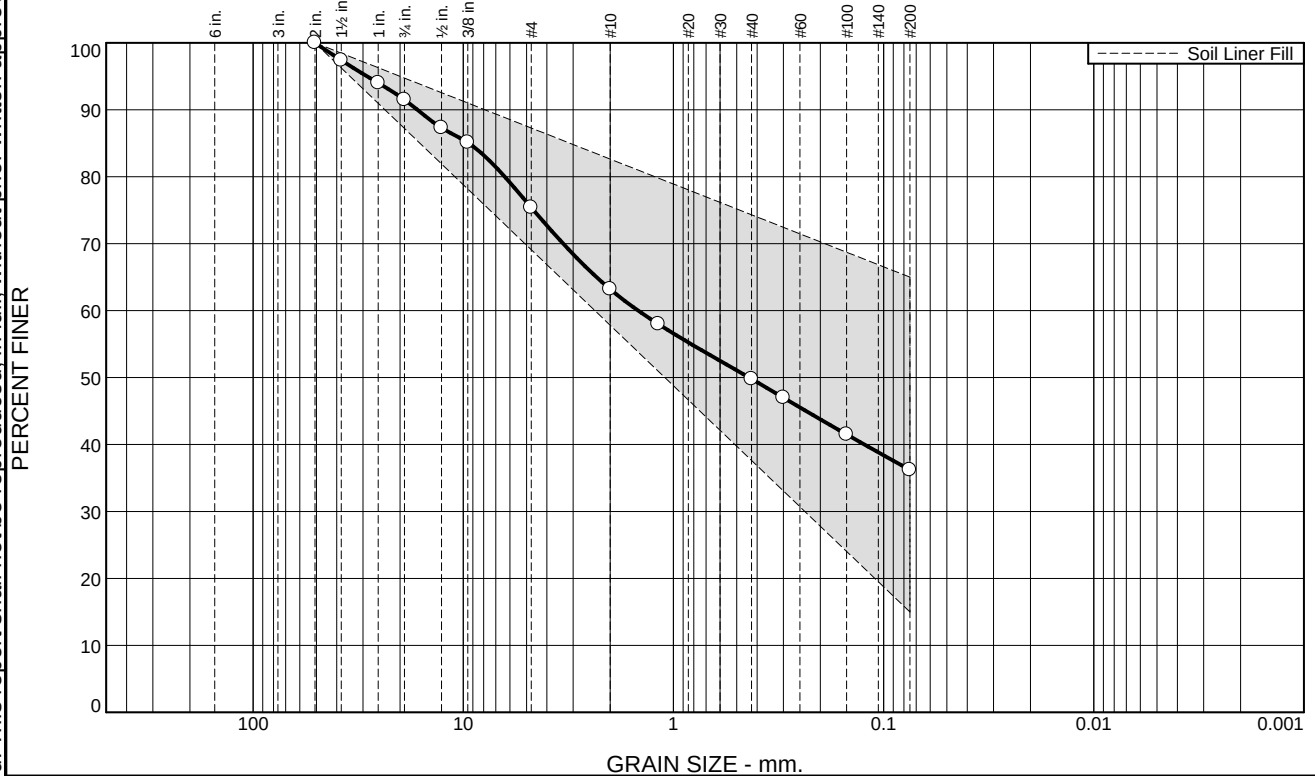
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: CC & V Gold Mining Company	Lab Sample No.: NFSLF-117-C
Project: VLF	Field Sample No.: NFSLF-117-C
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2A	Elevation/Depth: Stockpile
Requested By: JM	Tested By: TW
Test Started: 2/8/2020	Checked By: TW
Test Finished: 2/12/2020	Sample Description: Brown clayey sand

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	50		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burrete Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	601.95		821.40
Dry Soil + Tare (g)	520.90		718.50
Tare (g)	0.00		119.00
Wt. of Water (g)	81.05		102.90
Dry Soil (g)	520.90		599.50
Moisture Content (%)	15.6		17.2
Sample Volume (ft ³)	0.01073	0.01066	
Dry Density (pcf)	107.0	107.3	
Wet Density (pcf)	123.7	130.2	
Saturation (%)	73.3	100.0	
Percent Compaction	95.2	95.5	
Height (in)	3.029	3.024	
Diameter (in)	2.791	2.786	
Area (in ²)	6.119	6.098	
Est. Moisture Content after Consolidation (%)		21.0%	
Est. Void Ratio after Consolidation		0.567	
Specific Gravity*	2.70		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		112.4
	Initial Remolded Dry Density (pcf):		107.0
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.574
	Optimum Moisture Content(%):		15.6
	Initial Water Content (%):		15.6
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		1.8E-07
	Gradient Range (h/L):		4.7 4.7

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	8.5	16.1	12.2	13.4	13.6	36.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	97.4		
1"	94.0		
3/4"	91.5		
1/2"	87.3		
3/8"	85.1		
#4	75.4		
#10	63.2		
#16	58.0		
#40	49.8		
#50	47.0		
#100	41.5		
#200	36.2	15.0 - 65.0	

* Soil Liner Fill

Material Description

Dark brown clayey sand with gravel

Atterberg Limits

PL= 15 LL= 45 PI= 30

Coefficients

D₉₀= 16.5368 D₈₅= 9.4199 D₆₀= 1.4707
D₅₀= 0.4359 D₃₀= C_u=
D₁₀= C_c=

Classification

USCS= SC AASHTO= A-7-6(4)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-118-C

Depth: Stockpile

Date: 02/05/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

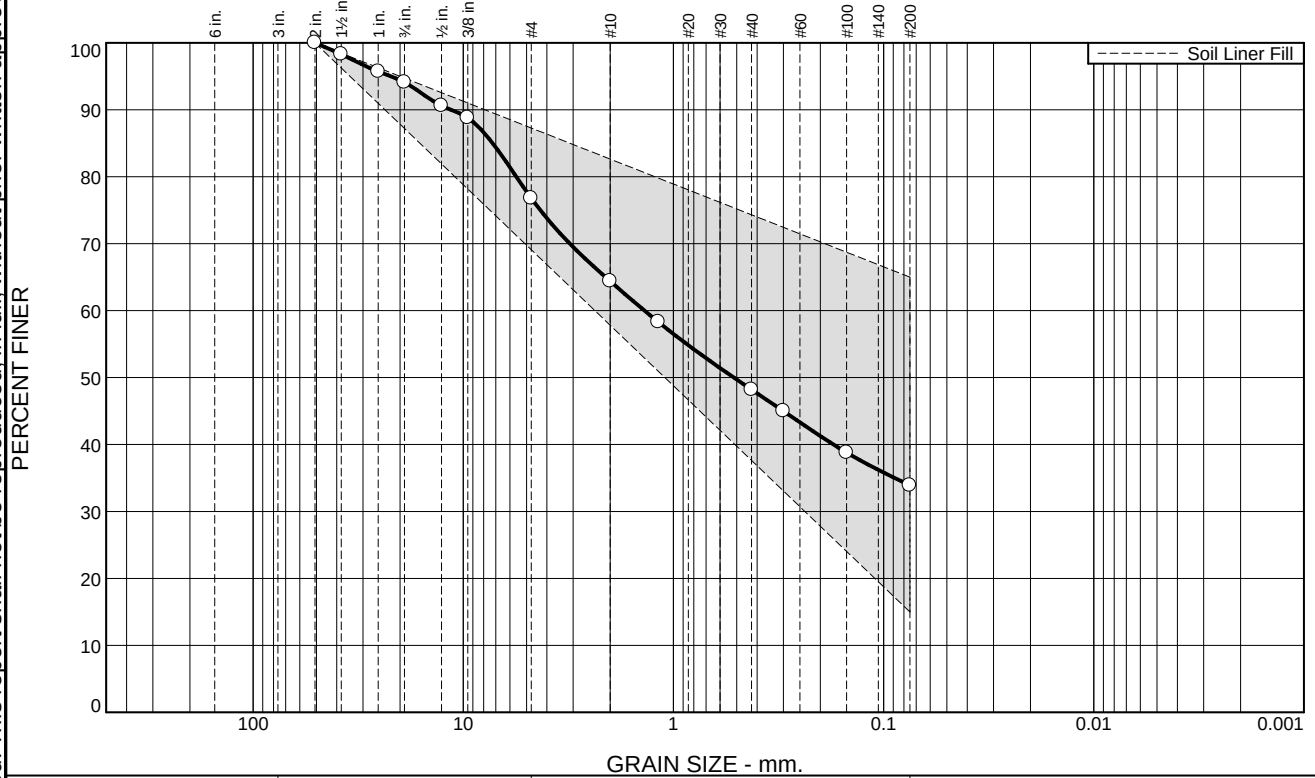
Figure NFSLF-118-C

Tested By: AR

Checked By: JH

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	5.9	17.3	12.4	16.2	14.3	33.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	98.3		
1"	95.7		
3/4"	94.1		
1/2"	90.6		
3/8"	88.8		
#4	76.8		
#10	64.4		
#16	58.3		
#40	48.2		
#50	45.0		
#100	38.8		
#200	33.9	15.0 - 65.0	

* Soil Liner Fill

Material Description

Dark brown clayey sand with gravel

Atterberg Limits

PL= 15

LL= 45

PI= 30

Coefficients

D₉₀= 11.4475

D₈₅= 7.2454

D₆₀= 1.3737

D₅₀= 0.5160

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-2-7(4)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-119-C

Depth: Stockpile

Date: 02/05/2020

NewFields

Client: CC&V Gold Mining Company

Project: VLF Phase 2B

Project No: 475.0106.032

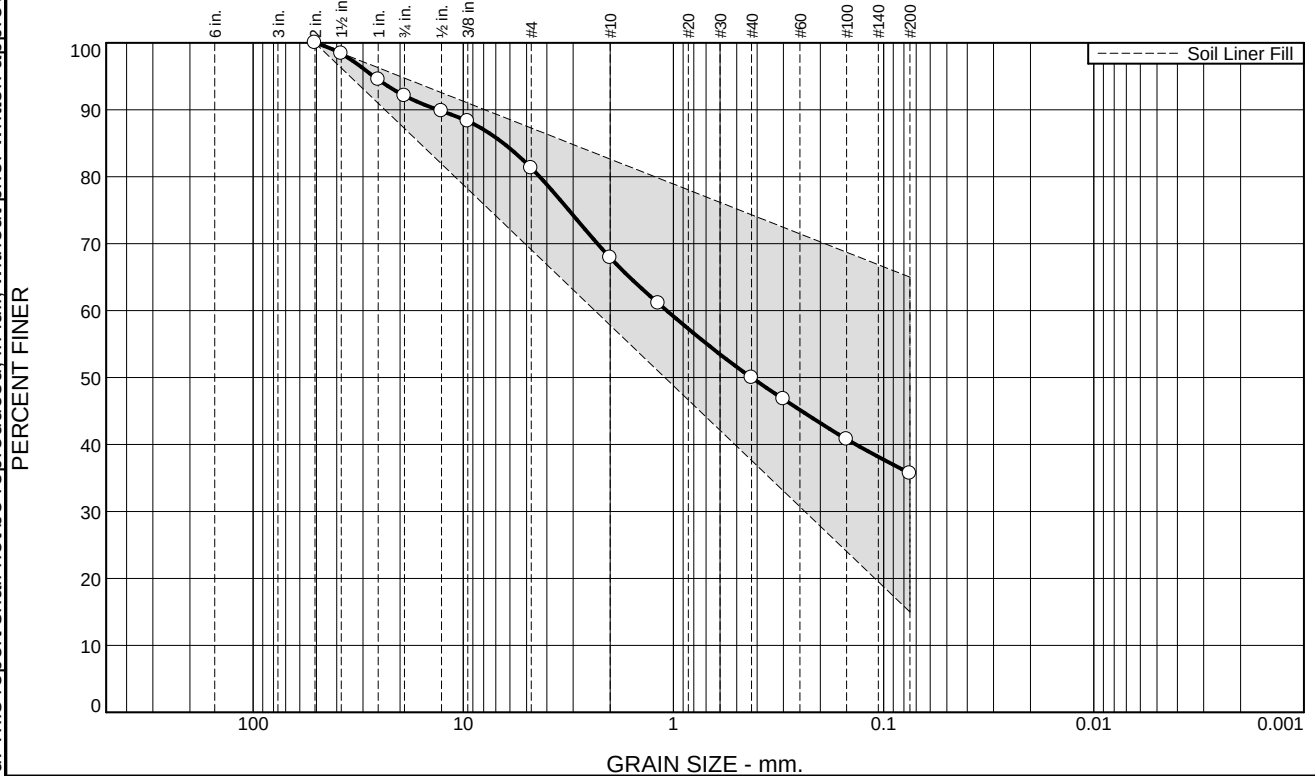
Figure NFSLF-119-C

Tested By: AR

Checked By: JH

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	7.9	10.8	13.4	17.9	14.3	35.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	98.4		
1"	94.5		
3/4"	92.1		
1/2"	89.8		
3/8"	88.3		
#4	81.3		
#10	67.9		
#16	61.1		
#40	50.0		
#50	46.8		
#100	40.8		
#200	35.7	15.0 - 65.0	

* Soil Liner Fill

Material Description

Dark brown clayey sand with gravel

Atterberg Limits

PL= 15

LL= 42

PI= 27

Coefficients

D₉₀= 13.2324

D₈₅= 6.4363

D₆₀= 1.0751

D₅₀= 0.4250

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-7-6(4)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-120-C

Depth: Stockpile

Date: 02/05/2020



Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

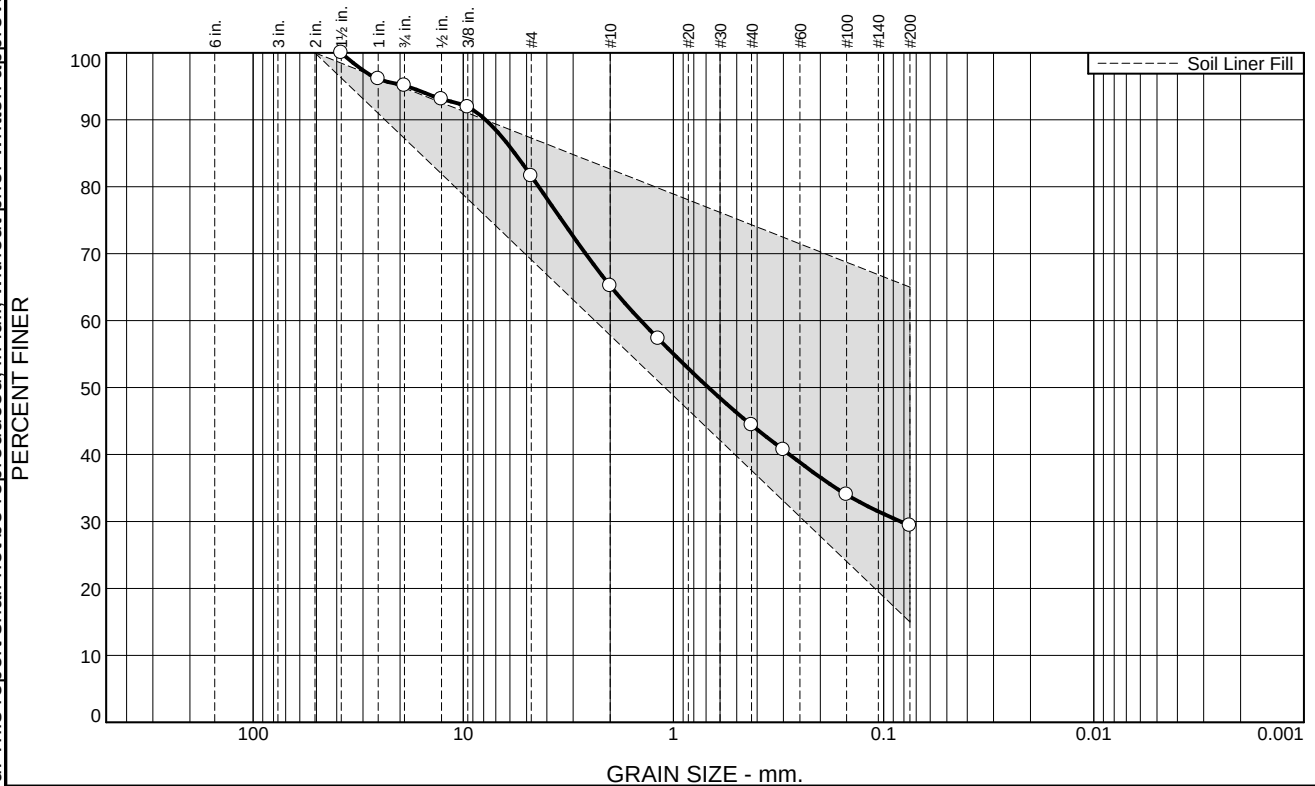
Figure NFSLF-120-C

Tested By: AR

Checked By: JH

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.9	13.5	16.4	20.8	15.0	29.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5"	100.0		
1"	96.1		
3/4"	95.1		
1/2"	93.1		
3/8"	91.9		
#4	81.6		
#10	65.2		
#16	57.3		
#40	44.4		
#50	40.7		
#100	34.0		
#200	29.4	15.0 - 65.0	

* Soil Liner Fill

Material Description

Red clayey sand with gravel

Atterberg Limits

PL= 18

LL= 40

PI= 22

Coefficients

D₉₀= 7.8268

D₈₅= 5.6865

D₆₀= 1.4288

D₅₀= 0.6812

D₃₀= 0.0830

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-2-6(2)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-121-C

Depth: Stockpile

Date: 02/24/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

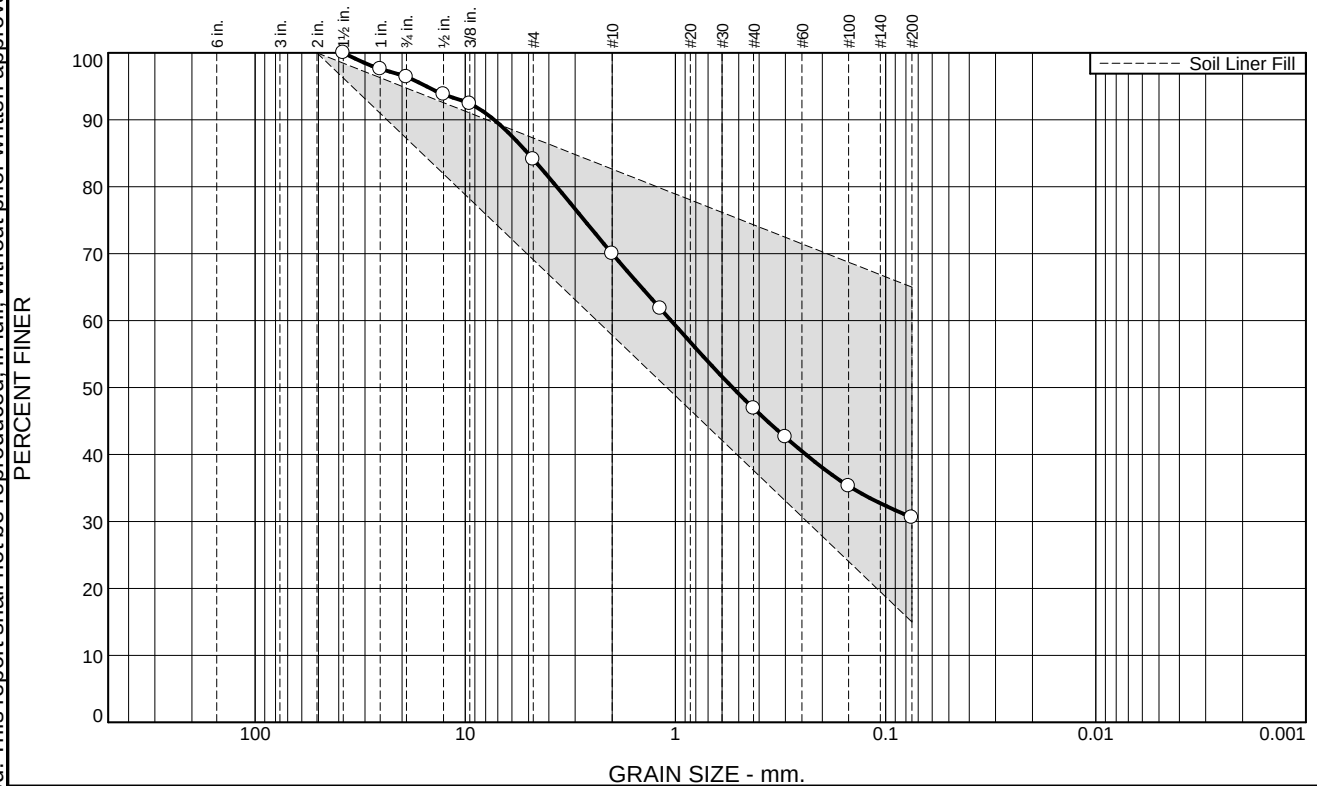
Figure NFSLF-121-C

Tested By: KS/AR

Checked By: JH

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.6	12.3	14.1	23.1	16.3	30.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5"	100.0		
1"	97.6		
3/4"	96.4		
1/2"	93.8		
3/8"	92.4		
#4	84.1		
#10	70.0		
#16	61.8		
#40	46.9		
#50	42.6		
#100	35.3		
#200	30.6	15.0 - 65.0	

* Soil Liner Fill

Material Description

Red clayey sand with gravel

Atterberg Limits

PL= 18

LL= 40

PI= 22

Coefficients

D₉₀= 7.2813

D₈₅= 5.0364

D₆₀= 1.0492

D₅₀= 0.5346

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-2-6(2)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-122-C

Depth: Stockpile

Date: 02/24/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

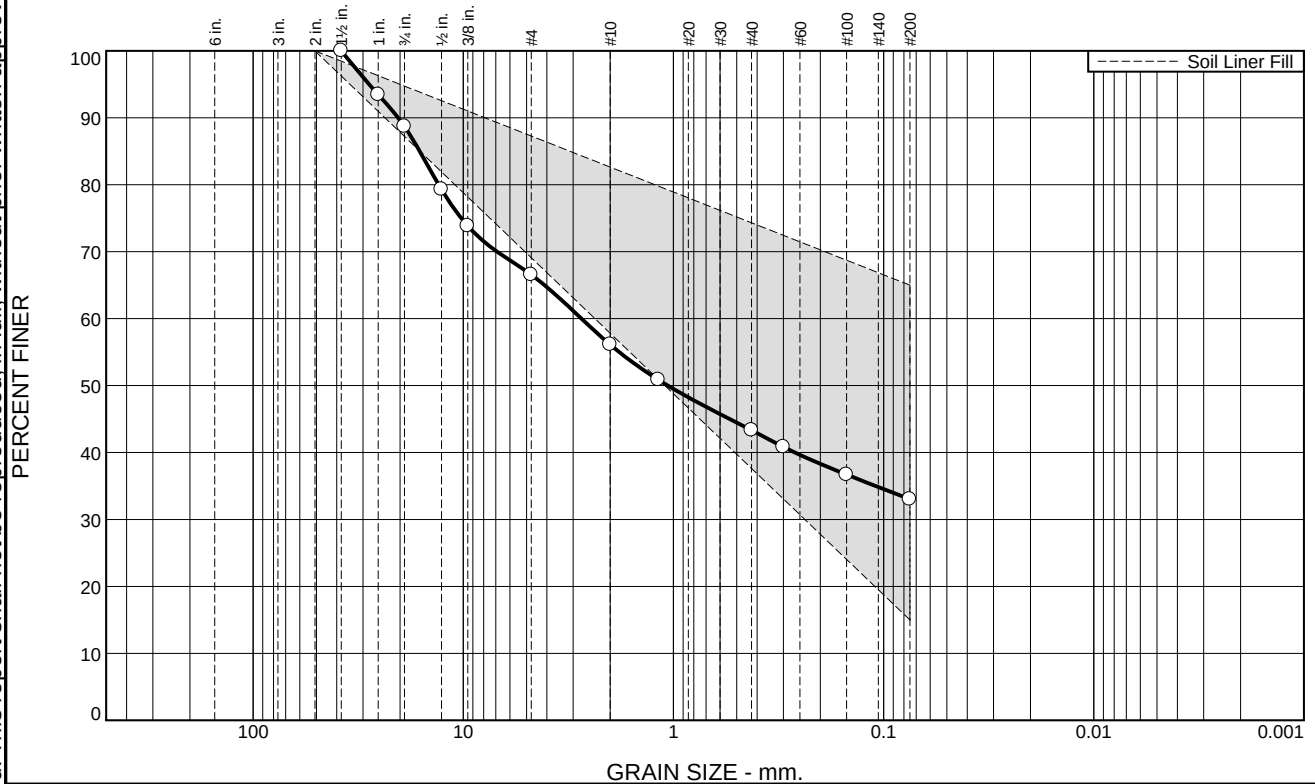
Figure NFSLF-122-C

Tested By: KS

Checked By: JH

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	11.3	22.1	10.5	12.8	10.3	33.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5"	100.0		
1"	93.5		
3/4"	88.7		
1/2"	79.3		
3/8"	73.9		
#4	66.6		
#10	56.1		
#16	50.9		
#40	43.3		
#50	40.8		
#100	36.7		
#200	33.0	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 13

LL= 34

PI= 21

Coefficients

D₉₀= 20.4080

D₈₅= 16.1198

D₆₀= 2.7393

D₅₀= 1.0634

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-2-6(2)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-123-C

Depth: Stockpile

Date: 04/17/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

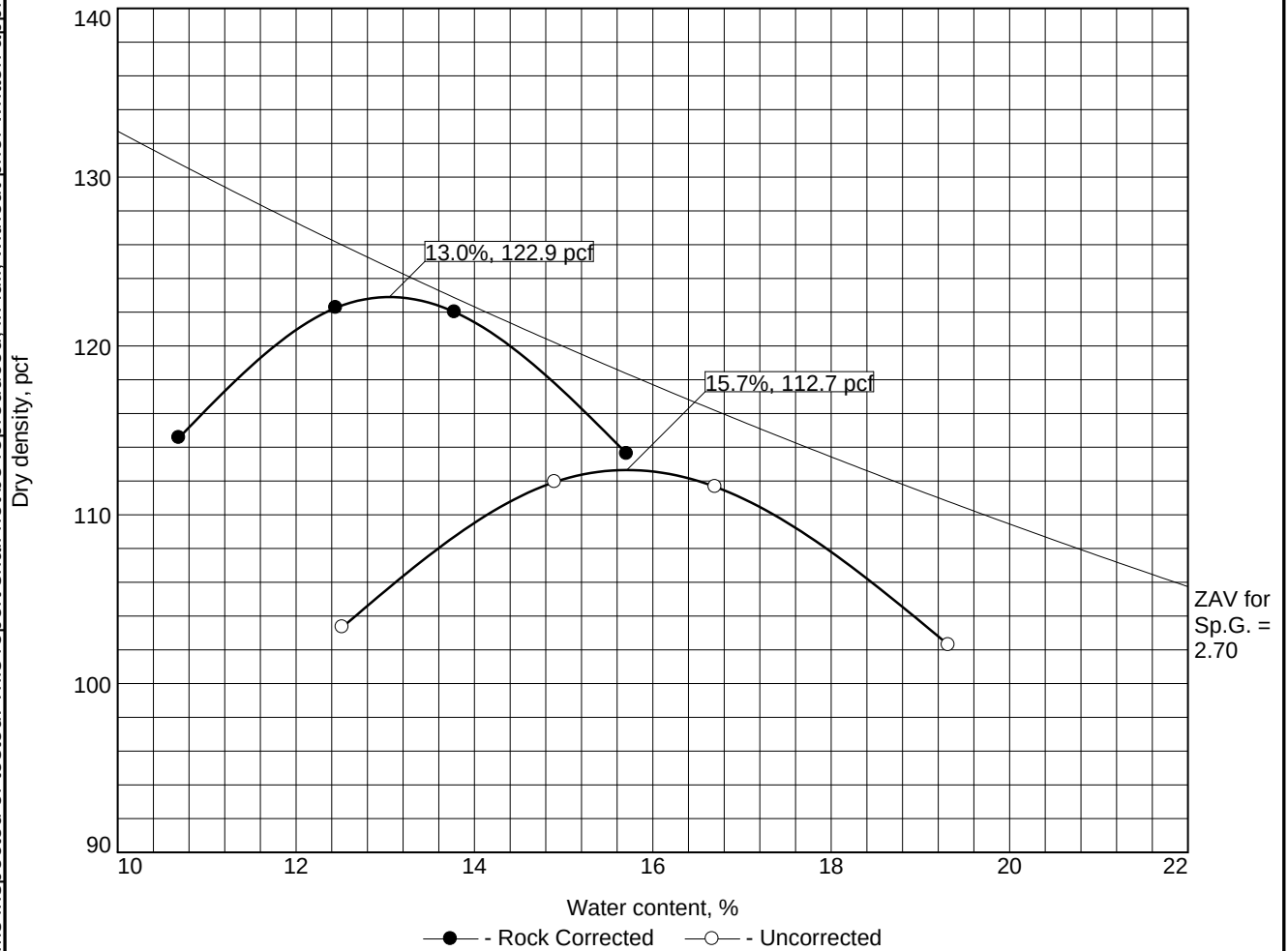
Figure NFSLF-123-C

Tested By: TW

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-6(2)	12.1	2.65	34	21	26.1	33.0

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 122.9 pcf	112.7 pcf	Brown clayey sand with gravel
Optimum moisture = 13.0 %	15.7 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company	Remarks:
Project: VLF Phase 2B	
Location: Tezak Processing Plant Sample Number: NFSLF-123-C	

NewFields

Figure NFSLF123-C

Tested By: TW

Checked By: TW

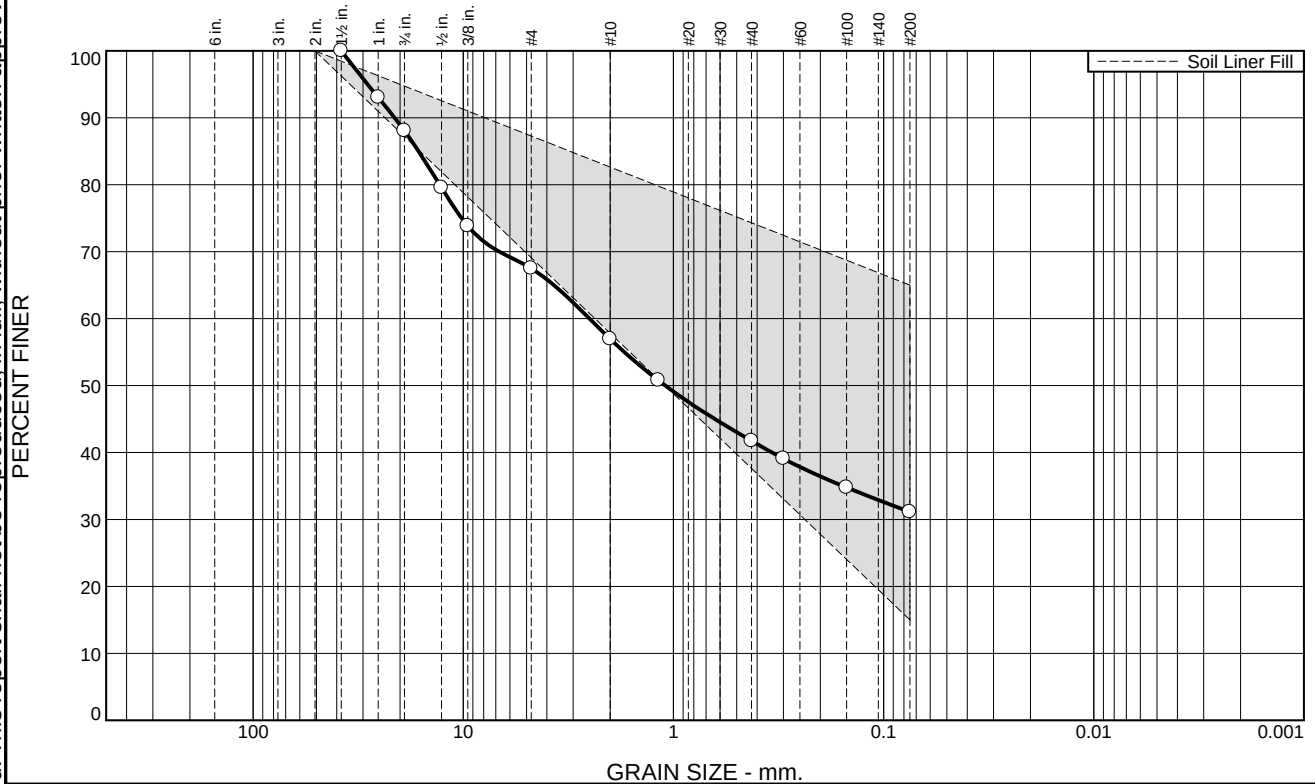
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-123-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2	Elevation/Depth: Stockpile
Requested By: JP	Tested By: TW
Test Started: 4/25/2020	Checked By: TW
Test Finished: 4/29/2020	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	41		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burrete Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	633.98		785.60
Dry Soil + Tare (g)	561.07		691.50
Tare (g)	0.00		119.40
Wt. of Water (g)	72.91		94.10
Dry Soil (g)	561.07		572.10
Moisture Content (%)	13.0		16.4
Sample Volume (ft ³)	0.01057	0.01057	
Dry Density (pcf)	117.0	116.9	
Wet Density (pcf)	132.2	135.2	
Saturation (%)	83.3	100.0	
Percent Compaction	95.2	95.1	
Height (in)	3.017	3.018	
Diameter (in)	2.777	2.778	
Area (in ²)	6.055	6.061	
Est. Moisture Content after Consolidation (%)		15.7%	
Est. Void Ratio after Consolidation		0.416	
Specific Gravity*	2.65		
*Specific gravity is assumed	Maximum Dry Density (pcf):		122.9
Maximum Dry Density:	Initial Remolded Dry Density (pcf):		117.0
ASTM D 698	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.413
	Optimum Moisture Content(%):		13.0
	Initial Water Content (%):		13.0
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k₂₀ (cm/s):		2.0E-07
	Gradient Range (h/L):		9.8 10.5

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	11.9	20.6	10.5	15.3	10.6	31.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5"	100.0		
1"	93.0		
3/4"	88.1		
1/2"	79.6		
3/8"	73.8		
#4	67.5		
#10	57.0		
#16	50.8		
#40	41.7		
#50	39.1		
#100	34.8		
#200	31.1	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 14

LL= 33

PI= 19

Coefficients

D₉₀= 21.2168

D₈₅= 16.3357

D₆₀= 2.5095

D₅₀= 1.0939

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= SC

AASHTO= A-2-6(1)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-124-C

Depth: Stockpile

Date: 04/17/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

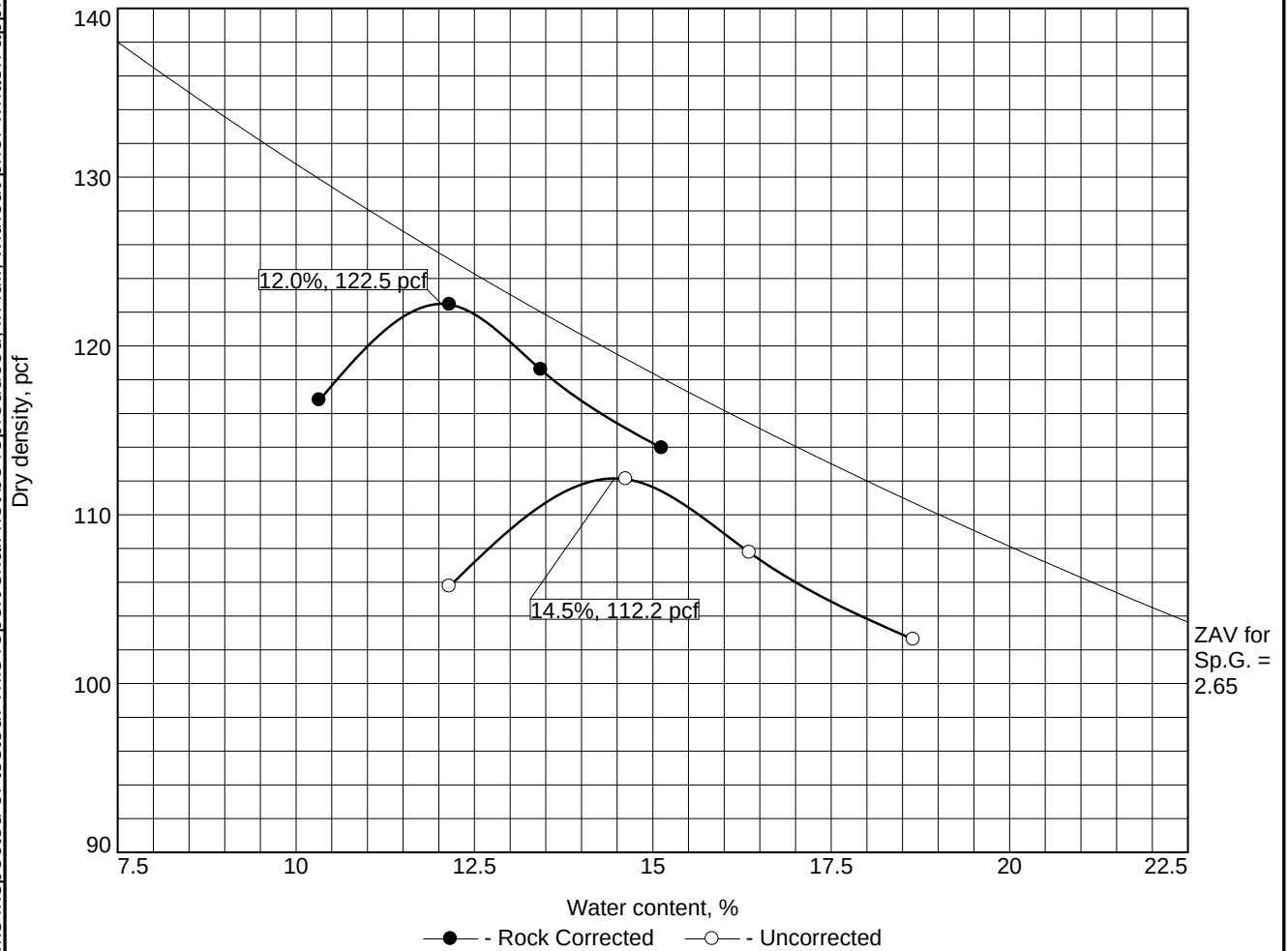
Figure NFSLF-124-C

Tested By: TW

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-6(1)	10.6	2.65	33	19	26.2	31.1

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 122.5 pcf	112.2 pcf	Brown clayey sand with gravel
Optimum moisture = 12.0 %	14.5 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company	Remarks:
Project: VLF Phase 2B	
Location: Tezak Processing Plant Sample Number: NFSLF-124-C	

NewFields

Figure NFSLF124-C

Tested By: TW Checked By: TW

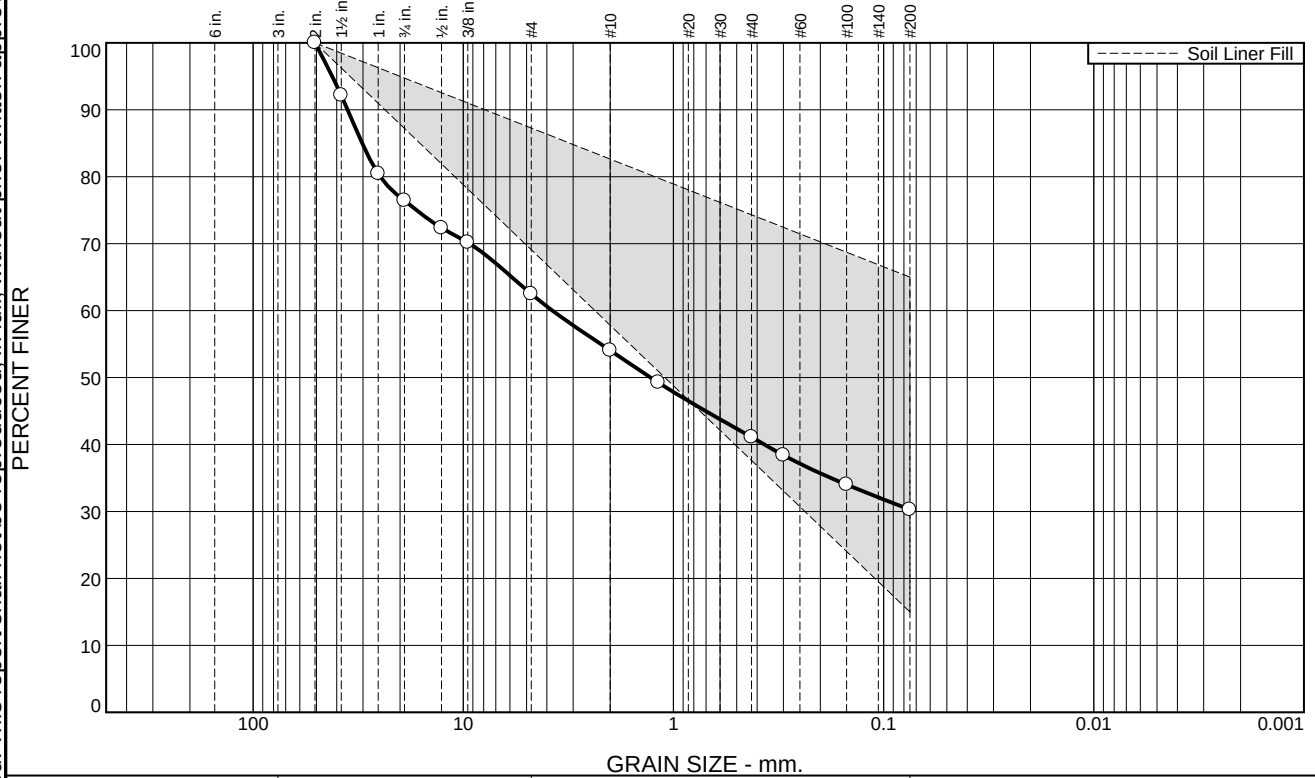
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-124-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2	Elevation/Depth: Stockpile
Requested By: JP	Tested By: TW
Test Started: 4/25/2020	Checked By: TW
Test Finished: 4/29/2020	Sample Description: Brown clayey sand with gravel

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	41		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	626.65		750.90
Dry Soil + Tare (g)	560.23		665.90
Tare (g)	0.00		120.30
Wt. of Water (g)	66.42		85.00
Dry Soil (g)	560.23		545.60
Moisture Content (%)	11.9		15.6
Sample Volume (ft ³)	0.01059	0.01044	
Dry Density (pcf)	116.5	117.3	
Wet Density (pcf)	130.4	135.9	
Saturation (%)	75.7	100.0	
Percent Compaction	95.1	95.8	
Height (in)	3.019	3.006	
Diameter (in)	2.778	2.766	
Area (in ²)	6.063	6.008	
Est. Moisture Content after Consolidation (%)		15.2%	
Est. Void Ratio after Consolidation		0.402	
Specific Gravity*	2.65		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		122.5
	Initial Remolded Dry Density (pcf):		116.5
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.420
	Optimum Moisture Content(%):		12.0
	Initial Water Content (%):		11.9
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		6.6E-07
	Gradient Range (h/L):		9.3 10.5

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	23.6	13.9	8.4	13.0	10.8	30.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	92.2		
1"	80.4		
3/4"	76.4		
1/2"	72.3		
3/8"	70.2		
#4	62.5		
#10	54.1		
#16	49.3		
#40	41.1		
#50	38.4		
#100	34.0		
#200	30.3	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey gravel with sand

Atterberg Limits

PL= 15

LL= 37

PI= 22

Coefficients

D₉₀= 35.5154

D₈₅= 30.2553

D₆₀= 3.7638

D₅₀= 1.2834

D₃₀=

D₁₅=

D₁₀=

C_u=

C_c=

Classification

USCS= GC

AASHTO= A-2-6(2)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-131-C

Depth: Stockpile

Date: 05/29/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

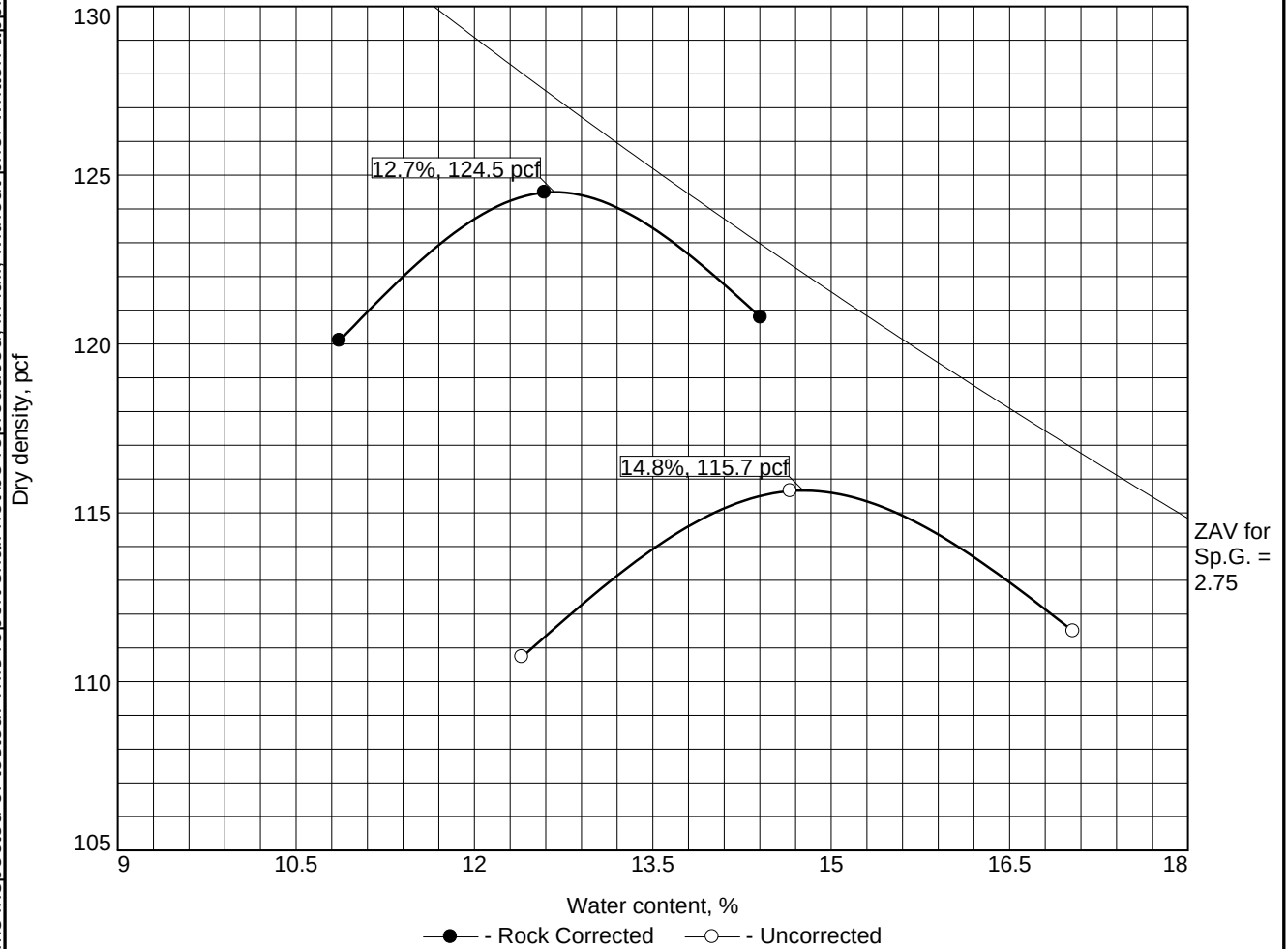
Figure NFSLF131-C

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	GC	A-2-6(2)		2.65	37	22	23.6	30.3

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 124.5 pcf		115.7 pcf	
Optimum moisture = 12.7 %		14.8 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company			Remarks:
Project: VLF Phase 2B			
Location: Tezak Processing Plant Sample Number: NFSLF-131-C			

 NewFields	
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Figure NFSLF131R

Tested By: DC

Checked By: TW

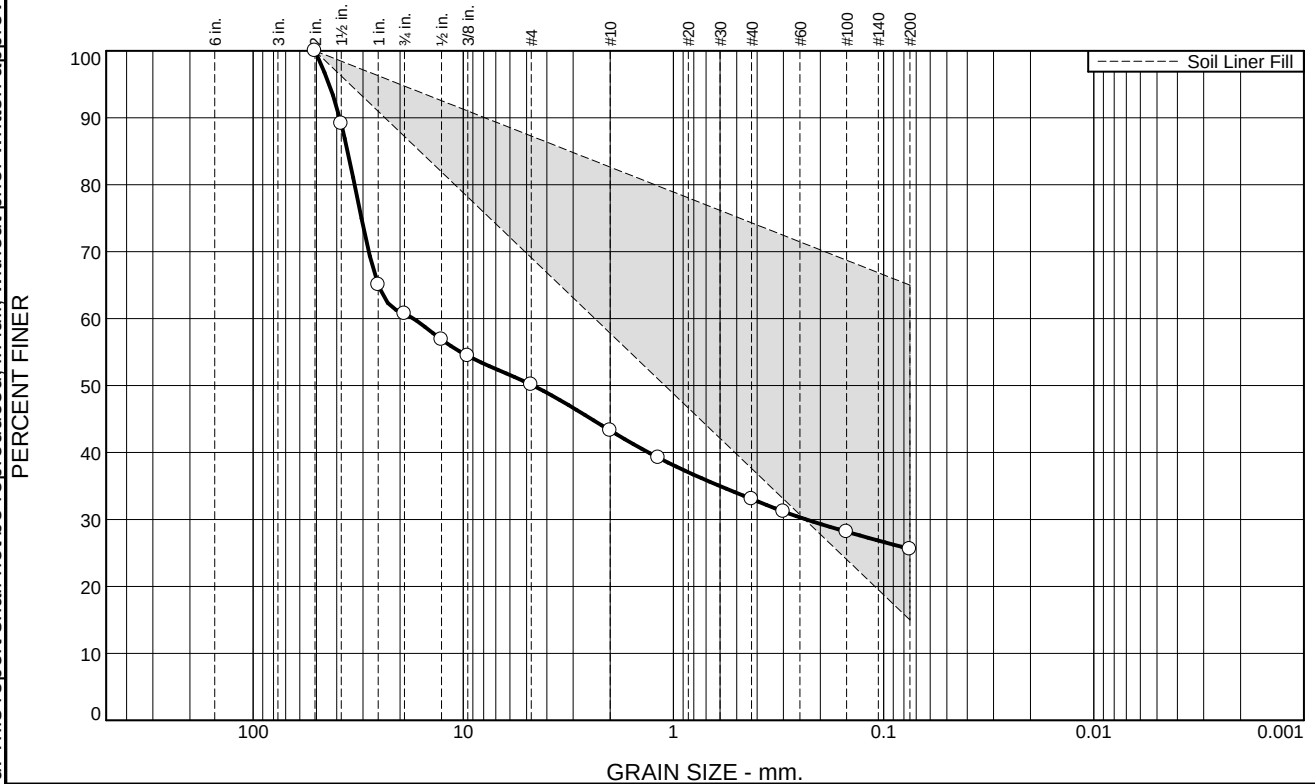
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-131-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2	Elevation/Depth: Stockpile
Requested By: JP	Tested By: TW
Test Started: 6/24/2020	Checked By: TW
Test Finished: 6/30/2020	Sample Description: Brown clayey gravel with sand

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	41		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	639.51		793.45
Dry Soil + Tare (g)	567.64		708.77
Tare (g)	0.00		145.77
Wt. of Water (g)	71.87		84.68
Dry Soil (g)	567.64		563.00
Moisture Content (%)	12.7		15.0
Sample Volume (ft ³)	0.01059	0.01058	
Dry Density (pcf)	118.2	118.1	
Wet Density (pcf)	133.2	135.9	
Saturation (%)	84.3	100.0	
Percent Compaction	94.9	94.9	
Height (in)	3.016	3.017	
Diameter (in)	2.779	2.780	
Area (in ²)	6.066	6.069	
Est. Moisture Content after Consolidation (%)		15.1%	
Est. Void Ratio after Consolidation		0.401	
Specific Gravity*	2.65		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		124.5
	Initial Remolded Dry Density (pcf):		118.2
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.399
	Optimum Moisture Content(%):		12.7
	Initial Water Content (%):		12.7
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		3.9E-07
	Gradient Range (h/L):		9.3 10.4

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	39.3	10.6	6.8	10.2	7.5	25.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	89.1		
1"	65.1		
3/4"	60.7		
1/2"	56.9		
3/8"	54.4		
#4	50.1		
#10	43.3		
#16	39.2		
#40	33.1		
#50	31.2		
#100	28.2		
#200	25.6	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey gravel with sand

Atterberg Limits

PL= 10 LL= 31 PI= 21

Coefficients

D₉₀= 38.7446 D₈₅= 35.5138 D₆₀= 17.2515
D₅₀= 4.6567 D₃₀= 0.2334 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= GC AASHTO= A-2-6(1)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-133-C

Depth: Stockpile

Date: 06/04/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

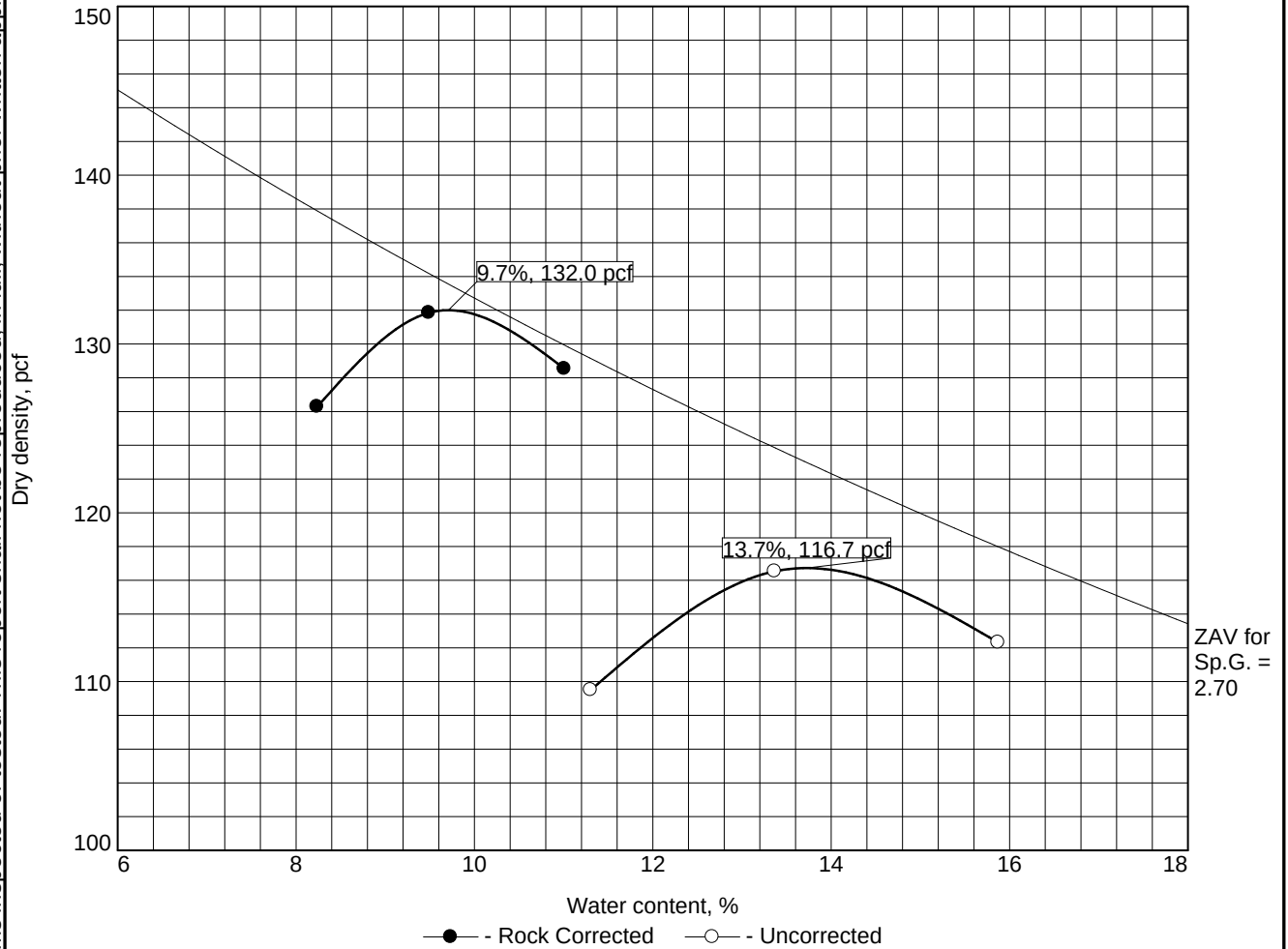
Figure NFSLF133-C

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method C Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
Stockpile	GC	A-2-6(1)		2.65	31	21	39.3	25.6
ROCK CORRECTED TEST RESULTS			UNCORRECTED		MATERIAL DESCRIPTION			
Maximum dry density = 132.0 pcf			116.7 pcf		Brown clayey gravel with sand			
Optimum moisture = 9.7 %			13.7 %					
Project No. 475.0106.032 Client: CC&V Gold Mining Company					Remarks:			
Project: VLF Phase 2B								
Location: Tezak Processing Plant Sample Number: NFSLF-133-C								
NewFields					Figure NFSLF133-C			

Tested By: DC

Checked By: TW

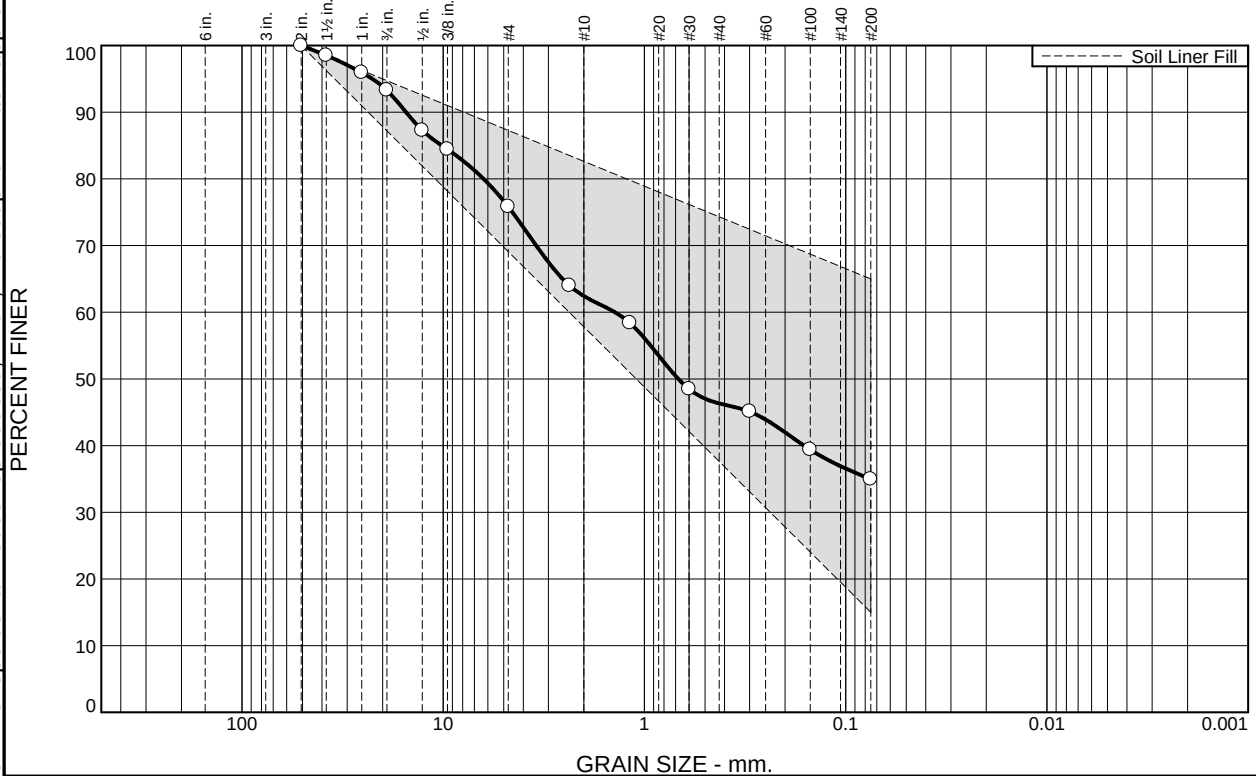
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-133-C
Project: Squaw Gulch VLF PH2A	Field Sample No.: NFSLF-133-C
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2	Elevation/Depth: Stockpile
Requested By: JP	Tested By: TW
Test Started: 8/4/2020	Checked By: TW
Test Finished: 8/11/2020	Sample Description: Brown clayey gravel with sand

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	35		
Saturated (Y/N):	Yes		
Stage 2: Effective Stress (psi)	20		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	673.09		885.40
Dry Soil + Tare (g)	602.42		806.50
Tare (g)	0.00		235.20
Wt. of Water (g)	70.67		78.90
Dry Soil (g)	602.42		571.30
Moisture Content (%)	11.7		13.8
Sample Volume (ft ³)	0.01067	0.01062	
Dry Density (pcf)	124.4	125.0	
Wet Density (pcf)	139.8	140.2	
Saturation (%)	100.0%	100.0	
Percent Compaction	94.3	94.7	
Height (in)	3.015	3.005	
Diameter (in)	2.785	2.776	
Area (in ²)	6.093	6.052	
Est. Moisture Content after Consolidation (%)		12.2%	
Est. Void Ratio after Consolidation		0.324	
Specific Gravity*	2.65		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		132
	Initial Remolded Dry Density (pcf):		124.6
	Initial Percent Compaction:		94%
	Initial Void Ratio:		0.328
	Optimum Moisture Content(%):		9.7
	Initial Water Content (%):		11.7
	Confining Pressure (psi):		20.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		8.3E-07
	Gradient Range (h/L):		0.2 1.3

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	6.7	17.5	13.4	16.1	11.3	35.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2	100.0	100.0	
1.5	98.5		
1	95.9		
3/4"	93.3		
1/2"	87.3		
3/8"	84.4		
#4	75.8		
#8	64.0		
#16	58.4		
#30	48.5		
#50	45.1		
#100	39.4		
#200	35.0	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey gravel with sand

Atterberg Limits

PL= 10 LL= 34 PI= 24

Coefficients

D₉₀= 15.2821 D₈₅= 10.1507 D₆₀= 1.3999
D₅₀= 0.6787 D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SC AASHTO= A-2-6(3)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-134-C

Depth: Stockpile

Date: 06/18/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

Figure NFSLF134-C

Tested By: DC

Checked By: TW

COMPACTION TEST REPORT

Test Results Summary:

Curve Type	Optimum Moisture (%)	Maximum Dry Density (pcf)
Rock Corrected	14.1%	116.6 pcf
Uncorrected	16.2%	110.6 pcf

Material Properties:

Property	Value
Specific Gravity (Sp.G.)	2.65
Liquid Limit (LL)	34
Plasticity Index (PI)	24
% > 3/8 in.	15.6
% < No. 200	35.0

Classification: USCS: SC, AASHTO: A-2-6(3)

Test Specification: ASTM D 698-12 Method B Standard
ASTM D 4718-15 Oversize Corr. Applied to Each Test Point

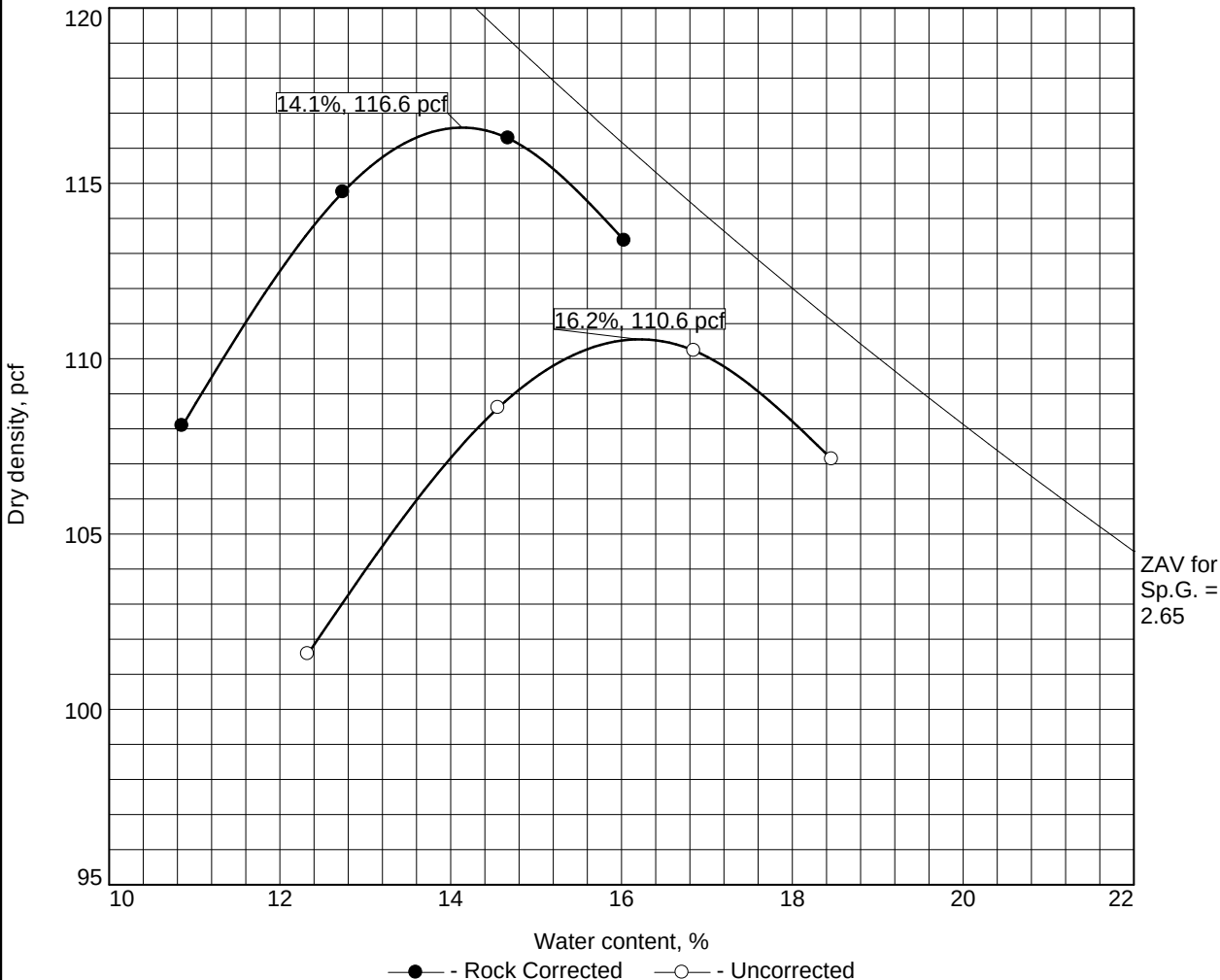
Elev/Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No. 200
	USCS	AASHTO						
Stockpile	SC	A-2-6(3)		2.65	34	24	15.6	35.0

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 116.6 pcf	110.6 pcf	Brown clayey gravel with sand
Optimum moisture = 14.1 %	16.2 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company Project: VLF Phase 2B Location: Tezak Processing Plant Sample Number: NFSLF-134-C	Remarks:
NewFields	

Figure NFSLF134C

COMPACTION TEST REPORT



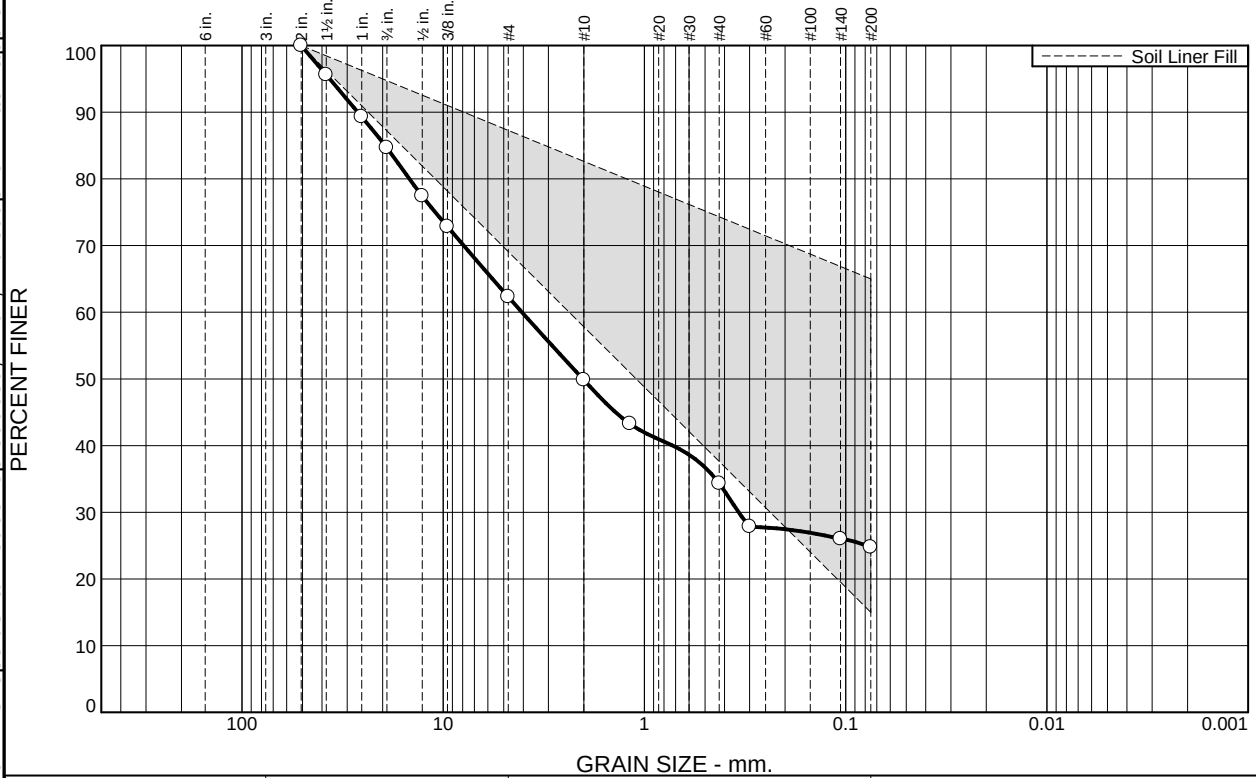
Test specification: ASTM D 698-12 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-6(3)		2.65	34	24	15.6	35.0

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 116.6 pcf		110.6 pcf	Brown clayey gravel with sand
Optimum moisture = 14.1 %		16.2 %	
Project No. 475.0106.032 Client: CC&V Gold Mining Company Project: VLF Phase 2B Location: Tezak Processing Plant Sample Number: NFSLF-134-C			Remarks: 
			

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	15.3	22.4	12.5	15.5	9.5	24.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2	100.0	100.0	
1.5	95.6		
1	89.3		
.75	84.7		
.5	77.4		
.375	72.8		
#4	62.3		
#10	49.8		
#16	43.3		
#40	34.3		
#50	27.8		
#140	26.0		
#200	24.8	15.0 - 65.0	

* Soil Liner Fill

Material Description

Reddish brown clayey gravel with sand

Atterberg Limits

PL= 12 LL= 34 PI= 22

Coefficients

D₉₀= 26.5822 D₈₅= 19.4394 D₆₀= 4.0605
D₅₀= 2.0243 D₃₀= 0.3399 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= GC AASHTO= A-2-6(1)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-135-C

Depth: Stockpile

Date: 06/18/2020



Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

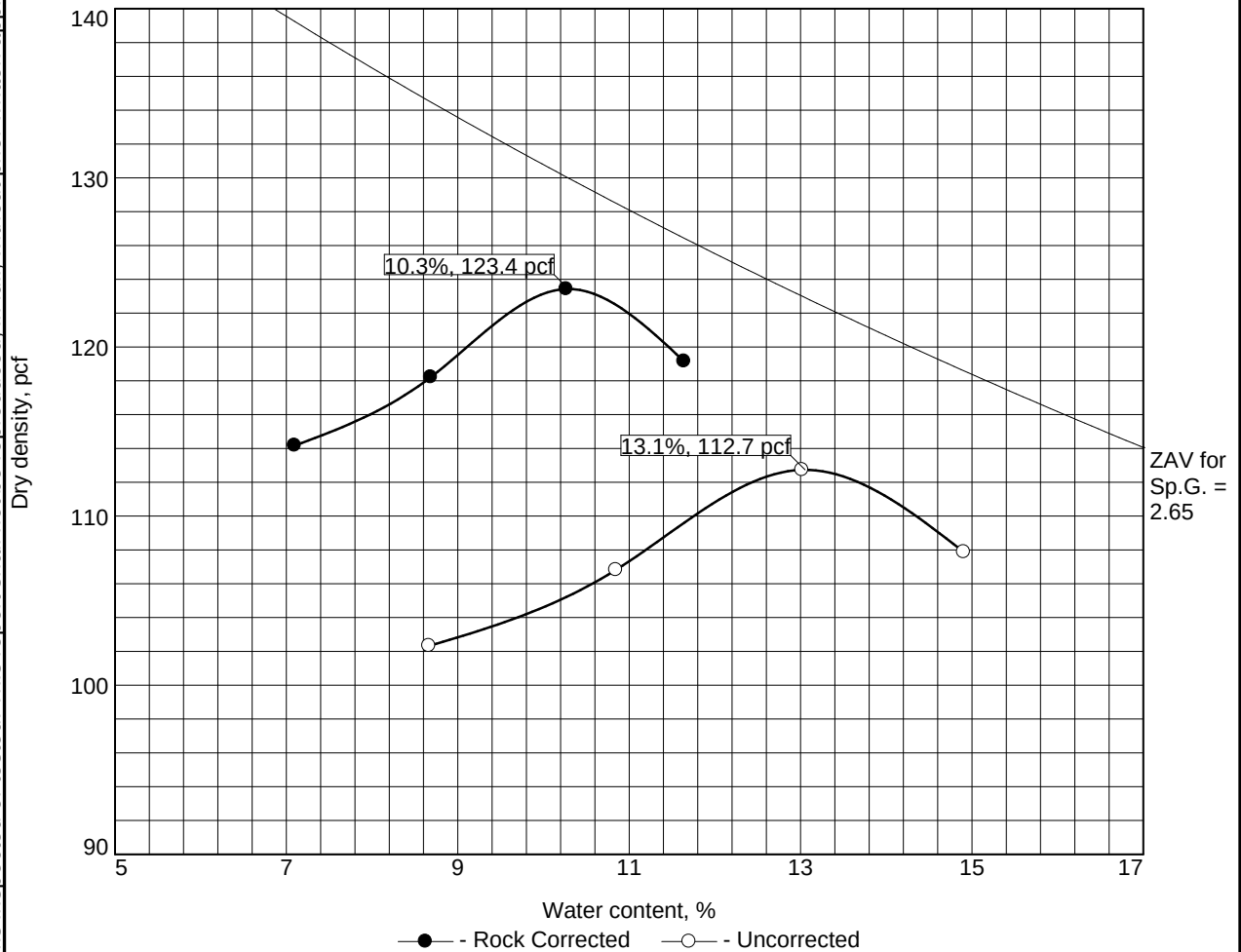
Figure NFSLF135-C

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	GC	A-2-6(1)		2.65	34	22	27.2	24.8

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 123.4 pcf		112.7 pcf	Reddish brown clayey gravel with sand
Optimum moisture = 10.3 %		13.1 %	
Project No. 475.0106.032 Client: CC&V Gold Mining Company Project: VLF Phase 2B			Remarks:
Location: Tezak Processing Plant Sample Number: NFSLF-135-C			
NewFields			

Figure NFSLF135C

Figure NFSLF135C

Tested By: DC Checked By: TW

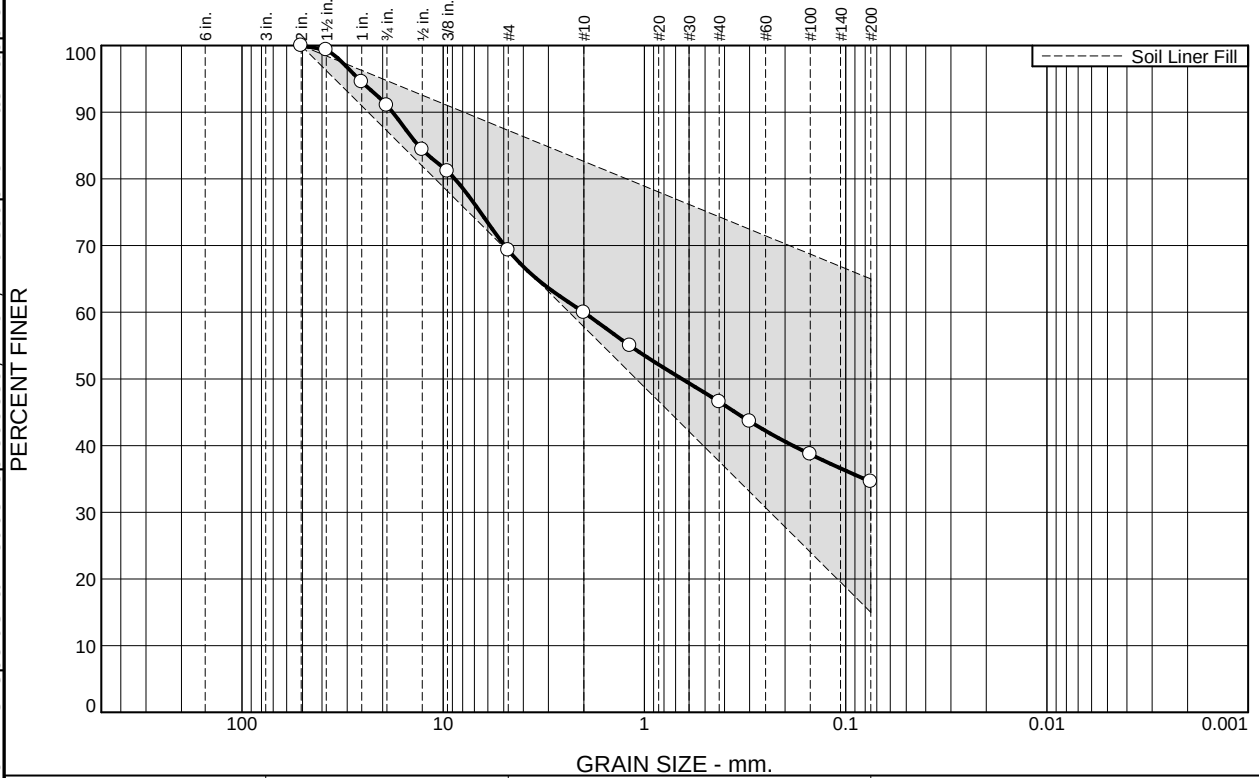
Flexible Wall Hydraulic Conductivity ASTM D5084

Client: Cripple Creek and Victor Gold Mines	Lab Sample No.: NFSLF-135-C
Project: Squaw Gulch VLF PH2A	
Project No.: 475.0106.032	Location: Tezak Processing Plant
Phase: 2	Elevation/Depth: Stockpile
Requested By: JP	Tested By: TW
Test Started: 7/14/2020	Checked By: TW
Test Finished: 7/22/2020	Sample Description: Brown clayey gravel with sand

Test Boundary Conditions			
Type of Permeant	De-aired Bottled		
Magnitude of Back pressure (psi)	35		
Saturated (Y/N):	Yes		
Stage 1: Effective Stress (psi)	5		
Sample Type	Remolded		
Burette Area (cm ²)	0.877		
Test Specimen Data	Initial	During k Testing	Final
Wet Soil + Tare (g)	623.21		765.32
Dry Soil + Tare (g)	564.63		683.66
Tare (g)	0.00		120.11
Wt. of Water (g)	58.58		81.66
Dry Soil (g)	564.63		563.55
Moisture Content (%)	10.4		14.5
Sample Volume (ft ³)	0.01062	0.01063	
Dry Density (pcf)	117.1	116.9	
Wet Density (pcf)	129.4	135.2	
Saturation (%)	67.5	100.0	
Percent Compaction	94.8	94.7	
Height (in)	3.016	3.019	
Diameter (in)	2.783	2.785	
Area (in ²)	6.084	6.094	
Est. Moisture Content after Consolidation (%)		15.7%	
Est. Void Ratio after Consolidation		0.416	
Specific Gravity*	2.65		
*Specific gravity is assumed Maximum Dry Density: ASTM D 698	Maximum Dry Density (pcf):		123.5
	Initial Remolded Dry Density (pcf):		117.1
	Initial Percent Compaction:		95%
	Initial Void Ratio:		0.412
	Optimum Moisture Content(%):		10.5
	Initial Water Content (%):		10.4
	Confining Pressure (psi):		5.0
	Hydraulic Conductivity, k ₂₀ (cm/s):		6.1E-07
	Gradient Range (h/L):		1.1 1.3

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	9.0	21.7	9.3	13.4	12.0	34.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2	100.0	100.0	
1.5	99.4		
1	94.5		
.75	91.0		
.5	84.4		
.375	81.2		
#4	69.3		
#10	60.0		
#16	55.0		
#40	46.6		
#50	43.6		
#100	38.7		
#200	34.6	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 12 LL= 37 PI= 25

Coefficients

D₉₀= 17.8098 D₈₅= 13.2712 D₆₀= 2.0077
D₅₀= 0.6505 D₃₀= C_u=
D₁₀= C_c=

Classification

USCS= SC AASHTO= A-2-6(3)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-136-C

Depth: Stockpile

Date: 06/24/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

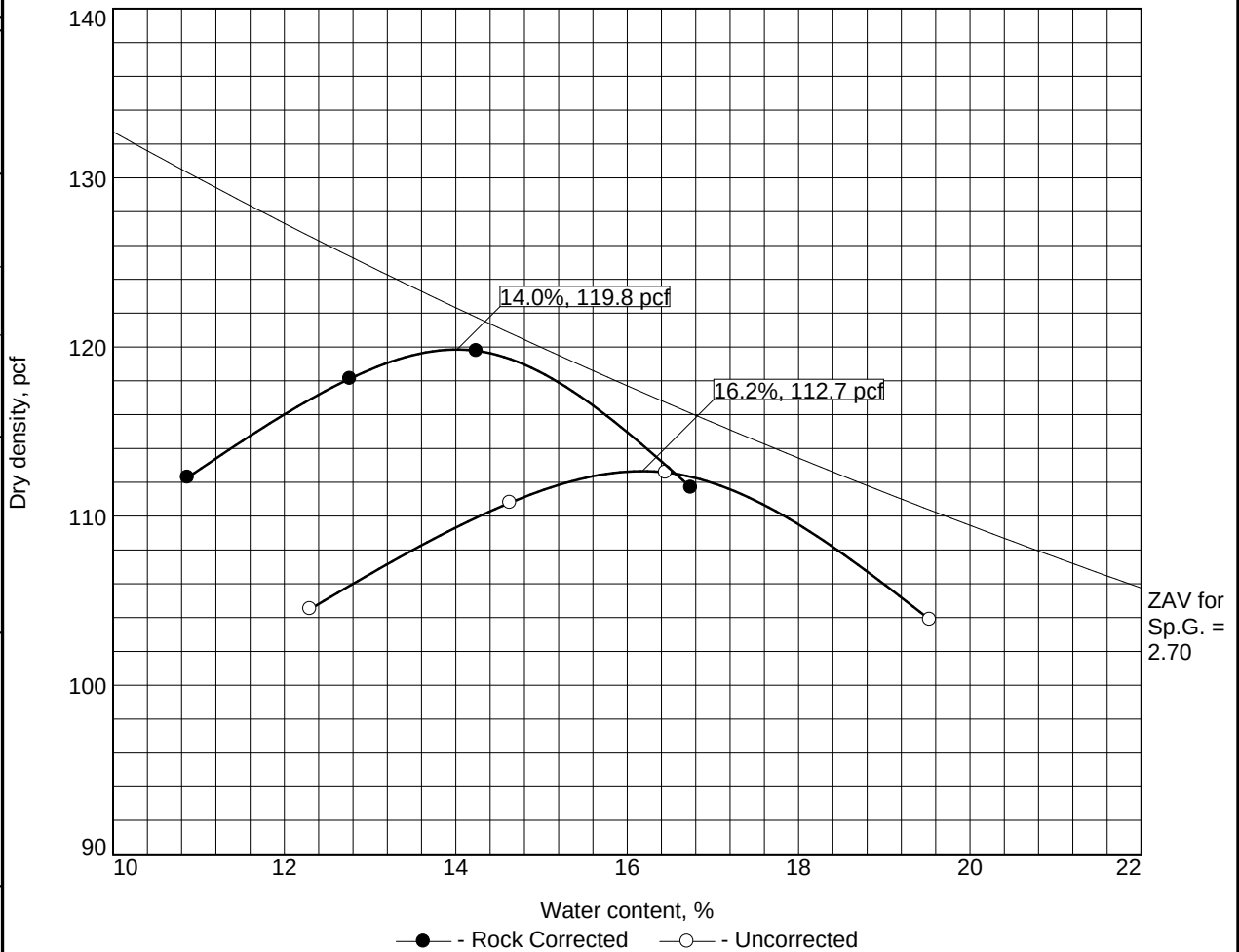
Figure NFSLF136-C

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-12 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

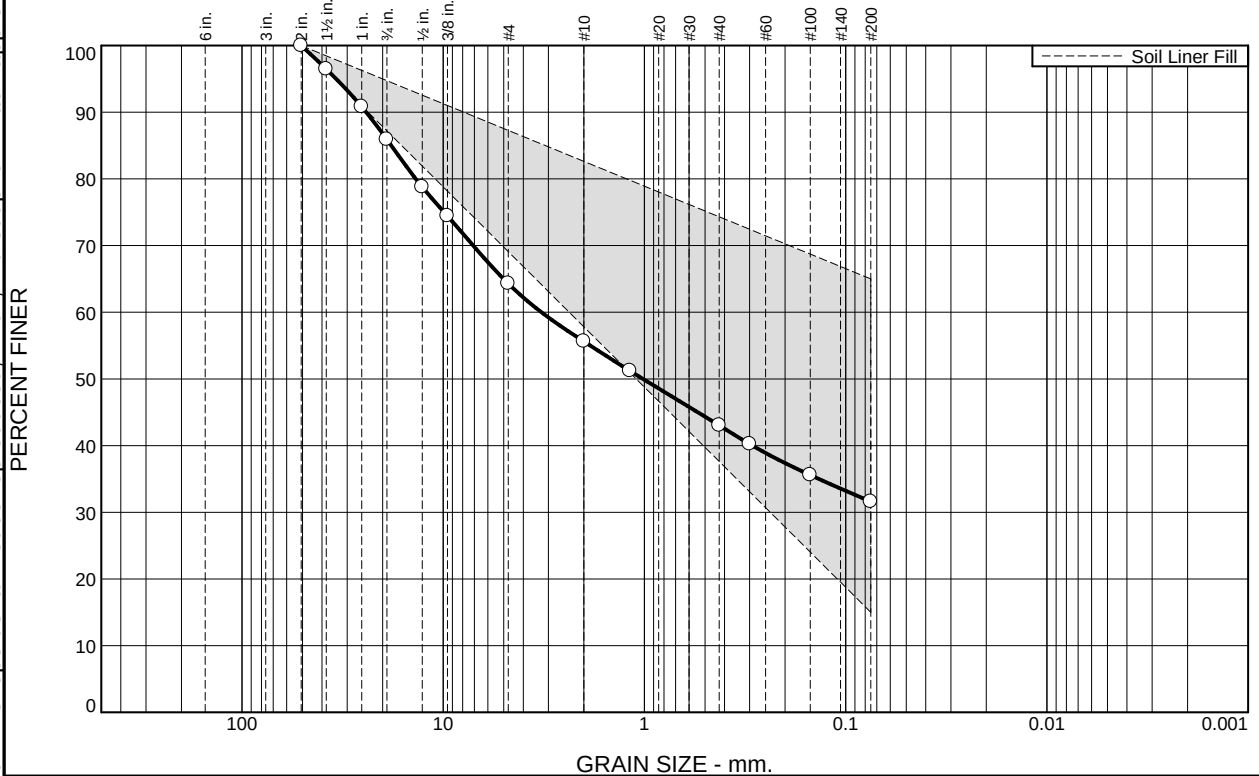
Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-6(3)		2.65	37	25	18.8	34.6

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 119.8 pcf		112.7 pcf	Brown clayey sand with gravel
Optimum moisture = 14.0 %		16.2 %	
Project No. 475.0106.032 Client: CC&V Gold Mining Company Project: VLF Phase 2B Location: Tezak Processing Plant Sample Number: NFSLF-136-C NewFields			Remarks:

Tested By: DC Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	14.1	21.6	8.7	12.6	11.4	31.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	96.5		
1"	90.8		
3/4"	85.9		
1/2"	78.8		
3/8"	74.4		
#4	64.3		
#10	55.6		
#16	51.2		
#40	43.0		
#50	40.2		
#100	35.6		
#200	31.6	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey gravel with sand

Atterberg Limits

PL= 11 LL= 34 PI= 23

Coefficients

D₉₀= 24.1492 D₈₅= 18.1086 D₆₀= 3.2478
D₅₀= 1.0163 D₃₀= C_u=
D₁₀= C_c=

Classification

USCS= GC AASHTO= A-2-6(2)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-137-C

Depth: Stockpile

Date: 7/6/2020



Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

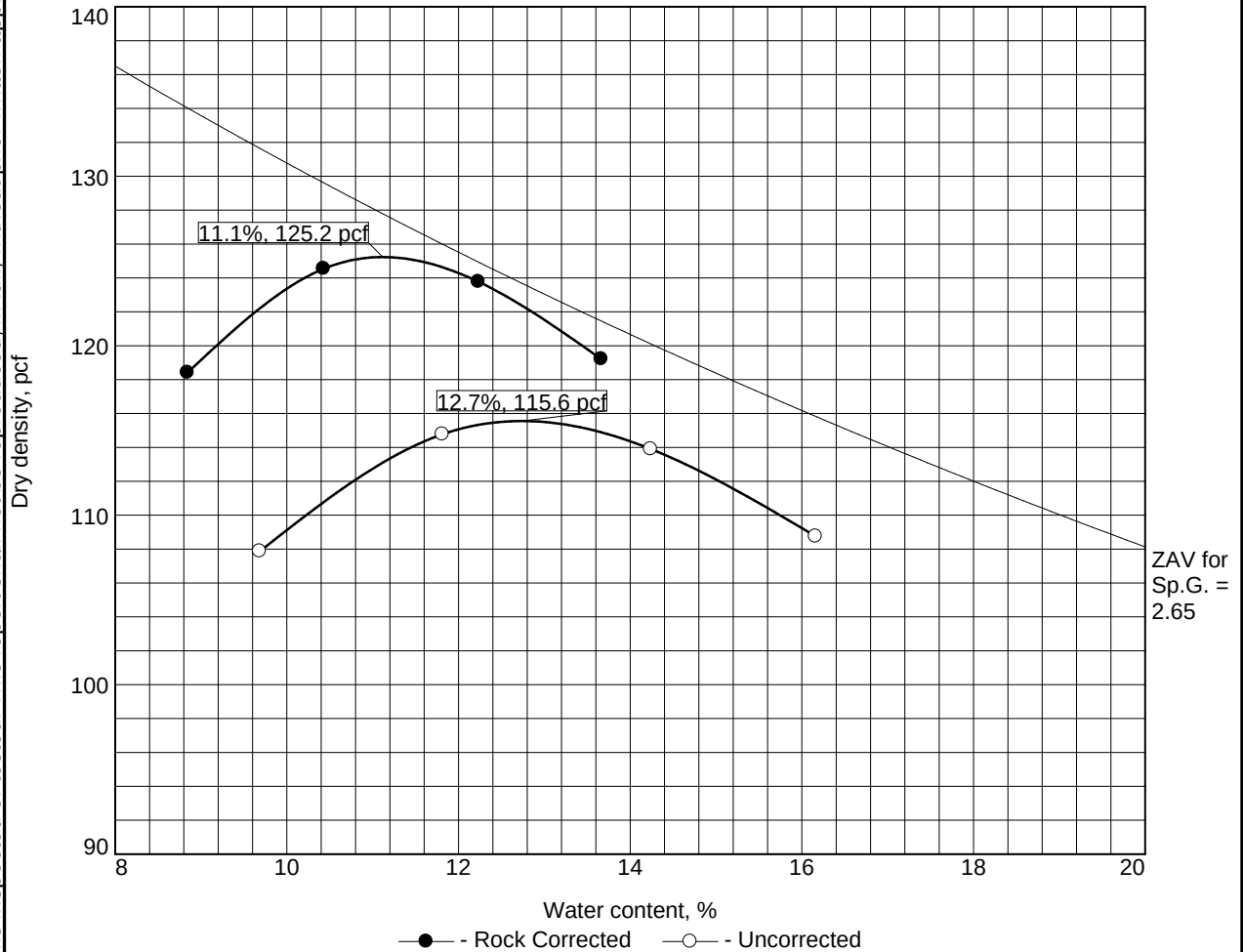
Figure NFSLF137-C

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 698-07 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	GC	A-2-6(2)	12.0	2.65	34	23	25.6	31.6

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 125.2 pcf		115.6 pcf	Brown clayey gravel with sand
Optimum moisture = 11.1 %		12.7 %	

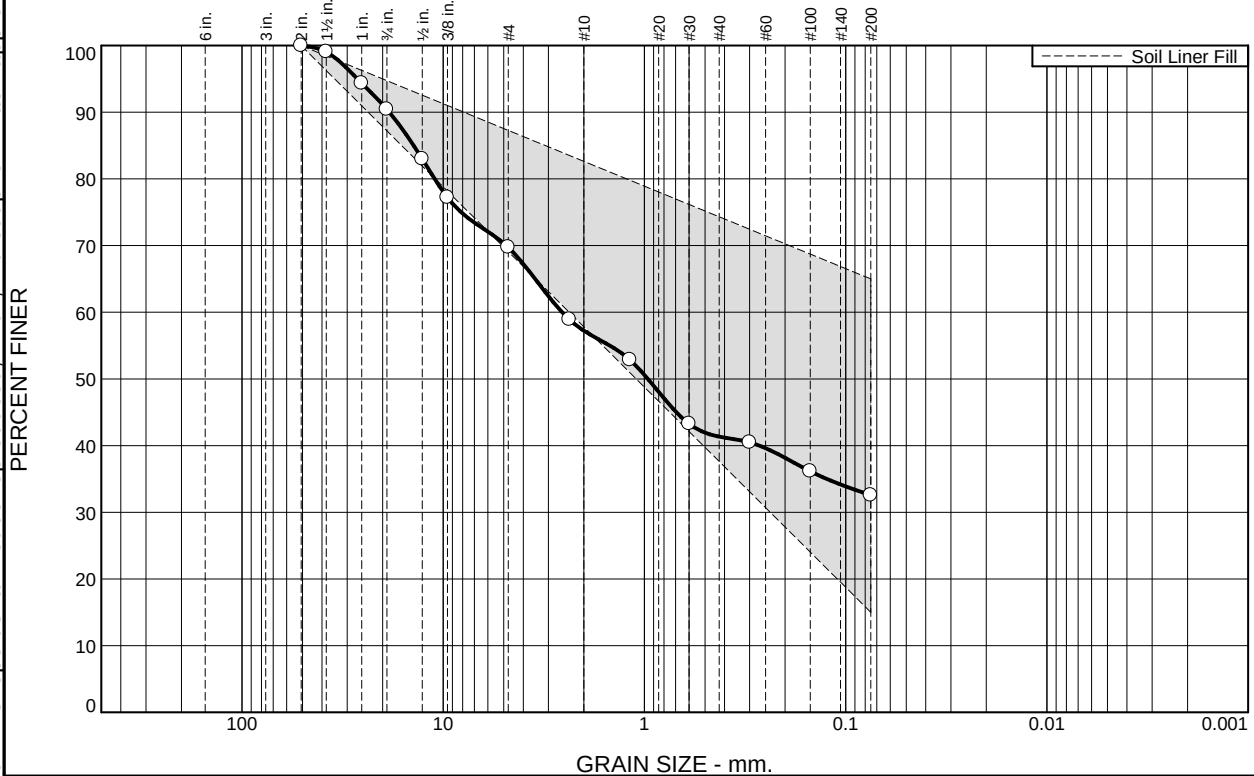
Project No. 475.0106.032 Client: CC&V Gold Mining Company			Remarks:
Project: VLF Phase 2B			
Location: Tezak Processing Plant Sample Number: NFSLF-137-C			
NewFields			

Figure NFSLF137C

Tested By: DC Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	9.6	20.7	12.5	15.9	8.7	32.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	99.1		
1"	94.3		
3/4"	90.4		
1/2"	83.0		
3/8"	77.2		
#4	69.7		
#8	58.9		
#16	52.9		
#30	43.3		
#50	40.5		
#100	36.1		
#200	32.6	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 11 LL= 31 PI= 20

Coefficients

D₉₀= 18.5181 D₈₅= 14.0046 D₆₀= 2.5641
D₅₀= 0.9611 D₃₀= C_u=
D₁₀= C_c=

Classification

USCS= SC AASHTO= A-2-6(2)

Remarks

Location: N 56,240 E 37,992
Sample Number: NFSLF-138-R

Depth: FG

Date: 7/7/2020



Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

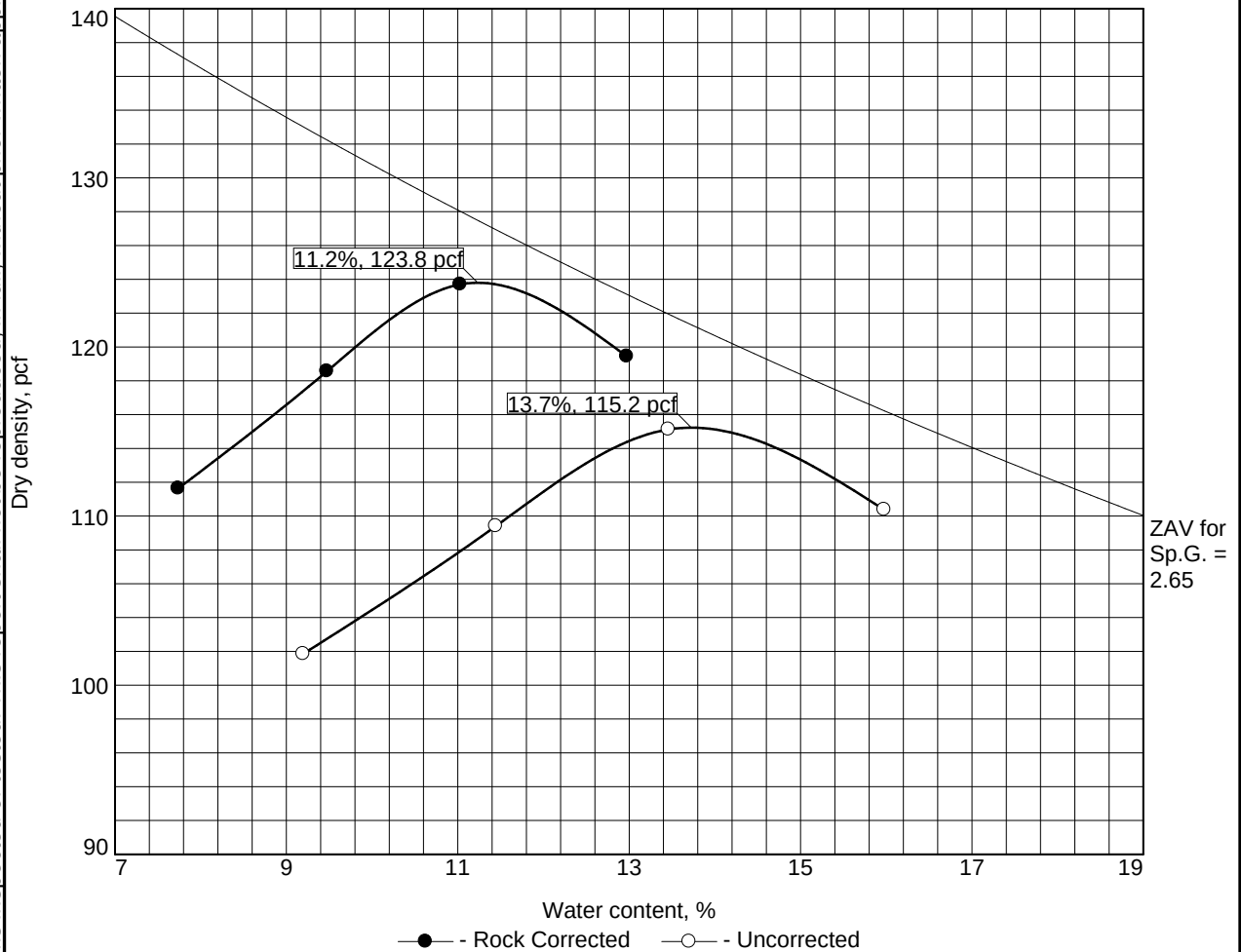
Figure NFSLF138-R

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method B Modified
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

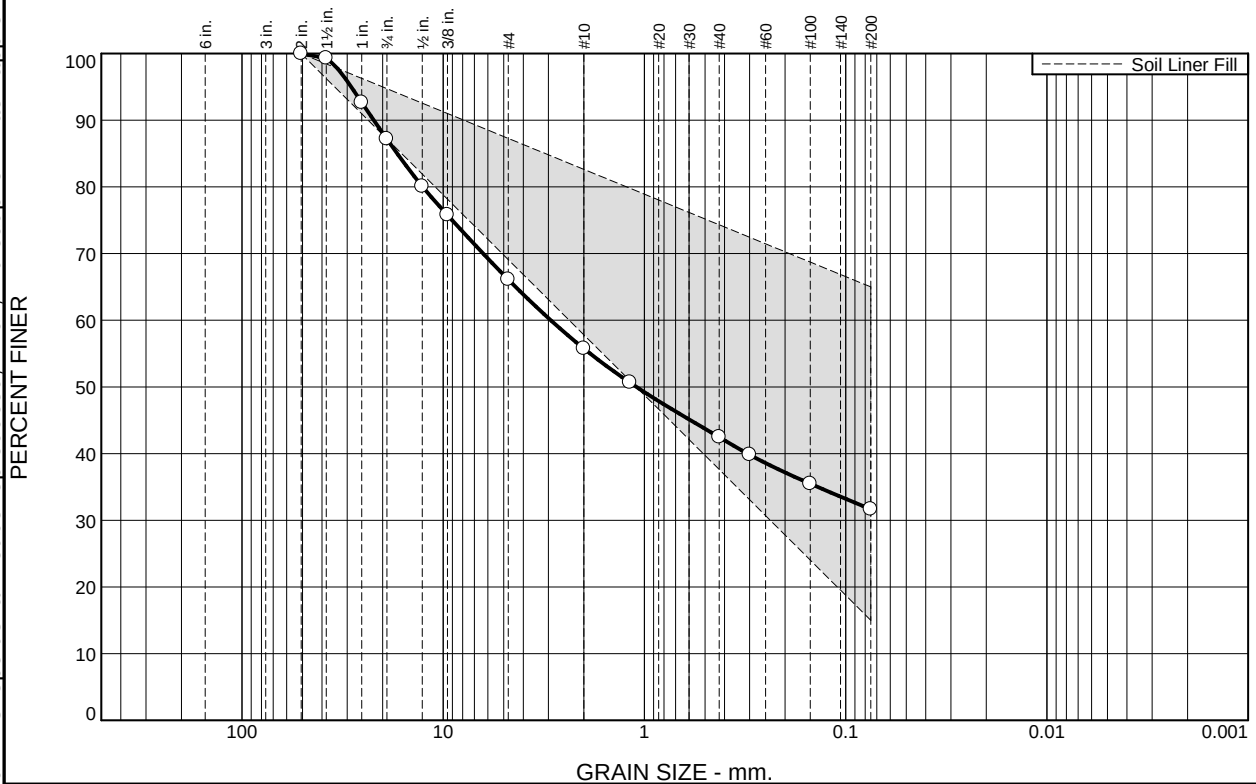
Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
FG	SC	A-2-6(2)	11.8	2.65	31	20	22.8	32.6

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 123.8 pcf		115.2 pcf	Brown clayey sand with gravel
Optimum moisture = 11.2 %		13.7 %	
Project No. 475.0106.032 Client: CC&V Gold Mining Company Project: VLF Phase 2B ○Location: N 56,240 E 37,992 Sample Number: NFSLF-138-R			Remarks:

Tested By: DC Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.8	21.1	10.3	13.3	10.8	31.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	99.3		
1"	92.6		
3/4"	87.2		
1/2"	80.1		
3/8"	75.8		
#4	66.1		
#10	55.8		
#16	50.7		
#40	42.5		
#50	39.8		
#100	35.5		
#200	31.7	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 11 LL= 33 PI= 22

Coefficients

D₉₀= 22.1433 D₈₅= 16.9058 D₆₀= 2.9221
D₅₀= 1.0949 D₃₀= C_u=
D₁₀= C_c=

Classification

USCS= SC AASHTO= A-2-6(2)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-139-C

Depth: Stockpile

Date: 7/17/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

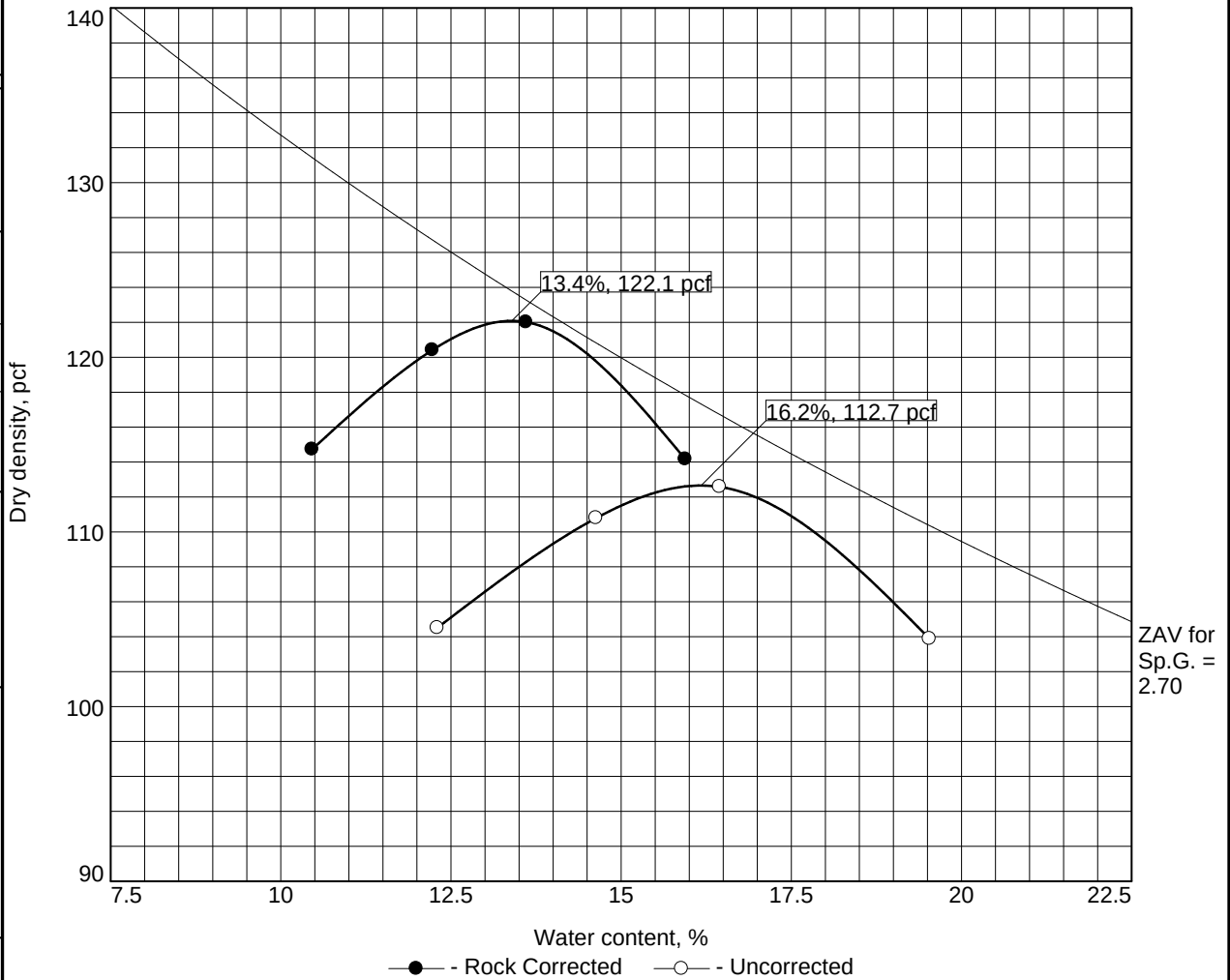
Figure NFSLF139-C

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT

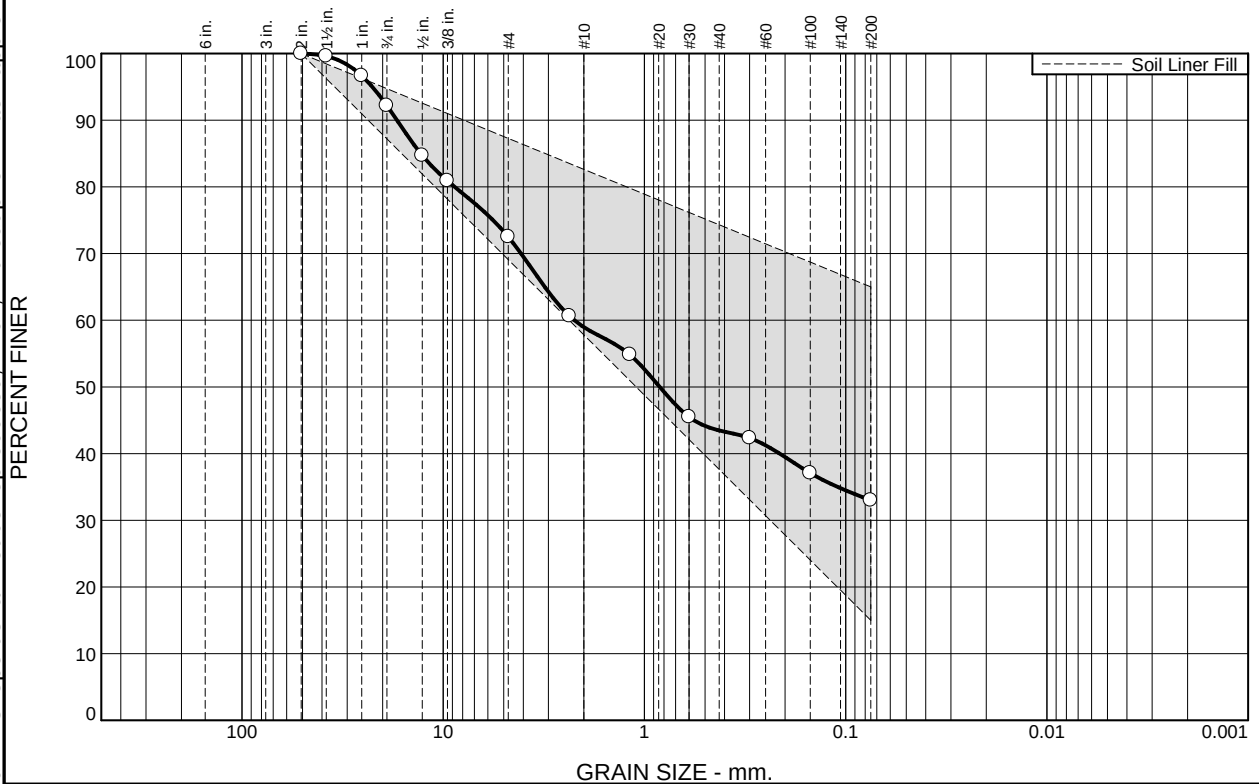


Test specification: ASTM D 698-07 Method B Standard
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-6(2)		2.65	33	22	24.2	31.7
ROCK CORRECTED TEST RESULTS			UNCORRECTED		MATERIAL DESCRIPTION			
Maximum dry density = 122.1 pcf			112.7 pcf		Brown clayey sand with gravel			
Optimum moisture = 13.4 %			16.2 %					
Project No. 475.0106.032 Client: CC&V Gold Mining Company Project: VLF Phase 2B					Remarks:			
○ Location: Tezak Processing Plant Sample Number: NFSLF-139-C								
					Figure NFSLF139C			

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	7.8	19.7	13.5	15.5	10.5	33.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2	100.0	100.0	
1.5	99.6		
1	96.7		
3/4"	92.2		
1/2"	84.7		
3/8"	80.9		
#4	72.5		
#8	60.6		
#16	54.8		
#30	45.5		
#50	42.3		
#100	37.1		
#200	33.0	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 11 LL= 34 PI= 23

Coefficients

D₉₀= 16.9606 D₈₅= 12.9253 D₆₀= 2.2304
D₅₀= 0.8391 D₃₀= C_u=
D₁₀= C_c=

Classification

USCS= SC AASHTO= A-2-6(2)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-140-C

Depth: Stockpile

Date: 7/27/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

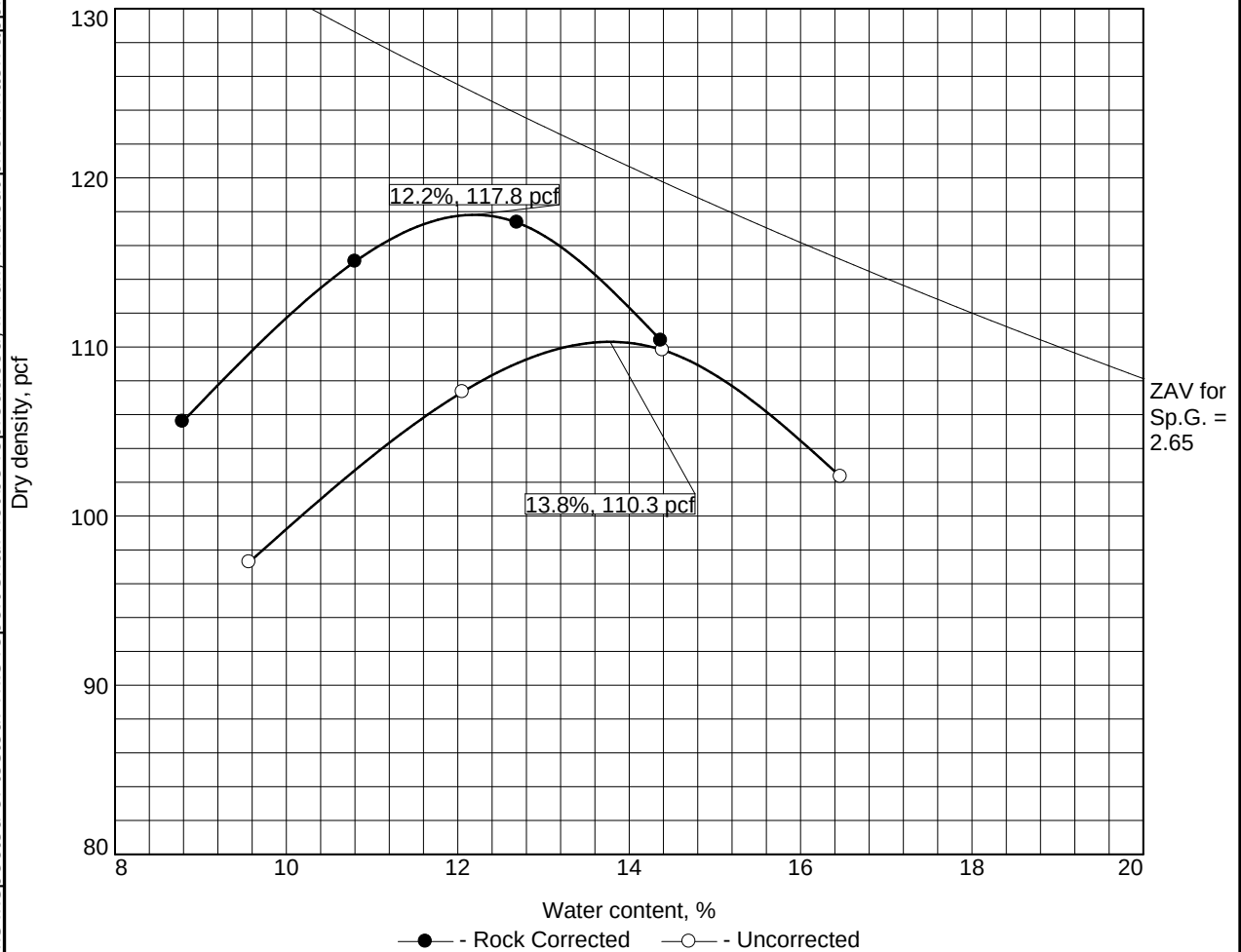
Figure NFSLF140-C

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method B Modified
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	SC	A-2-6(2)	8.6	2.65	34	23	19.1	33.0

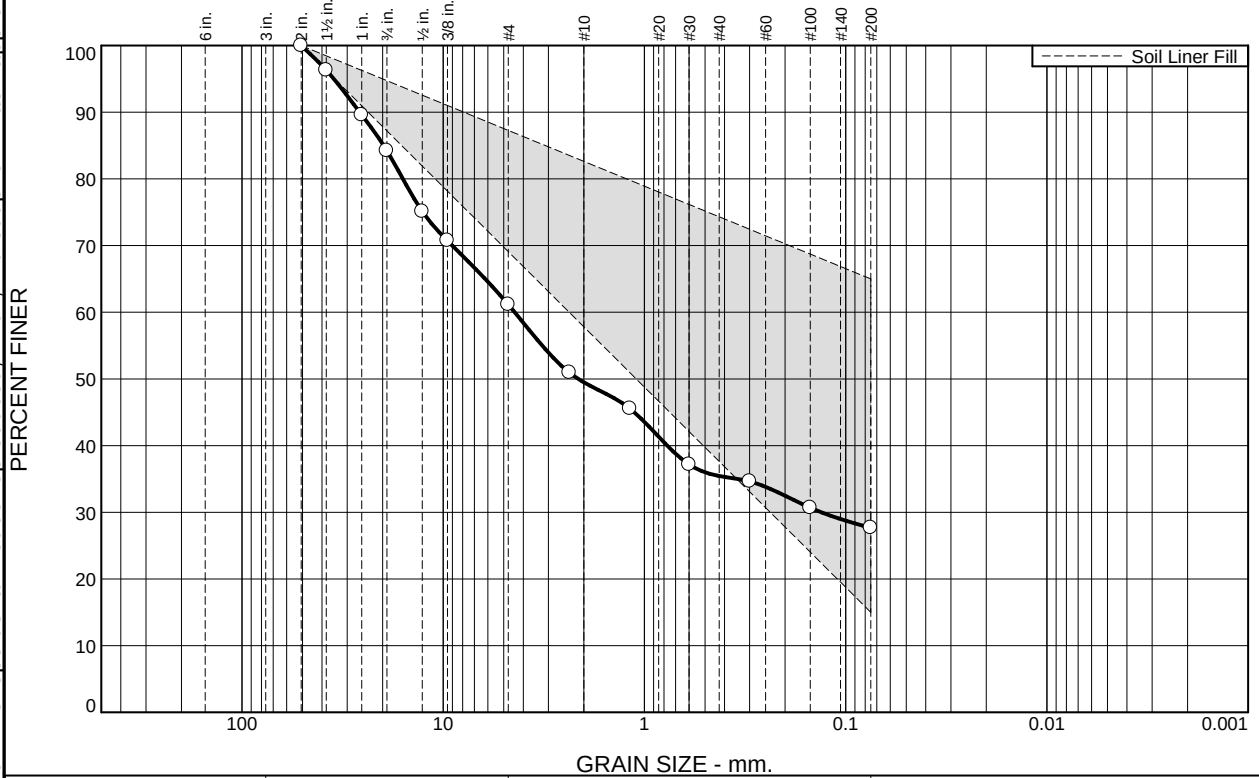
ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 117.8 pcf		110.3 pcf	Brown clayey sand with gravel
Optimum moisture = 12.2 %		13.8 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company			Remarks:
Project: VLF Phase 2B			
Location: Tezak Processing Plant Sample Number: NFSLF-140-C			
NewFields			Figure NFSLF140C

Tested By: DC Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	15.8	23.0	11.7	14.1	7.7	27.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	100.0	
1.5"	96.3		
1"	89.6		
3/4"	84.2		
1/2"	75.1		
3/8"	70.7		
#4	61.2		
#8	50.9		
#16	45.5		
#30	37.2		
#50	34.6		
#100	30.7		
#200	27.7	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey gravel with sand

Atterberg Limits

PL= 10 LL= 33 PI= 23

Coefficients

D₉₀= 25.9910 D₈₅= 19.7671 D₆₀= 4.4107
D₅₀= 2.1322 D₃₀= 0.1322 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= GC AASHTO= A-2-6(2)

Remarks

Location: Tezak Processing Plant
Sample Number: NFSLF-141-C

Depth: Stockpile

Date: 7/26/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

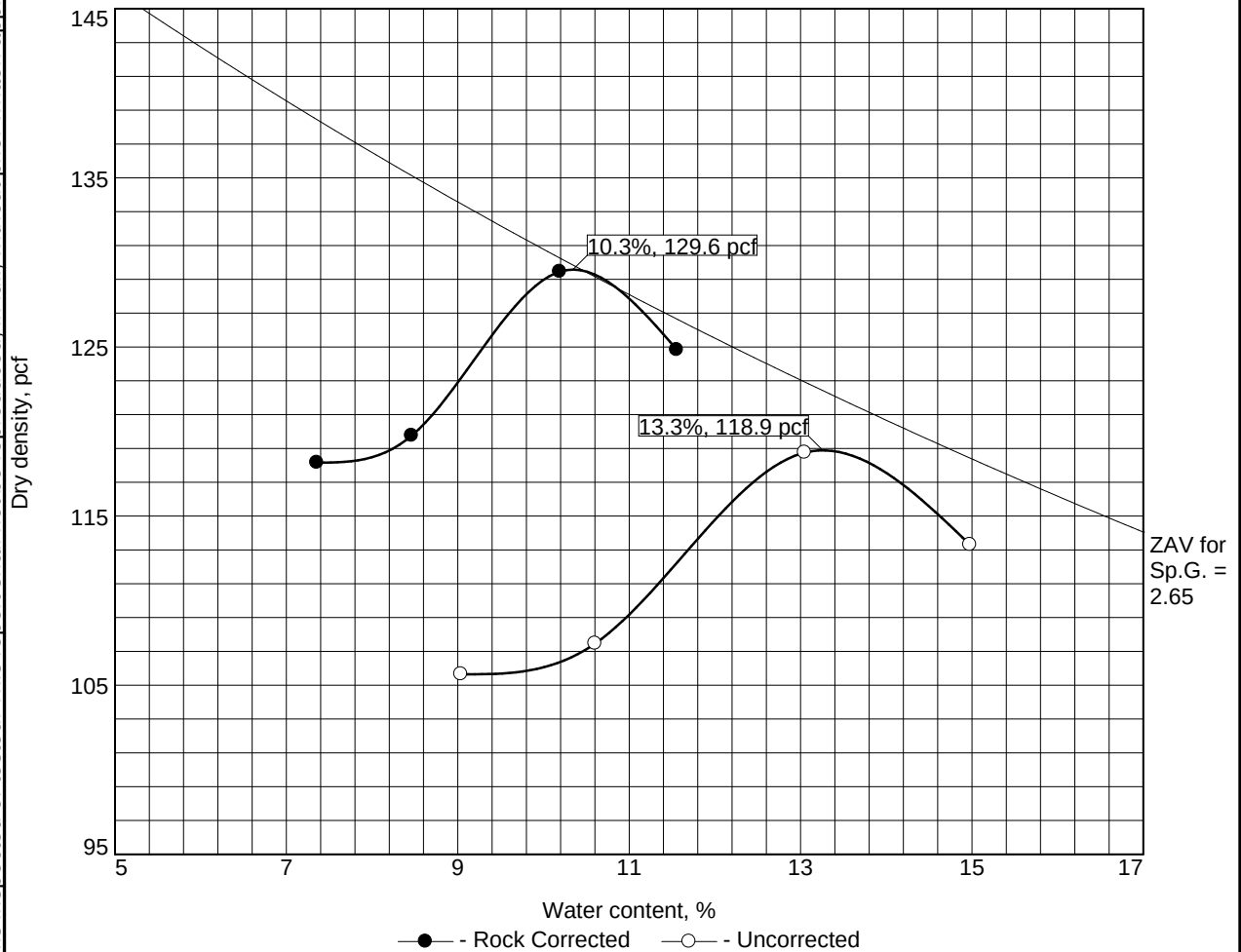
Figure NFSLF141-C

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method B Modified
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
Stockpile	GC	A-2-6(2)	8.7	2.65	33	23	29.3	27.7

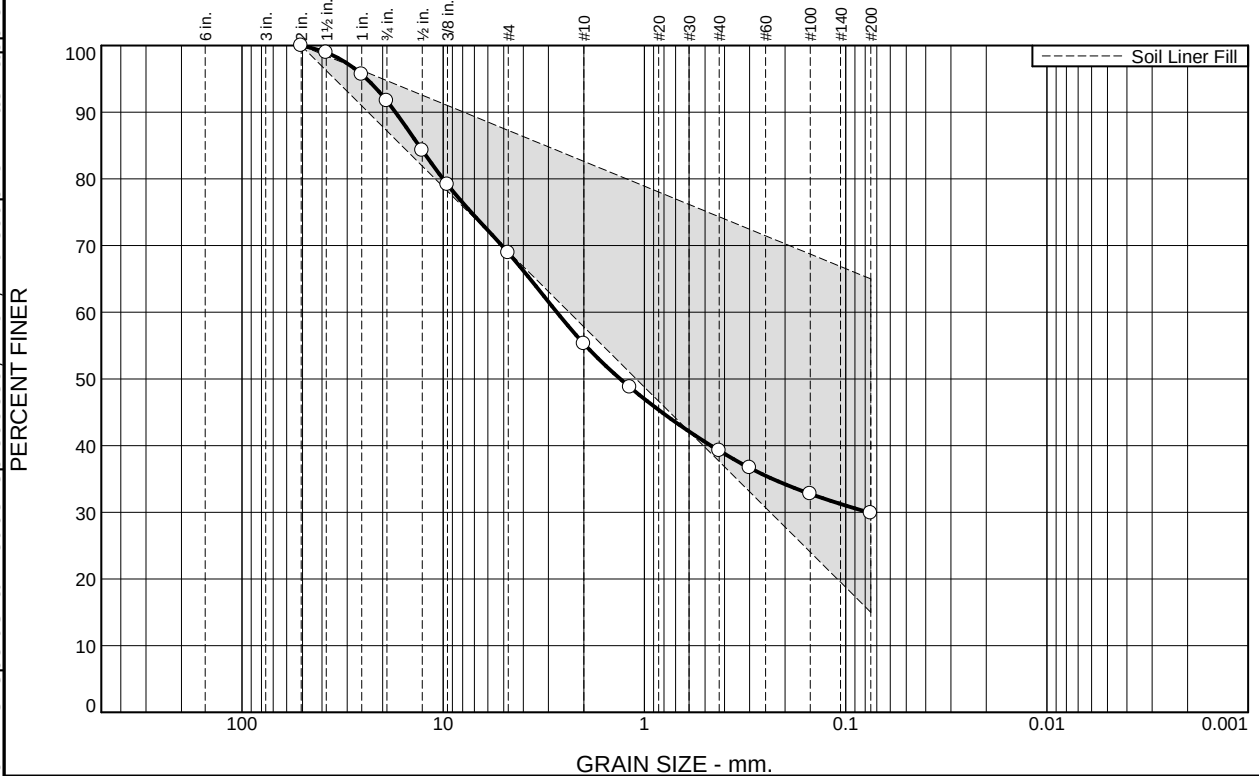
ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 129.6 pcf		118.9 pcf	Brown clayey gravel with sand
Optimum moisture = 10.3 %		13.3 %	

Project No. 475.0106.032 Client: CC&V Gold Mining Company			Remarks:
Project: VLF Phase 2B			
Location: Tezak Processing Plant Sample Number: NFSLF-141-C			
NewFields			Figure NFSLF141C

Tested By: DC Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	8.3	22.8	13.6	16.1	9.3	29.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2	100.0	100.0	
1.5	98.9		
1	95.7		
.75	91.7		
.5	84.3		
.375	79.2		
#4	68.9		
#10	55.3		
#16	48.8		
#40	39.2		
#50	36.7		
#100	32.8		
#200	29.9	15.0 - 65.0	

* Soil Liner Fill

Material Description

Brown clayey sand with gravel

Atterberg Limits

PL= 11 LL= 33 PI= 22

Coefficients

D₉₀= 17.2503 D₈₅= 13.1933 D₆₀= 2.7230
D₅₀= 1.3191 D₃₀= 0.0774 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= SC AASHTO= A-2-6(2)

Remarks

Location: N 57,322 E 37,189
Sample Number: NFSLF-142-R

Depth: FG

Date: 8/10/2020

NewFields

Client: CC&V Gold Mining Company
Project: VLF Phase 2B

Project No: 475.0106.032

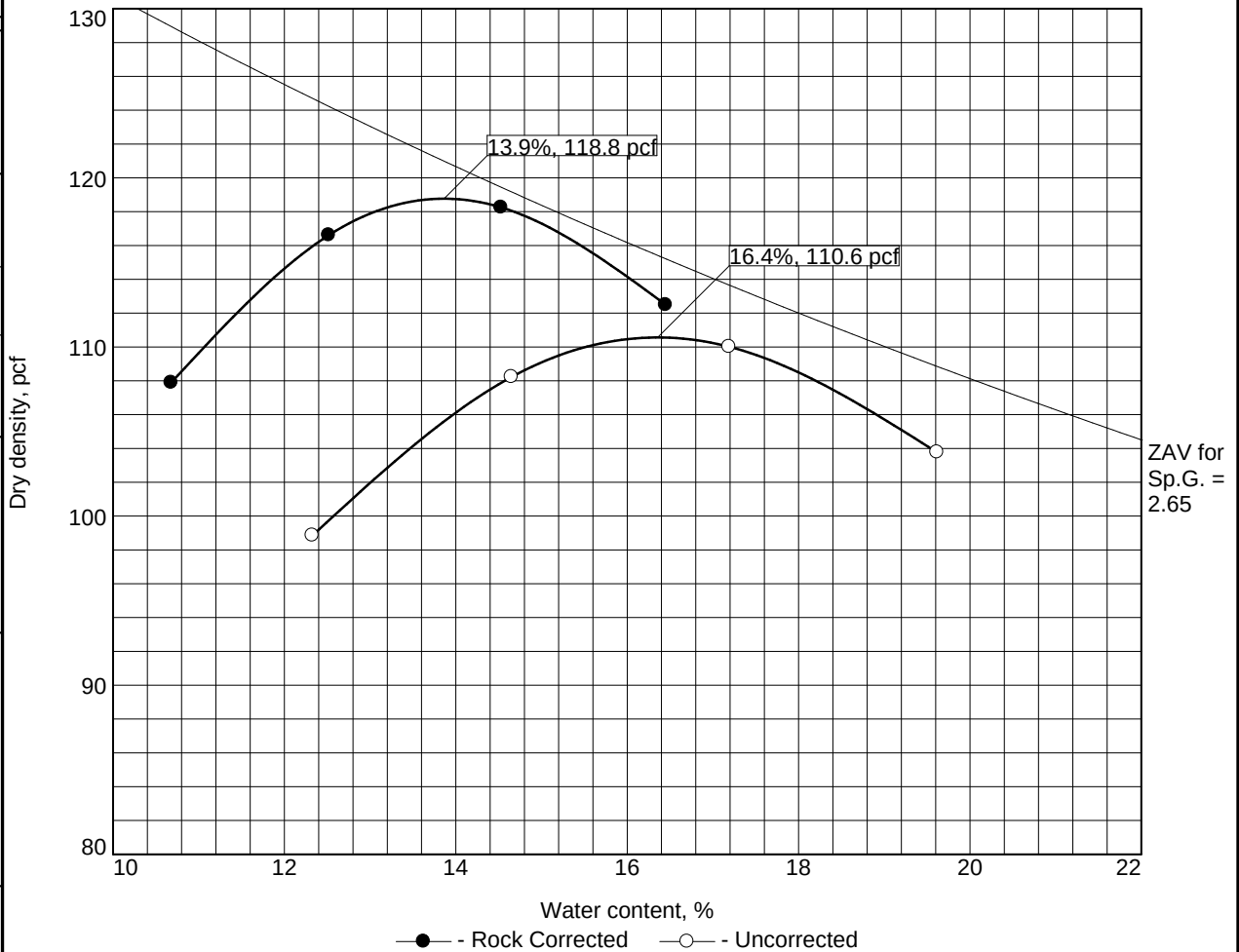
Figure NFSLF142-R

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method B Modified
ASTM D4718-15 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
FG	SC	A-2-6(2)	10.5	2.65	33	22	20.8	29.9

ROCK CORRECTED TEST RESULTS		UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 118.8 pcf		110.6 pcf	Brown clayey sand with gravel
Optimum moisture = 13.9 %		16.4 %	
Project No. 475.0106.032 Client: CC&V Gold Mining Company Project: VLF Phase 2B ○Location: N 57,322 E 37,189 Sample Number: NFSLF-142-R			Remarks:

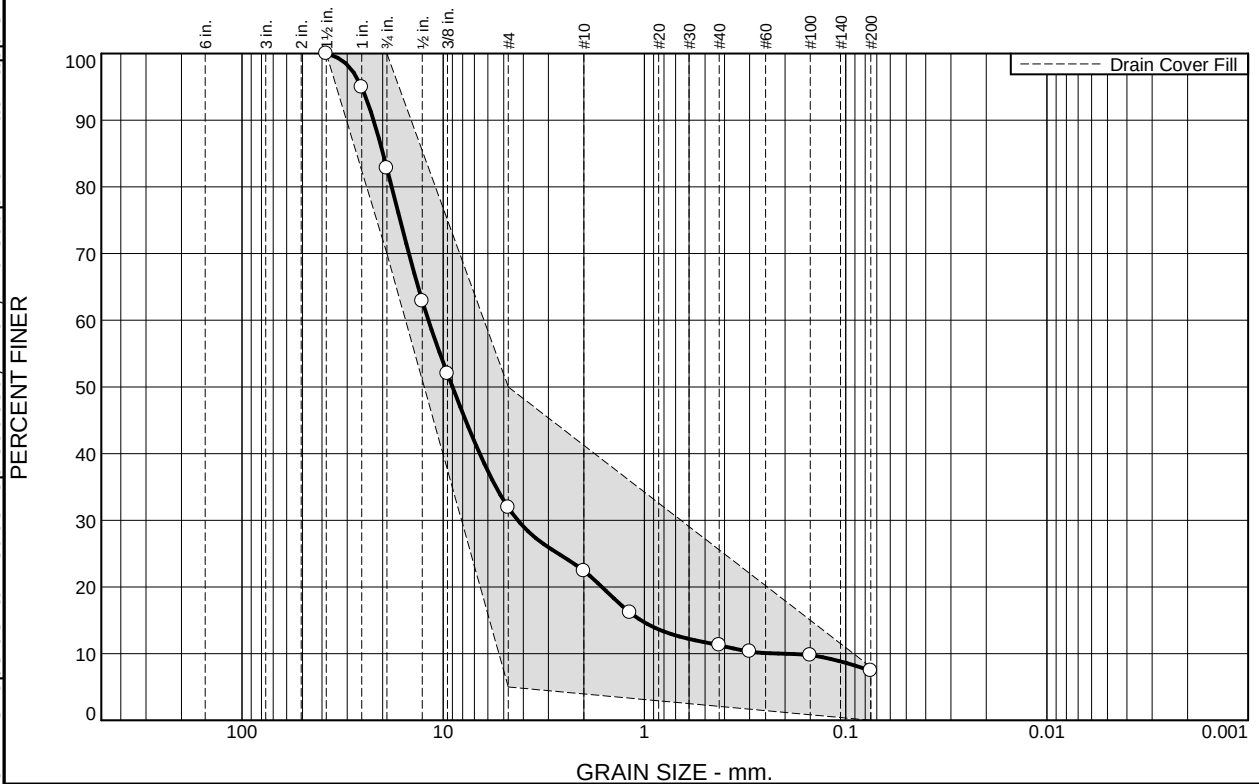
Tested By: DC Checked By: TW



APPENDIX H.4 – DRAIN COVER FILL LABORATORY TEST RESULTS

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	17.2	50.9	9.5	11.1	3.8	7.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5	100.0	100.0	
1	95.0		
.75	82.8	70.0 - 100.0	
.5	62.9		
.375	52.0		
#4	31.9	5.0 - 50.0	
#10	22.4		
#16	16.2		
#40	11.3		
#50	10.3		
#100	9.8		
#200	7.5	0.0 - 8.0	

* Drain Cover Fill

Material Description

Light brown poorly graded gravel with silt and sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 22.1890 D₈₅= 19.9129 D₆₀= 11.8487
D₅₀= 8.9888 D₃₀= 4.2597 D₁₅= 1.0396
D₁₀= 0.2074 C_u= 57.12 C_c= 7.38

Classification

USCS= GP-GM AASHTO= A-1-a

Remarks

Location: P-3511

Sample Number: DCF-2-R

Depth: FG

Date: 08/25/2020



Client: CC&V Gold Mining Company

Project: VLF Phase 2B

Project No: 475.0106.032

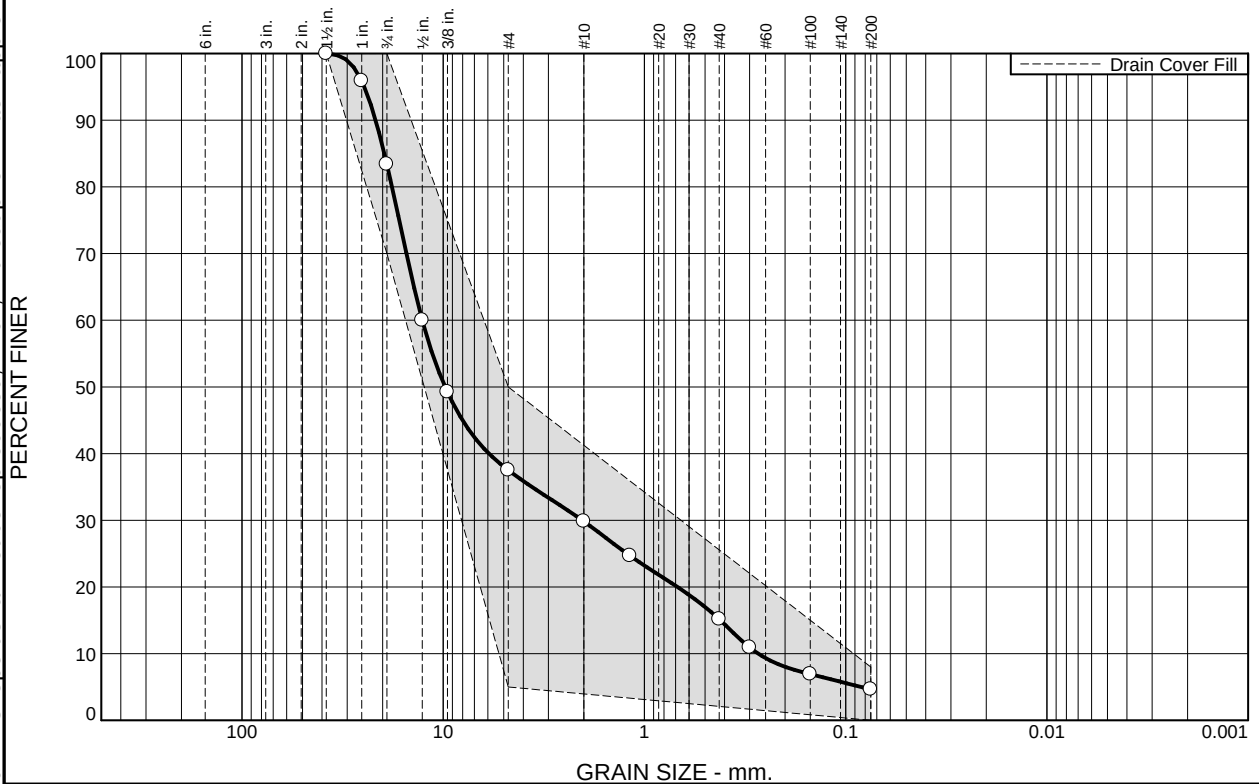
Figure DCF-2-R

Tested By: JS

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	16.6	45.9	7.7	14.6	10.6	4.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5	100.0	100.0	
1	95.9	70.0 - 100.0	
.75	83.4		
.5	60.0		
.375	49.2	5.0 - 50.0	
#4	37.5		
#10	29.8		
#16	24.7	0.0 - 8.0	
#40	15.2		
#50	10.9		
#100	6.9		
#200	4.6		

* Drain Cover Fill

Material Description

Light brown poorly graded gravel with sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 21.6854

D₈₅= 19.6220

D₆₀= 12.7056

D₅₀= 9.7779

D₃₀= 2.0369

D₁₅= 0.4193

D₁₀= 0.2725

C_u= 46.63

C_c= 1.20

Classification

USCS= GW

AASHTO= A-1-a

Remarks

Location: P-3532

Sample Number: DCF-3-R

Depth: FG

Date: 09/03/2020

 NewFields

Client: CC&V Gold Mining Company

Project: VLF Phase 2B

Project No: 475.0106.032

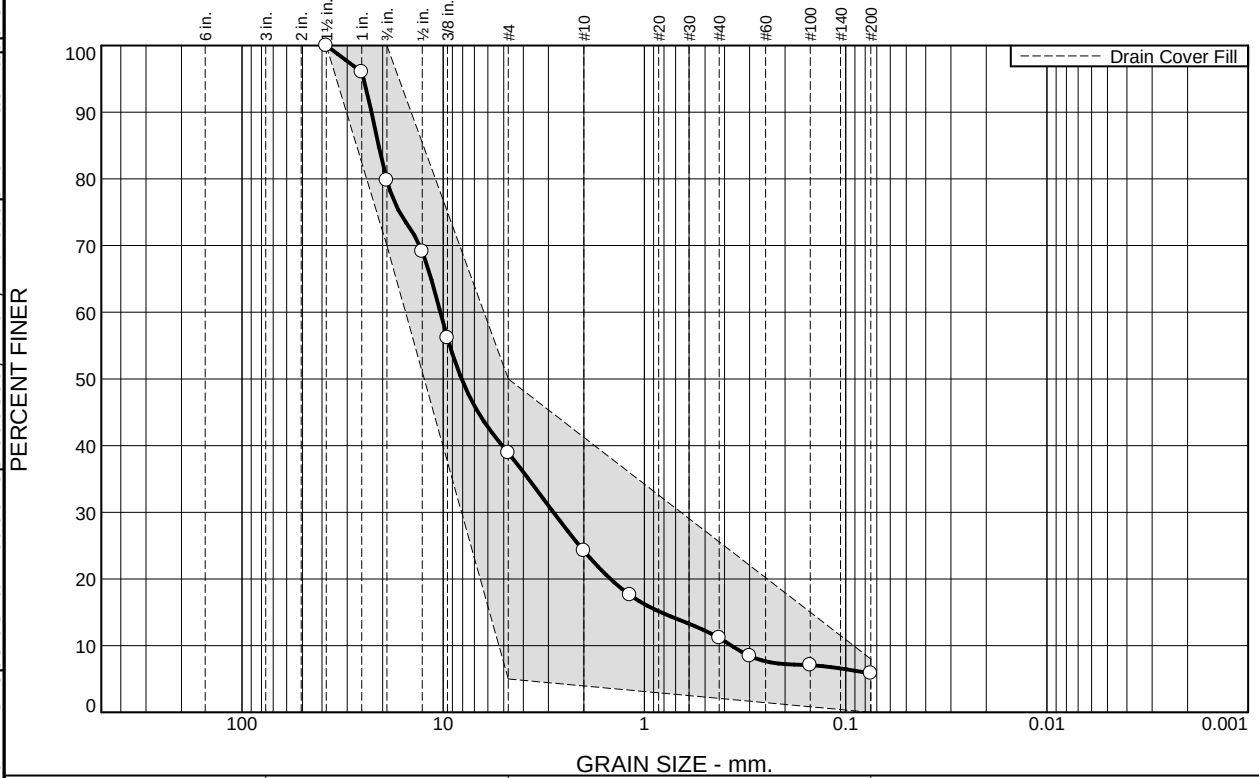
Figure DCF-3-R

Tested By: TW

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	20.2	40.9	14.7	13.1	5.3	5.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5	100.0	100.0	
1	96.0		
.75	79.8	70.0 - 100.0	
.5	69.1		
.375	56.2		
#4	38.9	5.0 - 50.0	
#10	24.2		
#16	17.6		
#40	11.1		
#50	8.5		
#100	7.1		
#200	5.8	0.0 - 8.0	

* Drain Cover Fill

Material Description

Gray well-graded gravel with silt and sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 22.7186 D₈₅= 20.9500 D₆₀= 10.3353
D₅₀= 8.0987 D₃₀= 2.8326 D₁₅= 0.8265
D₁₀= 0.3691 C_u= 28.00 C_c= 2.10

Classification

USCS= GW-GM AASHTO= A-1-a

Remarks

Location: P-3701

Sample Number: DCF-4-R

Depth: FG

Date: 09/03/2020



Client: CC&V Gold Mining Company

Project: VLF Phase 2B

Project No: 475.0106.032

Figure DCF-4-R

Tested By: TW

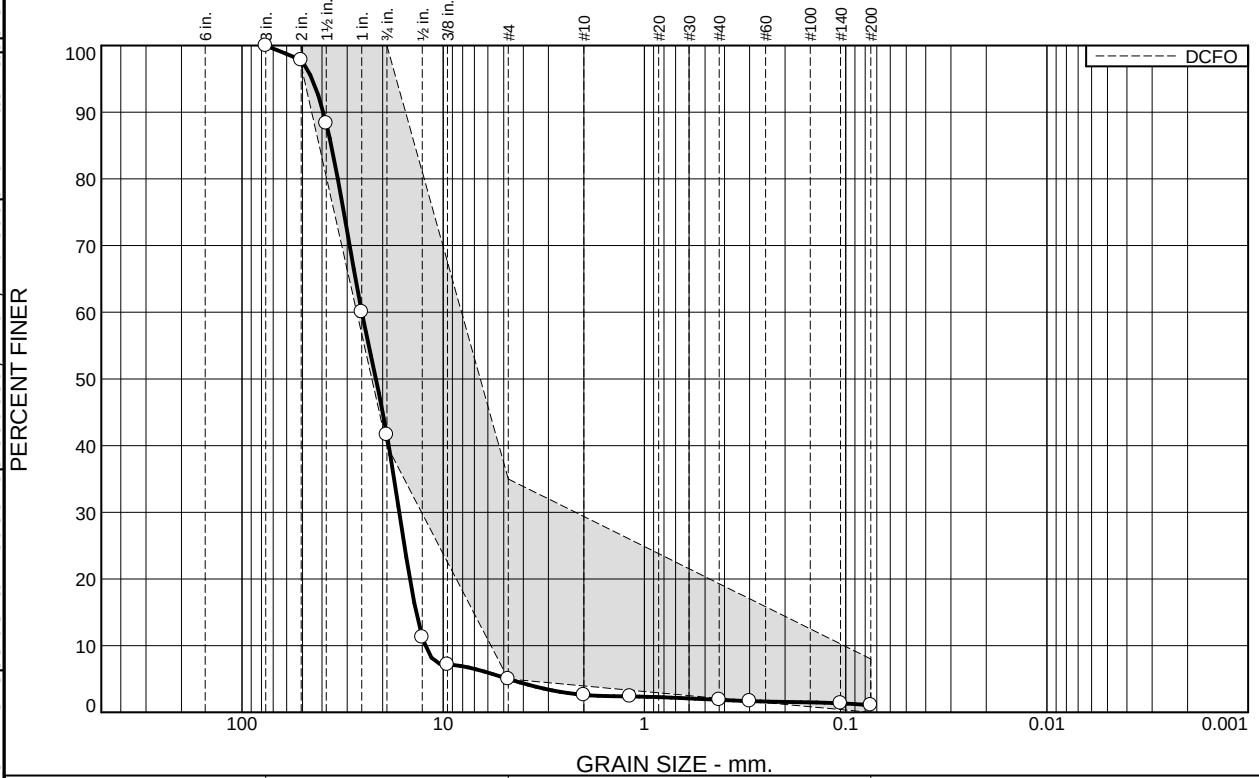
Checked By: TW



APPENDIX H.5 – DRAIN COVER FILL (CRUSHED ORE) LABORATORY TEST RESULTS

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	58.4	36.6	2.4	0.7	0.8	1.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3	100.0	97.0 - 100.0	
2	97.8		
1.5	88.3		
1	60.1	40.0 - 100.0	
.75	41.6		
.5	11.3		
.375	7.2	5.0 - 35.0	
#4	5.0		
#10	2.6		
#16	2.4	0.0 - 8.0	
#40	1.9		
#50	1.7		
#140	1.3		
#200	1.1		

* DCFO

Material Description

Grey well-graded gravel

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 39.3697 D₈₅= 35.9831 D₆₀= 25.3806
D₅₀= 21.5996 D₃₀= 16.5231 D₁₅= 13.6188
D₁₀= 12.2942 C_u= 2.06 C_c= 0.87

Classification

USCS= GP AASHTO= A-1-a

Remarks

Location: P-3285

Sample Number: DCFO-5-R

Depth: FG

Date: 6/24/2020



Client: CC&V Gold Mining Company

Project: VLF Phase 2B

Project No: 475.0106.032

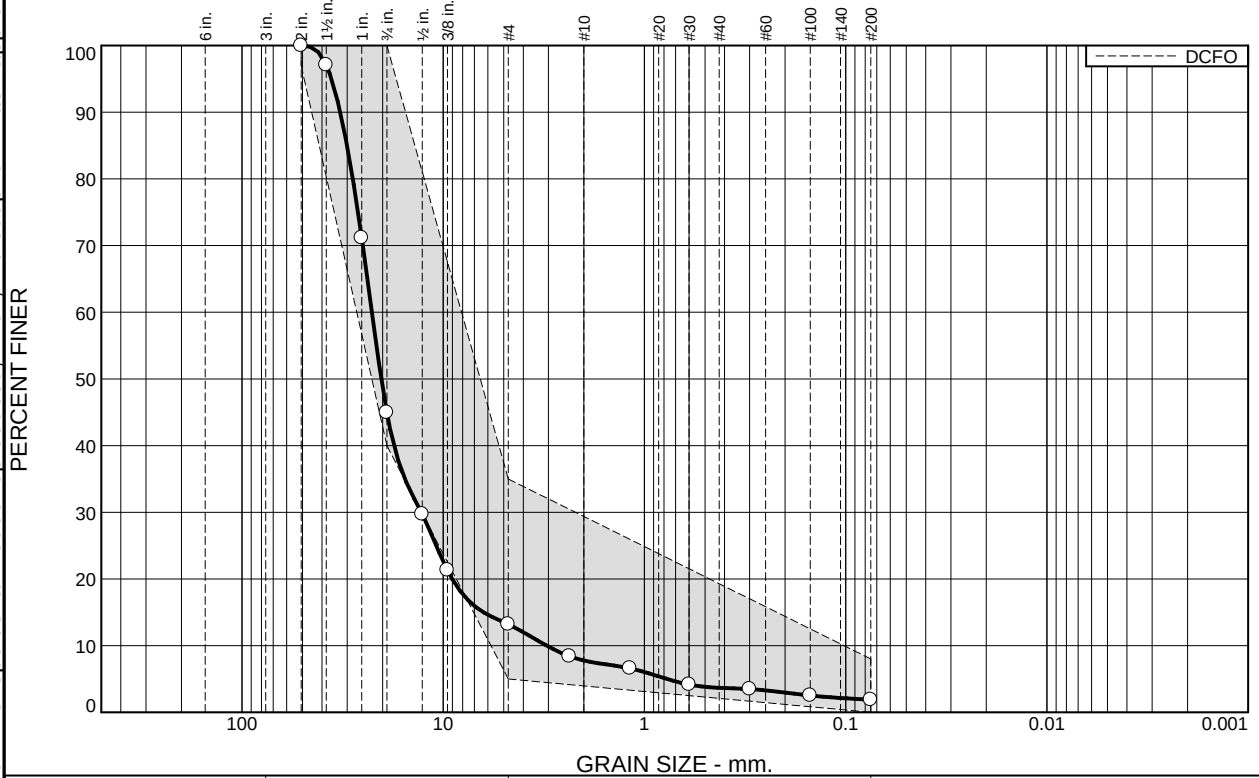
Figure DCFO-5-R

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	55.1	31.7	5.4	4.1	1.8	1.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2	100.0	97.0 - 100.0	
1.5	97.1		
1	71.2		
.75	44.9	40.0 - 100.0	
1/2"	29.7		
.375	21.3		
#4	13.2	5.0 - 35.0	
#8	8.4		
#16	6.6		
#30	4.2		
#50	3.5		
#100	2.5		
#200	1.9	0.0 - 8.0	

* DCFO

Material Description

Gray well-graded gravel

Atterberg Limits

PL= NP

LL= NV

PI= NP

Coefficients

D₉₀= 32.4663

D₈₅= 30.0510

D₆₀= 22.6343

D₅₀= 20.3187

D₃₀= 12.8363

D₁₅= 6.3061

D₁₀= 3.0544

C_u= 7.41

C_c= 2.38

Classification

USCS= GW

AASHTO= A-1-a

Remarks

Location: P-3307

Sample Number: DCFO-6-R

Depth: FG

Date: 6/30/2020

NewFields

Client: CC&V Gold Mining Company

Project: VLF Phase 2B

Project No: 475.0106.032

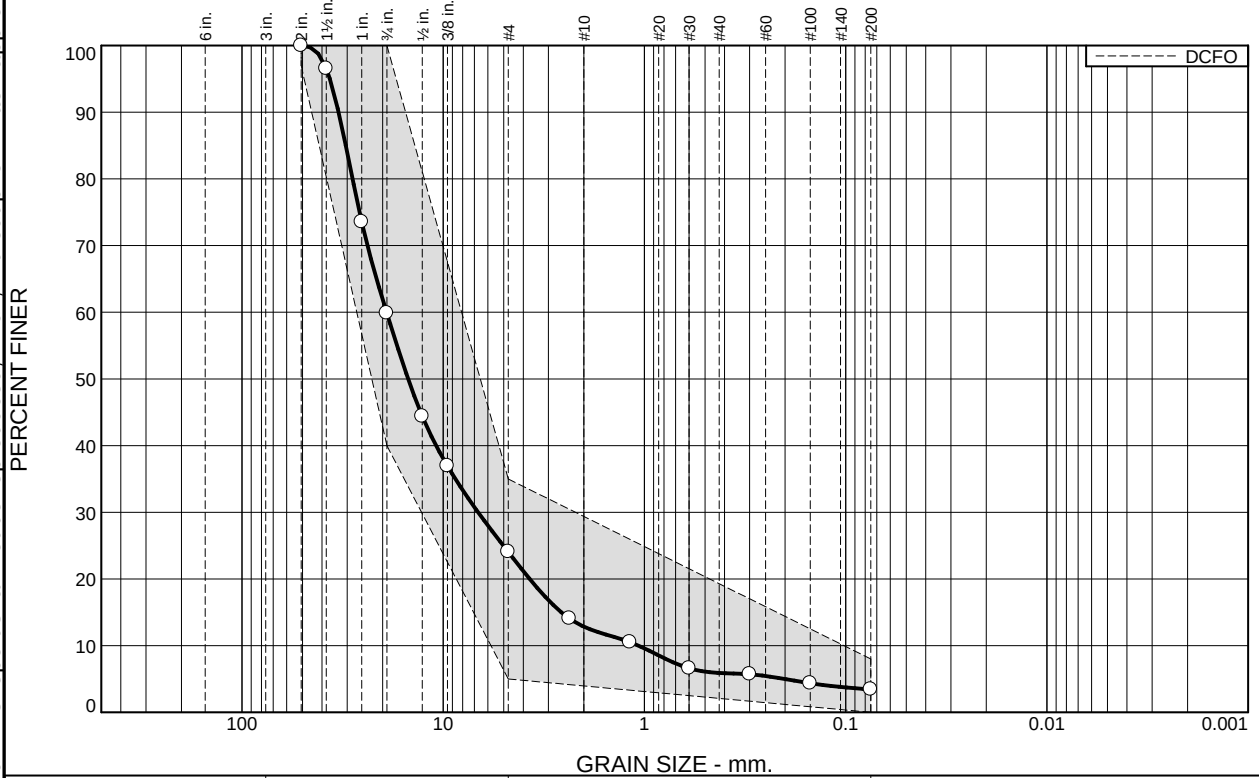
Figure DCFO-6-R

Tested By: DC

Checked By: TW

Test results included in this report relate only to the items inspected or tested. This report shall not be reproduced, in full, without prior written approval of NewFields.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	40.1	35.8	11.3	6.9	2.5	3.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2	100.0	97.0 - 100.0	
1-1/2"	96.6		
1"	73.5		
3/4"	59.9	40.0 - 100.0	
1/2"	44.4		
3/8"	37.0		
#4	24.1	5.0 - 35.0	
#8	14.1		
#16	10.5		
#30	6.6		
#50	5.7		
#100	4.4		
#200	3.4	0.0 - 8.0	

* DCFO

Material Description

Light brown well-graded gravel with sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 33.1038 D₈₅= 30.4851 D₆₀= 19.1073
D₅₀= 14.9233 D₃₀= 6.7076 D₁₅= 2.5856
D₁₀= 1.0713 C_u= 17.84 C_c= 2.20

Classification

USCS= GW AASHTO= A-1-a

Remarks

Location: P-3325

Sample Number: DCFO-7-R

Depth: FG

Date: 7/6/2020



Client: CC&V Gold Mining Company

Project: VLF Phase 2B

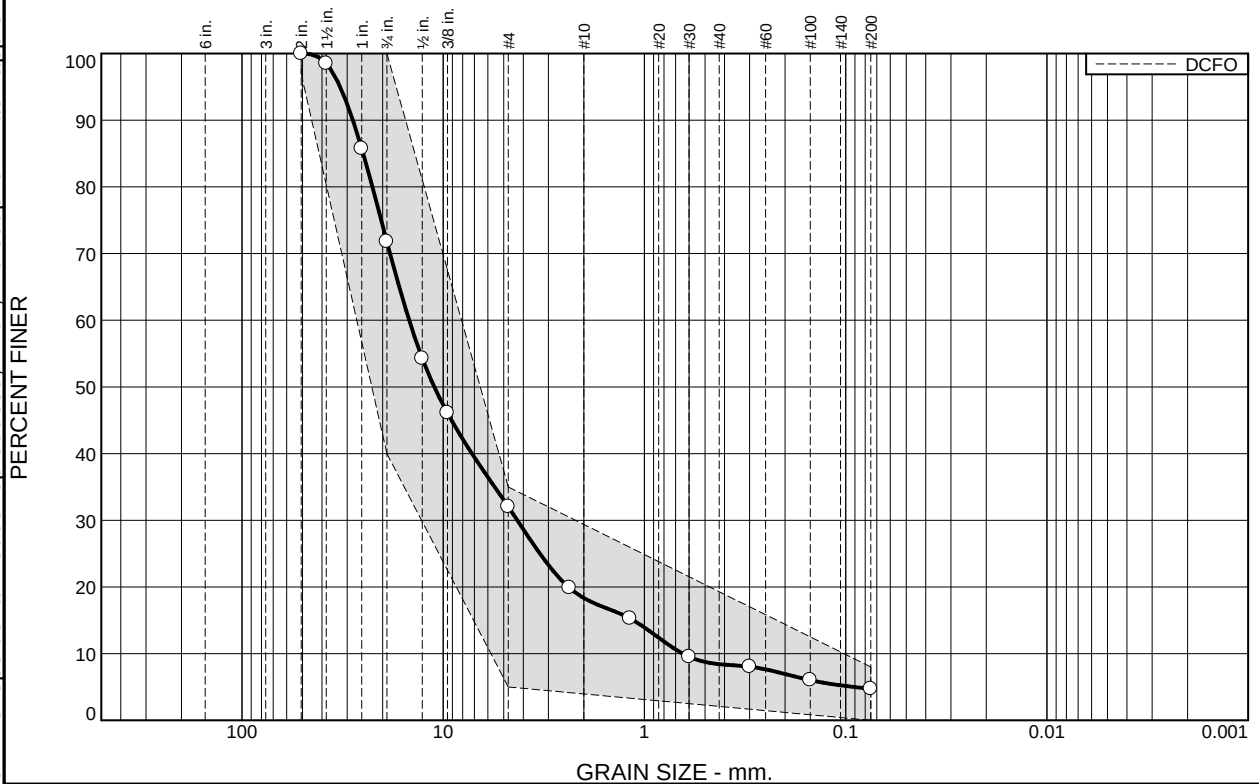
Project No: 475.0106.032

Figure DCFO-7-R

Tested By: DC

Checked By: TW

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	28.2	39.8	13.7	9.9	3.7	4.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2	100.0	97.0 - 100.0	
1.5	98.5		
1	85.7		
.75	71.8	40.0 - 100.0	
1/2"	54.3		
3/8"	46.1		
#4	32.0	5.0 - 35.0	
#8	19.9		
#16	15.3		
#30	9.5		
#50	8.0		
#100	6.0		
#200	4.7	0.0 - 8.0	

* DCFO

Material Description

Gray well-graded gravel with sand

$$PL = NP$$

Atterberg Limits

$$\frac{\text{Attending}}{\text{LL} = \text{NV}}$$
$$PI = NP$$

D₉₀= 28.1053

Coefficients

 $D_{85} = 24.9873$

D₆₀= 14.7479

$$D_{50} = 11.0783$$
$$D_{30} = 4.2814$$
$$D_{15}^{00} = 1.1350$$
$$D_{10}^{00} = 0.6453$$
$$C_u = 22.85$$
$$C_C^{\text{eq}} = 1.93$$

Classification

USCS= GW

AASHTO= A-1-a

Remarks



Client: CC&V Gold Mining Company

Project: VLF Phase 2B

Project No: 475.0106.032

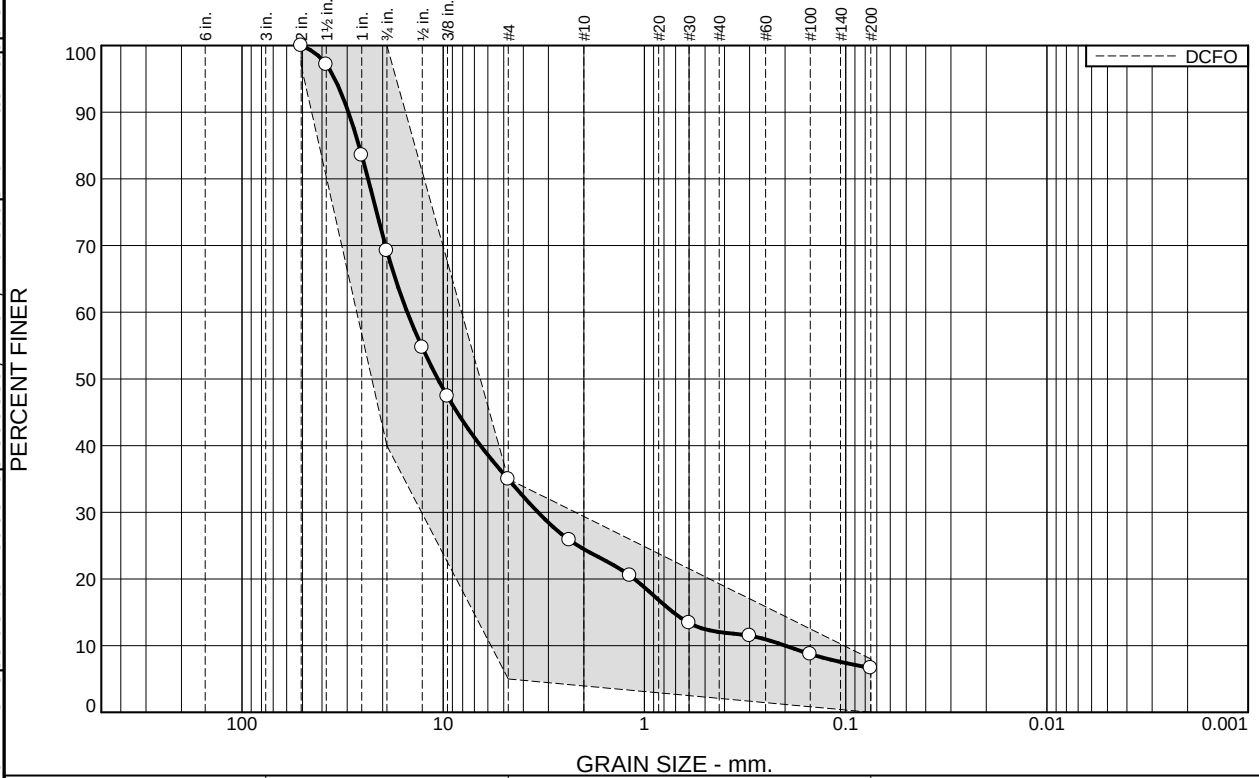
Figure DCFO-8-R

Tested By: DC

Checked By: TW

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Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	30.8	34.2	10.5	12.5	5.3	6.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100.0	97.0 - 100.0	
1 1/2"	97.2		
1"	83.6		
3/4"	69.2	40.0 - 100.0	
1/2"	54.7		
3/8"	47.4		
#4	35.0	5.0 - 35.0	
#8	25.8		
#16	20.5		
#30	13.4		
#50	11.5		
#100	8.7		
#200	6.7	0.0 - 8.0	

* DCFO

Material Description

Light red poorly graded gravel with silt and sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D₉₀= 29.5548 D₈₅= 26.2067 D₆₀= 15.0746
D₅₀= 10.6365 D₃₀= 3.3763 D₁₅= 0.7193
D₁₀= 0.1999 C_u= 75.40 C_c= 3.78

Classification

USCS= GP-GM AASHTO= A-1-a

Remarks

Location: P-3459

Sample Number: DCF0-9-R

Depth: FG

Date: 8/3/2020



Client: CC&V Gold Mining Company

Project: VLF Phase 2B

Project No: 475.0106.032

Figure DCF0-9-R

Tested By: DC

Checked By: TW