APPENDIX I-3

Saddle Dam 3 Finalization of Stage 3 QC Results

APPENDIX I-3A

QC Laboratory Results - Till: Saddle Dam 3 Finalization of Stage 3

Analysis Report
Soils and Aggregates

CLIENT:	AEM	**BOARD N⁰:**	
		PROJECT N⁰:	11118538-B1
PROJET:	Saddle dam 3-4-5	**Sample Nº:**	ST-443-2018
		DATE:	2018-06-11

Description of Material:	Sieved compacted Till (0-50mm)	**Location of Sampling:**	ch. 20+600 (North of SD3)
Origin:	Pit E		
Proposed Use:	Till plug	**Sampled by:**	Daniel Roy
		Sampling Date:	2018-06-11

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				150 mm	76.2 mm	50 mm	37.5 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	91	88	83	75	67	60	55	51	46	40.0
Individual Results																	
Require-ments	min.					100		85		75	63			43			30.0
	max.					100		100		94	83			58			45.0

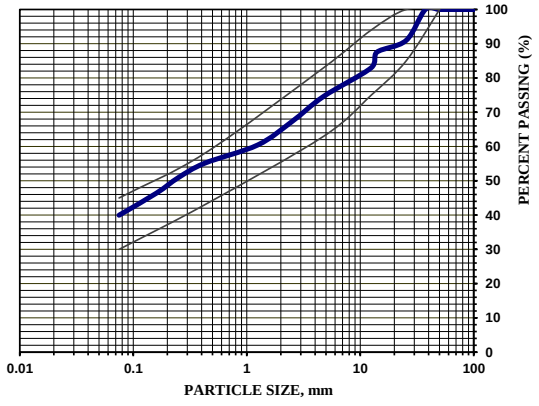
Other tests	Results	Requirements min.	Requirements max.
Water content	10.26%		
Dépassement du % de perte de sable			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Till: Fondation, sous-fondation**

Sieve Analysis Graph



% gravel	25.4%	Cu = #N/A	D_{85} = 13.1	D_{15} = #N/A
% sand	34.7%	Cc = #N/A	D_{60} = 1.1	D_{10} = #N/A
% silt/clay	40.0%		D_{50} = 0.2	

Remarks: Conform material for proposed used

mm

Prepared by: Daniel Roy

Verified by:

APPENDIX I-3B

QC Laboratory Results - Fine Filter: Saddle Dam 3 Finalization of Stage 3

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11118538-B1
PROJECT:	Increase the final level of North cell	**Sample Nº:**	FF-418-2018
		DATE:	2018-07-15

Description of Material:	Fine filter	**Location of Sampling:**	In place SD3 St 20+818 El. 145 Offs. -33.6
Origin:	Sana Crusher 2nd stockpile		
Proposed Use:	Up stream filter	**Sampled by:**	Daniel Roy
		Sampling Date:	2018-07-14

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	93	76	46	33	23	18	15	13	10.6
Individual Results																	
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

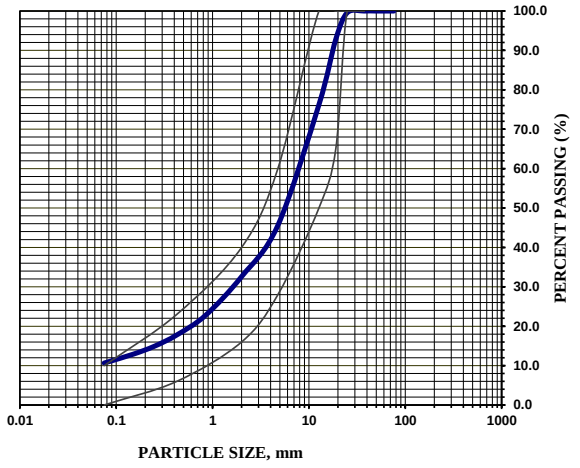
Other tests	Results	Requirements min.	Requirements max.
Water content	3.49%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter: Central Dike**

Sieve Analysis Graph



% gravel	54.4%	Cu = #N/A	D_{85} = 15.7	D_{15} = 0.3
% sand	34.9%	Cc = #N/A	D_{60} = 7.6	D_{10} = #N/A
% silt/clay	10.6%		D_{50} = 5.5	

Remarks: Écart(s) aux tamis suivant(s): 0.075 mm

Prepared by: Daniel Roy

Verified by:

APPENDIX I-3C

QC Field Testing Results - Till: Saddle Dam 3 Finalization of Stage 3

Masse volumique maximale – planche de référence

Client :	A.E.M	Nº de réf. :	11118538-B1
	Meadowbank	Date (inspection) :	2018/07/13
Projet :	Saddle Dam #3-4-5	Date (rapport) :	2018/07/13

Entrepreneur: Gen. : F.G.L (SANA) Terr. :

Matériau : Compacted sieved till Provenance : Pit E (Sana crusher) Épaisseur (mm) : 0.5 m

Matériau sous-jacent : Compacted sieved till Provenance : Pit E (Sana crusher) Épaisseur (mm) : ∞

Compacteur utilisé : 10 tons packer

Appareil de mesure (marque) : Humboldt Modèle : 5001 No de série : 1423

Échantillon: Densité rel. Brute de la pierre (D):

% de retenu 5.0 mm (P): Teneur en eau de la pierre (AR):
(D):

Nombre de passes	Masse volumique sèche			Moyenne	% Humidité			Moyenne	Augmentation mass vol. sèche en %
	Point A	Point B	Point C		Point A	Point B	Point C		
0	1889	1907	1874	1890	8.9	8.5	6.9	8.3	-
2	2094	2076	2129	2100	8.7	8.3	7.2	8.1	10.00
4	2114	2148	2170	2144	8.7	7.0	6.8	8.2	2.05
6	2185	2130	2170	2127	9.0	7.5	7.0	7.8	-0.80
8	2100	2154	2133	2129	8.8	7.1	7.5	7.8	0.09

Note: La masse volumique maximale est atteinte lorsque deux lectures consécutives du % d'augmentation sont inférieures à 1%.

$$\% \text{ d'aug.} = \frac{\text{masse dernière passe - masse passe précédente}}{\text{Masse passe précédente}} \times 100$$

Masse vol. max.	Nbre de passes
2144	4

Préparé par : Daniel Roy Vérifié par :

Masse volumique maximale – planche de référence

Client :	A.E.M	Nº de réf. :	11118538-B1
	Meadowbank	Date (inspection) :	2018/07/18
Projet :	Saddle Dam #3-4-5	Date (rapport) :	2018/07/18

Entrepreneur Gen. : F.G.L (SANA) Terr. :

Matériau : Compacted 2rd class till Provenance : Épaisseur (mm) : 0.5 m

Matériau sous-jacent : Compacted sieved till Provenance : Épaisseur (mm) : ∞

Compacteur utilisé : 10 tons packer

Appareil de mesure (marque) : Humboldt Modèle : 5001 No de série : 1423

Échantillon: Densité rel. Brute de la pierre (D):

% de retenu 5.0 mm (P): Teneur en eau de la pierre (AR):
(D):

Nombre de passes	Masse volumique sèche			Moyenne	% Humidité			Moyenne	Augmentation mass vol. sèche en %
	Point A	Point B	Point C		Point A	Point B	Point C		
4	2105	2121	2150	2125	6.6	7	6.2	6.6	-
6	2092	2116	2103	2103	7.5	7.6	5.9	7	1

Note: La masse volumique maximale est atteinte lorsque deux lectures consécutives du % d'augmentation sont inférieures à 1%.

$$\% \text{ d'aug.} = \frac{\text{masse dernière passe - masse passe précédente}}{\text{Masse passe précédente}} \times 100$$

Masse vol. max.	Nbre de passes
2125	4

Préparé par : Mathieu Côté Vérifié par :

Nucléodensimètre - Détermination du degré de compacité

Nº de contrat :	**A.E.M**	**Division :**	**Terre**	**Appareil**	
Nº de projet:	**11118538-B1**	**Matériau :**	**Compacted sieved till**	**Marque :**	**Humboldt**
Projet :	**Saddle Dam #3-4-5**	**Calibre :**	**0-50 mm**	**Modèle :**	**5001**
Municipalité :	**Meadowbank**	**Usage :**	**Key Fondation**	**Nº de série :**	**1423**

Entrepreneur : **F.G.L (Sana)** **Équipement de compactage :** Roulant vibrant CAT, 11-1101

Nom de la source du matériau : _____ **Municipalité :** _____

☐ **Proctor modifié** **Échantillon Nº :**

Masse volumique max. : **kg/m³** **% retenu 5,0 mm :** _____ **%** **Humidité optimale :** _____ **%**

Masse volum. à 0% de retenu 5mm : _____ **Kg/m³**

Facteur de correction (f.c.) : _____ Correction humidité (K) : _____

☒ **Planche de référence** **Masse volumique maximale obtenue par planche de référence :** **2228** **kg/m³**

Valeurs référentielles (R) : Densité : _____ Humidité : **5.8 %**

Date de l'essai		2018/07/12	2018/07/12	2018/07/13	2018/07/13	
Nº du test		#44	#45	#46	#47	
Key foundation		SD-3	SD-3	SD-3	SD-3	
Chaînage		20+599.0	20+599.7	20+791.5	20+782.6	
Distance du ℄		47.3L	48.3L	35.8L	37.59L	
Élévation		143.3	143.3	143.7	143.3	
Profondeur de l'essai		200	200	200	200	
Masse volum. sèche (D-Dry)	1 lecture 60 sec	2181	2226	2228	2195	
% de retenu 5,0 mm dans l'essai						
Masse volumique maximale corrigée						
% d'humidité (%H)	1 lecture 60 sec	8.5	9.4	5.9	6.2	
Compacité obtenue		97.9%	99.9%	100.0%	98.5%	
Compacité exigée		98% R.B	98% R.B	98% R.B	98% R.B	

Préparé par : Daniel Roy **Date :** AA MM JJ

Vérifié par : _____ **Date :** AA MM JJ

Nucléodensimètre - Détermination du degré de compacité

Nº de contrat :	**A.E.M**	**Division :**	**Terre**	**Appareil**	
Nº de projet:	**11118538-B1**	**Matériau :**	**Compacted sieved till**	**Marque :**	**Humboldt**
Projet :	**Saddle Dam #3-4-5**	**Calibre :**	**0-50 mm**	**Modèle :**	**5001**
Municipalité :	**Meadowbank**	**Usage :**	**Key Fondation**	**Nº de série :**	**1423**

Entrepreneur : **F.G.L (Sana)** **Équipement de compactage :** Roulant vibrant CAT, 11-1101

Nom de la source du matériau : _____ **Municipalité :** _____

☐ **Proctor modifié** **Échantillon Nº :**

Masse volumique max. : **kg/m³** **% retenu 5,0 mm :** _____ **%** **Humidité optimale :** _____ **%**

Masse volum. à 0% de retenu 5mm : _____ **Kg/m³**

Facteur de correction (f.c.) : _____ Correction humidité (K) : _____

☒ **Planche de référence** **Masse volumique maximale obtenue par planche de référence :** **2144** **kg/m³**

Valeurs référentielles (R) : Densité : _____ Humidité : **8.2 %**

Date de l'essai		2018/07/13	2018/07/13	2018/07/13	2018/07/15	2018/07/15
Nº du test		#48	#49	#50	#51	#52
Key foundation		SD-3	SD-3	SD-3	SD-3	SD-3
Chaînage		20+785.4	20+788.8	20+792.2	20+597.3	20+597.1
Distance du ℄		33.3L	32.9L	33.1L	47.8L	49.9L
Élévation		143.9	144.1	144.3	143.8	143.7
Profondeur de l'essai		200	200	200	200	200
Masse volum. sèche (D-Dry)	1 lecture 60 sec	2154	2133	2129	2141	2115
% de retenu 5,0 mm dans l'essai						
Masse volumique maximale corrigée						
% d'humidité (%H)	1 lecture 60 sec	8.5	9.4	5.9	8.3	8.5
Compacité obtenue		100.0%	99.5%	99.3%	99.9%	98.6%
Compacité exigée		98% R.B	98% R.B	98% R.B	98% R.B	98% R.B

Préparé par : Daniel Roy **Date :** AA MM JJ

Vérifié par : _____ **Date :** AA MM JJ

Nucléodensimètre - Détermination du degré de compacité

Nº de contrat :	**A.E.M**	**Division :**	**Terre**	**Appareil**	
Nº de projet:	**11118538-B1**	**Matériau :**	**Compacted sieved till**	**Marque :**	**Humboldt**
Projet :	**Saddle Dam #3-4-5**	**Calibre :**	**0-50 mm**	**Modèle :**	**5001**
Municipalité :	**Meadowbank**	**Usage :**	**Key Fondation**	**Nº de série :**	**1423**

Entrepreneur : **F.G.L (Sana)** **Équipement de compactage :** Roulant vibrant CAT, 11-1101

Nom de la source du matériau : _____ **Municipalité :** _____

☐ **Proctor modifié** **Échantillon Nº :**

Masse volumique max. : **kg/m³** **% retenu 5,0 mm :**_____**%** **Humidité optimale :** _____ **%**

Masse volum. à 0% de retenu 5mm : _____ **Kg/m³**

Facteur de correction (f.c.) : _____ Correction humidité (K) : _____

☒ **Planche de référence** **Masse volumique maximale obtenue par planche de référence :** **2144** **kg/m³**

Valeurs référentielles (R) : Densité : _____ Humidité : **8.2 %**

Date de l'essai		2018/07/15	2018/07/15	2018/07/15	2018/07/15	2018/07/15
Nº du test		#53	#54	#55	#56	
Key foundation		SD-3	SD-3	SD-3	SD-3	SD-3
Chaînage		20+792.1	20+781.1	20+596.0	20+602.2	
Distance du ℄		34.2L	33.6L	46.5L	50.0L	
Élévation		144.7	144.0	144.4	144.0	
Profondeur de l'essai		200	200	200	200	200
Masse volum. sèche (D-Dry)	1 lecture 60 sec	2165	2157	2113	2140	
% de retenu 5,0 mm dans l'essai						
Masse volumique maximale corrigée						
% d'humidité (%H)	1 lecture 60 sec	7.2	6.0	8.6	7.0	
Compacité obtenue		101.0%	100.6%	98.6%	99.8%	%
Compacité exigée		98% R.B	98% R.B	98% R.B	98% R.B	98% R.B

Préparé par : Daniel Roy **Date :** AA MM JJ

Vérifié par : _____ **Date :** AA MM JJ

Nucléodensimètre - Détermination du degré de compacité

Nº de contrat :	**A.E.M**	**Division :**	**Terre**	**Appareil**	
Nº de projet:	**11118538-B1**	**Matériau :**	**2rd class till**	**Marque :**	**Humboldt**
Projet :	**Saddle Dam #3-4-5**	**Calibre :**	**0-150 mm**	**Modèle :**	**5001**
Municipalité :	**Meadowbank**	**Usage :**	**Key Fondation**	**Nº de série :**	**1423**

Entrepreneur : **F.G.L (Sana)** **Équipement de compactage :** 10 tonnes packer

Nom de la source du matériau : _____ **Municipalité :** _____

☐ **Proctor modifié** **Échantillon Nº :**

Masse volumique max. : **kg/m³** **% retenu 5,0 mm :** _____ **%** **Humidité optimale :** _____ **%**

Masse volum. à 0% de retenu 5mm : _____ **Kg/m³**

Facteur de correction (f.c.) : _____ Correction humidité (K) : _____

☒ **Planche de référence** **Masse volumique maximale obtenue par planche de référence :** **2125** **kg/m³**

Valeurs référentielles (R) : Densité : _____ Humidité : **6.6 %**

Date de l'essai		2018/07/15	2018/07/15	2018/07/15		
Nº du test		#57	#58	#59		
Key foundation		SD-3	SD-3	SD-3		
Chaînage		20+594.5	20+600.0	20+607.0		
Distance du ℄		41.8L	47.8L	54.7L		
Élévation		145.1	144.6	143.9		
Profondeur de l'essai		200	200	200		
Masse volum. sèche (D-Dry)	1 lecture 60 sec	2092	2116	2103		
% de retenu 5,0 mm dans l'essai						
Masse volumique maximale corrigée						
% d'humidité (%H)	1 lecture 60 sec	7.5	7.6	5.9		
Compacité obtenue		98.4%	99.5%	99.0%		
Compacité exigée		98% R.B	98% R.B	98% R.B	98% R.B	98% R.B

Préparé par : Mathieu Côté **Date :** AA MM JJ **1 8 0 7 1 8**

Vérifié par : _____ **Date :** AA MM JJ

APPENDIX I-4

North Cell Internal Structure Construction QC Results

APPENDIX I-4A

QC Laboratory Results - Fine Filter: North Cell Internal Structure Construction

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Increase the final level of North cell	**PROJECT N°:**	11118538-B1
		Sample N°:	FF-406-2018
		DATE:	2018-06-24

Description of Material:	Fine filter	**Location of Sampling:**	In place, ch 2+500
Origin:	Ch 2+500		(see sketch join to the report)
Proposed Use:	Up stream filter	**Sampled by:**	Hugues Potvin
		Sampling Date:	2018-06-22

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	73	41	30	20	14	11	9	6.7
Individual	Results																
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

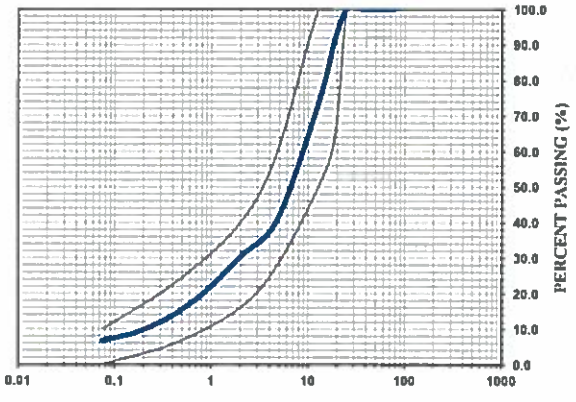
Other tests	Results	Requirements min.	Requirements max.
Water content	2.80%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter: Central Dike

Sieve Analysis Graph



% gravel	59.2%	Cu = 42	D_{85} = 16.3	D_{15} = 0.5
% sand	34.1%	Cc = 2	D_{60} = 8.5	D_{10} = 0.2
% silt/clay	6.7%		D_{50} = 6.3	

Remarks:

Prepared by: Hugues Potvin

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Increase the final level of Central Dike at El: 145	**PROJECT N°:**	11118538-B1
		Sample N°:	FF-408-2018
		DATE:	2018-06-27

Description of Material:	Fine filter	**Location of Sampling:**	In place, ch 2+380
Origin:	Ch 2+380		
Proposed Use:	Up stream filter	**Sampled by:**	Hugues Potvin
		Sampling Date:	2018-06-24

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	[illegible]	87	66	36	22	14	11	9	7	5.7
Individual	Results																
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

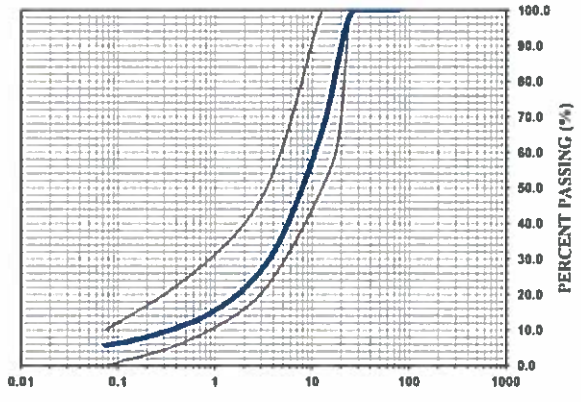
Other tests	Results	Requirements min.	Requirements max.
Water content	2.10%		
Dépassement du % de perte total			

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter: Central Dike

Sieve Analysis Graph



% gravel	64.4%	Cu = 31	D_{85} = 18.2	D_{15} = 0.9
% sand	29.9%	Cc = 3	D_{60} = 10.5	D_{10} = 0.3
% silt/clay	5.7%		D_{50} = 7.6	

Remarks:

Prepared by: Hugues Potvin

Verified by:

GHD

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Increase the final level of North cell	**PROJECT N°:**	11118538-B1
		Sample N°:	FF-409-2018
		DATE:	2018-06-24

Description of Material:	Fine filter	**Location of Sampling:**	In place, ch 2+262
Origin:	Ch 2+262		
Proposed Use:	Up stream filter	**Sampled by:**	Hugues Potvin
		Sampling Date:	2018-06-25

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	92	75	42	27	17	12	9	7	5.7
Individual	Results																
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

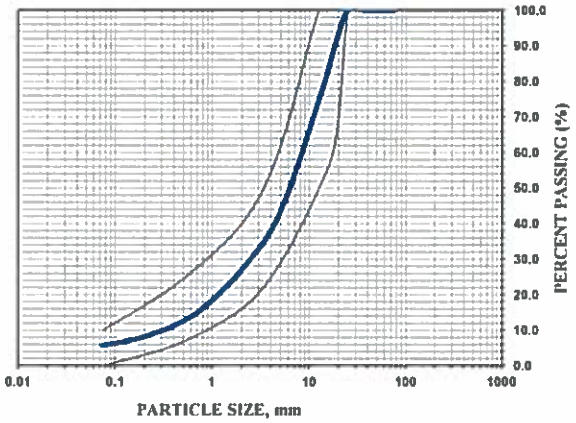
Other tests	Results	Requirements min.	Requirements max.
Water content	4.00%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter: Central Dike

Sieve Analysis Graph



% gravel	58.0%	Cu = 27	D_{85} = 16.2	D_{15} = 0.7
% sand	36.3%	Cc = 2	D_{60} = 8.1	D_{10} = 0.3
% silt/clay	5.7%		D_{50} = 6.0	

Remarks:

Prepared by: Hugues Potvin

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Increase the final level of North cell	**PROJECT N°:**	11118538-B1
		Sample N°:	FF-410-2018
		DATE:	2018-06-30

Description of Material:	Fine filter	**Location of Sampling:**	In place, ch 1+750
Origin:	In place ch 1+750		
Proposed Use:	Up stream filter	**Sampled by:**	Hugues Potvin
		Sampling Date:	2018-06-28

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	91	73	40	24	15	10	8	6	5.0
Individual	Results																
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

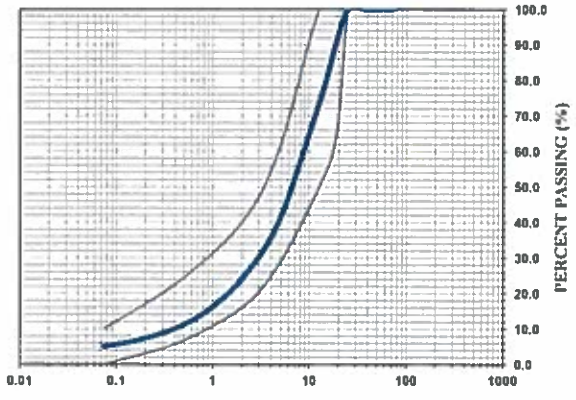
Other tests	Results	Requirements min.	Requirements max.
Water content	2.50%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter: Central Dike

Sieve Analysis Graph



% gravel	60.1%	Cu = 22	D_{85} = 16.6	D_{15} = 0.9
% sand	34.8%	Cc = 2	D_{60} = 8.6	D_{10} = 0.4
% silt/clay	5.0%		D_{50} = 6.4	

Remarks:

Prepared by: Hugues Potvin

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Increase the final level of North cell	**PROJECT N°:**	11118538-B1
		Sample N°:	FF-411-2018
		DATE:	2018-07-01

Description of Material:	Fine filter	**Location of Sampling:**	In place, ch 1+590
Origin:	In place ch 1+590		
Proposed Use:	Up stream filter	**Sampled by:**	Hugues Potvin
		Sampling Date:	2018-06-29

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	100	100	93	72	40	26	17	12	9	7	5.7
Individual	Results																
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

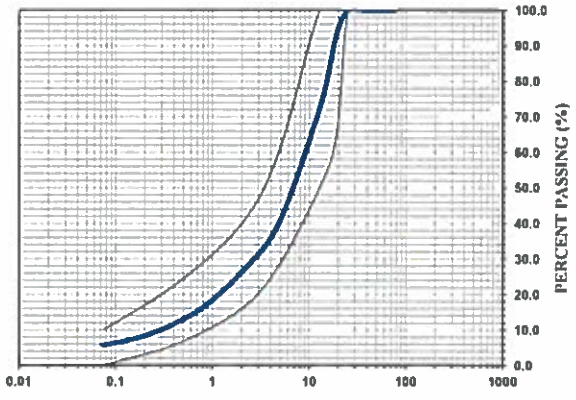
Other tests	Results	Requirements min.	Requirements max.
Water content	2.30%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Fine Filter: Central Dike

Sieve Analysis Graph



% gravel	60.1%	Cu = 30	D_{85} = 16.2	D_{15} = 0.6
% sand	34.2%	Cc = 3	D_{60} = 8.7	D_{10} = 0.3
% silt/clay	5.7%		D_{50} = 6.5	

Remarks:

Prepared by: Hugues Potvin

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
PROJECT:	Increase the final level of North cell	**PROJECT N⁰:**	11118538-B1
		Sample Nº:	FF-413-2018
		DATE:	2018-07-05

Description of Material:	Fine filter	**Location of Sampling:**	In place, ch 1+500
Origin:	Sana Crusher		
Proposed Use:	Up stream filter	**Sampled by:**	Hugues Potvin
		Sampling Date:	2018-07-02

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	94	77	45	32	21	16	13	11	8.9
Individual Results																	
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

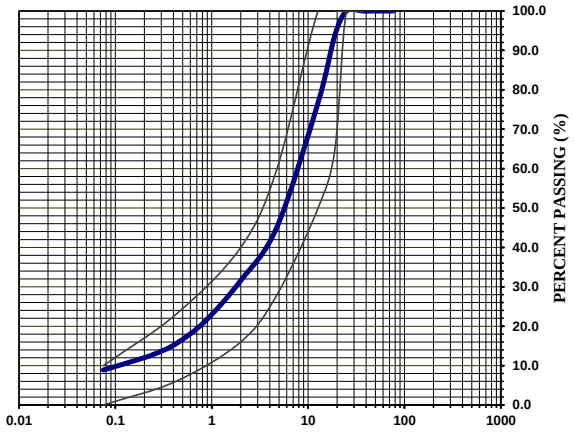
Other tests	Results	Requirements min.	Requirements max.
Water content	3.20%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter: Central Dike**

Sieve Analysis Graph



% gravel	54.8%	Cu = 71	D_{85} = 15.4	D_{15} = 0.4
% sand	36.3%	Cc = 4	D_{60} = 7.5	D_{10} = 0.1
% silt/clay	8.9%		D_{50} = 5.5	

Remarks:

Prepared by: Daniel Roy

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Increase the final level of North cell	**PROJECT N°:**	11118538-B1
		Sample N°:	FF-416-2018
		DATE:	2018-07-07

Description of Material:	Fine filter	**Location of Sampling:**	In place ch 2+900 NCIS (El:152)
Origin:	Sana Crusher 2nd stockpile		
Proposed Use:	Up stream filter	**Sampled by:**	Daniel Roy
		Sampling Date:	2018-07-05

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	91	75	50	35	26	20	17	14	10.8
Individual Results																	
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

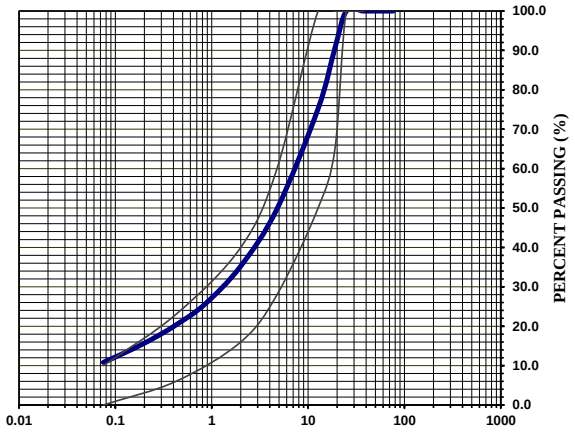
Other tests	Results	Requirements min.	Requirements max.
Water content	2.30%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter: Central Dike**

Sieve Analysis Graph



% gravel	50.2%	Cu = #N/A	D_{85} = 16.4	D_{15} = 0.2
% sand	39.0%	Cc = #N/A	D_{60} = 7.1	D_{10} = #N/A
% silt/clay	10.8%		D_{50} = 4.8	

Remarks: Écart(s) aux tamis suivant(s): 0.075 mm

Prepared by: Daniel Roy

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Increase the final level of North cell	**PROJECT N°:**	11118538-B1
		Sample N°:	FF-416-2018
		DATE:	2018-07-08

Description of Material:	Fine filter	**Location of Sampling:**	In place ch 3+100 NCIS (El:152)
Origin:	Sana Crusher 2nd stockpile		
Proposed Use:	Up stream filter	**Sampled by:**	Daniel Roy
		Sampling Date:	2018-07-06

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	87	71	45	34	26	20	17	14	10.8
Individual Results																	
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

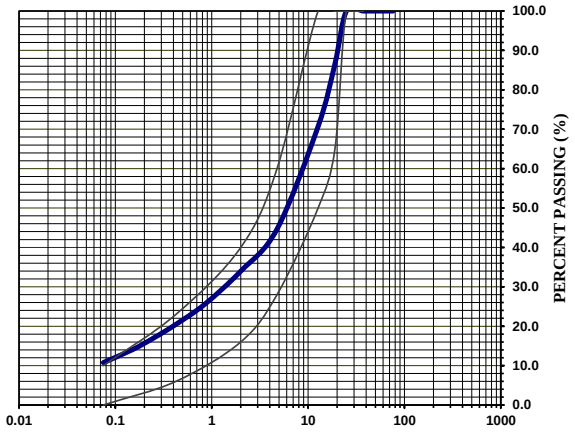
Other tests	Results	Requirements min.	Requirements max.
Water content	2.00%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter: Central Dike**

Sieve Analysis Graph



% gravel	55.4%	Cu = #N/A	D_{85} = 18.2	D_{15} = 0.2
% sand	33.9%	Cc = #N/A	D_{60} = 8.5	D_{10} = #N/A
% silt/clay	10.8%		D_{50} = 5.8	

Remarks: Écart(s) aux tamis suivant(s): 0.075 mm

Prepared by: Daniel Roy

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11118538-B1
PROJECT:	Increase the final level of North cell	**Sample Nº:**	FF-419-2018
		DATE:	2018-07-23

Description of Material:	Fine filter	**Location of Sampling:**	In place North Cell 2+690
Origin:	Sana Crusher 2nd stockpile		
Proposed Use:	Up stream filter	**Sampled by:**	Mathieu Côté
		Sampling Date:	2018-07-21

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	88	70	43	30	22	17	15	13	10.2
Individual Results																	
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

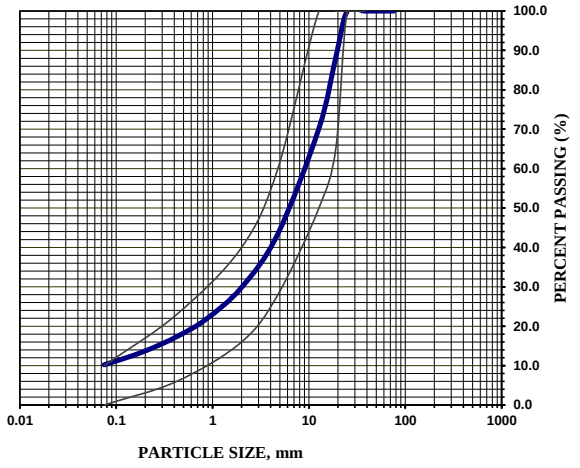
Other tests	Results	Requirements min.	Requirements max.
Water content	2.90%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter: Central Dike/North Cell**

Sieve Analysis Graph



% gravel	56.6%	Cu = #N/A	D_{85} = 17.7	D_{15} = 0.3
% sand	33.2%	Cc = #N/A	D_{60} = 8.7	D_{10} = #N/A
% silt/clay	10.2%		D_{50} = 6.1	

Remarks: Écart(s) aux tamis suivant(s): 0.075 mm

Prepared by: Mathieu Côté

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11118538-B1
PROJECT:	Increase the final level of North cell	**Sample Nº:**	FF-421-2018
		DATE:	2018-07-25

Description of Material:	Fine filter	**Location of Sampling:**	In place North Cell 2+160
Origin:	Sana Crusher stockpile		
Proposed Use:	Up stream filter	**Sampled by:**	Mathieu Côté
		Sampling Date:	2018-07-24

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	99	87	73	45	31	23	18	15	13	10.0
Individual Results																	
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

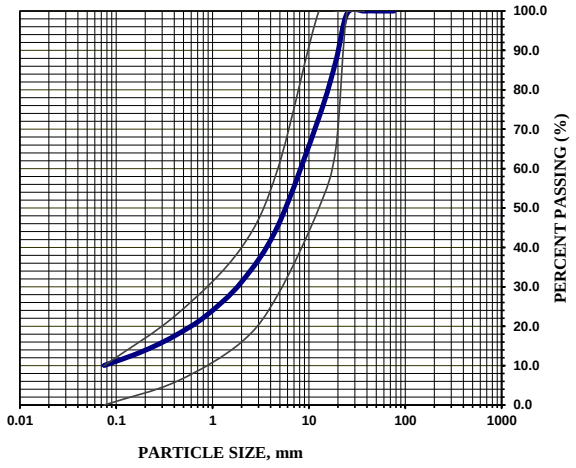
Other tests	Results	Requirements min.	Requirements max.
Water content	2.66%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter: Central Dike/North Cell**

Sieve Analysis Graph



% gravel	54.5%	Cu = #N/A	D_{85} = 17.8	D_{15} = 0.3
% sand	35.4%	Cc = #N/A	D_{60} = 8.0	D_{10} = #N/A
% silt/clay	10.0%		D_{50} = 5.6	

Remarks: Écart(s) aux tamis suivant(s): 25, 0.075 mm

Prepared by: Mathieu Côté

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11118538-B1
PROJECT:	Increase the final level of North cell	**Sample Nº:**	FF-422-2018
		DATE:	2018-07-27

Description of Material:	Fine filter	**Location of Sampling:**	In place North Cell 2+040
Origin:	Sana Crusher stockpile		
Proposed Use:	Up stream filter	**Sampled by:**	Mathieu Côté
		Sampling Date:	2018-07-25

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	90	74	48	35	26	21	17	14	11.1
Individual Results																	
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

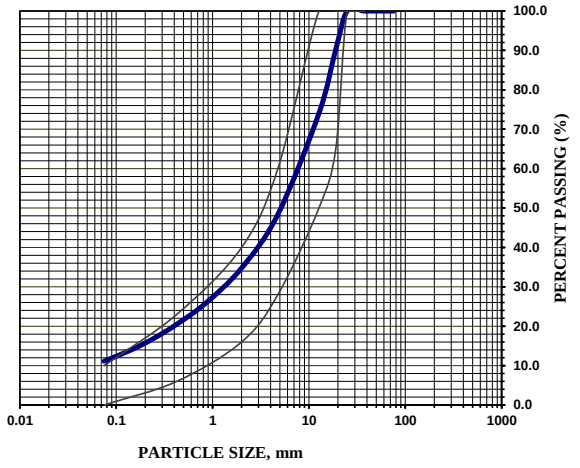
Other tests	Results	Requirements min.	Requirements max.
Water content	2.93%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter: Central Dike/North Cell**

Sieve Analysis Graph



% gravel	51.6%	Cu = #N/A	D_{85} = 16.7	D_{15} = 0.2
% sand	37.3%	Cc = #N/A	D_{60} = 7.4	D_{10} = #N/A
% silt/clay	11.1%		D_{50} = 5.1	

Remarks: Écart(s) aux tamis suivant(s): 0.075 mm

Prepared by: Mathieu Côté

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11118538-B1
PROJECT:	Increase the final level of North cell	**Sample Nº:**	FF-423-2018
		DATE:	2018-07-27

Description of Material:	Fine filter	**Location of Sampling:**	In place North Cell 2+060
Origin:	Sana Crusher stockpile		
Proposed Use:	Up stream filter	**Sampled by:**	Mathieu Côté
		Sampling Date:	2018-07-25

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	100	86	70	46	34	26	20	16	13	9.7
Individual Results																	
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

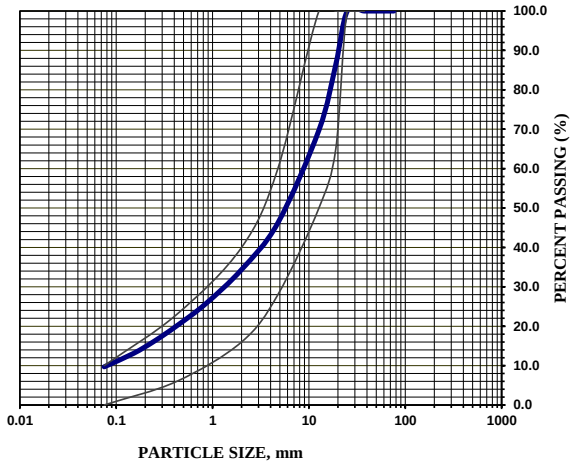
Other tests	Results	Requirements min.	Requirements max.
Water content	1.90%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter: Central Dike/North Cell**

Sieve Analysis Graph



% gravel	53.8%	Cu = 106	D_{85} = 18.4	D_{15} = 0.2
% sand	36.5%	Cc = 2	D_{60} = 8.5	D_{10} = 0.1
% silt/clay	9.7%		D_{50} = 5.6	

Remarks: Matériau conforme pour usage proposé

Prepared by: Mathieu Côté

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11118538-B1
PROJECT:	Increase the final level of North cell	**Sample Nº:**	FF-424-2018
		DATE:	2018-08-01

Description of Material:	Fine filter	**Location of Sampling:**	In place NCIS 1+820 (el. 152 to 154)
Origin:	Sana Crusher stockpile		
Proposed Use:	Up stream filter	**Sampled by:**	Hugues Potvin
		Sampling Date:	2018-07-30

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	100	99	87	72	45	33	24	19	16	13	12.5
Individual Results																	
Require-ments	min.						100	100	65	50	28	16		6			0.0
	max.						100	100	100	100	60	40		23			10.0

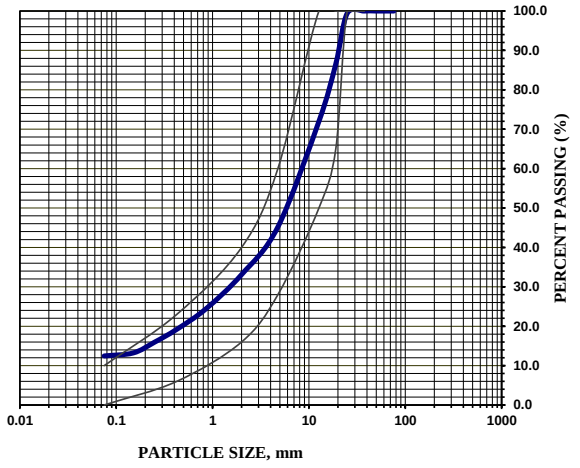
Other tests	Results	Requirements min.	Requirements max.
Water content	2.83%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Fine Filter: Central Dike/North Cell**

Sieve Analysis Graph



% gravel	54.8%	Cu = #N/A	D_{85} = 18.2	D_{15} = 0.2
% sand	32.7%	Cc = #N/A	D_{60} = 8.2	D_{10} = #N/A
% silt/clay	12.5%		D_{50} = 5.7	

Remarks: Écart(s) aux tamis suivant(s): 25, 0.075 mm

Prepared by: Hugues Potvin

Verified by:

APPENDIX I-4B

QC Laboratory Results - Coarse Filter: North Cell Internal Structure Construction

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Increase the final level of North cell	**PROJECT N°:**	11118538-B1
		Sample N°:	CF-380-2018
		DATE:	2018-06-22

Description of Material:	Coarse filter	**Location of Sampling:**	In place, ch 1+920
Origin:	In place ch. 1 + 920		
Proposed Use:	Up stream filter	**Sampled by:**	Hugues Potvin
		Sampling Date:	2018-06-21

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	69	34	28	21	11	8	5	4	3	3	2.2
Individual	Results																
Require-ments	min.		#N/A		100	86	42	14		10	5	3		1			
	max.		#N/A		100	100	100	52		35	23	15		10			

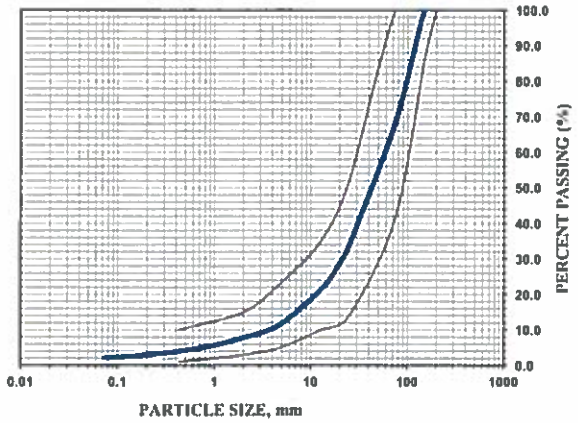
Other tests	Results	Requirements min.	Requirements max.
Water content	2.50%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Coarse Filter: Central Dike

Sieve Analysis Graph



% gravel	88.5%	Cu = 17	D_{85} = #N/A	D_{15} = 6.7
% sand	9.3%	Cc = 2	D_{60} = 57.2	D_{10} = 3.4
% silt/clay	2.2%		D_{50} = 41.7	

Remarks:

Prepared by: Hugues Potvin

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N°:**	
PROJECT:	Increase the final level of North cell	**PROJECT N°:**	11118538-B1
		Sample N°:	CF-386-2018
		DATE:	2018-06-25

Description of Material:	Coarse filter	**Location of Sampling:**	In place, ch 1+400
Origin:	In place, ch 1+400		
Proposed Use:	Up stream filter	**Sampled by:**	Hugues Potvin
		Sampling Date:	2018-06-23

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative	Results			100	100	100	67	38	32	26	15	11	7	6	5	4	3.2
Individual	Results																
Require-ments	min.		#N/A		100	86	42	14		10	5	3		1			
	max.		#N/A		100	100	100	52		35	23	15		10			

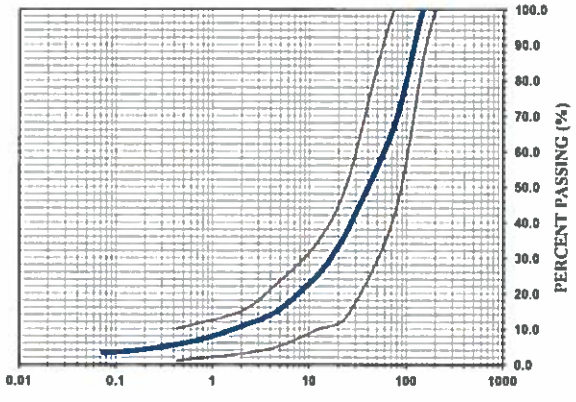
Other tests	Results	Requirements min.	Requirements max.
Water content	4.40%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: Coarse Filter: Central Dike

Sieve Analysis Graph



% gravel	84.9%	Cu = 34	D_{85} = #N/A	D_{15} = 4.7
% sand	11.9%	Cc = 3	D_{60} = 57.1	D_{10} = 1.7
% silt/clay	3.2%		D_{50} = 39.2	

Remarks:

Prepared by: Hugues Potvin

Verified by:

Analysis Report
Soils and Aggregates

CLIENT:	Agnico Eagle Mines Limited	**BOARD N⁰:**	
		PROJECT N⁰:	11118538-B1
PROJECT:	Increase the final level of North cell	**Sample Nº:**	CF-389-2018
		DATE:	2018-07-22

Description of Material:	Coarse filter	**Location of Sampling:**	North cell 2+720
Origin:	Second Stock Pile		
Proposed Use:	Up stream filter	**Sampled by:**	Mathieu Côté
		Sampling Date:	2018-07-20

Sieve Analysis (% PASSING) (LC 21-040)

Sieve				x mm	200 mm	150 mm	75 mm	25 mm	19 mm	12.5 mm	4.76 mm	2.00 mm	0.85 mm	0.425 mm	0.25 mm	0.15 mm	0.075 mm
Cumulative Results				100	100	100	50	26	14	11	6	4	3	3	2	2	1.8
Individual Results																	
Require-ments	min.		#N/A		100	86	42	14		10	5	3		1			
	max.		#N/A		100	100	100	52		35	23	15		10			

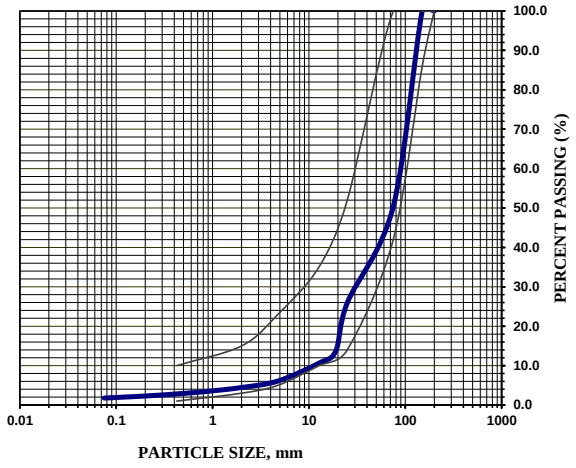
Other tests	Results	Requirements min.	Requirements max.
Water content	0,5%		

PROCTOR TEST (NQ 2501-255)	Results
Maximum Dry Unit Weight	(kg/m^3)
Optimum Moisture Content	(%)

Proctor at 0% of Stone : kg/m3
Correction Factor:

Gradation limits: **Coarse Filter: Central Dike**

Sieve Analysis Graph



% gravel	93.9%	Cu = #N/A	D_{85} = #N/A	D_{15} = 19.6
% sand	4.3%	Cc = #N/A	D_{60} = #N/A	D_{10} = 11.1
% silt/clay	1.8%		D_{50} = 73.8	

Remarks:

Prepared by: Mathieu Côté

Verified by:

APPENDIX J

QA Laboratory Results

APPENDIX J-1

Stockpile QA Results

APPENDIX J-1A

QA Laboratory Results – Till Stockpile Material

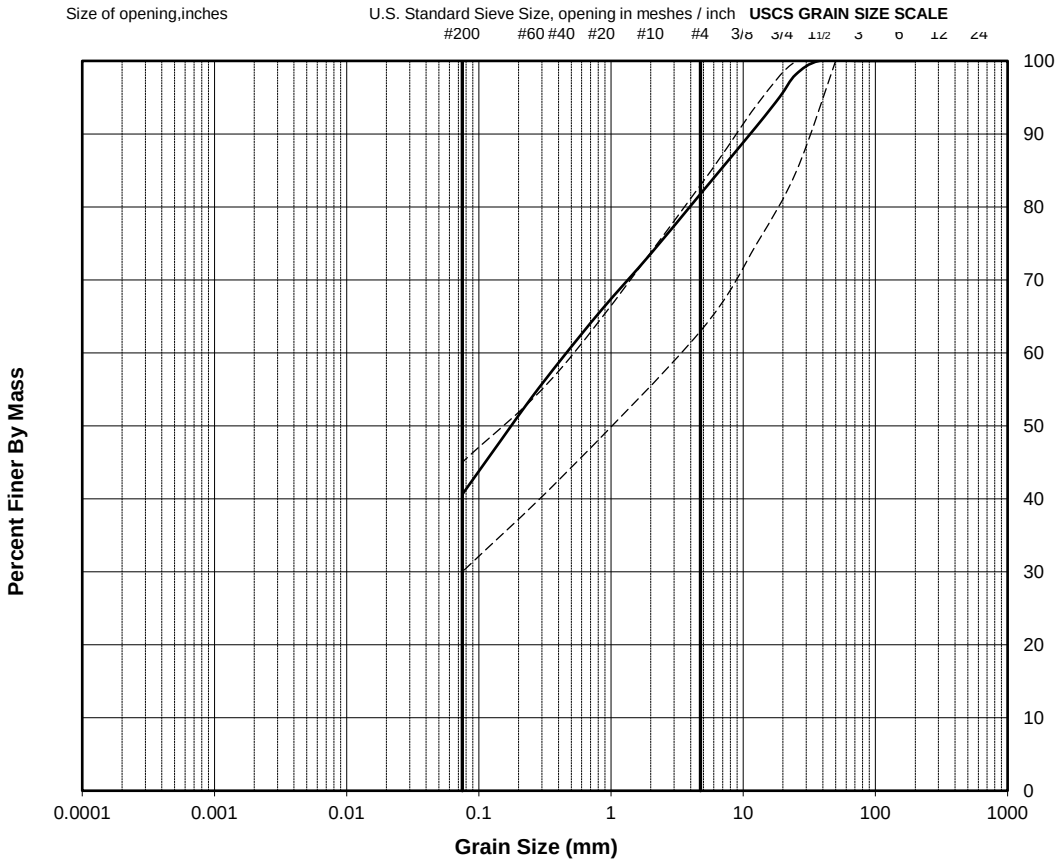
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**ST-446-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	June 9th 2018
Sa. Location:	Stockpile (SANA crusher)	**Material Specification:**	Compacted Sieved Till
Water content (%)	12.96		
		Method:	Split, Washed
		Date Tested:	June 11th 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	100.0
37.5	100.0
25	98.1
19	95.1
12.5	91.0
4.75	81.8
2	73.6
0.85	65.9
0.425	59.2
0.25	53.8
0.15	48.2
0.075	40.6



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

S.Barbeau	June 11th 2018	S.Barbeau	June 11th 2018
TESTED BY	DATE	CHECKED BY	DATE

APPENDIX J-1B

QA Laboratory Results - Fine Filter Stockpile Material

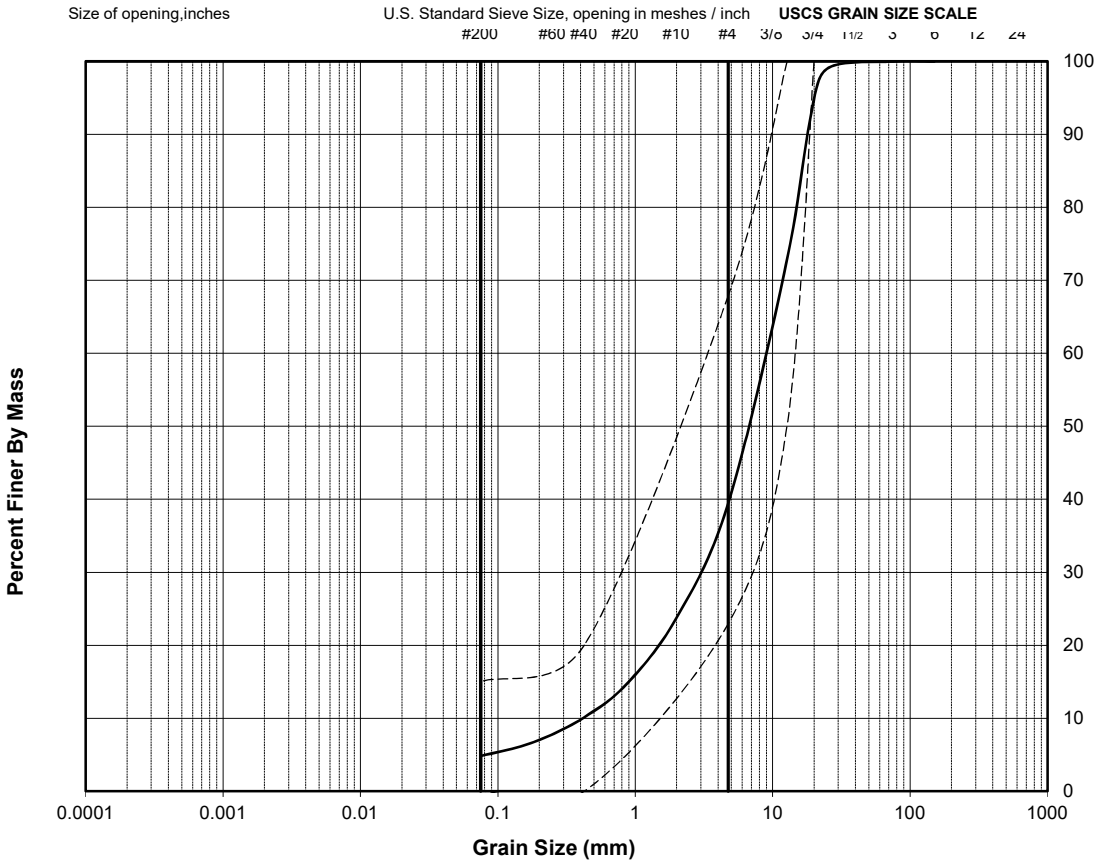
Golder Associates Ltd. - Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**FF-382-2018**
Client:	AEM	**Field Label:**	
Project:	Meadowbank Gold Project	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	April 25th, 2018
Sa. Location:	Fine filter stockpile (SANA Crusher)	**Material Specification:**	Fine Filter
Moisture Content	4.3 %	**Method:**	SPLIT, WASHED
		Date Tested:	May 3rd, 2018

Sieve Size (mm)	Passing %
150.0	100.0
75.0	100.0
25.0	99.0
19.0	92.8
12.5	72.1
4.8	39.5
2.0	23.8
0.9	14.5
0.4	10.1
0.3	7.8
0.2	6.2
0.1	4.8



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

S. Barbeau	03-05-2018	M. Habersetzer	04-05-2018
TESTED BY	DATE	CHECKED BY	DATE

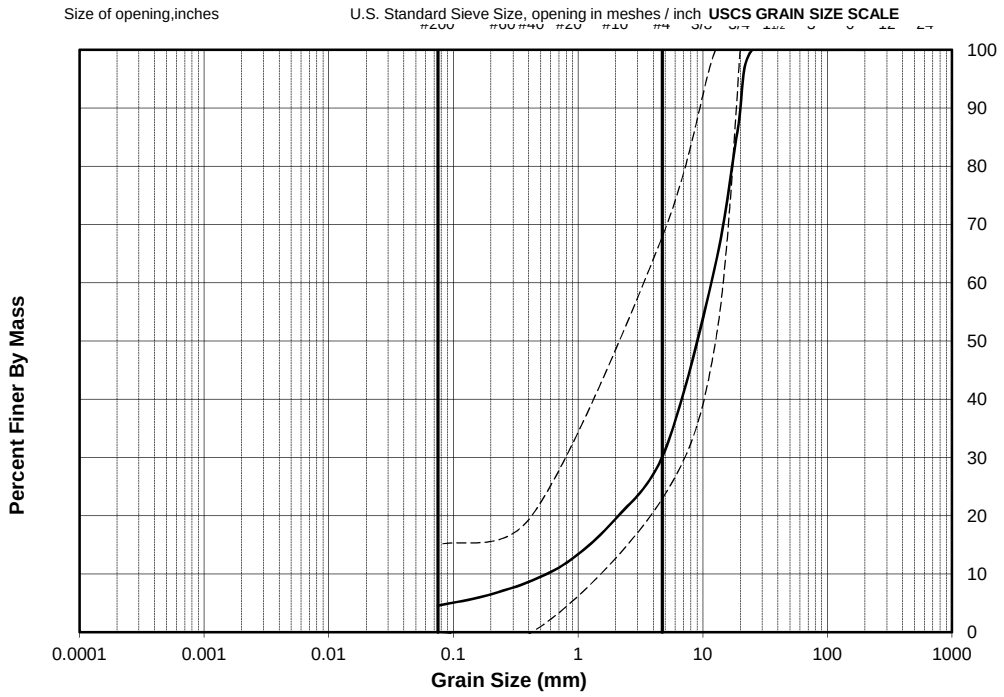
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**FF-403-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	June 21st 2018
Remarks:		**Date Sampled:**	May 9th 2018
Sa. Location:	Fine filter stockpile (SANA Crusher)	**Material Specification:**	Fine Filter
Water content (%)	1.65		
		Method:	Split, Washed
		Date Tested:	June 25th 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	100.0
25	100.0
19	86.0
12.5	62.6
5	31.3
2	19.5
0.85	12.3
0.425	8.9
0.25	7.2
0.15	5.8
0.075	4.6



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

M. Habersetzer	June 25th 2018	M. Habersetzer	June 25th 2018
TESTED BY	DATE	CHECKED BY	DATE

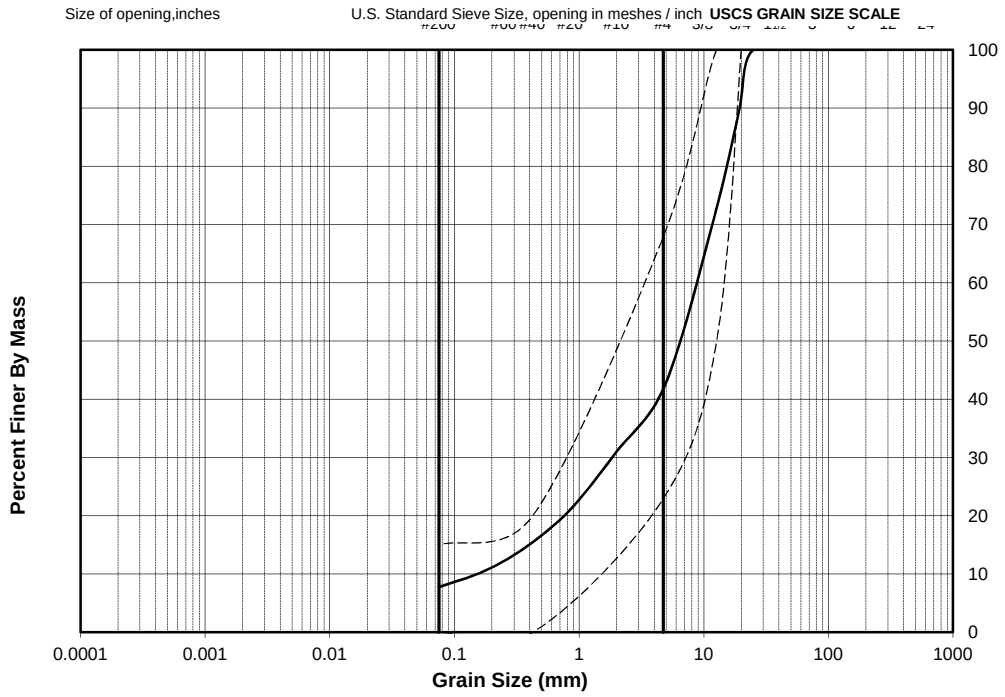
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**FF-404-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	June 21st 2018
Sa. Location:	Fine filter stockpile (SANA Crusher)	**Material Specification:**	Fine Filter
Water content (%)	2.75		
		Method:	Split, Washed
		Date Tested:	June 26th 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	100.0
25	100.0
19	89.0
12.5	72.3
5	42.9
2	31.0
0.85	21.1
0.425	15.5
0.25	12.2
0.15	9.9
0.075	7.8



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

M. Habersetzer	June 26th 2018	M. Habersetzer	June 26th 2018
TESTED BY	DATE	CHECKED BY	DATE

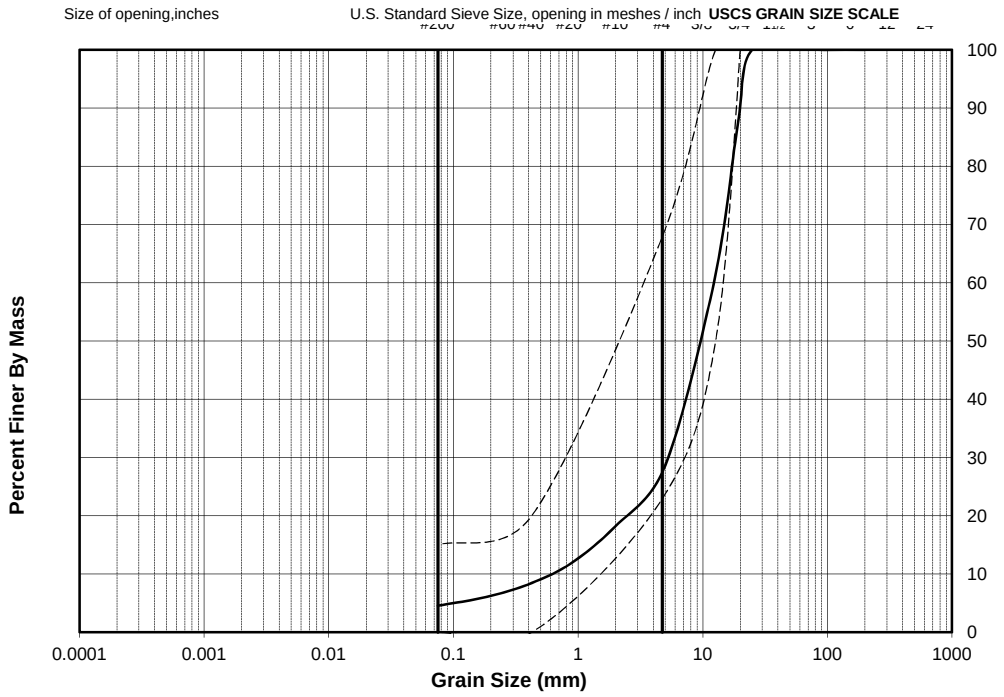
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**FF-405-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	June 21st 2018
Sa. Location:	Fine filter stockpile (SANA Crusher)	**Material Specification:**	Fine Filter
Water content (%)	2.12		
		Method:	Split, Washed
		Date Tested:	June 27th 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	100.0
25	100.0
19	86.7
12.5	60.8
5	28.6
2	18.2
0.85	11.6
0.425	8.5
0.25	6.8
0.15	5.7
0.075	4.6



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

M. Habersetzer	June 27th 2018	M. Habersetzer	June 27th 2018
TESTED BY	DATE	CHECKED BY	DATE

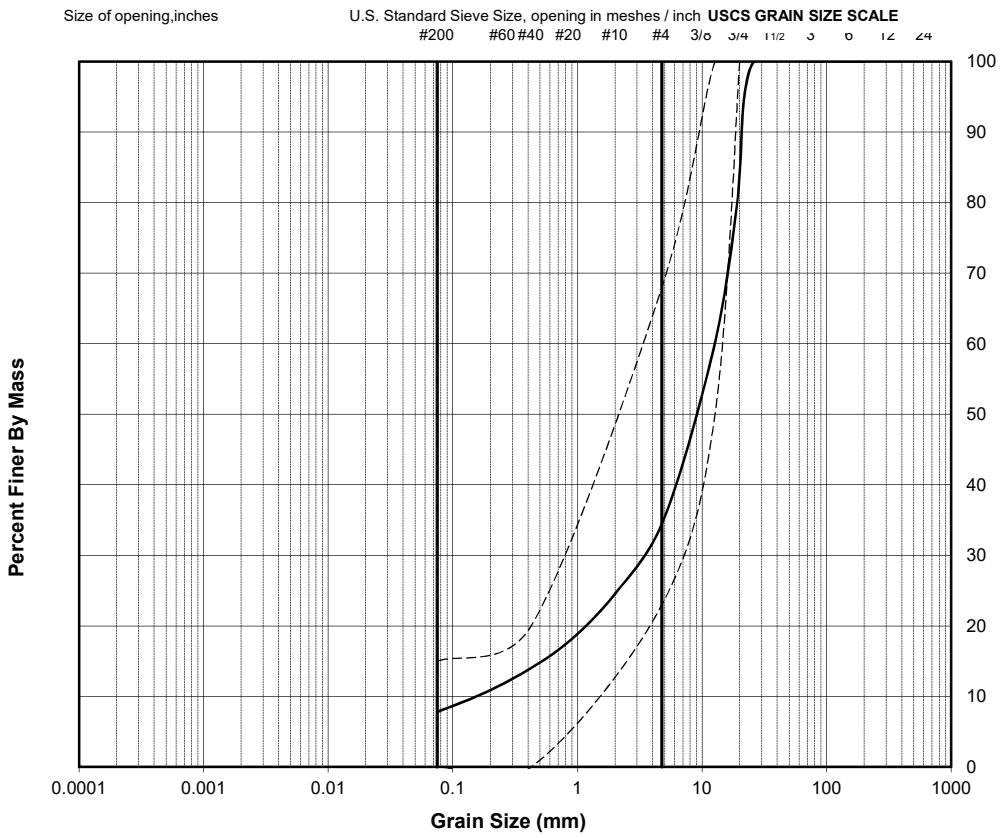
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**FF-415-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	July 2nd 2018
Sa. Location:	Fine filter second stockpile (SANA Crusher)	**Material Specification:**	Fine Filter
Water content (%)	3.56		
		Method:	Split, Washed
		Date Tested:	July 4th 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	100.0
25	99.5
19	79.5
12.5	59.6
5	35.4
2	24.5
0.85	17.8
0.425	14.0
0.25	11.8
0.15	9.9
0.075	7.8



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

S.Barbeau	July 4th 2018	S.Barbeau	July 4th 2018
TESTED BY	DATE	CHECKED BY	DATE

APPENDIX J-1C

QA Laboratory Results - Coarse Filter Stockpile Material

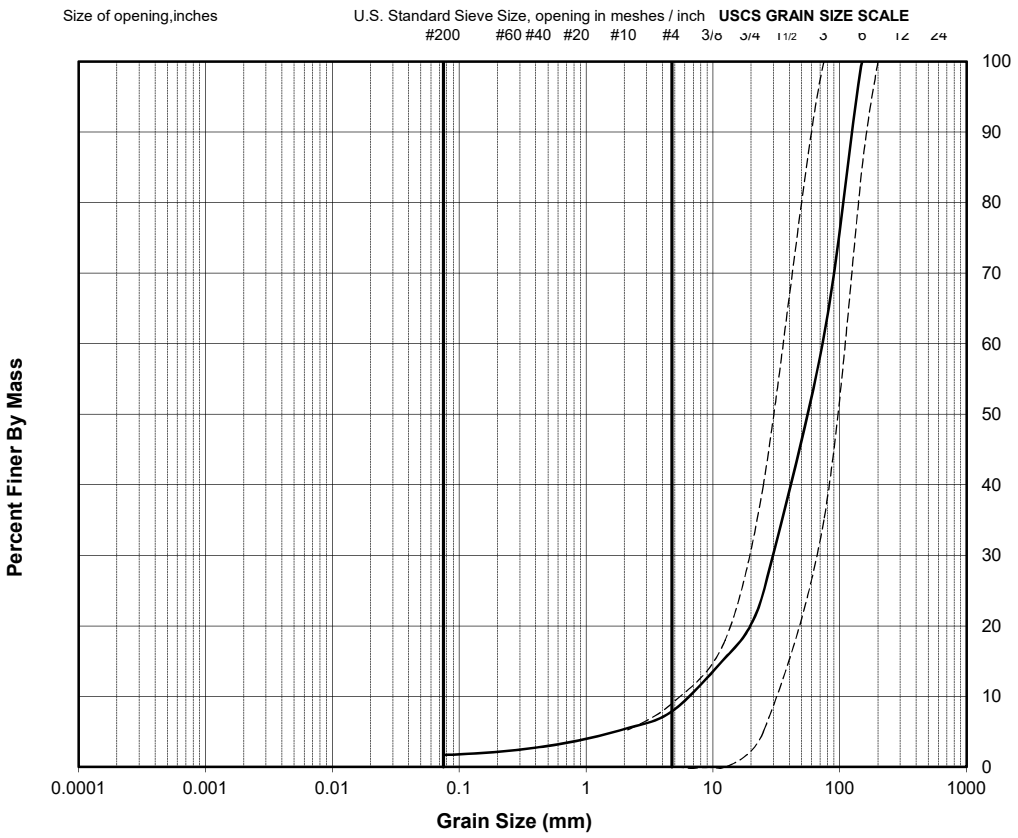
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**CF-376-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	April 25th 2018
Sa. Location:	Corse filter stockpile (SANA Crusher)	**Material Specification:**	Coarse Filter
Water content (%)	2.00		
		Method:	COMBINED, WASHED
		Date Tested:	May 4th 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	61.0
25	24.7
19	19.5
12.5	15.5
4.75	7.9
2	5.4
0.85	3.7
0.425	2.8
0.25	2.3
0.15	2.0
0.075	1.7



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

S.Barbeau	May 4th 2018	M. Habersetzer	May 5th 2018
TESTED BY	DATE	CHECKED BY	DATE

GOLDER

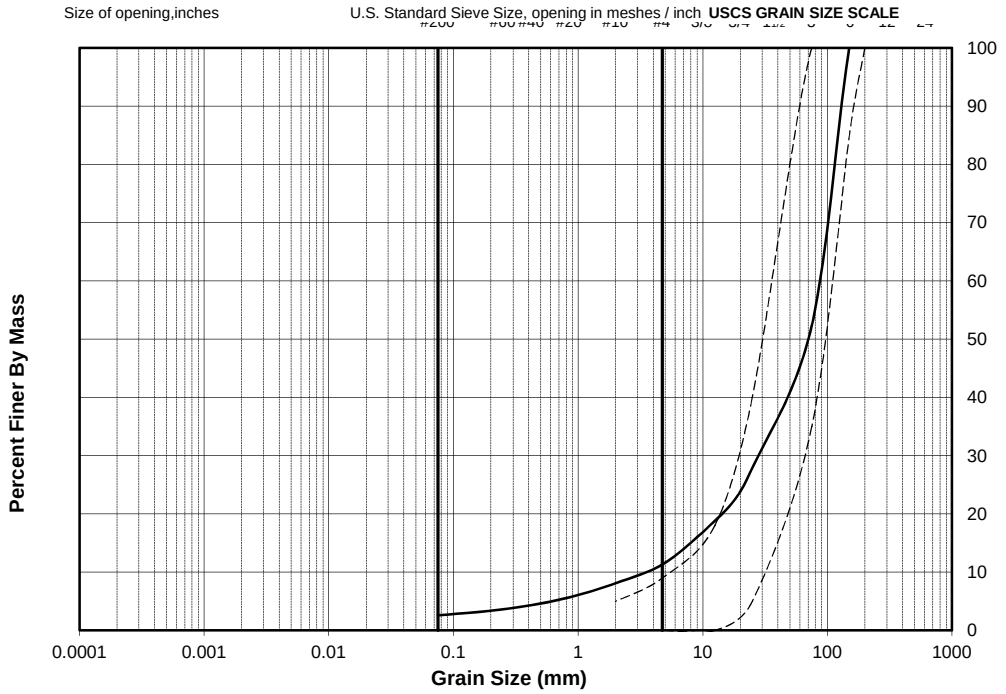
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**CF-385-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	June 21st 2018
Sa. Location:	Coarse filter stockpile (SANA Crusher)	**Material Specification:**	Coarse Filter
Water content (%)	2.09	**Method:**	COMBINED, WASHED
		Date Tested:	June 29th 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	52.3
25	27.9
19	23.1
12.5	18.8
5	11.6
2	8.1
0.85	5.7
0.425	4.4
0.25	3.6
0.15	3.1
0.075	2.6
fines	0.1



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

M. Habersetzer	June 29th 2018	M. Habersetzer	June 29th 2018
TESTED BY	DATE	CHECKED BY	DATE

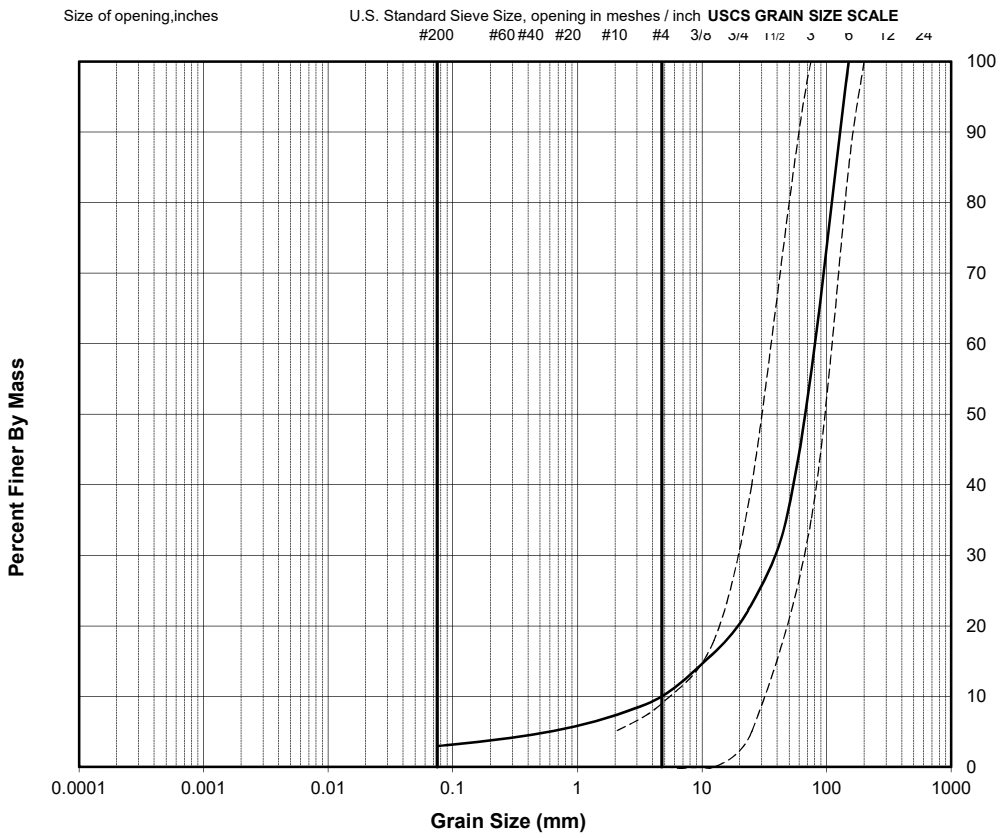
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**CF-388-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	July 2nd 2018
Sa. Location:	SANA Crusher Second Stockpile	**Material Specification:**	Coarse Filter
Water content (%)	1.13		
		Method:	COMBINED, WASHED
		Date Tested:	July 3rd 2018

Sieve Size (mm)	Passing %
150	100.0
75	55.8
50	37.0
37.5	29.4
25	23.1
19	19.8
12.5	16.2
5	10.3
2	7.3
0.85	5.6
0.425	4.6
0.25	4.0
0.15	3.5
0.075	3.0
fines	0.0



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

S.Barbeau	July 3rd 2018	S.Barbeau	July 3rd 2018
TESTED BY	DATE	CHECKED BY	DATE

APPENDIX J-2

Central Dike Stage 6 QA Results

APPENDIX J-2A

QA Laboratory Results – Fine Filter: Central Dike Stage 6

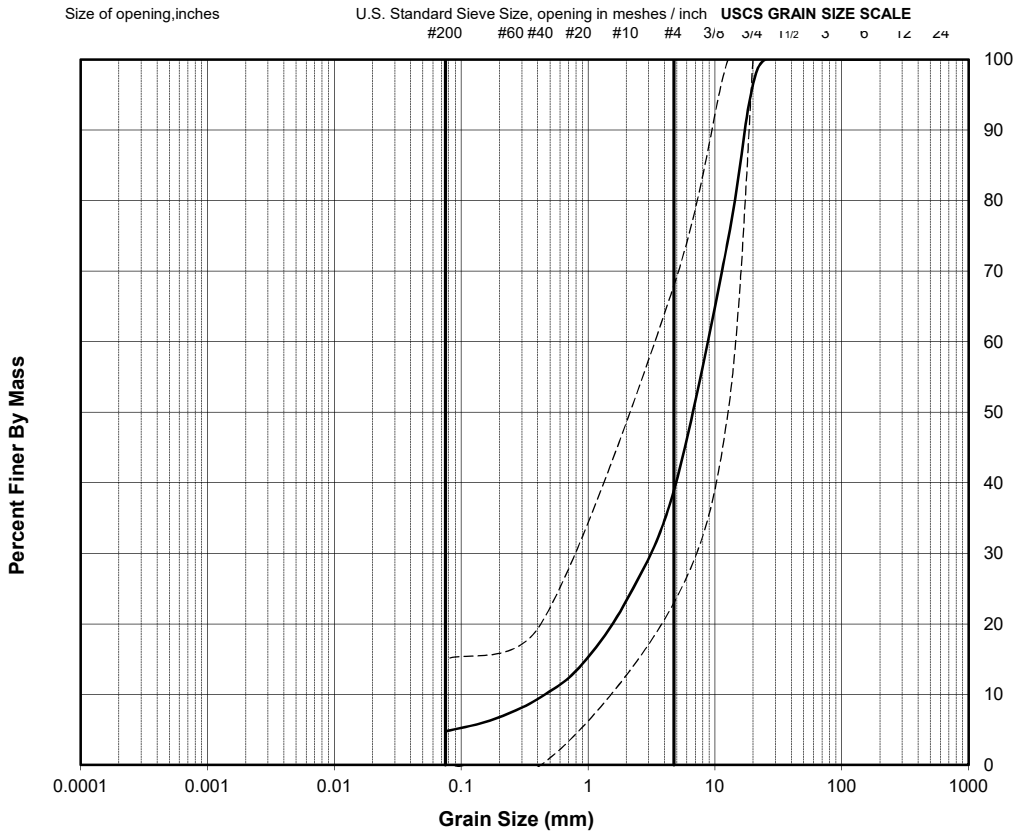
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**FF-384-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	May 9th 2018
Sa. Location:	Central Dike Sta. 0+835 m El. 144m	**Material Specification:**	Fine Filter
Water content (%)	3.26		
		Method:	Split, Washed
		Date Tested:	May 11th 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	100.0
25	100.0
19	94.7
12.5	73.8
4.75	38.9
2	23.3
0.85	13.8
0.425	9.6
0.25	7.5
0.15	6.0
0.075	4.8



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

S.Barbeau	May 11th 2018		
TESTED BY	DATE	CHECKED BY	DATE

APPENDIX J-2B

QA Laboratory Results – Coarse Filter: Central Dike Stage 6

GOLDER

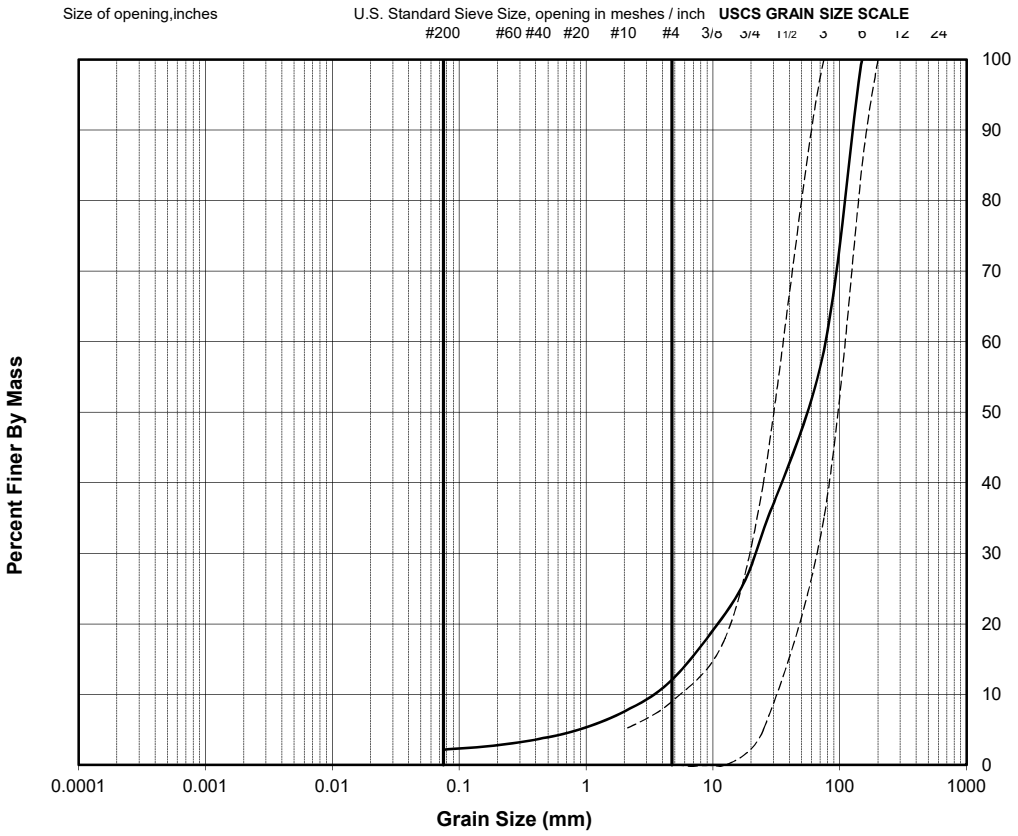
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**CF-378-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	May 6th 2018
Sa. Location:	Central Dike, Sta. 0+980m, El. 143.5m	**Material Specification:**	Coarse Filter
Water content (%)	4.27		
		Method:	COMBINED, WASHED
		Date Tested:	May 10th 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	58.7
25	33.3
19	27.2
12.5	21.5
4.75	12.1
2	7.6
0.85	4.9
0.425	3.7
0.25	3.0
0.15	2.6
0.075	2.2



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

S.Barbeau	May 10th 2018		
TESTED BY	DATE	CHECKED BY	DATE

APPENDIX J-3

Saddle Dam 3 Finalization of Stage 3 QA Results

APPENDIX J-3A

QA Laboratory Results –Till: Saddle Dam 3 Finalization of Stage 3

GOLDER

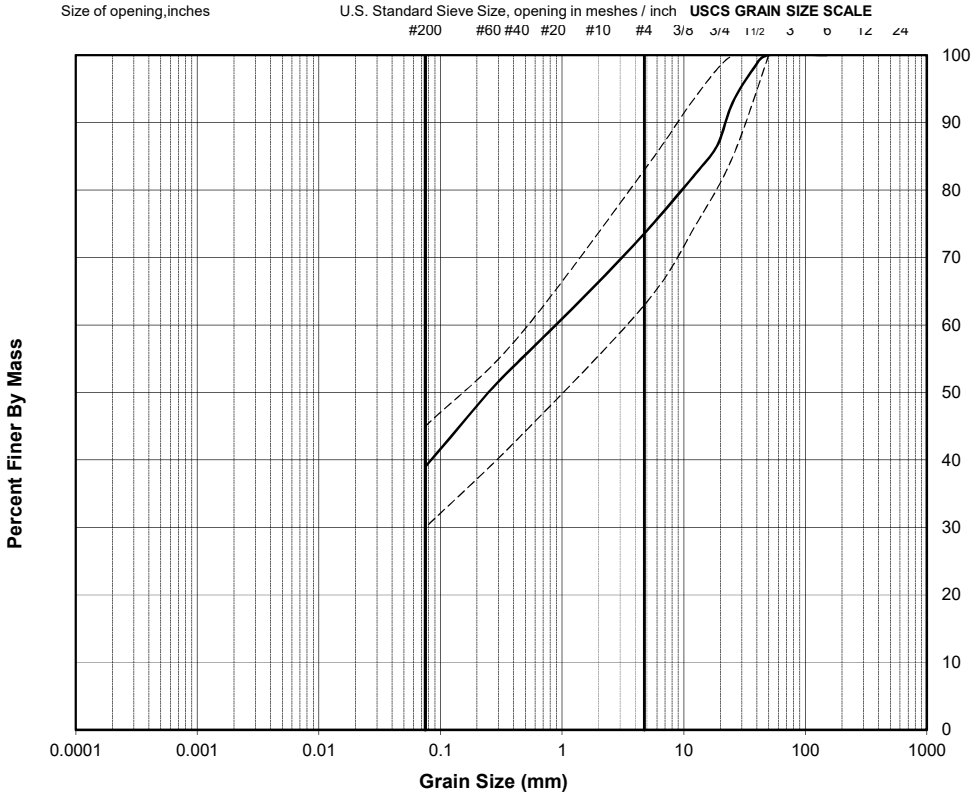
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**ST-444-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	June 8th 2018
Sa. Location:	Saddle Dam 3 Sta. 20+601 m /-46 m El. 143 m	**Material Specification:**	Compacted Sieved Till
Water content (%)	10.83		
		Method:	Split, Washed
		Date Tested:	June 11th 2018

Sieve Size (mm)	Passing %
150	100.0
50	100.0
37.5	98.0
25	92.8
19	86.7
12.5	82.4
4.75	73.6
2	66.4
0.85	59.7
0.425	54.4
0.25	50.1
0.15	45.4
0.075	39.0



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

TESTED BY	DATE	CHECKED BY	DATE
S.Barbeau	June 11th 2018		

APPENDIX J-4

North Cell Internal Structure Construction QA Results

APPENDIX J-4A

QA Laboratory Results – Fine Filter: North Cell Internal Structure Construction

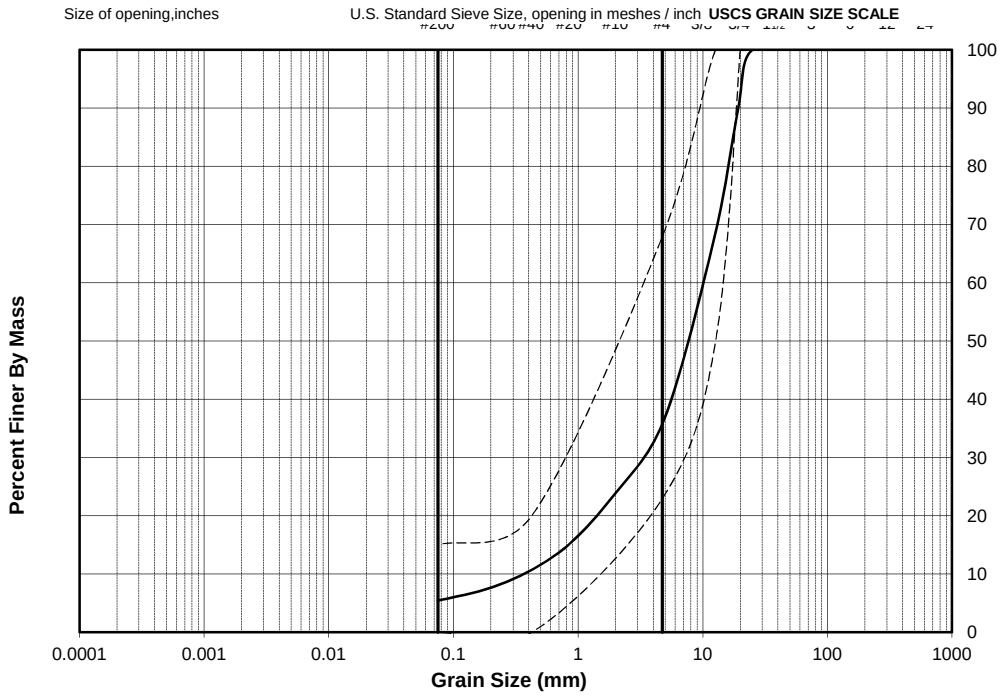
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**FF-407-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	June 22nd 2018
Sa. Location:	North Cell Internal Structure, Sta. 2+500/-22 m, El. 152 m	**Material Specification:**	Fine Filter
Water content (%)	2.82	**Method:**	Split, Washed
		Date Tested:	June 28th 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	100.0
25	100.0
19	89.2
12.5	68.1
5	37.0
2	23.9
0.85	15.2
0.425	10.7
0.25	8.4
0.15	6.9
0.075	5.5



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

M. Habersetzer	June 28th 2018	M. Habersetzer	June 28th 2018
TESTED BY	DATE	CHECKED BY	DATE

GOLDER

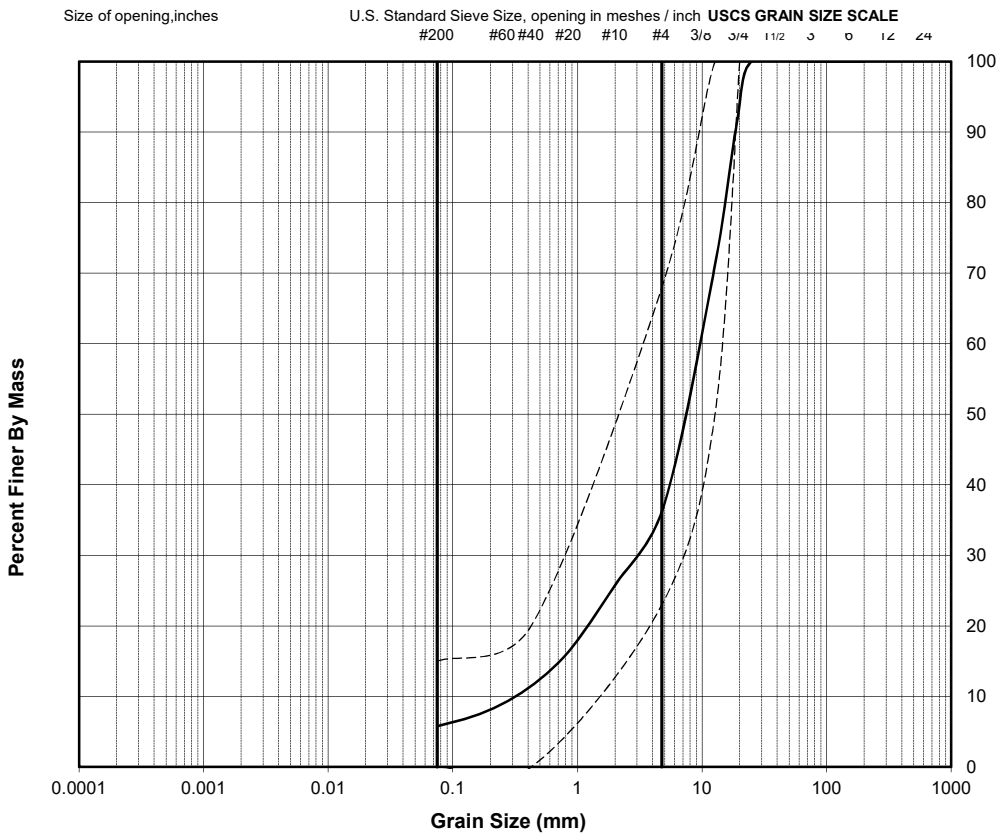
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**FF-412-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	July 1st 2018
Sa. Location:	NCIS Sta. 1+120/-102 m, El. 150 m	**Material Specification:**	Fine Filter
Water content (%)	2.58		
		Method:	Split, Washed
		Date Tested:	July 3rd 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	100.0
25	100.0
19	91.3
12.5	70.5
5	37.3
2	25.8
0.85	16.4
0.425	11.5
0.25	9.0
0.15	7.3
0.075	5.8



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

S.Barbeau	July 3rd 2018		
TESTED BY	DATE	CHECKED BY	DATE

GOLDER

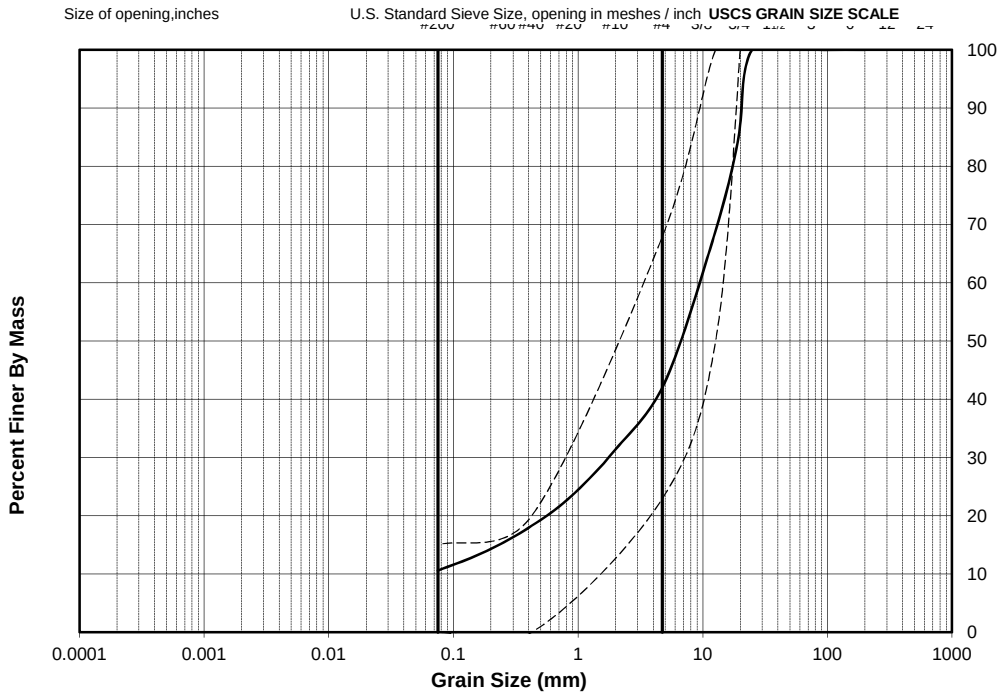
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**FF-420-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	July 21st 2018
Sa. Location:	NCIS Sta. 2+690/-13 m, El. 154 m	**Material Specification:**	Fine Filter
Water content (%)	3.35		
		Method:	Split, Washed
		Date Tested:	July 23rd 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	100.0
25	100.0
19	83.9
12.5	68.5
5	43.1
2	31.4
0.85	23.1
0.425	18.3
0.25	15.4
0.15	13.1
0.075	10.6



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

M.Habersetzer	July 23rd 2018	M.Habersetzer	July 23rd 2018
TESTED BY	DATE	CHECKED BY	DATE

APPENDIX J-4B

QA Laboratory Results – Coarse Filter: North Cell Internal Structure Construction

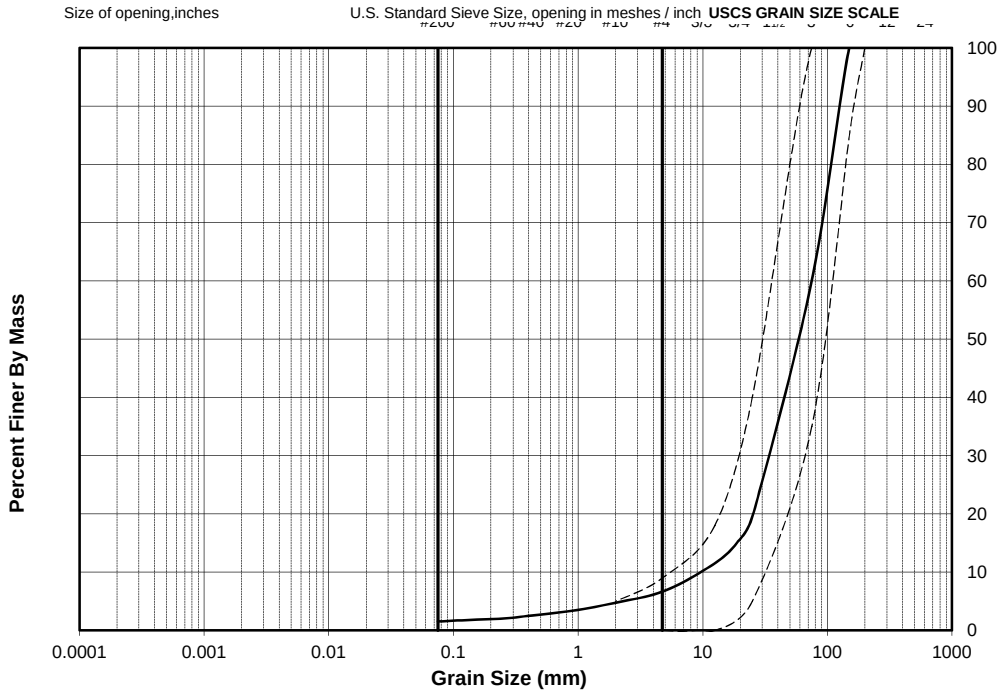
Golder Associates Ltd. Meadowbank Laboratory
Nunavut, Canada

PARTICLE SIZE ANALYSIS OF SOILS

Reference
ASTM D6913-04

Project No.:	1897439	**Sample No.:**	**CF-381-2018**
Client:	AEM		
Project:	Meadowbank	**Depth (m):**	NA
Location:	Nunavut	**Lab ID No:**	
Remarks:		**Date Sampled:**	June 21st 2018
Sa. Location:	North Cell Internal Structure, Sta. 1+920/-23 m, El. 152 m	**Material Specification:**	Coarse Filter
Water content (%)	2.12	**Method:**	COMBINED, WASHED
		Date Tested:	June 23rd 2018

Sieve Size (mm)	Passing %
200	100.0
150	100.0
75	60.0
25	19.5
19	15.2
12.5	11.5
5	6.8
2	4.7
0.85	3.3
0.425	2.6
0.25	2.0
0.15	1.8
0.075	1.5
fines	0.3



** The test data given herein pertain to the sample provided only. This report constitutes a testing service only. Interpretation of the data can be provided upon request.*

M. Habersetzer	June 23rd 2018	M. Habersetzer	June 23rd 2018
TESTED BY	DATE	CHECKED BY	DATE

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