APPENDIX F

Approval Forms

APPENDIX F-1

Foundation Approval Forms

SNC·LAVALIN

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Mining & Metallurgy
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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52 873

DOCUMENT #: 20210331-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 31, 2021

TIME: 9:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+065 → 0+045	**Station:**	Sta. 0+090 → 0+065
Inclination:		**Details:**	20210329-DS-02
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓		✓		
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
3.0	HCG to remove additional snow along	✓		✓	
	D/S excavation wall & crest in advance				
	of trench backfill.				
7.0	Bedrock mapping conducted by QA	✓		✓	
	manually.				
8.0	AEM to provide survey for approval form.	✓		✓	
	Observations:				
	Bedrock similiar to previous section,				
	good - fair quality, heavily jointed in				
	some areas, joints observed to be				
	tight (0.1 - 0.25 mm), Bedrock observed				
	along trench excavation (top ~1 m) ~~moderatly~~				
	moderately / highly weathered, only 1-1.5 m				
	of overburden observed along D/S & U/S				
	key trench side walls.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laraucha		31-03-2021
QC REPRESENTATIVE	Chantal Pawlychka		Mar/31/2021.
QA REPRESENTATIVE	Brandon Gray		Mar. 31-2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		31 MAR 2021

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: Sta. 0+055 - 0+065 | Date: Month 03, Day 31, Year 2021 | Inspector: PG

Locality Type: Liner tie-in (key trench) | Slope Length: / | No. of supplementary sheets of discontinuity data sheets: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

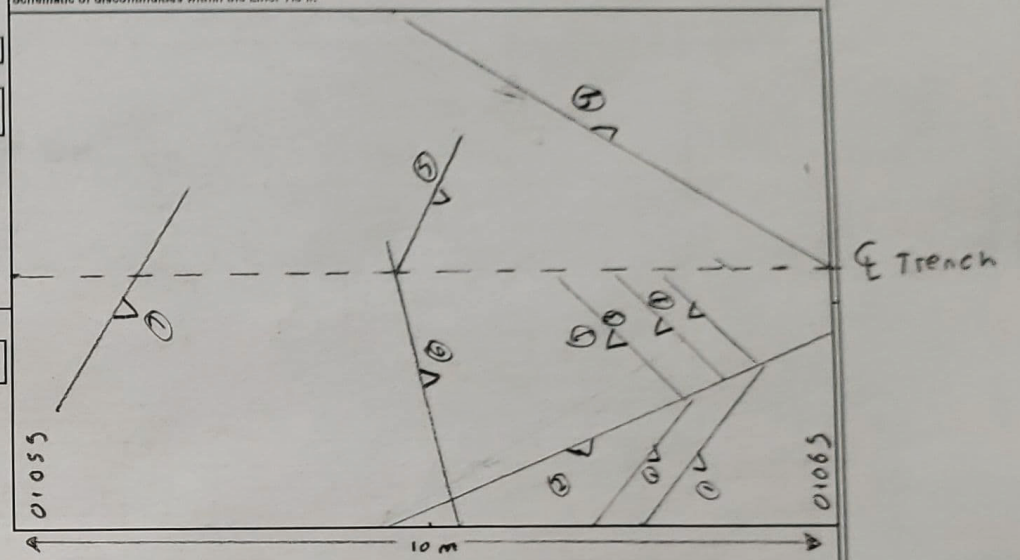
Slope Height: / | Azimuth: | Slope Angle: /

ROCK MATERIAL INFORMATION

Color: 1 / 9 | Grain size: 4-5 | Compressive strength: R3-R4

1. Light	1. Pinkish	1. Pink	1. Very coarse (>60 mm)		MPa
2. Dark	2. Reddish	2. Red	2. Coarse (2-60 mm)	S1 Very soft clay	<0.025
	3. Yellowish	3. Yellow	3. Medium (60 μ - 2 mm)	S2 Soft clay	0.025-0.05
	4. Brownish	4. Brown	4. Fine (2-60 μ)	S3 Firm clay	0.05-0.10
	5. Olive	5. Olive	5. Very fine (<2 μ)	S4 Stiff clay	0.10-0.25
	6. Greenish	6. Green		S5 Very stiff clay	0.25-0.50
	7. Bluish	7. Blue		S6 Hard clay	>0.50
	8. Greyish	8. White		R0 Extremely weak rock	0.25-1.0
		9. Grey		R1 Very weak rock	1.0-5.0
		10. Black		R2 Weak rock	5.0-25
				R3 Medium strong rock	25-50
				R4 Strong rock	50-100
				R5 Very strong rock	100-250
				R6 Extremely strong rock	>250

Schematic of discontinuities within the Liner Tie-in



Methods to determine compressive strength: 2 | Rock Type:

1. Measured
2. Assessed

ROCK MASS INFORMATION

Fabric: 1 | Block size: 3 | State of weathering: 2 | No. of major discontinuity sets: /

1. Blocky	1. Very large (>8 m3)	1. Fresh	Set #	Spacing
2. Tabular	2. Large (0.2-8 m3)	2. Slightly	1	
3. Columnar	3. Medium (0.008-0.2 m3)	3. Moderately	2	
4. Shattered	4. Small (0.0002 - 0.008 m3)	4. Highly	3	
	5. Very small (<0.0002 m3)	5. Completely	4	
		6. Residual soil	5	

GSI:

Discontinuity spacing:
1. Extremely close (<20 mm)
2. Very close (20-60 mm)
3. Close (60 - 200 mm)
4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 mm)
7. Ext. wide (>6000 m)

REMARKS (exposure type/age, stability condition, design issues etc.)

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit	Station ID	Project Element	Date (Month / Day / Year)	Inspector	Discontinuity data sheet no.
IVR Dyke	Sta. 0+065-75	21452873	03 / 31 / 2021	BG	2 of 2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	J	55	60	2	1	2	1	R1	R	P	1.2	20	~	* Strike & dip taken with
2	J	70	70	3	1	2	1	R3	R	P	~	25	~	Suunto compass
3	J	320	70	2	1	2	1	R1	R	P	<1	20	~	
4	J	150	60	3	1	2	1	R3	R	P	~	25	~	
5	J	30	90	2	1	2	1	R3	R	P	~	25	~	
6	J	350	70	2	1	2	1	R3	R	P	<1	25	~	
7	J	250	60	2	2	2	1	R3	R	P	~	25	~	

Type

- FZ - Fault Zone
- F – Fault
- J – Joint (single)
- JS – Joint Set
- Sch – Schistosity
- SH – Shear
- Fo – Foliation
- TC – Tension Crack
- B – Bedding

Persistence

1.	Very low persistence	<3ft
2.	Low persistence	3-10 ft
3.	Medium persistence	10-30 ft
4.	High persistence	30-60 ft
5.	Very high persistence	> 60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10. Gouge
11

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

		MPa
S1	Very soft clay	<0.025
S2	Soft clay	0.025-0.05
S3	Firm clay	0.05-0.10
S4	Stiff clay	0.10-0.25
S5	Very stiff clay	0.25-0.50
S6	Hard clay	>0.50
R0	Extremely weak rock	0.25-1.0
R1	Very weak rock	1.0-5.0
R2	Weak rock	5.0-25
R3	Medium strong rock	25-50
R4	Strong rock	50-100
R5	Very strong rock	100-250
R6	Extremely strong rock	>250

JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces -or- Gouge <5mm thick -or- Separation 1-5mm Continuous	6
Soft gouge > 5mm thick -or- Separation >5mm Continuous	0

Notes:

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: Sta. 0+55-7 0+95

Date: Month 03 | Day 31 | Year 2021

Inspector: BG

Locality Type: Liner tie-in (key trench)

Slope Length: /

No. of supplementary sheets of discontinuity data sheets: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

Slope Height: /

Azimuth:

Slope Angle: /

ROCK MATERIAL INFORMATION

Color: 1 | / | 9

Grain size: 4-5

Compressive strength: R3-R4

1. Light
2. Dark

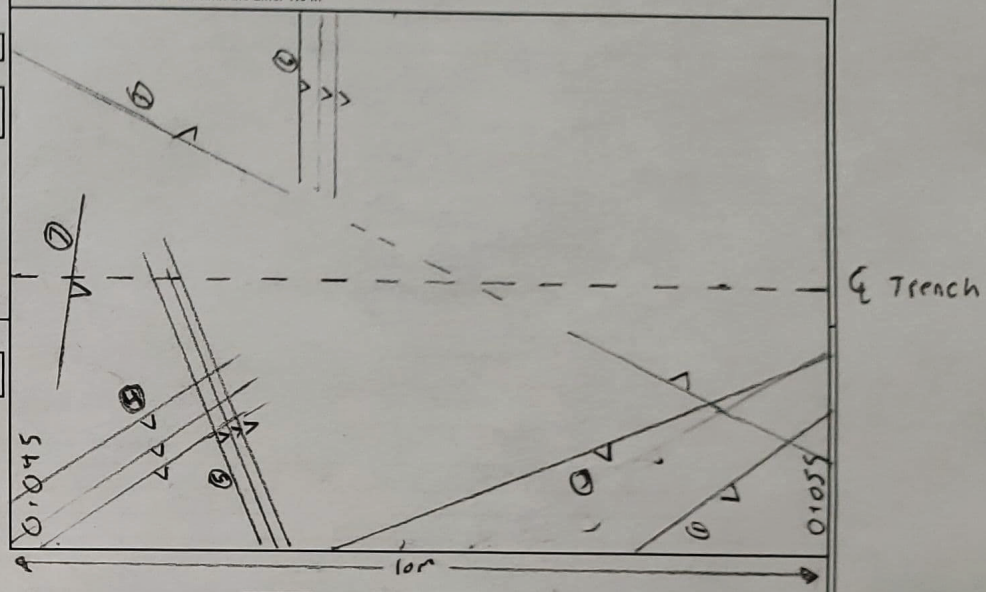
1. Pinkish
2. Reddish
3. Yellowish
4. Brownish
5. Olive
6. Greenish
7. Bluish
8. Greyish

1. Pink
2. Red
3. Yellow
4. Brown
5. Olive
6. Green
7. Blue
8. White
9. Grey
10. Black

1. Very coarse (>60 mm)
2. Coarse (2-60 mm)
3. Medium (60 μ - 2 mm)
4. Fine (2-60 μ)
5. Very fine (<2 μ)

		MPa
S1	Very soft clay	<0.025
S2	Soft clay	0.025-0.05
S3	Firm clay	0.05-0.10
S4	Stiff clay	0.10-0.25
S5	Very stiff clay	0.25-0.50
S6	Hard clay	>0.50
R0	Extremely weak rock	0.25-1.0
R1	Very weak rock	1.0-5.0
R2	Weak rock	5.0-25
R3	Medium strong rock	25-50
R4	Strong rock	50-100
R5	Very strong rock	100-250
R6	Extremely strong rock	>250

Schematic of discontinuities within the Liner Tie-in



Methods to determine compressive strength: 2

1. Measured
2. Assessed

Rock Type:

ROCK MASS INFORMATION

Fabric: 1

1. Blocky
2. Tabular
3. Columnar
4. Shattered

Block size: 3

1. Very large (>8 m3)
2. Large (0.2-8 m3)
3. Medium (0.008-0.2 m3)
4. Small (0.0002 - 0.008 m3)
5. Very small (<0.0002 m3)

State of weathering: 2

1. Fresh
2. Slightly
3. Moderately
4. Highly
5. Completely
6. Residual soil

No. of major discontinuity sets: /

Set #	Spacing
1	
2	
3	
4	
5	

GSI:

Discontinuity spacing:

1. Extremely close (<20 mm)
2. Very close (20-60 mm)]
3. Close (60 - 200 mm)
4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 mm)
7. Ext. wide (>6000 m)

REMARKS (exposure type/age, stability condition, design issues etc.)

21452873
QA FOR IVR DIKE CONSTRUCTION

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit	Station ID	Project Element	Date (Month / Day / Year)	Inspector	Discontinuity data sheet no.	of
IVR Dyke	Stn. 0+58-75	21452873	03 / 31 / 2021	BG	2	2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	J	85	85	3	1	2	1	R3	R	P	2-4	25	✓	* Strike & dip taken with
2	J	100	80	2	1	2	1	R3	R	P	2-4	25	✓	Suunto compass.
3	J	320	60	4	1	2	1	R3	R	P	✓	25	✓	
4	J	230	60	3	1	2	1	R3	R	P	<1	20	✓	
5	J	160	160	2	1	2	1	R3	R	P	<1	25	✓	
6	J	190	190	2	1	2	1	R3	R	P	<1	20	✓	
7	J	190	190	2	1	2	1	R3	R	P	✓	25	✓	

Type

- FZ - Fault Zone
- F – Fault
- J – Joint (single)
- JS – Joint Set
- Sch – Schistosity
- SH – Shear
- Fo – Foliation
- TC – Tension Crack
- B – Bedding

Persistence

1.	Very low persistence	<3ft
2.	Low persistence	3-10 ft
3.	Medium persistence	10-30 ft
4.	High persistence	30-60 ft
5.	Very high persistence	> 60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10. Gouge
11

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

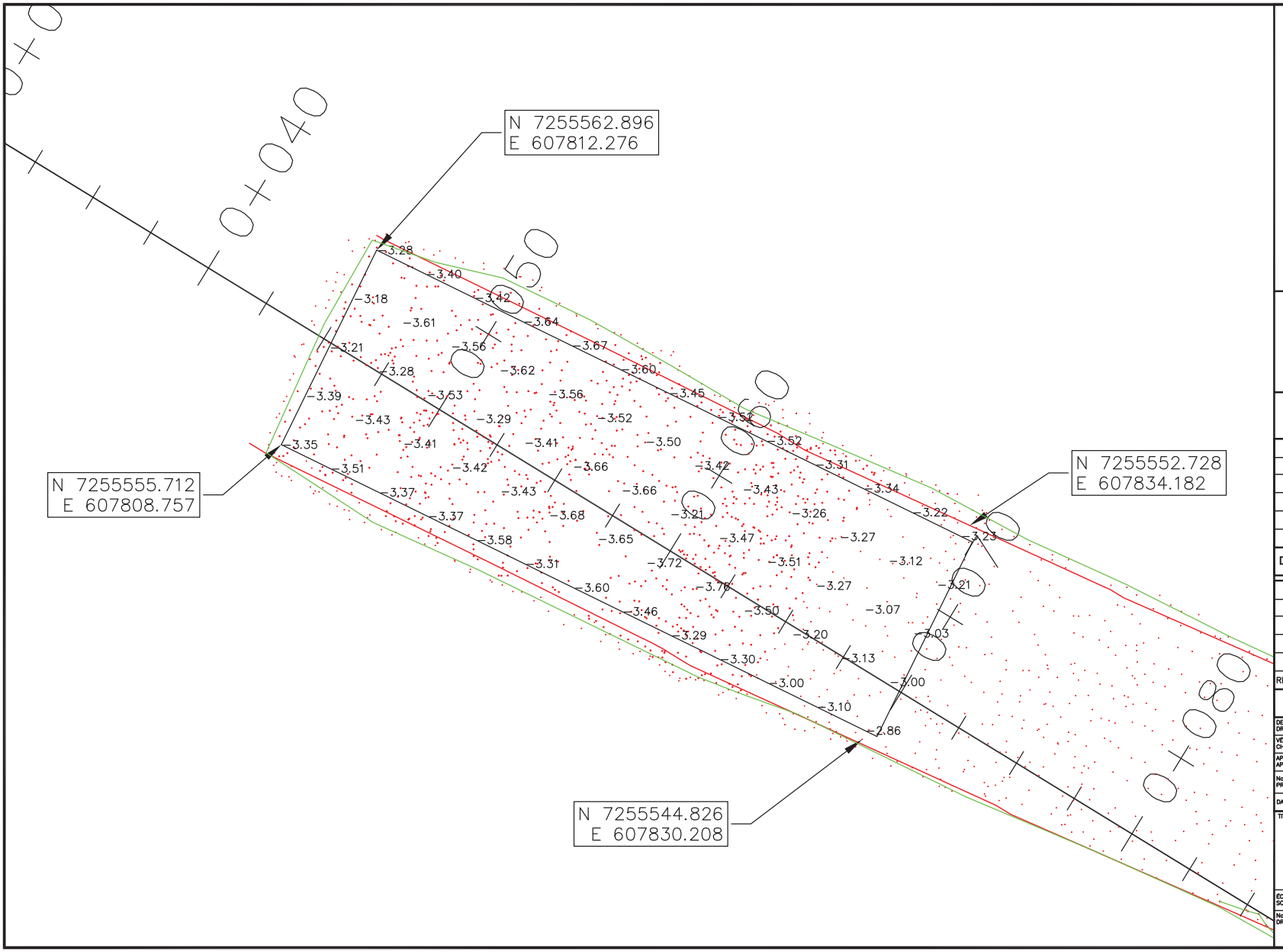
		MPa
S1	Very soft clay	<0.025
S2	Soft clay	0.025-0.05
S3	Firm clay	0.05-0.10
S4	Stiff clay	0.10-0.25
S5	Very stiff clay	0.25-0.50
S6	Hard clay	>0.50
R0	Extremely weak rock	0.25-1.0
R1	Very weak rock	1.0-5.0
R2	Weak rock	5.0-25
R3	Medium strong rock	25-50
R4	Strong rock	50-100
R5	Very strong rock	100-250
R6	Extremely strong rock	>250

JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces -or- Gouge <5mm thick -or- Separation 1-5mm Continuous	6
Soft gouge > 5mm thick -or- Separation >5mm Continuous	0

Notes:



TOE THEORETICAL
TOE BOTTOM KEY TRENCH
TOE @ 3M UNDER OG

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–01		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+065@0+110

ÉCHELLE / SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN / DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

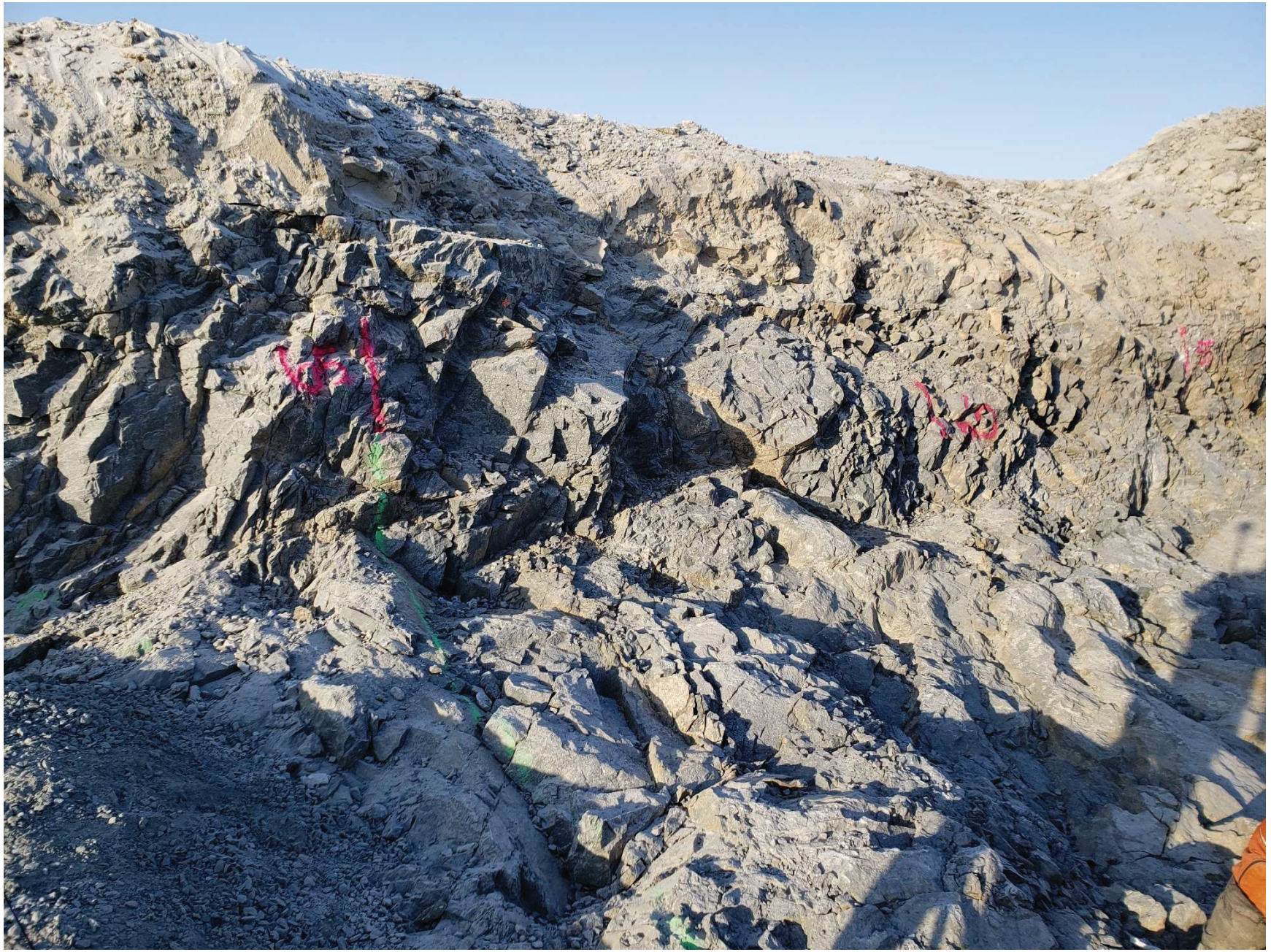
IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 1: Upstream sidewall of key trench at approx. Sta. 0+060, view looking NW.

Date: 2021-03-31
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 2: Downstream sidewall of key trench at approx. Sta. 0+065, view looking SW.

Date: 2021-03-31
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 3: Approved section of key trench at approx. Sta. 0+065, view looking W.

Date: 2021-03-31
Photo By: BG

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www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873

DOCUMENT #: 2021 03 29 - DS - 02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 29, 2021

TIME: 17:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION	PREVIOUS APPROVALS
Station: 0+090 -> 0+065	Station: Sta. 0+105 -> 0+090
Inclination:	Details: 20210327 - DS-03
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction	✓				✓
7. Foundation on bedrock – cleaning and mapping	✓		✓		
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
3.0	KCG to remove additional snow along D/S excavation wall & crest in advance of Zone 3 placement	✓		✓	
7.0	Bedrock mapping conducted by QA manually.	✓		✓	
8.0	AEM to provide survey for approval Form	✓		✓	
	Observations Bedrock similar to previous section good-fair quality w/ tight joints, bedrock observed along trench excavation sidewalls w/ only ~1 m of overburden, top 1-1.5 m of bedrock significantly more weathered than trench bottom.				

APPROVED BY:	NAME	SIGNATURE	DATE
QC ~~CONTRACTOR~~ REPRESENTATIVE	Chantal Pawlychka		Mar/30/2021
~~QC~~ Contractor REPRESENTATIVE	Sabin Larouche Not present.		29-03-2021
QA REPRESENTATIVE	Brandon Gray		Mar-29-2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		30 MAR 2021

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: Sta. 0+083-70:0+70 | Date: Month 03, Day 27, Year 2021 | Inspector: BC

Locality Type: Liner tie-in (key trench)

Slope Length: /

No. of supplementary sheets of discontinuity data sheets: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

Slope Height: /

Azimuth:

Slope Angle: /

ROCK MATERIAL INFORMATION

Color: 1 — 9

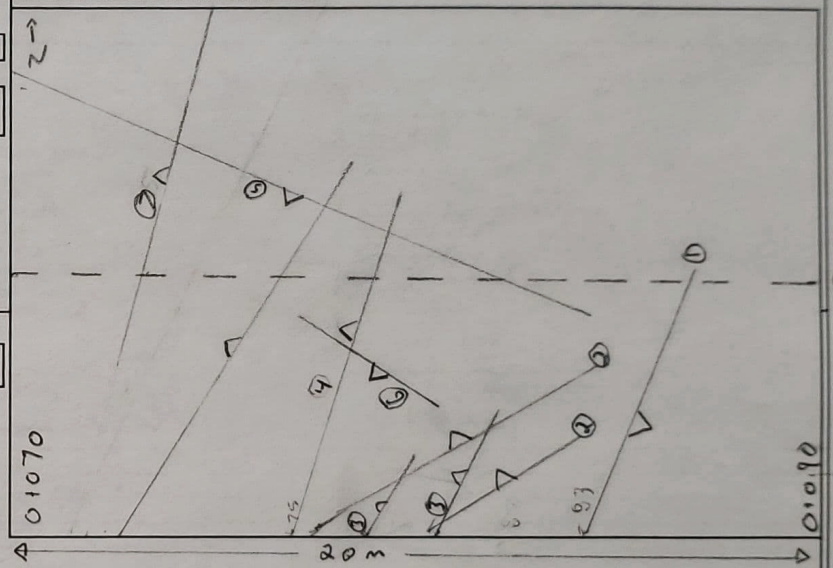
Grain size: 4-5

Compressive strength: R3-R4 MPa

1. Light / 2. Dark	1. Pinkish	1. Pink	1. Very coarse (>60 mm)
	2. Reddish	2. Red	2. Coarse (2-60 mm)
	3. Yellowish	3. Yellow	3. Medium (60 μ - 2 mm)
	4. Brownish	4. Brown	4. Fine (2-60 μ)
	5. Olive	5. Olive	5. Very fine (<2 μ)
	6. Greenish	6. Green	
	7. Bluish	7. Blue	
	8. Greyish	8. White	
		9. Grey	
		10. Black	

	MPa
S1 Very soft clay	<0.025
S2 Soft clay	0.025-0.05
S3 Firm clay	0.05-0.10
S4 Stiff clay	0.10-0.25
S5 Very stiff clay	0.25-0.50
S6 Hard clay	>0.50
R0 Extremely weak rock	0.25-1.0
R1 Very weak rock	1.0-5.0
R2 Weak rock	5.0-25
R3 Medium strong rock	25-50
R4 Strong rock	50-100
R5 Very strong rock	100-250
R6 Extremely strong rock	>250

Schematic of discontinuities within the Liner Tie-in



Methods to determine compressive strength: 2 (1. Measured, 2. Assessed)

Rock Type:

ROCK MASS INFORMATION

Fabric: 1

Block size: 2

State of weathering: 2

No. of major discontinuity sets: —

1. Blocky / 2. Tabular / 3. Columnar / 4. Shattered	1. Very large (>8 m3)	1. Fresh
	2. Large (0.2-8 m3)	2. Slightly
	3. Medium (0.008-0.2 m3)	3. Moderately
	4. Small (0.0002 - 0.008 m3)	4. Highly
	5. Very small (<0.0002 m3)	5. Completely
		6. Residual soil

Set #	Spacing
1	
2	
3	
4	
5	

GSI:

Discontinuity spacing:
1. Extremely close (<20 mm)
2. Very close (20-60 mm)
3. Close (60 - 200 mm)
4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 m)
7. Ext. wide (>6000 m)

REMARKS (exposure type/age, stability condition, design issues etc.)

21452873
QA FOR IVR DIKE CONSTRUCTION

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit	Station ID	Project Element	Date (Month / Day / Year)	Inspector	Discontinuity data sheet no.
IVR Dyke	0+090 - 0+0?0	21452873	03 / 29 / 2021	BG	2 of 2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	J	75	60	2	1	2	1	R3	R	P	–	20	–	* Strike & dip taken with
2	J	250	70	2	1	1	1	R3	R	P	1-2	25	–	suunto compass
3	J	210	80	2	1	1	1	R3	R	P	2-3	25	–	
4	J	200	80	3	1	1	1	R3	R	P	–	25	–	
5	J	300	95	2	1	1	1	R3	R	P	–	20	–	
6	J	290	60	2	2	1	1	R3	R	P	–	25	–	
7	J	230	60	3	1	1	1	R3	R	P	–	25	–	

Type

FZ - Fault Zone
F – Fault
J – Joint (single)
JS – Joint Set
Sch – Schistosity
SH – Shear
Fo – Foliation
TC – Tension Crack
B – Bedding

Persistence

1. Very low persistence <3ft
2. Low persistence 3-10 ft
3. Medium persistence 10-30 ft
4. High persistence 30-60 ft
5. Very high persistence > 60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10. Gouge
11

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

	MPa
S1 Very soft clay	<0.025
S2 Soft clay	0.025-0.05
S3 Firm clay	0.05-0.10
S4 Stiff clay	0.10-0.25
S5 Very stiff clay	0.25-0.50
S6 Hard clay	>0.50
R0 Extremely weak rock	0.25-1.0
R1 Very weak rock	1.0-5.0
R2 Weak rock	5.0-25
R3 Medium strong rock	25-50
R4 Strong rock	50-100
R5 Very strong rock	100-250
R6 Extremely strong rock	>250

JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces –or– Gouge <5mm thick –or– Separation 1–5mm Continuous	6
Soft gouge > 5mm thick –or– Separation >5mm Continuous	0

Notes:

21452873
QA FOR IVR DIKE CONSTRUCTION

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: Sta. 0+070 → 065 | Date: Month 03, Day 29, Year 2021 | Inspector: BG

Locality Type: Liner tie-in (key trench)

Slope Length: /

No. of supplementary sheets of discontinuity data sheets: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

Slope Height: /

Azimuth:

Slope Angle: /

ROCK MATERIAL INFORMATION

Color: 1 / 9

Grain size: 4-5

Compressive strength: R3-R4

Color			Grain size	Compressive strength	MPa
1. Light	1. Pinkish	1. Pink	1. Very coarse (>60 mm)	S1	Very soft clay	<0.025
2. Dark	2. Reddish	2. Red	2. Coarse (2-60 mm)	S2	Soft clay	0.025-0.05
	3. Yellowish	3. Yellow	3. Medium (60 μ - 2 mm)	S3	Firm clay	0.05-0.10
	4. Brownish	4. Brown	4. Fine (2-60 μ)	S4	Stiff clay	0.10-0.25
	5. Olive	5. Olive	5. Very fine (<2 μ)	S5	Very stiff clay	0.25-0.50
	6. Greenish	6. Green		S6	Hard clay	>0.50
	7. Bluish	7. Blue		R0	Extremely weak rock	0.25-1.0
	8. Greyish	8. White		R1	Very weak rock	1.0-5.0
		9. Grey		R2	Weak rock	5.0-25
		10. Black		R3	Medium strong rock	25-50
				R4	Strong rock	50-100
				R5	Very strong rock	100-250
				R6	Extremely strong rock	>250

Methods to determine compressive strength: 1. Measured, 2. Assessed

Rock Type:

ROCK MASS INFORMATION

Fabric: 1

Block size: 2

State of weathering: 2

No. of major discontinuity sets: /

1. Blocky
2. Tabular
3. Columnar
4. Shattered

1. Very large (>8 m3)
2. Large (0.2-8 m3)
3. Medium (0.008-0.2 m3)
4. Small (0.0002 - 0.008 m3)
5. Very small (<0.0002 m3)

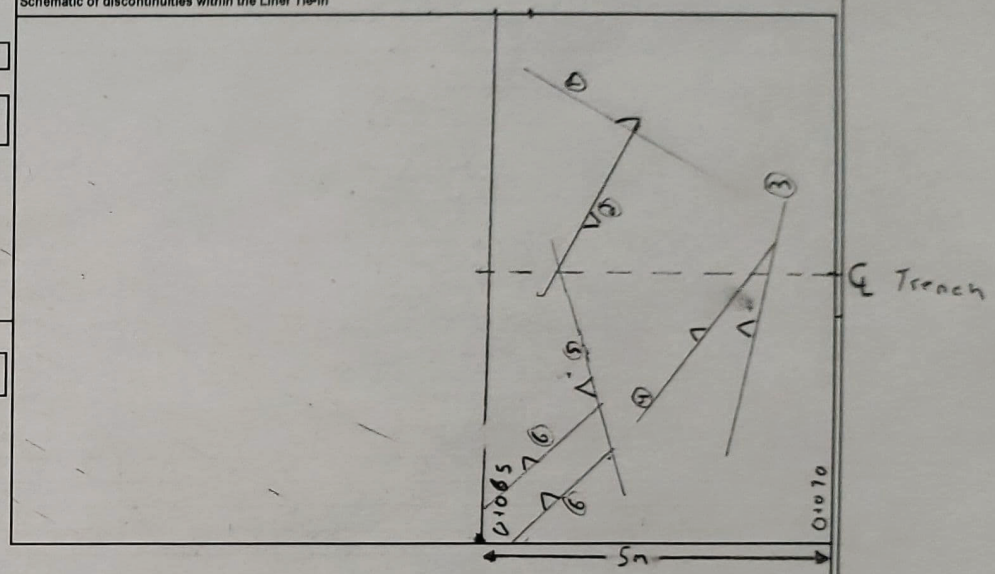
1. Fresh
2. Slightly
3. Moderately
4. Highly
5. Completely
6. Residual soil

Set #	Spacing
1	
2	
3	
4	
5	

GSI:

Discontinuity spacing:
1. Extremely close (<20 mm)
2. Very close (20-60 mm)
3. Close (60 - 200 mm) (circled)
4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 mm)
7. Ext. wide (>6000 m)

Schematic of discontinuities within the Liner Tie-in



REMARKS (exposure type/age, stability condition, design issues etc.)

21452873
QA FOR IVR DIKE CONSTRUCTION

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit	Station ID	Project Element	Date (Month / Day / Year)	Inspector	Discontinuity data sheet no.	of
					2	2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	J	330	85	3	1	2	1	R3	R	P	1-2 ft	20	—	* Strike & dip taken with
2	J	240	25	2	1	1	1	R3	R	P	—	25	—	suunto compass
3	J	10	60	2	1	1	1	R3	R	P	—	25	—	
4	J	170	40	2	1	1	1	R3	R	P	—	25	—	
5	J	310	40	2	1	1	1	R3	R	P	1-2 ft	25	—	
6	J	240	70	2	1	2	1	R3	R	P	1-2 ft	20	—	

Type

FZ - Fault Zone
F -- Fault
J -- Joint (single)
JS -- Joint Set
Sch -- Schistosity
SH -- Shear
Fo -- Foliation
TC -- Tension Crack
B -- Bedding

Persistence

1. Very low persistence — <3ft
2. Low persistence — 3-10 ft
3. Medium persistence — 10-30 ft
4. High persistence — 30-60 ft
5. Very high persistence — > 60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10. Gouge
11

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

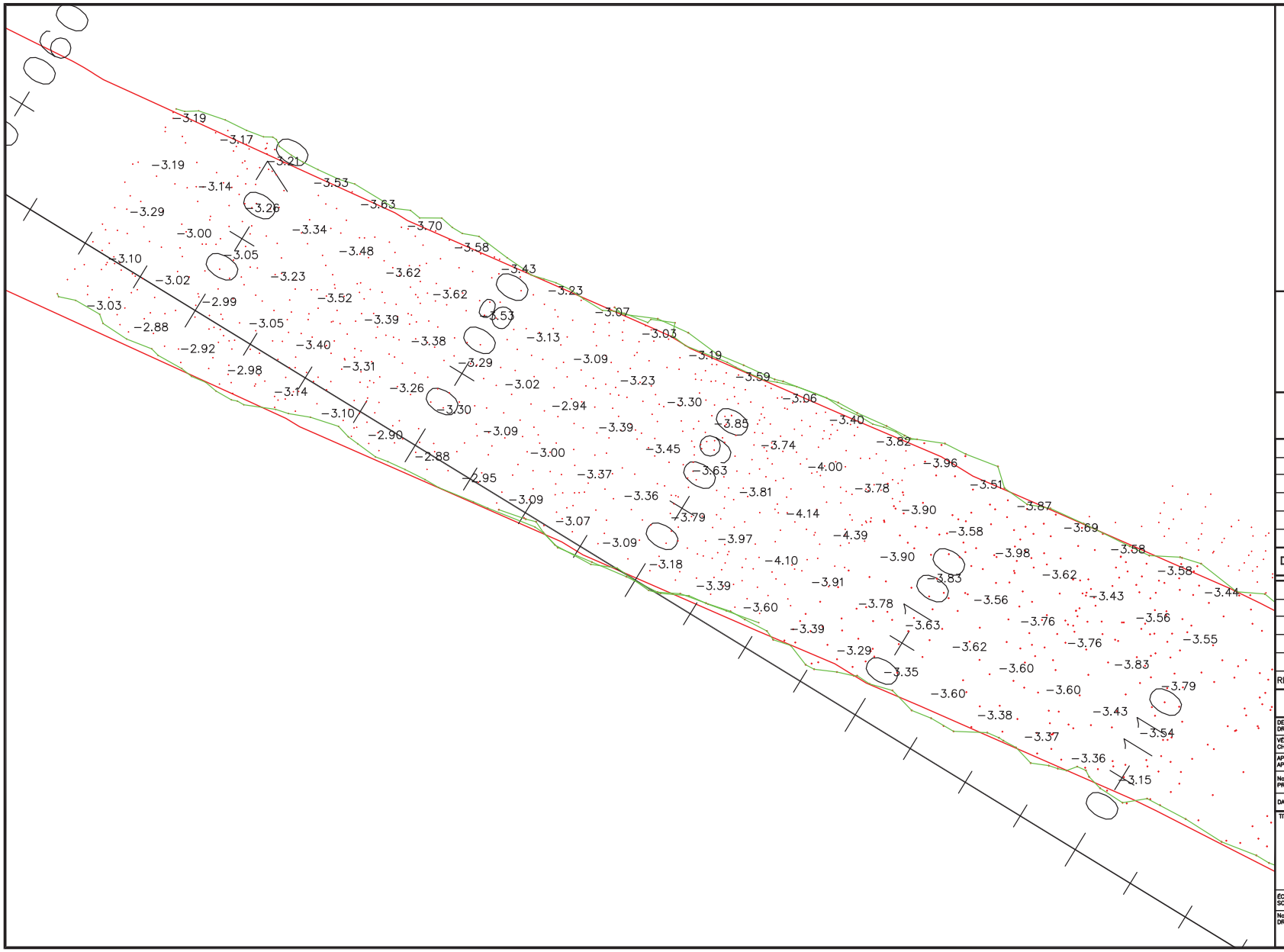
	MPa
S1 Very soft clay	<0.025
S2 Soft clay	0.025-0.05
S3 Firm clay	0.05-0.10
S4 Stiff clay	0.10-0.25
S5 Very stiff clay	0.25-0.50
S6 Hard clay	>0.50
R0 Extremely weak rock	0.25-1.0
R1 Very weak rock	1.0-5.0
R2 Weak rock	5.0-25
R3 Medium strong rock	25-50
R4 Strong rock	50-100
R5 Very strong rock	100-250
R6 Extremely strong rock	>250

JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces -or- Gouge <5mm thick -or- Separation 1-5mm Continuous	6
Soft gouge > 5mm thick -or- Separation >5mm Continuous	0

Notes:



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–28		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+065@0+110

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

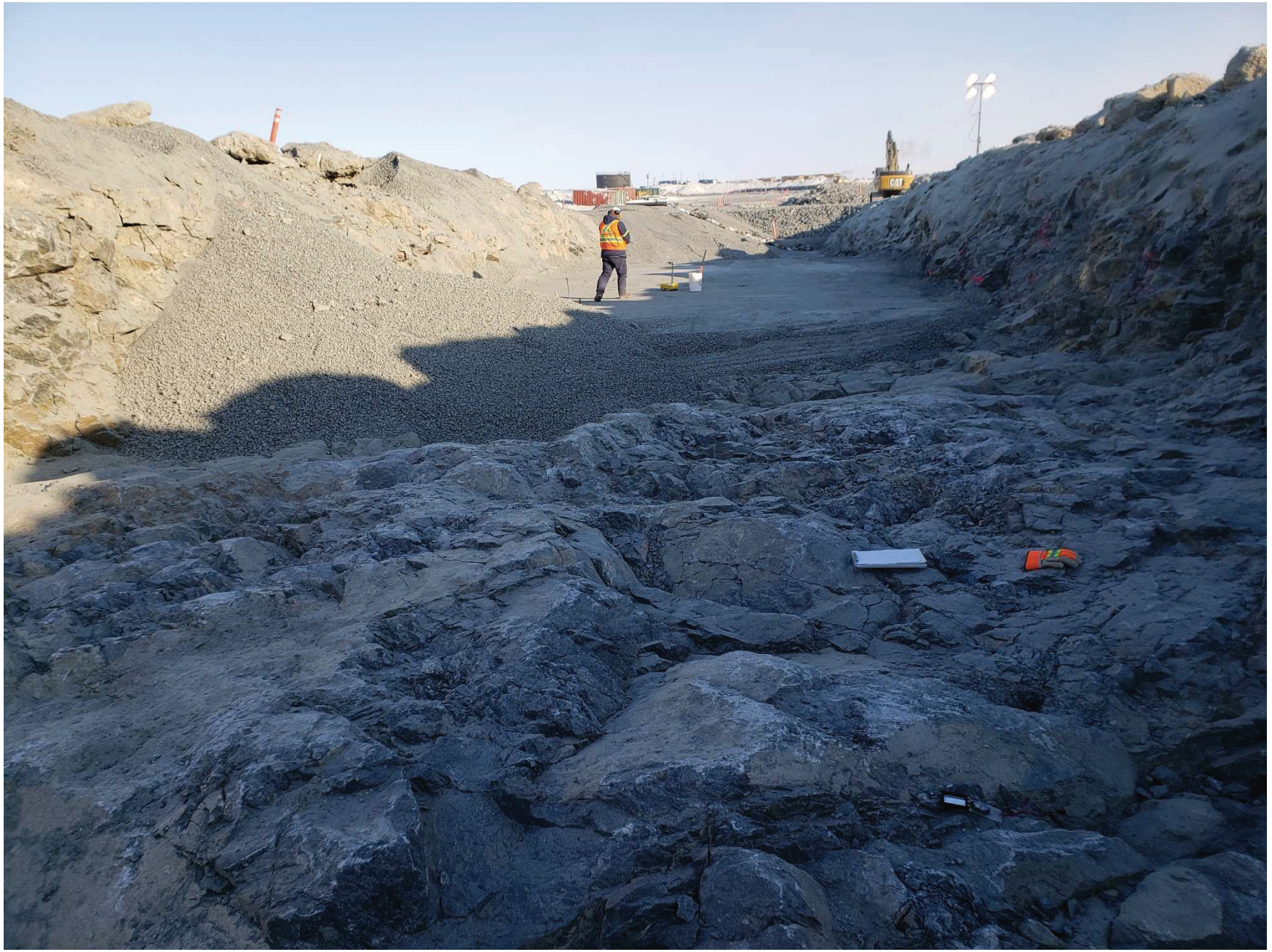
IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 1: Approved section of key trench foundation at approx. Sta. 0+085, view looking E.

Date: 2021-03-29
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 5: Approved section of key trench foundation at approx. Sta. 0+075, view looking E.

Date: 2021-03-29
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 2: Excavation side wall at Sta. 0+070, view looking N.

Date: 2021-03-29
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 3: Approved section of key trench foundation at approx. Sta. 0+075, view looking W.

Date: 2021-03-29
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 4: Approved section of key trench foundation at approx. Sta. 0+070, view looking W.

Date: 2021-03-29
Photo By: BG

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Toronto (Ontario)
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Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March, 27, 2021

DOCUMENT #: 20210327-DS-03 **TIME:** 17:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station Sta.0+105 -> 0+090	**Station:** Sta. 0+130 -> 105
Inclination:	**Details:** 20210325-DS-6
ELEVATION: ☑ varies _____ m	

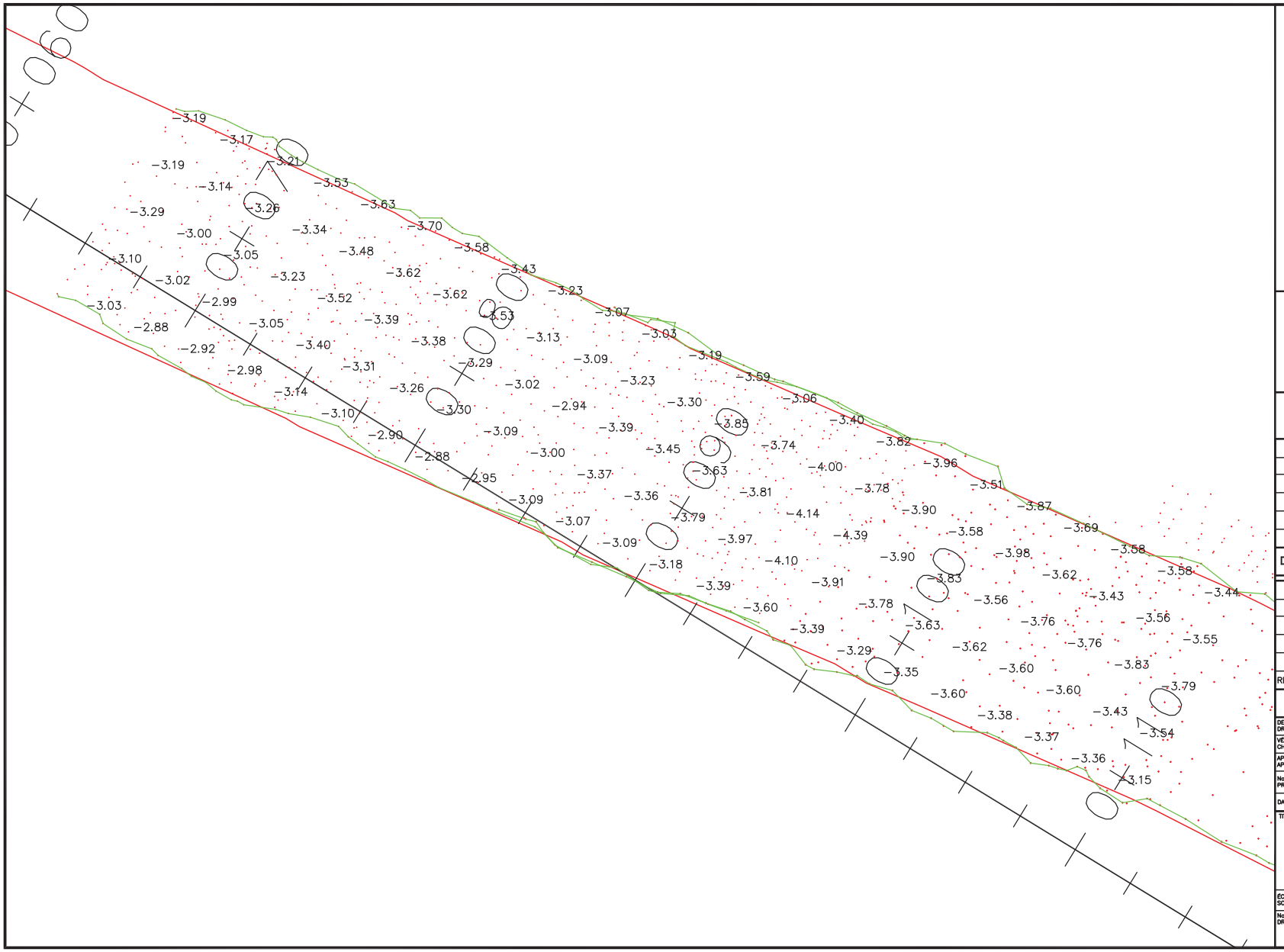
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓		✓		
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
3.0	KCG to remove additional snow along D/S trench excavion wall prior to placement of zone 3.	✓		✓	
7.0	Bed rock mapping coaducted by QA manually.	✓		✓	
8.0	AEM to provide survey for approval Form	✓		✓	
	Observations: Bedrock similiar to previous sections, good quality w tight joints & no observed in filling.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Gagnon		20-3-21
QC REPRESENTATIVE	Ryan Ohlsema		Mar 27, 21
QA REPRESENTATIVE	Brandon Gray		March 27, 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		27 MAR 2021



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–28		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+065@0+110

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: 0+105 to 0+090 | Date: Month 03, Day 27, Year 2021 | Inspector: BG

Locality Type: Liner tie-in (key trench)

Slope Length: / | No. of supplementary sheets of discontinuity data sheets: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

Slope Height: / | Azimuth: | Slope Angle: /

ROCK MATERIAL INFORMATION

Color: 1 4 9 | Grain size: 4-5 | Compressive strength: R3-R4

1. Light
2. Dark

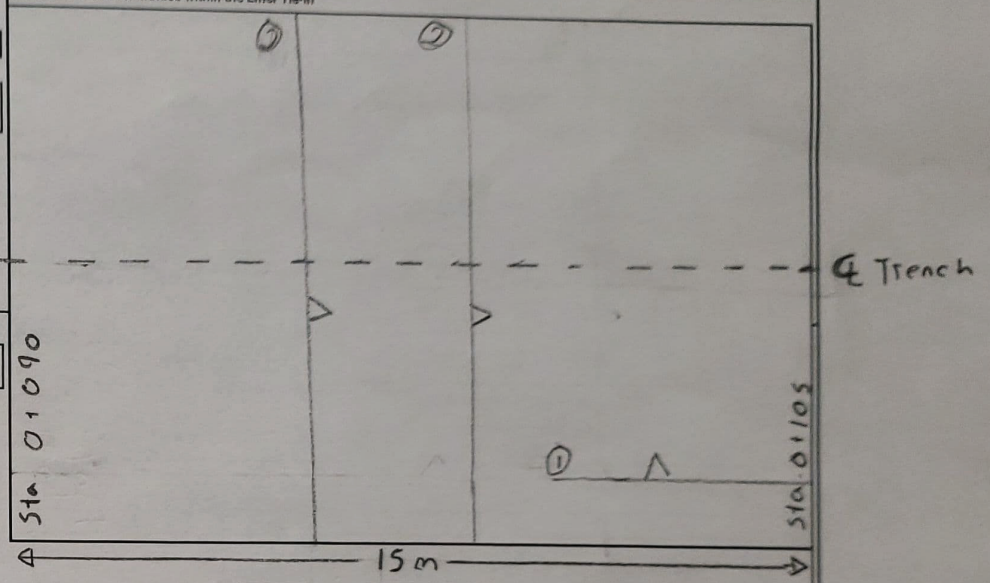
1. Pinkish
2. Reddish
3. Yellowish
4. Brownish
5. Olive
6. Greenish
7. Bluish
8. Greyish

1. Pink
2. Red
3. Yellow
4. Brown
5. Olive
6. Green
7. Blue
8. White
9. Grey
10. Black

1. Very coarse (>60 mm)
2. Coarse (2-60 mm)
3. Medium (60 μ - 2 mm)
4. Fine (2-60 μ)
5. Very fine (<2 μ)

		MPa
S1	Very soft clay	<0.025
S2	Soft clay	0.025-0.05
S3	Firm clay	0.05-0.10
S4	Stiff clay	0.10-0.25
S5	Very stiff clay	0.25-0.50
S6	Hard clay	>0.50
R0	Extremely weak rock	0.25-1.0
R1	Very weak rock	1.0-5.0
R2	Weak rock	5.0-25
R3	Medium strong rock	25-50
R4	Strong rock	50-100
R5	Very strong rock	100-250
R6	Extremely strong rock	>250

Schematic of discontinuities within the Liner Tie-in



Methods to determine compressive strength: 2 | Rock Type:

1. Measured
2. Assessed

ROCK MASS INFORMATION

Fabric: 1 | Block size: 2 | State of weathering: 2-3 | No. of major discontinuity sets: —

1. Blocky
2. Tabular
3. Columnar
4. Shattered

1. Very large (>8 m3)
2. Large (0.2-8 m3)
3. Medium (0.008-0.2 m3)
4. Small (0.0002 - 0.008 m3)
5. Very small (<0.0002 m3)

1. Fresh
2. Slightly
3. Moderately
4. Highly
5. Completely
6. Residual soil

Set #	Spacing
1	
2	
3	
4	
5	

GSI:

Discontinuity spacing:
1. Extremely close (<20 mm)
2. Very close (20-60 mm)]
3. Close (60 - 200 mm)
4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 mm)
7. Ext. wide (>6000 m)

REMARKS (exposure type/age, stability condition, design issues etc.)

21452873
QA FOR IVR DIKE CONSTRUCTION

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit	Station ID	Project Element	Date (Month)	(Day)	(Year)	Inspector	Discontinuity data sheet no.		of	
IVR Dyke	105-7090	21452873	02	27	2021	BG		2		2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	J	323	90	3	0	1	1	R3	R	P	/	/	/	* Strike & Dip taken
2	J	260	20	4	0	1	1	R3	R	P	16	/	/	with Brunton compass
														on mine grid.

Type

- FZ - Fault Zone
- F -- Fault
- J -- Joint (single)
- JS -- Joint Set
- Sch -- Schistosity
- SH -- Shear
- Fo -- Foliation
- TC -- Tension Crack
- B -- Bedding

Persistence

1.	Very low persistence	<3ft
2.	Low persistence	3-10 ft
3.	Medium persistence	10-30 ft
4.	High persistence	30-60 ft
5.	Very high persistence	>60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10., Gouge
11

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

		MPa
S1	Very soft clay	<0.025
S2	Soft clay	0.025-0.05
S3	Firm clay	0.05-0.10
S4	Stiff clay	0.10-0.25
S5	Very stiff clay	0.25-0.50
S6	Hard clay	>0.50
R0	Extremely weak rock	0.25-1.0
R1	Very weak rock	1.0-5.0
R2	Weak rock	5.0-25
R3	Medium strong rock	25-50
R4	Strong rock	50-100
R5	Very strong rock	100-250
R6	Extremely strong rock	>250

JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces -or- Gouge <5mm thick -or- Separation 1-5mm Continuous	6
Soft gouge > 5mm thick -or- Separation >5mm Continuous	0

Notes:

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 1: Approved section of key trench foundation at approx. Sta. 0+100, view looking W.

Date: 2021-03-27
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 2: Approved section of key trench foundation at approx. Sta. 0+085, view looking E.

Date: 2021-03-27
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873 **DATE:** March 25, 2021

DOCUMENT #: 20210325-DS-6 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	sta. 0+130 → 0+105	**Station:**	0+130 → 0+160
Inclination:		**Details:**	20210304-DS-1
ELEVATION:	☑ varies _____ m		

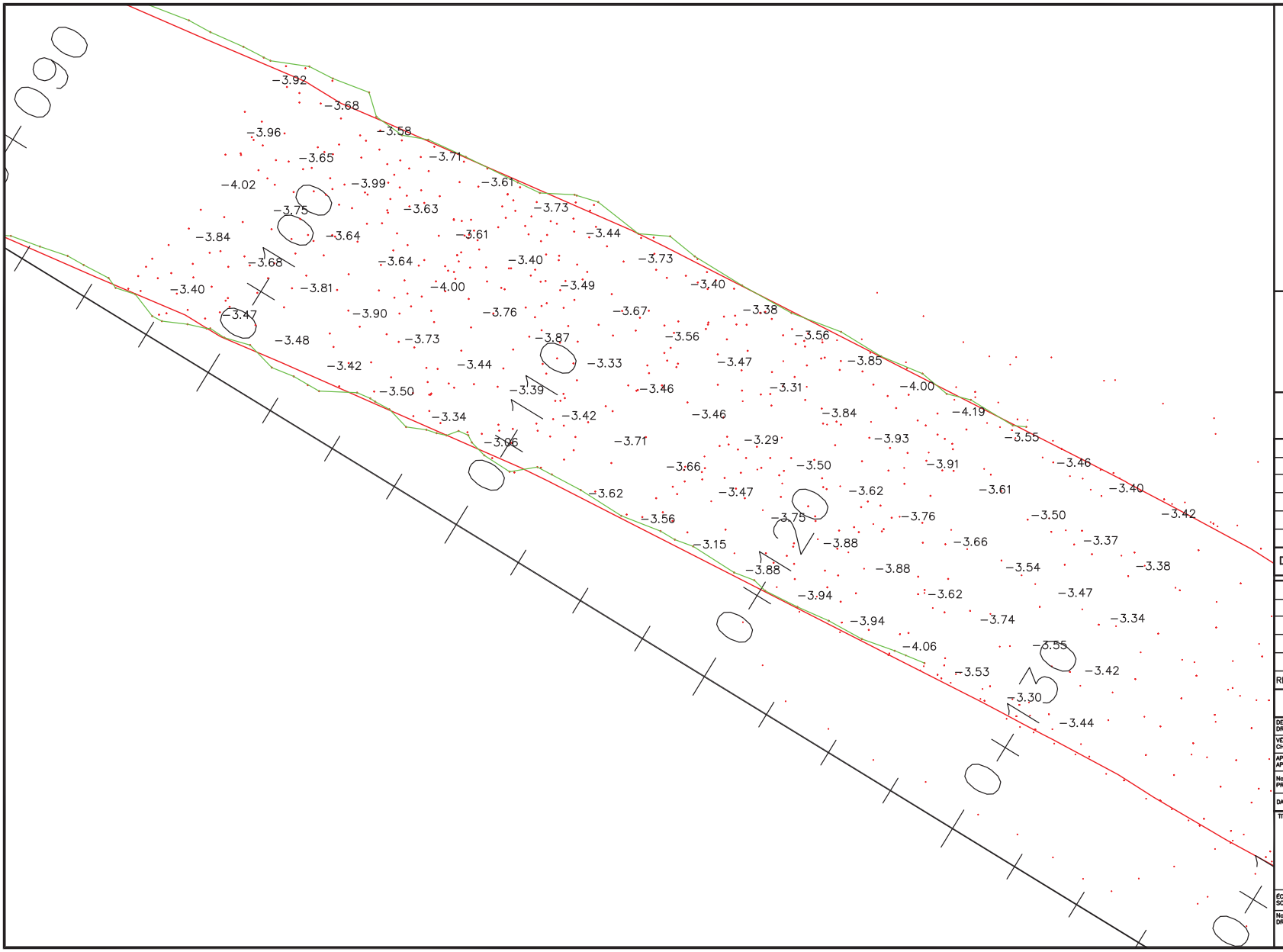
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓		✓		
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
7.0	Bottom of trench excavation on bedrock From Sta. 0+125 to Sta. 0+120 & From Sta. 0+115 to Sta 0+105. AEM engineering assited in bedrock mapping through use of survey scanner. (data to be provided @ a later date).	✓		✓	
8.0	KCG to survey base of excavation prior to placement of zone 2B (FFAB) material.	✓		✓	
	Observations: Bedrock similiar to previous sections, Fair quality w tight joints & no observed infilling. Section mapped by scanner.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laroche		Mar. 26/21
QC REPRESENTATIVE	Ryan Alkema		Mar 26/21
QA REPRESENTATIVE	Brandon Gray		Mar. 25, 2021
OWNER'S REPRESENTATIVE	~~ANTHONY~~ STEWART		26 MAR 2021



AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–26		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+100@0+130

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Approved key trench foundation surface, Sta. 0+130 to 0+105, view looking S

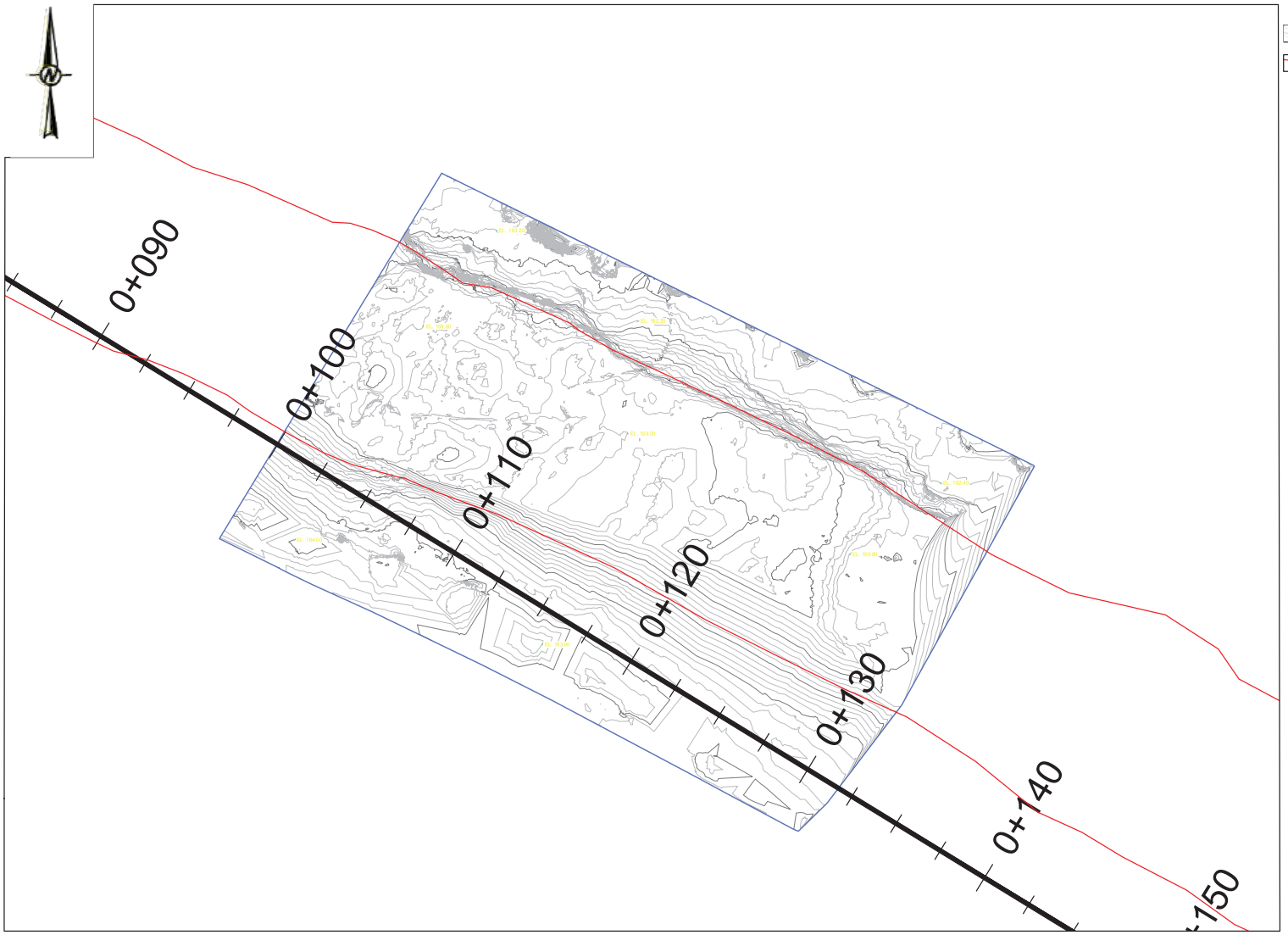
Date: 2021-03-25
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Approved key trench foundation surface, at approx. Sta. 0+125 view looking W.

Date: 2021-03-25
Photo By: BG



LEGEND

CONTOURS (0.2 M AND 1.0 M)

ZONE 2B (FFAB) - KEY TRENCH PLACEMENT

NOTE(S)

1. BEDROCK SCANNING COMPLETED BY AEM.

REFERENCE(S)

1. BEDROCK SCAN SURVEY PROVIDED BY AEM ON MAY 2, 2021.

0 5.08 10.16 Meters

CLIENT
AGNICO EAGLE MINING INC.

CONSULTANT

YYYY-MM-DD	2021-05-25
DESIGNED	BG
PREPARED	BG
REVIEWED	MH
APPROVED	MH

PROJECT
AMARUQ MINE: IVR D-1 DIKE CONSTRUCTION

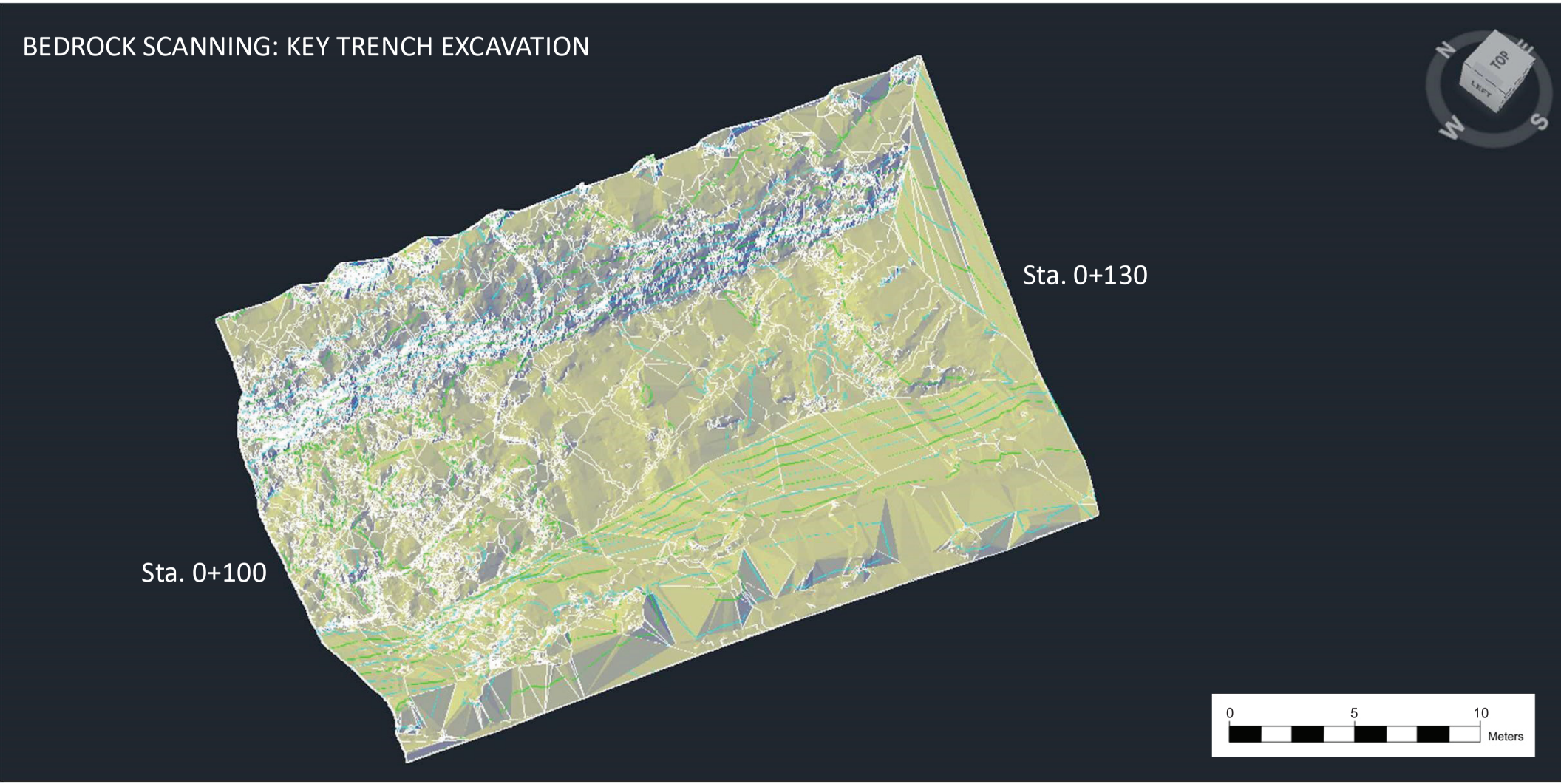
TITLE
BEDROCK SCANNING KEY TRENCH FOUNDATION

PROJECT NO.	CONTROL	REV.	FIGURE
21452873	0001	A	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D

Path: \\golder.gds\corp\edata\ca\office\mississauga\SMC\Clients\Atlantic_GoldBeaver\89_PROJ\20142100_Atlantic_Mining_DesignServices\40_PROD\0001_Stockpile Design Figures\ | File Name: Amaruq Bedrock.dwg | Last Edited By: bgray Date: 2021-05-28 Time:5:30:04 PM | Printed By: BGray Date: 2021-05-31 Time:9:31:03 AM

BEDROCK SCANNING: KEY TRENCH EXCAVATION



High resolution point cloud scan of bedrock mapping is with AEM Engineering, low quality dwg. is provided for reference.

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873 **DATE:** March 4, 2021

DOCUMENT #: 20210304-DS **TIME:** 10:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+130 to Sta. 0+160	**Station:**	NA
Inclination:		**Details:**	NA
ELEVATION:	☑ varies ~ 159 m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓	✓	✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Ice & water content	✓		✓		
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

(Refer to list above for item #)

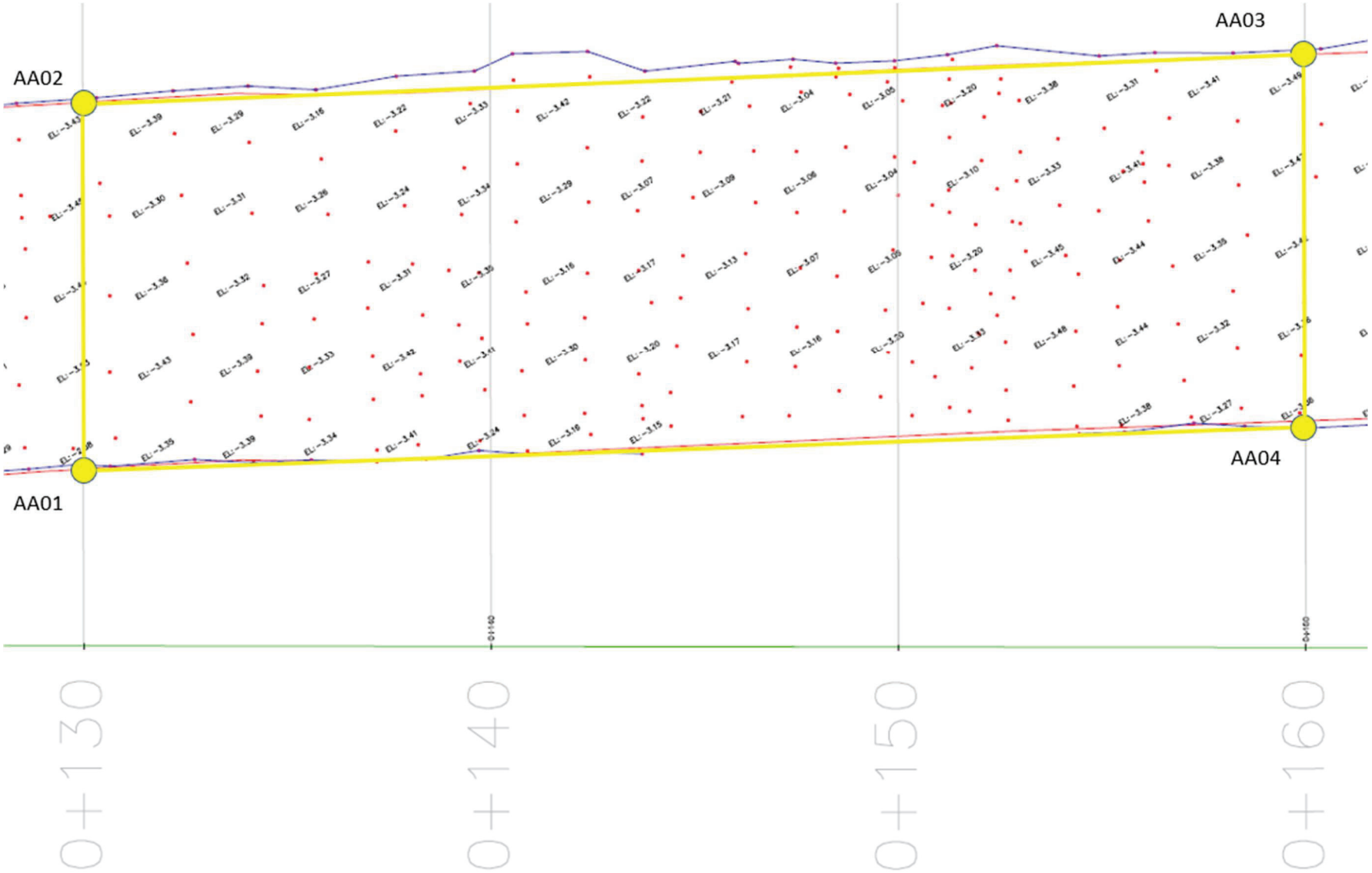
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
1.0	Excavation depth not to min 3.0 m b/w sta. 0+195 & sta. 0+150, contractor proceeded to remove additional overburden b/w stations to design grade, prior to placement of FFAB.	✓		✓	
9.0	From QA/QC in-situ testing: Ice content: 9.9%. Water content: 18.8%.	✓		✓	
2.0	Small snow drifts removed in stages in advance of Zone 2B placement.	✓		✓	

Observations:

Consistency observed along d/s & u/s side walls of key trench. Between sta. 0+130 -> 0+150 side walls were observed to be brown in color, contain gravel, cobbles & boulder sized particles in finer grained silty sand matrix, small ice lenses (1-2 mm) observed through out. Between sta. 0+150 -> 0+160 ~~color~~ color change was observed in floor of excavation to light grey

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		04/03/2021
QC REPRESENTATIVE	Chantal Pawlychka.		04/03/2021.
QA REPRESENTATIVE	Brandon Gray		March. 4. 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		MAR 4 2021

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - SURVEY LIMITS



Date: 2021-03-04
Provided By: AEM Surveyor

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Approx. Sta. 0+160 view looking W, key trench excavation prepared between Sta. 0+130 and Sta. 0+160.

Date: 2021-03-04
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Approx. Sta. 0+145 view looking S, downstream sidewall of excavation trench small ice lenses (1-2 mm) observed throughout till overburden.

Date: 2021-03-04
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 5, 2021

DOCUMENT #: 20210305-DS-01 **TIME:** 10:30

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+160 → Sta. 0+180	**Station:**	Sta. 0+130 to Sta. 0+160
Inclination:		**Details:**	See : 20210304-DS-01
ELEVATION:	☑ varies ~ 159 m		

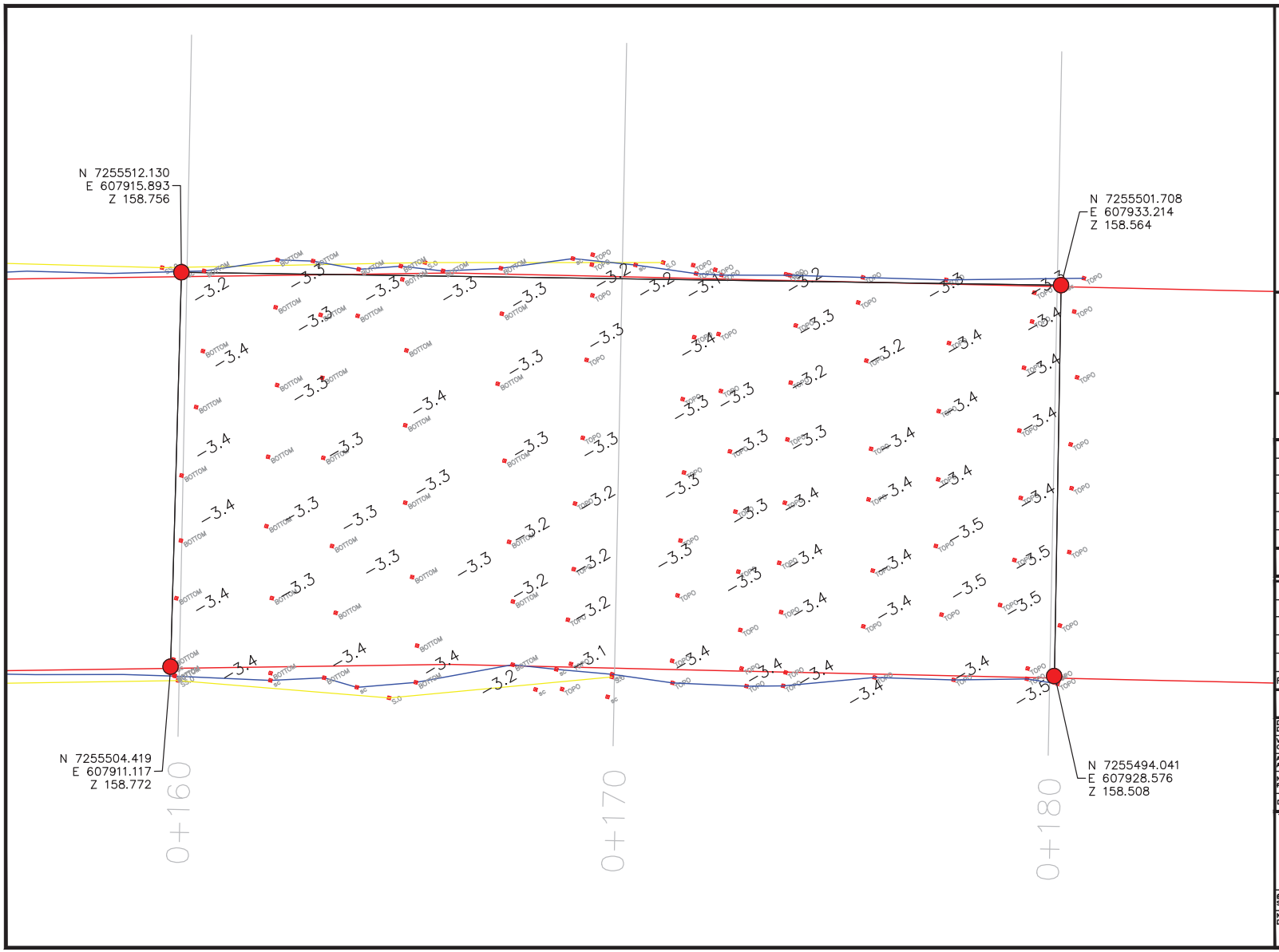
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)	✓		✓		~~N/A~~
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Ice & water content					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
8.0	AS-built survey & grade verified by contractor QC survey due to shift change with AEM QA survey.	✓		✓	
9.0	From QA/QC in-situ testing: ice content: 5.2%. water content: 9.4%.	✓		✓	
Observations: Side walls of excavation observed to contain gravel cobbles & boulder sized particles in a Fine grained silty Sand matrix (small ice lenses of 1-2 mm observed through out). Between ~ Sta. 0+175 → 0+165 a 100-150 mm thick lens of Fine grained ice rich material was observed ~2 m below existing ground.					

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		05-03-2021
QC REPRESENTATIVE	Chantal Pawlychka		Mar 06 2021
QA REPRESENTATIVE	Brandon Gray		05-03-2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		05-03-2021



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2020–10–05
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			2021–03–06
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–06		

TITRE / TITLE

AGNICO–EAGLE – DIVISION
IVR DYKE AMARUQ
AS–BUILT & APPROVAL

0+160 TO 0+180

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
AB–EXC & APPROVAL		1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Approx. Sta. 0+160 view looking E, key trench excavation prepared between Sta. 0+160 and Sta. 0+180.

Date: 2021-03-05
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Approx. Sta. 0+180 view looking N, upstream sidewall of trench excavation minor ice lenses 1-2 mm observed throughout till overburden.

Date: 2021-03-05
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 3: Approx. Sta. 0+175 view looking SW, downstream sidewall of excavation, orange stars highlight observed lens of ice rich material 100-150 mm thick between approx. Sta. 0+175 and Sta. 0+165.

Date: 2021-03-05
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873

DOCUMENT #: 20210308-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 8, 2021

TIME: 16:30
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+180 → Sta. 0+205	**Station:**	Sta. 0+160 → Sta. 0+180
Inclination:		**Details:**	20210305-DS-01
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
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15.					
16.					

AEM Con. requests 2 additional samples @ 0+185 and 0+195

DETAILS

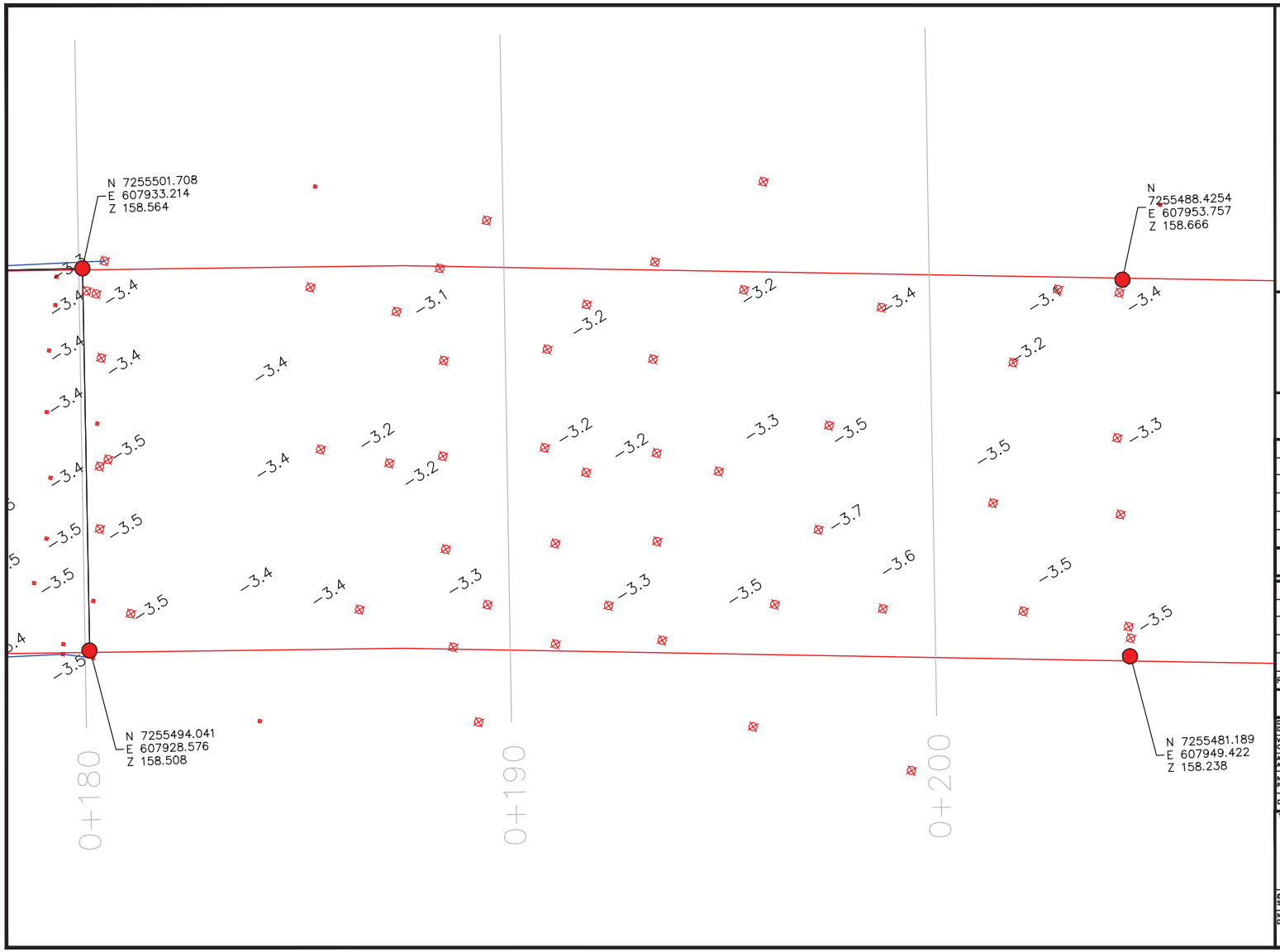
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
8.0	As-Built surface & grade verified by AEM survey, AEM to provide overview of liner foot print & key trench excavation.	✓		✓	
9.0	From QA/QC in-situ testing	✓		✓	
0+190	ice content: 5.2%.				
	water content: 26.5%.				
0+200	ice content: 6.8%.				
	water content: 17.3%.				

Observations

- Bedrock observed East of sta. 0+205, ice & loose rock to be removed.
- Drill hole @ Sta. 0+185 to be filled with bentonite.
- Key trench floor of excavation observed to consist of cobbles & large boulders in silty sand matrix (brown in color), ice lenses (1-6 mm) observed through out.

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		March 8, 2021
QC REPRESENTATIVE	Chantal Pawlychka		Mar/08/2021.
QA REPRESENTATIVE	Brandon Gray		March 8, 2021
OWNER'S REPRESENTATIVE	Jennifer Pyliuk		March 8/2021



1 FORMAT ANSI B–11x17

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2020–10–05
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT No.	6127		
DATE	2021–03–08		

TITRE / TITLE

AGNICO–EAGLE – DIVISION
IVR DYKE AMARUQ
AS–BUILT & APPROVAL

0+180 TO 0+205

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG		
No. DESSIN/ DRAWING NO.	AB–EXC & APPROVAL			REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Approx. Sta. 0+190 view looking E, key trench excavation prepared between Sta. 0+190 and Sta. 0+205.

Date: 2021-03-08
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Approx. Sta. 0+200 view looking east, floor of key trench excavation, several cobbles and boulders observed in frozen till overburden.

Date: 2021-03-08
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 3: Approx. Sta. 0+185 view looking E, drill hole advanced to far into overburden from blasting activates, hole to be filled with bentonite prior to placement of Zone 2B (FFAB) material.

Date: 2021-03-08
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 3: Approx. Sta. 0+195 view looking S, ice lenses 1-6 mm observed throughout frozen till overburden along downstream sidewall of key trench excavation.

Date: 2021-03-08
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 8, 2021

DOCUMENT #: 20210310-DS-01 **TIME:** 17:45

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION

Station Sta. 0+205 to Sta. 0+227

Inclination:

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: Sta. 0+180 to Sta 0+205

Details: 20210308-DS-02

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

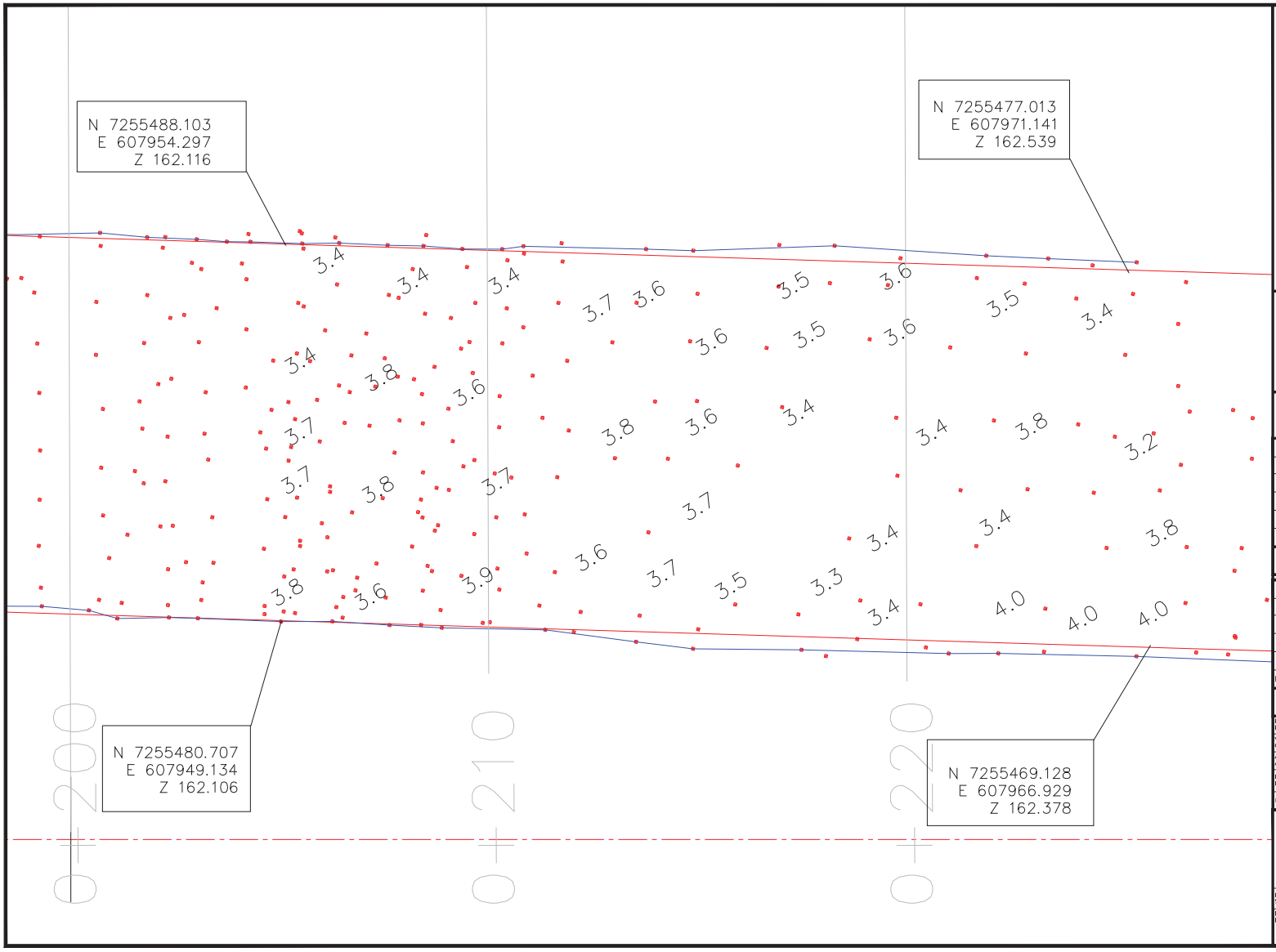
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water		✓		✓	
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Lab testing	✓		✓		
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2.	Ice pockets observed at approx Sta. 0+207 and Sta. 0+210. After excavating down ~0.3m ice was still observed. The ice appears to be in fissures, not weight bearing, and limited in extent.	✓		✓	
9.	Ice content samples taken at 0+210 and 0+220. Results pending.	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		Mar/11/2021
QC REPRESENTATIVE	Chantal Pawlychka		Mar/11/2021
QA REPRESENTATIVE	Shai Spilberg	T.O.	March 10, 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		



AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–03–11		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE AMARUQ
AS BUILD ? APPROVAL
0+205 TO 0+227

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Approx. Sta. 0+205 view looking E, key trench preparation between Sta. 0+205 and Sta. 0+227.

Date: 2021-03-10
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Ice pocket approximately 1.5 m x 2 m at around Sta. 0+207 view looking east, floor of key trench excavation.

Date: 2021-03-10
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 3: Final approved foundation surface for placement of Zone 2B material (FFAB). Approx. Sta. 2+010 view looking E. The foundation is composed of frozen till: gravelly silt with cobbles and boulders.

Date: 2021-03-10
Photo By: SS

APPROVAL FORM

SNC·LAVALIN
Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214528 73

DOCUMENT #: 20210311 - DS - 01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 11, 2021

TIME: 13:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

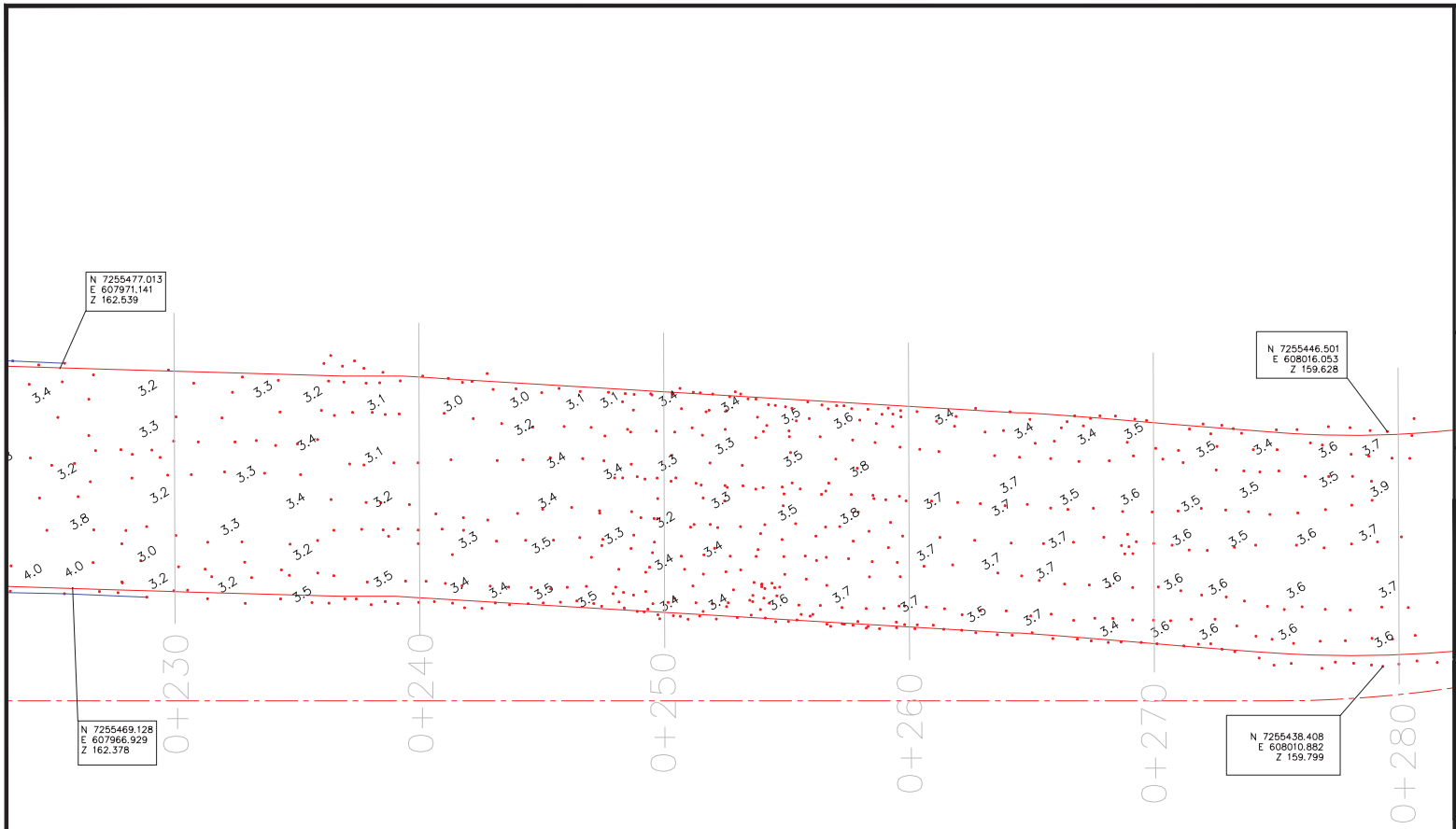
LOCATION	**PREVIOUS APPROVALS**
Station 0+227 to 0+248	**Station:** 0+225 to 0+227
Inclination:	**Details:** 20210309-DS-01
ELEVATION: ☑ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water		✓		✓	
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. lab testing	✓		✓		
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
2.	Small pockets of ice (max 0.5 m2) in fissures - very difficult to remove. Not weight-bearing.	✓		✓	
9.	Ice content sample aquired at 0+240. Results pending.	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		March 12/2021
QC REPRESENTATIVE	Chantal Pawlychka		Mar/12/2021
QA REPRESENTATIVE	Shay Spiteerz		March 11, 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		MARCH 12 2021



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–03–13		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE AMARUQ
AS BUILD APPROVAL
0+227 TO 0+280

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Foundation approved from Sta. 0+227 to Sta. 0+248, view look E.

Date: 2021-03-11
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Typical small pocket of ice observed from Sta. 0+227 to 0+248. Size of the pockets did not exceed 0.5 m^2 and they are not considered weight-bearing.

Date: 2021-03-11
Photo By: SS

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 12, 2021

DOCUMENT #: 20210312-DS-02 **TIME:** 5:30

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+248 to 0+280	**Station:**	0+227 to 0+248
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

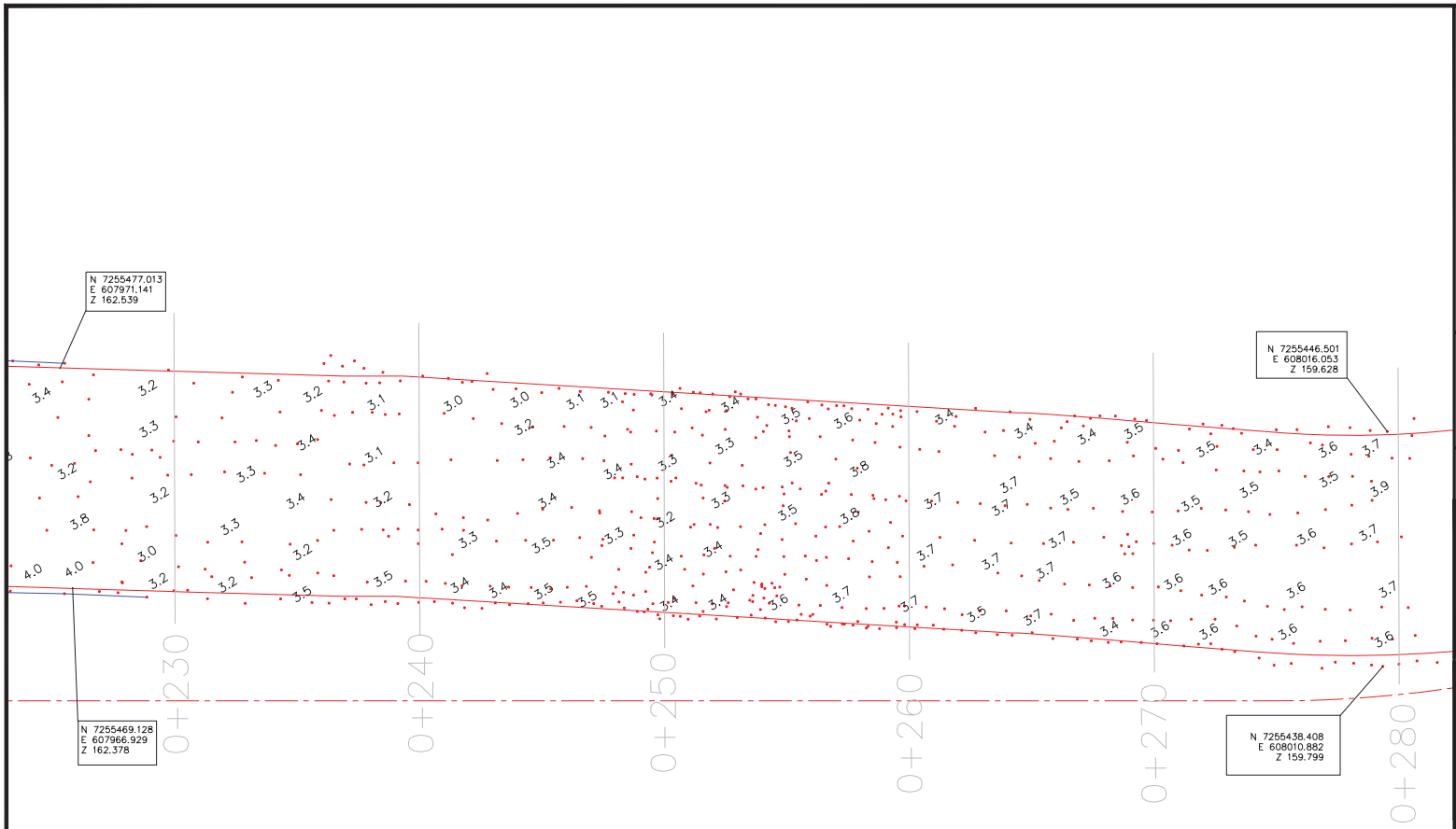
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA Y	QA N	QC Y	QC N
ITEM					
	Observations				
	Two boreholes observed in trench floor that should be filled with bentonite. (QC - completed).				
	At Sta. 0+254, boulder was observed sticking out of trench floor. The boulder is approx 0.5m x 0.5m and 0.5~~-~~1 m high. If first lift of FFAB does not completely cover boulder, the fill around the boulder will have to be compacted with a manual plate compactor.				
	Ice lenses observed on downstream trench wall from 2.5-3 m bgs (portioned cleaned). Lenses are generally < 2cm thick and < 20cm wide. They are present + numerous from Sta. 0+250 to 0+270.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		March 13/2021
QC REPRESENTATIVE	Chantal Pawlenka		Mar/14/2021
QA REPRESENTATIVE	Shai Spilberg	A. A.	March 12, 2021
OWNER'S REPRESENTATIVE		Patrice Gagnon	March 13th 2021



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–03–13		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE AMARUQ
AS BUILD APPROVAL
0+227 TO 0+280

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Foundation approved from Sta. 0+248 to Sta. 0+280, view look E.

Date: 2021-03-12
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Ice lenses in trench wall from Sta. 0+248 to 0+280. Similar to previous section from 0+227 to 0+248.

Date: 2021-03-12
Photo By: SS

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210313 – DS – 01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 13, 2021

TIME: 18:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench) — and March 14, 2021 8:00
- ☐ Fill placement: _____
- ☐ Other: _____

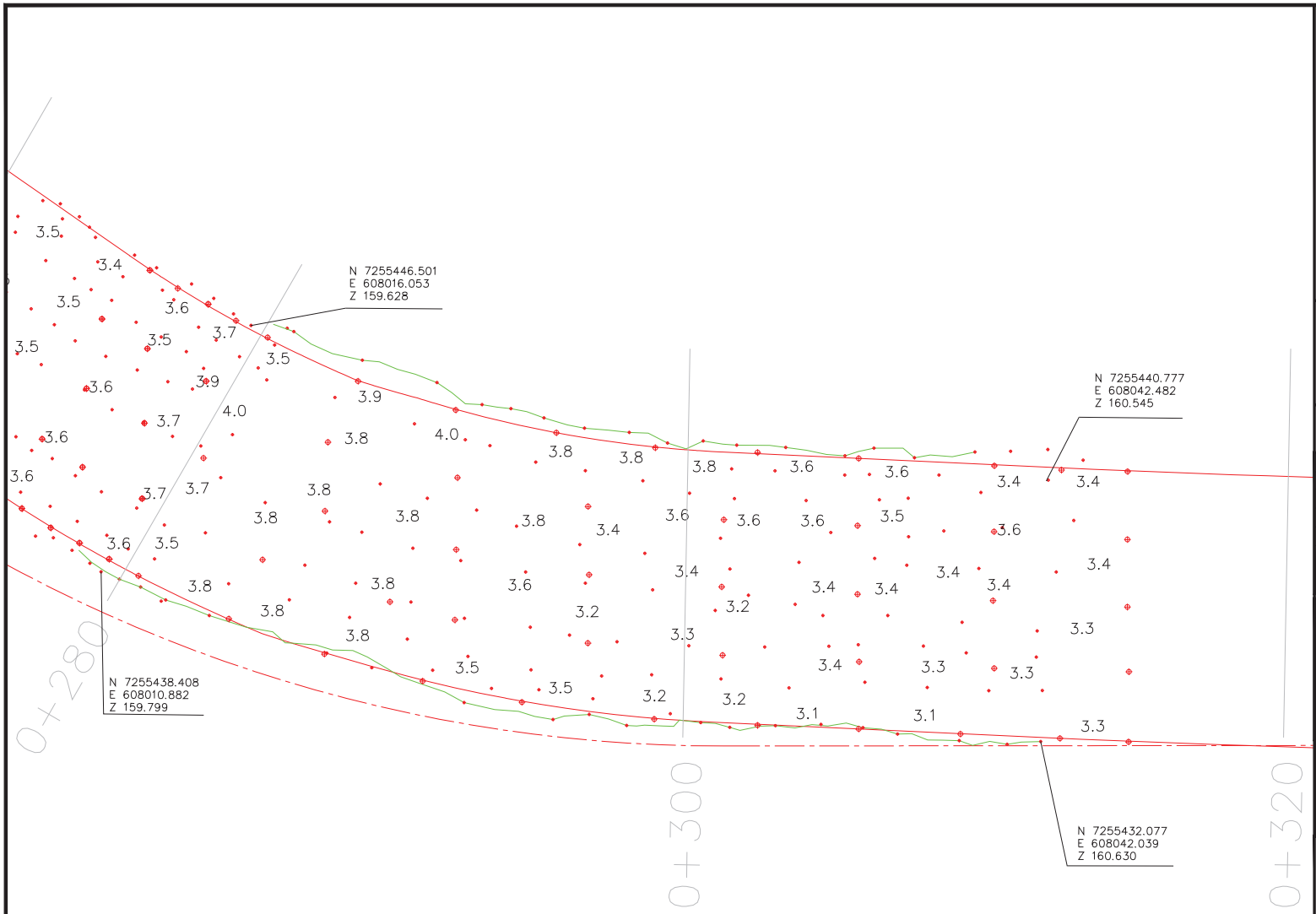
LOCATION		**PREVIOUS APPROVALS**	
Station	0+280 to 0+~~300~~ 312	**Station:**	0+248 to 0+280
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water		✓		✓	
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA Y	QA N	QC Y	QC N
ITEM					
	Observations				
	Presence of ice lenses in foundation and trench walls similar to section from 0+248 to 0+280.				
	Ice lenses becoming more numerous @ 1.5 m bgs.				
	Ice content sample taken at 0+300				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		March 14/2021
QC REPRESENTATIVE	Chantal Pawlychka		Mar/14/2021
QA REPRESENTATIVE	Shai Spilberg		March 13, 2021
OWNER'S REPRESENTATIVE	Stephane Cimon		March 13, 2021



FORMAT ANSI B-11x17

AGNICO EAGLE

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TITRE / TITLE | # DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-03-11
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021-03-15		

TITRE / TITLE

AGNICO-EAGLE
IVR DIKE AMARUQ
AS BUILD APPROVAL
0+280 TO 0+312

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Foundation approved from Sta. 0+280 to Sta. 0+312, view looking SE.

Date: 2021-03-13
Photo By: SS

APPROVAL FORM

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
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Telephone: (416) 252-5315
Fax: (416) 231-5336
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PROJECT : 21452873 IVR D-1 Dike Construction

PROJECT #: ↳

DOCUMENT #: 20210316-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 16, 2021

TIME: 6:30
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		PREVIOUS APPROVALS	
Station	0+312 to 0+340	Station:	0+280 to 0+312
Inclination:		Details:	
ELEVATION:	☑ varies _____ m		

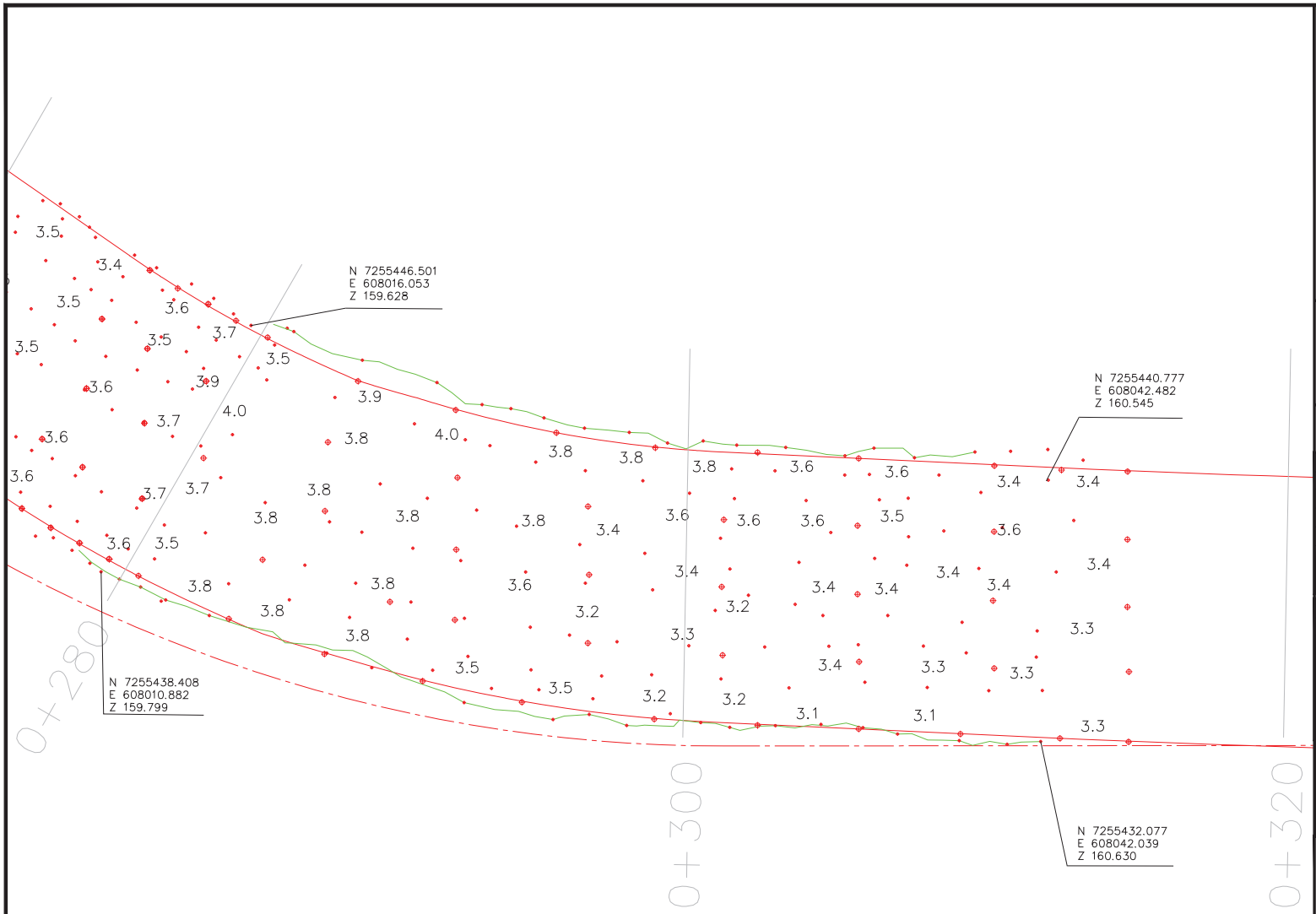
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of cut-off trench	✓				
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓				
8. As built survey completed	✓				
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA Y	QA N	QC Y	QC N
ITEM	Trench floor is bedrock.				
1.	One spot is high by 150 mm at Sta. ~ 0+312 on the ~~down~~ upstream side of the trench. Due to the location of this high spot and the fact that excavating down would leave a worse surface, it was accepted as-is.				
8.	Bedrock was mapped with a laser scanner.				
	Bedrock is grey-brown diorite with tight ~~[illegible]~~ joints (minimal aperture). High quality bedrock. The upper ½ m of bedrock is weathered + fractured, but this was removed during blasting / mucking → no in-filling				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Manuel Bussières		17/03/21
QC REPRESENTATIVE	Ryan Okkema		March 17, 2021
QA REPRESENTATIVE	Shai Spilberg	p.p.	March 16, 2021
OWNER'S REPRESENTATIVE	Laurie R. Collette		17/03/2021



FORMAT ANSI B-11x17

AGNICO EAGLE

HA HAMEL ARPENTAGE

TITRE / TITLE | # DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

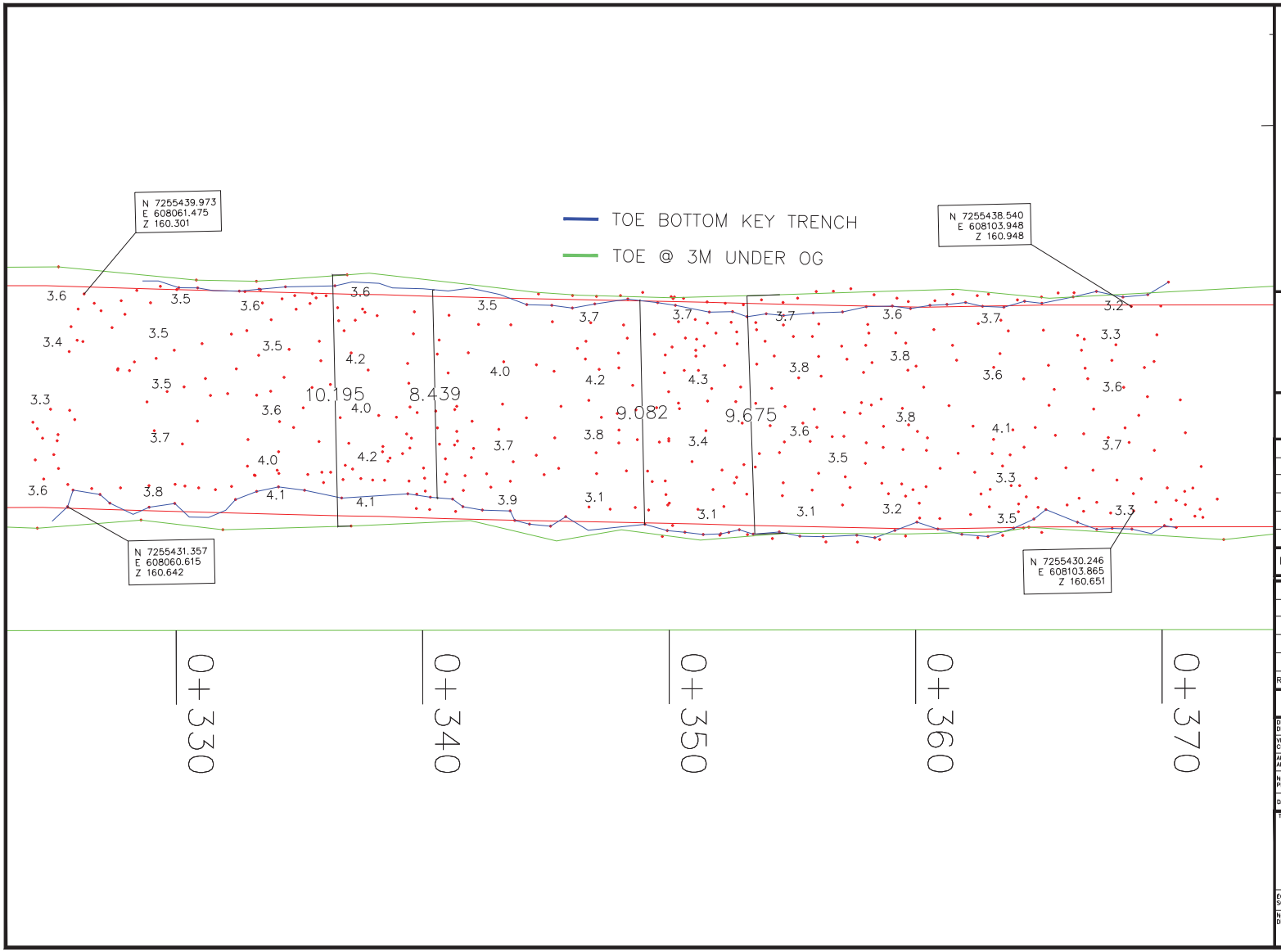
REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-03-11
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021-03-15		

TITRE / TITLE

AGNICO-EAGLE
IVR DIKE AMARUQ
AS BUILD APPROVAL
0+280 TO 0+312

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-03-11
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021-03-18		

TITRE / TITLE

AGNICO-EAGLE
IVR DIKE AMARUQ
AS BUILD APPROVAL
0+324 TO 0+370

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
AB EXC APPROVAL		1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Bedrock surface preparation, Sta. 0+312 to 0+340, view looking E.

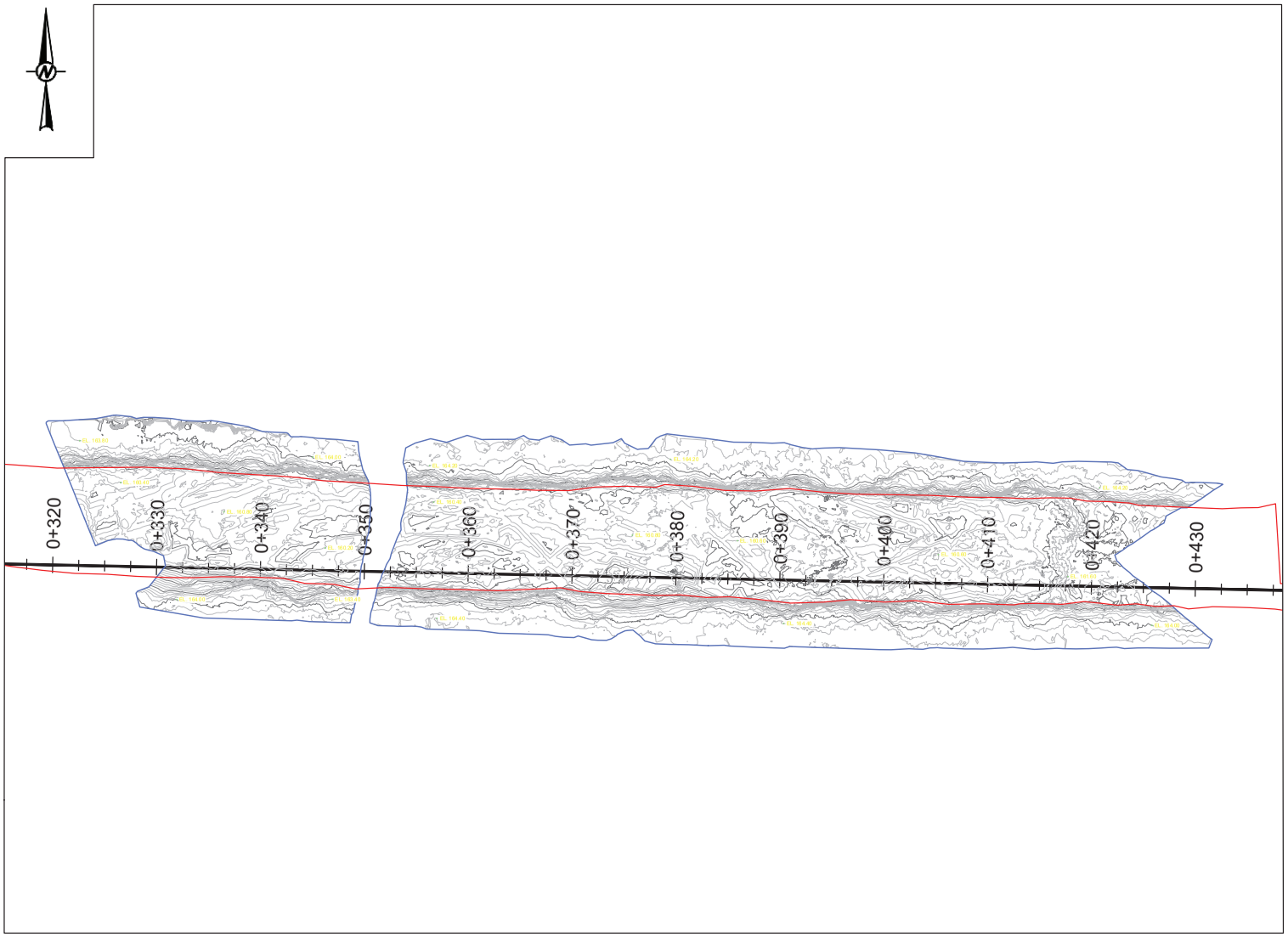
Date: 2021-03-16
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Approved bedrock surface, Sta. 0+312 to 0+340, view looking S.

Date: 2021-03-16
Photo By: SS



LEGEND

CONTOURS (0.2 M AND 1.0 M)

ZONE 2B (FFAB) - KEY TRENCH PLACEMENT

NOTE(S)

1. BEDROCK SCANNING COMPLETED BY AEM.

REFERENCE(S)

1. BEDROCK SCAN SURVEY PROVIDED BY AEM ON MAY 2, 2021.

0 6 12 Meters

CLIENT
AGNICO EAGLE MINING INC.

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-05-25
DESIGNED	BG
PREPARED	BG
REVIEWED	MH
APPROVED	MH

PROJECT
AMARUQ MINE: IVR D-1 DIKE CONSTRUCTION

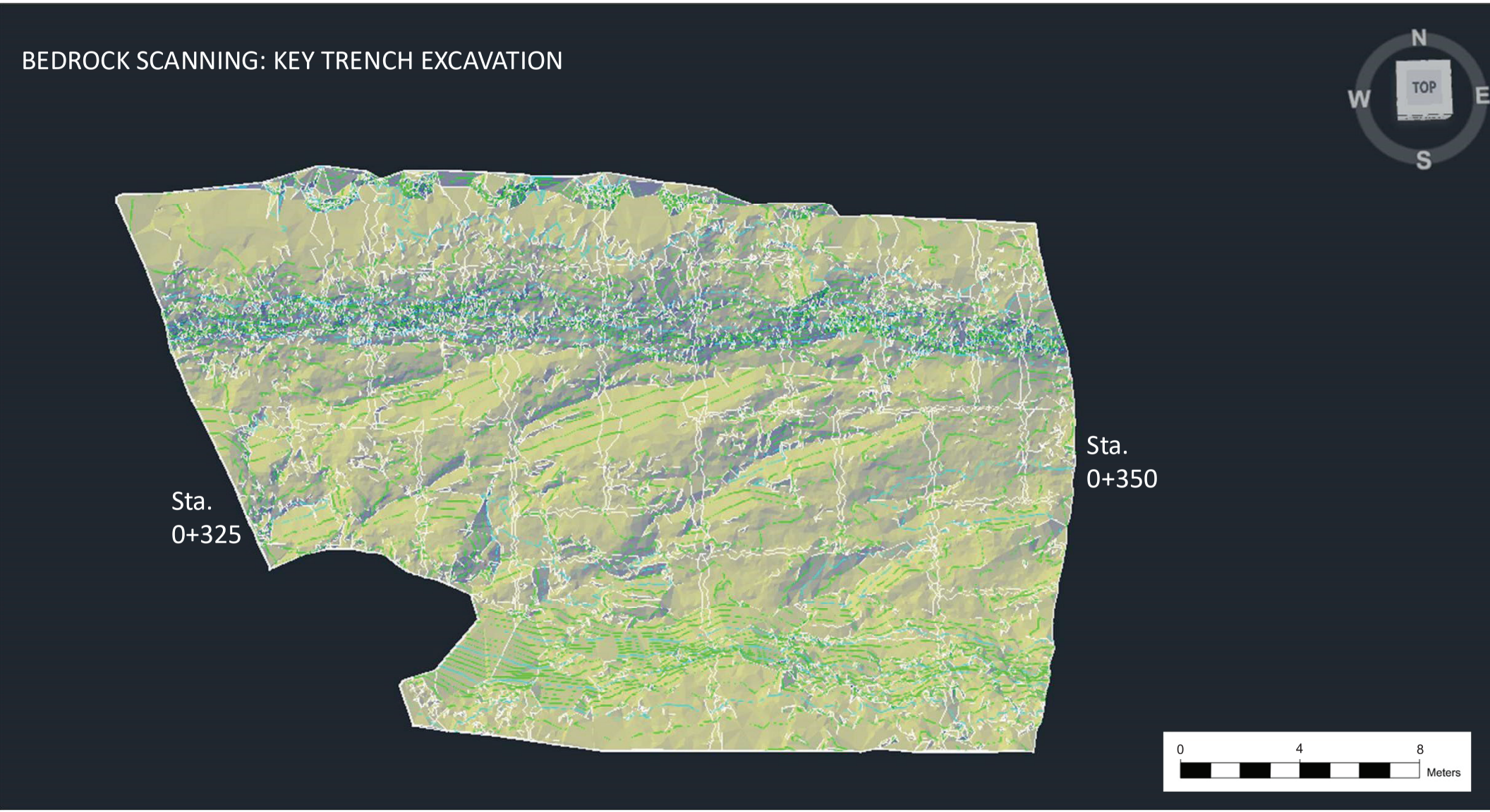
TITLE
BEDROCK SCANNING KEY TRENCH FOUNDATION

PROJECT NO.	CONTROL	REV.	FIGURE
21452873	0001	A	1

Path: \\golder.gds\corp\edata\of\toronto\data\gis\Projects\Agnico_Eagle\Amaruq\SMC\Client\Atlantic_GoldBeaver\99_PROJ\20142100_Atlantic_Mining_Design\Services\40_PROD\0001_Stockpile Design Figures\ | File Name: Amaruq Bedrock.dwg | Last Edited By: bgray Date: 2021-05-25 Time:2:21:20 PM | Printed By: BGray Date: 2021-05-25 Time:2:22:28 PM

0 25 mm

BEDROCK SCANNING: KEY TRENCH EXCAVATION



High resolution point cloud scan of bedrock mapping is with AEM Engineering, low quality dwg. is provided for reference.

APPROVAL FORM

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PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210317-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 17, 2021

TIME: 18:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION

Station 0+340 to 0+377

Inclination:

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: 0+312 to 0+340

Details:

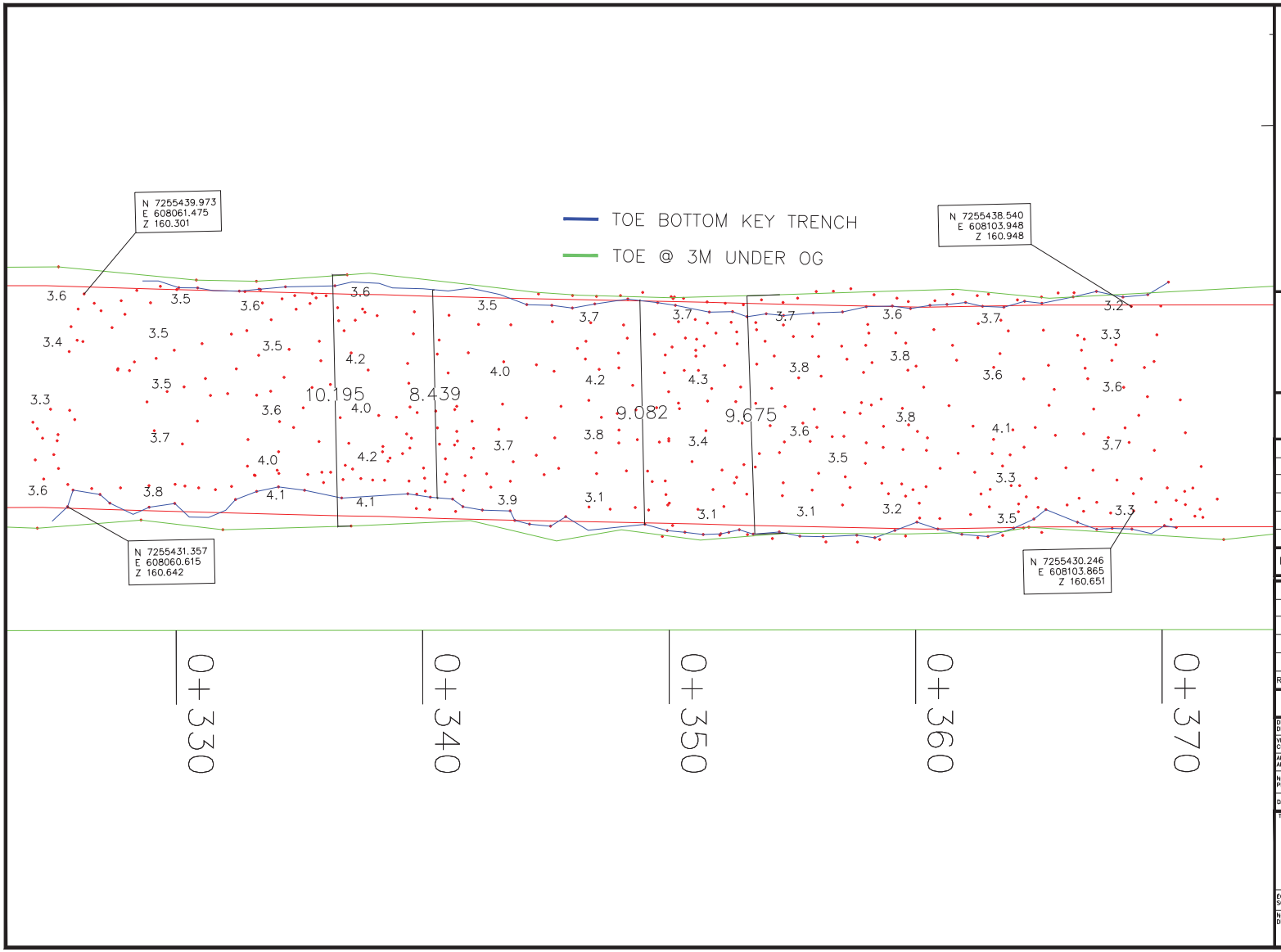
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of cut-off trench	✓				
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓		✓		
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

ITEM	DETAILS (Refer to list above for item #)	APPROVED BY: QA Y	QA N	QC Y	QC N
	Bedrock foundation similar to previous section (0+312 to 0+340).				
	Bedrock rising to the East. Top ~1m weathered / fractured bedrock rising in upstream trench wall.				
	SOUND BEDROCK @ KEYTRENCH BOTTOM. TIGHT JOINTS, NO INFILLING. JOINT SPACING ~0.3–1m ON AVG.				
	SURFACE SCANNED FOR MAPPING.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Marcel Bussières		19/03/21
QC REPRESENTATIVE	Ryan Ollerenshaw		
QA REPRESENTATIVE	Shai Spilberg	D. D.	March 19, 2021
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		19/03/2021.



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

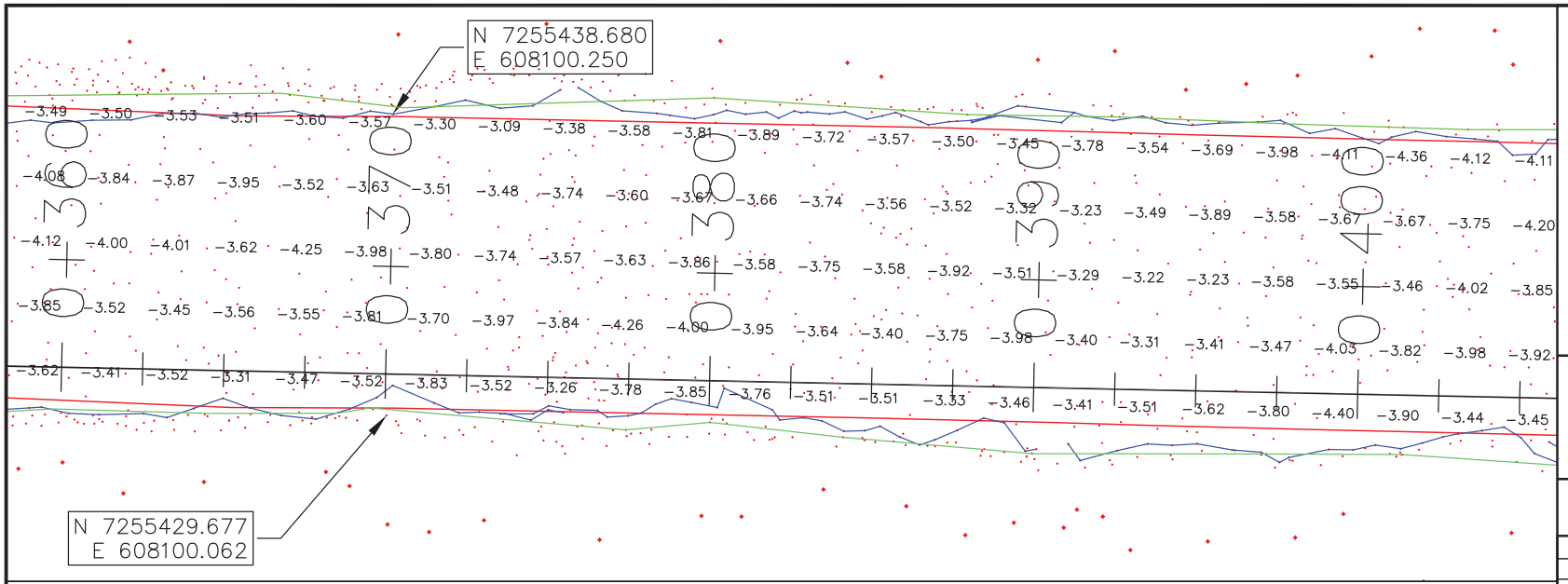
DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-03-11
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021-03-18		

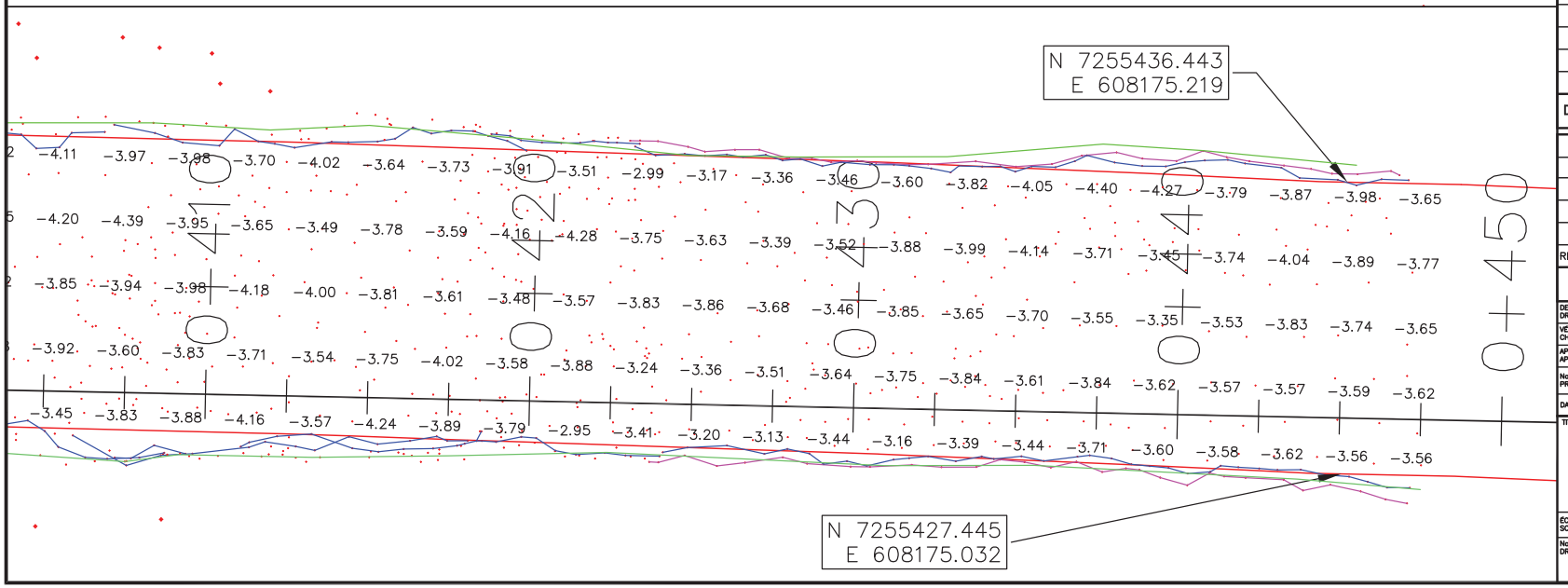
TITRE / TITLE

AGNICO-EAGLE
IVR DIKE AMARUQ
AS BUILD APPROVAL
0+324 TO 0+370

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
AB EXC APPROVAL		1 / 1





TOE THEORETICAL
TOE BOTTOM KEY TRENCH
TOE @ 3M UNDER OG

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–22		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+370 @ 0+445

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Approved bedrock surface, Sta. 0+340 to 0+377, view looking W.

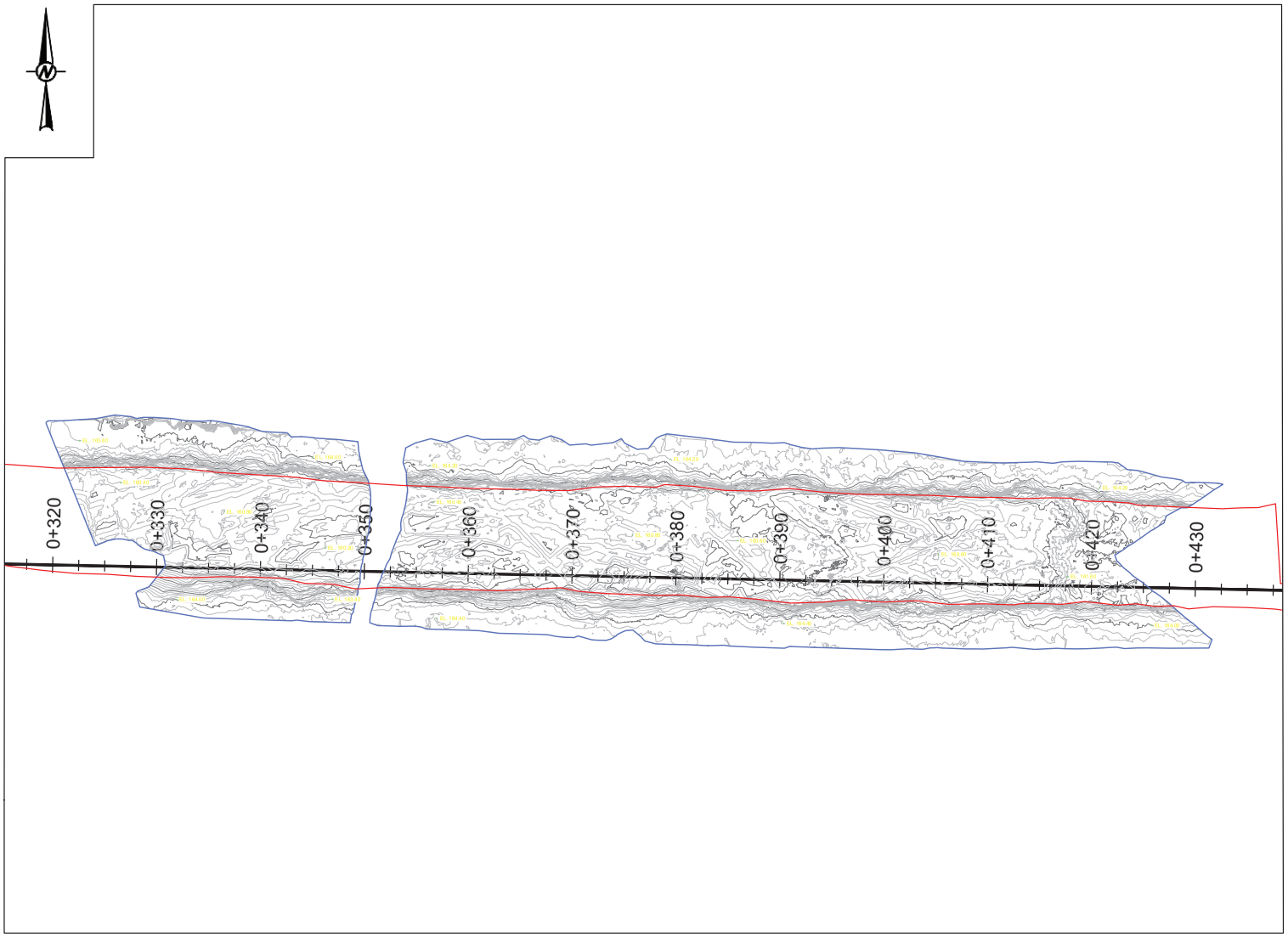
Date: 2021-03-17
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Fractured zone in top 1 m of bedrock in upstream trench wall, approx. Sta. 0+330, view looking N

Date: 2021-03-16
Photo By: SS



LEGEND

CONTOURS (0.2 M AND 1.0 M)

ZONE 2B (FFAB) - KEY TRENCH PLACEMENT

NOTE(S)

1. BEDROCK SCANNING COMPLETED BY AEM.

REFERENCE(S)

1. BEDROCK SCAN SURVEY PROVIDED BY AEM ON MAY 2, 2021.

0 6 12 Meters

CLIENT
AGNICO EAGLE MINING INC.

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-05-25
DESIGNED	BG
PREPARED	BG
REVIEWED	MH
APPROVED	MH

PROJECT
AMARUQ MINE: IVR D-1 DIKE CONSTRUCTION

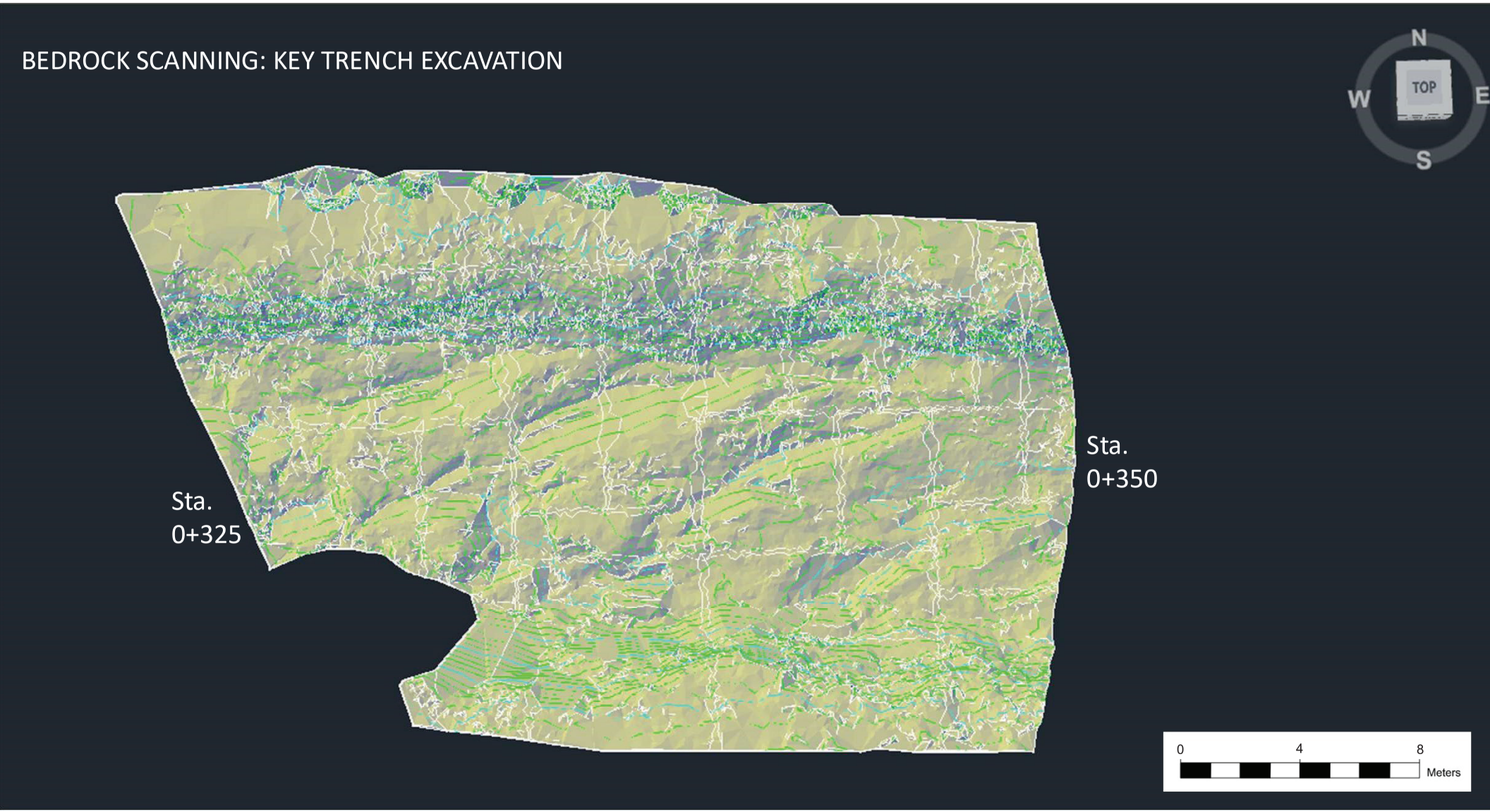
TITLE
BEDROCK SCANNING KEY TRENCH FOUNDATION

PROJECT NO.	CONTROL	REV.	FIGURE
21452873	0001	A	1

Path: \\golder.gds\corp\edata\of\toronto\data\gis\Projects\Agnico_Eagle\Amaruq\SMC\Client\Atlantic_GoldBeaver\99_PROJ\20142100_Atlantic_Mining_Design\Services\40_PROD\0001_Stockpile Design Figures\ | File Name: Amaruq Bedrock.dwg | Last Edited By: bgray Date: 2021-05-25 Time:2:21:20 PM | Printed By: BGray Date: 2021-05-25 Time:2:22:28 PM

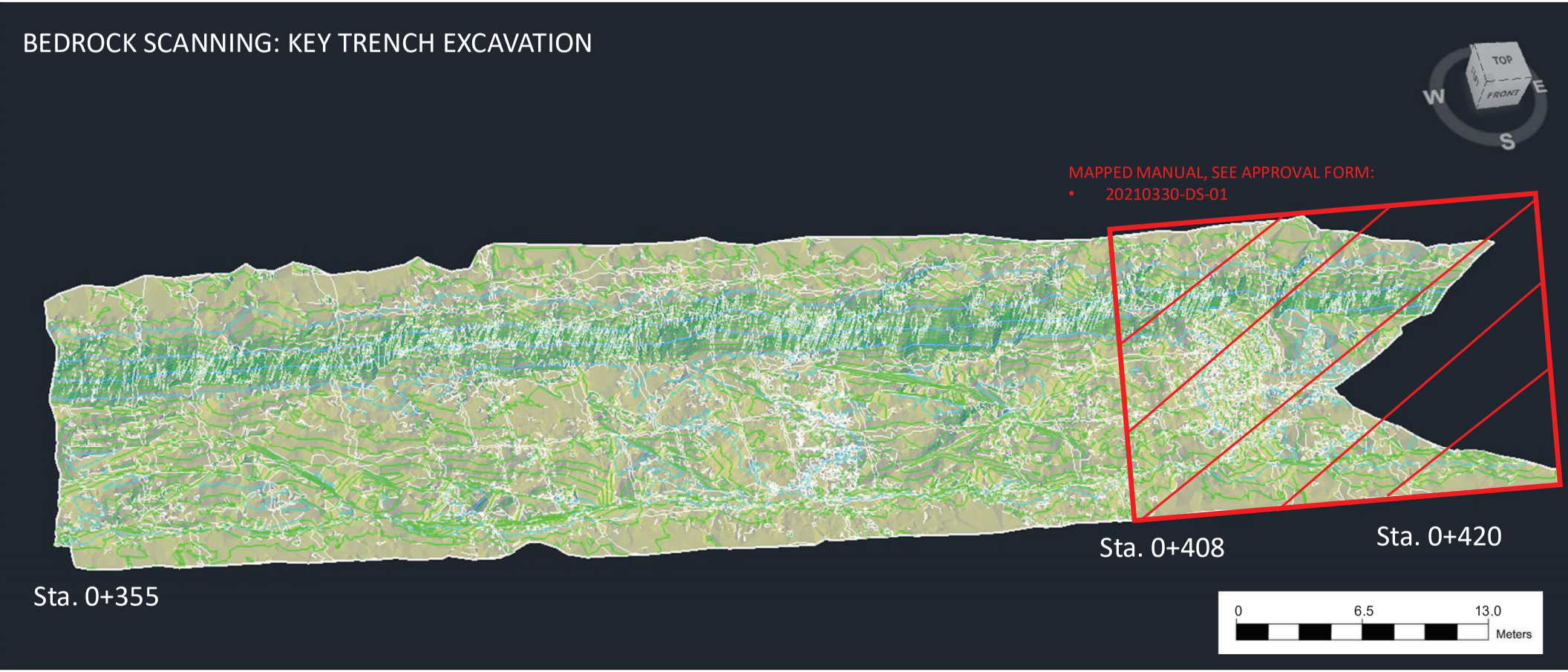
0 25 mm

BEDROCK SCANNING: KEY TRENCH EXCAVATION



High resolution point cloud scan of bedrock mapping is with AEM Engineering, low quality dwg. is provided for reference.

BEDROCK SCANNING: KEY TRENCH EXCAVATION



High resolution point cloud scan of bedrock mapping is with AEM Engineering, low quality dwg. is provided for reference.

APPROVAL FORM

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210318-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 18, 2021

TIME: 18:00
(24 hour clock)
and March 19, 2021
13:00

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION

Station 0+377 to 0+408

Inclination:

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: 0+340 to 0+377

Details:

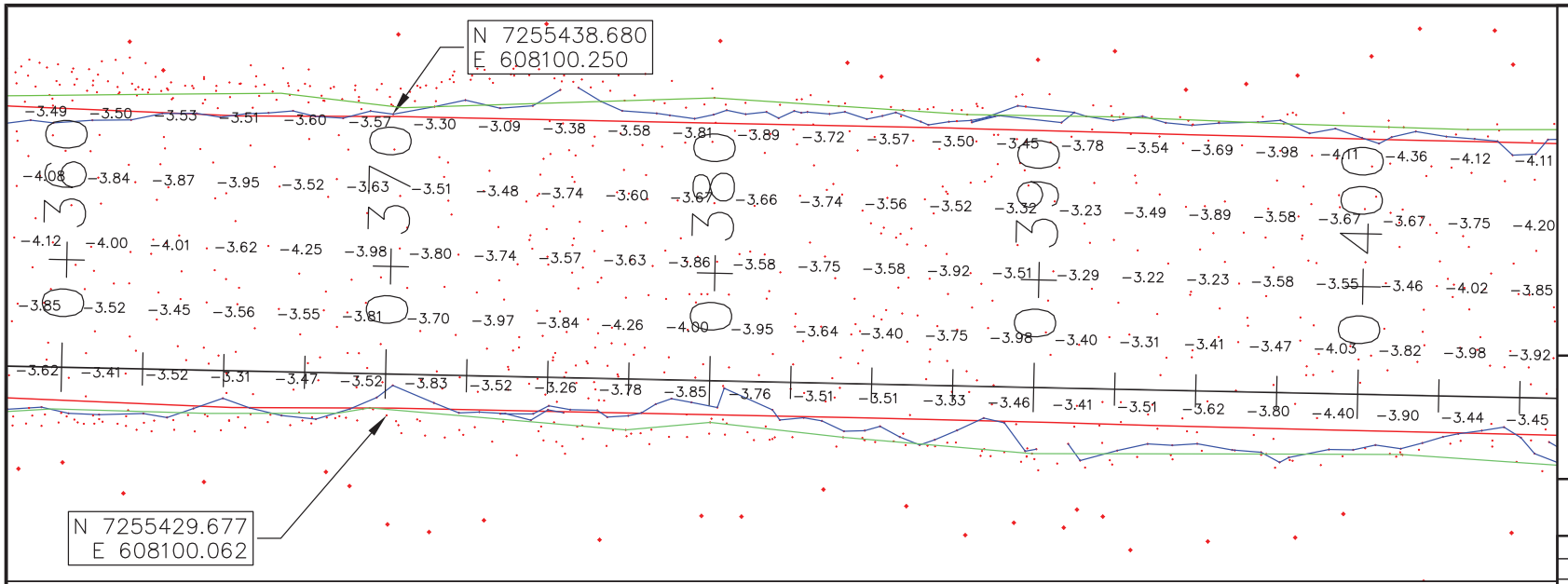
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

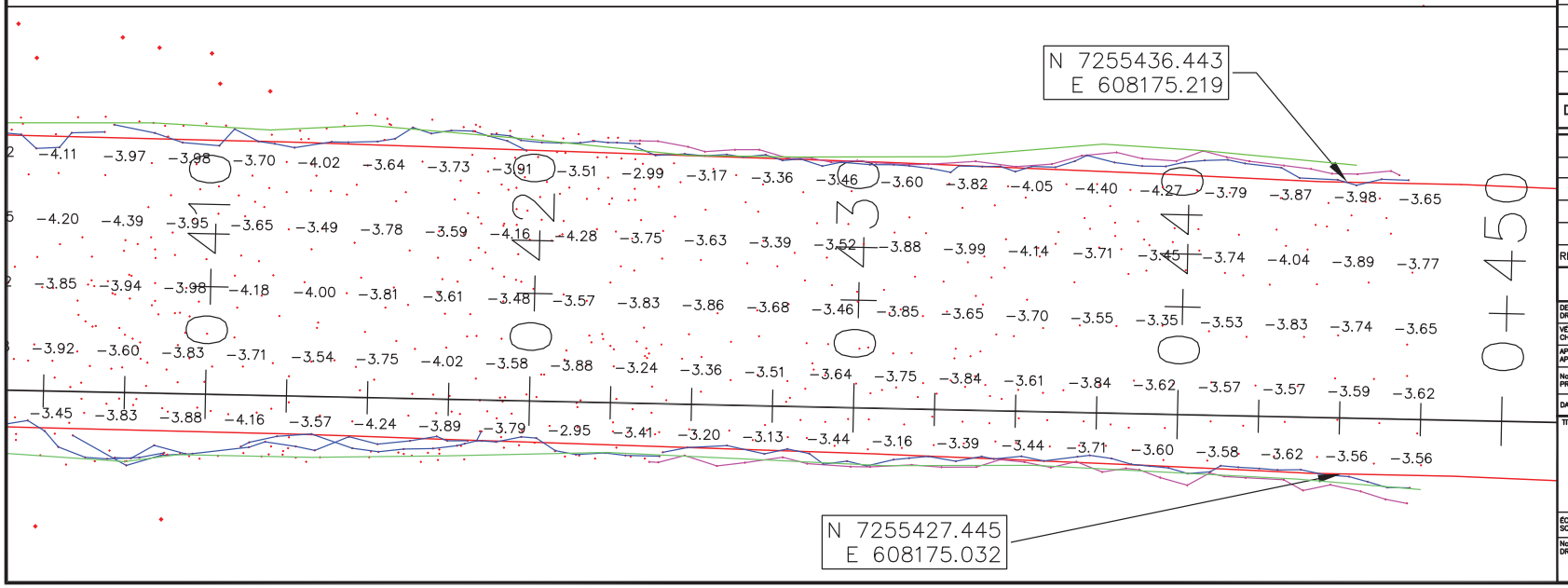
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of cut-off trench	✓				
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓				
8. As built survey completed	✓				
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA Y	QA N	QC Y	QC N
ITEM					
	Bedrock similar to previous sections. High quality, tight joints with no in filling.				
	Section mapped by scanner.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Marvel Brisebois		20/03/21
QC REPRESENTATIVE	Ryan Okkema		21/03/21
QA REPRESENTATIVE	Shai Spilling		20/03/21
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		20.03.21





TOE THEORETICAL
TOE BOTTOM KEY TRENCH
TOE @ 3M UNDER OG

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–22		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+370 @ 0+445

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Approved key trench foundation surface, Sta. 0+377 to 0+408, view looking E.

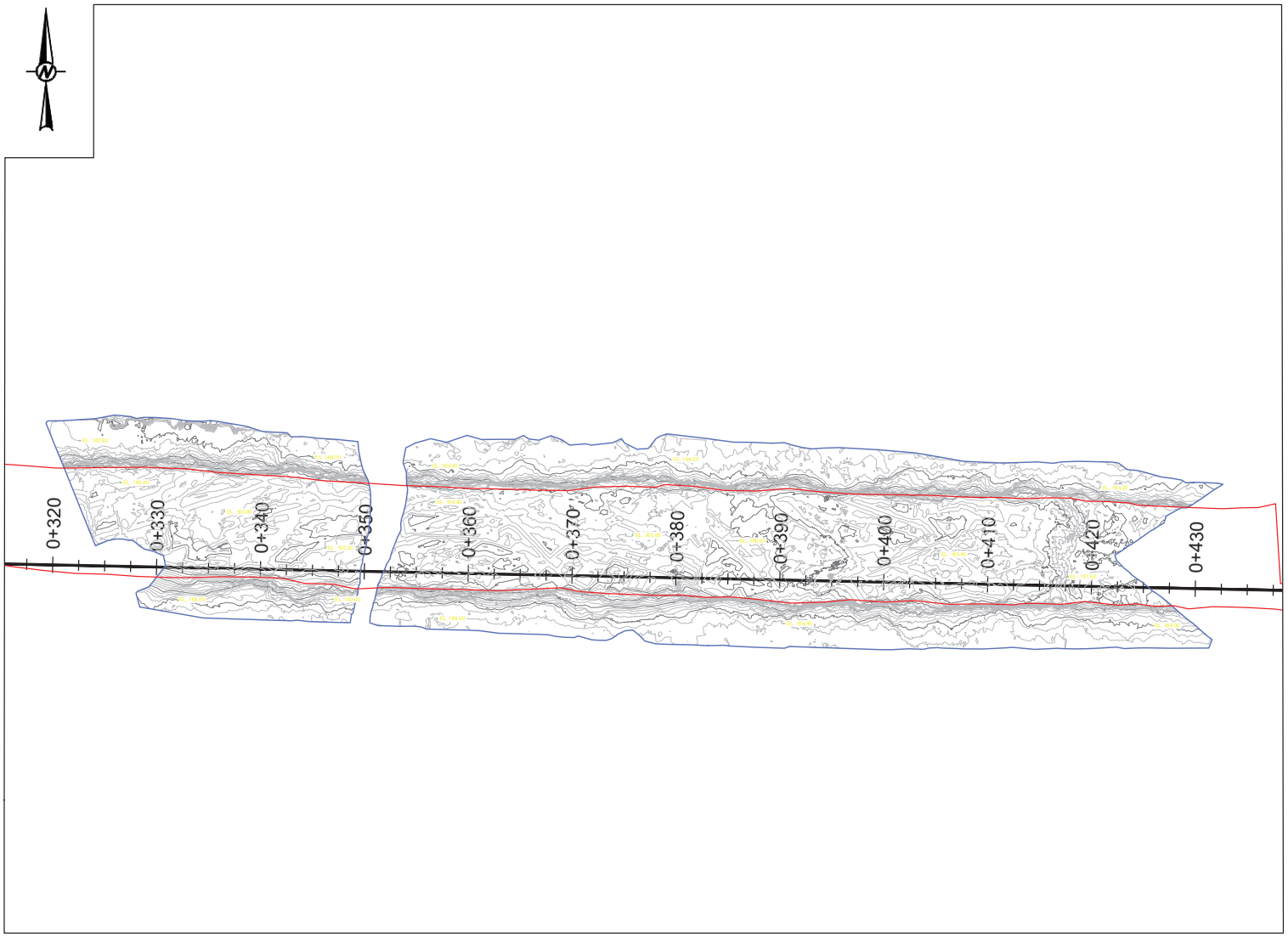
Date: 2021-03-18
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Upstream trench wall, Sta. 0+377 to 0+408, view looking N

Date: 2021-03-18
Photo By: SS



LEGEND

CONTOURS (0.2 M AND 1.0 M)

ZONE 2B (FFAB) - KEY TRENCH PLACEMENT

NOTE(S)

1. BEDROCK SCANNING COMPLETED BY AEM.

REFERENCE(S)

1. BEDROCK SCAN SURVEY PROVIDED BY AEM ON MAY 2, 2021.

0 6 12 Meters

CLIENT
AGNICO EAGLE MINING INC.

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-05-25
DESIGNED	BG
PREPARED	BG
REVIEWED	MH
APPROVED	MH

PROJECT
AMARUQ MINE: IVR D-1 DIKE CONSTRUCTION

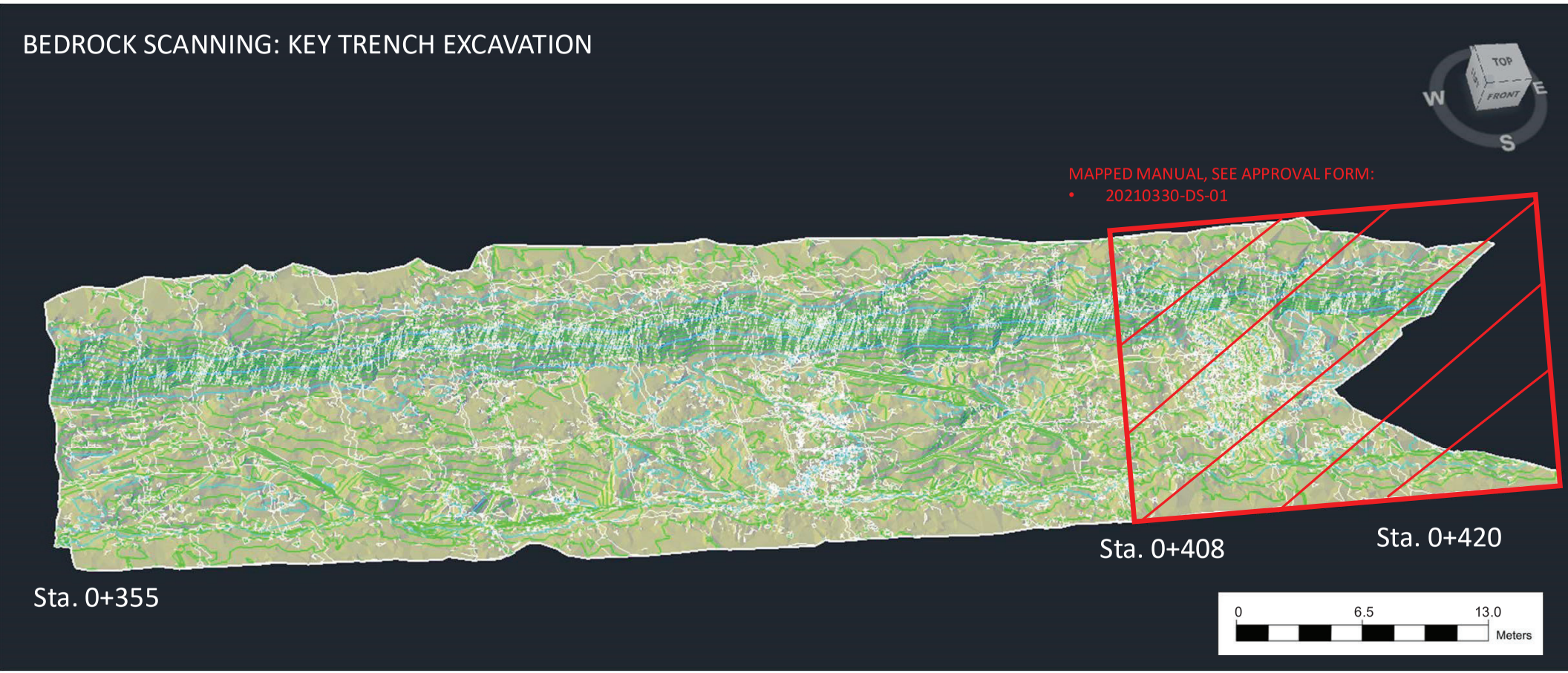
TITLE
BEDROCK SCANNING KEY TRENCH FOUNDATION

PROJECT NO.	CONTROL	REV.	FIGURE
21452873	0001	A	1

Path: \\golder.gds\corp\edata\of\toronto\data\gis\Projects\Agnico_Eagle\Amaruq\SMC\Client\Atlantic_GoldBeaver\99_PROJ\20142100_Atlantic_Mining_Design\Services\40_PROD\0001_Stockpile Design Figures\ | File Name: Amaruq Bedrock.dwg | Last Edited By: bgray Date: 2021-05-25 Time:2:21:20 PM | Printed By: BGray Date: 2021-05-25 Time:2:22:28 PM

0 25 mm

BEDROCK SCANNING: KEY TRENCH EXCAVATION



High resolution point cloud scan of bedrock mapping is with AEM Engineering, low quality dwg. is provided for reference.

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Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214452873 **DATE:** March 20, 2021

DOCUMENT #: 20210320 - DS - 01 **TIME:** 13:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+408 to 0+423	**Station:**	0+377 to 0+408
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of cut-off trench	✓				
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓				
8. As built survey completed	✓				
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
	Bedrock similar to previous sections. High quality, tight joints with no in filling.				
	Section mapped by hand.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Manuel Bussières		03/21/21
QC REPRESENTATIVE	Ryan Oldkema		03/21/21
QA REPRESENTATIVE	Shai Spilberg	D.S.	March 20, 2021
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		03.21.2021.

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: 0+408 to 0+423 | Date: Month 03, Day 20, Year 21 | Inspector: SS

Locality Type: Liner tie-in (key trench)

Slope Length: 1 | No. of supplementary sheets of discontinuity data sheets: 1

Slope Height: 1 | Azimuth:

Slope Angle: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

ROCK MATERIAL INFORMATION

Color: 1 | 2 | 9 | Grain size: 4-5 | Compressive strength: R3 - R4

1. Light
2. Dark

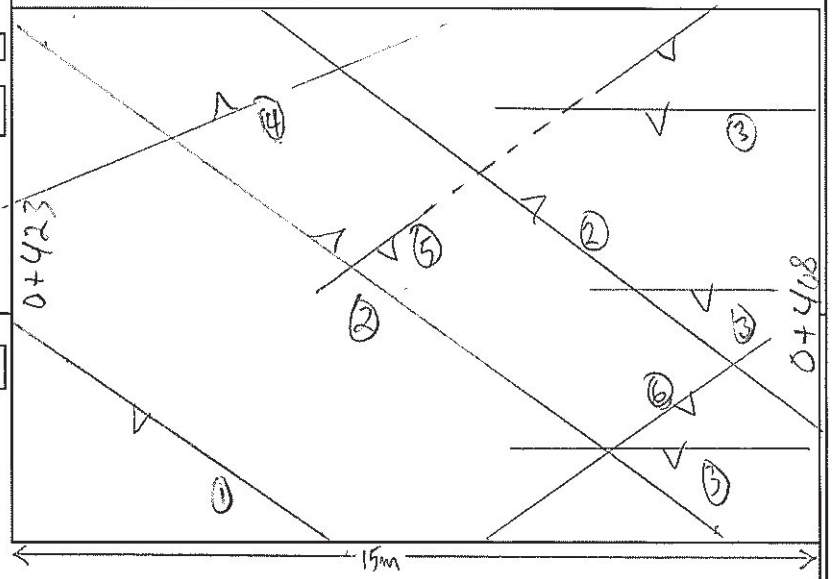
1. Pinkish
2. Reddish
3. Yellowish
4. Brownish
5. Olive
6. Greenish
7. Bluish
8. Greyish

1. Pink
2. Red
3. Yellow
4. Brown
5. Olive
6. Green
7. Blue
8. White
9. Grey
10. Black

1. Very coarse (>60 mm)
2. Coarse (2-60 mm)
3. Medium (60 μ - 2 mm)
4. Fine (2-60 μ)
5. Very fine (<2 μ)

		MPa
S1	Very soft clay	<0.025
S2	Soft clay	0.025-0.05
S3	Firm clay	0.05-0.10
S4	Stiff clay	0.10-0.25
S5	Very stiff clay	0.25-0.50
S6	Hard clay	>0.50
R0	Extremely weak rock	0.25-1.0
R1	Very weak rock	1.0-5.0
R2	Weak rock	5.0-25
R3	Medium strong rock	25-50
R4	Strong rock	50-100
R5	Very strong rock	100-250
R6	Extremely strong rock	>250

Schematic of discontinuities within the Liner Tie-in



Methods to determine compressive strength: 2 (1. Measured, 2. Assessed)

Rock Type: diorite

ROCK MASS INFORMATION

Fabric: 1 | Block size: 2 | State of weathering: 2-3 | No. of major discontinuity sets: —

1. Blocky
2. Tabular
3. Columnar
4. Shattered

1. Very large (>8 m3)
2. Large (0.2-8 m3)
3. Medium (0.008-0.2 m3)
4. Small (0.0002 - 0.008 m3)
5. Very small (<0.0002 m3)

1. Fresh
2. Slightly
3. Moderately
4. Highly
5. Completely
6. Residual soil

Set #	Spacing
1	
2	
3	
4	
5	

GSI:

Discontinuity spacing:
1. Extremely close (<20 mm)
2. Very close (20-60 mm)
3. Close (60 - 200 mm)
4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 mm)
7. Ext. wide (>6000 m)

REMARKS (exposure type/age, stability condition, design issues etc.)

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit	Station ID	Project Element	Date (Month / Day / Year)	Inspector	Discontinuity data sheet no.	of
			03 / 20 / 2021	SS	2	2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	J	156	45	4	0	1	1	R3-4	R	P	—	—	—	* Strike/dip taken with Brunton Compass
2	JS	143	34	4	1	1	1	R3-4	R	P	6	—	2	
3	JS	145	40	4	1	1	1	R3-4	R	P	9/3	—	3	
4	J	268	8	3	1	1	1	R3-4	R	P	—	—	—	
5	J	283	46	3	0	1	1	R3-4	R	P	—	—	—	
6	J	306	43	2	1	1	1	R3-4	R	P	—	—	—	

Type

FZ - Fault Zone
F – Fault
J -- Joint (single)
JS -- Joint Set
Sch -- Schistosity
SH – Shear
Fo -- Foliation
TC -- Tension Crack
B – Bedding

Persistence

1. Very low persistence — <3ft
2. Low persistence — 3-10 ft
3. Medium persistence — 10-30 ft
4. High persistence — 30-60 ft
5. Very high persistence — >60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10., Gouge
11

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

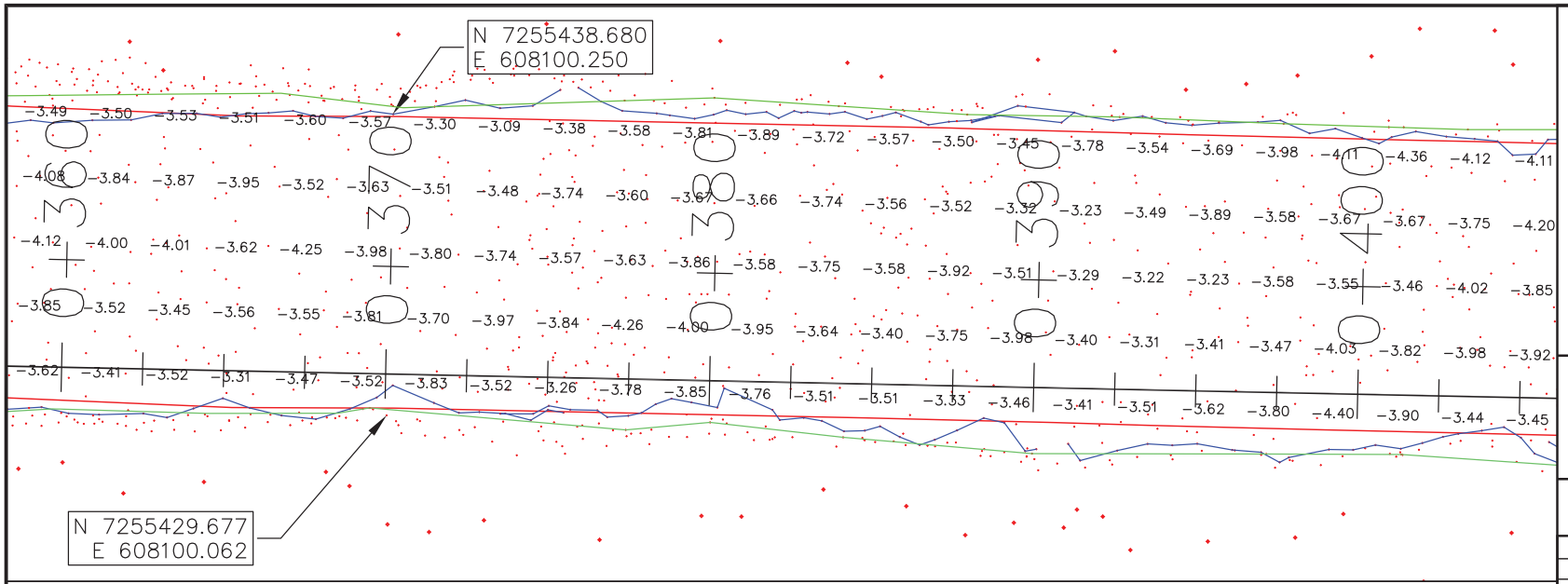
		MPa
S1	Very soft clay	<0.025
S2	Soft clay	0.025-0.05
S3	Firm clay	0.05-0.10
S4	Stiff clay	0.10-0.25
S5	Very stiff clay	0.25-0.50
S6	Hard clay	>0.50
R0	Extremely weak rock	0.25-1.0
R1	Very weak rock	1.0-5.0
R2	Weak rock	5.0-25
R3	Medium strong rock	25-50
R4	Strong rock	50-100
R5	Very strong rock	100-250
R6	Extremely strong rock	>250

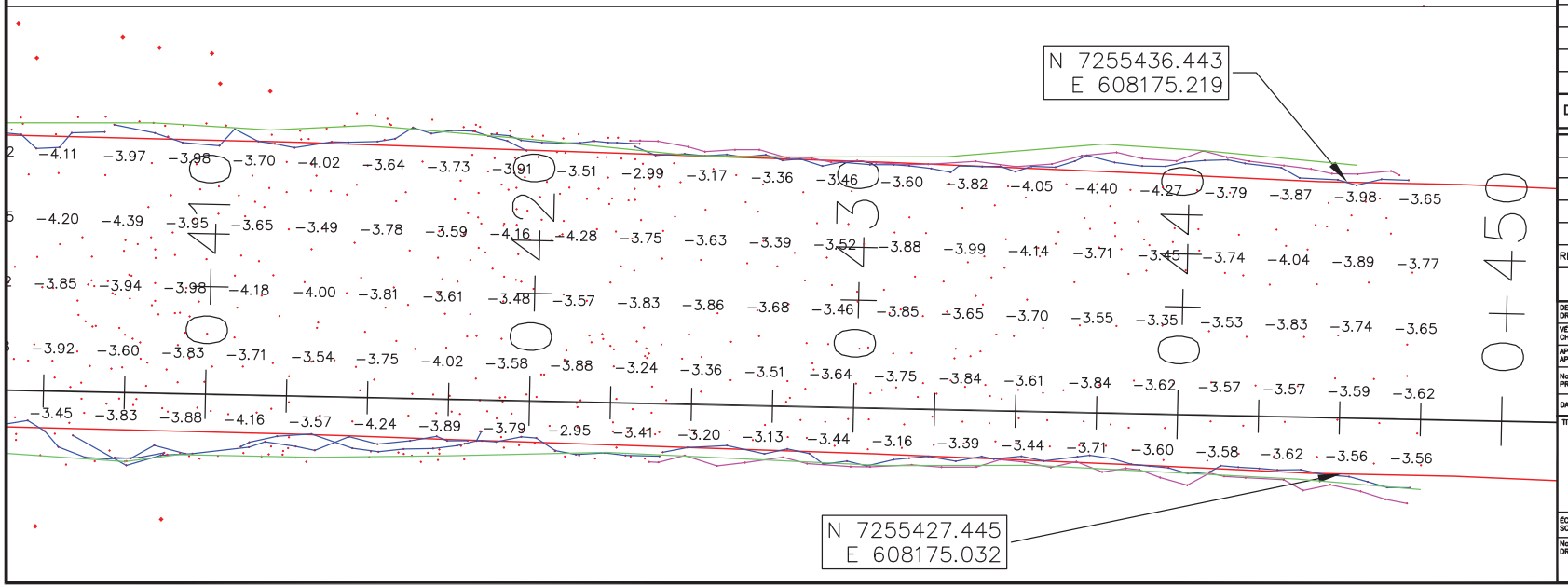
JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces —or— Gouge <5mm thick —or— Separation 1-5mm Continuous	6
Soft gouge > 5mm thick —or— Separation >5mm Continuous	0

Notes:





TOE THEORETICAL
TOE BOTTOM KEY TRENCH
TOE @ 3M UNDER OG

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–22		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+370 @ 0+445

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Approved key trench foundation surface, Sta. 0+408 to 0+4023, view looking S.

Date: 2021-03-20
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March. 30, 2021

DOCUMENT #: 20210330-DS-01 **TIME:** 17:30

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION

Station Sta. 0+423-0492

Inclination:

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: Sta. 0+408 → 0+423

Details: 20210320-DS-01

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓		✓		
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
2.0	Three pockets of ice were observed	✓		✓	
	in the bedrock along base of key trench at:				
	1) Sta. 0+435, near U/S wall @ 4.4 mbgs				
	2) Sta 0+436, near D/S wall @ 4.0 mbgs				
	3) Sta. 0+438, 3m D/S of key trench ℄ @ 4.2 mbgs.				
	6"-12" of ice was removed below surface and was observed to be continuous w depth. Ice to remain in place as probability of thaw @ 4-4.5 mbgs is minimal.				
3.0	HCG to remove snow along D/S side wall in advance of zone 3 placement.	✓		✓	
	Observations				
	Sound bedrock, heavily jointed in some areas, joints observed to be tight (0.1-0.25 mm). Overburden observed 1-2 mbgs from 0+420 to ~~0+430~~ 0+430 & increasing in thickness moving East to +3.0 mbgs @ sta. 0+442				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laroche		31-03-2021
QC REPRESENTATIVE	Chantal Pawlychka		Mar/31/2021
QA REPRESENTATIVE	Brandon Gray		Mar 30 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		31 MAR 2021

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: 512.01423-7442 | Date: Month 03, Day 30, Year 2021 | Inspector: BG

Locality Type: Liner tie-in (key trench)

Slope Length: /

No. of supplementary sheets of discontinuity data sheets: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

Slope Height: /

Azimuth:

Slope Angle: /

ROCK MATERIAL INFORMATION

Color: 1 | 4 | 9/2

Grain size: 4-5

Compressive strength: R3-R4

1. Light
2. Dark

1. Pinkish
2. Reddish
3. Yellowish
4. Brownish
5. Olive
6. Greenish
7. Bluish
8. Greyish

1. Pink
2. Red
3. Yellow
4. Brown
5. Olive
6. Green
7. Blue
8. White
9. Grey
10. Black

1. Very coarse (>60 mm)
2. Coarse (2-60 mm)
3. Medium (60 μ - 2 mm)
4. Fine (2-60 μ)
5. Very fine (<2 μ)

		MPa
S1	Very soft clay	<0.025
S2	Soft clay	0.025-0.05
S3	Firm clay	0.05-0.10
S4	Stiff clay	0.10-0.25
S5	Very stiff clay	0.25-0.50
S6	Hard clay	>0.50
R0	Extremely weak rock	0.25-1.0
R1	Very weak rock	1.0-5.0
R2	Weak rock	5.0-25
R3	Medium strong rock	25-50
R4	Strong rock	50-100
R5	Very strong rock	100-250
R6	Extremely strong rock	>250

ROCK MASS INFORMATION

Fabric: 1

Block size: 3

State of weathering: 2

No. of major discontinuity sets: 2

1. Blocky
2. Tabular
3. Columnar
4. Shattered

1. Very large (>8 m3)
2. Large (0.2-8 m3)
3. Medium (0.008-0.2 m3)
4. Small (0.0002 - 0.008 m3)
5. Very small (<0.0002 m3)

1. Fresh
2. Slightly
3. Moderately
4. Highly
5. Completely
6. Residual soil

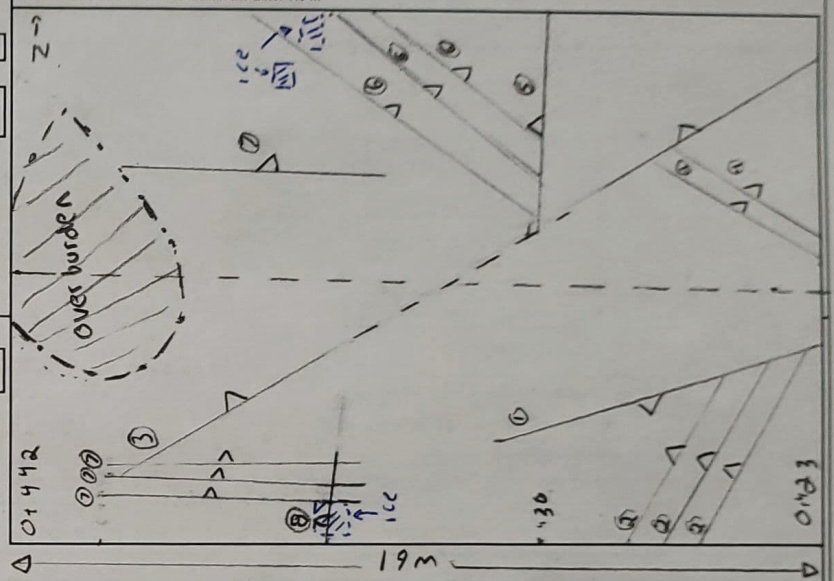
Set #	Spacing
1	
2	
3	
4	
5	

GSI:

Discontinuity spacing: 1. Extremely close (<20 mm) | 2. Very close (20-60 mm) | 3. Close (60 - 200 mm)

4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 mm)
7. Ext. wide (>6000 m)

Schematic of discontinuities within the Liner Tie-in



Methods to determine compressive strength: 2 (1. Measured, 2. Assessed)

Rock Type:

REMARKS (exposure type/age, stability condition, design issues etc.)

21452873
QA FOR IVR DIKE CONSTRUCTION

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit	Station ID	Project Element	Date (Month / Day / Year)	Inspector	Discontinuity data sheet no.
IVR Dyke	0+429->442	21452873	03 / 30 / 2021	BG	2 of 2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	J	70	40	3	1	2	2	R3	R	P	<1	25	/	* Strike & dip taken with
2	J	30	55	2	1	2	2	R3	R	P	<1	20	/	suunto compass.
3	J	40	60	3	1	2	2	R3	R	P	/	25	/	
4	J	100	75	2	1	2	2	R3	R	P	<1	20	/	
5	J	170	60	3	1	2	2	R3	R	P	/	25	/	
6	J	350	30	2	1	2	2	R3	R	P	2-4	25	/	
7	J	85	60	3	2	2	2	R3	R	P	<1	20	/	
8	J	350	60	1	1	6	11	R1	S	P	/	/	/	open joint filled w ice.

Type

FZ - Fault Zone
F – Fault
J – Joint (single)
JS – Joint Set
Sch – Schistosity
SH – Shear
Fo – Foliation
TC – Tension Crack
B – Bedding

Persistence

1. Very low persistence <3ft
2. Low persistence 3-10 ft
3. Medium persistence 10-30 ft
4. High persistence 30-60 ft
5. Very high persistence > 60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10. Gouge
11 Ice

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

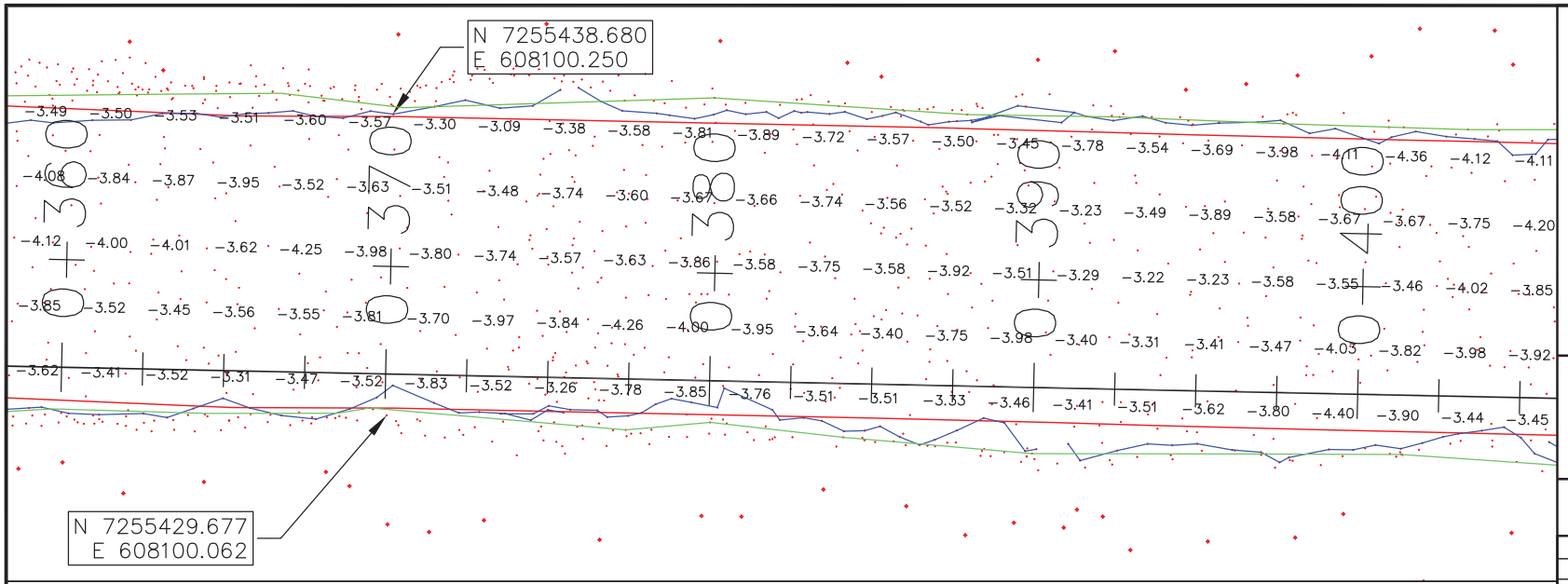
	MPa
S1 Very soft clay	<0.025
S2 Soft clay	0.025-0.05
S3 Firm clay	0.05-0.10
S4 Stiff clay	0.10-0.25
S5 Very stiff clay	0.25-0.50
S6 Hard clay	>0.50
R0 Extremely weak rock	0.25-1.0
R1 Very weak rock	1.0-5.0
R2 Weak rock	5.0-25
R3 Medium strong rock	25-50
R4 Strong rock	50-100
R5 Very strong rock	100-250
R6 Extremely strong rock	>250

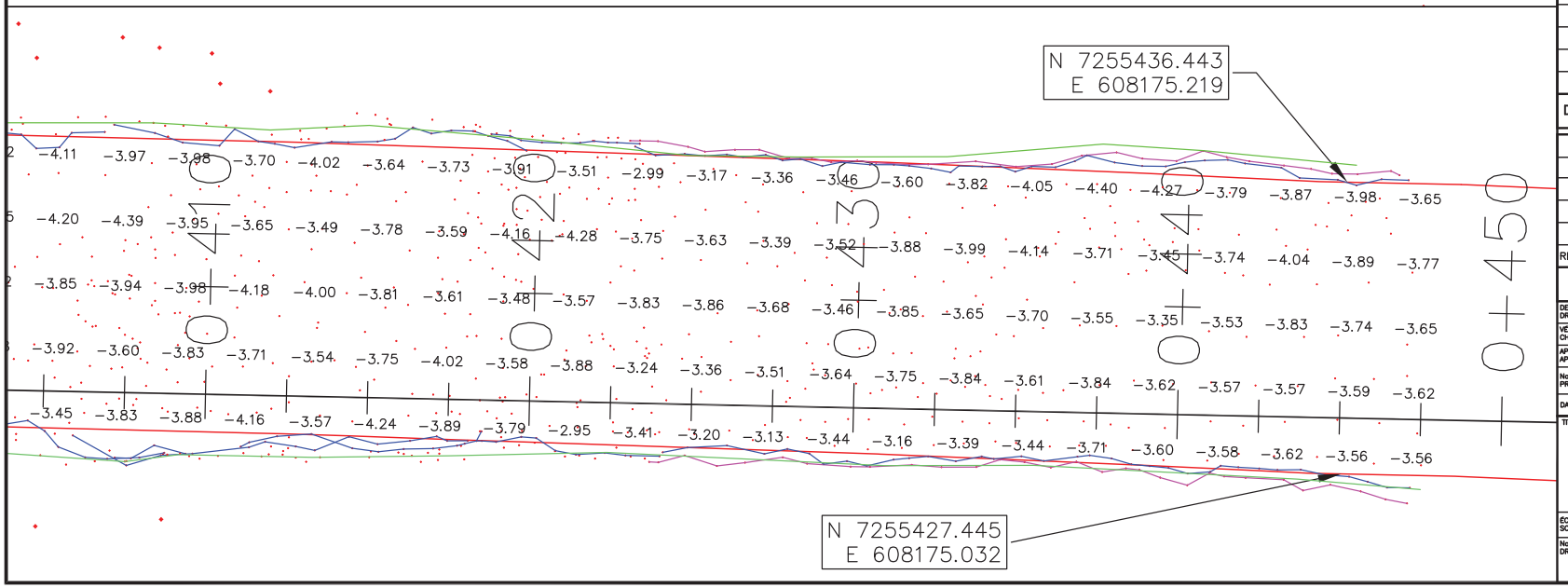
JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces -or- Gouge <5mm thick -or- Separation 1-5mm Continuous	6
Soft gouge > 5mm thick -or- Separation >5mm Continuous	0

Notes:





TOE THEORETICAL
TOE BOTTOM KEY TRENCH
TOE @ 3M UNDER OG

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–03–11
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–22		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+370 @ 0+445

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 1: Upstream sidewall of key trench at approx. Sta. 0+420, view looking NE.

Date: 2021-03-30
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 2: Downstream sidewall of key trench at approx. Sta. 0+120, view looking E.

Date: 2021-03-30
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 3: Approved section of key trench at approx. Sta. 0+120, view looking E.

Date: 2021-03-30
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 4: Approved section of key trench at approx. Sta. 0+440, view looking E. Thin layer of glacial till observed overlaying bedrock.

Date: 2021-03-30
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 5: Ice pockets observed along base of key trench in bedrock at approx. Sta.0+435 view SE. Ice pocket #2, 4.0 mbgs and ice pocket #3 4.2 mbgs.

Date: 2021-03-30
Photo By: BG

IVR DYKE: FOUNDTATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 6: Ice pocket approximately 0.5 m2 in size observed along base of key trench in bedrock at Sta.0+435 at 4.4 mbgs, view SE.

Date: 2021-03-30
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873

DATE: Mar. April. 1, 2021

DOCUMENT #: 20210401-DS-04

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 17:00

(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+442 -> 465	**Station:**	Sta. 0+423 -> 442
Inclination:		**Details:**	20210330-DS-01
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓		✓		
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
2.0	Pocket of ice observed in bedrock along base of key trench at Sta. 01 3m U/S of key trench ℄ @ 9.2 mbgs. 6-12" of ice was removed below surface & was observed to be continuous w depth. ice to remain in place as probability of thaw is minimal @ this depth.	✓		✓	
3.0	HCG to remove snow along D/S sidewall in advance of zone 3 placement.	✓		✓	
	Observations:				
	Foundation consisted of bedrock & thin layer of glacial till overlaying bedrock. Bedrock dipping towards the south, ~2m of bedrock observed along U/S sidewall, no bedrock along D/S sidewall. Small accumulations of ice observed in some areas b/w contact w glacial till & Bedrock.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laraich		02-04-21
QC REPRESENTATIVE	Chantal Pawlychka		Apr/02/2021
QA REPRESENTATIVE	Brandon Gray		April-1-2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		2nd Apr 21

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: Sta. 0+442 - 0+465

Date: Month 04 Day 01 Year 2021

Inspector: BG

Locality Type: Liner tie-in (key trench)

Slope Length: 1

No. of supplementary sheets of discontinuity data sheets: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

Slope Height: 1

Azimuth:

Slope Angle: 1

ROCK MATERIAL INFORMATION

Color: 1 2 9

Grain size: 4-5

Compressive strength: 123-124 MPa

1. Light
2. Dark

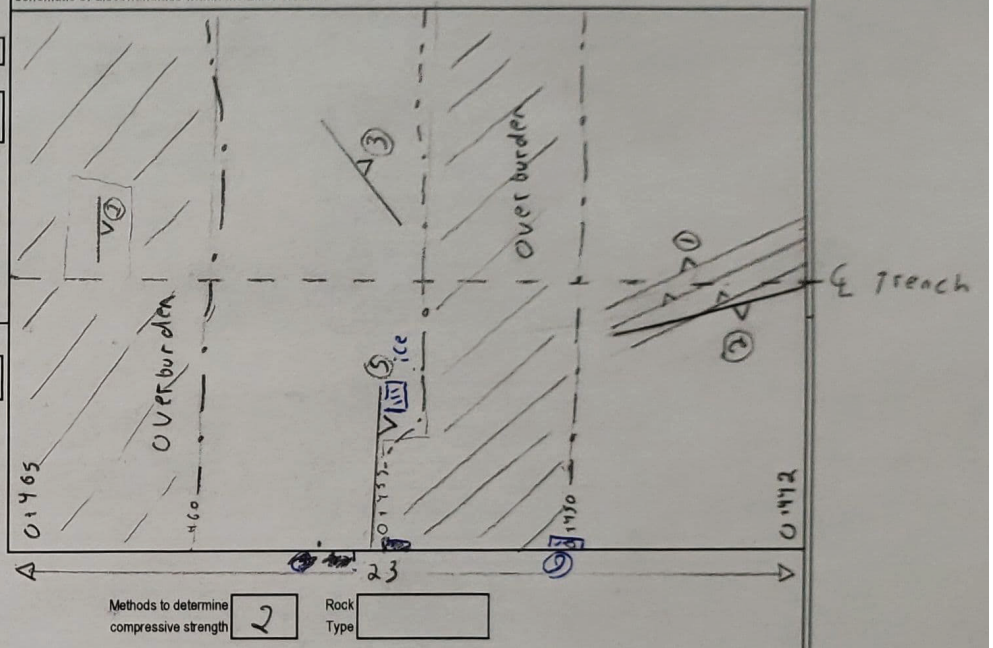
1. Pinkish
2. Reddish
3. Yellowish
4. Brownish
5. Olive
6. Greenish
7. Bluish
8. Greyish

1. Pink
2. Red
3. Yellow
4. Brown
5. Olive
6. Green
7. Blue
8. White
9. Grey
10. Black

1. Very coarse (>60 mm)
2. Coarse (2-60 mm)
3. Medium (60 μ - 2 mm)
4. Fine (2-60 μ)
5. Very fine (<2 μ)

	MPa
S1 Very soft clay	<0.025
S2 Soft clay	0.025-0.05
S3 Firm clay	0.05-0.10
S4 Stiff clay	0.10-0.25
S5 Very stiff clay	0.25-0.50
S6 Hard clay	>0.50
R0 Extremely weak rock	0.25-1.0
R1 Very weak rock	1.0-5.0
R2 Weak rock	5.0-25
R3 Medium strong rock	25-50
R4 Strong rock	50-100
R5 Very strong rock	100-250
R6 Extremely strong rock	>250

Schematic of discontinuities within the Liner Tie-in



Methods to determine compressive strength: 2

1. Measured
2. Assessed

Rock Type:

ROCK MASS INFORMATION

Fabric: 1

1. Blocky
2. Tabular
3. Columnar
4. Shattered

Block size: 3

1. Very large (>8 m3)
2. Large (0.2-8 m3)
3. Medium (0.008-0.2 m3)
4. Small (0.0002 - 0.008 m3)
5. Very small (<0.0002 m3)

State of weathering: 2

1. Fresh
2. Slightly
3. Moderately
4. Highly
5. Completely
6. Residual soil

No. of major discontinuity sets: 1

Set #	Spacing
1	
2	
3	
4	
5	

GSI:

Discontinuity spacing:

1. Extremely close (<20 mm)
2. Very close (20-60 mm)
3. Close (60 - 200 mm)
4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 mm)
7. Ext. wide (>6000 m)

REMARKS (exposure type/age, stability condition, design issues etc.)

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit	Station ID	Project Element	Date: Month	Day	Year	Inspector	Discontinuity data sheet no.		of	
								2		2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	B	270	40	4	0	2	1	R3	R	P	5 1	20	/	* strike & dip taken with
2	J	330	50	2	2	2	1	R3	P	P	/	25	/	Suunto compass
3	J	140	30	2	2	2	1	R3	P	P	2	20	/	
4	J	230	65	2	1	2	1	R3	R	P	/	25	/	
5	J	170	60	3	1	2	1	R3	R	P	/	25	/	
6	J	160	58	2	2	7	11	R1	3	P	/	/	/	open joint Filled with ice along U/S side wall. at sta. 0+950.

Type

- FZ - Fault Zone
- F – Fault
- J – Joint (single)
- JS – Joint Set
- Sch – Schistosity
- SH – Shear
- Fo – Foliation
- TC – Tension Crack
- B – Bedding

Persistence

1. Very low persistence <3ft
2. Low persistence 3-10 ft
3. Medium persistence 10-30 ft
4. High persistence 30-60 ft
5. Very high persistence > 60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10. Gouge
11 ICC

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

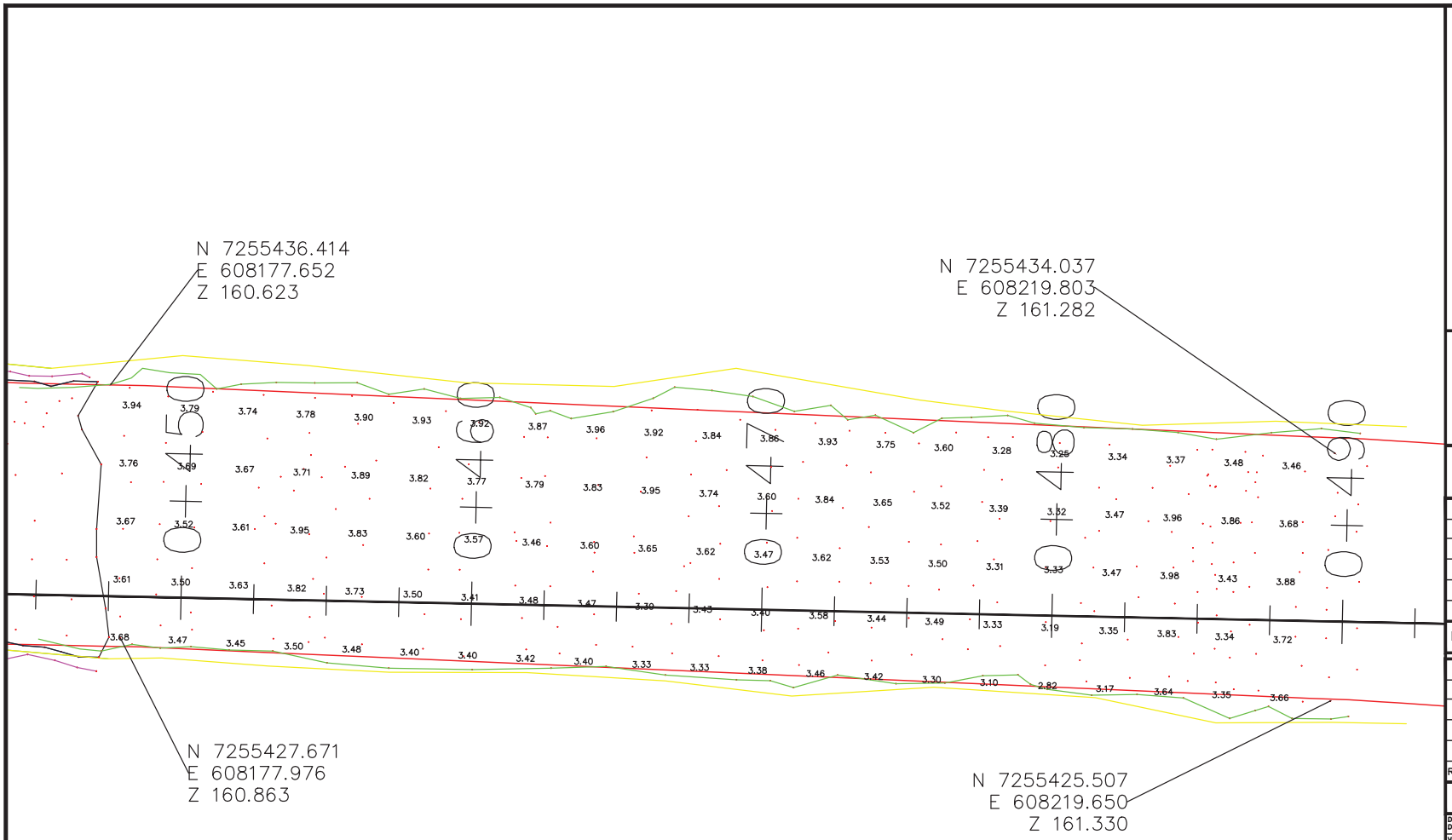
	MPa
S1 Very soft clay	<0.025
S2 Soft clay	0.025-0.05
S3 Firm clay	0.05-0.10
S4 Stiff clay	0.10-0.25
S5 Very stiff clay	0.25-0.50
S6 Hard clay	>0.50
R0 Extremely weak rock	0.25-1.0
R1 Very weak rock	1.0-5.0
R2 Weak rock	5.0-25
R3 Medium strong rock	25-50
R4 Strong rock	50-100
R5 Very strong rock	100-250
R6 Extremely strong rock	>250

JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces -or- Gouge <5mm thick -or- Separation 1-5mm Continuous	6
Soft gouge > 5mm thick -or- Separation >5mm Continuous	0

Notes:



TOE THEORETICAL
TOE BOTTOM KEY TRENCH
TOE @ 3M UNDER OG

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-04-03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021-04-01		

TITRE / TITLE

AGNICO-EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+442 @ 0+465

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

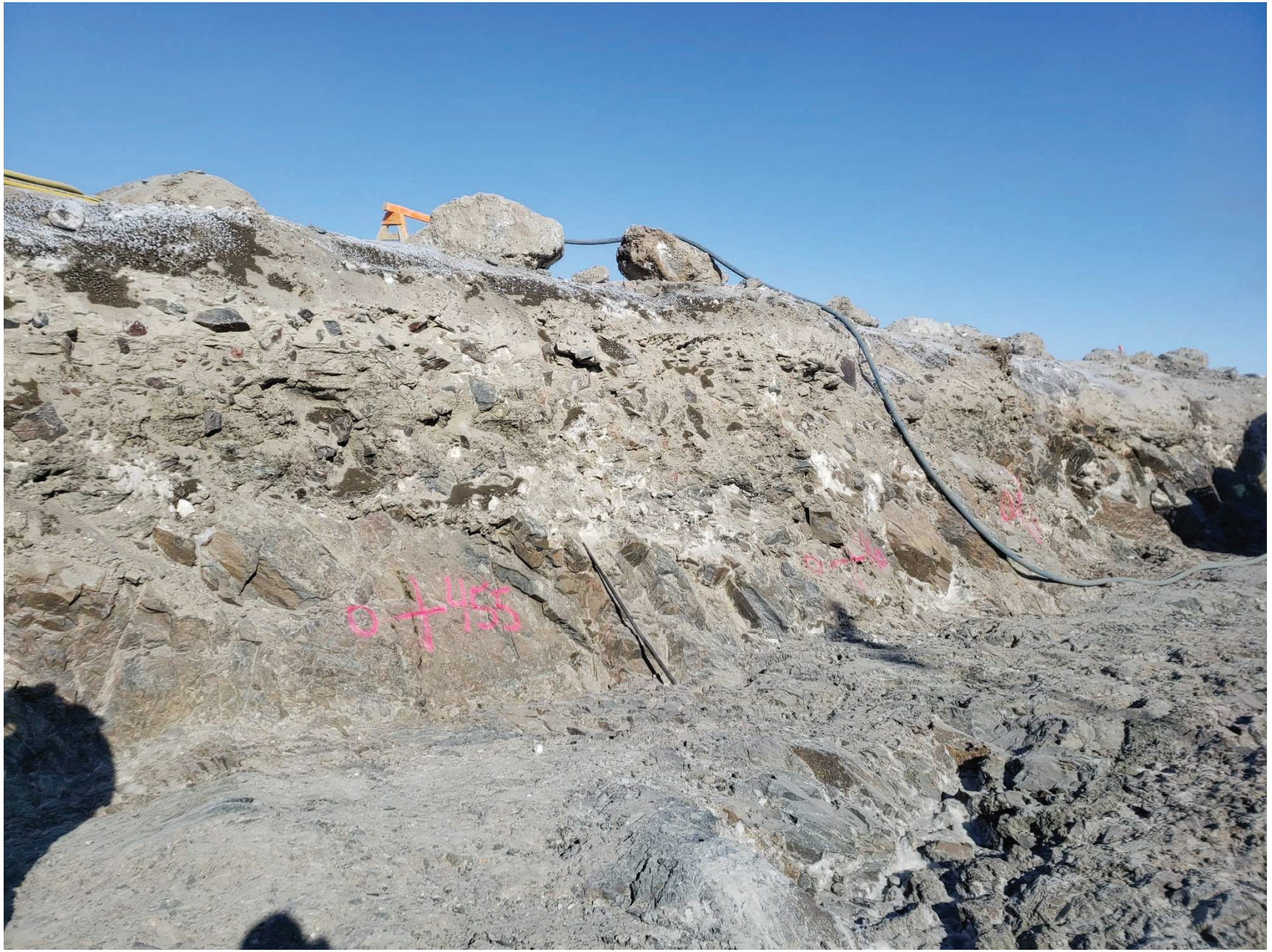
IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 1: Downstream sidewall of key trench excavation at Sta. 0+450, view looking SE.

Date: 2021-04-1
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 2: Upstream sidewall of key trench excavation at Sta. 0+455, view looking NE

Date: 2021-04-1
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 3: Approved section of key trench at approx. Sta. 0+450, view looking E.

Date: 2021-04-1
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 4: Ice pocket at Sta. 0+455 and 4.2 mbgs, view looking W.

Date: 2021-04-1
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 5: Joint infilled with ice (~15 cm thick) along upstream excavation sidewall at Sta. 0+450, view looking N.

Date: 2021-04-1
Photo By: BG

SNC·LAVALIN

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 7, 2021

DOCUMENT #: 20210407-DS-01 **TIME:** 16:30

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		PREVIOUS APPROVALS	
Station	0+465 to 0+482	Station:	0+442 to 0+465
Inclination:		Details:	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS: (Add additional items if needed)	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓		✓		
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
3.	Snow to be cleaned off U/S and D/S trench walls prior to material placement				
	Observations:				
	~2 m of bedrock observed on U/S trench wall, no bedrock observed on D/S wall. Bedrock dips south. Bedrock is grey but becomes reddish brown near surface due to oxidation. Majority of trench floor is covered with overburden. No visible ice in overburden. A sample was taken for ice content testing at 0+465.				
	Bedrock mapped manually with compass.				
1.	One spot around ~ Sta. 0+480 is 2 inches higher than grade. This is acceptable.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		Apr/09/2021
QC REPRESENTATIVE	Chantal Pawlychka		Apr/09/2021
QA REPRESENTATIVE	Shai Spilberg		April 7, 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		8 April 2021

21452873
QA FOR IVR DIKE CONSTRUCTION

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: 0+465 to 0+482 | Date: Month 04, Day 07, Year 21 | Inspector: S.S.

Locality Type: Liner tie-in (key trench)

Slope Length: /

No. of supplementary sheets of discontinuity data sheets: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

Slope Height: /

Azimuth:

Slope Angle: /

ROCK MATERIAL INFORMATION

Color: 1 | 2 | 4

Grain size: 4-5

Compressive strength: R3-4

Color 1	Color 2	Color 4
1. Light	1. Pinkish	1. Pink
2. Dark	2. Reddish	2. Red
	3. Yellowish	3. Yellow
	4. Brownish	4. Brown
	5. Olive	5. Olive
	6. Greenish	6. Green
	7. Bluish	7. Blue
	8. Greyish	8. White
		9. Grey
		10. Black

Grain size
1. Very coarse (>60 mm)
2. Coarse (2-60 mm)
3. Medium (60 μ - 2 mm)
4. Fine (2-60 μ)
5. Very fine (<2 μ)

	Compressive strength	MPa
S1	Very soft clay	<0.025
S2	Soft clay	0.025-0.05
S3	Firm clay	0.05-0.10
S4	Stiff clay	0.10-0.25
S5	Very stiff clay	0.25-0.50
S6	Hard clay	>0.50
R0	Extremely weak rock	0.25-1.0
R1	Very weak rock	1.0-5.0
R2	Weak rock	5.0-25
R3	Medium strong rock	25-50
R4	Strong rock	50-100
R5	Very strong rock	100-250
R6	Extremely strong rock	>250

ROCK MASS INFORMATION

Fabric: 1

Block size: 3

State of weathering: 2-3

No. of major discontinuity sets:

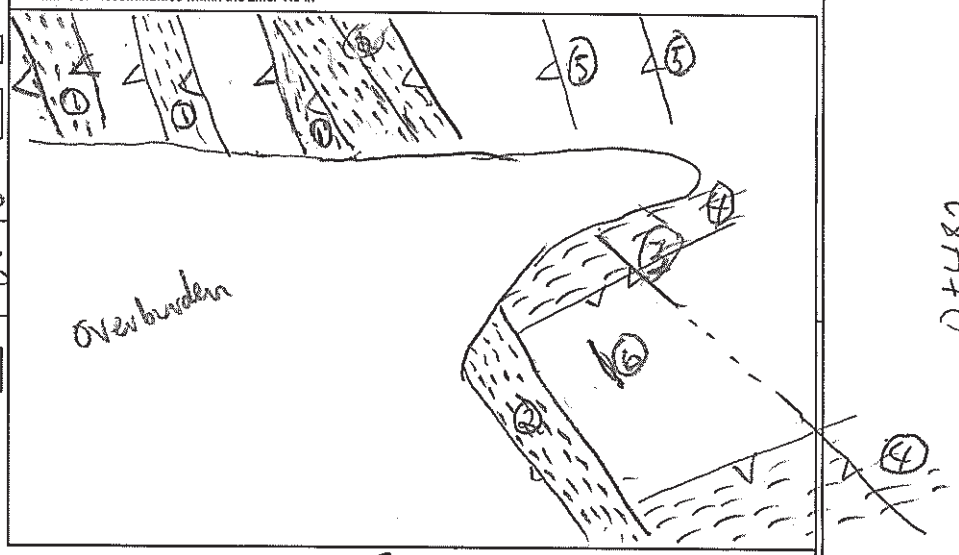
Fabric	Block size	State of weathering
1. Blocky	1. Very large (>8 m3)	1. Fresh
2. Tabular	2. Large (0.2-8 m3)	2. Slightly
3. Columnar	3. Medium (0.008-0.2 m3)	3. Moderately
4. Shattered	4. Small (0.0002 - 0.008 m3)	4. Highly
	5. Very small (<0.0002 m3)	5. Completely
		6. Residual soil

Set #	Spacing
1	
2	
3	
4	
5	

GSI:

Discontinuity spacing:
1. Extremely close (<20 mm)
2. Very close (20-60 mm)
3. Close (60 - 200 mm)
4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 mm)
7. Ext. wide (>6000 m)

Schematic of discontinuities within the Liner Tie-in



Methods to determine compressive strength: 2 (1. Measured, 2. Assessed)

Rock Type: diorite

REMARKS (exposure type/age, stability condition, design issues etc.)

bedrock ~2m high in u/s wall. (N)
No bedrock observed on d/s wall. (S)
Bedrock dips South.
Most of trench floor covered in overburden

21452873
QA FOR IVR DIKE CONSTRUCTION

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit	Station ID	Project Element	Date: Month	Day	Year	Inspector	Discontinuity data sheet no.		of	
IVR dyke	0+465-0+482		4	7	21	SS		2		2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	JS	210	51	2	0	1	1	R3-4	R	P	0.25	20	~60	
2	JS	196	60	4	0	1	1	R3-4	R	P	0.25	20	~40	
3	J	186	50	3	0	1	1	R3-4	R	P	–	–	–	
4	JS	129	61	3	0	1	1	R3-4	R	P	0.25	20	~40	
5	JS	210	51	2	0	1	1	R3-4	R	P	5	20	2	
6	J	196	60	2	2	1	1	R3-4	R	P	–	–	–	

Type

FZ - Fault Zone
F -- Fault
J -- Joint (single)
JS -- Joint Set
Sch -- Schistosity
SH -- Shear
Fo -- Foliation
TC -- Tension Crack
B -- Bedding

Persistence

1. Very low persistence <3ft
2. Low persistence 3-10 ft
3. Medium persistence 10-30 ft
4. High persistence 30-60 ft
5. Very high persistence >60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10., Gouge
11

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

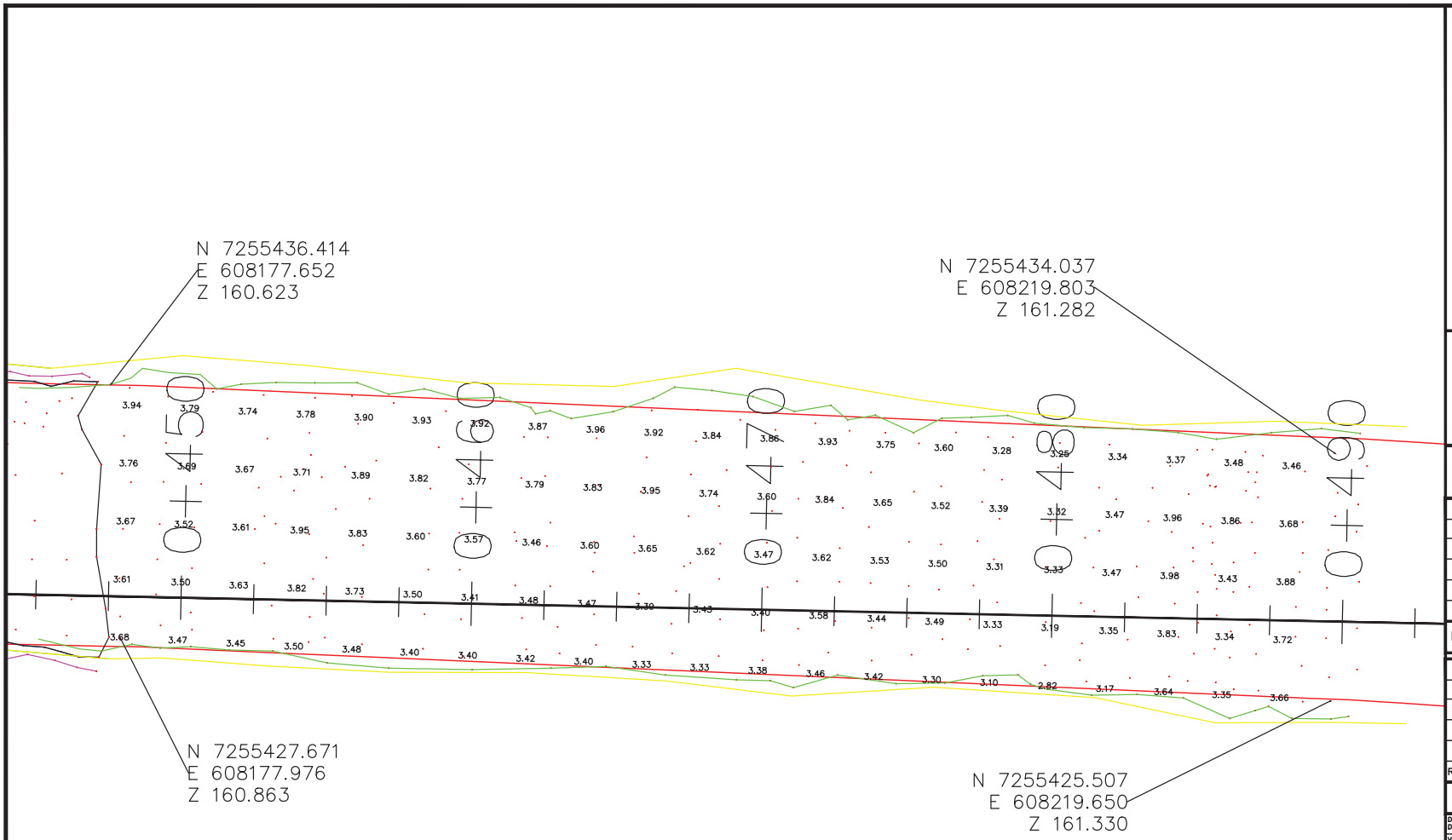
	MPa
S1 Very soft clay	<0.025
S2 Soft clay	0.025-0.05
S3 Firm clay	0.05-0.10
S4 Stiff clay	0.10-0.25
S5 Very stiff clay	0.25-0.50
S6 Hard clay	>0.50
R0 Extremely weak rock	0.25-1.0
R1 Very weak rock	1.0-5.0
R2 Weak rock	5.0-25
R3 Medium strong rock	25-50
R4 Strong rock	50-100
R5 Very strong rock	100-250
R6 Extremely strong rock	>250

JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces –or– Gouge <5mm thick –or– Separation 1–5mm Continuous	6
Soft gouge > 5mm thick –or– Separation >5mm Continuous	0

Notes:



TOE THEORETICAL
TOE BOTTOM KEY TRENCH
TOE @ 3M UNDER OG

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-04-03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021-04-01		

TITRE / TITLE

AGNICO-EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+442 @ 0+465

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 1: Approved key trench foundation, Sta. 0+480, view looking W.

Date: 2021-04-7
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 2: Approved key trench foundation, Sta. 0+465, view looking E

Date: 2021-04-7
Photo By: SS

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 10, 2021

DOCUMENT #: ~~20210410-DS-01~~ 20210410-DS-01 **TIME:** 18:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☑ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+482 to 0+526	**Station:**	0+465 to 0+482
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

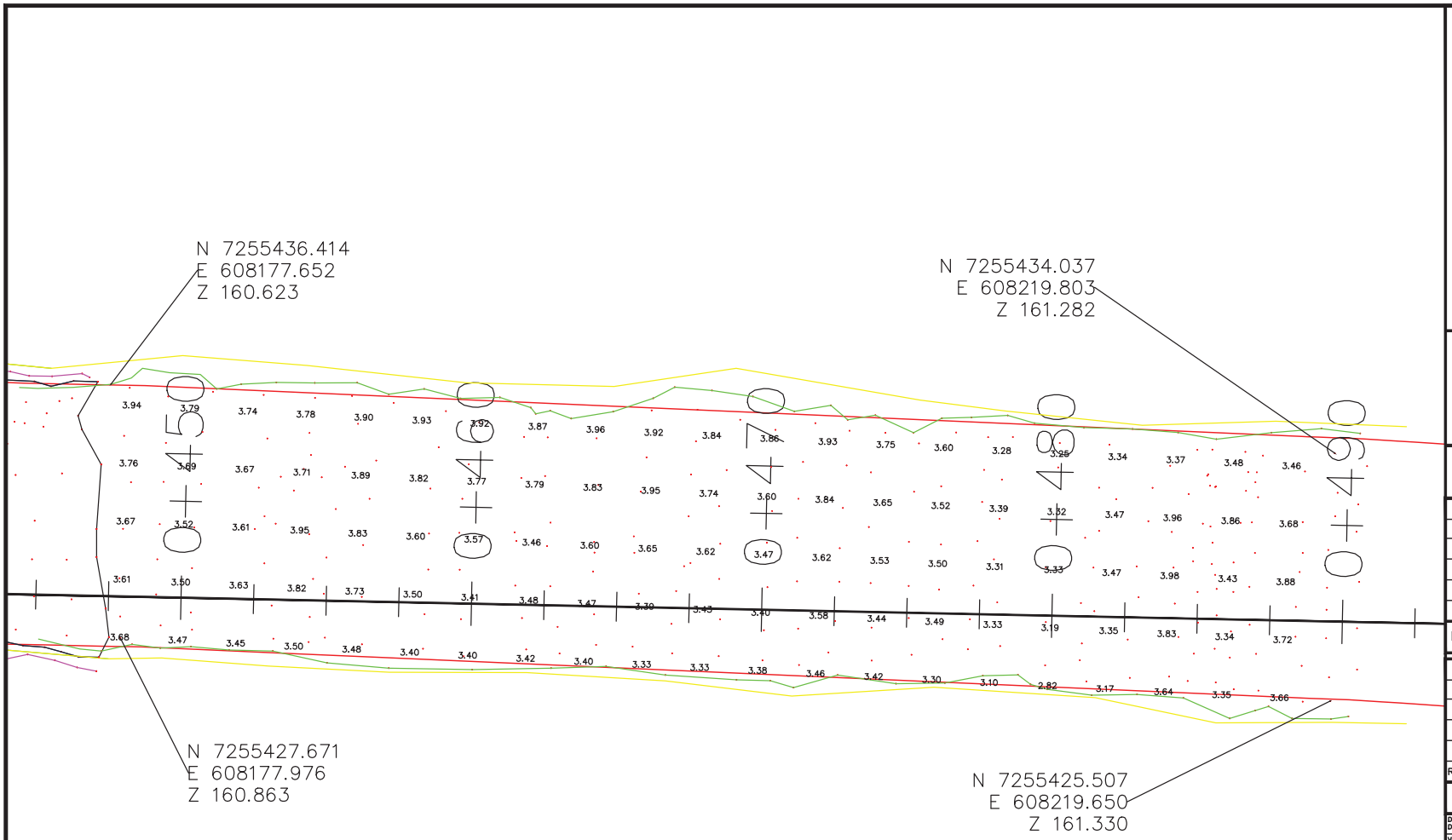
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water		✓		✓	
3. Cleaning of cut-off trench	✓		✓		
4 Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓		✓		
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
2.	Trench floor is bedrock with ice-filled joints and localized pockets of ice. The ice-filled joints are at most 20 cm wide. The ice-filled pockets are generally 1-2 m^2. Ice in the trench floor was chipped down at least 10 cm before stopping.				
	Large joint set / fracture zone observed on downstream side of trench, dipping towards downstream side of dyke.				
	Top 1-2 m of bedrock in trench walls fractured + weathered, like other sections.				
	Foundation accepted as-is, without treatment. Some remaining debris to be removed under night shift QC supervision.				
	Bedrock mapped with Brunton compass.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		April 10, 2021
QC REPRESENTATIVE	Chantal Pawlychko		Apr/11/2021
QA REPRESENTATIVE	Shai Spilberg		April 10, 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		11 April 2021



TOE THEORETICAL
TOE BOTTOM KEY TRENCH
TOE @ 3M UNDER OG

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

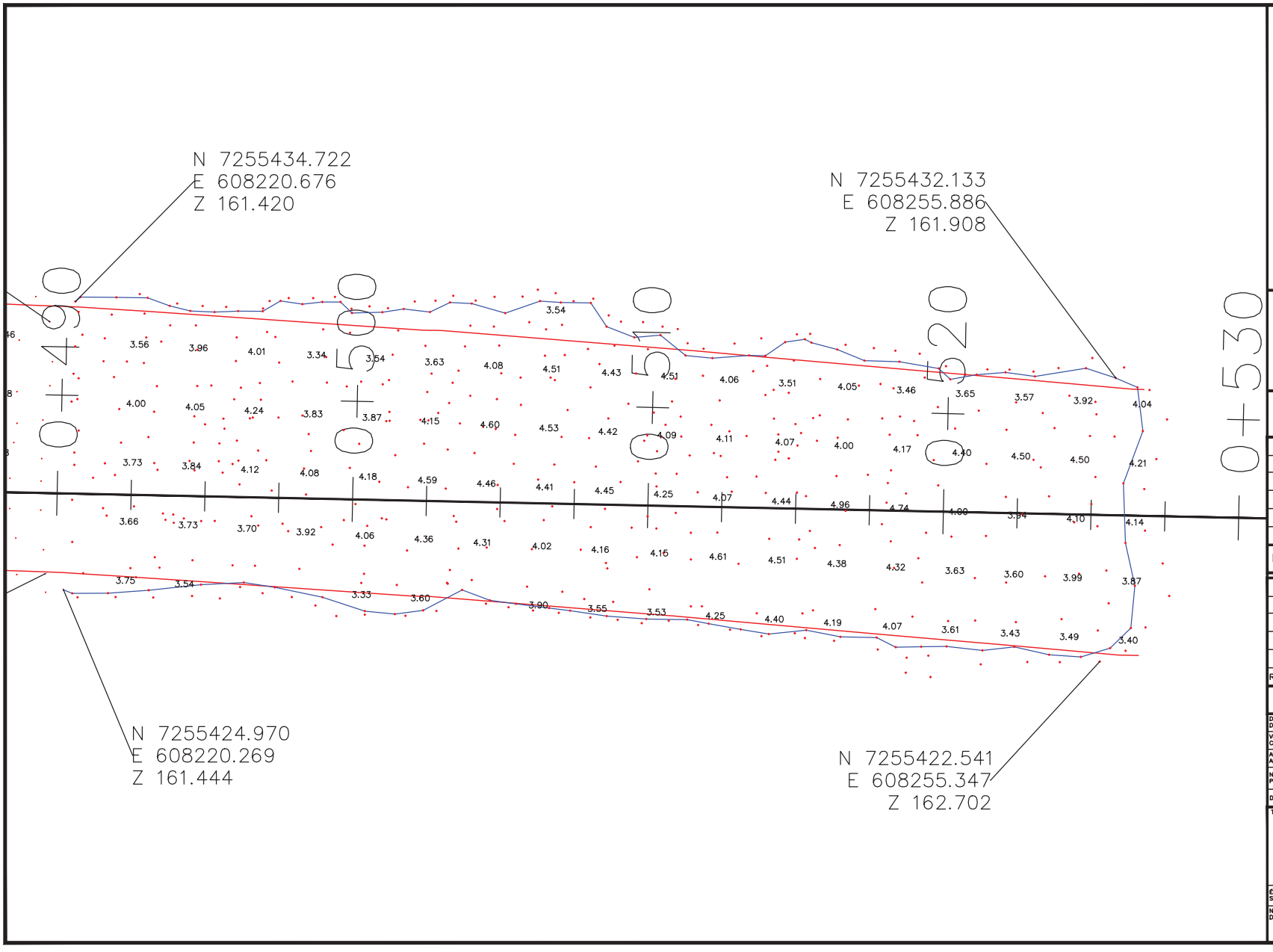
REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-04-03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021-04-01		

TITRE / TITLE

AGNICO-EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+442 @ 0+465

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1



TOE THEORETICAL
TOE BOTTOM KEY TRENCH
TOE @ 3M UNDER OG

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–11		

TITRE / TITLE

AGNICO–EAGLE
IVR DIKE – AMARUQ
KEY TRENCH AS BUILD
APPROVAL 0+490 @ 0+525

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	AB EXC APPROVAL	REVISION	FEUILLE/SHT 1 / 1

21452873
QA FOR IVR DIKE CONSTRUCTION

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: D+492 - D+5 | Date: Month 4, Day 10, Year 21 | Inspector: SS

Locality Type: Liner tie-in (key trench)

Slope Length: /

No. of supplementary sheets of discontinuity data sheets: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

Slope Height: /

Azimuth:

Slope Angle: /

D+492

ROCK MATERIAL INFORMATION

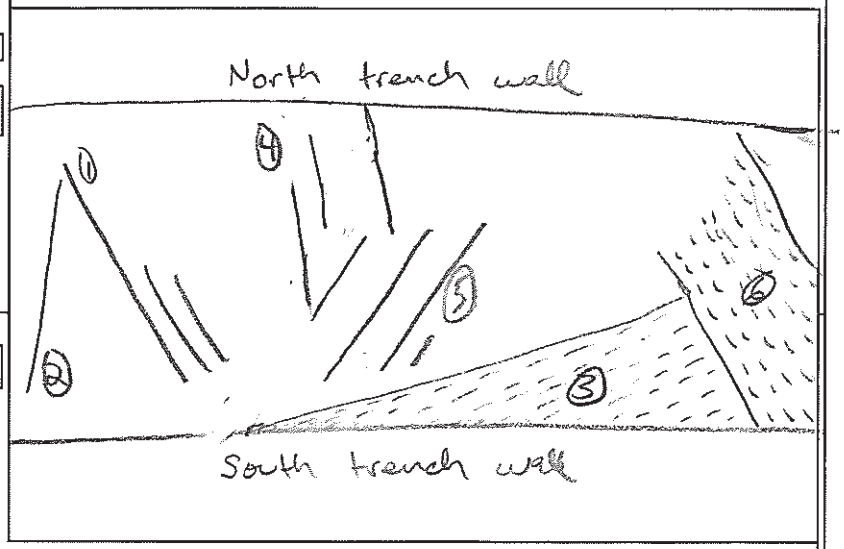
Color: 1 2 9

Grain size: 4

Compressive strength: R3-4

1. Light / 2. Dark	1. Pinkish	1. Pink	1. Very coarse (>60 mm)		MPa
	2. Reddish	2. Red	2. Coarse (2-60 mm)	S1 Very soft clay	<0.025
	3. Yellowish	3. Yellow	3. Medium (60 μ - 2 mm)	S2 Soft clay	0.025-0.05
	4. Brownish	4. Brown	4. Fine (2-60 μ)	S3 Firm clay	0.05-0.10
	5. Olive	5. Olive	5. Very fine (<2 μ)	S4 Stiff clay	0.10-0.25
	6. Greenish	6. Green		S5 Very stiff clay	0.25-0.50
	7. Bluish	7. Blue		S6 Hard clay	>0.50
	8. Greyish	8. White		R0 Extremely weak rock	0.25-1.0
		9. Grey		R1 Very weak rock	1.0-5.0
		10. Black		R2 Weak rock	5.0-25
				R3 Medium strong rock	25-50
				R4 Strong rock	50-100
				R5 Very strong rock	100-250
				R6 Extremely strong rock	>250

Schematic of discontinuities within the Liner Tie-in



D+515

Methods to determine compressive strength: 2 (1. Measured, 2. Assessed)

Rock Type:

ROCK MASS INFORMATION

Fabric: 1

1. Blocky
2. Tabular
3. Columnar
4. Shattered

Block size: 2

1. Very large (>8 m3)
2. Large (0.2-8 m3)
3. Medium (0.008-0.2 m3)
4. Small (0.0002 - 0.008 m3)
5. Very small (<0.0002 m3)

State of weathering: 2-3

1. Fresh
2. Slightly
3. Moderately
4. Highly
5. Completely
6. Residual soil

No. of major discontinuity sets:

Set #	Spacing
1	
2	
3	
4	
5	

GSI:

Discontinuity spacing:

1. Extremely close (<20 mm)
2. Very close (20-60 mm)
3. Close (60 - 200 mm)
4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 mm)
7. Ext. wide (>6000 m)

REMARKS (exposure type/age, stability condition, design issues etc.)

Ice-rich bedrock area.
Joints are filled with ice.

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit	Station ID	Project Element	Date (Month / Day / Year)	Inspector	Discontinuity data sheet no.	of
IVR dyke	D+482 -		4 / 10 / 21	SS	2	2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	JS	190	62	3	0	1-10cm	ice	-	R	P	1m	0	3	joint filled w/ ice
2	J	62	20	3	1	1-5cm	ice	-	R	P	-	0	-	joint filled w/ ice
3	JS	314	33	4	1	0	-	-	R	P	~5cm	20	>200	
4	JS	209	80	3	1	5-20cm	ice	-	R	P	1-2m	0	3	joints filled w/ ice
5	JS	296	79	3	1	1-10cm	ice	-	R	P	1-2m	0	3	joints filled w/ ice
6	JS	189	64	3	1	0	-	-	R	P	~5cm	20	>200	

Type

FZ - Fault Zone
F -- Fault
J -- Joint (single)
JS -- Joint Set
Sch -- Schistosity
SH -- Shear
Fo -- Foliation
TC -- Tension Crack
B – Bedding

Persistence

1. Very low persistence <3ft
2. Low persistence 3-10 ft
3. Medium persistence 10-30 ft
4. High persistence 30-60 ft
5. Very high persistence >60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10. Gouge
11

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

	MPa
S1 Very soft clay	<0.025
S2 Soft clay	0.025-0.05
S3 Firm clay	0.05-0.10
S4 Stiff clay	0.10-0.25
S5 Very stiff clay	0.25-0.50
S6 Hard clay	>0.50
R0 Extremely weak rock	0.25-1.0
R1 Very weak rock	1.0-5.0
R2 Weak rock	5.0-25
R3 Medium strong rock	25-50
R4 Strong rock	50-100
R5 Very strong rock	100-250
R6 Extremely strong rock	>250

JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces -or- Gouge <5mm thick -or- Separation 1-5mm Continuous	6
Soft gouge > 5mm thick -or- Separation >5mm Continuous	0

Notes:

21452873
QA FOR IVR DIKE CONSTRUCTION

ROCK MASS DESCRIPTION DATA SHEET

GENERAL INFORMATION

Station ID: D+515 to D+526 | Date: Month / Day / Year | Inspector:

Locality Type: Liner tie-in (key trench) | Slope Length: / | No. of supplementary sheets of discontinuity data sheets: 1

1. Natural exposure
2. Road cut
3. Mine Bench
4. Test Pit
5. Adit
6. Tunnel
7. Drill hole

Slope Height: / | Azimuth: | Slope Angle: /

ROCK MATERIAL INFORMATION

Color: | Grain size: | Compressive strength: MPa

1. Light / 2. Dark

1. Pinkish
2. Reddish
3. Yellowish
4. Brownish
5. Olive
6. Greenish
7. Bluish
8. Greyish

1. Pink
2. Red
3. Yellow
4. Brown
5. Olive
6. Green
7. Blue
8. White
9. Grey
10. Black

1. Very coarse (>60 mm)
2. Coarse (2-60 mm)
3. Medium (60 μ - 2 mm)
4. Fine (2-60 μ)
5. Very fine (<2 μ)

		MPa
S1	Very soft clay	<0.025
S2	Soft clay	0.025-0.05
S3	Firm clay	0.05-0.10
S4	Stiff clay	0.10-0.25
S5	Very stiff clay	0.25-0.50
S6	Hard clay	>0.50
R0	Extremely weak rock	0.25-1.0
R1	Very weak rock	1.0-5.0
R2	Weak rock	5.0-25
R3	Medium strong rock	25-50
R4	Strong rock	50-100
R5	Very strong rock	100-250
R6	Extremely strong rock	>250

ROCK MASS INFORMATION

Fabric: | Block size: | State of weathering: | No. of major discontinuity sets:

1. Blocky
2. Tabular
3. Columnar
4. Shattered

1. Very large (>8 m3)
2. Large (0.2-8 m3)
3. Medium (0.008-0.2 m3)
4. Small (0.0002 - 0.008 m3)
5. Very small (<0.0002 m3)

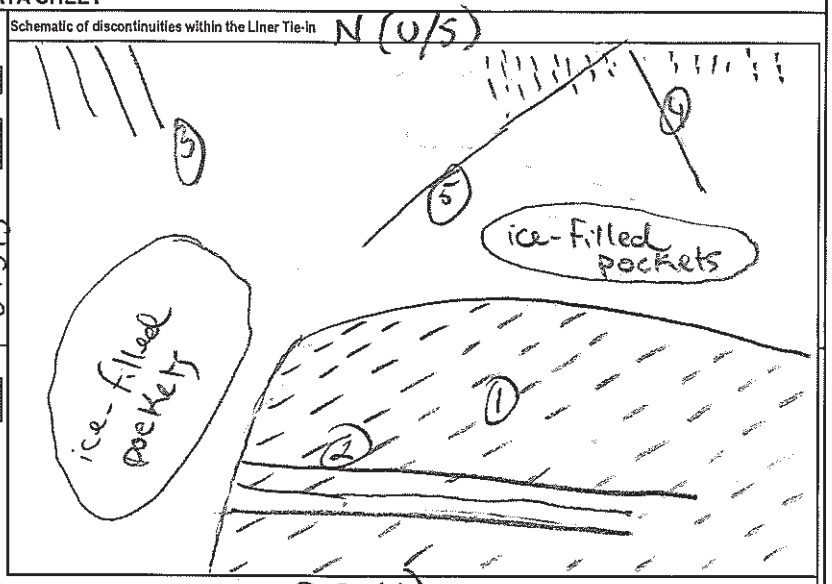
1. Fresh
2. Slightly
3. Moderately
4. Highly
5. Completely
6. Residual soil

Set #	Spacing
1	
2	
3	
4	
5	

GSI:

Discontinuity spacing:
1. Extremely close (<20 mm)
2. Very close (20-60 mm)
3. Close (60 - 200 mm)
4. Moderately (200-600 mm)
5. Wide (600-2000 mm)
6. Very wide (2000-6000 mm)
7. Ext. wide (>6000 m)

Schematic of discontinuities within the Liner Tie-in



Methods to determine compressive strength: | Rock Type:

1. Measured
2. Assessed

REMARKS (exposure type/age, stability condition, design issues etc.)

Ice-rich bedrock.
Presence of ice-filled pockets generally 1-2 m2

DISCONTINUITY SURVEY DATA SHEET

GENERAL INFORMATION

Location/Pit: IVR dyke

Station ID: 0+515 to 0+526

Project Element:

Date: Month 4 Day 10 Year 21

Inspector: SS

Discontinuity data sheet no. 2 of 2

NATURE AND ORIENTATION OF DISCONTINUITY

Location	Type	Direct.	Dip Direction	Persistence	Termination	Aperture/ Width	Nature of Filling	Strength of Filling	Roughness	Shape	Spacing, ft	JCR	Number	Comment
1	JS	108	60	3	0	0	—	—	R	P	1-5cm		7100	
2	JS	311	65	3	1	0	—	—	R	P	30cm		2	
3	JS	222	70	1	1	.5-2cm	ice.	—	R	P	50cm		6	ice filled joints
4	JS	210	75	3	1	0	—	—	R	P	5-10cm		7100	
5	J	112	62	3	1	0	—	—	R	P				

Type

FZ - Fault Zone
F -- Fault
J -- Joint (single)
JS -- Joint Set
Sch -- Schistosity
SH -- Shear
Fo -- Foliation
TC -- Tension Crack
B -- Bedding

Persistence

1. Very low persistence — <3ft
2. Low persistence — 3-10 ft
3. Medium persistence — 10-30 ft
4. High persistence — 30-60 ft
5. Very high persistence — >60 ft

Termination

0. Neither end visible
1. One end visible
2. Both ends visible

Aperture/width

1. Very tight (<0.1 mm)
2. Tight (0.1-0.25 mm)
3. Partly open (0.25-0.5 mm)
4. Open (0.5-2.5 mm)
5. Moderately wide (2.5-10 mm)
6. Wide (>10 mm)
7. Very wide (1-10 cm)
8. Extremely wide (10-100 cm)
9. Cavernous (>1 m)

Surface shape

St Stepped
U Undulating
P Planar
C Curved
I Irregular

Nature of filling

1. Clean
2. Surface staining
3. Non-cohesive
4. Inactive clay or clay matrix
5. Swelling clay or clay matrix
6. Cemented
7. Chlorite
8. Cal
9. Crushed Rock
10., Gouge
11

Surface roughness

R Rough
S Smooth
P Polished
K Slickensided
VR Very Rough

Compressive strength of infilling

	MPa
S1 Very soft clay	<0.025
S2 Soft clay	0.025-0.05
S3 Firm clay	0.05-0.10
S4 Stiff clay	0.10-0.25
S5 Very stiff clay	0.25-0.50
S6 Hard clay	>0.50
R0 Extremely weak rock	0.25-1.0
R1 Very weak rock	1.0-5.0
R2 Weak rock	5.0-25
R3 Medium strong rock	25-50
R4 Strong rock	50-100
R5 Very strong rock	100-250
R6 Extremely strong rock	>250

JOINT CONDITION RATING

BIENIAWSKI'S RMR SYSTEM

Condition of joints	Rating
Very rough surfaces Not continuous No separation Fresh (Hard) joint wall rock	25
Slightly rough surfaces Separation <1mm Slightly weathered (Hard) joint wall rock	20
Slightly rough surfaces Separation <1mm Highly weathered (Soft) joint wall rock	12
Slickensided surfaces -or- Gouge <5mm thick -or- Separation 1-5mm Continuous	6
Soft gouge > 5mm thick -or- Separation >5mm Continuous	0

Notes:

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 1: Approved key trench bedrock foundation surface, Sta. 0+482 to 0+515, view looking E.

Date: 2021-04-10
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 2: Ice-filled joint at Sta. 0+500 (joint #4 on bedrock map), view looking N

Date: 2021-04-10
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 3: Approved key trench bedrock foundation, Sta. 0+482 to 0+515, view looking W

Date: 2021-04-10
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 4: Approved key trench bedrock foundation from Sta. 0+515 to 0+526. Ice pockets visible on left and right sides of photograph, view looking W

Date: 2021-04-10
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 5: Termination of dam alignment (Eastern abutment) in key trench, view looking E

Date: 2021-04-10
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (Key Trench) - PHOTOGRAPHS



Photograph 6: Closely spaced joint set/fracture zone on downstream side of key trench foundation, view looking E

Date: 2021-04-10
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 25, 2021

DOCUMENT #: 20210425-DS-01 **TIME:** _____

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (footprint) Zone 4 - esker (U/S)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION

Station Sta. 01080 → 01414

Inclination: _____

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: –

Details: –

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

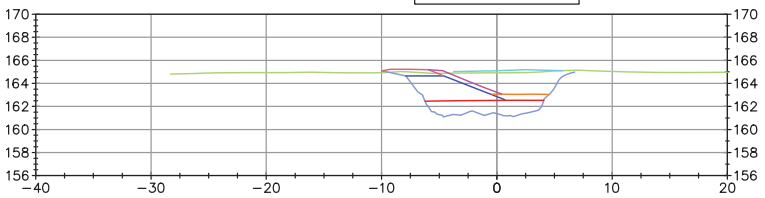
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				✓
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

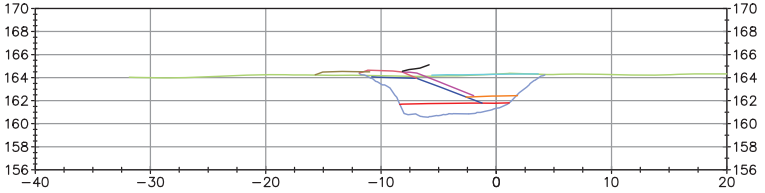
DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
	Observations				
	Footprint of Zone 4 (esker) upstream of LLDPE liner free of snow/ ice.				
	QC representatives approved Foundation between the following stations:				
	• Sta. 01370 → 01140 - April 17th				
	• Sta. 01140 → 01100 - April 20th				
	• ~~[illegible] April [illegible]~~				
	QA representatives approved Foundation between the following stations				
	• Sta. 01100 → 01080 April 20th				
	• Sta. 01370 → 01414 April 24th				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		25-04-21
QC REPRESENTATIVE	Ryan Okkema		April 25/21
QA REPRESENTATIVE	Brandon Gray		April 25, 2021
OWNER'S REPRESENTATIVE	Stephane Cloutier		April 25 2021

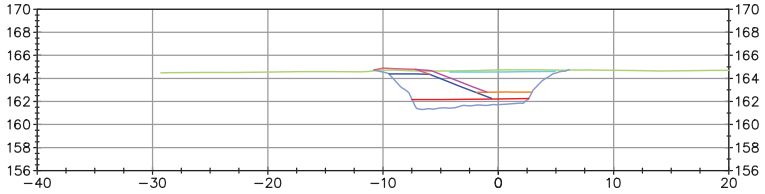
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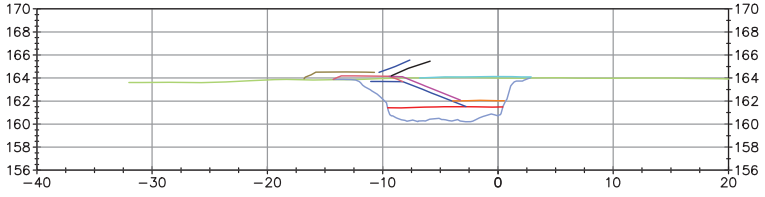
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0+070.00



0+090.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
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- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021-04-03
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APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021-04-27		

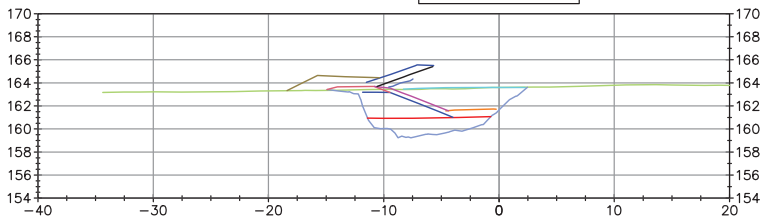
TITRE / TITLE

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IVR D1 DIKE
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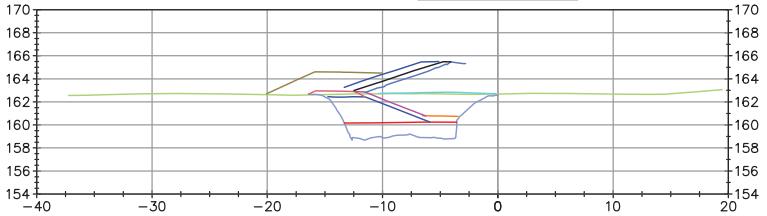
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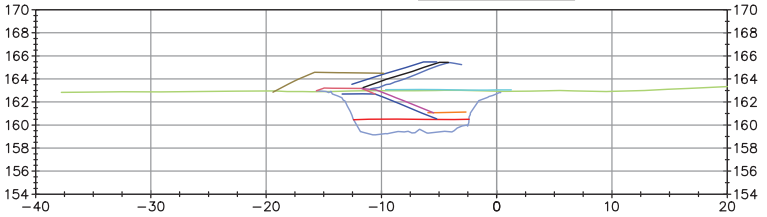
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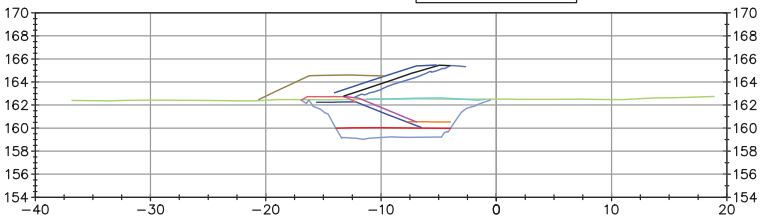
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- ESKER

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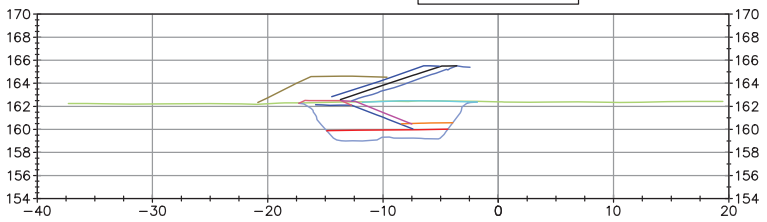
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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

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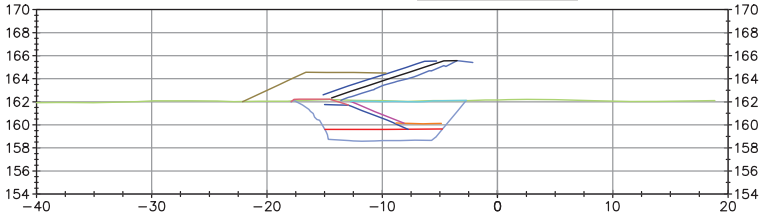
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IVR D1 DIKE
AS BUILT DRAWING
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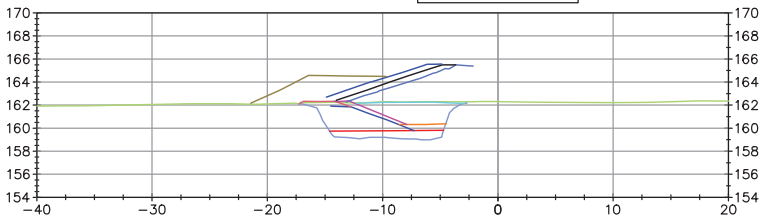
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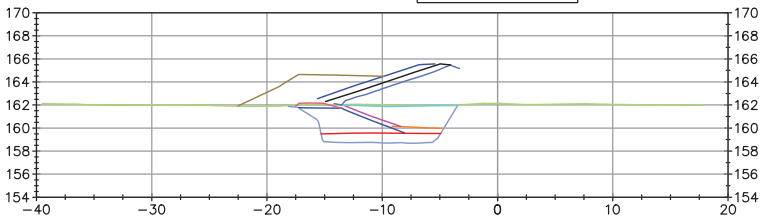
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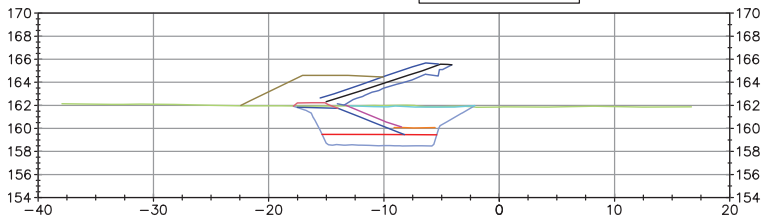
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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

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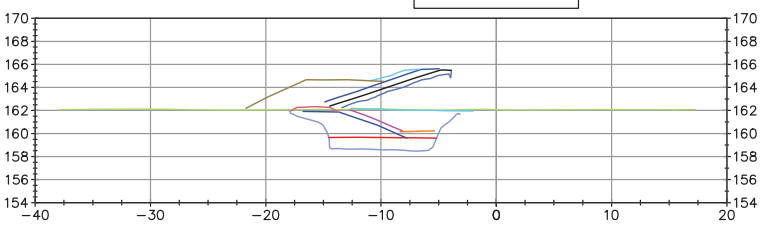
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IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

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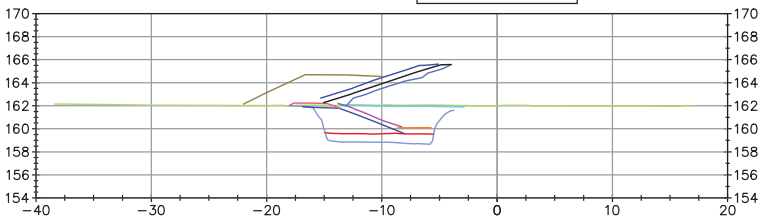
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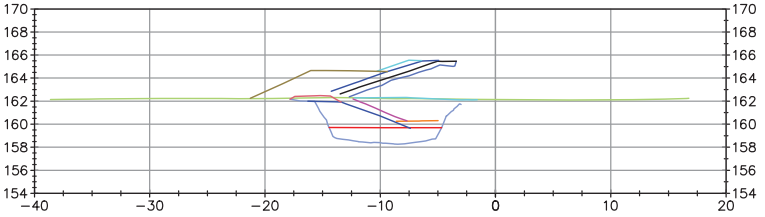
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0+210.00



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REVISIONS

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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–19		

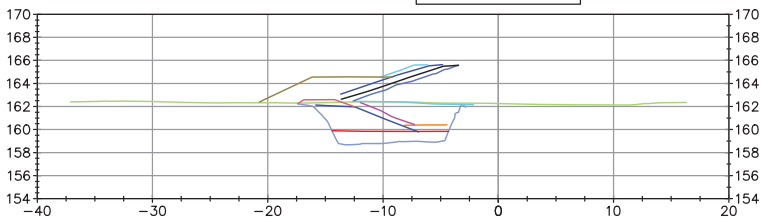
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IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

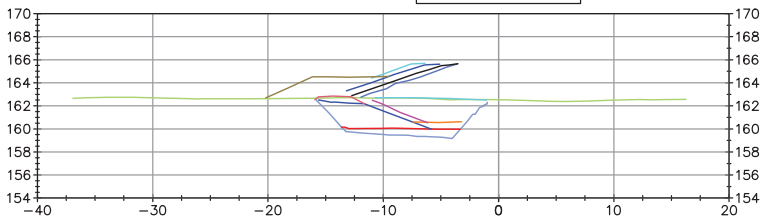
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

1 FORMAT ANSI B–11x17

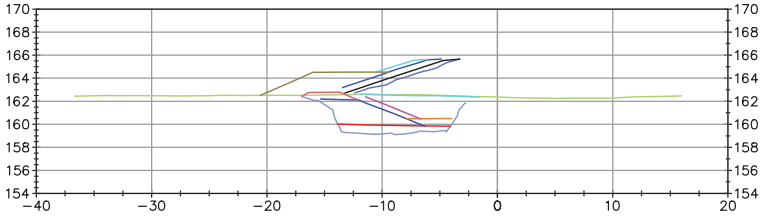
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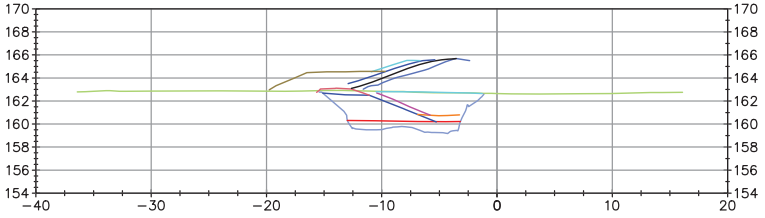
0+240.00



0+230.00



0+250.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA GROUPE LARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

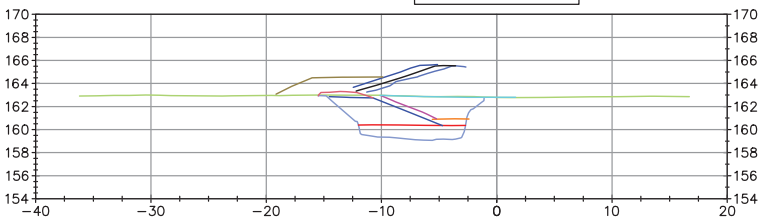
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

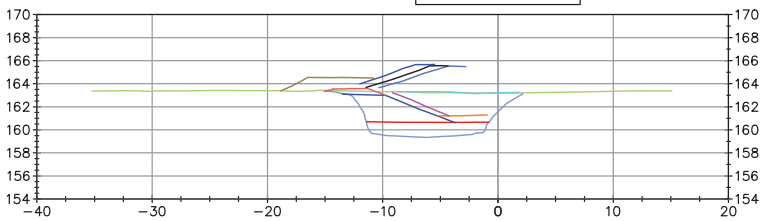
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13

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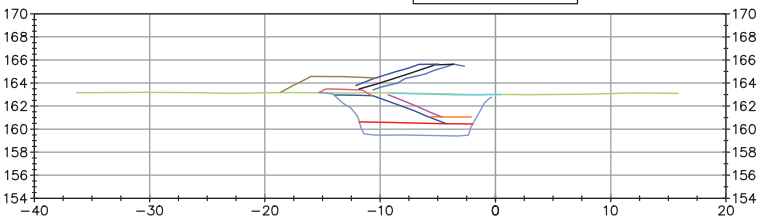
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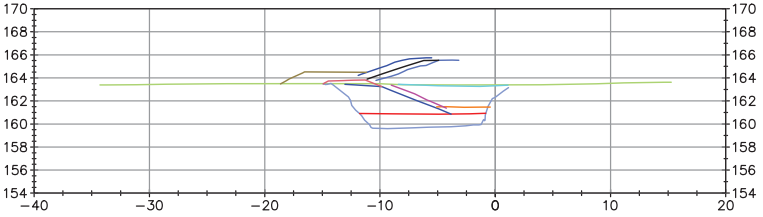
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0+270.00



0+290.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
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- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HATCH/ARPENTAGE

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DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

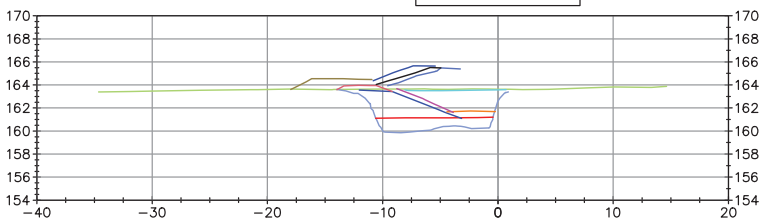
DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021-03-22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021-04-27		

TITRE / TITLE

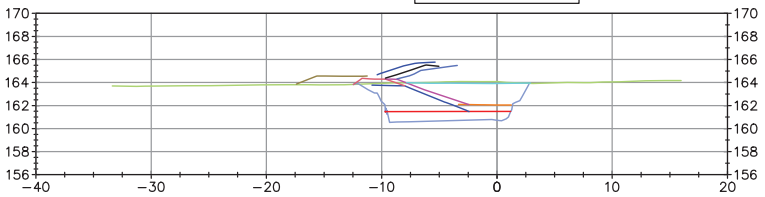
AGNICO-EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+260 @ 0+290

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127-IVR-As Built	REVISION	FEUILLE/SHT 6 / 13

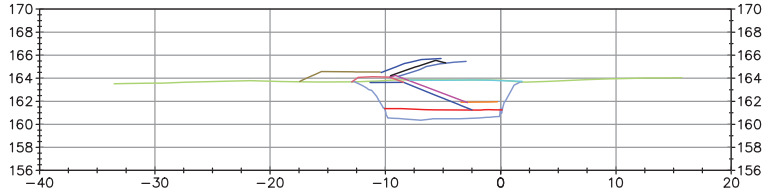
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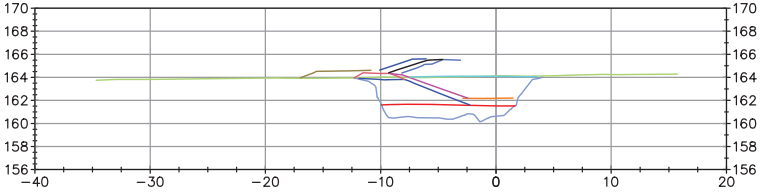
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
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- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA GROUPE ARPENTAGE

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DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

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REVISIONS

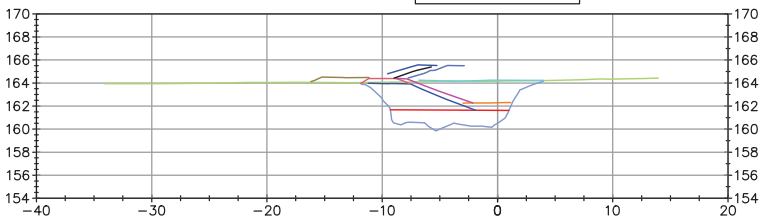
DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–04
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

TITRE / TITLE

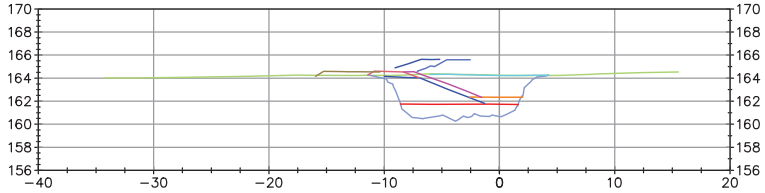
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	
		FEUILLE/SHT	7 / 13

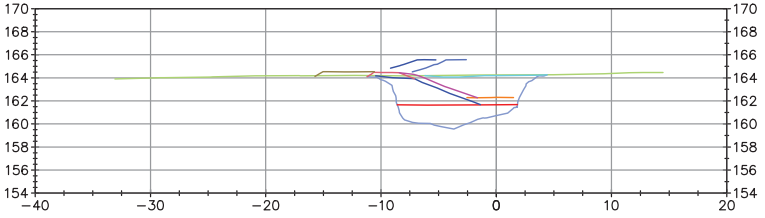
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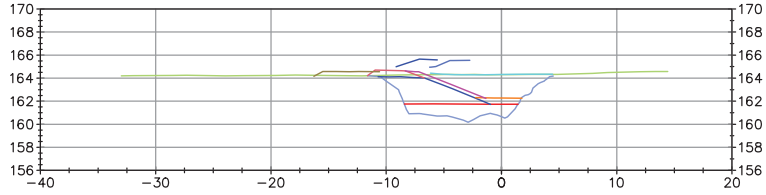
0+360.00



0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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- FF – UNDERLINER DOWNSTREAM
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- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA/SIELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

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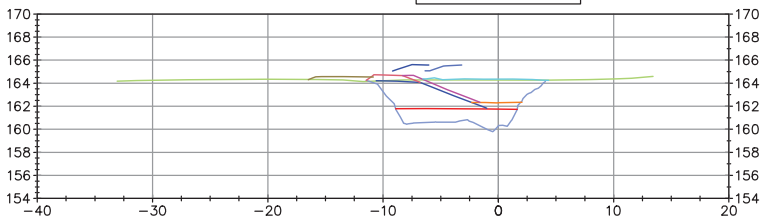
DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–04
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

TITRE / TITLE

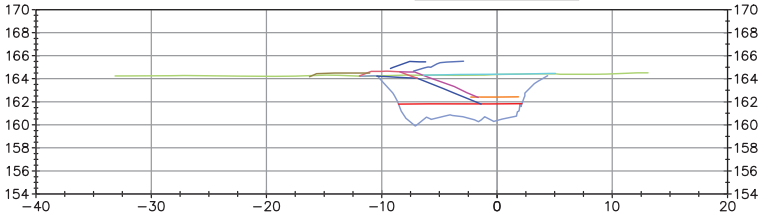
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+340 @ 0+370

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

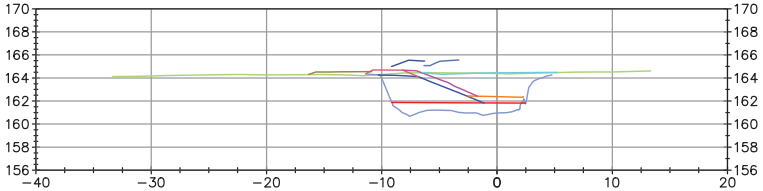
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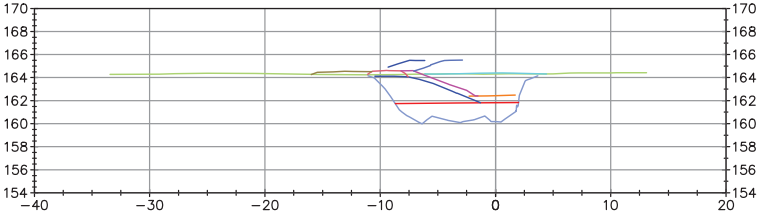
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- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
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- ESKER

AGNICO EAGLE

HATCH ARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

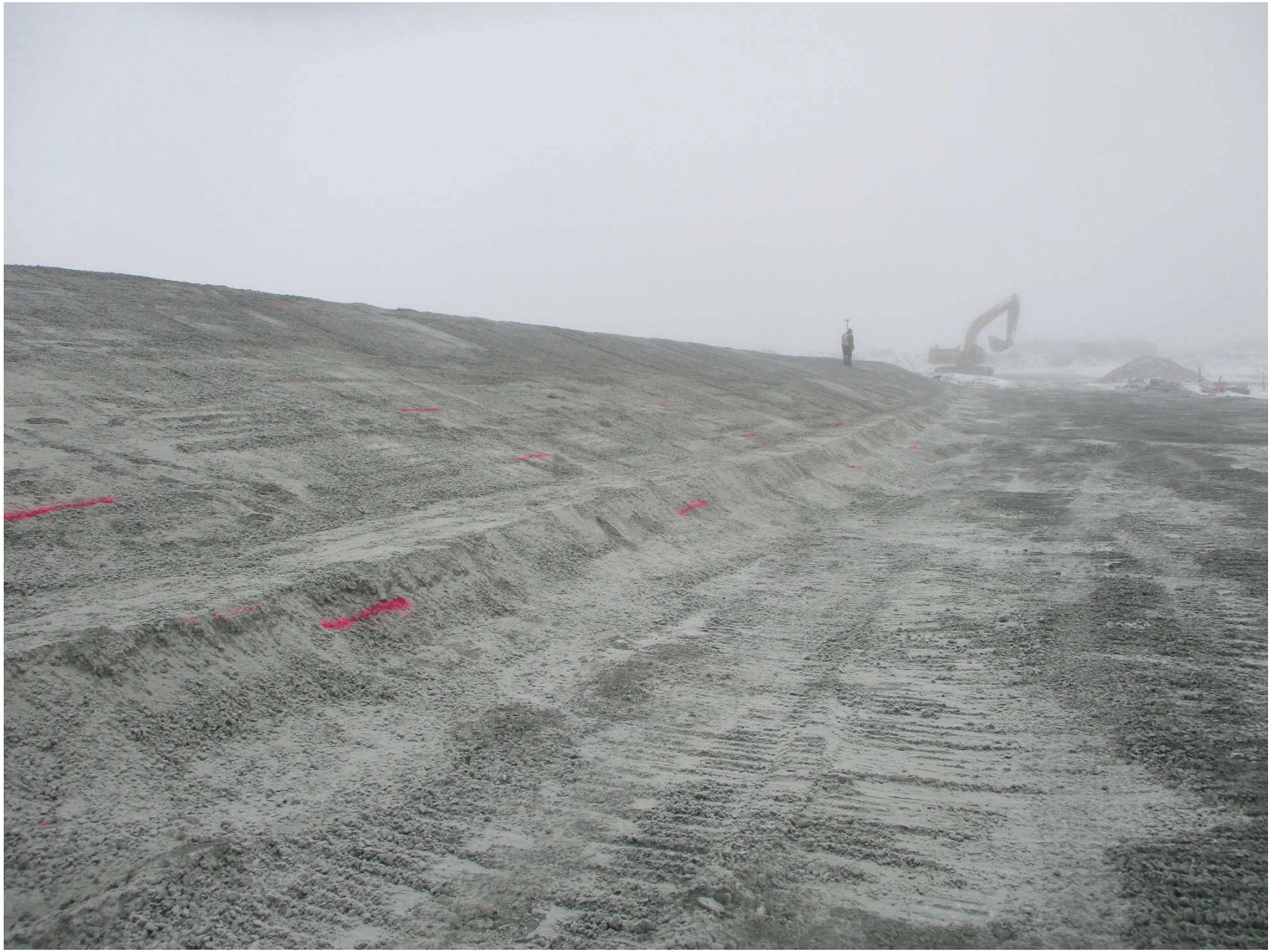
IVR DYKE: FOUNDATION APPROVAL (Zone 4: Upstream of Liner) - PHOTOGRAPHS



Photograph 1: Approved foundation for placement of Zone 4 (esker) at approx. Sta. 0+320, view looking NE.

Date: 2021-04-18
Photo By: DY

IVR DYKE: FOUNDATION APPROVAL (Zone 4: Upstream of Liner) - PHOTOGRAPHS



Photograph 2: Approved foundation for placement of Zone 4 (esker) at approx. Sta.0+140, view looking W.

Date: 2021-04-20
Photo By: RO

IVR DYKE: FOUNDATION APPROVAL (Zone 4: Upstream of Liner) - PHOTOGRAPHS



Photograph 2: Approved foundation for placement of Zone 4 (esker) at approx. Sta.0+370, view looking E.

Date: 2021-04-24
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21952873

DOCUMENT #: 20210501-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: May. 1. 2021

TIME: 10:00
(24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (footprint) Zone 1 - rock Fill (U/S)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station Sta. 0+025 → 0+527	**Station:** —
Inclination:	**Details:** —
ELEVATION: ☑ varies _____ m	

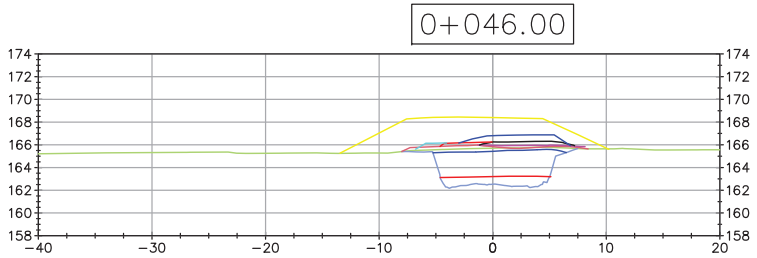
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

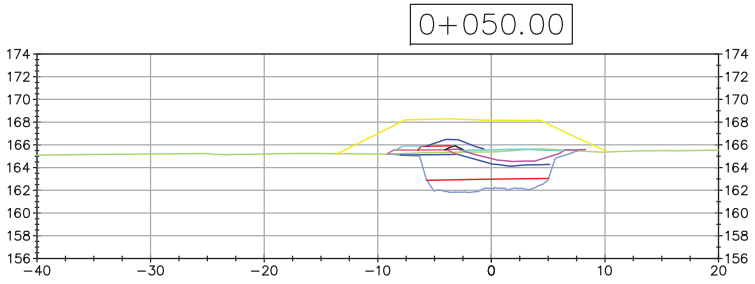
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					✓
2. Free of ice/snow/water	✓				
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping	✓				✓
8. As built survey completed	✓				
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA Y	QA N	QC Y	QC N
ITEM					
	Observations				
	Footprint of zone 1 (rockfill) upstream of LLDPE liner free of snow/ice.				
	QC representatives ~~approvide~~ approved: Foundation between the Following stations:				
	• Sta. 0+180 -> 0+320 April 18th				
	• Sta. 0+090 -> 0+420 (3 m extension) April 26th				
	QC signature: [signature]. April 27/21				
	QA representatives approved: Foundation between the Following stations:				
	• Sta. 0+320 -> 0+420 April 25th				
	• Sta. 0+180 -> 0+080 April 20th				
	• Sta. 0+080 -> 0+025 April 30th				
	• Sta. 0+420 -> 0+500 April 28th				
	• Sta. 0+500 -> 0+523 April 29th				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Alexandre Blanchet	[signature]	may 01 2021.
QC REPRESENTATIVE			
QA REPRESENTATIVE	Brandon Gray	[signature]	May. 01. 2021
OWNER'S REPRESENTATIVE	Stephane Giguere	[signature]	May 01, 2021

FORMAT ANSI B–11x17





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- KEY TRENCH EXCAVATION
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- FFAB – OVERLINER KEY TRENCH
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- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–05–09

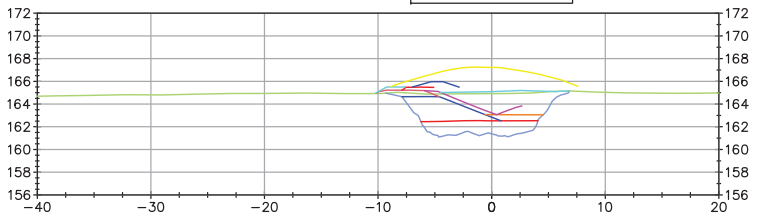
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+046 @ 0+050

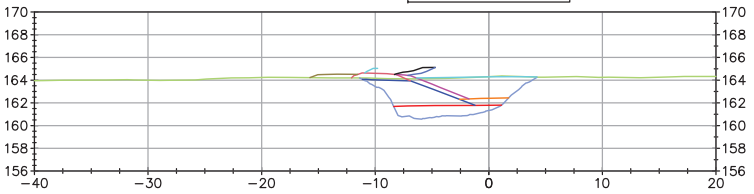
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 1 / 13

FORMAT ANSI B–11x17

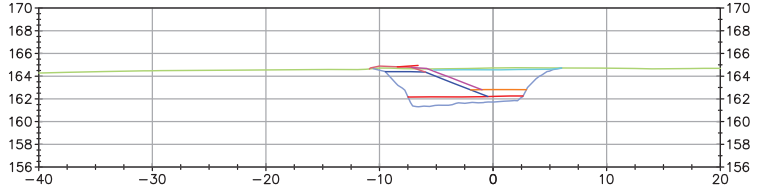
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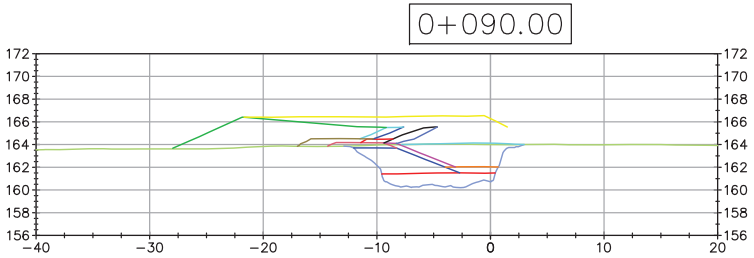
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0+070.00



0+090.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–05–09

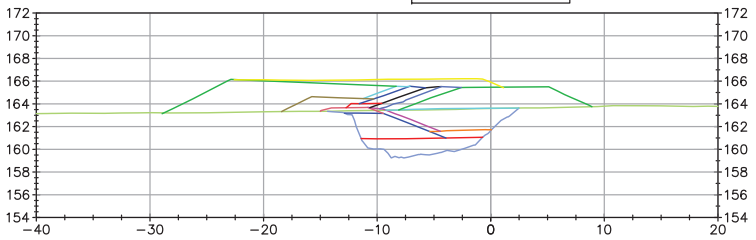
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+060 @ 0+090

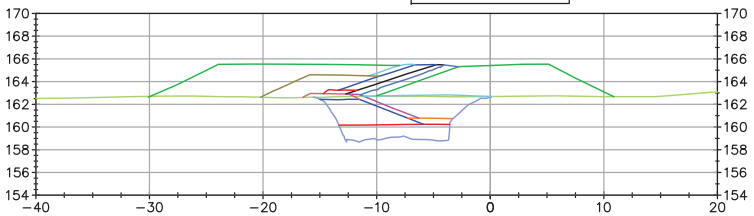
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 2 / 13

FORMAT ANSI B–11x17

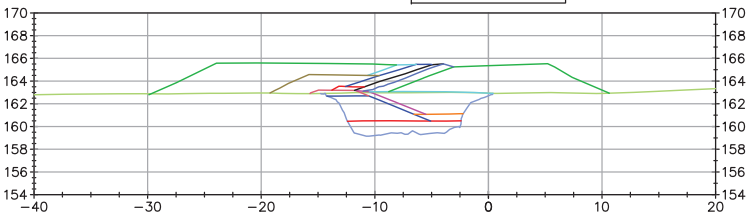
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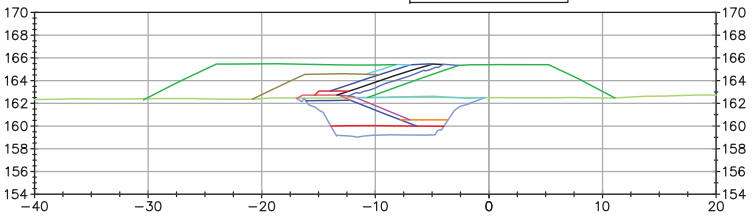
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0+110.00



0+130.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG
DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS	

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–05–09		

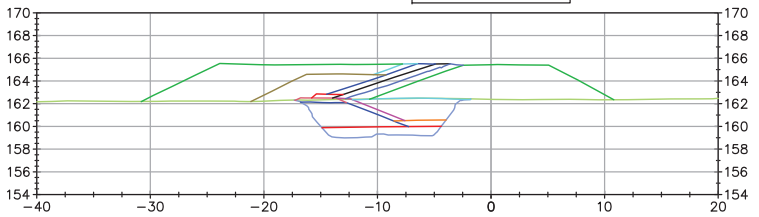
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+100 @ 0+130

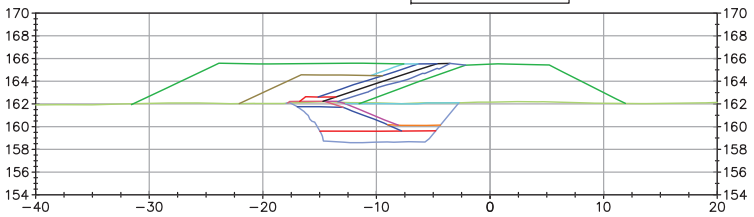
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

FORMAT ANSI B–11x17

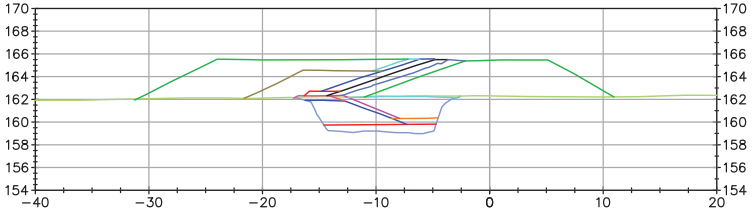
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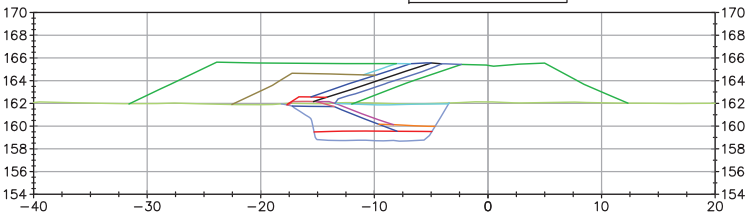
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0+150.00



0+170.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
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- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–05–09

TITRE / TITLE

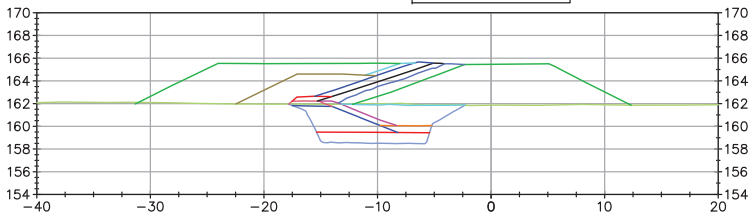
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	FICHIER FILE
NA	.DWG

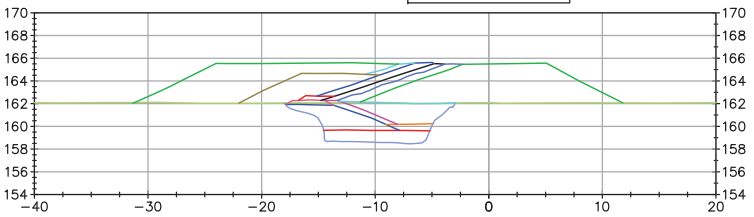
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6127–IVR–As Built		4 / 13

FORMAT ANSI B–11x17

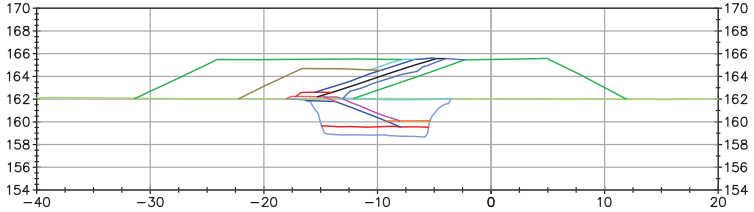
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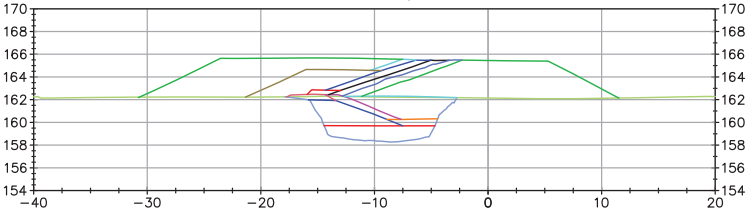
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0+190.00



0+210.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
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- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–05–09

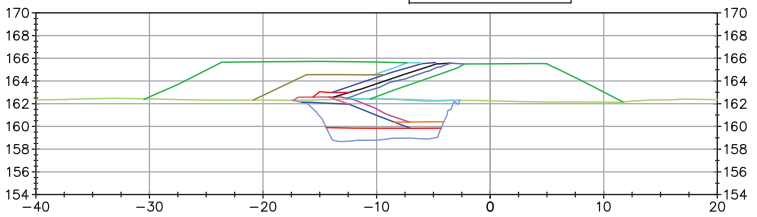
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

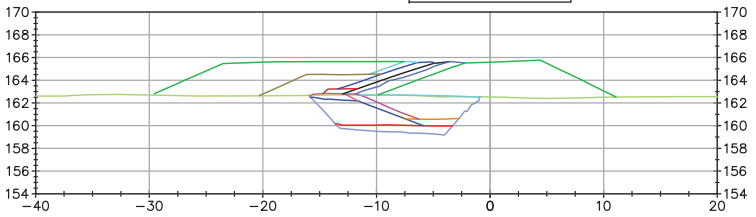
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13

FORMAT ANSI B–11x17

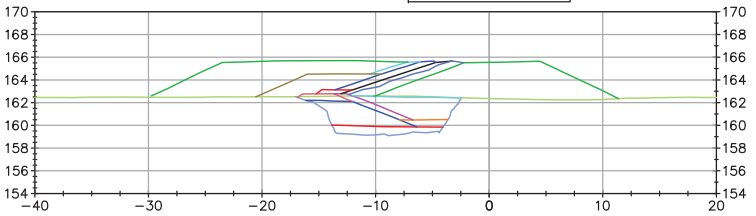
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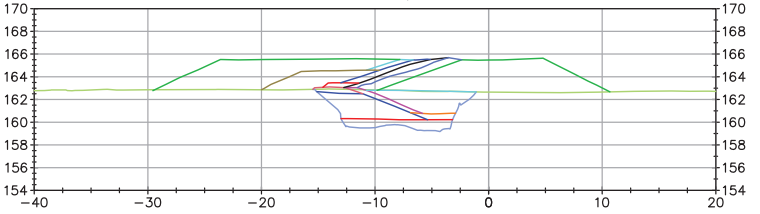
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0+250.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–05–09

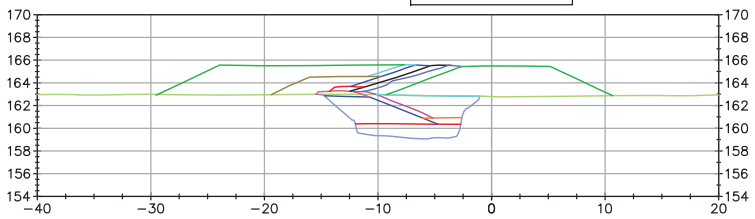
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

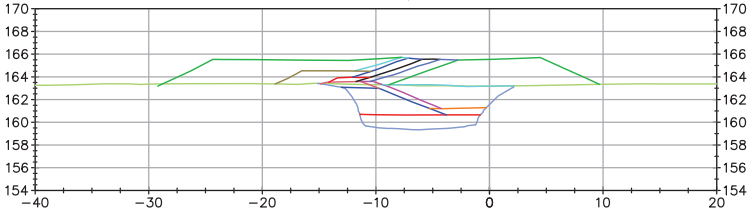
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 6 / 13

FORMAT ANSI B–11x17

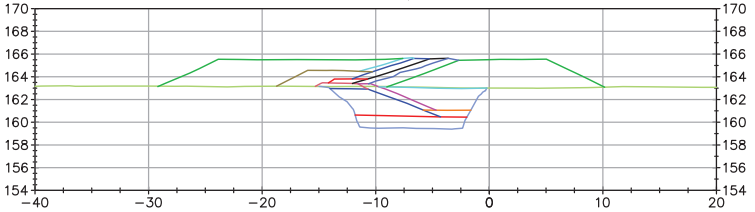
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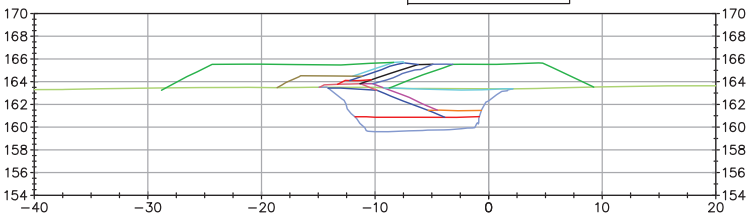
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0+290.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
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- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–05–09	

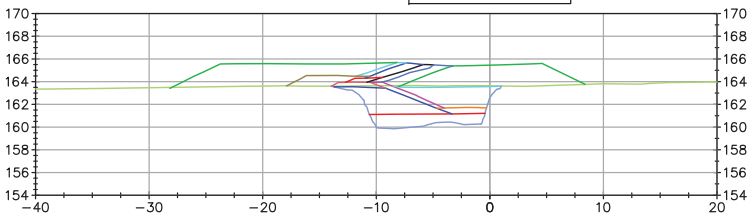
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+260 @ 0+290

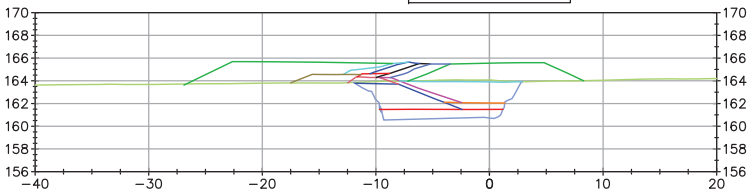
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

FORMAT ANSI B–11x17

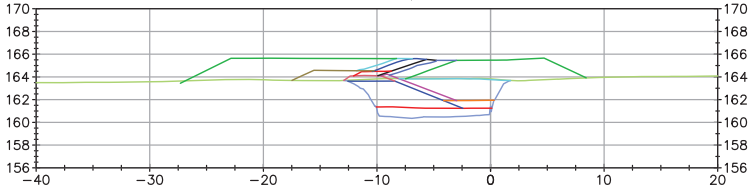
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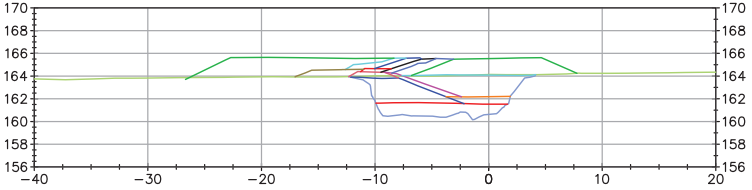
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
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- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
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- ROCKFILL
- ESKER
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AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE 2021–04–04
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–05–09

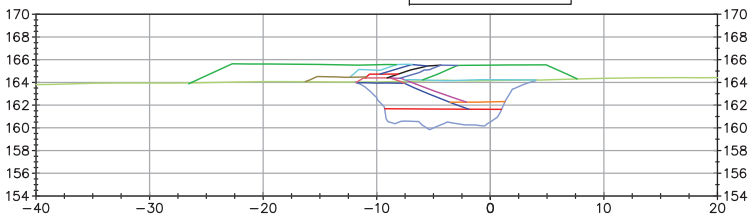
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

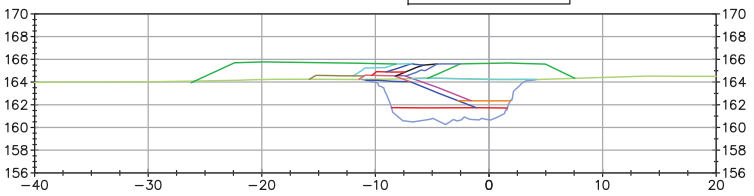
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NA	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–As Built		8 / 13

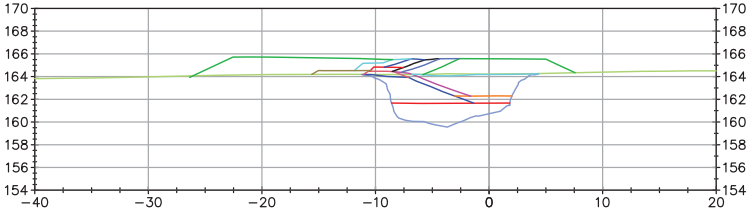
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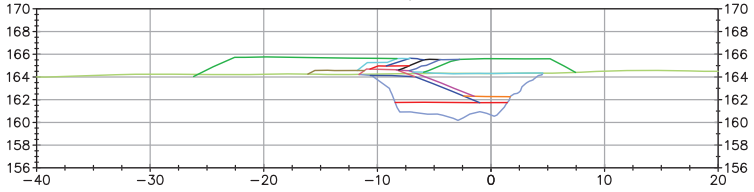
0+360.00



0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG
DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS	

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–04
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

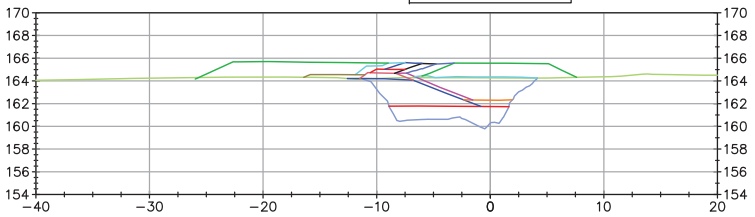
No. PROJET PROJECT NO.	6127
DATE	2021–05–09

TITRE / TITLE

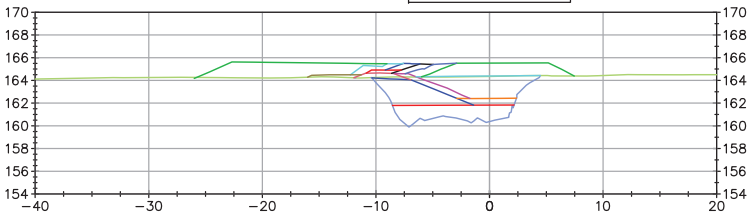
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+340 @ 0+370

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

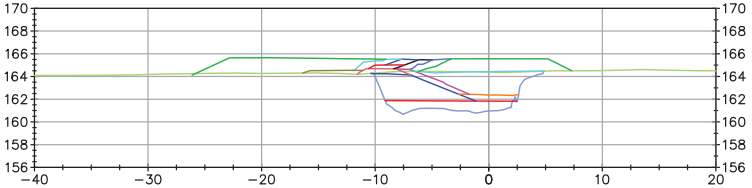
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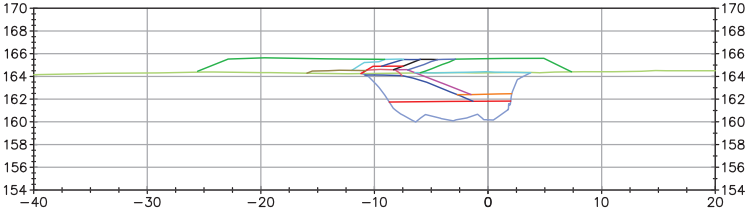
0+400.00



0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–05–09		

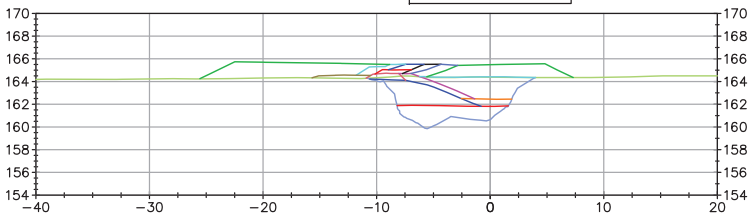
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

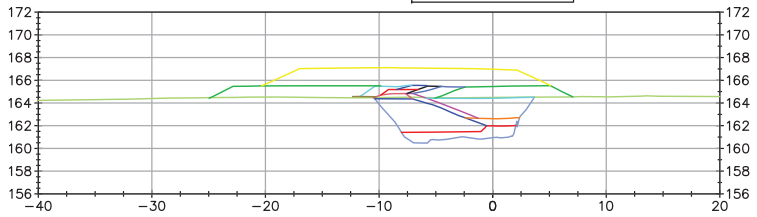
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No. DESSIN / DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 10 / 13

FORMAT ANSI B–11x17

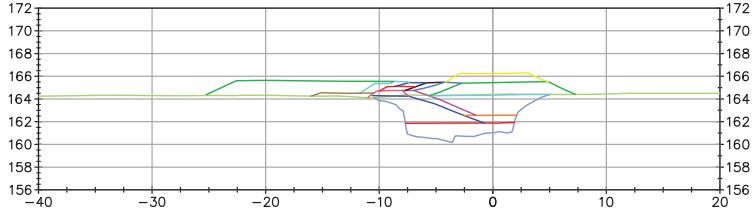
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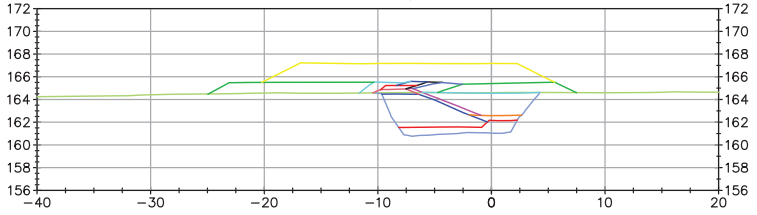
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0+430.00



0+450.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–05–09

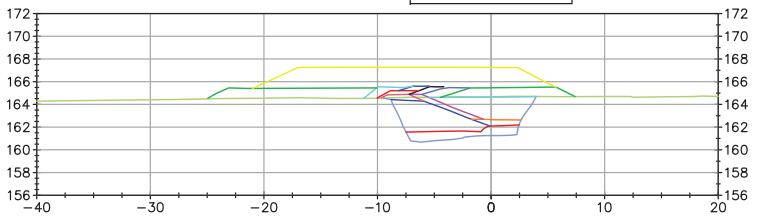
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+420 @ 0+450

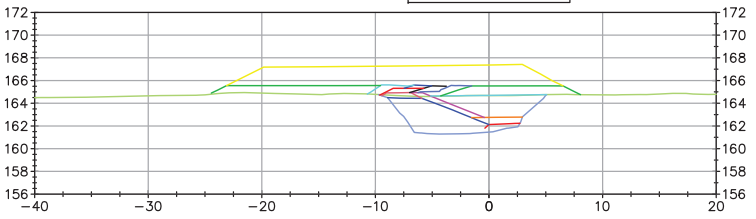
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 11 / 13

FORMAT ANSI B–11x17

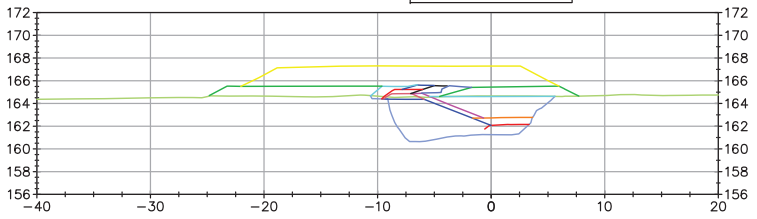
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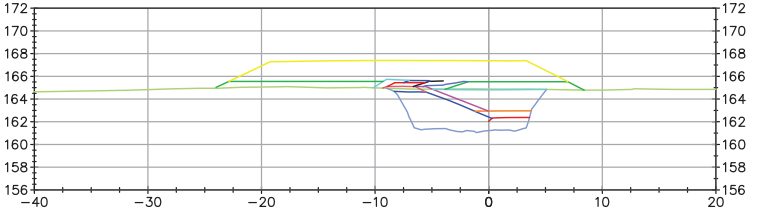
0+480.00



0+470.00



0+490.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
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- CF – OVERLINER KEY TRENCH
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- CF – UNDERLINER DOWNSTREAM
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AGNICO EAGLE

HAMELARPENTAGE

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REVISIONS

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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–05–09

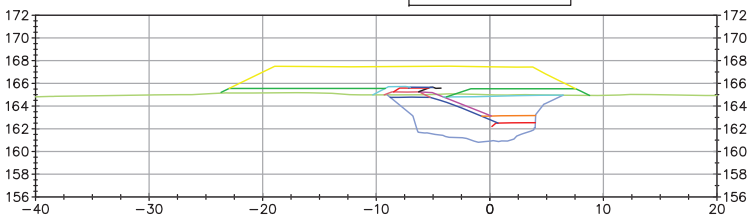
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+460 @ 0+490

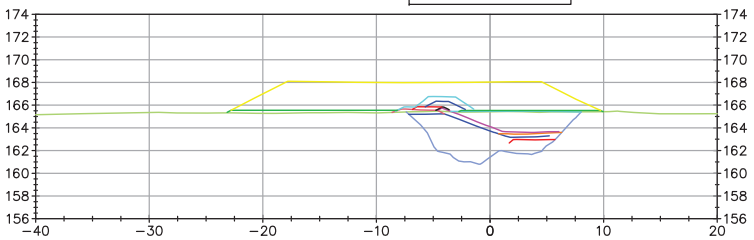
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FORMAT ANSI B–11x17

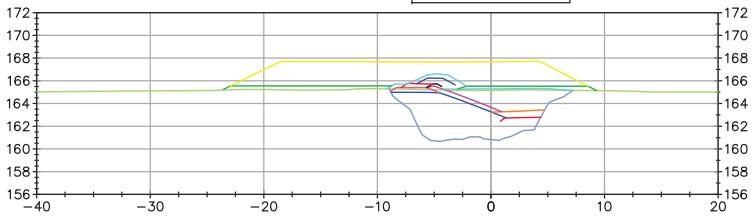
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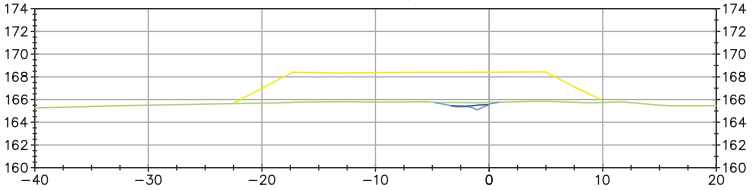
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0+510.00



0+530.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
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- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE | # DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–05–09

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+500 @ 0+530

ÉCHELLE/ SCALE NA | FICHIER / FILE .DWG

No. DESSIN/ DRAWING NO. 6127–IVR–As Built | REVISION | FEUILLE/SHT 13 / 13

IVR DYKE: FOUNDATION APPROVAL (Zone 1: Upstream of Liner) - PHOTOGRAPHS



17

Photograph 1: Foundation of upstream shell prior to placement of Zone 1 rock fill at approx. Sta. 0+270, view looking W.

Date: 2021-04-18
Photo By: DY

IVR DYKE: FOUNDATION APPROVAL (Zone 1: Upstream of Liner) - PHOTOGRAPHS



Photograph 2: Foundation of upstream shell prior to placement of Zone 1 rock fill at approx. Sta. 0+270, view looking E.

Date: 2021-04-18
Photo By: DY

IVR DYKE: FOUNDATION APPROVAL (Zone 1: Upstream of Liner) - PHOTOGRAPHS



Photograph 3: Approved foundation of upstream shell prior to placement of Zone 1 rock fill at approx. Sta. 0+400, view looking W.

Date: 2021-04-25
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (Zone 1: Upstream of Liner) - PHOTOGRAPHS



Photograph 4: KCG removing snow from ground at approx. Sta. 0+200, view facing SE.

Date: 2021-04-26
Photo By: DY

IVR DYKE: FOUNDATION APPROVAL (Zone 1: Upstream of Liner) - PHOTOGRAPHS



Photograph 5: Approved foundation of upstream shell prior to placement of Zone 1 rock fill at approx. Sta. 0+450, view looking E.

Date: 2021-04-28
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March. 26, 2021

DOCUMENT #: 20210326-DS-02 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 3 (coarse filter) - key trench
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+170 → 0+385	**Station:**	—
Inclination:		**Details:**	—
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓				
5. Placement (lift thickness, segregation, etc.)	✓				
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓				
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

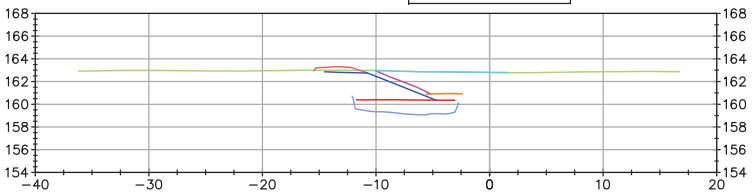
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
	Observations				
	Snow cleared within Footprint of D/S				
	Shell, ~~small pockets~~ thin layer of organics				
	present outside footprint of LLDPE.				

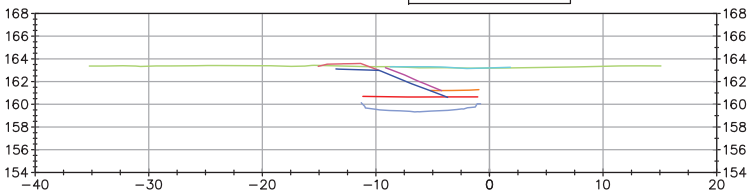
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Bagnon		26-03-21
QC REPRESENTATIVE	Ryan Ollema		Mar 26/21
QA REPRESENTATIVE	Brandon Gray		26-03-21
OWNER'S REPRESENTATIVE	ANTHONY STEWART		26 MAR 2021

FORMAT ANSI B–11x17

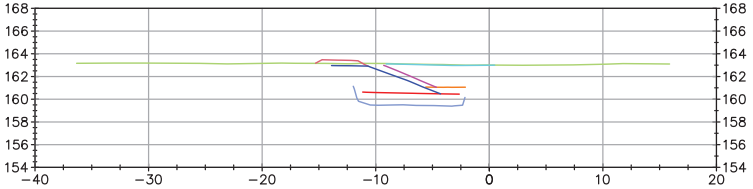
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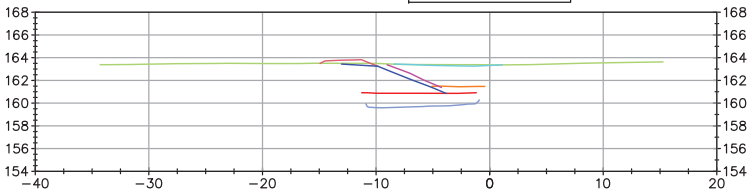
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0+270.00



0+290.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

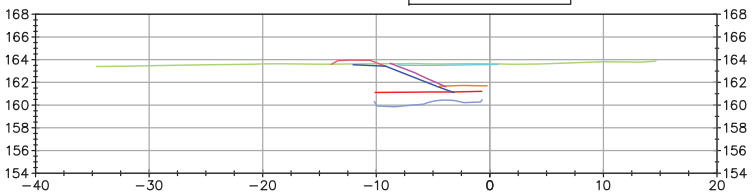
TITRE / TITLE

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IVR D1 DIKE
AS BUILT DRAWING
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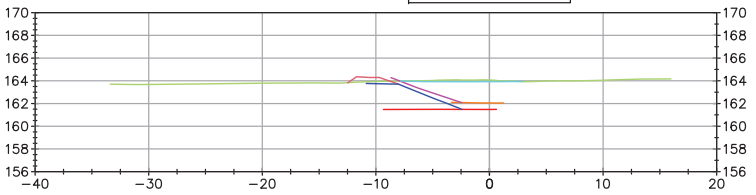
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 6 / 13

FORMAT ANSI B–11x17

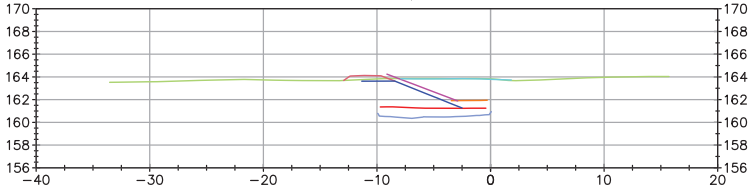
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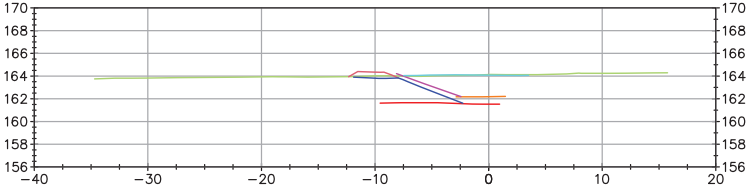
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0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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REVISIONS

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VÉRIFIÉ PAR CHECKED BY		
APPROUVÉ PAR APPROVED BY		

No. PROJET PROJECT NO.	6127
DATE	2021–03–24

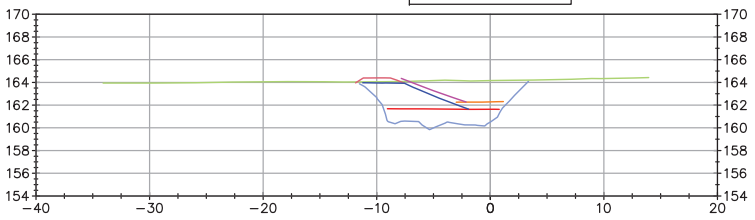
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

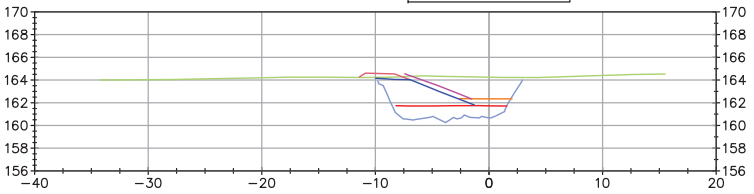
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

FORMAT ANSI B–11x17

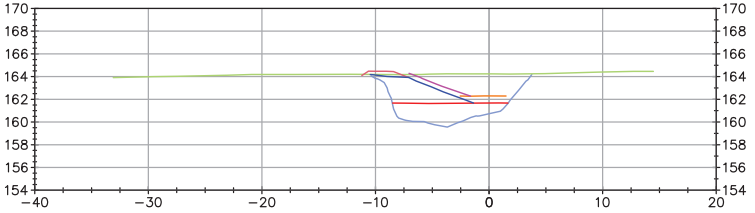
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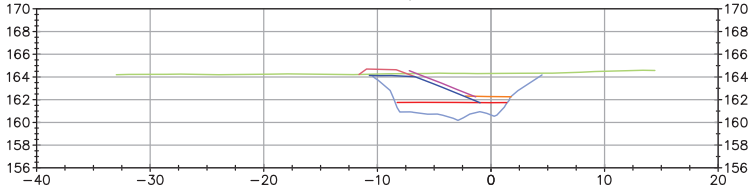
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0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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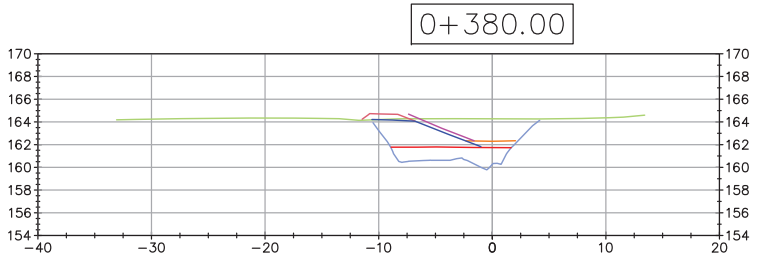
No. PROJET / PROJECT NO.	6127
DATE	2021–03–24

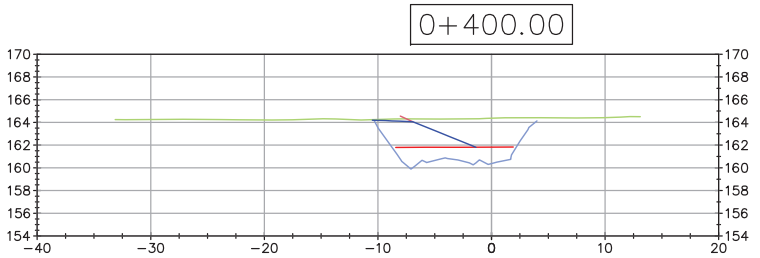
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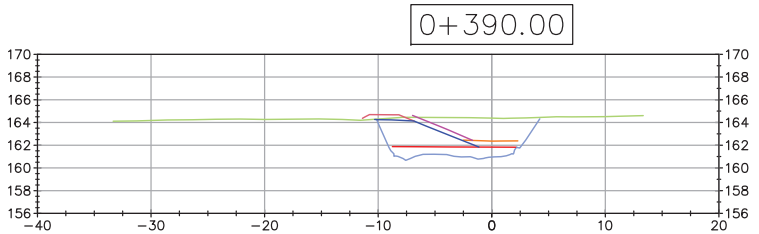
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

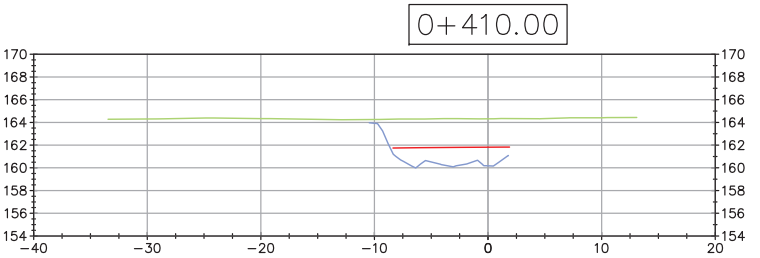
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

FORMAT ANSI B–11x17









- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
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AGNICO EAGLE

HAMELARPENTAGE

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No. PROJET PROJECT NO.	6127
DATE	2021–03–26

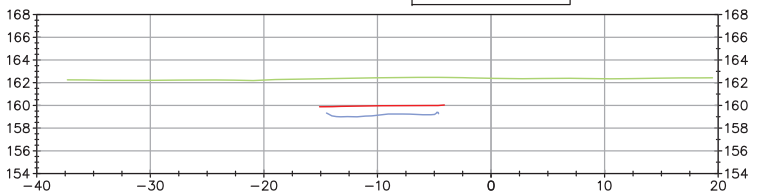
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

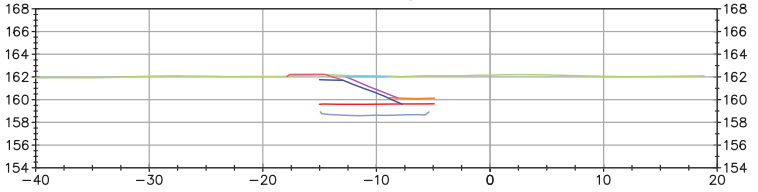
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FORMAT ANSI B–11x17

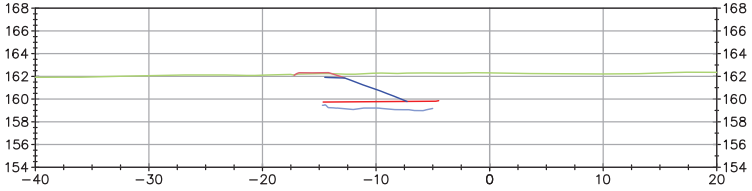
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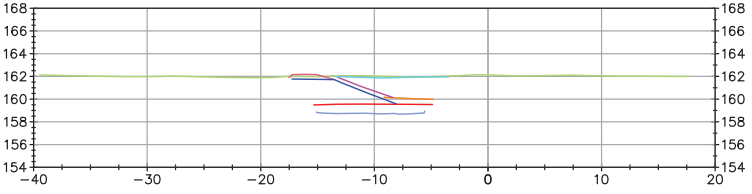
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0+170.00



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- FFAB – UNDERLINER_KEY TRENCH
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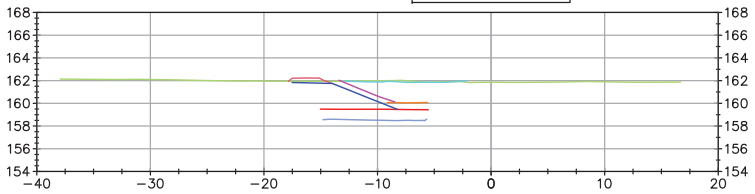
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TITRE / TITLE

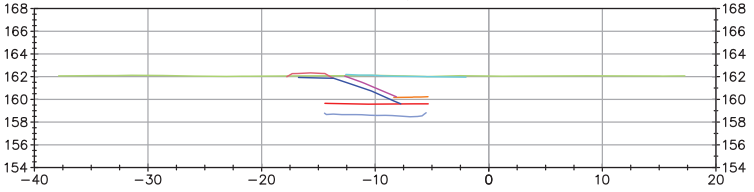
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

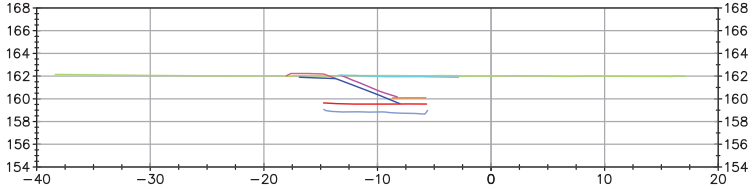
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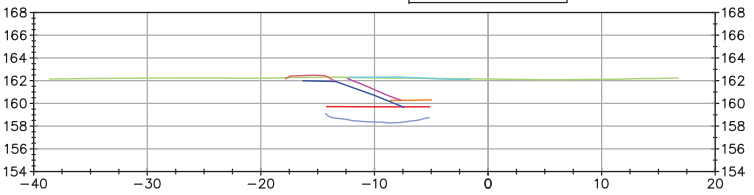
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0+210.00



- ORIGINAL GROUND
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- FFAB – UNDERLINER_KEY TRENCH
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AGNICO EAGLE

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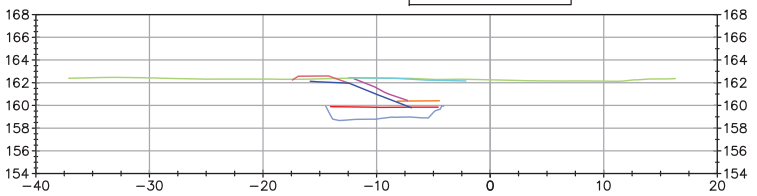
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

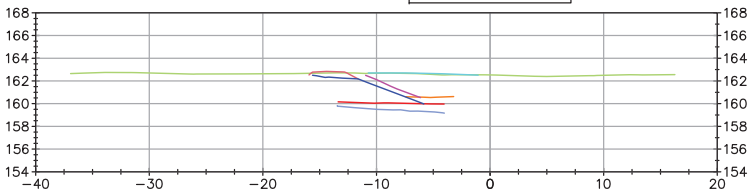
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FORMAT ANSI B–11x17

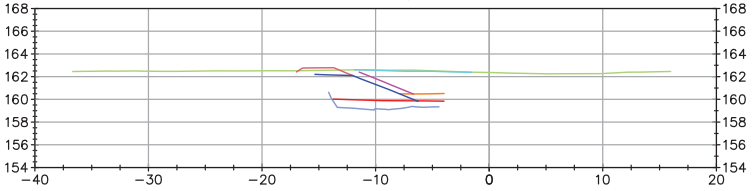
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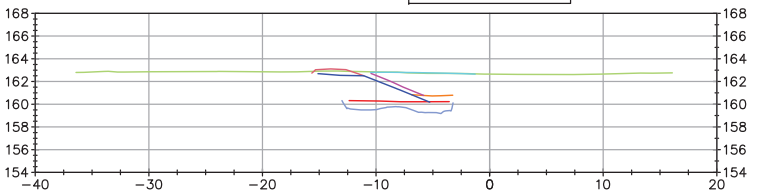
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0+230.00



0+250.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
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AGNICO EAGLE

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No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13

IVR DYKE: FILL PLACEMENT/FOUNDTATION APPROVAL (Zone 3/ Original Ground) - PHOTOGRAPHS



Photograph 1: Approved placement of Zone 3 and prepared downstream foundation at approx. Sta. 0+170, view looking E.

Date: 2021-03-25
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 2145273 **DATE:** March 28, 2021

DOCUMENT #: 20210328-DS-02 **TIME:** _____

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 3 - Trench backfill
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+355 → 0+400	**Station:** —
Inclination:	**Details:** —
ELEVATION: ☑ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

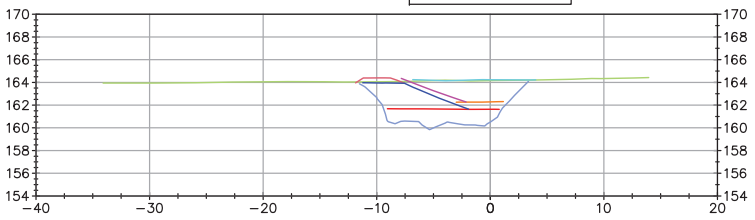
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		✓
7. Foundation on bedrock – cleaning and mapping					
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
6.0	Zone 3 material bucket packed within 5 m of installed LLDPE liner, outside this area smooth drum roller was utilized.	✓			
	Observations Snow cleared within footprint of DIS shell (thin layer of SNOW 5-10mm present on surface). Thin layer of organics present downstream of key trench.				

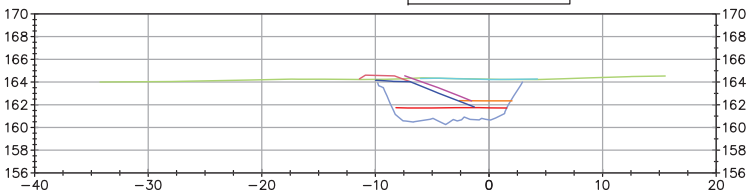
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		28-03-21
QC REPRESENTATIVE	Ryan Okkema		Mar 28/21
QA REPRESENTATIVE	Brandon Gray		Mar-28-2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		28 MAR 2021

FORMAT ANSI B–11x17

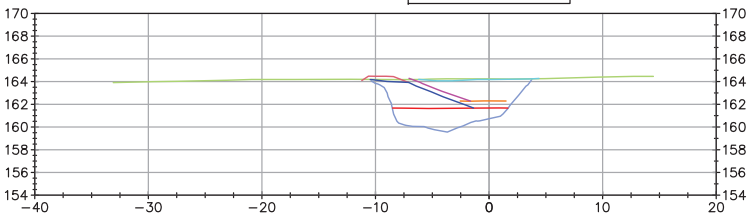
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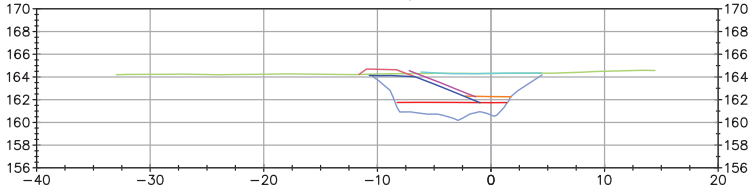
0+360.00



0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

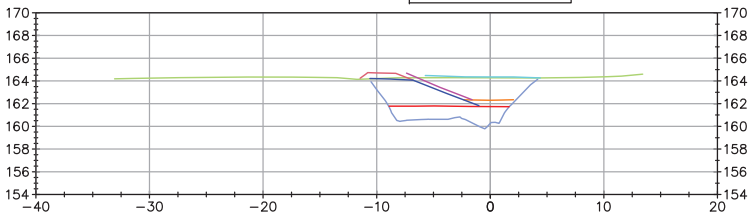
No. PROJET / PROJECT NO.	6127
DATE	2021–03–24

TITRE / TITLE

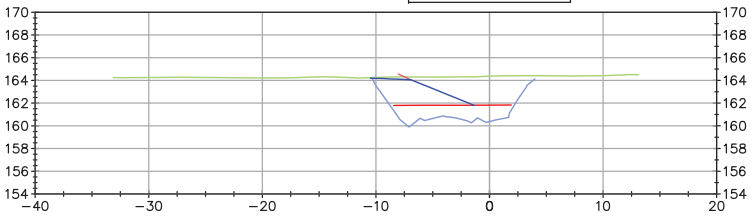
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

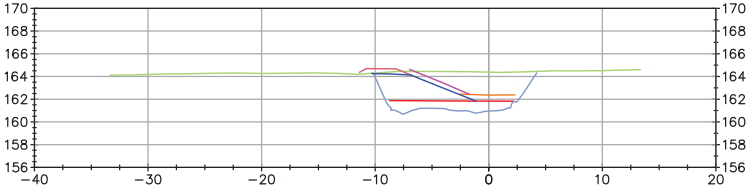
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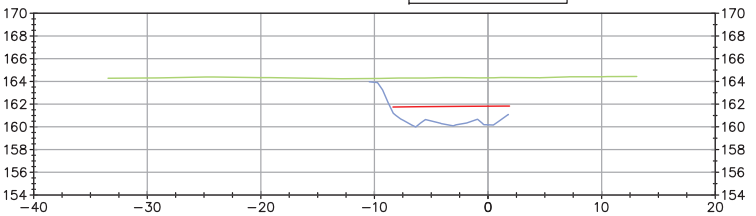
0+400.00



0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

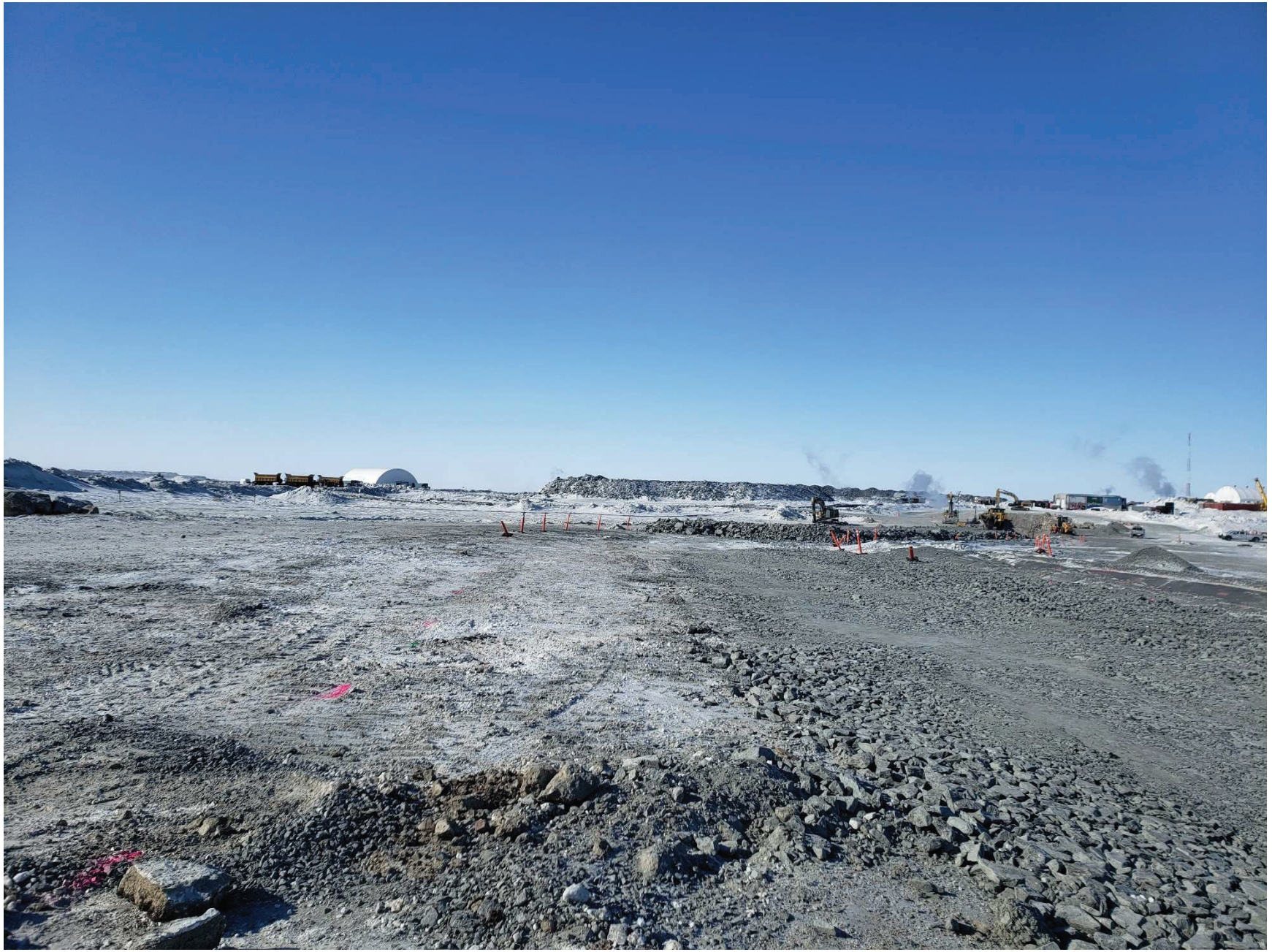
DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–03–26		

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG	
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION		FEUILLE/SHT 9 / 13

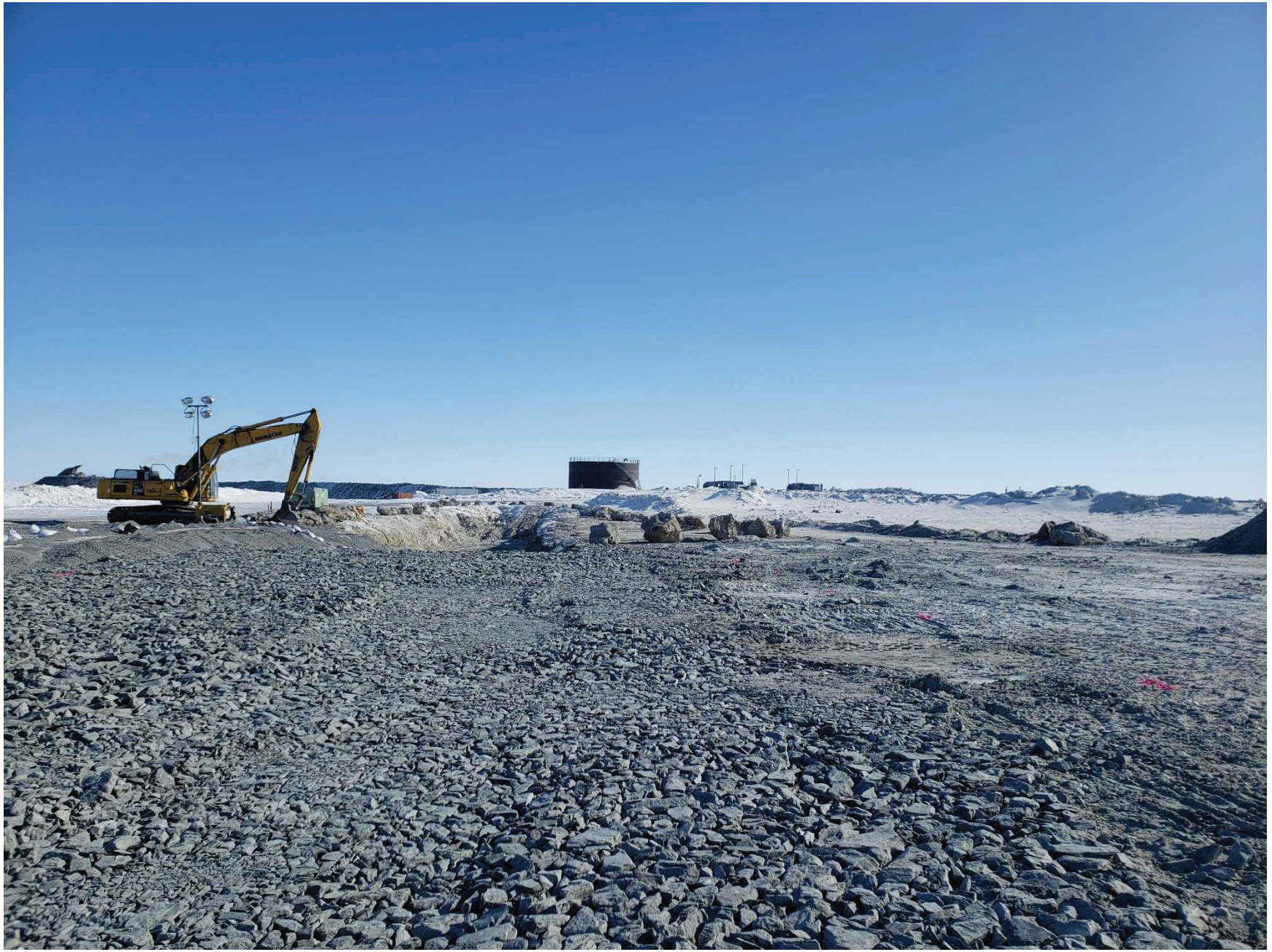
IVR DYKE: FOUNDTATION/FILL PLACEMENT APPROVAL (Downstream Shell/Zone 3) - PHOTOGRAPHS



Photograph 1: Approved section of Zone 3 placement and downstream foundation at approx. Sta. 0+365, view looking W.

Date: 2021-03-28
Photo By: BG

IVR DYKE: FOUNDTATION/FILL PLACEMENT APPROVAL (Downstream Shell/Zone 3) - PHOTOGRAPHS



Photograph 2: Approved section of Zone 3 placement and downstream foundation at approx. Sta. 0+365, view looking E.

Date: 2021-03-28
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

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Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21952873 **DATE:** April. 22. 2021

DOCUMENT #: 20210422-DS-01 **TIME:** _____

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☑ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	At Spill way	**Station:**	-
Inclination:		**Details:**	-
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

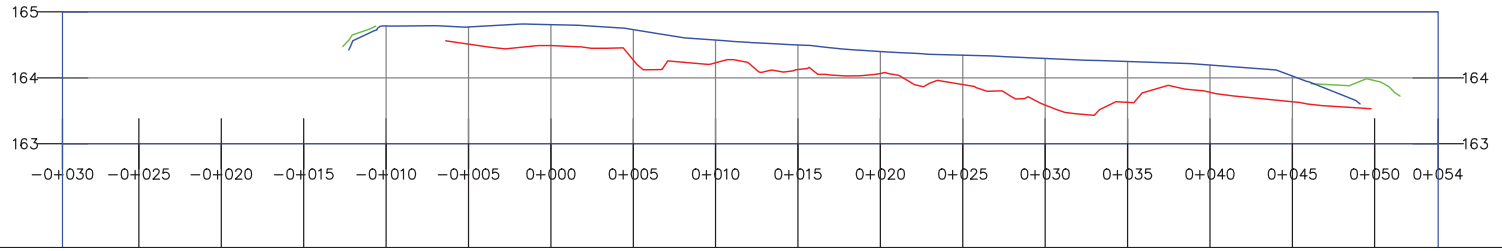
	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
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12.					
13.					
14.					
15.					
16.					

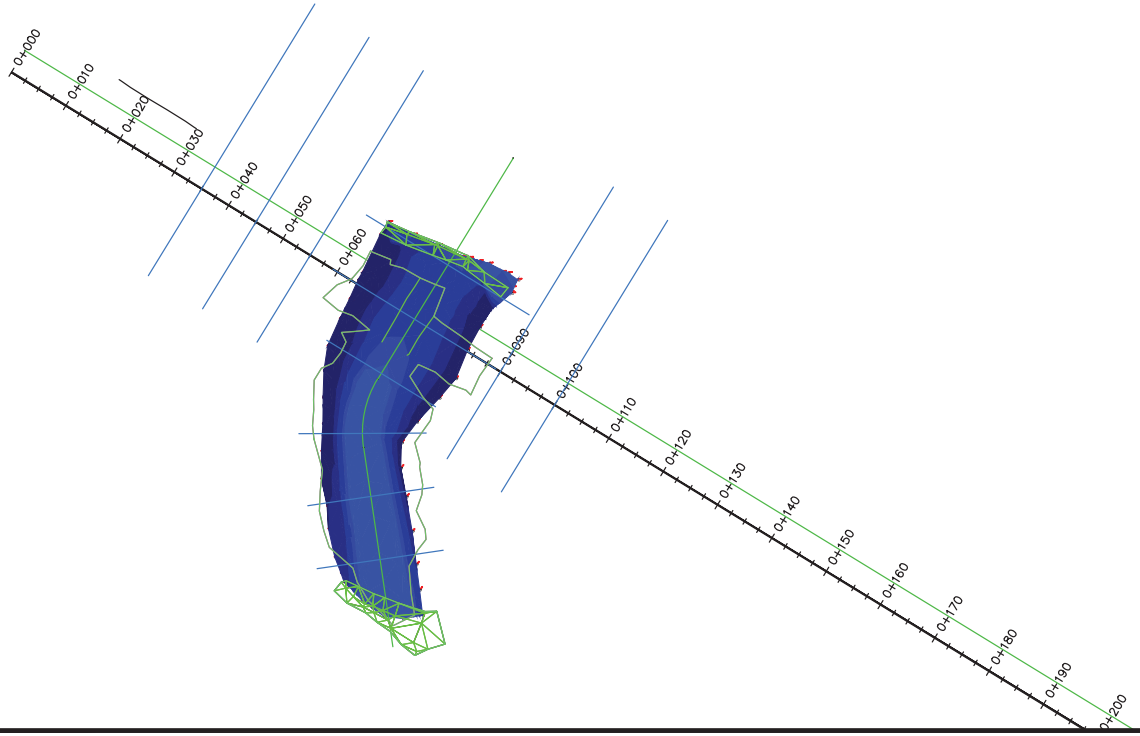
DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
8.0	AEM to provide survey for approval Form.				
	Observations				
	Spillway was cut short approx. 10 Ft. due to presence of existing infrastructure (electrical cable) running D/S. Additional work may be required to ensure spillway will allow water to flow to existing culverts & away from d/s toe of dyke.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Alexandre Blanchet	Alex Betts	April 23/21
QC REPRESENTATIVE	Ryan Okkema		April 23/21
QA REPRESENTATIVE	Brandon Gray	BGray	April 22, 2021
OWNER'S REPRESENTATIVE	Stephane Cioni		April 22, 2021





FINE FILTER
COARSE FILTER
EXCAVATION

AGNICO EAGLE

HA GROUPE LARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–29
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			2021–04–29
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–29		

TITRE / TITLE

AGNICO EAGLE DIVISION AMARUQ
IVR DIKE SPILLWAY

AS BUILD DRAWING FOR APPROVAL
IVR DIKE SPILLWAY

ÉCHELLE/ SCALE	NA	FICHIER / FILE	6125–IVR–AB–SPILLWAY
No. DESSIN/ DRAWING NO.		REVISION	FEUILLE/SHT 1 / 3

IVR DYKE: FOUNDATION APPROVAL (Spillway) - PHOTOGRAPHS



Photograph 1: Komatsu excavator removing snow and ice from foundation of key trench at approx. Sta. 0+035 (spillway chainage), view looking S.

Date: 2021-04-22
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (Spillway) - PHOTOGRAPHS



Photograph 2: Prepared foundation of spillway channel between approx. Sta. 0+035 and Sta. 0+000 (spillway chainage).

Date: 2021-04-22
Photo By: BG

APPENDIX F-2

Fill Placement Approval Forms

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 8, 2021

DOCUMENT #: 20210308-DS-01 **TIME:** 09:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+130 → Sta. 0+180	**Station:**	Sta. 0+130 → Sta. 0+180
Inclination:		**Details:**	Foundation Approvals
ELEVATION:	☑ varies ~ 160.0 m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

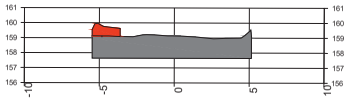
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

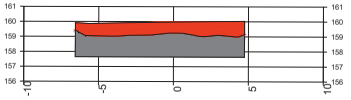
DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
3.0	KGG to remove snow along excavation side walls along u/s & d/s slopes of key trench prior to placement of zone 2A.	✓		✓	
6.0	QC verified compaction of placed placed material, see compaction density test summary form dated, March 7, 2021 NS for results.	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		March 08/2021
QC REPRESENTATIVE	Chantal Pawlychka		Mar/08/2021
QA REPRESENTATIVE	Brandon Gray		March 8, 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		MAR 08 2021

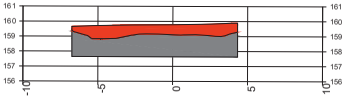
0+130
Échelle : H1 V1



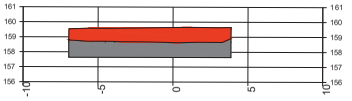
0+140
Échelle : H1 V1



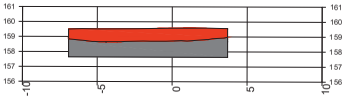
0+150
Échelle : H1 V1



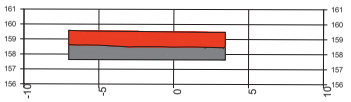
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Échelle : H1 V1



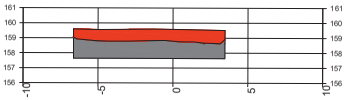
0+170
Échelle : H1 V1



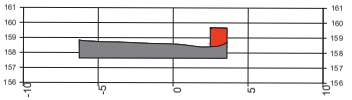
0+180
Échelle : H1 V1



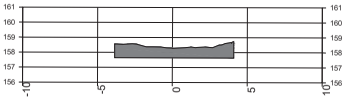
0+190
Échelle : H1 V1



0+200
Échelle : H1 V1



0+210
Échelle : H1 V1



Bottom Key trench

FFAB Under Liner

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HA HAMEL ARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-03-10
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021-03-10		

TITRE / TITLE

AGNICO-EAGLE
AMARUQ
FFAB APPROVAL 0+130 TO 0+197

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127-FFAB APPROVAL		1 / 1

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 1: Approx. Sta. 0+130 view looking E, Zone 2B (FFAB) material placed to approx. elev. 160.0 m (2.5 m below existing ground). Area approved for placement of fine filter.

Date: 2021-03-08
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 2: Approx. Sta. 0+170 view looking NE, KCG to remove snow along upstream key trench excavation walls in advance of Zone 2A placement.

Date: 2021-03-08
Photo By: BG

APPROVAL FORM

SNC·LAVALIN
Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

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www.snclavalin.com

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210310-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 10, 2021

TIME: 11:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A on Zone 2B (FF) (FFAB)
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+180 to 0+205	**Station:** 0+180 to 0+205
Inclination:	**Details:** foundation approvals
ELEVATION: ☑ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

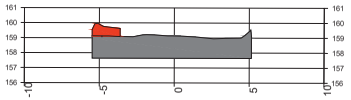
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
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16.					

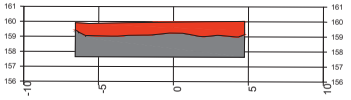
DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
	Observations				
	Some high spots in section under horizontal section of liner – to regrade before installation of liner			✓	

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		March 12/2021
QC REPRESENTATIVE	Chantal Pawlychka		Mar/12/2021
QA REPRESENTATIVE	Shaina Spilberg		March 10, 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		MAR 12 2021

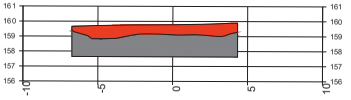
0+130
Échelle : H1 V1



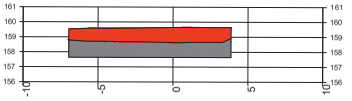
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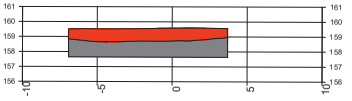
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Échelle : H1 V1



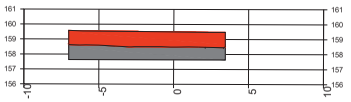
0+160
Échelle : H1 V1



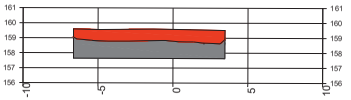
0+170
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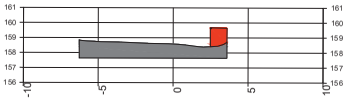
0+180
Échelle : H1 V1



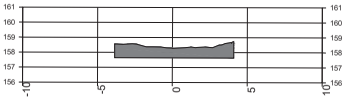
0+190
Échelle : H1 V1



0+200
Échelle : H1 V1



0+210
Échelle : H1 V1



Bottom Key trench

FFAB Under Liner

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HA HAMEL ARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-03-10
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021-03-10		

TITRE / TITLE

AGNICO-EAGLE
AMARUQ
FFAB APPROVAL 0+130 TO 0+197

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127-FFAB APPROVAL		1 / 1

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 1: Approved fill placement of Zone 2A material (FFAB) from Sta. 0+180 to 0+205, view looking W. Approved for placement of fine filter.

Date: 2021-03-10
Photo By: SS

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 2: High spot at approx. Sta. 0+205, view looking NW. To be regraded prior to liner installation

Date: 2021-03-10
Photo By: SS

APPROVAL FORM

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

PROJECT : IVR D-1 Dike Construction

PROJECT #: 2145283

DOCUMENT #: 20210312 - DS - 01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 12, 2021

TIME: 7:00 and 11:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB)
- ☐ Other: _____

LOCATION

Station 0+180 to 0+241

Inclination:

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: 0+130 to 0+180

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

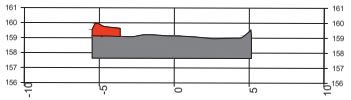
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

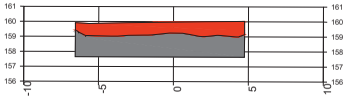
DETAILS (Refer to list above for item #)		APPROVED BY: QA Y	QA N	QC Y	QC N
ITEM					
	Observations				
	Ice lenses observed in upstream wall: ~5 cm at 0+226 ~2 cm at 0+233				
	Lenses were approximately 1.5-2m bgs and 2-3m long.				
	QA representative requested additional cleaning + compacting at base of upstream wall – done				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		March 12/2021
QC REPRESENTATIVE	Chantal Pawluchka		Mar/12/2021
QA REPRESENTATIVE	Shai Spilberg		March 12, 2021
OWNER'S REPRESENTATIVE	Patrice Gagnon		March 12 2021

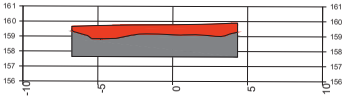
0+130
Échelle : H1 V1



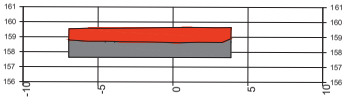
0+140
Échelle : H1 V1



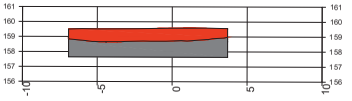
0+150
Échelle : H1 V1



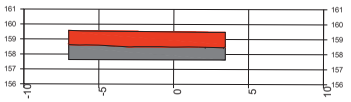
0+160
Échelle : H1 V1



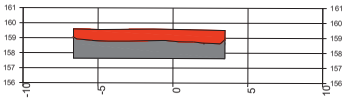
0+170
Échelle : H1 V1



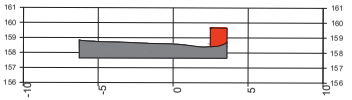
0+180
Échelle : H1 V1



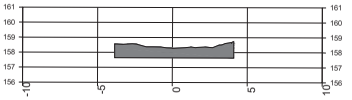
0+190
Échelle : H1 V1



0+200
Échelle : H1 V1



0+210
Échelle : H1 V1



Bottom Key trench

FFAB Under Liner

AGNICO EAGLE

HA HAMEL ARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-03-10
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021-03-10		

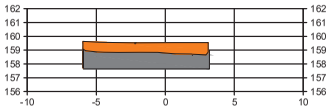
TITRE / TITLE

AGNICO-EAGLE
AMARUQ
FFAB APPROVAL 0+130 TO 0+197

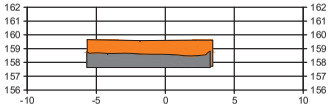
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127-FFAB APPROVAL		1 / 1

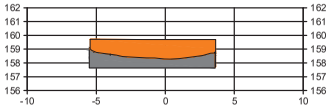
0+190
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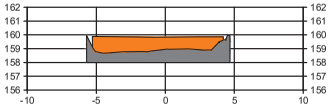
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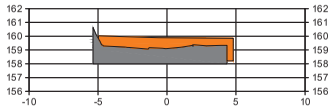
0+210
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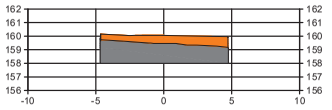
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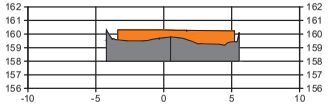
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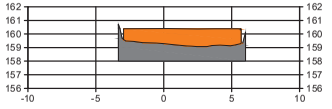
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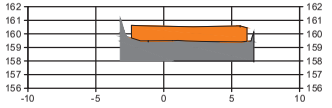
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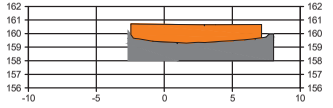
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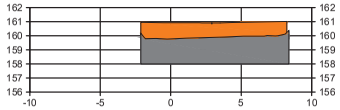
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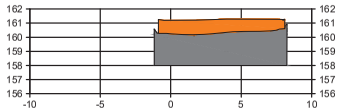
0+280
Échelle : H1 V1



0+290
Échelle : H1 V1



0+300
Échelle : H1 V1



Solide Bottom Key trench

SOLIDE_FFAB UNDER LINER

Solide Bottom Key trench

SOLIDE_FFAB UNDER LINER

AGNICO EAGLE

HA HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–03–18
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2020–10–05

TITRE / TITLE

AGNICO–EAGLE – DIVISION
PROJECT IVR DIKE
KEY TRENCH EXCAVATOION
APPROVAL FFAB 0+190_0+300

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
AB_FFAB UNDER LINER		1 / 1

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 1: Approved fill placement of Zone 2A material (FFAB) from Sta. 0+205 to 0+241, view looking W. Approved for placement of fine filter after cleaning & re-compaction at base of upstream trench wall.

Date: 2021-03-12
Photo By: SS

SNC·LAVALIN

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195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210313-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 13, 2021

TIME: 19:30
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FF4B)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+240 to 0+300	**Station:**	0+248 to 0+280
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

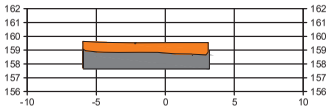
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

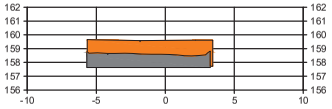
DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
	Observations				
	Fill settled 30-50 mm after compaction. However, FFAB very thick in this section due to overblasting. Accepted.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		March 14/2021
QC REPRESENTATIVE	Chantal Pawlechka		Mar/14/2021
QA REPRESENTATIVE	Shai Spilberg		March 13, 2021
OWNER'S REPRESENTATIVE	Stephane Ginet		March 13, 2021

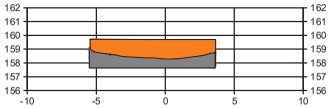
0+190
Échelle : H1 V1



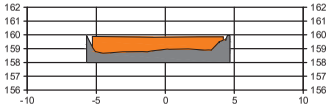
0+200
Échelle : H1 V1



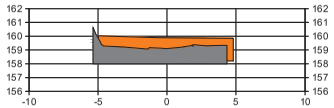
0+210
Échelle : H1 V1



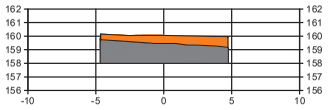
0+220
Échelle : H1 V1



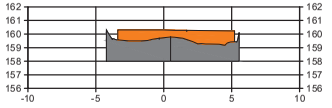
0+230
Échelle : H1 V1



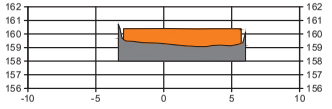
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Échelle : H1 V1



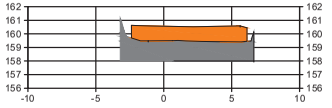
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Échelle : H1 V1



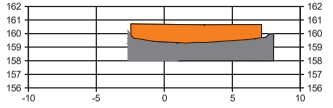
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Échelle : H1 V1



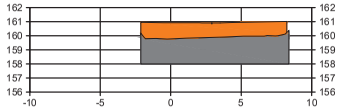
0+270
Échelle : H1 V1



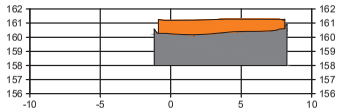
0+280
Échelle : H1 V1



0+290
Échelle : H1 V1



0+300
Échelle : H1 V1



Solide Bottom Key trench

SOLIDE_FFAB UNDER LINER

Solide Bottom Key trench

SOLIDE_FFAB UNDER LINER

AGNICO EAGLE

HA HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–03–18
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2020–10–05

TITRE / TITLE

AGNICO–EAGLE – DIVISION
PROJECT IVR DIKE
KEY TRENCH EXCAVATOION
APPROVAL FFAB 0+190_0+300

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
AB_FFAB UNDER LINER		1 / 1

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 1: Approved fill placement of Zone 2A material (FFAB) from Sta. 0+241 to 0+300, view looking E.

Date: 2021-03-13
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210304 - DS - 01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 14, 2021

TIME: 17:30
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A (FF)
- ☐ Other: _____

LOCATION

Station 0+165 to 0+215

Inclination:

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: none

Details:

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

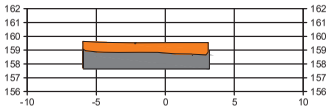
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction		✓	✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

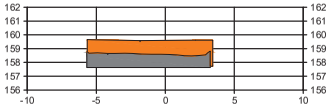
DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
6.	Approval conditional upon passing compaction tests. No placement of Zone 2B (FFAB) material until passing compaction test results provided by QC representative. (Passed - QC)				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		March 14, 2021
QC REPRESENTATIVE	Chantal Pawlechko		Mar/15/2021
QA REPRESENTATIVE	Shaj Spilberg		March 14, 2021
OWNER'S REPRESENTATIVE	Stephane Giard		March 14, 2021

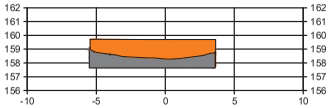
0+190
Échelle : H1 V1



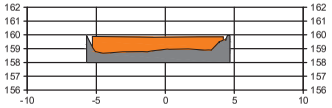
0+200
Échelle : H1 V1



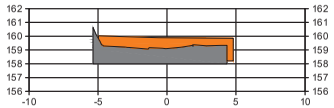
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Échelle : H1 V1



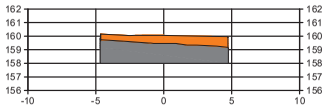
0+220
Échelle : H1 V1



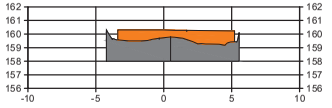
0+230
Échelle : H1 V1



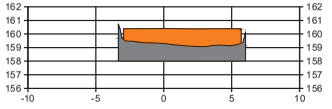
0+240
Échelle : H1 V1



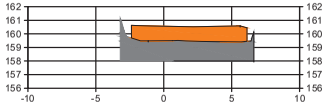
0+250
Échelle : H1 V1



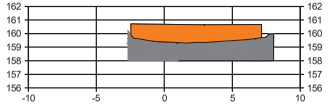
0+260
Échelle : H1 V1



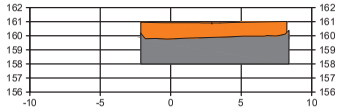
0+270
Échelle : H1 V1



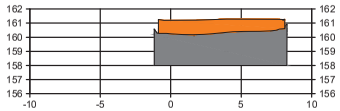
0+280
Échelle : H1 V1



0+290
Échelle : H1 V1



0+300
Échelle : H1 V1



Solide Bottom Key trench

SOLIDE_FFAB UNDER LINER

Solide Bottom Key trench

SOLIDE_FFAB UNDER LINER

AGNICO EAGLE

HA HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–03–18
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2020–10–05

TITRE / TITLE

AGNICO–EAGLE – DIVISION
PROJECT IVR DIKE
KEY TRENCH EXCAVATOION
APPROVAL FFAB 0+190_0+300

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
AB_FFAB UNDER LINER		1 / 1

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2A) - PHOTOGRAPHS



Photograph 1: Approved fill placement of Zone 2A material (FF) from Sta. 0+165 to 0+215, view looking W.

Date: 2021-03-14
Photo By: SS

APPROVAL FORM

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210315-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 15, 2021

TIME: 10:30
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) under liner
- ☐ Other: _____

LOCATION

Station 0+167 to 0+212

Inclination: _____

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: —

Details: _____

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

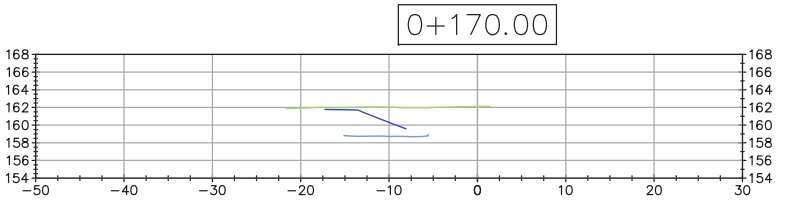
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1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
	Observations				
	Surface of slope must be raked prior to geotextile placement.				

APPROVED BY:

	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Nicolas Tremblay		March 15, 2021
QC REPRESENTATIVE	Chantal Pawlychka		Mar/15/2021
QA REPRESENTATIVE	Shai Silberg		March 15, 2021
OWNER'S REPRESENTATIVE	Stephane Sirois		March 15, 2021

FORMAT ANSI B–11x17



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

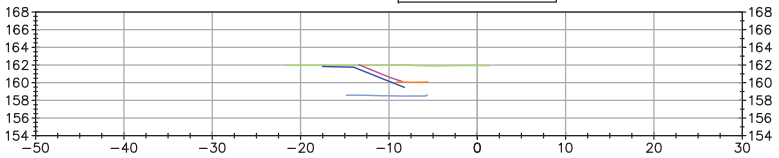
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

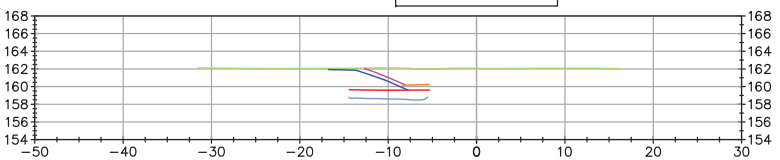
ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–As Built		3 / 13

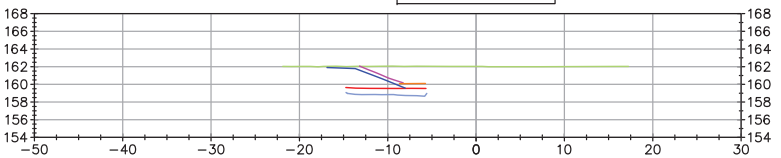
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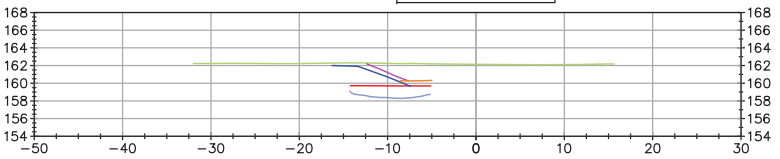
0+200.00



0+190.00



0+210.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

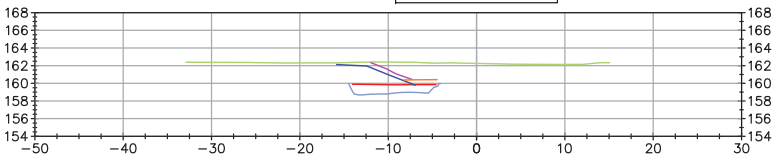
No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

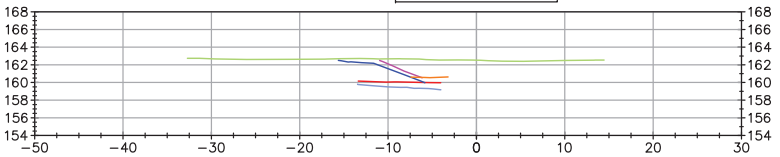
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

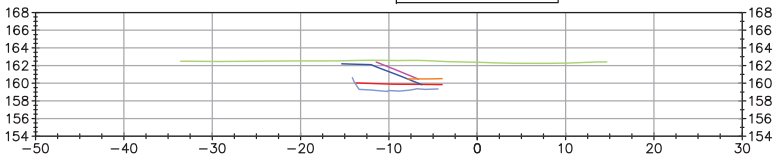
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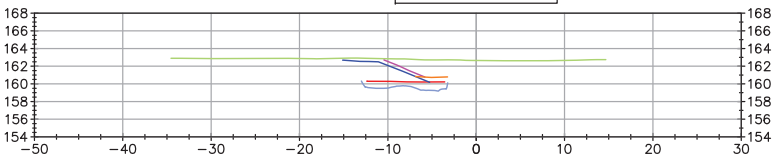
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0+230.00



0+250.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

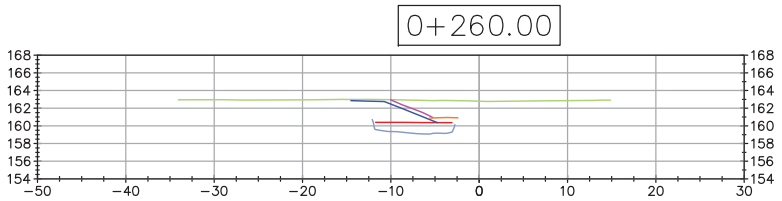
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VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

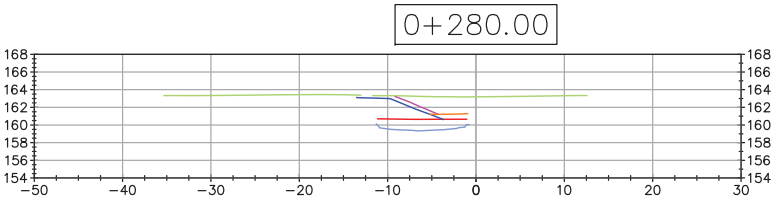
No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

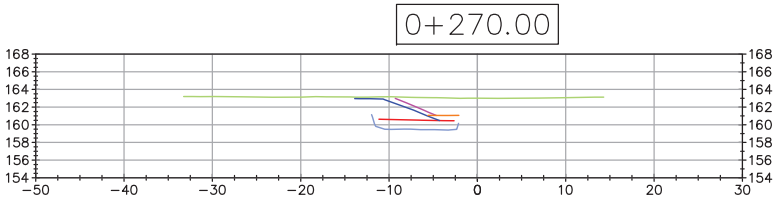
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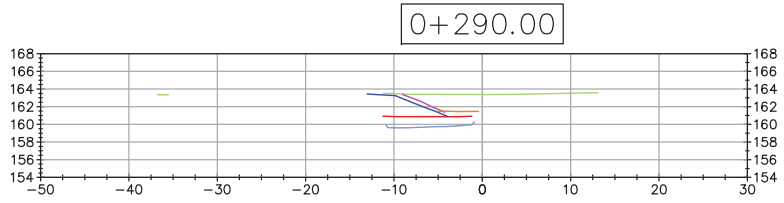
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13









- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
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APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

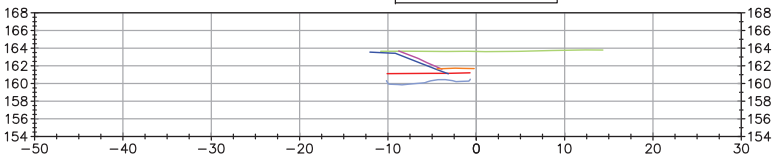
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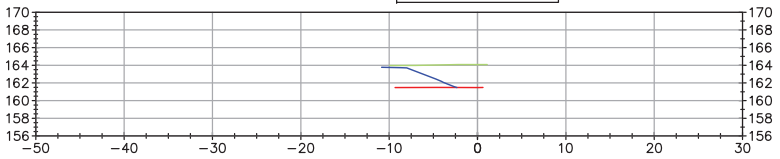
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FORMAT ANSI B–11x17

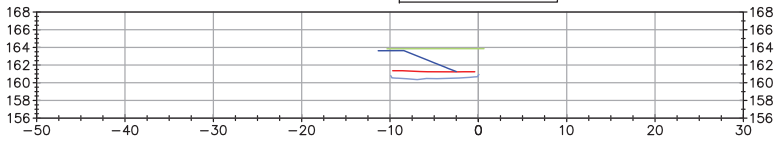
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0+320.00



0+310.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

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REVISIONS

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APPROUVÉ PAR / APPROVED BY		

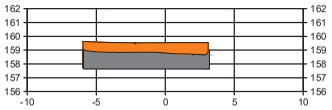
No. PROJET / PROJECT NO.	6127
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TITRE / TITLE

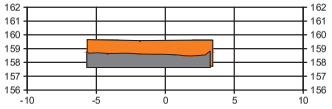
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

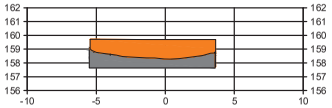
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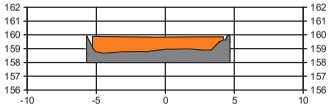
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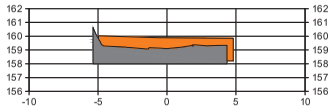
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Échelle : H1 V1



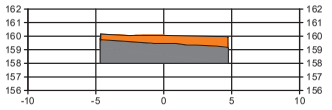
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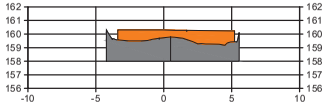
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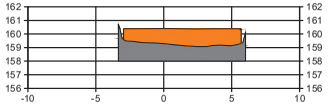
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Échelle : H1 V1



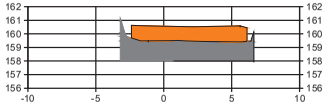
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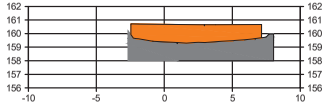
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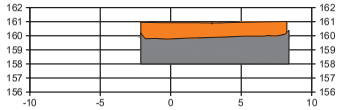
0+270
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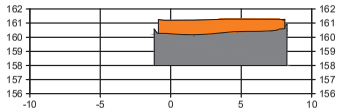
0+280
Échelle : H1 V1



0+290
Échelle : H1 V1



0+300
Échelle : H1 V1



Solide Bottom Key trench

SOLIDE_FFAB UNDER LINER

Solide Bottom Key trench

SOLIDE_FFAB UNDER LINER

AGNICO EAGLE

HA HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–03–18
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2020–10–05

TITRE / TITLE

AGNICO–EAGLE – DIVISION
PROJECT IVR DIKE
KEY TRENCH EXCAVATOION
APPROVAL FFAB 0+190_0+300

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
AB_FFAB UNDER LINER		1 / 1

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 1: Approved fill placement of Zone 2B material (FFAB) and liner bedding slope from Sta. 0+167 to 0+212, view looking E.

Date: 2021-03-15
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 22, 2021

DOCUMENT #: 20210322-DS-02 **TIME:** 16:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: FFAB under liner (bottom of Key trench)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+300 to 0+318	**Station:**	0+241 to 0+300
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

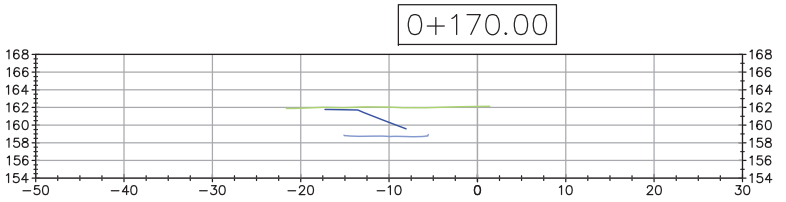
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
	Material appears visually of good quality and well graded. Compaction test yielded 105.8% SPD.				
	6% bentonite mix used in this section				
	Toe of liner slope is free of snow + debris.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Bagnall		23-3-21.
QC REPRESENTATIVE	Ryan Okkema		Mar 23, 2021
QA REPRESENTATIVE	Shai Spilberg		March 22, 2021
OWNER'S REPRESENTATIVE	Stephane Gin		March 22, 2021

FORMAT ANSI B–11x17



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

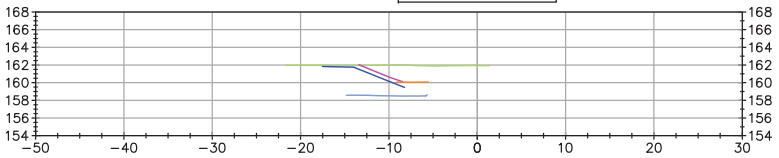
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
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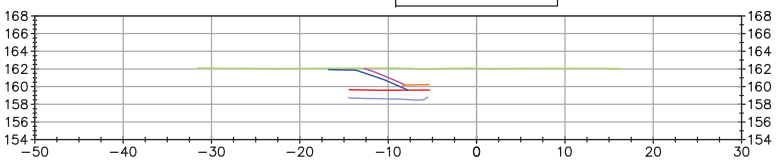
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No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–As Built		3 / 13

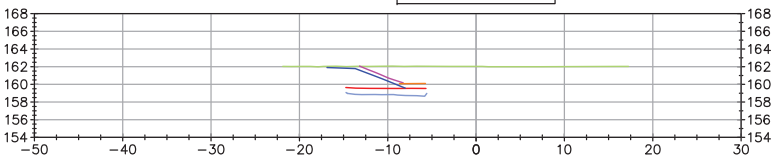
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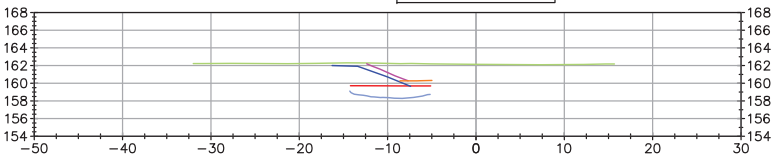
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0+190.00



0+210.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

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APPROUVÉ PAR / APPROVED BY		

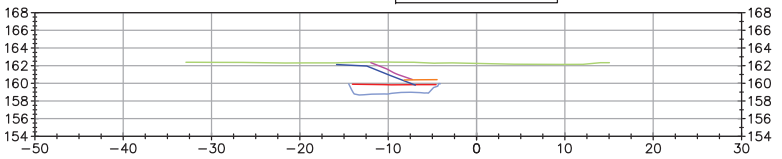
No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

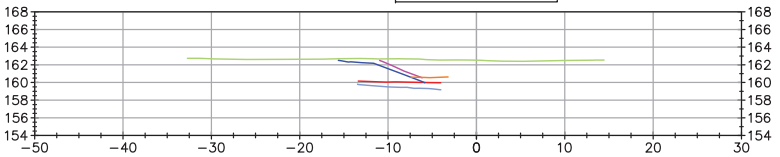
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

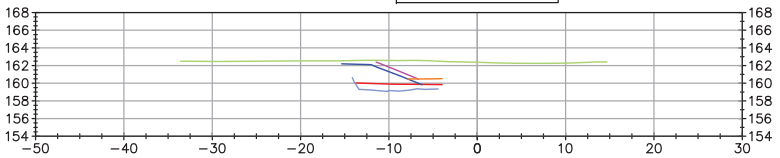
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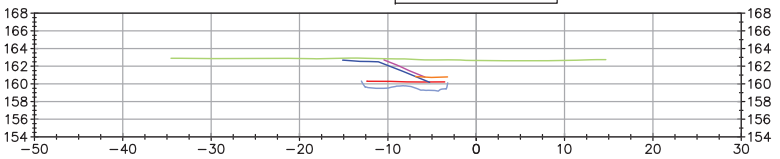
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0+230.00



0+250.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

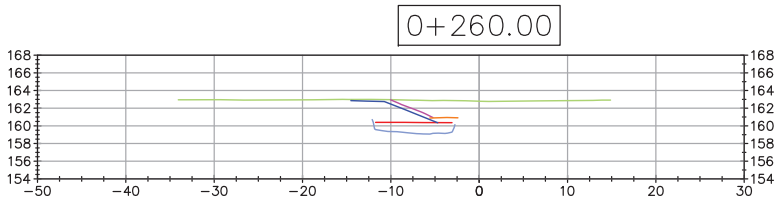
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VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

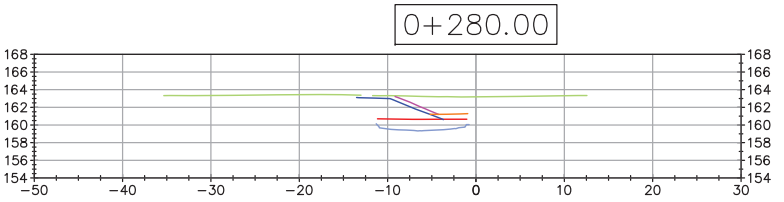
No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

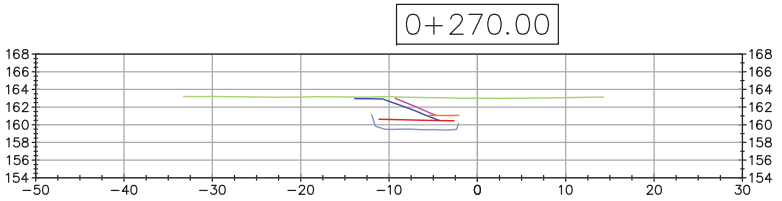
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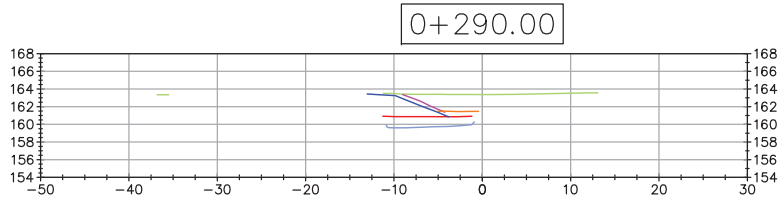
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13









- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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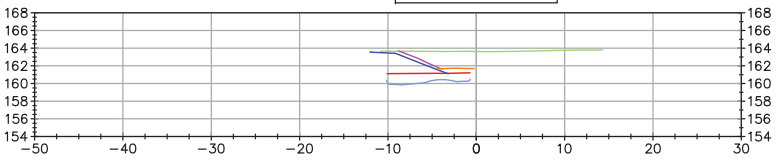
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+260 @ 0+290

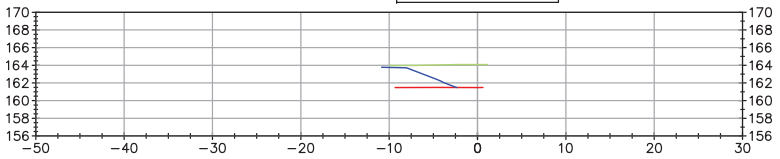
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 6 / 13

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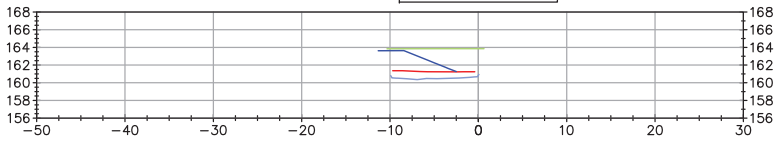
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0+320.00



0+310.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
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AGNICO EAGLE

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APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 1: Approved fill placement of Zone 2B material (FFAB) from Sta. 0+300 to 0+318, view looking E.

Date: 2021-03-15
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 22, 2021

DOCUMENT #: 20210322-DS-03 **TIME:** 16:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: FF under liner in Key trench
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+~~300~~ 215 to 0+318	**Station:**	0+165 to 0+215
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

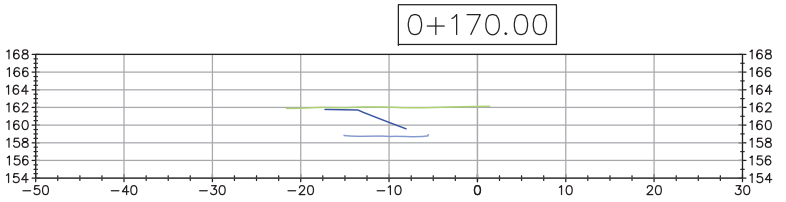
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		QC		N/A
	Y	N	Y	N	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
	Material appears visually of good quality and well graded. Material is compacted as per Specifications.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Wagner		23-3-21.
QC REPRESENTATIVE	Ryan Ollema		Mar 23, 2021
QA REPRESENTATIVE	Shai Spilberg		March 22, 2021
OWNER'S REPRESENTATIVE	Stephane Grenier		March 22, 2021

FORMAT ANSI B–11x17



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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APPROUVÉ PAR / APPROVED BY			

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DATE	2021–03–22

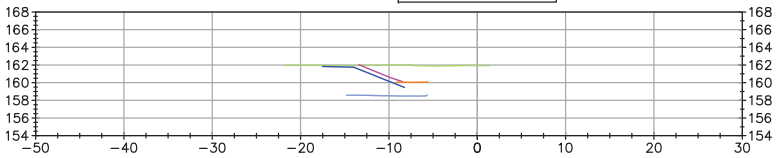
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

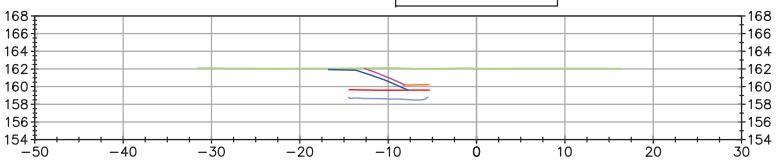
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No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–As Built		3 / 13

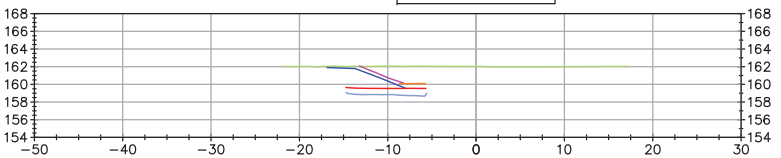
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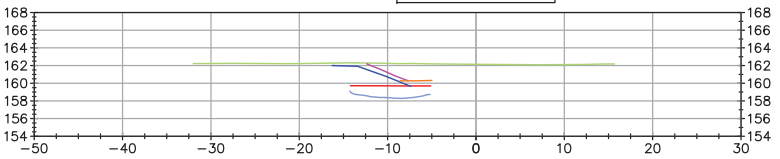
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0+190.00



0+210.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

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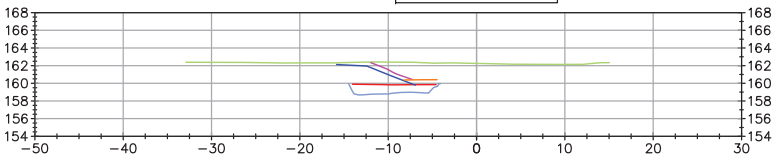
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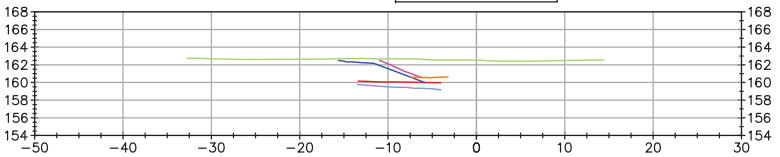
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

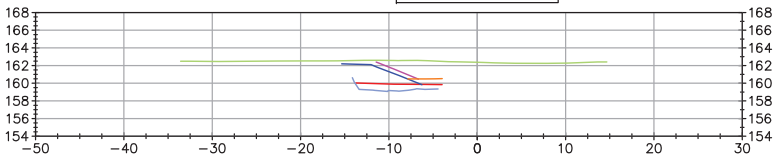
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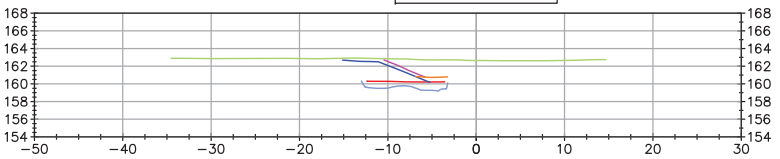
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0+230.00



0+250.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

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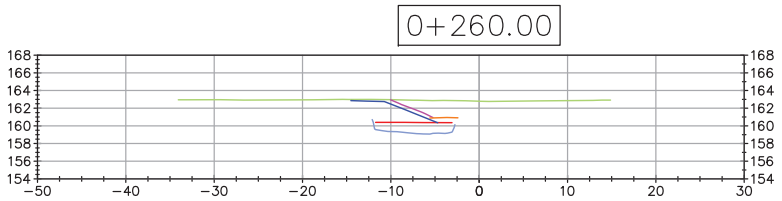
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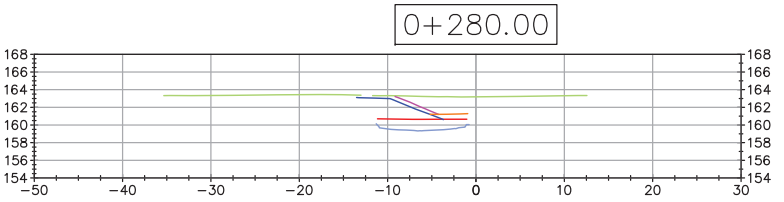
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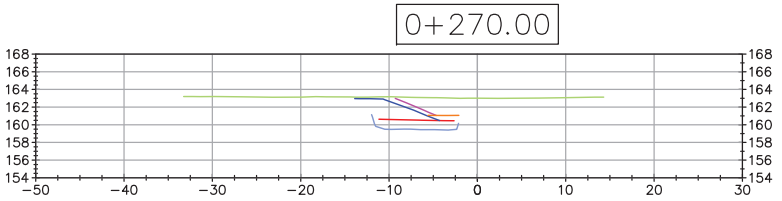
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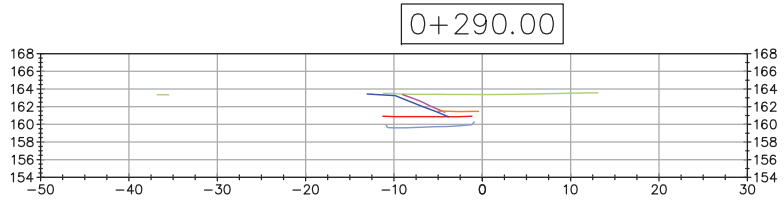
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13









- ORIGINAL GROUND
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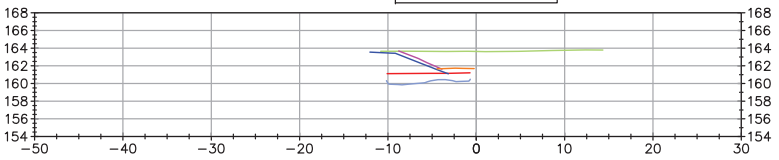
TITRE / TITLE

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IVR D1 DIKE
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0+260 @ 0+290

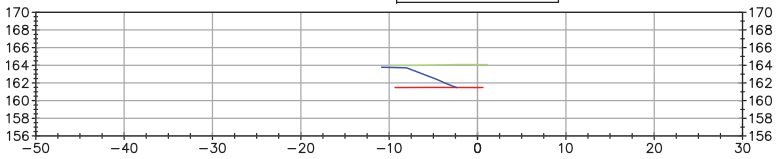
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FORMAT ANSI B–11x17

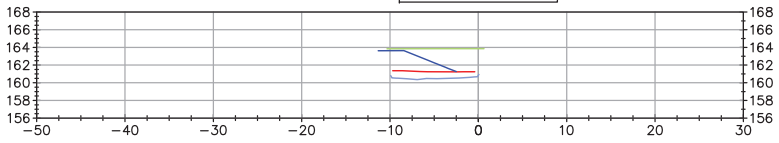
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0+320.00



0+310.00



- ORIGINAL GROUND
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IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2A) - PHOTOGRAPHS



Photograph 1: Approved fill placement of Zone 2A material (FF) under LLDPE liner from Sta. 0+215 to 0+230, view looking W.

Date: 2021-03-15
Photo By: SS

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2A) - PHOTOGRAPHS



Photograph 2: Compaction of Zone 2A material (FF) under LLDPE liner from Sta. 0+300 to 0+318, view looking S.

Date: 2021-03-15
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214528 73

DATE: March 22, 2021

DOCUMENT #: 20210322 - DS - 04

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 16:00 (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: FFAB under liner (top of Key trench)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+212 to 0+318	**Station:**	0+165 to 0+215
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

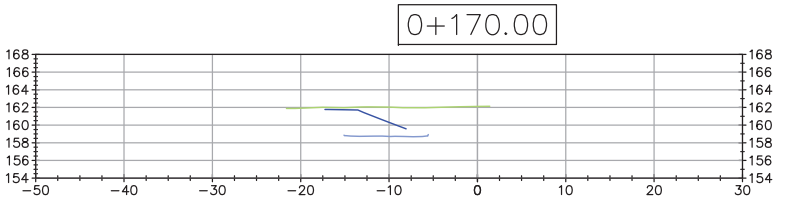
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
	Material appears visually of good quality and well graded. Material is compacted as per Specifications.				
	6% bentonite mix used in this section.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Cagnon		23-3-21.
QC REPRESENTATIVE	Ryan Okkema		Mar 23, 2021
QA REPRESENTATIVE	Shaj Spilberg		March 22, 2021
OWNER'S REPRESENTATIVE	Stephane Sisnet		March 22, 2021

FORMAT ANSI B–11x17



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

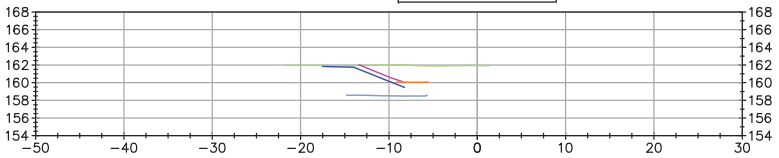
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

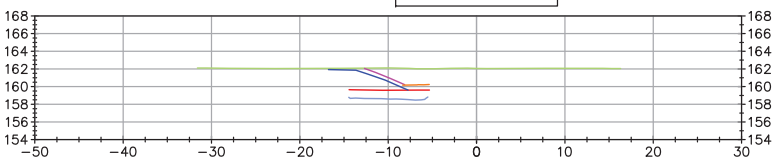
ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–As Built		3 / 13

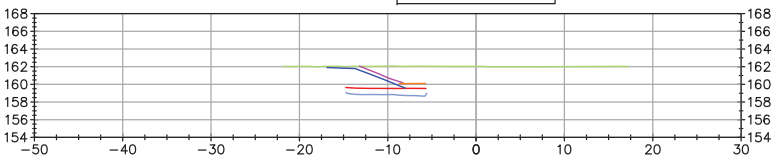
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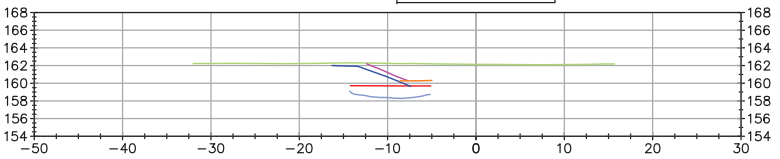
0+200.00



0+190.00



0+210.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

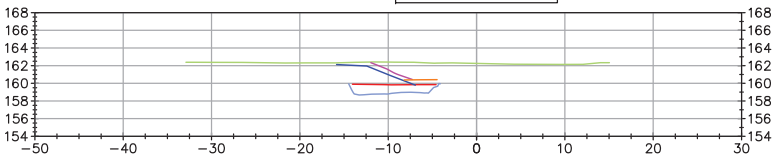
No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

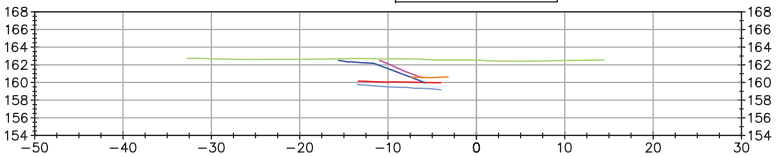
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

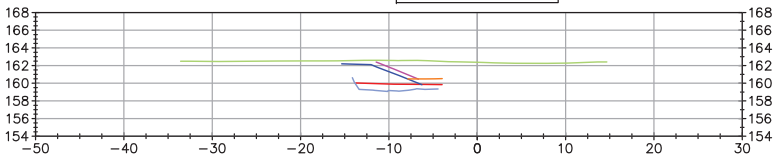
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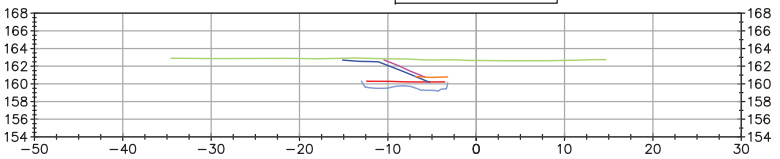
0+240.00



0+230.00



0+250.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

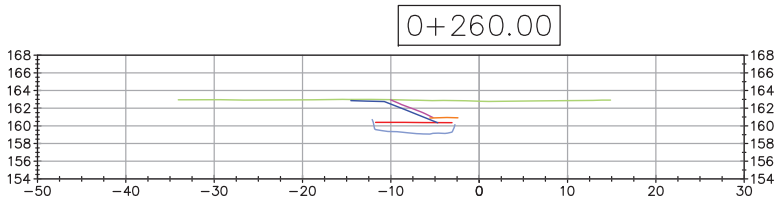
DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

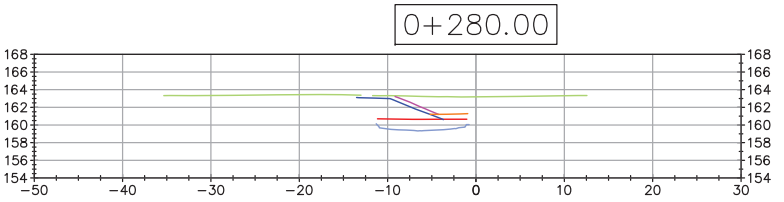
No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

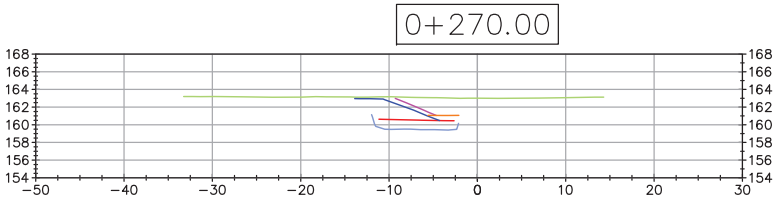
TITRE / TITLE

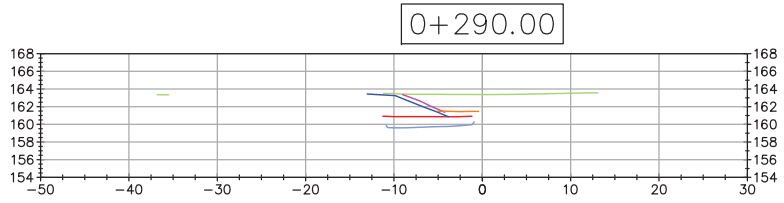
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13









- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

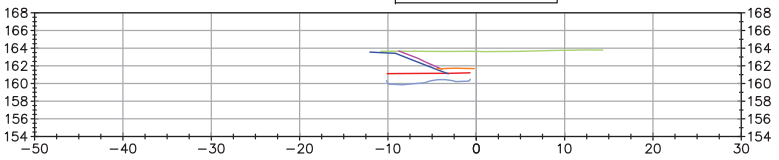
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+260 @ 0+290

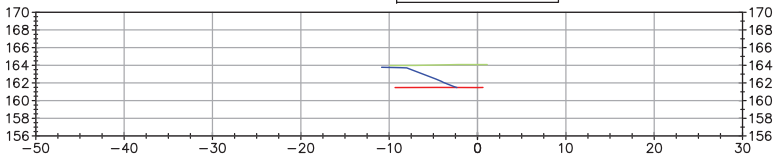
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 6 / 13

FORMAT ANSI B–11x17

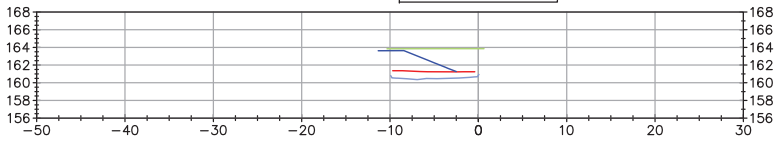
0+300.00



0+320.00



0+310.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 1: Fill placement of Zone 2B material (FFAB) under LLDPE liner from Sta. 0+212 to 0+300, view looking E.

Date: 2021-03-16
Photo By: SS

SNC·LAVALIN

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Toronto (Ontario)
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Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 22, 2021

DOCUMENT #: 20210322-DS-05 **TIME:** 16:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: FFAB over liner at bottom of key trench
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station 0+165 to 0+318	**Station:** —
Inclination:	**Details:**
ELEVATION: ☑ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

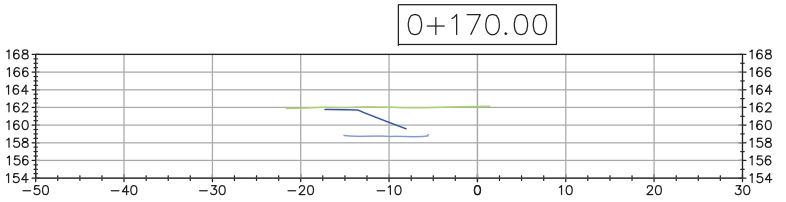
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
	Material appears visually well graded and of good quality.				
	Material not ~~compacted~~ roller compacted. ~~Bucket~~ compacted as per Specifications.				
	6% bentonite FFAB mix used; however, 4% and 6% mixes were accidentally blended and placed from 0+175 to 0+200 to a height of 0.5 m (2.5 mbgs). A Non-Conformity was issued for this. Due to the mixing with 6% bentonite, FFAB, the added bentonite contigency, and small quantity placed and location, this is not considered a great concern. Excavation of the material is not recommended to avoid potential damage to liner.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michail Gagnon		23-3-21
QC REPRESENTATIVE	Ryan Allema		Mar 23, 2021
QA REPRESENTATIVE	Shai Spilberg		March 22, 2021
OWNER'S REPRESENTATIVE	Stephane Cyr		March 22, 2021

FORMAT ANSI B–11x17



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

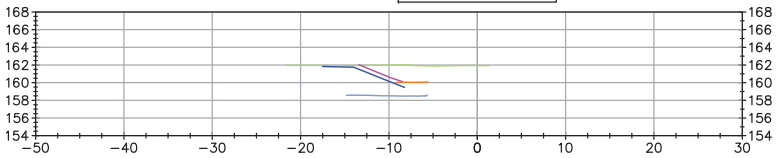
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

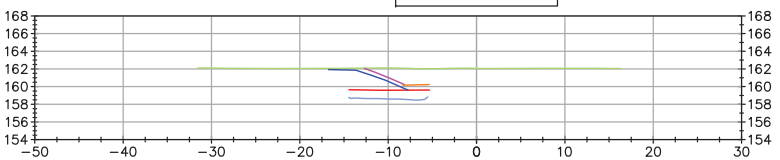
ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–As Built		3 / 13

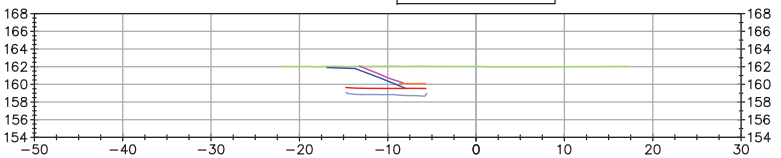
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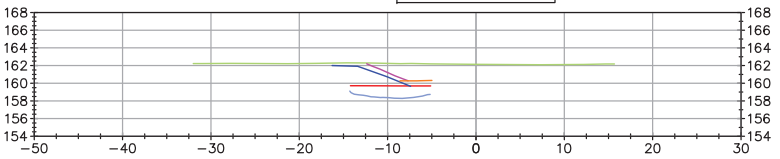
0+200.00



0+190.00



0+210.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

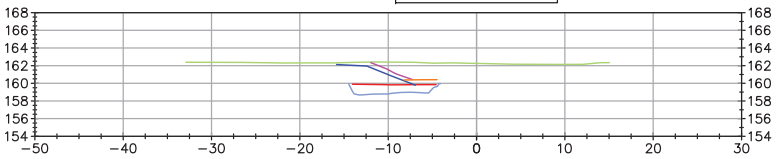
No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

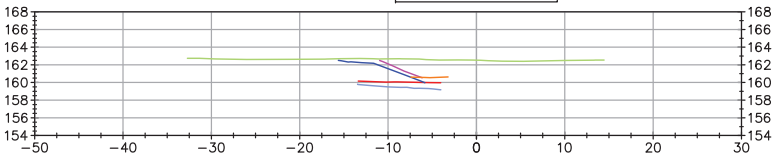
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

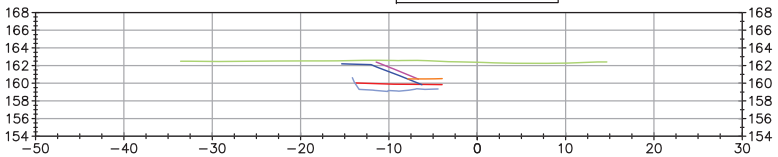
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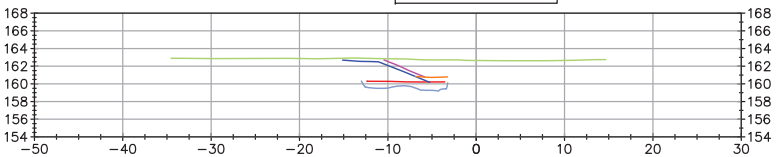
0+240.00



0+230.00



0+250.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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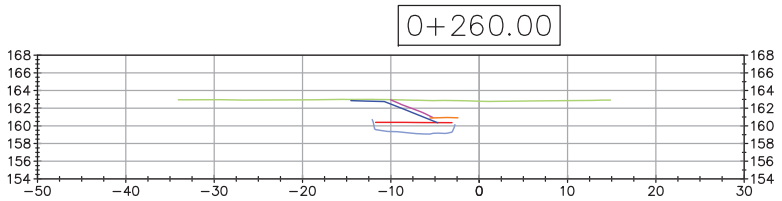
DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

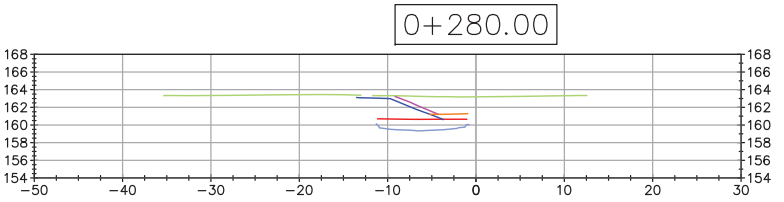
No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

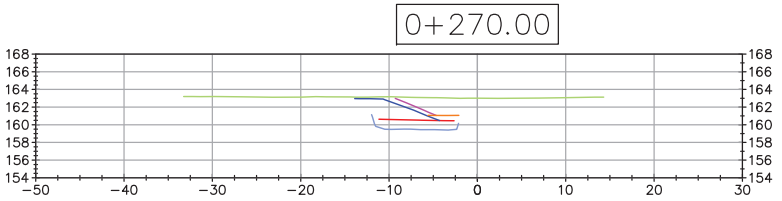
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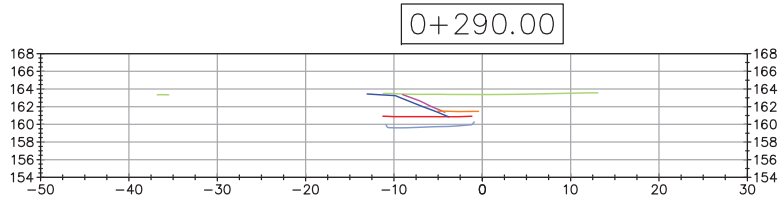
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13









- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

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REV	DESCRIPTION	DATE	PAR BY

REVISIONS

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APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

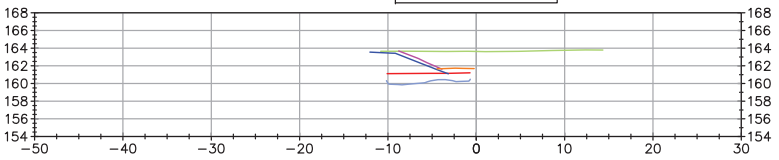
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+260 @ 0+290

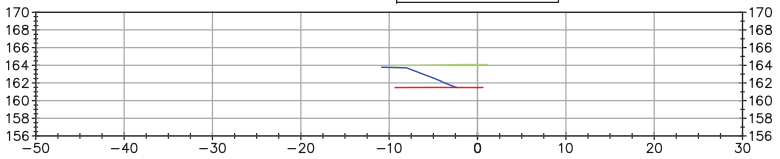
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 6 / 13

FORMAT ANSI B–11x17

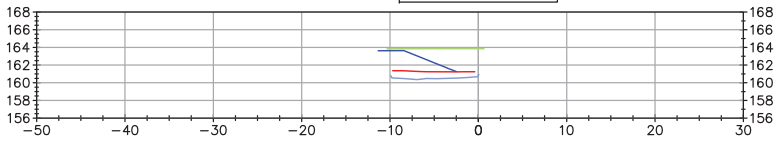
0+300.00



0+320.00



0+310.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 1: Fill placement of Zone 2B material (FFAB) over LLDPE liner. Sta. 0+200, view looking W.

Date: 2021-03-17
Photo By: SS

SNC·LAVALIN
Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1
Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210323-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 23, 2021

TIME: 17:30
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B over Zone 2A (FF)
- ☐ Other: _____

LOCATION

Station 0+135 to 0+165

Inclination: –

ELEVATION: ☐ varies _____ m

PREVIOUS APPROVALS

Station: –

Details: –

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓				
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

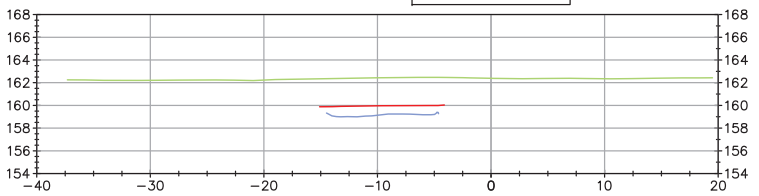
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2.0	Remaining snow @ tie in (Sta. 01165)	✓		✓	
	to be removed in advance of				
	Zone 2A - Fine Filter placement.				
1.0	Lines & grade verified by ~~AEM~~ HCG	✓			
	surveyor.				
8.0	AEM to provide survey for approval	✓			
	Form.				

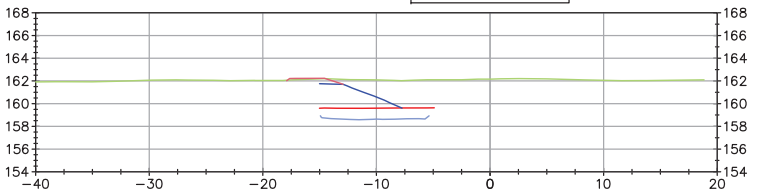
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michaël Gagnon		23/3/21
QC REPRESENTATIVE	Ryan Ohkema		Mar 23/21
QA REPRESENTATIVE	Brandon Gray		March 23, 2021
OWNER'S REPRESENTATIVE	Stephane Grenet		March 23, 2021

FORMAT ANSI B–11x17

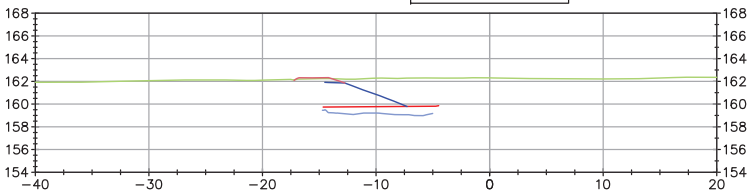
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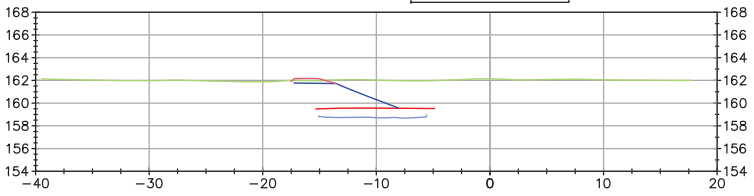
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0+150.00



0+170.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

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DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–03–24	

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2A) - PHOTOGRAPHS



Photograph 1: Area approved for placement of Zone 2B material (FFAB) over Zone 2A (FF) at Sta. 0+125, view looking E.

Date: 2021-03-23
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210324-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March, 24, 2021

TIME: 7:30
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: FFAB under liner
- ☐ Other: _____

LOCATION

Station Sta. 01315 → Sta. 01355

Inclination: –

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: _____

Details: _____

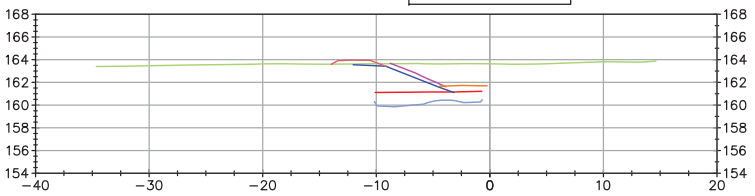
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

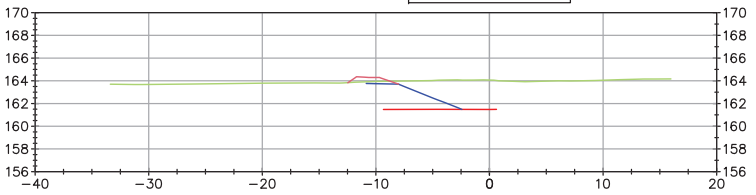
DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
1.0	lines & grade verified by HCG surveyor. between Stations.	✓		✓	
2.0	Additional Zone 2B was placed along crest b/w Stations following removal of Snow. QC verified compaction of additional material placement.	✓		✓	
3.0	AEM to provide survey for Approval Form.	✓		✓	
	Observations				
	Remaining Snow outside Footprint of Liner along D/S excavation side wall to be removed prior to additional material placement.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Gagnon		24/3/21
QC REPRESENTATIVE	Ryan Okkema		Mar 24/21
QA REPRESENTATIVE	Braydon Gray		March 24, 2021
OWNER'S REPRESENTATIVE	Stephane Giard		March 24, 2021

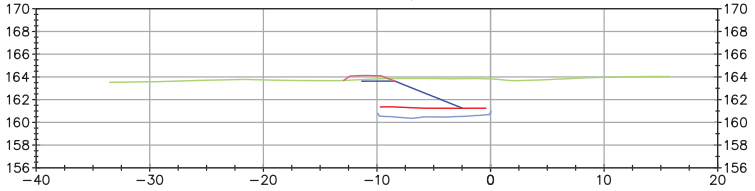
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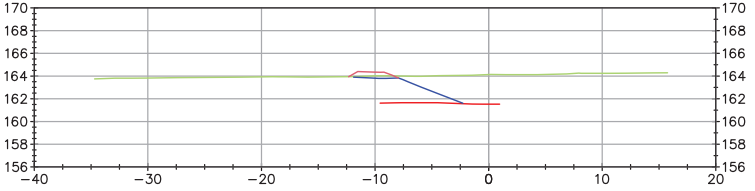
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

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REVISIONS

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VÉRIFIÉ PAR CHECKED BY		
APPROUVÉ PAR APPROVED BY		

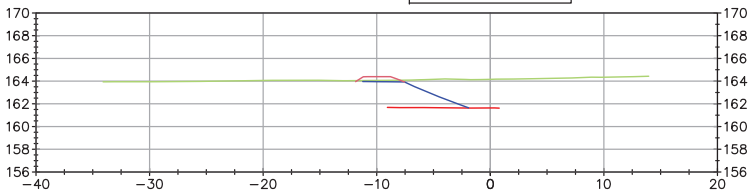
No. PROJET PROJECT NO.	6127
DATE	2021–03–24

TITRE / TITLE

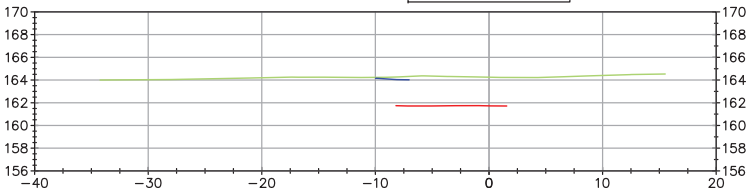
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

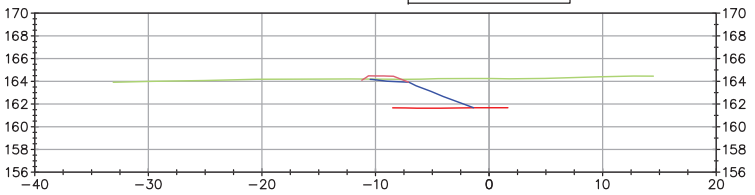
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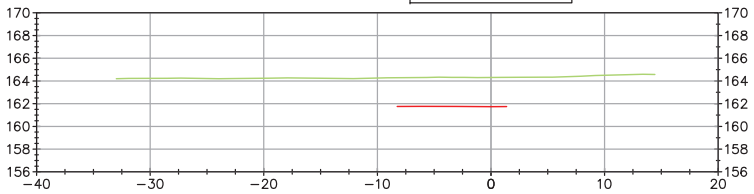
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0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–24

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B Under Liner) - PHOTOGRAPHS



Photograph 1: Fill placement of Zone 2A/2B material under liner at Sta. 0+315, view looking E.

Date: 2021-03-24
Photo By: BG

VR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B Under Liner) - PHOTOGRAPHS



Photograph 1: Slope of Zone 2A/2B material under liner at Sta. 0+315, view looking E.

Date: 2021-03-24
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210324-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March, 24, 2021

TIME: 10:06
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: FF AD under liner
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station Sta. 0+135 → 0+165	**Station:**
Inclination:	**Details:**
ELEVATION: ☑ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

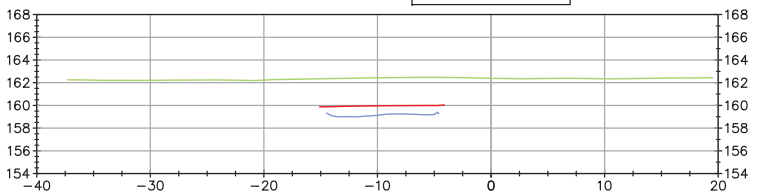
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
1.0	lines & grade verified by KCG surveyor between stations.			✓	
2.0	Additional snow removed along base of trench b/w sta. 0+135 -> 0+145,			✓	
8.0	AEM to provide survey for approval Form.			✓	
	Observations: Remaining snow outside footprint of liner along D/S excavation side wall to be removed prior to additional material placement.				

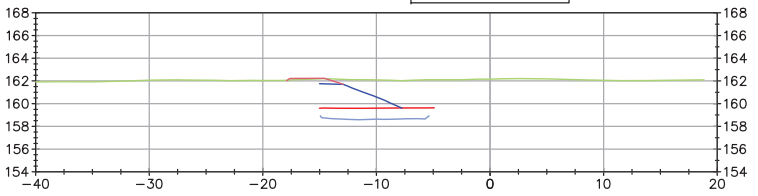
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Wagner		24/3/21
QC REPRESENTATIVE	Ryan Okkema		Mar 24/21
QA REPRESENTATIVE	Brandon Gray		March 24, 2021
OWNER'S REPRESENTATIVE	Stephane Pinard		March 24, 2021

FORMAT ANSI B–11x17

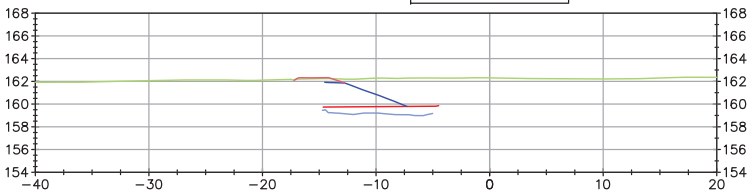
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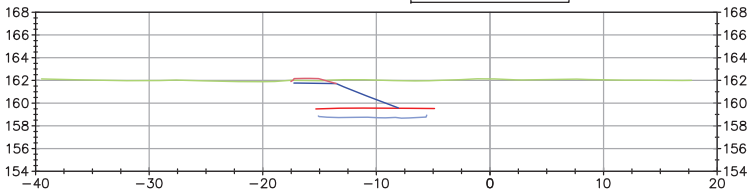
0+160.00



0+150.00



0+170.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–03–24	

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B Under Liner) - PHOTOGRAPHS



Photograph 1: Fill placement of Zone 2A/2B material under liner at Sta. 0+170, view looking W.

Date: 2021-03-24
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B Under Liner) - PHOTOGRAPHS



Photograph 2: Slope of Zone 2A/2B material under liner at Sta. 0+165, view looking W.

Date: 2021-03-24
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214528 73

DOCUMENT #: 20210324-DS-05
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March, 24, 2021

TIME: 15:30
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) Trench Bottom
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+385 - 0+418	**Station:**	–
Inclination:		**Details:**	–
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

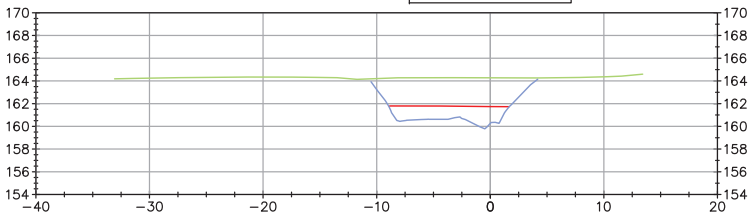
	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
1.0	Lines & grade verified by survey.	✓		✓	
2.0	Snow along upstream trench excavation wall to be removed in advance of zone 2A (FF) material placement.	✓		✓	
3.0	AEM to provide survey for approval form	✓		✓	

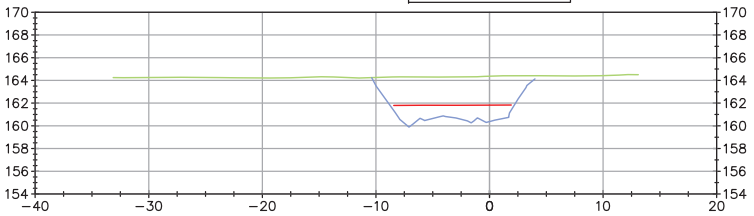
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		24/03/21
QC REPRESENTATIVE	Ryan Okkema		Mar 24/21
QA REPRESENTATIVE	Brandon Gray		March 24 2021
OWNER'S REPRESENTATIVE	Stephane Giard		March 24, 2021

FORMAT ANSI B–11x17

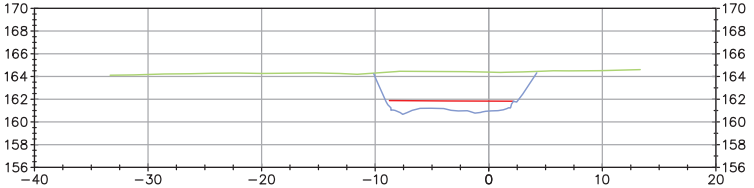
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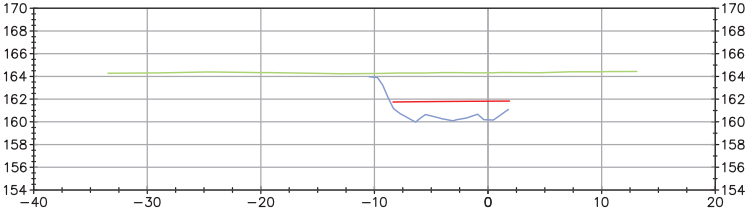
0+400.00



0+390.00



0+410.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – UNDERLINER_TOP
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–03–25

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG		
No. DESSIN/ DRAWING NO.	6127–IVR–As Built			REVISION	FEUILLE/SHT 9 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (ZONE 2B) - PHOTOGRAPHS



Photograph 1: Approved lift of Zone 2B (FFAB) for placement of Zone 2A (FF) at approx. Sta. 0+411, view facing NW.

Date: 2021-03-24
Photo By: BG

SNC·LAVALIN

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873 **DATE:** March 24, 2021

DOCUMENT #: 2021 0324-DS-06 **TIME:** 17:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Zone 2B over liner

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+315 → 0+355	**Station:**	Sta. 0+315 → 0+355
Inclination:		**Details:**	2021 03 24-DS-03
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades					✓
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

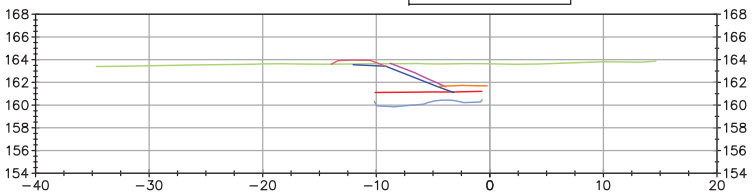
DETAILS

(Refer to list above for item #)

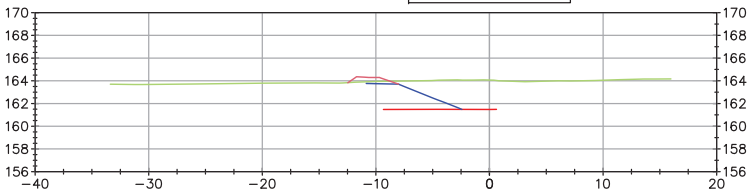
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2.0	Downstream sidewall of trench excavation was cleaned & removed snow and loose material between stations. Additional snow to be removed along upper 1.0m of sidewall prior to Zone 3 placement	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michaël Cbagnon		24-3-21
QC REPRESENTATIVE	Ryan Villeneuve		Mar 24/21
QA REPRESENTATIVE	Brandon Gray		March 24, 2021
OWNER'S REPRESENTATIVE	Stephane Giguet		24-03-21

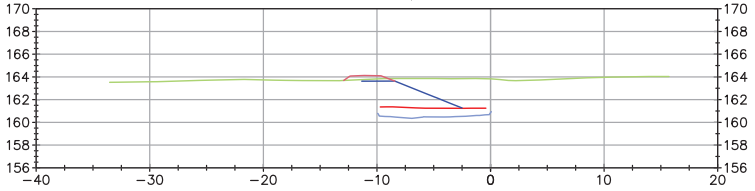
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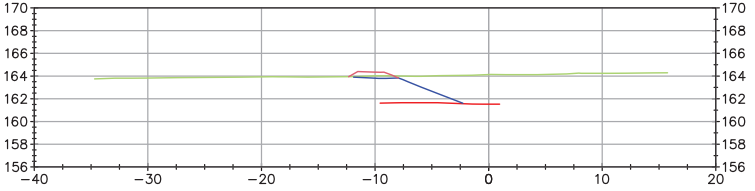
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR CHECKED BY		
APPROUVÉ PAR APPROVED BY		

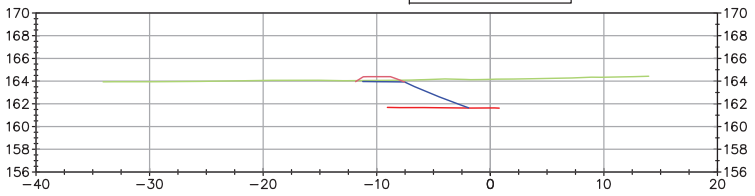
No. PROJET PROJECT NO.	6127
DATE	2021–03–24

TITRE / TITLE

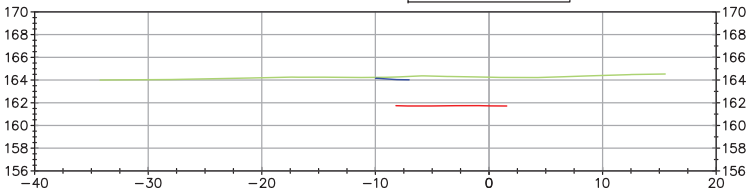
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

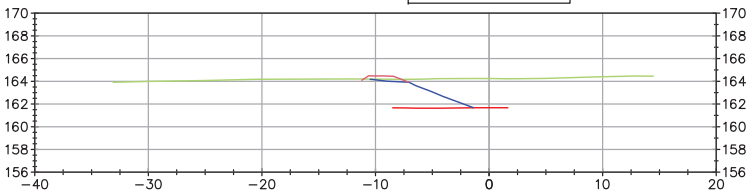
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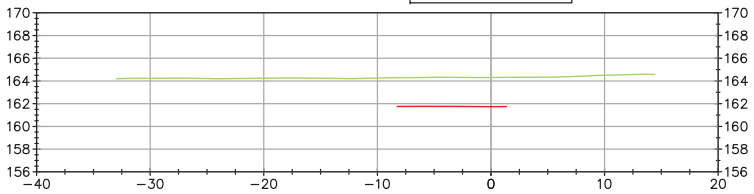
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0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–24

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

IVR DYKE: FOUNDATION APPROVAL (Zone 2B over liner) - PHOTOGRAPHS



Photograph 1: Snow removed along lower portion of downstream trench excavation sidewall in preparation for placement of Zone 2B (FFAB) over liner at approx. Sta. 0+315, view looking east.

Date: 2021-03-24
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 25, 2021

DOCUMENT #: 20210325-DS-01 **TIME:** 9:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) over LLDPE
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+315 -> 0+355	**Station:**	0+315 -> 0+355
Inclination:	–	**Details:**	20210324-DS-03
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction (bucket compaction)	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

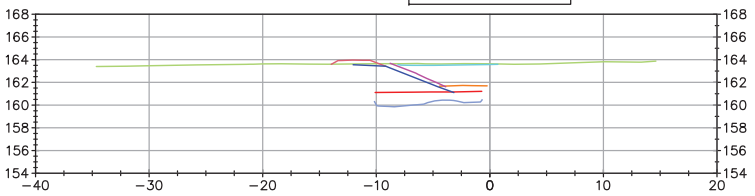
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2.0	KCG to remove snow along crest of LLDPE @ Sta. 0+315 (tie-in) prior to placing zone 2A.	✓		✓	
8.0	AEM to provide survey for approval Form	✓		✓	

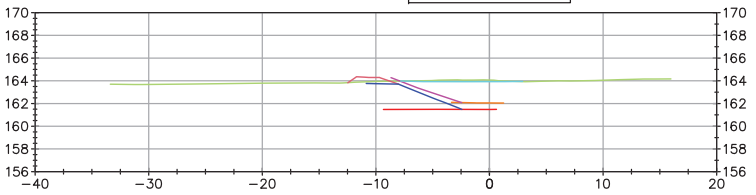
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		Mar 25/21
QC REPRESENTATIVE	Ryan Okkema		Mar 25/21
QA REPRESENTATIVE	Brandon Gray		Mar. 25 2021
OWNER'S REPRESENTATIVE	Stephane Grenet		Mar 25, 2021

FORMAT ANSI B–11x17

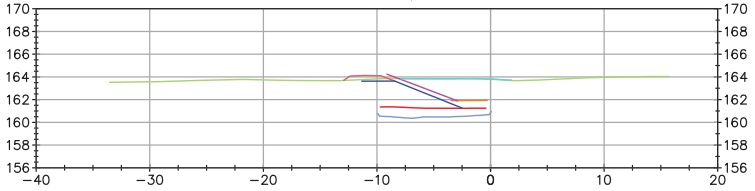
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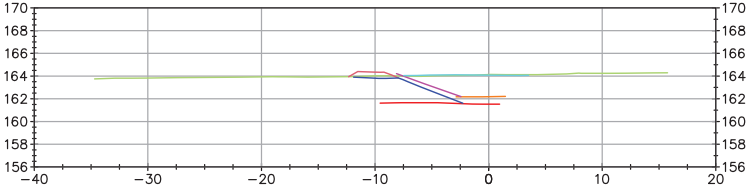
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR CHECKED BY		
APPROUVÉ PAR APPROVED BY		

No. PROJET PROJECT NO.	6127
DATE	2021–03–24

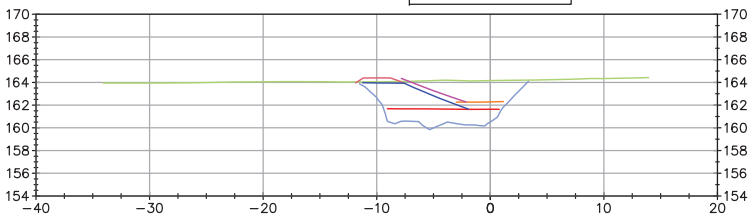
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

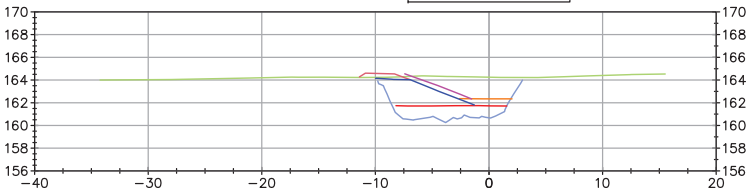
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

FORMAT ANSI B–11x17

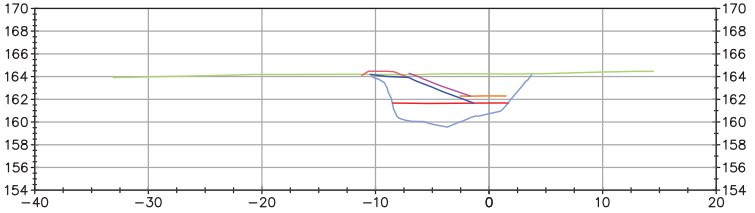
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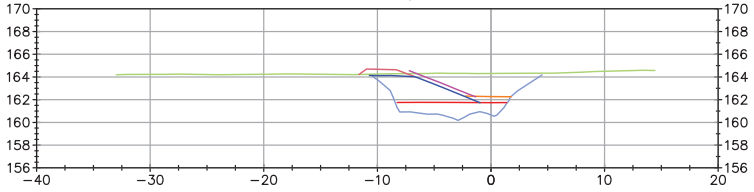
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0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–24

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2B over liner) - PHOTOGRAPHS



Photograph 1: Approved placement of Zone 2B (FFAB) material over LLDPE liner at approx. Sta. 0+330, view looking SE.

Date: 2021-03-25
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452973

DOCUMENT #: 20210325-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 25, 2021

TIME: 9:30
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) Trench Bottom
- ☐ Other: _____

LOCATION

Station: Sta. 0+130 -> 0+170

Inclination: _____

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: —

Details: —

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

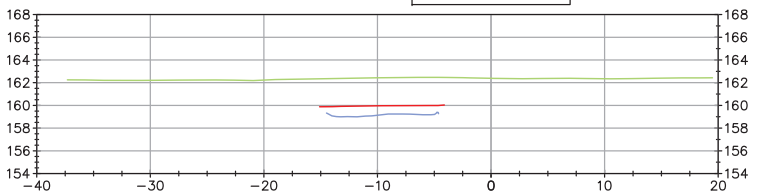
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

ITEM	DETAILS (Refer to list above for item #)	APPROVED BY: QA Y	QA N	QC Y	QC N
	Observations:				
	Snow removed along D/S sidewall				
	of trench excavation & base of				
	Zone 2B (D/S of LL DPE).				

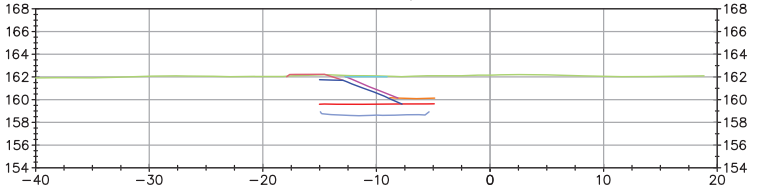
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabir Larouche		Mar 25/21
QC REPRESENTATIVE	Ryan Ollema		Mar 25/21
QA REPRESENTATIVE	Brandon Gray		Mar. 25, 2021
OWNER'S REPRESENTATIVE	Stephane Giard		Mar 25, 2021

FORMAT ANSI B–11x17

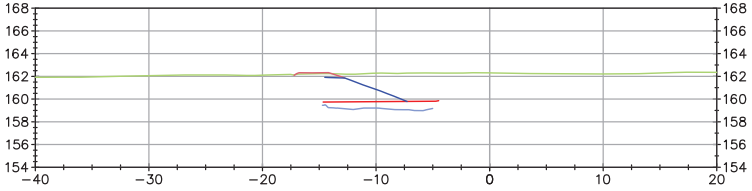
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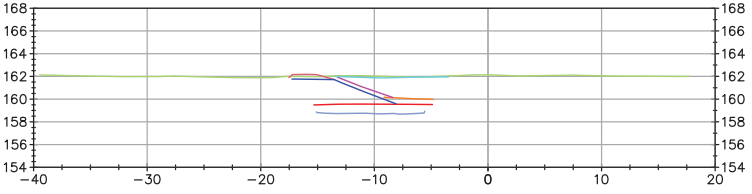
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0+150.00



0+170.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

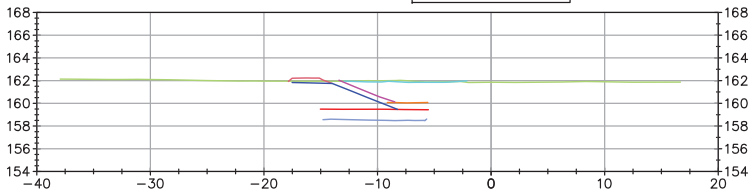
No. PROJET / PROJECT NO.	6127
DATE	2021–03–26

TITRE / TITLE

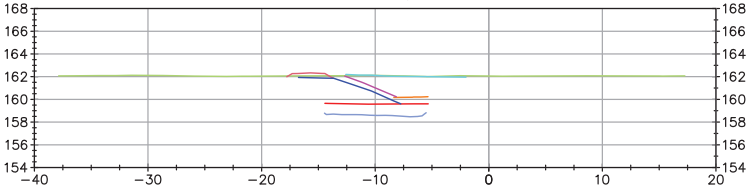
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

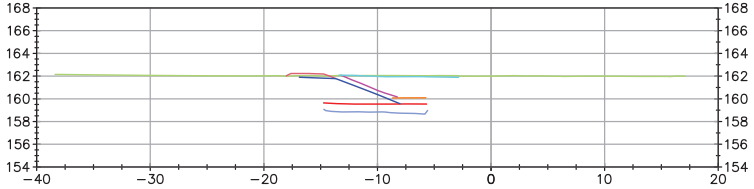
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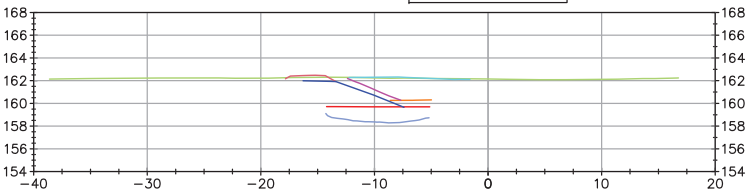
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0+190.00



0+210.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2B) - PHOTOGRAPHS



Photograph 1: Snow removed along trench excavation sidewall and base of Zone 2B downstream of LLDPE at approx. Sta. 0+170, view looking W.

Date: 2021-03-25
Photo By: BG

APPROVAL FORM

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DATE: March, 25, 2021

DOCUMENT #: 20210325-DS-03

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: _____ (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A (FF) - under liner
- ☐ Other: _____

LOCATION		PREVIOUS APPROVALS	
Station	Sta. ~~0+305~~ 0+355 -> 0+406	Station:	~~0+305~~ 0+355 -> 0+411
Inclination:	–	Details:	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
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15.					
16.					

DETAILS

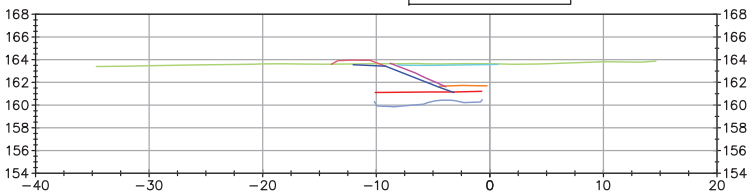
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
1.0	Lines & grade verified by AEM Surveyor.	✓		✓	
8.0	AEM to provide survey for approval Form.	✓		✓	

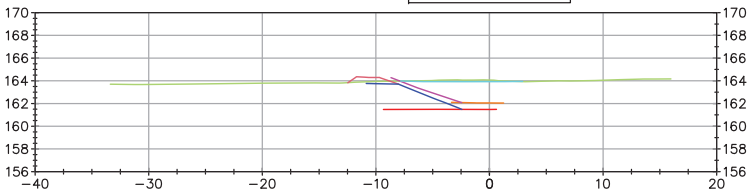
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michail Gagnon		3-25-21
QC REPRESENTATIVE	Ryan Allena		Mar 25/21
QA REPRESENTATIVE	Brandon Gray		Mar. 25. 2021
OWNER'S REPRESENTATIVE	Stephane Saint		Mar 25-2021

FORMAT ANSI B–11x17

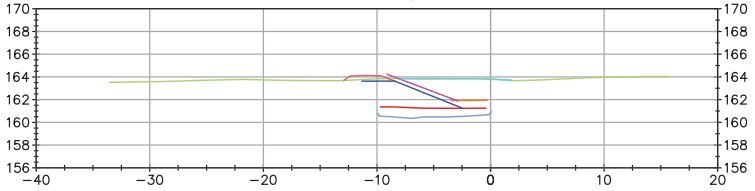
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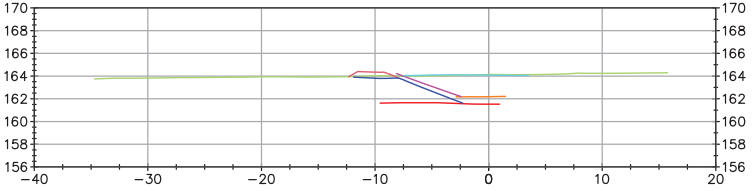
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR CHECKED BY		
APPROUVÉ PAR APPROVED BY		

No. PROJET PROJECT NO.	6127
DATE	2021–03–24

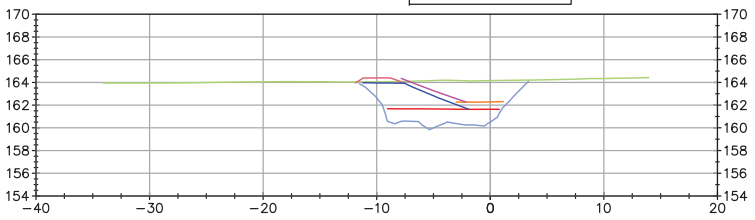
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

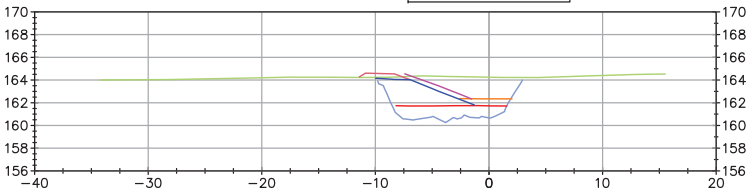
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

FORMAT ANSI B–11x17

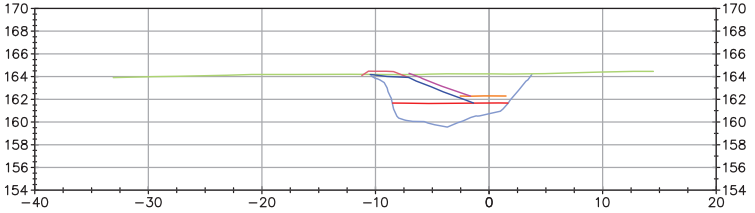
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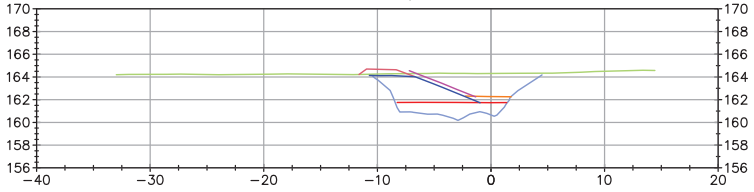
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0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

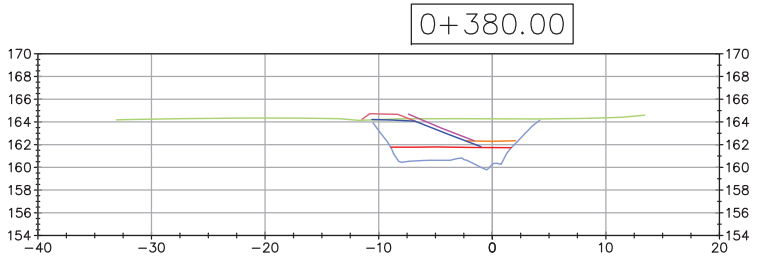
No. PROJET / PROJECT NO.	6127
DATE	2021–03–24

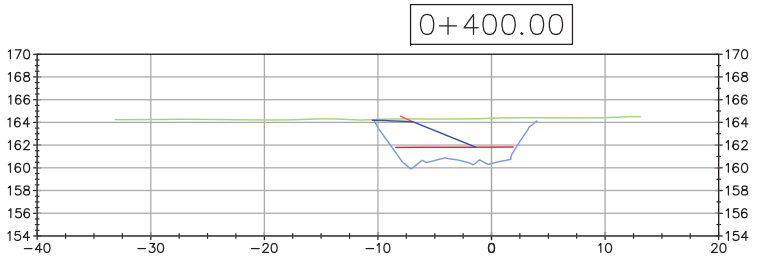
TITRE / TITLE

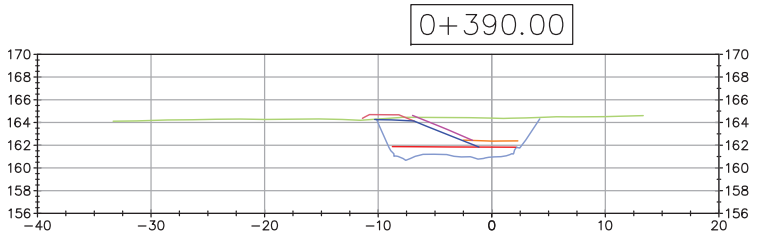
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

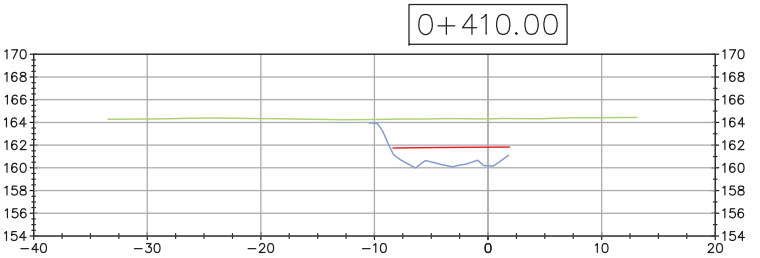
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

FORMAT ANSI B–11x17









- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–03–26

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG		
No. DESSIN/ DRAWING NO.	6127–IVR–As Built			REVISION	FEUILLE/SHT 9 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A: Fine Filter) - PHOTOGRAPHS



Photograph 1: Approved section of Zone 2A(FF) for placement of Zone 2B (FFAB) at approx. Sta. 0+400, view looking W.

Date: 2021-03-25
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March, 25, 2021

DOCUMENT #: 20210325-DS-4 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: ~~20210325-DS-01~~ Zone 2A (FF) - over liner
- ☐ Other:

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+315 → 0+355	**Station:**	0+315 → 0+355
Inclination:		**Details:**	20210325-DS-01
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction (bucket compaction)	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

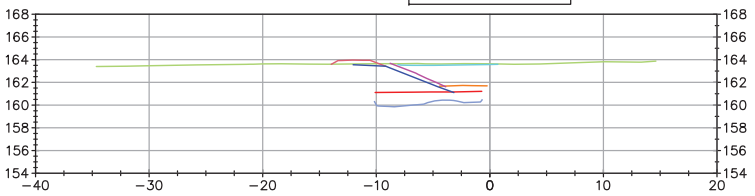
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ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N

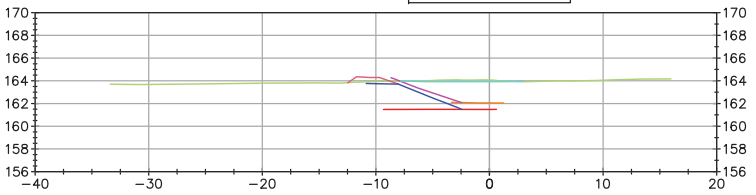
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michaël Bagnon		25-3-21
QC REPRESENTATIVE	Lynn Dellenna		Mar 25/21
QA REPRESENTATIVE	Brandon Gray		Mar. 25. 2021
OWNER'S REPRESENTATIVE	Stéphane Giard		Mar, 25, 2021

FORMAT ANSI B–11x17

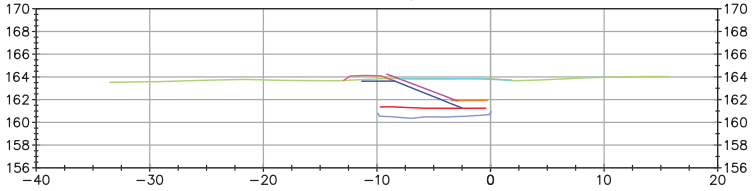
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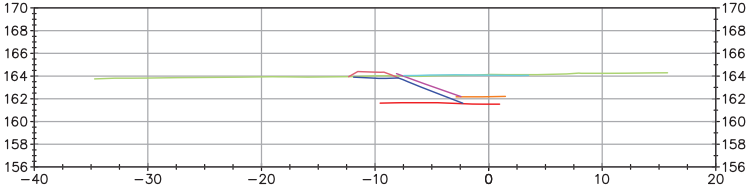
0+320.00



0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR CHECKED BY		
APPROUVÉ PAR APPROVED BY		

No. PROJET PROJECT NO.	6127
DATE	2021–03–24

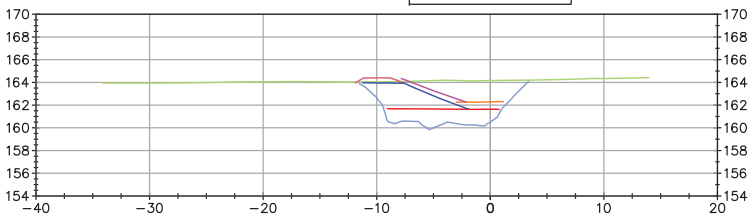
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

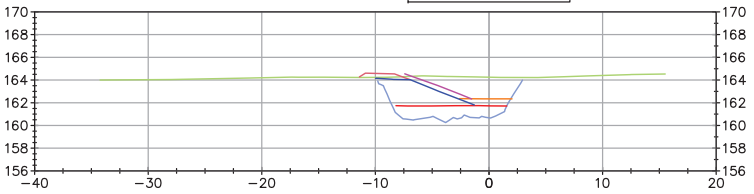
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

FORMAT ANSI B–11x17

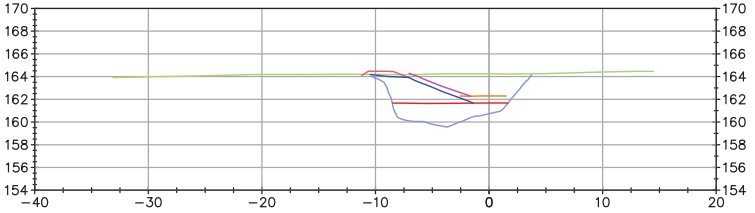
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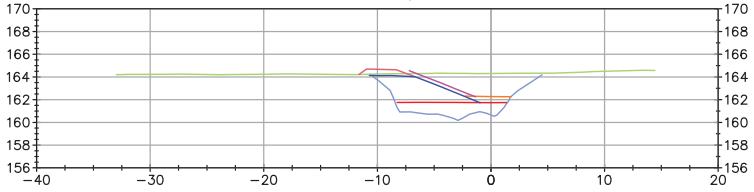
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0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–24

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A: Fine Filter) - PHOTOGRAPHS



Photograph 1: Approved section of Zone 2A(FF) over liner for placement of Zone 3 (Coarse Filter) at approx. Sta. 0+320, view looking E.

Date: 2021-03-25
Photo By: BG

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www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 25, 2021

DOCUMENT #: 20210325-DS-05 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) - under liner
- ☐ Other:

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+355 → 0+406	**Station:**	0+355 → 0+406
Inclination:		**Details:**	20210325-DS-03
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

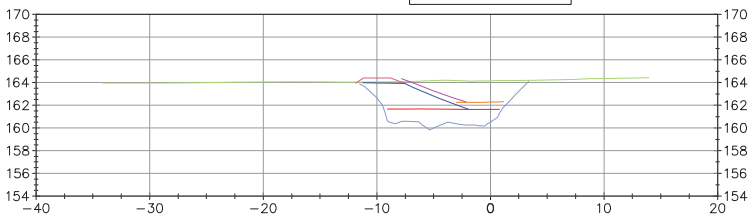
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ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N

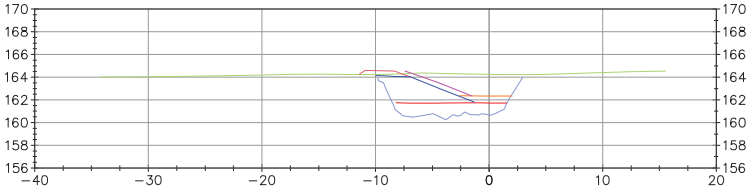
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Cagnon		25-3-21
QC REPRESENTATIVE	Ryan Ouellette		Mar 25/21
QA REPRESENTATIVE	Brandon Gray	BGray	Mar. 25. 2021
OWNER'S REPRESENTATIVE	Stephane Gignac		Mar 25, 2021

FORMAT ANSI B–11x17

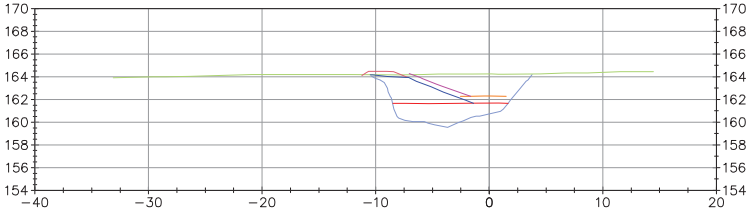
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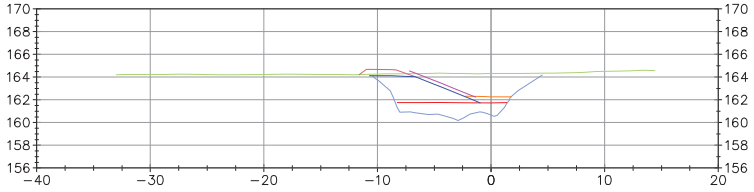
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0+350.00



0+370.00



ORIGINAL GROUND
KEY TRENCH EXCAVATION
FFAB – UNDERLINER_KEY TRENCH
FFAB – UNDERLINER_TOP
FFAB – OVERLINER_KEY TRENCH
FF – UNDERLINER_KEY TRENCH
FF – OVERLINER_KEY TRENCH
CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMEL ARPENTAGE

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REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–03–24

TITRE / TITLE

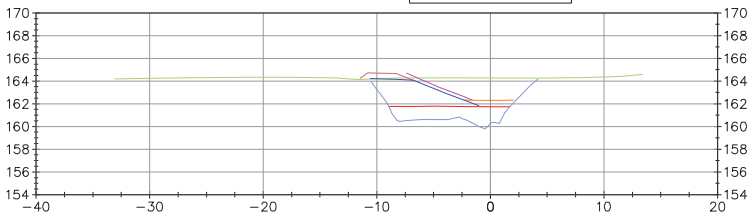
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE / SCALE NA	FICHIER / FILE .DWG		
No. DESSIN / DRAWING NO. 6127–IVR–As Built		REVISION	FEUILLE / SHT 8 / 13

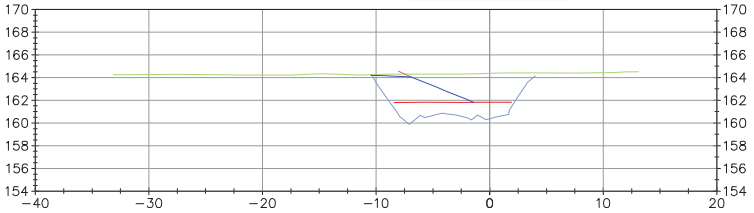
TITRE / TITLE | # DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

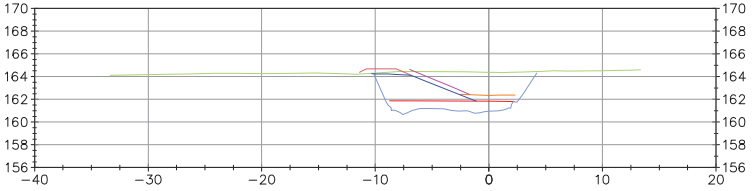
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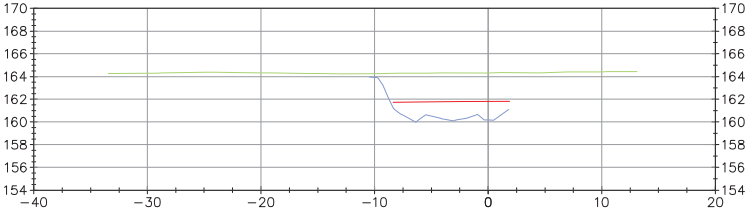
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0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMEL ARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–03–26

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE / SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN / DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2B) - PHOTOGRAPHS



Photograph 1: Approved section of Zone 2B (FFAB) for placement of geotextile at approx. Sta. 0+385, view looking E.

Date: 2021-03-25
Photo By: BG

SNC·LAVALIN

Sustainable Mining
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195 The West Mall
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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873 **DATE:** March, 26, 2021

DOCUMENT #: 20210326-DS-01 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A (FF) - over liner
- ☐ Other:

LOCATION		PREVIOUS APPROVALS	
Station	0+165 → 0+140	Station:	–
Inclination:	–	Details:	–
ELEVATION:	☑ varies ____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction (bucket compaction)	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

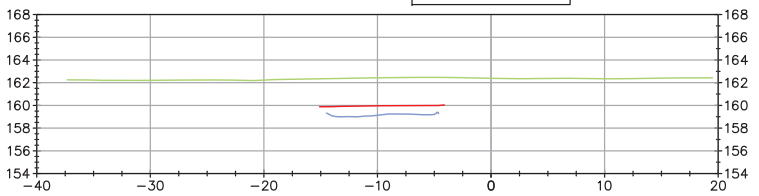
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
1.0	Lines & grade verified by AEM survey. survey report to be provided for approval Form.	✓		✓	
2.0	Snow over zone 2A @ sta 0+165 to be removed prior to zone 3 placement.	✓		✓	

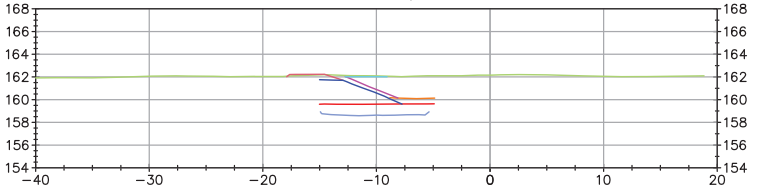
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Cagnon		25-03-21
QC REPRESENTATIVE	Ryan Okkema		Mar 26/21
QA REPRESENTATIVE	Brandon Gray	BGray	Mar-26-2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		26 MAR 2021

FORMAT ANSI B–11x17

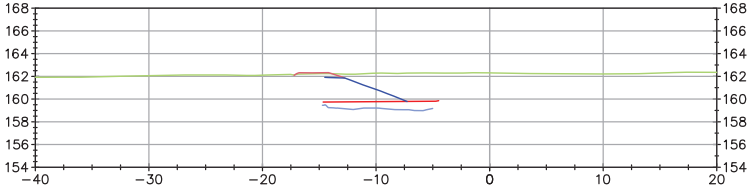
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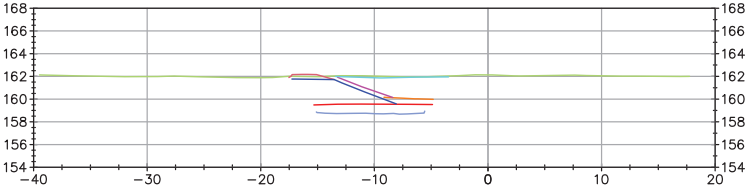
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0+150.00



0+170.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–26

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A over liner) - PHOTOGRAPHS



Photograph 1: Approved placement of Zone 2A (FF) material over LLDPE liner at approx. Sta. 0+1800, view looking W.

Date: 2021-03-26
Photo By: BG

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Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52 873

DOCUMENT #: 20210327-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March. 27. 2021

TIME: _____
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A & 2B - over liner
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+355 Sta. ~~0+305~~ → 0+405	**Station:**	0+355 ~~0+305~~ → 0+406
Inclination:		**Details:**	20210325-DS-07
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

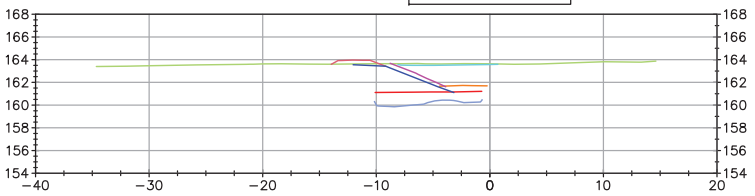
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction (bucket)	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
4.0	KCG to remove / break up large Frozen clumps of Zone 3 @ Sta. 0+385 (tie-in) prior to additional material placement. KCG to continue to monitor for Frozen clumps.	✓		✓	
8.0	AEM to provide survey for approval Form.	✓		✓	

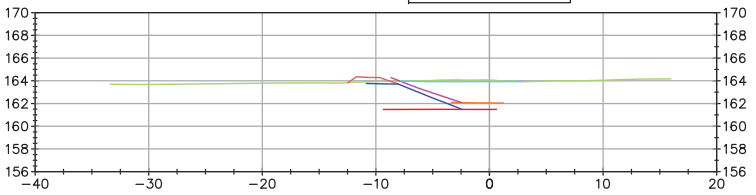
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Gagnon		27-3-21
QC REPRESENTATIVE	Ryan Ollerenshaw		Mar 27/21
QA REPRESENTATIVE	Brandon Gray		Mar. 27. 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		27 MAR 2021

FORMAT ANSI B–11x17

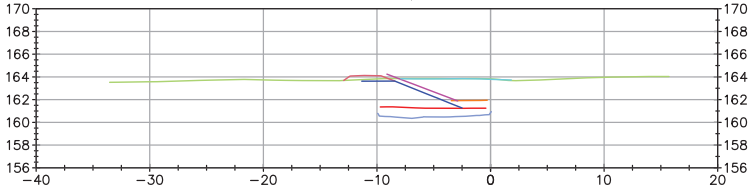
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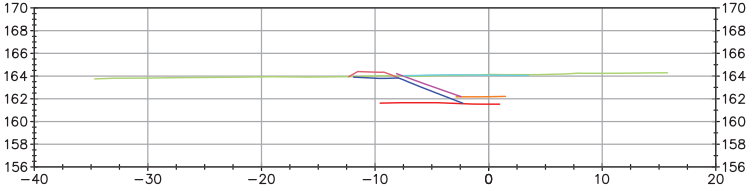
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR CHECKED BY		
APPROUVÉ PAR APPROVED BY		

No. PROJET PROJECT NO.	6127
DATE	2021–03–24

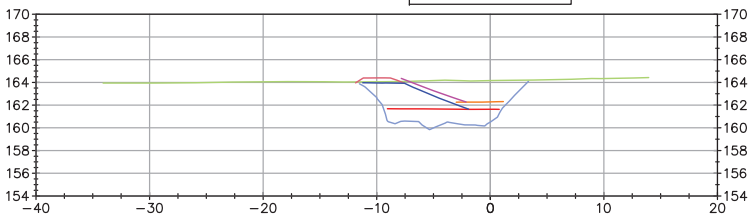
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

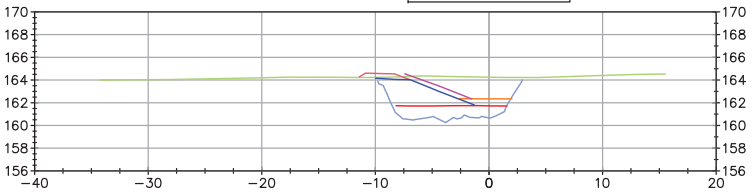
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

FORMAT ANSI B–11x17

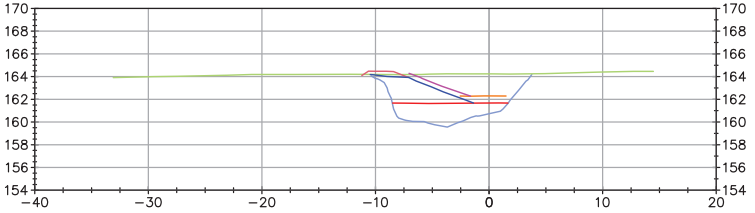
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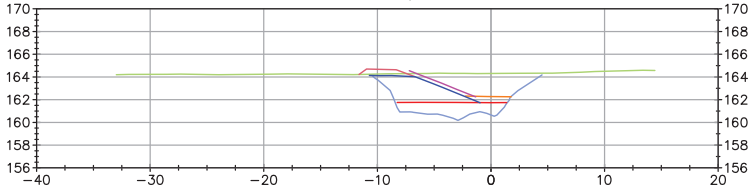
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0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

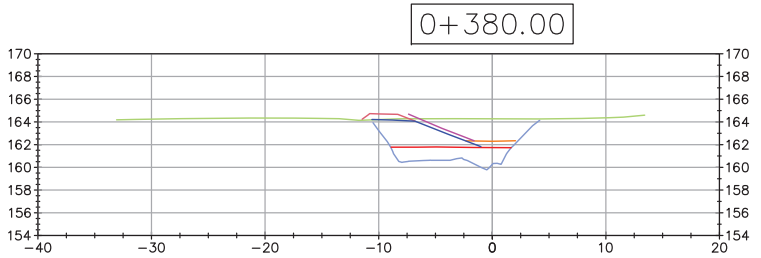
No. PROJET / PROJECT NO.	6127
DATE	2021–03–24

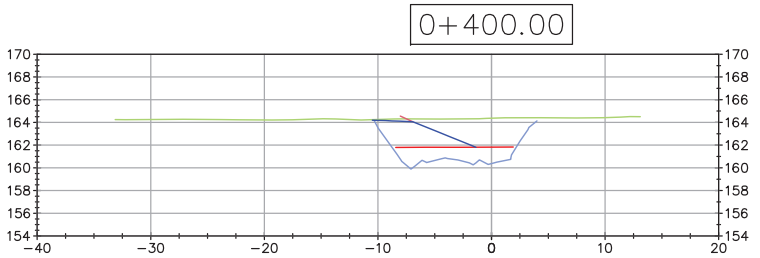
TITRE / TITLE

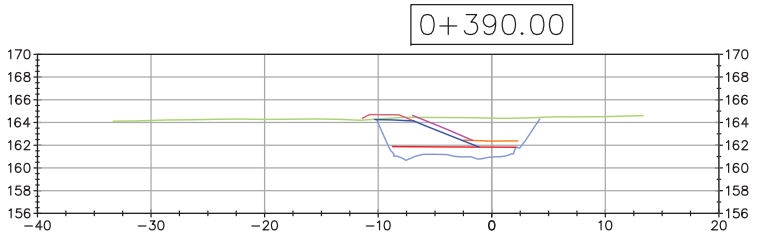
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

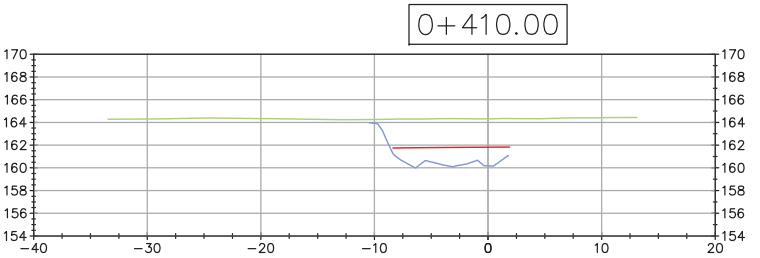
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

FORMAT ANSI B–11x17









- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–03–26

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG		
No. DESSIN/ DRAWING NO.	6127–IVR–As Built			REVISION	FEUILLE/SHT 9 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B over liner) - PHOTOGRAPHS



Photograph 1: Approved placement of Zone 2B (FFAB) material over LLDPE liner at approx. Sta. 0+400, view looking W.

Date: 2021-03-27
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B over liner) - PHOTOGRAPHS



Photograph 2: Approved placement of Zone 2A (FF) material over LLDPE liner slope at approx. Sta. 0+405, view looking W.

Date: 2021-03-27
Photo By: BG

SNC·LAVALIN

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Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : ~~21452873~~ **IVR D-1 Dike Construction**

PROJECT #: 21452873 **DATE:** March, 27, 2021

DOCUMENT #: 20210327-DS-02 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2 B (FFAD) - under liner
- ☐ Other:

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+130 → 105	**Station:**	—
Inclination:		**Details:**	—
ELEVATION:	☑ varies ____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

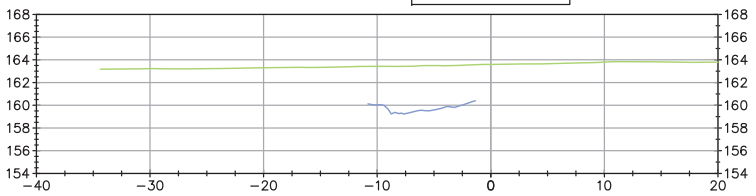
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench	✓		✓		
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
5.0	Overplacement of zone 2B (FFAB) placed outside approval limits @ sta. 0+05 to be pulled back prior to additional placement.	✓		✓	
8.0	AEM to provide survey for approval form	✓		✓	
	Observations: Snow removed along U/S side of trench excavation sidewall in advance of zone 2A placement. Additional to be removed along d/s sidewall prior to zone 3 placement. Hinge point within footprint of key trench				

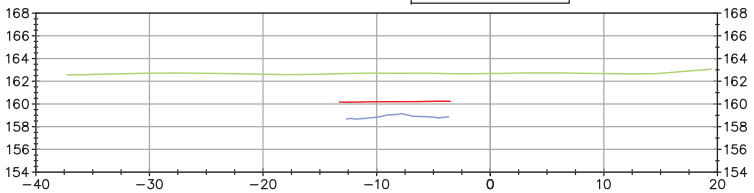
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Michael Gagnon		27-3-21
QC REPRESENTATIVE	Ryan Okkema		Mar 27/21
QA REPRESENTATIVE	Brandon Gray		Mar. 27 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		27 MAR 2021

FORMAT ANSI B–11x17

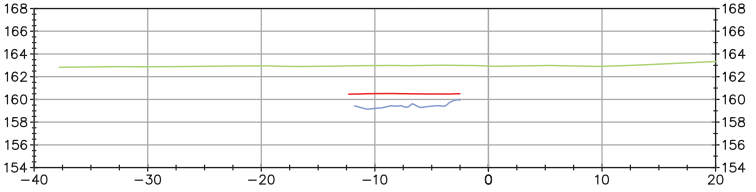
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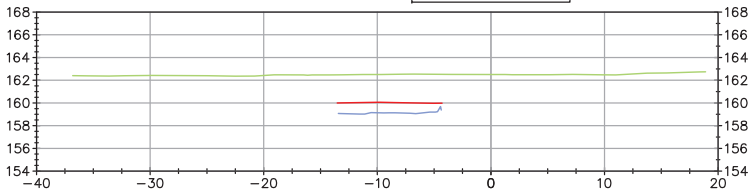
0+120.00



0+110.00



0+130.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–03–27	

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 2 / 13

IVR DYKE: FILL PLACEMENT (Zone 2B (FFAB) Under Liner) - PHOTOGRAPHS



Photograph 1: Approved placement of Zone 2B (FFAB) within footprint of key trench at approx. Sta. 0+100, view looking E.

Date: 2021-03-27
Photo By: BG

IVR DYKE: FILL PLACEMENT (Zone 2B (FFAB) Under Liner) - PHOTOGRAPHS



Photograph 2: Over placement of Zone 2B (FFAB) past approved limit of Sta. 0+105 to be pulled back prior to additional material placement, view looking E.

Date: 2021-03-27
Photo By: BG

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195 The West Mall
Toronto (Ontario)
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Fax: (416) 231-5336
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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 28, 2021

DOCUMENT #: 20210328-DS-01 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A (FF) & 2B (FF AB) - under liner
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+130 - 0+105	**Station:**	–
Inclination:		**Details:**	✓
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

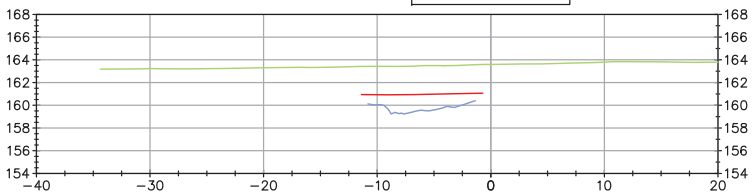
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
8.0	AEM to provide survey for approval form.	✓			

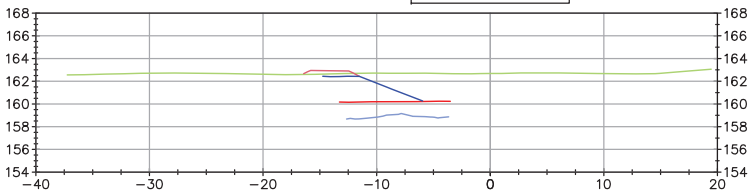
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Lorenchuk		28-03-2021
QC REPRESENTATIVE	Ryan Oldhema		Mar 28/21
QA REPRESENTATIVE	Brandon Gray		Mar. 28. 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		28 MAR 2021

FORMAT ANSI B–11x17

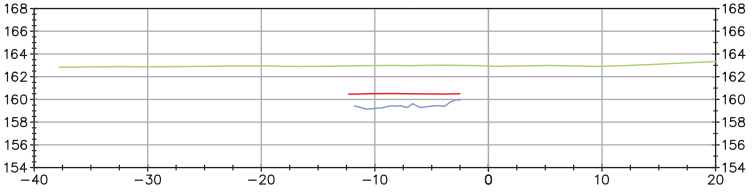
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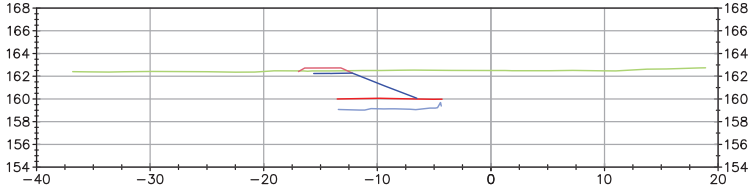
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0+110.00



0+130.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

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HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

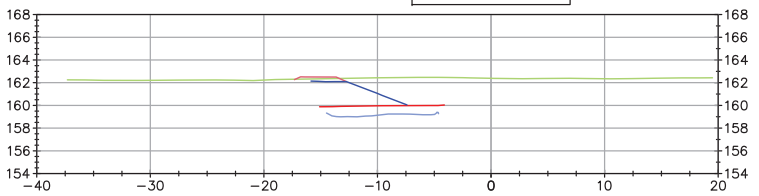
DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–03–27	

TITRE / TITLE

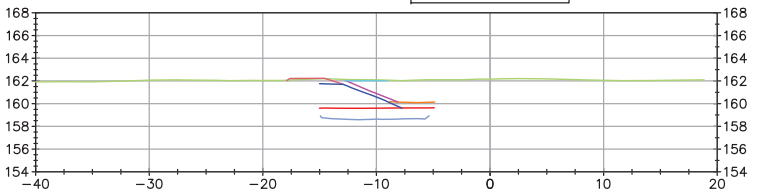
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 2 / 13

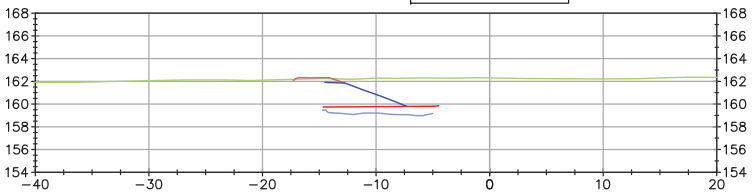
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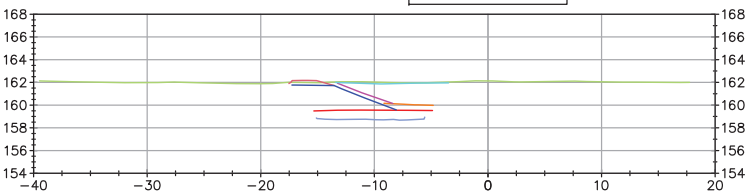
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0+150.00



0+170.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–26

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B– Under Liner) - PHOTOGRAPHS



Photograph 1: Approved section of Zone 2A (FF) placed between Sta. 0+130 and Sta. 0+105, view looking W.

Date: 2021-03-28
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B – Under Liner) - PHOTOGRAPHS



Photograph 2: Approved section of Zone 2B (FFAB) placed between Sta. 0+130 and Sta. 0+105, view looking W.

Date: 2021-03-28
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B – Under Liner) - PHOTOGRAPHS



Photograph 3: Snow removed along base of Zone 2A/2B in advance of LLDPE installation at approx. Sta. 0+130, view looking W.

Date: 2021-03-28
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 219 52873

DOCUMENT #: 20210329-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 29, 2021

TIME: 13:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A (FF) & 2B (FFAB) over liner
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+150 -> 0+120	**Station:**	–
Inclination:		**Details:**	–
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of cut-off trench	✓				
4. Gradation (visual assessment)	✓				
5. Placement (lift thickness, segregation, etc.)	✓				
6. Compaction (bucket compaction)	✓				
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓				
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

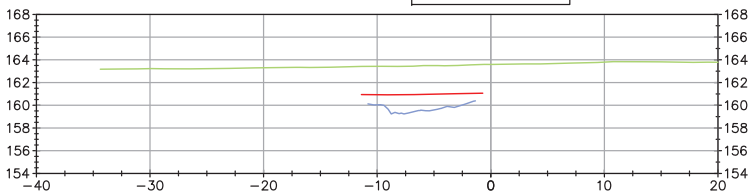
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
1.0	Additional 3-4" of zone 2B to be placed over liner in low spots.	✓			
2.0	Snow along crest & d/s excavation sidewall to be removed in advance of zone 3 placement.	✓			
8.0	AEM to provide survey for approval.	✓			

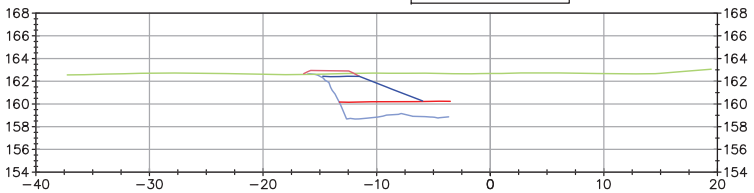
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laracha.		29-03-2021
QC REPRESENTATIVE	Not on site	—	—
QA REPRESENTATIVE	Brandon Gray		Mar. 29. 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		30 MAR 2021

FORMAT ANSI B–11x17

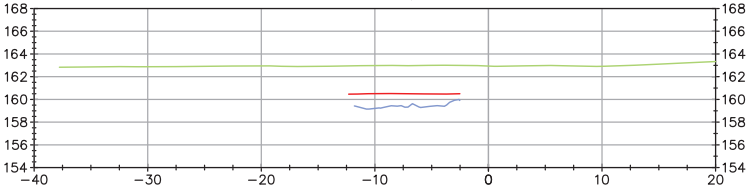
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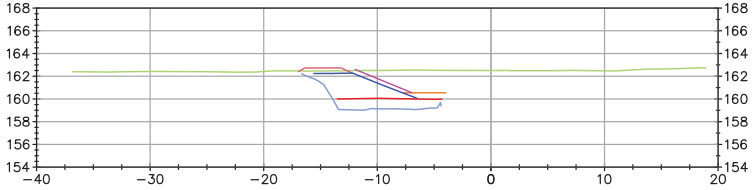
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0+110.00



0+130.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–30		

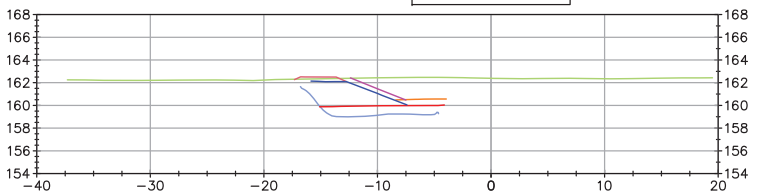
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

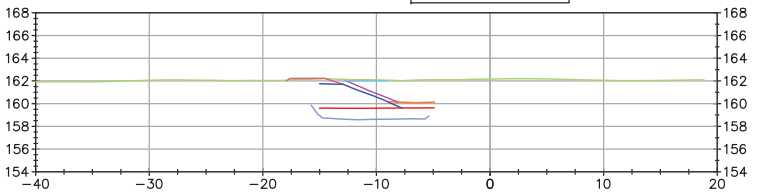
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 2 / 13

FORMAT ANSI B–11x17

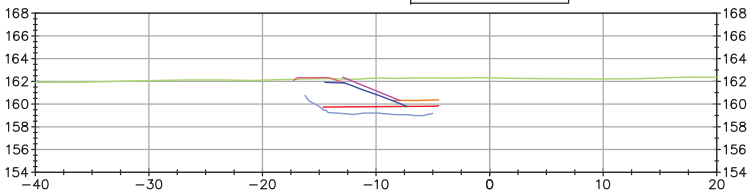
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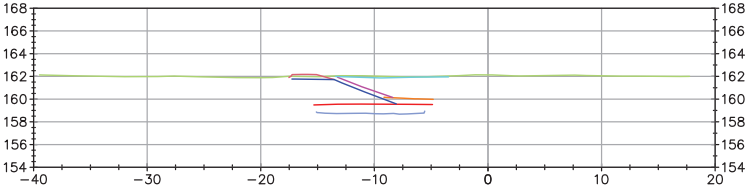
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0+150.00



0+170.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–03–30	

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B) - PHOTOGRAPHS



Photograph 1: Excavator adding additional Zone 2B (FFAB) over liner to design elevation at approx. Sta. 0+145, view looking SE.

Date: 2021-03-29
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B) - PHOTOGRAPHS



Photograph 2: Approved placement of Zone 2A (FF) and Zone 2B (FFAB) at approx. Sta. 0+320, view looking E.

Date: 2021-03-29
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210331-DS-02
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 31, 2021

TIME: 17:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A & 2B - under liner
- ☐ Other: _____

LOCATION	**PREVIOUS APPROVALS**
Station Sta. 0+110 -> 0+080	**Station:** —
Inclination:	**Details:** —
ELEVATION: ☑ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

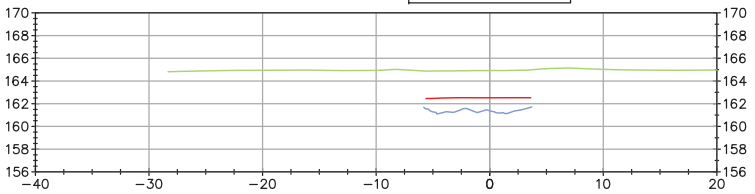
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
1.0	Additional 2-3" of Zone 2B to be placed between stations in low spots.	✓		✓	
2.0	Snow along D/S sidewall & crest to be removed in advance of zone 3 placement.	✓		✓	
8.0	AEM to provide survey for approval.	✓		✓	
	Note, night shift QC approved placement of Zone 2A (TS) prior to placement of Zone 2B (TTAB) QA was not on site @ time of approval.				

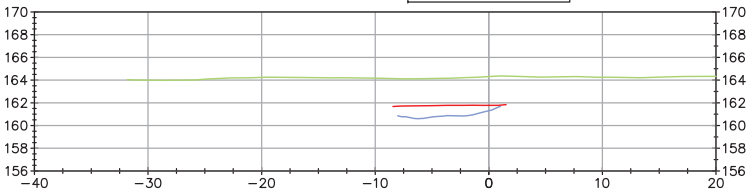
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche NS: John Carnegie		31-03-2021 Mar 31/2021
QC REPRESENTATIVE	DS: Chantal Pawlychka		Mar/31/2021
QA REPRESENTATIVE	Brandon Gray		Mar. 31-2021
OWNER'S REPRESENTATIVE	Ashleigh Stewart		31 MAR 2021

FORMAT ANSI B–11x17

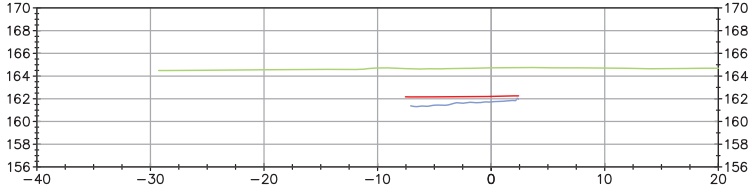
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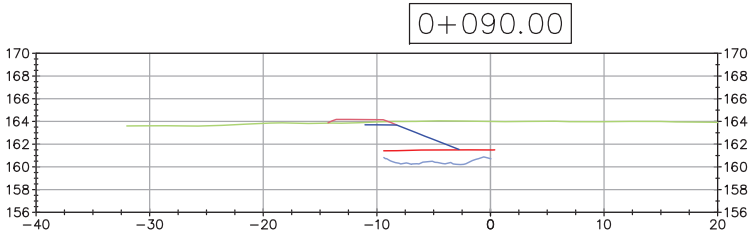
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0+070.00



0+090.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–04–01

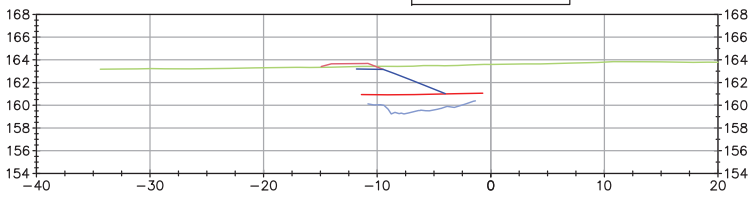
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

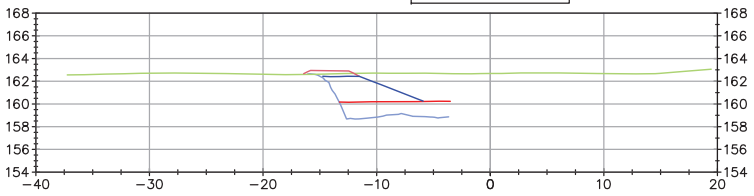
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 1 / 13

FORMAT ANSI B–11x17

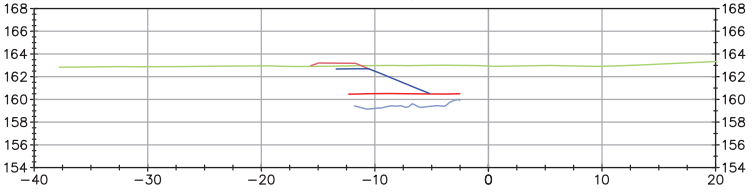
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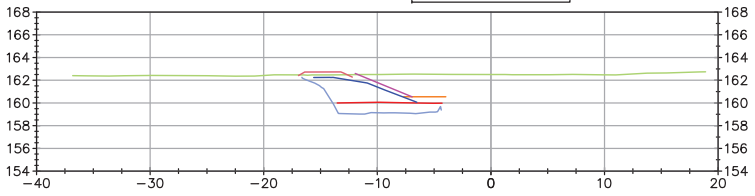
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0+110.00



0+130.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–04–01		

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–As Built		2 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B – Under Liner) - PHOTOGRAPHS



Photograph 1: Approved placement of Zone 2A/2B under liner at approx. Sta. 0+100, view looking W.

Date: 2021-03-31
Photo By: BG

SNC·LAVALIN

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Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DATE: March 31, 2021

DOCUMENT #: 20210331-DS-03

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 17:00

(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) - Key trench
- ☐ Other: _____

LOCATION	PREVIOUS APPROVALS
Station	Station: ~
Inclination:	Details: ~
ELEVATION: ☑ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

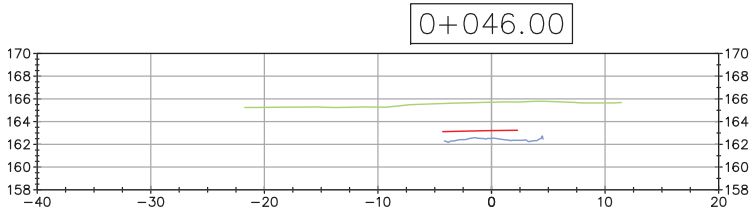
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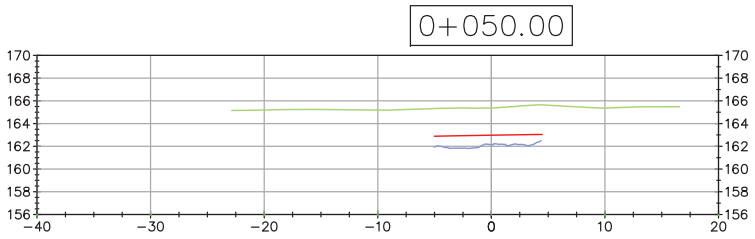
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of cut-off trench	✓				
4. Gradation (visual assessment)	✓				
5. Placement (lift thickness, segregation, etc.)	✓				
6. Compaction	✓				
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓				
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
1.0	approx. ~5m section where zone 2B (FFAB) was roughly 80mm high.	✓		✓	
8.0	AEM to provide survey for approval.	✓		✓	

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		31-03
QC REPRESENTATIVE	Chantal Pawlychko		Mar 31
QA REPRESENTATIVE	Brandon Gray	BGray	Mar-31-2021
OWNER'S REPRESENTATIVE	~~ANTHONY~~ STEWART		31 MAR 2021

FORMAT ANSI B–11x17





- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–04–01

TITRE / TITLE

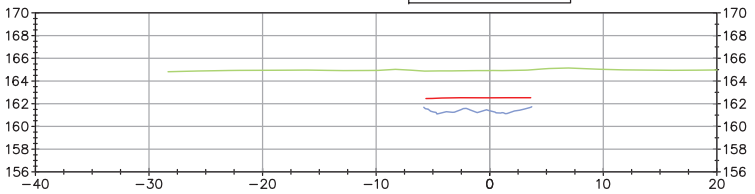
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+046 @ 0+050

ÉCHELLE/ SCALE	FICHIER FILE	
NA	.DWG	

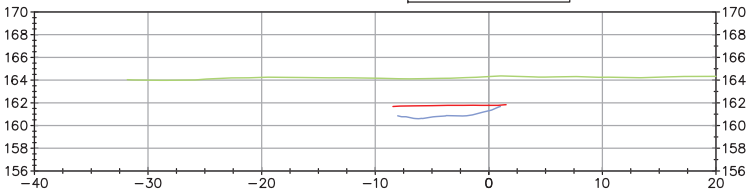
No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–As Built		1 / 13

FORMAT ANSI B–11x17

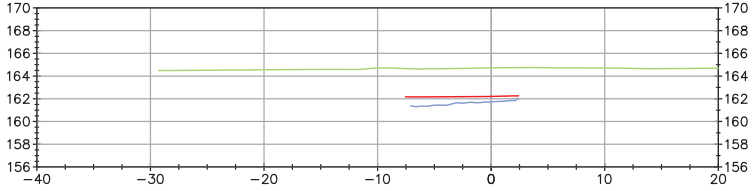
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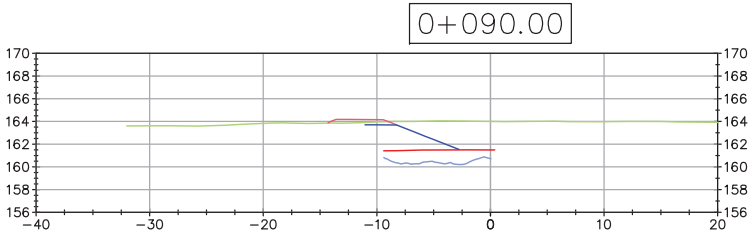
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0+070.00



0+090.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–04–01

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 1 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2B (FFAB) – Key Trench) - PHOTOGRAPHS



Photograph 1: Approved placement of Zone 2B (FFAB) in key trench at approx. Sta. 0+065, view looking W.

Date: 2021-03-31
Photo By: BG

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Toronto (Ontario)
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www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 9. 2021

DOCUMENT #: 20210409-DS-01 **TIME:** 13:30

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 1 (For placement of Zone3/2A)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+365 → 0+310	**Station:**	–
Inclination:		**Details:**	–
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

(Refer to list above for item #)

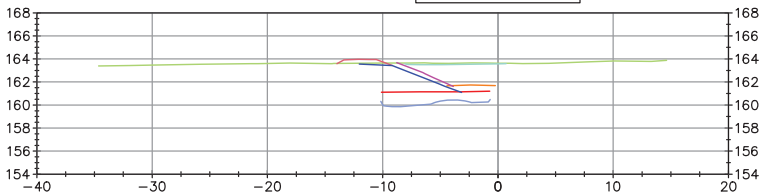
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
1.0	KGG to add additional zone 2A over geotextile before placing zone 3 & to pull plywood boards out 12" prior to placing zone 2A.	✓		✓	

APPROVED BY:

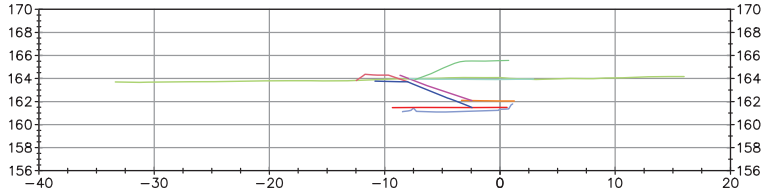
	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laraucha		04-04-2021
QC REPRESENTATIVE	Chantal Pawlyshyn		Apr/04/2021
QA REPRESENTATIVE	Brandon Gray	BGray	April 4, 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		4TH Apr 2021

1 FORMAT ANSI B–11x17

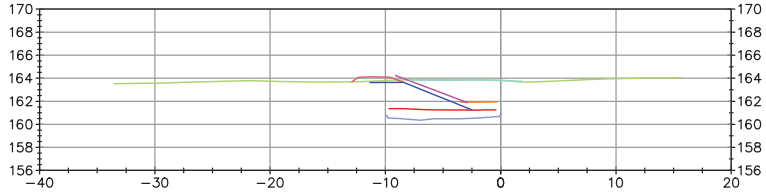
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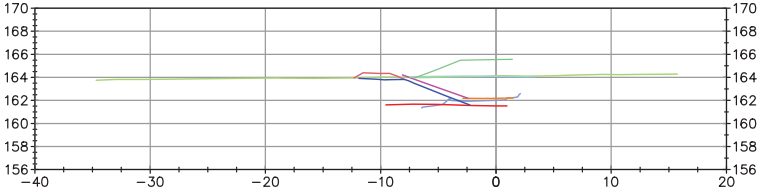
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HA GROUPE LARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

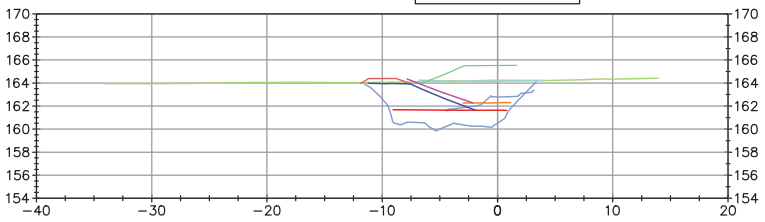
DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–04
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–24		

TITRE / TITLE

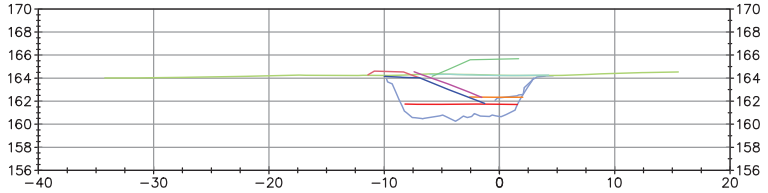
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

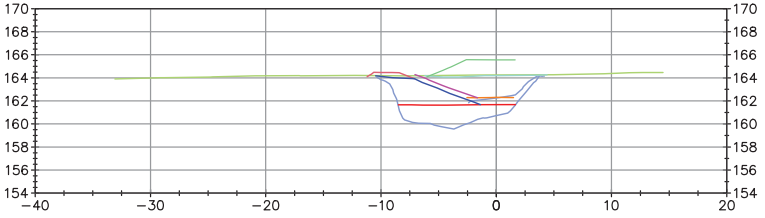
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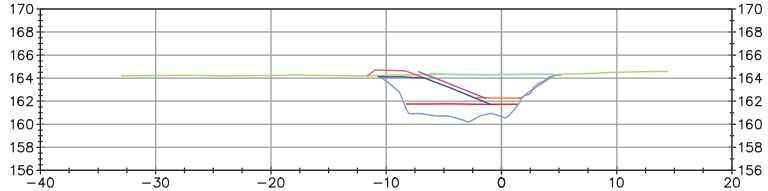
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0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

AGNICO EAGLE

HA/GSE/LARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–04
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–24		

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+340 @ 0+370

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 1 – Upstream Side for Placement of Zone 3/2A Trench) - PHOTOGRAPHS



Photograph 1: Approved slope of Zone 1 (Rockfill) at approx. Sta. 0+360, view looking W.

Date: 2021-04-04
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214528 73 **DATE:** April 16, 2021

DOCUMENT #: 20210416-DS-01 **TIME:** 18:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☒ Fill placement: Zone 2B (FFAB) under liner in Key trench
- ☐ Other: _____

LOCATION		PREVIOUS APPROVALS	
Station	Sta. 0+403 to 0+526	**Station:**	
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

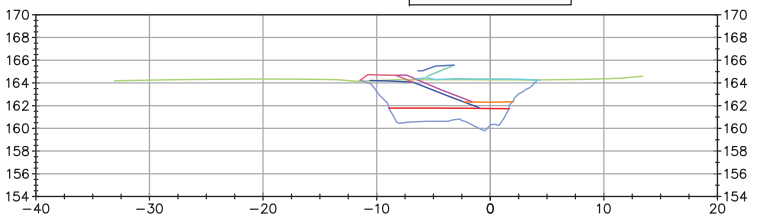
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
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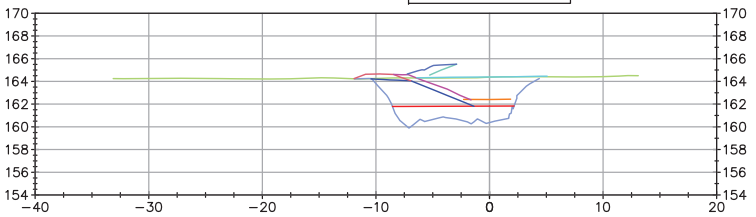
DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
	Zone 2B (FFAB) placed as per RF1-5 from 0+445 to 0+526. (end of key trench).				
	Material roller compacted in 300 mm lifts with vibration; material appears well graded and free of contaminants.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Louis Soucie		17/04/2021
QC REPRESENTATIVE	Ryan Okema		April 18/21
QA REPRESENTATIVE	Shai Spilberg		April 16, 2021
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		17.04.2021

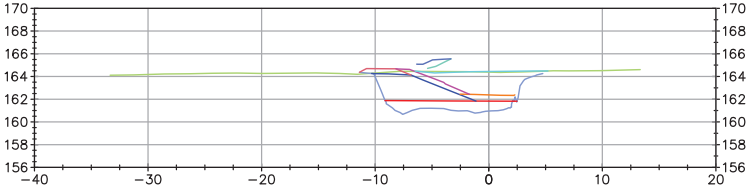
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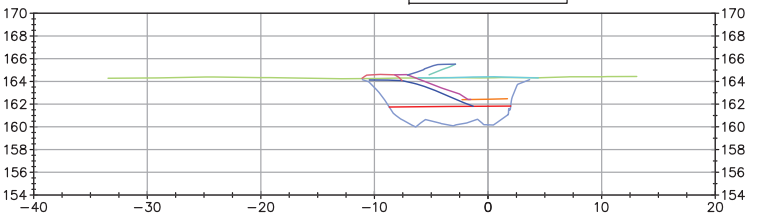
0+400.00



0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

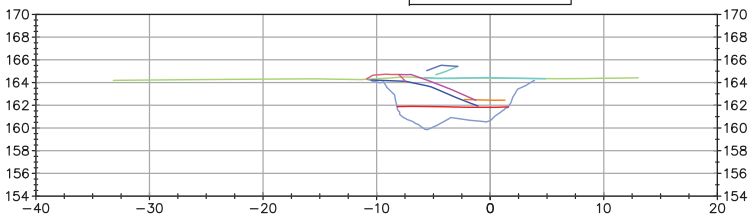
DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–04–19		

TITRE / TITLE

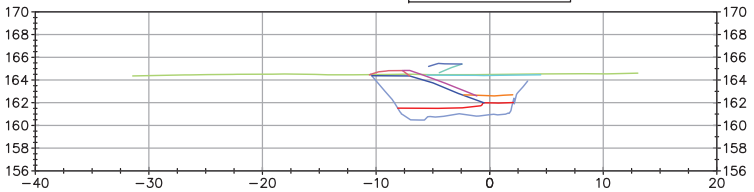
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

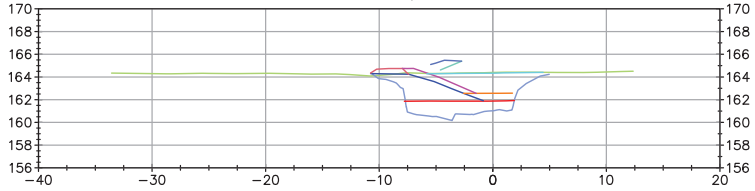
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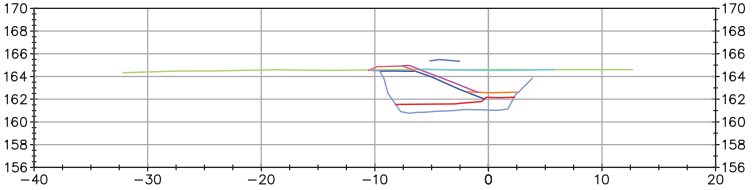
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0+430.00



0+450.00



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- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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- CF – UNDERLINER DOWNSTREAM
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AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG
DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS	

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–27		

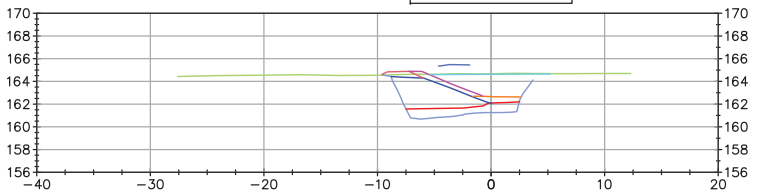
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+420 @ 0+450

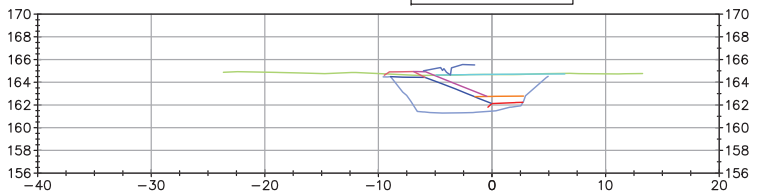
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 10 / 13

FORMAT ANSI B–11x17

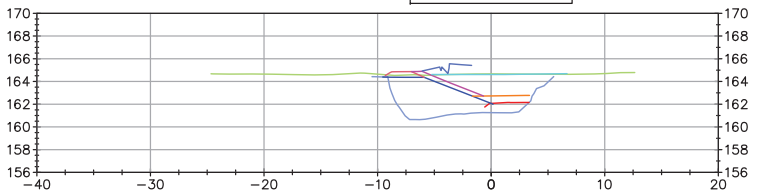
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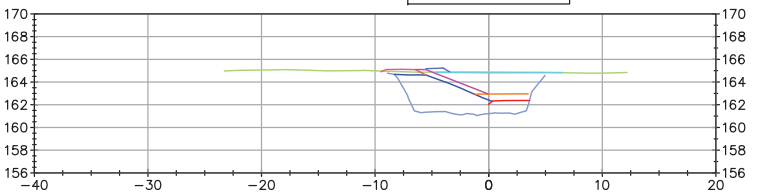
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0+470.00



0+490.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–03–22

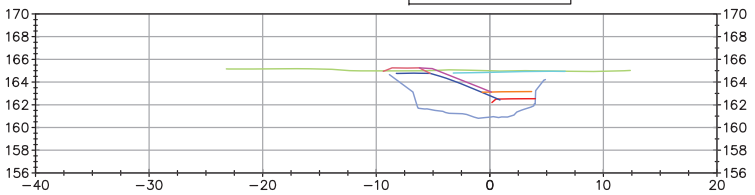
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+460 @ 0+490

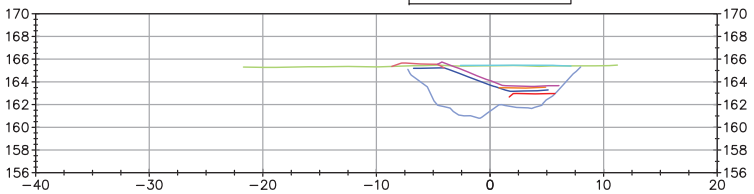
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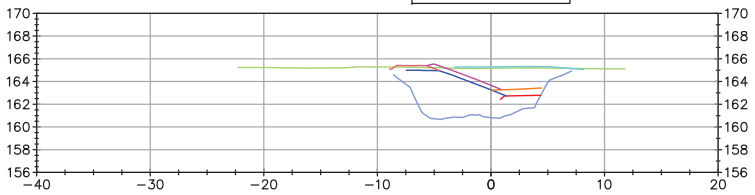
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0+520.00



0+510.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

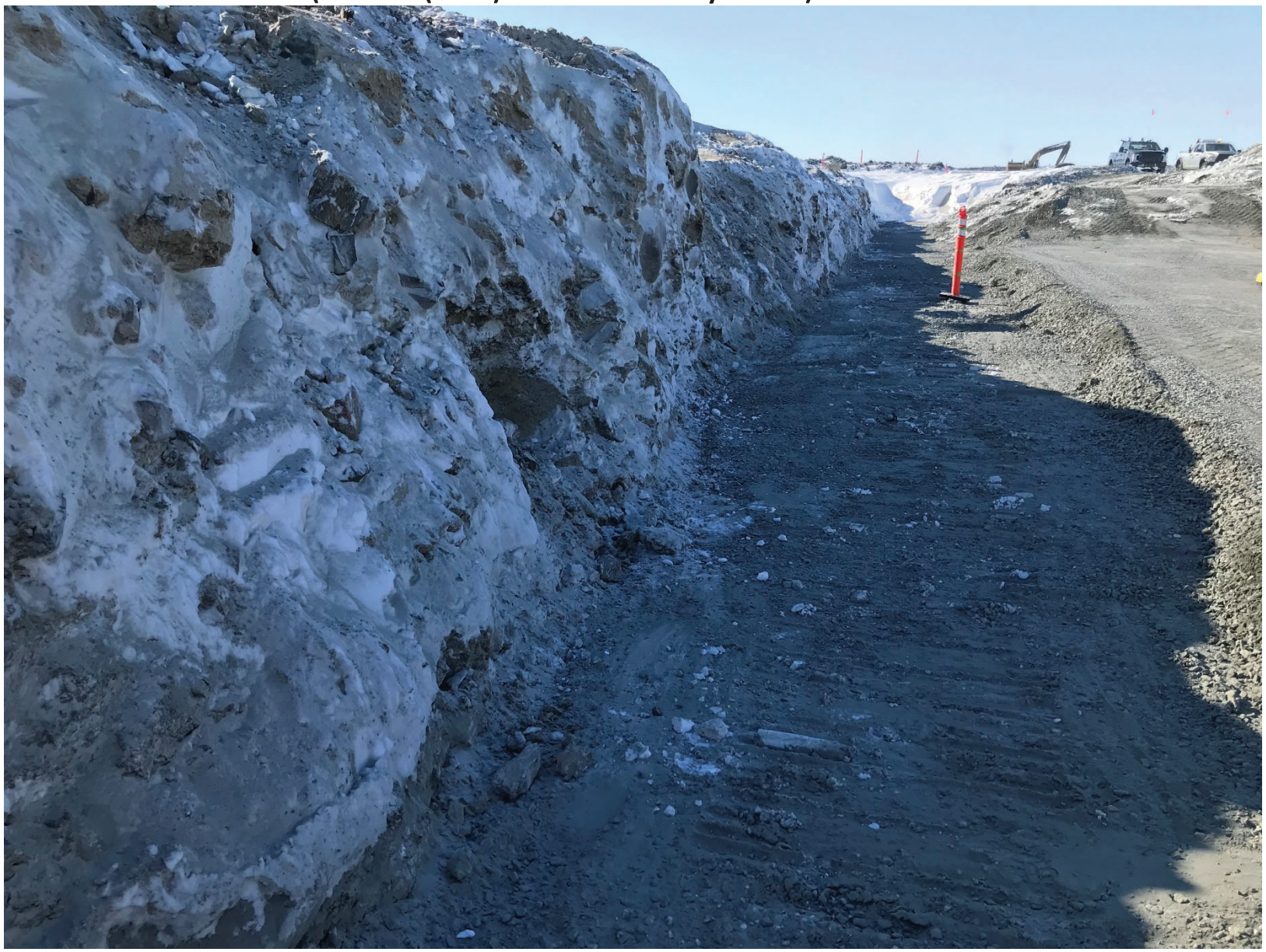
No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+500 @ 0+530

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 12 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2B (FFAB) under liner in key trench) - PHOTOGRAPHS



Photograph 1: Zone 2B (FFAB) at approx. Sta. 0+400, view looking W.

Date: 2021-04-09
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 16, 2021

DOCUMENT #: 20210416-DS-02 **TIME:** 18:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A (FF) under liner in Key trench
- ☐ Other: _____

LOCATION		PREVIOUS APPROVALS	
Station	0+403 to 0+526	Station:	
Inclination:		Details:	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

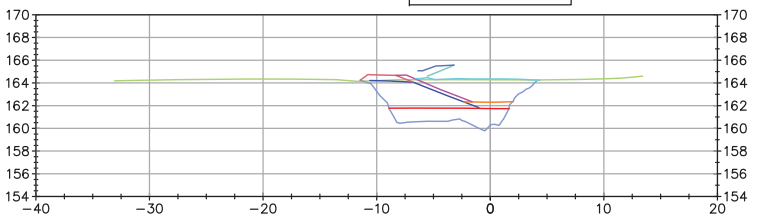
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

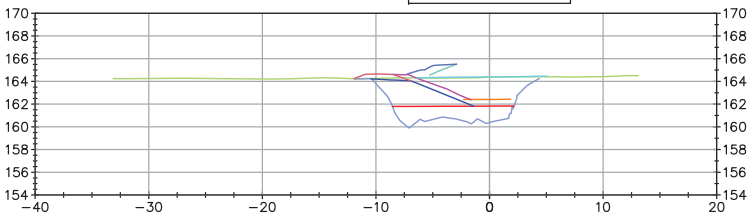
DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
	Material roller compacted in 300 mm lifts, min. 6 passes with vibration. Material appears well graded.				
	Some frozen blocks < 6" present in material. These are sorted out at the stockpile and further at the dyke prior to placement. This method is acceptable.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Louis Soucie		17/04/2021
QC REPRESENTATIVE	Ryan Ohlema		April 18/21
QA REPRESENTATIVE	Shari Spilberg		April 16, 2021
OWNER'S REPRESENTATIVE	LAURIER GOUETTE		17-04-2021

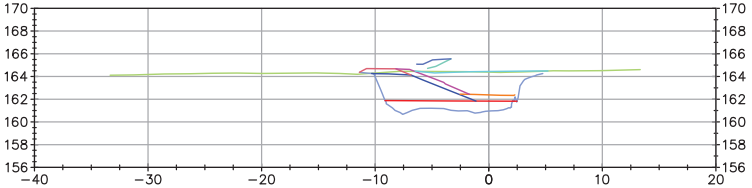
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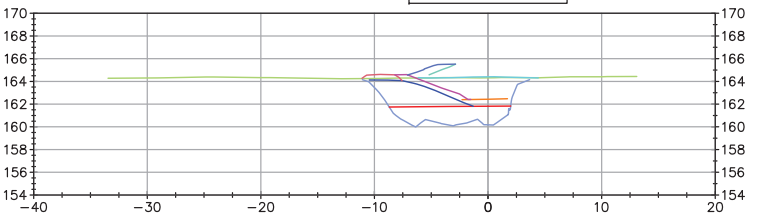
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0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
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- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

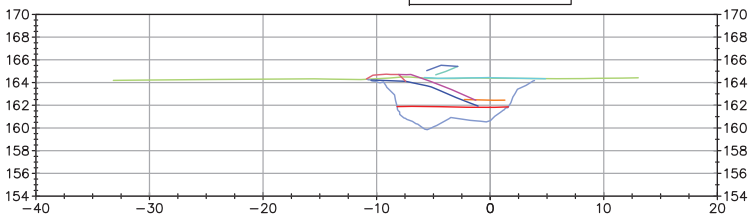
DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–04–19		

TITRE / TITLE

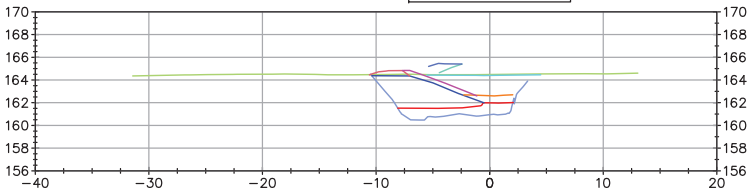
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

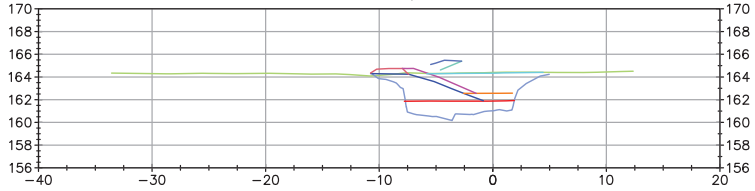
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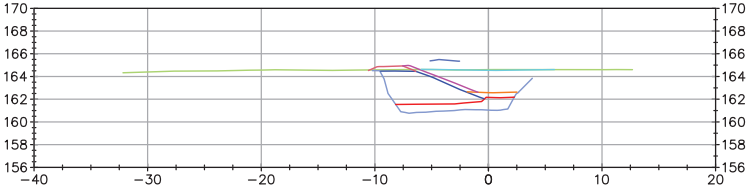
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0+450.00



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- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG
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REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–27		

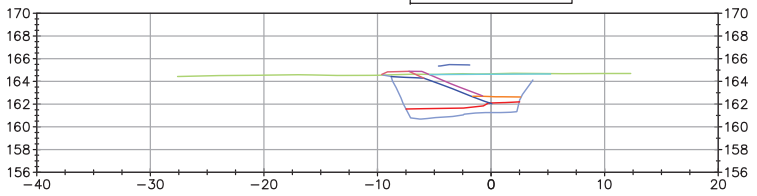
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+420 @ 0+450

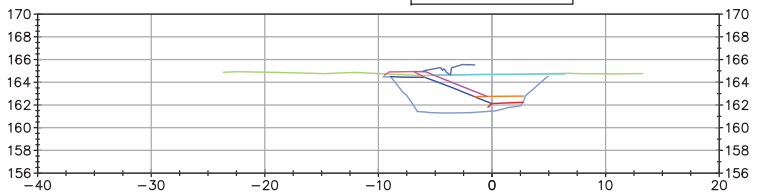
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 10 / 13

FORMAT ANSI B–11x17

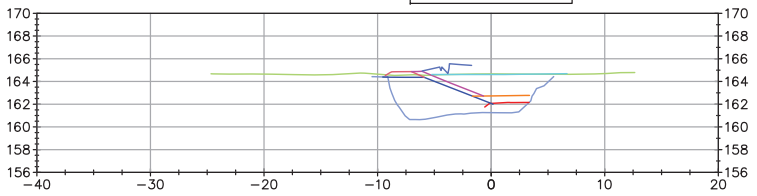
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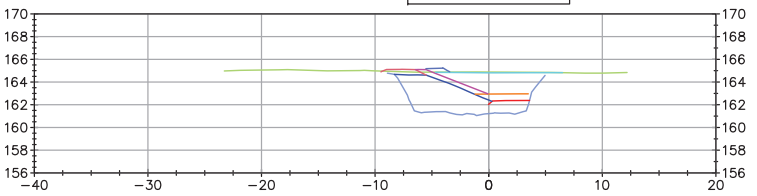
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0+470.00



0+490.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–03–22

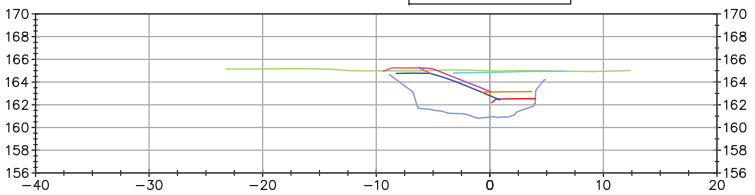
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+460 @ 0+490

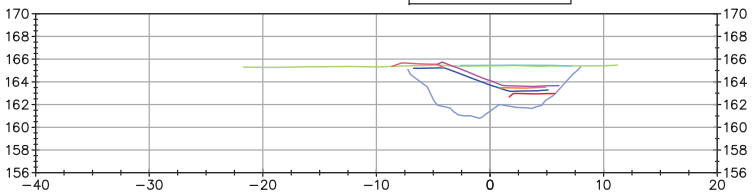
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 11 / 13

FORMAT ANSI B–11x17

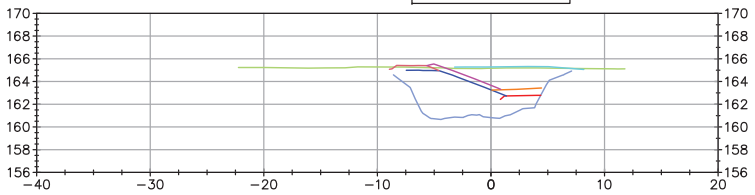
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0+520.00



0+510.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+500 @ 0+530

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 12 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A (FF) under liner in key trench) - PHOTOGRAPHS



Photograph 1: Zone 2A placement (FF) at approx. Sta. 0+400, view looking E.

Date: 2021-04-09
Photo By: SS



Photograph 2: Zone 2A (FF) approved prior to Zone 2B (FFAB) placement, approx. Sta. 0+360, view looking E.

Date: 2021-04-12
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 16, 2021

DOCUMENT #: 20210416-DS-03 **TIME:** 18:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) under liner hinge point
- ☐ Other: _____

LOCATION	PREVIOUS APPROVALS
Station 0+403 to 0+526	**Station:**
Inclination:	**Details:**
ELEVATION: ☑ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

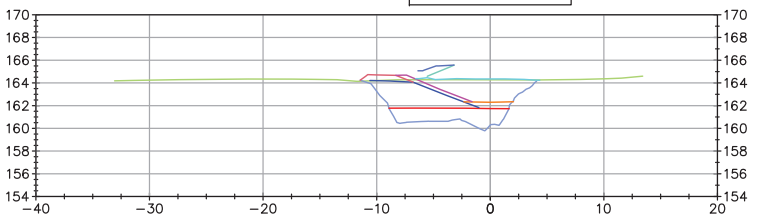
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

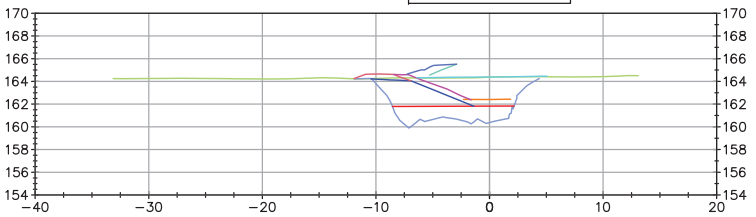
DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
	Material roller compacted in 300mm lifts, min. 6 passes with vibration. Material appears well graded and free of contaminants.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Louis Soucie	Louis Soucie	17/04/2021
QC REPRESENTATIVE	Ryan Oikkema		April 18/21
QA REPRESENTATIVE	Shai Spilberg		April 16, 2021
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		17.04.2021

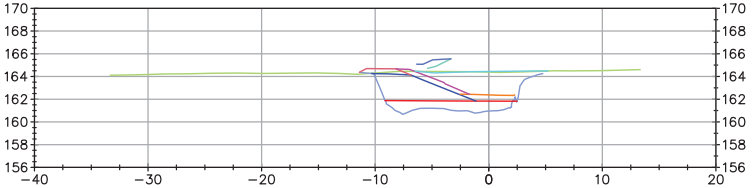
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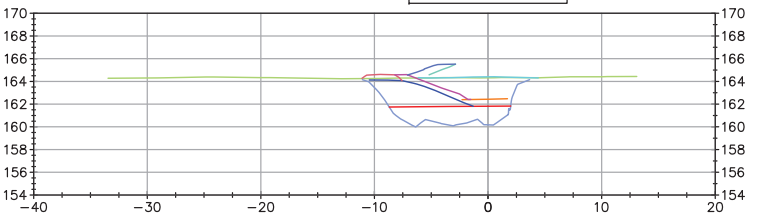
0+400.00



0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

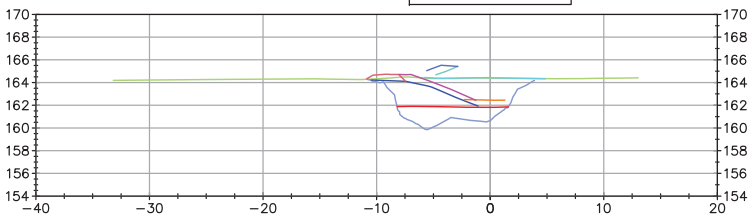
DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–04–19		

TITRE / TITLE

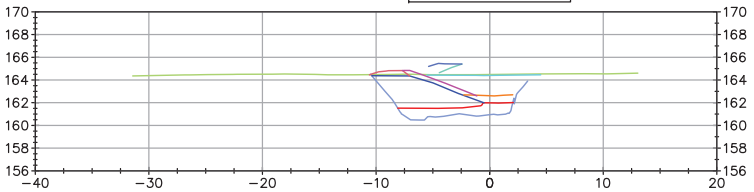
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

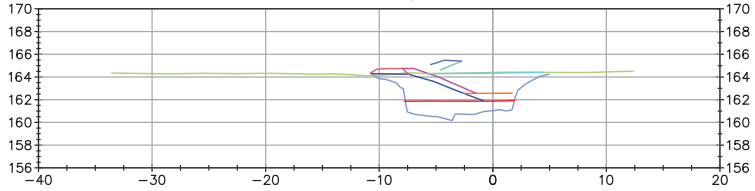
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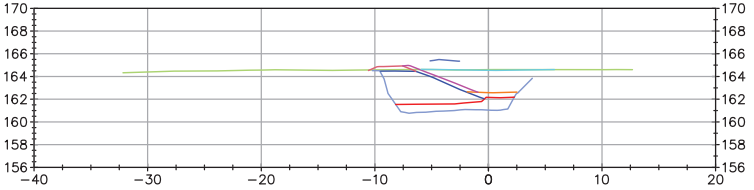
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0+430.00



0+450.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG
DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS	

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–27		

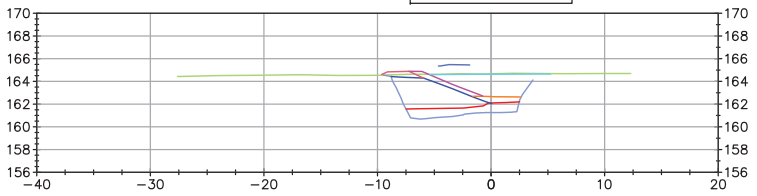
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+420 @ 0+450

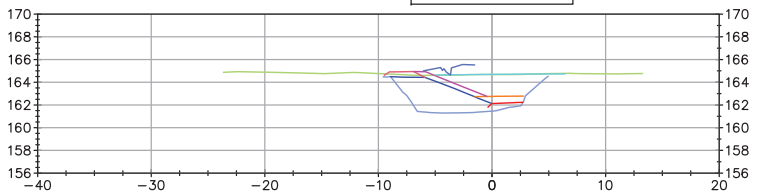
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 10 / 13

FORMAT ANSI B–11x17

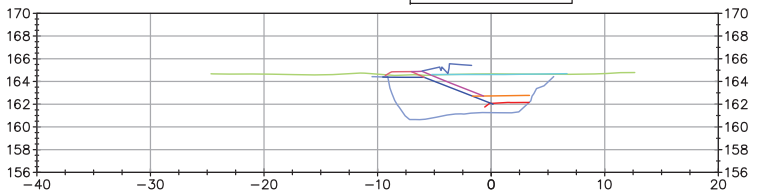
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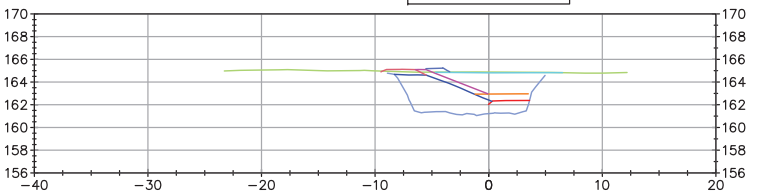
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0+470.00



0+490.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–03–22

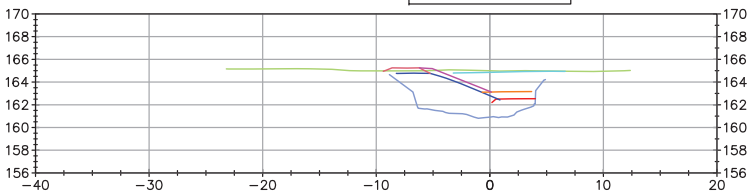
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+460 @ 0+490

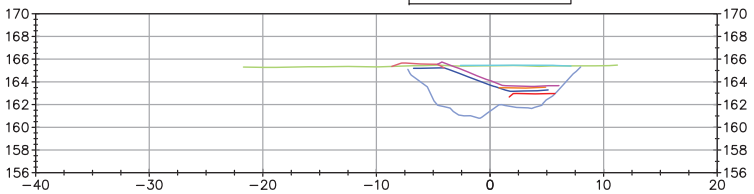
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 11 / 13

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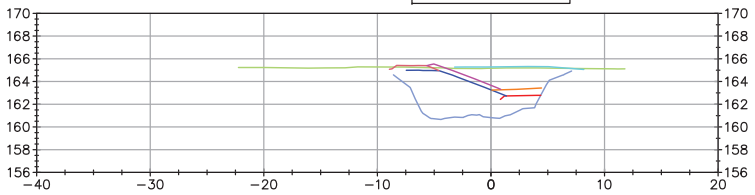
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0+520.00



0+510.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+500 @ 0+530

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 12 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2B (FFAB) under liner hinge) - PHOTOGRAPHS



Photograph 1: Zone 2B approved (FFAB) at approx. Sta. 0+360, view looking E.

SNC·LAVALIN

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Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 16, 2021

DOCUMENT #: 20210416-DS-05 **TIME:** 18:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) above liner toe
- ☐ Other: _____

LOCATION		PREVIOUS APPROVALS	
Station	0+403 to 0+526	Station:	
Inclination:		Details:	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

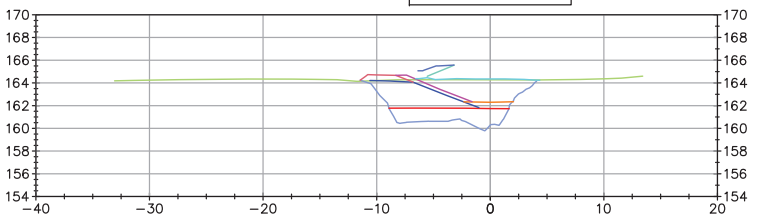
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

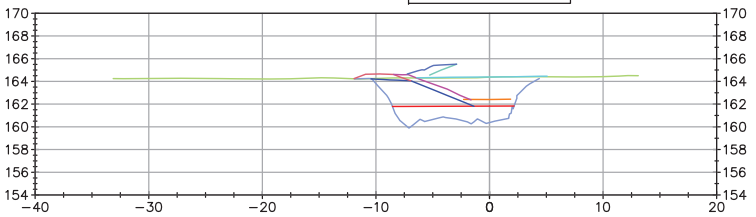
DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
	Material bucket compacted, appears well graded and free of contaminants.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Louis Sauce		17/04/2021
QC REPRESENTATIVE	Ryan Oldhams		April 18/21
QA REPRESENTATIVE	Shai Spilberg		April 16, 2021
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		17 04 2021

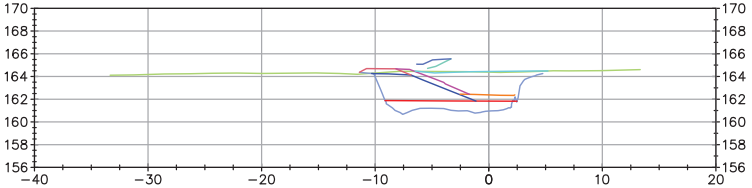
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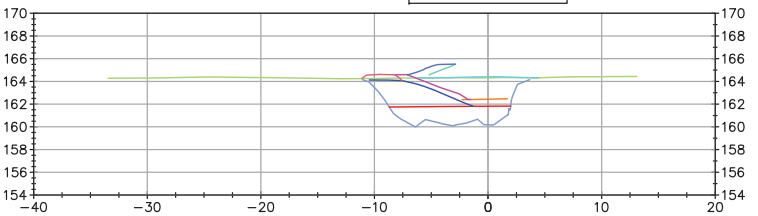
0+400.00



0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

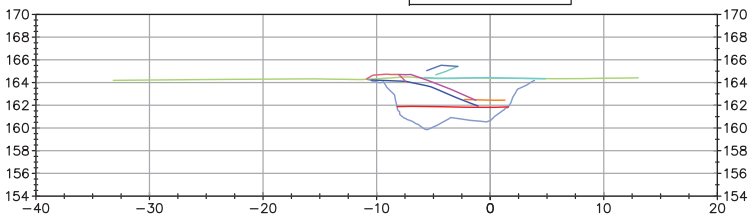
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VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–04–19		

TITRE / TITLE

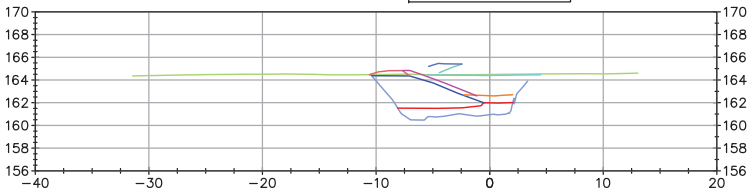
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

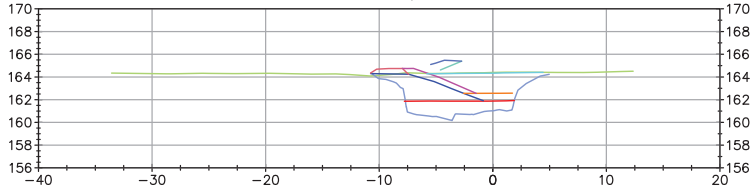
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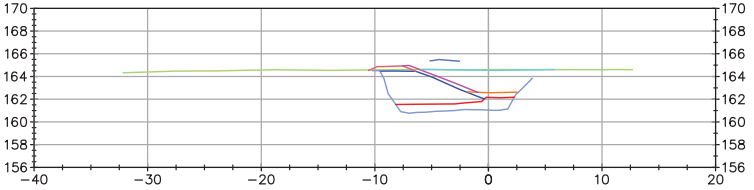
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0+430.00



0+450.00



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AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG
DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS	

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–27		

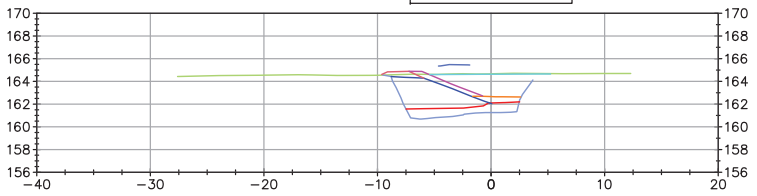
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+420 @ 0+450

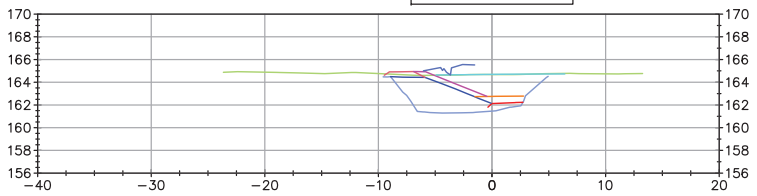
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 10 / 13

FORMAT ANSI B–11x17

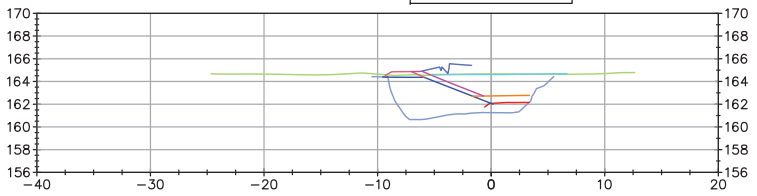
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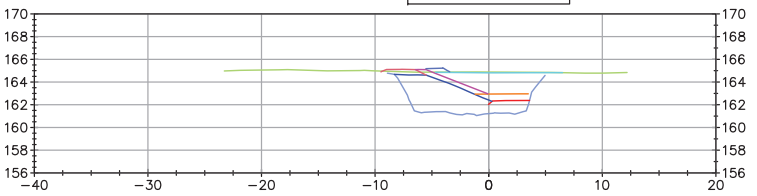
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0+490.00



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AGNICO EAGLE

HAMELARPENTAGE

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VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–03–22

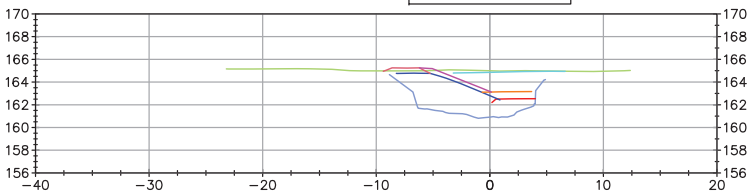
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+460 @ 0+490

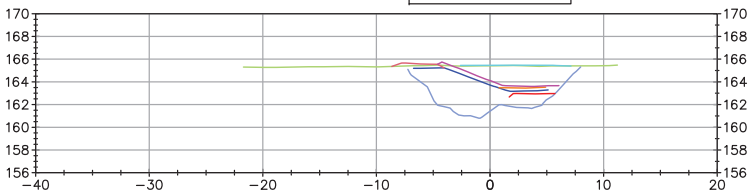
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 11 / 13

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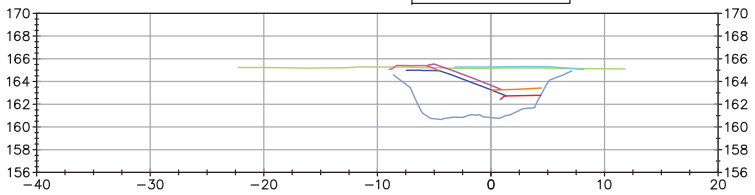
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0+520.00



0+510.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+500 @ 0+530

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 12 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2B (FFAB) over liner in key trench) - PHOTOGRAPHS



Photograph 1: Zone 2B (FFAB) approved from Sta. 0+433 to 0+458, view looking W.

Date: 2021-04-14
Photo By: JC

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 16, 2021

DOCUMENT #: 20210416-DS-06 **TIME:** 18:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A(FF) + Zone 3(CF) over liner in Key trench
- ☐ Other: _____

LOCATION	PREVIOUS APPROVALS
Station 0+403 to 0+526	**Station:**
Inclination:	**Details:**
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

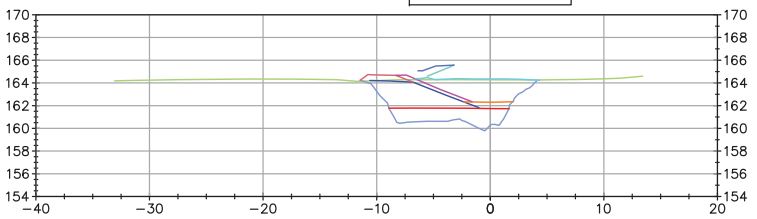
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

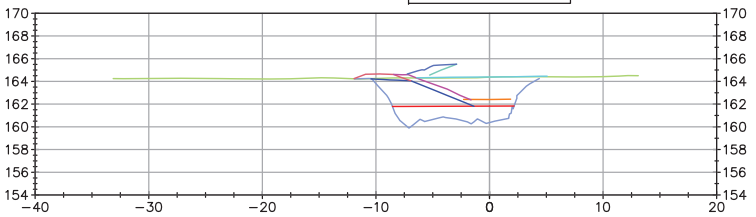
DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
	Material placed in 300 mm lifts.				
	First lift bucket compacted, second				
	lift roller compacted in 6 passes				
	without vibration.				
	Subsequent lifts compacted with				
	roller in 6 passes with vibration.				
	Distance Kept from liner at all				
	Lateral times.				
	Material appears well-graded and				
	free of contaminants.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Louis Sacco		17/04/2021
QC REPRESENTATIVE	Ryan Ouellette		April 18/21
QA REPRESENTATIVE	Shai Spilberg		April 17, 2021
OWNER'S REPRESENTATIVE	CAVIER COUETTE		17.04.2021

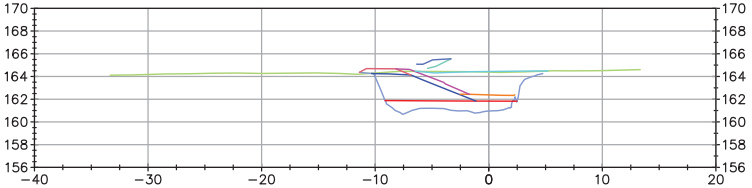
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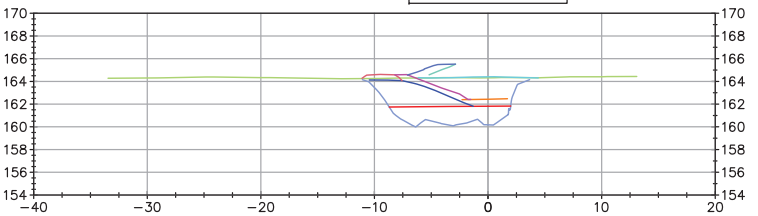
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0+390.00



0+410.00



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- RF – DOWNSTREAM

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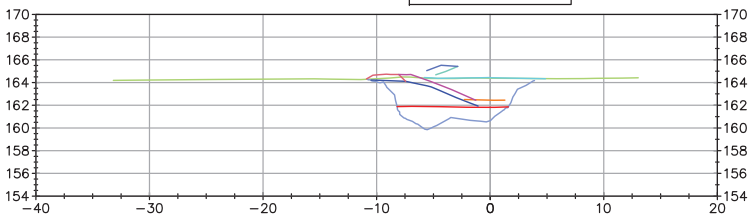
DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
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TITRE / TITLE

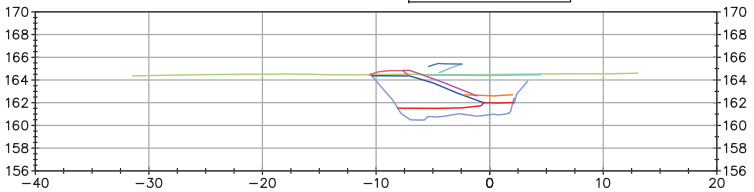
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

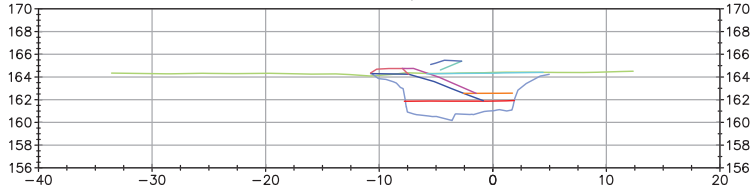
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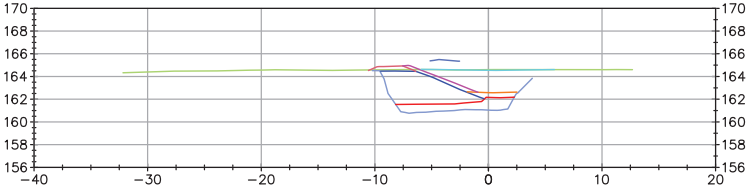
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0+450.00



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REV	DESCRIPTION	DATE	PAR BY

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DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–03–27		

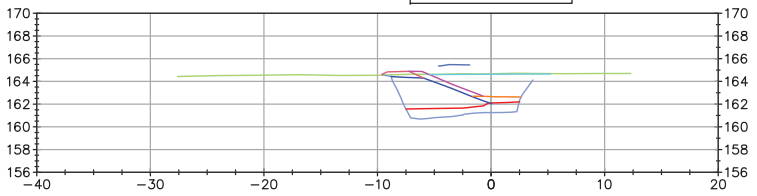
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+420 @ 0+450

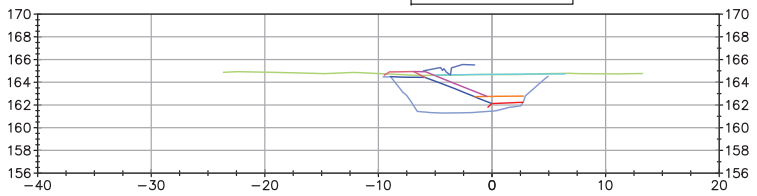
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 10 / 13

FORMAT ANSI B–11x17

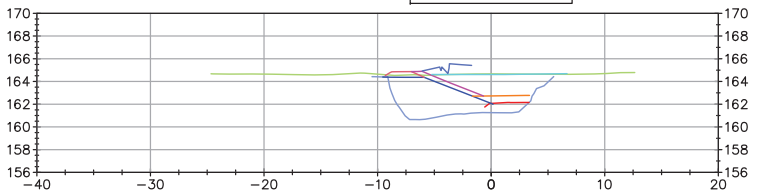
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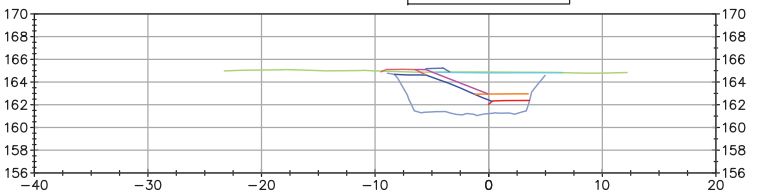
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0+470.00



0+490.00



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- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–03–22

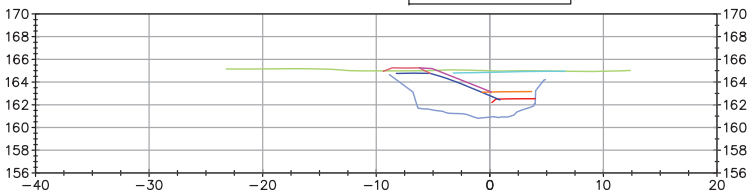
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+460 @ 0+490

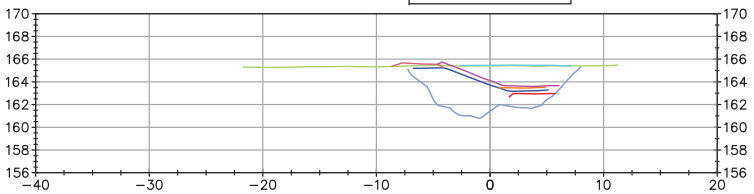
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 11 / 13

FORMAT ANSI B–11x17

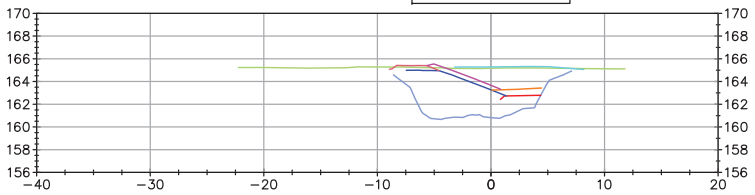
0+500.00



0+520.00



0+510.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- RF – DOWNSTREAM

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–03–22

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+500 @ 0+530

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 12 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A (FF) and Zone 3 (CF) over liner in key trench) - PHOTOGRAPHS



Photograph 1: Placement of Zone 2A (FF) on key trench liner slope, Sta. 0+420, view looking W.

Date: 2021-04-14
Photo By: SS



Photograph 2: Approved Zone 3 (CF) and Zone 2A (FF) in key trench, Sta. 0+500, view looking E.

Date: 2021-04-16
Photo By: DY

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Sustainable Mining
Mining & Metallurgy
195 The West Mall
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Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 19, 2021

DOCUMENT #: 20210419 - DS - 02 **TIME:** 18:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) over liner hinge
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+188 to 0+345	**Station:**	—
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

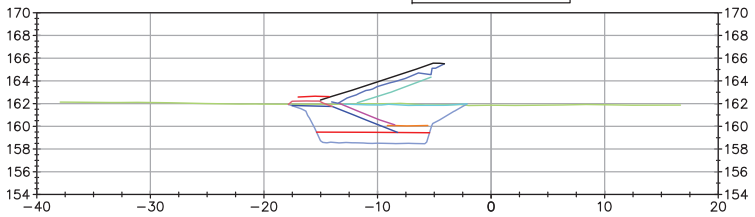
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
	Snow cleared prior to placement.				
	Material appears well graded and free of contaminants.				
	Adequate thickness and width as per Field change FC21-05.				
	Material bucket compacted in 1 lift.				
	Swell tests show bentonite activation.				

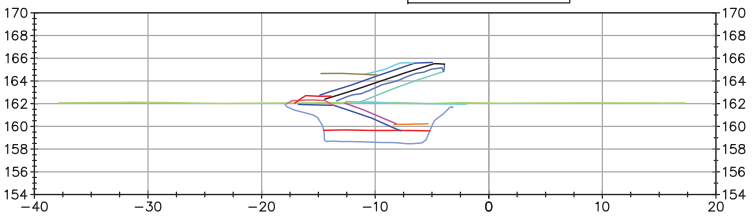
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laroche		20-04-21
QC REPRESENTATIVE	Ryan Ohlenna		April 19/21
QA REPRESENTATIVE	Shai Spilberg		April 19, 2021
OWNER'S REPRESENTATIVE	Stephane Gilbert		April 19, 2021

FORMAT ANSI B–11x17

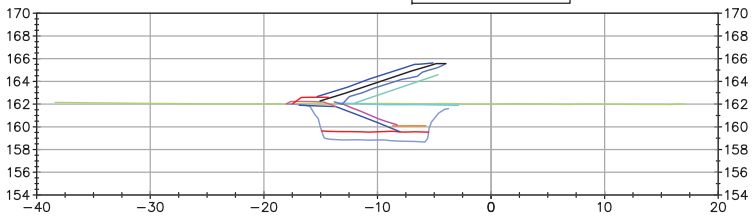
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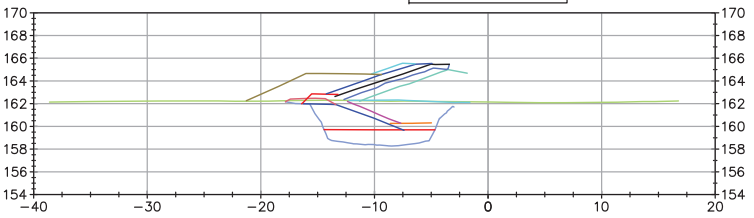
0+200.00



0+190.00



0+210.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–19		

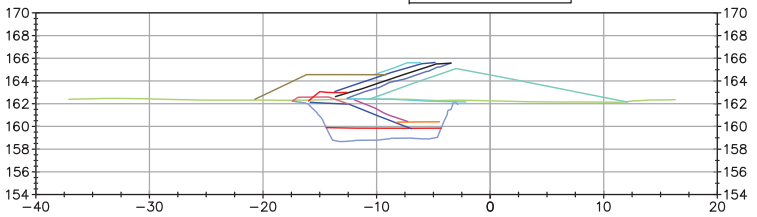
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

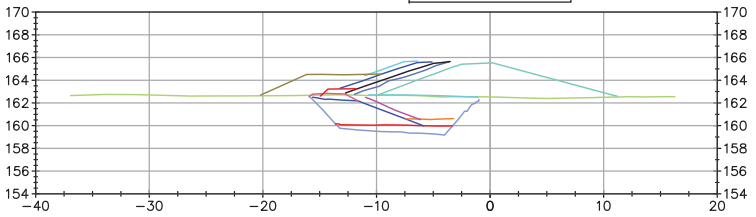
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

FORMAT ANSI B–11x17

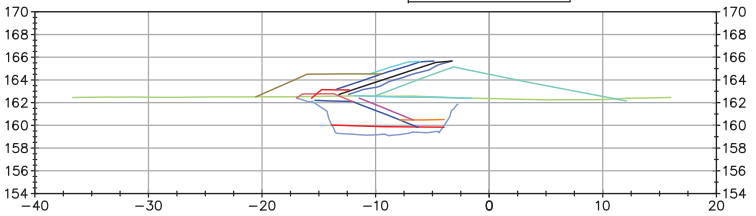
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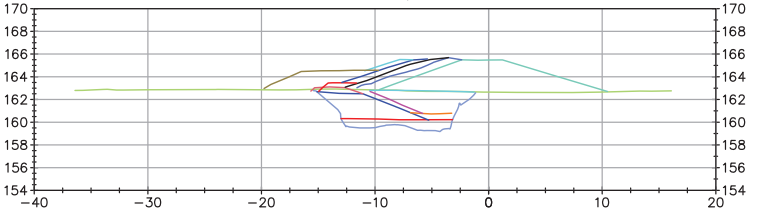
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0+230.00



0+250.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–04–19	

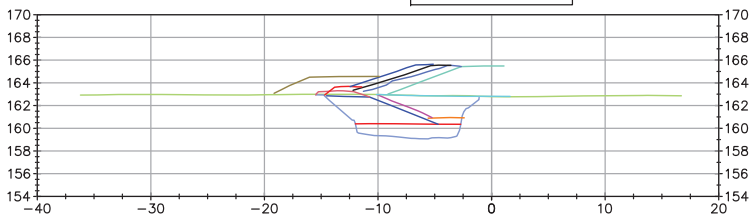
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

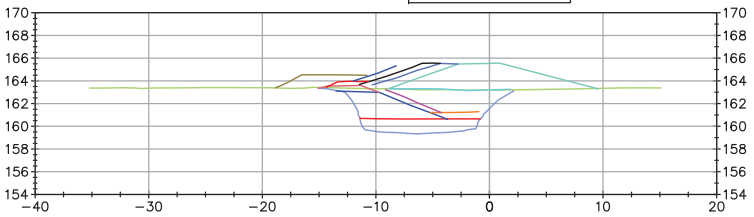
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No. DESSIN / DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13

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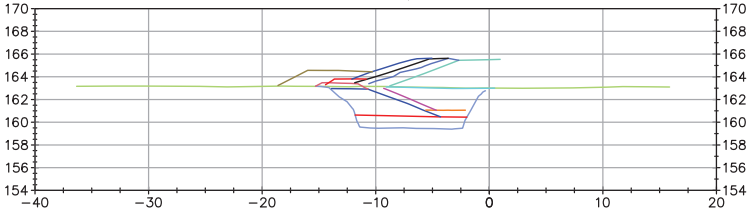
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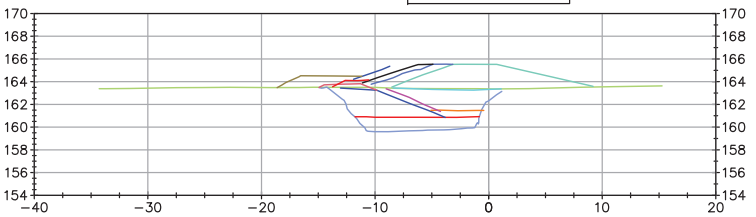
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0+270.00



0+290.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–03–22	

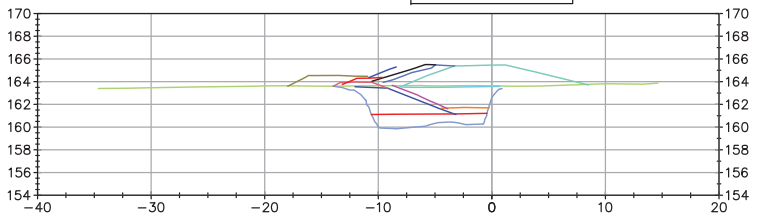
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+260 @ 0+290

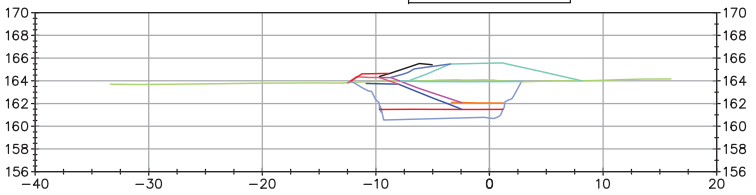
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FORMAT ANSI B–11x17

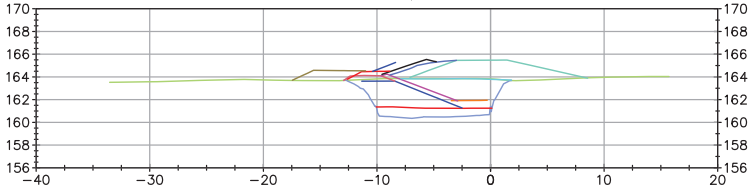
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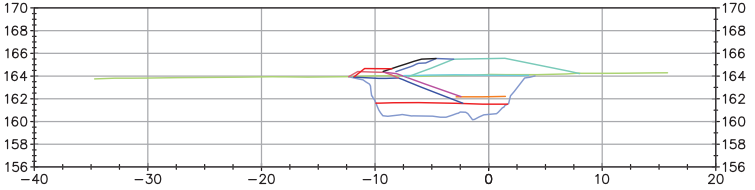
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE 2021–04–04
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–04–19

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2B (FFAB) over liner hinge) - PHOTOGRAPHS



Photograph 1: Approved Zone 2B (FFAB) over LLDPE liner hinge, Sta. 0+300, view looking E.

Date: 2021-04-18
Photo By: SS



Photograph 2: Approved Zone 2B (FFAB) over LLDPE liner hinge, Sta. 0+340, view looking E.

Date: 2021-04-19
Photo By: SS

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Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 19, 2021

DOCUMENT #: 20210419-DS-03 **TIME:** 18:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A(FF) on upstream liner slope
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+188 to 0+319	**Station:**	—
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

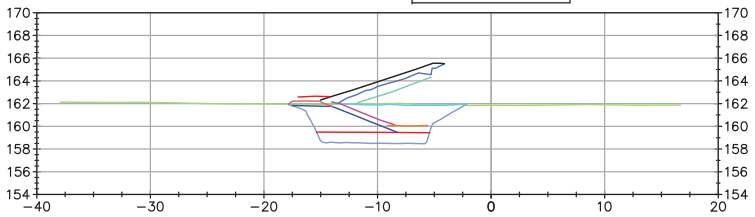
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
	Material bucket compacted. Appears well graded and free of contaminants.				
	Adequate thickness attained.				

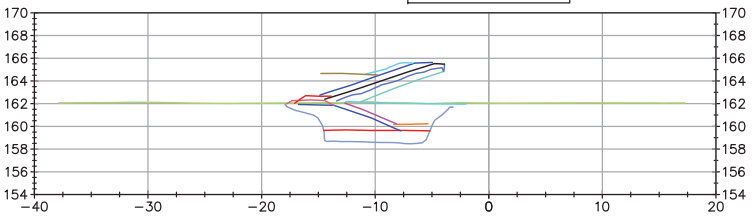
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		20-04-21
QC REPRESENTATIVE	Ryan Okkema		April 19/21
QA REPRESENTATIVE	Sheri Spilberg		April 19, 2021
OWNER'S REPRESENTATIVE	Stephane Girard		April 19 2021

FORMAT ANSI B–11x17

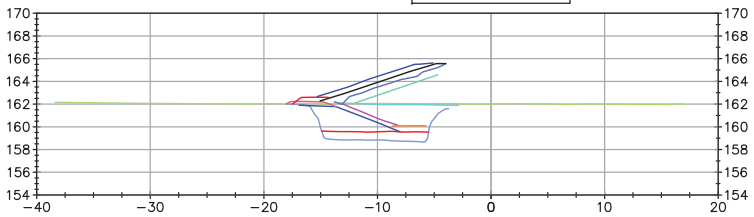
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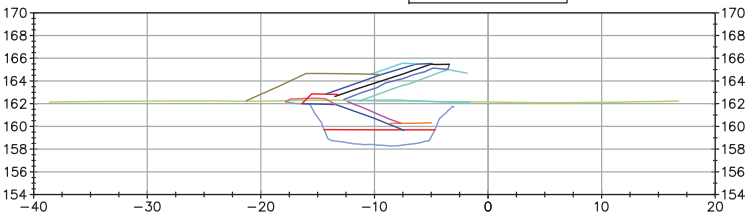
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0+190.00



0+210.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–19		

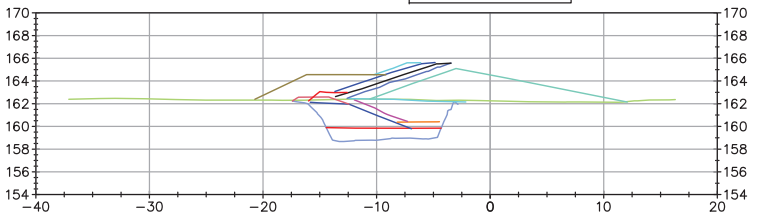
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

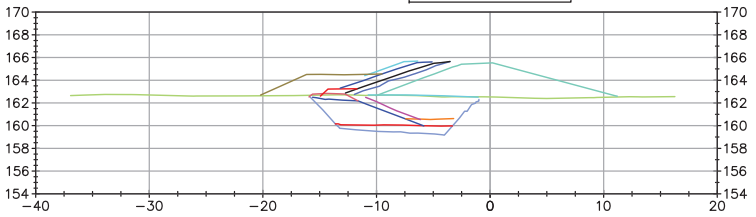
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FORMAT ANSI B–11x17

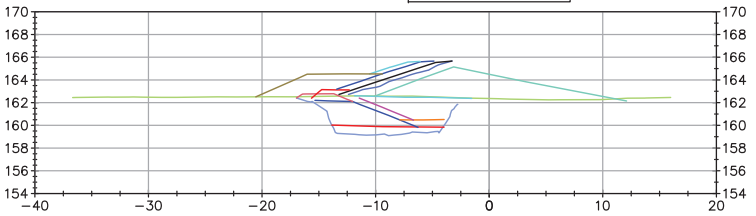
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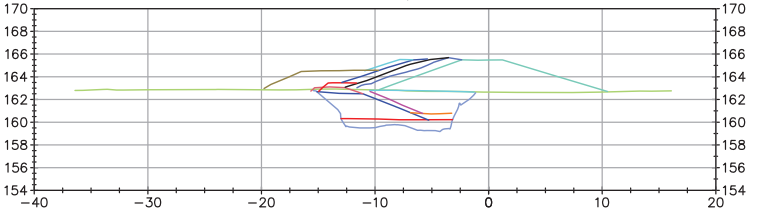
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0+230.00



0+250.00



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- CF – UNDERLINER DOWNSTREAM
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AGNICO EAGLE

HAMELARPENTAGE

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APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–04–19	

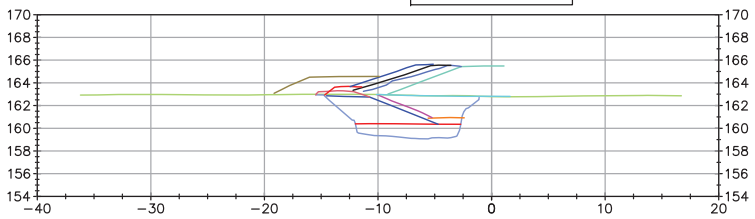
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

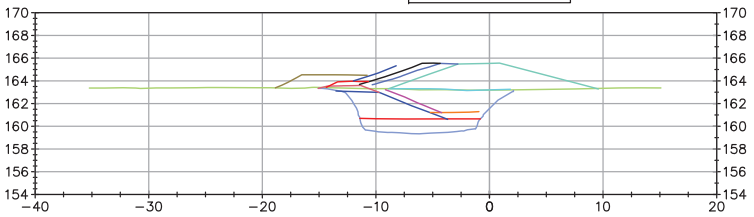
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No. DESSIN / DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13

FORMAT ANSI B–11x17

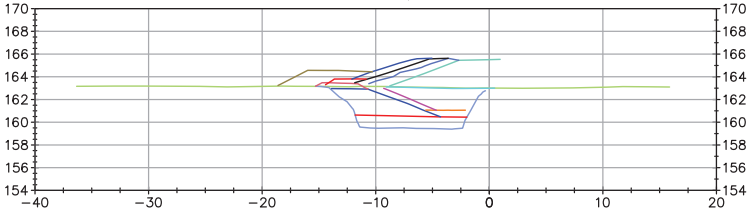
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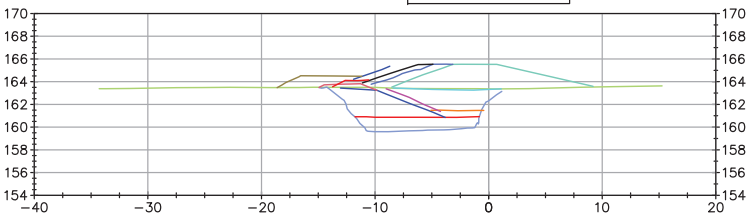
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0+290.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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AGNICO EAGLE

HAMELARPENTAGE

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VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–03–22	

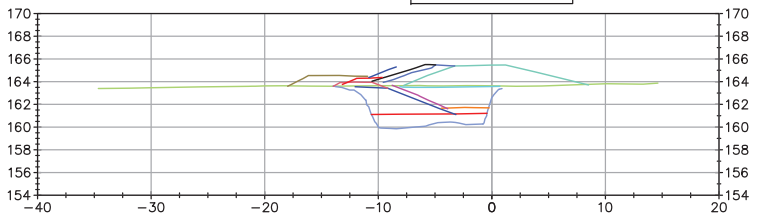
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+260 @ 0+290

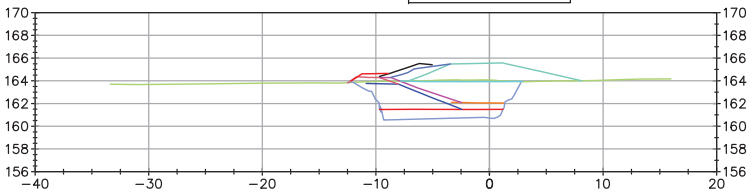
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No. DESSIN/ DRAWING NO. 6127–IVR–As Built		REVISION	FEUILLE/SHT 6 / 13

FORMAT ANSI B–11x17

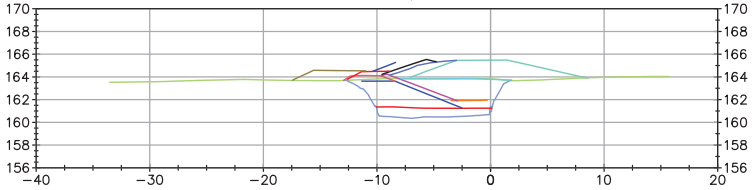
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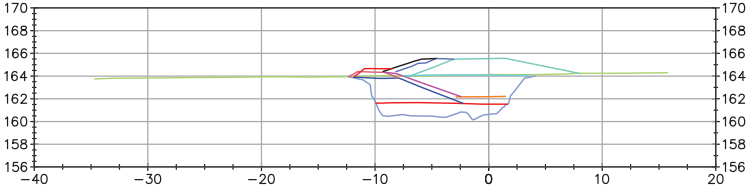
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0+330.00



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AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE 2021–04–04
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–04–19

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A (FF) over liner slope) - PHOTOGRAPHS



Photograph 1: Approved Zone 2A (FF) over LLDPE liner slope, Sta. 0+200, view looking E.

Date: 2021-04-17
Photo By: SS



Photograph 2: Placement of Zone 2A (FF) over LLDPE liner slope, Sta. 0+160, view looking W.

Date: 2021-04-17
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 19, 2021

DOCUMENT #: 20210419 - DS - 04 **TIME:** 18:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 4 (esker)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+198 to 0+316	**Station:**	—
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

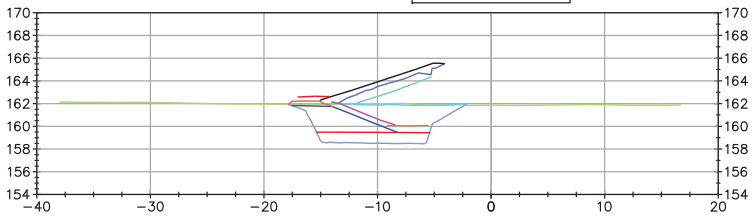
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
	Material appears well graded and free of contaminants.				
	Material compacted with a roller compactor. Nucleodensimeter results not reliable due to frozen material. Material visually assessed to be compact.				
	Foundation scraped of snow + aggregate prior to placement.				

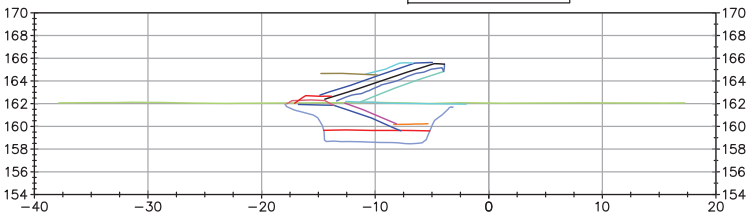
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		20-04-21
QC REPRESENTATIVE	Ryan Okkema		April 19/21
QA REPRESENTATIVE	Shai Spilberg		April 19, 2021
OWNER'S REPRESENTATIVE	Stephane Gignac		April 19, 2021

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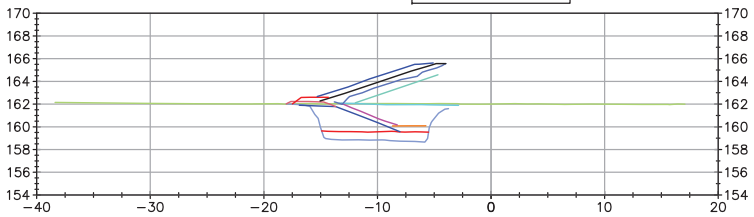
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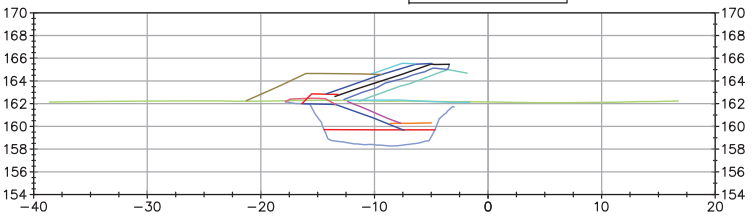
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0+190.00



0+210.00



- ORIGINAL GROUND
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AGNICO EAGLE

HAMELARPENTAGE

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DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
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No. PROJET / PROJECT NO.	6127		
DATE	2021–04–19		

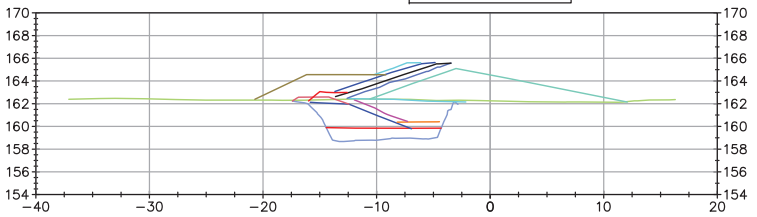
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

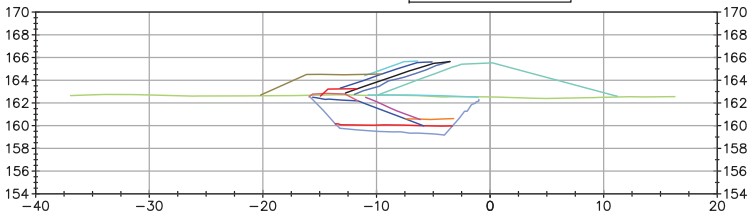
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

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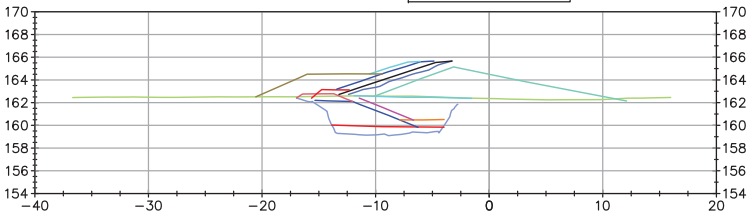
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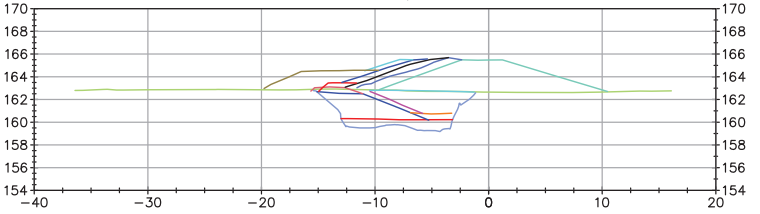
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DATE	2021–04–19	

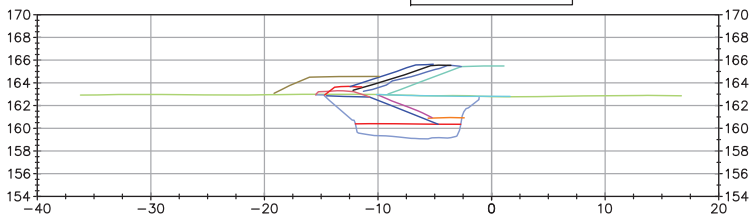
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

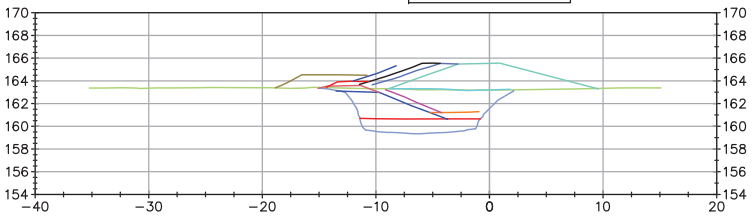
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No. DESSIN / DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13

FORMAT ANSI B–11x17

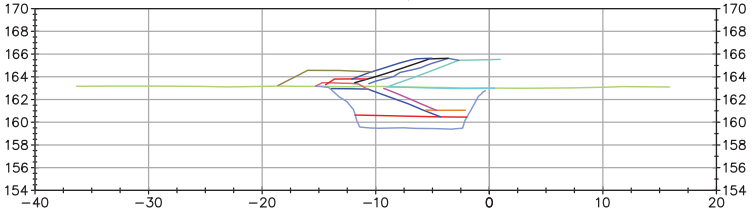
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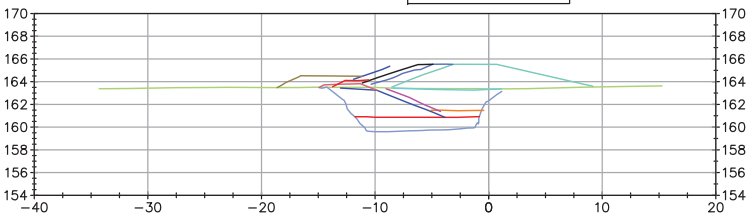
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0+270.00



0+290.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–03–22	

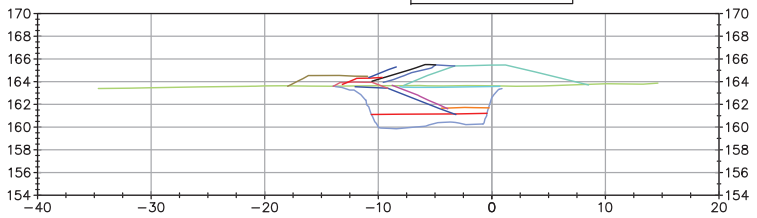
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+260 @ 0+290

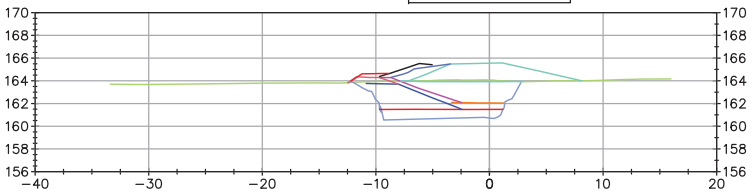
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No. DESSIN/ DRAWING NO. 6127–IVR–As Built		REVISION	FEUILLE/SHT 6 / 13

FORMAT ANSI B–11x17

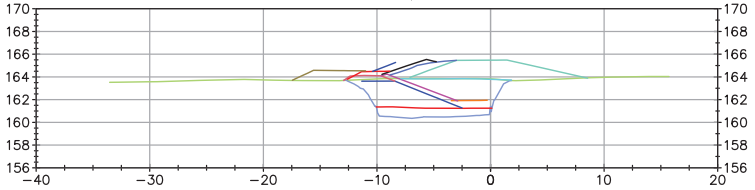
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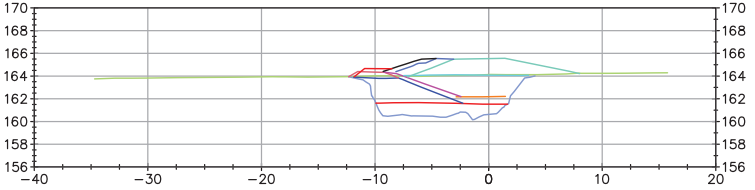
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE 2021–04–04
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–04–19

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 4 (Esker)) - PHOTOGRAPHS



Photograph 1: Approved Zone 4 (Esker), Sta. 0+316, view looking W.

Date: 2021-04-19
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 19, 2021

DOCUMENT #: 20210419-DS-05 **TIME:** 18:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 3(CF) on upstream liner slope
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+198 to 0+257	**Station:**	—
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

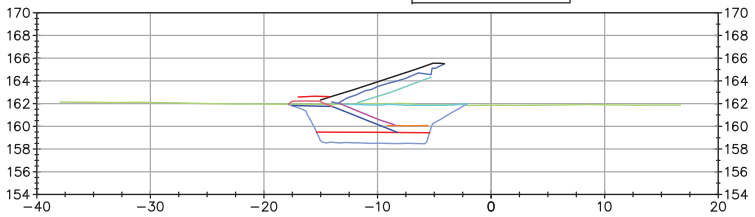
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
	Material placed + ~~broadcast~~ compacted				
	with excavator bucket.				
	No contaminants observed. Material				
	appears well graded.				
	Adequate thickness attained				

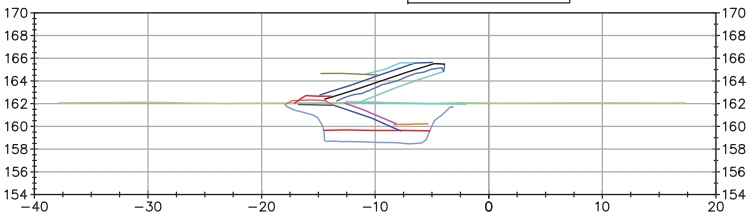
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		20-04-21
QC REPRESENTATIVE	Ryan Okkema		April 19/21
QA REPRESENTATIVE	Shai Spilberg		April 19, 2021
OWNER'S REPRESENTATIVE	Stephan Gibbs		Apr. 19, 2021

FORMAT ANSI B–11x17

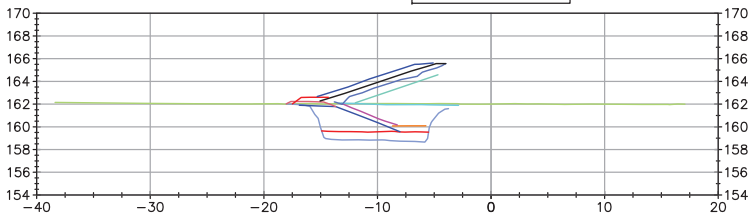
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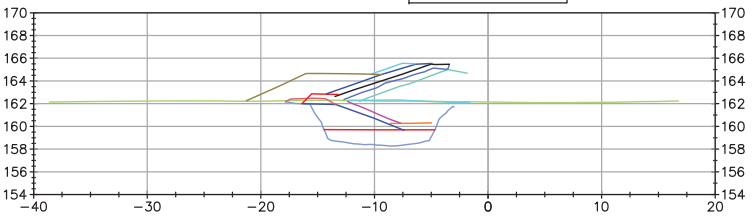
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0+190.00



0+210.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–19		

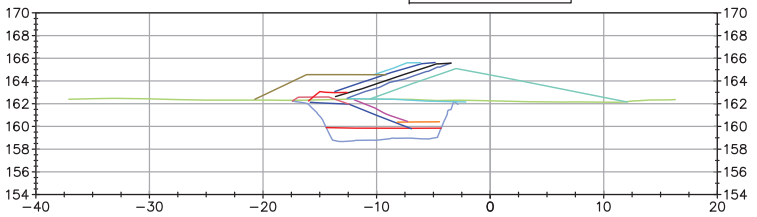
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

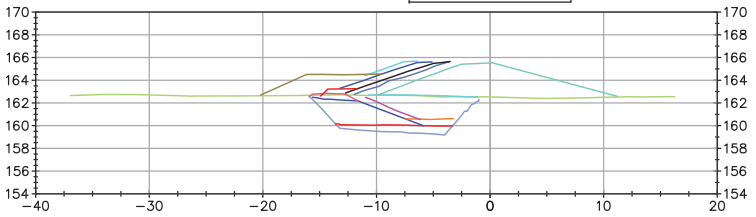
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

FORMAT ANSI B–11x17

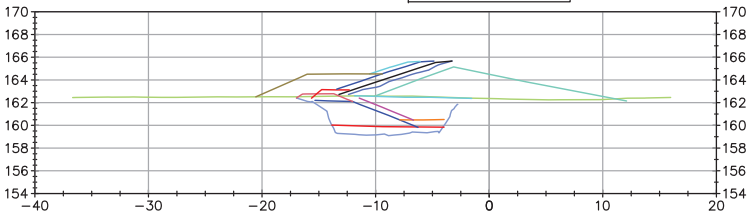
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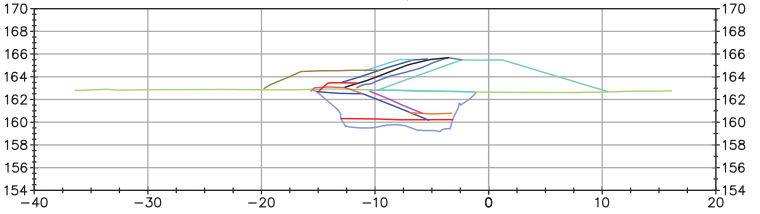
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0+230.00



0+250.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–04–19	

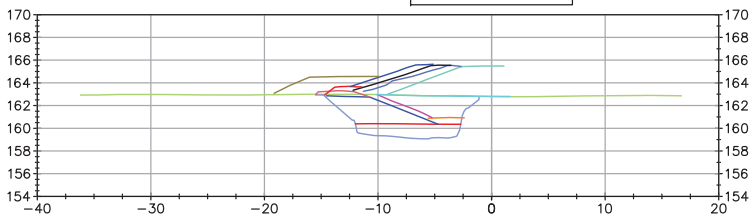
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

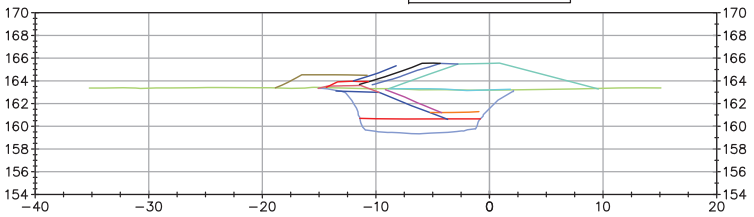
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No. DESSIN / DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 5 / 13

FORMAT ANSI B–11x17

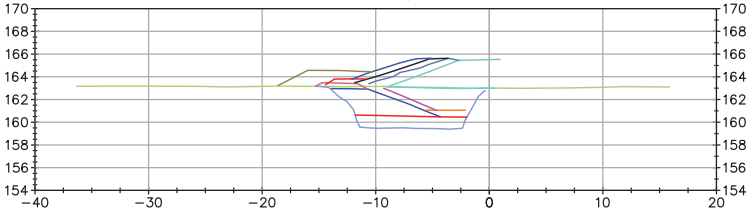
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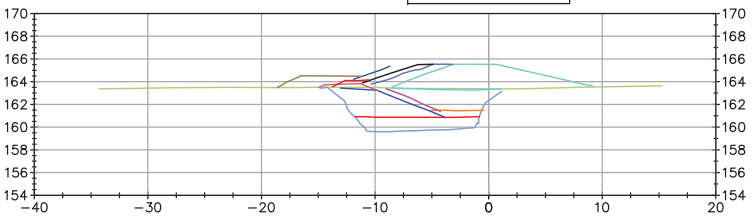
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0+270.00



0+290.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
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- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–03–22	

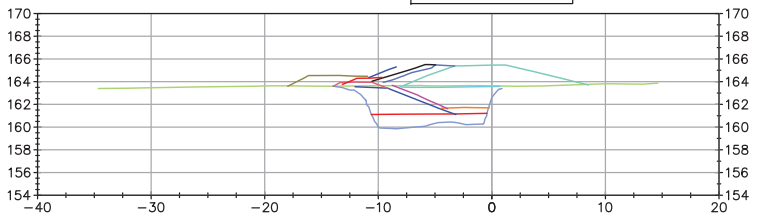
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+260 @ 0+290

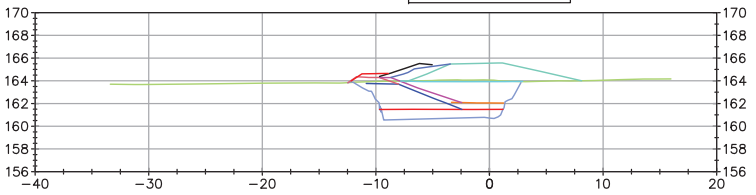
ÉCHELLE/ SCALE NA	FICHIER / FILE .DWG		
No. DESSIN/ DRAWING NO. 6127–IVR–As Built		REVISION	FEUILLE/SHT 6 / 13

FORMAT ANSI B–11x17

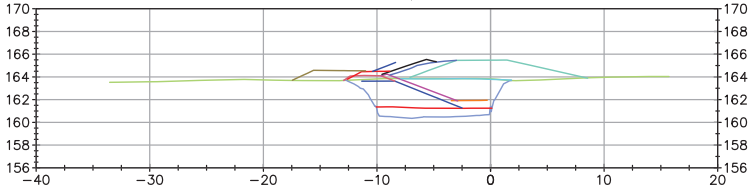
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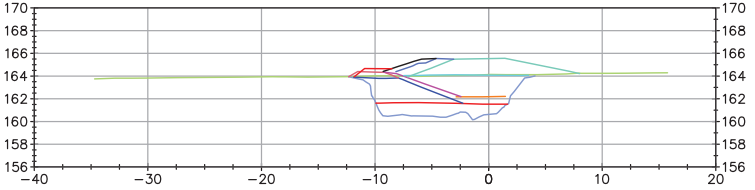
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE 2021–04–04
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–04–19

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 3 (CF) on upstream liner slope) - PHOTOGRAPHS



Photograph 1: Approved Zone 3 (CF) on upstream liner slope, Sta. 0+250, view looking W.

Date: 2021-04-19
Photo By: SS

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873 **DATE:** April, 20, 2021

DOCUMENT #: 20210420-DS-01 **TIME:** 17:10

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) under liner
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	0+190-0+080	**Station:**	—
Inclination:		**Details:**	
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

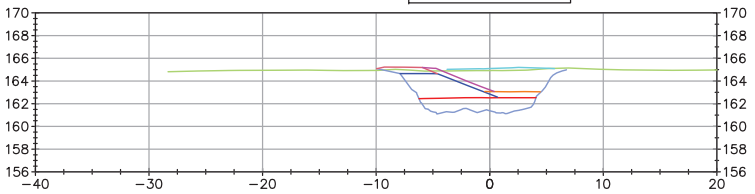
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
2.0	Snow removed over previously placed	✓		✓	
	Zone 2B (FFAD) in advance of FFAB				
	over liner placement				
	QA present for approval between				
	sta. 0+100 to 0+080.				

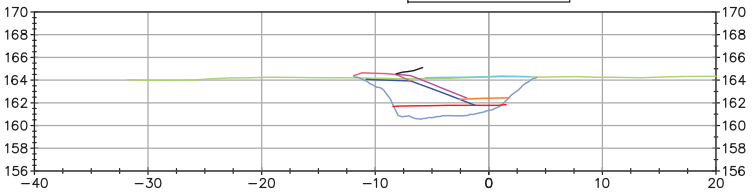
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Alexandre Blanchet	Alex Blanchet	April 21/21
QC REPRESENTATIVE	Ryan Ackerman	Ryan Ackerman	April 21/21
QA REPRESENTATIVE	Brandon Gray	BGray	April 20 2021
OWNER'S REPRESENTATIVE	Stephane Sirois	SS	April 21, 2021

FORMAT ANSI B–11x17

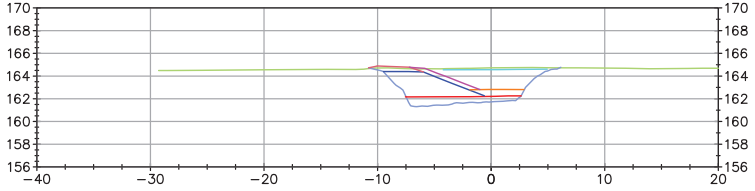
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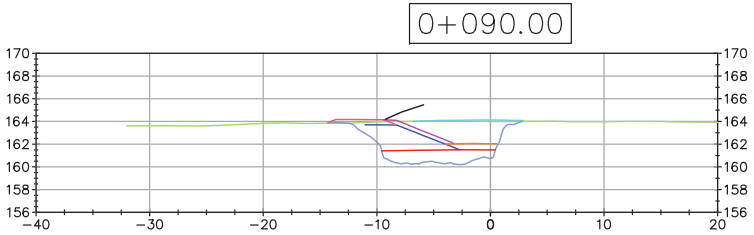
0+080.00



0+070.00



0+090.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–04–21		

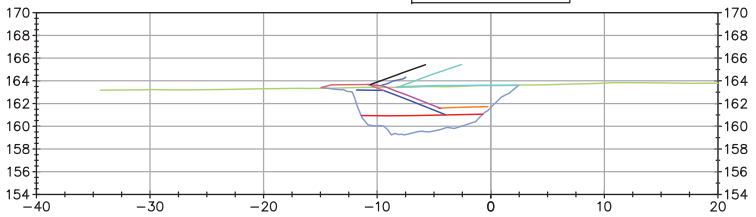
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

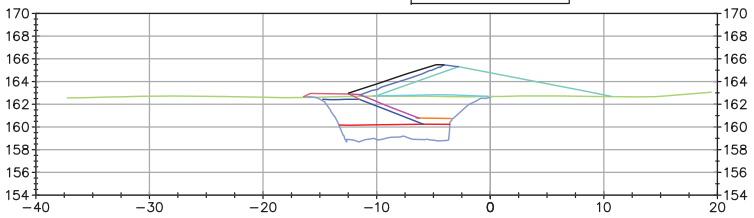
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 1 / 13

FORMAT ANSI B–11x17

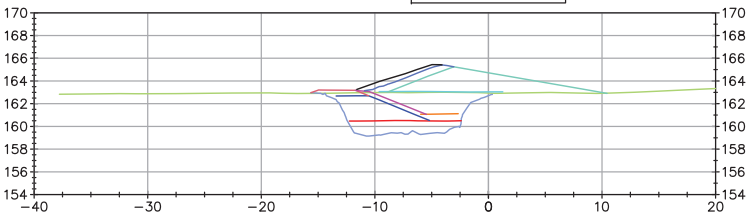
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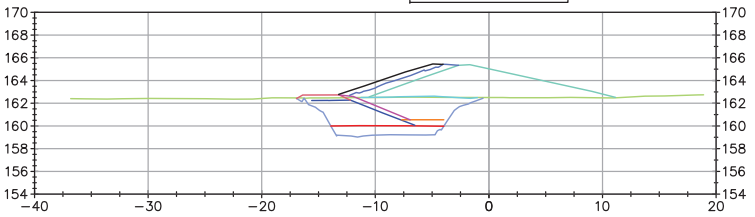
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0+110.00



0+130.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–04–21	

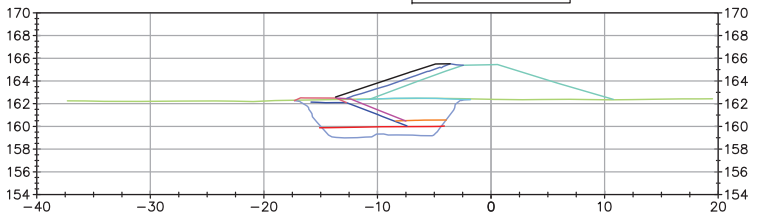
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

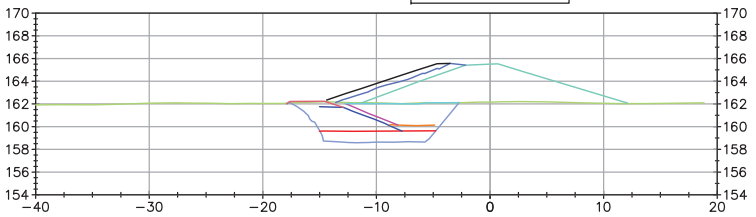
ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 2 / 13

FORMAT ANSI B–11x17

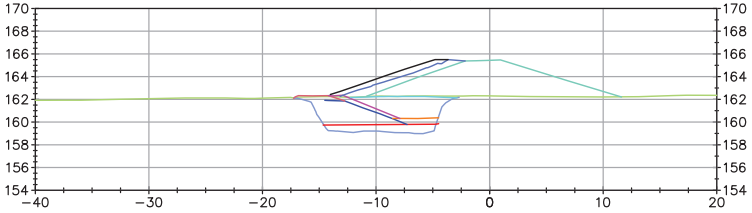
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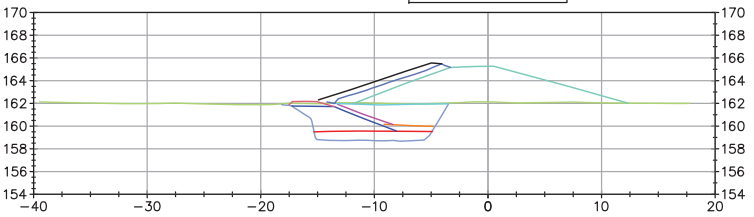
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0+150.00



0+170.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–04–21	

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2B (FFAB) under liner) - PHOTOGRAPHS



Photograph 1: Approved section of Zone 2B under liner for placement of Zone 2B over liner at approx. Sta. 0+100, view looking E.

Date: 2021-04-20
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 23, 2021

DOCUMENT #: 2021 0423 - DS - 01 **TIME:** 12:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A (Spillway)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+ to 0+	**Station:**	✓
Inclination:	✓	**Details:**	✓
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

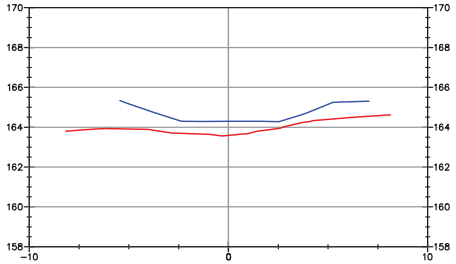
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N

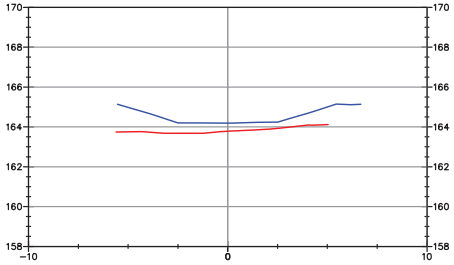
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Alexandre Blanchet		April 23 2021
QC REPRESENTATIVE	Ryan Ollema		April 24/21
QA REPRESENTATIVE	Brandon Gray		April 23, 2021
OWNER'S REPRESENTATIVE	Stephane Giard		April 24, 2021

FINE FILTER
COARSE FILTER
EXCAVATION

0+030.00



0+040.00



AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021-04-29
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			2021-04-29
No. PROJET PROJECT NO.	6127		
DATE	2021-04-29		

TITRE / TITLE

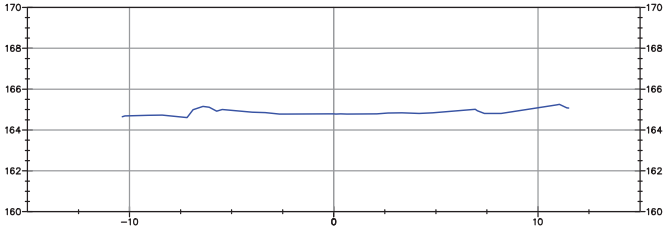
AGNICO EAGLE DIVISION AMARUQ
IVR DIKE SPILLWAY

AS BUILD DRAWING FOR APPROVAL
IVR DIKE SPILLWAY

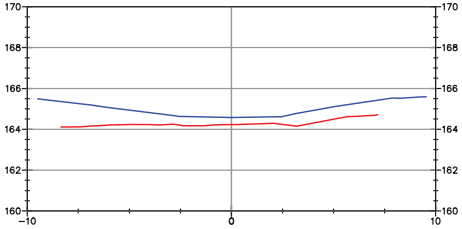
ÉCHELLE/ SCALE	NA	FICHIER FILE	6125-IVR-AB-SPILLWAY
No. DESSIN/ DRAWING NO.		REVISION	FEUILLE/SHT 3 / 3

FINE FILTER
COARSE FILTER
EXCAVATION

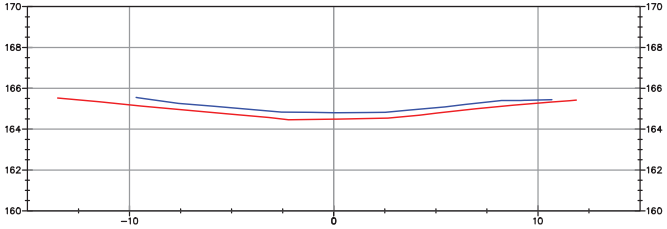
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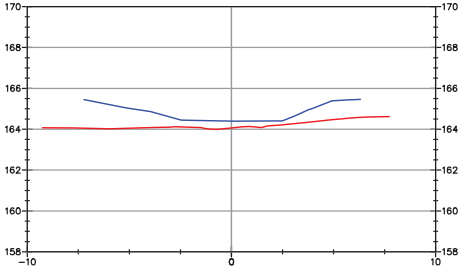
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0+000.00



0+020.00



AGNICO EAGLE

HA GROUPE LARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–29
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			2021–04–29
No. PROJET PROJECT NO.	6127		
DATE	2021–04–29		

TITRE / TITLE

AGNICO EAGLE DIVISION AMARUQ
IVR DIKE SPILLWAY

AS BUILD DRAWING FOR APPROVAL
IVR DIKE SPILLWAY

ÉCHELLE/ SCALE	NA	FICHIER FILE	6125–IVR–AB–SPILLWAY
No. DESSIN/ DRAWING NO.		REVISION	FEUILLE/SHT 2 / 3

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A: Spillway) - PHOTOGRAPHS



Photograph 1: Approved placement of Zone 2A in spillway channel at approx. Sta. 0+030, view looking N.

Date: 2021-04-23
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 24, 2021

DOCUMENT #: 20210424-DS-01 **TIME:** 09:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A (spillway)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 01015 to 0-010	**Station:**	—
Inclination:		**Details:**	—
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction (Bucket)	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

DETAILS

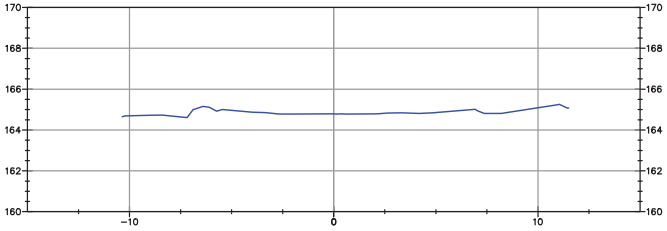
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N

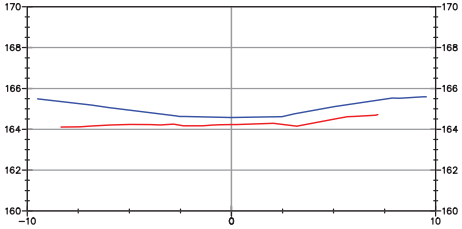
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laroche		25-04-2021
QC REPRESENTATIVE	Ryan Ollema		April 24/21
QA REPRESENTATIVE	Brandon Gray		April 24, 2021
OWNER'S REPRESENTATIVE	LAVRIER COLLEGE		24/04/2021

FINE FILTER
COARSE FILTER
EXCAVATION

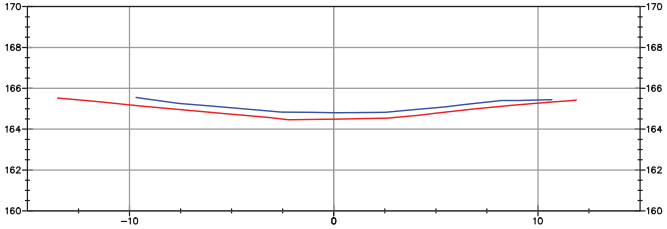
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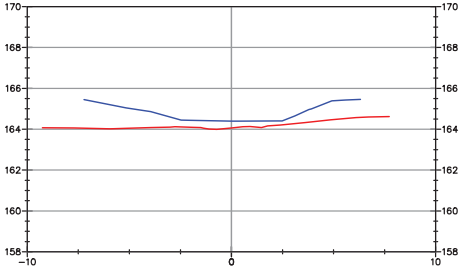
0+010.00



0+000.00



0+020.00



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–29
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			2021–04–29
No. PROJET PROJECT NO.	6127		
DATE	2021–04–29		

TITRE / TITLE

AGNICO EAGLE DIVISION AMARUQ
IVR DIKE SPILLWAY

AS BUILD DRAWING FOR APPROVAL
IVR DIKE SPILLWAY

ÉCHELLE/ SCALE	NA	FICHIER FILE	6125–IVR–AB–SPILLWAY
No. DESSIN/ DRAWING NO.		REVISION	FEUILLE/SHT 2 / 3

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/3: Spillway) - PHOTOGRAPHS



Photograph 1: Approved placement of Zone 2A through spillway at approx. Sta. 0+015, view looking N.

Date: 2021-04-24
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (Spillway) - PHOTOGRAPHS



Photograph 2: Approved portion of spillway at approx. Sta. 0-010, view looking SW.

Date: 2021-04-24
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 24, 2021

DOCUMENT #: 20210424-DS-03 **TIME:** 1600

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2B (FFAB) & Zone 2A (FF) over liner
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+385 → 0+523	**Station:**	–
Inclination:	–	**Details:**	–
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

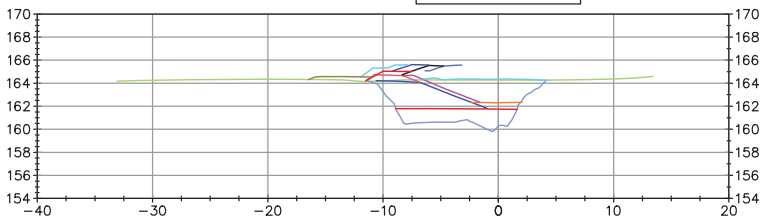
(Add additional items if needed)

	VERIFICATIONS DONE BY:				
	QA		QC		N/A
	Y	N	Y	N	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		✓
3. Cleaning of cut-off trench					
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction (Bucket)	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

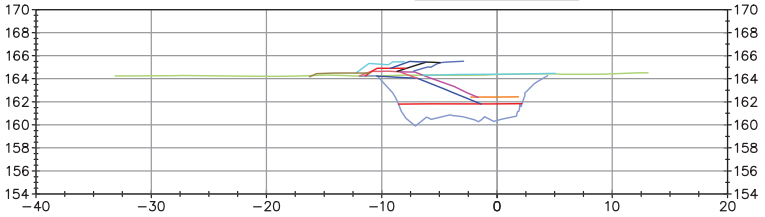
DETAILS (Refer to list above for item #)		APPROVED BY: QA Y	QA N	QC Y	QC N
ITEM					
8.0	AEM to provide Survey For approval.				
	Snow to be removed along Zone				
	2A/2B in advance of zone 3				
	placement.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laroche		25-04-2021
QC REPRESENTATIVE	Ryan Dillema		April 24/21
QA REPRESENTATIVE	Brandon Gray		April 27, 2021
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		24/04/2021

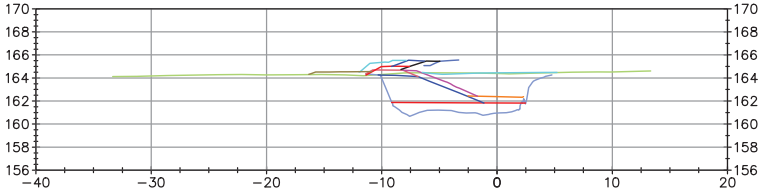
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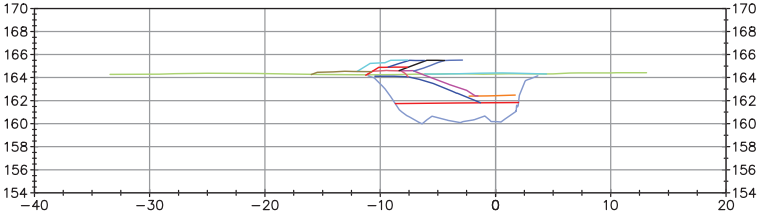
0+400.00



0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HATCH LTÉE/LARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

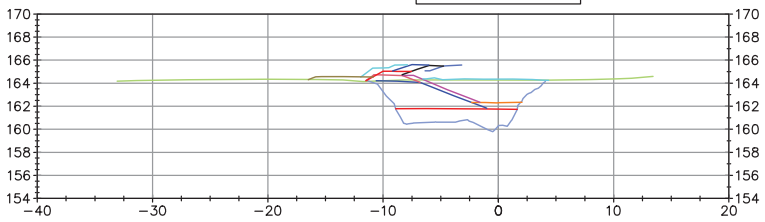
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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–29		

TITRE / TITLE

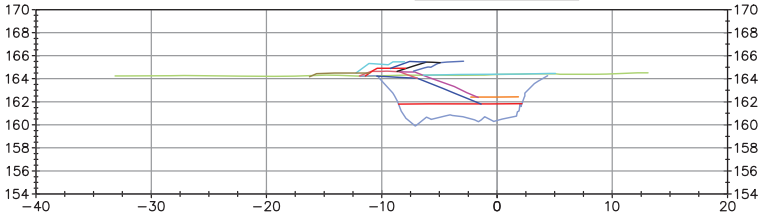
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

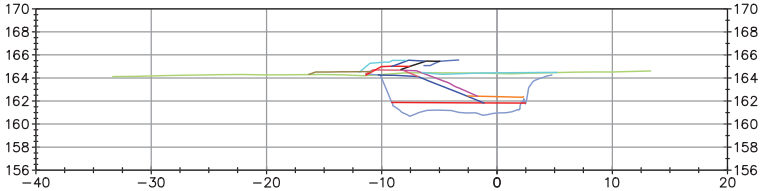
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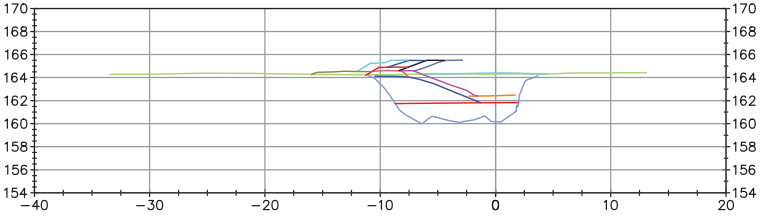
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0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

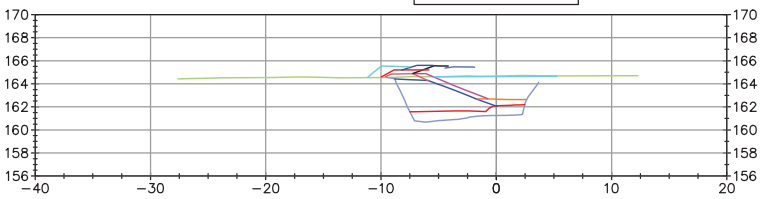
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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–29		

TITRE / TITLE

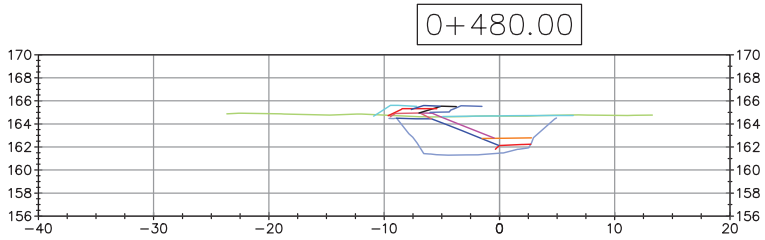
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

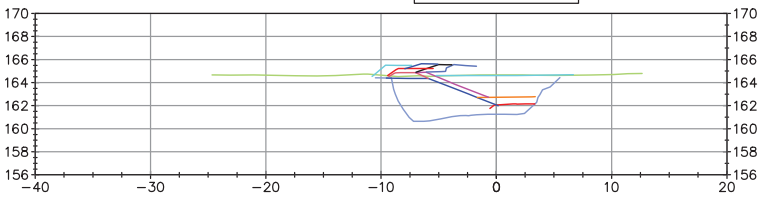
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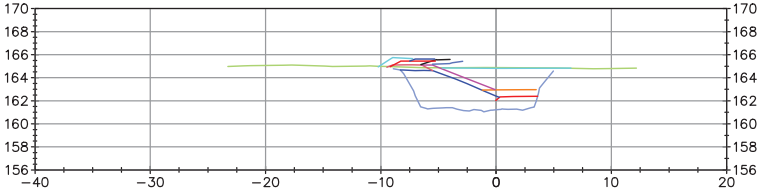
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0+470.00



0+490.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
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- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

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TITRE / TITLE	# DWG

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REV	DESCRIPTION	DATE	PAR BY

REVISIONS

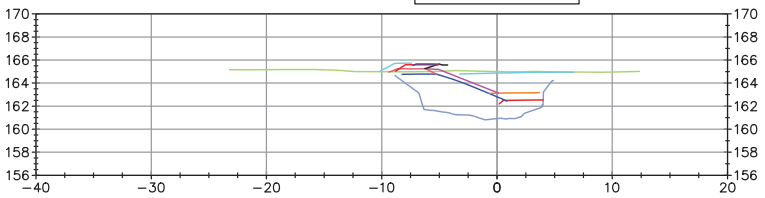
DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–03–29		

TITRE / TITLE

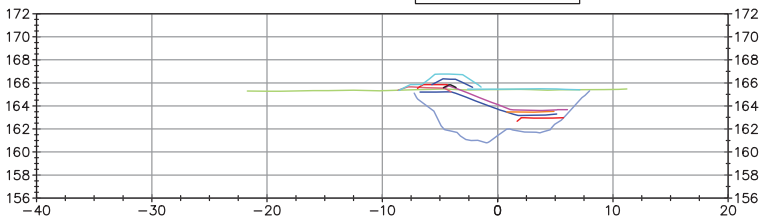
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+460 @ 0+490

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 11 / 13

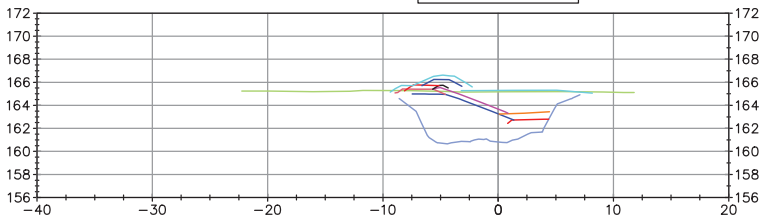
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0+520.00



0+510.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

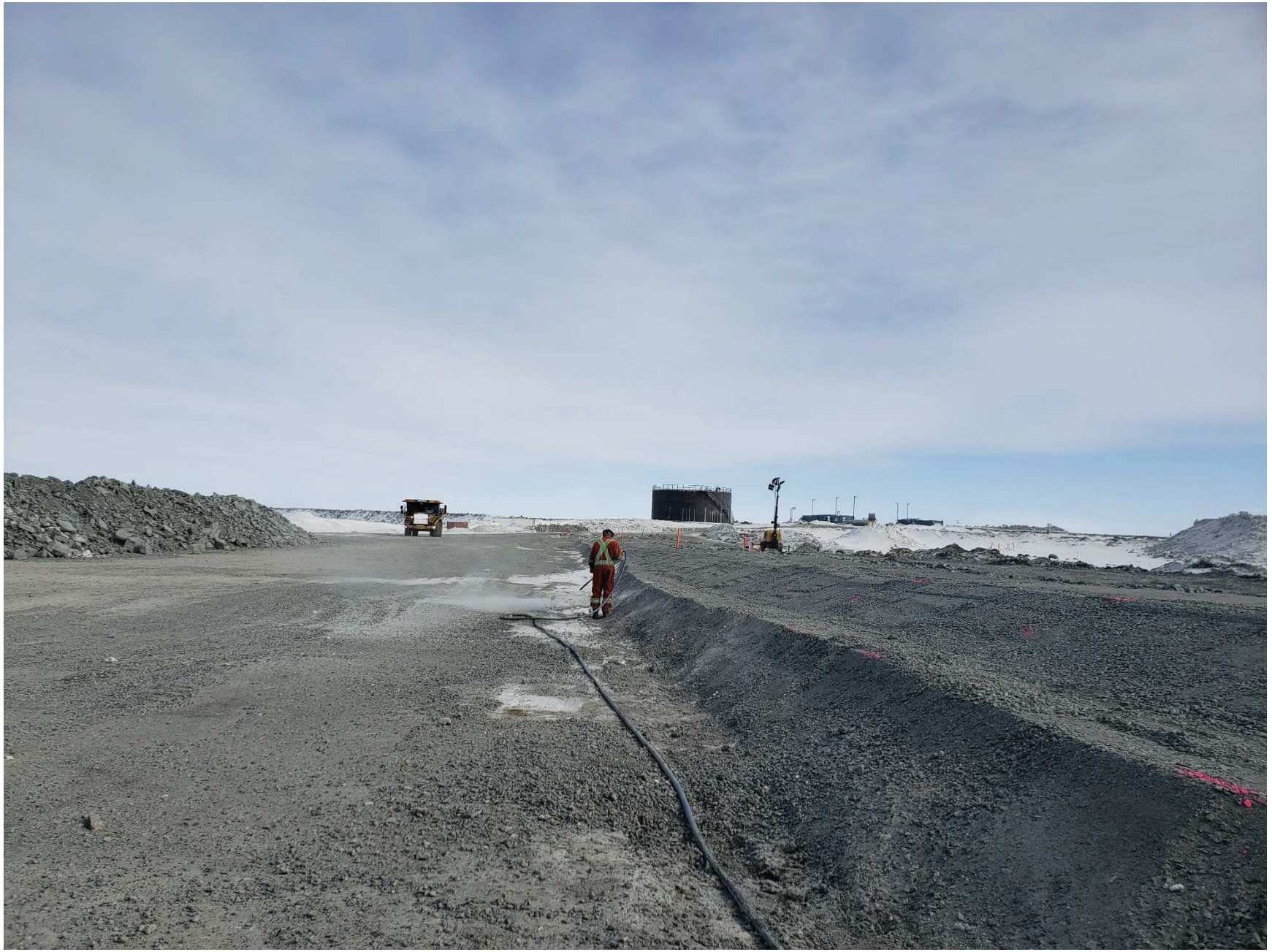
DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–03–29		

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+500 @ 0+530

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 12 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B) - PHOTOGRAPHS



Photograph 1: Approved placement of Zone 2A/2B at approx. Sta. 0+400, view looking E.

Date: 2021-04-24
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A/2B) - PHOTOGRAPHS



Photograph 2: Approved placement of Zone 2A/2B at approx. Sta. 0+460, view looking E.

Date: 2021-04-24
Photo By: BG

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Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April. 25, 2021

DOCUMENT #: 2021 0425 · DS · 02 **TIME:** _____

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 4 (esker)
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 01080 → 01~~4~~4/4	**Station:**	–
Inclination:		**Details:**	–
ELEVATION:	☐ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓		✓		
5. Placement (lift thickness, segregation, etc.)	✓		✓		
6. Compaction	✓		✓		
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

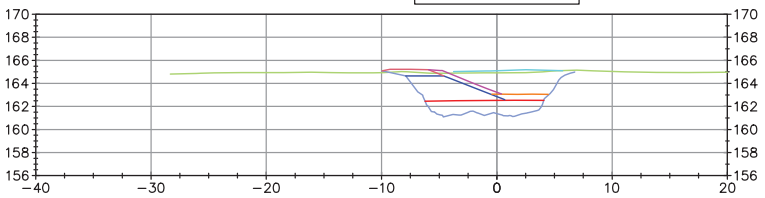
DETAILS

(Refer to list above for item #)

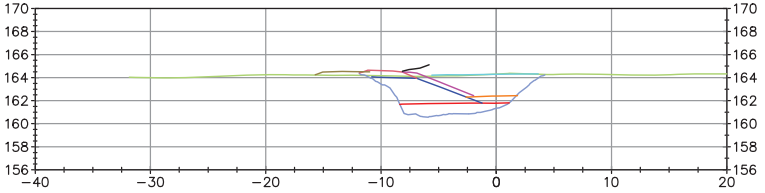
ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
1.0	Grade verified by AEM survey. AEM to provide As-Built data for approval Form.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laracke		25-04-2021
QC REPRESENTATIVE	Ryan Oklenna		April 25/21
QA REPRESENTATIVE	Brandon Gray		April. 25. 2021
OWNER'S REPRESENTATIVE	Stephane Caron		April 25 2021

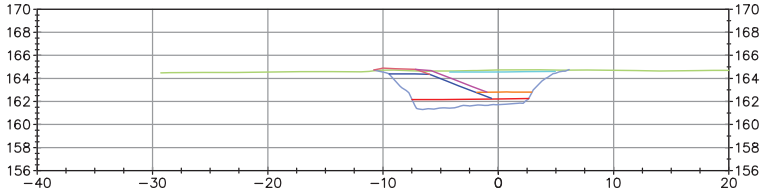
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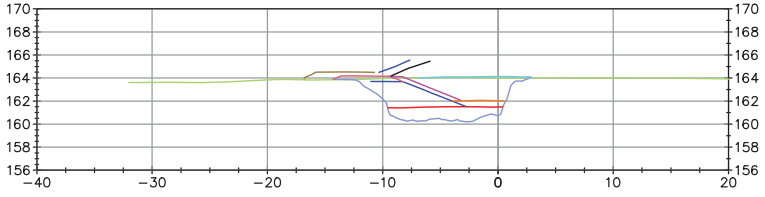
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0+070.00



0+090.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA GROUPE LARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021-04-03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021-04-27		

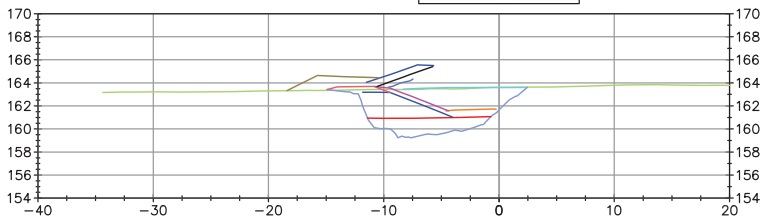
TITRE / TITLE

AGNICO-EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+060 @ 0+090

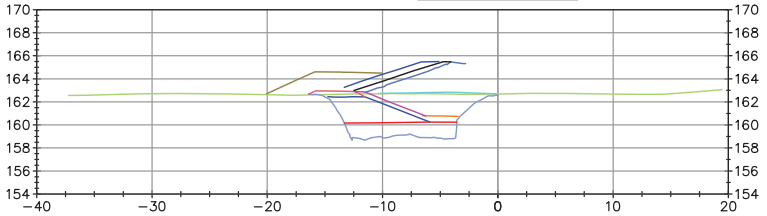
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127-IVR-As Built		1 / 13

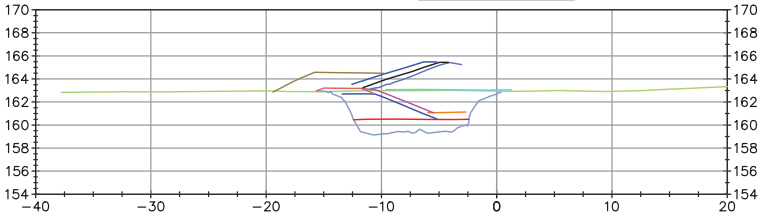
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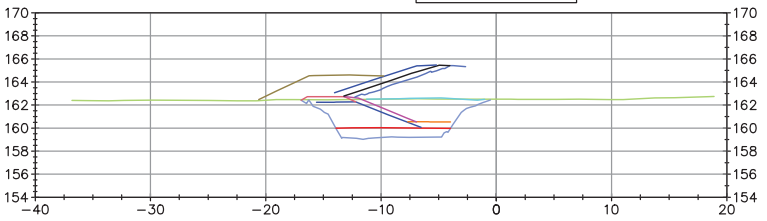
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0+130.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA GROUPE ARPENTAGE

L'INFORMATION CI-CONTENUE EST LA PROPRIÉTÉ DE AGNICO EAGLE LTÉE ET DOIT ÊTRE RETOURNÉE SUR DEMANDE, SANS AUTORISATION ÉCRITE PRÉALABLE, TOUTE TRANSMISSION DE COPIE(S) À AUTRUI ET TOUTE UTILISATION AUTRE QUE CELLE POUR LAQUELLE L'INFORMATION EST PRÊTE SONT INTERDITES.
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TITRE / TITLE	# DWG

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REV	DESCRIPTION	DATE	PAR BY

REVISIONS

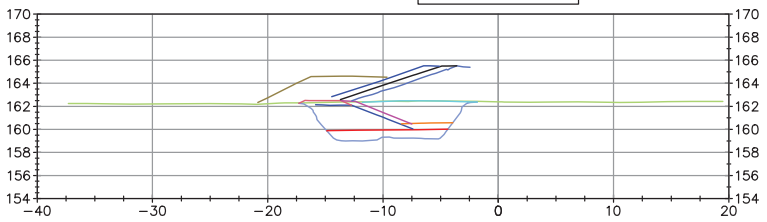
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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

TITRE / TITLE

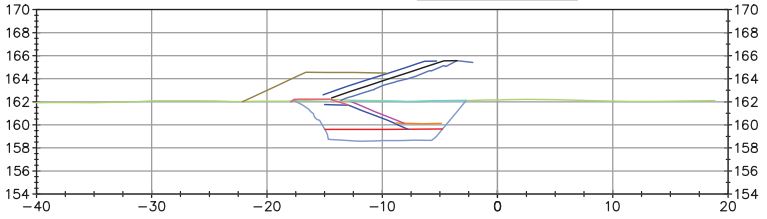
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+100 @ 0+130

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 2 / 13

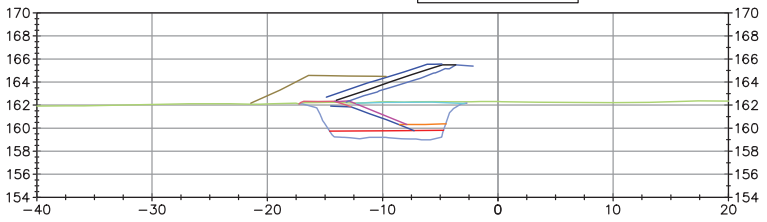
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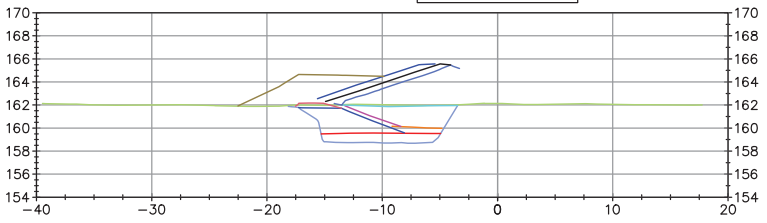
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- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA HARDELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

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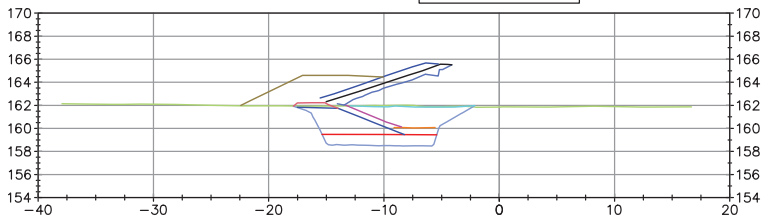
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VÉRIFIÉ PAR / CHECKED BY			
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No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

TITRE / TITLE

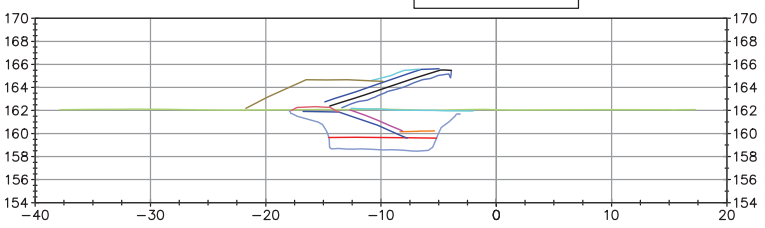
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

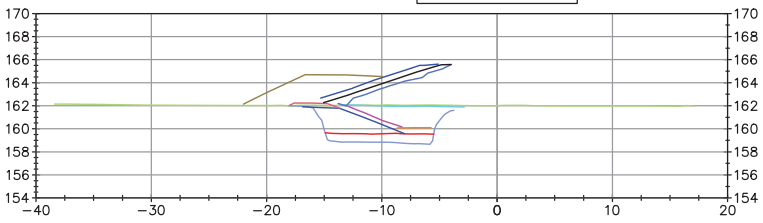
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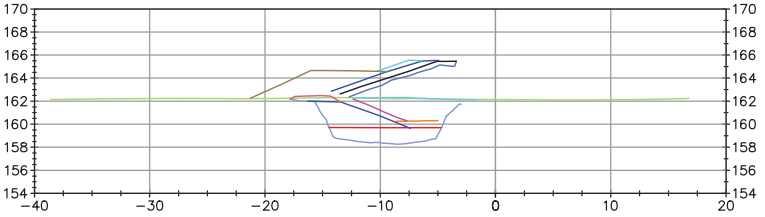
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0+190.00



0+210.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HATCH LARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

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DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–19		

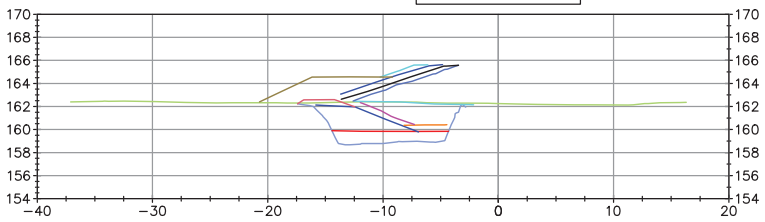
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

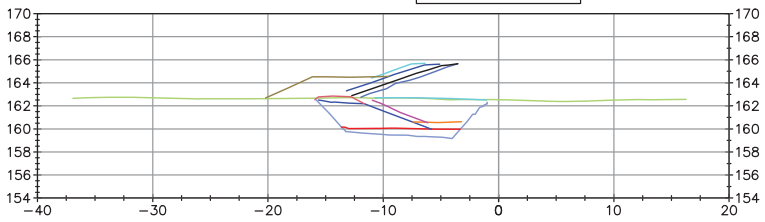
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 4 / 13

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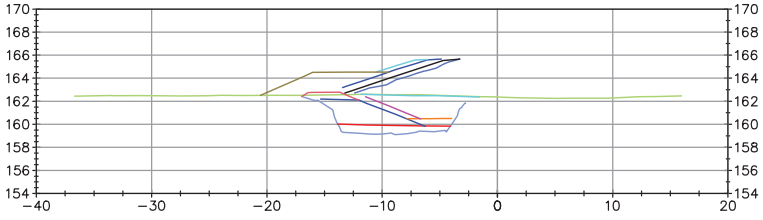
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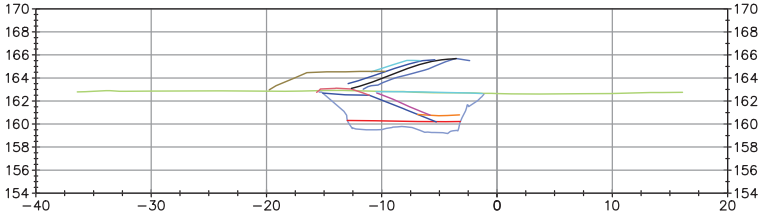
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0+250.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
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- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA GROUPE LARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

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DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

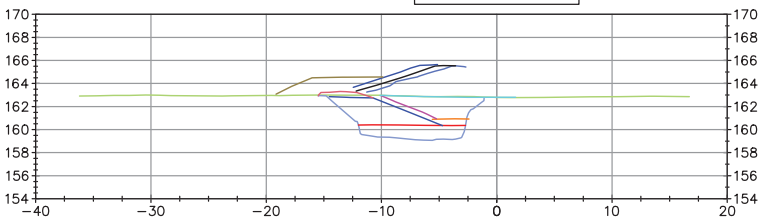
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+220 @ 0+250

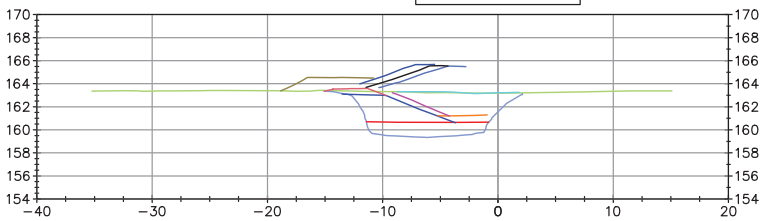
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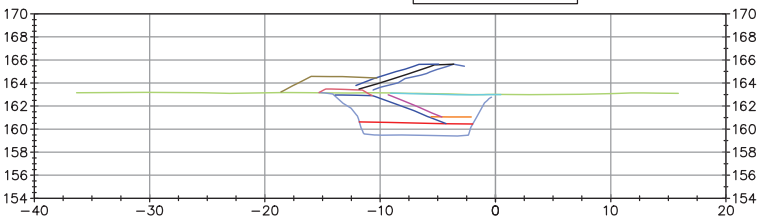
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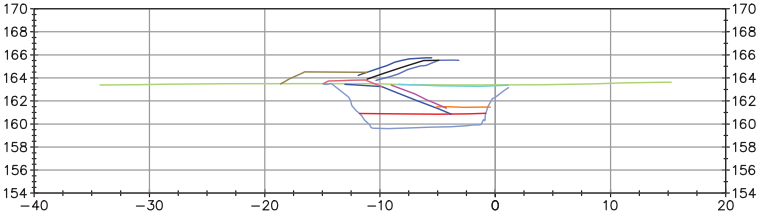
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- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
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- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
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- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HATCH/ARPENTAGE

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TITRE / TITLE	# DWG

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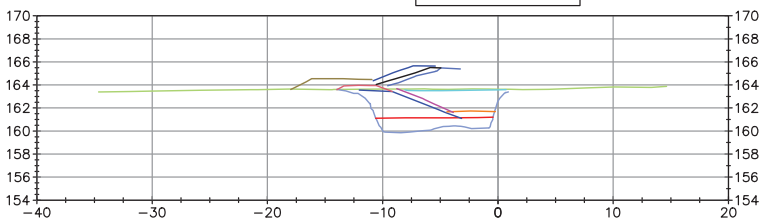
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No. PROJET / PROJECT NO.	6127		
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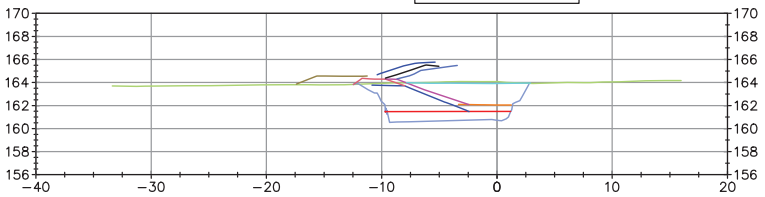
AGNICO-EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
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ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
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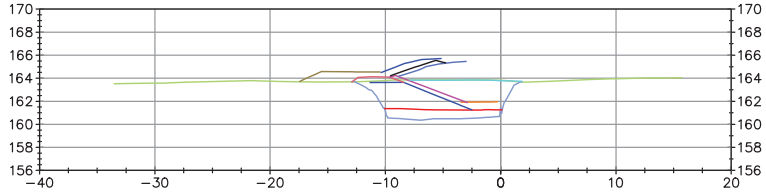
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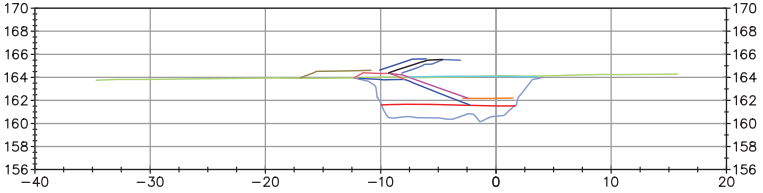
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- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
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- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA GROUPE ARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

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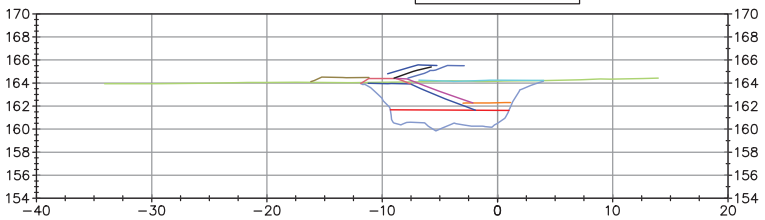
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VÉRIFIÉ PAR / CHECKED BY			
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TITRE / TITLE

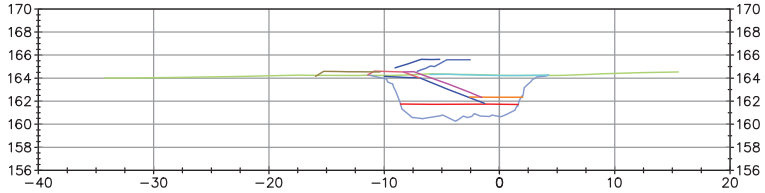
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	
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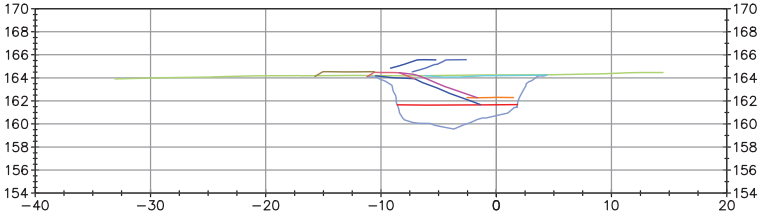
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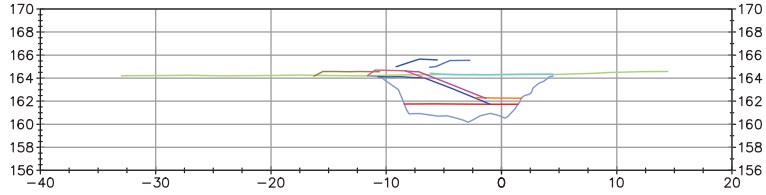
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- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
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- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA/SIELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

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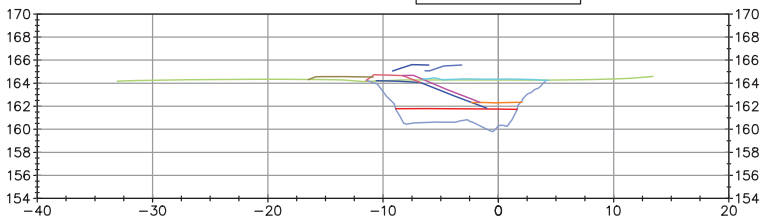
DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–04
VÉRIFIÉ PAR / CHECKED BY			
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No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

TITRE / TITLE

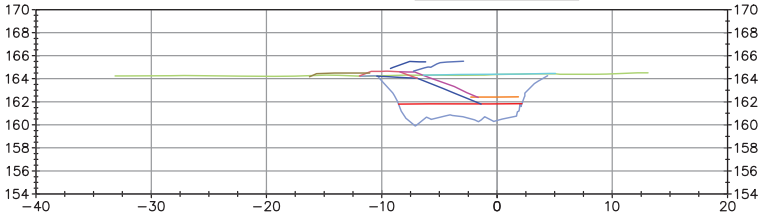
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+340 @ 0+370

ÉCHELLE/ SCALE	NA	FICHIER / FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

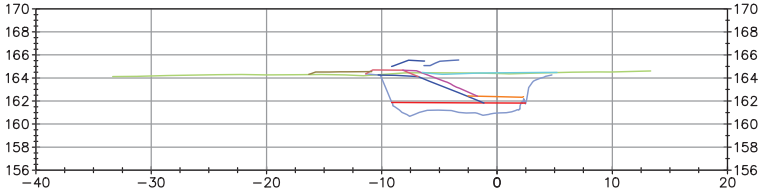
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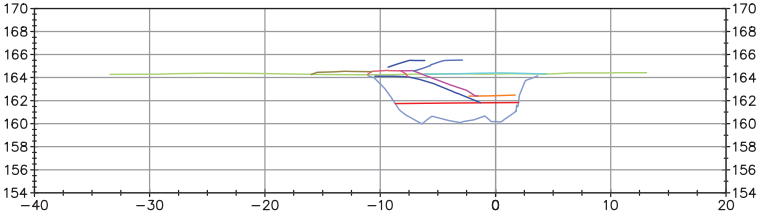
0+400.00



0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HATCH ARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 4: Upstream of Liner) - PHOTOGRAPHS



Photograph 1: Zone 4 Esker placed to design lines at approx. Sta. 0+290, view looking E.

Date: 2021-04-25
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 4: Upstream of Liner) - PHOTOGRAPHS



Photograph 2: Approved placement of Zone 4 (esker) at approx. Sta.0+180, view looking NW.

Date: 2021-04-25
Photo By: BG

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210429-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: April 29, 2021

TIME: 16:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 2A (FF) & 3(CF) over LLDPE
- ☐ Other: _____

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+085 → 0+100 Sta. 0+400 → 0+523	**Station:**	—
Inclination:		**Details:**	—
ELEVATION:	☑ varies _____ m		

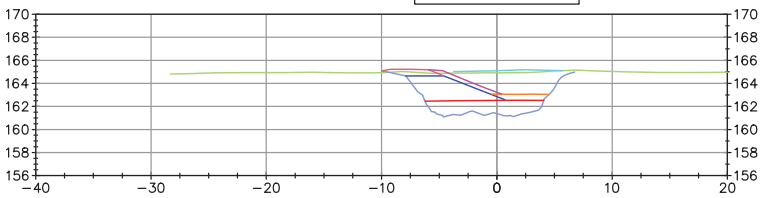
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water	✓				
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓				
5. Placement (lift thickness, segregation, etc.)	✓				
6. Compaction (bucket)	✓				✓
7. Foundation on bedrock – cleaning and mapping	✓				
8. As built survey completed					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

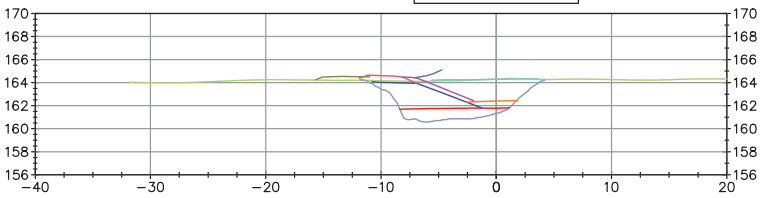
DETAILS (Refer to list above for item #)		APPROVED BY:			
		QA		QC	
ITEM		Y	N	Y	N
	Zone 2A & 3 placed over installed LLDPE approved For placement of zone 1 (rockfill) thermal berm.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Alexandre Blanchet		April 30, 2021
QC REPRESENTATIVE	—	—	—
QA REPRESENTATIVE	Brandon Gray		April. 30, 2021
OWNER'S REPRESENTATIVE	Stephane Giguet		April 30, 2021

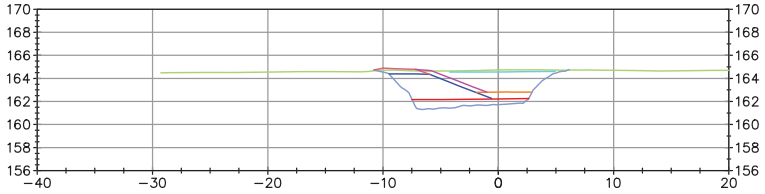
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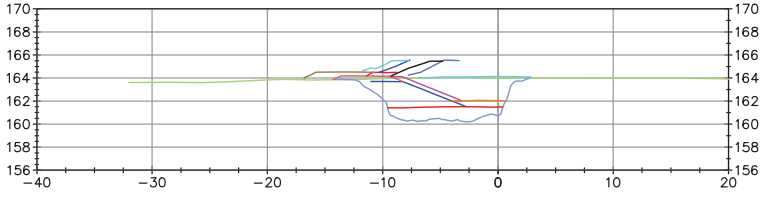
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0+070.00



0+090.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA GROUPE LARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021-04-03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021-04-27		

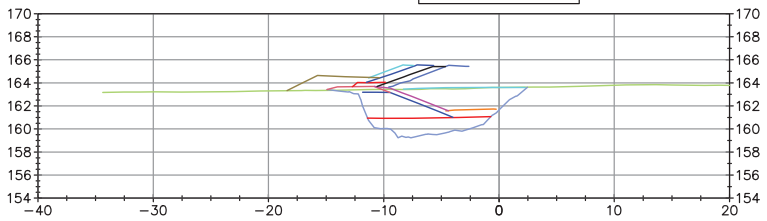
TITRE / TITLE

AGNICO-EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+060 @ 0+090

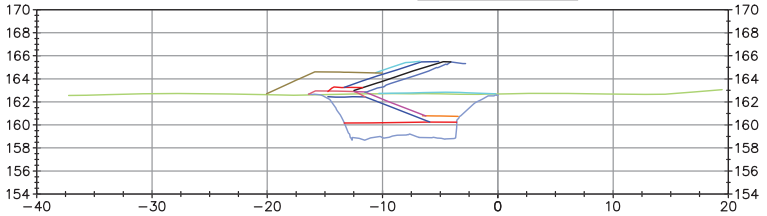
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127-IVR-As Built		1 / 13

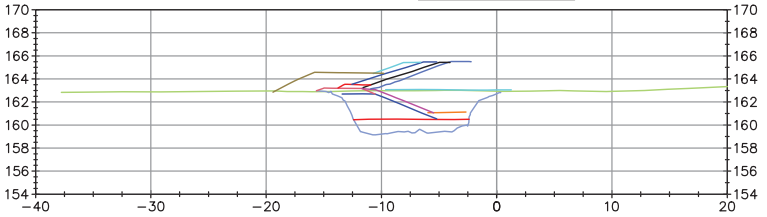
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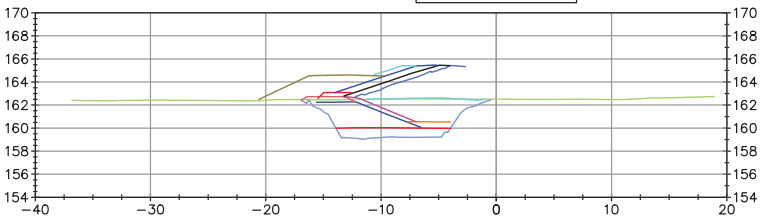
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0+110.00



0+130.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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- FF – UNDERLINER DOWNSTREAM
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- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HATCH ARPENTAGE

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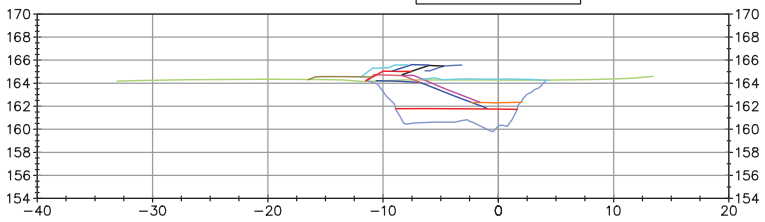
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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–27		

TITRE / TITLE

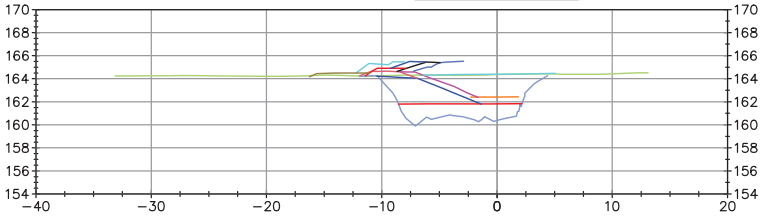
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+100 @ 0+130

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 2 / 13

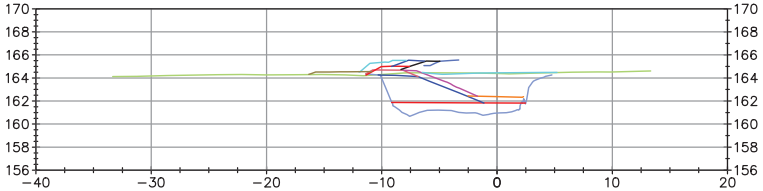
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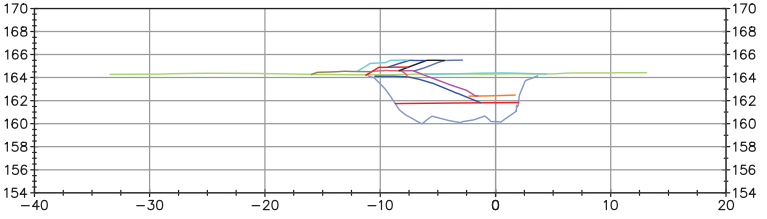
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0+390.00



0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

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VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–04–29		

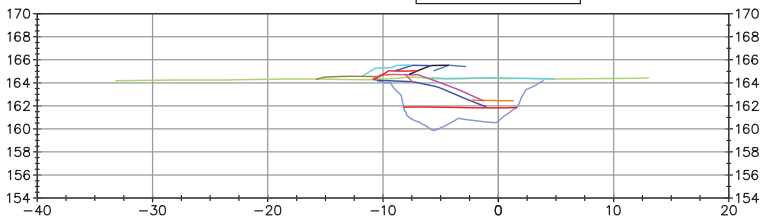
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+380 @ 0+410

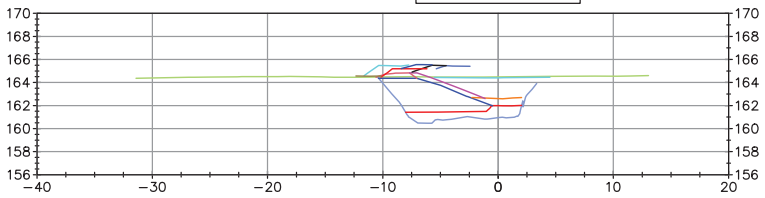
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

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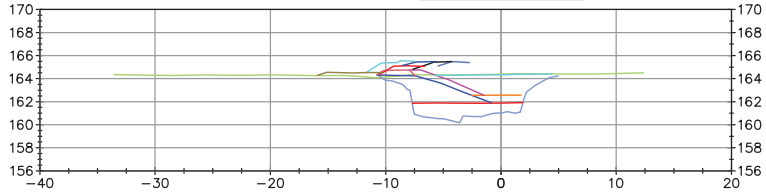
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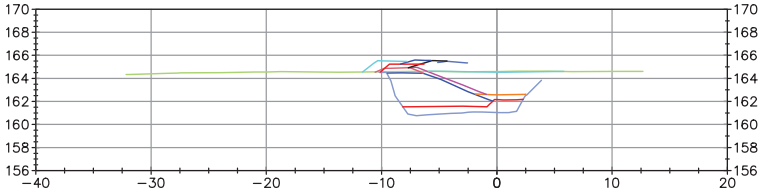
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- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
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AGNICO EAGLE

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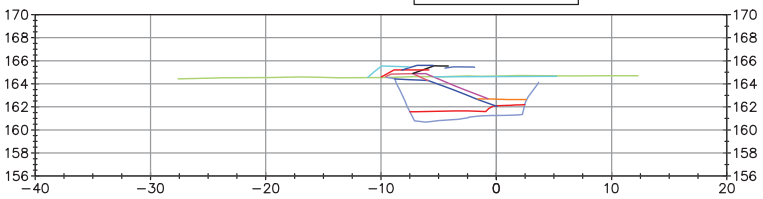
DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–03–29		

TITRE / TITLE

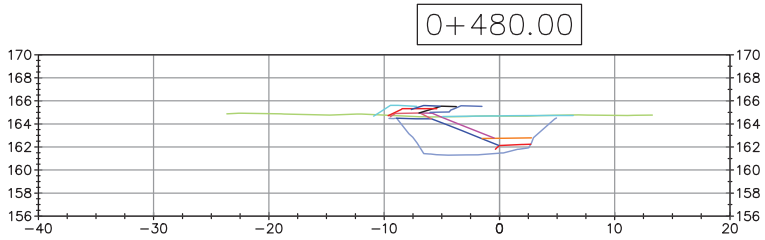
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+420 @ 0+450

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	
		FEUILLE/SHT	10 / 13

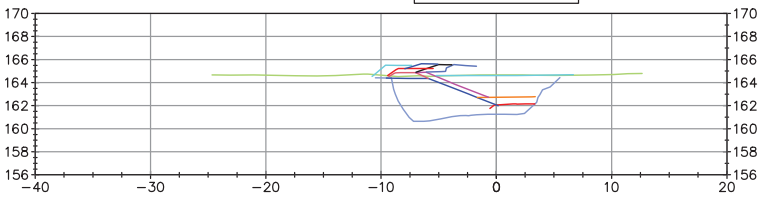
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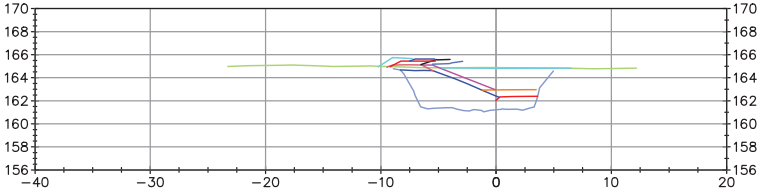
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0+490.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
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AGNICO EAGLE

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DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

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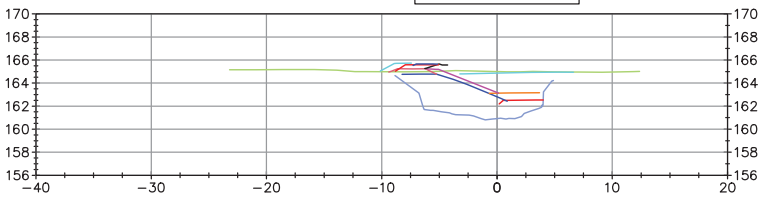
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TITRE / TITLE

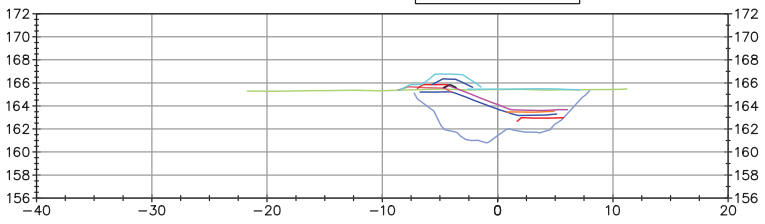
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+460 @ 0+490

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 11 / 13

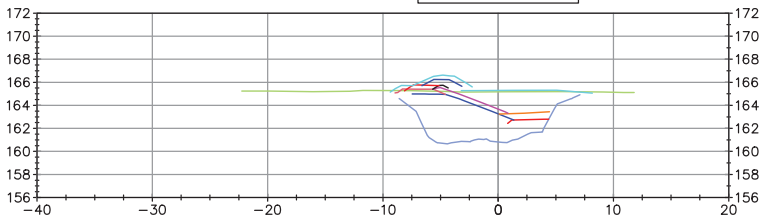
0+500.00



0+520.00



0+510.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER

AGNICO EAGLE

HA HALDIMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			
No. PROJET PROJECT NO.	6127		
DATE	2021–03–29		

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+500 @ 0+530

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 12 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A (FF) and Zone 3 (CF): Over Liner) - PHOTOGRAPHS



Photograph 1: Placement of Zone 3 (CF) over previously placed Zone 2A (FF) at approx. Sta. 0+515, view looking W.

Date: 2021-04-29
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 2A (FF) and Zone 3 (CF): Over Liner) - PHOTOGRAPHS



Photograph 2: Approved placement of Zone 2A (FF) and Zone 3 (CF) over existing LLDPE liner at approx. Sta. 0+090, view looking E.

Date: 2021-04-29
Photo By: BG

SNC·LAVALIN
Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1
Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210503-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: May. 3. 2021

TIME:
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☑ Fill placement: Zone 1 (rock fill) U/S & D/S
- ☑ Other: Final walk down

LOCATION		PREVIOUS APPROVALS	
Station	Sta. 0+025 → Sta. 0+575	Station:	—
Inclination:	—	Details:	—
ELEVATION:	☑ varies ____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓				
2. Free of ice/snow/water					✓
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)	✓				
5. Placement (lift thickness, segregation, etc.)	✓				
6. Compaction	✓				
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓				
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

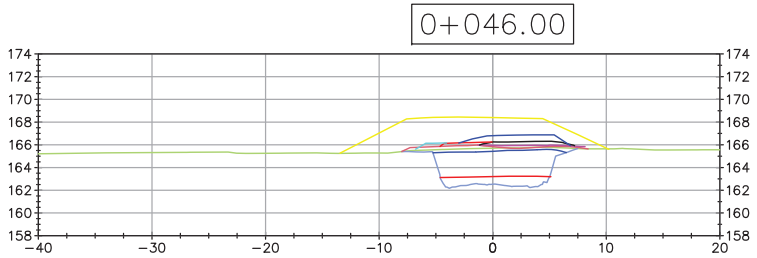
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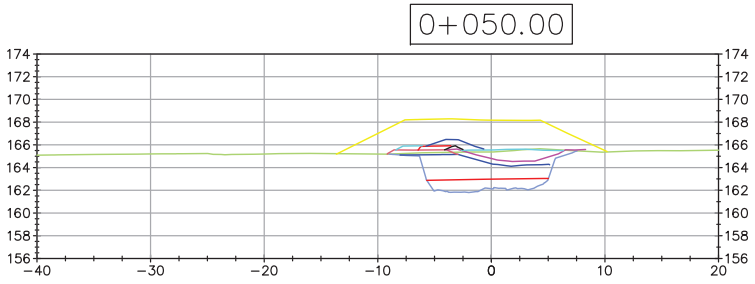
(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
	The Following items remain From walk down inspection on May. 3, 2021:				
	• Dyke crest to be topped up & leveled b/w stn. 0+730 → 0+760				
	• Dyke crest to be compacted with smooth drum roller.				
	• Rock pile @ stn. 0+250 D/S to be removed				
	• Small ditch to be made along D/S @ 0+250 to allow water to flow away from toe of dyke.				
	• Boulders to be placed @ East & west entrances to dyke to block access.				
	• Additional work required @ outlet or spillway channel once pipes & cables are relocated				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Daly Pasean		May 04/2021
QC REPRESENTATIVE			
QA REPRESENTATIVE	Brandon Gray		May 3, 2021
OWNER'S REPRESENTATIVE	Stephen Quan		May 3, 2021

FORMAT ANSI B–11x17





- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–05–09

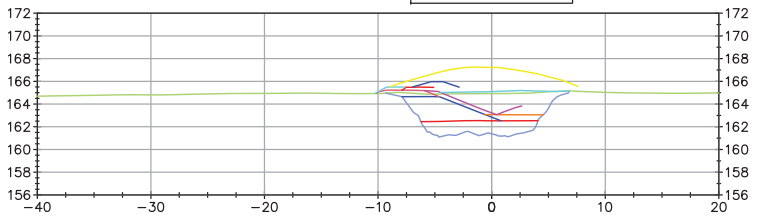
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+046 @ 0+050

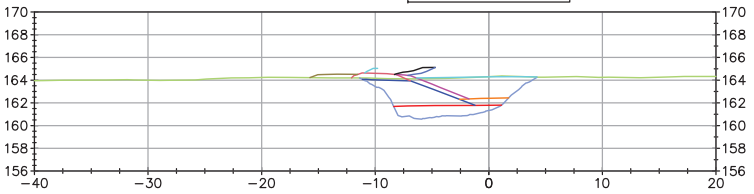
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 1 / 13

FORMAT ANSI B–11x17

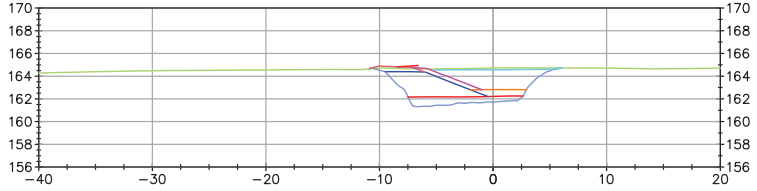
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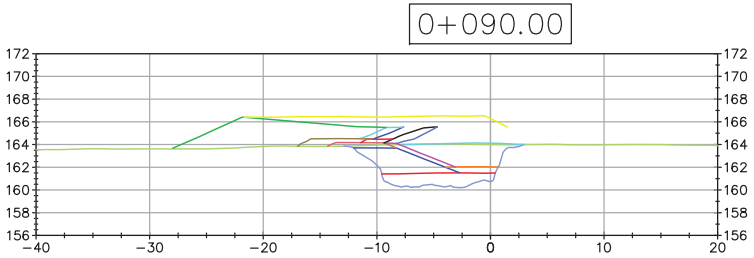
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0+070.00



0+090.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
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- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
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- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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REVISIONS

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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–05–09

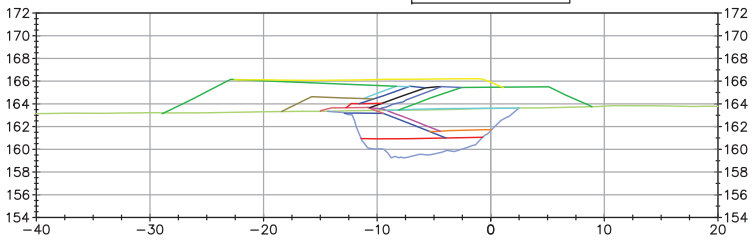
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+060 @ 0+090

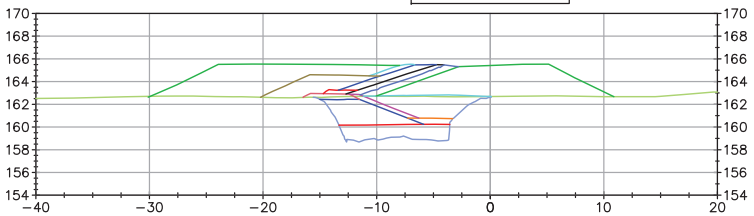
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 2 / 13

FORMAT ANSI B–11x17

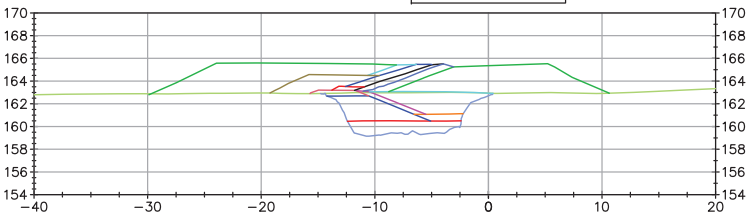
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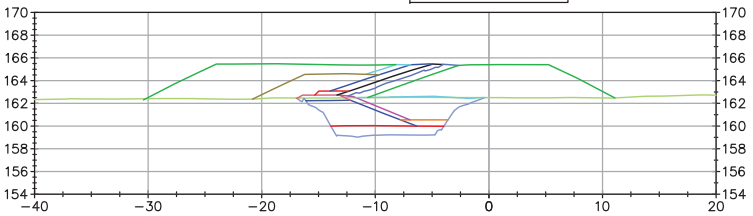
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0+110.00



0+130.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
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- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG
DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS	

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REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–05–09		

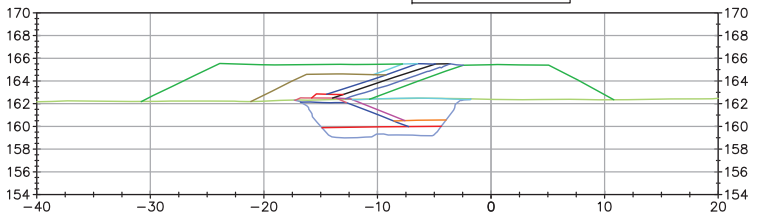
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+100 @ 0+130

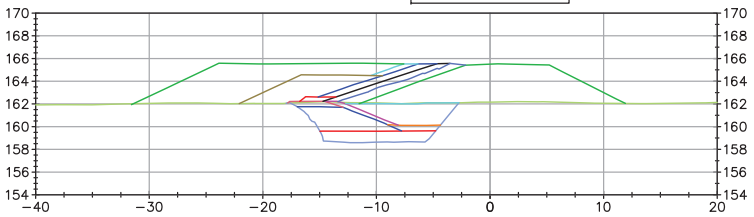
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 3 / 13

FORMAT ANSI B–11x17

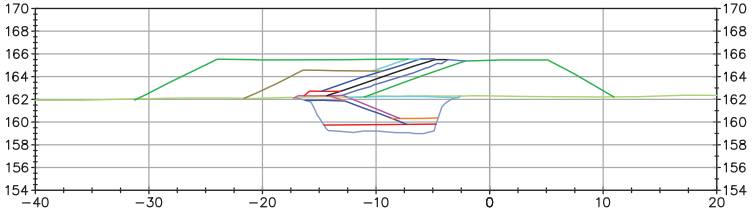
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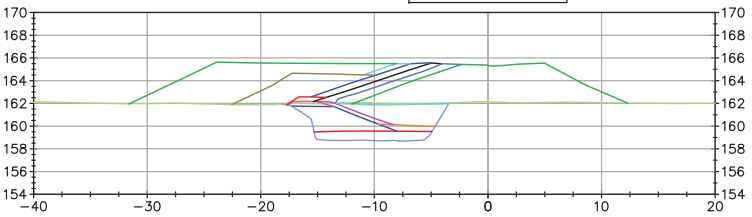
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0+150.00



0+170.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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- CF – UNDERLINER DOWNSTREAM
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- ESKER
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AGNICO EAGLE

HAMELARPENTAGE

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No. PROJET / PROJECT NO. 6127

DATE 2021–05–09

TITRE / TITLE

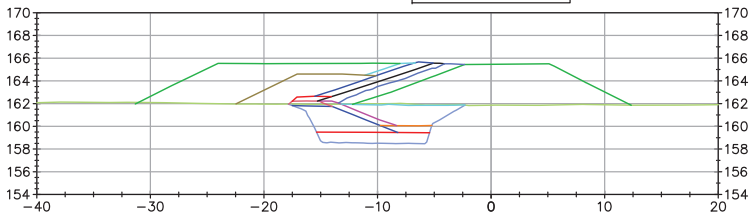
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	FICHIER FILE
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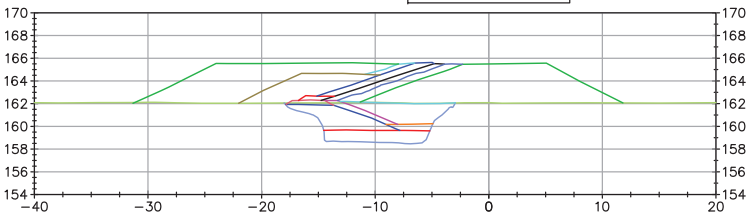
No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–As Built		4 / 13

FORMAT ANSI B–11x17

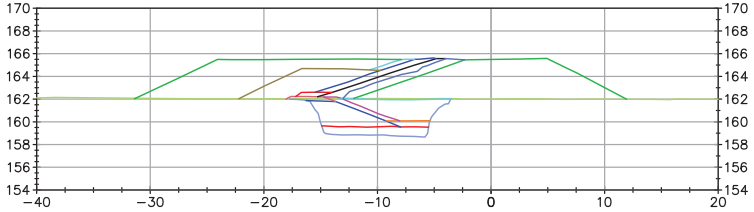
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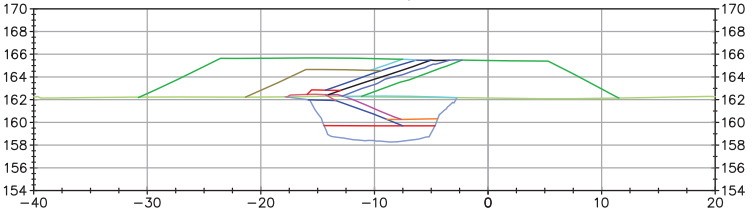
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0+190.00



0+210.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
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- CF – UNDERLINER DOWNSTREAM
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- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO.	6127
DATE	2021–05–09

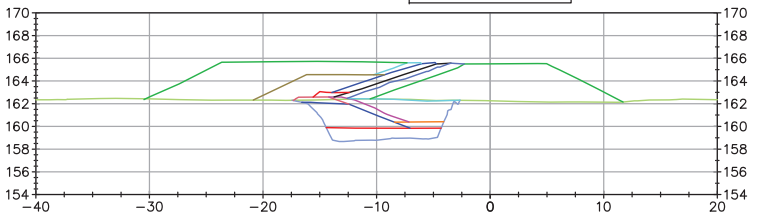
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+180 @ 0+210

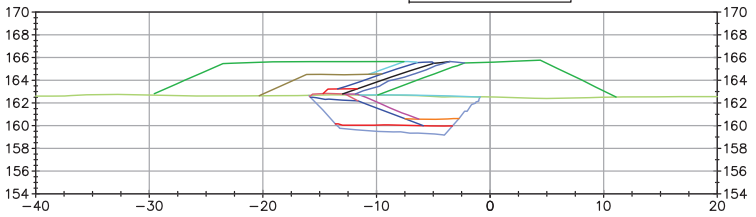
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FORMAT ANSI B–11x17

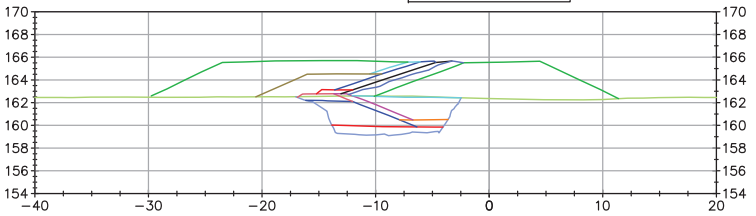
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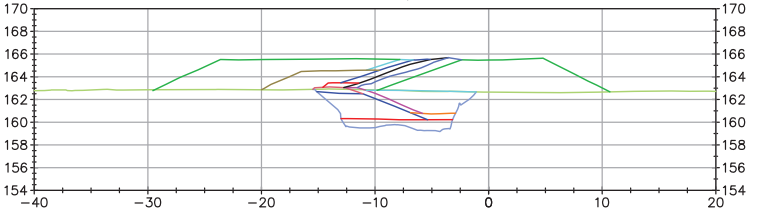
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0+230.00



0+250.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	Y.HAMEL	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–05–09

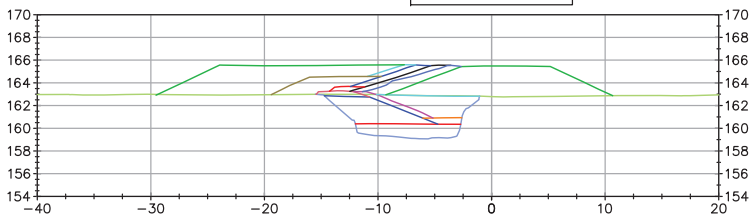
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
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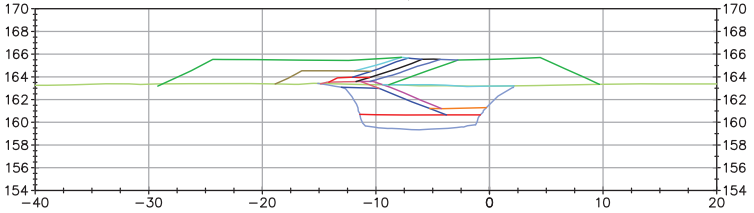
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 6 / 13

FORMAT ANSI B–11x17

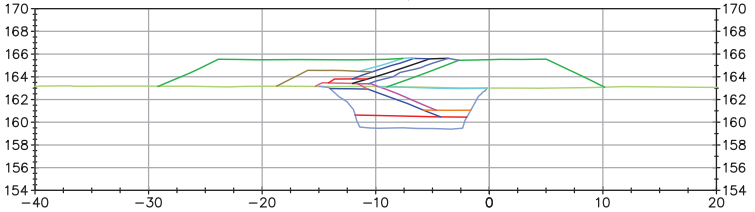
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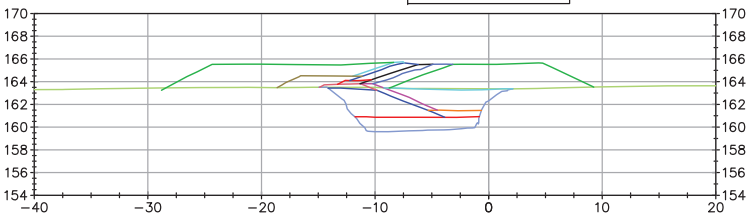
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0+290.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		
No. PROJET / PROJECT NO.	6127	
DATE	2021–05–09	

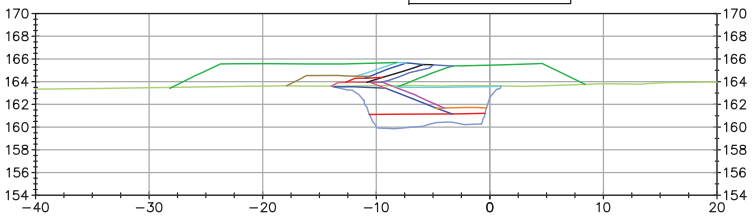
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+260 @ 0+290

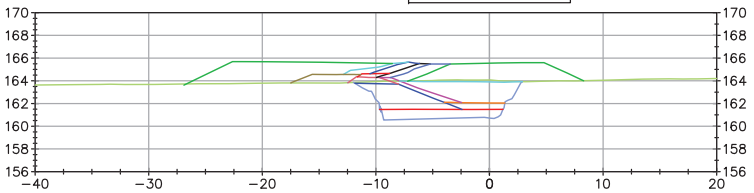
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

FORMAT ANSI B–11x17

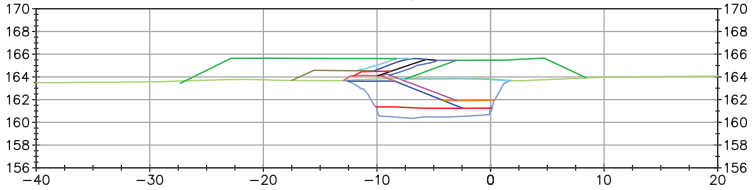
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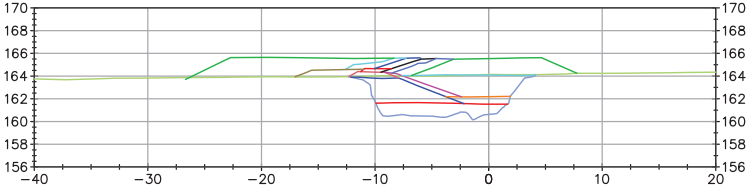
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0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
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- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

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REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE 2021–04–04
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–05–09

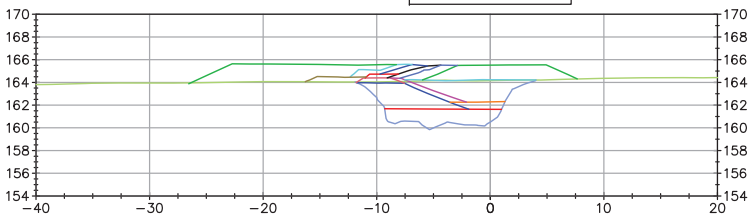
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

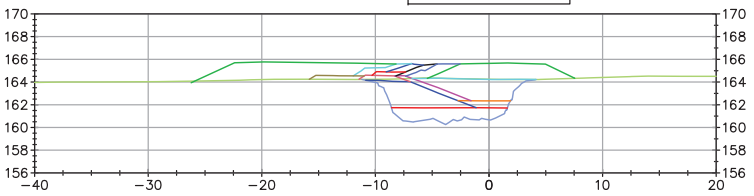
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No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–As Built		8 / 13

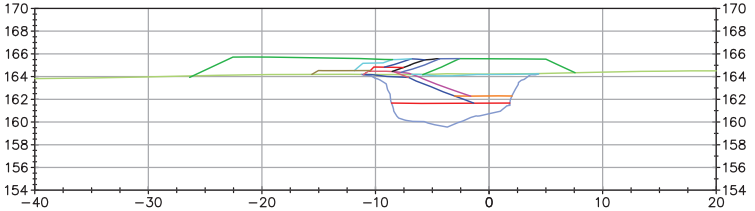
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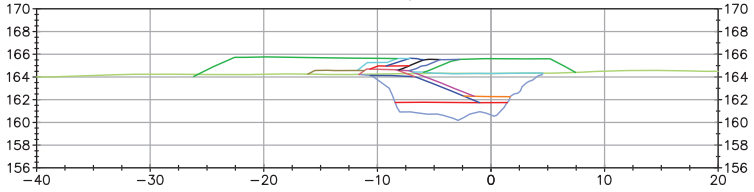
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0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG
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REV	DESCRIPTION	DATE	PAR BY

REVISIONS

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VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

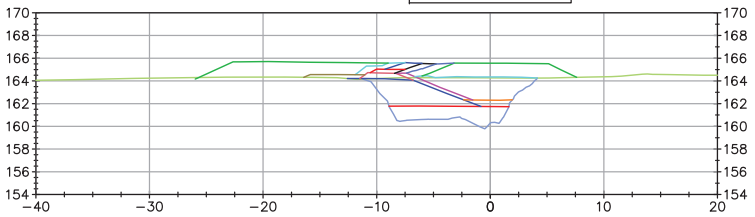
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DATE	2021–05–09

TITRE / TITLE

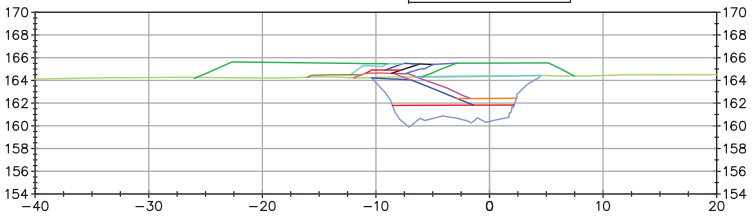
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+340 @ 0+370

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 9 / 13

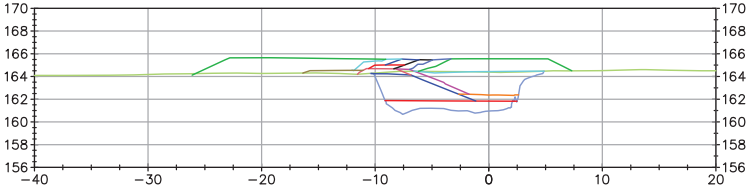
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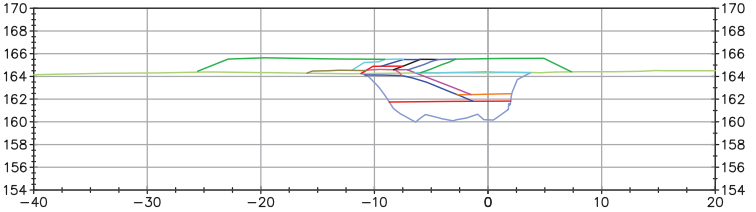
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0+410.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–05–09		

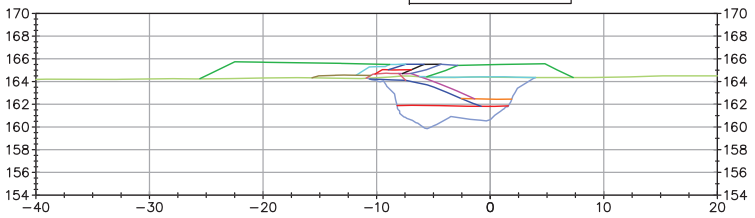
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
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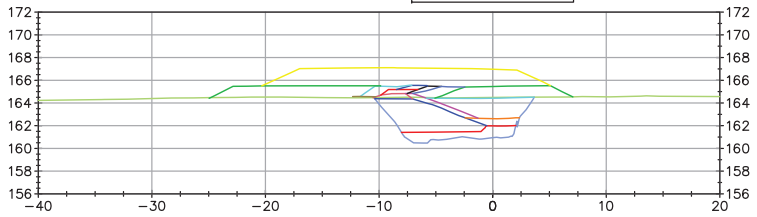
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FORMAT ANSI B–11x17

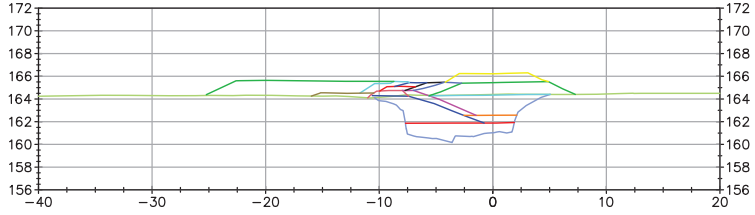
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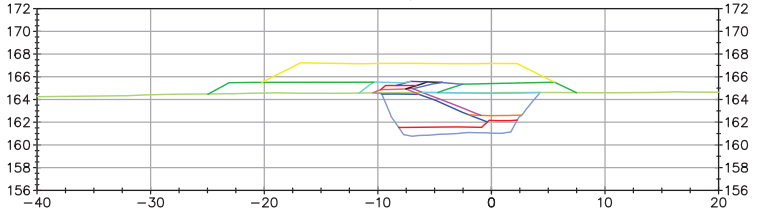
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0+450.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–05–09

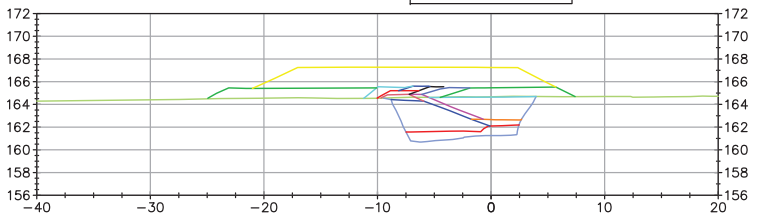
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IVR D1 DIKE
AS BUILT DRAWING
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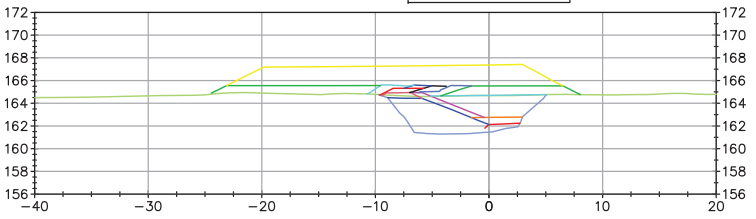
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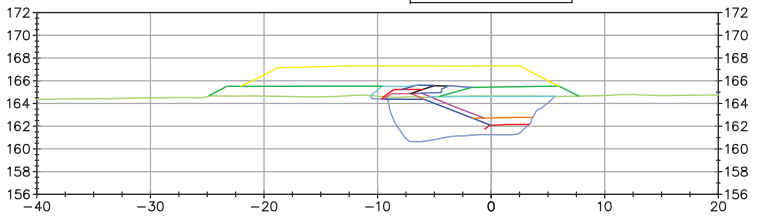
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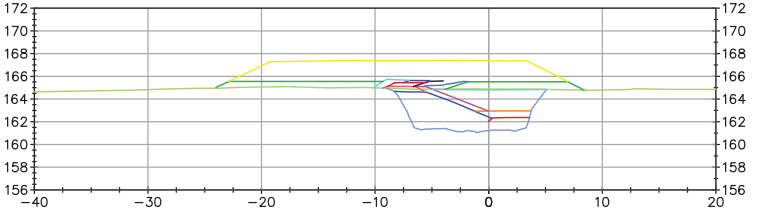
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- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
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AGNICO EAGLE

HAMELARPENTAGE

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VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–05–09

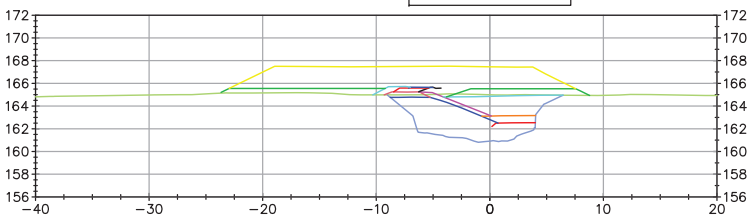
TITRE / TITLE

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IVR D1 DIKE
AS BUILT DRAWING
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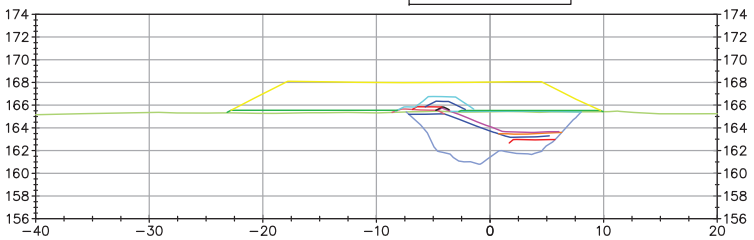
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 12 / 13

FORMAT ANSI B–11x17

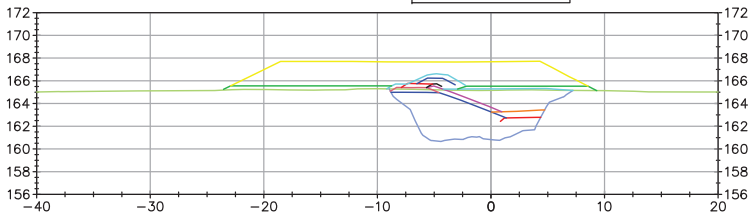
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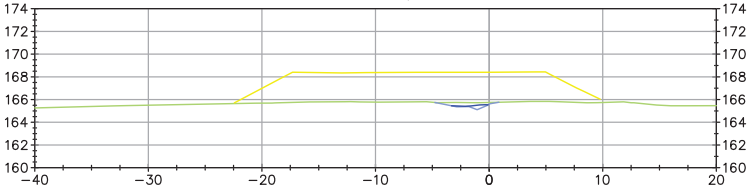
0+520.00



0+510.00



0+530.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER KEY TRENCH
- FFAB – UNDERLINER TOP
- FFAB – OVERLINER KEY TRENCH
- FF – UNDERLINER KEY TRENCH
- FF – OVERLINER KEY TRENCH
- FF – OVER LINER UPSTREAM
- FF – UNDERLINER DOWNSTREAM
- CF – OVERLINER KEY TRENCH
- CF – OVERLINER UPSTREAM
- CF – UNDERLINER DOWNSTREAM
- ROCKFILL
- ESKER
- THERMAL CAPING

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TITRE / TITLE | # DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–05–09

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+500 @ 0+530

ÉCHELLE/ SCALE NA | FICHIER / FILE .DWG

No. DESSIN/ DRAWING NO. 6127–IVR–As Built | REVISION | FEUILLE/SHT 13 / 13

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 1: Rockfill) - PHOTOGRAPHS



Photograph 1: Thermal berm along west abutment at approx. Sta. 0+025, view looking E.

Date: 2021-05-03
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 1: Rockfill) - PHOTOGRAPHS



Photograph 2: IVR Dyke spillway channel at approx. Sta. 0+070, view looking SE.

Date: 2021-05-03
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 1: Rockfill) - PHOTOGRAPHS



Photograph 3: Upstream Zone 1 (rockfill) slope at approx. Sta. 0+125, view looking E.

Date: 2021-05-03
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 1: Rockfill) - PHOTOGRAPHS



Photograph 4: Dyke crest at approx. Sta. 0+200, view looking E.

Date: 2021-05-03
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 1: Rockfill) - PHOTOGRAPHS



Photograph 5: Downstream Zone 1 (rockfill) slope at approx. Sta. 0+200, view looking E.

Date: 2021-05-03
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 1: Rockfill) – PHOTOGRAPHS



Photograph 6: Thermal berm along east abutment at approx. Sta. 0+420, view looking E.

Date: 2021-05-03
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 1: Rockfill) - PHOTOGRAPHS



Photograph 7: Downstream slope of Zone 1 (rockfill) thermal berm at approx. Sta. 0+500, view looking E.

Date: 2021-05-03
Photo By: BG

IVR DYKE: FILL PLACEMENT APPROVAL (Zone 1: Rockfill) - PHOTOGRAPHS



Photograph 8: Downstream slope of Zone 1 (rockfill) thermal berm at approx. Sta. 0+520, view looking E.

Date: 2021-05-03
Photo By: BG

APPENDIX F-3

Geosynthetic Installation Approval Forms

APPROVAL FORM

SNC·LAVALIN

Sustainable Mining
Mining & Metallurgy
195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

Telephone: (416) 252-5315
Fax: (416) 231-5336
www.snclavalin.com

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214528873

DOCUMENT #: 20210316-DS-01
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 16, 2021

TIME: 6:00 and 16:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION

Station: D+169 to D+239

Inclination: (lower liner)

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: _____

Details: _____

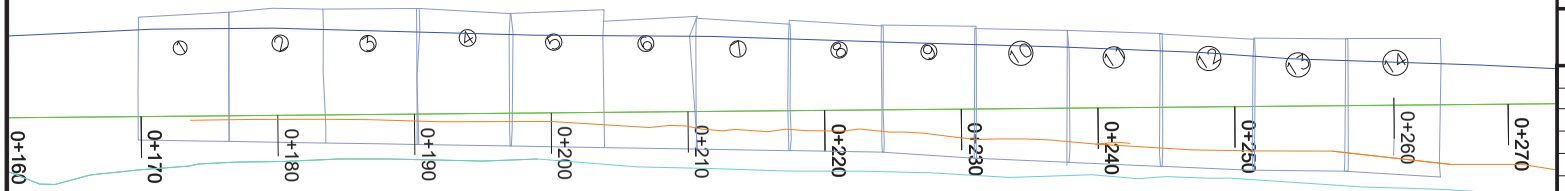
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed					✓
9. Material certification meets specs					
10. Visual inspection - no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA Y	QA N	QC Y	QC N
ITEM					
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by trowel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
	Liner extends too far at toe of slope - to be cut prior to backfill. - DONE				
	Some snow (~2 cm) fell overnight on exposed slope from 0+218 to 0+239. Snow was removed by hand (shovels) prior to liner installation.				
	Most rolls damaged during transport - first 2-3 rolls must be discarded. See photos.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Rene Theault	Rene Theault	17-03-21
QC REPRESENTATIVE	Florent Vaillant	Florent Vaillant	17/03/2021
QA REPRESENTATIVE	Shai Spilberg	n.a.	March 16, 2021
OWNER'S REPRESENTATIVE	LAURIER COLLETTE		03.17.2021



CREST LINER

TOE LINER

TOE FACE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY		DATE
VÉRIFIÉ PAR CHECKED BY		
APPROUVÉ PAR APPROVED BY		

No. PROJET PROJECT NO. 6127

DATE 2021-03-17

TITRE / TITLE

AGNICO-EAGLE
AMARUQ
IVR DEIKE KEY TRENCH
APPROVAL 0+169_0+1264

ÉCHELLE/ SCALE	FICHIER FILE	
NA	.DWG	
No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127-IVR-AB LINER		1 / 1

IVR DYKE: GEOSYNTHETICS APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Final approved liner slope from 0+169 to 0+239, view looking W.

Date: 2021-03-16
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Installation of liner on top of geotextile, view looking N.

Date: 2021-03-16
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 3: Welding liner panels, view looking N.

Date: 2021-03-16
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 4: Seam test (air channel test) being performed.

Date: 2021-03-16
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 5: Material identification sticker on LLDPE liner roll.

Date: 2021-03-16
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 6: Damage to LLDPE liner roll during transport.

Date: 2021-03-16
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 7: Final installed LLDPE liner, covered with geotextile from Sta. 0+169 to 0+239.

Date: 2021-03-16
Photo By: SS

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Toronto (Ontario)
Canada M9C 5K1

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Fax: (416) 231-5336
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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 17, 2021

DOCUMENT #: 20210317-DS-01 **TIME:** 15:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION		**PREVIOUS APPROVALS**	
Station	0+239 to 0+269	**Station:**	
Inclination:	(lower liner)	**Details:**	
ELEVATION:	☑ varies _____ m		

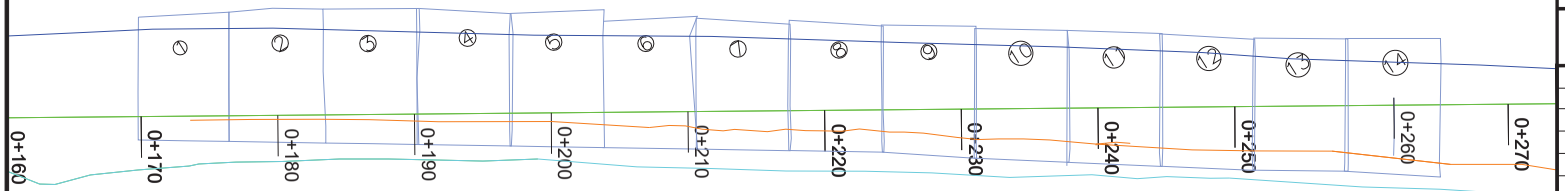
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by trowel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
	Notes				
	3 patches made + vacuum tested on panel 14. Tests passed. Extrusion test passed. The holes were from transport damage.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	René Rheault	René Rheault	17-03-21
QC REPRESENTATIVE	Florent Vaillant	Florent Vaillant	17/03/2021
QA REPRESENTATIVE	Shai Spilberg	S.S.	17/3/2021
OWNER'S REPRESENTATIVE	LAVRIER COLLETTE		17/3/2021



CREST LINER

TOE LINER

TOE FACE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY		DATE
VÉRIFIÉ PAR CHECKED BY		
APPROUVÉ PAR APPROVED BY		

No. PROJET PROJECT NO. 6127

DATE 2021-03-17

TITRE / TITLE

AGNICO-EAGLE
AMARUQ
IVR DEIKE KEY TRENCH
APPROVAL 0+169_0+1264

ÉCHELLE/ SCALE	FICHIER FILE	
NA	.DWG	
No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127-IVR-AB LINER		1 / 1

IVR DYKE: GEOSYNTHETICS APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Approved LLDPE bedding surface after snow clearing, from 0+239 to 0+269, view looking E.

Date: 2021-03-16
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: LLDPE liner placement on top of geotextile, Sta. 0+239 to 0+269, view looking E.

Date: 2021-03-16
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 3: Extrusion welded patch on Panel 14.

Date: 2021-03-16
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 4: Vacuum box test on extrusion weld, Panel 14.

Date: 2021-03-16
Photo By: SS

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** March 22, 2021

DOCUMENT #: 20210322-DS-01 **TIME:** 16:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION		**PREVIOUS APPROVALS**	
Station	0+269 to 0+318	**Station:**	0+239 to 0+269
Inclination:		**Details:**	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

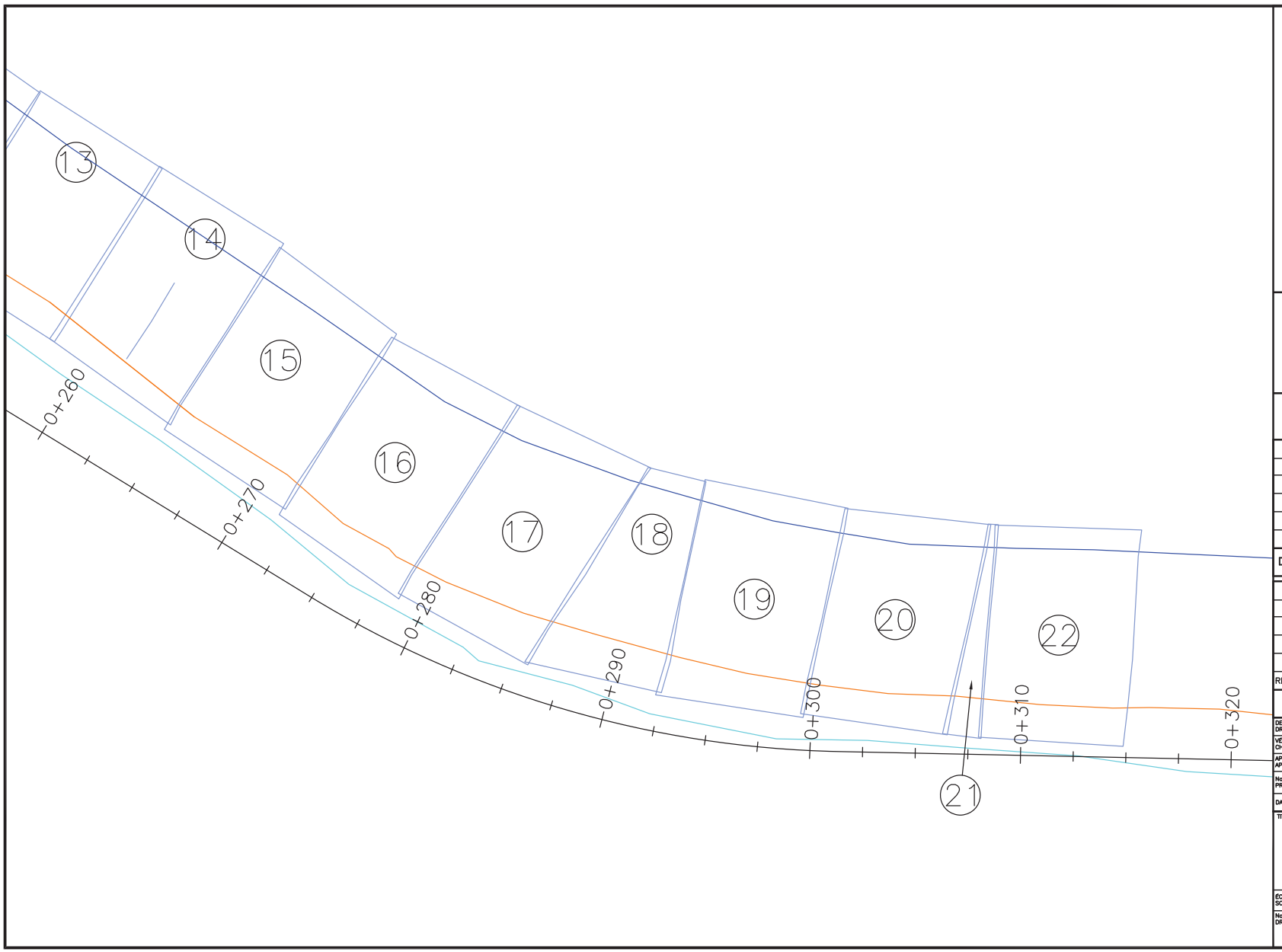
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to spec	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by trowel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
	Installation of panels P15 to P22. Bedding surface inspected + cleared of snow prior to geotextile/geomembrane installation. Seam tests + calibration results met Technical Specifications. No destructive tests carried out on this section. Two extrusion fillet welds were carried out on seam holes between panels P16/17 and P20/21, labelled R4 and R5 respectively. Extrusion weld machine was calibrated and vacuum box tests were conducted on patches. No leaks detected.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	René Rheault		23-03-21
* QC REPRESENTATIVE	Florent Vaillant		23/03/2021
QA REPRESENTATIVE	Shai Spilberg	o.b.	March 22, 2021
OWNER'S REPRESENTATIVE	Stephane Gicot		March 22, 2021

FORMAT ANSI B–11x17



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TITRE / TITLE	# DWG
DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS	

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	DATE
VÉRIFIÉ PAR / CHECKED BY	
APPROUVÉ PAR / APPROVED BY	

No. PROJET / PROJECT NO.	6127
DATE	2021–03–17

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DEIKE KEY TRENCH
APPROVAL 0+265 @ 0+315

ÉCHELLE/ SCALE	FICHIER FILE	REVISION	FEUILLE/SHT
NA	.DWG		1 / 1

No. DESSIN/ DRAWING NO.

6127–IVR–AB LINER

IVR DYKE: GEOSYNTHETICS APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 1: Bedding surface of geotextile/LLDPE liner after snow removal, Sta. 0+310, view looking W.

Date: 2021-03-19
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 2: Installation of geotextile under LLDPE liner, Sta. 0+310, view looking NW.

Date: 2021-03-19
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 3: Hole in seam between panels P20/P21 caused by stuck welder, before patching, Sta. 0+283.

Date: 2021-03-19
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 4: Extrusion welded patch R4 on seam P16/17, Sta. 0+283.

Date: 2021-03-19
Photo By: SS

IVR DYKE: FOUNDATION APPROVAL (KEY TRENCH) - PHOTOGRAPHS



Photograph 4: Final installed LLDPE liner prior to geotextile installation, Sta. 0+300 view looking E.

Date: 2021-03-19
Photo By: SS

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195 The West Mall
Toronto (Ontario)
Canada M9C 5K1

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873 **DATE:** March, 24, 2021

DOCUMENT #: 20210324-DS-03 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 01315 → 01355	**Station:**	01315 → 01355
Inclination:		**Details:**	20210324-DS-01
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by travel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
	Installation of Panels P23 to P28. Bedding surface inspected prior to geotextile / geomembrane installation. Seam tests + calib. test results met Tech. Specs. Destructive test conducted on Panel P23/24, results met Tech. specs.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	René Rheault	René Rheault	24-03-21
QC REPRESENTATIVE	Florent Vaillant	Florent Vaillant	24-03-21
QA REPRESENTATIVE	Brandon Gray	BGray	March 24. 2021
OWNER'S REPRESENTATIVE	Stéphane Grenet		March 24, 2021



CREST LINER

TOE LINER

TOE FACE

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HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

		DATE
DESSINÉ PAR / DRAWN BY		
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–03–25

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DEIKE KEY TRENCH
APPROVAL 0+150 @ 0+170
APPROVAL 0+315 @ 0+355

ÉCHELLE/ SCALE	FICHIER FILE	
NA	.DWG	

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–AB LINER		1 / 1

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 1: Geotextile being installed between Sta. 0+320 and Sta. 0+355 in advance of LLDPE liner installation, view looking E.

Date: 2021-03-24
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 2: Liner QC taking destructive testing sample at approx. Sta. 0+321 between panels P23 and P24, view looking NE.

Date: 2021-03-24
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 3: FC liner welding LLDPE liner Sta. 0+321 between panel seams P23/P24, view looking S.

Date: 2021-03-24
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 4: Liner QC performing seam test (air channel test) at approx. Sta. 0+315 on liner seams P22 and P23. The seam tests met the Technical Specifications

Date: 2021-03-24
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 5: Results of seam test (air channel test) conducted on panels P22 and P23, no loss of air pressure was observed over the 4 minute duration.

Date: 2021-03-24
Photo By: BG

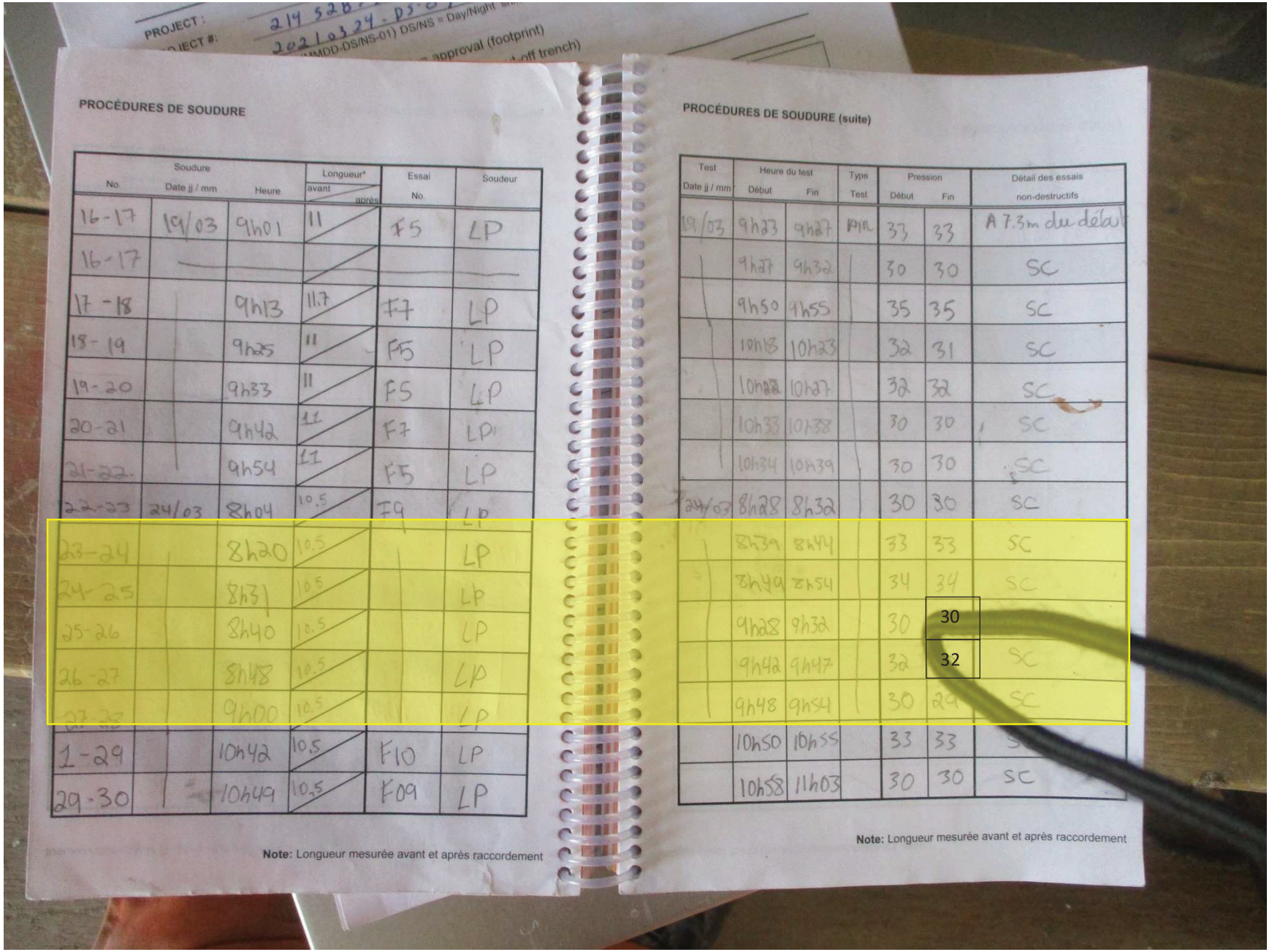
IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 6: Geotextile installed over LLDPE liner between approx. Sta.0+355 and Sta. 0+315, view looking E.

Date: 2021-03-24
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 7: Results of seam test (air channel test) on installed panels P23 to P28 between Sta. 0+315 and Sta. 0+355.

Date: 2021-03-24
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873

DOCUMENT #: 20210324-DS-04
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March, 24, 2021

TIME: _____
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION

Station: Sta. ~~0+150~~ 0+170 → 0+150 ~~0+165~~

Inclination: _____

ELEVATION: ☑ varies _____ m

PREVIOUS APPROVALS

Station: 0+135 → 0+165

Details: 20210324-DS-02

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	–		✓	
18.	Liner testing + sampling performed	–		✓	
19.	Floor + upstream wall of anchor trench is smooth	–		✓	
20.	Site cleaned up.	–		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by travel test, holes, folding, wrinkling, visible lumps or protusions	–		✓	
	Installation of panels P29 to P31.				
	Bedding surface inspected prior to geotextile / geomembrane installation				
	Seam tests + calib. test results met Tech. specs.				
	No destructive tests taken.				
	Calib. test conducted on smooth to rough liner overlap. Smooth to rough liner welding was conducted b/w panels P1 & P29 due to damage on liner P1 when removing snow w excavator.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Rene Rheault	Rene Rheault	24-03-21
QC REPRESENTATIVE	Florent Vaillant	Florent Vaillant	24-03-21
QA REPRESENTATIVE	Brandon Gray		MARCH 24, 2021
OWNER'S REPRESENTATIVE	Stephane Giguet		March 24, 2021



CREST LINER

TOE LINER

TOE FACE

AGNICO EAGLE

HAMELARPENTAGE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

		DATE
DESSINÉ PAR / DRAWN BY		
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–03–25

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DEIKE KEY TRENCH
APPROVAL 0+150 @ 0+170
APPROVAL 0+315 @ 0+355

ÉCHELLE/ SCALE	FICHIER FILE	
NA	.DWG	

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–AB LINER		1 / 1

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 1: Geotextile installed between Sta. 0+150 and Sta. 0+170 in advance on LLDPE liner installation, view looking W.

Date: 2021-03-24
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 2: FC liner removing 'smooth' edge of panel P1 due to damage cause by excavator when removing snow at approx. Sta. 0+170, view looking S.

Date: 2021-03-24
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 3: FC liner installing LLDPE between Sta. 0+150 and Sta. 0+170, view looking SW.

Date: 2021-03-24
Photo By: BG

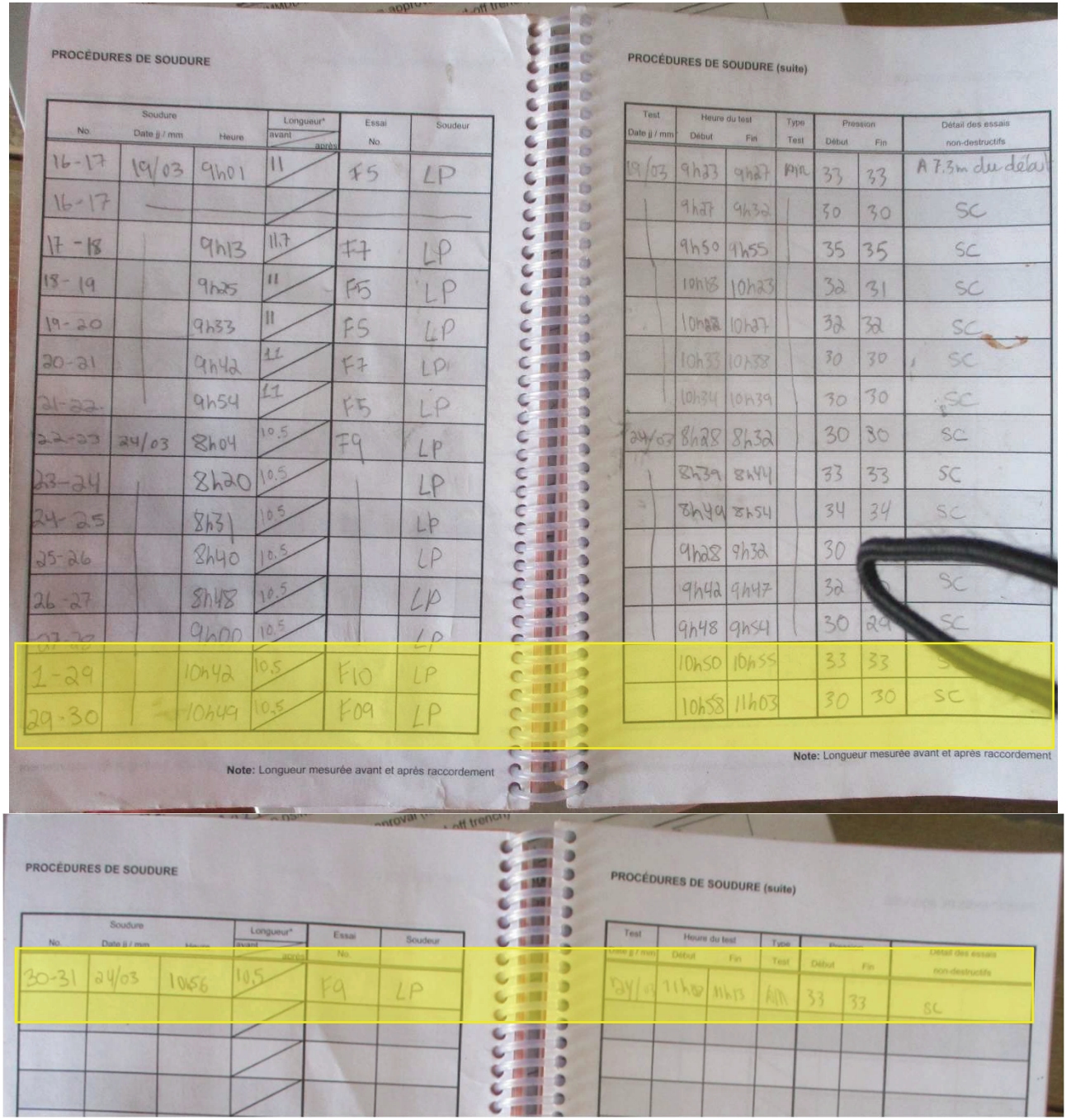
IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 4: Geotextile installed over LLDPE liner between approx. Sta.0+170 and Sta. 0+150, view looking W.

Date: 2021-03-24
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



PROCÉDURES DE SOUDURE

Soudure No.	Date jj / mm	Heure	Longueur* avant	après	Essai No.	Soudeur
16-17	19/03	9h01	11		F5	LP
16-17						
17-18		9h13	11.7		F7	LP
18-19		9h25	11		F5	LP
19-20		9h33	11		F5	LP
20-21		9h42	11		F7	LP
21-22		9h54	11		F5	LP
22-23	24/03	8h04	10.5		F9	LP
23-24		8h20	10.5			LP
24-25		8h31	10.5			LP
25-26		8h40	10.5			LP
26-27		8h48	10.5			LP
		9h00	10.5			LP
1-29		10h42	10.5		F10	LP
29-30		10h49	10.5		F09	LP

Note: Longueur mesurée avant et après raccordement

PROCÉDURES DE SOUDURE (suite)

Test Date jj / mm	Heure du test Début	Fin	Type Test	Pression Début	Fin	Détail des essais non-destructifs
19/03	9h23	9h27	[illegible]	33	33	A 7.3m du début
	9h27	9h32		30	30	SC
	9h50	9h55		35	35	SC
	10h18	10h23		32	31	SC
	10h28	10h27		32	32	SC
	10h33	10h38		30	30	SC
	10h34	10h39		30	30	SC
24/03	8h28	8h32		30	30	SC
	8h39	8h44		33	33	SC
	8h49	8h54		34	34	SC
	9h28	9h32		30		
	9h42	9h47		32		SC
	9h48	9h54		30	29	SC
	10h50	10h55		33	33	
	10h58	11h03		30	30	SC

Note: Longueur mesurée avant et après raccordement

PROCÉDURES DE SOUDURE

Soudure No.	Date jj / mm	Heure	Longueur* avant	après	Essai No.	Soudeur
30-31	24/03	10h56	10.5		F9	LP

PROCÉDURES DE SOUDURE (suite)

Test	Heure du test Début	Fin	Type Test	Pression Début	Fin	Détail des essais non-destructifs
24/03	11h08	11h13	[illegible]	33	33	SC

Photograph 5: Results of seam test (air channel test) conducted on installed panels P29 to P31 between Sta. 0+150 and Sta. 0+170.

Date: 2021-03-24
Photo By: BG

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www.snclavalin.com

APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873 **DATE:** March, 25, 2021

DOCUMENT #: 20210325-DS-67 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+355 → 0+406	**Station:**	0+355 → 0+406
Inclination:		**Details:**	20210325-DS-05
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

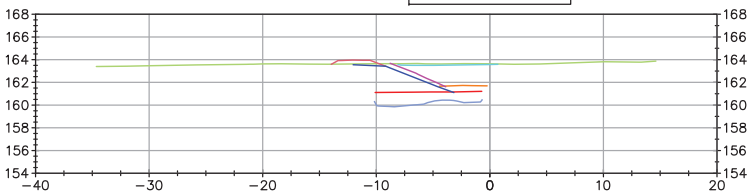
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by travel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
	Installation of panels P32 to P37. Bedding surface inspected prior to geotextile / geomembrane installation by QA/QC. Seam tests & calibration results met Tech. Specs. No destructive tests taken				
8.0	AEM to provide survey for approval Form.	✓		✓	
	QA observed liner installation from 6-8 PM.				

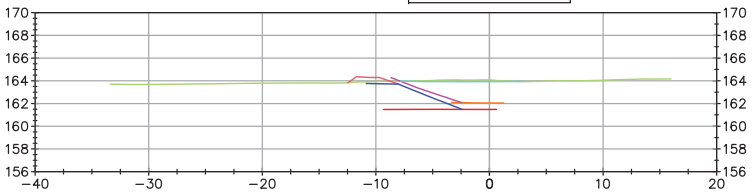
APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	René Rheault	René Rheault	26-03-21
QC REPRESENTATIVE	Florent Vallant	Florent Vallant	26-03-21
QA REPRESENTATIVE	Brandon Gray	BGray	Mar. 25 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART	[illegible]	26 MAR 2021

FORMAT ANSI B–11x17

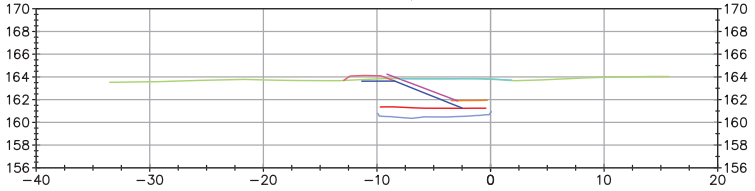
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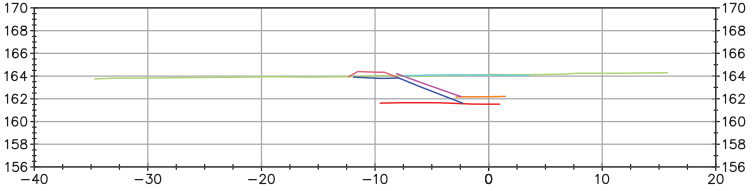
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0+310.00



0+330.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR CHECKED BY		
APPROUVÉ PAR APPROVED BY		

No. PROJET PROJECT NO.	6127
DATE	2021–03–24

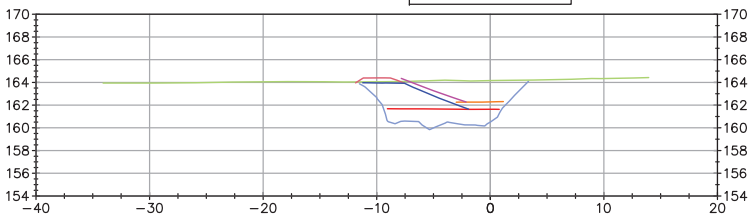
TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+300 @ 0+330

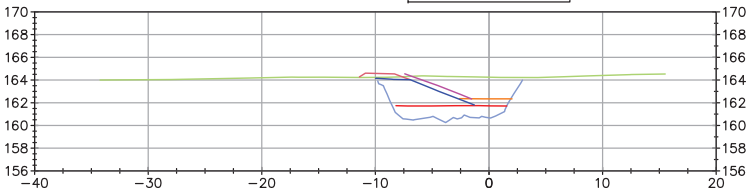
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No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 7 / 13

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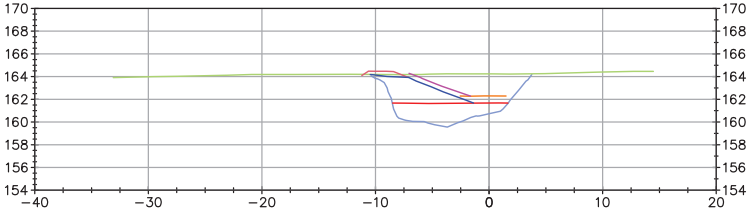
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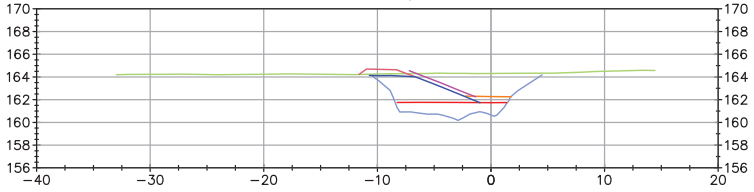
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0+350.00



0+370.00



- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF LANDREVILLE	DATE 2021–03–22
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

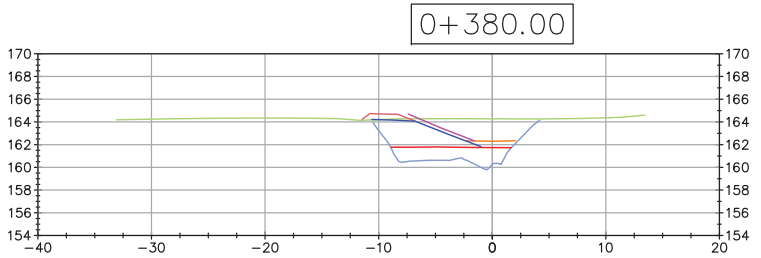
No. PROJET / PROJECT NO.	6127
DATE	2021–03–24

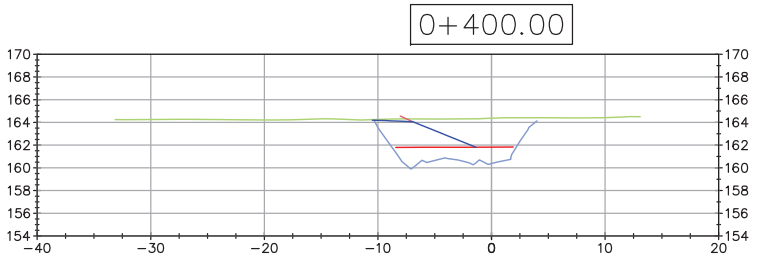
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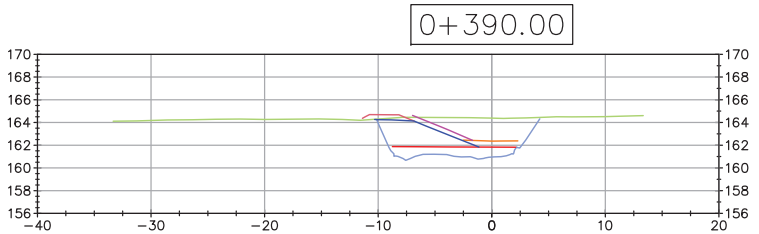
AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

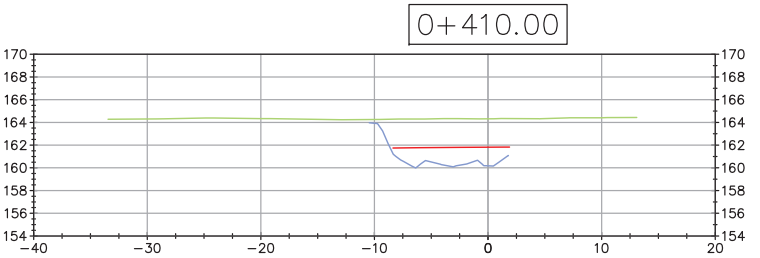
ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–As Built	REVISION	FEUILLE/SHT 8 / 13

FORMAT ANSI B–11x17









- ORIGINAL GROUND
- KEY TRENCH EXCAVATION
- FFAB – UNDERLINER_KEY TRENCH
- FFAB – UNDERLINER_TOP
- FFAB – OVERLINER_KEY TRENCH
- FF – UNDERLINER_KEY TRENCH
- FF – OVERLINER_KEY TRENCH
- CF – OVERLINER_KEY TRENCH

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	JF LANDREVILLE	DATE	2021–03–22
VÉRIFIÉ PAR CHECKED BY			
APPROUVÉ PAR APPROVED BY			

No. PROJET PROJECT NO.	6127
DATE	2021–03–26

TITRE / TITLE

AGNICO–EAGLE – AMARUQ
IVR D1 DIKE
AS BUILT DRAWING
0+140 @ 0+170

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG		
No. DESSIN/ DRAWING NO.	6127–IVR–As Built			REVISION	FEUILLE/SHT 9 / 13

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 1: Liner QC conducting calibration test at 6 PM.

Date: 2021-03-25
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 2: Geotextile installed between Sta. 0+385 and Sta. 0+400 in advance on LLDPE liner installation, view looking E.

Date: 2021-03-25
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 3: FC liner welding LLDPE panels P34 and P35 at approx. Sta. 0+XXX, view looking NE.

Date: 2021-03-25
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 4: Seam test (air channel test) being conducted on LLDPE panels P33 and P34 at approx. Sta. 0+XXX, view looking W.

Date: 2021-03-25
Photo By: BG

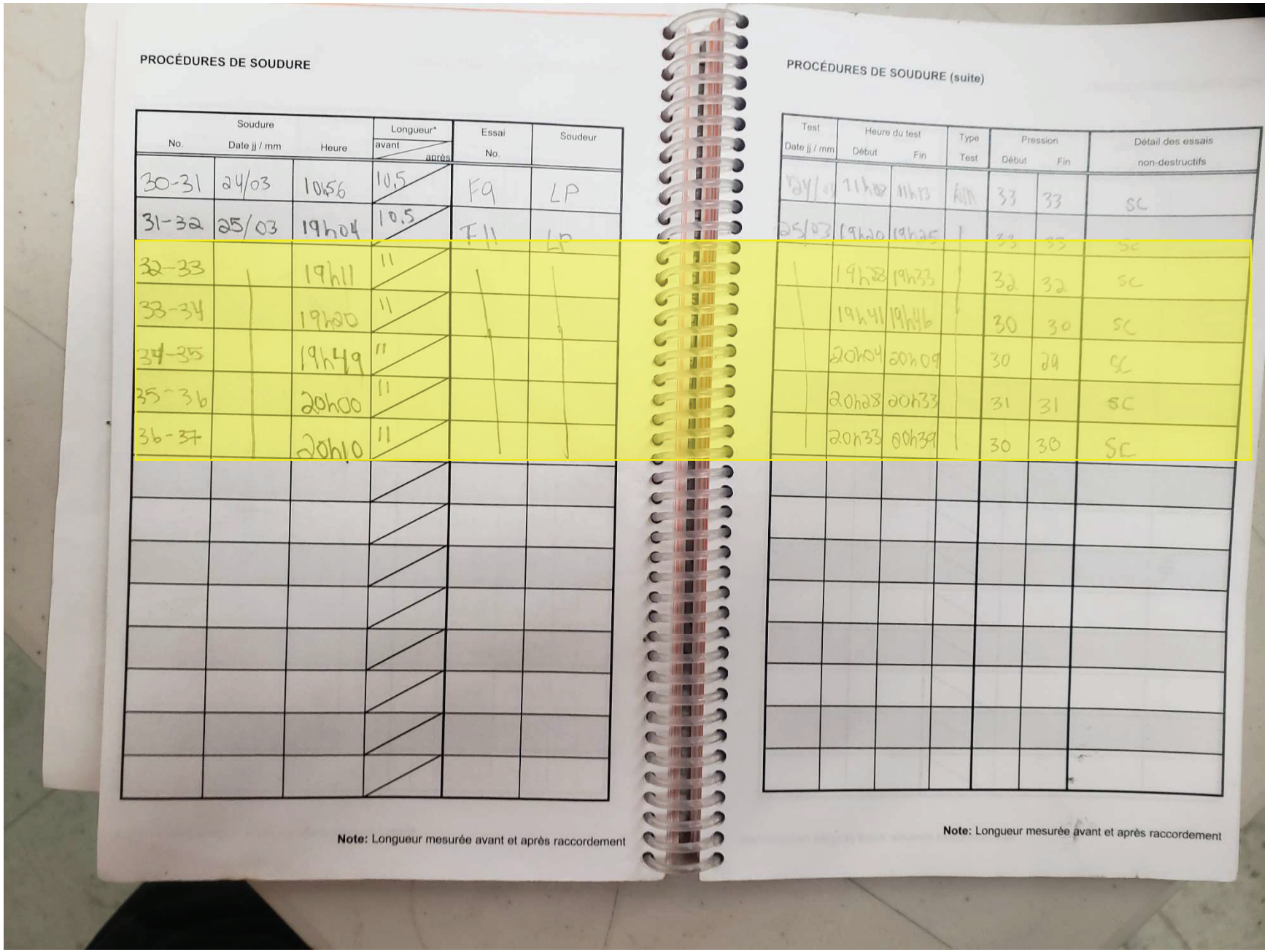
IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 5: FC liner installing LLDPE between Sta. 0+150 and Sta. 0+170, view looking SW.

Date: 2021-03-25
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



PROCÉDURES DE SOUDURE

Soudure No.	Date jj / mm	Heure	Longueur* avant / après	Essai No.	Soudeur
30-31	24/03	10h56	10.5	F9	LP
31-32	25/03	19h04	10.5	F11	LP
32-33		19h11	11		
33-34		19h20	11		
34-35		19h49	11		
35-36		20h00	11		
36-37		20h10	11		

Note: Longueur mesurée avant et après raccordement

PROCÉDURES DE SOUDURE (suite)

Test Date jj / mm	Heure du test Début	Heure du test Fin	Type Test	Pression Début	Pression Fin	Détail des essais non-destructifs
24/03	11h02	11h13	AIR	33	33	SC
25/03	19h20	19h25		33	33	SC
	19h28	19h33		32	32	SC
	19h41	19h46		30	30	SC
	20h04	20h09		30	29	SC
	20h28	20h33		31	31	SC
	20h33	00h39		30	30	SC

Note: Longueur mesurée avant et après raccordement

Photograph 6: Results of seam test (air channel test) conducted on installed panels P29 to P31 between Sta. 0+150 and Sta. 0+170.

Date: 2021-03-25
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21952873 **DATE:** March, 28, 2021

DOCUMENT #: 20210328-DS-03 **TIME:** 16:30

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+150 -> 0+120	**Station:**	Sta. 0+170 -> 0+150
Inclination:		**Details:**	20210324-DS-04
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

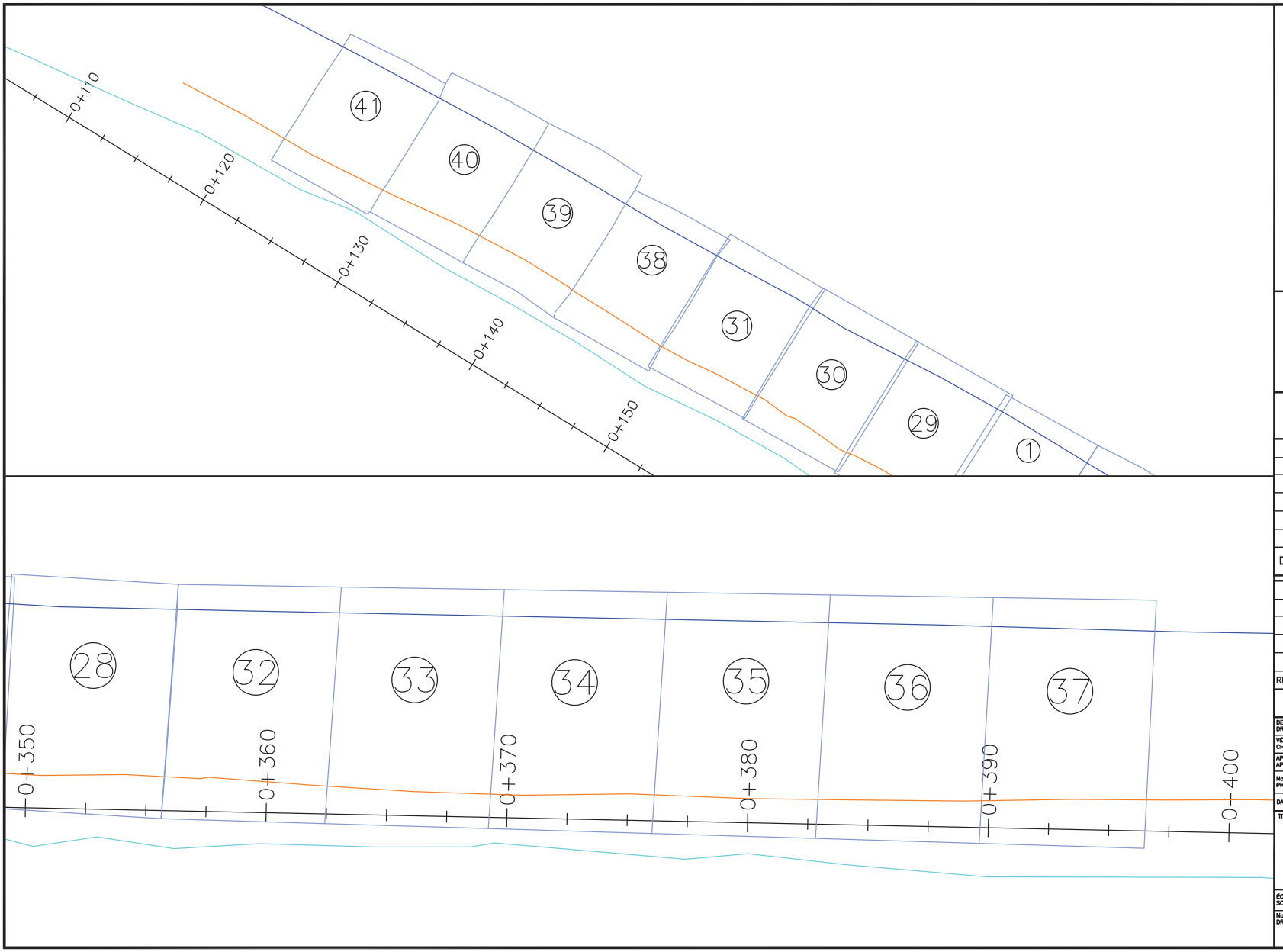
	VERIFICATIONS DONE BY:				
	QA		**QC**		**N/A**
	Y	**N**	**Y**	**N**	
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS

(Refer to list above for item #)

ITEM		APPROVED BY: QA Y	QA N	QC Y	QC N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor	✓		✓	
	trench is smooth			✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams,	✓		✓	
	loss of bitumen, risability by travel				
	test, holes, folding, wrinkling,				
	visible lumps or protusions				
	Installation of panels P38 to				
	P41. Bedding surface inspected prior				
	to geotextile / geomembrane installation				
	by QA/QC. Seam tests & calib.				
	results met tech. specs.				
	1 destructive test taken @ seam				
	of panels P39 & P40 @ hinge point				
	results met tech. specs.				
8.0	AEM to provide survey for	✓		✓	
	approval form.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	René Ricoult	René Ricoult	28-03-21
QC REPRESENTATIVE	Florent Vallant	Florent Vallant	28-03-21
QA REPRESENTATIVE	Brandon Gray	Brandon Gray	Mar. 28. 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART	Anthony Stewart	28 MAR 2021



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

		DATE
DESSINÉ PAR / DRAWN BY		
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–03–29

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DEIKE KEY TRENCH
APPROVAL 0+122 @ 0+150
APPROVAL 0+355 @ 0+395

ÉCHELLE/ SCALE	FICHIER FILE	
NA	.DWG	

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–AB LINER		1 / 1

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 1: FC Liner installing geotextile over Zone 2A/2B at approx. Sta. 0+140, view looking NW.

Date: 2021-03-28
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 2: FC Liner QC conducting calibration testing on LLDPE prior to liner installation.

Date: 2021-03-28
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 3: FC Liner placing panels of LLDPE at approx. Sta. 0+135, view looking W.

Date: 2021-03-28
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 4: FC liner welding seam between panels PX and PY at approx. Sta. 0+140, view looking W.

Date: 2021-03-28
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 5: Results of seam test (air channel test) on panel seams P39 and P40 at approx. Sta. 0+136.

Date: 2021-03-28
Photo By: BG

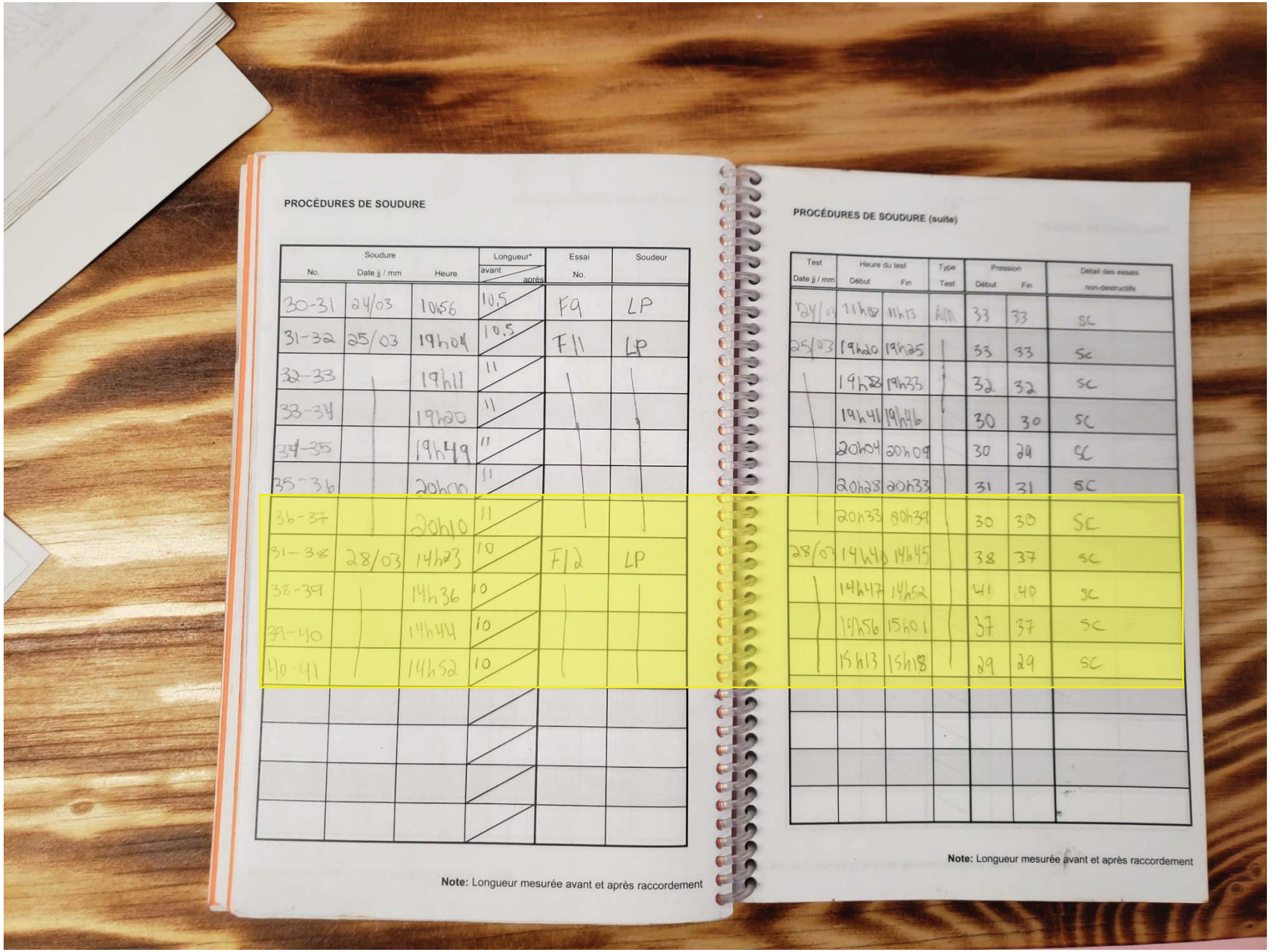
IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



Photograph 6: Geotextile being installed over LLDPE liner at approx. Sta. 0+140, view looking E.

Date: 2021-03-28
Photo By: BG

IVR DYKE: LINER APPROVAL - PHOTOGRAPHS



PROCÉDURES DE SOUDURE

Soudure No.	Date jj / mm	Heure	Longueur* avant / après	Essai No.	Soudeur
30-31	24/03	10h56	10.5	F9	LP
31-32	25/03	19h04	10.5	F11	LP
32-33		19h11	11		
33-34		19h20	11		
34-35		19h49	11		
35-36		20h00	11		
36-37		20h10	11		
31-38	28/03	14h23	10	F12	LP
38-39		14h36	10		
39-40		14h44	10		
40-41		14h52	10		

Note: Longueur mesurée avant et après raccordement

PROCÉDURES DE SOUDURE (suite)

Test Date jj / mm	Heure du test Début	Heure du test Fin	Type Test	Pression Début	Pression Fin	Détail des essais non-destructifs
24/03	11h08	11h13		33	33	SC
25/03	19h20	19h25		33	33	SC
	19h28	19h33		32	32	SC
	19h41	19h46		30	30	SC
	20h04	20h09		30	29	SC
	20h28	20h33		31	31	SC
	20h33	20h39		30	30	SC
28/03	14h40	14h45		38	37	SC
	14h47	14h52		41	40	SC
	14h56	15h01		37	37	SC
	15h13	15h18		29	29	SC

Note: Longueur mesurée avant et après raccordement

Photograph 7: Results of seam test (air channel test) conducted on installed panels P38 to P41 between Sta. 0+130 and Sta. 0+100.

Date: 2021-03-28
Photo By: BG

APPROVAL FORM

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PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 20210331 DS-04
(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: March 31, 2021

TIME: 17:00
(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

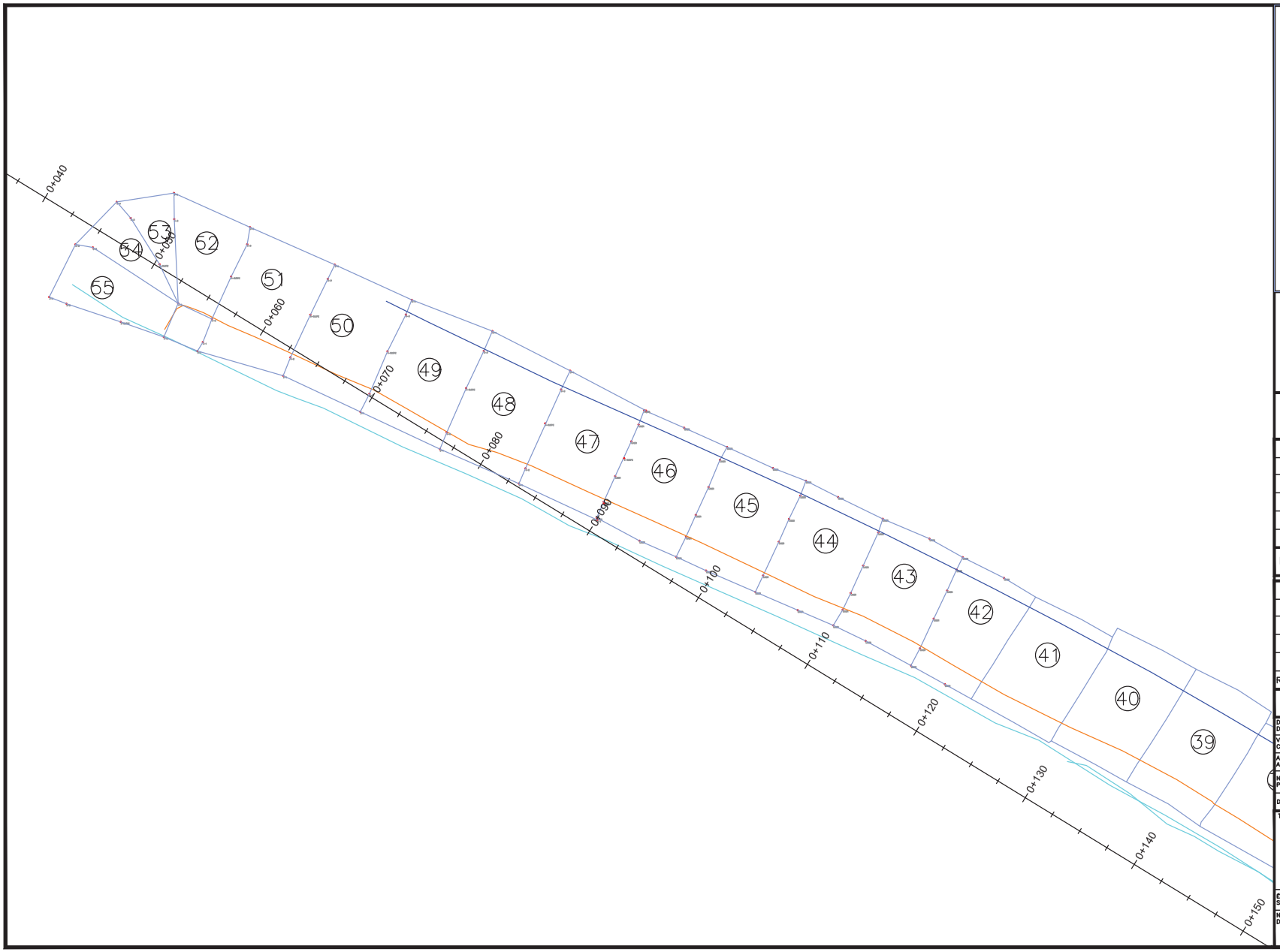
LOCATION	PREVIOUS APPROVALS
Station: Sta. 0+120 → 0+089	Station: —
Inclination:	Details: —
ELEVATION: ☐ varies _____ m	

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	–		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					–
4. Gradation (visual assessment)					–
5. Placement (lift thickness, segregation, etc.)					–
6. Compaction					–
7. Foundation on bedrock – cleaning and mapping					–
8. As built survey completed	–		✓		
9. Material certification meets specs	–		✓		
10. Visual inspection – no damage or defects	–		✓		
11. Deficiencies reported before install	–		✓		
12. Inspection of liner storage facilities	–		✓		
13. Final bedding surface	–		✓		
14. Visual inspection during placement	–		✓		
15. Damages during installation repaired	–		✓		
16. Weather conditions meet requirements during installation	–		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by trowel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
8.0	A&M to provide survey for approval form.				
	Observations:				
	Installation of panels P42 to P46.				
	Bedding surface inspected by QA/QC prior to installation of geotextile/geomembrane.				
	Seam tests & calib. results met Tech. Specs.				
	5 vacuum tests conducted on panel P42 (Damage from loader), results met Tech. Specs.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Rene Pharand	Rene Pharand	3-03-21
QC REPRESENTATIVE	Florent Vaillant	florent Vaillant	31/03/21
QA REPRESENTATIVE	Brandon Gray		Mar. 31, 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART		1ST APR 2021



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–03		

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DEIKE KEY TRENCH
APPROVAL 0+50 @ 0+120

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–AB LINER	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 1: FC Liner QC completing first calibration test of the day at 2PM.

Date: 2021-03-31
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 2: FC Liner welding panel seams P42 and P41 at approx. Sta. 0+120, view looking W.

Date: 2021-03-31
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 3: FC Liner QC performing air channel test on panel seams P43 and P44 at approx. Sta. 0+100, view looking W.

Date: 2021-03-31
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 4: FC Liner working to instal patches on panel P43 at approx. Sta. 0+114, view looking S.

Date: 2021-03-31
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 5: LLDPE liner installed between approx. Sta. 0+120 and Sta. 0+089, view looking E.

Date: 2021-03-31
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April. 1, 2021

DOCUMENT #: 20210401- DS-03 **TIME:** 19:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+089 → 0+045	**Station:**	Sta. 0+120 → 0+089
Inclination:		**Details:**	20210331-DS-04
ELEVATION:	☑ varies _____ m		

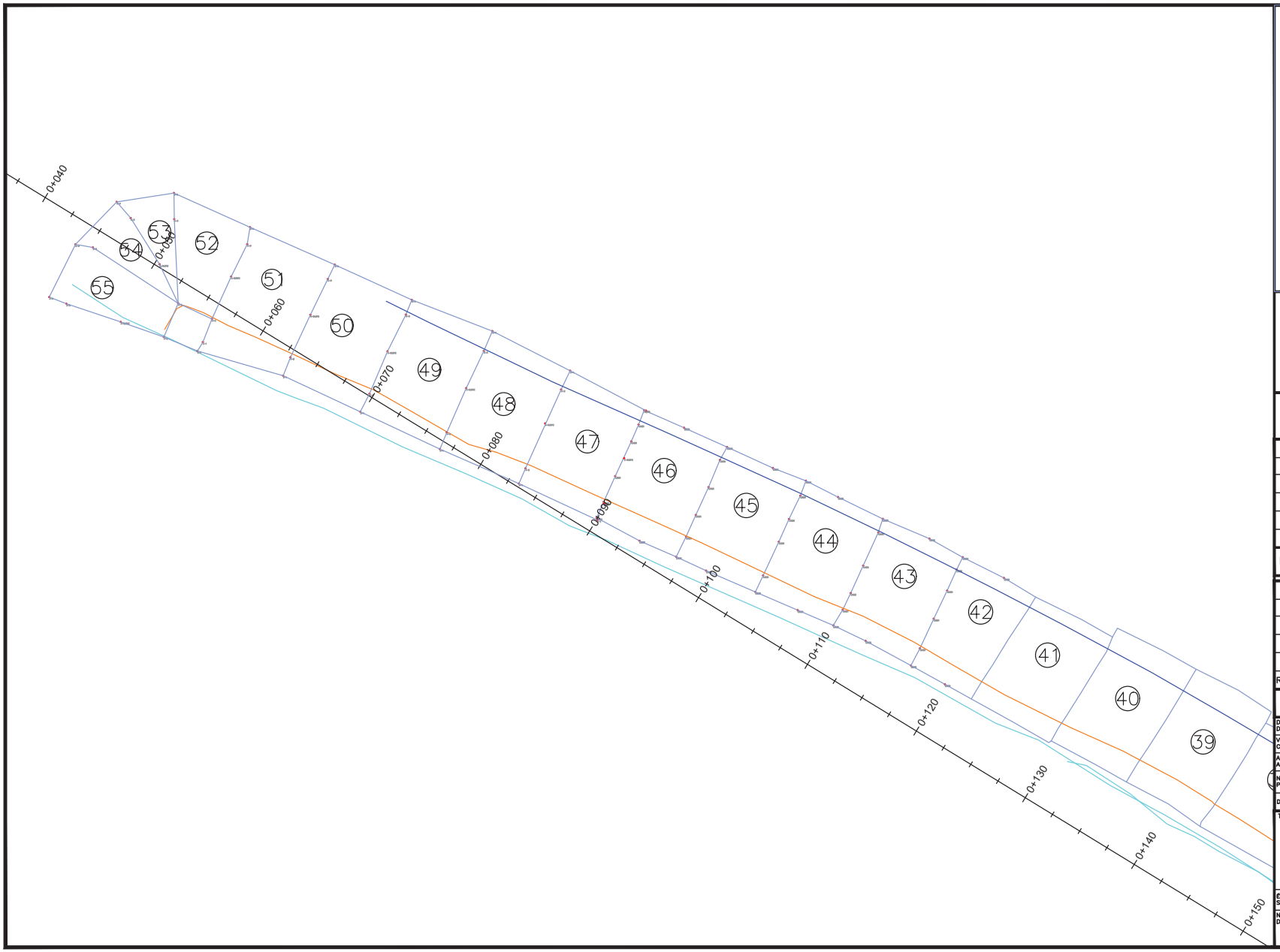
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by trowel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
8.0	AEM to provide survey for approval form.	✓		✓	
	Observations:				
	Installation of panels P47 to P55				
	Bedding surface inspected by QA/QC prior to installation of geotextile/geomembrane				
	Seam tests & calib. results met Tech. specs.				
	QA present for installation of panels P47 to P50.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	René Rheault	René Rheault	2-04-21
QC REPRESENTATIVE	Florent Vaillant	Florent Vaillant	01/04/2021
QA REPRESENTATIVE	Brandon Gray	Brandon Gray	April 01 2021
OWNER'S REPRESENTATIVE	ANTHONY STEWART	Anthony Stewart	2nd Apr 21



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–03		

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DEIKE KEY TRENCH
APPROVAL 0+50 @ 0+120

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–AB LINER	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



Photograph 1: FC liner installing geotextile at approx. Sta. 0+075, view looking SW.

Date: 2021-04-1
Photo By: BG

IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



Photograph 2: FC Liner installing LLDPE panels at approx. Sta. 0+070, view looking NW.

Date: 2021-04-1
Photo By: BG

IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



Photograph 3: FC Liner welding LLDPE panels at approx. Sta. 0+080, view looking E.

Date: 2021-04-1
Photo By: BG

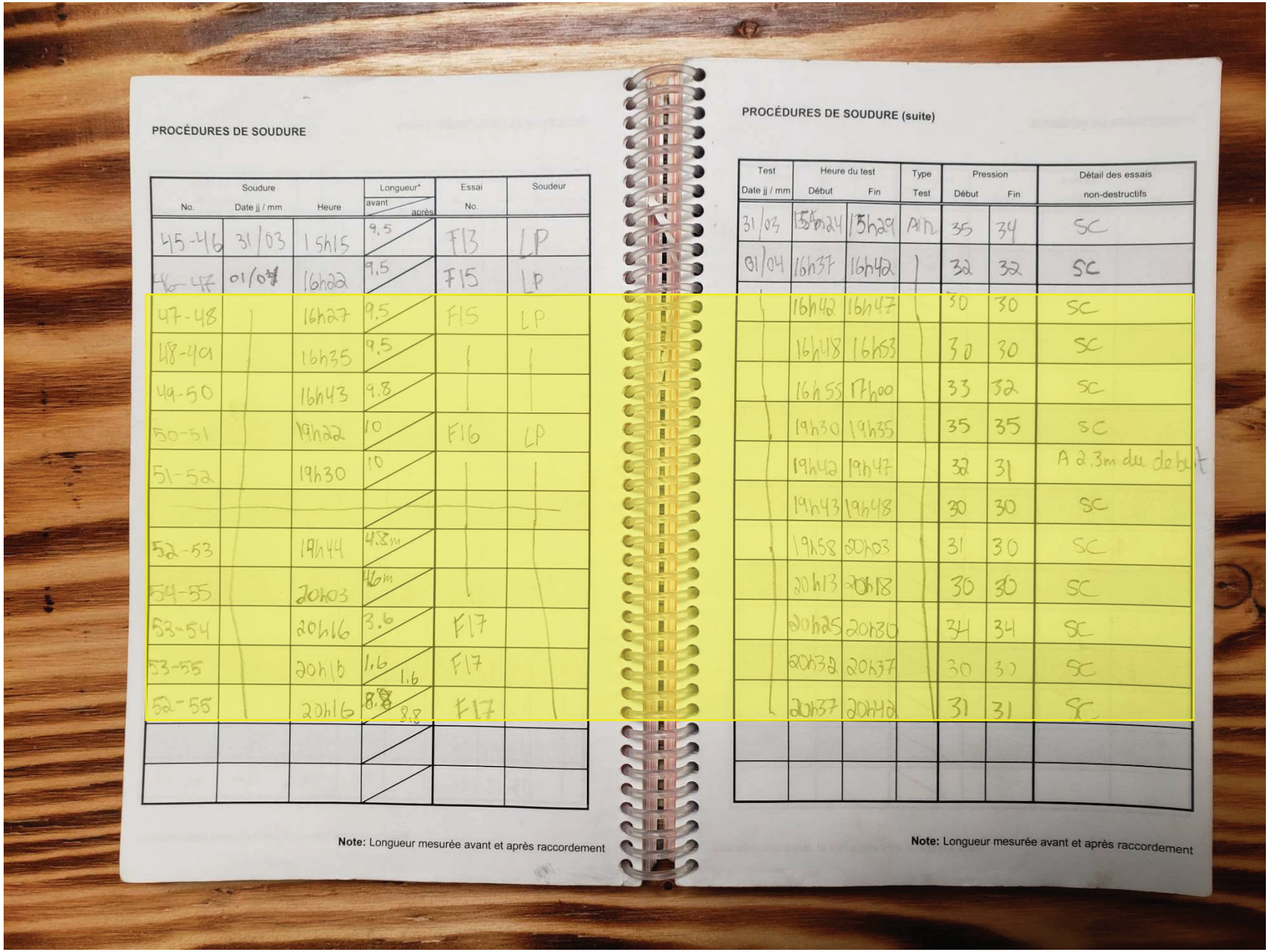
IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



Photograph 4: FC Liner QC conducting destructive test on sample DT4.

Date: 2021-04-1
Photo By: BG

IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



PROCÉDURES DE SOUDURE

Soudure No.	Soudure Date jj / mm	Soudure Heure	Longueur* avant / après	Essai No.	Soudeur
45-46	31/03	15h15	9.5	F13	LP
46-47	01/04	16h22	9.5	F15	LP
47-48		16h27	9.5	F15	LP
48-49		16h35	9.5		
49-50		16h43	9.8		
50-51		19h22	10	F16	LP
51-52		19h30	10		
52-53		19h44	4.8m		
54-55		20h03	46m		
53-54		20h16	3.6	F17	
53-55		20h16	1.6 / 1.6	F17	
52-55		20h16	8.8 / 8.8	F17	

Note: Longueur mesurée avant et après raccordement

PROCÉDURES DE SOUDURE (suite)

Test Date jj / mm	Heure du test Début	Heure du test Fin	Type Test	Pression Début	Pression Fin	Détail des essais non-destructifs
31/03	15h24	15h29	AIR	35	34	SC
01/04	16h37	16h42		32	32	SC
	16h42	16h47		30	30	SC
	16h48	16h53		30	30	SC
	16h55	17h00		33	32	SC
	19h30	19h35		35	35	SC
	19h42	19h47		32	31	A 2.3m du début
	19h43	19h48		30	30	SC
	19h58	20h03		31	30	SC
	20h13	20h18		30	30	SC
	20h25	20h30		34	34	SC
	20h32	20h37		30	30	SC
	20h37	20h40		31	31	SC

Note: Longueur mesurée avant et après raccordement

Photograph 5: Results of air channel tests conducted on panels installed between Sta. 0+080 and Sta.0+045.

Date: 2021-04-1
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 16, 2021

DOCUMENT #: 20210416 - DS - 04 **TIME:** 16:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation (Key trench)

LOCATION		PREVIOUS APPROVALS	
Station	0+403 to 0+526	Station:	
Inclination:		Details:	
ELEVATION:	☑ varies _____ m		

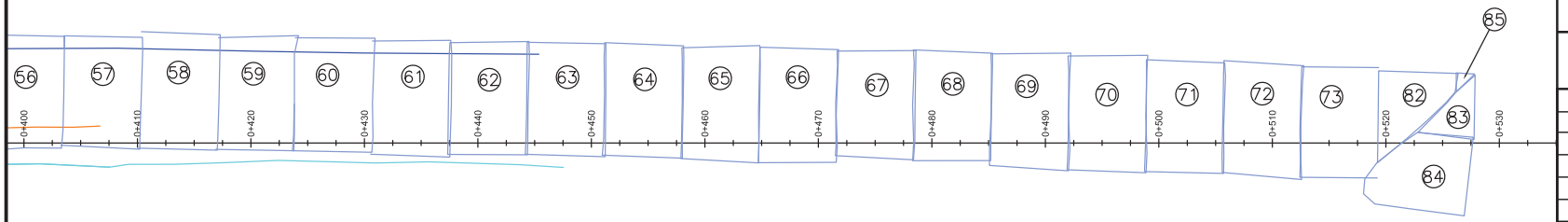
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					✓
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by travel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
	Seams air channel tested and compliant. 4 patches done on Panel P59 and 5 patches on panel P60. (R14 to R22) due to forklift damage. Patches vacuum box tested and compliant. 1 patch done on panel P73, vacuum box tested and compliant. (R23)				
	1 destructive test performed on seam P63/64. Results of peel and shear tests compliant. (DT5)				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Louis Savoie		17/04/2021
QC REPRESENTATIVE	PATRICK LANGLOIS		19-04-21
QA REPRESENTATIVE	Shari Spilberg		April 16, 2021
OWNER'S REPRESENTATIVE	LAVRIER COMETTE		17-04-2021



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

		DATE
DESSINÉ PAR / DRAWN BY		
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–04–20

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DEIKE KEY TRENCH
APPROVAL 0+403 @ 0+525

ÉCHELLE/ SCALE	FICHIER FILE	
NA	.DWG	

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–AB LINER		1 / 1

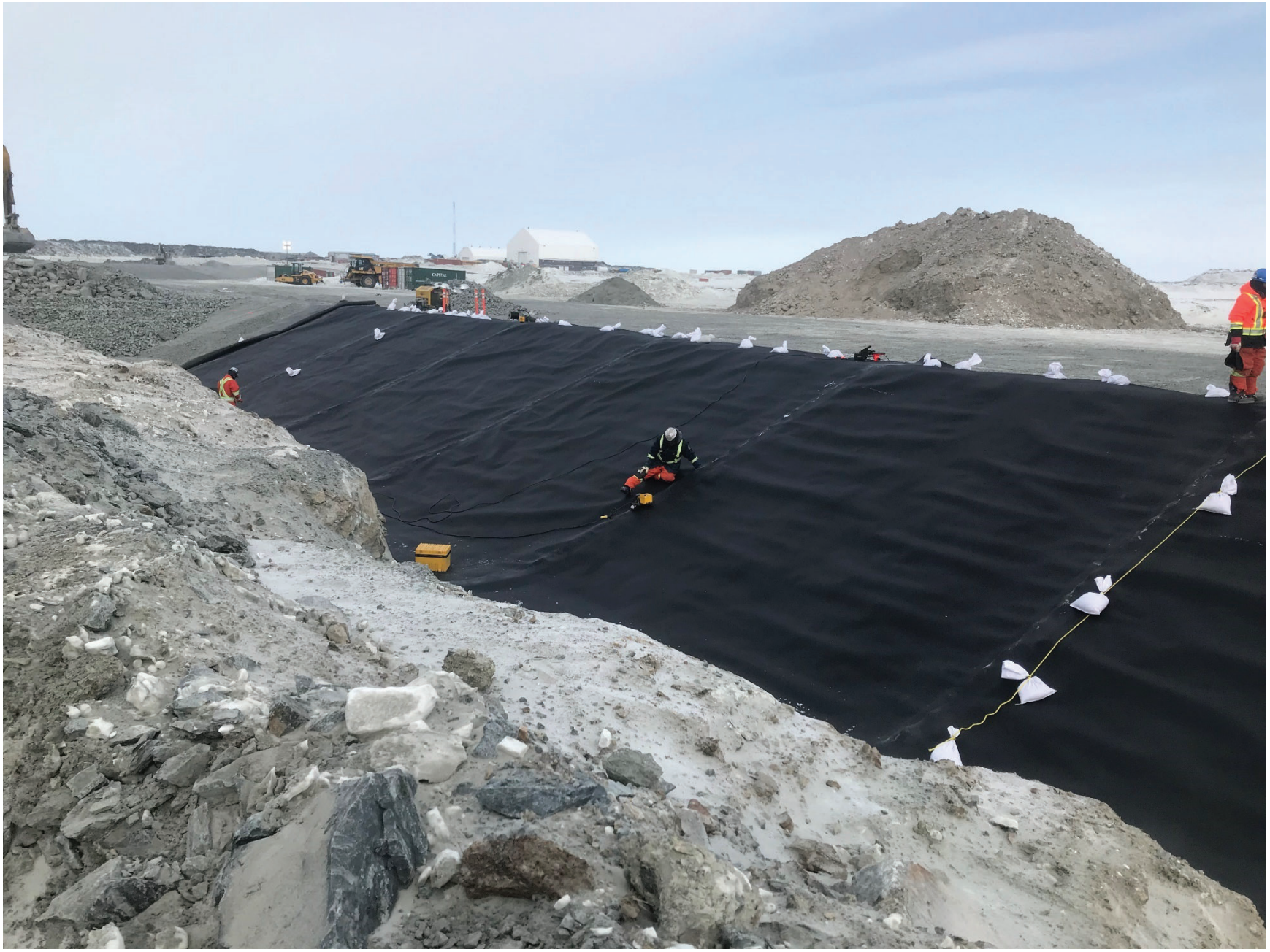
IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



Photograph 1: LLDPE liner installation from Sta. 0+400 to 0+440, view looking W.

Date: 2021-04-13
Photo By: SS

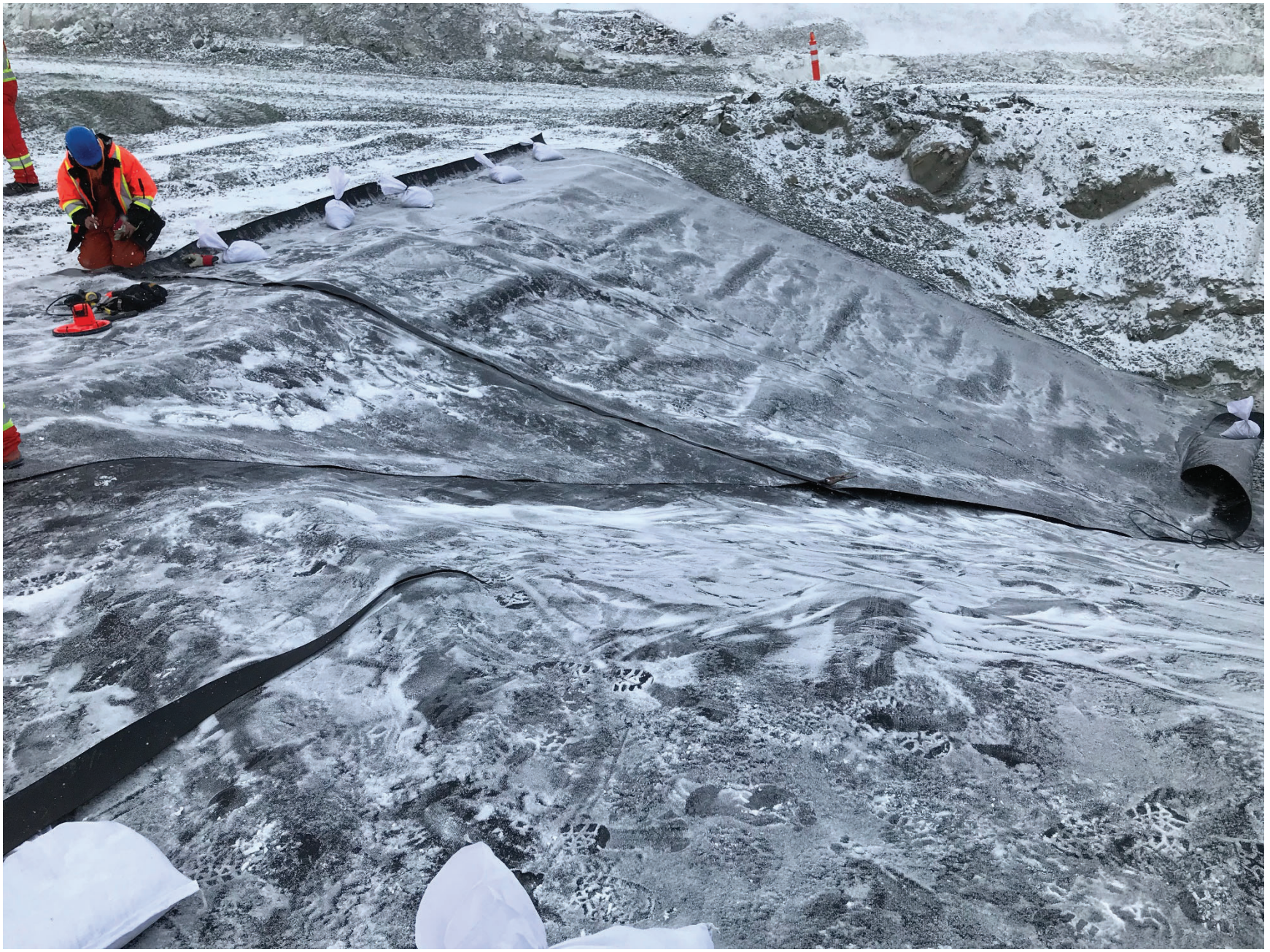
IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



Photograph 2: LLDPE liner installation from Sta. 0+440 to 0+480, view looking NW.

Date: 2021-04-14
Photo By: SS

IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



Photograph 3: LLDPE liner installation at East abutment, Sta. 0+529, view looking N.

Date: 2021-04-16
Photo By: SS

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 19 2021

DOCUMENT #: 20210419-DS-01 **TIME:** 17:30

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation (dyke)

LOCATION		PREVIOUS APPROVALS	
Station	0+140 to 0+369	Station:	
Inclination:		Details:	
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

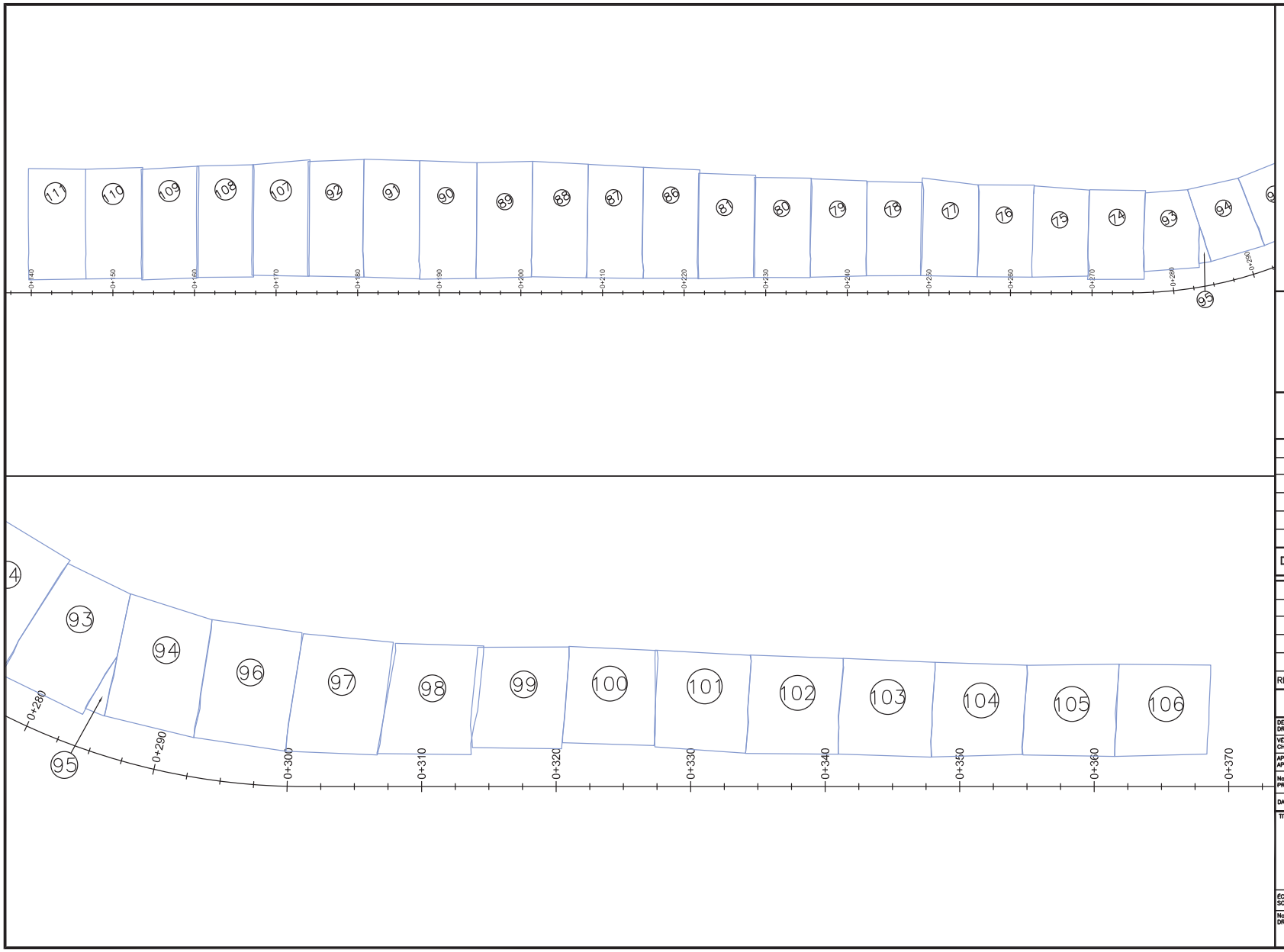
(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water					✓
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, rissability by trowel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
	Seams air channel tested + compliant.				
	Four destructive tests (D6 to D9) done on seams P74/75, P86/87, P98/99, and P109/110. Results of peel and shear tests compliant.				
	1 patch done on panel P101 (R28). Vacuum box tested and compliant.				
	The liner hinge weld was damaged during trimming from Sta. 0+217 to 0+197 (panels P86 to P89 welded to P8 to P4). Hinge weld was repaired and inspected visually prior to backfill.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE			
QC REPRESENTATIVE	Patrick Langlois		19-04-21
QA REPRESENTATIVE	Shai Spilberg		April 19, 2021
OWNER'S REPRESENTATIVE	Stéphane Gicken		April 19, 2021

FORMAT ANSI B–11x17



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

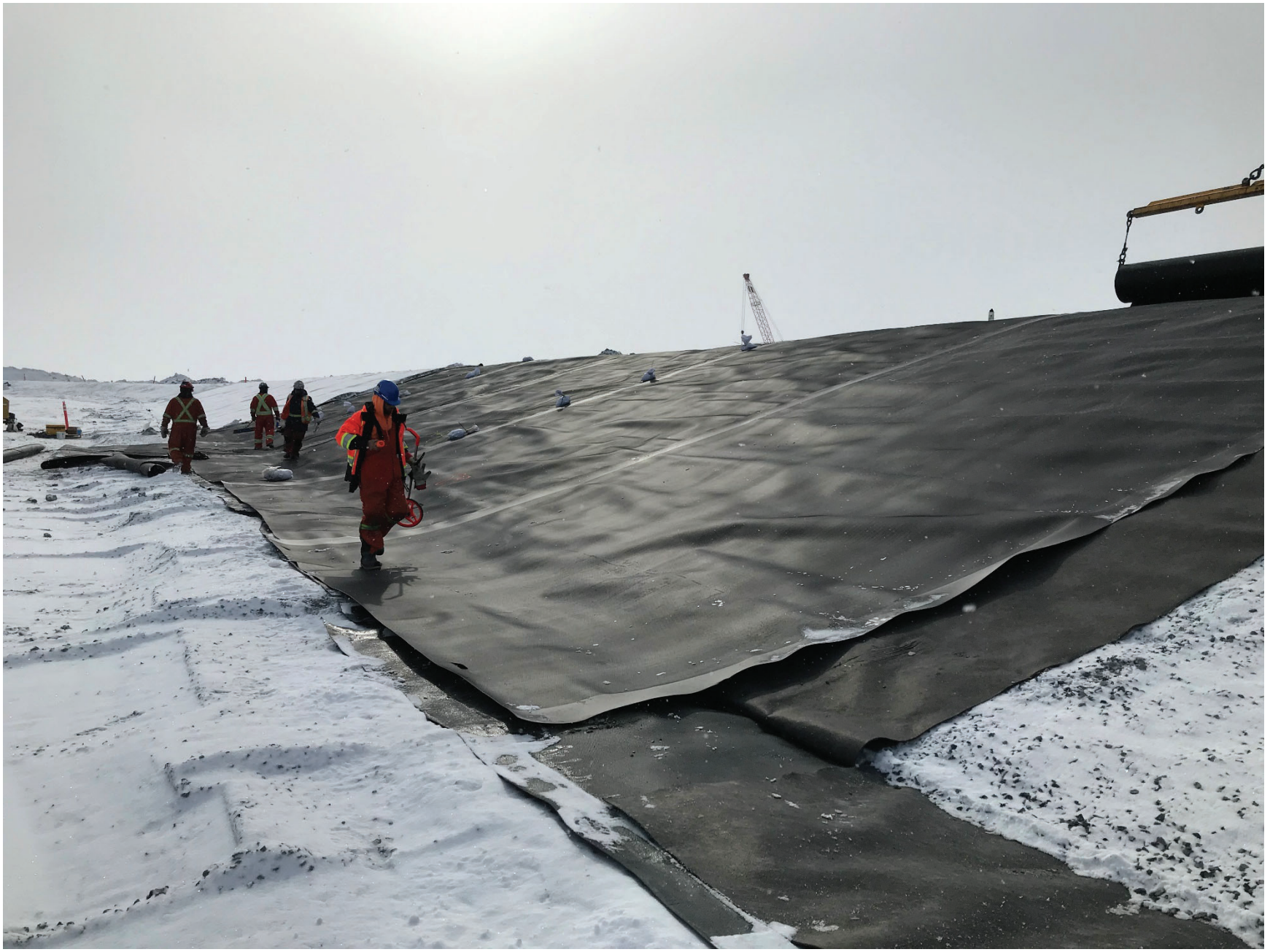
DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–20		

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DIKE UPSTREAM
APPROVAL 0+140 @ 0+370

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–AB LINER	REVISION	FEUILLE/SHT 1 / 1

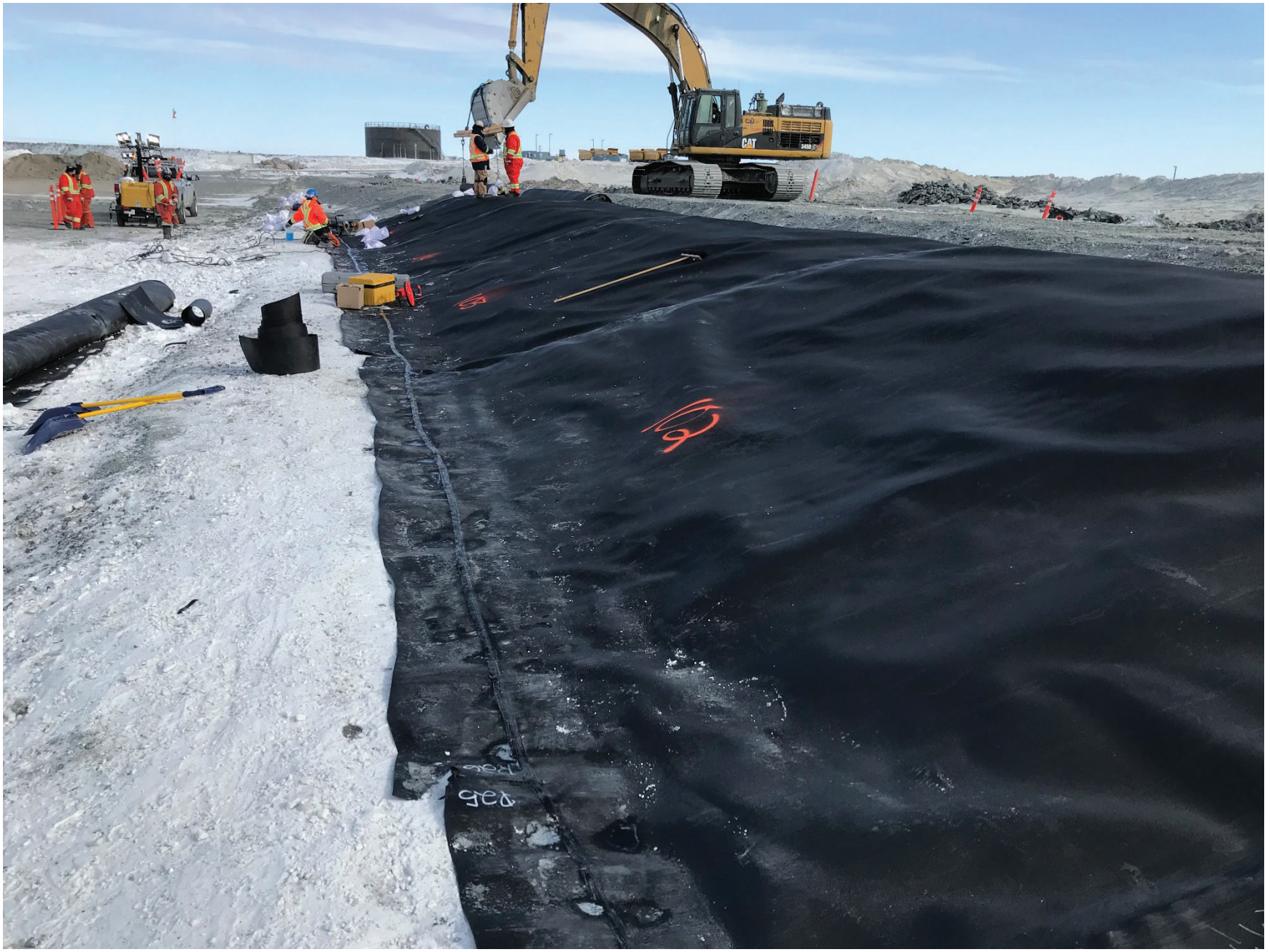
IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



Photograph 1: LLDPE liner installation from Sta. 0+250 to 0+276, view looking E.

Date: 2021-04-19
Photo By: SS

IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



Photograph 2: LLDPE liner installation from Sta. 0+335 to 0+369, view looking E.

Date: 2021-04-18
Photo By: SS

IVR DYKE: LLDPE INSTLALLATION APPROVAL - PHOTOGRAPHS



Photograph 3: LLDPE liner installation from Sta. 0+174 to 0+140, view looking NW.

Date: 2021-04-19
Photo By: SS

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 214 52873 **DATE:** April 20, 2021

DOCUMENT #: 20210420-DS-02 **TIME:** 17:30

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+140 -> 0+192 & Sta. 0+360 -> 0+385	**Station:**	–
Inclination:		**Details:**	–
ELEVATION: ☐ varies _____ m			

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

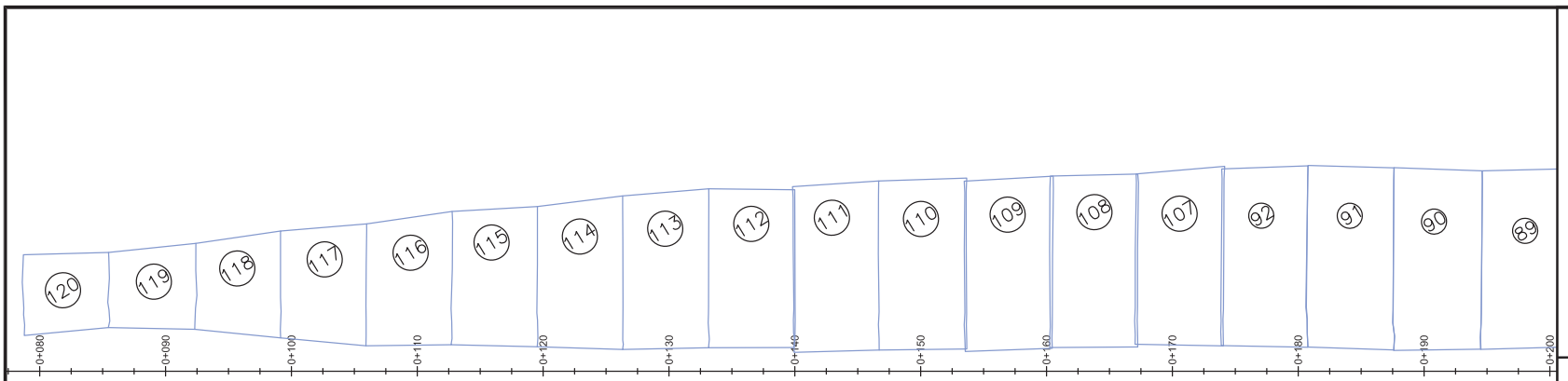
(Add additional items if needed)

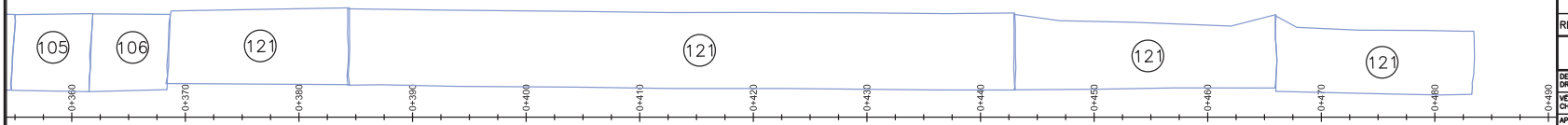
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades			✓		
2. Free of ice/snow/water			✓		
3. Cleaning of cut-off trench			✓		✓
4. Gradation (visual assessment)			✓		✓
5. Placement (lift thickness, segregation, etc.)			✓		✓
6. Compaction			✓		✓
7. Foundation on bedrock – cleaning and mapping			✓		✓
8. As built survey completed	✓		✓		
9. Material certification meets specs			✓		
10. Visual inspection – no damage or defects			✓		
11. Deficiencies reported before install			✓		
12. Inspection of liner storage facilities			✓		
13. Final bedding surface			✓		
14. Visual inspection during placement			✓		
15. Damages during installation repaired			✓		
16. Weather conditions meet requirements during installation			✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth			✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by travel test, holes, folding, wrinkling, visible lumps or protusions			✓	
8.0	AEM to provide survey for approval form.				
	Installation of Panels P121 to P182				
	Bedding surface inspected by QC prior to installation of geotextile / geomembrane				
	Results of seam tests & calib. results have been reviewed by QA and met the Tech. Specs.				
	QA not on site during installation				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		22-04-21
QC REPRESENTATIVE	PATRICK LANGLOIS		22-04-21
QA REPRESENTATIVE	Brandon Gray	BGray	April 20, 2021
OWNER'S REPRESENTATIVE	Stephane Cloutier		April 20, 2021

FORMAT ANSI B–11x17





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TITRE / TITLE	# DWG
DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS	

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE 2021–04–03
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–04–22

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DIKE UPSTREAM
APPROVAL 0+080 @ 0+195
APPROVAL 0+360 @ 0+485

ÉCHELLE/ SCALE	FICHIER FILE	
NA	.DWG	

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–AB LINER		1 / 1

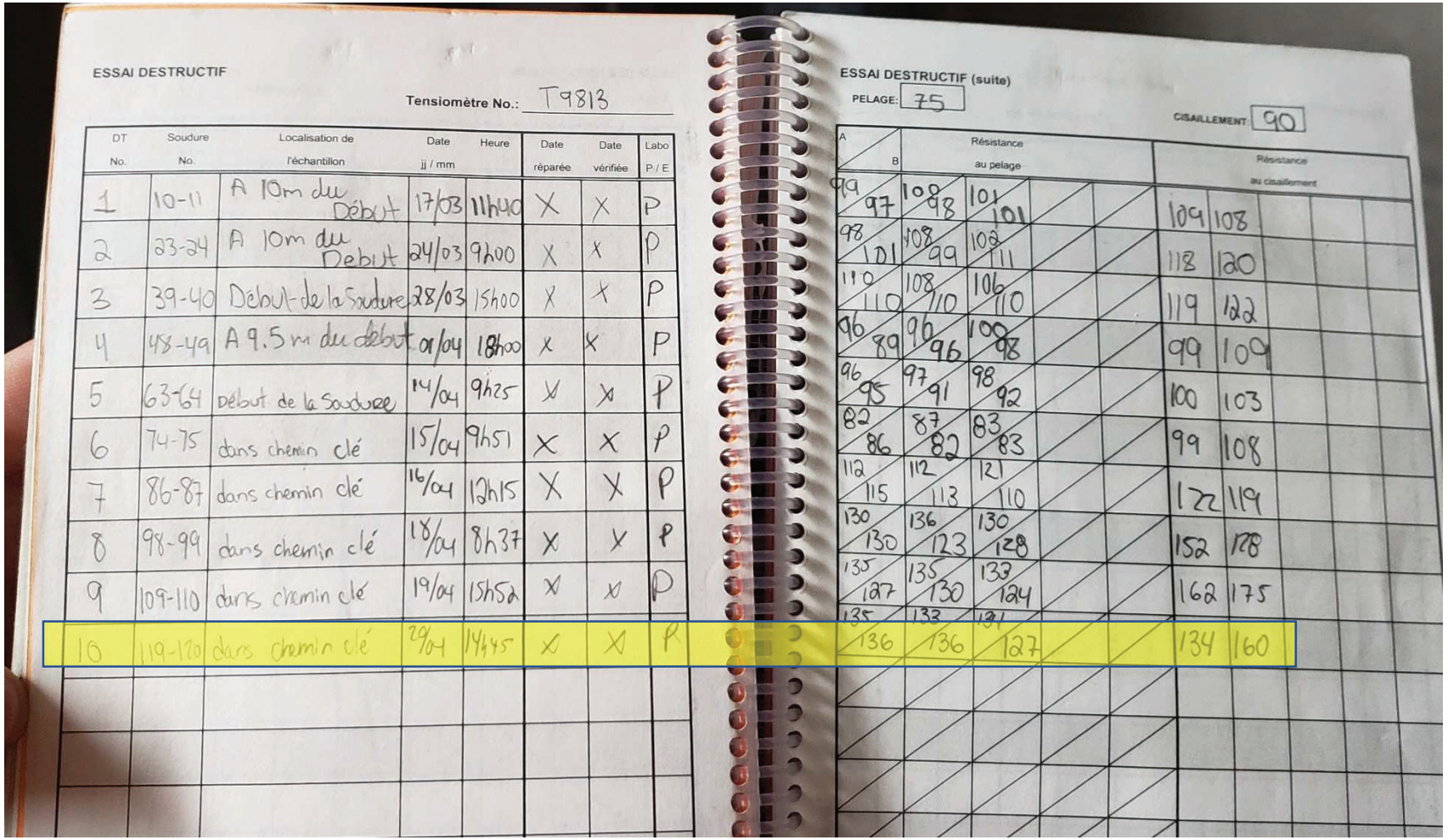
IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 1: Geotextile/geomembrane installed between approx. Sta. 0+140 and Sta. 0+190, view looking E.

Date: 2021-04-20
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



ESSAI DESTRUCTIF

Tensiomètre No.: T9813

DT No.	Soudure No.	Localisation de l'échantillon	Date jj / mm	Heure	Date réparée	Date vérifiée	Labo P / E
1	10-11	A 10m du Début	17/03	11h40	X	X	P
2	23-24	A 10m du Début	24/03	9h00	X	X	P
3	39-40	Début de la Soudure	28/03	15h00	X	X	P
4	48-49	A 9.5 m du début	01/04	18h00	X	X	P
5	63-64	Début de la Soudure	14/04	9h25	X	X	P
6	74-75	dans chemin clé	15/04	9h51	X	X	P
7	86-87	dans chemin clé	16/04	12h15	X	X	P
8	98-99	dans chemin clé	18/04	8h37	X	X	P
9	109-110	dans chemin clé	19/04	15h52	X	X	P
10	119-120	dans chemin clé	29/04	14h45	X	X	P

ESSAI DESTRUCTIF (suite)

PELAGE: 75

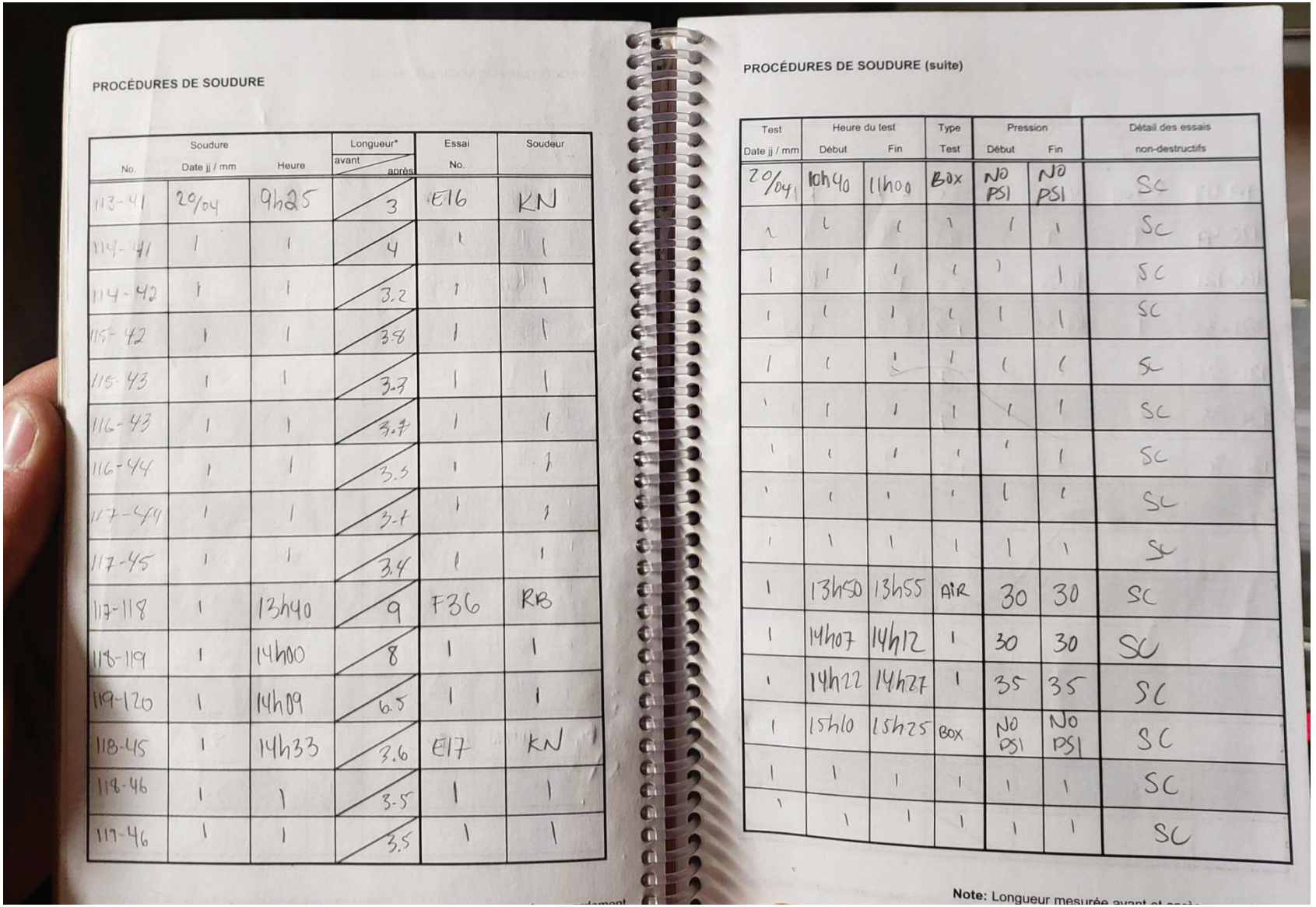
CISAILLEMENT: 90

A / B	Résistance au pelage				Résistance au cisaillement	
99	97	108 / 98	101 / 101		109	108
98	101	108 / 99	102 / 111		118	120
110	110	108 / 110	106 / 110		119	122
96	89	96 / 96	100 / 98		99	109
96	95	97 / 91	98 / 92		100	103
82	86	87 / 82	83 / 83		99	108
112	115	112 / 113	121 / 110		122	119
130	130	136 / 123	130 / 128		152	128
135	127	135 / 130	133 / 124		162	175
135	136	133 / 136	131 / 127		134	160

Photograph 2: Results of destructive test sample DT10, the results of the shear and peel tests met Technical Specifications.

Date: 2021-04-20
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



PROCÉDURES DE SOUDURE

Soudure No.	Date jj / mm	Heure	Longueur* avant / après	Essai No.	Soudeur
113-41	20/04	9h25	3	E16	KN
114-41	1	1	4	1	1
114-42	1	1	3.2	1	1
115-42	1	1	3.8	1	1
115-43	1	1	3.7	1	1
116-43	1	1	3.7	1	1
116-44	1	1	3.5	1	1
117-44	1	1	3.7	1	1
117-45	1	1	3.4	1	1
117-118	1	13h40	9	F36	RB
118-119	1	14h00	8	1	1
119-120	1	14h09	6.5	1	1
118-45	1	14h33	3.6	E17	KN
118-46	1	1	3.5	1	1
117-46	1	1	3.5	1	1

PROCÉDURES DE SOUDURE (suite)

Test Date jj / mm	Heure du test Début	Fin	Type Test	Pression Début	Fin	Détail des essais non-destructifs
20/04	10h40	11h00	Box	NO PSI	NO PSI	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	13h50	13h55	AIR	30	30	SC
1	14h07	14h12	1	30	30	SC
1	14h22	14h27	1	35	35	SC
1	15h10	15h25	Box	NO PSI	NO PSI	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC

Note: Longueur mesurée avant et après

Photograph 3: Results of seam tests and vacuum box test on liner panels P113 to P119, results met the Technical Specifications.

Date: 2021-04-20
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DOCUMENT #: 2021 0421-DS-01 (YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

DATE: April 21, 2021

TIME: 16:00 (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION		PREVIOUS APPROVALS	
Station	Sta. 0+385 -> 0+483	Station:	–
Inclination:		Details:	–
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

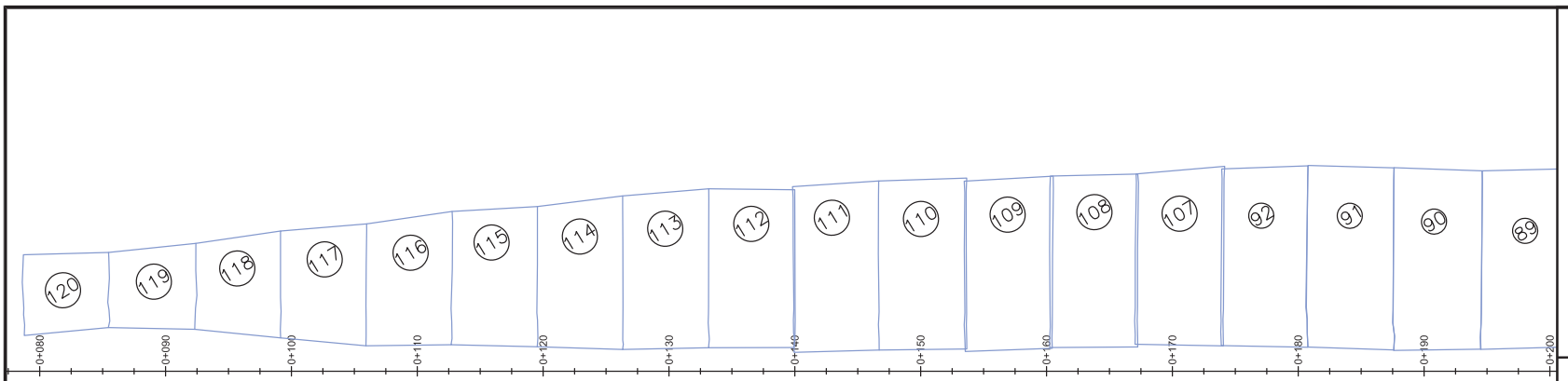
(Add additional items if needed)

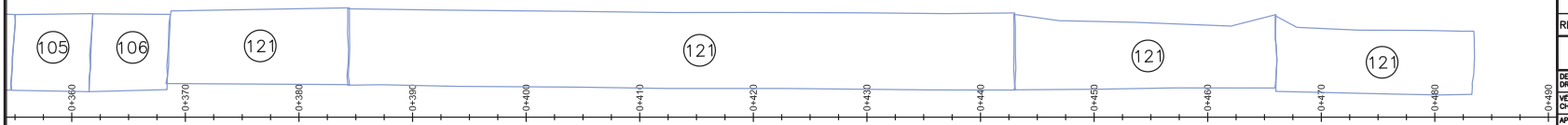
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench			✓		–
4. Gradation (visual assessment)			✓		–
5. Placement (lift thickness, segregation, etc.)			✓		–
6. Compaction			✓		–
7. Foundation on bedrock – cleaning and mapping			✓		–
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by travel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
8.0	AEM to provide survey for approval form.				
	Observations:				
	Installation of panels P122 to P124				
	Bedding surface inspected by QA/QC prior to installation of geotextile / geomembrane.				
	Seam tests & calib results met Tech. Specs.				
	Vaccum tests conducted on entire length of extrusion weld.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Laravch		21-04-21
QC REPRESENTATIVE	PATRICK LANGLOIS		22-04-21
QA REPRESENTATIVE	Brandon Gray		April 21, 2021
OWNER'S REPRESENTATIVE	Stephane Sion		April 21, 2021

FORMAT ANSI B–11x17





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TITRE / TITLE	# DWG
DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS	

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE 2021–04–03
VÉRIFIÉ PAR / CHECKED BY		
APPROUVÉ PAR / APPROVED BY		

No. PROJET / PROJECT NO. 6127

DATE 2021–04–22

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DIKE UPSTREAM
APPROVAL 0+080 @ 0+195
APPROVAL 0+360 @ 0+485

ÉCHELLE/ SCALE	FICHIER FILE	
NA	.DWG	

No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
6127–IVR–AB LINER		1 / 1

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 1: Approved section of Zone 2 A (FF) slope between approx. Sta. 0+400 and Sta. 0+450, view looking E.

Date: 2021-04-21
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 2: FC Liner installing LLDPE for upper slope at approx. Sta. 0+460, view looking SE.

Date: 2021-04-21
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 3: FC liner conducting extrusion weld between installed LLDPE panels at approx. Sta. 0+400, view looking E.

Date: 2021-04-21
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 4: FC Liner QC conducting vacuum box testing along extrusion weld at approx. Sta. 0+400, view looking W.

Date: 2021-04-21
Photo By: BG

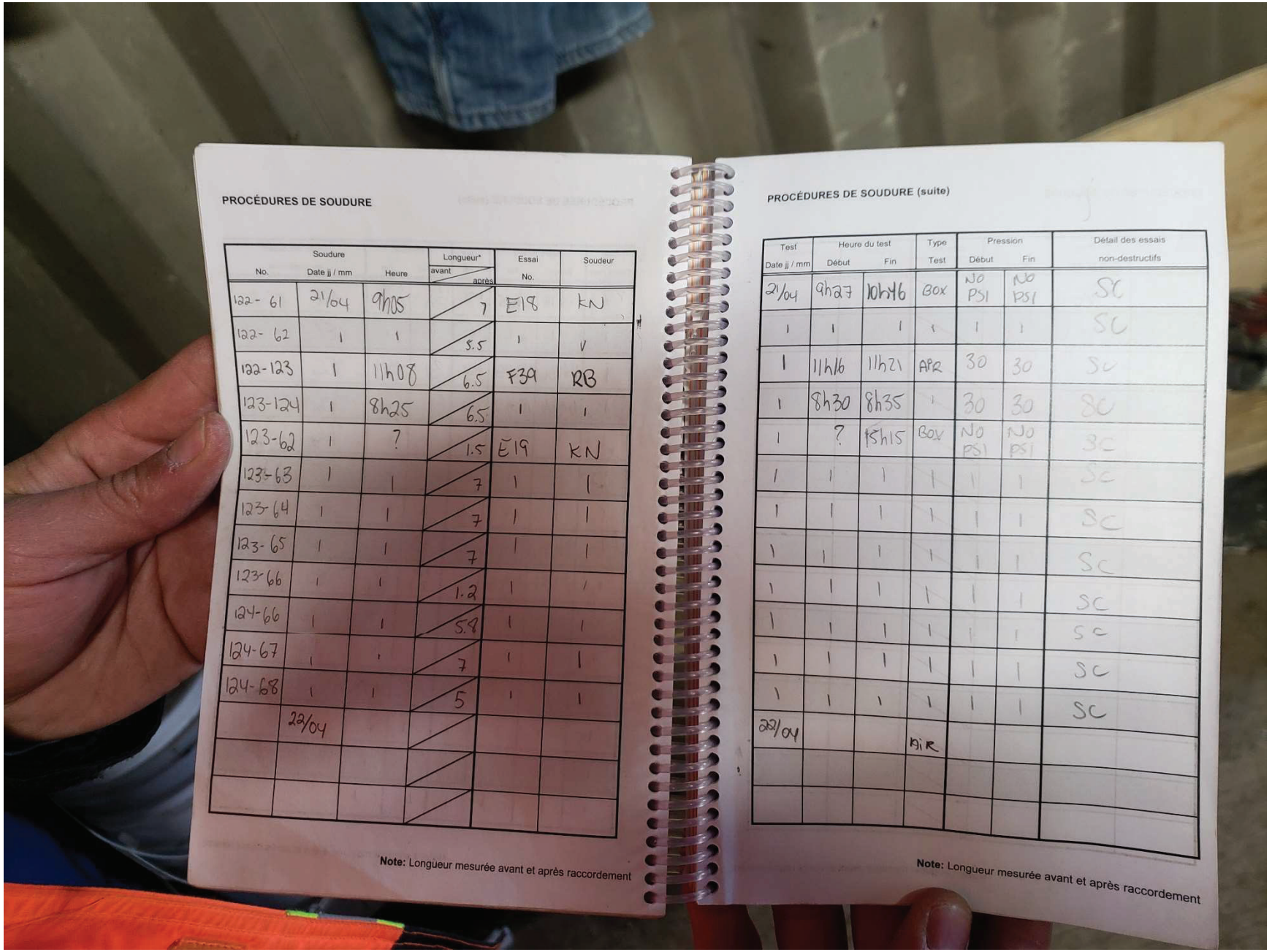
IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 5: Geotextile installed over LLDPE liner at approx. Sta. 0+410, view looking SW.

Date: 2021-04-21
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



PROCÉDURES DE SOUDURE

Soudure No.	Date jj / mm	Heure	Longueur* avant / après	Essai No.	Soudeur
122- 61	21/04	9h05	7	E18	KN
122- 62	1	1	5.5	1	V
122-123	1	11h08	6.5	F39	RB
123-124	1	8h25	6.5	1	1
123-62	1	?	1.5	E19	KN
123-63	1	1	7	1	1
123-64	1	1	7	1	1
123-65	1	1	7	1	1
123-66	1	1	1.2	1	1
124-66	1	1	5.9	1	1
124-67	1	1	7	1	1
124-68	1	1	5	1	1
	22/04				

Note: Longueur mesurée avant et après raccordement

PROCÉDURES DE SOUDURE (suite)

Test Date jj / mm	Heure du test Début	Heure du test Fin	Type Test	Pression Début	Pression Fin	Détail des essais non-destructifs
21/04	9h27	10h46	BOX	NO PSI	NO PSI	SC
1	1	1	1	1	1	SC
1	11h16	11h21	AIR	30	30	SC
1	8h30	8h35	1	30	30	SC
1	?	15h15	BOX	NO PSI	NO PSI	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
1	1	1	1	1	1	SC
22/04			AIR			

Note: Longueur mesurée avant et après raccordement

Photograph 6: Results of seam tests and vacuum box tests on liner panels P122 to P124, results met the Technical Specifications.

Date: 2021-04-21
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873 **DATE:** April 22, 2021

DOCUMENT #: 20210422-DS-02 **TIME:**

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION		**PREVIOUS APPROVALS**	
Station	Sta. 0+080 → 0+095 Sta. 0+483 → 0+523	**Station:**	Sta. 0+385 → 0+483
Inclination:		**Details:**	20210421-DS-01
ELEVATION:	☑ varies _____ m		

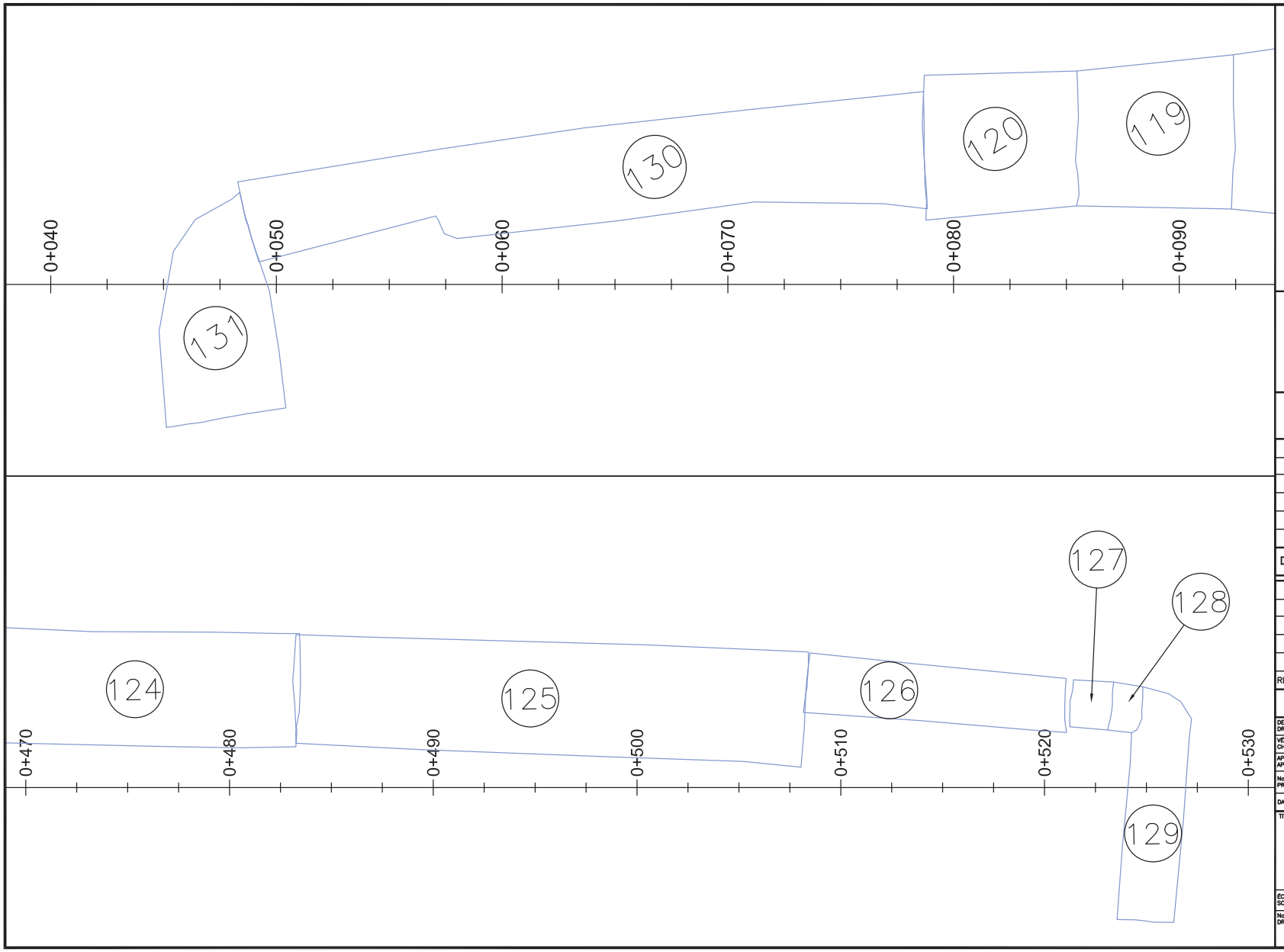
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to specs	✓		✓	
18.	Liner testing + sampling performed	✓		✓	
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by trowel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
8.0	AEM to provide survey for approval Form.				
	Observations				
	Installation of panels P125 to P131				
	Bedding surface inspected by QA/QC prior to installation of geotextile / geomembrane.				
	Vaccum tests conducted on entire length of extrusion weld.				
	Liner QC unable to perform air test on panel seams P124 / P125 due to blockage. FC Liner proceeded to apply extrusion weld between seams.				

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Alexandre Bandut		23-04-21
QC REPRESENTATIVE	PATRICK LANGLOIS		23-04-21
QA REPRESENTATIVE	Brandon Gray		April 22, 2021
OWNER'S REPRESENTATIVE	Stephane Cianot		Apr. 22, 2021



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TITRE / TITLE	# DWG
DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS	

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	Y.HAMEL	DATE	2021–04–03
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			
No. PROJET / PROJECT NO.	6127		
DATE	2021–04–23		

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DIKE UPSTREAM
APPROVAL 0+045 @ 0+080
APPROVAL 0+485 @ 0+527

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–AB LINER	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 1: FC liner installing geotextile over Zone 2A (FF) material at approx. Sta. 0+490, view looking W.

Date: 2021-04-22
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 2: KCG removing snow and ice over LLDPE liner in advance of extrusion weld at approx. Sta. 0+500, view looking E.

Date: 2021-04-22
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 3: Extrusion weld between panels P124/P125 at approx. Sta. 0+483, view looking SE.

Date: 2021-04-22
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 4: FC liner conducting extrusion weld on LLDPE panels at approx. Sta. 0+500, view looking E.

Date: 2021-04-22
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 5: Geotextile installed over LLDPE liner placed along east abutment at approx. Sta. 0+520, view looking W.

Date: 2021-04-22
Photo By: BG

IVR DYKE: LLDPE INSTALLATION APPROVAL - PHOTOGRAPHS



Photograph 6: LLDPE liner placed along the west abutment at approx. Sta. 0+045, view looking E.

Date: 2021-04-22
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: 21452873

DATE: April 24, 2021

DOCUMENT #: 20210424-DS-02

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift

TIME: 14:00

(24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation

LOCATION		PREVIOUS APPROVALS	
Station	Sta. 0+015 → 0-~~010~~ 012	Station:	20210423-DS-02
Inclination:		Details:	Sta. 0+035 → 0+015
ELEVATION:	☑ varies _____ m		

COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

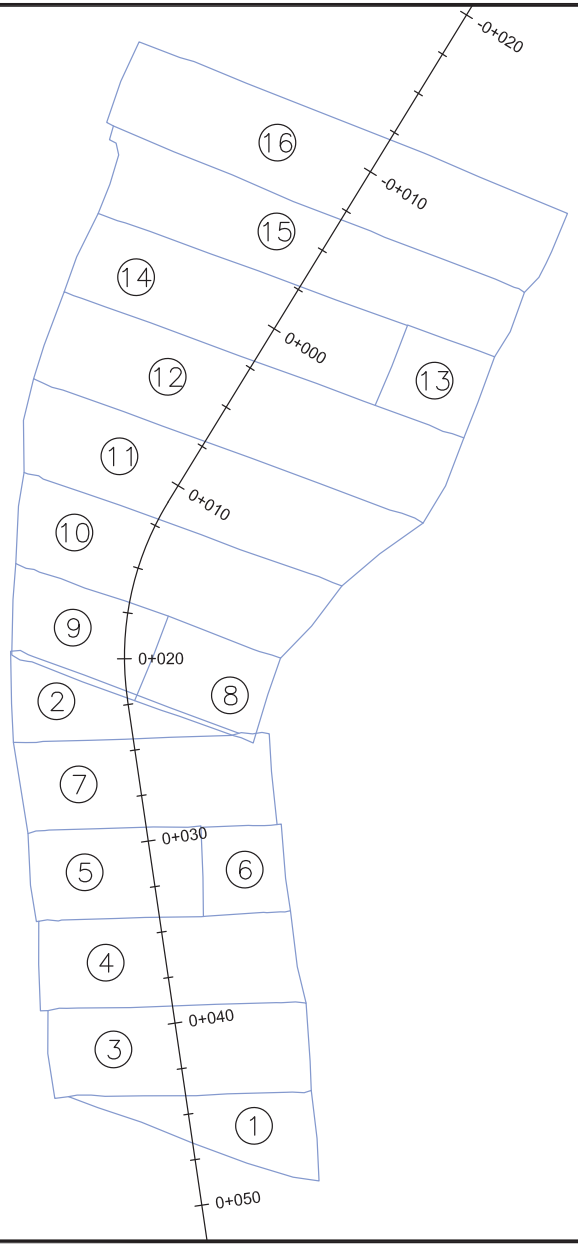
	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓		✓		
9. Material certification meets specs	✓		✓		
10. Visual inspection – no damage or defects	✓		✓		
11. Deficiencies reported before install	✓		✓		
12. Inspection of liner storage facilities	✓		✓		
13. Final bedding surface	✓		✓		
14. Visual inspection during placement	✓		✓		
15. Damages during installation repaired	✓		✓		
16. Weather conditions meet requirements during installation	✓		✓		

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC	
ITEM		Y	N	Y	N
17.	Welding carried out according to spec	✓		✓	
18.	Liner testing + sampling performed				
19.	Floor + upstream wall of anchor trench is smooth	✓		✓	
20.	Site cleaned up.	✓		✓	
21.	Check for: overheating of seams, loss of bitumen, risability by travel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓	
	Observations				
	Installation of BGM panels P8 to P16 through Spillway.				
	Bedding Surface inspected by QA/QC prior to installation of geotextile / BGM				
	BGM was overlapped 200 mm and heat welded using blow torch				

NA

✓

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Sabin Larouche		25-04-26
QC REPRESENTATIVE	Patrick Langlois		25-04-21
QA REPRESENTATIVE	Brandon Gray		April. 24, 2021
OWNER'S REPRESENTATIVE	Stephane Bisson		April, 24, 2021



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF Landreville	DATE	2021–04–25
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–04–25

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DIKE_SPILLWAY
LINER APPROVAL 0–012 @ 0+048

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–AB LINER	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: BGM INSTALLATION APPROVAL (Spillway) - PHOTOGRAPHS



Photograph 1: FC Liner heat placing GBM panels in spillway channel at approx. Sta. 0+010, view looking SW.

Date: 2021-04-24
Photo By: BG

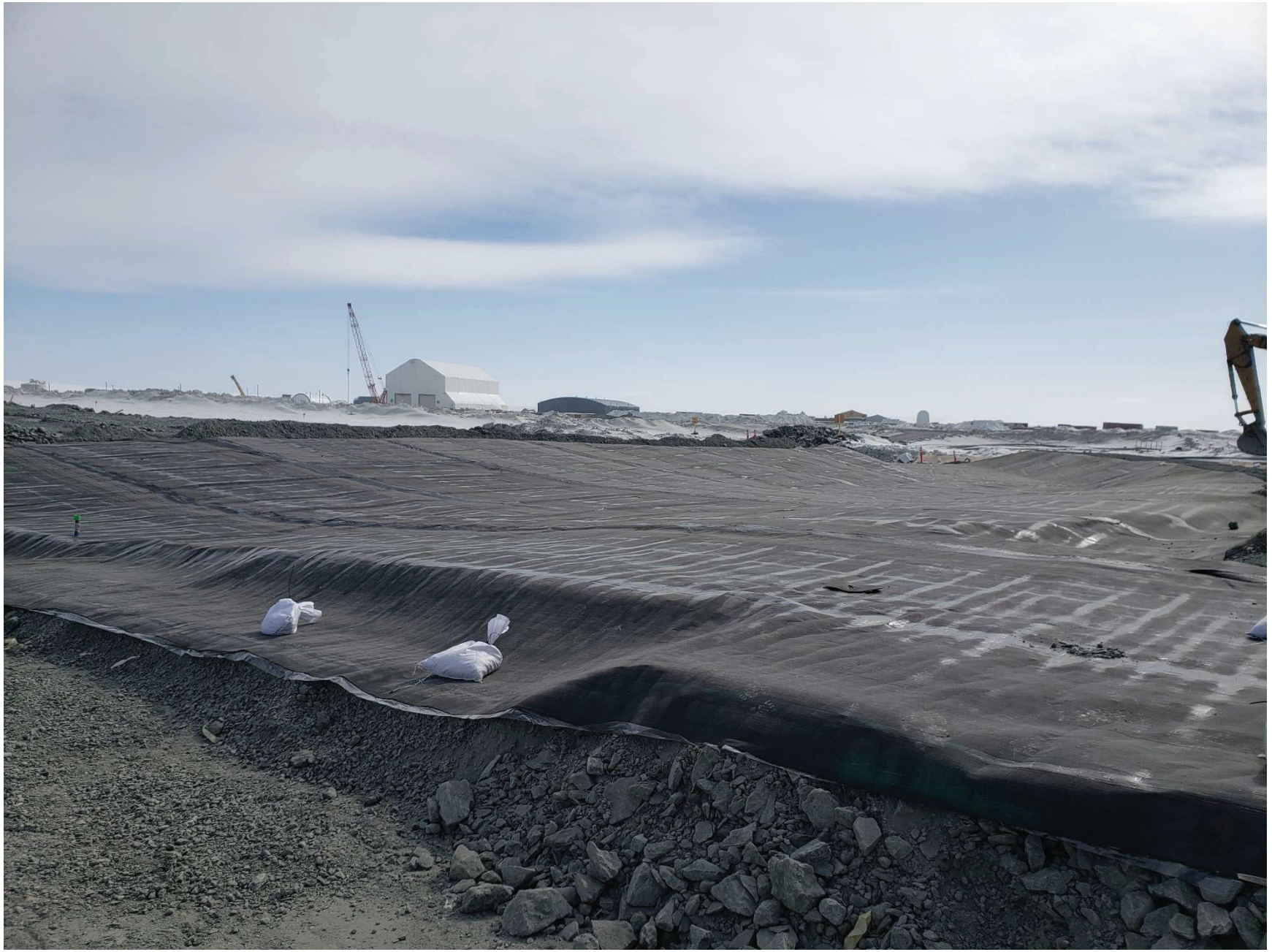
IVR DYKE: FOUNDATION APPROVAL (Spillway) - PHOTOGRAPHS



Photograph 2: FC Liner heat welding GBM panels P10/P11 at approx. Sta. 0+000, view looking N.

Date: 2021-04-24
Photo By: BG

IVR DYKE: BGM INSTALLATION APPROVAL (Spillway) - PHOTOGRAPHS



Photograph 3: Approved placement of GBM through spillway at approx. Sta. 0-010, view looking S.

Date: 2021-04-24
Photo By: BG

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APPROVAL FORM

PROJECT : IVR D-1 Dike Construction

PROJECT #: ~~2021048224~~ 21452873 **DATE:** April 23, 2021

DOCUMENT #: 20210423-DS-02 **TIME:** 17:00

(YYYYMMDD-DS/NS-01) DS/NS = Day/Night shift (24 hour clock)

APPROVAL FOR :

- ☐ Foundation approval (footprint)
- ☐ Foundation approval (cut-off trench)
- ☐ Fill placement: _____
- ☑ Other: Liner Installation BGM (Spillway)

LOCATION		**PREVIOUS APPROVALS**	
Station	0+038 to sta. 0+015	**Station:**	–
Inclination:		**Details:**	–
ELEVATION:	☑ varies _____ m		

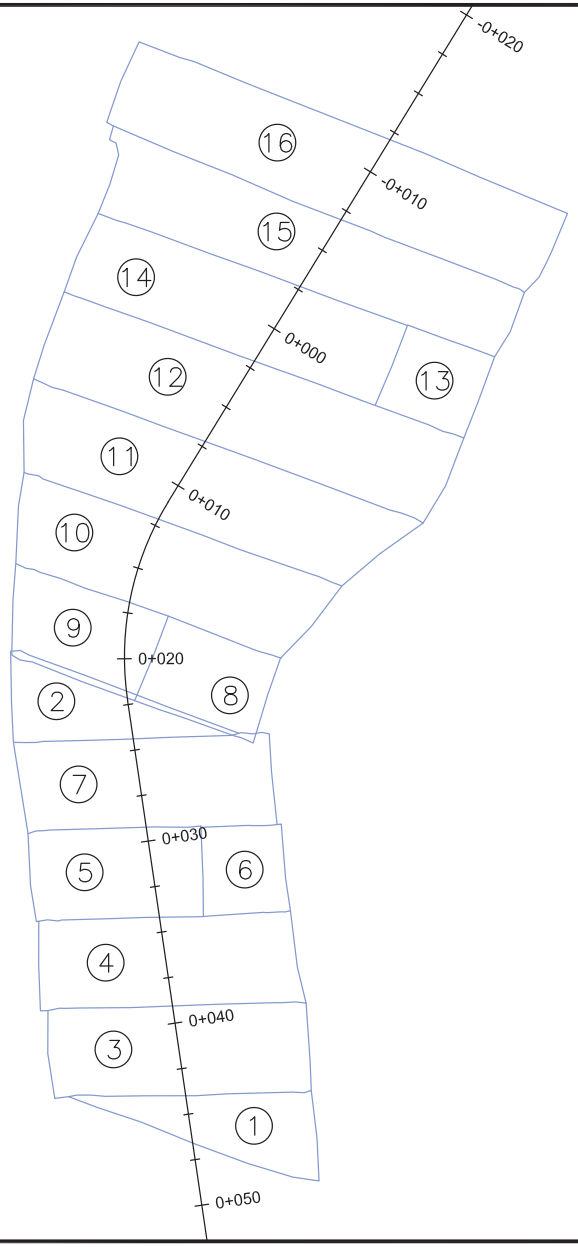
COMPLIANCE WITH TECHNICAL SPECIFICATIONS:

(Add additional items if needed)

	VERIFICATIONS DONE BY: QA Y	QA N	QC Y	QC N	N/A
1. Lines and Grades	✓		✓		
2. Free of ice/snow/water	✓		✓		
3. Cleaning of cut-off trench					✓
4. Gradation (visual assessment)					✓
5. Placement (lift thickness, segregation, etc.)					✓
6. Compaction					✓
7. Foundation on bedrock – cleaning and mapping					✓
8. As built survey completed	✓	✓			
9. Material certification meets specs	✓	✓			
10. Visual inspection – no damage or defects	✓	✓			
11. Deficiencies reported before install	✓	✓			
12. Inspection of liner storage facilities	✓	✓			
13. Final bedding surface	✓	✓			
14. Visual inspection during placement	✓	✓			
15. Damages during installation repaired	✓	✓			
16. Weather conditions meet requirements during installation	✓	✓			

DETAILS (Refer to list above for item #)		APPROVED BY: QA		QC		
ITEM		Y	N	Y	N	
17.	Welding carried out according to spec	✓		✓		N/A
18.	Liner testing + sampling performed			✓		✓
19.	Floor + upstream wall of anchor trench is smooth	✓		✓		
20.	Site cleaned up.	✓		✓		
21.	Check for: overheating of seams, loss of bitumen, risability by trowel test, holes, folding, wrinkling, visible lumps or protusions	✓		✓		
	Observations:					
	Installation of BGM panels P1 to P7 through spillway.					
	Bedding surface inspected by QA/QC prior to installation of geotextile / BGM.					
	BGM was overlapped 200 mm and heat welded using blow torch.					

APPROVED BY:	NAME	SIGNATURE	DATE
CONTRACTOR REPRESENTATIVE	Alexandre Blanchet		April 23, 2021
QC REPRESENTATIVE	Patrick Langlois		24-04-21
QA REPRESENTATIVE	Brandon Gray		April 23, 2021
OWNER'S REPRESENTATIVE	Stephane Grant		24-04-21



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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR / DRAWN BY	JF Landreville	DATE	2021–04–25
VÉRIFIÉ PAR / CHECKED BY			
APPROUVÉ PAR / APPROVED BY			

No. PROJET / PROJECT NO.	6127
DATE	2021–04–25

TITRE / TITLE

AGNICO–EAGLE
AMARUQ
IVR DIKE_SPILLWAY
LINER APPROVAL 0–012 @ 0+048

ÉCHELLE/ SCALE	NA	FICHIER FILE	.DWG
No. DESSIN/ DRAWING NO.	6127–IVR–AB LINER	REVISION	FEUILLE/SHT 1 / 1

IVR DYKE: BGM INSTALLATION APPROVAL (Spillway) - PHOTOGRAPHS



Photograph 1: FC Liner heat welding GBM panels P1/P2 at approx. Sta. 0+015, view looking W.

Date: 2021-04-22
Photo By: BG

IVR DYKE: FOUNDATION APPROVAL (Spillway) - PHOTOGRAPHS



Photograph 2: Approved section of GBM installed along spillway channel at approx. Sta. 0+025, view looking SW.

Date: 2021-04-22
Photo By: BG