



APPENDIX A2 SOUTH CAMP DIKE PHOTOGRAPHIC LOG



Photograph A2-5 South Camp Dike

Date: September 8, 2017

Photo Number: 201

Description: From the north abutment, looking south at the downstream slope.



Photograph A2-6 South Camp Dike

Date: September 8, 2017

Photo Number: 200

Description: From the south abutment, looking north at the downstream slope.

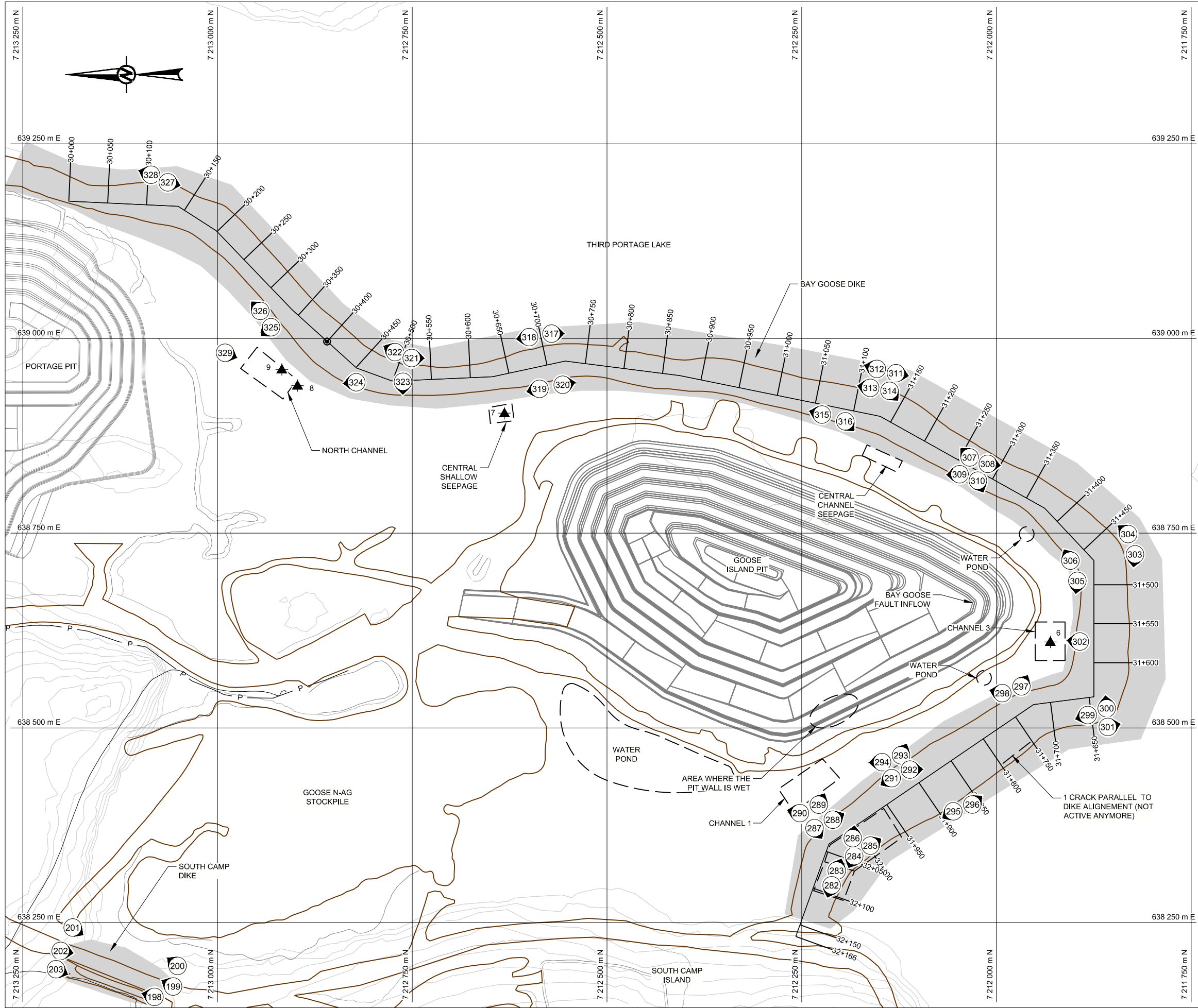
[https://golderassociates.sharepoint.com/sites/16104g/preparation of deliverables/rev0/annexes inspection 2017/appendix a - dewatering dikes/a2 south camp dike/a2- south camp dike photo log 2017.docx](https://golderassociates.sharepoint.com/sites/16104g/preparation%20of%20deliverables/rev0/annexes%20inspection%202017/appendix%20a%20dewatering%20dikes/a2%20south%20camp%20dike/a2-south%20camp%20dike%20photo%20log%202017.docx)



APPENDIX A3

Bay-Goose Dike Photographic Log and Record of Inspection

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LEGEND

TOPOGRAPHIC CONTOUR

1 IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TAKEN DURING THE ANNUAL INSPECTION OF 2017

MANUAL MONITORING FLOW STATION

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION
IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

0 100 200
1:5 000 METRES

CLIENT

AGNICO EAGLE

PROJECT

**2017 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT**

TITLE

BAY-GOOSE DIKE AND SOUTH CAMP DIKE

CONSULTANT	YYYY-MM-DD	2017-12-14
	PREPARED	M. Habersetzer
	DESIGN	S. Betnesky
	REVIEW	M. Habersetzer
	APPROVED	Y. Boulianne

PROJECT No. 1784282

PHASE 5000

Rev. 0

FIGURE **A3**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3/B

28 mm



APPENDIX A3 RECORD OF DAM INSPECTION

Client: AEM **By:** Yves Boulianne
Project: Meadowbank **Date:** September 8, 2017
Location: Bay-Goose Dike **Reviewed:** Yves Boulianne

GENERAL INFORMATION

Dam Type:	Rockfill embankment with a cut-off wall (soil-bentonite, cement-soil-bentonite and jet grouting columns) and downstream filters		
Weather Conditions:	Sunny	Temperature:	15°C

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
1. DAM CREST		282, 283, 284, 286, 287, 288, 291, 292, 295, 296, 299, 300, 301, 303, 304, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 317, 318, 319, 321, 322, 323, 326, 327, 328	
1.1 Crest elevation	+/-138 cut-off 136.1m		Thermal cap completed in May 2013.
1.2 Reservoir level	133.6 m upstream		Downstream side dewatered since mid-November 2011.
Current freeboard	4.4 m		Design 2.0 m.
1.3 Distance to tailings pond (if applicable)	Not applicable		
1.4 Surface cracking	Yes		The tension cracks observed in 2013 on the upstream side within the thermal cap placed during winter 2013 are still visible but are no longer active.
1.5 Unexpected settlement	Yes		The rockfill cap added over the cut-off in the winter of 2013 is showing settlement all along the upstream side of the dike and over the cut-off. Settlement varies from 0.1 m to > 1 m. No longer active.
1.6 Lateral movement	Not apparent		
1.7 Other unusual conditions	Yes		



APPENDIX A3

RECORD OF DAM INSPECTION

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
2. UPSTREAM SLOPE		284, 285, 295, 296, 299, 301, 303, 304, 311, 312, 317, 318, 322	
2.1 Slope angle	Approx. 1.6H:1.0V		Rockfill
2.2 Signs of erosion	Stable		
2.3 Signs of movement (deformation)	None observed		
2.4 Cracks	None observed		
2.5 Face liner condition (if applicable)	Not applicable		
2.6 Other unusual conditions	None		
3. DOWNSTREAM SLOPE		289, 290, 291, 293, 294, 297, 298, 302, 305, 306, 309, 310, 315, 316, 319, 320, 321, 324, 325, 326, 329	
3.1 Slope angle	Approx. 1.6H:1V		
3.2 Signs of erosion	None observed		
3.3 Signs of movement (deformation)	None observed		
3.4 Cracks	None observed		
3.5 Seepage or wet areas	Not apparent		
3.6 Vegetation growth	None observed		
3.7 Other unusual conditions	None		
4. DOWNSTREAM TOE AREA		289, 290, 291, 293, 294, 297, 298, 302, 305, 306, 309, 310, 315, 316, 319, 320, 321, 324, 325, 326, 329	
4.1 Seepage from dike	Yes		Seepage zone observed as well as water pond. The seepage is being monitored by the mine and does not show signs of aggravation.
	North Channel	325, 329	Monitored by stations 8 (30+420) and 9 (30+380). Water flowing was observed during the inspection.
	Central Shallow	319	Presence of 2 seepage channels at 30+650 and 30+625. Flow was observed during inspection at 30+650. Monitored by station 7.



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RECORD OF DAM INSPECTION

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
	Central Channel	316	Presence of a seepage channel at Sta. 31+165. Water ponding was observed at the time of the inspection. It was pumped once after freshet only.
	Channel 3	297, 302, 305	Light flow observed during inspection. Monitored by station 6.
	Channel 1	289, 290	This seepage channel was not flowing at the time of the inspection.
	Water Ponds	298	Presence of water pond with no sign of seepage. Located at 31+750. Water was observed downstream of Channel 1 ponding against the ring rod of Goose Pit.
4.2 Signs of erosion	None observed		
4.3 Signs of turbidity in seepage water	No.		
4.4 Discoloration/staining	No		
4.5 Outlet operating problem (if applicable)	Not applicable		
4.6 Other unusual conditions	Yes		Inflow of water on pit wall. Probably due to the Bay-Goose fault and rock quality. In the vicinity of Channels 1, 2 and 3. Not monitored anymore.
5. ABUTMENTS			
5.1 Seepage at contact zone (abutment/embankment)	None observed		
5.2 Signs of erosion	None observed		
5.3 Excessive vegetation	No		
5.4 Presence of rodent burrows	None observed		
5.5 Other unusual conditions	None		
6. RESERVOIR			
6.1 Stability of slopes	Stable		
6.2 Distance to nearest slide (if applicable)	None observed		
6.3 Estimate of slide volume (if applicable)	Not applicable		
6.4 Floating debris	None observed		
6.5 Other unusual conditions	None		



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RECORD OF DAM INSPECTION

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
7. EMERGENCY SPILLWAY/ OUTLET STRUCTURE			
7.1 Surface condition	No spillway or outlet structure exists, only dewatering pump.		
7.2 Signs of erosion			
7.3 Signs of movement (deformation)			
7.4 Cracks			
7.5 Settlement			
7.6 Presence of debris or blockage			
7.7 Closure mechanism operational			
7.8 Slope protection			
7.9 Instability of side slopes			
7.10 Other unusual conditions			
8. INSTRUMENTATION			
8.1 Piezometers	Yes		See Section 4.0 of the report.
8.2 Settlement cells	No		
8.3 Thermistors	Yes		See Section 4.0 of the report.
8.4 Settlement monuments	No		Survey monuments removed in the past.
8.5 Seismograph	Periodic		See Section 4.0 of the report.
8.6 Inclinator	Yes		See Section 4.0 of the report.
8.7 Weirs and flow monitors	Yes		Seepage monitoring system installed at seepage channel to monitor flow.
8.8 Data logger(s)	Yes		The piezometers and the thermistors have automatic data transmission (every 3 hours).
8.9 Other			
9. DOCUMENTATION			
9.1 Operation, Maintenance and Surveillance (OMS) Plan			
9.1.1 OMS Plan exists	Yes		
9.1.2 OMS Plan reflects current dam conditions	Yes		
9.1.3 Date of last revision	March 2017		



APPENDIX A3 RECORD OF DAM INSPECTION

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
9.2 Emergency Preparedness Plan (EPP)			
9.2.1 EPP exists	Yes		Included within the OMS and ERP.
9.2.2 EPP reflects current conditions	Yes		
9.2.3 Date of last revision	June 2017		

10. NOTES

Inspector's Signature		Date:	September 12, 2016
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APPENDIX A3

BAY GOOSE DIKE PHOTOGRAPHIC LOG



Photograph A3-1 Bay Goose Dike

Date: September 9, 2017

Photo Number: 327

Description: From approximately Sta. 30+142 (north abutment) looking southwest at the crest.



Photograph A3-2 Bay Goose Dike

Date: September 9, 2017

Photo Number: 328

Description: From approximately Sta. 30+130 (north abutment), looking north at the crest.



APPENDIX A3 BAY GOOSE DIKE PHOTOGRAPHIC LOG



Photograph A3-3 Bay Goose Dike

Date: September 9, 2017

Photo Number: 326

Description: From approximately Sta. 30+340 on the crest, looking northeast at the dam crest and downstream slope



Photograph A3-4 Bay Goose Dike

Date: September 9, 2017

Photo Number: 325

Description: From approximately Sta. 30+340, looking northwest at the north seepage channel.



APPENDIX A3 BAY GOOSE DIKE PHOTOGRAPHIC LOG



Photograph A3-5 Bay Goose Dike

Date: September 9, 2017

Photo Number: 329

Description: From approximately Sta. 30+325 downstream, looking southwest at the North Channel.



Photograph A3-6 Bay Goose Dike

Date: September 9, 2017

Photo Number: 324

Description: From approximately Sta. 30+450, looking north at the crest and the downstream slope.



APPENDIX A3 BAY GOOSE DIKE PHOTOGRAPHIC LOG



Photograph A3-7 Bay Goose Dike

Date: September 9, 2017

Photo Number: 322

Description: From Sta. 30+500, looking northeast at the crest and the upstream slope.



Photograph A3-8 Bay Goose Dike

Date: September 9, 2017

Photo Number: 321

Description: From Sta. 30+500, looking south at the crest and the upstream slope.



APPENDIX A3

BAY GOOSE DIKE PHOTOGRAPHIC LOG



Photograph A3-9 Bay Goose Dike

Date: September 9, 2017

Photo Number: 323

Description: From Sta. 30+500, looking west at the downstream slope.



Photograph A3-10 Bay Goose Dike

Date: September 9, 2017

Photo Number: 317

Description: From Sta. 30+700, looking south at the crest and the upstream slope.



APPENDIX A3 BAY GOOSE DIKE PHOTOGRAPHIC LOG



Photograph A3-11 Bay Goose Dike

Date: September 9, 2017

Photo Number: 318

Description: From approximately Sta. 30+680, looking north at the crest and the upstream slope.



Photograph A3-12 Bay Goose Dike

Date: September 9, 2017

Photo Number: 319

Description: From approximately Sta. 30+680 on the crest, looking north at the downstream slope and toe.



APPENDIX A3 BAY GOOSE DIKE PHOTOGRAPHIC LOG



Photograph A3-13 Bay Goose Dike

Date: September 9, 2017

Photo Number: 320

Description: From approximately Sta. 30+680 on the crest, looking south at the downstream slope and toe.



Photograph A3-14 Bay Goose Dike

Date: September 9, 2017

Photo Number: 311

Description: From approximately Sta. 31+130, looking south at the crest and upstream slope.



APPENDIX A3 BAY GOOSE DIKE PHOTOGRAPHIC LOG



Photograph A3-15 Bay Goose Dike

Date: September 9, 2017

Photo Number: 312

Description: From approximately Sta. 31+130, looking north at the crest and upstream slope.



Photograph A3-16 Bay Goose Dike

Date: September 9, 2017

Photo Number: 315

Description: From approximately Sta. 31+080 on the crest, looking north at the downstream slope and toe.



APPENDIX A3 BAY GOOSE DIKE PHOTOGRAPHIC LOG

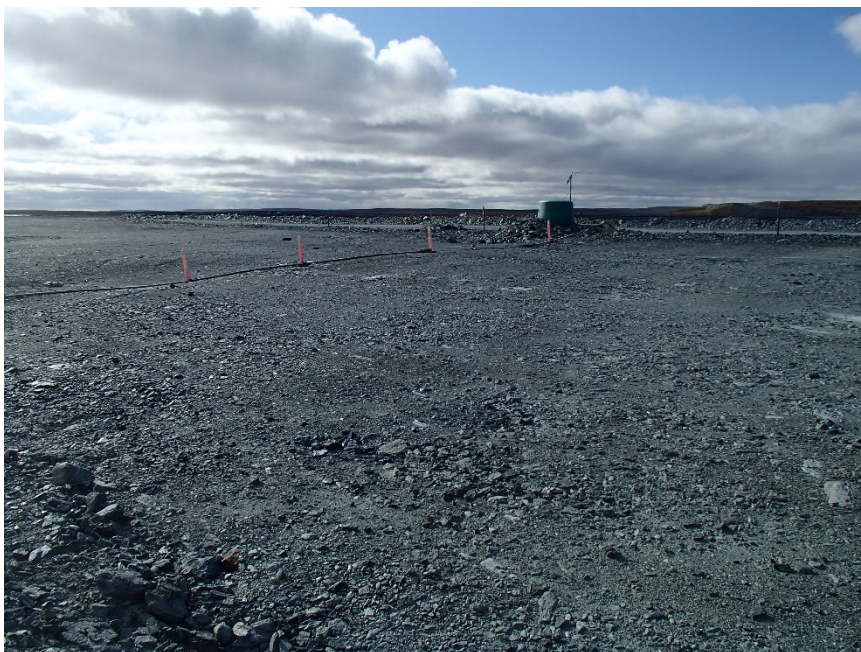


Photograph A3-17 Bay Goose Dike

Date: September 9, 2017

Photo Number: 316

Description: From approximately Sta. 31+080 on the crest, looking southwest at the pond of water at Central Channel seepage at Sta. 31+165.



Photograph A3-18 Bay Goose Dike

Date: September 9, 2017

Photo Number: 314

Description: From approximately Sta. 31+130, looking southwest at the crest.



APPENDIX A3 BAY GOOSE DIKE PHOTOGRAPHIC LOG



Photograph A3-19 Bay Goose Dike

Date: September 9, 2017

Photo Number: 313

Description: From approximately Sta. 31+130, looking north at the crest.



Photograph A3-20 Bay Goose Dike

Date: September 9, 2017

Photo Number: 309

Description: From approximately Sta. 31+280 on the crest, looking north at the downstream slope and toe area.