



Photo 1: Typical drill site location (Looking east).



Photo 2: Typical core box photo.



Photo 3: Typical SPT sample in splits.



Photo 4: Typical packer test setup.



Photo 5: Thermistor installation at GT-16.



Photo 6: Monitoring well installation at HG-3B.



Photo 7: Typical borrow test pit.



Photo 8: Typical test pit on exposed bedrock (no digging).

0	16NOV11	ISSUED WITH MEMO	CLS	KEH	KEH
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

AVALON RARE METALS INC.		
THOR LAKE PROJECT		
PHASE 3 SITE INVESTIGATIONS SELECT PHOTOS FROM SITE INVESTIGATIONS (SHEET 1 OF 2)		
Knight Piésold CONSULTING	P/A NO. NB101-390/2	REF. NO. NB11-00527
	FIGURE 3	
		REV 0



Photo 9: Typical test pit with unstable pit walls.



Photo 10: Typical test pit refusal at permafrost.



Photo 11: Typical test pit refusal at bedrock.

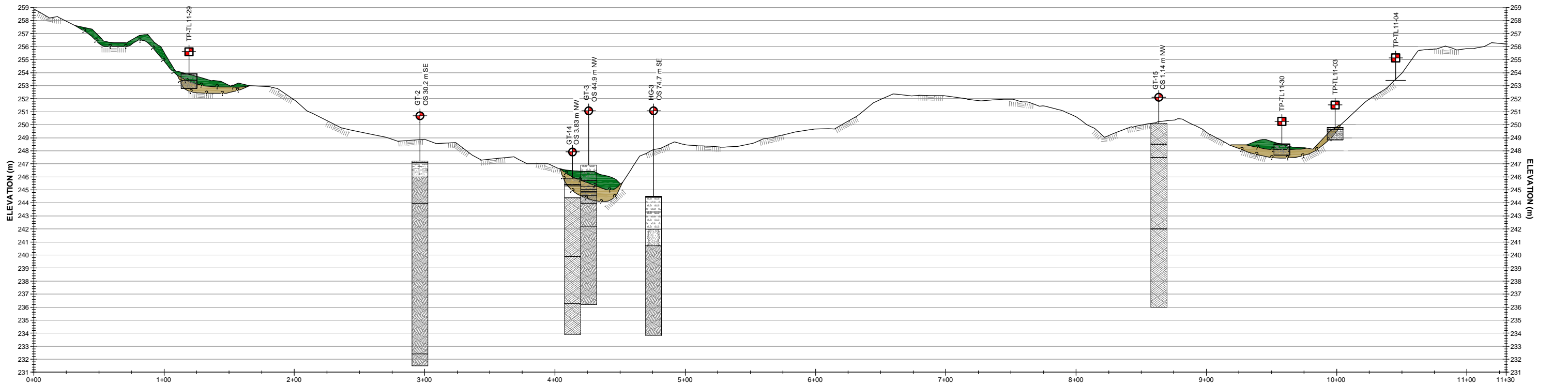


Photo 12: Kubota mini-excavator used for most test pits.

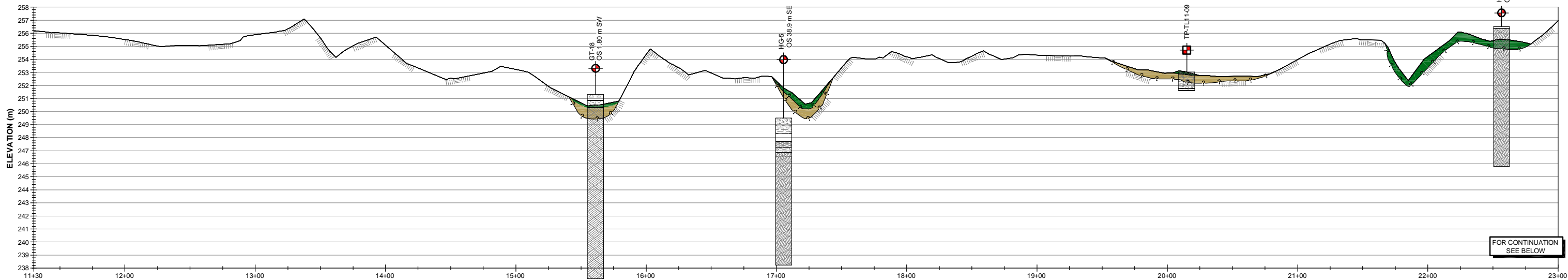
0	16NOV'11	ISSUED WITH MEMO	CLS	KEH	KEH
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

AVALON RARE METALS INC.		
THOR LAKE PROJECT		
PHASE 3 SITE INVESTIGATIONS SELECT PHOTOS FROM SITE INVESTIGATIONS (SHEET 2 OF 2)		
<i>Knight Piesold</i> CONSULTING	P/A NO. NB101-390/2	REF. NO. NB11-00527
	FIGURE 4	
		REV 0

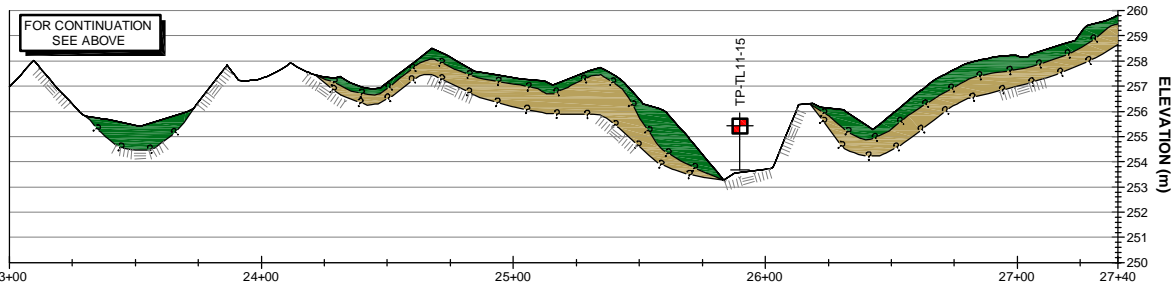
SAVED: I:\01\000002\Avalon\Fig5B\FIG_5_11102011_10:41:20.AVI PRINTED: 11/10/2011 10:53:43AM - SECTIONS 1 OF 2 - MDIEMERS
XREF FILES(S): 2011-04-12 BDRK DTLE: TMF-STAG-STR1 TMF-STAGULIM TOPO IMAGE FILES)



1 SECTION
2 FIG
PROFILE ALONG TMF EMBANKMENT CENTRE LINE
HORIZONTAL: SCALE A
VERTICAL: SCALE B



2 SECTION
2 FIG
PROFILE ALONG TMF EMBANKMENT CENTRE LINE
HORIZONTAL: SCALE A
VERTICAL: SCALE B



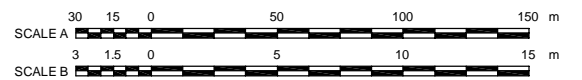
2 SECTION
2 FIG
PROFILE ALONG TMF EMBANKMENT CENTRE LINE (CONTINUED)
HORIZONTAL: SCALE A
VERTICAL: SCALE B

LEGEND:

- ASSUMED ORGANICS
- ASSUMED OVERBURDEN
- BEDROCK
- 2011 AS-CONSTRUCTED DRILLHOLE
- 2011 AS-CONSTRUCTED TEST PIT
- ASSUMED BEDROCK/ORGANICS BOUNDARY
- TMF TAILINGS MANAGEMENT FACILITY
- PP POLISHING POND

NOTES:

- ELEVATIONS ARE IN METRES.
- BEDROCK AND OVERBURDEN STRATIGRAPHY BASED ON INTERPRETATION OF LIMITED GEOTECHNICAL INFORMATION (I.E. AIR PHOTOS, SURFACE MAPPING, SITE INVESTIGATION) AND IS THEREFORE APPROXIMATE.
- SECTIONS ARE BASED ON TOPOGRAPHIC INFORMATION PROVIDED BY AVALON RARE METALS INC.
- TEST PITS SHOWN HAD REFUSAL AT BEDROCK.



AVALON RARE METALS INC.

THOR LAKE PROJECT

**PHASE 3 SITE INVESTIGATIONS
TMF EMBANKMENTS
PROFILES**

**Knight Piésold
CONSULTING**

P/A NO.
NB101-390/2

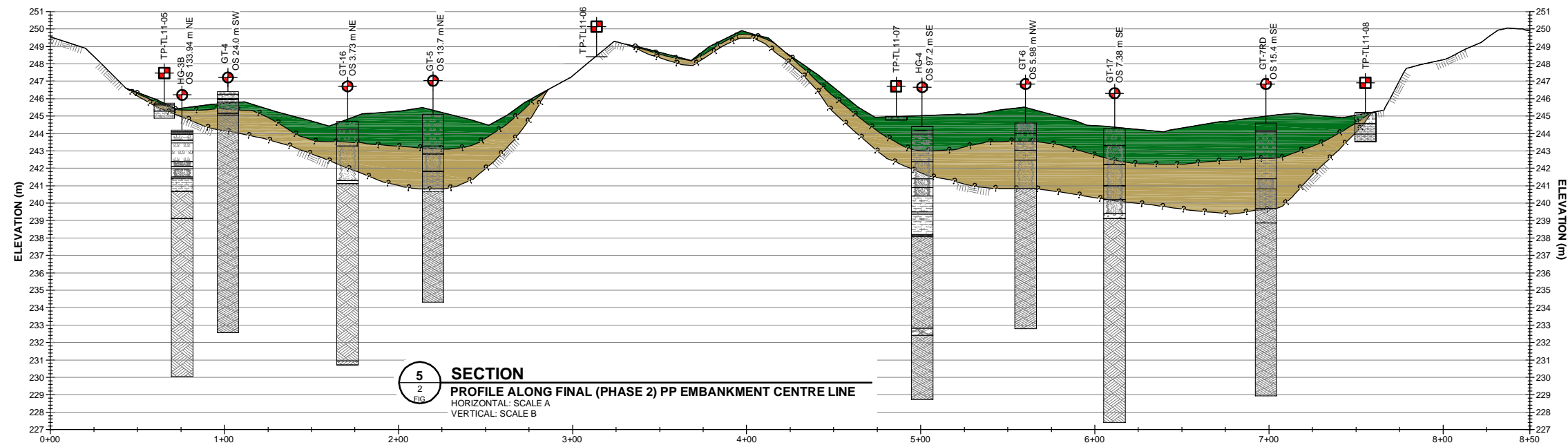
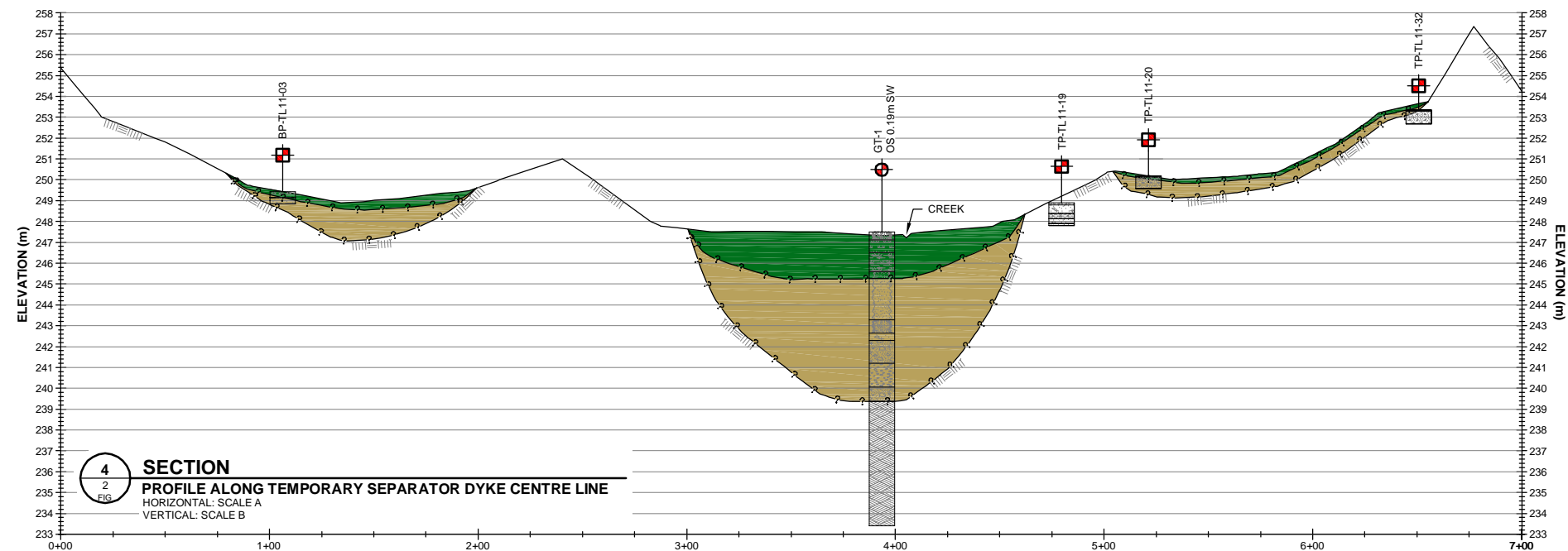
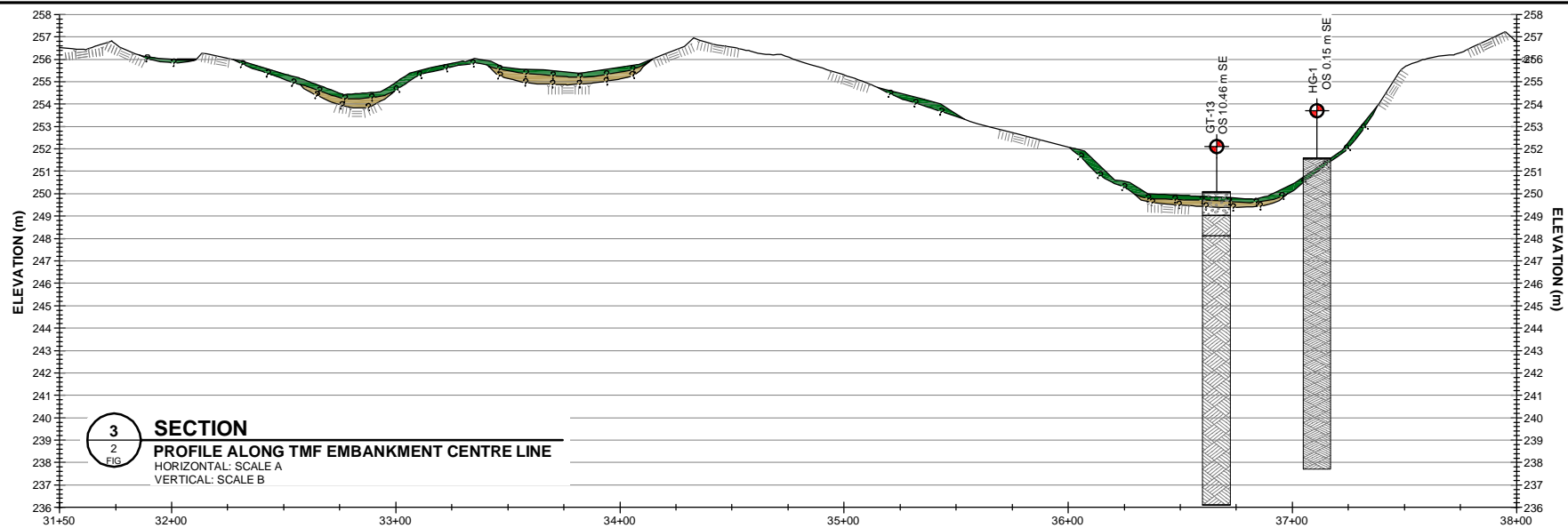
REF NO.
NB11-00527

FIGURE 5

REV
0

0	16NOV'11	ISSUED WITH MEMO	CLS	MMD	KEH	KEH
REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D

SAVED: I:\01\000\02\Avalon\Fig38B\00_11162011 11:45:56 AM PRINTED: 11/19/2011 11:45:39 AM SECTIONS 2 OF 2 MDIEMERS
XREF FILE(S): 2011-04-12 BDRK.DTL: TMF-STAG-STR1 TMF-STAG-ULIM.TPO IMAGE FILE(S)

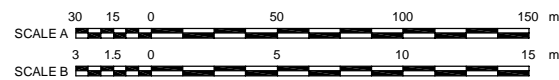


LEGEND:

- ASSUMED ORGANICS
- ASSUMED OVERBURDEN
- BEDROCK
- 2011 AS-CONSTRUCTED DRILLHOLE
- 2011 AS-CONSTRUCTED TEST PIT
- ASSUMED BEDROCK/ORGANICS BOUNDARY
- TMF TAILINGS MANAGEMENT FACILITY
- PP POLISHING POND

NOTES:

- ELEVATIONS ARE IN METRES.
- BEDROCK AND OVERBURDEN STRATIGRAPHY BASED ON INTERPRETATION OF LIMITED GEOTECHNICAL INFORMATION (I.E. AIR PHOTOS, SURFACE MAPPING, SITE INVESTIGATION) AND IS THEREFORE APPROXIMATE.
- SECTIONS ARE BASED ON TOPOGRAPHIC INFORMATION PROVIDED BY AVALON RARE METALS INC.
- TEST PITS SHOWN HAD REFUSAL AT BEDROCK.



AVALON RARE METALS INC.

THOR LAKE PROJECT

PHASE 3 SITE INVESTIGATIONS
TMF & PP
EMBANKMENTS PROFILES

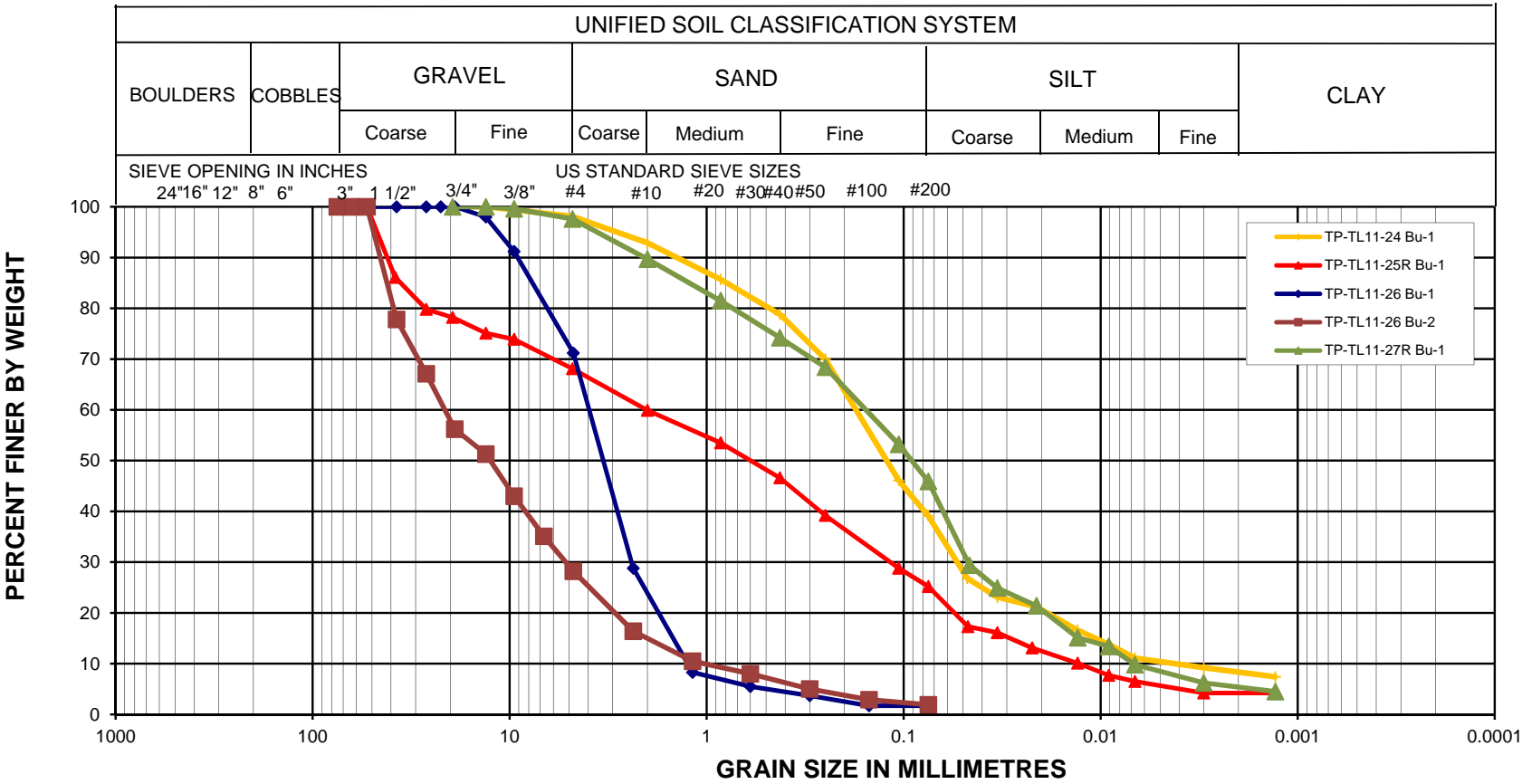
Knight Piésold
CONSULTING

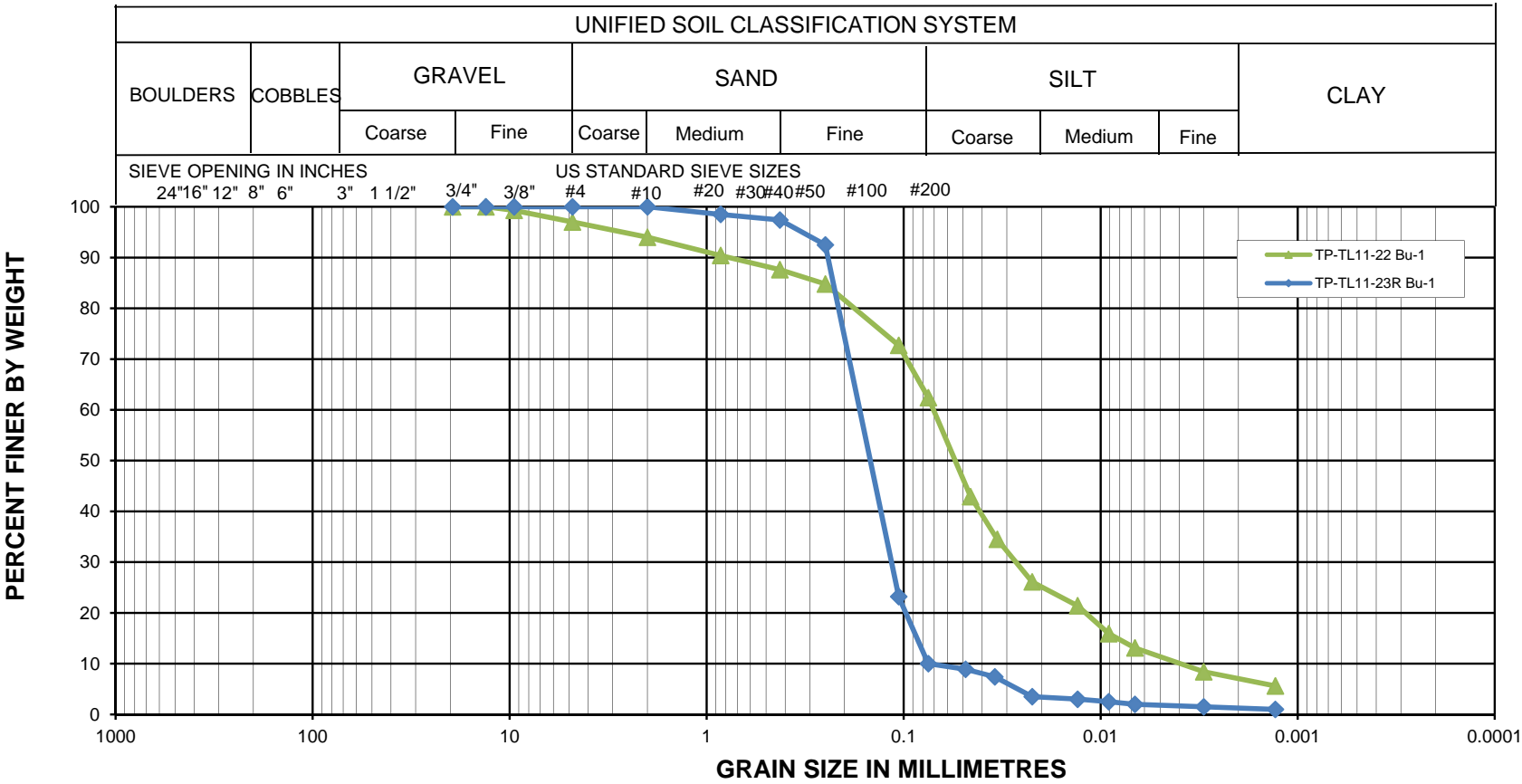
P/A NO. NB101-390/2
REF NO. NB11-00527

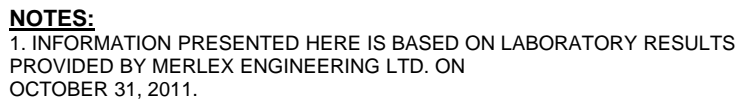
FIGURE 6


REV
0

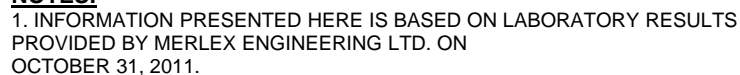
0	16NOV'11	ISSUED WITH MEMO	CLS	MMD	KEH	KEH
REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D




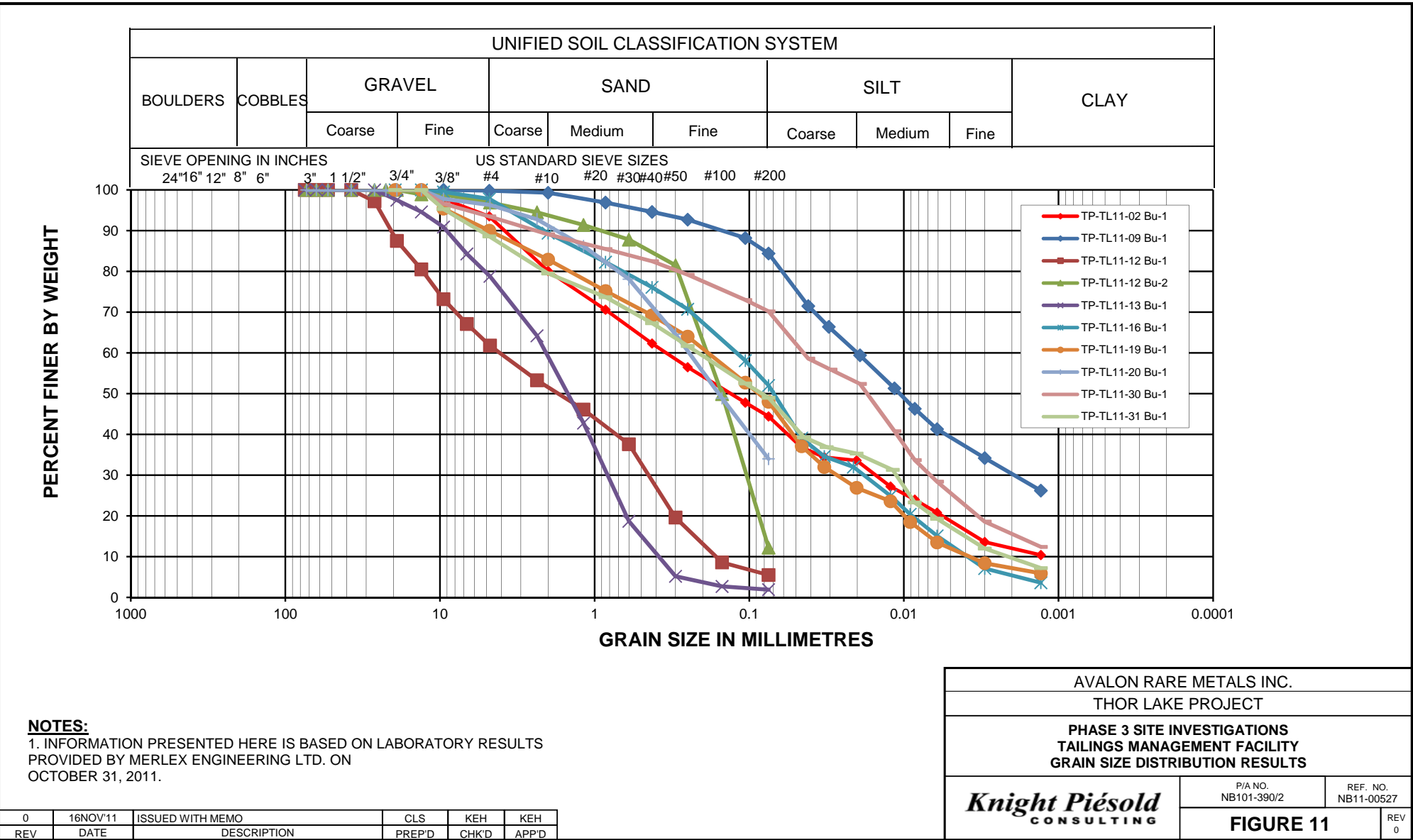


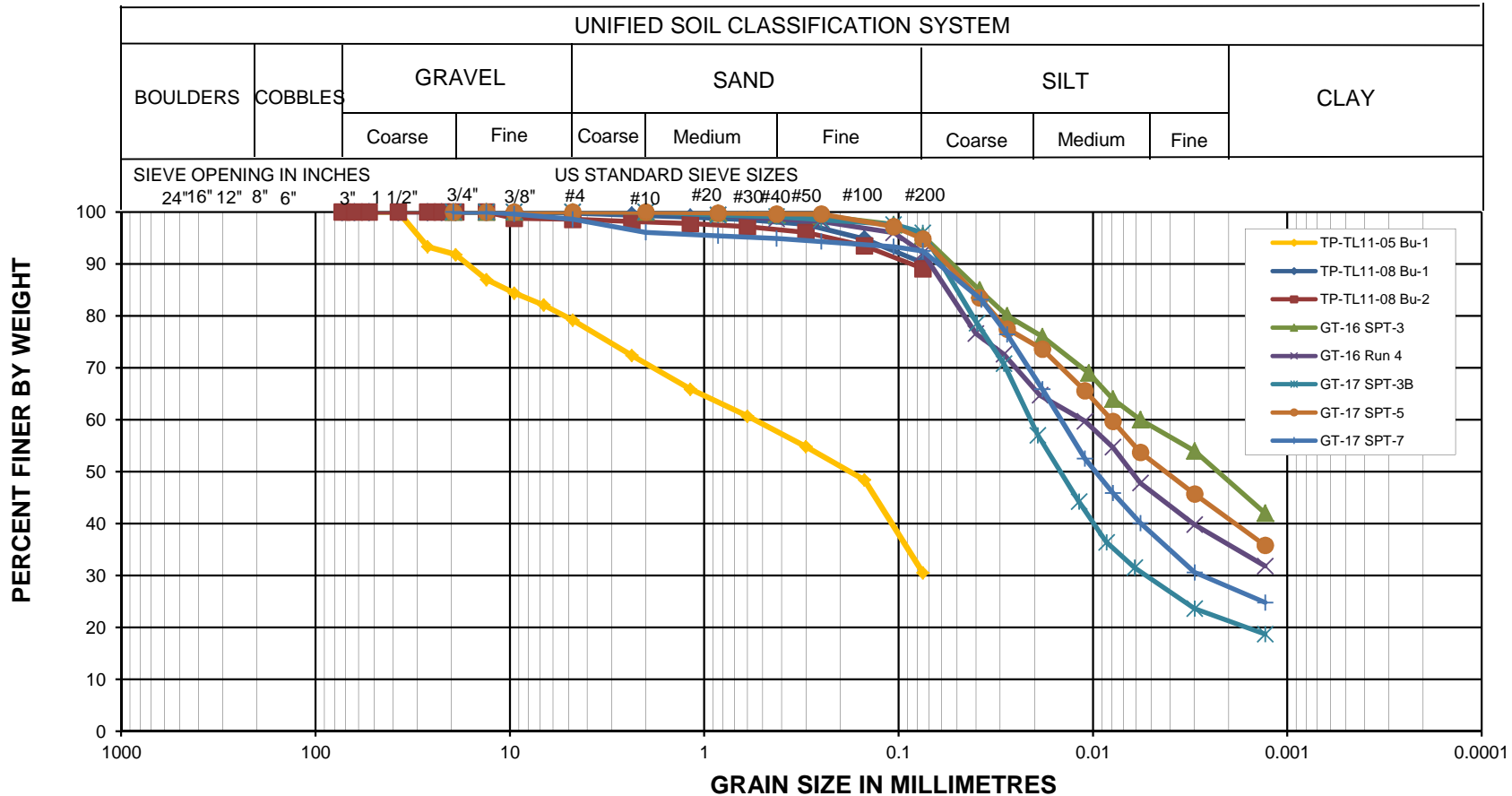


AVALON RARE METALS INC.		
THOR LAKE PROJECT		
PHASE 3 SITE INVESTIGATIONS ACCESS ROAD/PIPELINE ROUTE GRAIN SIZE DISTRIBUTION RESULTS		
	P/A NO. NB101-390/2	REF. NO. NB11-00527
	FIGURE 9	
		REV 0



AVALON RARE METALS INC.		
THOR LAKE PROJECT		
<p align="center">PHASE 3 SITE INVESTIGATIONS BORROW GRAIN SIZE DISTRIBUTION RESULTS</p>		
	P/A NO. NB101-390/2	REF. NO. NB11-00527
	<p align="center">FIGURE 10</p>	

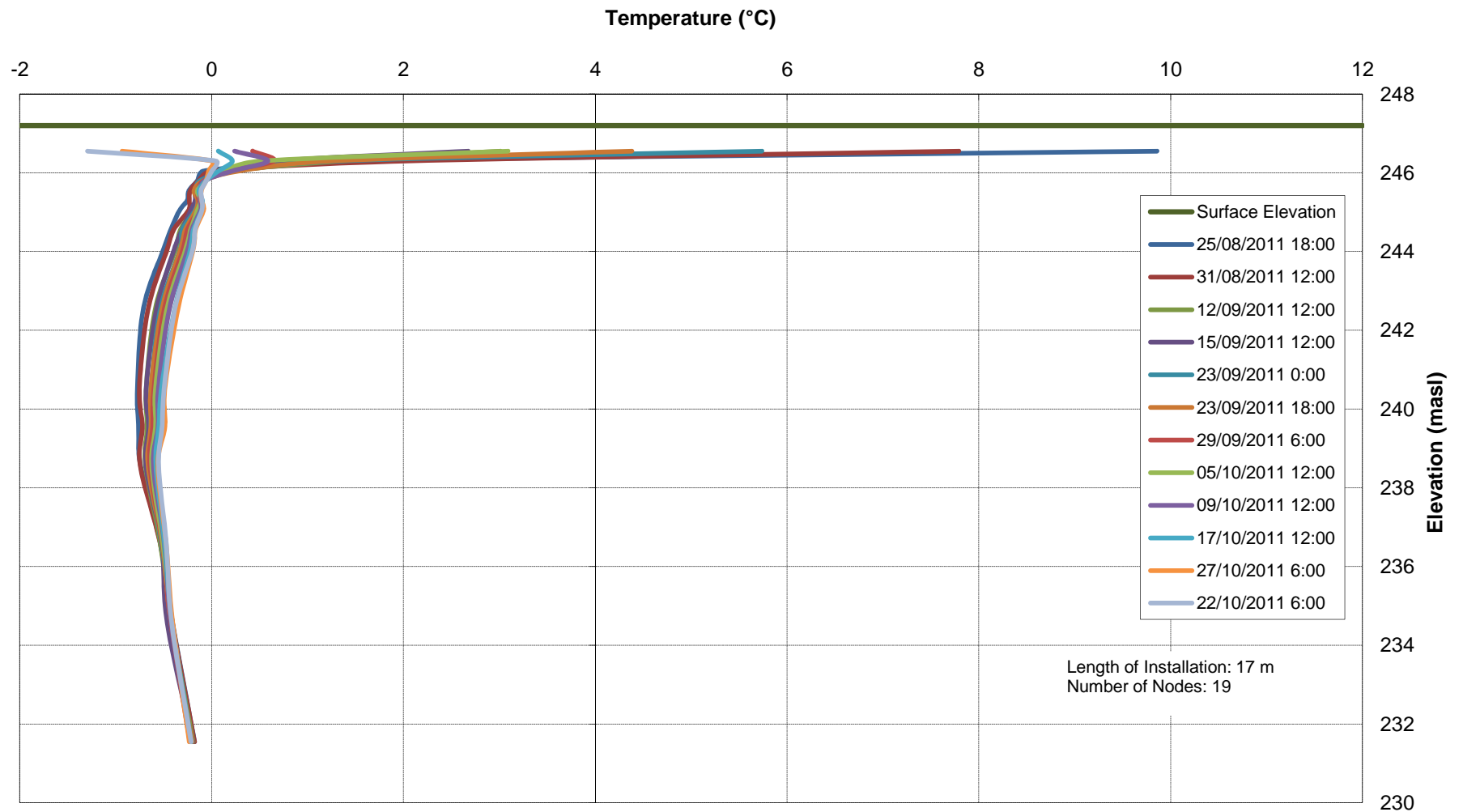


**NOTES:**

1. INFORMATION PRESENTED HERE IS BASED ON LABORATORY RESULTS PROVIDED BY MERLEX ENGINEERING LTD. ON OCTOBER 31, 2011.

0	16NOV'11	ISSUED WITH MEMO	CLS	KEH	KEH
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

AVALON RARE METALS INC.		
THOR LAKE PROJECT		
PHASE 3 SITE INVESTIGATIONS POLISHING POND GRAIN SIZE DISTRIBUTION RESULTS		
<i>Knight Piésold</i> CONSULTING	P/A NO. NB101-390/2	REF. NO. NB11-00527
	FIGURE 12	
		REV 0

**NOTES:**

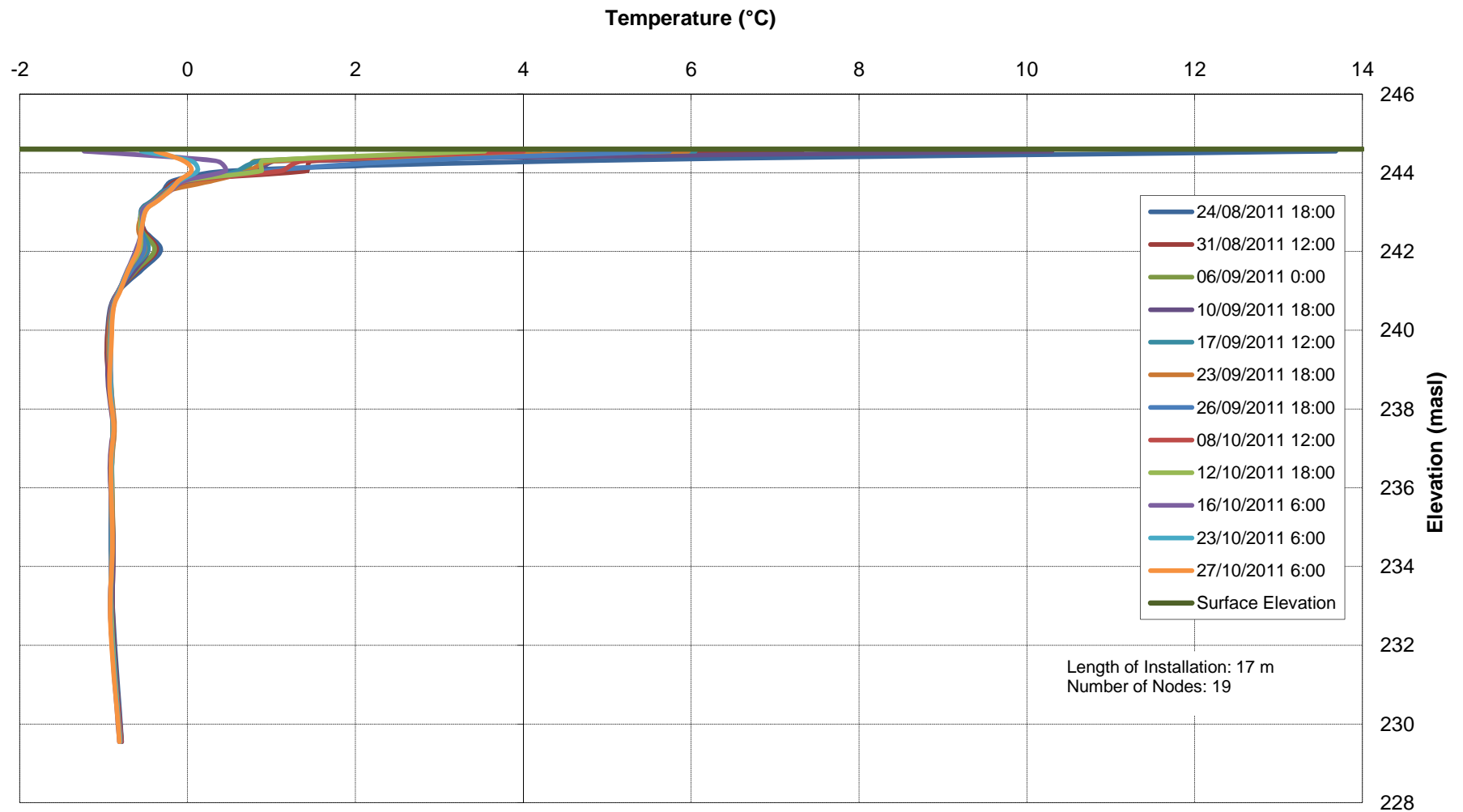
1. SURFACE ELEVATION PROVIDED BY SURVEYING.
2. SELECT THERMISTOR DATA COLLECTED BETWEEN AUGUST 26 AND OCTOBER 27, 2011 INCLUDED IN THIS GRAPH.
3. THERMISTOR NODES 10, 11 AND 13 APPEAR TO BE DAMAGED AS THE DATA THEY COLLECTED WAS NOT USEABLE (NOT INCLUDED).

0	16NOV'11	ISSUED WITH MEMO	CLS	KEH	KEH
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

AVALON RARE METALS INC.

THOR LAKE PROJECT

**PHASE 3 SITE INVESTIGATIONS
GT-2
SELECT THERMISTOR DATA*****Knight Piésold***
CONSULTINGP/A NO.
NB101-390/2REF. NO.
NB11-00527**FIGURE 13**REV
0

**NOTES:**

1. SURFACE ELEVATION PROVIDED BY SURVEYING.
2. SELECT THERMISTOR DATA COLLECTED BETWEEN AUGUST 24 AND OCTOBER 27, 2011 INCLUDED IN THIS GRAPH.

0	16NOV'11	ISSUED WITH MEMO	CLS	KEH	KEH
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

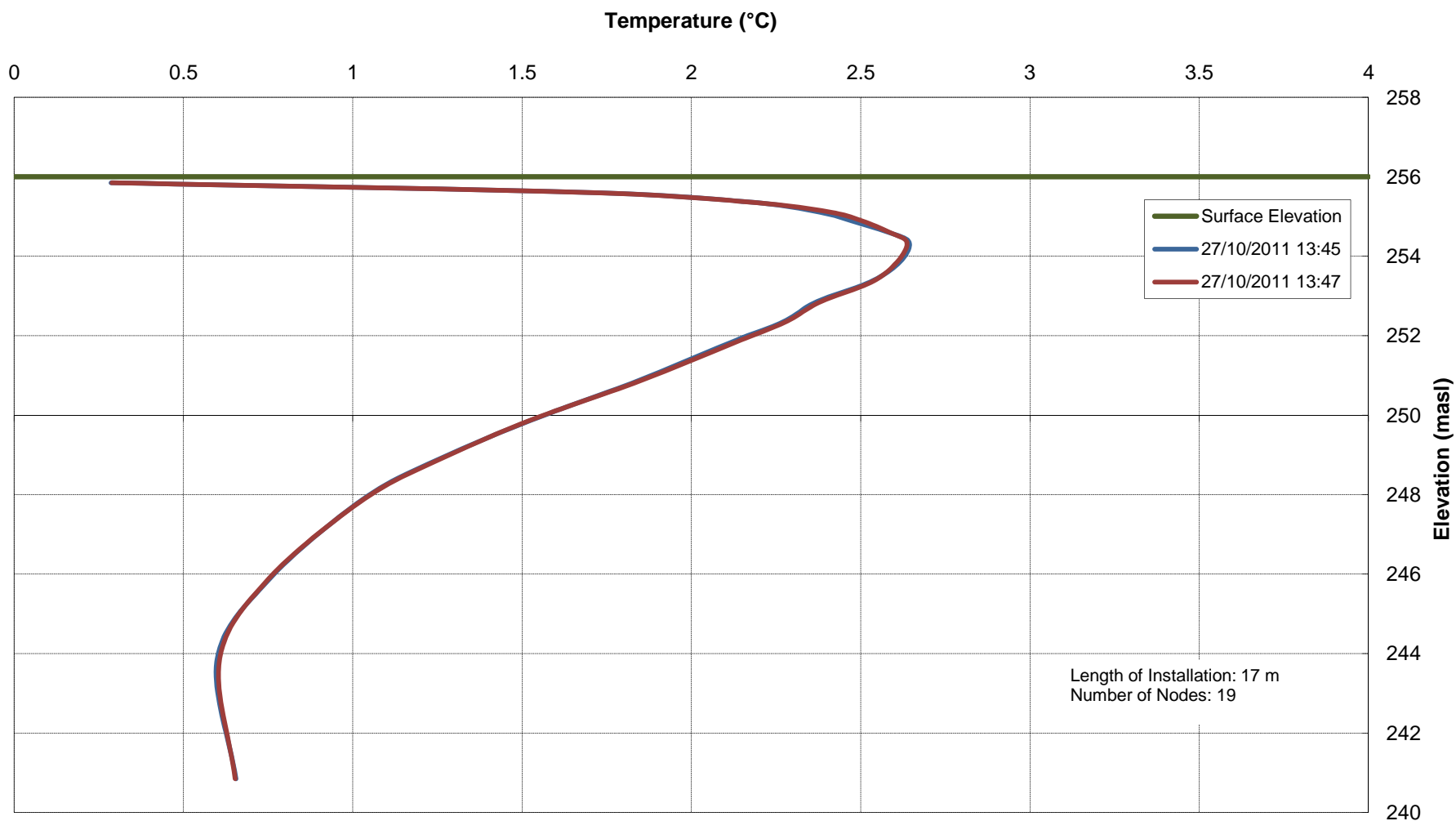
AVALON RARE METALS INC.

THOR LAKE PROJECT

**PHASE 3 SITE INVESTIGATIONS
GT-7RD
SELECT THERMISTOR DATA**

Knight Piésold
CONSULTING

P/A NO.
NB101-390/2REF. NO.
NB11-00527**FIGURE 14**REV
0

**NOTES:**

1. SURFACE ELEVATION PROVIDED BY SURVEYING.
2. SELECT INSTANTANEOUS THERMISTOR DATA COLLECTED ON OCTOBER 27, 2011 INCLUDED IN THIS GRAPH.

0	16NOV'11	ISSUED WITH MEMO	CLS	KEH	KEH
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

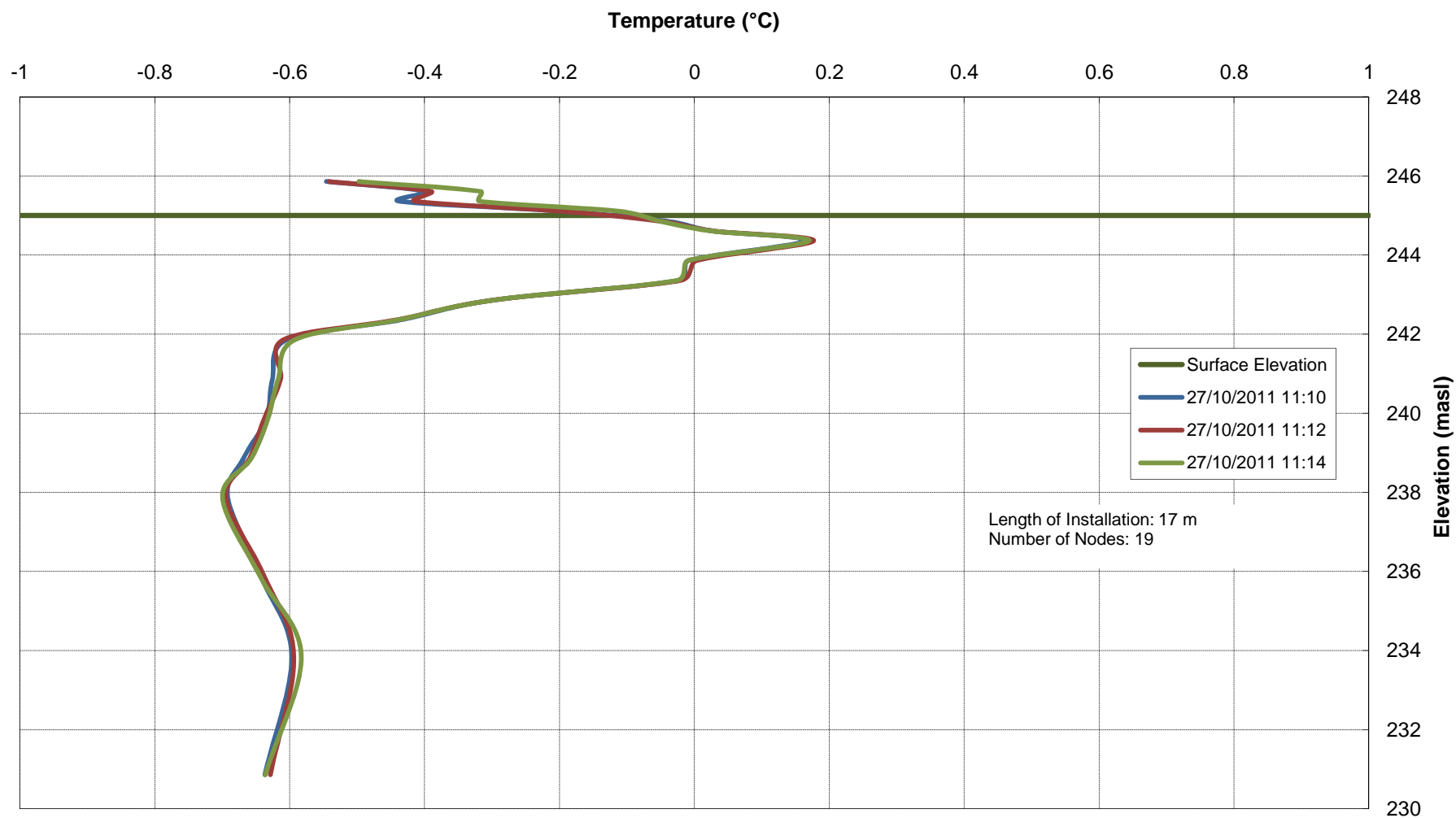
AVALON RARE METALS INC.

THOR LAKE PROJECT

**PHASE 3 SITE INVESTIGATIONS
GT-11
SELECT THERMISTOR DATA**

Knight Piésold
CONSULTING

P/A NO.
NB101-390/2REF. NO.
NB11-00527**FIGURE 15**REV
0

**NOTES:**

1. SURFACE ELEVATION PROVIDED BY SURVEYING (CHECK).
2. SELECT INSTANTANEOUS THERMISTOR DATA COLLECTED ON OCTOBER 27, 2011 INCLUDED IN THIS GRAPH.

0	16NOV'11	ISSUED WITH MEMO	CLS	KEH	KEH
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

AVALON RARE METALS INC.

THOR LAKE PROJECT

**PHASE 3 SITE INVESTIGATIONS
GT-16
SELECT THERMISTOR DATA**

Knight Piésold
CONSULTING

P/A NO.
NB101-390/2REF. NO.
NB11-00527**FIGURE 16**REV
0

APPENDIX A

TEST PIT LOGS

(Pages A-1 to A-44)

Project: THOR LAKE PROJECT

Test Pit No.: BP-TL11-01

Page: 1 of 1

Contractor: KPL

Equipment Used: None

Date Started: Aug 17, 11

Location: Borrow

Total Depth: 0.00 m

Date Completed: Aug 17, 11

Coordinates: 6,886,340 N , 415,274 E

Elevation: 249 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	249					BEDROCK (0 to 0) BEDROCK, with trace moss cover (~5-7 cm). End of Test Pit: 0 m		
0.2								
	248							
0.4								
	248							Test pit located on dry bedrock; no digging required.
0.6								Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
	248							
0.8								
	248							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



**AVALON RARE METALS INC.
THOR LAKE PROJECT**

Knight Piésold
CONSULTING

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB; TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** BP-TL11-02R**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 17, 11

Location: Borrow

Total Depth: 2.10 m

Date Completed: Aug 17, 11

Coordinates: 6,887,271 N, 415,640 E

Elevation: 243 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
1.0	243					PEAT (0 to 0.1) PEAT, black, spongy to firm, fibrous, with many roots and organic matter throughout, dry to moist. SILT (0.1 to 2.1) Gravelly, angular to subrounded; sandy, fine to coarse; SILT, trace clay; trace cobbles (<2%); well graded, light brown, moist. Cobbles content increases after 1.0 m depth.		
2.0	242		BU-1					Test pit located close to the main access road. Digging difficulty increased with depth. Some minor sloughing of pit walls however generally stable. No groundwater encountered.
	241					End of Test Pit: 2.1 m		Test pit ended at 2.1 m due to limits of excavator. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
IC - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:**AVALON RARE METALS INC.
THOR LAKE PROJECT****Knight Piésold
CONSULTING**

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: BP-TL11-03

Page: 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 11, 11

Location: Borrow

Total Depth: 0.60 m

Date Completed: Aug 11, 11

Coordinates: 6,889,157 N , 417,507 E

Elevation: 249 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	249					PEAT (0 to 0.3) PEAT; some gravel, fine to coarse, angular; black/pink/grey/brown, spongy, fibrous, with roots throughout, dry to wet.		
0.4	249		BU-1			SILT (0.3 to 0.6) Clayey SILT; some sand, fine; trace gravel, fine, subrounded; medium plasticity, brown, firm, friable, wet.		
0.6	249					End of Test Pit: 0.6 m		Easy digging with excavator. Pit walls stable. No groundwater encountered. Refusal due to bedrock (syenite) at 0.6 m. Boundary between peat and clay is undulating. Material would not be good for use as granular borrow. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.8	249							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vc - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



GRAB



BLOCK

AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** BP-TL11-04**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 9, 11

Location: Borrow

Total Depth: 1.30 m






Date Completed: Aug 9, 11

Coordinates: 6,888,873 N, 418,069 E

Elevation: 246 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
1.0	245		BU-1			PEAT (0 to 0.07) Sandy PEAT, black, spongy, fibrous, with roots throughout, dry.		
						SAND (0.07 to 0.1) Silty SAND, fine to medium; trace gravel, fine, angular; poorly graded, light brown, loose, massive, dry.		
			BU-1			SILT (0.1 to 0.5) Sandy SILT, fine to medium; some clay; trace gravel, fine to coarse; trace cobbles, angular; poorly graded, brown, compact, friable, with roots to 0.4 m depth, dry to moist.		
			BU-2			CLAY (0.5 to 1.3) Silty CLAY; some sand, fine to medium; trace cobbles, subangular; medium plasticity, brown, very stiff, friable, moist to wet.		
						End of Test Pit: 1.3 m		Easy digging with excavator. Pit walls stable. No water encountered. Refusal due to bedrock at 1.3 m. Depth of division between sandy silt and silty clay not easily distinguishable and appears to be undulating. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTINGProject No.
NB101-390/2Ref. No.
NB11-00527Rev.
0**APPENDIX A**I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** BP-TL11-05**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 17, 11

Location: Borrow

Total Depth: 2.00 m

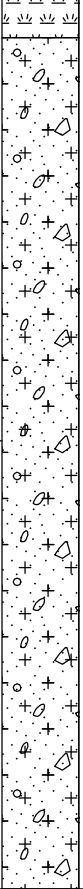
Date Completed: Aug 17, 11

Coordinates: 6,887,487 N, 415,799 E

Elevation: 247 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
1.0	247					PEAT (0 to 0.1) PEAT, black, spongy to firm, fibrous, root inclusions and organic matter throughout, dry to moist. SAND AND SILT (0.1 to 2) Gravelly SAND, fine to coarse, angular to subrounded; AND SILT; some boulders; some cobbles; trace clay; well graded, non-plastic, yellowish brown/white, boulders are grey/pink, dense, stratified by colour, roots extend to 0.4 m depth, moist. Soil becomes somewhat finer with depth.		
2.0	246		BU-1			End of Test Pit: 2 m		Area located just off current access road on slightly sloping hill. Digging fairly easy with excavator except for presence of large boulders. Pit walls stable. No groundwater encountered. Refusal due to bedrock at 2.0 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
	245							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vc - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
Ic - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTINGProject No.
NB101-390/2Ref. No.
NB11-00527Rev.
0**APPENDIX A**I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** BP-TL11-06**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 17, 11

Location: Borrow

Total Depth: 2.00 m

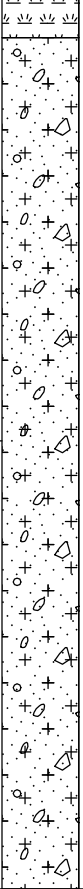
Date Completed: Aug 17, 11

Coordinates: 6,887,476 N, 415,764 E

Elevation: 247 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
1.0	247					PEAT (0 to 0.1) PEAT, black, spongy to firm, fibrous, with many roots and organic matter throughout, dry to moist. SAND (0.1 to 2) Gravelly SAND, fine to coarse, angular to subrounded; some silt; trace boulders; trace cobbles; trace clay; well graded, orange to brown to light brown with depth, moist. Slightly more fine grained pockets of soil throughout.		
2.0	246		BU-1					Test pit located just off main access road in gently sloping heavily treed area. Digging relatively easy except when boulders and cobbles encountered. Pit walls stable. No water encountered.
	245					End of Test Pit: 2 m		Test pit ended at 2.0 m due to limits of excavator. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbr - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vc - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:**AVALON RARE METALS INC.
THOR LAKE PROJECT****Knight Piésold
CONSULTING**

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-01**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 8, 11

Location: Tailings Management Facility

Total Depth: 0.65 m


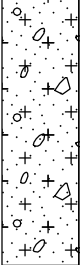
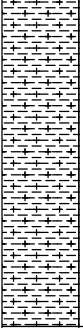
Date Completed: Aug 8, 11

Coordinates: 6,889,253 N, 418,673 E

Elevation: 253 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	252					PEAT (0 to 0.2) PEAT, black, spongy, fibrous, with root inclusions throughout, moist.		
0.4	252					SAND (0.2 to 0.4) Gravelly SAND, fine to coarse, subangular; some silt; well graded, brown/grey, compact, massive, with root inclusions throughout, moist.		
0.6	252					SILT (0.4 to 0.65) Clayey SILT; some sand, fine; trace boulders, angular; some cobbles, subrounded; trace gravel, fine to coarse, subangular; poorly graded, medium plasticity, light pinkish brown, firm, friable, moist.		Test pit located in heavily treed area. Fairly easy digging with excavator except where cobbles encountered. Pit walls stable. No water present. Refusal due to bedrock at 0.65m. Approximately 10-15 m to the east, rock outcrops at surface. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.8	252					End of Test Pit: 0.65 m		

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-02**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 9, 11

Location: Tailings Management Facility

Total Depth: 0.76 m





Date Completed: Aug 9, 11

Coordinates: 6,888,919 N, 417,955 E

Elevation: 249 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	249					PEAT (0 to 0.07) Sandy PEAT, fine to coarse, brown, spongy, fibrous, with root inclusions throughout, dry.		
0.4	249		BU-1			SAND (0.07 to 0.76) Silty SAND, fine to coarse; some clay; trace gravel, fine to coarse, angular to subangular; trace cobbles, angular; well graded, compact, massive, with roots up to 0.4 m depth, dry to moist (moisture content increases with depth).		
0.6	249							Plenty of exposed bedrock nearby. Easy digging with excavator. Pit walls fairly stable. No groundwater encountered. Refusal due to bedrock (syenite) at 0.76 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.8	248					End of Test Pit: 0.76 m		

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold*
CONSULTING**Project No.
NB101-390/2Ref. No.
NB11-00527Rev.
0**APPENDIX A**I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: TP-TL11-03

Page: 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 9, 11

Location: Tailings Management Facility

Total Depth: 0.93 m



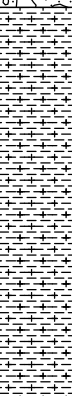
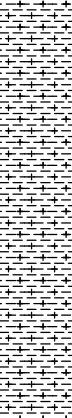
Date Completed: Aug 9, 11

Coordinates: 6,888,869 N, 418,003 E

Elevation: 250 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
						PEAT (0 to 0.13) Sandy PEAT, fine to coarse, brown, firm, fibrous, with root inclusions throughout, dry to moist.		
0.2	250		BU-1			SAND AND GRAVEL (0.13 to 0.33) SAND AND GRAVEL, fine to coarse, subangular; some cobbles, subangular; trace silt; well graded, non-plastic, brown/pink/grey, loose, massive, with root inclusions throughout, moist.		
0.4	249					CLAY (0.33 to 0.93) Silty CLAY, brown, very stiff, friable, moist.		
0.6	249		BU-2					Easy digging with excavator. Pit walls stable. No water encountered. Refusal due to bedrock at 0.93 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.8	249							
						End of Test Pit: 0.93 m		

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB\GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: TP-TL11-04

Page: 1 of 1

Contractor: KPL

Equipment Used: None

Date Started: Aug 9, 11

Location: Tailings Management Facility

Total Depth: 0.00 m

Date Completed: Aug 9, 11

Coordinates: 6,888,828 N, 417,982 E

Elevation: 253 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	253					BEDROCK (0 to 0) BEDROCK, competent, dry (syenite) at surface, with ~ 5 cm maximum of mossy cover and sparse trees. End of Test Pit: 0 m		
0.4	253							
0.6	253							Test pit located on bedrock; no digging required. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.8	253							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-05**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 8, 11

Location: Polishing Pond

Total Depth: 0.85 m

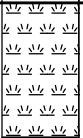
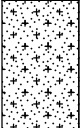
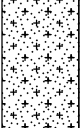
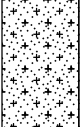
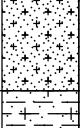
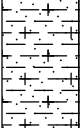
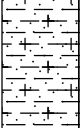
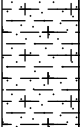
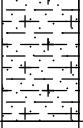
Date Completed: Aug 8, 11

Coordinates: 6,888,960 N, 418,356 E

Elevation: 246 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	246					PEAT (0 to 0.1) PEAT, black, spongy, fibrous, with root and wood inclusions throughout, moist.		
0.2						SAND (0.1 to 0.45) Silty SAND, fine to medium; trace gravel, fine, subrounded; poorly graded, non-plastic, light brown, compact, massive, moist.		
	245							
0.4								
	245		BU-1			SAND (0.45 to 0.85) Silty, gravelly, SAND, fine to medium; trace clay; poorly graded, low plasticity, light greyish brown, dense, massive, moist to frozen.		Test pit located close to a bedrock knob. Easy digging with excavator. Pit walls fairly stable. No water encountered. Refusal due to permafrost at 0.85 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.6								
	245							
0.8								
	245					End of Test Pit: 0.85 m		

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTINGProject No.
NB101-390/2Ref. No.
NB11-00527Rev.
0**APPENDIX A**I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB\GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: TP-TL11-06

Page: 1 of 1

Contractor: KPL

Equipment Used: None

Date Started: Aug 8, 11

Location: Polishing Pond

Total Depth: 0.00 m

Date Completed: Aug 8, 11

Coordinates: 6,888,718 N , 418,412 E

Elevation: 248 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	248					BEDROCK (0 to 0) BEDROCK at surface with thin moss and sparse tree cover. End of Test Pit: 0 m		
0.4	248							
0.6	248							Test pit located on bedrock; no digging required. Surrounding area is all exposed bedrock.
0.8	248							Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB; TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: TP-TL11-06B

Page: 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 8, 11

Location: Polishing Pond

Total Depth: 0.65 m


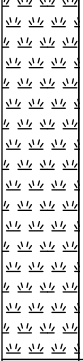

Date Completed: Aug 8, 11

Coordinates: 6,888,755 N , 418,373 E

Elevation: 245 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	245					PEAT (0 to 0.65) PEAT, dark brownish black, spongy, fibrous, with roots and wood particles throughout, wet to saturated.		
0.4	245							
0.6	244							Test pit relocated here due to TP-TL11-06 being located on bedrock. Easy digging in organic soil. Organics are soft and unstable. Water table at 0.35 m - quickly runs into pit. Refusal due to permafrost at 0.65 m.
0.8	244					End of Test Pit: 0.65 m		Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: TP-TL11-07

Page: 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 8, 11

Location: Polishing Pond

Total Depth: 0.20 m

Date Completed: Aug 8, 11

Coordinates: 6,888,604 N , 418,356 E

Elevation: 245 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	245					PEAT (0 to 0.2) PEAT, black, spongy, fibrous, with roots throughout, wet. At ~0.175 m depth, peat is frozen with clear, hard, ice (~50% of soil).		
0.4	245					SILT (0.2 to 0.2) Sandy SILT, fine to medium, poorly graded, brown, frozen, massive, no visible ice. End of Test Pit: 0.2 m		
0.6	244							Easy digging through peat, unable to dig through hard permafrost. Pit walls stable. Refusal due to permafrost at 0.2m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.8	244							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vc - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



GRAB



BLOCK

AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No.
NB101-390/2

Ref. No.
NB11-00527

Rev.
0

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-08**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 8, 11

Location: Polishing Pond

Total Depth: 1.63 m

Date Completed: Aug 8, 11

Coordinates: 6,888,503 N, 418,106 E

Elevation: 245 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	245					PEAT (0 to 0.6) PEAT, dark blackish brown, spongy, fibrous, with many wood chips, plant remains and root inclusions throughout, wet to saturated.		
			BU-1			SILT (0.6 to 1.2) SILT; some clay; trace sand, fine to medium; trace gravel; poorly graded, non plastic, orangish brown, loose, massive, saturated.		
1.0								Digging very easy due to very soft ground.
	244		BU-2			SILT (1.2 to 1.63) SILT; some clay, trace sand, fine to coarse (mostly fine); trace gravel; poorly graded, low plasticity, pinkish grey, soft, nuggeted, saturated. Soil is cold but not frozen.		Pit walls moderately stable, large pieces of soil slumped into the pit over time.
								Water table encountered at 0.6 m, just below the peat layer.
								Refusal due to bedrock at 1.63 m.
								Ground has distinct organic smell.
								Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
						End of Test Pit: 1.63 m		

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTING

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-09**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 10, 11

Location: Tailings Management Facility

Total Depth: 1.40 m

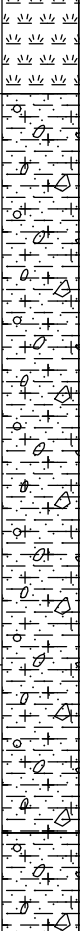
Date Completed: Aug 10, 11

Coordinates: 6,888,260 N, 417,555 E

Elevation: 253 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
1.0	252		BU-1			PEAT MANY BOULDERS (0 to 0.15) PEAT; MANY BOULDERS, angular; black/grey, spongy, fibrous, with roots throughout, moist. SILT MANY BOULDERS (0.15 to 1.25) Clayey SILT; MANY BOULDERS, angular to subrounded; trace sand, fine; trace gravel, fine to coarse, subangular; medium plasticity, brown, firm, moist to wet. Frozen at 1.0 m depth. SILT (1.25 to 1.4) SILT; some gravel, fine to coarse, angular to subangular; some clay; trace sand, fine; light beige, frozen, Nbn. End of Test Pit: 1.4 m		Easy digging with excavator. Pit walls stable. No groundwater encountered. Refusal due to suspected bedrock at 1.4 m. Difficult to tell if bottom of pit was in bedrock or boulders since pit bottom was uneven and there were many boulders present in the soil. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold*
CONSULTING**

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: TP-TL11-10

Page: 1 of 1

Contractor: KPL

Equipment Used: None

Date Started: Aug 8, 11

Location: Tailings Management Facility

Total Depth: 0.00 m

Date Completed: Aug 8, 11

Coordinates: 6,888,180 N, 417,705 E

Elevation: 255 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	254					BEDROCK (0 to 0) BEDROCK, with trace moss cover (~2 cm thick). End of Test Pit: 0 m		
0.2								
	254							
0.4								
	254							Test pit located on dry bedrock ridge; no digging required.
0.6								Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
	254							
0.8								
	254							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



**AVALON RARE METALS INC.
THOR LAKE PROJECT**

Knight Piésold
CONSULTING

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB; TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: TP-TL11-11

Page: 1 of 1

Contractor: KPL

Equipment Used: None

Date Started: Aug 8, 11

Location: Tailings Management Facility

Total Depth: 0.00 m

Date Completed: Aug 8, 11

Coordinates: 6,888,121 N, 417,586 E

Elevation: 255 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	255					BEDROCK (0 to 0) Bedrock with trace moss cover (~5 cm maximum). End of Test Pit: 0 m		
0.4	255							
0.6	254							Test pit located on dry bedrock ridge, no digging required. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.8	254							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB; TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-12**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 10, 11

Location: Tailings Management Facility

Total Depth: 0.80 m



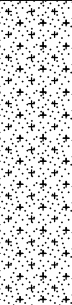
Date Completed: Aug 10, 11

Coordinates: 6,888,101 N, 417,414 E

Elevation: 255 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	255		BU-1			PEAT (0 to 0.1) PEAT, brown, spongy, fibrous, with root inclusions throughout, dry.		
0.4	255		BU-1			SAND AND GRAVEL (0.1 to 0.57) SAND AND GRAVEL, fine to coarse, subangular to subrounded; trace silt; trace cobbles; trace boulders, angular to subangular; well graded, brown, dense, massive, with roots throughout, dry to moist.		
0.6	254		BU-2			SAND (0.57 to 0.8) SAND, fine to coarse; some silt; trace gravel, fine, subangular; trace clay; poorly graded, brown, compact, massive, moist.		Bedrock knob located 5 m south of test pit location. Bedrock also visible at surface ~20 m northwest of test pit. Easy digging with excavator. Pit walls stable. No groundwater encountered. Refusal due to bedrock at 0.8 m.
0.8	254					End of Test Pit: 0.8 m		Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:**AVALON RARE METALS INC.**
THOR LAKE PROJECT**Knight Piésold**
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB\GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-13**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 10, 11

Location: Tailings Management Facility

Total Depth: 1.00 m

Date Completed: Aug 10, 11

Coordinates: 6,888,149 N , 417,280 E

Elevation: 256 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	256					PEAT (0 to 0.3) PEAT, black (like garden soil), spongy, fibrous to amorphous, with roots throughout, moist.		
			BU-1			SAND (0.3 to 0.9) Gravelly, angular to subrounded; SAND, fine to coarse; trace silt; well graded, brown to blackish brown/pink/grey/white, loose, stratified by coarseness, rootlets extend to 0.5 m depth, moist.		
1.0	255					SAND (0.9 to 1) SAND, fine to coarse (mainly fine to medium); trace gravel, fine, subangular; trace silt; poorly graded, light brown, loose, massive, wet. End of Test Pit: 1 m		Easy digging with excavator. Pit walls stable. No groundwater encountered. Refusal due to bedrock at 1.0 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
IC - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

I:\110100390102\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT	Test Pit No.: TP-TL11-14	Page: 1 of 1
Contractor: KPL	Equipment Used: None	Date Started: Aug 10, 11
Location: Tailings Management Facility	Total Depth: 0.00 m	Date Completed: Aug 10, 11
Coordinates: 6,888,195 N, 417,133 E	Elevation: 260 m	Logged by: CLS
		Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	260					BEDROCK (0 to 0) BEDROCK (syenite), dry, with sparse trees and moss. End of Test Pit: 0 m		
0.4	260							
0.6	259							Test pit location is on bedrock ridge; no digging required. Ridge appears continuous to both east and west sides. Test pit is located beside blasted trench (small, historic, similar to one near TP-TL11-15). Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.8	259							

FROZEN SOIL DESCRIPTIONS:

NF - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbn - WELL BONDED, EXCESS ICE
Vn - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX A

I:\110100390102\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\GINT\LIBRARY\KP LIB.GLB; TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT	Test Pit No.: TP-TL11-15	Page: 1 of 1
Contractor: KPL	Equipment Used: None	Date Started: Aug 10, 11
Location: Tailings Management Facility	Total Depth: 0.00 m	Date Completed: Aug 10, 11
Coordinates: 6,888,221 N, 417,068 E	Elevation: 254 m	Logged by: CLS
		Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	254					BEDROCK (0 to 0) BEDROCK (syenite), dry at surface. End of Test Pit: 0 m		
0.2								
	253							
0.4								
	253							Test pit located close to winter road access (on south side).
0.6								Exposed bedrock at test pit location; no digging required. Ridge is expansive and slopes down towards Ring Lake.
	253							Located near blasted trench (small, historic).
0.8								Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
	253							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Is - ICE WITH SOIL INCLUSIONS
Ice - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX A

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-16**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 11, 11

Location: Tailings Management Facility

Total Depth: 0.50 m

Date Completed: Aug 11, 11

Coordinates: 6,888,830 N, 417,029 E

Elevation: 255 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	254					PEAT (0 to 0.25) Gravelly PEAT, fine to coarse, subangular, black, spongy, fibrous, with root inclusions throughout, wet.		
0.4	254		BU-1			SILT AND SAND (0.25 to 0.4) SILT; AND SAND, fine to coarse; trace clay; trace gravel, fine to coarse, subangular; non-plastic, soft, massive, saturated.		
0.6	254					SILT AND SAND (0.4 to 0.5) SILT; AND SAND, fine to coarse; trace clay; trace gravel, fine to coarse, subangular; massive, frozen (Vc).		
0.8	254					End of Test Pit: 0.5 m		Area is quite shaded by tall trees and organic/mossy cover is significant. Easy digging with excavator through organics until permafrost reached; permafrost very hard. Pit walls stable. Very slow moving groundwater encountered at 0.25 m, just below peat. Refusal due to permafrost at 0.5 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vc - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX AI:\110100390\2\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: TP-TL11-17

Page: 1 of 1

Contractor: KPL

Equipment Used: Hand Auger

Date Started: Aug 11, 11

Location: Tailings Management Facility

Total Depth: 0.47 m

Date Completed: Aug 11, 11

Coordinates: 6,889,095 N , 417,533 E

Elevation: 249 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	249					PEAT (0 to 0.47) PEAT, dark brown, spongy, fibrous, with roots and wood chips throughout, wet to saturated. Peat is frozen (Nbe) at 0.45 m depth.		
0.4	249					End of Test Pit: 0.47 m		Easy augering until permafrost encountered. No groundwater encountered. Refusal due to permafrost at 0.47 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.6	249							
0.8	248							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



GRAB



BLOCK

AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No.
NB101-390/2

Ref. No.
NB11-00527

Rev.
0

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: TP-TL11-18

Page: 1 of 1

Contractor: KPL

Equipment Used: Hand Auger

Date Started: Aug 11, 11

Location: Tailings Management Facility

Total Depth: 0.45 m

Date Completed: Aug 11, 11

Coordinates: 6,888,959 N , 417,595 E

Elevation: 248 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	247					PEAT (0 to 0.45) PEAT, blackish brown, spongy, fibrous, with root inclusions throughout and sparse wood chips, wet to saturated. Bottom 5 cm of soil is frozen.		
0.2								
	247							
0.4								
	247					End of Test Pit: 0.45 m		
0.6								Easy augering until permafrost encountered.
	247							Hole caved in at depth of water table.
0.8								Water table encountered at 0.3 m.
	247							Refusal due to permafrost at 0.45 m.
								Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



GRAB



BLOCK

AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-19**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 10, 11

Location: Tailings Management Facility

Total Depth: 1.10 m

Date Completed: Aug 10, 11

Coordinates: 6,888,803 N, 417,630 E

Elevation: 249 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
						PEAT (0 to 0.1) PEAT, brownish black, spongy, fibrous, with root inclusions throughout, dry to moist.		
			BU-1			SAND AND SILT (0.1 to 0.5) SAND, fine to coarse; AND SILT; some gravel, fine to coarse; trace cobbles, subangular to subrounded; trace clay; poorly graded, orangish brown, loose, massive, with root inclusions, moist.		
						SILT (0.5 to 0.75) SILT; some clay; trace sand, fine; low plasticity, greyish brown, stiff, friable, wet.		
						SILT AND SAND (0.75 to 1) SILT AND SAND, fine to coarse; some gravel, fine to coarse; some cobbles, subangular to subrounded; trace clay; poorly graded, light orangish brown, dense, massive, some weathered rock pieces present, wet.		
1.0	248					SILT AND SAND (1 to 1.1) SILT AND SAND, fine to coarse; some gravel, fine to coarse; some cobbles, subangular to subrounded; trace clay; poorly graded, light orangish brown, dense, massive, some weathered rock pieces present, frozen (Nbe to Nf). End of Test Pit: 1.1 m		Easy digging with excavator. Pit walls stable. No groundwater encountered. Refusal due to bedrock at 1.1 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
	247							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-20**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 10, 11

Location: Tailings Management Facility

Total Depth: 0.60 m


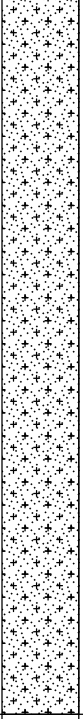
Date Completed: Aug 10, 11

Coordinates: 6,888,778 N, 417,676 E

Elevation: 250 m

Logged by: CLS

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	250					PEAT (0 to 0.05) Sandy PEAT, fine to coarse, dark greyish black, spongy, fibrous, with roots throughout, dry. SAND (0.05 to 0.6) Silty SAND, fine to coarse; trace clay; trace gravel, fine to coarse, subangular to subrounded; trace cobbles, subangular; poorly graded, light orangish brown, loose, massive, roots extend to 0.3 m depth, dry to moist (moisture occurs starting at 0.1m depth).		
0.4	250		BU-1					
0.6	250					End of Test Pit: 0.6 m		Area surrounding test pit has leaves and organic debris at surface. Exposed bedrock knobs located both north and south (within 20 m) of this test pit location. Easy digging with excavator, but it was difficult for the excavator to rip the roots. Pit walls moderately stable (dry soil is not stable). No groundwater encountered. Refusal due to bedrock at 0.6 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.8	249							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nb - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:**AVALON RARE METALS INC.
THOR LAKE PROJECT****Knight Piésold
CONSULTING**

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-21**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 17, 11

Location: Access Road/Pipeline Route

Total Depth: 1.90 m


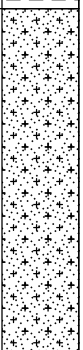
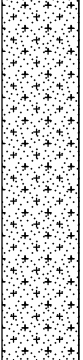
Date Completed: Aug 17, 11

Coordinates: 6,886,543 N, 415,336 E

Elevation: 243 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
1.0	242		BU-1			PEAT (0 to 0.15) PEAT, black to brown, spongy, fibrous, with roots and organic material.		
						SILT AND SAND (0.15 to 1.2) SILT AND SAND; trace gravel, fine; trace cobbles; trace clay; reddish brown, dense, moist to wet.		
			BU-2			SAND (1.2 to 1.9) Gravelly SAND; fine to coarse; trace silt; trace cobbles; trace clay; poorly graded, clean, brown, dense, moist.		Test pit located in previously cleared area. Digging relatively easy to difficult. Stable pit walls except some sloughing of coarse material in pit bottom. No groundwater encountered. Test pit ended due to limits of excavator. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
						End of Test Pit: 1.9 m		

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbr - WELL BONDED, NO EXCESS ICE
Nbr - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT****Knight Piésold
CONSULTING**

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Test Pit No.: TP-TL11-22

Page: 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 17, 11

Location: Airstrip Expansion

Total Depth: 1.10 m

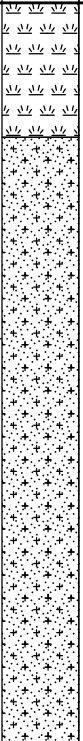
Date Completed: Aug 17, 11

Coordinates: 6,886,376 N, 414,855 E

Elevation: 242 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
						PEAT (0 to 0.2) PEAT, black to brown, spongy, fibrous, with roots and organics, wet.		
						SILT (0.2 to 1.1) Sandy SILT, fine; trace clay; trace gravel; non-plastic, very soft, wet to saturated.		
241			BU-1					
1.0						End of Test Pit: 1.1 m		Easy digging with excavator. Pit walls very unstable - failing into pit. Suspected intersected water table but depth not discernable. Test pit ended at 1.1 m due to unstable pit walls. Digging disturbed the ground and it appeared to become unstable (liquefiable). Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
240								

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vn - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:



AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX A

I:\110100390\2\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-23**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 18, 11

Location: Airstrip Expansion

Total Depth: 1.00 m


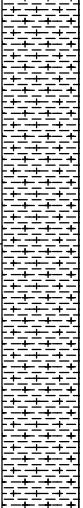

Date Completed: Aug 18, 11

Coordinates: 6,886,262 N, 414,511 E

Elevation: 241 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	241					PEAT (0 to 0.1) PEAT, black to brown, spongy, fibrous, with roots and organics (mosses), dry to moist. CLAY AND SILT (0.1 to 0.9) CLAY AND SILT, brown, mottled, moist to wet.		
			BU-1					
1.0	240					SAND (0.9 to 1) SAND, fine; trace gravel; trace cobbles; poorly graded, brown, wet (glacial till). End of Test Pit: 1 m		Easy digging with excavator. Pit walls moderately stable. No groundwater encountered. Refusal due to bedrock at 1.0 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:**AVALON RARE METALS INC.**
THOR LAKE PROJECT**Knight Piésold**
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-23R**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 18, 11

Location: Airstrip Expansion

Total Depth: 2.10 m



Date Completed: Aug 18, 11

Coordinates: 6,886,300 N, 414,517 E

Elevation: 240 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
1.0	239		BU-1			PEAT (0 to 0.15) PEAT, dark brown, fibrous, with root inclusions throughout. SAND (0.15 to 2.1) SAND, fine to medium; trace silt; trace clay; poorly graded, brown, wet. Moisture content increases with depth.		Easy digging with excavator. Pit walls unstable with some sloughing of sand. Instability increased with depth. Groundwater encountered at 1.7 m. Excavation stopped at 2.1 m due to instability of pit walls. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
2.0	238					End of Test Pit: 2.1 m		

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vc - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTINGProject No.
NB101-390/2Ref. No.
NB11-00527Rev.
0**APPENDIX A**I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\GINT\NEW PHASE 3 SI TEST PITS.GPJ
I:\GINT\LIBRARY\KP LIB\GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-24**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 17, 11

Location: Flotation Plant Site

Total Depth: 1.10 m

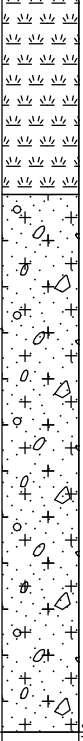
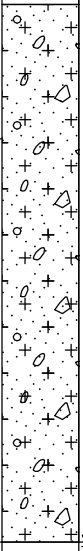
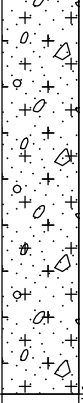
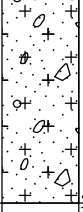

Date Completed: Aug 17, 11

Coordinates: 6,886,190 N, 414,874 E

Elevation: 250 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
						PEAT (0 to 0.3) PEAT, black to brown, spongy, fibrous, with roots and organic matter, moist.		
						SAND (0.3 to 1.1) Silty SAND; trace gravel; trace cobbles, rounded to subangular; trace clay; poorly graded, wet to saturated.		
249			BU-1					
1.0								
						End of Test Pit: 1.1 m		
248								

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold*
CONSULTING**

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB; TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-25R**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 18, 11

Location: Flotation Plant Site

Total Depth: 0.80 m

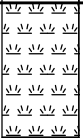
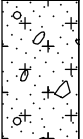
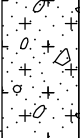
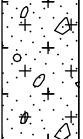
Date Completed: Aug 18, 11

Coordinates: 6,886,081 N, 415,239 E

Elevation: 255 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	255					PEAT (0 to 0.1) Sandy PEAT, fine, dark brown to black, firm to spongy, fibrous, with roots and organics throughout, dry to moist.		
0.4	255		BU-1			SAND (0.1 to 0.8) Gravelly, silty SAND; some cobbles, rounded to subrounded; trace clay; well graded; lenses of dense, silt-rich soil throughout; wet.		
0.6	255							Easy digging with excavator. Pit walls stable. No groundwater encountered.
0.8	255					End of Test Pit: 0.8 m		Refusal due to bedrock at 0.8 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-26**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 18, 11

Location: Flotation Plant Site

Total Depth: 1.30 m




Date Completed: Aug 18, 11

Coordinates: 6,885,934 N, 415,350 E

Elevation: 258 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
1.0	257		BU-1			PEAT (0 to 0.05) PEAT, dark brown, fibrous, with root inclusions throughout.		
						SAND (0.05 to 0.8) Gravelly SAND, fine to coarse; rounded to subangular; trace silt; poorly graded, greyish brown, dense, with roots and some organic content, dry to moist.		
			BU-2			GRAVEL (0.8 to 1.3) Sandy GRAVEL; some cobbles; trace silt; well graded, greyish/orangish brown, dense to very dense, moist.		
						End of Test Pit: 1.3 m		Relatively easy digging with excavator, however ground is quite dense. Stable pit walls. No groundwater encountered. Refusal due to bedrock at 1.3 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTINGProject No.
NB101-390/2Ref. No.
NB11-00527Rev.
0**APPENDIX A**I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-27R**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 18, 11

Location: Flotation Plant Site

Total Depth: 2.40 m

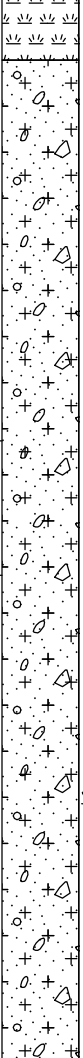
Date Completed: Aug 18, 11

Coordinates: 6,885,845 N, 415,231 E

Elevation: 256 m

Logged by: KEH

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
1.0	255		BU-1			PEAT (0 to 0.15) PEAT, brown, fibrous, with moss cover and roots throughout. Bottom depth of this layer (transition to sand) is variable. SAND AND SILT (0.15 to 2.4) SAND AND SILT; some gravel; trace cobbles; trace boulders; trace clay; poorly graded, material segregation due to frost/permafrost action, wet near surface to saturated with depth. Cobbles/boulders located at the east edge of the pit. Gravel and cobble content increases with depth.		Relatively easy digging, becoming slightly more difficult with depth. Pit walls very unstable. Groundwater encountered at 1.8 m. Refusal at 2.4 m due to reaching limits of excavator and instability of pit walls. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
2.0	254					End of Test Pit: 2.4 m		

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbr - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vc - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTINGProject No.
NB101-390/2Ref. No.
NB11-00527Rev.
0**APPENDIX A**I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-28**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 26, 11

Location: Tailings Management Facility

Total Depth: 0.90 m

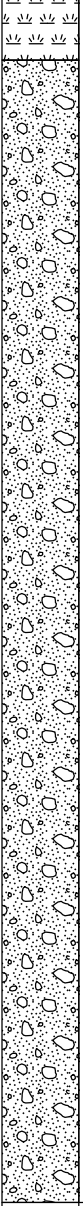
Date Completed: Aug 26, 11

Coordinates: 6,889,338 N, 418,752 E

Elevation: 258 m

Logged by: MNW

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	258					PEAT (0 to 0.05) PEAT, dark brown/black, spongy, fibrous, rootlets, roots and organic matter throughout, moist. SAND AND GRAVEL (0.05 to 0.9) SAND, medium to coarse; AND GRAVEL, fine to coarse, subangular to subround; poorly graded, medium greyish brown, stratified by coarseness, with trace rootlets, moist.		Test pit located in forested area with large birch/coniferous trees, visible bedrock located ~100 m north and east of test pit. Easy digging with excavator. Test pit walls stable. No groundwater encountered. Refusal due to bedrock at 0.9 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.4	258							
0.6	258							
0.8	257							
End of Test Pit: 0.9 m								

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

```

.:1\0100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\GINT\NEW PHASE 3 SI_TEST PIT5.GPJ
.:0\GINT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

```

```

.:1\0100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\GINT\NEW PHASE 3 SI_TEST PIT5.GPJ
.:0\GINT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

```

SAMPLING SYMBOLS:

GB	GRAB		BLOCK
----	------	--	-------

Knight Piésola
CONSULTING

APPENDIX A

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-30**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 26, 11

Location: Tailings Management Facility

Total Depth: 0.85 m

Date Completed: Aug 26, 11

Coordinates: 6,888,907 N, 418,018 E

Elevation: 249 m

Logged by: MNW

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	248					PEAT (0 to 0.05) PEAT, black, spongy, fibrous, with roots/organics inclusions, moist.		
0.2						SILT (0.05 to 0.85) Sandy SILT; fine to coarse; some clay; trace gravel, fine to coarse, subrounded; trace cobbles, subrounded; low plasticity, light greyish brown, firm, nuggeted, friable, with roots to 0.4 m depth, moist.		
	248							
0.4								
	248							
0.6			BU-1					Test pit located in forested dip between bedrock outcrops to the east and west; tall trees, mossy ground cover.
	248							Easy digging with excavator.
0.8								Test pit walls stable.
	248							No groundwater encountered.
						End of Test Pit: 0.85 m		Refusal due to bedrock at 0.85 m. Bedrock is smooth and flat.
	248							Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

C:\1071\00390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\GINT\NEW PHASE 3 SI_TEST PIT5.GPJ
C:\GINT\LIBRARY\KP LIB\GLB TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

C:\1071\00390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\GINT\NEW PHASE 3 SI_TEST PITTS.GPJ
C:\GINT\LIBRARY\KP LIB\GLB TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
Ic - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

GB	GRAB		BLOCK
----	------	--	-------

Knight Piésola
CONSULTING

APPENDIX A

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-32**Page:** 1 of 1

Contractor: Avalon

Equipment Used: Kubota Superseries2 U35

Date Started: Aug 26, 11

Location: Tailings Management Facility

Total Depth: 0.65 m











Date Completed: Aug 26, 11

Coordinates: 6,888,675 N, 417,753 E

Elevation: 253 m

Logged by: MNW

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	253					PEAT (0 to 0.05) PEAT, black, spongy, fibrous, with roots/organics throughout, moist.		
0.2						SAND AND SILT (0.05 to 0.65) SAND AND SILT, fine to medium (mostly fine), non-plastic, biegyish brown, soft, friable, with trace roots to 0.35 m, moist.		
	253							
0.4								
	253		BU-1					Test pit located in small forested area between two bedrock outcrops to the north and south; large trees, very little moss on surface.
0.6								Easy digging with excavator.
	253							Pit walls stable.
0.8								No groundwater encountered.
	252					End of Test Pit: 0.65 m		Refusal due to bedrock at 0.65 m.
								Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-33**Page:** 1 of 1

Contractor: KPL

Equipment Used: Hand Auger

Date Started: Aug 28, 11

Location: Flotation Plant Site

Total Depth: 0.70 m


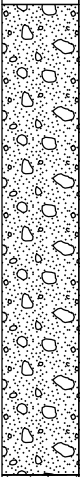
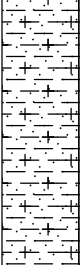
Date Completed: Aug 28, 11

Coordinates: 6,885,911 N, 415,098 E

Elevation: 255 m

Logged by: MNW

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	255					PEAT (0 to 0.15) PEAT, black, spongy, fibrous, moist.		
0.4	255					SAND (0.15 to 0.5) Gravelly SAND, medium to coarse sand, fine to coarse gravel, subrounded, trace cobbles, poorly graded, medium greyish brown, compact, moist.		
0.6	255					SAND (0.5 to 0.7) SAND, fine to coarse; some clay; trace gravel, fine, subrounded; poorly graded, light orangish brown, compact, moist to wet.		Test pit located in low lying area with short trees, moss and shrubs. Excavated using hand auger with moderate effort. Refusal at 0.7 m due to hard ground (may be start of bedrock). Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
0.8	255					End of Test Pit: 0.7 m		

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTINGProject No.
NB101-390/2Ref. No.
NB11-00527Rev.
0**APPENDIX A**I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-34**Page:** 1 of 1

Contractor: KPL

Equipment Used: Hand Auger

Date Started: Aug 28, 11

Location: Flotation Plant Site

Total Depth: 2.00 m

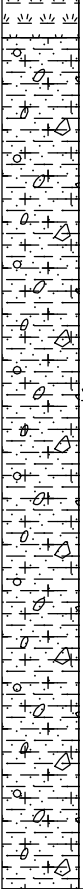
Date Completed: Aug 28, 11

Coordinates: 6,886,132 N, 415,154 E

Elevation: 254 m

Logged by: MNW

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
						<p>PEAT (0 to 0.1) PEAT, black, spongy, moist.</p> <p>SAND (0.1 to 2) Clayey SAND, fine to coarse; trace gravel, fine; poorly graded, medium greyish brown/high orangish brown, compact, stratified by colour, moist to saturated.</p>		<p>Test pit located in swampy area between exposed bedrock, with small to medium sized trees, grass, bushes and moss. Some boulders/cobbles visible at surface.</p> <p>Excavated using hand auger with moderate effort.</p> <p>Groundwater encountered at 0.9 m.</p> <p>Refusal due to boulders/cobbles or bedrock at 2.0 m.</p> <p>Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.</p>
253								
1.0								
252								
2.0						End of Test Pit: 2 m		
251								

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vc - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:**AVALON RARE METALS INC.
THOR LAKE PROJECT****Knight Piésold
CONSULTING**

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX A

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-35**Page:** 1 of 1

Contractor: KPL

Equipment Used: Hand Auger

Date Started: Aug 28, 11

Location: Flotation Plant Site

Total Depth: 1.70 m

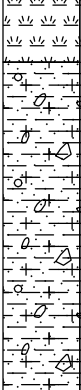

Date Completed: Aug 28, 11

Coordinates: 6,886,128 N, 415,077 E

Elevation: 254 m

Logged by: MNW

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
	254					PEAT (0 to 0.1) PEAT.		
						SAND AND GRAVEL (0.1 to 1.2) SAND, fine to coarse; AND GRAVEL, fine; some clay; poorly graded, stratified by coarseness, wet to saturated.		
1.0								Test pit located in swampy area between exposed bedrock, with small to medium sized trees, grass, bushes and moss. Some boulders/cobbles visible at surface.
	253					SAND (1.2 to 1.7) Clayey SAND, fine to medium; some gravel, fine; stratified by coarseness, loose, saturated.		Excavated using hand auger with moderate to full effort.
								Groundwater encountered at 0.6 m.
								Refusal due to hole cave-in and suction of ground onto auger.
								Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.
						End of Test Pit: 1.7 m		

Project: THOR LAKE PROJECT**Test Pit No.:** TP-TL11-37**Page:** 1 of 1

Contractor: KPL

Equipment Used: Hand Auger

Date Started: Aug 28, 11

Location: Flotation Plant Site

Total Depth: 0.80 m


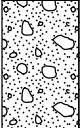
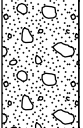
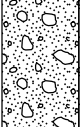
Date Completed: Aug 28, 11

Coordinates: 6,885,961 N, 415,028 E

Elevation: 255 m

Logged by: MNW

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	SAMPLES	SAMPLE NO.	GRAPHIC LOG	WATER LEVEL	MATERIAL DESCRIPTION	FROZEN SOIL DESCRIPTION	COMMENTS
0.2	255					PEAT (0 to 0.1) PEAT, black, spongy, fibrous, moist.		
0.4	255					SAND (0.1 to 0.5) Gravelly SAND, coarse sand, fine gravel, subangular to subrounded, trace clay, poorly graded, medium brown, compact, moist.		
0.6	255					SAND (0.5 to 0.8) SAND, fine to medium; some clay; some gravel, fine; poorly graded, light orangish brown, compact, moist to wet.		Test pit located in dried up swampy area, with short trees, thin vegetation and small bushes. Trees are taller to the north.
0.8	255					End of Test Pit: 0.8 m		Excavated using hand auger with moderate effort. No groundwater encountered. Refusal due to suspected cobbles at 0.8 m. Test pit coordinates are based on hand-held GPS and elevations have been estimated from available contour data.

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vc - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
I+S - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SAMPLING SYMBOLS:

GRAB



BLOCK

**AVALON RARE METALS INC.
THOR LAKE PROJECT*****Knight Piésold***
CONSULTING

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX AI:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\NEW PHASE 3 SI_TEST PITS.GPJ
I:\0\INT\LIBRARY\KP LIB.GLB, TEST PIT LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

APPENDIX B

DRILLHOLE LOGS

Appendix B1	Geotechnical Drillhole Logs
Appendix B2	Hydrogeological Drillhole Logs

APPENDIX B1

GEOTECHNICAL DRILLHOLE LOGS

(Pages B1-1 to B1-15)

Project: THOR LAKE PROJECT

Drillhole No.: GT-12

Page: 1 of 3

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 23, 11

Location: Quarry

Total Depth: 24.05 m

Date Completed: Aug 23, 11

Coordinates: 6,888,531 N, 416,866 E


Elevation: 268 m

Logged by: KEH

Inclination: -90

Reviewed by: KEH

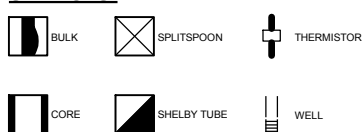
DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLE / RUN No.	SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS
				SOIL	SAMPLE / RUN No.										SPT TEST 'N' VALUES - X				
															PL	MC	LL (%)		

267	267	 <p>(0 to 24.05) Rock Type: ALTERED SYENITE Colour: Pink with grey/black/green flecks Fabric and Textures: Medium to coarse grained, massive Weathering: Slightly weathered to fresh Discont. Type: Joints Discont. Orientation: Jointing at 10°, 60°, 75° and 90° Other: Some joints have rusty brown staining or hard brown/green infill. Joints between 14.05 and 17.05 m have brownish green to white infill.</p>	1	98			4	6	93	65								
266	266		2	100			7	2	100	71								
265	265																	
264	264		3	99			7	5	99	71								
263	263																	
262	262																	
261	261		4	99			7	7	99	69								
260	260																	
259	259																	

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
IC - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:



**AVALON RARE METALS INC.
THOR LAKE PROJECT**

**Knight Piésold
CONSULTING**

Project No. NB101-390/2
Ref. No. NB11-00527
Rev. 0

APPENDIX B1

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\GINT\PHASE 3 SI_DRILLHOLES.GPJ
I:\0\GINT\LIBRARY\KP LIB\GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Reviewed by: KEH

\\101100390102\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\GINT\PHASE 3 SI_DRILLHOLES.GPJ
\\GINT\LIBRARY\KP LIB.GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

APPENDIX B1

Project: THOR LAKE PROJECT

Drillhole No.: GT-12

Page: 3 of 3

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 23, 11

Location: Quarry

Total Depth: 24.05 m

Date Completed: Aug 23, 11

Coordinates: 6,888,531 N, 416,866 E

Elevation: 268 m

Logged by: KEH

Inclination: -90

Reviewed by: KEH

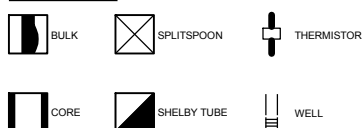
DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLE / RUN No.	SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS				INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS
				SOIL	SAMPLE / RUN No.										SPT TEST 'N' VALUES - X					
															PL	MC	LL	(%)		

19.0	249			8		100				7	5	100	71							
20.0	248																			
21.0	247																			
22.0	246																			
23.0	245																			
24.0	244	End of Drillhole: 24.05 m Drillhole located on exposed bedrock at proposed quarry location. HQ coring advanced to 24.05 m.		9		100				7	5	100	71							
25.0	243																			
26.0	242																			
	241																			

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
Ic - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:



**AVALON RARE METALS INC.
THOR LAKE PROJECT**

**Knight Piésold
CONSULTING**

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX B1

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\PHASE 3 SI_DRILLHOLES.GPJ
I:\0\INT\LIBRARY\KP LIB\GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Drillhole No.: GT-13

Page: 2 of 2

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 23, 11

Location: Embankment - TMF

Total Depth: 14.00 m

Date Completed: Aug 23, 11

Coordinates: 6,889,143 N, 417,212 E

Elevation: 250 m

Logged by: MNW

Inclination: -90

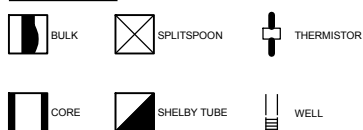
Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS	
				SOIL	SAMPLE / RUN No.									SPT TEST 'N' VALUES - X					
														PL	MC	LL (%)			
9.0	242			6		100				12	7	92	78						
11.0	241																		
12.0	240																		
13.0	239																		
14.0	238																		
15.0	237																		
	236		End of Drillhole: 14 m																
	235		Drillhole located on moss covered ground between two exposed rock outcrops.																
			Packer Test Zone: 3.35 - 14.0 m.																
			HQ coring advanced to 14.0 m.																

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vn - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
IS - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:

AVALON RARE METALS INC.
THOR LAKE PROJECTKnight Piésold
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX B1

I:\10100390\2\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\PHASE 3 SI_DRILLHOLES.GPJ
I:\0\INT\LIBRARY\KP LIB\GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Drillhole No.:** GT-14**Page:** 1 of 2

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 19, 11

Location: Embankment - TMF

Total Depth: 12.00 m

Date Completed: Aug 19, 11

Coordinates: 6,889,085 N, 418,503 E

Elevation: 246 m

Logged by: KEH/MNW

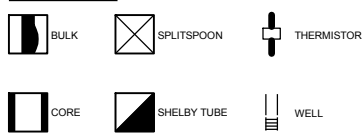
Inclination: -90

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS	
				SOIL	SAMPLE / RUN No.									SPT TEST 'N' VALUES - X	RECOVERY	RQD			RMR

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vn - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:**AVALON RARE METALS INC.
THOR LAKE PROJECT****Knight Piésold
CONSULTING**

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX B1I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\PHASE 3 SI_DRILLHOLES.GPJ
I:\0\INT\LIBRARY\KP LIB\GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Drillhole No.: GT-14

Page: 2 of 2

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 19, 11

Location: Embankment - TMF

Total Depth: 12.00 m

Date Completed: Aug 19, 11


Coordinates: 6,889,085 N, 418,503 E

Elevation: 246 m

Logged by: KEH/MNW

Inclination: -90

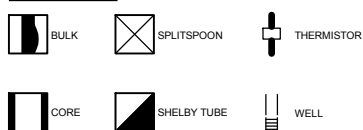
Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLE / RUN No.	SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS
				SOIL	SAMPLE / RUN No.										SPT TEST 'N' VALUES - X				
															PL	MC	LL (%)		
8.0	238		90°.	4		100				7	7	100	71						
	237		5		100			7	4	100	69								
	236		(9.63 to 12) Rock Type: DIABASE Colour: Medium to dark grey with white veins Fabric and Textures: Fine grained, massive, with interbedded transition from syenite to diabase Weathering: Fresh Discont. Type: Joints Discont. Orientation: Jointing at 45°, 75° and 90°.	6	100			7	13	94	69								
235																			
12.0	234		End of Drillhole: 12 m Drillhole located in swampy, low area along proposed TMF dam alignment. Packer Test Zone: 2.77 - 12.0 m. HQ coring advanced to 12.0 m.																
13.0	233																		
	232																		

FROZEN SOIL DESCRIPTIONS:

NF - POORLY BONDED
 Nbn - WELL BONDED, NO EXCESS ICE
 Nbe - WELL BONDED, EXCESS ICE
 Vn - INDIVIDUAL ICE INCLUSIONS
 Vc - ICE COATINGS ON PARTICLES
 Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
 Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
 HS - ICE WITH SOIL INCLUSIONS
 ICE - ICE WITHOUT SOIL INCLUSIONS
 ? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:


 AVALON RARE METALS INC.
 THOR LAKE PROJECT

 Knight Piésold
 CONSULTING

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX B1

 I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\PHASE 3 SI_DRILLHOLES.GPJ
 I:\0\INT\LIBRARY\KP LIB\GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT**Drillhole No.:** GT-15**Page:** 1 of 2

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 20, 11

Location: Embankment - TMF

Total Depth: 14.10 m

Date Completed: Aug 20, 11


Coordinates: 6,888,980 N, 418,077 E

Elevation: 250 m

Logged by: KEH

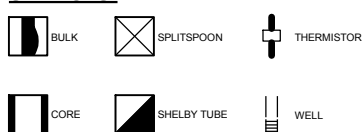
Inclination: -90

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS
				SOIL	SAMPLE / RUN No.									SPT TEST 'N' VALUES - X				
														PL	MC	LL (%)		
1.0	250		(0 to 1.6) <u>Rock Type:</u> ALTERED SYENITE <u>Colour:</u> Pink with black spots and some white veins <u>Fabric and Textures:</u> Fine to coarse grained, massive <u>Weathering:</u> Slightly weathered <u>Discont. Type:</u> Joints <u>Discont. Orientation:</u> Jointing at 60° and 90° <u>Other:</u> Hard white infill in some joints	1		92			7	12	51	59						
	249																	
2.0	248		(1.6 to 2.6) <u>Rock Type:</u> DIABASE <u>Colour:</u> Greenish black with minor white and pink specs <u>Fabric and Textures:</u> Fine grained, massive <u>Weathering:</u> Slightly weathered <u>Discont. Type:</u> Joints <u>Discont. Orientation:</u> Jointing at 70° and 90° <u>Other:</u> Rusty brown infill. Slightly rubblized zone between 2.3 and 2.5 m.	2		100			7	10	80	63						
3.0	247																	
4.0	246		(2.6 to 8.1) <u>Rock Type:</u> ALTERED SYENITE <u>Colour:</u> Pink, white, greenish black <u>Fabric and Textures:</u> Fine to coarse grained, massive <u>Weathering:</u> Slightly weathered <u>Discont. Type:</u> Joints <u>Discont. Orientation:</u> Jointing at 60°, 70°, 80° and 90° <u>Other:</u> Rusty and white infill.	3		100			7	18	75	61						
5.0	245																	
6.0	244			4		100			7	6	100	66						
7.0	243			5		100			7	13	86	61						

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:**AVALON RARE METALS INC.
THOR LAKE PROJECT****Knight Piésold
CONSULTING**

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX B1I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\PHASE 3 SI_DRILLHOLES.GPJ
I:\0\GINT\LIBRARY\KP LIB\GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Drillhole No.: GT-15

Page: 2 of 2

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 20, 11

Location: Embankment - TMF

Total Depth: 14.10 m

Date Completed: Aug 20, 11

Coordinates: 6,888,980 N, 418,077 E

Elevation: 250 m

Logged by: KEH

Inclination: -90

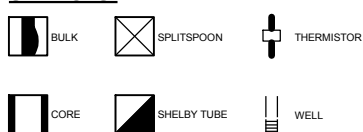
Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS
				SOIL	SAMPLE / RUN No.									SPT TEST 'N' VALUES - X				
														PL	MC	LL (%)		
			(8.1 to 14.1) Rock Type: ALTERED SYENITE Colour: Pink, grey, greenish black Fabric and Textures: Coarse grained, massive Weathering: Fresh Discont. Type: Joints Discont. Orientation: Jointing at 80° and 90°	6		100			7	14	92	69						
9.0	241																	
10.0	240																	
11.0	239																	
12.0	238				7		100			7	11	96	71					
13.0	237																	
14.0	236		End of Drillhole: 14.1 m															
15.0	235		Drillhole located on exposed, gently sloping bedrock with sparse moss cover. Packer Test Zone: 1.5 - 14.1 m. HQ coring advanced to 14.1 m.															

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
Ic - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:



**AVALON RARE METALS INC.
THOR LAKE PROJECT**

**Knight Piésold
CONSULTING**

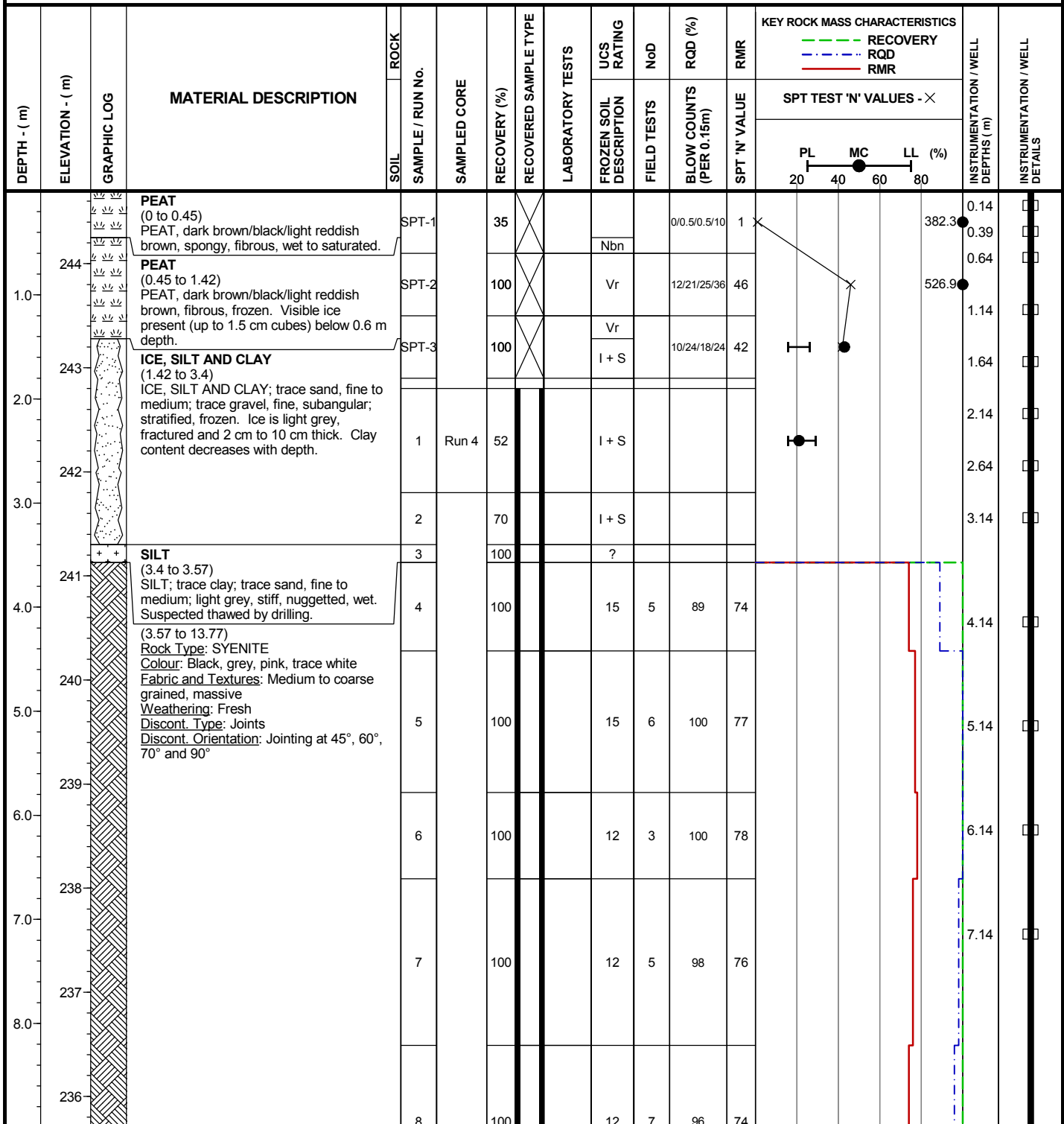
Project No. NB101-390/2
Ref. No. NB11-00527
Rev. 0

APPENDIX B1

Page: 1 of 2Date Started: Aug 20, 11Date Completed: Aug 20, 11

Logged by: MNW

Reviewed by: KEH



FROZEN SOIL DESCRIPTIONS:

NF - POORLY BONDED
 Nbn - WELL BONDED, NO EXCESS ICE
 Nbe - WELL BONDED, EXCESS ICE
 Vx - INDIVIDUAL ICE INCLUSIONS
 Vc - ICE COATINGS ON PARTICLES
 Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
 Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
 HS - ICE WITH SOIL INCLUSIONS
 I - ICE WITHOUT SOIL INCLUSIONS
 2 - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:



BULK

SPLI[®]

THERMISTOR



CORE



SHELBY TUBE



WELL

AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No.
NB101-390/2

Ref. No.
NB11-00527

Rev.
0

APPENDIX B1

Project: THOR LAKE PROJECT**Drillhole No.:** GT-16**Page:** 2 of 2

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 20, 11

Location: Embankment - Polishing Pond

Total Depth: 14.14 m

Date Completed: Aug 20, 11

Coordinates: 6,888,859 N, 418,386 E

Elevation: 245 m

Logged by: MNW

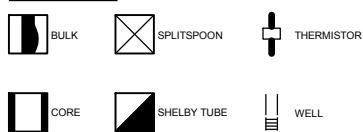
Inclination: -90

Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLE / RUN No.	SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS							
				SOIL	SAMPLE / RUN No.										RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS			UCS RATING	NoD	RQD (%)	RMR	SPT TEST 'N' VALUES - X		
																								PL	MC	LL (%)
10.0	235					9		100			15	6	93	81					9.14							
11.0	234																									
12.0	233					10		100			12	6	91	78					11.14							
13.0	232																									
14.0	231					11		100			12	6	91	74												
15.0	230		(13.77 to 14) Rock Type: DIABASE Colour: Dark grey Fabric and Textures: Fine grained, massive Weathering: Fresh Discont. Type: Joints Discont. Orientation: Jointing at 45° and 70° Other: Infill is white. End of Drillhole: 14.14 m																14.14							
16.0	229		Drillhole located in flat, low lying wet area, with many short trees and grasses. Packer Test Zone: 5.27 - 14.14 m.																							
17.0	228		Successful installation of thermistor. Drillhole was backfilled with natural sand and gravel.																							
	227		HQ coring advanced to 14.14 m.																							

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
Ic - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:**AVALON RARE METALS INC.
THOR LAKE PROJECT****Knight Piésold
CONSULTING**

Project No. NB101-390/2	Ref. No. NB11-00527	Rev. 0
----------------------------	------------------------	-----------

APPENDIX B1I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\PHASE 3 SI_DRILLHOLES.GPJ
I:\0\INT\LIBRARY\KP LIB\GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Page: 1 of 2Date Started: Aug 21, 11Date Completed: Aug 21, 11

Logged by: KEH/MNW

Reviewed by: KEH

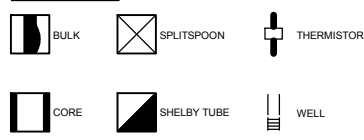
DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SOIL	ROCK SAMPLE / RUN No.	SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS
														SPT TEST 'N' VALUES - X				
														PL	MC	LL (%)		
244			PEAT (0 to 1) PEAT, black, fibrous, spongy, with root inclusions throughout, moist to wet.	SPT-1			25	X				0.5/0.5/0.5/0.5	1	X				
243	1.0		ICE AND SILT (1 to 2.1) ICE AND clayey SILT; trace sand, fine; light brownish grey, stratified, frozen. Ice lenses up to 5 cm thick. Top 15 cm of soil has some frozen organic content.	SPT-2			75	X		I + S		1/1/7/11	8	X	●			
242	2.0		ICE, SILT AND CLAY (2.1 to 3.3) ICE, SILT AND CLAY; trace sand, fine; light bieghish grey, laminated to stratified, frozen. Approximately 50-60% ice content.	SPT-3			93	X		I + S		14/16/20/23	36		●			
241	3.0		ICE, SILT AND CLAY (2.1 to 3.3) ICE, SILT AND CLAY; trace sand, fine; light bieghish grey, laminated to stratified, frozen. Approximately 50-60% ice content.	SPT-4			100	X		I + S		18/17/15/12	32	X	●			
240	4.0		ICE AND SILT (3.3 to 4.1) ICE AND SILT; some clay; trace sand, fine to medium; trace gravel; light bieghish grey, stratified, frozen. Approximately 35-40% ice content.	SPT-5			100	X		I + S		12/14/12/20	26	X	●			
240	4.0		ICE AND SILT (4.1 to 4.9) ICE AND clayey SILT; trace sand, fine; trace silt; greyish/reddish biege, laminated, frozen. Approximately 20-30% ice content.	SPT-6			100	X		I + S		13/16/17/13	33	X	●			
240	4.0		ICE AND SILT (4.1 to 4.9) ICE AND clayey SILT; trace sand, fine; trace silt; greyish/reddish biege, laminated, frozen. Approximately 20-30% ice content.	SPT-7			100	X		Vs		16/15/12/-	27	X	●			
239	5.0		GRAVEL (4.9 to 5.2) Gravel, subangular to subrounded, suspected washed and thawed by drilling.	1	Run 1		58			Vs					●			
238	6.0		SYENITE (5.2 to 16.9) Rock Type: SYENITE Colour: Pink, grey, black Fabric and Textures: Medium to coarse grained, massive Weathering: Fresh Discont. Type: Joints Discont. Orientation: Jointing at 70° and 90°. Few healed joints.	2a			33			?								
237	7.0		SYENITE (5.2 to 16.9) Rock Type: SYENITE Colour: Pink, grey, black Fabric and Textures: Medium to coarse grained, massive Weathering: Fresh Discont. Type: Joints Discont. Orientation: Jointing at 70° and 90°. Few healed joints.	2b			100			12	17	74	65					
236	8.0		SYENITE (5.2 to 16.9) Rock Type: SYENITE Colour: Pink, grey, black Fabric and Textures: Medium to coarse grained, massive Weathering: Fresh Discont. Type: Joints Discont. Orientation: Jointing at 70° and 90°. Few healed joints.															

FROZEN SOIL DESCRIPTIONS:

FROZEN SOIL DESCRIPTIONS:

- Nf - POORLY BONDED
- Nbn - WELL BONDED, NO EXCESS ICE
- Nbe - WELL BONDED, EXCESS ICE
- Vx - INDIVIDUAL ICE INCLUSIONS
- Vc - ICE COATINGS ON PARTICLES
- Vi - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
- Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
- H-S - ICE WITH SOIL INCLUSIONS
- I-S - ICE WITHOUT SOIL INCLUSIONS
- 2 - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:



AVALON RARE METALS INC.
THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX B1

Project: THOR LAKE PROJECT

Drillhole No.: GT-17

Page: 2 of 2

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 21, 11

Location: Embankment - Polishing Pond

Total Depth: 16.90 m

Date Completed: Aug 21, 11

Coordinates: 6,888,549 N, 418,243 E


Elevation: 244 m

Logged by: KEH/MNW

Inclination: -90

Reviewed by: KEH

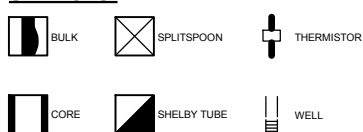
DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLE / RUN No.	SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS				INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS
				SOIL	SAMPLE / RUN No.										SPT TEST 'N' VALUES - X					
															PL	MC	LL (%)			

235				3				100			12	15	87	73																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	</
-----	--	--	--	---	--	--	--	-----	--	--	----	----	----	----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
Ic - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:



**AVALON RARE METALS INC.
THOR LAKE PROJECT**

**Knight Piésold
CONSULTING**

Project No. NB101-390/2
Ref. No. NB11-00527
Rev. 0

APPENDIX B1

Project: THOR LAKE PROJECT

Drillhole No.: GT-18

Page: 1 of 2

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 22, 11

Location: Embankment - TMF

Total Depth: 14.10 m

Date Completed: Aug 22, 11

Coordinates: 6,888,448 N, 417,848 E

Elevation: 251 m

Logged by: KEH/MNW

Inclination: -90

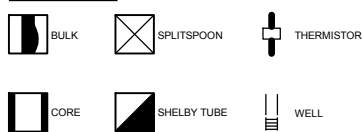
Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS
				SOIL	SAMPLE / RUN No.									SPT TEST 'N' VALUES - X				
														PL	MC	LL (%)		
251			PEAT (0 to 0.45) PEAT, black, fibrous, spongy, with roots and wood pieces, dry to moist.	SPT-1		33	X					1/1.5/2.5/5	4	X	●			
1.0			SAND (0.45 to 0.95) SAND, fine; some silt; poorly graded, brown, dense, wet.	SPT-2		100	X						3/5/R/-	R	●			
250			GRAVEL (0.95 to 1) GRAVEL, suspected washed by drilling.	1a		80				?								
2.0			(1 to 14.1) Rock Type: SYENITE Colour: Pink with black/grey flecks Fabric and Textures: Medium to coarse grained, massive Weathering: Fresh Discont. Type: Joints Discont. Orientation: Jointing at 60°, 75° and 90°. Healed joint at 20°. Other: Hard black infill between 2.6 and 5.1 m depth. Reddish staining on joints between 8.1 and 11.1 m depth. Healed 20° joint between 10.45 and 10.8 m has up to 7 mm of white infill.	1b		100				7	7	76	68					
249																		
3.0																		
248																		
4.0				2		100				7	10	95	69					
247																		
5.0																		
246																		
6.0																		
245				3		100				7	7	97	71					
7.0																		
244																		

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
IC - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:



AVALON RARE METALS INC. THOR LAKE PROJECT

Knight Piésold
CONSULTING

Project No. NB101-390/2
Ref. No. NB11-00527
Rev. 0

APPENDIX B1

I:\110100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\PHASE 3 SI_DRILLHOLES.GPJ
I:\0\INT\LIBRARY\KP LIB\GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

Project: THOR LAKE PROJECT

Drillhole No.: GT-18

Page: 2 of 2

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 22, 11

Location: Embankment - TMF

Total Depth: 14.10 m

Date Completed: Aug 22, 11


Coordinates: 6,888,448 N, 417,848 E

Elevation: 251 m

Logged by: KEH/MNW

Inclination: -90

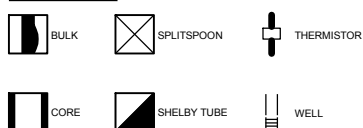
Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS							
				SOIL	SAMPLE / RUN No.									RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS			UCS RATING	NoD	RQD (%)	RMR	SPT TEST 'N' VALUES - X		
																							PL	MC	LL (%)
243	9.0																								
242	10.0		4	100			7	13	93	71															
241	11.0																								
240	12.0																								
239	13.0				5	100				7	8	100	73												
238	14.0																								
237	15.0		End of Drillhole: 14.1 m Drillhole located in treed, flat area. Packer Test Zone: 2.57 - 14.1 m. HQ coring advanced to 14.1 m.																						
236																									

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vn - INDIVIDUAL ICE INCLUSIONS
Ve - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
Ic - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:

AVALON RARE METALS INC.
THOR LAKE PROJECTKnight Piésold
CONSULTING

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX B1

I:\10100390\2\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\PHASE 3 SI_DRILLHOLES.GPJ
I:\0\INT\LIBRARY\KP LIB\GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

APPENDIX B2

HYDROGEOLOGICAL DRILLHOLE LOGS

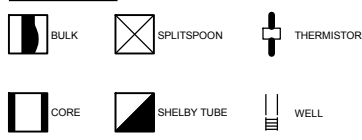
(Pages B2-1 to B2-2)

Project: THOR LAKE PROJECT**Drillhole No.: HG-3B****Page: 1 of 2**Contractor: ForacoDrill Type: 25 HHDate Started: Aug 18, 11Location: Hydrogeological Drillhole - TMFTotal Depth: 14.15 mDate Completed: Aug 18, 11Coordinates: 6,888,983 N , 418,489 EElevation: 244 mLogged by: CLSInclination: -90Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	SOIL	ROCK SAMPLE / RUN No.	SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	FROZEN SOIL DESCRIPTION	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS	
															SPT TEST 'N' VALUES - X					
															PL	MC	LL (%)			
															20	40	60	80		
244			PEAT (0 to 0.1) PEAT, greensih brown, spongy, fibrous, with roots and organic matter throughout, dry to moist.	SPT-1			100	X		Vx			0/3/11/19	14						
1.0			PEAT (0.1 to 0.25) PEAT, black, fibrous, frozen, with wood pieces. Ice particles are clear.	SPT-2			100	X		Vx Vr			9/23/25/29	48						
243			CLAY (0.25 to 0.6) Silty CLAY; some sand, fine; greyish brown, massive, frozen, with peat scattered throughout the soil. Ice is clear. Soil is very light weight.	SPT-3			90	X		Vx Vr I + S			2/3/22/29	25						
2.0			PEAT (0.75 to 1.8) PEAT, trace sand, blackish brown, fibrous, with wood chips, frozen. Ice is clear to white, randomly oriented.	SPT-4			84	X		I + S			2/14/36/-	50						
3.0			ICE AND SILT (1.8 to 2.1) ICE AND SILT; same sand, fine; some clay; greyish brown, stratified, frozen. Ice is cloudy, hard and comprises more than 50% of the sample.	1a			20			Nbn										3.2
241			ICE AND SILT (2.25 to 2.7) ICE AND clayey SILT; trace sand, fine; pinkish grey, stratified, frozen. Ice is cloudy, white and hard. Ice >1" thick.	1b			100			7	3		93	67						
4.0			CLAY (2.8 to 3.55) Silty CLAY; trace sand, fine; pinkish grey, massive, frozen. Suspected partially washed by drilling.	2			75			7	5		55	60						
240			(3.55 to 5.1) Rock Type: SYENITE Colour: Pink, black, grey Fabric and Textures: Coarse grained, massive Weathering: Fresh Discont. Type: Joints Discont. Orientation: Jointing at 30° and 80°. Other: Infill is hard pinkish white calcite and brown silt infill. Suspect soft silt zone (washed away) between 4.3m and 5.1 m.																	4.95
239			(5.1 to 14.15) Rock Type: ALTERED SYENITE Colour: Pink, black, green Fabric and Textures: Coarse grained, massive Weathering: Fresh Discont. Type: Joints Discont. Orientation: Jointing at 30°, 45° and 80°. Other: Infill is chlorite, calcite and pinkish silt. 30 cm thick dyke at 9.2 m depth (fine grained grey diabase).	3			98			7	15		88	62						6.48
7.0																				
237																				

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
ICE - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:**AVALON RARE METALS INC.
THOR LAKE PROJECT****Knight Piésold
CONSULTING**

Project No.	Ref. No.	Rev.
NB101-390/2	NB11-00527	0

APPENDIX B2

Project: THOR LAKE PROJECT

Drillhole No.: HG-3B

Page: 2 of 2

Contractor: Foraco

Drill Type: 25 HH

Date Started: Aug 18, 11

Location: Hydrogeological Drillhole - TMF

Total Depth: 14.15 m

Date Completed: Aug 18, 11

Coordinates: 6,888,983 N, 418,489 E

Elevation: 244 m

Logged by: CLS

Inclination: -90

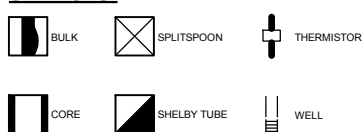
Reviewed by: KEH

DEPTH - (m)	ELEVATION - (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	ROCK		SAMPLED CORE	RECOVERY (%)	RECOVERED SAMPLE TYPE	LABORATORY TESTS	UCS RATING	NoD	RQD (%)	RMR	KEY ROCK MASS CHARACTERISTICS			INSTRUMENTATION / WELL DEPTHS (m)	INSTRUMENTATION / WELL DETAILS
				SOIL	SAMPLE / RUN No.									SPT TEST 'N' VALUES - X				
9.0	236			4			100			7	5	98	67					
	235																	
10.0	234			5			100			7	2	97	69					
	233																	
11.0																		
12.0	232																	
	231			6			100			7	3	100	69					
13.0																		
14.0	230		End of Drillhole: 14.15 m														14.15	
			Drillhole located in swampy area, with many small bushes and trees, close to Drizzle Lake.															
15.0			Packer Test Zone: 4.85 - 14.15 m.															
	229		Successful installation of monitoring well.															
			HQ coring advanced to 14.15 m.															

FROZEN SOIL DESCRIPTIONS:

Nf - POORLY BONDED
Nbn - WELL BONDED, NO EXCESS ICE
Nbe - WELL BONDED, EXCESS ICE
Vx - INDIVIDUAL ICE INCLUSIONS
Vc - ICE COATINGS ON PARTICLES
Vr - RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS
Vs - STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS
Hs - ICE WITH SOIL INCLUSIONS
IC - ICE WITHOUT SOIL INCLUSIONS
? - LOW CONFIDENCE OR UNKNOWN FROZEN SOIL DESCRIPTION

SYMBOLS:



**AVALON RARE METALS INC.
THOR LAKE PROJECT**

**Knight Piésold
CONSULTING**

Project No. NB101-390/2
Ref. No. NB11-00527
Rev. 0

APPENDIX B2

I:\10100390\02\DATA\WORK FILES\WF37 - SI DATA - THOR LAKE\INT\PHASE 3 SI_DRILLHOLES.GPJ
I:\0\INT\LIBRARY\KP LIB\GLB, DRILLHOLE LOG, KP DATA TEMPLATE.GDT, 16-Nov-11

APPENDIX C

PHOTOS (ON CD)

APPENDIX D

MERLEX ENGINEERING LABORATORY RESULTS REPORT

(Pages D-1 to D-67)

LVM | MERLEX

Reference No. 11/10/11184

October 31, 2011

Knight Piesold Ltd.
1650 Main St. West
North Bay, Ontario
P1B 8G5

Attention: Ms. Cara Stapley

**Re: Material Testing
PO NB11-3488 – Part 1
Avalon Rare Earth Metals Inc.**

Soil samples were received at our North Bay laboratory on October 13, 2011 for determination of natural moisture content as well as select sieve analyses, hydrometer analyses, atterberg limits testing, and/or specific gravity analyses. Summary sheets of the laboratory test results are attached.

Weight of Sample at Reception

Testpit No.	Sample No.	Weight at Reception (g)	Testpit No.	Sample No.	Weight at Reception (g)
TP-TL11-08	BU-1	214.0	TP-TL11-08	BU-2	2551.2
TP-TL11-05	BU-1	2259.8	TP-TL11-02	BU-1	1826.6
BP-TL11-04	BU-1	1287.0	BP-TL11-04	BU-2	2089.3
TP-TL11-20	BU-1	1865.3	TP-TL11-19	BU-1	1820.4
TP-TL11-12	BU-1	3184.5	TP-TL11-12	BU-2	1319.1
TP-TL11-13	BU-1	4064.4	TP-TL11-09	BU-1	1680.9
TP-TL11-16	BU-1	1971.6	BP-TL11-03	BU-1	2072.7
BP-TL11-05	BU-1	4406.6	BP-TL11-06	BU-1	4185.2
BP-TL11-02R	BU-1	3577.2	TP-TL11-21	BU-1	2526.8
TP-TL11-22	BU-1	2632.2	TP-TL11-24	BU-1	2686.8
TP-TL11-21	BU-2	3893.2	TP-TL11-23	BU-1	2572.7
TP-TL11-23R	BU-1	3450.3	TP-TL11-26	BU-1	3641.2
TP-TL11-26	BU-2	5406.7	TP-TL11-27R	BU-1	4393.3
TP-TL11-25R	BU-1	3220.3	GT-16	SPT-1	167.4
GT-16	SPT-2	729.9	GT-16	SPT-3	666.4
GT-16	Run 4	1462.3	GT-17	SPT-2	347.8
GT-17	SPT-3-1	359.9	GT-17	SPT-3-2	478.2
GT-17	SPT-4	930.5	GT-17	SPT-5	1024.5
GT-17	SPT-6	1251.2	GT-17	SPT-7	647.8
GT-18	SPT-1	290.4	GT-18	SPT-2	537.4

LVM.CA

T 705.476.2550
F 705.476.8882
northbay@lvm.ca

2 - 120 Progress Court
North Bay (Ontario)
Canada P1B 8G4

Testpit No.	Sample No.	Weight at Reception (g)	Testpit No.	Sample No.	Weight at Reception (g)
TP-TL11-30	BU-1	3174.4	TP-TL11-31	BU-1	2881.8
TP-TL11-32	BU-1	2933.9	GT-17	Run 1	1094.5

Natural Moisture Content Summary Table (in accordance with ASTM D2216-98)

Testpit No.	Sample No.	Moisture (%)	Testpit No.	Sample No.	Moisture (%)
TP-TL11-08	BU-1	20.94	TP-TL11-08	BU-2	16.64
TP-TL11-05	BU-1	20.05	TP-TL11-02	BU-1	16.43
BP-TL11-04	BU-1	15.52	BP-TL11-04	BU-2	15.95
TP-TL11-20	BU-1	6.57	TP-TL11-19	BU-1	11.05
TP-TL11-12	BU-1	4.42	TP-TL11-12	BU-2	6.77
TP-TL11-13	BU-1	5.92	TP-TL11-09	BU-1	15.33
TP-TL11-16	BU-1	9.94	BP-TL11-03	BU-1	24.09
BP-TL11-05	BU-1	9.77	BP-TL11-06	BU-1	7.24
BP-TL11-02R	BU-1	9.91	TP-TL11-21	BU-1	12.89
TP-TL11-22	BU-1	18.20	TP-TL11-24	BU-1	13.02
TP-TL11-21	BU-2	4.47	TP-TL11-23	BU-1	24.28
TP-TL11-23R	BU-1	25.79	TP-TL11-26	BU-1	2.99
TP-TL11-26	BU-2	3.82	TP-TL11-27R	BU-1	10.27
TP-TL11-25R	BU-1	12.67	GT-16	SPT-1	382.31
GT-16	SPT-2	526.86	GT-16	SPT-3	42.93
GT-16	Run 4	21.01	GT-17	SPT-2	23.47
GT-17	SPT-3-1	54.33	GT-17	SPT-3-2	25.41
GT-17	SPT-4	52.54	GT-17	SPT-5	46.13
GT-17	SPT-6	45.22	GT-17	SPT-7	44.79
GT-18	SPT-1	19.13	GT-18	SPT-2	18.05
TP-TL11-30	BU-1	11.47	TP-TL11-31	BU-1	10.33
TP-TL11-32	BU-1	7.85	GT-17	Run 1	33.72

Specific Gravity Summary Table (in accordance with ASTM D854)

Testpit No.	Sample No.	Specific Gravity
TP-TL11-12	BU-2	2.730
BP-TL11-06	BU-1	2.749
TP-TL11-26	BU-2	2.700

All laboratory testing is carried out in accordance with ASTM standards. The LVM | Merlex Engineering Ltd. laboratory holds a Type C Certification from CCIL. LVM | Merlex has continually participated in the annual MTO Concrete Correlation Program and the MTO

Aggregate and Soils Proficiency Sample Program along with annual certification from CSA to maintain its Category 1 status.

We trust the enclosed is sufficient for your present requirements. Should you have any queries, or if we could be of further assistance, please do not hesitate to contact the undersigned.

Yours very truly,

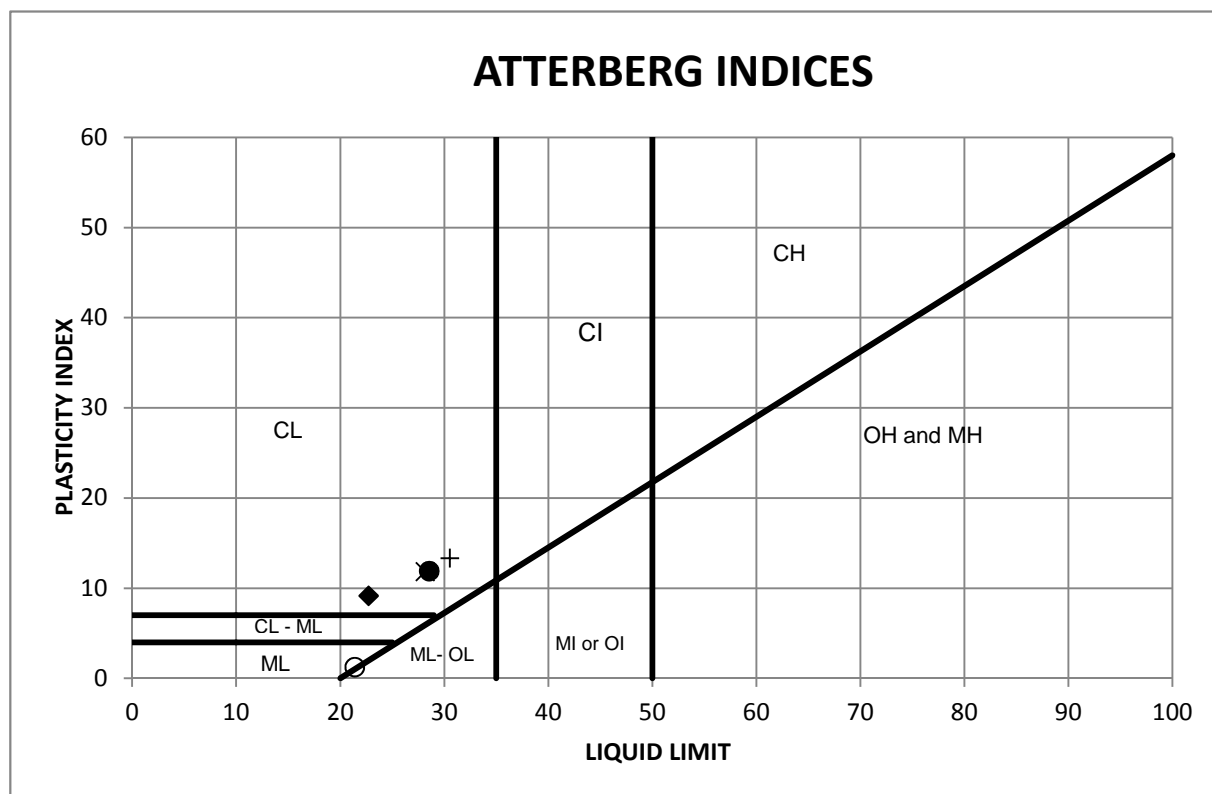
MERLEX ENGINEERING LTD.

A handwritten signature in black ink, appearing to read 'J-P Duhaime', followed by a long horizontal flourish.

J-P Duhaime
Lab Supervisor

ATTERBERG LIMITS TEST RESULTS

FIGURE 1



SYMBOL	TP	Sa. No.	Depth(m)	Liquid Limit	Plasticity Index
○	TP-TL11-08	BU-2	1.20-1.63	21.38	1.26
x	TP-TL11-05	BU-1	0.45-0.85	28.2	11.9
◆	TP-TL11-09	BU-1	0.15-1.00	22.7	9.2
■	TP-TL11-16	BU-1	0.25-0.40	*see note	
●	BP-TL11-03	BU-1	0.30-0.60	28.5	11.9
*	TP-TL11-22	BU-1	0.50-1.10	*see note	
+	TP-TL11-23	BU-1	0.50-0.90	30.5	13.4

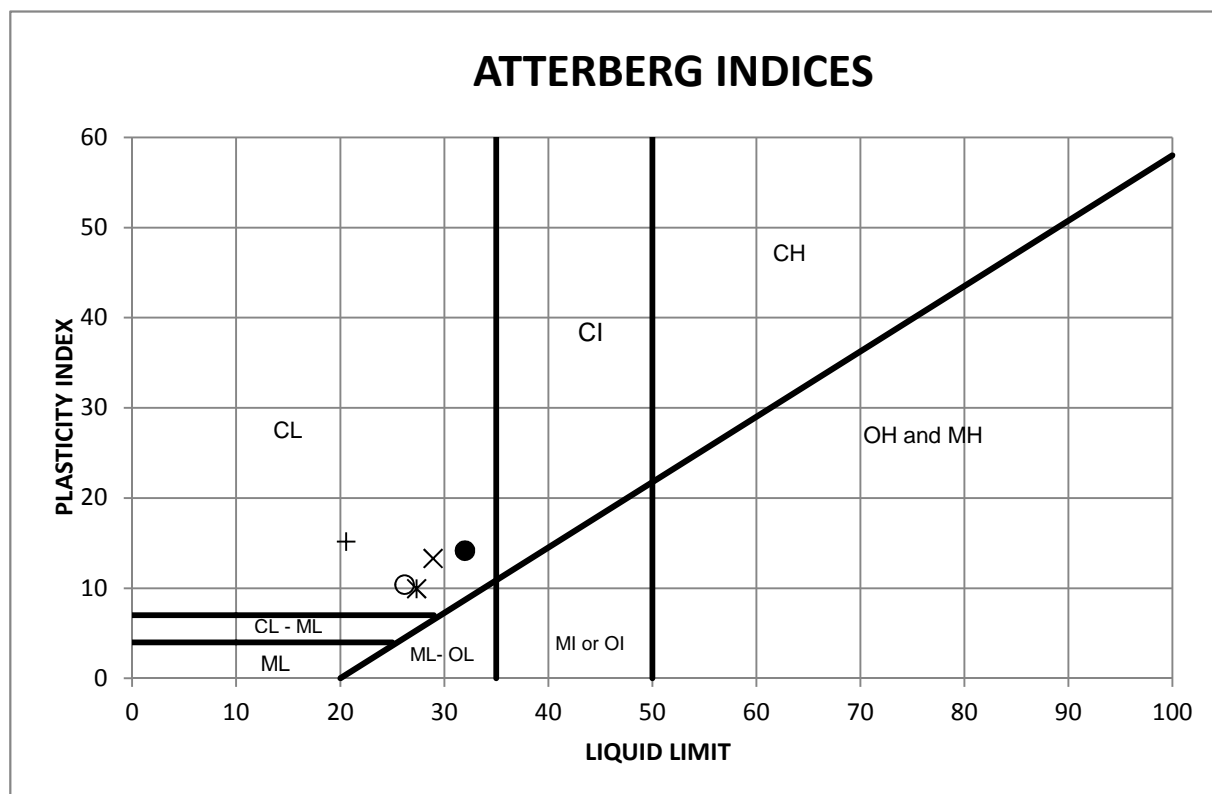
Note: Atterberg limit testing was attempted, however a liquid limit and plastic limit were not determined due to the non plastic nature of the material

Date: 21-Oct-11
Project: MT - Avalon Rare Earth Metals Inc.

Prep'd: MK
Chkd: MK

ATTERBERG LIMITS TEST RESULTS

FIGURE 2



SYMBOL	TP	Sa. No.	Depth(m)	Liquid Limit	Plasticity Index
○	GT-16	SPT3	1.42-1.80	26.17	10.41
x	GT-16	Run4	1.90-2.90	28.9	13.3
◆	GT-17	SPT3-1	1.50-1.80	not enough material	
■	GT-17	SPT3-2	1.80-2.10	not enough material	
●	GT-17	SPT5	2.70-3.30	32.0	14.2
*	GT-17	SPT7	4.10-4.35	27.3	10.0
+	TP-TL11-30	BU-1	0.50-0.70	20.6	15.2

Note: Atterberg limit testing was attempted, however a liquid limit and plastic limit were not determined due to the non plastic nature of the material

Date: 26-Oct-11
Project: MT - Avalon Rare Earth Metals Inc.

Prep'd: MK
Chkd: MK

LVM | MERLEX

GRAIN SIZE ANALYSIS REPORT

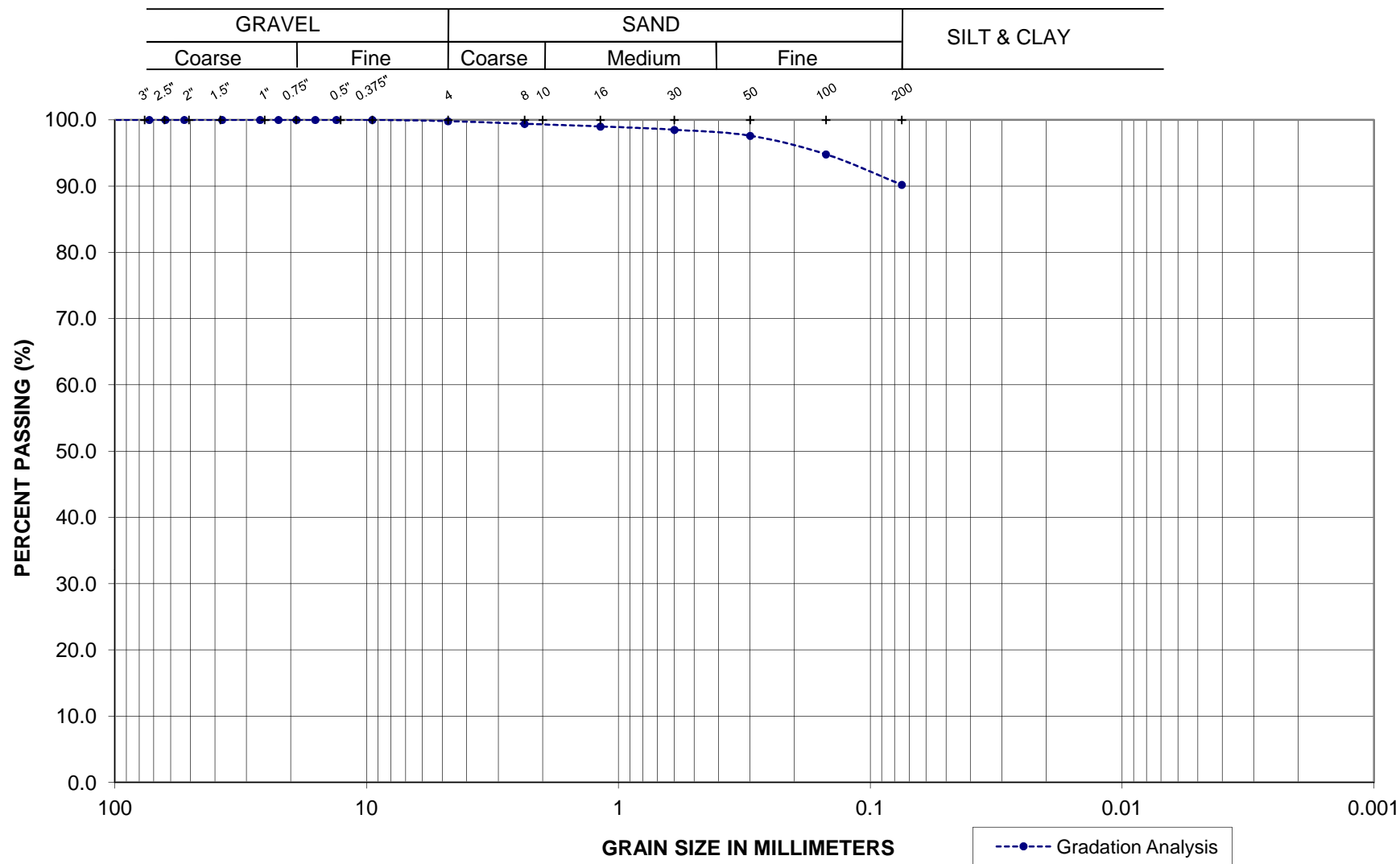
Report Date: 18-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc.

Testpit No.	TP-TL11-08
Sample No.:	BU-1
Depth:	0.60-1.20 m
SIEVE SIZE (mm)	SAMPLE PERCENT PASSING
73	100
63	100
53	100
37.5	100
26.5	100
22.4	100
19	100
13.2	100
9.5	100
4.75	99.8
2.36	99.4
1.18	99.0
0.6	98.5
0.3	97.6
0.15	94.8
0.075	90.2

GRAIN SIZE ANALYSIS



GRAIN SIZE ANALYSIS REPORT

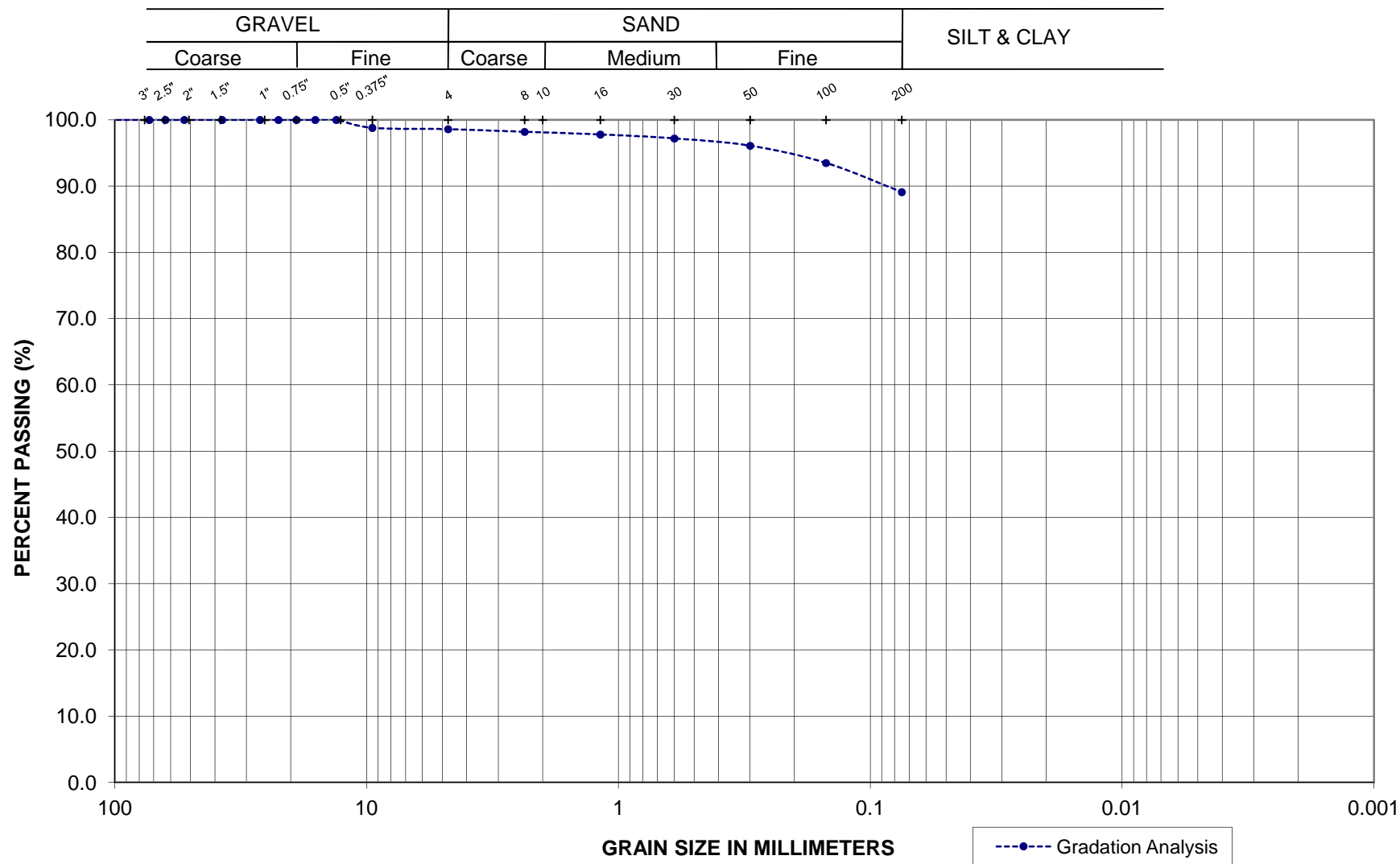
Report Date: 18-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc.

Testpit No.	TP-TL11-08
Sample No.:	BU-2
Depth:	1.20-1.63 m
SIEVE SIZE (mm)	SAMPLE PERCENT PASSING
73	100
63	100
53	100
37.5	100
26.5	100
22.4	100
19	100
13.2	100
9.5	98.8
4.75	98.6
2.36	98.2
1.18	97.8
0.6	97.2
0.3	96.1
0.15	93.5
0.075	89.1

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: TP-TL11-08
 SAMPLE NO.: BU-2
 DEPTH: 1.20-1.63 m

Type of Test:
 Sieve Analysis (Sets: 1)
 w/wash

GRAIN SIZE ANALYSIS REPORT

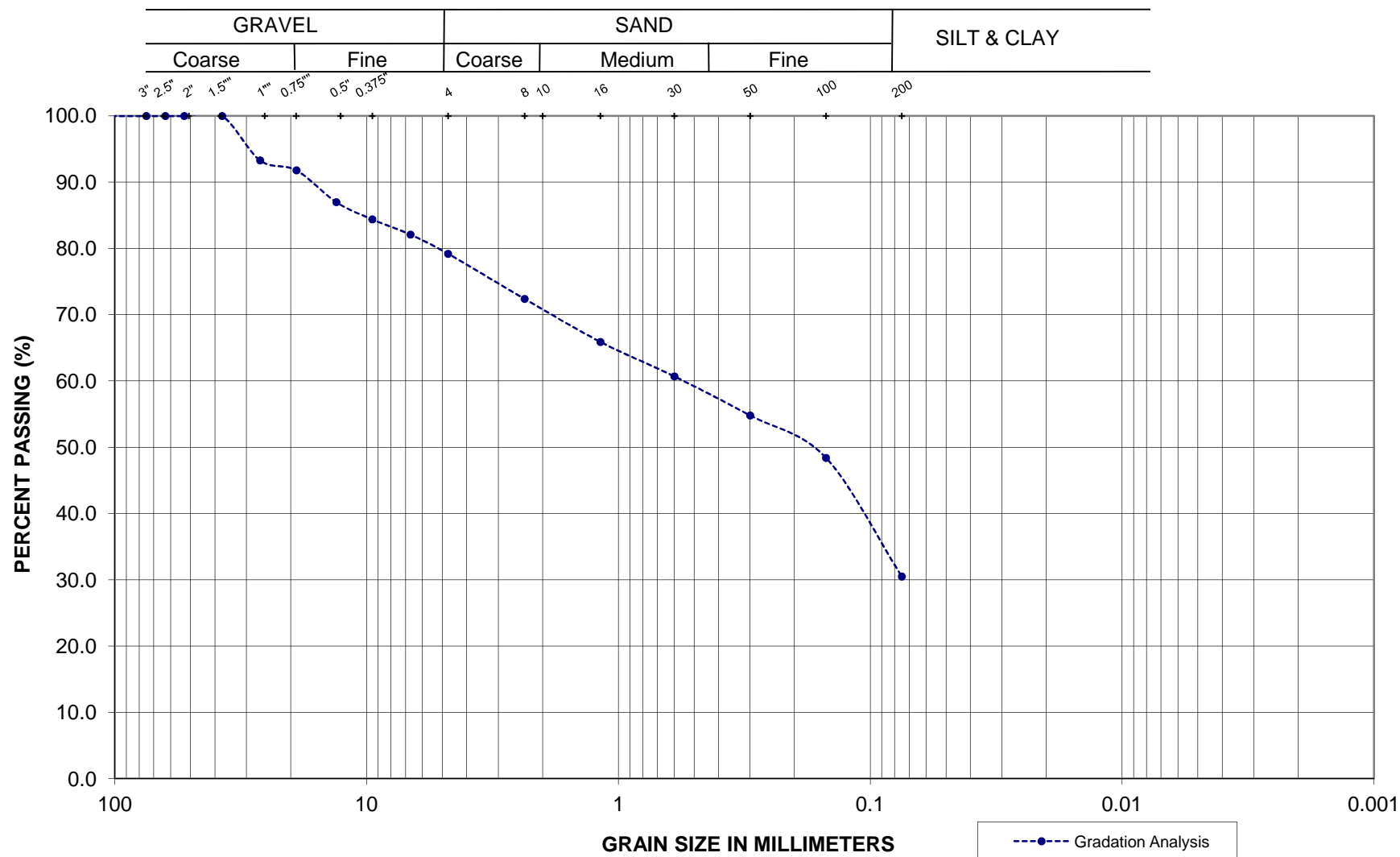
Report Date: 25-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc.

Testpit No.	TP-TL11-05
Sample No.:	BU-1
Depth:	0.45-0.85 m
SIEVE SIZE (mm)	SAMPLE PERCENT PASSING
75	100.0
63	100.0
53	100.0
37.5	100.0
26.5	93.3
19	91.8
13.2	87.0
9.5	84.4
6.7	82.1
4.75	79.2
2.36	72.4
1.18	65.9
0.6	60.7
0.3	54.8
0.15	48.4
0.075	30.5

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: TP-TL11-05
 SAMPLE NO.: BU-1
 DEPTH: 0.45-0.85 m

Type of Test:
 Sieve Analysis (Sets: 2)

GRAIN SIZE ANALYSIS REPORT

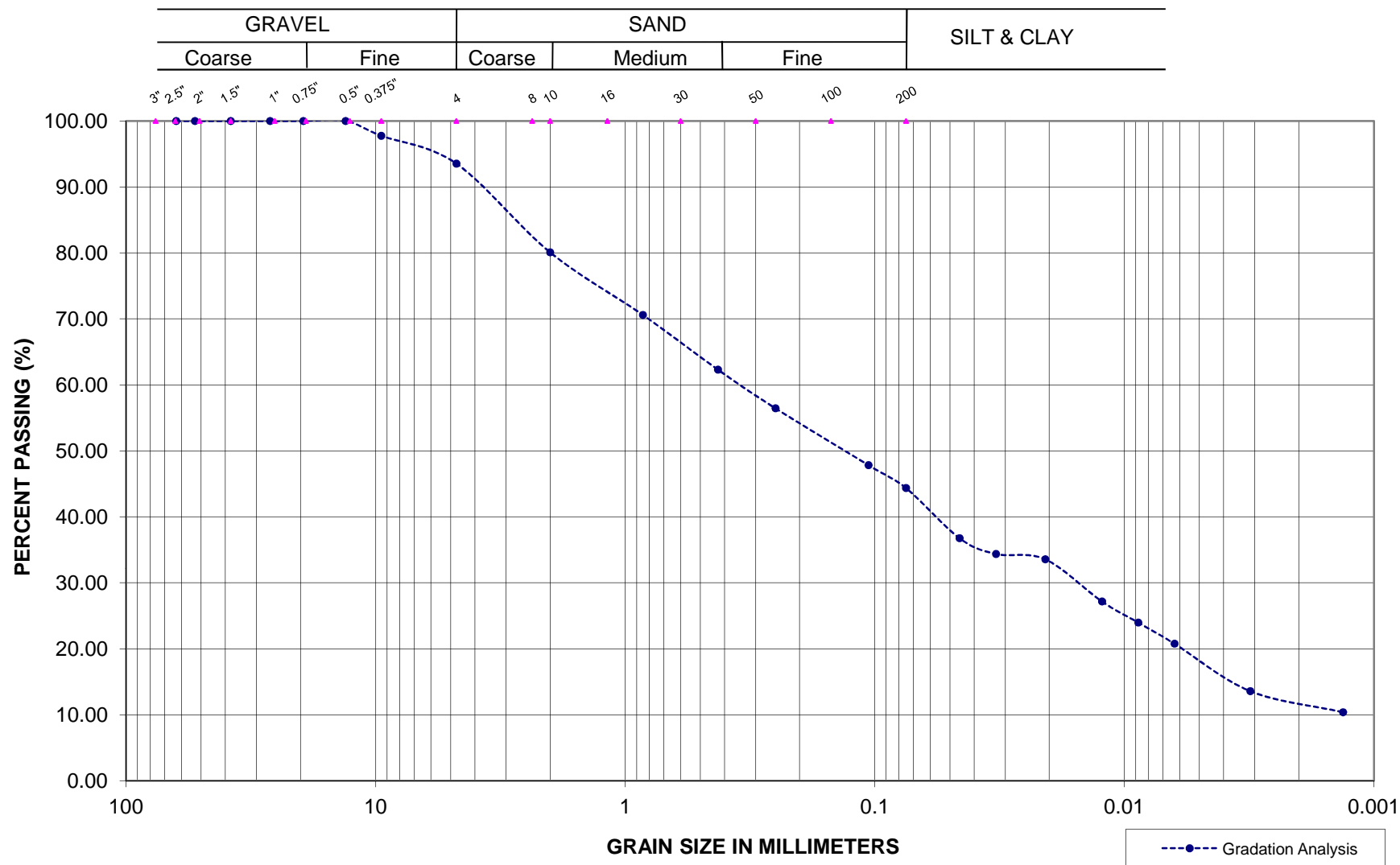
Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-02
Sample No:	BU-1
Depth	0.07-0.76 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	97.8
4.8	93.5
2.0	80.1
0.850	70.6
0.425	62.3
0.250	56.5
0.106	47.8
0.075	44.4
0.0458	36.8
0.0327	34.4
0.0207	33.6
0.0123	27.2
0.0088	24.0
0.0063	20.8
0.0031	13.6
0.0013	10.4

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.
TESTPIT NO.: TP-TL11-02
SAMPLE NO.: BU-1
DEPTH: 0.07-0.76 m

Test:
Hydrometer Analysis

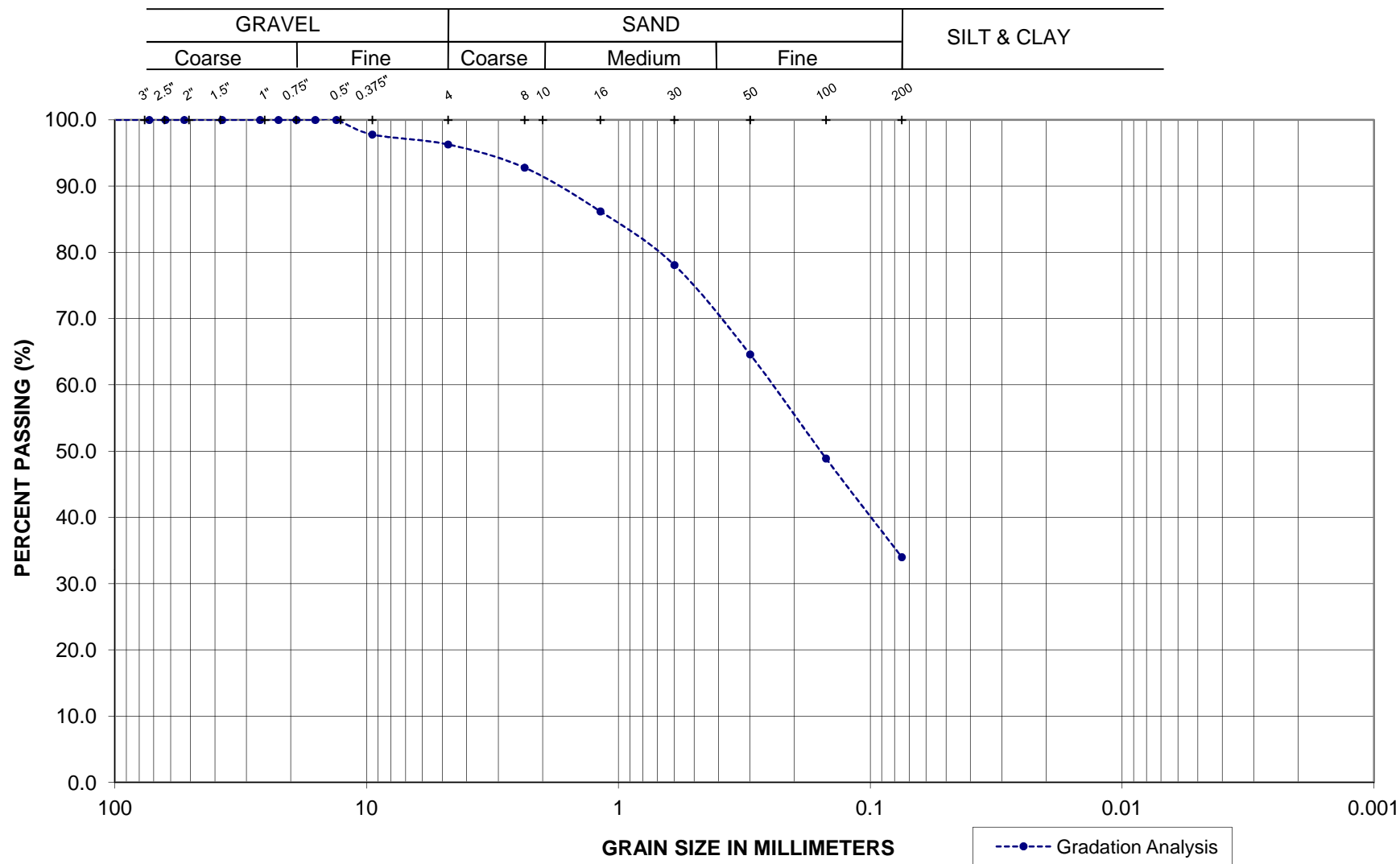
GRAIN SIZE ANALYSIS REPORT

Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc.

Testpit No.	TP-TL11-20
Sample No.:	BU-1
Depth:	0.05-0.60 m
SIEVE SIZE (mm)	SAMPLE PERCENT PASSING
73	100
63	100
53	100
37.5	100
26.5	100
22.4	100
19	100
13.2	100
9.5	97.8
4.75	96.3
2.36	92.8
1.18	86.2
0.6	78.1
0.3	64.6
0.15	48.9
0.075	34.0

GRAIN SIZE ANALYSIS

PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: TP-TL11-20
 SAMPLE NO.: BU-1
 DEPTH: 0.05-0.60 m

Type of Test:
 Sieve Analysis (Sets: 1)
 w/wash

GRAIN SIZE ANALYSIS REPORT

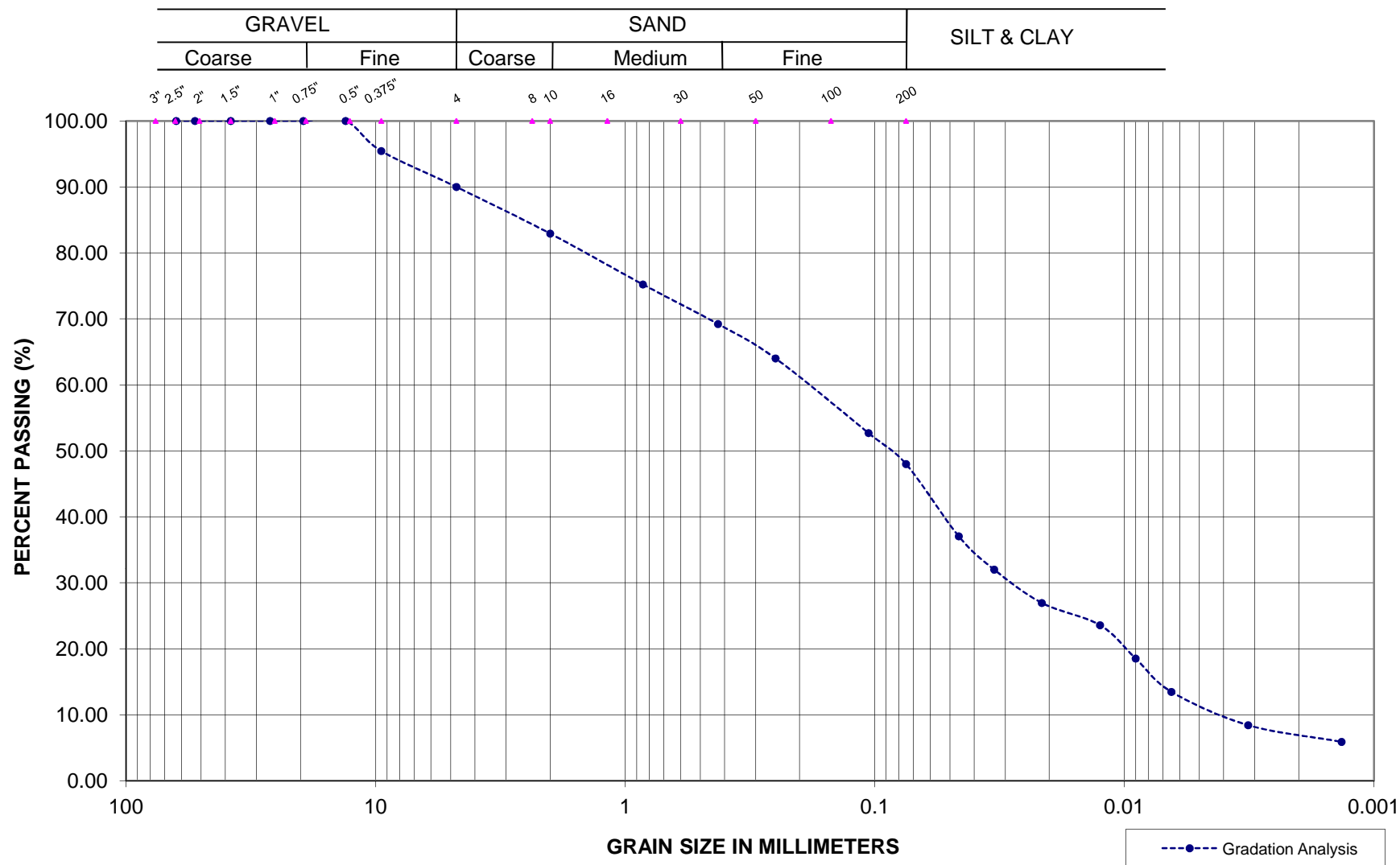
Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-19
Sample No:	BU-1
Depth	0.10-0.50 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	95.4
4.8	90.0
2.0	82.9
0.850	75.2
0.425	69.2
0.250	64.0
0.106	52.7
0.075	48.0
0.0461	37.1
0.0332	32.0
0.0214	26.9
0.0125	23.6
0.0090	18.5
0.0065	13.5
0.0032	8.4
0.0013	5.9

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: TP-TL11-19

SAMPLE NO.: BU-1

DEPTH: 0.10-0.50 m

Test:
Hydrometer Analysis

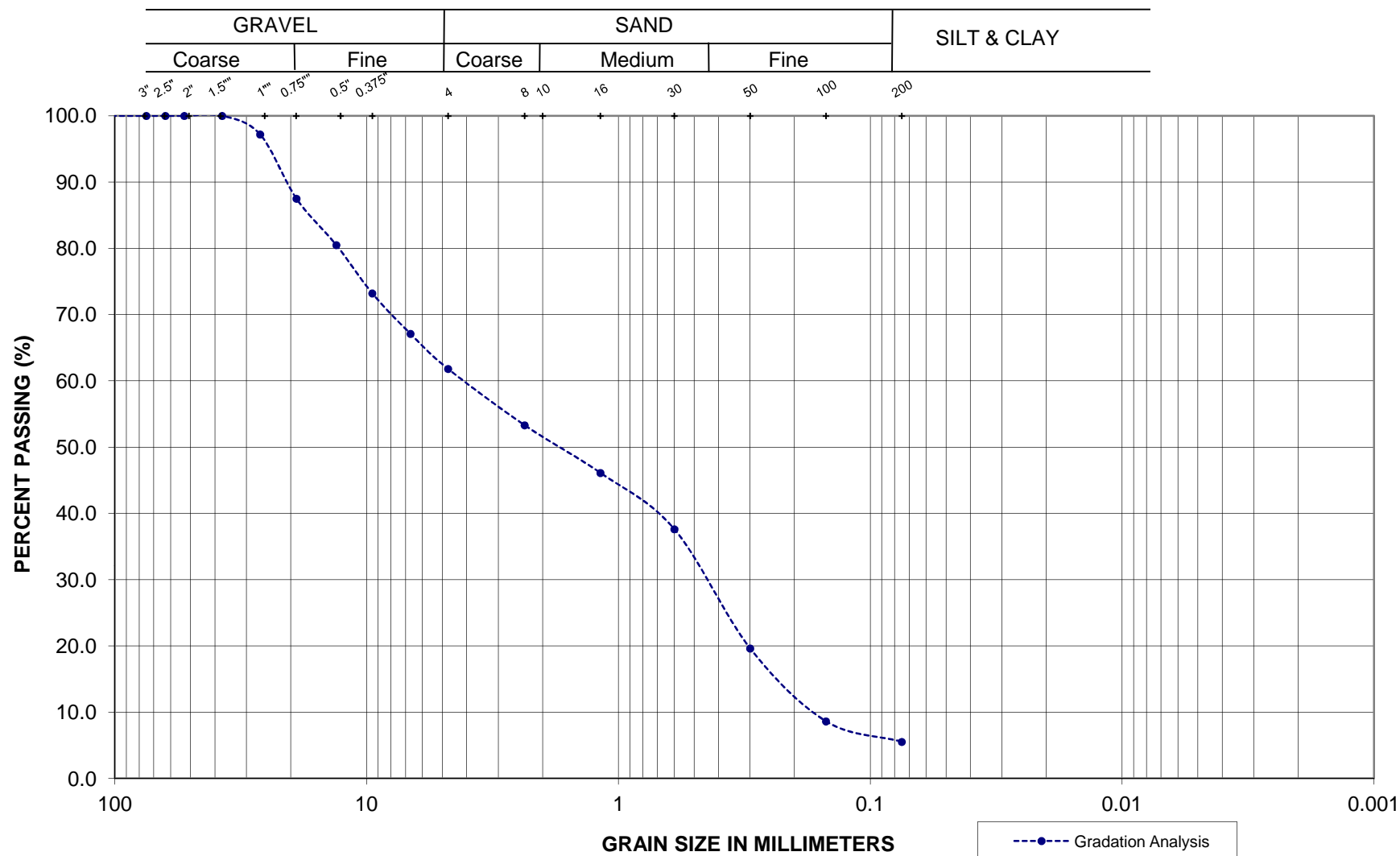
GRAIN SIZE ANALYSIS REPORT

Report Date: 18-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc.

Testpit No.	TP-TL11-12
Sample No.:	BU-1
Depth:	0.10-0.57 m
SIEVE SIZE (mm)	SAMPLE PERCENT PASSING
75	100.0
63	100.0
53	100.0
37.5	100.0
26.5	97.2
19	87.5
13.2	80.5
9.5	73.2
6.7	67.1
4.75	61.8
2.36	53.3
1.18	46.1
0.6	37.6
0.3	19.6
0.15	8.6
0.075	5.5

GRAIN SIZE ANALYSIS

PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: TP-TL11-12
 SAMPLE NO.: BU-1
 DEPTH: 0.10-0.57 m

Type of Test:
 Sieve Analysis (Sets: 2)
 w/wash

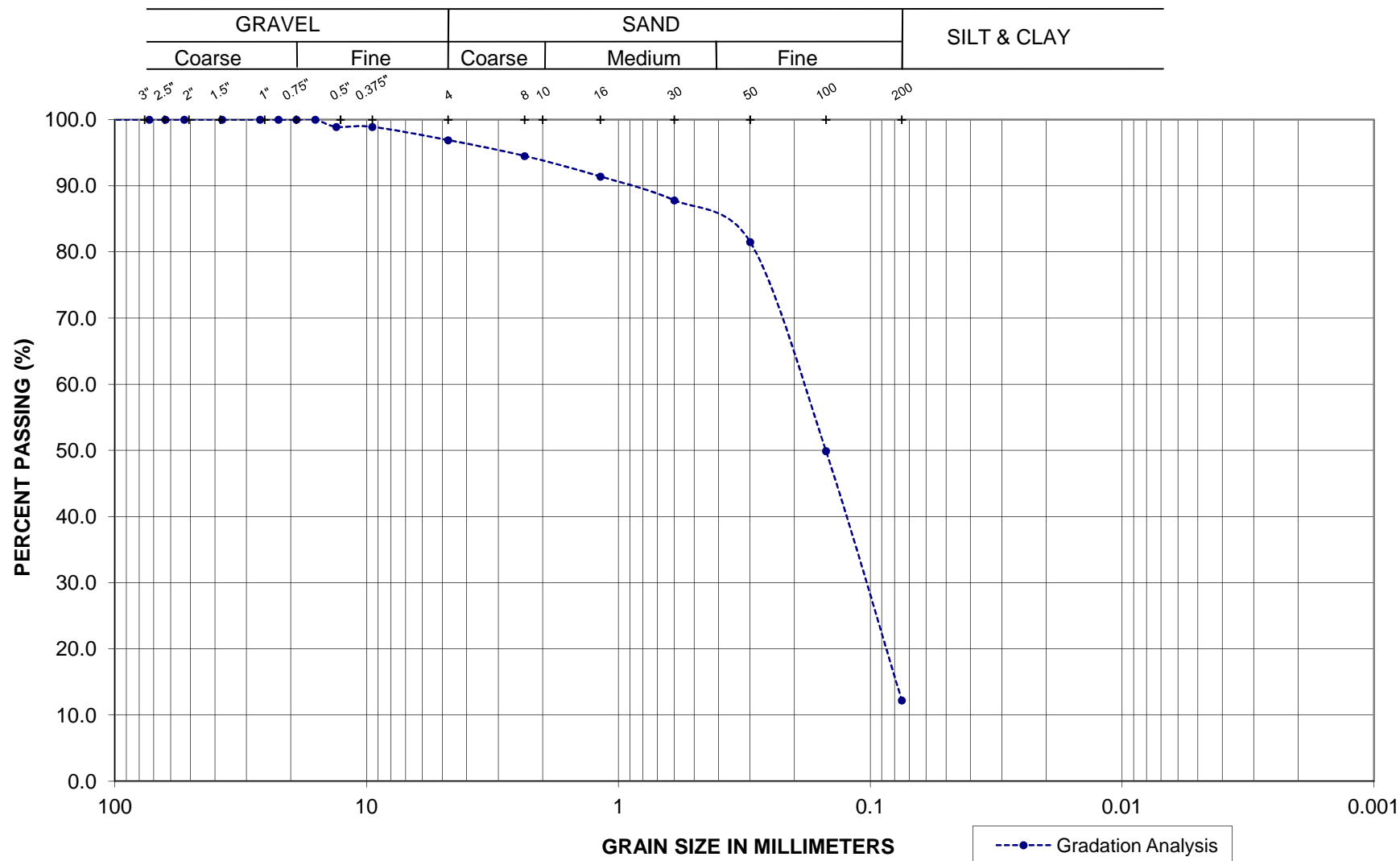
GRAIN SIZE ANALYSIS REPORT

Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc.

Testpit No.	TP-TL11-12
Sample No.:	BU-2
Depth:	0.57-0.80 m
SIEVE SIZE (mm)	SAMPLE PERCENT PASSING
73	100
63	100
53	100
37.5	100
26.5	100
22.4	100
19	100
13.2	98.9
9.5	98.9
4.75	96.9
2.36	94.5
1.18	91.4
0.6	87.8
0.3	81.5
0.15	49.9
0.075	12.2

GRAIN SIZE ANALYSIS

PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: TP-TL11-12
 SAMPLE NO.: BU-2
 DEPTH: 0.57 - 0.80 m

Type of Test:
 Sieve Analysis (Sets: 1)
 w/wash

GRAIN SIZE ANALYSIS REPORT

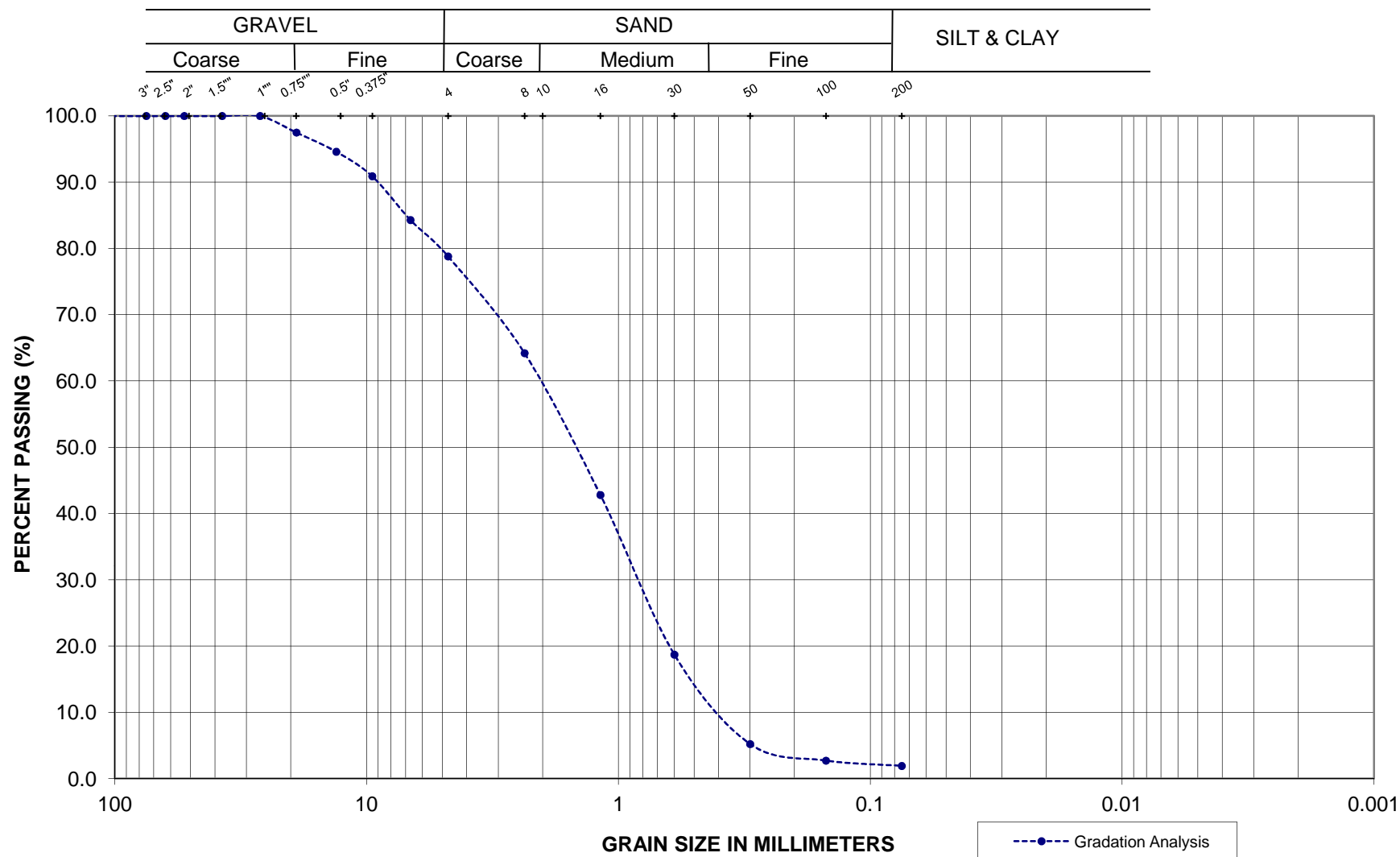
Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc.

Testpit No.	TP-TL11-13
Sample No.:	BU-1
Depth:	0.30-0.90 m
SIEVE SIZE (mm)	SAMPLE PERCENT PASSING
75	100.0
63	100.0
53	100.0
37.5	100.0
26.5	100.0
19	97.5
13.2	94.6
9.5	90.9
6.7	84.3
4.75	78.8
2.36	64.2
1.18	42.8
0.6	18.7
0.3	5.2
0.15	2.7
0.075	1.9

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: TP-TL11-13
 SAMPLE NO.: BU-1
 DEPTH: 0.30-0.90 m

Type of Test:
 Sieve Analysis (Sets: 2)
 w/wash

GRAIN SIZE ANALYSIS REPORT

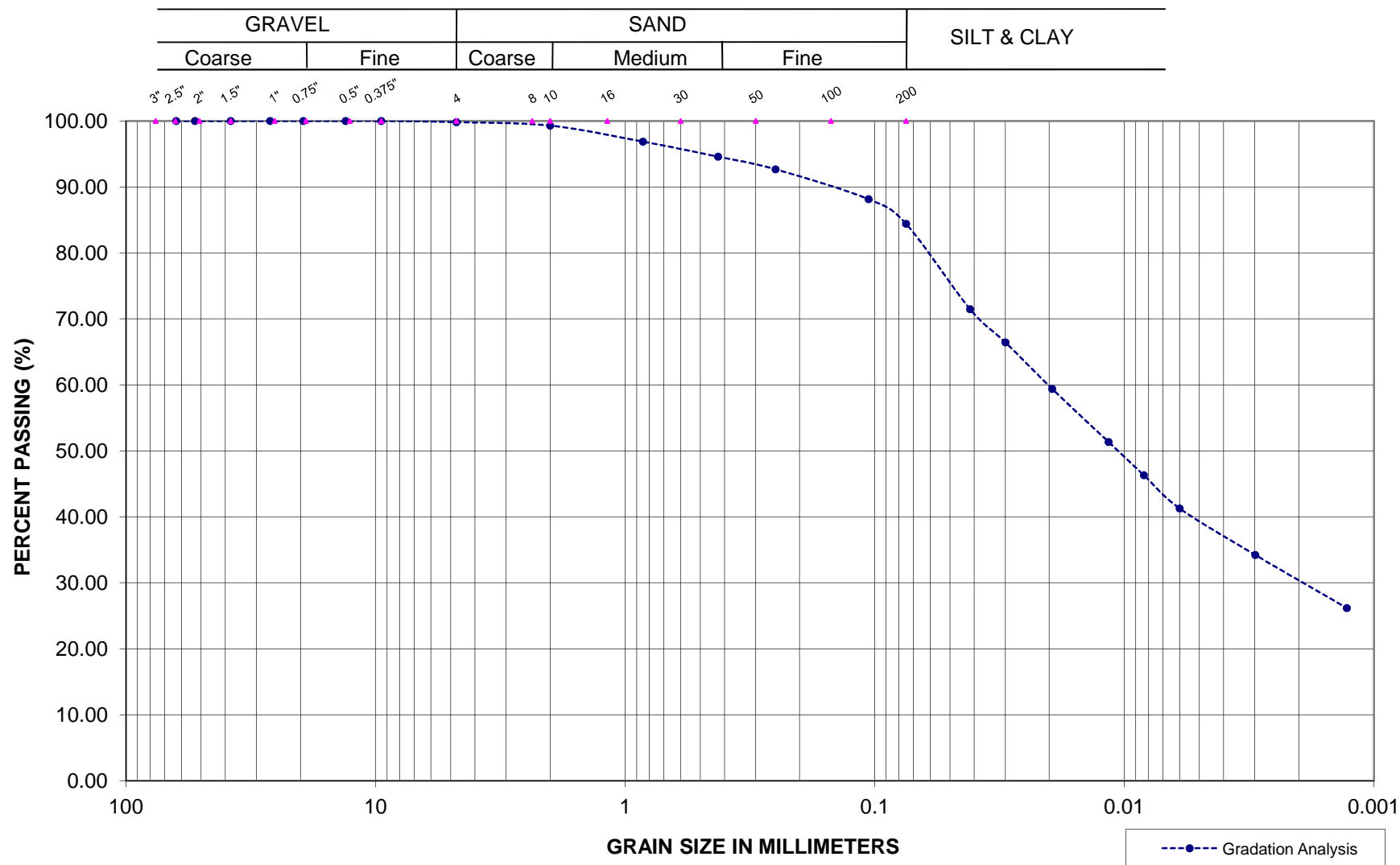
Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-09
Sample No:	BU-1
Depth	0.15-1.00 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	100.0
4.8	99.8
2.0	99.3
0.850	96.9
0.425	94.6
0.250	92.7
0.106	88.2
0.075	84.4
0.0415	71.5
0.0300	66.4
0.0195	59.4
0.0116	51.3
0.0084	46.3
0.0060	41.3
0.0030	34.2
0.0013	26.2

GRAIN SIZE ANALYSIS



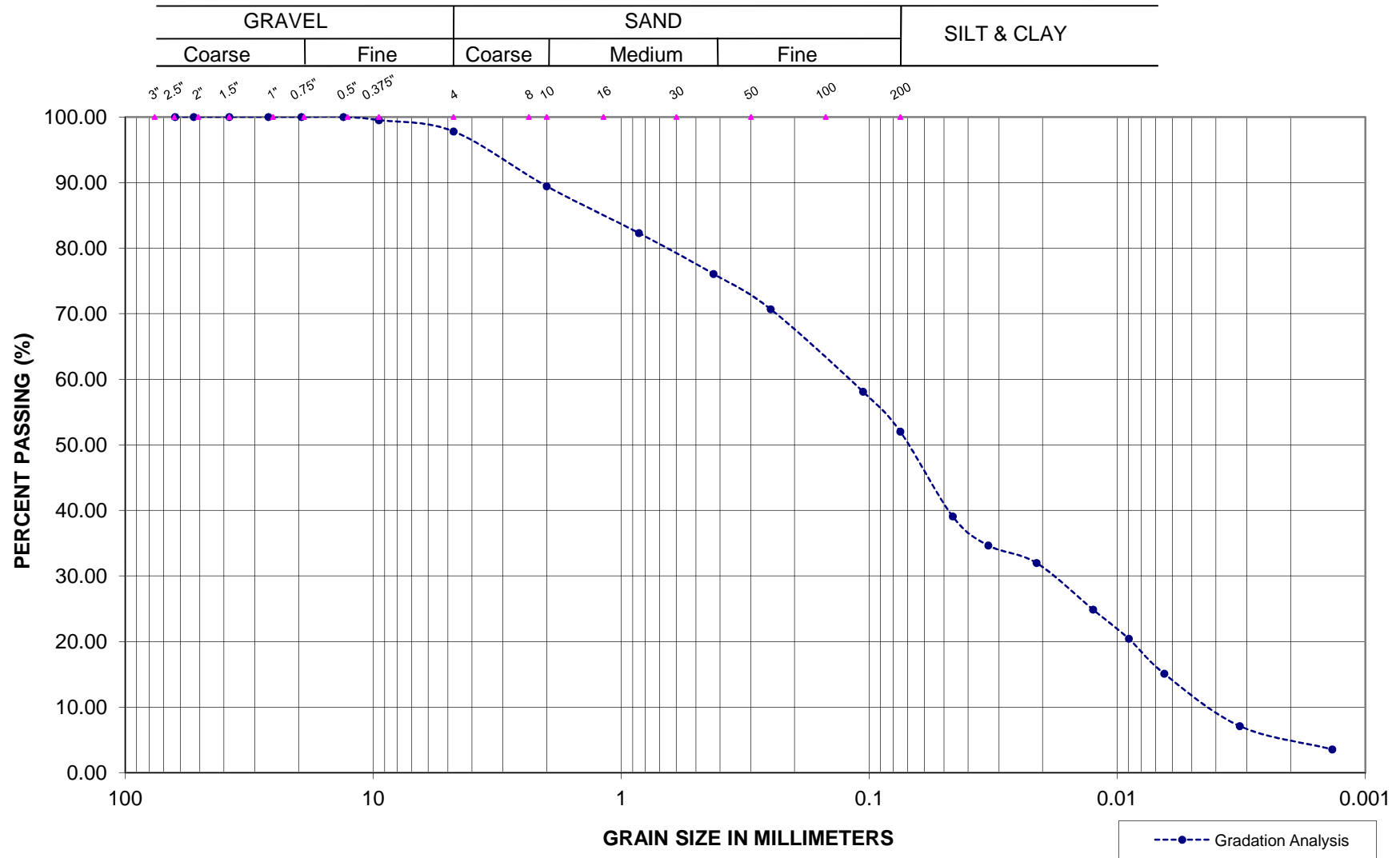
GRAIN SIZE ANALYSIS REPORT

Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-16
Sample No:	BU-1
Depth	0.25-0.40
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	99.5
4.8	97.8
2.0	89.4
0.850	82.3
0.425	76.1
0.250	70.7
0.106	58.1
0.075	52.0
0.0461	39.1
0.0331	34.6
0.0212	32.0
0.0125	24.9
0.0090	20.4
0.0065	15.1
0.0032	7.1
0.0014	3.6

GRAIN SIZE ANALYSIS

PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: TP-TL11-16

SAMPLE NO.: BU-1

DEPTH: 0.25-0.40 m

Test:
Hydrometer Analysis

GRAIN SIZE ANALYSIS REPORT

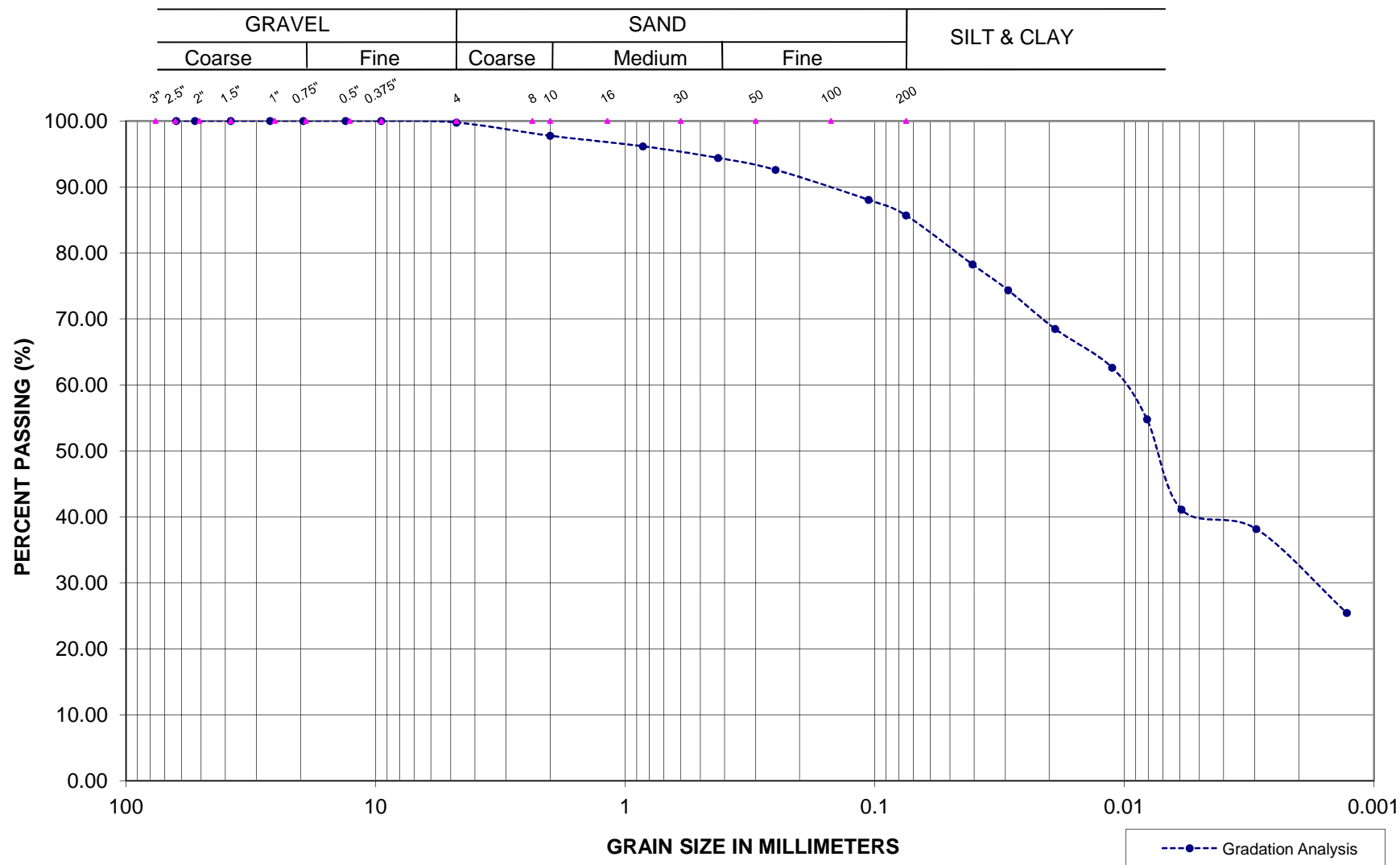
Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	BP-TL11-03
Sample No:	BU-1
Depth	0.30-0.60 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	100.0
4.8	99.8
2.0	97.7
0.850	96.1
0.425	94.4
0.250	92.6
0.106	88.0
0.075	85.7
0.0406	78.3
0.0292	74.3
0.0190	68.5
0.0112	62.6
0.0081	54.8
0.0059	41.1
0.0030	38.2
0.0013	25.4

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: BP-TL11-03

SAMPLE NO.: BU-1

DEPTH: 0.30-0.60 m

Test:
Hydrometer Analysis

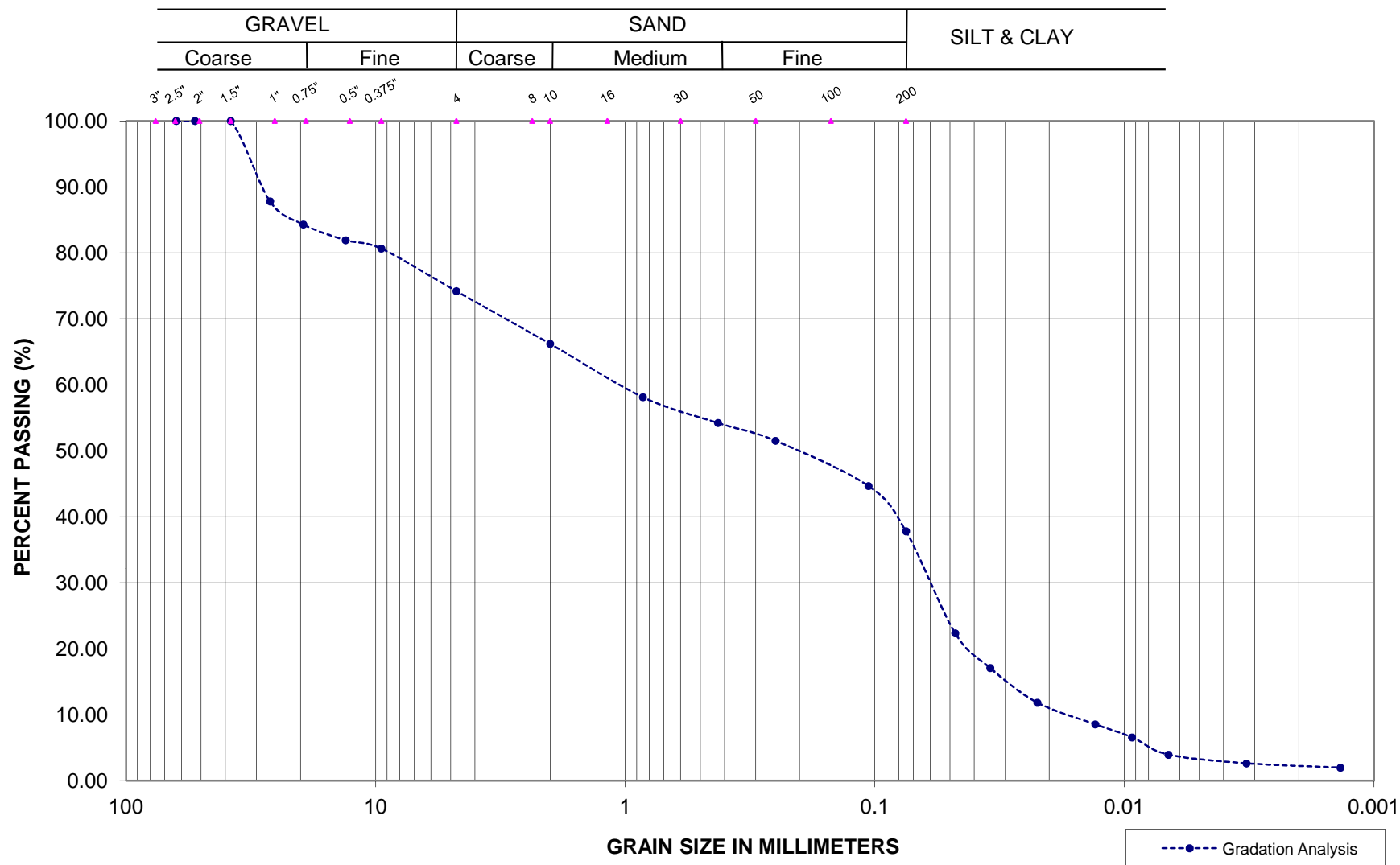
GRAIN SIZE ANALYSIS REPORT

Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	BP-TL11-05
Sample No:	BU-1
Depth	1.00-2.00 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
38.1	100.0
26.5	87.8
19.5	84.3
13.2	81.9
9.5	80.7
4.8	74.2
2.0	66.2
0.850	58.1
0.425	54.2
0.250	51.5
0.106	44.7
0.075	37.8
0.0476	22.3
0.0345	17.1
0.0223	11.8
0.0131	8.5
0.0093	6.6
0.0067	3.9
0.0032	2.6
0.0014	2.0

GRAIN SIZE ANALYSIS

PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: BP-TL-05

SAMPLE NO.: BU-1

DEPTH: 1.00-2.00 m

Test:
Hydrometer Analysis

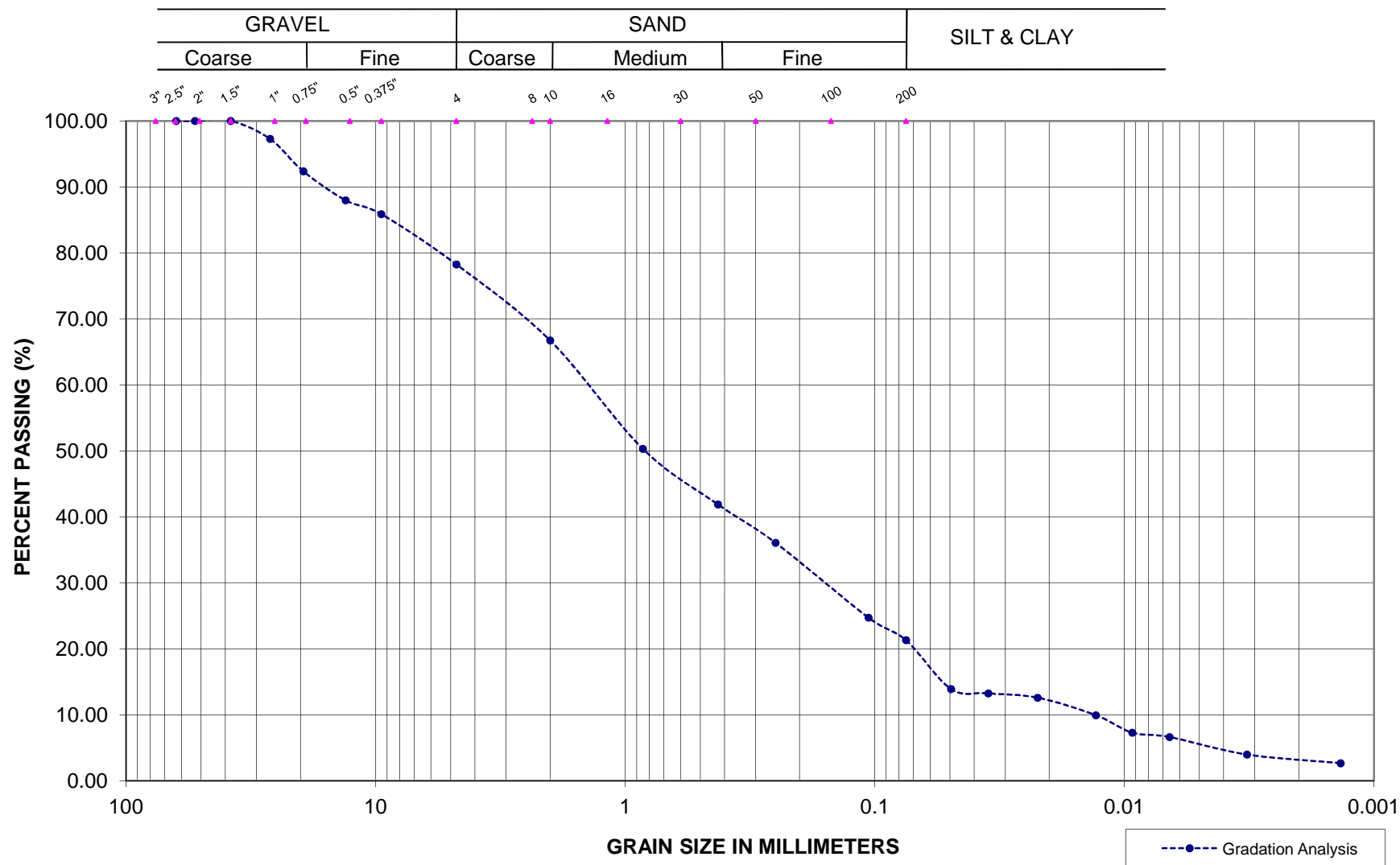
GRAIN SIZE ANALYSIS REPORT

Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	BP-TL11-06
Sample No:	BU-1
Depth	1.00-2.00 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
38.1	100.0
26.5	97.3
19.5	92.4
13.2	88.0
9.5	85.9
4.8	78.3
2.0	66.7
0.850	50.3
0.425	41.9
0.250	36.1
0.106	24.7
0.075	21.3
0.0495	13.9
0.0351	13.2
0.0223	12.6
0.0130	9.9
0.0093	7.3
0.0066	6.6
0.0032	4.0
0.0014	2.6

GRAIN SIZE ANALYSIS

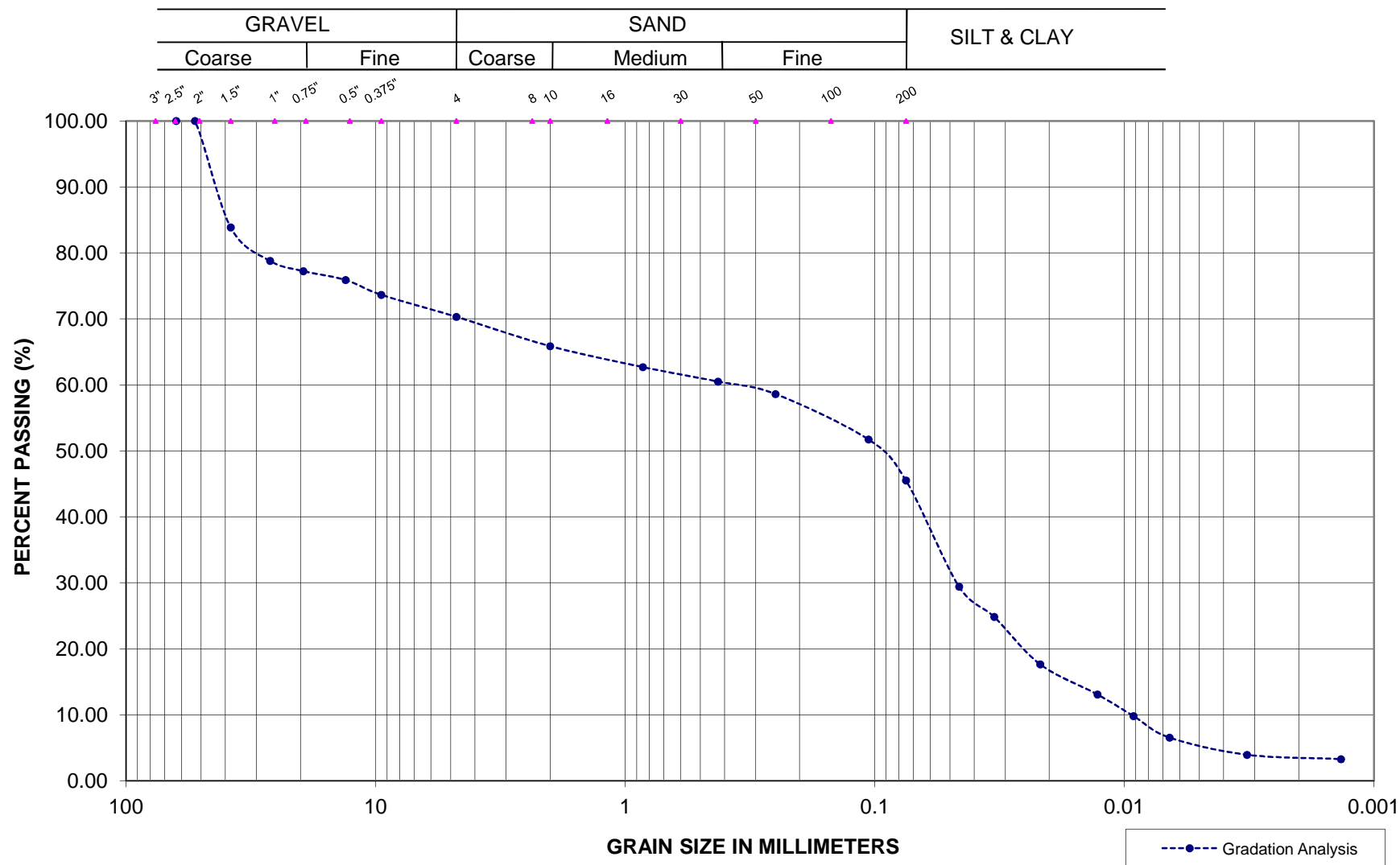
GRAIN SIZE ANALYSIS REPORT

Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	BP-TL11-02R
Sample No:	BU-1
Depth	1.00-2.10 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
53.0	100.0
38.1	83.9
26.5	78.8
19.5	77.2
13.2	75.9
9.5	73.6
4.8	70.3
2.0	65.9
0.850	62.7
0.425	60.5
0.250	58.6
0.106	51.7
0.075	45.5
0.0459	29.4
0.0332	24.8
0.0217	17.6
0.0128	13.1
0.0092	9.8
0.0066	6.5
0.0032	3.9
0.0014	3.3

GRAIN SIZE ANALYSIS

PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: BP-TL11-02R

SAMPLE NO.: BU-1

DEPTH: 1.00-2.10 m

Test:
Hydrometer Analysis

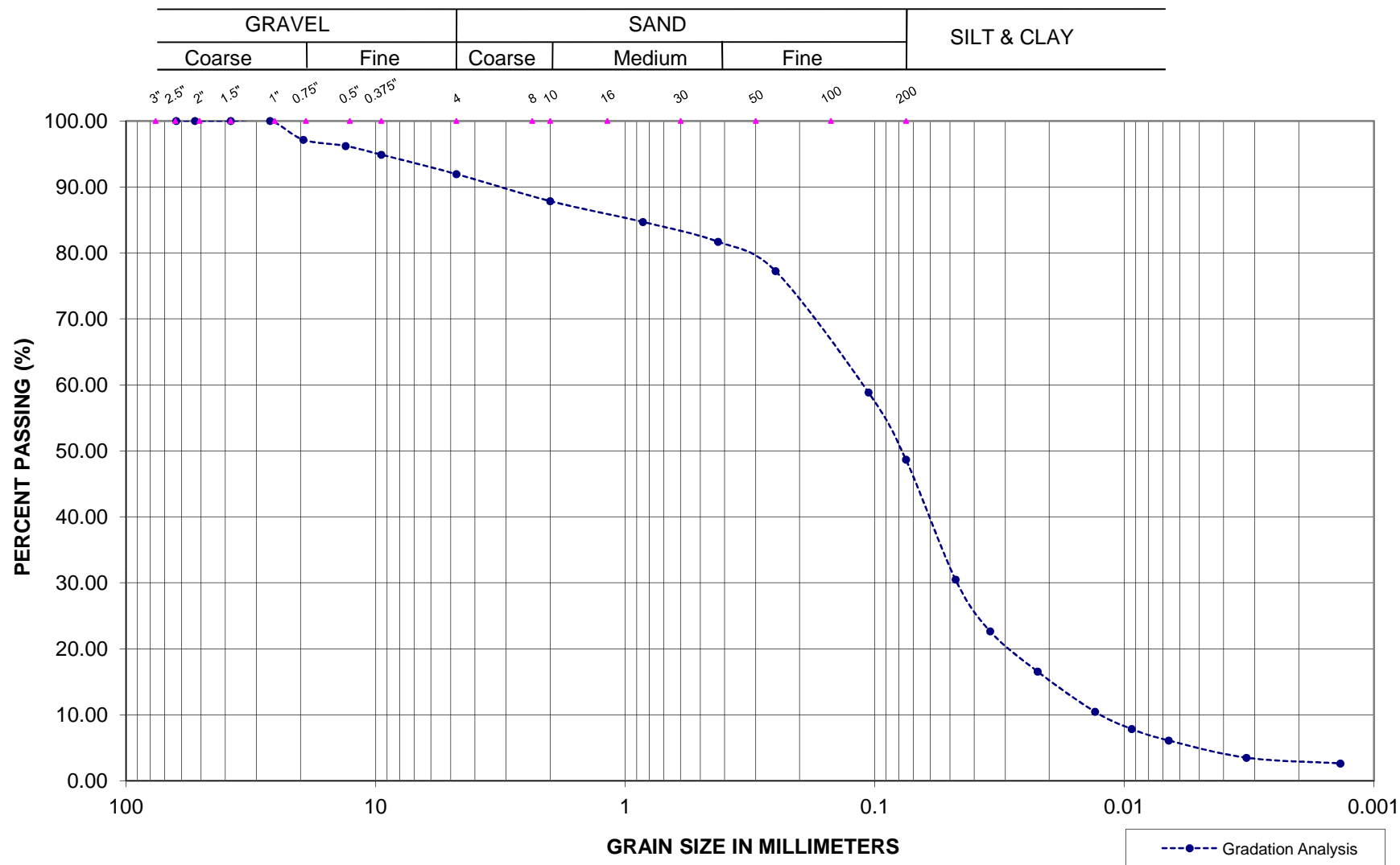
GRAIN SIZE ANALYSIS REPORT

Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-21
Sample No:	BU-1
Depth	0.15-1.20 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
26.5	100.0
19.5	97.1
13.2	96.2
9.5	94.9
4.8	91.9
2.0	87.8
0.850	84.7
0.425	81.7
0.250	77.2
0.106	58.8
0.075	48.7
0.0475	30.5
0.0345	22.7
0.0223	16.6
0.0131	10.5
0.0094	7.8
0.0066	6.1
0.0032	3.5
0.0014	2.6

GRAIN SIZE ANALYSIS

PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: TP-TL11-21

SAMPLE NO.: BU-1

DEPTH: 0.15-1.20 m

Test:
Hydrometer Analysis

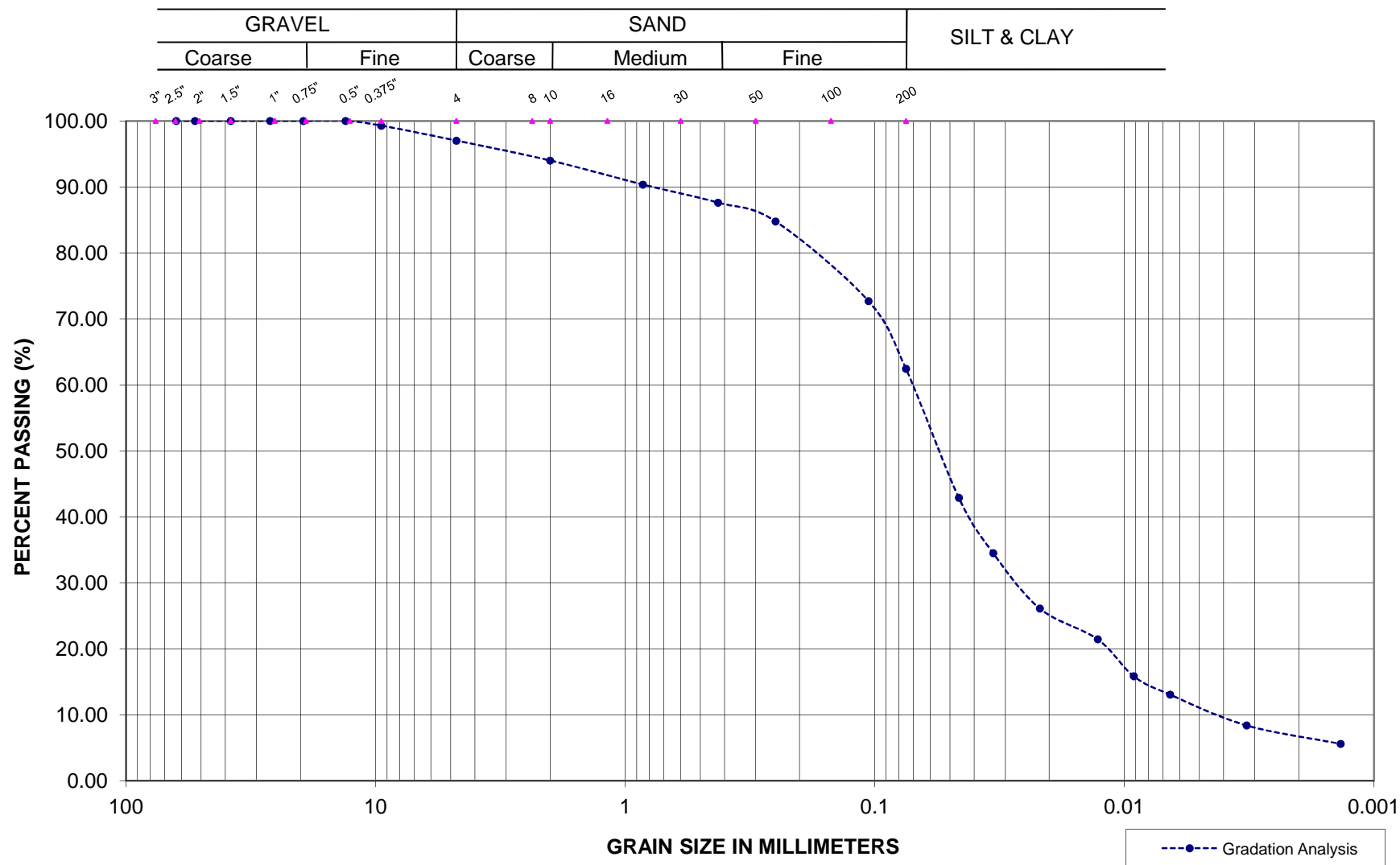
GRAIN SIZE ANALYSIS REPORT

Report Date: 17-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-22
Sample No:	BU-1
Depth	0.50-1.10 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	99.3
4.8	97.0
2.0	94.0
0.850	90.4
0.425	87.6
0.250	84.8
0.106	72.7
0.075	62.4
0.0460	42.9
0.0335	34.5
0.0218	26.1
0.0128	21.4
0.0092	15.9
0.0066	13.1
0.0032	8.4
0.0014	5.6

GRAIN SIZE ANALYSIS

PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: TP-TL11-22

SAMPLE NO.: BU-1

DEPTH: 0.50-1.10 m

Test:
Hydrometer Analysis

GRAIN SIZE ANALYSIS REPORT

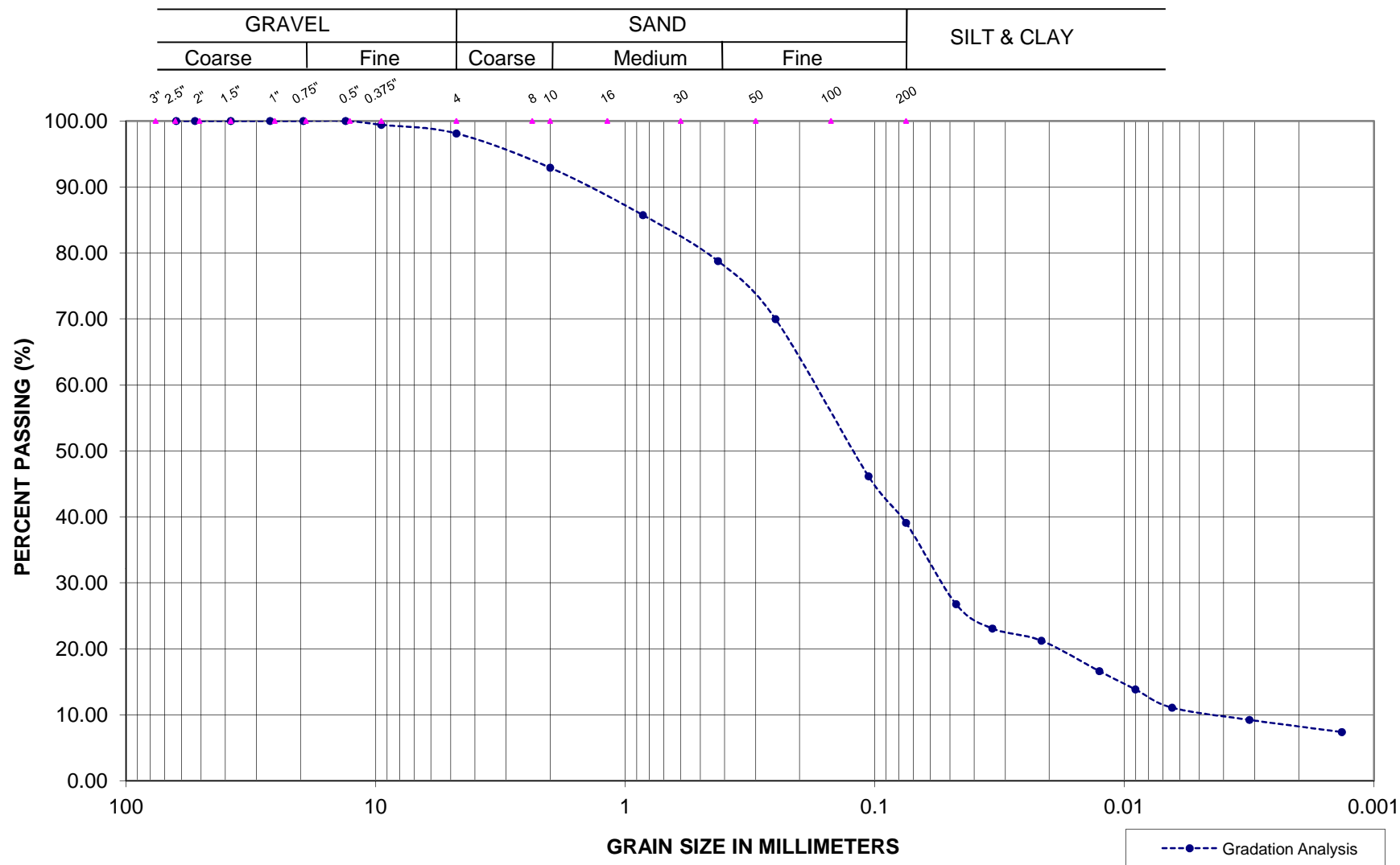
Report Date: 20-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-24
Sample No:	BU-1
Depth	0.5-1.10 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	99.4
4.8	98.1
2.0	92.9
0.850	85.7
0.425	78.8
0.250	70.0
0.106	46.1
0.075	39.1
0.0472	26.8
0.0338	23.1
0.0215	21.2
0.0126	16.6
0.0090	13.8
0.0064	11.1
0.0032	9.2
0.0013	7.4

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: TP-TL11-24

SAMPLE NO.: BU-1

DEPTH: 0.5-1.10 m

Test:
Hydrometer Analysis

GRAIN SIZE ANALYSIS REPORT

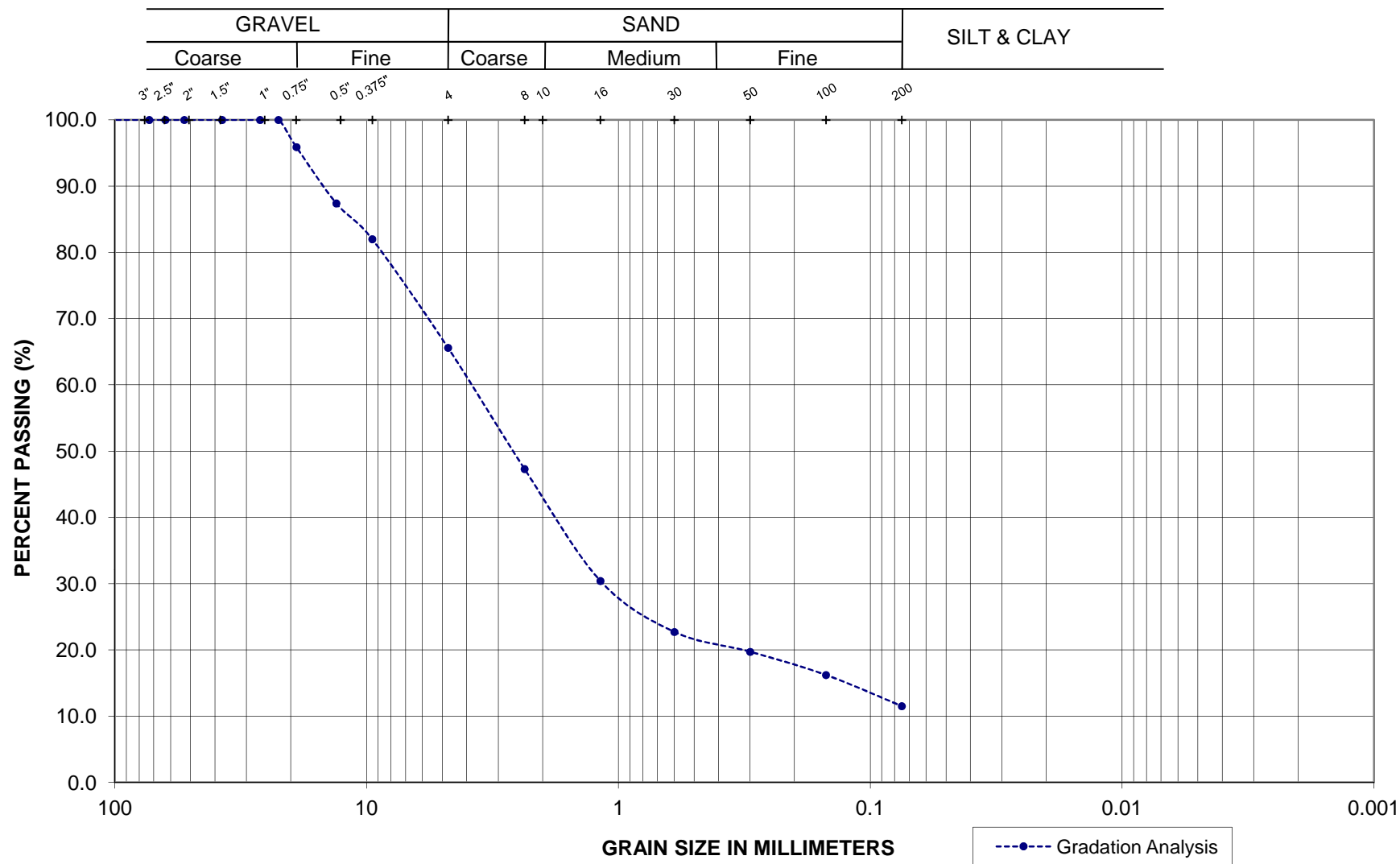
Report Date: 19-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc.

Testpit No.	TP-TL11-21
Sample No.:	BU-2
Depth:	1.20-1.90 m
SIEVE SIZE (mm)	SAMPLE PERCENT PASSING
73	100
63	100
53	100
37.5	100
26.5	100
22.4	100
19	95.9
13.2	87.4
9.5	82.0
4.75	65.6
2.36	47.3
1.18	30.4
0.6	22.7
0.3	19.7
0.15	16.2
0.075	11.5

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: TP-TL11-21
 SAMPLE NO.: BU-2
 DEPTH: 1.20-1.90 m

Type of Test:
 Sieve Analysis (Sets: 1)
 w/wash

GRAIN SIZE ANALYSIS REPORT

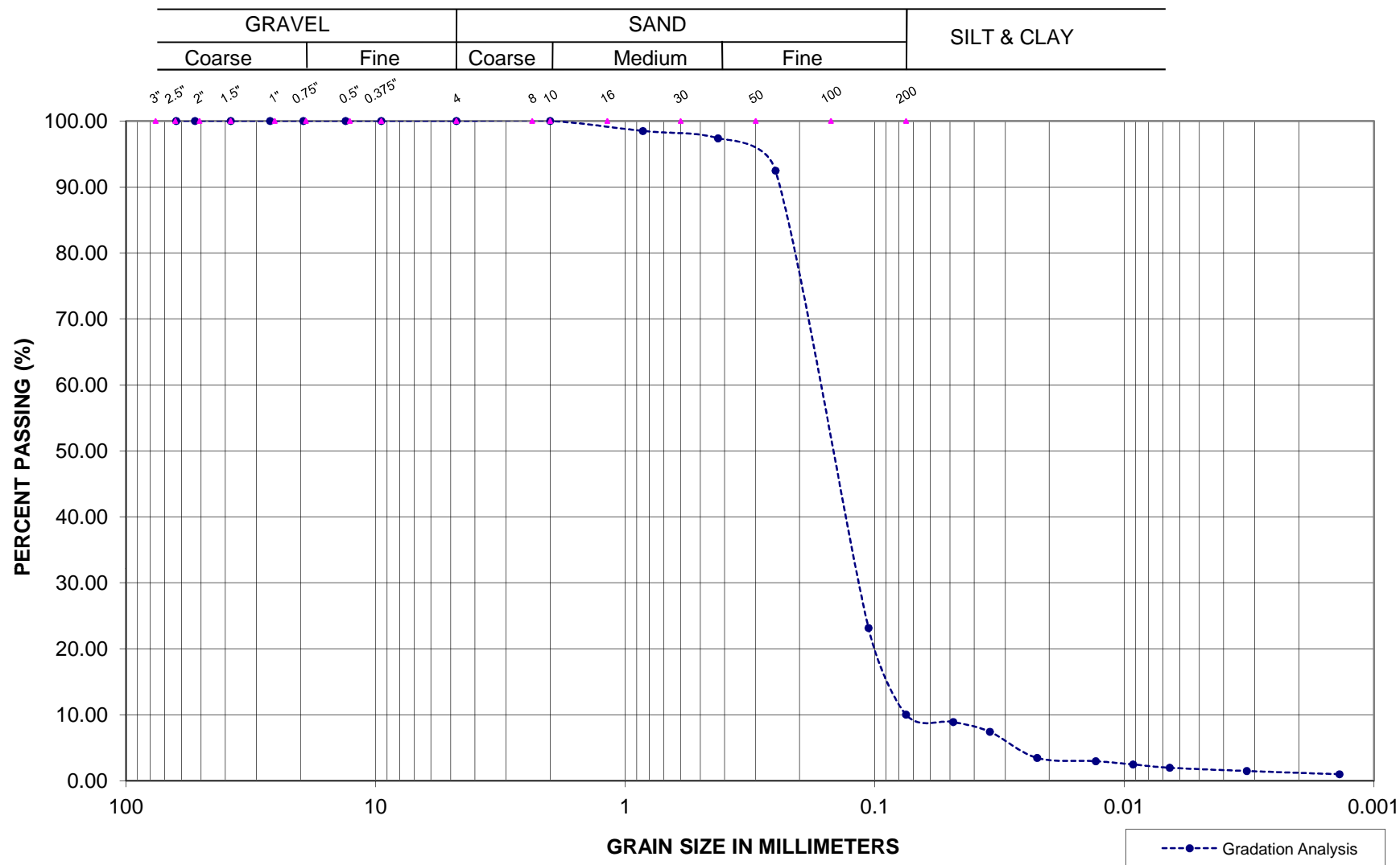
Report Date: 20-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-23R
Sample No:	BU-1
Depth	1.00-1.25 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	100.0
4.8	100.0
2.0	100.0
0.850	98.5
0.425	97.4
0.250	92.5
0.106	23.2
0.075	10.0
0.0485	8.9
0.0346	7.4
0.0224	3.5
0.0130	3.0
0.0092	2.5
0.0066	2.0
0.0032	1.5
0.0014	1.0

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.
TESTPIT NO.: TP-TL11-23R
SAMPLE NO.: BU-1
DEPTH: 1.00-1.25 m

Test:
Hydrometer Analysis

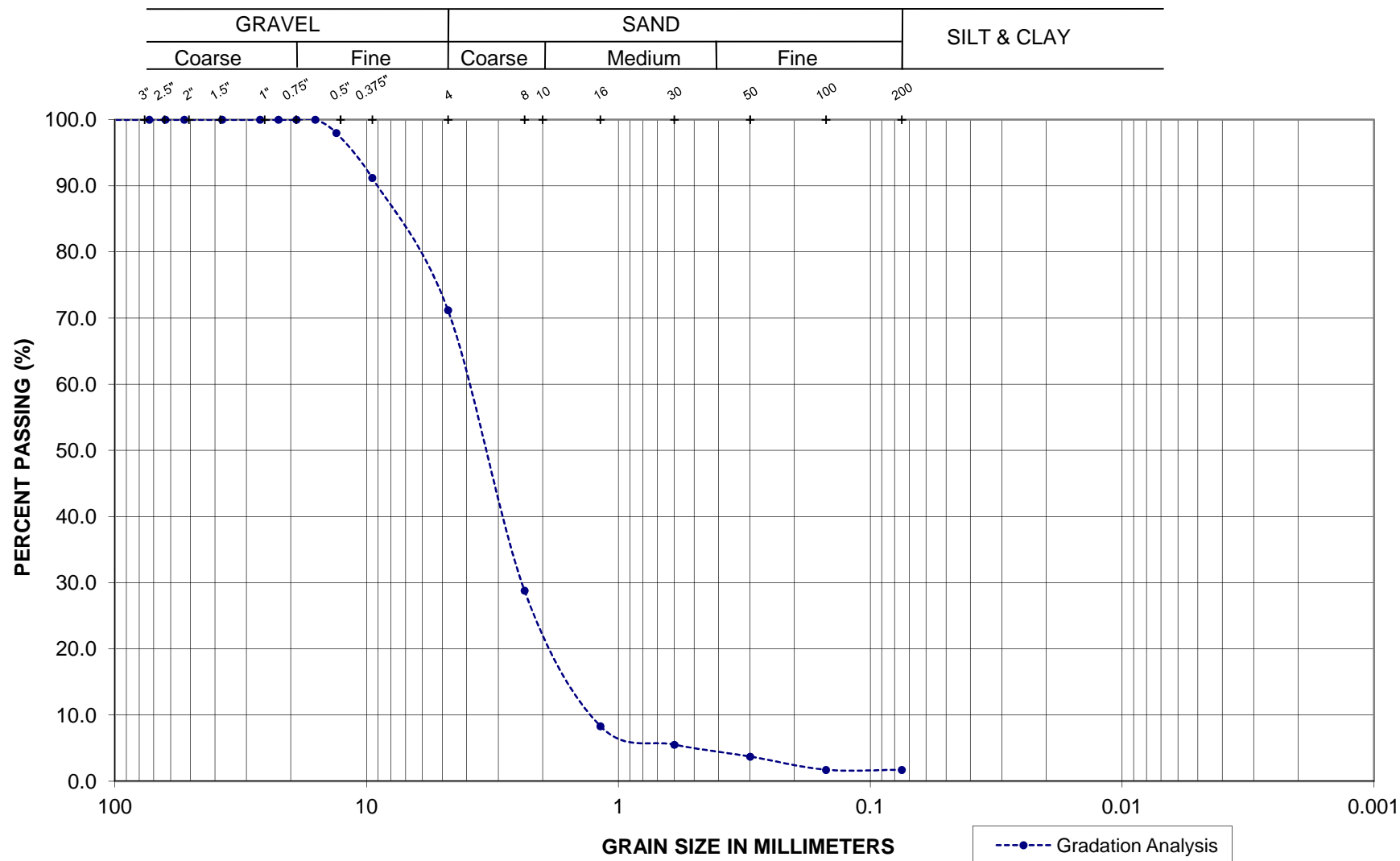
GRAIN SIZE ANALYSIS REPORT

Report Date: 19-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc.

Testpit No.	TP-TL11-26
Sample No.:	BU-1
Depth:	0.60 - 0.80
SIEVE SIZE (mm)	SAMPLE PERCENT PASSING
73	100
63	100
53	100
37.5	100
26.5	100
22.4	100
19	100
13.2	98
9.5	91.2
4.75	71.2
2.36	28.8
1.18	8.3
0.6	5.5
0.3	3.7
0.15	1.7
0.075	1.7

GRAIN SIZE ANALYSIS

PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: TP-TL11-26
 SAMPLE NO.: BU-1
 DEPTH: 0.60 - 0.80 m

Type of Test:
 Sieve Analysis (Sets: 1)
 w/wash

GRAIN SIZE ANALYSIS REPORT

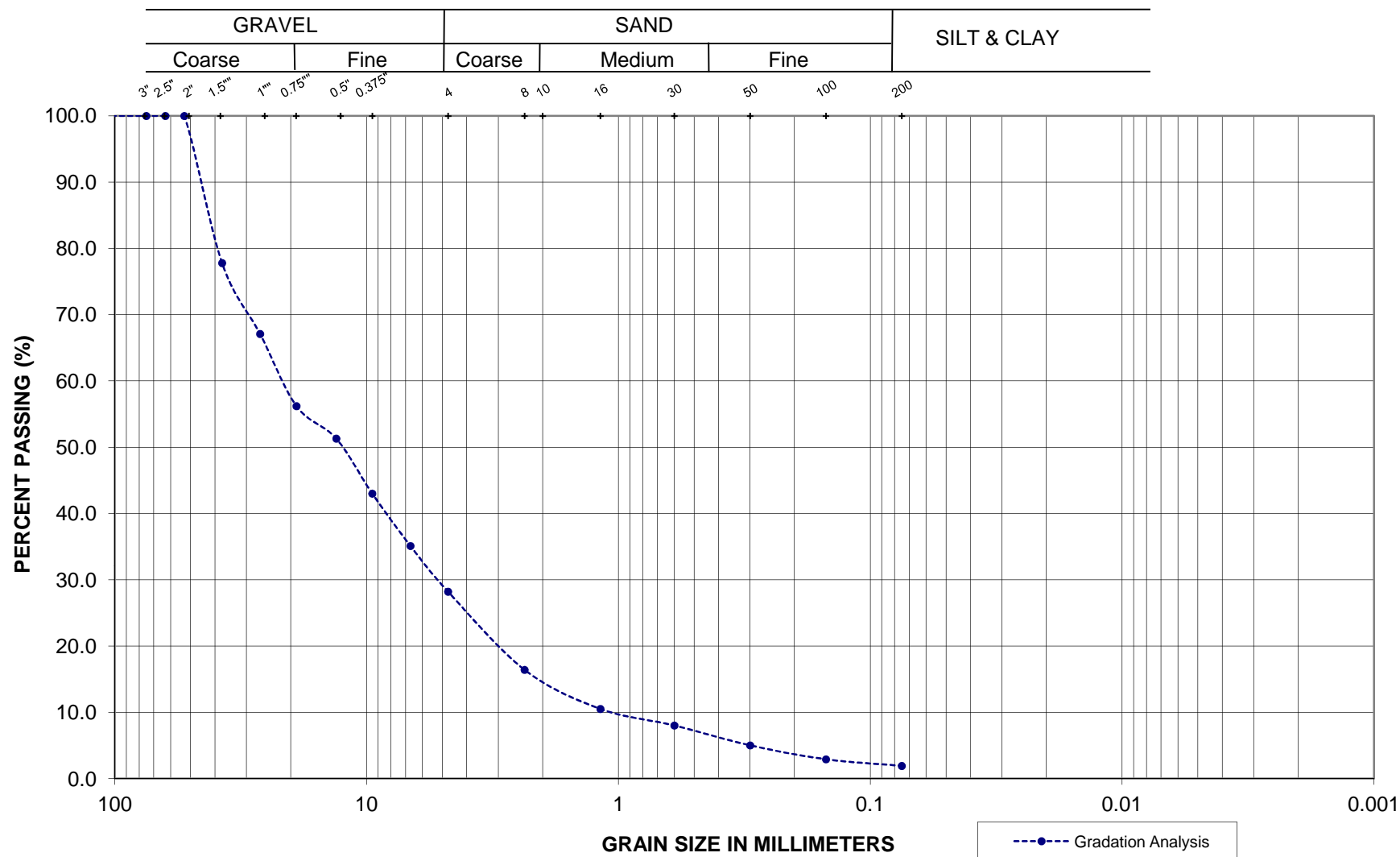
Report Date: 19-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc.

Testpit No.	TP-TL11-26
Sample No.:	BU-2
Depth:	0.8 - 1.10 m
SIEVE SIZE (mm)	SAMPLE PERCENT PASSING
75	100.0
63	100.0
53	100.0
37.5	77.8
26.5	67.1
19	56.2
13.2	51.3
9.5	43.0
6.7	35.1
4.75	28.2
2.36	16.4
1.18	10.5
0.6	8.0
0.3	5.0
0.15	2.9
0.075	1.9

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: TP-TLL-26
 SAMPLE NO.: BU-2
 DEPTH: 0.8-1.10 m

Type of Test:
 Sieve Analysis (Sets: 2)
 w/wash

GRAIN SIZE ANALYSIS REPORT

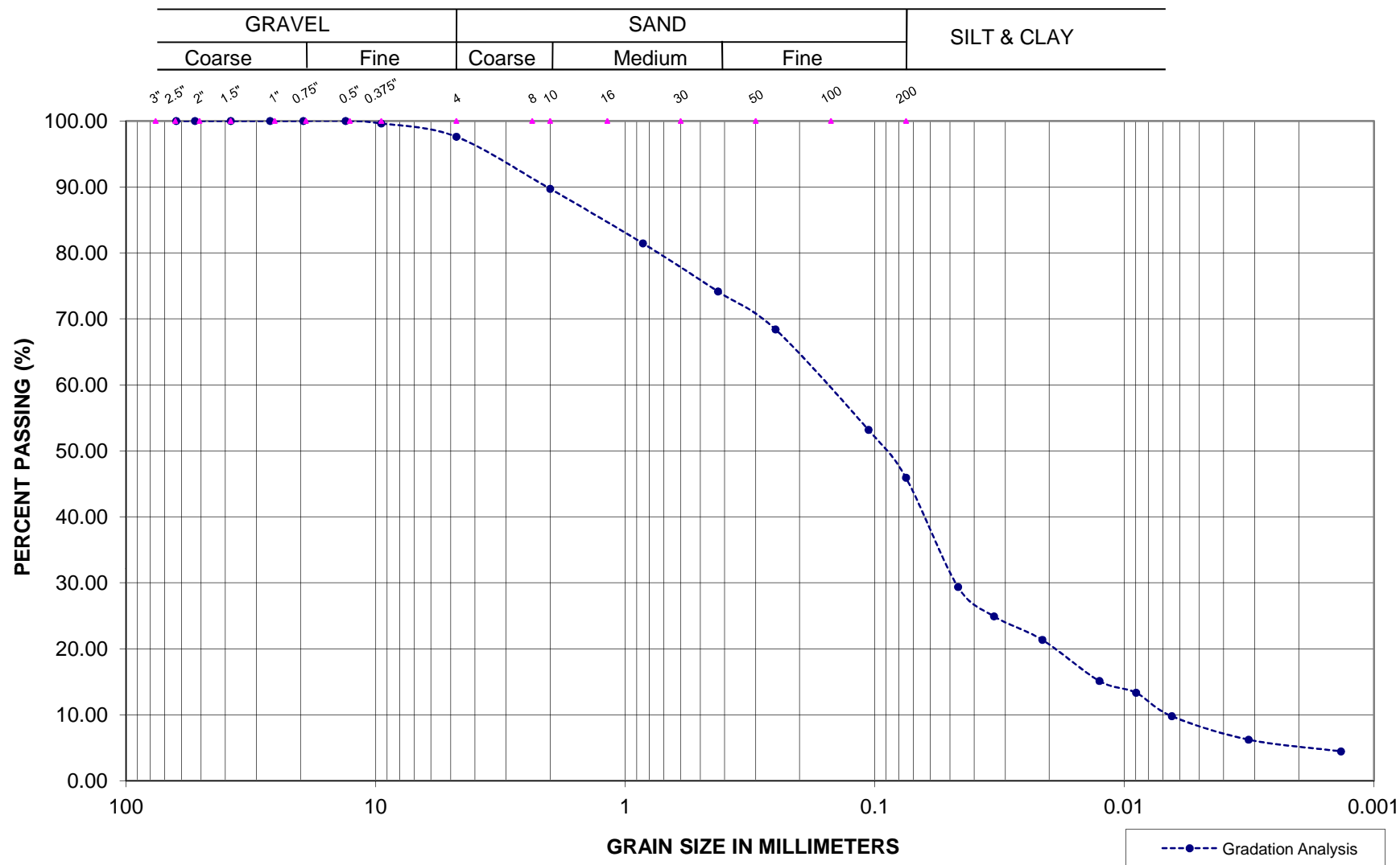
Report Date: 20-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-27R
Sample No:	BU-1
Depth	1.00-1.30 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	99.6
4.8	97.6
2.0	89.7
0.850	81.5
0.425	74.2
0.250	68.4
0.106	53.2
0.075	45.9
0.0464	29.4
0.0333	24.9
0.0213	21.4
0.0126	15.1
0.0090	13.4
0.0065	9.8
0.0032	6.2
0.0014	4.5

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.
TESTPIT NO.: TP-TL11-27R
SAMPLE NO.: BU-1
DEPTH: 1.00-1.30 m

Test:
Hydrometer Analysis

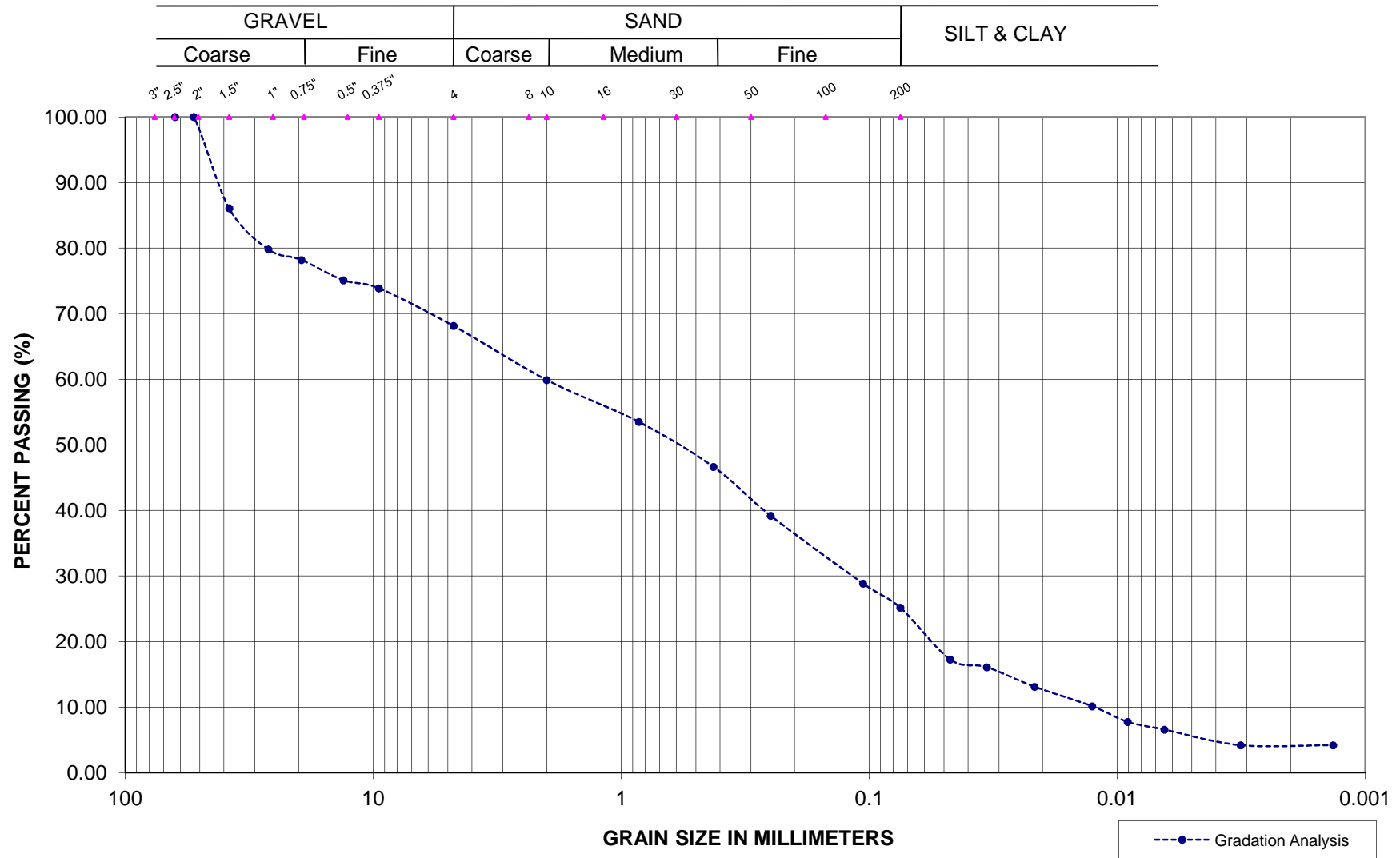
GRAIN SIZE ANALYSIS REPORT

Report Date: 20-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-25R
Sample No:	BU-1
Depth	0.30-0.60 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
53.0	100.0
38.1	86.1
26.5	79.8
19.5	78.2
13.2	75.1
9.5	73.9
4.8	68.1
2.0	59.9
0.850	53.5
0.425	46.6
0.250	39.2
0.106	28.8
0.075	25.2
0.0472	17.3
0.0336	16.1
0.0216	13.1
0.0126	10.1
0.0091	7.7
0.0065	6.5
0.0032	4.2
0.0013	4.2

GRAIN SIZE ANALYSIS

GRAIN SIZE ANALYSIS REPORT

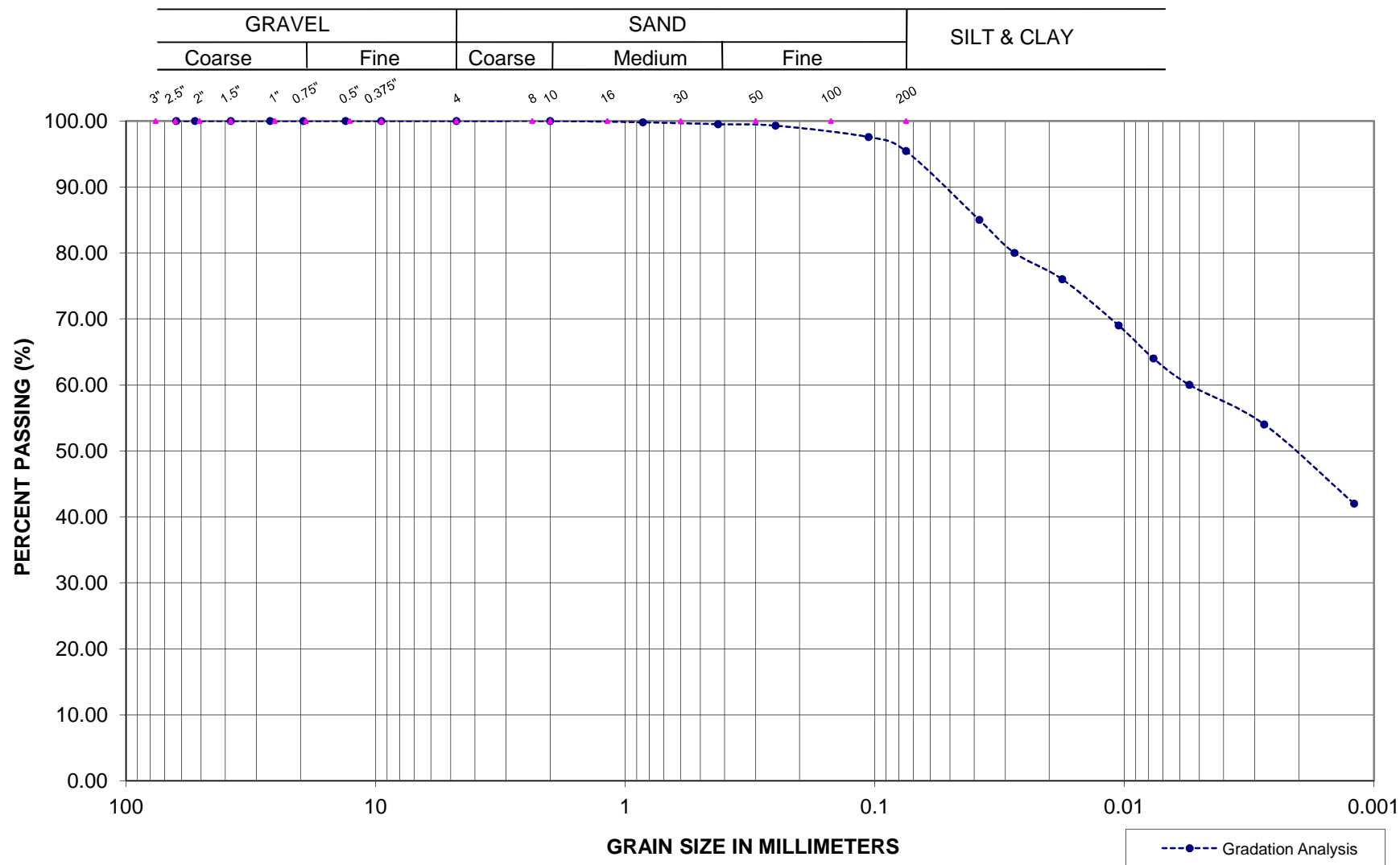
Report Date: 26-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	GT-16
Sample No:	SPT-3
Depth	1.42 - 1.80 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	100.0
4.8	100.0
2.0	100.0
0.850	99.8
0.425	99.5
0.250	99.3
0.106	97.6
0.075	95.4
0.0381	85.0
0.0276	80.0
0.0178	76.0
0.0105	69.0
0.0077	64.0
0.0055	60.0
0.0028	54.0
0.0012	42.0

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: GT-16

SAMPLE NO.: SPT-3

DEPTH: 1.42-1.80 m

Test:
Hydrometer Analysis

GRAIN SIZE ANALYSIS REPORT

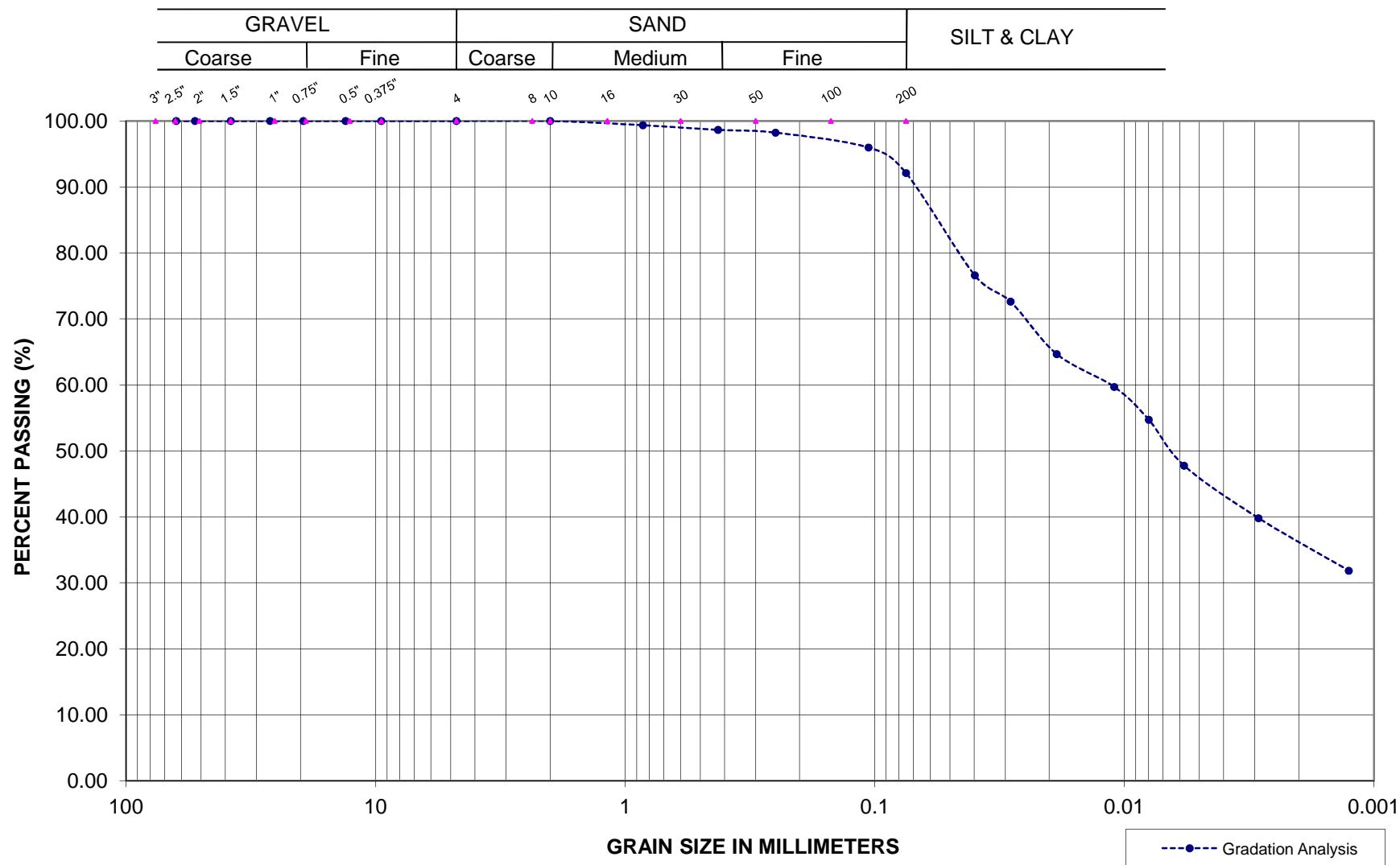
Report Date: 20-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	GT-16
Sample No:	Run 4
Depth	1.90 - 2.90 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	100.0
4.8	100.0
2.0	100.0
0.850	99.4
0.425	98.7
0.250	98.2
0.106	96.0
0.075	92.1
0.0397	76.6
0.0286	72.6
0.0187	64.7
0.0110	59.7
0.0080	54.7
0.0058	47.8
0.0029	39.8
0.0013	31.8

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: GT-16
 SAMPLE NO.: Run 4
 DEPTH: 1.90-2.90 m

Test:
 Hydrometer Analysis

GRAIN SIZE ANALYSIS REPORT

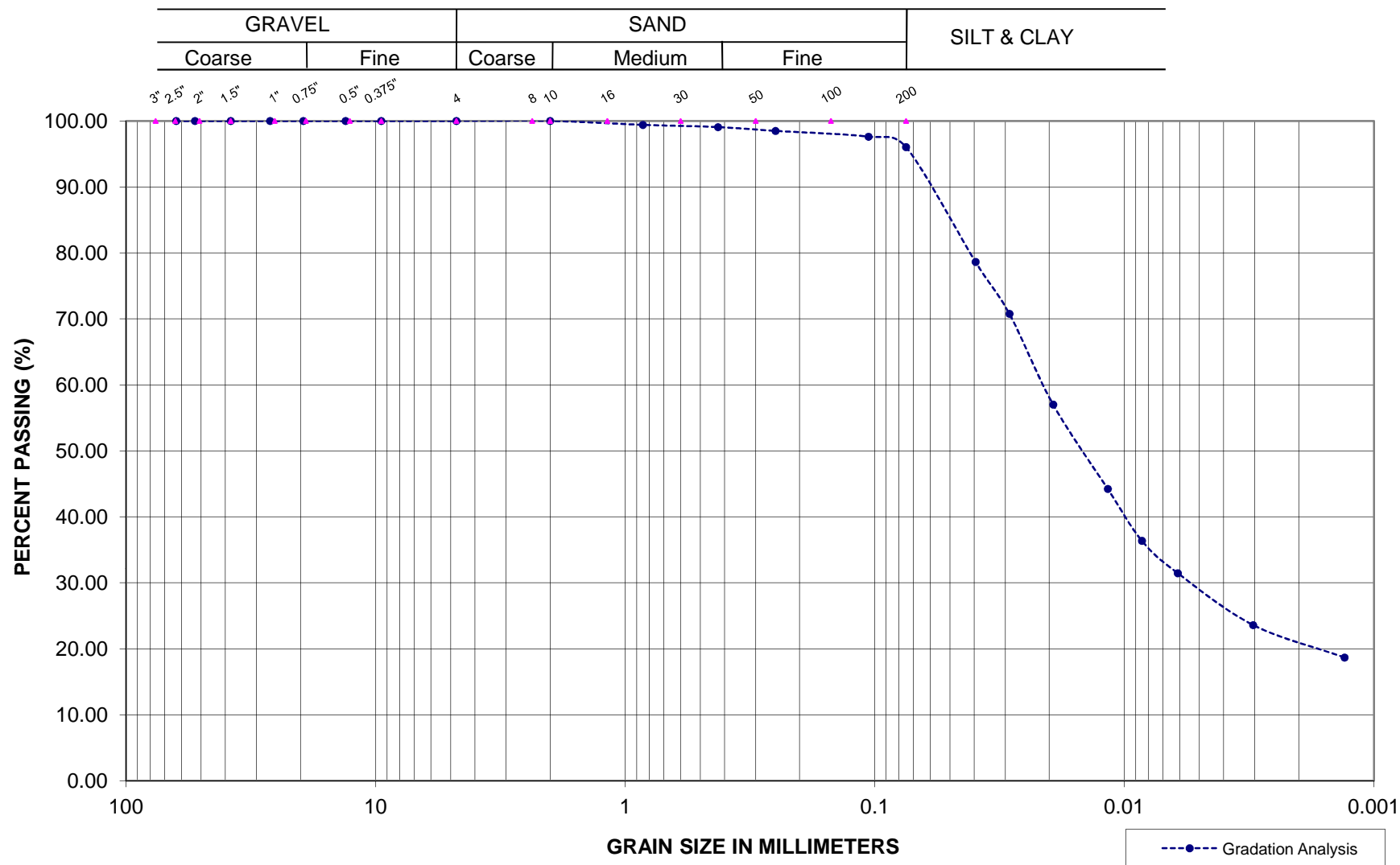
Report Date: 20-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	GT-17
Sample No:	SPT3-2
Depth	1.80 - 2.10 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	100.0
4.8	100.0
2.0	100.0
0.850	99.4
0.425	99.1
0.250	98.5
0.106	97.6
0.075	96.0
0.0395	78.6
0.0289	70.8
0.0193	57.0
0.0117	44.2
0.0085	36.4
0.0061	31.5
0.0030	23.6
0.0013	18.7

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: GT-17

SAMPLE NO.: SPT3-2

DEPTH: 1.80-2.10 m

Test:
Hydrometer Analysis

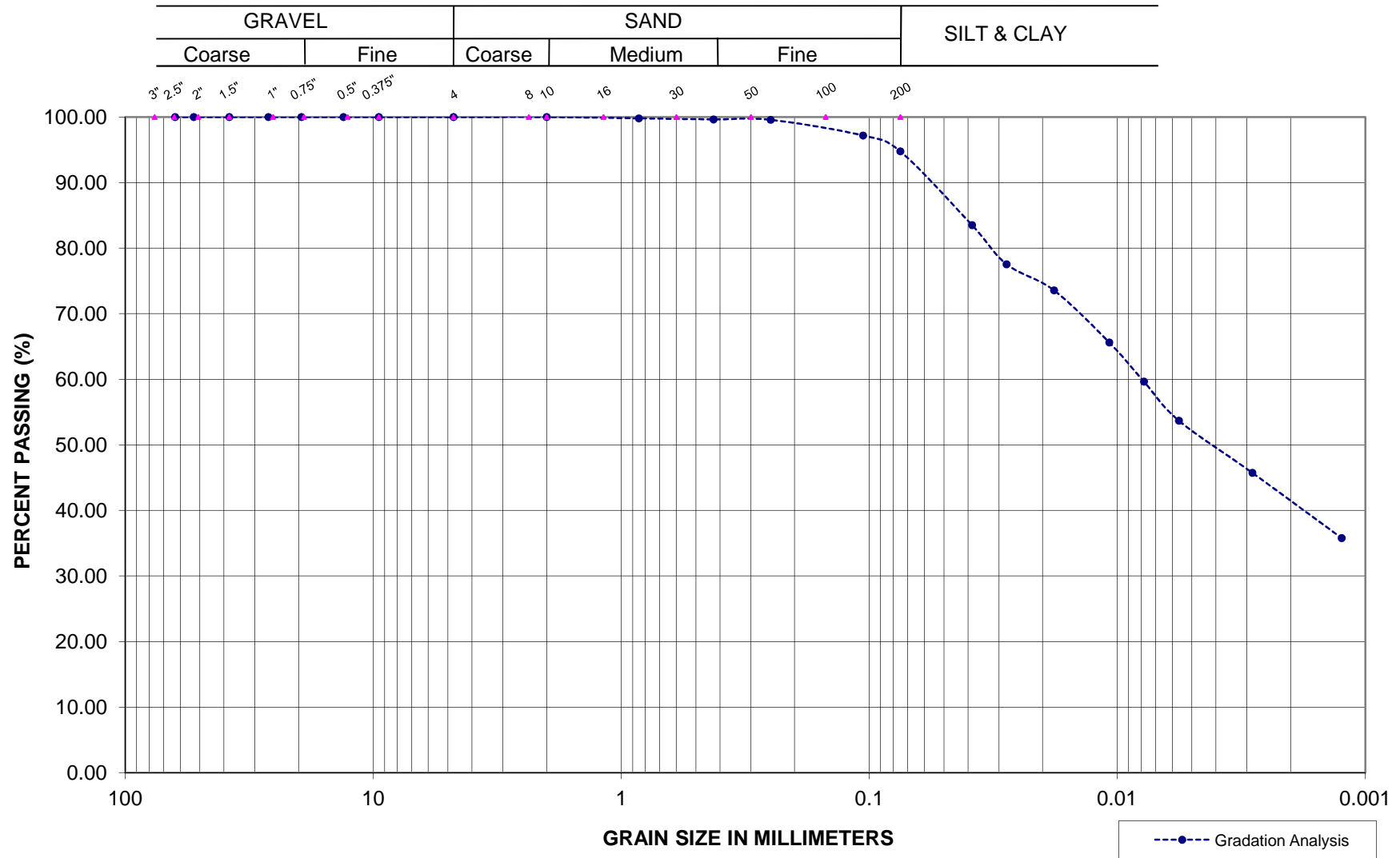
GRAIN SIZE ANALYSIS REPORT

Report Date: 20-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	GT-17
Sample No:	SPT5
Depth	2.70-3.30 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	100.0
4.8	100.0
2.0	100.0
0.850	99.8
0.425	99.6
0.250	99.6
0.106	97.2
0.075	94.8
0.0385	83.5
0.0280	77.5
0.0180	73.6
0.0108	65.6
0.0078	59.7
0.0056	53.7
0.0029	45.7
0.0012	35.8

GRAIN SIZE ANALYSIS

PROJECT: MT - Avalon Rare Earth Metals Inc.
 TESTPIT NO.: GT-17
 SAMPLE NO.: SPT-5
 DEPTH: 2.70-3.30 m

Test:
 Hydrometer Analysis

GRAIN SIZE ANALYSIS REPORT

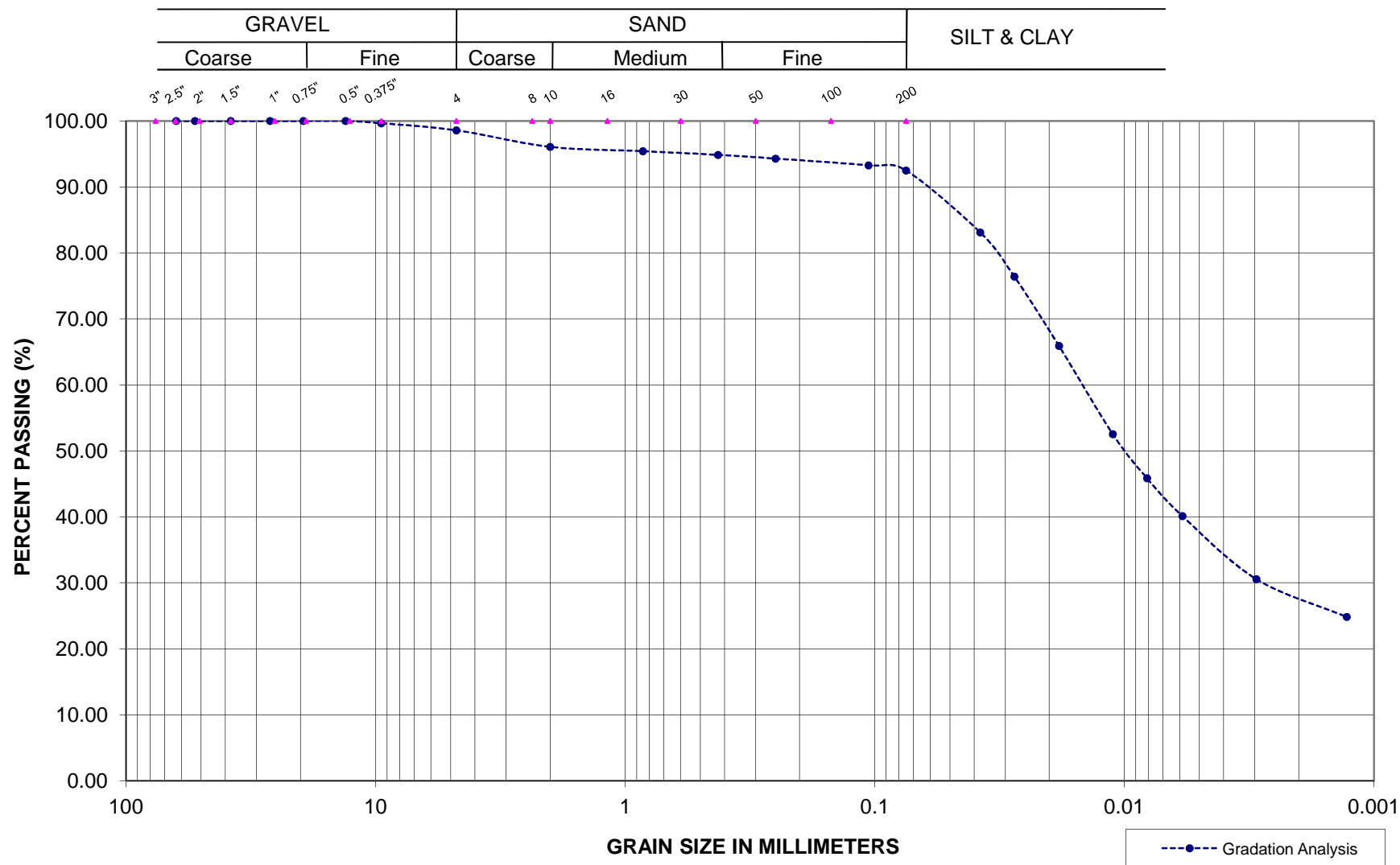
Report Date: 20-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	GT-17
Sample No:	SPT-7
Depth	4.10-4.35 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	99.6
4.8	98.6
2.0	96.1
0.850	95.4
0.425	94.9
0.250	94.3
0.106	93.3
0.075	92.5
0.0378	83.1
0.0276	76.4
0.0183	65.9
0.0111	52.5
0.0081	45.9
0.0059	40.1
0.0030	30.6
0.0013	24.8

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: GT-17

SAMPLE NO.: SPT-7

DEPTH: 4.10-4.35 m

Test:
Hydrometer Analysis

GRAIN SIZE ANALYSIS REPORT

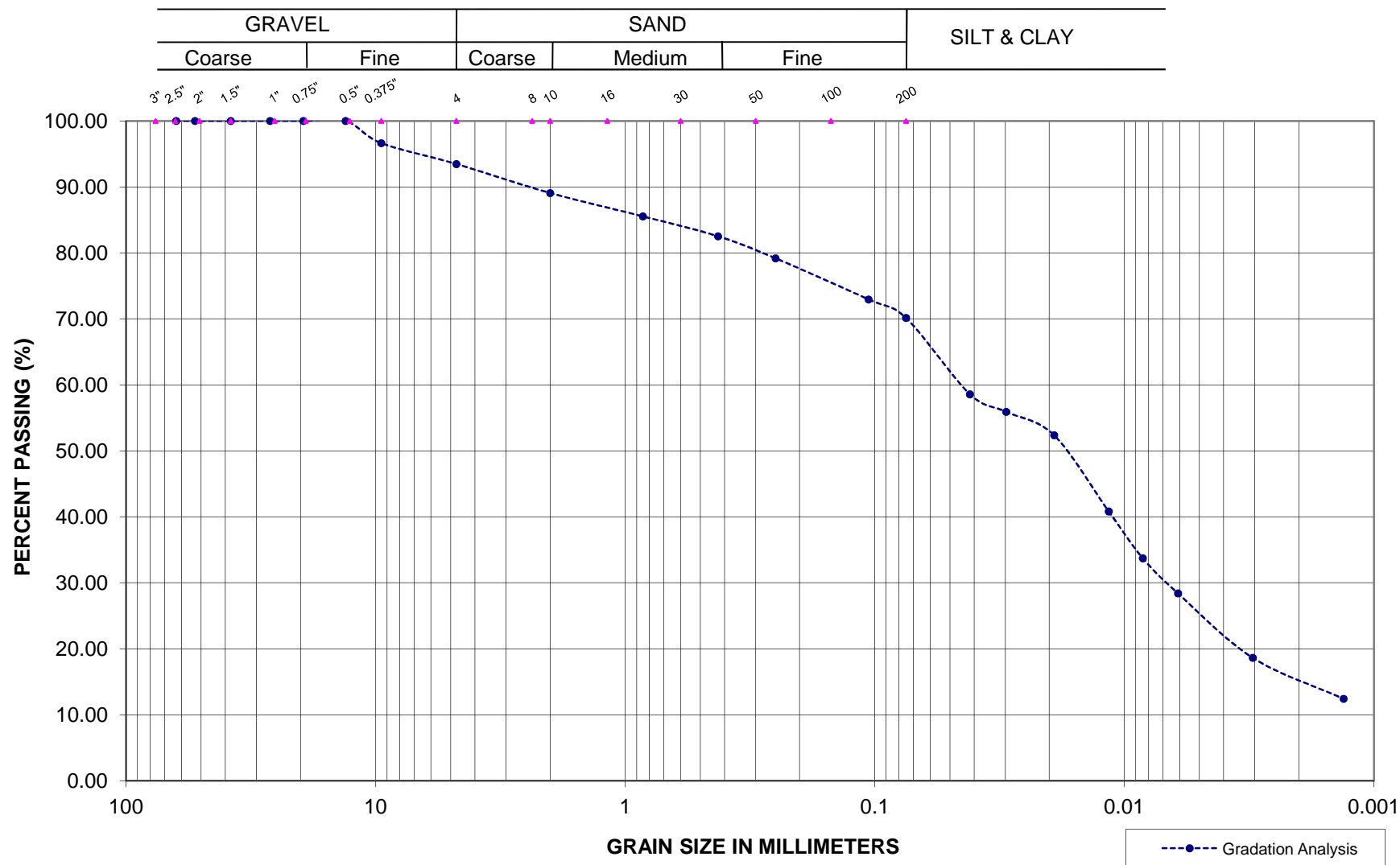
Report Date: 20-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-30
Sample No:	BU-1
Depth	0.50-0.70 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	96.6
4.8	93.5
2.0	89.1
0.850	85.5
0.425	82.5
0.250	79.2
0.106	73.0
0.075	70.2
0.0416	58.6
0.0298	55.9
0.0191	52.4
0.0116	40.8
0.0084	33.7
0.0061	28.4
0.0031	18.6
0.0013	12.4

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: TP-TL11-30

SAMPLE NO.: BU-1

DEPTH: 0.50-0.70 m

Test:
Hydrometer Analysis

GRAIN SIZE ANALYSIS REPORT

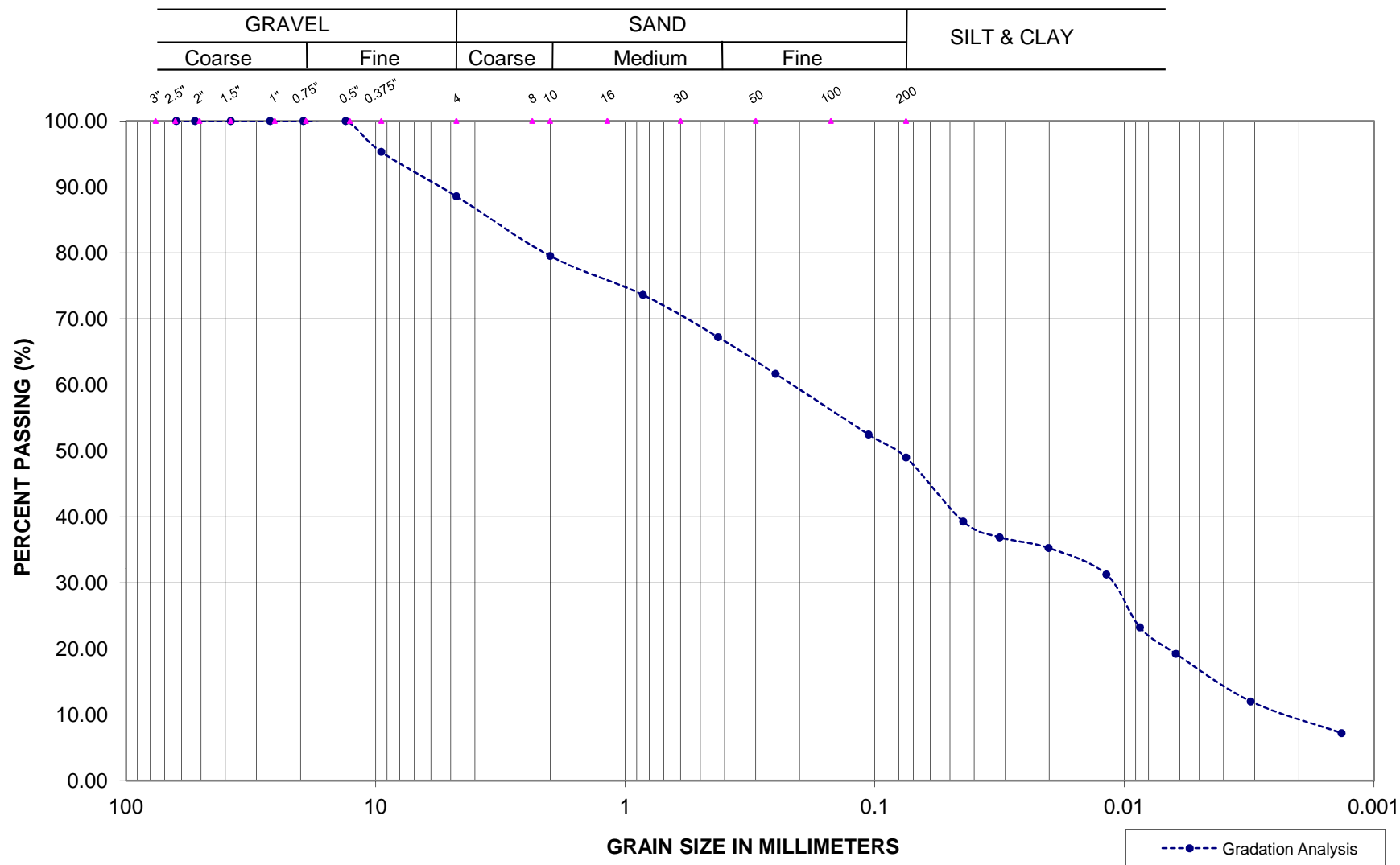
Report Date: 20-Oct-11 Reference No. 11184 - NB11-3488

Client: Knight Piesold

Project: MT - Avalon Rare Earth Metals Inc

Testpit No.:	TP-TL11-31
Sample No:	BU-1
Depth	0.50-0.75 m
GRAIN SIZE (mm)	SAMPLE PERCENT PASSING
19.5	100.0
13.2	100.0
9.5	95.3
4.8	88.6
2.0	79.5
0.850	73.7
0.425	67.3
0.250	61.7
0.106	52.5
0.075	49.0
0.0443	39.3
0.0316	36.9
0.0201	35.3
0.0118	31.3
0.0087	23.3
0.0062	19.3
0.0031	12.0
0.0013	7.2

GRAIN SIZE ANALYSIS



PROJECT: MT - Avalon Rare Earth Metals Inc.

TESTPIT NO.: TP-TL11-31

SAMPLE NO.: BU-1

DEPTH: 0.50-0.75 m

Test:
Hydrometer Analysis

Attachment 6

FACSIMILE TRANSMISSION

FILE: _____

DATE: November 8, 2006PAGES TO FOLLOW: 7To: Rick HoosFrom: Wayne B. StarlingEBA EngineeringWater Resources OfficerFax No. 604-684-6241REGARDING: Ground Water Recharge - Pine Point Area

Hi Rick:

Was good speaking with you on the phone yesterday. I dug out some information on ground water levels from the late 1980's near Pine Point showing the rapid recharge rate in the N-81 pit area. All pumps were shut off at this pit on January 28, 1987 and by Feb. 2 (four days or so), the recharge was about 125 feet. By the end of that year the recovery was +/- 335 ft. (most of which was likely during the next couple of weeks), and during the next 2 years (October 1989) it came up only another 20 ft. or so.

This information suggests (as I mentioned on the phone), that once pumping has ceased the ground water levels in this area recharge very quickly.

I hope you find this data useful, and please give me a call if you wish to discuss further once you receive this fax.

Sincerely,


Wayne B. Starling C.E.T.**D.I.A.N.D. Fort Smith Sub-District**

PO Box 658 Fort Smith, NT X0E 0P0
Phone (867) 872-2558 FAX (867) 872-3472

[Handwritten signature]

1.



Mines

N.W.T. Water Board
P.O. Box 1500
Yellowknife, N.W.T.
X1A 2R3

February 25, 1988

Attn: Mr. Glen Warner
Chairman

Dear Mr. Warner:

Re: WATER USE LICENCE NIL3 - 0034 (1987 ACTIVITIES)

Please find enclosed a copy of the Annual Report which summarizes the dewatering activities in 1987 as per the requirements of the Water Use Licence NIL3 - 0034, Part A, Item 5.

Should you require any further information, please feel free to contact me.

Yours truly,

[Handwritten signature of Richard E. Jones]

Richard E. Jones
Sr. Engineer, Projects
Pine Point Operations

/js

cc: KMC
Wayne Starling, Fort Smith
File



2.

1. 1987 DEWATERING SUMMARY..a. PUMPING

The year 1987 saw the completion of all mining activities at Pine Point. Direct mining ended in June and with this came the end of the active phase of dewatering. Mining at N-81 was completed on schedule at the end of January and the 62 installed pumps at this pit were turned off on January 28, 1987.

A small dewatering program was initiated in March at Y-61 to allow the mining of a small orebody in the North Trend and involved the drilling of 3 deepwell sites and the installation of 6 pumps. These pumps were in operation from April to June.

The maximum discharge rate for the year was recorded in January when a rate of 469,599 cu.m/day was attained. In comparison, the rate at Y-61 was 41,393 cu.m/day. during April to June.

The annual quantity of water pumped was 14.5×10^6 cubic meters, substantially below the 148.9×10^6 cubic meters recorded in 1986. The license limit is 250×10^6 cubic meters.

3.

1.b. STATISTICAL SUMMARY**1.b.i. Water Table Elevations (f.a.m.s.l.)**

<u>AREA</u>	<u>DEC.31/87</u>	<u>DEC.31/86</u>	<u>CHANGE</u>	<u>REMARKS</u>
A-55	509.11	446.02	+63.09	All Pumps Shutdown
A-70	515.20	458.92	+56.28	ditto
I-65		540.96		ditto
J-69		563.31		ditto
K-57	519.98	520.89	-00.91	ditto
K-77	635.04	513.25	+121.79	ditto
M-40	532.38	524.31	+8.07	ditto
M-52		543.36		ditto
M-64	600.50	576.63	+23.87	ditto
N-81	673.20	338.10	+335.10	ditto
R-61	675.59	661.53	+14.06	ditto
T-58		684.61		ditto
W-17		565.83		ditto
X-15	563.40	553.97	+9.43	ditto
X-56		484.35		ditto
X-57		465.24		ditto
Y-53		488.48		ditto
Y-65		464.10		ditto
Z-64	508.13	459.50	+48.63	ditto

SNS

6896	736.43	735.73	-0.30
6897	736.72	728.26	+8.46
6898	752.50	744.83	+7.67
6899	737.9	734.32	+3.58
6900	722.47	710.13	+12.34

1.b.ii. Maximum Discharge Rate = 469,599 m³/day**1.b.iii. Total Quantity Pumped = 14.5 x 10⁶ m³**

4.

COMINCO LTD. -- PINE POINT OPERATIONS
WATER LICENSE NO. NIL3-0034

SUMMARY OF DEWATERING ACTIVITIES FOR THE MONTH OF JANUARY, 1987

1. WATER TABLE ELEVATIONS (f.a.m.s.l.)

<u>AREA</u>	<u>FEB 2/87</u>	<u>DEC 31/86</u>	<u>CHANGE</u>	<u>REMARKS</u>
A-55	455.27	446.02	+9.25	North trend recharge.
J-69	560.89	563.31	-2.42	
K-77	510.59	513.25	-2.66	
M-40	524.81	524.31	+0.50	
M-64	576.21	576.63	-0.42	N-81 recharge.
N-81	462.94	338.10	+124.84	
X-56	489.77	484.35	+5.42	
X-57	471.99	465.24	+6.75	
Y-53	492.23	488.48	+3.75	North trend recharge.
Y-65	470.73	464.10	+6.63	North trend recharge.
Z-64	466.13	459.50	+6.63	North trend recharge.

2. GROUND WATER MONITORING NETWORK (f.a.m.s.l.)

<u>TESTHOLE ID</u>	<u>FEB 2/87</u>	<u>DEC 31/86</u>	<u>CHANGE</u>
1-A	*		
1-B	*		
2-A	723.88	726.55	-2.67
2-B	726.72	729.97	-3.25
3	**	744.83	
4	731.82	734.32	-2.50
5-A	707.30	710.13	-2.83
5-B	707.30	710.13	-2.83

* The testhole will be inaccessible during the winter months.

** No reading at this testhole.

3. PUMP INSTALLATIONS

<u>AREA</u>	<u>NO. INSTALLED</u> (Jan. 28/87)	<u>NO. OPERATING</u> (Jan. 28/87)	<u>INSTALLED H. P.</u> (Jan. 28/87)
N-81	62	62	14,455

At N-81 pump installations and removals resulted in the number of pumps and the installed horsepower to remain the same as last month.

<u>AREA</u>	<u>WELL #</u>	<u>PUMP REMOVED</u> <u>SIZE</u>	<u>DATE</u>	<u>PUMP INSTALLED</u> <u>SIZE</u>	<u>DATE</u>
N-81	7	150 H. P.	01/12/87	150 H. P.	01/12/87
	9			150 H. P.	01/13/87
	20	250 H. P.	01/07/87	250 H. P.	01/12/87
	32	300 H. P.	01/09/87	300 H. P.	01/12/87
	65	250 H. P.	01/16/87	250 H. P.	01/19/87
	89	300 H. P.	01/05/87	300 H. P.	01/08/87
X-56	1	100 H. P.	01/23/87		
	9	100 H. P.	01/26/87		
MILL	16	100 H. P.	01/21/87	100 H. P.	01/20/87
	16			100 H. P.	01/21/87

4. MEASURED WELL DISCHARGE RATES AND QUANTITIES PUMPED

<u>AREA</u>	<u>MEASURED DISCHARGE RATES</u> (M ³ /Day)	<u>TOTAL QUANTITY PUMPED</u> (M ³)
N-81	469,599	11,672,103
TOTAL	469,599	11,672,103

All measurements were made with the trajectory method. All flows were measured on January 28, 1987. All hours were totalized using hour meter readings taken January 28, 1987.

5. MISCELLANEOUS ACTIVITY

The N-81 dewatering operation had 62 pumps running on January 28, 1987 for a total pumping rate of 86,143 USGPM and a total operating horsepower of 14,455. Mining operations were 2/3 down 11th bench with the water level 17 feet below the bottom of 10th bench. On the same date the pit and dewatering operations were shut down with the pit closure. Pump removals and other reclamation and abandonment procedures will continue at N-81. The groundwater recharge will be monitored.

6.



Mines

N.W.T. WATERBOARD
P.O. BOX 1500
YELLOWKNIFE, N.W.T.
X1A 2R3

February 7, 1990

Attn: Mr. Peter Bannon
Controller.

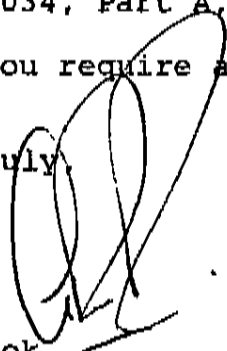
Dear Mr. Bannon:

Re: WATER USE LICENCE NIL3 - 0034 (1989 ACTIVITIES)

Please find enclosed a copy of the Annual Report which summarizes the dewatering activities in 1989 as per requirement of the Water Use Licence NIL3 - 0034, Part A, Item 5.

Should you require any further information please feel free to contact me.

Yours truly,


Gerry Rook
General Foreman
Pine Point Mines

cc: Wayne Starling, Fort Smith
T. Keen, Polaris
D.L. Johnston, Vancouver
File.



7.

COMINCO LTD. -- PINE POINT OPERATIONS
WATER LICENSE NO: NIL3-0034

WATER TABLE ELEVATIONS (f.a.m.s.l.)

<u>AREA</u>	<u>MAY 31/89</u>	<u>OCT 18/89</u>	<u>CHANGE</u>
A55	558.44	563.49	+5.04
Z64	542.89	549.19	+6.30
A70	566.44	573.00	+6.56
M64	632.62	638.33	+5.71
K57	557.68	561.48	+3.80
N81	694.12	693.53	-0.59
R61	700.85	699.26	-2.18
M40	557.17	561.80	+4.63
X15	568.56	571.06	+2.50

GROUND WATER MONITORING NETWORK (f.a.m.s.l.)

<u>TESTHOLE I.D</u>	<u>MAY 31/89</u>	<u>OCT 18/89</u>	<u>CHANGE</u>
6896s	747.43	746.27	-1.16
68961	746.77	745.60	-1.17
6897s	748.69	747.47	-1.22
68971	749.13	748.30	-0.83
6898	760.04	759.42	-0.62
6899	747.27	746.82	-0.45
6900s	741.09	740.63	-0.46
69001	741.17	740.47	-0.70