



July 3, 2012

Mackenzie Valley Environmental Review Board
5102 - 50th Ave.
Yellowknife, NT X1A 2N7

Attention: Mr. Paul Mercredi
Environmental Assessment Officer

**Subject: EA1011-001: Avalon Thor Lake Project
Summary of Changes to Project Description**

Dear Mr. Mercredi:

As requested in the MVEIRB letter dated June 15, 2012, Avalon Rare Metals Inc. (Avalon) is pleased to provide the following summary of changes to the Thor Lake Project Description since submission of the Developer's Assessment Report in May 2011, together with any corresponding changes in Avalon's impact predictions.

The proposed Thor Lake Project has two main site components:

- an underground mine and flotation plant (Nechalacho Mine and Flotation Plant site), to be located at the Thor Lake Property on the Northeast Arm of Great Slave Lake, and
- a hydrometallurgical plant (Hydrometallurgical Plant site) to be located at the existing brownfields site of the former Pine Point Mine, on the South shore of Great Slave Lake.

Consistent with what was stated in the DAR, the overall Thor Lake Project remains the same. Avalon proposes to mine, mill, and produce rare earth carbonate and oxides, zirconium, niobium and tantalum oxides from the Nechalacho deposit, located on its Thor Lake Property. Approximately 14 million tonnes of mineral resources will be mined from the Nechalacho deposit over a period of about 20 years of operations. Construction will begin 16-18 months before the start of operations. At the end of mine life, reclamation activities will begin and continue for a period of about three years.

Rare earth elements (REEs) will be mined underground and concentrated at the Nechalacho Mine and Flotation Plant site. The resulting REE concentrates will be barged during the summer months across the east end of Great Slave Lake to the Hydrometallurgical Plant site.

Upon arrival, the concentrate will be trucked from the south shore of Great Slave Lake to the Hydrometallurgical Plant site via a short (12 km) haul road. The concentrate will be further processed at the Hydrometallurgical Plant. The resulting REE products will be hauled to the Hay River railhead in sealed containers via truck, and direct shipped by the CN railway for further processing in the south.

Nechalacho Mine and Flotation Plant

During the course of the ongoing Feasibility study, a number of engineering optimizations and/or refinements have been identified that have resulted in several minor modifications to some of the proposed facilities/infrastructure to be located at the Nechalacho Mine and Flotation Plant site.

In particular, such modifications have been identified in relation to the Tailings Management Facility (TMF), the positioning and orientation of the Flotation Plant and the configuration of the Nechalacho Dock site. Each of these modifications is discussed as follows.

Tailings Management Facility

Figure 1 provides a comparison between the Final (Phase 2) plan of the TMF as presented in Figure 4.7-8 of the DAR and the current (2012) plan of this facility. The majority of the modifications that have occurred to the TMF are related to the reduced volume of tailings and water that will report to the TMF from the Flotation Plant and a resultant reduction in the overall size of the TMF footprint.

This is due to an increase in the amount of tailings anticipated to be sent (up to 62%) underground as engineered backfill as well an increase in the solids content of the tailings slurry (i.e. more internal recycling of water at the Flotation Plant). Given these changes to the operating parameters, the following modifications have been made to the TMF from the previous design:

- The need for a separate constructed Phase 2 polishing pond (as shown in the 2011 plan on the southeast side of the facility) has been eliminated. Instead, the Buck/Ball lakes area will act as the polishing pond during Phase 1 (Years 1 to 9) and the east end of Buck Lake will be isolated, if required, to act as the polishing pond during Phase 2 (Years 10 to 20). Separator berms will be constructed, as required, to retain the tailings solids and isolate the internal polishing ponds.
- The overall footprint area of the TMF basin has been reduced from 149.3 ha in the DAR to 121 ha in the June 2012 design.

- The ultimate embankment crest elevation at the eastern end of the facility (previous maximum section height) has been reduced from El. 256 m to El. 252 m.
- The water recycle system back to the Flotation Plant has been eliminated.

In addition, it has been determined that material suitable for tailings embankment construction can be quarried from an area located in the southern-most portion of the TMF footprint. As a result, the configuration of this portion of the TMF has been slightly altered to accommodate the quarry. The establishment of a quarry in this area also serves to increase the overall capacity of the TMF to contain tailings, and will reduce the amount of quarried material required from other possible sources. Due to the presence of the quarry within the TMF footprint, the maximum embankment crest elevation on the west side of the facility will be 258 m.

During the first 9 years (Phase 1), the operation of the TMF will generally include tailings solids being deposited from the west side end of the facility into the Ring Lake basin area; which will be separated from the Buck/Ball Lake basin area by a temporary separator dyke. Water will be directed from the TMF to the polishing pond before eventually being released to Drizzle Lake as required. After Year 9 of operations (Phase 2), a second separator berm will be established near the east end of Buck Lake to maintain a separate polishing pond, if required.

The tailings solids will be allowed to overtop the initial separator dyke and extend to the east, into the Buck/Ball Lake basin area. Through all phases, excess water will be released from the Polishing Pond at the east end of the TMF into Drizzle Lake. It is anticipated that this water will be released through the use of a floating pump barge.

The overall effect of these changes is to reduce the area of land impacted. There will be no (significant) changes to the proposed freshwater extraction rate or tailing water retention time, and no negative consequences of these changes on the water quality and quantity of water discharged to Drizzle Lake.

Flotation Plant Site

Figure 2 compares the configuration and general orientation of the Nechalacho Flotation Plant site as illustrated in the DAR (Figure 4.7-6) and elsewhere, and the current (2012) plan for this facility. As noted in this figure, the Flotation plant site has been slightly reoriented to better accommodate the local terrain conditions.

In addition, the overall area of the Flotation Plant footprint has been slightly reduced from 17.5 ha in the DAR to 16.7 ha in the current plan.

Nechalacho Dock Site

Figure 3 compares the configuration of the seasonal floating dock (barge) arrangement as illustrated in the DAR (Figure 4.7-11) and the current (2012) plan for this facility. As noted in this figure, because adequate deep water is located relatively close to shore in this area, and to facilitate barge loading/unloading operations, the position of the barge dock has been re-oriented from the previous perpendicular to shore condition to the current parallel to shore condition.

In addition the location and size of the concentrate container laydown/storage area has been modified to better accommodate the local terrain conditions and the overall area of the laydown footprint has been reduced from about 2.7 ha as reported in the DAR to 2.0 ha in the current plan.

Hydrometallurgical Plant

During the Deficiency Response and Information request phases of the ongoing MVEIRB environmental review process and the Feasibility Study, several engineering optimizations and/or refinements have also been identified in relation to the proposed Hydrometallurgical Plant and associated infrastructure to be located in the area of the former Pine Point Mine.

In particular, the Hydrometallurgical Plant site has been relocated to a more central area and an alternate water source pit has been identified to meet the process water needs for the Hydrometallurgical Plant. Each of these modifications is discussed in more detail as follows.

Hydrometallurgical Plant Site

Figure 4 illustrates the original proposed location of the Hydrometallurgical Plant site as presented in Figure 4.8-3 of the DAR and the current (2012) plan for this facility.

As indicated in Avalon's letter to the MVEIRB dated August 12, 2011, the proposed Hydrometallurgical Plant was moved to a more central location of the former Pine Point Mine site located on GNWT (MACA) lands. The move to this new location also resulted in a reduction of two (2) kilometres of power line and reduced piping requirements for the Hydrometallurgical Tailings Management Facility and the fresh water supply.



Furthermore, temporary employee and contractor accommodations will be provided on-site during the construction phase only.

Hydrometallurgical Plant Process Water Source

Figure 5 illustrates the original process water source (T-37 Pit) as presented in Figure 4.8-1 of the DAR and the current (2012) more centrally located process water source (J-44 Pit) to be used to supply the Hydrometallurgical Plant. The change to this new location was advantageous to the overall Project as the J-44 pit is located in closer proximity to the new location of the Hydrometallurgical Plant site.

Conclusion

Avalon appreciates the opportunity to provide this update of changes to the Thor Lake Project Description since submission of the Developer's Assessment Report in May 2011 to the MVEIRB and trust that this will meet the Board's needs in preparation for the upcoming Technical Hearings phase.

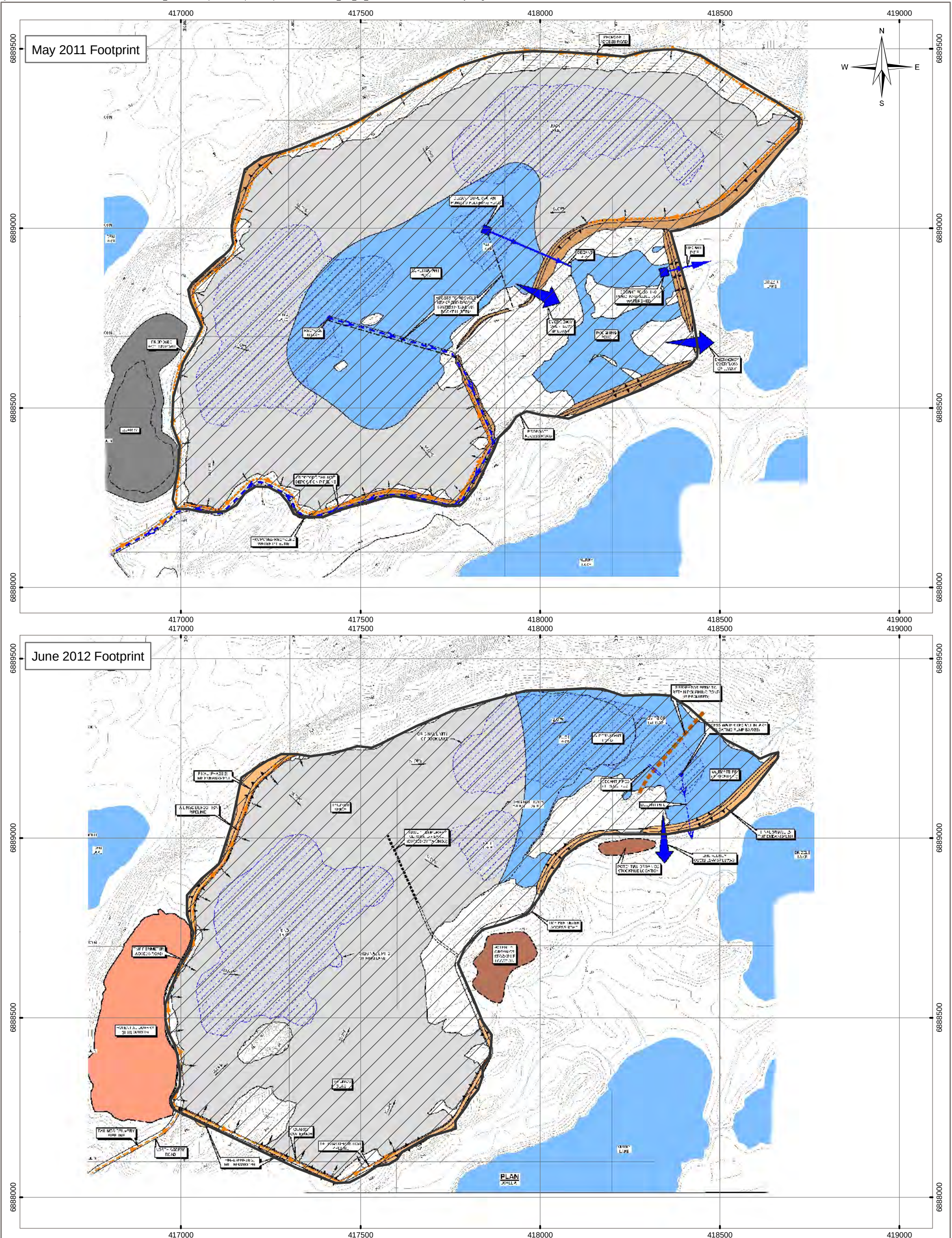
Yours truly,

A handwritten signature in blue ink, appearing to read "David Swisher", is positioned above the printed name.

David Swisher
VP Operations
Avalon Rare Metals Inc.

Attachments: Figures 1 to 5

FIGURES



LEGEND

TMF Footprint

May 2011 TMF Footprint Area = 149.3 ha

June 2012 TMF Footprint Area = 121.0 ha

NOTES

Base data source:
2011 Footprint provided by Avalon (April 2011)
2012 Footprint provided by Avalon (June 2012)

THOR LAKE PROJECT

Nechalacho
Tailings Management Facility (TMF)
2011 and 2012 Footprint

PROJECTION
UTM Zone 12

DATUM
NAD83

CLIENT
AVALON
RARE METALS INC.

Scale: 1:10,000

200 100 0 200
Metres

FILE NO.
V15101007_004_TL_TMF.mxd

PROJECT NO.
V15101007.004

DWN
MEZ

CKD
SL

APVD
RH

REV
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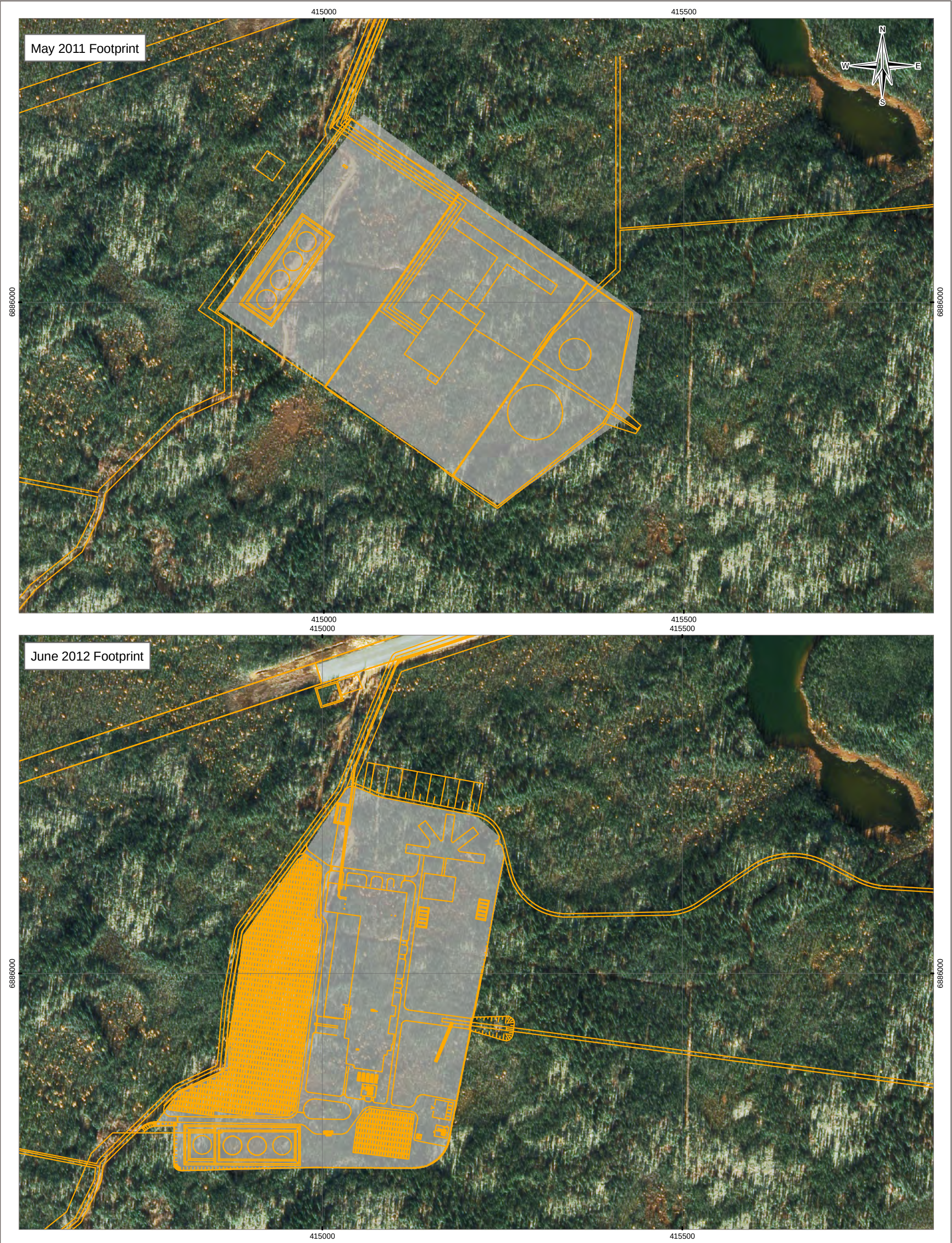
OFFICE
EBA-VANC

DATE
June 28, 2012

STATUS
ISSUED FOR REVIEW

eba
A TETRA TECH COMPANY

Figure 1



LEGEND

- Processing Plant Footprint
- Footprint Component

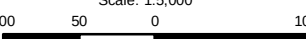
2011 footprint area = 17.5 ha
2012 footprint area = 16.7 ha

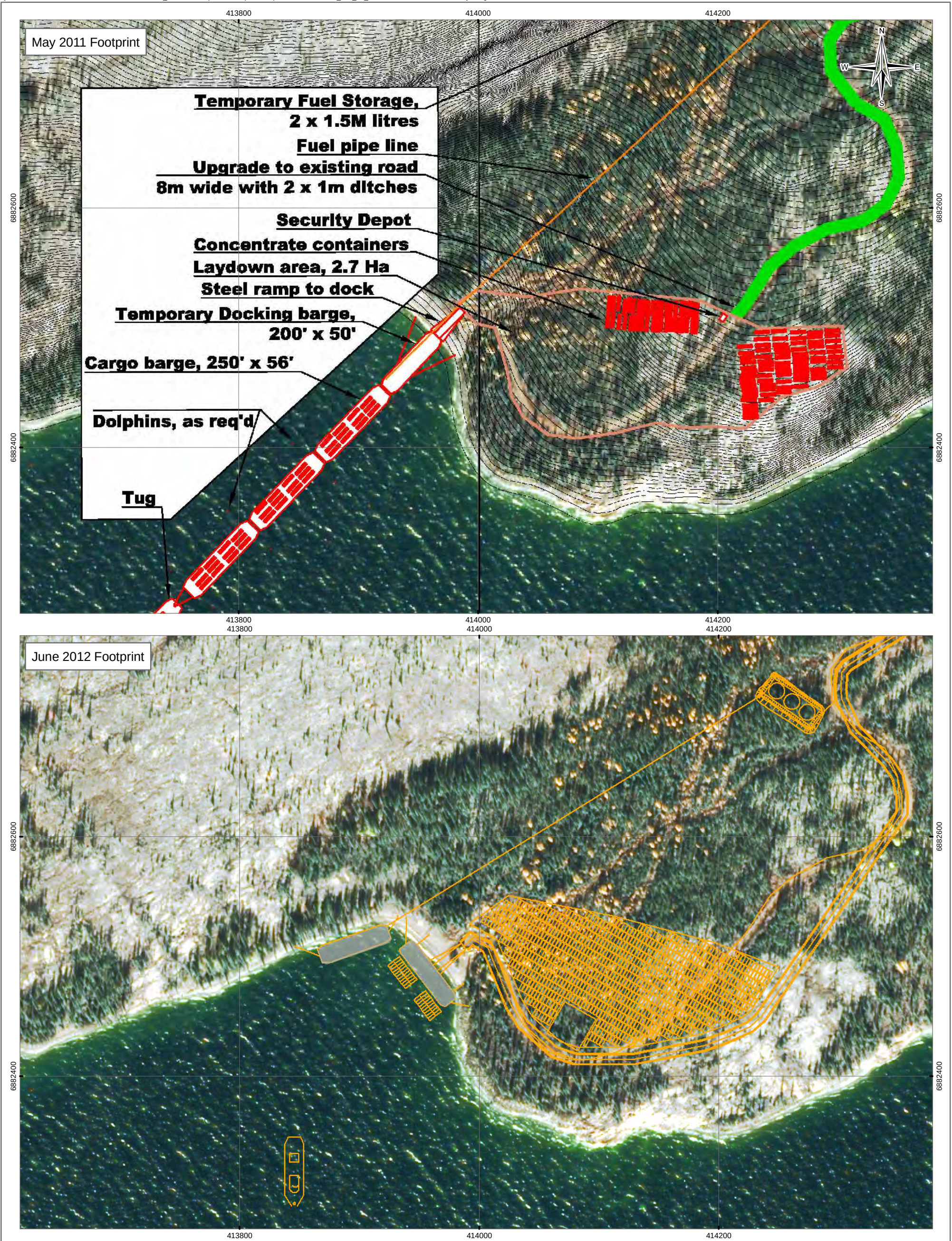
NOTES
Base data source:
2011 Footprint provided by Avalon (April 2011)
2012 Footprint v2.4 provided by Avalon (June 2012)
Imagery provided by Avalon (October 2010)

STATUS
ISSUED FOR REVIEW

THOR LAKE PROJECT

Nechalacho
Flotation Plant Site
2011 and 2012 Footprint

PROJECTION UTM Zone 12		DATUM NAD83		CLIENT  AVALON RARE METALS INC.	
Scale: 1:5,000  Metres				 eba A TETRA TECH COMPANY	
FILE NO. V15101007_004_TL_ProcessPlant.mxd					
PROJECT NO. V15101007.004	DWN MEZ	CKD SL	APVD RH	REV 0	Figure 2
OFFICE EBA-VANC	DATE June 27, 2012				



LEGEND

- Dock Footprint Option
- Footprint Component

2011 Container Laydown Area = 2.7 ha
2012 Container Laydown Area = 2.0 ha

NOTES
Base data source:
2011 Footprint provided by Avalon (April 2011)
2012 Footprint v2.5.2 provided by Avalon (June 2012)
Imagery provided by Avalon (October 2010)

THOR LAKE PROJECT

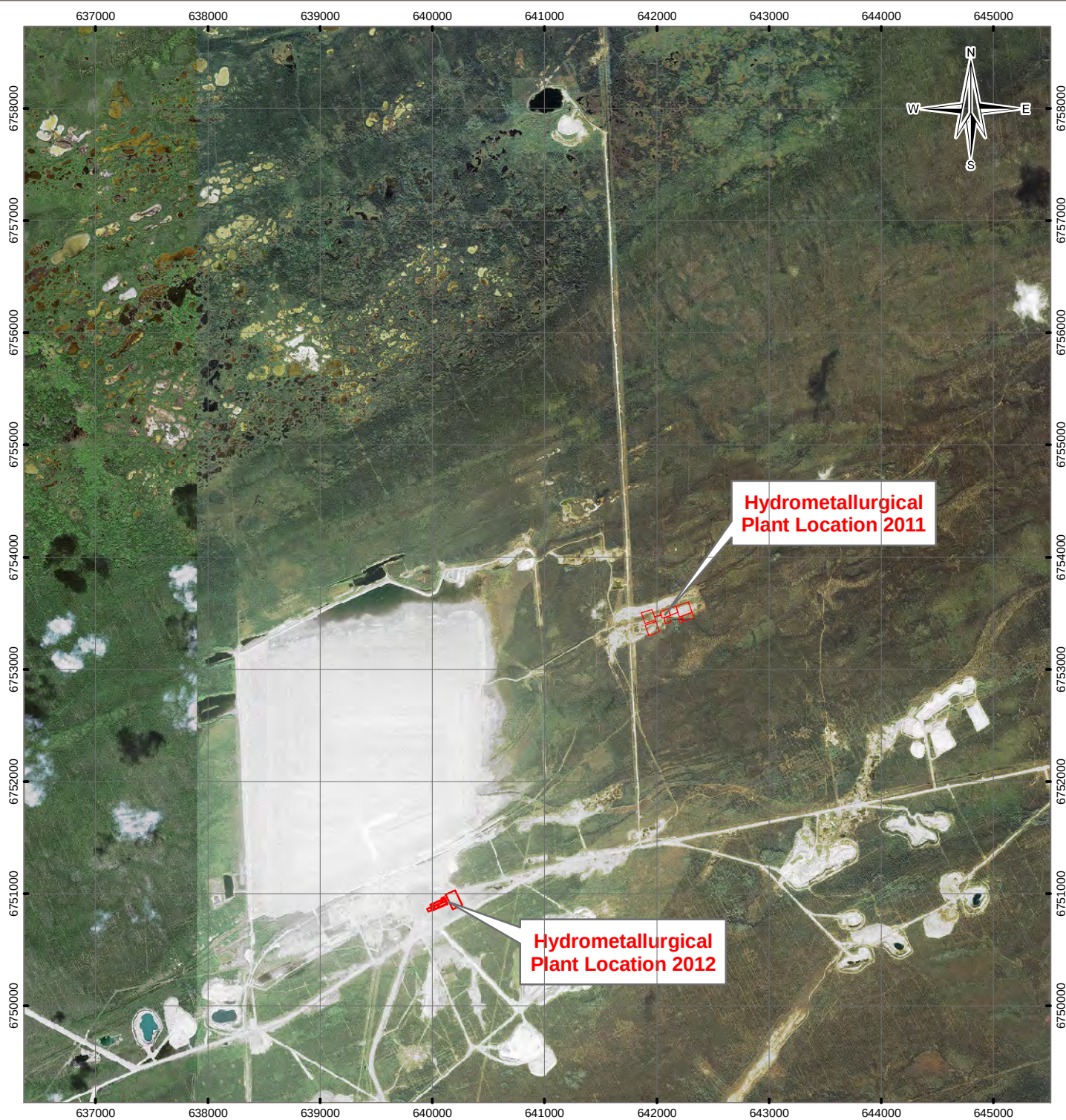
Nechalacho
Dock Site
2011 and 2012 Footprint

PROJECTION UTM Zone 12		DATUM NAD83		CLIENT  AVALON RARE METALS INC	
Scale: 1:3,000 5025050 Metres					
FILE NO. V15101007_004_TL_Dock.mxd				 A TETRA TECH COMPANY	
PROJECT NO. V15101007.004	DWN MEZ	CKD SL	APVD RH		REV 0
OFFICE EBA-VANC	DATE June 26, 2012				

STATUS
ISSUED FOR REVIEW

Figure 3

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LEGEND

Hydrometallurgical Plant Footprint

NOTES

Base data source:
2011 Footprint provided by Avalon (April 2011)
2012 Footprint provided by Avalon (June 2012)
Imagery provided by Avalon (October 2010)

STATUS
ISSUED FOR REVIEW

THOR LAKE PROJECT

Pine Point Hydrometallurgical Plant 2011 and 2012

PROJECTION
UTM Zone 11

DATUM
NAD83

CLIENT



Scale: 1:50,000
1 0.5 0 1
Kilometres

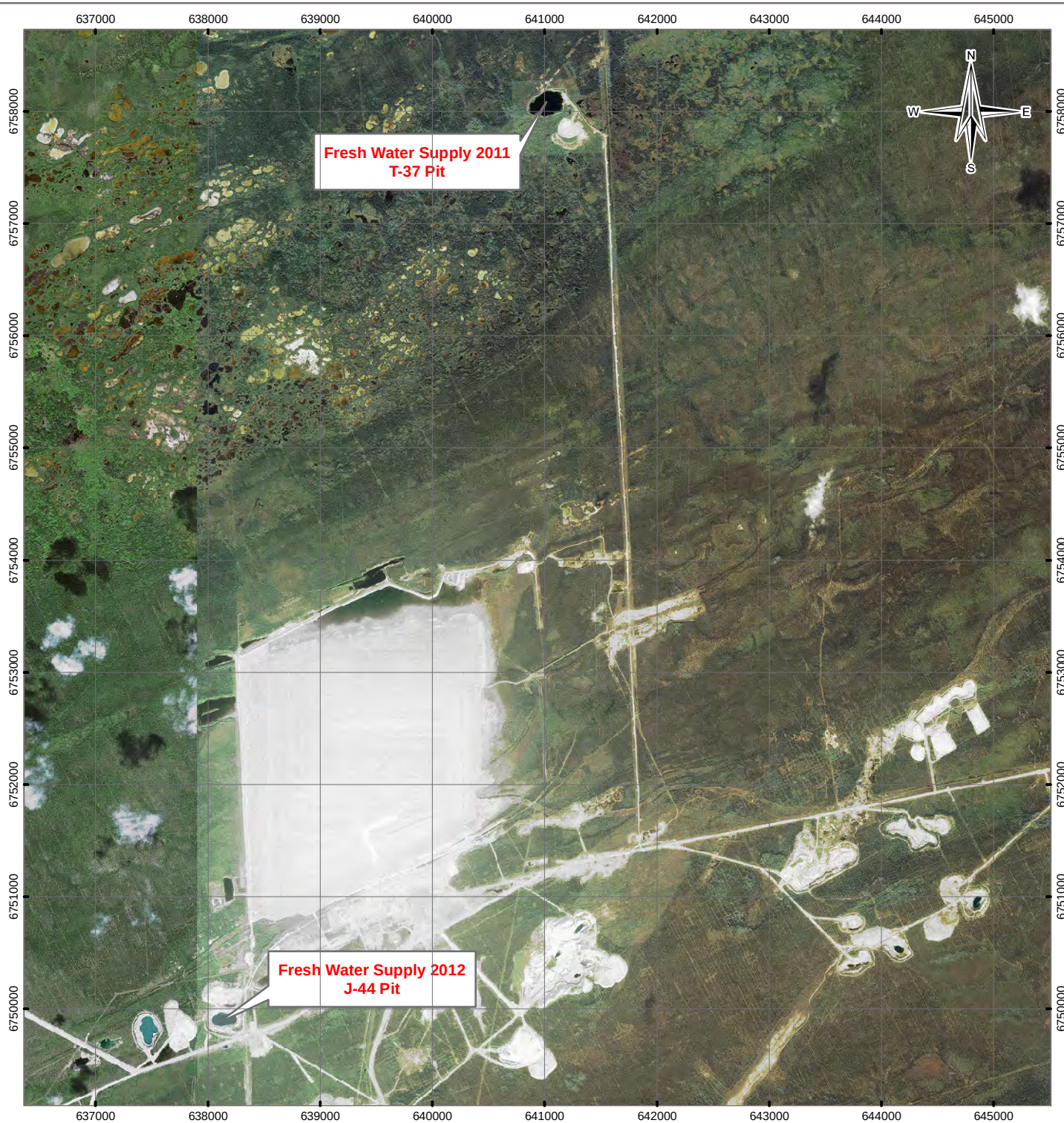
FILE NO.
V15101007_004_PP_HydroPlant.mxd

PROJECT NO.	DWN	CKD	APVD	REV
V15101007.004	MEZ	RH	RH	0

OFFICE	DATE
EBA-VANC	June 27, 2012



Figure 4



LEGEND

NOTES

Base data source:
2011 Footprint provided by Avalon (April 2011)
2012 Footprint provided by Avalon (June 2012)
Imagery provided by Avalon (October 2010)

STATUS
ISSUED FOR REVIEW

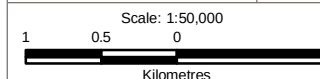
THOR LAKE PROJECT

Pine Point Water Supply 2011 and 2012

PROJECTION
UTM Zone 11

DATUM
NAD83

CLIENT



FILE NO.
V15101007_004_PP_WaterSupply.mxd

PROJECT NO. V15101007.004	DWN MEZ	CKD RH	APVD RH	REV 0
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OFFICE EBA-VANC	DATE June 28, 2012
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Figure 5