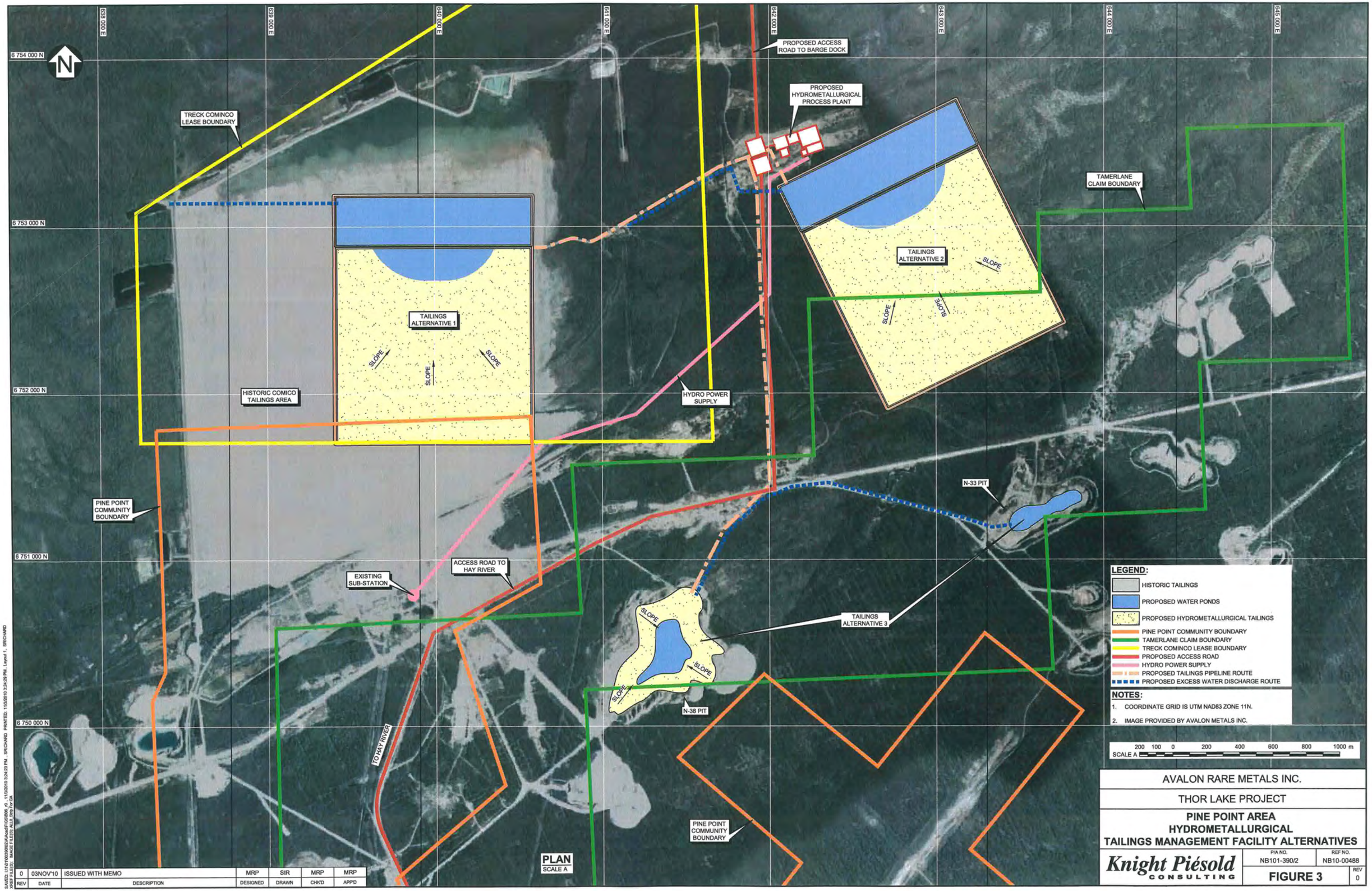
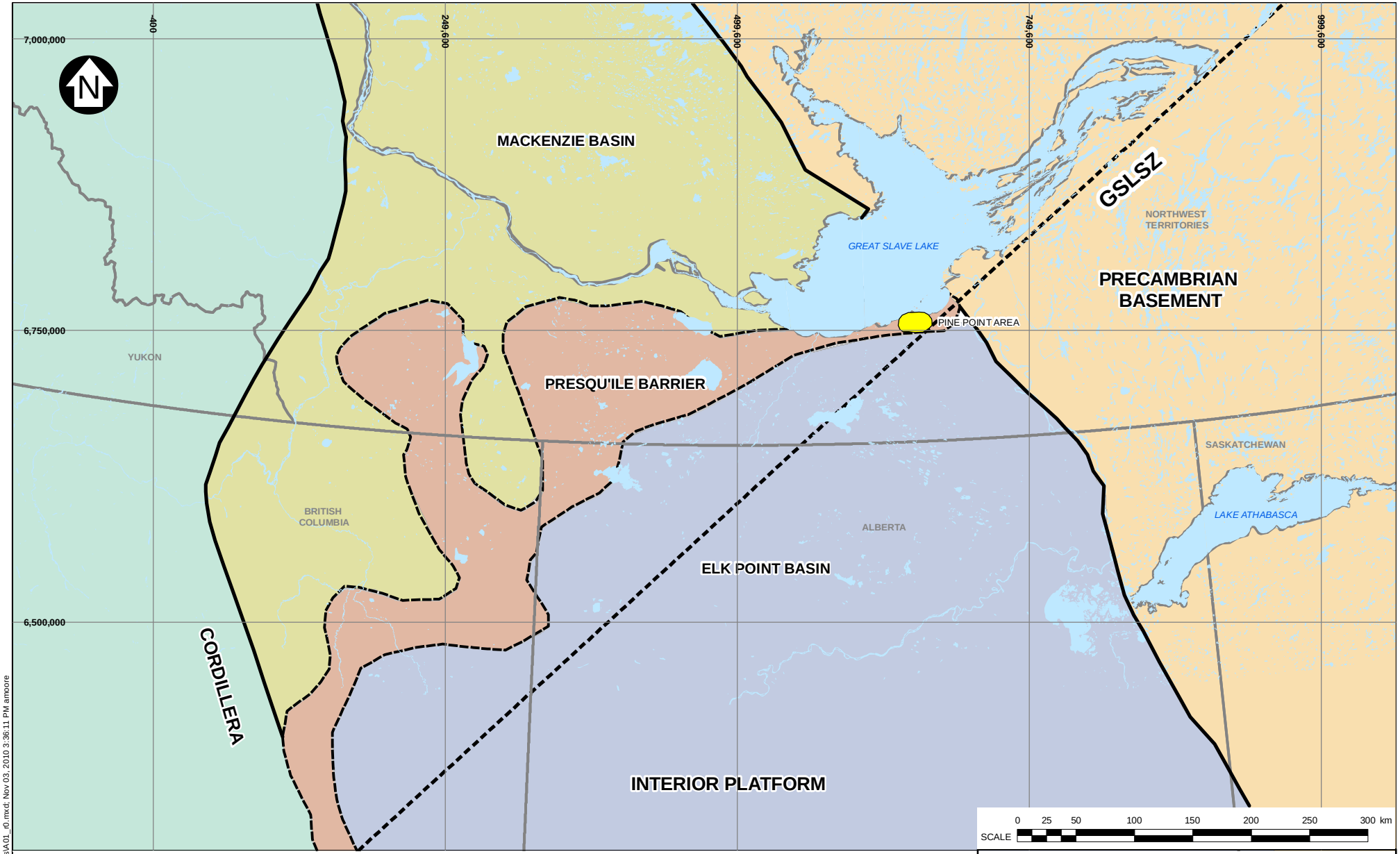

638 000 E
639 000 E
640 000 E
641 000 E
642 000 E
643 000 E
644 000 E
645 000 E
6 754 000 N
6 753 000 N
6 752 000 N
6 751 000 N
6 750 000 N
N
PROPOSED ACCESS ROAD TO BARGE DOCK
PROPOSED HYDROMETALLURGICAL PROCESS PLANT
TRECK COMINCO LEASE BOUNDARY
TAMERLANE CLAIM BOUNDARY
TAILINGS ALTERNATIVE 1
TAILINGS ALTERNATIVE 2
SLOPE
HISTORIC COMICO TAILINGS AREA
HYDRO POWER SUPPLY
PINE POINT COMMUNITY BOUNDARY
N-33 PIT
EXISTING SUB-STATION
ACCESS ROAD TO HAY RIVER
TAILINGS ALTERNATIVE 3
N-38 PIT
TO HAY RIVER
LEGEND:
HISTORIC TAILINGS
PROPOSED WATER PONDS
PROPOSED HYDROMETALLURGICAL TAILINGS
PINE POINT COMMUNITY BOUNDARY
TAMERLANE CLAIM BOUNDARY
TRECK COMINCO LEASE BOUNDARY
PROPOSED ACCESS ROAD
HYDRO POWER SUPPLY
PROPOSED TAILINGS PIPELINE ROUTE
PROPOSED EXCESS WATER DISCHARGE ROUTE
NOTES:
1. COORDINATE GRID IS UTM NAD83 ZONE 11N.
2. IMAGE PROVIDED BY AVALON METALS INC.
SCALE A
200 100 0 200 400 600 800 1000 m
PLAN
SCALE A
AVALON RARE METALS INC.
THOR LAKE PROJECT
PINE POINT AREA
HYDROMETALLURGICAL
TAILINGS MANAGEMENT FACILITY ALTERNATIVES
Knight Piésold CONSULTING
P/A NO. NB101-390/2
REF NO. NB10-00488
FIGURE 3
REV 0
REV | DATE | DESCRIPTION | DESIGNED | DRAWN | CHK'D | APP'D
0 | 03NOV'10 | ISSUED WITH MEMO | MRP | SIR | MRP | MRP



LEGEND:

- GREAT SLAVE LAKE SHEAR ZONE (GSLSZ)
- STREAM/RIVER/DRAINAGE
- WATER
- PINE POINT AREA
- CORDILLERA
- PRECAMBRIAN BASEMENT

INTERIOR PLATFORM

- ELK POINT BASIN
- MACKENZIE BASIN
- PRESQU'ILE BARRIER

NOTES:

1. ADAPTED FROM: "REGIONAL STRUCTURAL DATA FOR HAY RIVER AREA NWT WITH EMPHASIS ON PINE POINT MINING CAMP" TURNER AND GAC, FIGURE 1, 2003.
2. CO-ORDINATE GRID IS IN METRES.
   DATUM: NAD83
   PROJECTION: UTM ZONE 11

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D
0	03NOV'10	ISSUED WITH MEMO	MRP	ASM	MRP	MRP

AVALON RARE METALS INC.

THOR LAKE PROJECT

PINE POINT AREA
SIMPLIFIED DEVONIAN GEOLOGY OF NORTHWESTERN CANADA

Knight Piésold CONSULTING

P/A NO. NB101-390/2

REF NO. NB10-00488

FIGURE 4

REV 0

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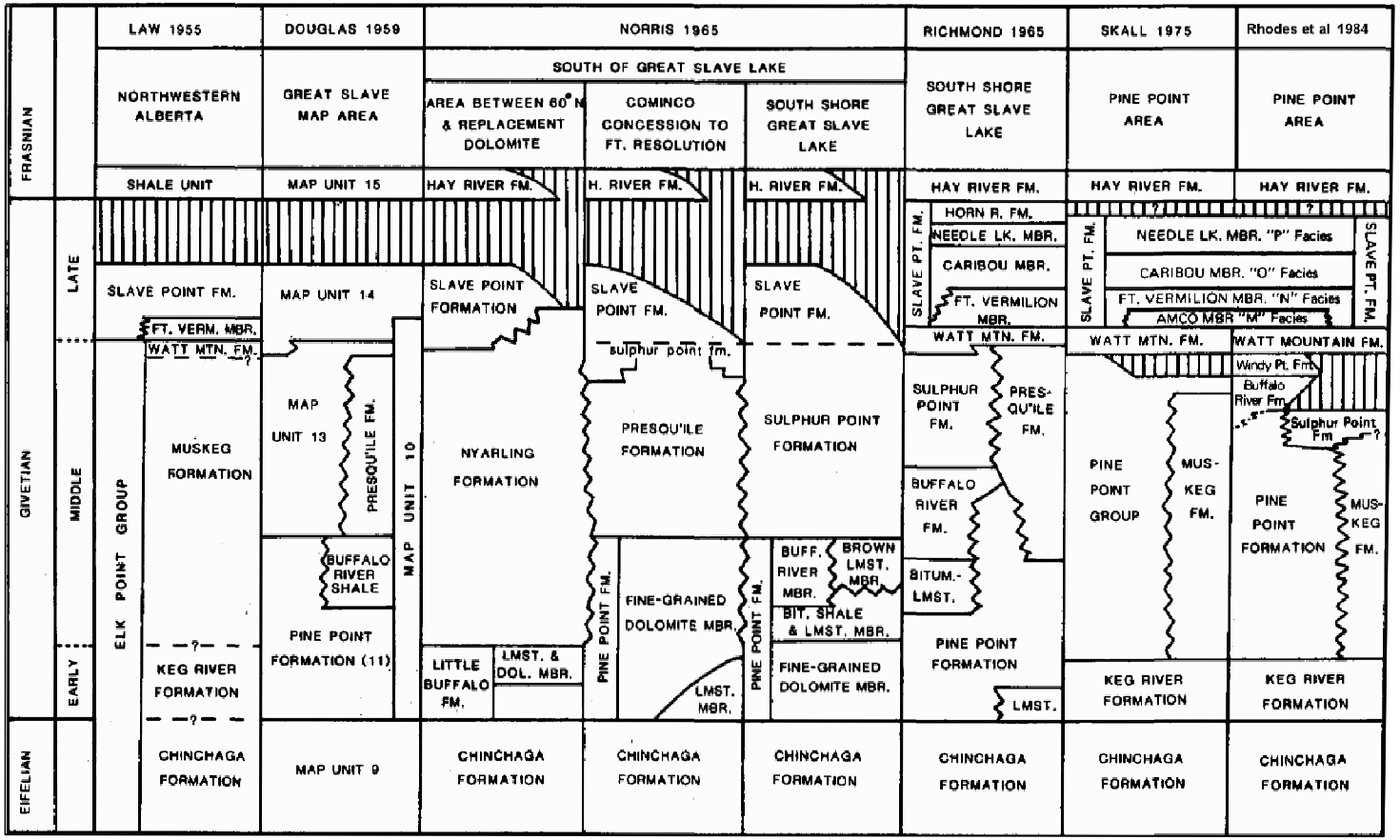


NOTES:

1. FIGURE BASED ON RHODES ET AL. 1984. PINE POINT ORE BODIES AND THEIR RELATIONSHIP TO THE STRATIGRAPHY, STRUCTURE, DOLOMITIZATION AND PARTITIONING OF THE MIDDLE DEVONIAN CARRIER COMPLEX.

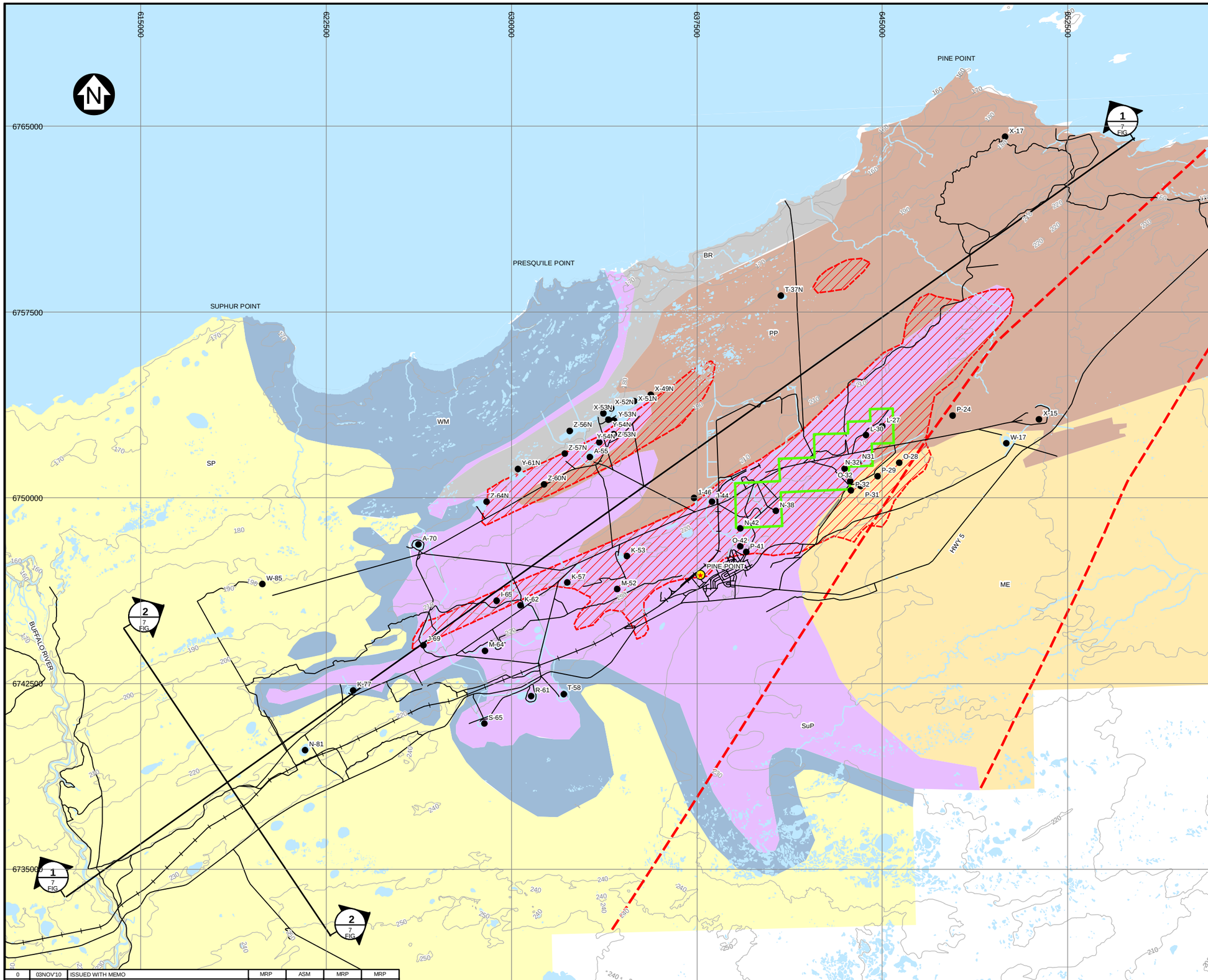
AVALON RARE METALS INC.

THOR LAKE PROJECT

PINE POINT AREA
SUMMARY OF STEREOGRAPHIC NOMENCLATURE

Knight Piésold CONSULTING

FIGURE 5



LEGEND:

- WATER
- TAMERLANE CLAIM BOUNDARY
- TECK COMINCO LEASE BOUNDARY
- SP — SLAVE POINT FORMATION DOLOMITIC AND ANHYDRITE LIMESTONE
- WM — WATT MOUNTAIN FORMATION SHALE / LIMESTONE
- SuP — SULPHUR POINT FORMATION LIMESTONE AND DOLOSTONE
- Pr — PRESQU'ILE FORMATION COURSE (VUGGY) CRYSTALLINE DOLOMITE
- PP — PINE POINT FORMATION FINE CRYSTALLINE DOLOMITE
- LKR — LOWER KEG RIVER FORMATION ARGILLACEOUS LIMESTONE / DOLOSTONE
- CH — CHINCHACA FORMATION ANHYDRITE, MINOR SILTSTONE
- ME — MUSKEG EVAPORITES GYPSUM ANHYDRITE
- BR — BUFFALO RIVER FORMATION SHALE
- SUBSURFACE STRIKE-SLIP FAULT
- RIVER/STREAM/DRAINAGE
- ROAD
- RAIL BED (TRACK REMOVED)
- CONTOUR
- COMMUNITY
- HISTORIC OPEN PIT

NOTES:

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 11 AND IS IN METRES.
3. CONTOUR INTERVAL IS IN METRES. CONTOUR INTERVAL IS 10 METRES.
4. CLAIM BOUNDARIES HAVE BEEN DIGITIZED AT A 1:50,000 SCALE.
5. GEOLOGY OBTAINED FROM HANNIGAN 2007, THE METALLOGENY OF THE PINE POINT MISSISSIPPI VALLEY-TYPE ZINC-LEAD DISTRICT, SOUTHERN NORTHWEST TERRITORIES, GEOLOGICAL SURVEY OF CANADA.

SCALE 1,500 750 0 1,500 3,000 4,500 6,000 7,500 m

AVALON RARE METALS INC.

THOR LAKE PROJECT

PINE POINT AREA GEOLOGICAL PLAN

Knight Piésold CONSULTING

P/A NO.	REF. NO.
NB101-390/2	NB10-00488

FIGURE 6 — REV 0

REV	DATE	DESCRIPTION	DESIGN	DRAWN	CHK'D	APP'D
0	03NOV'10	ISSUED WITH MEMO	MRP	ASM	MRP	MRP

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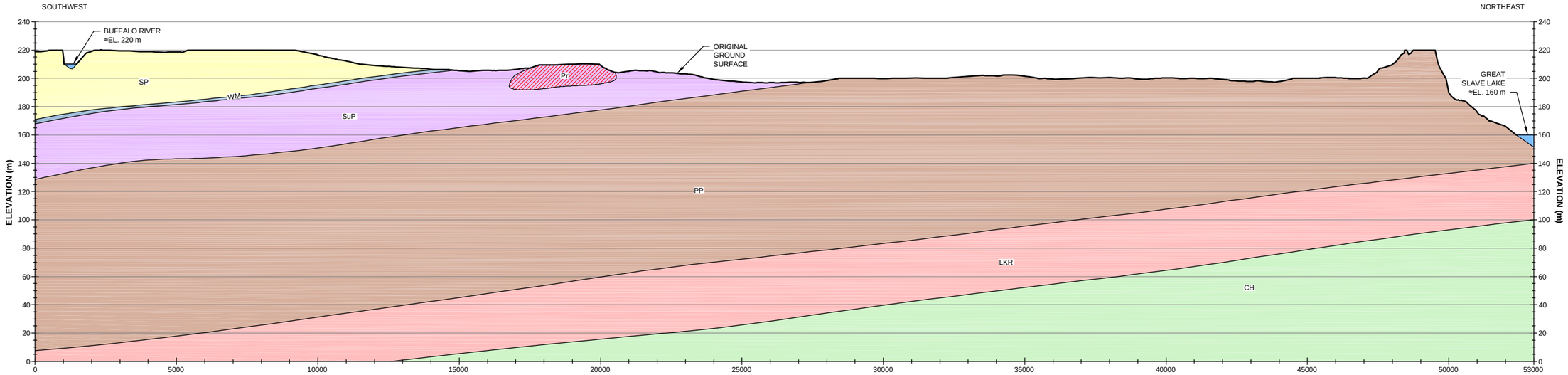
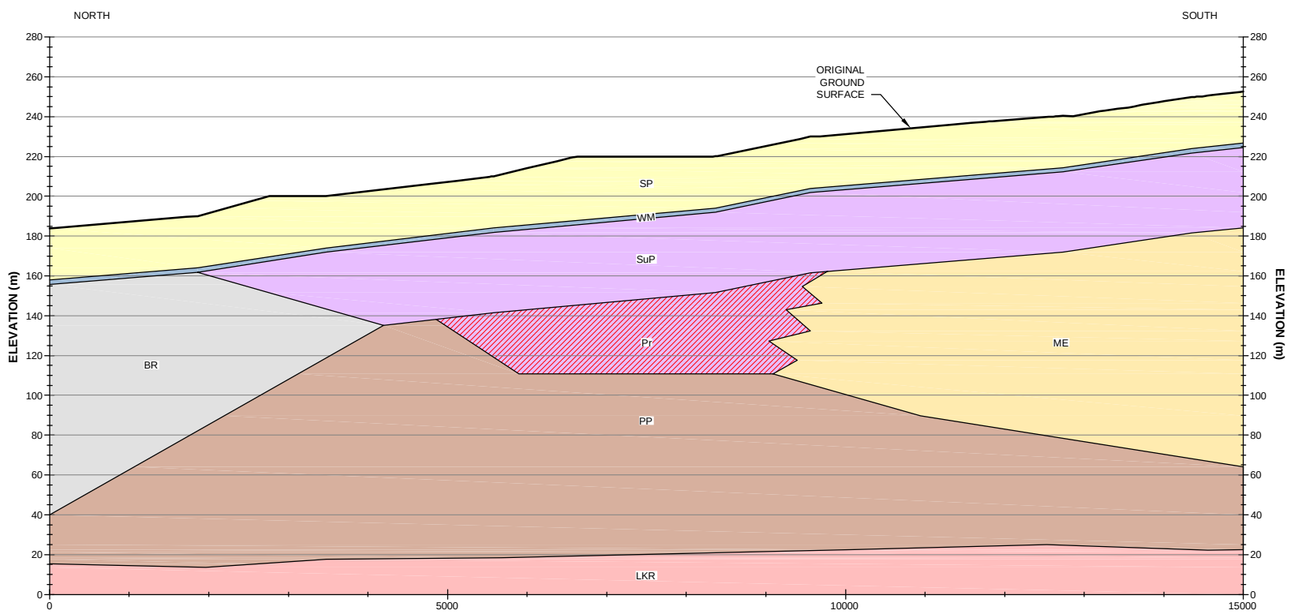


SECTION
PROFILE THROUGH PRESQUILE BARRIER REEF COMPLEX
HORIZONTAL: AS-SHOWN
VERTICAL: AS-SHOWN



2
6
FIG.

SECTION
CROSS SECTION THROUGH PRESQU'ILE BARRIER REEF COMPLEX
HORIZONTAL: AS-SHOWN
VERTICAL: AS-SHOWN

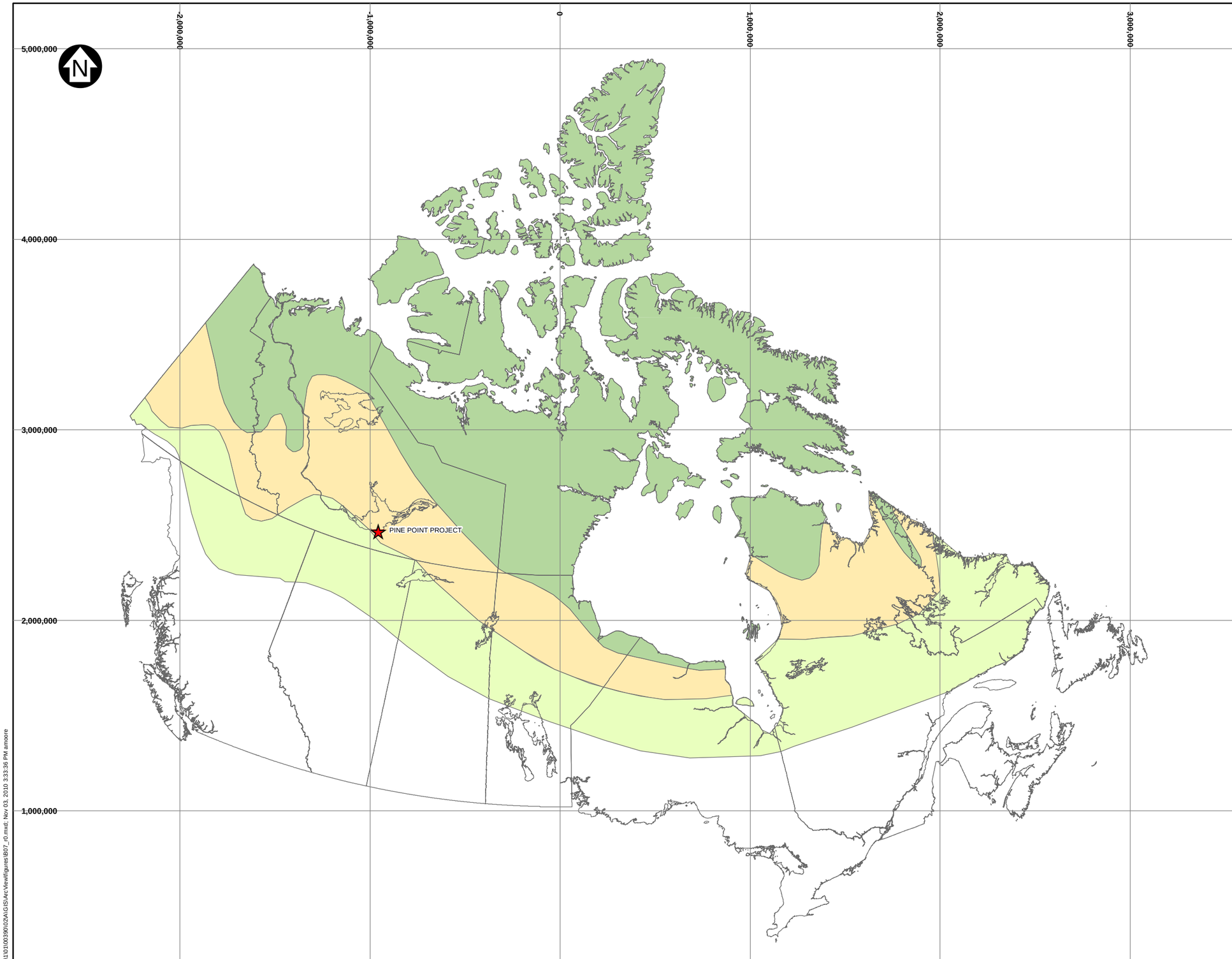
LEGEND:

- WATER
- SLAVE POINT FORMATION DOLOMITIC AND ANHYDRITE LIMESTONE
- WATT MOUNTAIN FORMATION SHALE / LIMESTONE
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]

NOTES:

1. FIGURE BASED ON INTERPRETATION OF GEOLOGIC SECTIONS FROM GSC MAP 1370A, 1972 "GEOLOGY GREAT SLAVE LAKE DISTRICT OF MACKENZIE", RHODES ET AL, 1984 AND HANNIGAN, 2007.

AVALON RARE METALS INC.
THOR LAKE PROJECT
PINE POINT AREA
SIMPLIFIED GEOLOGICAL CROSS SECTIONS
Knight Piésold CONSULTING
ISSUED DATE
REVISION DATE
FIGURE 7



LEGEND:

- CONTINUOUS PERMAFROST
- WIDESPREAD DISCONTINUOUS PERAMFROST
- SPORADIC DISCONTINUOUS PERMAFROST

NOTES:

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.
2. PERMAFROST DISTRIBUTION DIGITIZED FROM BURNS 2004.
2. CO-ORDINATE GRID IS IN METRES.
   DATUM: NAD83
   PROJECTION: CANADA LAMBERT CONFORMAL CONIC

SCALE 200 100 0 200 400 600 800 1,000 km

AVALON RARE METALS INC.

THOR LAKE PROJECT

PINE POINT AREA
PERMAFROST DISTRIBUTION IN CANADA

Knight Piésold CONSULTING

P/A NO.	REF NO.
NB101-390/2	NB10-00488

FIGURE 8 REV 0

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D
0	03NOV'10	ISSUED WITH MEMO	MRP	ASM	MRP	MRP

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