3 Study Areas

3.1 Regional Study Area

The spatial extent of the RSA was selected based on the anticipated mine plan for the Project, known caribou water crossing locations along the Thelon River basin (DIAND 1992), and critical areas identified by IQ studies. The RSA boundary incorporates all of the proposed Project facilities at and west of Baker Lake including three original proposed access road options, surrounded by a minimum 25 km wide buffer. The resulting RSA is 150 km long and 70 km wide, constituting a total area of 9,828 km² (see Figure 3.1-1). The RSA includes all of Judge Sissons Lake and southern portions of Aberdeen and Schultz lakes while Princess Mary Lake is located just to the south.

The RSA is comparable to study area sizes for caribou and other large mammals (i.e., muskox, grizzly bears, and wolves) for other mining projects in Nunavut and NWT (i.e., projects such as AEM Meadowbank, Jericho, Doris North, Diavik, and Gahcho Kué). The RSA includes areas with similar conditions to those found in the Mine LSA and access road Local Study Areas (LSAs), which will allow the RSA to be used as a comparable reference area for monitoring potential changes as the Project moves forward.

3.2 Local Study Areas

The LSA at the mine site is centered on the Kiggavik and Sissons deposits with an approximate five kilometre buffer around all proposed Project facilities, including a proposed airstrip and site haul roads. Dimensions of the Mine LSA are approximately 29 km wide by 20 km wide, constituting a total area of 450 km² (Figure 3.2-1). The access road LSAs include a five kilometre-wide LSA centered on the two proposed road alignments currently under consideration (see Figure 3.2-2), including an All-Season Road alignment (total LSA of 520 km²) and a Winter Road alignment (total LSA of 561 km²). Other potential facilities included within some of the road alignments include a dock facility at Baker Lake, a river crossing at the Thelon River[1], and potential quarry sites.

[1] The number of proposed dock and river crossing locations has also decreased since 2010, but survey results for all original proposed locations are provided in the TWBR.

Legend

- River
- Wetland
- Lake
- Kiggavik Lease
- Sissons Lease
- Regional Study Area

Area of Detail

Nunavut

N

Schultz Lake
ᖃᒪᓂᖅ ᑐᓴᖅ
Qamaniq Tugliq

Amarulik Lake

Qamanaarjuk Lake
ᖃᒪᓇᐊᕐᔪᒃ

Thelon River
ᑎᓕᓐ ᑲᓇᕐᔪᐊᖅ ᑮᓇᐅᖅ
Kangirjuup Kuunga

Whitehills Lake
ᑕᓯᕐᔪᐊᖅ
Tasirjuaq

Itigulik Lake
ᐃᑎᒡᓗᒃ

Ajaktukvik Lake
ᐊᔭᒃᑐᒃᕕᒃ

Kavisilik Lake
ᑲᕕᓯᓗᒃ

Squiggly Lake

Skinny Lake
ᓱᐊᓕᓐᓂᖅ

Aberdeen Lake
ᖃᒪᓂᖅ ᐅᖏᓐᓇᓗᖅ
Qamaniq Ungalliq

Siamese Lake
ᑕᓯᕐᔪᐊᖅ ᓄᓇᕗᒻᒥ
Tasirʻtuaq / Nurtavik

Long Lake
ᐊᓂᒍᓗᒃ

Qatqatalik Lake
ᖁᐊᖁᐊᓕᒃ

Crossing Point Lake
ᑲᕐᓴᐅᓂᖅ

Tunuhuk Lake
ᑐᓄᐅᖅ

Baker Lake
ᖃᒪᓂᖅ
Qamanittuaq

Gerhard Lake

Qamanaugaq Lake
ᖃᒪᓇᐅᒃ

Thom Lake
ᑕᓯᕐᔪᐊᖅ
Tasi'tuaq

Tupik Lake

Lobster Lake

Judge Sissons Lake
ᐱᔪᖅ ᓱᓯᓐᓂᖅ

Qikiqtarjualik

Audra Lake
ᐊᓇᒃᓗᐊ

Aniggug

Qikiqtarjualik River
ᖁᐃᖅᑕᕐᔪᐊᓗᖅ ᑮᓇᐅᖅ
Qikiqtarjualik Kuunga

Qinnguq Bay
ᖁᐃᓐᖅ ᔭᐅᒃ

Buzzard Lake

Murriittuq Lake
ᒪᔪᐃᑎᑐᖅ

Turtle Lake

Dragon Lake

Quglungnilnaaq Lake
ᖁᒡᓗᖏᓐᓇᖅ

Aniggug River
ᐊᓂᖅᓯᐅᖅ ᔭᓴᓕᖅ
Aniggugjuup Kuunga

Qamanaugakuluk Lake
ᖃᒪᓇᐅᑲᓗᒃ

Mihaluk Lake
ᒥᐻᓗᒃ

Baker Lake
ᖃᒪᓂᖅ

Rocket Lake

Samarook Lake
ᓱᒪᕐᓀᒃ

Pistol Lake

Igalulik Lake
ᐃᖃᓗᒃ

Mallery Lake
ᒪᓕᕐᔪᐊᖅ

Pitz Lake
ᑕᓯᕐᔪᐊᖅ
Tasilugjuaq

Gull Lake

Clear Water River

Princess Mary Lake
ᑕᓯᕐᔪᐊᖅ ᑐᓴᕐᔪᐊᓘᓐᓃᖅ
Tasirjuaq Tugliqpaaq

Kazan River

Aumaluuktuuk Lake

Martell Lake

0 2.5 5 10 15 20 Kilometres

500000 520000 540000 560000 580000 600000 620000 640000 660000 680000

7180000 7160000 7140000 7120000 7100000 7080000

Projection: NAD 1983 UTM Zone 14N
Creator: CASLYS CONSULTING LTD.
Date: 04/28/2014 Scale: 1:500,000
File: 3.1-1_Boundary_of_Kiggavik_RSA.mxd
Data Sources: Natural Resources Canada, GeoBase®, National Topographic Database, AREVA Resources Canada Inc., and Gebauer & Associates.

FIGURE 3.1-1
BOUNDARY OF THE REGIONAL STUDY AREA (RSA)

KIGGAVIK PROJECT - EIS

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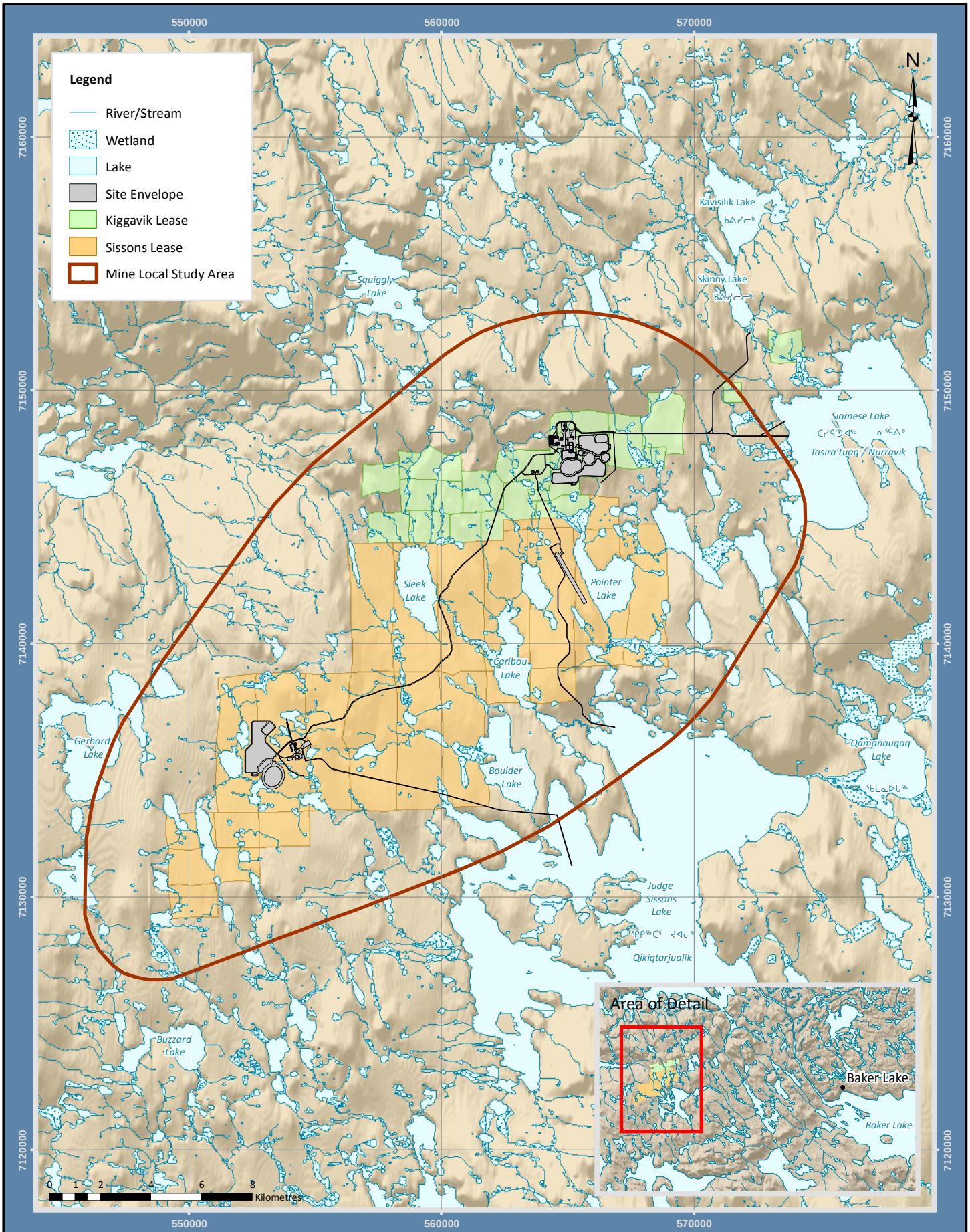

Projection: NAD 1983 UTM Zone 14N
Creator: CASLYS CONSULTING LTD.
Date: 05/06/2014 Scale: 1:200,000
File: 3.2-1_Boundary_of_Mine_LSA.mxd
Data Sources: Natural Resources Canada, GeoBase®, National Topographic Database, AREVA Resources Canada Inc., and Gebauer & Associates.

FIGURE 3.2-1
BOUNDARY OF THE MINE LOCAL STUDY AREA (LSA)

KIGGAVIK PROJECT - EIS

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CASLYS CONSULTING
AREVA

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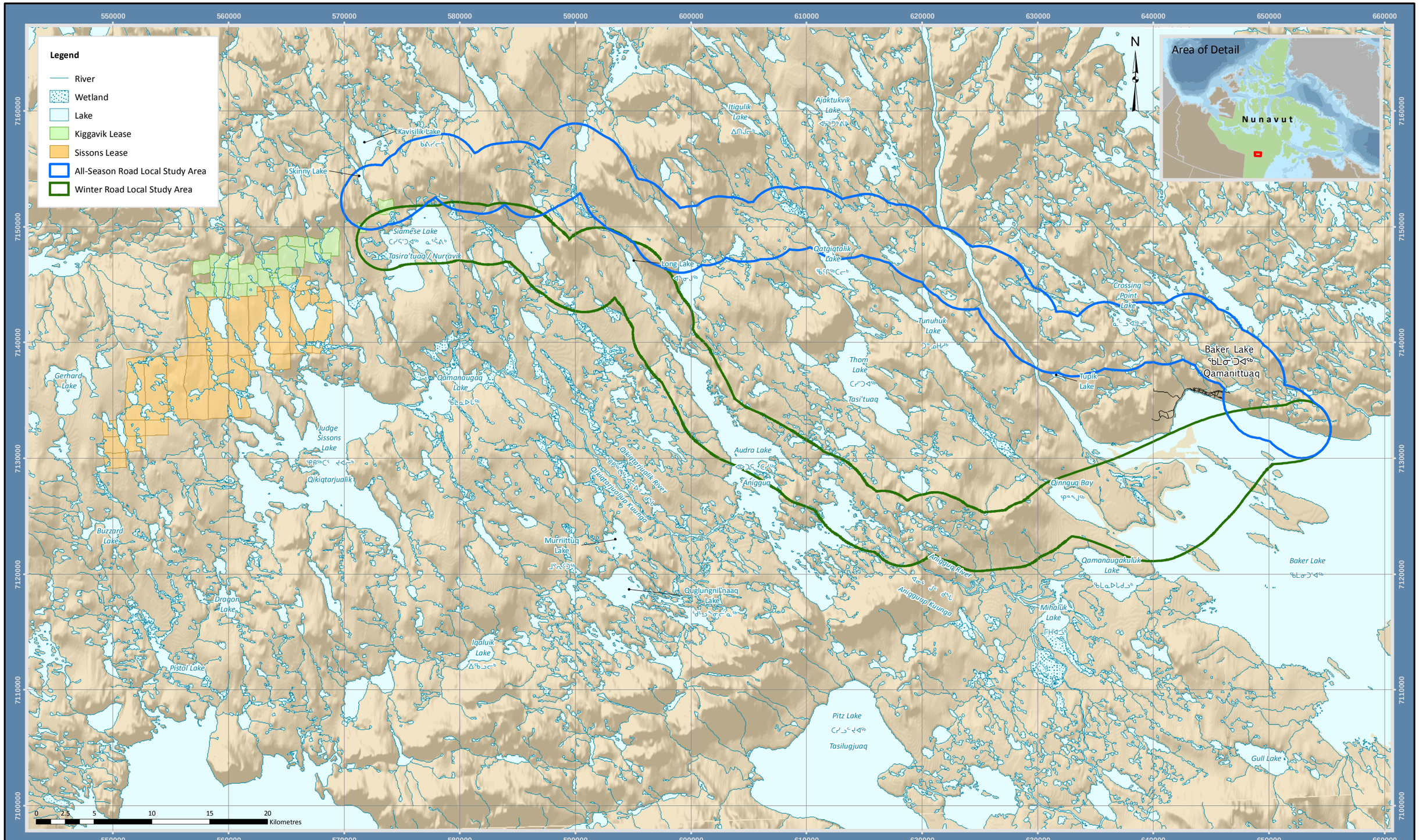

Projection: NAD 1983 UTM Zone 14N
Creator: CASLYS CONSULTING LTD.
Date: 05/06/2014 Scale: 1:300,000
File: 3.2-2_Access_Road_and_Facility_LSAs.mxd
Data Sources: Natural Resources Canada, GeoBase®, National Topographic Database, AREVA Resources Canada Inc., and Gebauer & Associates.

FIGURE 3.2-2
BOUNDARIES OF LOCAL STUDY AREAS FOR ACCESS ROADS AND ASSOCIATED FACILITIES

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