

**BRITISH COLUMBIA
ARCHAEOLOGICAL IMPACT ASSESSMENT
INTERIM REPORT FORM**



1. REPORT TITLE

2017-0169-020, AIA of BCTS Stuart Nechako block AIR16_29

2. MANAGEMENT SUMMARY

2.1. Protected HCA Sites
N/A
2.2. Brief Overview of Study
BC Timber Sales requested an archaeological assessment within proposed forestry cut block AIR16_29. Ecofor conducted a detailed pre-field review, followed by an archaeological impact assessment (AIA) survey within the development. The survey focused primarily on areas identified during the pre-field review as having high potential, including near Lake A and the wetlands that surround the proposed block boundary.
2.3. Results
During the field assessment, four locations were shovel tested, all of which were negative for cultural material. There was also a line of blazes identified between Wetland E and Wetland F. The remainder of the block was assessed as having a low potential for archaeological materials due to undulating terrain in the block and northern buffer, and low-lying poorly drained terrain in the remainder of the assessed area.
2.4. Management Recommendations
The modern blazes are not protected by the Heritage Conservation Act. No further archaeological work is recommended provided the final layout block boundaries do not differ significantly from the area that was assessed during the survey.

3. ADMINISTRATIVE INFORMATION

3.1. Permit Holder:	Greg Holland	
3.2. Permit Holder Affiliation:	Ecofor Consulting PO Box 1270 Fort St James, BC V0J 1P0	Phone: 250-960-1155 ext. 228 Email: greg@ecofo.ca
3.3. Proponent Contact:	David Zurevinski	
3.4. Proponent Affiliation:	BCTS Stuart-Nechako Business Area 1560 Highway 16 East Vanderhoof, BC V0J 3A0	Phone: 250-567-6363 Email: David.Zurevinski@gov.bc.ca
3.5. Interim Report Author(s):	David Wills	
3.6. Interim Report Date (dd/mm/yy) & Version:	29/09/17, V1	
3.7. Notification of Work Date:	08/08/16	
3.8. OGC Ref No.:	N/A	

4. PROPOSED DEVELOPMENT

4.1. Description:	Proposed block for timber harvest, AIR16_29 (14.1 ha.) and a 750 m proposed access road. The block boundaries were not flagged at the time of assessment; portions of a 250 m buffer zone were assessed (Figure 3).
4.2. Location:	<p>Airline Operating Area, Fort St James Natural Resource District</p> <p>AIR16_29 is located 2.8 km southwest of Glaucers Lake, 2.8 km northwest of Eye Lake, and 5 km southeast of Purvis Lake (see Figure 1).</p> <p>To access the block from the intersection of Highway 27 and Tachie Road in Fort St. James travel west on Tachie Road for 39 km. Turn right (north) onto Leo Creek FSR and continue for 68.5 km. Take the right fork onto Driftwood FSR and continue for 8.5 km. Turn left (west) onto Leo Kieve FSR and continue for 10.4 km, at which point the block is 600 m west of the road.</p> <p>UTM of block centre: NAD 83, Zone 10, 349738 E, 6113197 N NTS Mapsheet (1:50,000): 93N/03 BCGS Mapsheet (1:20,000): 93N.014</p>

5. FIELD CREW

Table 1. Field Crew

<i>Date (dd/mm/yy)</i>	<i>Field Director (On site? Y/N)</i>	<i>Field Supervisor</i>	<i>Other Field Personnel</i>
09/09/17	Greg Holland (N)	Marshall Spinney	Brianne Harris
10/09/17	Greg Holland (N)	Marshall Spinney	Brianne Harris

6. ARCHAEOLOGICAL METHODS & RESULTS

6.1. Pre-field Methodology

☒	<i>Archaeological potential and sites are indicated on Figures 1 and 3</i>
☒	<p><i>An AOA and/or archaeological predictive model exists for the study area</i> <i>Details:</i> Fort St. James Forest District Archaeological Predictive Model (Marshall and Bond 2004). The model indicates high potential throughout most of the block in association with a lake and numerous wetlands.</p>
☐	<p><i>Previous field studies influenced this assessment</i> <i>Details:</i> N/A.</p>
☒	<p><i>Review of Provincial Heritage Register (RAAD)</i> <i>Date Accessed:</i> 25 August 2017</p>
☒	<p><i>Other</i> <i>Details:</i> There is predicted high potential for pre-1846 CMTs in the southern portion of the block and along the proposed road where VRI data indicates the presence of lodgepole pine and subalpine fir age class 8 (141-250 years old). Based on professional judgement and an analysis of contour data, archaeological potential is highest in the northern section of the block in association to Streams D and E, Wetlands A and D, and Lake A. There is also predicted high potential for pre-1846 CMTs and subsurface lithics in a high topographical area along the northern boundary in association to Streams D and E where VRI data indicates the presence of subalpine fir, black spruce and lodgepole pine age class 8 (141-250 years old).</p>

Table 2. Archaeological Sites in the Vicinity of the Study Area

Borden No.	Distance & Direction from Proposed Development	Site Type	Permit No. of Previous Visits	Site in Conflict (Y/N)
GgSh-7	3.9 km northeast	Cultural depression, cache pit	2007-140	N
GgSh-8	4.5 km northeast	CMT	2007-140	N
GgSh-9	3.1 km northeast	Lithics	2007-140	N
GhSi-1	3.2 km northwest	CMT	2000-120	N
GhSi-2	2.6 km northwest	CMT	2016-124	N

6.2. In-field Methodology

6.2.1. Subsurface Testing

☒	Subsurface test measurements are a minimum of 35 x 35 cm, excavated by shovel, screened through 6 mm mesh, and backfilled. Date Accessed: 09/09/17, 10/09/17
☐	Describe if other: N/A

6.2.2. Pedestrian Survey

Number of Crew Members:	Crews consisted of two members.
Crew Spacing:	Crew members were spaced 5-30 m apart depending on visibility which ranged from 30-50 m throughout the block.
Other:	Crew members conducted transects which inspected surfaces for sites and areas of potential. The survey followed predicted archaeological potential (see Section 6.1 above), hydrological features, landforms, and mapped block and buffer boundaries. Pedestrian transects are shown on Figure 3.

6.3. In-field Observations

6.3.1. Hydrology & Associated Landforms

Lake A and Wetland A are surrounded by gently sloping terrain that is hummocky. There is a knoll on the northwest side of the lake that levels out at STL3. The vegetation around the lake consists of subalpine fir and spruce overstory, and an understory of horsetail, oak fern, five-leaved brambleberry, club moss, and bunchberry (Photo 1).

Stream A is a low-lying wet area of hummocky terrain that is indistinguishable from surrounding terrain. There is no water or streambed.

Stream B is a 1.5 m wide streambed with pools of standing water that becomes a large wetland due to a beaver dam. The surrounding terrain is low-lying and hummocky.

Stream D and Stream E are grassy marsh areas with large pools of standing water. The stream is surrounded by low lying terrain that slopes towards the stream with no breaks. There are two knolls adjacent the wetland that level out at STL1 and STL2 (Photo 2).

Stream F is situated at the bottom of a gully that slopes steeply into the stream from both sides. The edge of the gully is uneven, with a cover of pine and aspen, but levels out at STL4.

Wetland B and Wetland C are a patch of poorly drained ground surrounded by spruce.

Wetland D is at the base of continuous moderate slope that is uneven and has no defined breaks.

Wetland E was not seen during the assessment due to uneven sloping terrain to the edge of the buffer zone.

Wetland F is surrounded by low-lying terrain that gently slopes towards the wetland with no defined edges.

6.3.2. Topography

West and north of Lake A, the terrain is undulating with moderate slopes and is well drained. The terrain has a general slope from the centre of the block towards wetlands and streams. Terrain in the western buffer is low-lying and hummocky.

6.3.3. Vegetation

VRI data indicates the presence of subalpine fir, black spruce and lodgepole pine age class 8 (141-250 years old) throughout the block, and in the buffer zone.

Observed overstory consists of subalpine fir, pine, and spruce. In low-lying areas, understory consists of alder, willow, horsetail, oak fern, five-leaved brambleberry, club moss, and bunchberry. In well drained areas it consisted of bunchberry, caribou lichen, red-stemmed feathermoss and huckleberry.

6.3.4. In-field Assessed Archaeological Potential

Four areas were assessed as having high potential for subsurface cultural materials (STL1-STL4). All were tested with negative results. STL1, STL3, and STL4 were found in areas of modelled high potential. The remainder of the block was assessed as low for subsurface cultural materials due to undulating terrain that fails to level out in the proposed block and the northern buffer, and low-lying, poorly drained terrain in the western buffer. The potential for CMTs in the block is low, as none were found during the assessment and there is a low concentration of pine through most of the block.

6.4. Results

6.4.1. Subsurface Testing

The following table describes the results of subsurface testing. See Figure 3 for all subsurface test locations (STLs). See Appendix B for subsurface testing logs and stratigraphy.

Table 3. Subsurface Testing Results

Subsurface Test Area	Description	Dimensions (L x W)	Subsurface Tests		
			Total	Positive	Negative
STL1	Elongated knoll overlooking Wetland D and Stream D (Photo 3).	6 x 6 m & 7 x 5 m	15	0	15
STL2	Promontory overlooking Wetland B (Photo 4).	12 x 9 m	10	0	10
STL3	Knoll overlooking Lake A (Photo 5).	10 x 7 m	13	0	13
STL4	Knoll overlooking Stream F (Photo 6).	18 x 5 m	8	0	8

6.4.2. Untested Areas of Potential

There are no untested areas of potential remaining in the block.

6.4.3. Sites Not Protected by the HCA

All traditional use, post-1846 and modern sites that are not protected by the Heritage Conservation Act are described in Appendix D.

7. ARCHAEOLOGICAL SITE SUMMARY

No archaeological sites were found in the block.

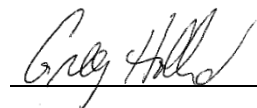
8. DISCLOSURE STATEMENT & SIGNATURE

Although every attempt was made to locate and record all archaeological and cultural heritage features within the specified survey area, the possibility exists that remains may have been missed. If any unidentified archaeological or cultural heritage remains are encountered during development activities, work in the vicinity must stop and the Archaeology Branch, relevant First Nations, and/or the Ministry of Forests, Lands and Natural Resource

Operations must be informed. These agencies will then provide direction as to an appropriate course of action to take regarding management of the remains.

It was not the intent of this survey to identify, evaluate, or comment on the presence or absence of aboriginal rights in the survey area. Completion of this survey does not "abrogate or derogate from Aboriginal treaty rights" (Heritage Conservation Act Sec. 8). The survey was conducted without prejudice to First Nations' treaty negotiations, Aboriginal rights, or Aboriginal title.

As permit holder, it is my opinion that the field work and reporting were completed in accordance with the Heritage Inspection Permit issued by the Archaeology Branch.



Greg Holland, Permit Holder

9. REFERENCES CITED

Marshall, Amanda and Tara Bond. 2004. *Fort St. James Forest District Archaeological Predictive Model Revision Project: Final Report*. Ecofor Consulting Ltd., Fort St. James, BC.

10. REPORT DISTRIBUTION

Contact	Affiliation
Joel Kinzie	Archaeology Branch
Sheri Baker	BCTS Stuart-Nechako
LRO Reception MLIB Assistant Manager of Land Referral MLIB Project tracking coordinator	McLeod Lake Indian Band
Lisa Krebs Lands and Resources	Takla Lake First Nation
Bev John Dwayne Martin	Tl'azt'en Nation
Land Use	West Moberly First Nation
Shane Perry Arthur JT Erickson Natural Resources	Yekooche First Nation

11. SHAPEFILES

☒ Study area shapefiles have been sent to archsiteform@gov.bc.ca

12. APPENDICES

- ☒ Appendix A – Photos (required)
- ☒ Appendix B – Subsurface Test Log (where applicable)
- ☐ Appendix C – Site Forms and Related Documents (where applicable)
- ☒ Appendix D – Sites Not Protected by the HCA (where applicable)
- ☒ Appendix E – Figures (per Archaeology Branch Mapping and Spatial File Standards released December 31, 2015)

- ☒ Permit Area Overview Map (required)
- ☒ Midrange Location Map (required)
- ☒ Detailed Results Map (required)
- ☐ Detailed Site Map (where applicable)

APPENDIX A – PHOTOS



Photo 1. Lake A, view southeast.



Photo 2. Stream D, view north.



Photo 3. STL1, view north.



Photo 4. STL2, view north.



Photo 5. STL3, view east.



Photo 6. STL4, view northwest.

APPENDIX B – SUBSURFACE TEST LOGS

STL1

Shovel Test #	Positive/ Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-4 cm LHF 4-8 cm organic silt 8-18 cm grey silt with 80% sub-angular pebbles	None	10 N 349707 E 6113288 N	
2	Negative	Same as #1	None	3 m southeast of #1	
3	Negative	Same as #1	None	3 m southeast of #2	
4	Negative	Same as #1	None	3 m northwest of #1	
5	Negative	Same as #1	None	3 m southeast of #4	
6	Negative	Same as #1	None	3 m southeast of #5	
7	Negative	Same as #1	None	3 m southeast of #6	
8	Negative	Same as #1	None	3 m east of #4	
9	Negative	Same as #1	None	3 m south of #8	
10	Negative	Same as #1	None	6 m east of #8	
11	Negative	Same as #1	None	3 m southeast of #10	
12	Negative	Same as #1	None	3 m east of #10	
13	Negative	Same as #1	None	3 m southeast of #12	
14	Negative	Same as #1	None	3 m northeast of #12	
15	Negative	Same as #1	None	3 m southeast of #14	

STL2

Shovel Test #	Positive/ Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-7 cm LHF 4-8 cm organic silt 8-18 cm brown silt with 20% sub-angular pebbles and 50% cobbles	None	10 N 349593 E 6113136 N	
2	Negative	Same as #1	None	3 m east of #1	
3	Negative	Same as #1	None	3 m east of #2	
4	Negative	Same as #1	None	3 m east of #3	
5	Negative	Same as #1	None	3 m southeast of #1	
6	Negative	Same as #1	None	3 m east of #5	

7	Negative	Same as #1	None	3 m east of #6	
8	Negative	Same as #1	None	3 m south of #5	
9	Negative	Same as #1	None	2 m southeast of #5	
10	Negative	Same as #1	None	3 m southwest of #5	

STL3

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-5 cm LHF 5-18 cm grey silt with 80% sub-angular pebbles 18-22 cm brown silt with 80% sub-angular pebbles 22+ cm bedrock	None	10 N 349966 E 6113482 N	
2	Negative	Same as #1	None	3 m south of #1	
3	Negative	Same as #1	None	3 m southeast of #2	
4	Negative	Same as #1	None	3 m east of #1	
5	Negative	Same as #1	None	3 m southeast of #4	
6	Negative	Same as #1	None	3 m south of #5	
7	Negative	Same as #1	None	3 m east of #4	
8	Negative	Same as #1	None	3 m south of #7	

STL4

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-10 cm LHF 10-15 cm grey silt 15-21 cm compact brown silt with 30% sub-angular pebbles 21-31 cm compact brown silt with 50% sub-angular pebbles	None	10 N 495921 E 6181423 N	
2	Negative	Same as #1	None	3 m east of #1	
3	Negative	Same as #1	None	3 m east of #2	
4	Negative	Same as #1	None	3 m east of #3	
5	Negative	Same as #1	None	3 m east of #4	
6	Negative	Same as #1	None	3 m east of #5	
7	Negative	Same as #1	None	3 m east of #6	
8	Negative	Same as #1	None	3 m northeast of #7	
9	Negative	Same as #1	None	3 m northeast of #3	
10	Negative	Same as #1	None	3 m southeast of #1	
11	Negative	Same as #1	None	3 m east of #10	
12	Negative	Same as #1	None	3 m east of #11	

13	Negative	Same as #1	None	3 m southeast of #1	
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APPENDIX D – SITES NOT PROTECTED BY THE HCA

- ☐ No sites were recorded.
- ☐ Post-1846 / traditional use sites were recorded.
- ☒ Modern sites were recorded.

A line of modern blazes with small healing lobes was identified running east-northeast – west-southwest at 10N 349745 E, 6113597 N.

- ☐ Ecological or biological sites were recorded.

APPENDIX E – FIGURES

The following maps are included in Appendix E:

Figure 1. Permit Area Overview Map

Figure 2. Midrange Location Map

Figure 3. Detailed Results Map

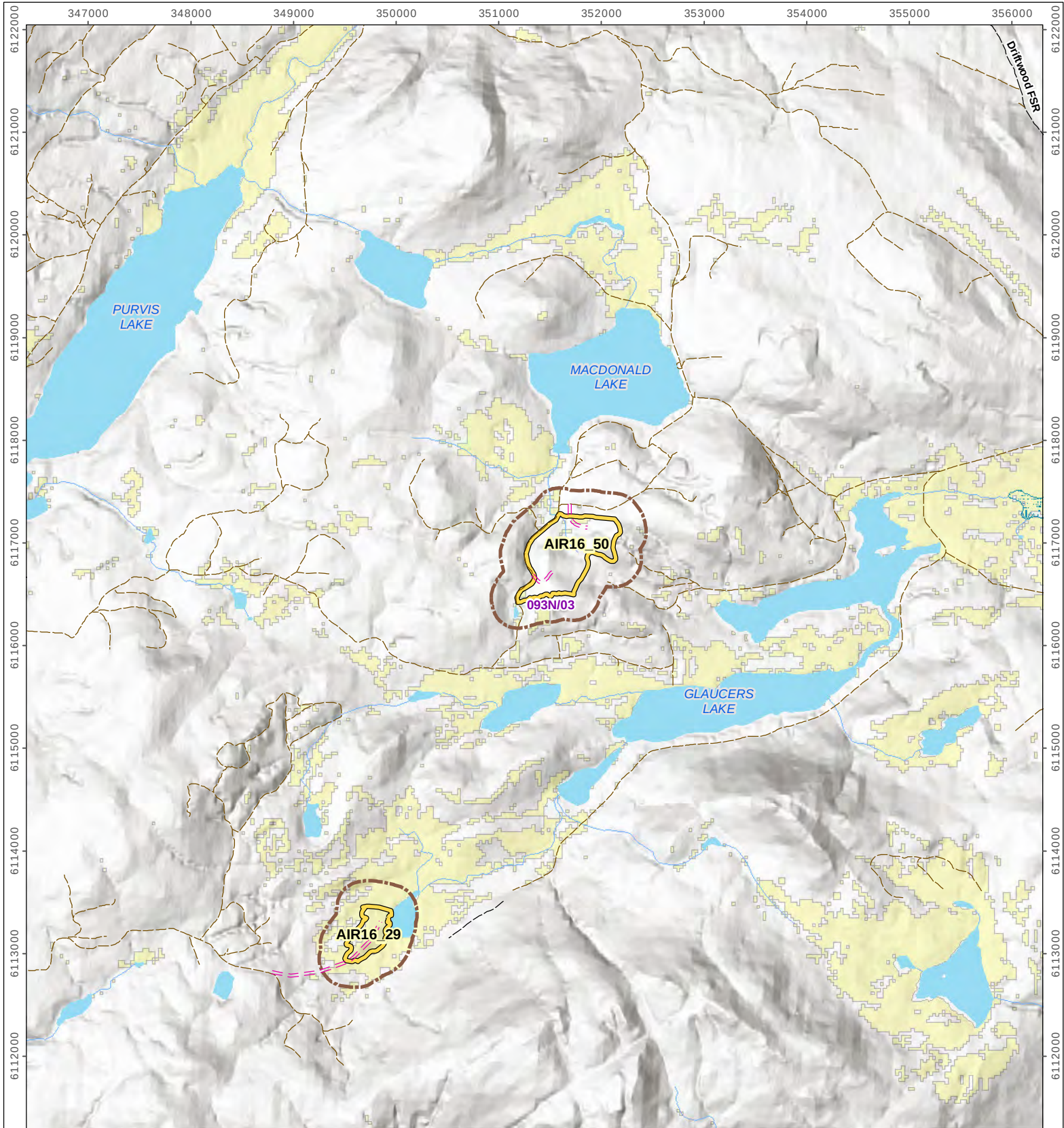
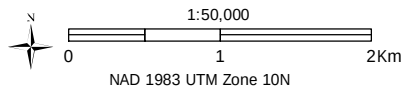


FIGURE 1
PERMIT AREA OVERVIEW
MAP 19



Disclaimer: This product is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. The base data layers have been obtained from the British Columbia Geographic Warehouse (BCGW), and ArcGIS online. Archaeological Site Boundaries were obtained by the Ministry of Forests, Lands and Natural

- | | |
|----------------|---|
| Proposed Roads | NTS 50K Grid |
| Resource Road | Waterbody |
| Road - Other | Wetland |
| Proposed Block | Stream |
| Assessed Area | Fort St. James Archaeological Potential |

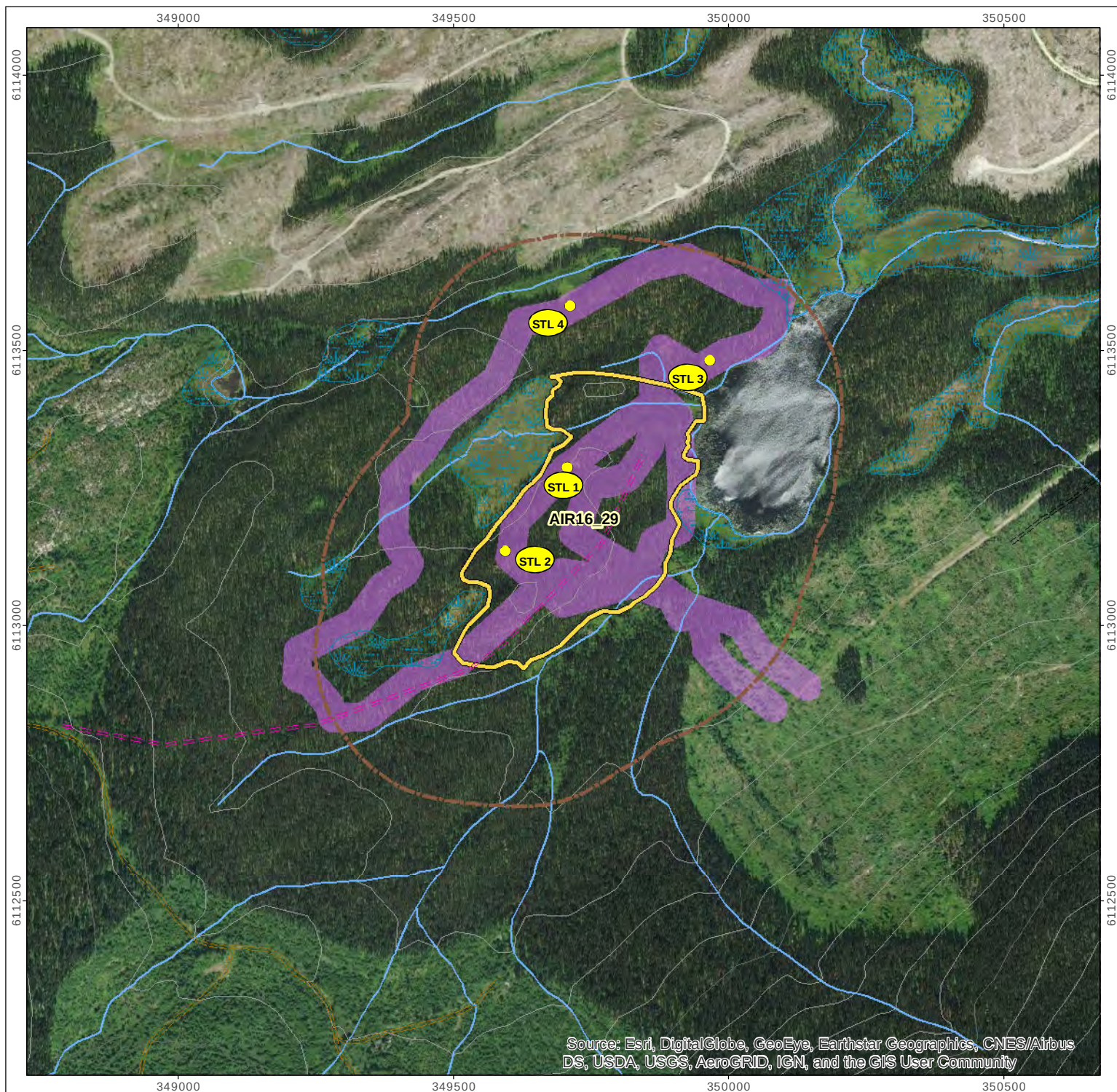
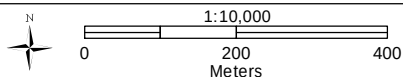


FIGURE 2. MIDRANGE LOCATION MAP
AIR16_29



NAD 1983 UTM Zone 10N
NTS MAPSHEET: 93N/03

Permit Number:

2017-0169

EPN:

2017-1203-067

Base Features (20k)

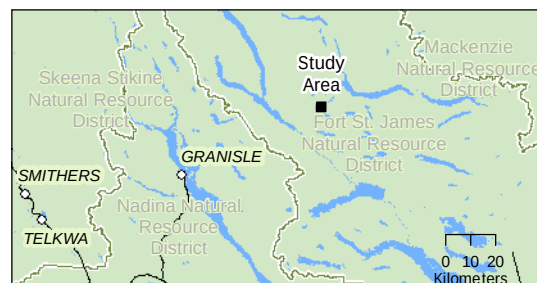
- Contour (100m)
- Contour (20m)
- Stream - Definite
- Waterbody
- Wetland

Transportation

- ==== Resource Road
- Road - Other

Assessment Features

- Subsurface Test Location (STL)
- Proposed Roads
- Proposed Block
- 250m Assessment Buffer
- Survey Transect Area



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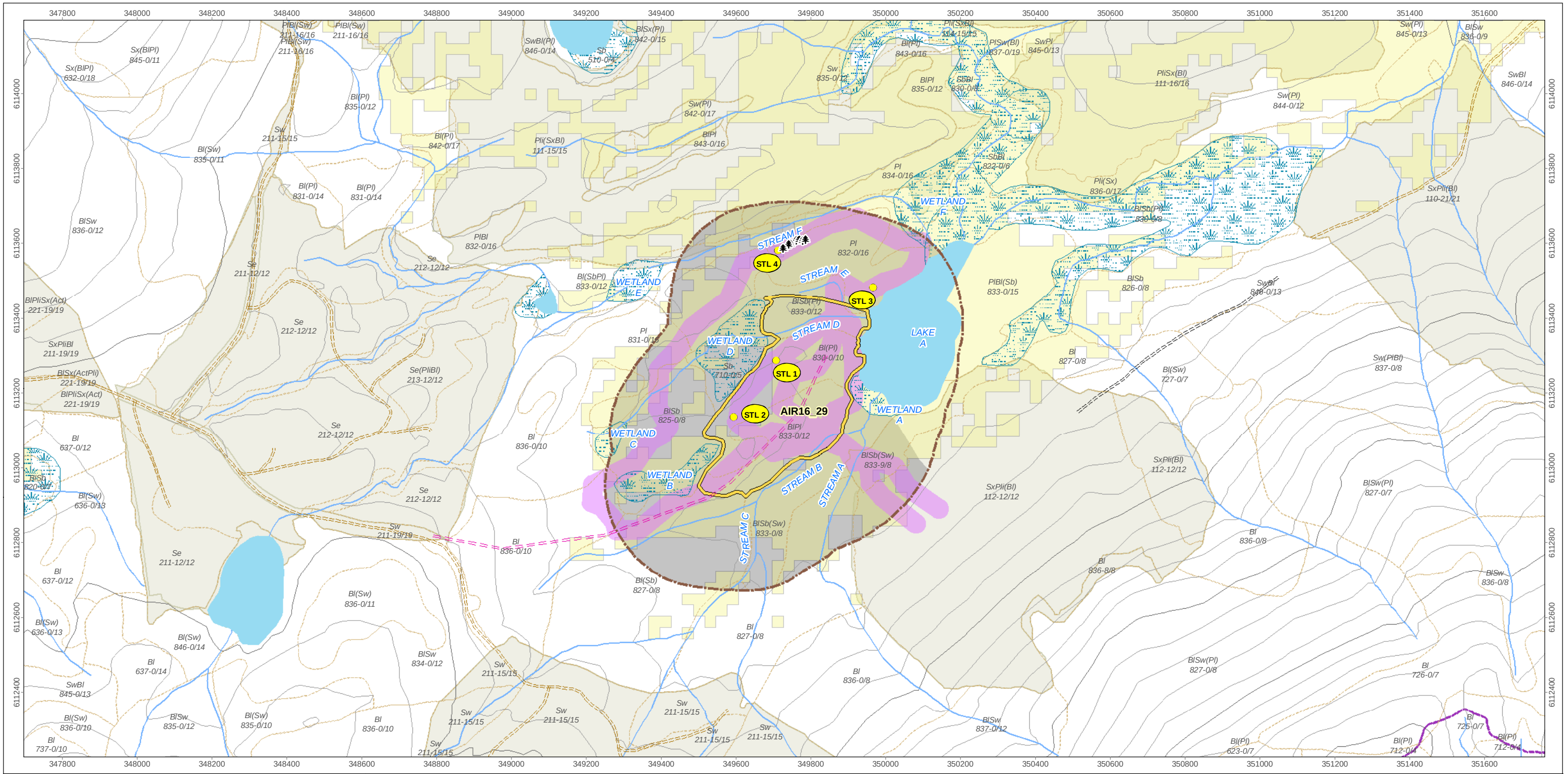
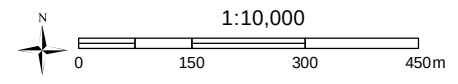
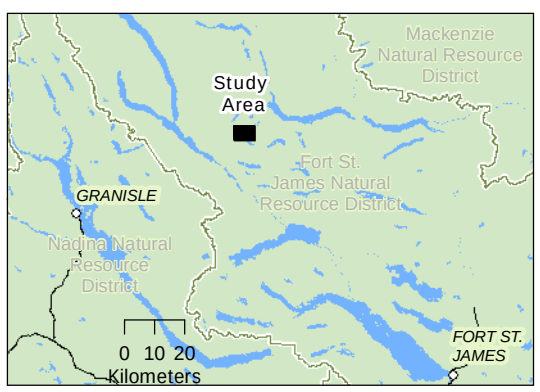


FIGURE 3
ARCHAEOLOGICAL RESULTS MAP
AIR16_29



NAD 1983 UTM Zone 10N
BCGS MAPSHEET: 93N.014
NTS MAPSHEET: 93N/03

Disclaimer:
This product is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. The base data layers have been obtained from the British Columbia Geographic Warehouse (BCGW)



Base Features (20k)

- Contour (100m)
- Contour (20m)
- Stream - Definite
- Waterbody
- Wetland

Land Use

- Forest Cover (VRI)
- Trapline Boundary
- Cutblocks

Transportation

- Resource Road
- Road - Other

Assessment Features

- Subsurface Test Location (STL)
- Modern Blaze
- Survey Transect Area
- Proposed Roads
- 250m Assessment Buffer
- Fort St. James Archaeological Potential
- Assessed Area

Block ID:	AIR16_29
Permit Number:	2017-0169
EPN:	2017-1203-067
Block Area:	14.1 ha
Easting:	349738
Northing:	6113197

