

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



1. REPORT TITLE

2020-0176-014, AIA of BCTS SNBA block BAP20_07.

2. MANAGEMENT SUMMARY

2.1. Protected HCA Sites
N/A
2.2. Brief Overview of Study
BC Timber Sales - Stuart Nechako Business Area (BCTS SNBA) requested an archaeological assessment within proposed forestry cut block BAP20_07. 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 in the north portion of the block associated with Stream I and Wetland D and the central portion of the block near Wetlands A and B and Stream A.
2.3. Results
During the field assessment, three (3) locations were initially identified as having high potential for subsurface archaeological materials. They were subsequently shovel tested with negative results, however, and reassessed as having low archaeological potential. The remainder of the development has been assessed as having low archaeological potential with no subsurface testing conducted due to sloping, featureless terrain.
Three (3) post-1846 CMT sites, containing a total of four (4) CMTs, were recorded.
2.4. Management Recommendations
The post-1846 CMTs are not protected by the Heritage Conservation Act. No further archaeological work is recommended provided block boundaries do not change significantly.

3. ADMINISTRATIVE INFORMATION

3.1. Permit Holder:	Greg Holland	
3.2. Permit Holder Affiliation:	Ecofor Consulting 1315 Noranda E Road Prince George, V2K 5R6	Phone: 250-996-1155 ext. 237 Email: greg@ecofor.ca
3.3. Proponent Contact:	David Zurevinski	
3.4. Proponent Affiliation:	BCTS Stuart Nechako Business Area 1560 Highway 16 East Vanderhoof, V0J 3A0	Phone: 250-567-6331 Email: david.zurevinski@gov.bc.ca
3.5. Interim Report Author(s):	Becky Dreyer	
3.6. Interim Report Date (dd/mm/yy) & Version:	09/02/21, V1	
3.7. Notification of Work Date:	15/05/20	
3.8. OGC Ref No.:	N/A	

4. PROPOSED DEVELOPMENT

4.1. Description:	Proposed block for timber harvest BAP20_07 (134.9 ha) with a 250 m assessment buffer. The block boundaries were flagged at the time of assessment and, as such, the 250 m buffer was not assessed.
4.2. Location:	<p>Baptiste Operating Area, Stuart Nechako Natural Resource District</p> <p>The block is located 3.5 km southwest of Takla Lake, 20.3 km northeast of Tochcha Lake, and 13.3 km east of Natowite Lake (see Figure 1).</p> <p>To access the block from the intersection Tachie Road and Germansen Landing road north of Fort St. James travel northwest on Tachie Rd for 40.7 km. Turn right (northeast) onto the Leo-Creek FSR and continue for 95 km then turn right (northwest) onto the Leo Kazchek FSR. Continue for 2.9 km then turn left (southwest) onto the Leo-Sakeniche FSR. Continue for 1.6 km over the Middle River Bridge, then keep to the right at the fork to continue on the Leo-Sakeniche FSR. Continue for 16.9 km, then turn left (west) onto an unnamed road and in 4.8 km keep left at the fork. Follow the road for 7.2 km then turn right (southeast). A UTV is required for the remaining 300 m, at which point the road intersects with the block boundary.</p> <p>UTM coordinates of block centre: NAD 83, Zone 10N, 328485 E, 6106808 N NTS Mapsheet (1:50,000): 93N/04 BCGS Mapsheet (1:20,000): 93N.002</p>

5. FIELD CREW

Table 1. Field Crew

Date (dd/mm/yy)	Field Director (On site? Y/N)	Field Supervisor	Other Field Personnel
23/09/20	Johnny Huynh (N)	Becky Dreyer	Emily Stach
15-17/10/20	Johnny Huynh (N)	Ariel McIntyre	Gwen Topacio
16-17/10/20	Johnny Huynh (N)	Zebedee Kawei	Emily Stach

6. ARCHAEOLOGICAL METHODS & RESULTS

6.1. Pre-field Methodology

☒	Archaeological potential and sites are indicated on Figures 1 and 3
☒	<p>An AOA and/or archaeological predictive model exists for the study area</p> <p>Details: The Fort St. James Forest District Archaeological Predictive Model (Marshall and Bond 2004) indicates high potential in the northeast corner in association with Stream I, along the south boundary in association with Streams E and F and Lake A, and in the center of the block in association with Wetland A.</p>
☐	<p>Previous field studies influenced this assessment</p> <p>Details: N/A</p>
☒	<p>Review of Provincial Heritage Register (RAAD)</p> <p>Date Accessed: 04/06/20</p>
☒	<p>Review of Vegetation Resources Inventory (VRI) Data</p> <p>Details: VRI data indicate a tree cover consisting of age class 8 (141-250 years old) pine, spruce (hybrid, Engelmann, and black), and sub-alpine fir.</p>

☒	<p>Pre-field Potential Assessment</p> <p><i>Details:</i> Topographical analysis through Terrain Resources Information Management (TRIM) contour data and satellite imagery indicates that the block is located on sloping terrain between two hills. Archaeological potential is predicted to be highest in the south of the block adjacent to Lake A and in the centre of the block surrounding Wetland B. TRIM data indicate that elevated terrain overlooks these hydrological features, and breaks-in-slope may be present. High archaeological potential is also predicted along the east boundary where TRIM data indicate a high topographic point where a break-in-slope may be present.</p> <p>Low archaeological potential is predicted throughout the centre and west portions of the blocks as TRIM data indicate continuously sloping terrain and a lack of significant hydrological features.</p> <p>The potential for pre-1846 CMTs is predicted to be high in the south portion, the northwest-most corner, and the northeast-most corner of the block where VRI data indicate age class 8 (141-250 years old) pine are present. Potential for pre-1846 CMTs is predicted to be low in the centre-north portion of the block and along the east boundary where VRI data indicate pine are absent from the tree cover.</p>
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Table 2. Archaeological Sites in the Vicinity of the Study Area

<i>Borden No.</i>	<i>Distance & Direction from Proposed Development</i>	<i>Site Type</i>	<i>Permit No. of Previous Visits</i>	<i>Site in Conflict (Y/N)</i>
GgSk-12	4.7 km west	Precontact, Subsurface Lithics	2011-0076	N
GgSk-13	1.6 km west	Precontact, Subsurface Lithics	2011-0076	N

6.2. In-field Methodology

6.2.1. Subsurface Testing

☒	<p>Subsurface test measurements are a minimum of 35 x 35 cm, excavated by shovel, screened through 6 mm mesh, and backfilled.</p> <p>Date Accessed: 16-17/10/20</p>
☐	Describe if other: N/A

6.2.2. Pedestrian Survey

Number of Crew Members:	Crews consisted of two members.
Crew Spacing and Visibility:	Crew members were spaced 5-30 m apart. Visibility ranged from 10-30m 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, arbitrary compass bearings, and flagged block boundaries. Pedestrian transects are shown on Figures 2 and 3.

6.2.3. Site Recording

☒	<p>CMTs were flagged and recorded.</p> <p>Describe: CMTs were recorded using Level II standards (BC Archaeology Branch 2017) and flagged with yellow ribbon with black 'CMT' text. Dendrochronological samples were obtained with an increment borer (see Appendix C).</p>
☐	<p>Trail(s) recorded.</p> <p>Describe: N/A</p>

☐	Other. Describe: N/A
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6.3. In-field Observations

6.3.1. Hydrology & Associated Landforms

Lake A is situated at the base of a continuous moderate grade southeast aspect slope (Photo 1).

Stream A is a low-lying trickling stream with pools of standing water. The associated terrain is poorly drained and slopes gently with a northeast aspect slope. BAP20_07-STL2 is associated with the stream and Wetland A.

Stream C is a low lying, trickling stream, 1 to 2 m wide without a defined channel. The surrounding terrain is sloping moderately northeast and is poorly drained and featureless (Photo 2).

Stream D the western portion of the stream is not visible or differentiated from the surrounding terrain which is poorly drained with steep east-northeast aspect slopes. In the middle of the block the stream is flowing north towards Wetland B. North of Lake A, the surrounding terrain has a steep draw that Closer to Wetland B the terrain becomes level and ill-defined.

Stream E is a low lying 1 m wide defined channel with flowing water. The surrounding terrain is gently sloping towards the stream with a south aspect slope and is poorly drained and generally featureless.

Stream H is within a low lying, poorly drained area with pools of water. The terrain is hummocky and undifferentiated from the surroundings.

Stream I is a low-lying area covered in willow, alder and black spruce. There are pools of standing water present and the surrounding terrain is low lying and poorly drained with a gentle west aspect slope.

Stream J north of the existing road is 1 to 4 m wide depending on the location with good flow, well defined sides and a depth of 40 cm. The associated terrain is moderately sloped north-northeast except at BAP20_07-STL1, where there is a plateau proximal to the stream.

Wetland A is a low-lying wet area with a cover of alder and willow. The associated terrain gently slopes towards the wetland and is moderately drained with associated knoll and moraine (BAP20_07-STL 2 and BAP20_07-STL3).

Wetland B is a low-lying wet area with a cover of alder and willow. The surrounding terrain slopes gently towards the wetland.

Lake B, Stream B, Streams F-G, Stream J, Wetland C and Wetland D were not observed during the pedestrian survey.

6.3.2. Topography

West of Stream J, the block is characterized by a series of low lying ephemeral drainages (Photo 3). North of the existing road that runs through the block, the terrain is slightly hummocky (Photo 4) and there is a moderate to steep slope with an overall north-northeast aspect towards Stream J. In the southern portion of the block, the terrain is poorly drained and continuously sloping towards the surrounding hydrological features. The three STLs recorded during the survey were the only defined landforms observed.

6.3.3. Vegetation

The observed overstory is consistent with the VRI data. The understory includes mosses, bunchberry, willow, alder, huckleberry, wild rose, devil's club, sedges, gooseberry, coltsfoot, and fireweed.

6.3.4. In-field Assessed Archaeological Potential

The block has been assessed as having low archaeological potential based on the negative results of subsurface testing and the sloping, undulating, and poorly drained terrain that was encountered during the assessment. Contrary to the pre-field review, potential surrounding Lake A, Wetland B and near the eastern boundary was assessed as low due to the poorly drained nature of the nearby terrain and the steep slopes in the east. Three (3) areas of potential were identified and shovel tested as STLs. Upon the negative shovel test results, the areas were reassessed to have low potential. Although found to be negative, all three STLs are in areas predicted during the pre-field review to have high potential.

The southern half of the block was assessed to have low potential due to sloping, poorly drained terrain and an absence of significant hydrological features. This assessment is consistent with the pre-field review, which predicted low potential due to the same factors. Portions of the block not visually inspected but assessed to have low potential based on the pre-field review and survey results of adjacent areas include much of the eastern block boundary and the interior portions of the southwestern block.

Four (4) post-1846 CMTs were recorded during the assessment. No pre-1846 CMTs were encountered and potential for pre-1846 CMTs was assessed to be low as a result.

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
BAP20_07-STL1	Plateau near Stream J (Photo 5).	22 x 5 m	14	0	14
BAP20_07-STL2	Knoll overlooking Wetland A.	12 x 4 m	8	0	8
BAP20_07-STL3	Moraine with a point overlooking Wetland A and Stream A.	40 x 6 m	25	0	25

6.4.2. Untested Areas of Potential

No untested areas of potential are present.

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 C.

7. ARCHAEOLOGICAL SITE SUMMARY

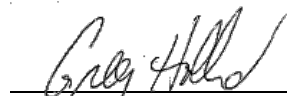
No archaeological sites were identified or revisited during the assessment.

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 materials may have been missed. If any unidentified archaeological or cultural heritage materials 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 materials.

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

- BC Archaeology Branch. 2017. Information Bulletin Number 27 – March 22 – 2017. Culturally Modified Trees Guidelines. Manuscript on file, Archaeology Branch. https://www2.gov.bc.ca/assets/gov/farming-naturalresources-and-industry/natural-resource-use/archaeology/formspublications/bulletin_27_cmt_guidelines.pdf. Date accessed: 16/10/20.
- HR GISolutions Inc. 2012. *MPB Attack Status (VRI Based) - Ft. St. James FD 2011* [Map] https://www.for.gov.bc.ca/ftp/hts/external/publish/mpb_impact/plots/2011/ Date Accessed: 16/10/20.
- 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
Damian Hind	Archaeology Branch
David Zurevinski	BCTS SNBA
Kelley Williams	Binche Whut'en
Georgina West, Crown Engagement Referral Officer	Lake Babine Nation
Takla Nation Stewardship Portal	Takla Nation
Natural Resources Dept	Tl'azt'en 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 – Sites Not Protected by the HCA (where applicable)
- ☒ Appendix D – Figures (per Archaeology Branch Mapping and Spatial File Standards released November 1, 2017)
- ☒ General Location 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 C associated terrain, view west.



Photo 3. Stream J and associated terrain, view east.



Photo 4. General northern topography, view north-northwest.



Photo 5. BAP20_07-STL1, view southeast.



Photo 6. BAP20_07-STL1, ST1 north wall, view top-down.



Photo 7. BAP20_07-BDD1, CMT1

APPENDIX B – SUBSURFACE TEST LOGS

BAP20_07-STL1

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-0.06 m LFH; 0.06-0.25 m brown silt loam; 0.25-0.40 m light brown silt; Approximately 10% inclusions of rounded pebbles and cobbles throughout all layers.	None	10 N 328491 E 6107223 N Test pits placed at 3 m spacing	6
2 to 14	Negative	Same as #1	None		

BAP20_07-STL2

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-0.06 m LFH; 0.06-0.32 m reddish brown silt with 40% subangular and subrounded cobbles and pebbles; 0.32-0.41 m compact light grey silt with 30% subrounded cobbles and pebbles	None	10 N 328402 E 6106975 N Test pits placed at 3 m spacing	
2 to 8	Negative	Same as #1	None		

BAP20_07-STL3

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
4	Negative	0-0.05 m LFH; 0.05-0.34 m reddish grey mixed loose silt with 40% subrounded cobbles and pebbles; 0.34-0.40 m red brown compact silt with 30% subrounded pebbles; 0.40-0.41 m bedrock	None	10 N 328434 E 6106967 N Test pits placed at 3 m spacing	
1 to 3, & 5 to 25	Negative	Same as #1	None		

APPENDIX C – SITES NOT PROTECTED BY THE HCA

☐ No sites were recorded.

☒ Post-1846 / traditional use sites were recorded.

Assigned Site Number:	BAP20_07- BDD1
Site Type:	Post-1846 CMTs
UTM (NAD 83):	Zone 10, 328653 E, 6107104N
Location Description:	The site is located east of the Stream J in the middle of the block, see Figure 3.
Dimensions:	1 x 1 m, based on a single observed CMT.
Features:	There is one cambium stripped pine with a DBH of 35 cm. The tree is dead.
Age:	One core was obtained, indicating a scar date of AD 1969. Mountain pine beetle attack status data to calibrate the core sample is not available for the area (HR GISolutions Inc 2012).
Photos:	7
Interpretation:	The site represents post-1846 use of the area for cambium collection.

Assigned Site Number:	BAP20_07- AGM1
Site Type:	Post-1846 CMTs
UTM (NAD 83):	Zone 10, 328849 E, 6107351 N
Location Description:	The site is east of Stream H in the northeastern section of the block, see Figure 3.
Dimensions:	1 x 5 m, based on the extent of the CMTs.
Features:	There were two cambium stripped lodgepole pine recorded. The DBHs of the trees are 48 and 51 cm. The trees are dead.
Age:	Two cores were obtained indicating scar dates of AD 1874 and AD 1958. Mountain pine beetle attack status data to calibrate the core samples is not available for the area (HR GISolutions Inc 2012).
Photos:	
Interpretation:	The site represents post-1846 use of the area for cambium collection.

Assigned Site Number:	BAP20_07-AGM2
Site Type:	Post-1846 CMT
UTM (NAD 83):	Zone 10, 328450 E, 6107194 N
Location Description:	The site is located south of Stream J, see Figure 3.
Dimensions:	1 x 1 m, based a single observed CMT.
Features:	There was one cambium stripped lodgepole pine recorded with a DBH of 27 cm. The tree is dead.
Age:	One core was obtained, indicating a scar date of AD 1948. Mountain pine beetle attack status data to calibrate the core sample is not available for the area (HR GISolutions Inc 2012).
Photos:	
Interpretation:	The site represents post-1846 use of the area for cambium collection.

☐ Modern sites were recorded.

☐ Ecological or biological sites were recorded.

APPENDIX D – FIGURES

The following maps are included in Appendix D:

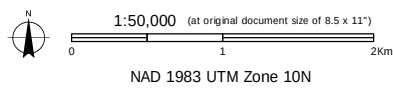
Figure 1. General Location Map

Figure 2. Midrange Location Map

Figure 3. Detailed Results Map



FIGURE 1
GENERAL LOCATION MAP



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). Archaeological Site Boundaries were obtained by the Ministry of Forests, Lands and Natural Resources Operations Archaeology Branch's RAAD Sites. Service Layer Credits: Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OS,NMA,Geodatastyrelsen,GSA,GS1 and the GIS User Community

- | | |
|-----------------|---|
| Rail Line | Assessment Buffer (250m) |
| Road - Resource | Previously Assessed Block |
| Road - Other | High Archaeological Potential (FTSJ) |
| Stream | Previously Recorded Archaeological Site |
| Waterbody | NTS 50K GRID |
| Proposed Block | |

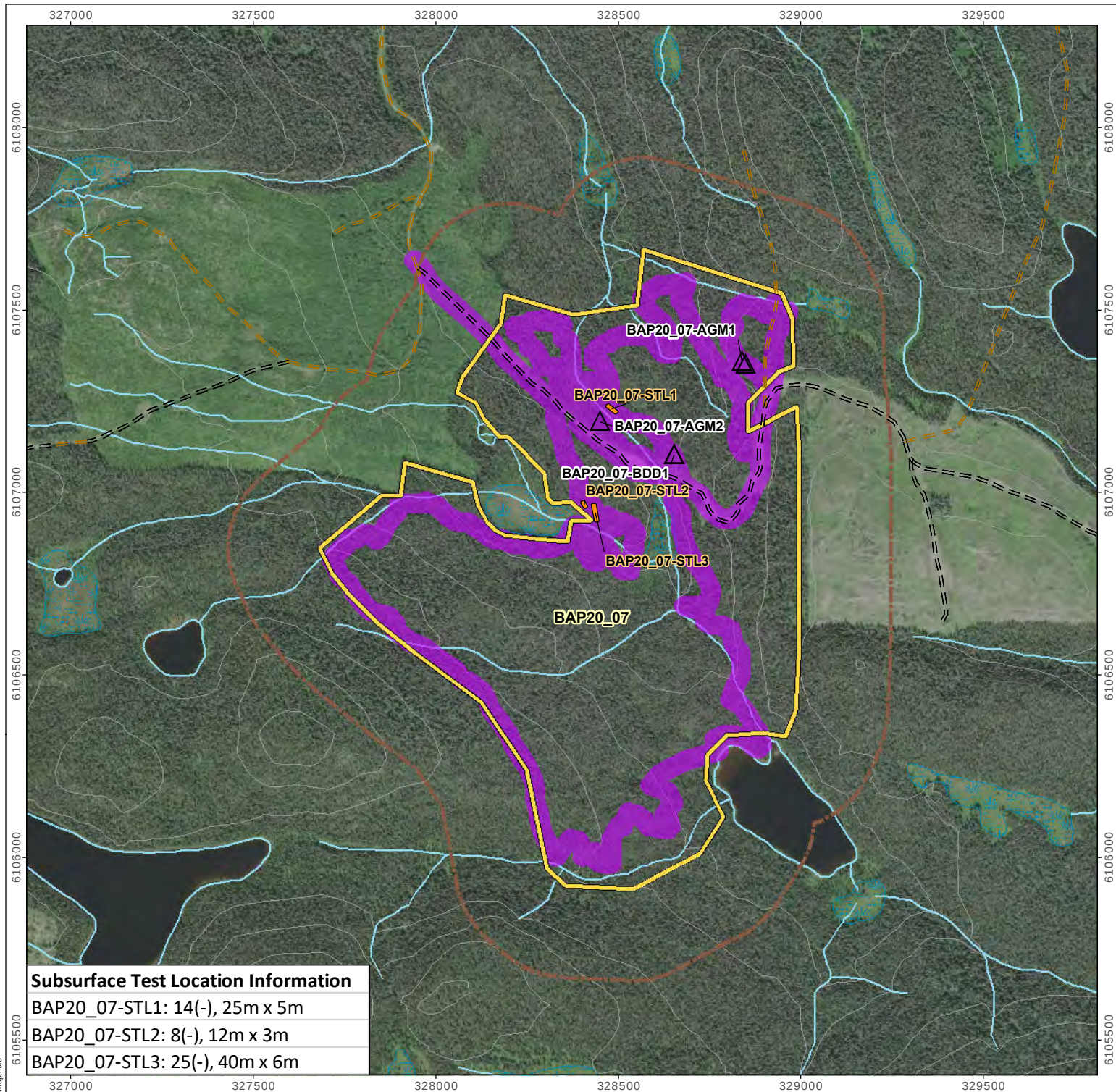


FIGURE 2. MIDRANGE LOCATION MAP
BAP20_07



1:15,000 (at original document size of 8.5 x 11")
0 300 600
Meters

NAD 1983 UTM Zone 10N
NTS MAPSHEET: 93N/04
BCGS MAPSHEET: 93N.002

Permit Number: 2020-0176

EPN: 2020-1203-011

- Contour (100m)
- Contour (20m)
- Stream - Definite
- - - Stream - Indefinite
- Waterbody
- Wetland
- △ Post-1846 CMT
- Proposed Block
- Subsurface Test Location (STL)
- Assessment Buffer (250m)
- Survey Transect Area
- == Road - Resource
- == Road - Other



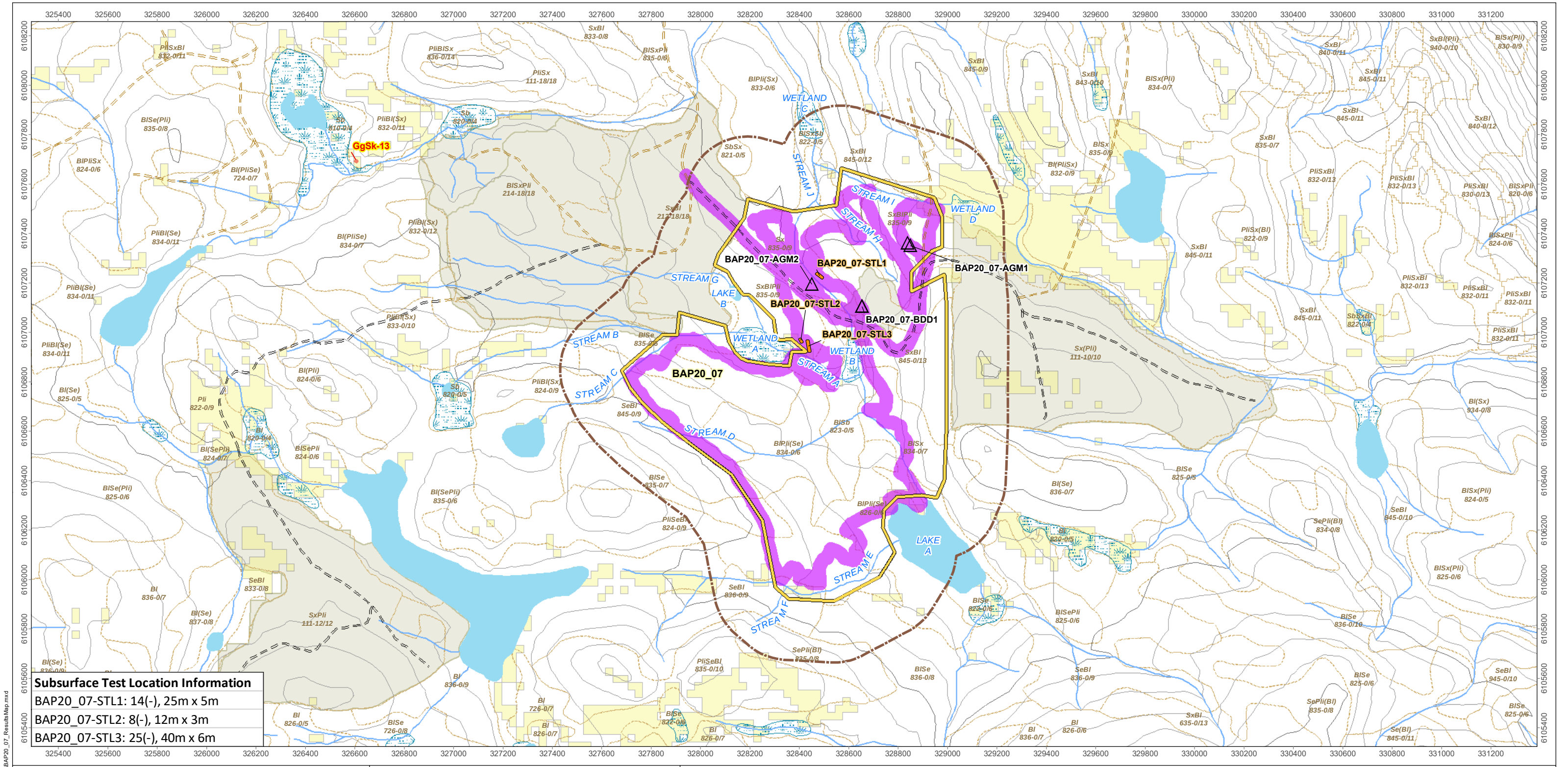


FIGURE 3

ARCHAEOLOGICAL RESULTS MAP

BAP20_07

1:15,000

NAD 1983 UTM Zone 10N
BCGS MAPSHEET: 93N.002
NTS MAPSHEET: 93N/04

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)

0 20 40
Kilometers

Contour (100m)	Post-1846 CMT	Road - Resource
Contour (20m)	Subsurface Test Location (STL)	Road - Other
Stream - Definite	Assessment Buffer (250m)	Previously Recorded Archaeological Site
Wetland	Proposed Block	Forest Cover (VRI)
Waterbody	Survey Transect Area	High Archaeological Potential (FTSJ)
		Cutblock

Block ID: BAP20_07
Permit Number: 2020-0176
EPN: 2020-1203-011
Easting: 328485
Northing: 6106808
Area (Ha): 134.9
Culture Area: Interior Plateau

BCTS
BC Timber Sales

ECOFOR
Ecofor Consulting Ltd. November 16, 2020 (ED)