

British Columbia Archaeological Impact Assessment Interim Report Form



1. Report Title

2020-0176-050, AIA of BCTS SNBA block CHU21_24

2. Management Summary

2.1. Protected HCA Sites

None

2.2. Brief Overview of Study

BCTS Stuart Nechako requested an archaeological assessment within proposed forestry cutblock CHU21_24. Ecofor conducted a pre-field review, followed by an archaeological impact assessment (AIA) survey. The survey focused primarily on the areas that were identified during the pre-field review as having high archaeological potential.

2.3. Results

Two (2) locations were assessed to have high archaeological potential and were recorded as areas of potential (AOPs). The remainder of the block was assessed to have low archaeological potential due to continuously moderate to steeply graded sloping and poorly drained soil. No subsurface testing was conducted. One (1) modern blaze was recorded.

2.4. Management Recommendations

The AOPs identified are areas with high potential for subsurface archaeological materials. Options for management include:

1. Avoidance with a 30 m windfirm buffer.
2. If operationally feasible, implement a machine free zone to stub the trees within the AOPs with equipment staying outside of AOP boundaries. If this option is favoured, no ground disturbance may occur within the AOP boundaries and all trees within the boundaries should be stubbed (>1 m above ground is recommended) to prevent ground disturbance caused by falling trees.
3. Shovel testing under a valid heritage inspection permit prior to harvest.

No further archaeological work is recommended provided the above AOP recommendations are followed, and development boundaries do not change. If development boundaries change, additional work may be warranted.

3. Administrative Information

3.1. Permit Holder:	Greg Holland, BA, RPCA	
3.2. Permit Holder Affiliation:	Ecofor Consulting Ltd. 1315 Noranda Rd. E Prince George, BC V2K 5R6	Phone: 250-960-1155 ext. 237 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: 250-567-6331 Email: david.zurevinski@gov.bc.ca
3.5. Interim Report Author(s):	Becky Dreyer, MSc	
3.6. Interim Report Date (dd/mm/yy) & Version:	08/02/22, V1	
3.7. Notification of Work Date:	06/05/21	
3.8. OGC Ref No.:	N/A	



4. Proposed Development

4.1 Description:	Proposed block for timber harvest CHU21_24 (316.7 ha) with a 250 m assessment buffer. The block boundaries were not flagged at the time of the assessment. As a result, portions of the assessment buffer were also assessed. An assessed area for the survey is shown on Figure 3.
4.2 Location:	<p>Chuchi Operating Area, Stuart Nechako Natural Resource District.</p> <p>A point near the centre of CHU21_24 is located 2.7 km southwest of Chooyazi Lake, 6.8 km southeast of Witch Lake, and 10.3 km south of Chuchi Lake (Figure 1).</p> <p>UTM coordinates of block centre: NAD 83, Zone 10N, 410435 E, 6106912 N. NTS Mapsheet (1:50,000): 93N/01 BCGS Mapsheet (1:20,000): 93N.020</p>

5. Field Crew

Table 1. Field Crew

Date (dd/mm/yy)	Field Director (On Site? Y/N)	Field Supervisor	Other Field Personnel
26/10/21	David Wills (Y)	Kari Carter David Wills	Rhiannon Gammon Greg Holland

6. Archaeological Methods and Results

6.1 Pre-field Methodology

☒	<i>Modelled archaeological potential and sites are indicated on Figures 1 and 3.</i>
☒	<p><i>An AOA and/or predictive model exists for the study area.</i></p> <p><i>Details:</i> The Fort St. James Forest District Archaeological Predictive Model (Marshall and Bond 2004) indicated small areas to the north of a stream draining northeast through the middle of the block and to the north of a stream draining east along the southern block boundary.</p>
☒	<p><i>Previous field studies influence this assessment</i></p> <p><i>Details:</i> N/A</p>
☒	<p><i>Review of Provincial Heritage Register (RAAD)</i></p> <p><i>Date accessed:</i> 06/05/21</p>
☒	<p><i>Review of Vegetation Resources Inventory (VRI) Data</i></p> <p><i>Details:</i> A tree cover containing age class 5-8 (81-250 years old) lodgepole pine, subalpine fir, hybrid spruce, Engelmann spruce, and trembling aspen was indicated.</p>
☒	<p><i>Pre-field Potential Assessment</i></p> <p><i>Details:</i> Terrain Resources Information Management (TRIM) contours and orthophotographic imagery suggested the presence of a high point within the western part of the block with steep slope from that high point, predominantly east-facing. Archaeological potential was predicted as high in the middle of the block in association with a small wetland. High potential was also predicted in the western and southeastern portions of the block where TRIM contours indicated the possibility of terracing and breaks-in-slope overlooking unnamed streams.</p> <p>Low potential was predicted elsewhere in the development area based on continuously sloping and undulating terrain.</p> <p>The potential for pre-1846 CMTs was considered high in the western block where VRI data indicates a tree cover containing age class 8 (141-250 years old) pine trees. The remainder of the block was considered to have low potential for pre-1846 CMTs, as VRI data indicates age class 5-7 (81-140 years old) trees and/or an absence of pine trees.</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)
GgSc-3	2.8 km northeast	Subsurface lithics	2011-0076	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 conducted: N/A
☐	Describe if other: N/A

6.2.2. Pedestrian Survey

Number of Crew Members:	Crews consisted of two people.
Crew Spacing and Visibility:	Crew members were spaced 5-30 m apart during survey. Visibility ranged from 30-50 m throughout the proposed area. There was some snow on the ground at the time of survey, but it was thin and patchy and did not obstruct visibility.
Other:	Crew members conducted transects to look for archaeological sites, terrain features associated with high archaeological potential, CMTs, and other indications of anthropogenic use and modification. Survey transects followed predicted archaeological potential (see Section 6.1 above), hydrological features, landforms, arbitrary compass bearings, and study area extents. Survey transects are shown on Figures 2 and 3.

6.2.3. Site Recording

☐	CMT(s) were flagged and recorded Details: N/A
☐	Trail(s) were recorded Details: N/A
☒	Other Details: AOPs were recorded with a GPS and flagged using purple and red summer weight flagging tape. Modern blazed trees were recorded with a GPS and photographed but not flagged.

6.3 In-field Observations

6.3.1. Hydrology & Associated Landforms

An unnamed stream drains east along the southern block boundary, which was observed to be a wetland. Associated terrain immediately adjacent is level with the wetland, then rises in continuous east to southeast-facing slope.

There is a wetland in the middle of the block, the surrounding terrain is consistently sloping with a moderate grade towards the wetland (Photo 1).

An unnamed stream drains northeast from the western block boundary through the middle of the block. It is located within a large valley at the base of a small mountain to the west and a steep northwest aspect slope to the east (Photo 2). Two intermittent streams drain north into the northeast-draining stream in the western part of the block. There are two AOPs in this area: one (1) rocky outcrop overlooking the northeast-draining stream and one (1) knoll overlooking an intermittent stream.

6.3.2 Topography

Block terrain is characterized continuous sloping terrain throughout. In the eastern block the terrain is moderately sloping to the east and southeast (Photo 3). In the southeast block the terrain is undulating with a general southeast aspect slope with poor to moderate soil drainage throughout.



To the south of the northeast-draining stream, the terrain is sloping continuously north with a series of very steep and rocky undulations within the continuous sloping terrain. There is a rocky outcrop on the edge of a cliff overlooking the stream to the north (AOP1; Photo 4), and a knoll overlooking an intermittent stream (AOP2).

The remainder of the block is moderately to steeply graded slopes and heavily undulating throughout. The block was accessed by helicopter and steeply sloping, undulating terrain could be seen throughout.

6.3.3 Vegetation

The overstory is consistent with VRI data, which indicates stands of lodgepole pine, subalpine fir, hybrid spruce, Engelmann spruce, and trembling aspen. The understory includes various mosses, bunchberry, soapberry, blueberry, devil's club, willow, and alder.

6.3.2. In-field Potential Assessment

Two (2) areas of high subsurface archaeological potential were identified in the western portion of the block buffer overlooking streams (CHU21_24-AOP1 and 2). This was consistent with the pre-field prediction of archaeological potential based on the TRIM suggested presence of breaks-in-slope or terracing associated with the streams.

Contrary to the pre-field review, no areas of terracing or breaks-in-slope were identified in the southeastern area of the block where the TRIM data suggested breaks-in-slope or terracing associated with the unnamed stream in the southeast. Instead, crew members observed undulating and poorly drained terrain in the larger area and terrain almost level with the wetland where the stream was mapped.

Consistent with the pre-field review, the remainder of the block was assessed to have low potential due to continuously moderate to steeply sloping terrain, which was identified in the pre-field review. The northeastern block were assessed to have low potential but not traversed on foot during the survey. The assessment of this area was based on the steeply graded terrain described during the pre-field review, which was consistent with the terrain observed within the surveyed portions of the block. It was also observed from the helicopter to be steeply sloping and mountainous, similar to the rest of the block.

No CMTs were encountered and potential for pre-1846 CMTs was assessed as low as a result.

6.4 Results

6.4.1. Subsurface Testing

No subsurface testing was conducted.

6.4.2. Untested Areas of Potential (AOPs)

Untested AOPs are summarized in Table 3 and shown on Figures 2 and 3.

Table 3. Untested Areas of Potential Recorded

AOP	Description	Dimensions (L x W)
CHU21_24-AOP1	Level area looking over a stream to the north. The northern extent is bounded by a vertical cliff face, the eastern extent is bounded by moderately sloping terrain to the east. The southern extent is bounded by moderately sloping terrain with a north aspect, and the western extent is bounded by moderately sloping and uneven terrain with an east aspect.	12 x 2-6 m
CHU21_24-AOP2	A knoll overlooking the intermittent stream to the east. The northern extent is bounded by a moderate north aspect slope with undulating terrain, the eastern and western extents are bounded by east aspect moderate slopes, and the south extent is bounded by a steep slope towards the stream to the south.	10 x 6 m

6.4.3. Non-HCA Protected Sites

All traditional use, post-1846, and modern sites that are not protected by the HCA are described in Appendix B.

7. Archaeological Site Summary

No archaeological sites were identified or revisited.

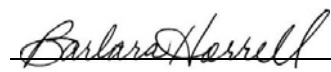


8. Disclosure Statement and Signature

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.

It is Ecofor’s opinion that the field work and reporting were completed in accordance with the Heritage Inspection Permit issued by the Archaeology Branch.


Barbara Horrell, BSc, RPCA
Senior Archaeologist
Ecofor Consulting Ltd.

February 8, 2022

Date

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
Corey Cookson	Archaeology Branch
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Takla Nation Stewardship Portal	Takla Nation
Kelley Williams	Binche Whut’en
Tamara Dokkie,	West Moberly First Nation
Roslyn Notseta, Lyle Mortenson, HRFN Referrals	Halfway River First Nations

11. Shapefiles

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

12. Attachments

- ☒ Appendix A - Photos
- ☒ Appendix B - Non-HCA Protected Sites
- ☒ Figure 1 – General Location Map
- ☒ Figure 2 – Midrange Location Map
- ☒ Figure 3 – Detailed Results Map



Appendix A – Photos



Photo 1. Terrain sloping towards central wetland, view east.



Photo 2. Steeply sloping terrain associated with intermittent stream in west, view west.





Photo 3. Typical terrain in the southeast, view south-southeast.



Photo 4. Along AOP1, view northeast.



Appendix B – Non-HCA Protected Sites

☐ Post-1846/Traditional Use Sites Recorded

☒ Modern Use Sites Recorded

One (1) modern blazed tree was recorded. The blaze was assessed to be modern based on shallow healing lobes and the presence of sap on the surface.



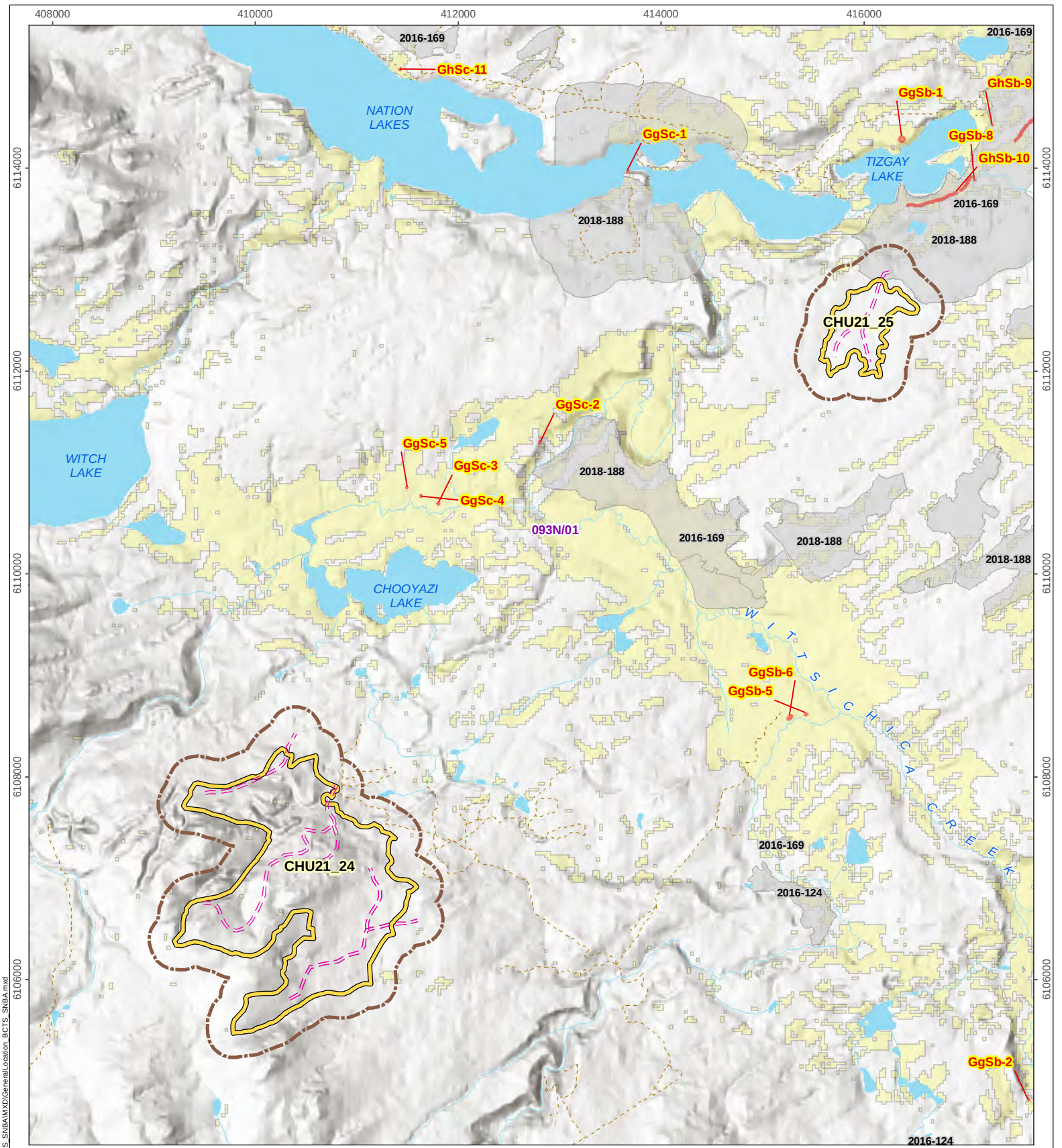
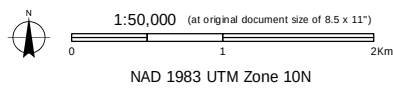


**FIGURE 1
GENERAL LOCATION MAP**



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, Geodatasys, GSA, GSI and the GIS User Community

- | | |
|--|--|
| <ul style="list-style-type: none"> --- Road - Other --- Stream Waterbody Proposed Block Proposed Road Assessment Buffer (250m) | <ul style="list-style-type: none"> Previously Assessed Block High Archaeological Potential (FTSJ) Previously Recorded Archaeological Site NTS 50K GRID |
|--|--|

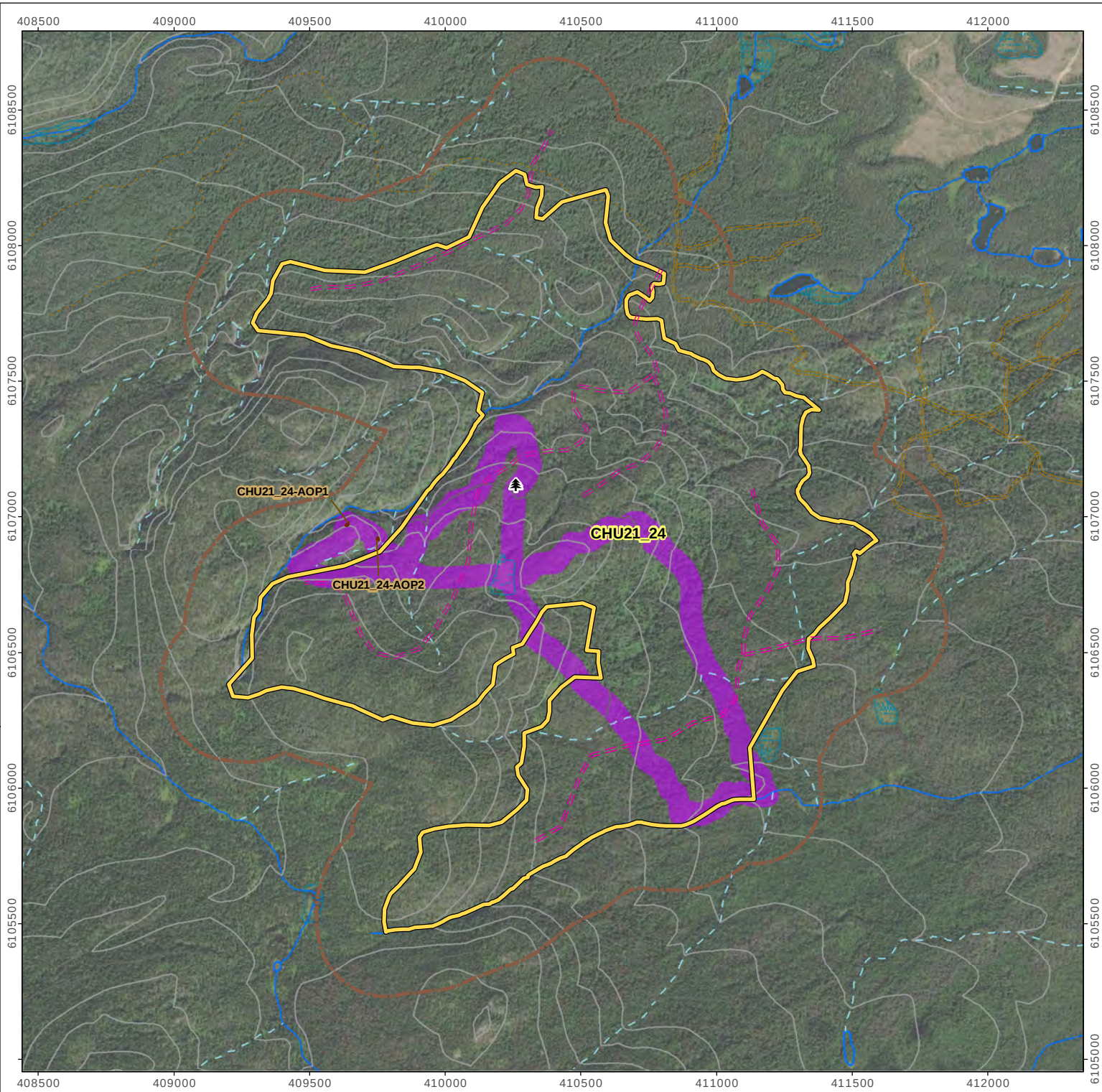
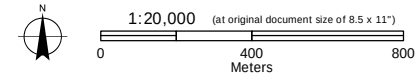


FIGURE 2. MIDRANGE LOCATION MAP
CHU21_24



NAD 1983 UTM Zone 10N
NTS MAPSHEET: 93N/01
BCGS MAPSHEET: 93N.008, 93N.009

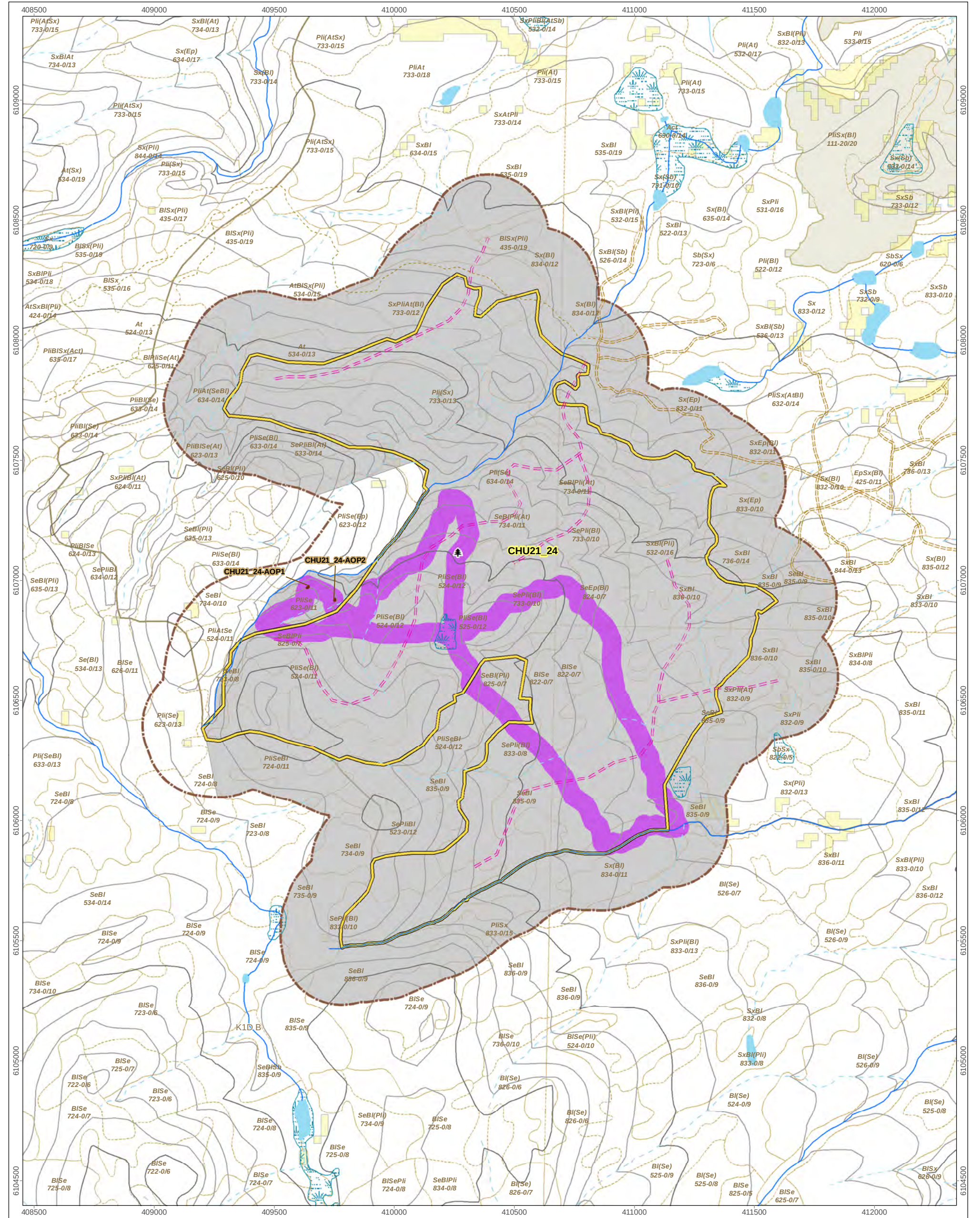
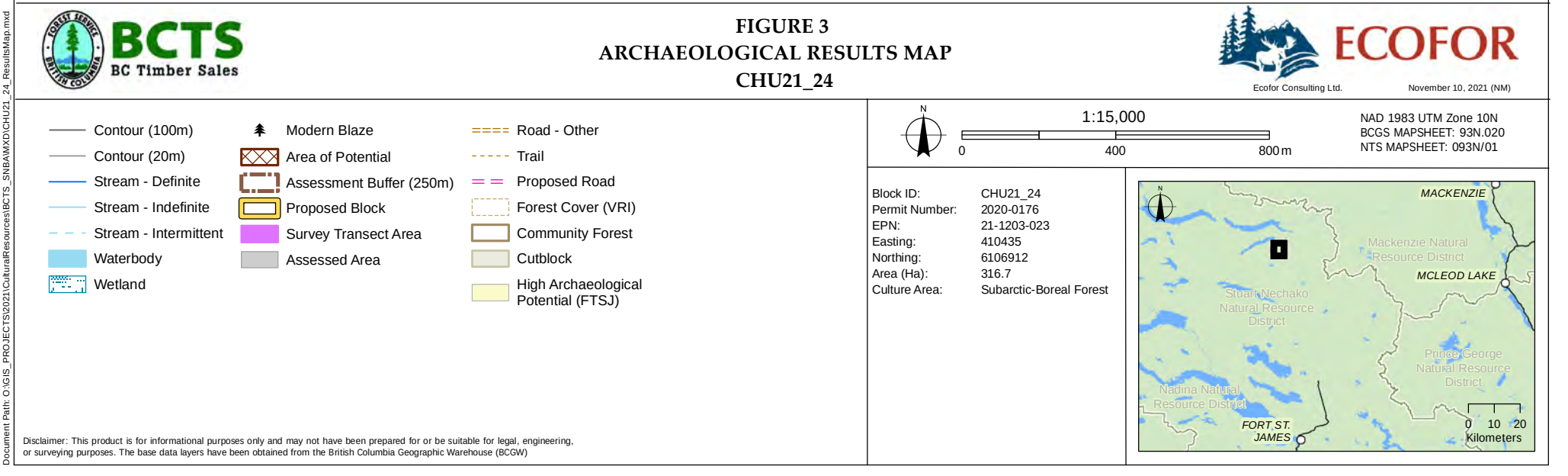
Permit Number: 2020-0176 EPN: 21-1203-023

- | | | |
|-----------------------------|----------------------------|-----------------|
| — Contour (100m) | 🚰 Modern Blaze | — Proposed Road |
| — Contour (20m) | 📏 Area of Potential (AOP) | — Road - Other |
| — Stream - Definite | 📏 Assessment Buffer (250m) | — Trail |
| - - - Stream - Intermittent | 📏 Proposed Block | |
| 🌊 Waterbody | 🟪 Survey Transect Area | |
| 🌿 Wetland | | |

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Document Path: O:\GIS_PROJECTS\2021\1CulturalResources\BCTS_SNEAMXD\CHU21_24_MidrangeMap.mxd



Document Path: C:\GIS\PROJ\2021\CHU21_24\ResultsMap.mxd