

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



1. REPORT TITLE

2018-0188-001, AIA of BCTS Stuart-Nechako block CHU043

2. MANAGEMENT SUMMARY

2.1. Protected HCA Sites

GhSb-9, cache pit
GgSb-8, cultural depression, subsurface lithics
GhSb-10, pre-1846 trail (Tizgay Lake to L2746 Trail)

2.2. Brief Overview of Study

BC Timber Sales requested an archaeological impact assessment (AIA) within proposed forestry cut block CHU043. Ecofor conducted a detailed pre-field review, followed by an AIA survey within the development. Eastern portions of the block had been previously assessed by Ecofor as blocks CHU039, CHU043 under HIP# 2017-0169 (Wills 2018). The 2017 AIA identified GgSb-8 (a cultural depression and lithic site), GhSb-9 (a cache pit site), 6 post-1846 CMT sites, several modern blazed trees, and portions of the Tizgay Lake to L2746 Trail.

Snowfall during the 2017 AIA prevented a full assessment from being completed in CHU043.

In 2018 the block size was significantly expanded by BCTS and further assessment focused on the complete traverse and recording of the Tizgay Lake to L2746 Trail, as well as an AIA for the unsurveyed portions of the block as well as the identified high potential areas of the expanded block area.

2.3. Results

During the 2018 field assessment, the full extent of GhSb-10, the Tizgay Lake to L2746 Trail, was traversed and five distinct sections were identified. The trail has been inferred to be pre-1846 in nature due to its proximity to the two archaeological sites identified during the 2017 AIA, GgSb-8 and GhSb-9.

Seven additional locations were shovel tested and found to be negative for cultural materials.

The remainder of the block has been assessed as having low subsurface archaeological potential due to continuously undulating terrain.

One new post-1846 CMT site was identified, containing two cambium stripped lodgepole pine.

Several modern blazes and 1 additional claim post marker were identified which are scattered throughout the block.

2.4. Management Recommendations

Sites GhSb-9 and GgSb-8 are protected under the Heritage Conservation Act. The sites were previously reported under 2017-0169. Management recommendations in that report include:

1. Machine Free Zone. Establish a machine free zone (MFZ) 2.5 m to all sides of the site boundary, where trees can be "cherry picked" by a feller-buncher that sits outside of the MFZ, reaches in to harvest the trees, picks them out of the MFZ and yards outside of the MFZ. Stub all trees within the MFZ to maintain the site location post-harvest. Under this option, no ground disturbance can take place within the MFZ. During silviculture, do not replant within the MFZ
2. Avoidance. Move the block boundary to exclude the site from harvest to a distance of 30 m to make the surrounding trees as wind-firm as possible.
3. Site Alteration Permit. Obtain a Section 12 Site Alteration Permit from the Archaeology Branch to harvest trees within site boundaries. This may require additional archaeological testing prior to harvest.

GhSb-10, The Tizgay Lake to L2746 Trail, is protected under the Heritage Conservation Act. Options for site management include:

1. Avoidance. Alter the block boundary to exclude the site from harvest, creating a buffer to a distance of 30 m from the site boundary.
2. Machine Free Zone. A Machine Free Zone should be established 7.5 metres to either side of the trail centreline. Trees can be “cherry picked” with a feller-buncher sitting outside of the machine free zone, reaching in to harvest the trees, and picking them out of the machine free zone and site. In this situation, the tree stubbing along the trail must be done in such a way that the location of the trail is maintained, and any debris or branches must be removed from the trail bed to keep it clear. Under this option, no ground disturbance can take place within the site or along the trail. Lastly, during silviculture, replanting should not occur within the site boundaries.
3. Site Alteration Permit. Obtain a Section 12 Site Alteration Permit from the Archaeology Branch to harvest trees within site boundaries without stubbing. This may require additional archaeological testing and recording prior to harvest.

The post-1846 CMT sites and modern use sites 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 assessed area.

3. ADMINISTRATIVE INFORMATION

3.1. Permit Holder:	Greg Holland	
3.2. Permit Holder Affiliation:	Ecofor Consulting 1575 2 nd Ave Prince George, BC V2L 3B8	Phone: 250-960-1155 ext. 228 Email: greg@ecofor.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):	Johnny Huynh	
3.6. Interim Report Date (dd/mm/yy) & Version:	23/01/19, V1	
3.7. Notification of Work Date:	27/05/18	
3.8. OGC Ref No.:	N/A	

4. PROPOSED DEVELOPMENT

4.1. Description:	Proposed block for timber harvest CHU043 (868.6 ha) and a 250 m assessment buffer. The block boundaries were being flagged at the time of assessment; therefore, the 250 m buffer zone was partially assessed (see Figure 3 for the assessed area).
4.2. Location:	Chuchi, Fort St James Natural Resource District A point near the centre of the western portion of CHU043 is 350 m east of Tizgay Lake, 2.7 km north-northwest of Webberly Lake, and 2.6 km south of Nation River (see Figure 1). To access the block from the intersection of Tachie Road and the Germanson North Road north of Fort St. James, BC, travel 95 km on the North Road and turn left onto

	<p>Nation Lakes Road. Travel for 5.0 km, at which point the western side of CHU043 is directly south of the road.</p> <p>UTM coordinates of block centre: NAD 83, Zone 10, 418883 E, 6114296 N NTS Mapsheet (1:50,000): 93N/01 BCGS Mapsheet (1:20,000): 93N.019</p>
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5. FIELD CREW

Table 1. Field Crew

<i>Date (dd/mm/yy)</i>	<i>Field Director (On site? Y/N)</i>	<i>Field Supervisor(s)</i>	<i>Other Field Personnel</i>
14/06/18	Greg Holland (N)	Johnny Huynh	Taylor Wilson, John Sam (Nak'azdli Whut'en)
15/06/18	Greg Holland (N)	Johnny Huynh	John Sam
18/06/18	Greg Holland (N)	Johnny Huynh David Wills	Anastazia Munroe, John Sam Aurora Bowery, Jered Prince (Nak'azdli Whut'en)
19/06/18	Greg Holland (N)	Johnny Huynh David Wills	Anastazia Munroe, John Sam Taylor Wilson, Caleb Durand (Nak'azdli Whut'en)
20/06/18	Greg Holland (N)	Johnny Huynh David Wills	Anastazia Munroe, John Sam Taylor Wilson, Caleb Durand
22/06/18	Greg Holland (N)	Johnny Huynh Rhiannon Gammon	John Sam Bethanie Raasveld, Jered Prince
25/06/18	Greg Holland (N)	Johnny Huynh	John Sam

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> The Fort St. James Forest District Archaeological Predictive Model (Marshall and Bond 2004) identifies several sections of the western block as having high archaeological potential, notably adjacent to Tizgay Lake and to the several unnamed lakes and wetlands. Modelled potential elsewhere is low apart from a few small areas scattered throughout the block.</p>
☒	<p><i>Previous field studies influenced this assessment</i> <i>Details:</i> Eastern and norther portions of the block were previously assessed by Ecofor under HIP # 2017-0169 (Wills 2018) as blocks CHU039 and CHU043. The 2017 AIA identified the cache pit site GhSb-9, the cultural depression and lithic site GgSb-8, numerous modern blazed trees, and 6 post-1846 CMT sites. Also during the 2017 assessment, 11 locations were shovel tested with negative results apart from CHU043-STL5, which had a single positive test pit and contains GgSb-8. Sections of the Tizgay Lake to L2746 were identified in 2017 but snowfall prevented a full assessment of the trail during the 2017 AIA. The estimated location of the trail is indicated by the Fort St. James trail database, which also describes the trail as having an Aboriginal designation and located on a First Nations place name map (MoF 2001). Pedestrian transects from the 2017 assessment are shown on Figure 3.</p>
☒	<i>Review of Provincial Heritage Register (RAAD)</i>

	Date Accessed: 14/06/18
☒	<p>Other</p> <p><i>Details:</i> VRI data indicates mostly pine age class 5-7 (81-140 years old) throughout the block, with some areas of aspen and spruce, and one area in the southwestern corner indicating the presence of pine and spruce age class 8 (141-250 years old).</p> <p>Additional areas of possible subsurface archaeological potential were identified in association with Suchona Creek, Lake C, Wetlands D, E, F, G, and H; as well as along any of the numerous streams associated with the block.</p> <p>Potential for pre-1846 CMTs is low given the young age of the trees indicated by VRI in most of the block. Potential for post-1846 CMTs is high throughout the block as several were identified during the 2017 AIA. The Tizgay Lake to L2746 Trail was identified and partially assessed during the 2017 AIA, near its estimated location (MoF 2001, see Figure 3).</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)
GgSb-1	391 m north	Cache pit	1971-0037	N
GgSb-5	4.2 km southwest	Subsurface lithics	2009-0106	N
GgSb-6	4.2 km south-southwest	Subsurface lithics	2009-0106	N
GgSb-8	Within block	Cache pit; Subsurface lithics	2017-0169	Y
GgSc-1	2.3 km west-northwest	Human remains	1999-0292	N
GgSc-2	3.6 km southwest	Subsurface lithics	2011-0076	N
GgSc-3	4.7 km southwest	Subsurface lithics	2011-0076	N
GgSc-4	4.8 km southwest	Subsurface lithics	2011-0076	N
GgSc-5	4.9 km southwest	Subsurface lithics	2011-0076	N
GhSa-1	4.8 km northeast	Cache pit	2015-0078	N
GhSb-1	2.1 km north-northeast	Human remains	N/A	N
GhSb-2	655 m northeast	Subsurface lithics	2011-0076	N
GhSb-3	4.5 km northwest	Surface lithics; Subsurface lithics	2011-0076	N
GhSb-4	4.6 km north	Subsurface lithics	2013-0099	N
GhSb-6	1.1 km northeast	Cache pit	2015-0078	N
GhSb-9	Within block	Cache pit	2017-0169	Y
GhSc-5	5 km northwest	Subsurface lithics	2009-0106	N
GhSc-11	4.8 km northwest	Cultural depression	2017-0169	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: 14/06/18, 19/06/18, 20/06/18, 22/06/18, and 25/06/18</p>
☐	Describe if other: N/A

6.2.2. Pedestrian Survey

Number of Crew Members:	Field crews consisted of: 1 crew of 3 people on 14/06/18
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	1 crew of 2 people on 15/06/18 and 25/06/18 2 crews of 3 people each on 18/06/18, 19/06/18, and 20/06/18 1 crew of 2 people and 1 crew of 3 people on 22/06/18
Crew Spacing:	Crew members were spaced 5-35 m apart depending on visibility which varied and ranged from 5-100 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 flagged and mapped block boundaries and buffer zones. Pedestrian transects are shown on Figure 3.

6.2.3. Site Recording

☒	CMTs were flagged and recorded. <i>Describe:</i> The two CMTs in CHU043-JH1 were GPS'd and flagged using winter weight yellow ribbon with "CMT" text.
☒	Trail(s) recorded. <i>Describe:</i> The centreline of the Tizgay Lake to L2746 Trail, was flagged using yellow winter weight ribbon with 'CMT' text at systematic intervals where the trail bed could be discerned. The trail was photographed, and its location was recorded with handheld GPS.
☐	Other. <i>Describe:</i> N/A

6.3. In-field Observations

6.3.1. Hydrology & Associated Landforms

Lakes A-G, Streams B, F, G, L, N, O, Tizgay Lake, and Wetlands A and C were assessed as part of the 2017 survey. Descriptions of those hydrological features and associated landforms can be found in the 2017 interim report (Wills 2018).

Suschona Creek is not visible from the flagged harvest boundaries, but can be heard flowing at the base of the steep canyon it is situated in. Associated terrain consists of a high potential upper terrace that has been avoided by layout crews. The terrace edge was observed to have been buffered by as much as 150 m. Terrain remaining in the harvest area has been assessed as having low potential due to gently undulating and featureless terrain (Photo 1).

Terrain along the northern shore of Lake C was assessed during the 2017 AIA as having low subsurface potential. During the 2018 assessment, two levels of terracing were observed along the southwestern shore. The lower terrace was avoided by the flagged block boundary, but the upper terrace was shovel tested as STL-JH1. The remainder of the terrain associated with the lake consists of steeply and continuously undulating terrain.

Wetland D consists of a wetland extension of Lake C. Associated terrain west of Stream M contains a high potential north-south trending esker that was shovel tested as STL-JH3. The remainder of the associated terrain consists of undulating terrain west of Stream M and a steep continuously slope into the wetland, east of Stream M.

Wetland E consists of a small wetland connected to Wetland G by a ~5 m poorly defined stream. Areas of modelled high potential surrounding the wetland were removed from harvest by layout crews. Associated terrain within the block varies from the steeply undulating terrain in areas close to the wetland or the featureless and gently sloping terrain found further east of the wetland.

Wetland F is situated at the base of terrain that is either undulating steeply and continuously or low-lying with a slight slope towards the wetland. No defined landform features were observed associated with the wetland.

Wetland G is a lake and wetland complex associated with Suschona Creek to the east. Terrain along the northern boundary and south of the wetland consists of well-drained pine forest that undulates steeply and continuously. Undulations run parallel to the wetland and are orientated east-west. Flagged block boundary avoids much of the actual wetland margin.

Wetland H is situated at the base of terrain that slopes gently into the wetland with no defined break.

Stream D and E are 30 cm to 1 m wide draws situated at the base of steep sloping terrain. The streams flow and slope continuous north towards Tizgay Lake with no break. Streams A and C are continuations of Stream D that were not directly surveyed. Associated terrain in the area is continuously sloping down to the northwest.

Stream F consists of a ~50 cm wide stream with a trickle flow to the west. The stream is largely still with large pools of water in the centre and is surrounded by a large low-lying, water saturated area. Associated terrain is consistently undulating with steep grades into the stream from both sides.

Stream H consists of a low-lying wet area situated at the base of moderately sloping, undulating terrain from both sides.

Stream M is a small stream flowing north into Wetland D, situated at the base of a steep and continuous west aspect slope from its eastern side. Terrain on the western bank of the stream contains STLJH2 and STLJH4 which are both situated on terraces to the stream. Both STLs were negative for cultural material and the remainder of the associated terrain consists of continuously undulating and sloping terrain.

Stream P is a low-lying wet area with patches of exposed soil and a cover of alder. No water was observed within the stream which is situated at the base of a continuous slight slope. Surrounding terrain is moderately drained but featureless

Stream Q is a patch of alder at the base of slightly sloping terrain from both sides. No defined stream was observed.

Stream R is not visible from the flagged block boundary. Associated terrain is undulating and well-drained with a continuous slope towards the stream.

Stream T is a 1 m wide dry stream bed. Surrounding terrain slopes slightly into the stream with northeast aspect and steeply towards the stream with southeast aspect. Terrain levels out at STL-JH5 which is situated upon a slightly undulating west facing terrace to the stream. The remainder of the associated terrain fails to level out.

Stream U is a ~2 m wide fast flowing stream. Terracing is present along both sides of the stream, at STL-JH6, STL-RG1, and AOP1. The remainder of the associated terrain is undulating and moderately drained.

Stream W was not encountered. The indicated location is no different from the surrounding terrain.

Stream X consists of low-lying terrain at the base of a steep north aspect slope. Terrain at the toe of the slope is gently sloping to the north with a poorly defined break.

Stream Y was indistinguishable from the surrounding terrain and was not encountered.

Stream AA was not observed and likely consists of the base of one of the many undulating hills in the surrounding area.

Wetland B and Streams I, J, K, S, V, and Z are located well outside of flagged boundary and were not encountered during the survey.

6.3.2. Topography

Terrain in the areas assessed during the 2018 AIA is characterized by undulating hills. The undulations are present throughout the block but vary with gentle to steep sloping hills. These undulations level out adjacent to several hydrological features forming terrace landforms at six of the seven 2018 shovel test locations. A high terrace is also present along Suchona Creek and STLJH3 is situated on a narrow esker above Wetland D. Outside of these areas the block topography is continuously undulating and lacking in defined features. The block is generally well-drained and dominated by a cover of pine.

6.3.3. Vegetation

VRI data indicates mostly pine age class 5-7 (81-140 years old) throughout the block, with some areas of aspen and spruce, and one area in the southwestern corner indicating the presence of pine and spruce age class 8 (141-250 years old).

Observed tree cover is predominately pine with a mix of spruce and trembling aspen in some areas.

The understory within the block contains bunchberry, soapberry, fireweed, rose, caribou lichen, prince's pine, club moss, ground cedar, mountain ash, and twinflower.

6.3.4. In-field Assessed Archaeological Potential

During the 2018 AIA 7 high potential landforms were found associated with Lake C, Stream M, Stream U, Stream T, Wetland D and Suchona Creek. These high potential areas were shovel tested as STL-JH1 to JH6 and RG1, all of which were negative for subsurface cultural materials. The remainder of the 2018 block area was assessed as having low subsurface potential due to terrain that is continuously undulating and lacking in defined features or slope breaks.

The southwestern-most corner of the block was not directly surveyed based on a desktop review/AOA model that indicates the area has low archaeological potential due to its distance from Tizgay Lake, as well as contour data which indicates consistently sloping terrain. In-field, terrain north of the area in proximity to Tizgay Lake and Lake A was found to be gently sloping and undulating and was assessed as having low potential which indicated that the unsurveyed terrain further from the lake would have low potential as well.

Two additional post-1846 CMTs were identified but inferred to be post-1846 in age due to a VRI age class of 5 (81-100 years old) and the small diameter of the trees. Given that a total of 7 post-1846 CMT sites have been identified in the development, the potential for pre-1846 CMTs is considered low.

6.4. Results

6.4.1. Subsurface Testing

The following table describes the results of subsurface testing during the 2018 AIA. Eleven areas were previously shovel tested during the 2017 assessment, one of which was positive for subsurface cultural material (Wills 2018).

See Figure 3 for all subsurface test locations (STLs).

See Appendix B for subsurface testing logs and stratigraphy for the 2018 test locations.

Table 3. Subsurface Testing Results

Subsurface Test Area	Description	Dimensions (L x W)	Subsurface Tests		
			Total	Positive	Negative
STLJH1	Upper terrace overlooking Lake C to the north (Photo 2).	110 x 5 m	46	0	46
STLJH2	Terrace overlooking Stream M to the east (Photo 3).	20 x 5 m	14	0	14
STLJH3	Esker overlooking Wetland D to the east (Photo 4).	12 x 5 m	10	0	10
STLJH4	Terrace overlooking Stream M to the east (Photo 5).	40 x 5 m	28	0	28
STLJH5	Terrace overlooking Stream T to the west (Photo 6).	20 x 5 m	14	0	14
STLJH6	Terrace overlooking Stream U to the northeast (Photo 7).	21 x 5 m	16	0	16
STLRG1	Terrace overlooking Stream U to the southwest (Photo 8).	40 x 10 m	33	0	33

6.4.2. Untested Areas of Potential

No untested areas of potential are located within the block boundaries.

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

Archaeological sites are summarized below. Additional details can be found in the site form and related documents in Appendix C. GgSb-8 and GhSb-9 were recorded during the 2017 AIA (Wills 2018) and no further work was conducted at either site.

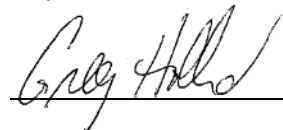
7.1. Borden Number	GhSb-10 (Tizgay Lake to L2746 Trail)
7.1.2. New or Revisited	New
7.1.3. Site Type	Precontact, transportation feature, trail, trail (Photos 9, 10).
7.1.4. Impact Assessment	The site will be affected by the development if block boundaries are not changed. Sections of the trail bed have been covered by fallen pine trees dead from mountain pine beetle infestation. Several of the blazed trees along the trail corridor were observed to have died and fallen.
7.1.5. Management Recommendations	<ol style="list-style-type: none"> 1. Avoidance. Alter the block boundary to exclude the site from harvest, creating a buffer to a distance of 30 m from the site boundary. 2. Machine Free Zone. A Machine Free Zone should be established 7.5 metres to either side of the trail centreline. Trees can be “cherry picked” with a feller-buncher sitting outside of the machine free zone, reaching in to harvest the trees, and picking them out of the machine free zone and site. In this situation, the tree stubbing along the trail must be done in such a way that the location of the trail is maintained, and any debris or branches must be removed from the trail bed to keep it clear. Under this option, no ground disturbance can take place within the site or along the trail. Lastly, during silviculture, replanting should not occur within the site boundaries. 3. Site Alteration Permit. Obtain a Section 12 Site Alteration Permit from the Archaeology Branch to harvest trees within site boundaries without stubbing. This may require additional archaeological testing and recording prior to harvest.
7.1.6. Significance Evaluation	<p>Scientific: Moderate, as the site is in proximity to GhSb-9 and GgSb-8. The sites may be interconnected and have the potential to contribute to local and regional prehistory and illustrate patterns of use of the landscape and resources in the area over time.</p> <p>Public: Moderate, the trail is easily accessible from the Nation Lakes Rd. and can be used to access Tizgay Lake for recreational use. The site does not have potential for public use in an educational or interpretive manner.</p> <p>Economic: Low as visitors would not pay to visit the site.</p> <p>Ethnic: Assumed to be high as First Nations typically place high importance on archaeological sites.</p>

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.

Ministry of Forests. 2001. *FSJ District CHR Site/Trail Information by Number*. An internal database created by the Ministry of Forests, Fort St James.

Wills, David. 2018. Final Report for Archaeological Impact Assessments of Proposed Forestry Developments by BCTS Stuart-Nechako, and Possible Other Proponents, Operating in the Fort St. James Natural Resource District HIP: 2017-0169. Ecofor Consulting Ltd. Fort St. James, BC.

10. REPORT DISTRIBUTION

Contact	Affiliation
Eric Forgeng	Archaeology Branch
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LRO Reception MLIB Assistant Manager of Land Referral	McLeod Lake Indian Band
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Sylvia Jack Mitchell Macfarlane	Takla Lake First Nation
Land Use	West Moberly First Nation
Art Erickson Jodi Carlow	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 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. Towards Suchona Creek from flagged block boundary, view east.



Photo 2. STLJH1 towards Lake C, view north.



Photo 3. STLJH2 towards Stream M, view east.



Photo 4. STLJH3 towards Wetland D, view east.



Photo 5. STLJH4 towards Stream M, view east.



Photo 6. STLJH5 towards Stream T, view northwest.



Photo 7. STLJH6 towards Stream U, view northeast.



Photo 8. STLRG1 towards Stream U, view southwest.



Photo 9. Tizgay Lake to L2746 Trail, view southwest.



Photo 10. Tizgay Lake to L2746 Trail, view south-southwest.



Photo 11. STLJH1, soil stratigraphy test #1, west wall.



Photo 12. STLJH3, soil stratigraphy test #1, south wall.



Photo 13. STLJH5, soil stratigraphy test #1, west wall.



Photo 14. CHU043-JH1, CMT #1

APPENDIX B – SUBSURFACE TEST LOGS

STLJH1

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-0.10 m LFH; 0.10-0.17 m red-brown silty sand; 0.17-0.26 m medium brown silt; 0.20-0.49 m very fine grey-brown silt, moist and compact;	None	10 N 418288 E 6114994 N Test pits placed at systematic 5 m spacing	11
2-46	Negative	Same as #1	None		

STLJH2

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-0.07 m LFH; 0.07-0.12 m loose grey-brown silt; 0.12-0.26 m red-brown sandy silt; 0.26-0.35 m compact light brown silt; <1% of pebble inclusions throughout all layers	None	10 N 418821 E 6114698 N Test pits placed at systematic 3 m spacing	
2-14	Negative	Same as #1	None		

STLJH3

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-0.09 m LFH; 0.09-0.12 m loose grey-brown silt; 0.12-0.27 m red-brown silt; 0.27-0.37 m compact and moist light brown silt;	None	10 N 418540 E 6114869 N Test pits placed at systematic 3 m spacing	12
2-10	Negative	Same as #1	None		

STLJH4

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-0.08 m LFH; 0.08-0.10 m loose grey-brown silt; 0.10-0.15 m red-brown sandy silt; 0.15-0.37 m compact and moist tan silt;	None	10 N 418836 E 6114633 N Test pits placed at systematic 3 m spacing	
2-28	Negative	Same as #1	None		

STLJH5

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-0.04 m LFH; 0.04-0.05 m grey silt; 0.05-0.17 m red-brown sandy silt;	None	10 N 420672 E 6114156 N	13

		0.17-0.32 m compact tan sandy clay, 20% subrounded pebble inclusions and 5% subrounded cobble inclusions;		Test pits placed at systematic 3 m spacing	
2-14	Negative	Same as #1	None		

STLJH6

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-0.05 m LFH; 0.05-0.07 m grey-brown silt; 0.07-0.11 m red-brown sand, 30% subangular pebbles and 5% subangular cobbles; 0.11-0.30 m compact tan sand, 50% subangular pebbles and gravels, 10% subangular cobbles;	None	10 N 419962 E 6113632 N Test pits placed at systematic 3 m spacing	
2-16	Negative	Same as #1	None		

STLRG1

Shovel Test #	Positive/Negative	Soil Stratigraphy	Cultural Material	UTM (NAD 83)	Photo #
1	Negative	0-0.03 m LFH; 0.03-0.35 m light brown sandy loam with angular and rounded pebble and cobble inclusions;	None	10 N 420035 E 6113695 N Test pits placed at systematic 3 m spacing	
2-33	Negative	Same as #1	None		

APPENDIX C – SITE FORMS AND RELATED DOCUMENTS

Appendix C includes the following documents:

GhSb-10 (Tizgay Lake to L2746 Trail) / CHU043-Tizgay Lake Trail
Archaeology Branch Site Form

BRITISH COLUMBIA ARCHAEOLOGICAL SITE INVENTORY FORM



1. IDENTIFICATION

Temporary Number (new site): **CHU043-Tizgay Lake Trail**
Borden Number (site revisit):
Site Name(s): **Tizgay Lake to L2746 Trail**

Branch Use Only

Form Received: **yyyy/mm/dd**

2. LOCATION

NAD 83 UTM Zone: **10** Easting: **417580** Northing: **6114406**
Source: GPS ☒ Digital Map ☐ Printed Map ☐

Location Description: **The site is located in the Central Interior of British Columbia, approximately 82 km north (358°) of Fort St. James, 6.6 km southeast (111°) of the outlet of the Nation River from Chuchi Lake, and 12 km southwest (259°) of the peak of Mount Milligan.**

Access Description: **To access the site from Fort St. James, head north on Hwy 27/Stuart Drive W. At the junction with Tachie Rd, continue north to stay on the Germansen-North Road and travel for 95 km. Turn left (west) onto the Nation Lakes Rd. and continue for 3.3 km. At this point the northeasternmost extent of the site is located 376 m south-southwest (197°) of the road and can be reached on foot.**

Parcel Identifier (PID or PIN):

Legal Description: **Unsurveyed Crown Land**

Street Address:

3. TENURE/RESERVES

	Type	Land Management Agency	Details
☒ Provincial Jurisdiction	Forestry	BC Timber Sales Stuart-Nechako Business Area	Cutblock CHU043
☐ Federal Jurisdiction			
☐ Local Jurisdiction			
☐ Private Land			
☐ Treaty Settlement Lands			

4. SITE VISIT INFORMATION

Permit Number: **2018-0188**

Issuing Agency: **Archaeology Branch**

Permit Type: **Inspection (S.14)**

Last Date of Visit: **2018/06/22**

Site Visit Type: **Recording (with testing)**

Archaeological Project Description: **AIA of cutblock CHU043
(28&29/08/17, 16-18/10/17, 22/06/18)**

Team Member Role	Full Name(s) and Affiliation(s)	On Site?
Permit Holder(s)	Greg Holland (Ecofor Consulting Ltd)	Y ☐ N ☒
Field Director(s)	Greg Holland (Ecofor)	Y ☐ N ☒
Field Supervisor(s)	Johnny Huynh (Ecofor) Delaney Prysnuik (Ecofor) Krystal Groves (Ecofor) David Wills (Ecofor)	Y
Other	John Sam (Nak'azdli Whut'en) Brianne Harris (Ecofor) David Quewezance (Nak'azdli) Marshall Spinney (Ecofor) William Smith (Ecofor) Tony Quewezance (Nak'azdli)	Y

5. SITE TYPOLOGY

Refer to Site Form Guide, Appendix A.

Site Class	Type	Subtype	Descriptor(s)
Precontact	Transportation Feature	Trail	Trail
Traditional Use	Culturally Modified Tree	Bark Stripped	Cambium Stripped
Traditional Use	Culturally Modified Tree	Other Modified Tree	Blazed

6. CULTURALLY MODIFIED TREES

Summarize all CMTs *within the site boundary*. Provide metrics and details in an attached CMT table.

Total number of CMTs: **17**

Summary of CMTs: **Seventeen (17) CMTs which are known or presumed to postdate 1846 are captured within site boundaries, all of which are on lodgepole pine trees. One cambium-stripped CMT with a scar date of 1915 was recorded to Level II standards. The remaining sixteen (16) CMTs consist of axe-cut modern blazes with shallow or no healing lobes which are presumed to postdate 1846. An additional eight (8) cambium-stripped CMTs and 47 modern blazes are located outside of site boundaries but within 100 m, all of which are known or presumed to predate 1846. See the CMT table for details of the cambium-stripped CMTs. No dates or metrics were recorded for modern blazes.**

7. ARCHAEOLOGICAL FEATURES

Summarize archaeological features. Additional details may be attached.

Feature ID#	L (m)	W (m)	Diam (m)	Depth/Height (m)	DBS from (m)	DBS to (m)	Shape	Orientation	Berm or Rim

Feature Remarks:

8. CULTURAL MATERIAL

Summarize all cultural material. Additional details may be attached.

Type	Status	Details	Repository
Other Sample	Collected	A dendrochronological sample of a CMT within the site boundary provided a scar date of AD 1915	Ecofor Consulting for 1 year

9. ARCHAEOLOGICAL CULTURE

Archaeological Culture Name:

Diagnostic Materials:

Archaeological Culture Remarks:

10. CHRONOLOGY

Summarize chronology (mandatory for CMT and trail sites). Dating lab report(s) must be attached if dates obtained.

From			To			Dating Method	Date Source
before	1846	AD				Ethnographic Source	Ministry of Forests Fort St. James Trail Database
before	1846	AD				Cross-dating	GgSb-8, GhSb-9
exactly	1915	AD				Dendrochronology	

Chronology Remarks: Trail likely predates 1846 given its association with GgSb-8 (cache pit and lithic site) located 50 m east and GhSb-9 (cache pit) located 264 m northwest. The Tizgay Lake to L2746 Trail is also estimated in this location by the Ministry of Forests Trail Database (2001). The database indicates that the trail has an aboriginal designation and is located on a First Nations place name map which would also suggest that it is a pre-1846 trail.

11. SITE DIMENSIONS AND BOUNDARIES

Length: 1277 m Direction NE-SW Site Boundary Type: Observed (10 m width, trail)
Width: 10 m Direction NW-SE

Site Boundary Comments (describe in detail the methods and buffers applied to define site boundaries in all directions):

The site boundary is defined by applying a 5 m buffer to either side of the centreline of the identified trail bed. Areas where no trail bed was present were not included in the site and therefore the site is split into 5 discrete polygons. The centreline of the site was flagged with winter-grade yellow CMT ribbon. Dimensions of each polygon from the northeast to the southwest are: 31 x 10 m, 202 x 10 m, 335 x 10 m, 178 x 10 m, and 531 x 10 m.

12. STRATIGRAPHY

Summarize stratigraphy for subsurface sites. Additional details may be attached.

Depth of Cultural Strata: Minimum m Maximum m

Stratigraphy Description:

13. DISTURBANCE

When	Cause of Disturbance	Condition Remarks
Present	Arch Impact	None
Ongoing	Insect Infestation	Sections of the trail bed have been covered by dead fallen trees affected by mountain pine beetle. Several trees along the trail corridor were observed to have fallen over.

Ongoing	Decay	Sections of the trail are in areas of densely spaced pine regrowth. There are gaps between sections of the identified trail and further growth will likely obscure more of the trail bed.
Future	Logging	Planned timber harvest in the surrounding area could impact the site.

14. ENVIRONMENT

Lower Elevation **867 m** (asl) Upper Elevation **911 m** (asl)
Elevation Comments: **Obtained with handheld GPS.**

Nearest Hydrological Feature(s): **The southwestern extent of the trail is located ~100 m southeast of the southern shore of Tizgay Lake.**

Terrain/Landform: **Terrain along the the trail corridor generally consists of level, well-drained, and featureless terrain. Parts of the southwestern sections are cut across a steep northwest aspect slope towards Tizgay Lake.**

Other:

15. REFERENCES

Title(s)	Year	Author(s)
FSJ District CHR Site/Trail Information by Number. An internal database created by the Ministry of Forests, Fort St James.	2001	Ministry of Forests
2017-0169-038, Interim Report, AIA of BCTS Stuart-Nechako blocks CHU039 and CHU043	2017	David Wills
2018-0188-001, Interim Report, AIA of BCTS Stuart-Nechako block CHU043	2018	Johnny Huynh
2018-0188, Final Report		

16. RECORDER'S RECOMMENDATIONS

Site avoidance or a site alteration permit. Current BCTS block boundaries likely limited full delineation of the trail to the northeast and southwest. Future work should identify additional sections of the site and further date the site.

17. GENERAL REMARKS

The site is interpreted as five remaining sections of the Tizgay Lake to L247 Trail. Nearby sites GgSb-8 and GhSb-9 as well as the many modern blazed trees and post-1846 CMTs likely indicate continued use of the trail and landscape over time for travel and resource acquisition.

PRIOR TO SUBMITTING YOUR SITE FORM, ENSURE THAT:

- ☒ Site boundaries have been established in accordance with [Defining Archaeological Site Boundaries](#)
- ☒ Maps have been completed in accordance with [Archaeology Branch Mapping and Shapefile Requirements](#)
- ☒ Attachments have been completed in accordance with [Appendix B of the Site Form Guide: Site Form Attachment Requirements](#)
- ☒ Site form has been completed in accordance with the [Site Form Guide](#)

REQUIREMENTS FOR ATTACHMENTS:

- ☒ The following mandatory documents must be attached:
 - Detailed site map
 - Midrange location map
 - ESRI shapefiles (site boundary)
 - Minimum one captioned photo plate showing site location
- ☒ The following mandatory documents must be attached when applicable:
 - CMT table (for CMT sites recorded to Level II standard)
 - Subsurface test log (for tested sites)
 - Stratigraphic tables and profile drawings (if EUs excavated)
 - Archaeological features table (if metrics recorded and data too numerous for site form)
 - Captioned photo plate(s) of all diagnostic artifacts and rock art
 - Captioned photo plate(s) of a representative sample of CMTs (including uncommon and those cored) and notable non-diagnostic artifacts
- ☐ The following mandatory documents must be attached when applicable (or may be submitted at a later date prior to final report submission):
 - Artifact catalogue (if artifacts collected and data too numerous for site form)
 - Faunal analysis (if fauna analysed and data too numerous for site form)
 - Dating lab report (if dates obtained)
- ☒ ALL attachment pages include: temp#, Borden #, permit #, affiliation, site visit date

UPON COMPLETION:

- ☒ Submit complete package to: archsitereform@gov.bc.ca

APPENDIX D – SITES NOT PROTECTED BY THE HCA

☐ No sites were recorded.

☒ Post-1846 / traditional use sites were recorded.

Six post-1846 CMT sites were identified during the 2017 AIA (Wills 2018). CHU043-KG1, CHU043-DP3, and CHU043-DP4 are associated with and close to the Tizgay Lake to L2746 Trail. The post-1846 CMTs are not protected by the Heritage Conservation Act but CHU043-DP4 CMT #1 is captured within the 10 m wide site boundary of the protected trail.

One additional post-1846 CMT site was identified during the 2018 assessment:

Assigned Site Number:	CHU043-JH1
Site Type:	Post-1846 CMTs
UTM (NAD 83):	Zone 10, 420808 E, 6115580 N
Location Description:	The site is located ~55 m west of the Germansen-North Rd. along northeastern block boundary.
Dimensions:	2 x 7 m based on the extent of the recorded CMTs
Features:	There were 2 cambium stripped lodgepole pine recorded. DBH of CMT #1 is 21 cm. The DBH of CMT #2 was not recorded but is a similar size to CMT#1. The trees are dead from mountain pine beetle infestation.
Age:	VRI data indicates a tree stand that is 81-101 years old.
Photos:	14
Interpretation:	The site represents post-1846 use of the area for cambium collection.

☒ Modern sites were recorded.

A mineral claim post was found at UTM Zone 10, 420238 E, 6115224 N with 3 associated modern blazed trees.

Twenty-nine additional modern blazed trees were recorded in several areas of the block (see Figure 3).

☐ Ecological or biological sites were recorded.

APPENDIX E – FIGURES

The following maps are included in Appendix E:

Figure 1. General Location Map

Figure 2a/2b. Midrange Location Map

Figure 3a/3b. Detailed Results Map

Figure 4a/4b. Detailed Site Map

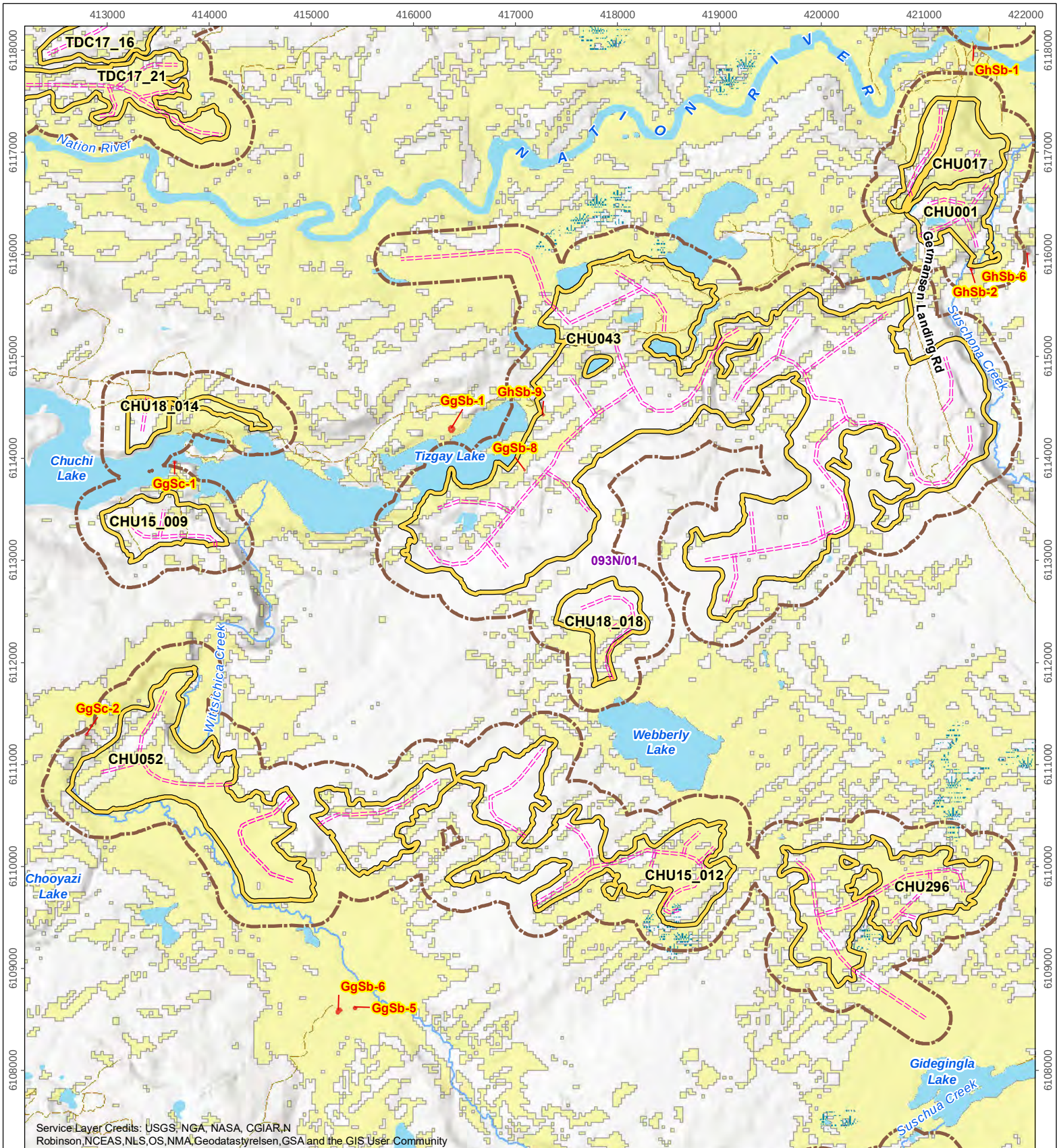
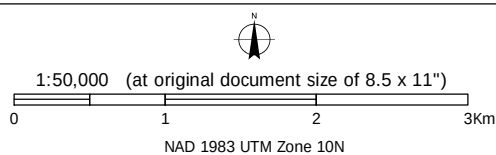
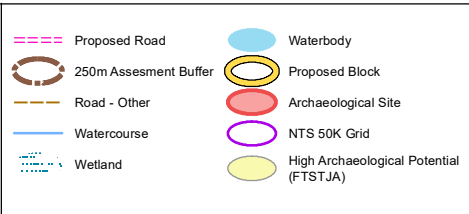


FIGURE 1
GENERAL LOCATION MAP 9



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.



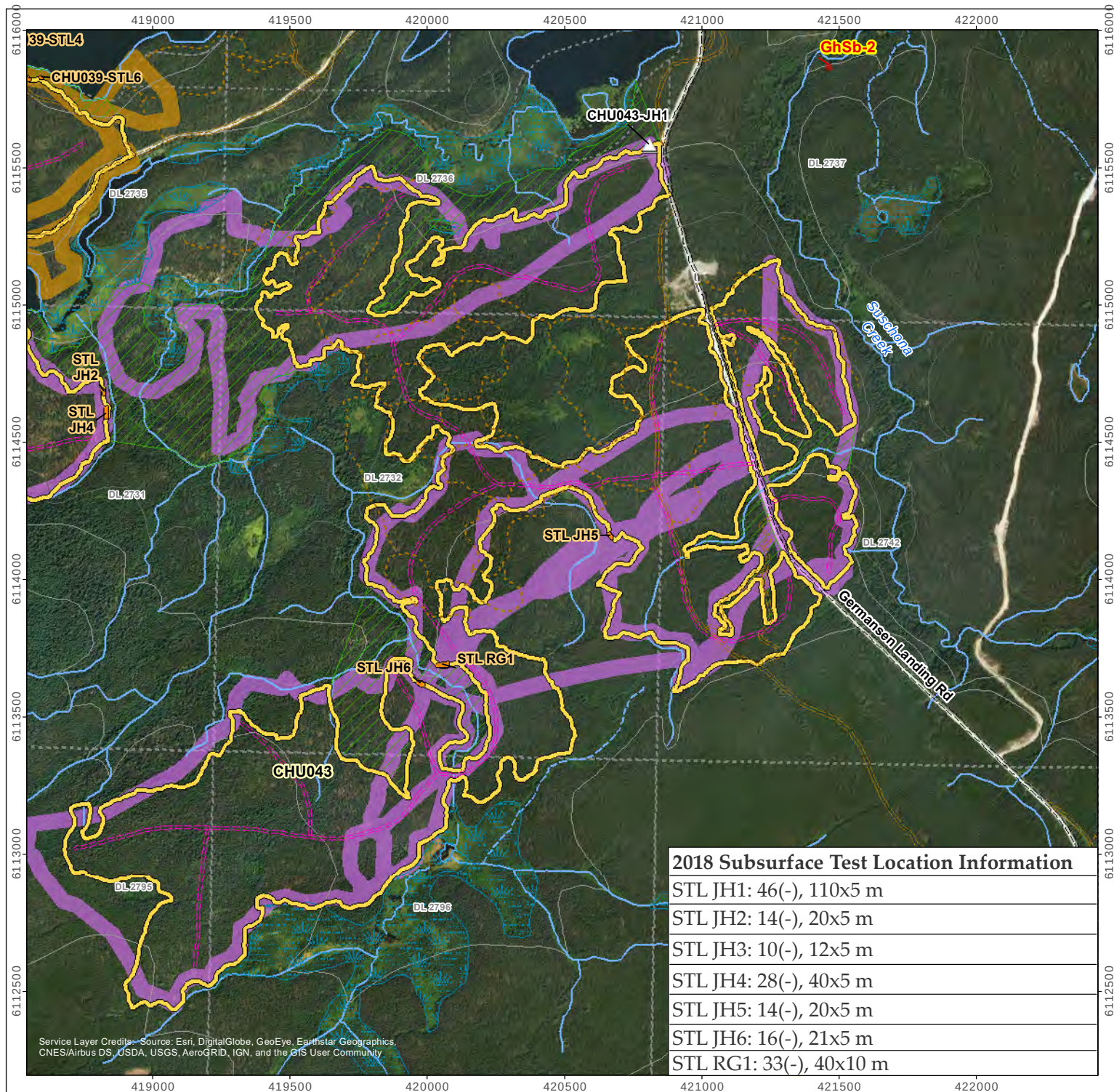
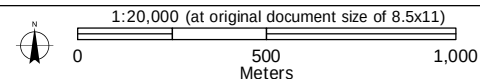


FIGURE 2b. MIDRANGE LOCATION MAP
CHU043 2 OF 2



NAD 1983 UTM Zone 10N
NTS MAPSHEET: 93N/01

Permit Number: 2018-0188 EPN: 2018-1203-002

Base Features (20k)

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

Transportation

- ==== Resource Road
- ==== Road - Other
- - - Trail
- Land Use**
- - - Surveyed Land Parcel

Assessment Features

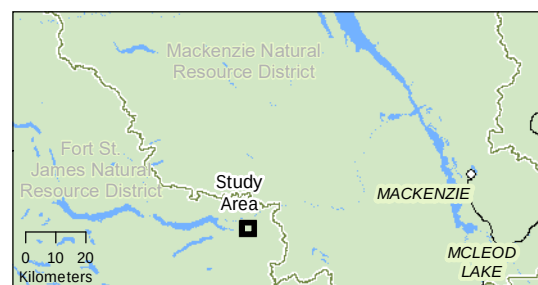
- △ Post 1846 CMT
- - - Proposed Road

Assessment Features

- Subsurface Test Location (STL)
- Proposed Block
- Wildlife Tree Patch (WTP)
- Survey Transect Area (2017)
- Survey Transect Area (2018)

Cultural Heritage

- Previously Recorded Archaeological Site



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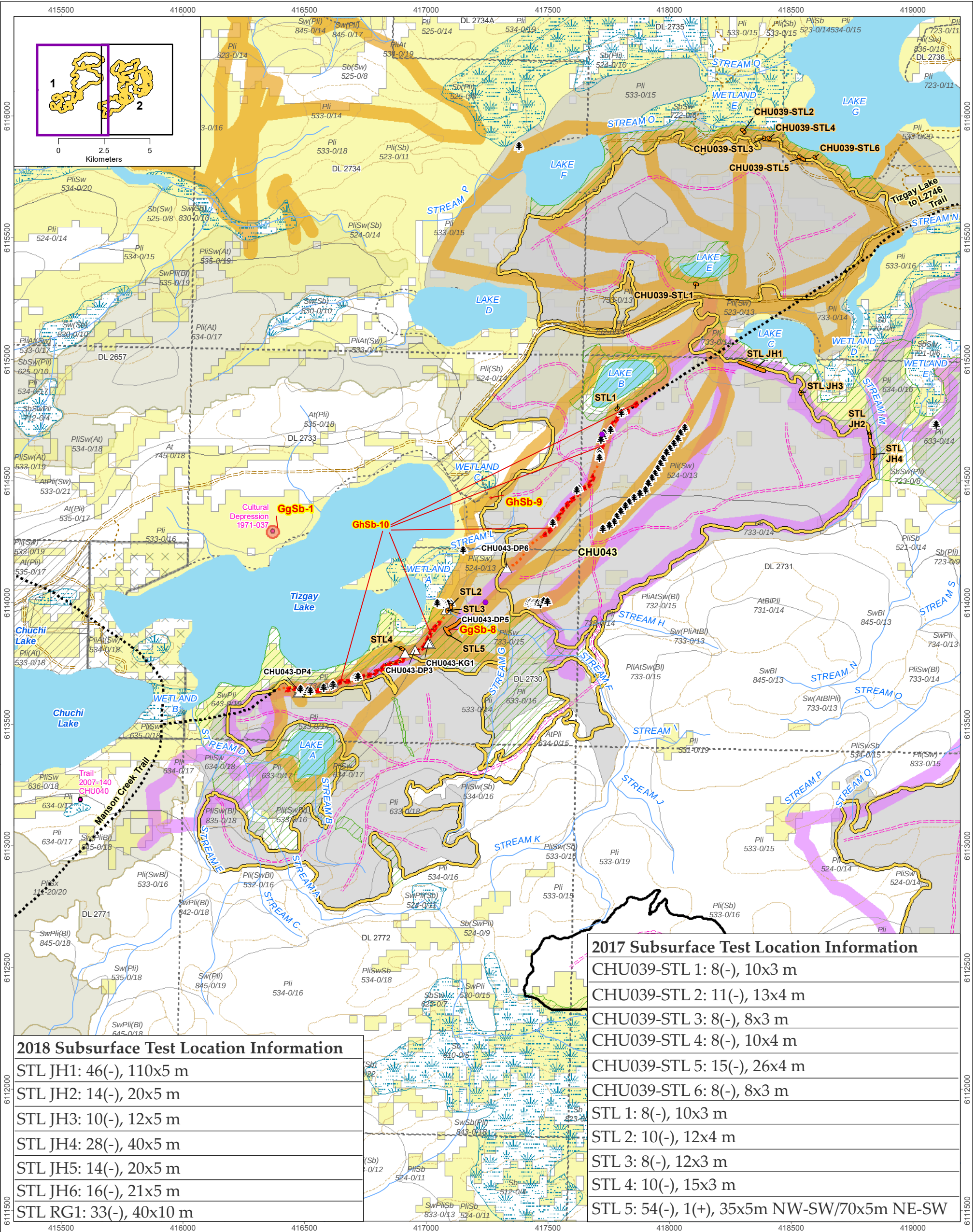


FIGURE 3a
ARCHAEOLOGICAL RESULTS MAP 1 OF 2
CHU043



Base Features (20k)

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

Cultural Heritage

- Previously Recorded Archaeological Site
- Heritage Trails - GPS
- Heritage Trails - Estimated

Assessment Features

- Previously Assessed Feature
- Post 1846 CMT
- Modern Blaze
- Claim Post
- Modern Blaze
- Pre-1846 Trail - Tizgay Lake to L2746
- Proposed Road
- Subsurface Test Location (STL)
- New Archaeological Site Boundary
- Survey Transect Area
- Survey Transect Area
- Assessed Area

- Adjacent Proposed Block
- Proposed Block
- Wildlife Tree Patch (WTP)
- High Archaeological Potential (FTSTJA)
- Transportation**
 - Road - Other
 - Trail
- Land Use**
 - Forest Cover (VRI)
 - Surveyed Land Parcel
 - Private Land
 - Cutblock
 - Crown Tenure



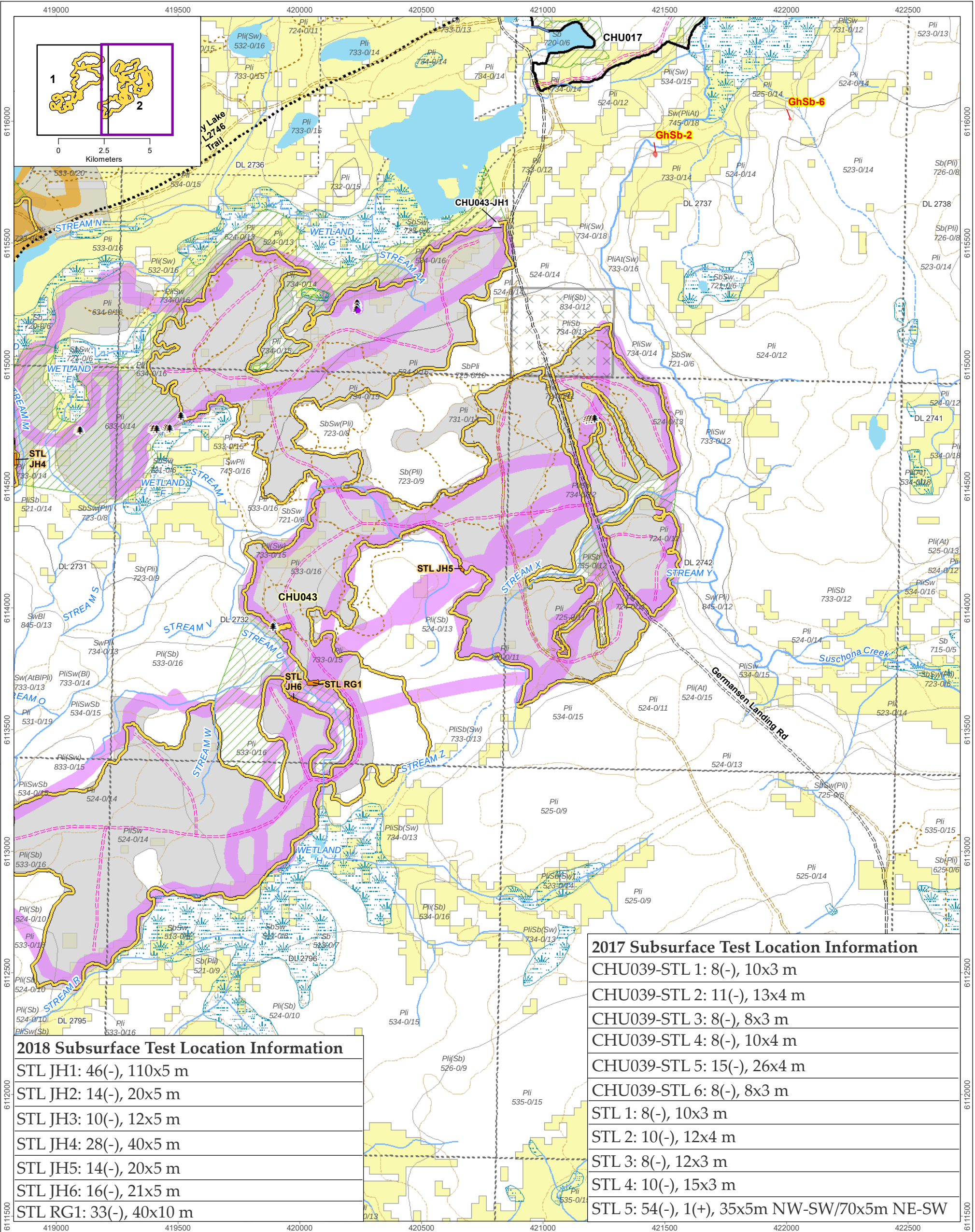
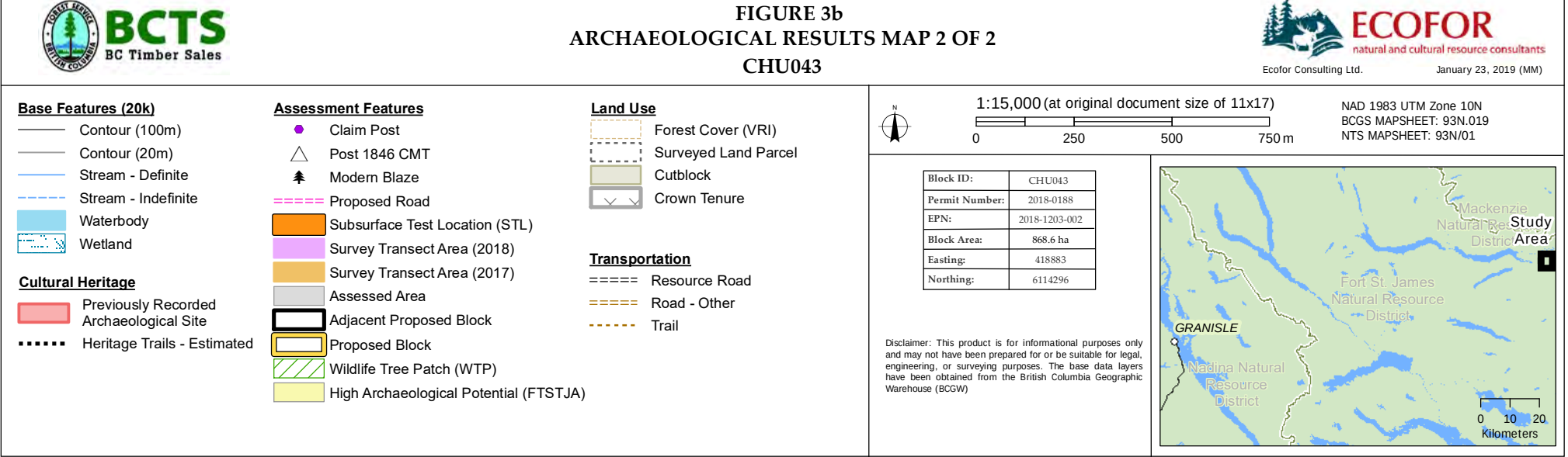
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0 250 500 750 m

NAD 1983 UTM Zone 10N
BCGS MAPSHEET: 93N.019
NTS MAPSHEET: 93N/01

Block ID:	CHU043
Permit Number:	2018-0188
EPN:	2018-1203-002
Block Area:	868.6 ha
Easting:	418883
Northing:	6114296

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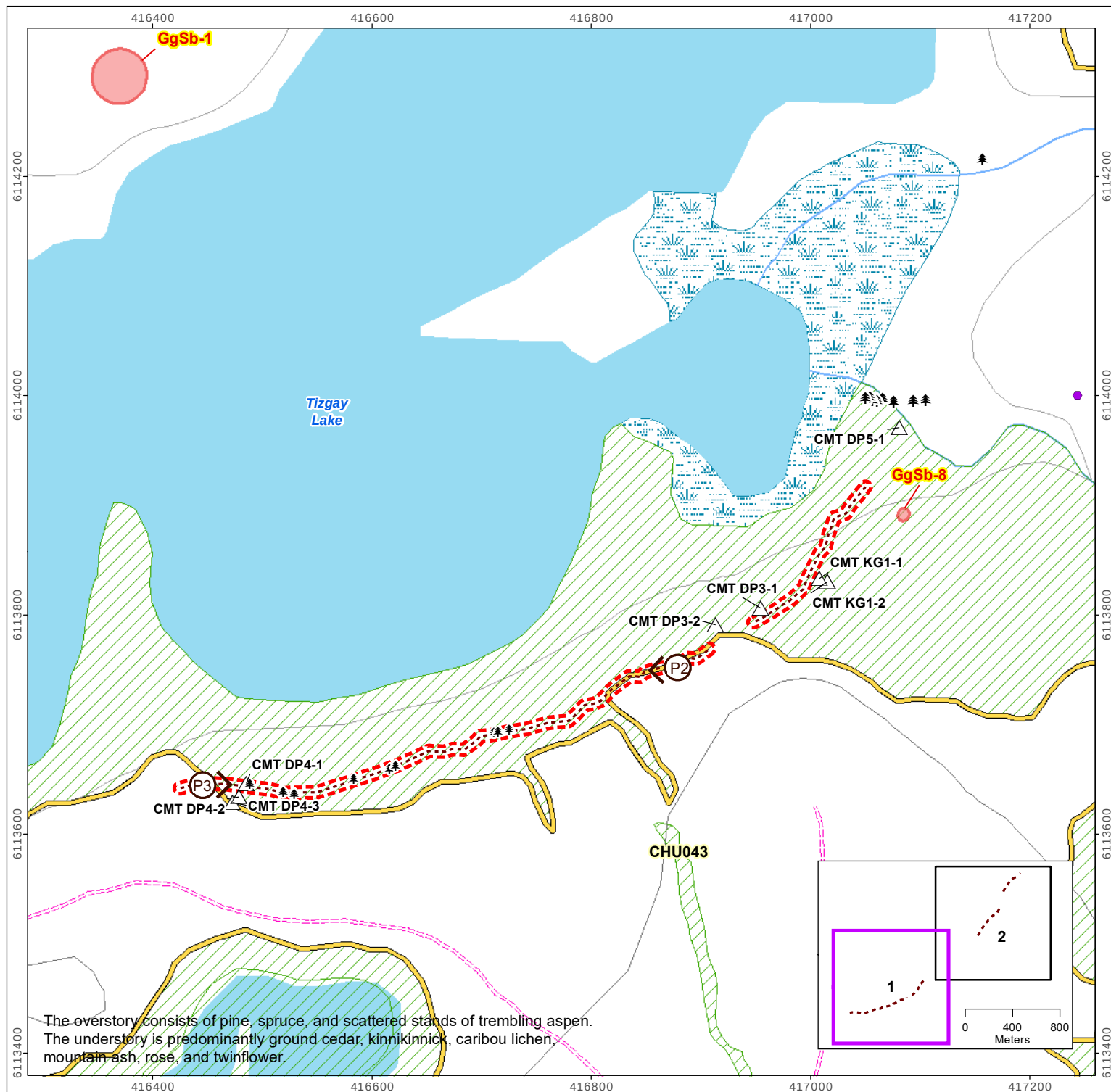


FIGURE 4a

DETAILED ARCHAEOLOGICAL SITE MAP 1 OF 2



Ecofor Consulting Ltd. January 23, 2019 (MM)

1:5,000 (At original document size of 8.5x11")
0 100 200
Meters

NAD 1983 UTM Zone 10N
BCGS MAPSHEET: 93N.019
NTS MAPSHEET: 93N/01

Borden Number: GhSb-10
Site Type: Pre 1846 Trail
Temporary Site Number: CHU043-Tizgay Lake Trail

Date of Last Site Visit: June 22, 2018
Permit Number: 2018-0188
EPN: 2018-1203-002

- △ Post 1846 CMT
- Modern Blaze
- Claim Post
- CHU043-Tizgay Lake Trail
- New Archaeological Site Boundary (1277 x 10 m)
- Previously Recorded Archaeological Site
- Proposed Road
- Proposed Block
- Wildlife Tree Patch (WTP)
- Contour (100m)
- Contour (20m)
- Stream - Definite
- Waterbody
- Wetland
- Photo Location/Direction



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)

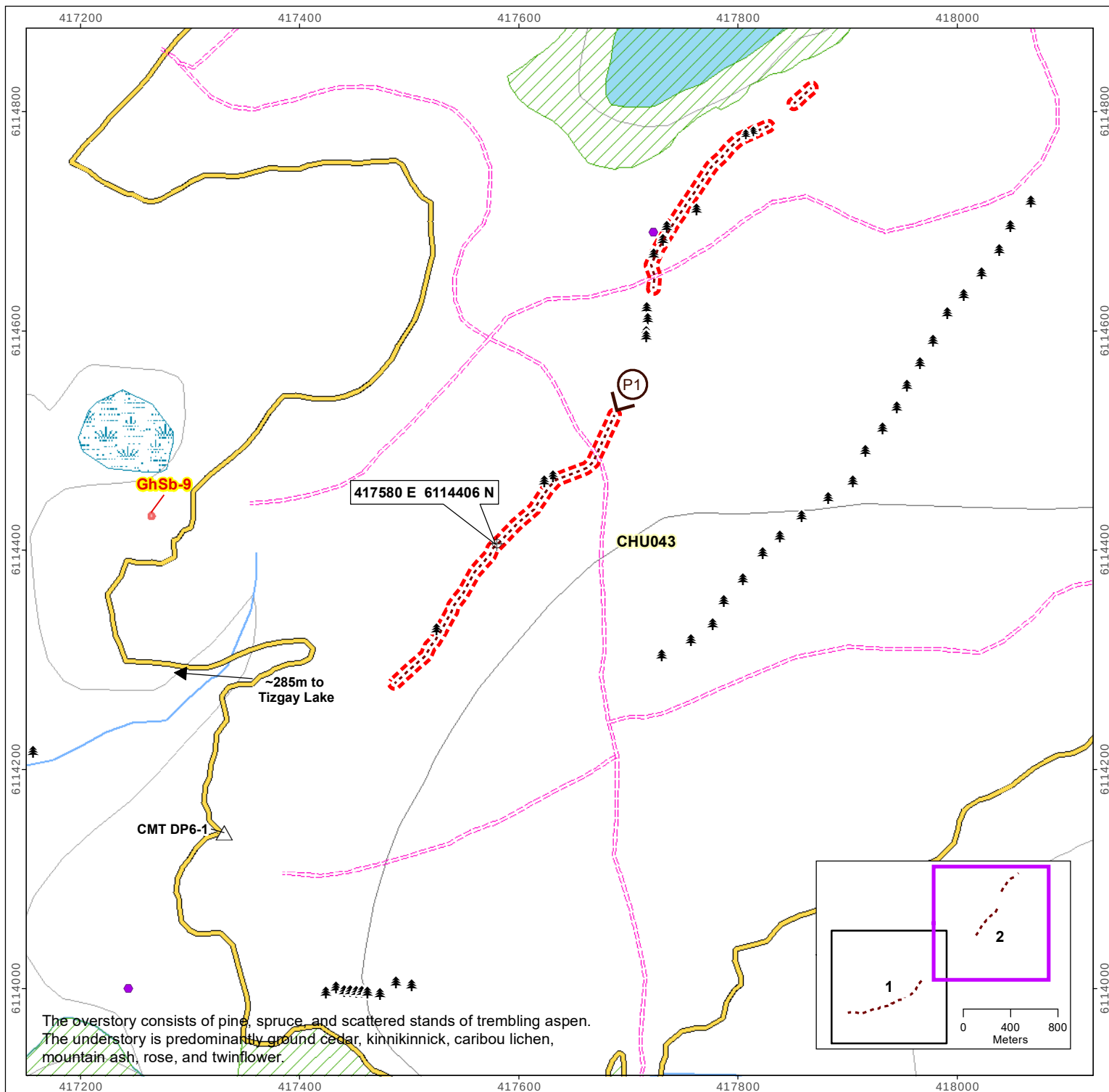


FIGURE 4b

DETAILED ARCHAEOLOGICAL SITE MAP 2 OF 2



Ecofor Consulting Ltd. January 23, 2019 (MM)

1:5,000 (At original document size of 8.5x11")
0 100 200
Meters

NAD 1983 UTM Zone 10N
BCGS MAPSHEET: 93N.019
NTS MAPSHEET: 93N/01

Borden Number: GhSb-10
Site Type: Pre 1846 Trail
Temporary Site Number: CHU043-Tizgay Lake Trail

Date of Last Site Visit: June 22, 2018
Permit Number: 2018-0188
EPN: 2018-1203-002

- △ Post 1846 CMT
- Modern Blaze
- Claim Post
- CHU043-Tizgay Lake Trail
- New Archaeological Site Boundary (1277 x 10 m)
- Previously Recorded Archaeological Site
- Proposed Road
- Proposed Block
- Wildlife Tree Patch (WTP)
- Contour (100m)
- Contour (20m)
- Stream - Definite
- Waterbody
- Wetland
- Photo Location/Direction

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