COMMERCE RESOURCES CORP.

ASSESSMENT REPORT 2008 PROPOSED TAILINGS PROPERTY

NORTH OF BLUE RIVER, BRITISH COLUMBIA
(KAMLOOPS MINING DIVISION)

MINERAL TENURES:	588427 588428 588429 588430
Geographic Coordinates:	52° 18' N, 119° 14' W NTS Sheet 83D06
Owner/Operator:	Commerce Resources Corp. 1450, 789 West Pender Street Vancouver, B.C. V6C 1H2
Consultant:	Dahrouge Geological Consulting Ltd. 18, 10509 - 81 Avenue Edmonton, Alberta T6E 1X7
Authors:	Janine Brown, B.Sc., G.I.T., John Gorham, B.Sc., P. Geol.
Date Submitted:	October 17, 2009

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1. 0 INTRODUCTION

The Proposed Tailings Property encompasses four claims detached from the Blue River Property. Together these claims cover 19.17 sq. km (1916.75 ha) and are located 20 km north of the town of Blue River, British Columbia. These claims, also referred to as the 'Wasted Claims', were added to the Blue River property in 2008 for assessment as a possible tailings and waste rock site.
Fieldwork on the Wasted Claims was conducted between July 17th, 2008 and September 7th, 2008. It included prospecting by Dahrouge Geological Consulting Ltd. on behalf of Commerce Resources Corp. and a tailings and waste rock site scoping study by Klohn Crippen Berger Ltd.

1.1 GEOGRAPHIC SETTING

1.1.1 Location and Access

The Proposed Tailings Property is located to the west of the North Thompson River valley in east-central British Columbia; within NTS map sheet 83D06 (Figure 1.1). Claim #588427 is centered on 52° 17' 39" N latitude and 119° 13' 55" W longitude. Claim #588428 is centered on 52° 18' 42" N latitude and 119° 15' 7" W longitude. Claim #588429 is centered on 52° 19' 40" N latitude and 119° 15' 7" W longitude. Claim #588430 is centered on 52° 20' 52" N latitude and 119° 14' 41" W longitude. The property is accessible by B.C. Hwy 5 (Yellowhead South Highway), approximately 20 km north of the town of Blue River, British Columbia, or approximately 70 km south of the town of Valemount, British Columbia. These claims can be reached via the Mileage Creek Forest Service Road. The main line of the Canadian National Railway passes to the east of the Wasted Claims. Limited supplies, medical services, accommodations, train and bus connections, and airstrips are available in either Blue River or Valemount.

1.1.2 Topography, Vegetation, Climate and Geographic Names

The Proposed Tailings Property ranges from 900 m to 2400 m elevation above sea level and is located along the slopes of the Cariboo Mountains, to the west of the North Thompson River. Some of the major local tributaries of the North Thompson River include: Serpentine Creek, Pyramid Creek, Gum Creek, Bone Creek, Hellroar Creek and Mud Creek from the east, and Thunder River, Mileage Creek and Chappell Creek from the west. Mountain slopes are typically covered by thick undergrowth consisting of thick grasses, buck brush, devil's club, and shrubs of willow, alder, currants, huckleberry, gooseberry, thimbleberry and raspberry. White spruce is common in replanted logging areas. Former trails and flat wet areas are typically overgrown by dense alder and willow. Areas not subjected to recent logging are covered by dense stands of hemlock, cedar, fir and white pine. Within the area, tree line is at about 2000 m elevation. Winter, with significant snow, extends from about October to March, with the freshet in April-May. The temperature varies from an average daily minimum of -13°C in the winter to an average daily maximum of 24°C in the summer. Precipitation averages 120 cm per year and snowfall is generally heavy.

1.2 PROPERTY

The Proposed Tailings Property, composed of four mineral tenures acquired by Commerce Resources Corp. in July 2008, is situated within the Kamloops Mining Division (Figure 1.1; Table 1.2). The property encompasses an area about 19.17 sq. km (1916.75 ha) 20 km north of Blue River, British Columbia. The property is situated just to the west of the north-south trending valley of the North Thompson River valley, between the easterly flowing tributary valleys of Chappell Creek and Mileage Creek.

Tenure Number	Claim Name	Owner	Map Number	Good To Date	Status	Mining Division	Size (ha)	Units
588427	WASTED 1	142572	083D	2008/jul/18	GOOD	KAMLOOPS	494.2937	cell
588428	WASTED 2	142572	083D	2008/jul/18	GOOD	KAMLOOPS	474.3304	cell
588429	WASTED 3	142572	083D	2008/jul/18	GOOD	KAMLOOPS	474.1507	cell
588430	WASTED 4	142572	083D	2008/jul/18	GOOD	KAMLOOPS	473.977	cell

Table 1.2: Proposed Tailings Property Claim Status

1.3 HISTORY AND PREVIOUS INVESTIGATIONS

There is little documented geological work done on the Proposed Tailings Property. The earliest exploration of the area began in 1898 with the evaluation of muscovite deposits. Short adits were driven into pegmatite dikes with results indicating that muscovite occurrences were too small for economic interest (Dawson, 2001). Further exploration and evaluation of industrial mineral properties, exotic mineral deposits and metallic mineral deposits took place in the late 1900s. In 2000 and 2001 Gordon Richards (2001) investigated some known anomalous gold values within claim #588427 by silt sampling; however no deposits with economic grades were found.

1.4 PURPOSE

The 2008 exploration of the Wasted Claims included prospecting in order to eliminate any possibility of an economical ore deposit, and a scoping study by Klohn Crippen Berger for assessment of the property as a possible tailings and waste rock site. Details on the objectives of the Tailings and Waste Rock Scoping Study can be found in Appendix 2**.**

1.5 SUMMARY

The work was authorized by Commerce Resources Corp. and undertaken under Notice of Work and Reclamation Program Permit MX-15-183 (Annual Work Approval Number: 08-162019-0723). Dahrouge Geological Consulting Ltd. of Edmonton, Alberta, managed the summer-fall 2008 exploration program. Fieldwork began in July 2008, prospecting for any potential economical ore deposits within the property via quads and trucks. This was followed by a site visit from geological engineer Shane Warner, of Klohn Crippen Berger for evaluation of the property as a tailings and waste rock site.

2.0 REGIONAL GEOLOGY

The Proposed Tailings Property is situated in the Cariboo Mountains to the west of the Rocky Mountain Trench within the Omineca Belt of the Canadian Cordillera (Figure 2.1). Metamorphic grade varies across the Cariboo Mountains: generally there is a kyanite or kyanite-staurolite zone in the southeast; a muscovite-chlorite zone in the northwest; and garnet zone increasing to a sillimanite-potassium feldspar zone in the southwest (Pell and Simony, 1981; Walker and Simony, 1989).

The eastern flank of the Cordillera has previously been recognized as a locus of carbonatite and alkaline magmatism (Currie, 1976). Carbonatites and associated alkaline rocks occur in a broad zone, which is parallel to, and on either side of the Rocky Mountain Trench (Pell, 1987). Pell (1994) has subdivided three discrete areas hosting carbonatites and alkaline rocks within British Columbia:

a) Eastern - the Foreland Belt, east of the Rocky Mountain Trench;
b) Central - the eastern edge of the Omineca Belt;
c) Western - in the vicinity of the Frenchman Cap Dome within the Omineca Belt.

The Eastern area, hosts carbonatite and alkaline complexes (e.g. Aley, Wicheeda Lake, Ice River, and Bearpaw Ridge) emplaced in sub-greenschist to greenschist facies Paleozoic strata of the Main and Western ranges of the Rocky Mountains. Carbonatites and alkaline rocks in the Central area (e.g. Manson Creek, Blue River, Mount Bisson-Munroe Creek and Trident Mountain) intrude multiply deformed and metamorphosed upper amphibolitic facies Neoproterozoic to Early Cambrian metasediments (Pell, 1994). The Western area hosts both intrusive and extrusive carbonatites, as well as syenitic gneisses (e.g. Mount Copeland, Mount Grace, and Three Valley Gap) in a succession of deformed paragneisses of upper amphibolitic facies.

All of the alkaline and carbonatite complexes and their host rocks were deformed and metamorphosed during the Jura-Cretaceous Columbian Orogeny, with the Omineca Belt subjected to upper amphibolitic facies, and the Foreland Belt up to greenschist facies.

To the south east of the Proposed Tailing Property and on the east side of the North Thompson Fault lies the Early Proterozoic Malton gneiss which was likely connected with the basement gneiss of the Cariboo Mountains prior to the faulting. In addition to the Malton gneiss, there is one other major gneissic body in the region; the Gold Creek gneiss to the northeast of the Proposed Tailings Property.

Various faults occur within the region including the Isaac Lake Fault, Matthew Fault, Thunder River Fault, McBride Fault and Mt. Sir Arthur Meighen thrust. The Proposed Tailings Property is located on the west side of the North Thompson – Albreda Fault, which is interpreted as having a mainly dip-slip and west-side-down motion (Digel et al., 1998).

3. 0 PROPERTY GEOLOGY

Property geology has been compiled from previous reports done covering the claim area (e.g. Dawson, 2001; McDonough et al. 1991; Murphy, 1990; Pell and Simony, 1981; Walker and Simony, 1989), as well as field observations.

3.1 STRATIGRAPHY, STRUCTURE AND LITHOLOGY

The Cariboo Mountains are underlain by basement gneiss, interlayered metasediments of the Neoproterozoic Windermere Supergroup, the Paleozoic and Proterozoic Mica Creek successions, Devono-Mississipian and Triassic intrusions, and Middle Jurassic and Early and Late Cretaceous intrusions (Murphy et al. 1991). The Proposed Tailings Property is primarily composed of the Lower Kaza Group which is comprised of a pelite, semipelite-amphibolite and a carbonate unit. Biotite and leuco-amphibolites are more abundant, while kyanite and migmatite are richer in the pelites of the Lower Kaza Group (Walker and Simony, 1989). The carbonate unit is characterized by a brown micaceous marble, quartzite-clase marble conglomerate, sandy grey marble, and a calcareous schist or phyllite, psammite and grit (Murphy, 1990). Also seen in the Lower Kaza Group is a progressively brecciated and hydrated (with elevation increase) ultramafic comprised of green clinopyroxene, black amphibole, magnetite, pyrite, pyrrhotite and black biotite. (Murphy et al. 1991) Dominantly pre- and syn- deformational pegmatite dikes and sills with coarse grained quartz, plagioclase, biotite and muscovite and accessory minerals of garnet and tourmaline are throughout the property. These pegmatites range from 3 cm to 3 m in thickness and some are deformed while others crosscut foliations and folds (Walker and Simony, 1989). Crosscutting relationships suggest the pegmatites occurred prior to and after phase three deformation.

The Proposed Tailings Property has been affected by at least three phases of deformation and has been metamorphosed to upper amphibolite facies (Diegel et al., 1989). Phase one deformation resulted in the overturning of a succession of Horsethief Creek Group strata (Currie and Simony, 1987). Depending on lithology, phase two folds vary from parallel to similar, tight to isoclinal northeast-verging folds (Walker and Simony, 1989). Axial planes generally plunge northwest and folds have an axial planar cleavage. Phase three deformation formed crenulation cleavages and folds ranging from open to tight and inclined that are coaxial with phase two. The tight folds, boudinage, migmatization and intense foliation associated with the first two phases of deformation are sporadically complicated by the structures of the third phase and faulting. Being on the west side of the North Thompson - Albreda fault which has dropped down, means the Cariboo Mountains have experienced lower grade metamorphism.

3.2 MINERALIZATION

Sulphide minerals occur throughout the Proposed Tailings Property. Pyrite and pyrrhotite are the dominant sulphur bearing minerals with minor chalcopyrite, sphalerite, ilmenite, rutile and galena found as thin layers or disseminations. The sulphide layers are 2 cm or more in thickness and occur parallel to bedding. Analyses of the sulphides have returned values as high as 670 ppm Cu. Other mineralization found within the Wasted Claims includes gold with values of 18-134 ppm and zinc with values of 100-289 ppm (Dawson, 2001).

4.0 2008 EXPLORATION

Exploration carried out during the 2008 field season consisted of field mapping and prospecting. Access was achieved using trucks and quads to survey the area for any potential economical ore deposits. Klohn Crippen Berger Ltd. of Vancouver B.C conducted a field survey and engineering scope to lay out a tailings impoundment area on the claims (Appendix 2).

5.0 DISCUSSION AND CONCLUSIONS

The 2008 exploration program carried out on the Proposed Tailings Property has indicated that there is no economical ore potential in the claims area which might be sequestered by tailings storage. The details regarding the results of the Tailings and Waste Rock Scoping Study can be found in Appendix 2. The preferred tailings site identified in this study is TSF5, which is covered by the Wasted Claims. It is recommended that the geochemistry of the tailings, process water and waste rock be quantified and integrated into the design. A more detailed cost estimate should be carried out for TSF5 and an alternative on either Pyramid Creek or Gum Creek. The work should incorporate the geochemistry results and additional engineering, and if significant cost or permitting issues arise with the conventional TSF concept, filtered tailings should be investigated and costs assessed in detail.

The next phase of the project could proceed in two phases of site investigations, as follows:

- Phase I: Test pit investigations for foundations and borrow materials and geophysics (resistivity surveys).
- Phase II: Drilling to determine strength and permeability of the foundations and impoundment area.

2009 10 17

Blue River, British Columbia Janine Brown , B.Sc., G.I.T., John Gorham, B. Sc., P. Geo.

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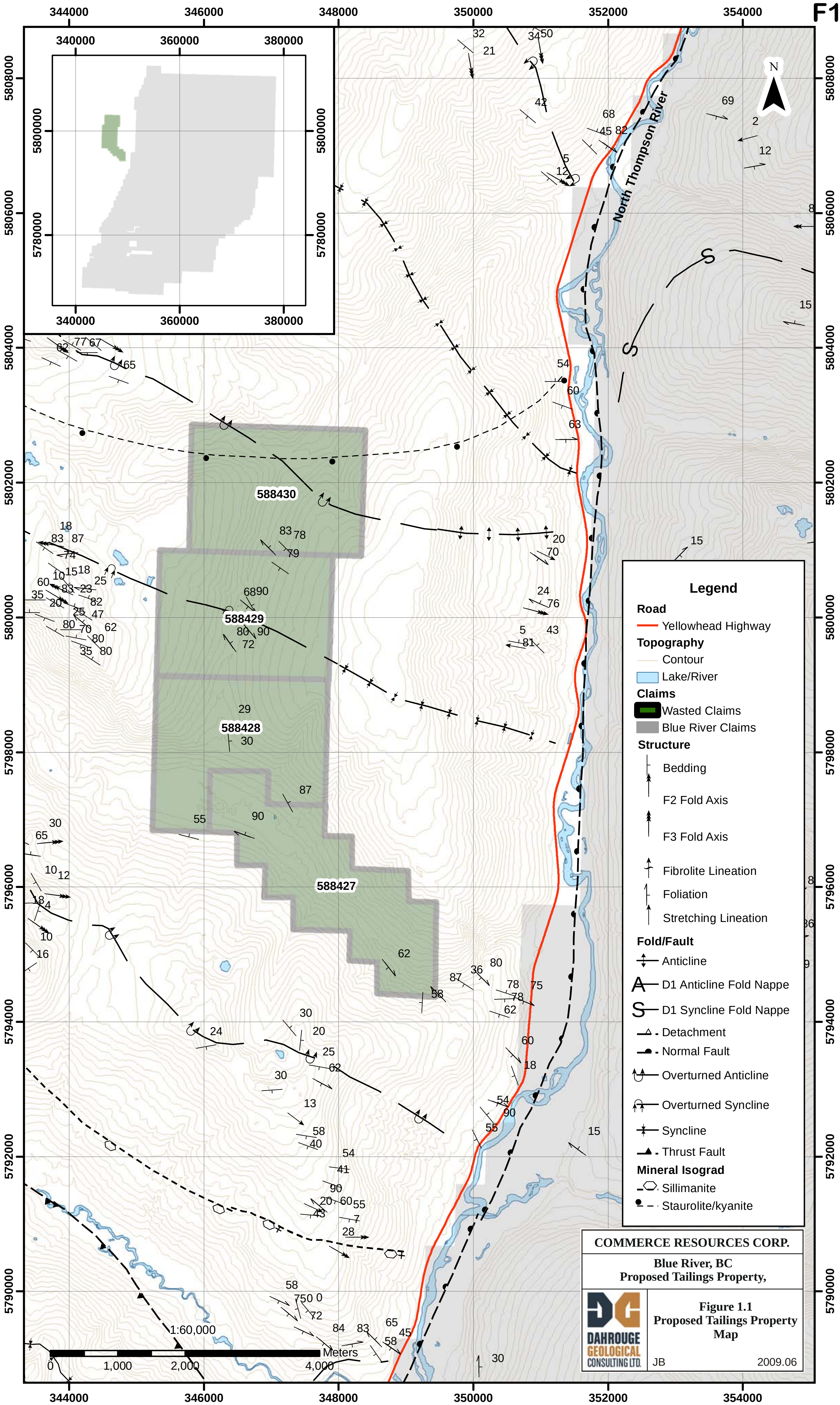
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Claims
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Blue River Claims
Structure
Bedding
F2 Fold Axis
F3 Fold Axis
Fibrolite Lineation
Foliation
Stretching Lineation
Fold/Fault
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Normal Fault
Overturned Anticline
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Syncline
Thrust Fault
Mineral Isograd
Sillimanite
Staurolite/kyanite
COMMERCE RESOURCES CORP.
Blue River, BC
Proposed Tailings Property,
DAHROUGE GEOLOGICAL CONSULTING LTD.
Figure 1.1
Proposed Tailings Property Map
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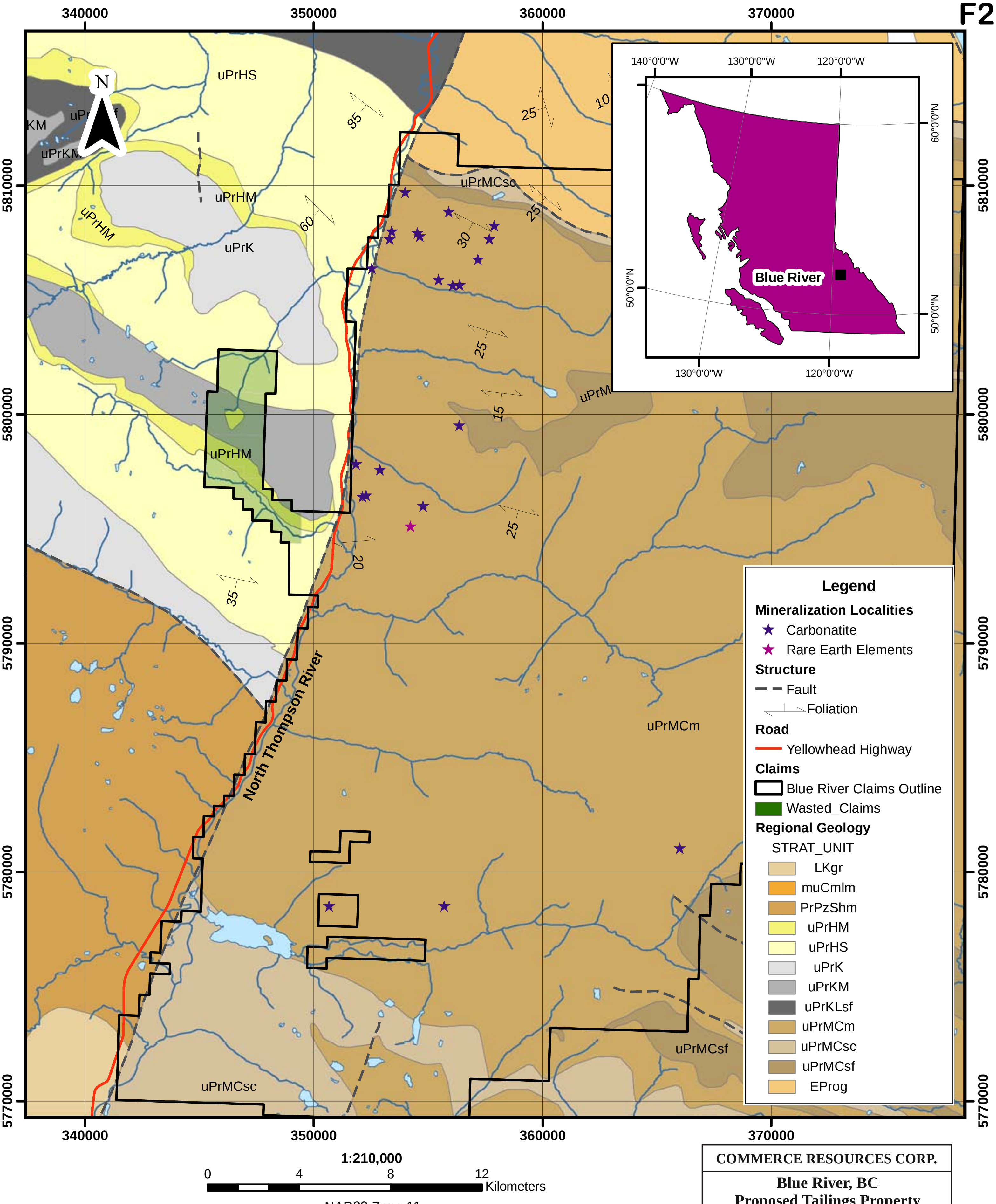

COMMERCE RESOURCES CORP.	
Blue River, BC **Proposed Tailings Property**	
DAHROUGE GEOLOGICAL CONSULTING LTD.	**Figure 2.1** **2008 Regional Geology**
	JB 2009.04

Notes:

1) Geology downloaded from BC gov't web-site (http://www.em.gov.bc.ca/Mining/Geolsurv/MapPlace/geoData.htm).

2) Stratigraphic Unit details on following page.

APPENDIX 1

ITEMIZED COST STATEMENT

APPENDIX 1: ITEMIZED COST STATEMENT

2008 Field Season

Personnel

B. Ulry, asst. geologist										
2.00	days	@	$	400.00	field work	$	800.00			
2.00	days	@	$	360.00	report prep	$	720.00			
J. Brown, asst. geologist										
1.00	days	@	$	400.00	field work	$	400.00			
10.5	days	@	$	360.00	report prep	$	3,780.00			
								$	5,700.00	

Other Consultants

Tailings and Waste Rock Scoping Study					
Klohn Crippen Berger	- desktop study	$	8,400.00		
	-field work	$	3,700.00		
				$	12,100.00

Other	Report Costs (maps, binding, filing)	$	100.00	$	100.00

Total	$	17,900.00

APPENDIX 2

KLOHN CRIPPEN BERGER REPORT

Klohn Crippen Berger

February 27, 2009

Commerce Resources Corp.
1450 – 789 West Pender St.
Vancouver, British Columbia
V6C 1H2

Ms. Jenna Hardy, M.Sc, MBA, P.Geo
Technical Services, Regulatory and Environment

Dear Ms. Hardy:

Blue River – Upper Fir Deposit
Tailings & Waste Rock Scoping Study

1. INTRODUCTION

This letter report presents the results of our scoping study for storage alternatives for tailings and mine waste rock for your proposed Tantalum – Niobium mine for the Upper Fir Deposit, located near Blue River in central British Columbia. The project is at the advanced exploration stage and has the potential to produce 30 Mt of ore at a production rate of 10,000 tpd from an open pit mine. We also understand that there is a potential for an underground mine alternative, which would significantly reduce the waste rock storage requirements.

The scoping study is based on a desk study using available topography and other information. In addition, a follow-up 2-day site visit was conducted by one of our engineers to gain basic understanding of the site and visit several preferred options to confirm assumptions and check for fatal flaws with design concepts. Findings from the site visit are reported in the attached letter.

The main objectives of the study were to:

- Determine potential alternatives for storing up to 30 Mt of mine tailings, considering both “wet” (conventional) and “dry” (filtered) technologies.
- Develop cost estimates for the alternatives to provide a “rough” cost estimate for comparison of alternatives.
- Consider potential environmental issues associated with acid rock drainage (ARD), neutral metal leaching (ML) and seepage.
- Consider storage alternatives for up to 60 Mt mine waste rock.

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2. SITE CONDITIONS

2.1 General and Physiography

The site is located 20 km north of Blue River, British Columbia on the eastern side of the North Thompson River valley, near elevation 1300 m, as shown in Figure 1. The site can be observed from the Yellowhead Highway, located on the west side of the river and from the Canadian National Railway (CNR), located on the east side of the river. Access to the mine area is via a 7 km dirt road from the Yellowhead Highway.

The general area is mountainous, with peaks rising steeply up to elevation 2400 m and glaciers are present in the headwaters of the streams at the higher elevations. The area is forested.

2.2 Climate

Baseline climate information is being collected by Gartner Lee. Preliminary estimates have been derived by KCBL for planning purposes.

The nearest Environment Canada weather station is at Blue River (elevation 683 m), which has a mean annual precipitation of 1.0 m (683 mm rainfall and 424 mm snowfall equivalent). This value was increased to 1.5 m for the site to account for the increase in precipitation with elevation. An average runoff coefficient of 0.75 is recommended for the relatively steep, rocky topography.

Annual evaporation is minimal and likely in the order of 350 mm.

Winter, with significant snow, goes from about October to March, with the freshet in April-May. The temperature varies from an average daily minimum of -13°C in the winter to an average daily maximum of 24°C in the summer. Climate Data Normals 1971 to 2000 for Blue River are shown in Table 2.1.

Table 2.1 Climate Normals for Blue River A, 1971 to 2000

Temperature:	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Year**
Daily Average (°C)	**-9.0**	**-4.7**	**0.0**	**4.8**	**10.1**	**13.8**	**16.4**	**16.0**	**11.0**	**4.7**	**-2.2**	**-7.7**	**4.5**
Daily Maximum (°C)	-4.7	-0.1	5.6	11.6	17.4	20.8	23.9	23.8	18.0	9.3	0.7	-4.2	10.2
Daily Minimum (°C)	-13.2	-9.2	-5.5	-2.0	2.8	6.8	8.7	8.1	4.0	0.1	-5.0	-11.1	-1.3
Precipitation:													
Rainfall (mm)	14.7	19.7	37.1	45.4	69.8	95.6	97.5	85.6	73.3	85.7	42.0	16.4	682.7
Snowfall (cm)	109	60.7	38.3	7.4	0.3	0.0	0.0	0.0	0.3	10.2	82.1	115.2	423.5
Precipitation (mm)	**94.8**	**62.9**	**66.8**	**52**	**70.1**	**95.6**	**97.5**	**85.6**	**73.5**	**94.4**	**107.9**	**100.9**	**1001.9**
Average Snow Depth (cm)	76	83	69	19	0	0	0	0	0	0	14	47	26
Days with Maximum Temperature:													
<= 0 °C	21.9	11.6	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.5	10.7	22.6	69.7
> 0 °C	9.1	16.7	28.6	30.0	31.0	30.0	31.0	31.0	30.0	30.5	19.3	8.4	295.6
> 10 °C	0.0	0.0	4.2	17.1	29.0	29.8	31.0	31.0	27.9	11.9	0.2	0.0	182.2
> 20 °C	0.0	0.0	0.0	1.6	9.3	16.1	21.9	21.7	11.1	0.5	0.0	0.0	82.2
> 30 °C	0.0	0.0	0.0	0.0	0.4	1.1	4.7	5.0	0.3	0.0	0.0	0.0	11.4
> 35 °C	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.7

Reference: Environment Canada, 2002

Flow monitoring stations were installed on Pyramid Creek and a Gum Creek tributary in 2006 and 2007 respectively and recorded daily average flows. This data has been summarized in Table 2.2. The catchment areas of Pyramid Creek and the Gum Creek tributary are approximately 38 km^2 and 8 km^2 respectively.

Table 2.2 Monthly Average Flows for Pyramid Creek and Gum Creek Tributary

Year	Month	Avg Flow (m^3/s)	
		Pyramid Creek	Gum Creek Tributary
2006	Sept.	1.54 [2]	
	Oct.	1.26	
	Nov.	4.28 [1]	
	Dec.	2.68 [1]	
2007	Jan.	2.47	
	Feb.	1.07	
	Mar.	1.27	
	Apr.	1.69	
	May	2.78 [2]	
	Jun.	2.54 [2]	0.31 [2]
	Jul.	3.99	0.37
	Aug.	2.68	0.27 [2]
	Sept.	1.88	

Notes:

1. Recorded average daily flows from 25/11/2007 to 02/12/2007 were significantly higher than normal (6.5 m^3/s to 18.5 m^3/s) and likely correspond to a storm event. Excluding this event, average flows were 1.50 m^3/s and 1.92 m^3/s for November 2007 and December 2007 respectively.
2. Only partial data available.

2.3 Geology and Seismicity

The geology of the area appears to consist of metamorphic rocks, with a thin veneer of colluvium on the slopes and glacial tills in the valley bottoms and lower portions of the slopes. The soils are likely medium dense to dense. The glacial tills are likely silty to sandy tills, as opposed to clay tills.

The North Thompson River channel likely contains inter-bedded sands and gravels with silt and sandy silt overflow layers.

The area is moderately seismic and the 2,500 year return period peak ground acceleration is 0.27 g (NRCan, 2008).

3. WASTE CHARACTERIZATION

The mine could produce up to 30 Mt of ore and 60 Mt of waste rock from an open pit developed in a north south direction, approximately 1000 m long, 500 m wide and up to 150 m deep. The ore would be milled at a rate of up to 10,000 tpd.

The deposit contains elevated sulphide levels and thus ARD from the open pit, waste rock and tailings is a potential concern. Commerce has commissioned Mesh Environmental to provide a preliminary ARD/ML assessment.

The gradation of the tailings will depend on the milling process and could range from 40% to 75% fines (particle size less than 75 microns). There may be a possibility of processing the tailings to make them “inert”, however this is highly speculative at this stage.

Commerce reported that there is approximately 20 ppm of uranium in the deposit.

Quantification of the geochemistry is critical to confirm the potential containment requirements and water/seepage release allowances. There is also the social sensitivity to mining of any rocks associated with the uranium related group of minerals, which needs to be carefully considered.

4. TAILINGS STORAGE TECHNOLOGIES

4.1 General

This section provides an overview of the general methods of tailings production and the associated storage options. The methods considered in this assessment are:

- Conventional tailings disposal;
- High density thickened tailings disposal;
- Paste tailings disposal;
- Filtered “dry” tailings disposal; and
- Co-disposal of tailings and waste rock.

4.2 Conventional Tailings Disposal

Mechanical and chemical processes are used to extract the desired product from the ore within a processing plant. Tailings is the waste stream from the mine processing plant, consisting of ground rock and process effluents. Conventional tailings discharged from the process plant are usually less than 35% solids and are pumped through a pipeline to the disposal site. Conventional thickeners can be used to thicken tailings up to 35% to 55% solids by weight. Upon disposal, the tailings settle and consolidate allowing free water to rise to the surface and form a pond. Precipitation and runoff from the undiverted catchment increases the size of the water pond, and some water is lost to evaporation and seepage. Depending on the overall water balance, free water may be reclaimed for use in the process plant, or discharged to the environment (if permitted by authorities).

4.3 High Density Thickened Tailings Disposal

High density thickened tailings deposition and storage is a variation of the conventional method of tailings disposal. In this method, tailings are thickened to a high pulp density, typically 55% to 65% solids by weight, so that the tailings-water mixture behaves more as a highly viscous fluid than the typical slurry consistency of conventional tailings discharge. The limit of thickening is typically controlled by the density at which the tailings can be pumped using conventional slurry pumps. The tailings are stored behind containment structures constructed using local borrow material and/or mine waste.

Thickening the tailings reduces the quantity of water to be managed in the tailings facility and the dam elevation may be reduced due to the reduction in the pond size and the slightly higher in situ density of the tailings. Disadvantages include higher operating and pumping costs and the increase in quality/operational controls required to maintain the equipment and optimum density.

4.4 Paste Tailings Disposal

Paste tailings is essentially a variation on thickened tailings placement, except that the tailings from the mill is further de-watered into a higher density paste, typically 65% to 75% solids by weight and 150 mm to 200 mm of slump in a slump test. The slump test is equivalent to the slump test used in concrete quality testing. Given the high density, positive displacement pumps are required to pump the paste to the disposal facility.

One advantage of paste tailings is that slopes up to 5% can be achieved, which can increase storage capacity in some cases. The paste may potentially be deposited in sequences of cells so that upon completion of a cell the tailings surface may be progressively reclaimed. The main disadvantage is cost. Paste tailings could cost 2 to 3 times more than conventional tailings to produce and place. Paste tailings can also be subject to liquefaction under seismic loading and, therefore, require a containment dam.

4.5 Filtered "Dry" Tailings Disposal

Filtered tailings is produced by pressure filtering or vacuum filtering tailings to produce a de-saturated tailings with a solids content of 80% to 85% by weight and a water content ± 2% of the optimum compaction water content (about 15% by volume). The tailings can be trucked or moved by conveyor to the storage facility and placed in a dense state using conventional earth-moving and compaction equipment.

Filtered tailings storage reduces the risk and potential costs relating to geotechnical stability, environmental impacts and site closure. In particular:

- Filtered tailings can be placed and compacted to exhibit good geotechnical strength characteristics. This is especially important in high seismic areas because the tailings can be compacted to densities high enough to preclude liquefaction and associated flow slides. In most cases, large stabilization dykes of borrow material or mine waste rock are not required and increased tailings storage is available because the in situ densities are higher;

- Filtered tailings facilities generally do not impound water or fluid so they can be assigned lower failure consequence categories than conventional tailings facilities. In high seismic areas this is important because, if designed properly, earthquake loading will only cause minor slope deformation rather than the potentially major fluid release associated with conventional tailings ponds. Lower consequence categories result in less stringent design criteria for static and earthquake stability (Canadian Dam Association - Dam Safety Guidelines, 2007). In fact, filtered tailings facilities may not necessarily be classified as dams if fluid or water is not stored in the facility;

- Filtered tailings allow most of the process water used in the extraction process to be recovered;

- Filtered tailings can be deposited in discrete cells allowing progressive reclamation to begin shortly after deposition; and

- Filtered tailings facilities are relatively easy to reclaim with significantly reduced long-term impacts on surface and groundwater when compared to conventional tailings facilities. An exception would be for coarse, pervious tailings with high acid-generating potential where oxygen diffusion and water infiltration can cause problems of ARD.

Historically, this technique has not been used extensively because of the very high capital and operating costs as compared to conventional tailings disposal techniques. Filtered tailings are typically at least 5 times more expensive to produce and place than conventional tailings.

Operationally, filtered tailings are better suited to dry and warm climates. Proper compaction is difficult to achieve during wet, snowing and freezing conditions, and material may need to be stored temporarily in covered stockpiles for later placement in better weather. Re-handling of this material drives up operational costs.

4.6 Co-Disposal

Co-disposal of tailings and waste rock involves encapsulating tailings within waste rock dumps either by entrainment of the tailings into the voids of the waste rock, inter-layering the waste rock with tailings, or incorporation of discrete cells of tailings within the interior of the dump. The selection of the most appropriate co-disposal technique varies from site to site, and depends upon such factors as the available land area and topography, the ratio of tailings to waste rock (strip ratio), waste rock type (fine or coarse sized), and tailings consistency (fine or coarse grained, slurry or paste). The tailings-waste rock repository may be simply capped for closure, or it may be submerged by flooding, either progressively during the mine operating life or at closure.

Adoption of co-disposal of tailings and waste rock as the primary mine waste management strategy may offer attractive economic and environmental benefits for some mines. These benefits could include:

- A reduction in total area of land disturbance by the waste rock dumps and tailings containment facilities;
- An increase in safety and reduction of the risks associated with tailings impoundments, by eliminating or reducing the size and height of the impoundment facilities; and
- If carefully designed, the potential for ARD in waste rock dumps can be reduced[1].

[1] High saturation of the waste rock voids with tailings will tend to reduce oxygen flow through the dump and reduce the overall hydraulic conductivity of the dump.

Co-disposal of tailings with waste rock is very difficult and some of the methods that have been assessed, and in some cases applied, include the following:

- Co-mingling of tailings in the voids of the waste rock by mixing at active dump tip heads;
- Deposition of tailings in small to large cells formed in the interior of waste rock dumps;
- Deposition of tailings in thin layers within waste rock dumps;
- Mixing of tailings with crushed rock to achieve a moist mixture that can be placed and compacted in the waste dumps;
- Mixing of tailings with crushed rock to achieve a saturated, non-segregating mixture that can be stored in an uncompacted state in cells within the waste dumps; and
- Co-placement of tailings and rock in an impoundment, and submerging both at closure.

The high cost of co-disposal and the large degree of uncertainty with the effectiveness of mixing increase the risk of this alternative.

5. TAILINGS AND WASTE ROCK STORAGE ALTERNATIVES

5.1 General

Potential tailings and waste rock storage sites were reviewed within a 20 km radius of the mine. Valley fill dams, side-hill fill dams and side-hill stockpiles were considered for tailings storage to address the range of potential tailings technologies. The side-hill stockpiles would also be suitable for waste rock or co-disposal.

There is currently no information available about the geochemistry of the waste rock, tailings and process water. A requirement for containment of tailings process water or waste rock leachate would add a significant level of complexity to all alternatives. This would necessitate the introduction of such controls as: impervious dams, seepage control works, liners and covers. This will require further consideration as the project advances.

5.2 Conventional Tailings Storage Sites (TSFs)

Five conventional storage sites, using containment dams, were assessed. Valley dam sites were laid out in Pyramid Creek and Gum Creek, which drain into the east side of the Thompson River (TSF1, TSF2 and TSF3). On the west side of the Thompson River, a site was laid out on a Chappell Creek tributary (TSF5), approximately 18 km by road from the Upper Fir Deposit. Finally, a side-hill tailings site (TSF4) was laid out near the road and the CNR railway tracks on the east side of the Thompson. Dams were assumed to be constructed of local borrow with slopes of 2.5H:1V for the purpose of this study, and a settled density of 1.3 t/m^3 was assumed for the tailings. The general parameters for the facilities are summarized in Table 5.1.

Table 5.1 Summary of Tailings Storage Facility Alternatives

TSF #	Distance from Open Pit (km)	Static Pumping Head (m)	Dam Crest Elev. (m)	Dam Height (m)	Volumes			Storage Ratio (tails/fills)	Catchment Area (km^2)
					Dam Fill (Mm^3)	Tailings Storage (Mm^3)	Tailings Storage (Mt)		
TSF1	3	-20	1,280	180	15.7	24.1	31	1.5	24
TSF2	5	180	1,480	100	4.6	19.8	26	4.3	15
TSF3	6	-310	990	90	3.0	21.3	28	7.1	36
TSF4	5	-500	800	110	18.6	13.1	17	0.7	1
TSF5	18	172*	1,400	120	3.3	26.6	35	8.1	7

* Includes 72 m of friction loss

<u>Gum Creek: TSF1 and TSF2</u>

Gum Creek is immediately to the north of the open pit and two potential dam sites were laid out, although the optimum site could be between the two dams. Water management and the potential for debris/snow avalanches are the main challenges with the site (catchment areas vary from 15 km^2 to 24 km^2). A diversion dam and pipeline would transport most water around the TSF. TSF1 appears to have good rock in the moderately sloped north valley wall for a closure spillway. The depth to bedrock at the potential spillway site for TSF2 is unknown and may require significant excavation.

The dam would be a major structure which would likely be visible from the Yellowhead Highway.

Pyramid Creek: TSF3

Pyramid Creek is approximately 5 km north of the open pit and would require a new access road along a reasonably steep side-hill slope. TSF3 is one of the most efficient dams in terms of storage/dam fill ratio. Water management and the potential for debris/snow avalanches are the main challenges with the site. The site has the largest catchment area (36 km^2). A diversion dam and pipeline would transport most water around the TSF during operations. There appears to be good rock in the valley wall for a closure spillway.

Thompson River Side-hill: TSF4

An impoundment was laid out between the CNR railway tracks and the transmission line, along the side-hill with the toe on the floodplain of the Thompson River. TSF4 is spatially constrained resulting in limited capacity, and is also very inefficient with a storage/fill ratio of 0.7. There could also be a concern with liquefaction of the foundation soils. Water management, however, is favourable because of the minimal catchment area. Seepage into the foundation may be a concern due to the expected higher permeability foundation soils and the proximity to the Thompson River.

Chappell Creek: TSF5

TSF5 is located approximately 18 km by road west of the open pit on a tributary of Chappell Creek. It has a relatively small catchment area, half of which could be easily diverted to the south. The main disadvantage of the site is the transport of tailings, which will require a long pipeline with crossings over the CNR railway, North Thompson River and the Yellowhead Highway. The large elevation change (540 m loss and 640 m gain) and distance will incur higher power consumption for pumping, although the use of a high pressure pipeline would reduce elevation head pumping requirements to approximately 100 m. Pipeline capital and maintenance costs will also be higher than other alternatives. Closure should be favourable with a low elevation closure spillway at the south end of the impoundment. An additional benefit of the TSF5 site is that it would be out of view from the Yellowhead Highway.

5.3 Filtered Tailings and Waste Rock Storage Sites (WSFs)

Filtered tailings could be "dry stacked" within the waste rock dumps or in a separate pile, such as WSF4. Filtered tailings, however, can be subject to liquefaction if they are placed loose and become saturated. Accordingly, a portion of the downhill side of the piles will require either drainage or compaction for a certain "structural" fill portion.

Seepage and leachate control for the piles will need to be carefully considered. If liners are required, they will be difficult to place on the side-hills and will also reduce the stability of the piles.

Four waste storage facilities were laid out as shown on Figure 1. Side slopes were assumed to be 2H:1V for the purpose of this study. General properties of the piles are summarized in Table 5.2.

Table 5.2 Summary of Waste Storage Facility Alternatives

WSF #	Storage (Mm^3)	Footprint Area (ha)	Base Elev. (m)	Top Elev. (m)	Haul Distance (km)
WSF1	42	90	790	1,100	4.5
WSF2	28	70	1,160	1,410	3.5
WSF3	32	110	1,320	1,515	4.0
WSF4	36	67	690	800	5.0

<u>South Side-hill Dumps: WSF1 and WSF3</u>

This area straddles the ridge north of Bone Creek and has some of the most gently sloping terrain in reasonable proximity to the pit. Therefore, stability concerns with these sites would likely be less than other areas. WSF1 is downhill from the pit which would reduce haulage costs, while WSF3 would require uphill haulage. Both sites have reasonable room for expansion northwards and upwards.

<u>Pyramid Creek Side-hill Dump: WSF2</u>

This site is located directly across Pyramid Creek from the pit, however crossing the creek valley requires a longer, circuitous haul route which limits the distance advantage. The natural slope is steeper than other options which reduces the possibility for expansion and makes stability a larger concern. The dump would involve some uphill haulage to reach the higher levels.

<u>Thompson River Side-hill: WSF4</u>

The TSF4 site was also used to model a waste storage facility, and in general the issues are very similar. When used as a WSF, the site has a significantly larger storage capacity than as a TSF. The potential for foundation liquefaction would still be a significant concern, as would foundation permeability. However, should the geochemistry of the waste require a liner, lining this site would be easier than any of the side-hill options. Haulage would be downhill, but the dump is slightly further from the pit than the other options.

6. COMPARATIVE COSTS

A comparative cost estimate was carried out for the tailings storage alternatives and these are summarized in Table 6.1. The estimates are only for comparison purposes and are not intended to be a complete cost estimate for tailings storage. The cost estimate assumed the following:

- All dam fills used local borrow at an average cost of $10/m^3$;
- Pumping power costs were $0.10/kWhr, or approximately $160,000/yr/100 m head;
- Diversion pipes were 1.5 m to 2.5 m diameter (proportioned to the catchment areas) and ranged from $500,000/km to $660,000/km;
- Tailings pipelines were 10 inch diameter at $300/m;
- Diversion dams were 30,000 m^3 of fill;
- Closure spillways on Gum and Pyramid Creeks were $15 million; and
- Filtered tailings cost $5/t to dewater and $2/t to transport, place and compact.

Table 6.1 Comparative Tailings Cost Assessment ($-million)

Site	Dam Fills	Pumps & Pumping	Pipeline	Roads	Diversion Dam Fills	Divers. Pipes ditches	Closure Spillway	Total Cost	Cost $/t
TSF1	157	0.0	0.7	0.5	0.3	1.3	15.0	175	5.30
TSF2	46	4.5	1.5	1.0	0.3	1.0	15.0	70	2.55
TSF3	30	0.0	2.3	3.0	0.3	2.0	15.0	53	1.75
TSF4	186	0.0	1.5	0.0	0.0	0.2	0.4	190	10.45
TSF5	33	3.5	4.5	4.0	0.0	0.4	1.0	46	1.30
Filtered Tailings									7.00

7. OPPORTUNITIES FOR COST SAVINGS

- Dams were assumed to be constructed of local borrow material, however there may be opportunities to use waste rock or cyclone sand for portions of the dams to reduce costs.

- There may be an opportunity to use the mined out portions of the open pit or underground openings to progressively infill with waste rock and/or tailings. This could be an attractive solution and should be considered in mine design and scheduling.
- Underground development of the Upper Fir Deposit could greatly reduce the waste rock storage requirements and could provide significant cost savings for waste storage. Some waste rock may be suitable for backfill further reducing surface storage requirements, and there may be an opportunity to backfill some of the tailings underground as well.
- A mini-hydro project could potentially be built downstream of a TSF on Gum Creek or Pyramid Creek, taking water from the TSF spillway. The TSF would allow for ponded storage which would increase the generation capacity and reliability of the station. Sale of the power produced could offset maintenance and closure costs. The associated economic incentive for ongoing monitoring and maintenance could reduce permitting concerns associated with closure of these facilities.

8. SUMMARY AND RECOMMENDATIONS

This scoping level report identifies a number of tailings and waste rock storage alternatives for the Blue River – Upper Fir Deposit. A comparative assessment was carried out that indicates that TSF5, located west of the Yellowhead Highway, appears to be the preferred alternative for tailings storage.

Tailings storage on either Pyramid Creek or Gum Creek is also potentially feasible, however the water management and long term closure issues with the steep valley and large catchment areas should not be underestimated.

For waste rock storage, there is no obvious preferred option, but WSF1 seems to be most favourable. Key factors that may differentiate the options, such as stability and geochemistry of the waste, were beyond the scope of this study.

The assessment of both waste rock and tailings storage does not fully consider the implications of seepage and leachate control or what the requirements for these may be.

The main recommendations for the next step in the assessment are as follows:

- The geochemistry of the tailings, process water and waste rock needs to be quantified and integrated into the design;
- A more detailed cost estimate should be carried out for TSF5 and an alternative on either Pyramid Creek or Gum Creek. The work should incorporate the geochemistry results and additional engineering; and
- If significant cost or permitting issues arise with the conventional TSF concept, filtered tailings should be investigated and costed in detail.

The next phase of the project could proceed in two phases of site investigations, as follows:

- Phase I: Test pit investigations for foundations and borrow materials and geophysics (resistivity surveys).
- Phase II: Drilling to determine strength and permeability of the foundations and impoundment area.

Yours truly,

KLOHN CRIPPEN BERGER LTD.

Shane Warner, E.I.T.
Geological Engineer

Harvey McLeod, P.Eng., P.Geo.
Project Manager

Attachments: Figure 1 - Tailings and Waste Rock Alternatives
Figure 2 - Waste Storage Facility Sections
Figure 3 - TSF1 and TSF2 Sections
Figure 4 - TSF3 and TSF5 Sections
September 2008 Site Visit Report

REFERENCES

Environment Canada, 2002. Climate Normals 1971-2000, Blue River A. Accessed May 9, 2008. http://www.climate.weatheroffice.ec.gc.ca/climate_normals/results_e.html?IDType=MSC&NormalsClass=A&StnId=1237

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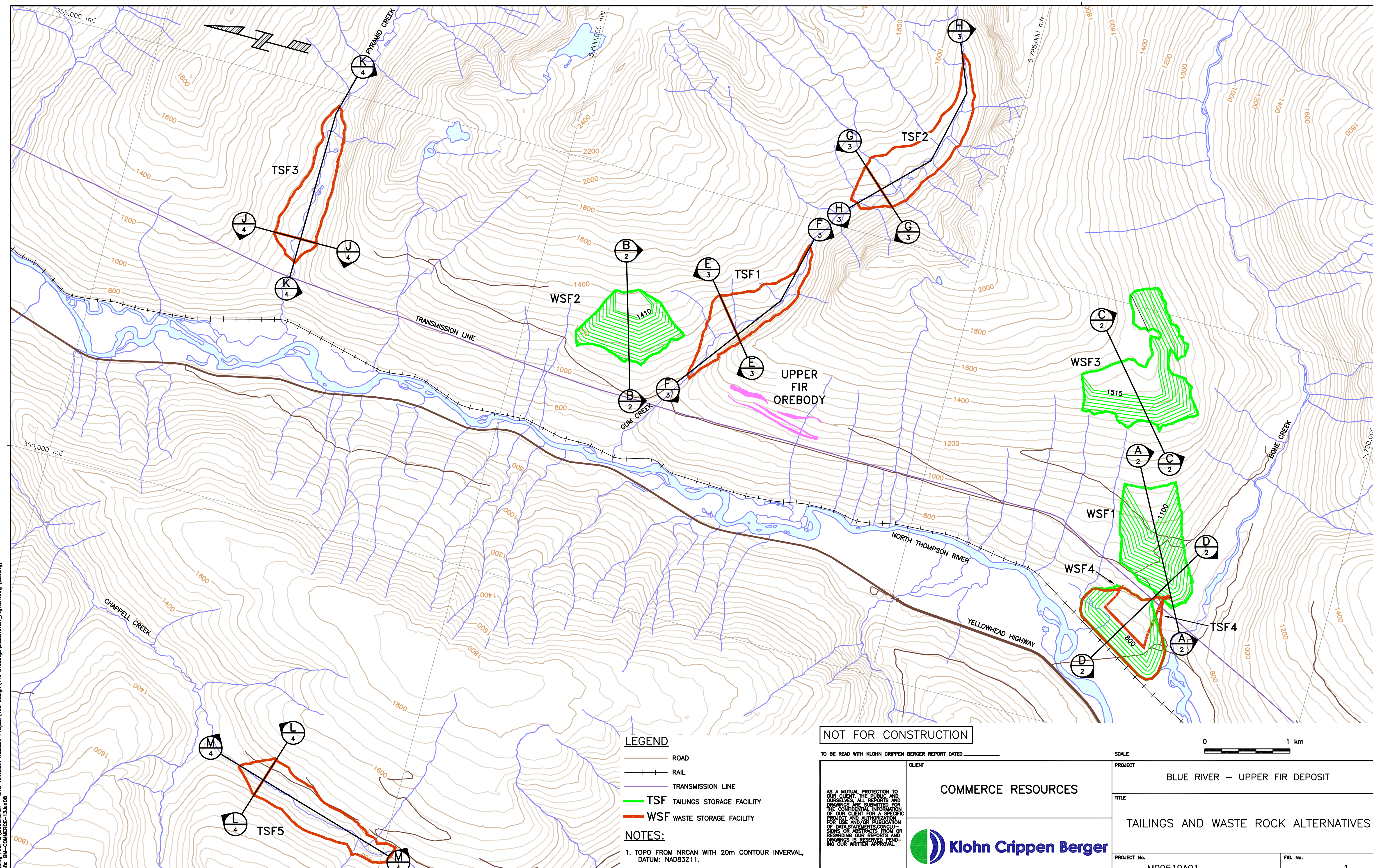

PYRAMID CREEK
355,000 mE
5,800,000 mN
5,795,000 mN
5,790,000 mN
350,000 mE
TSF3
TSF2
TSF1
TSF4
TSF5
WSF2
WSF3
WSF1
WSF4
1410
1515
1100
800
UPPER
FIR
OREBODY
TRANSMISSION LINE
GUM CREEK
NORTH THOMPSON RIVER
YELLOWHEAD HIGHWAY
BONE CREEK
CHAPPELL CREEK
LEGEND
ROAD
RAIL
TRANSMISSION LINE
TSF TAILINGS STORAGE FACILITY
WSF WASTE STORAGE FACILITY
NOTES:
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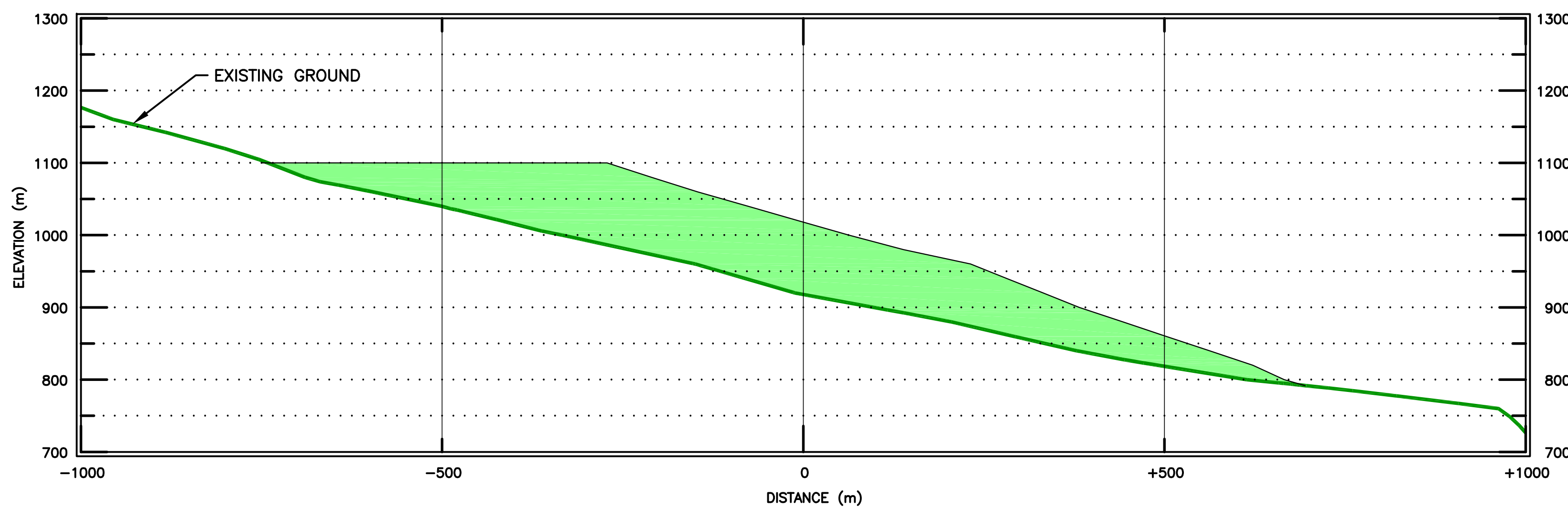
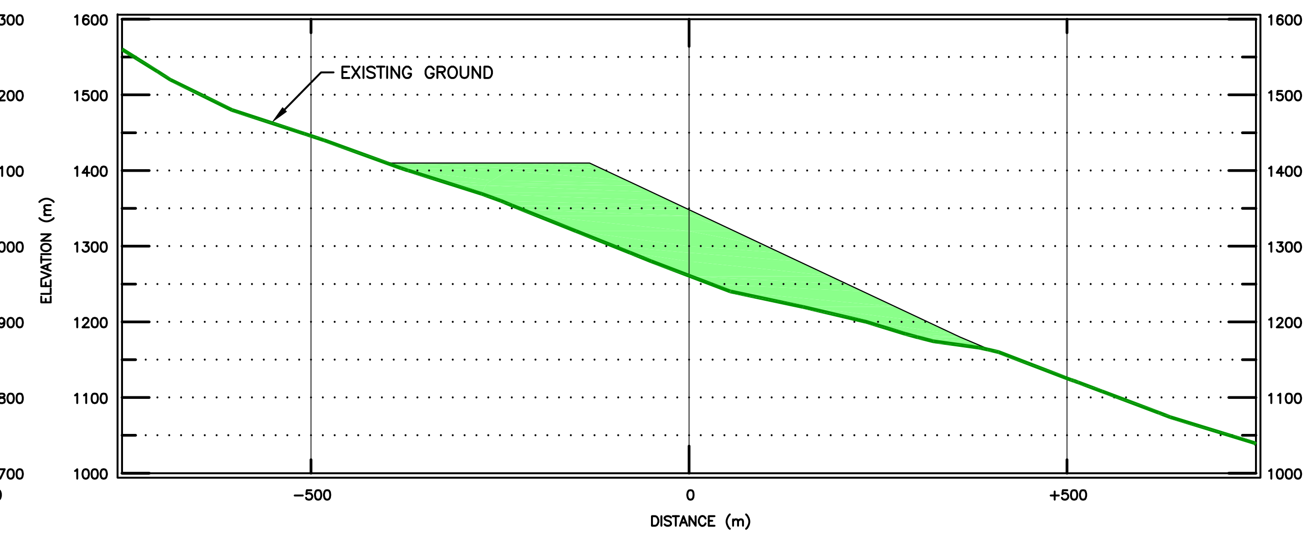
Klohn Crippen Berger
PROJECT
BLUE RIVER – UPPER FIR DEPOSIT
TITLE
TAILINGS AND WASTE ROCK ALTERNATIVES
PROJECT No.
M09519A01
FIG. No.
1



SECTION A/1 WSF1



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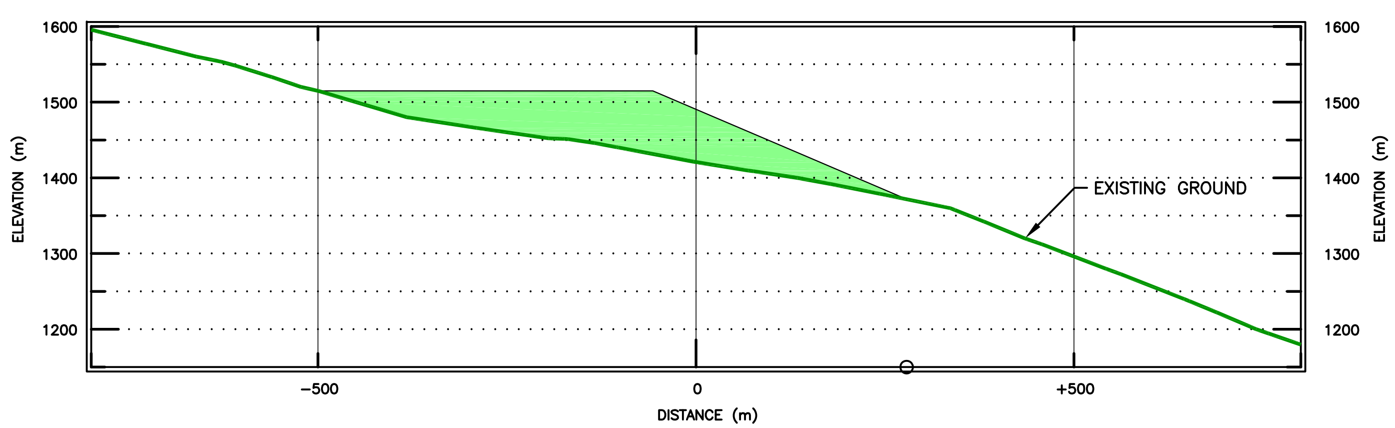

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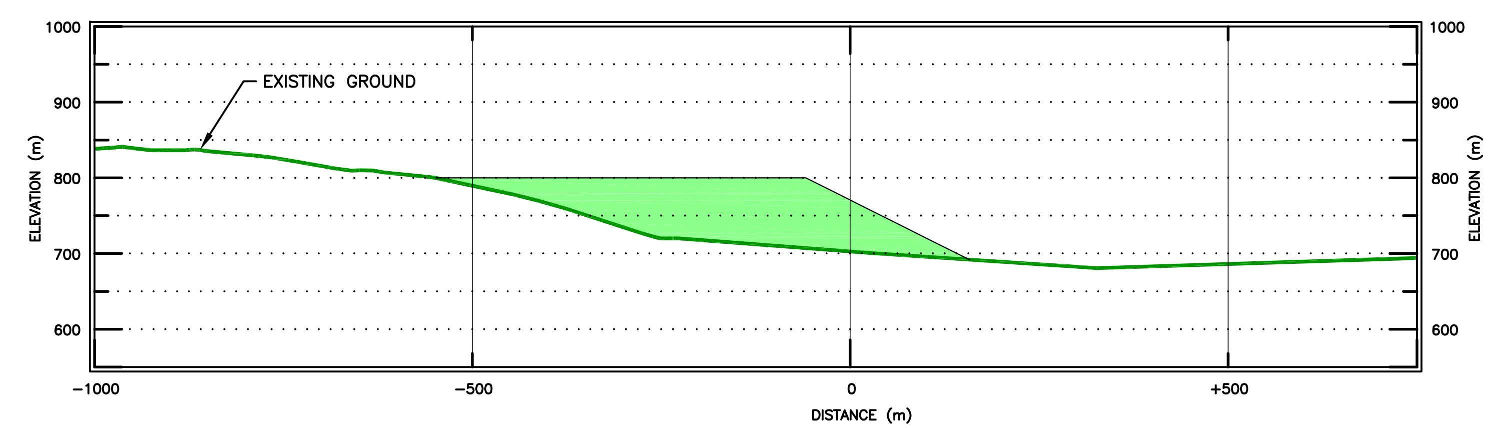

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PROJECT: BLUE RIVER – UPPER FIR DEPOSIT

TITLE: WASTE STORAGE FACILITY SECTIONS

PROJECT No. M09519A01

FIG. No. 2

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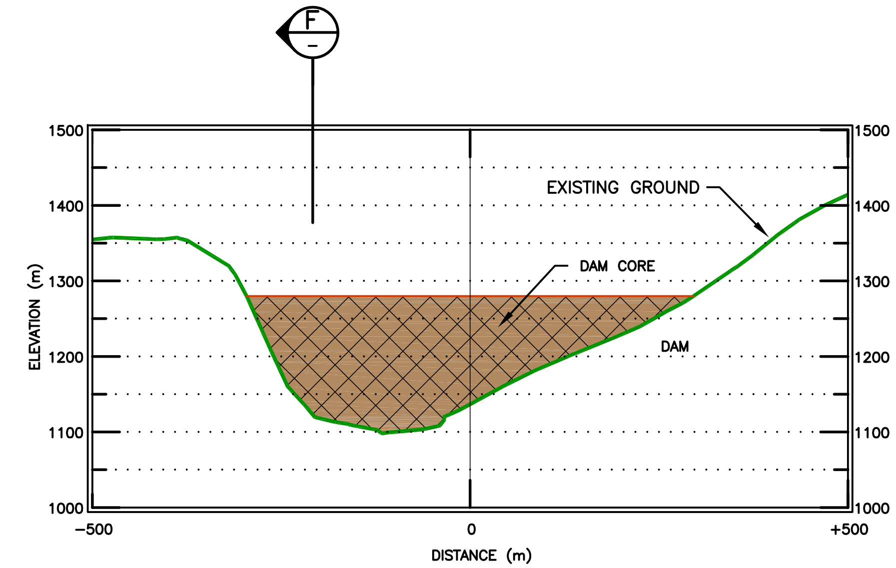

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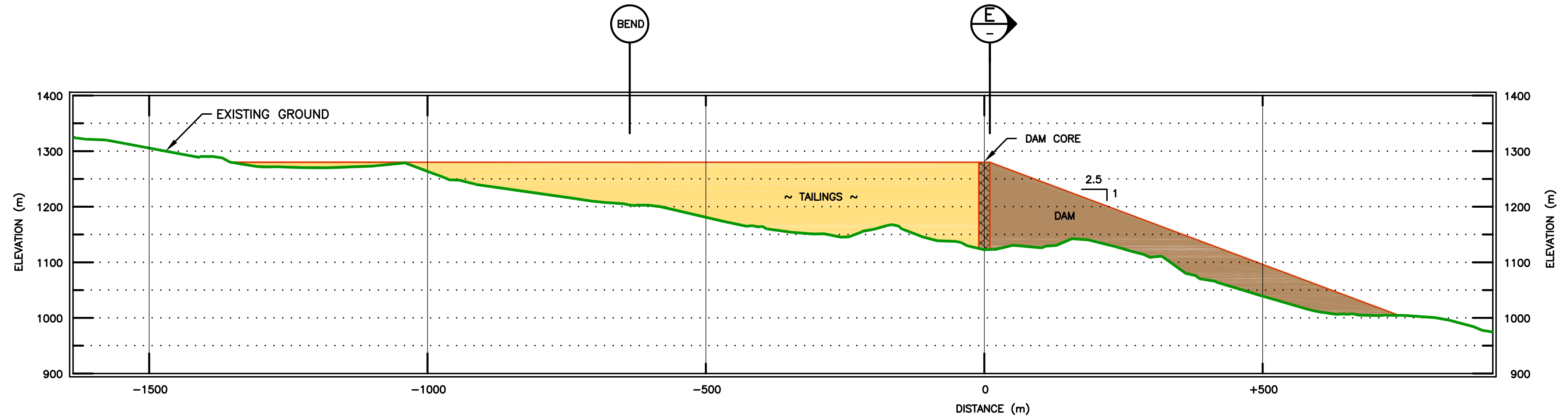
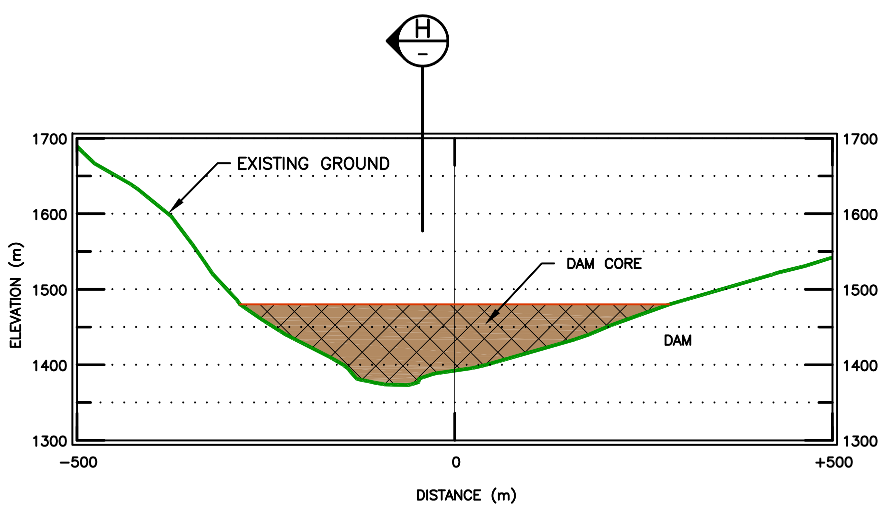


SECTION F/1 TSF1



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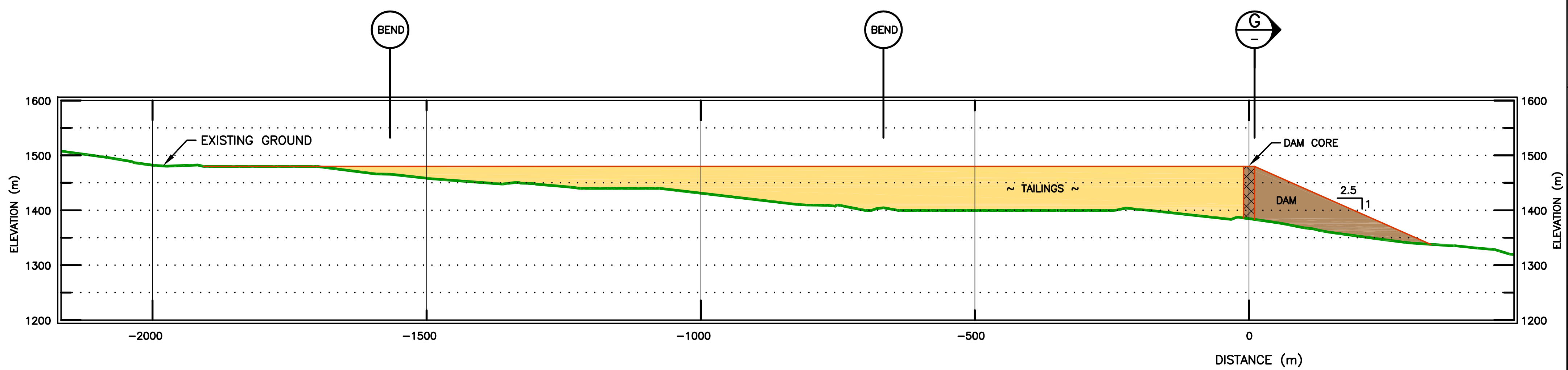

SECTION H/1 TSF2

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TITLE: TSF1 AND TSF2 SECTIONS

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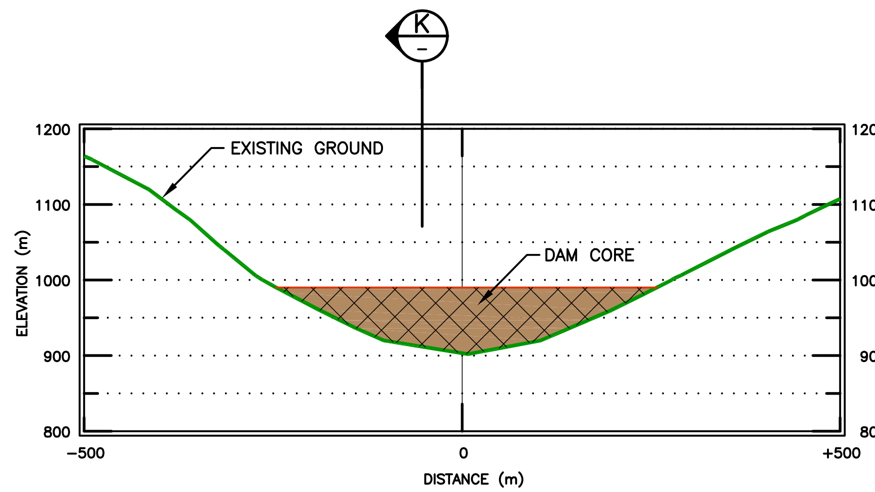
FIG. No. 3



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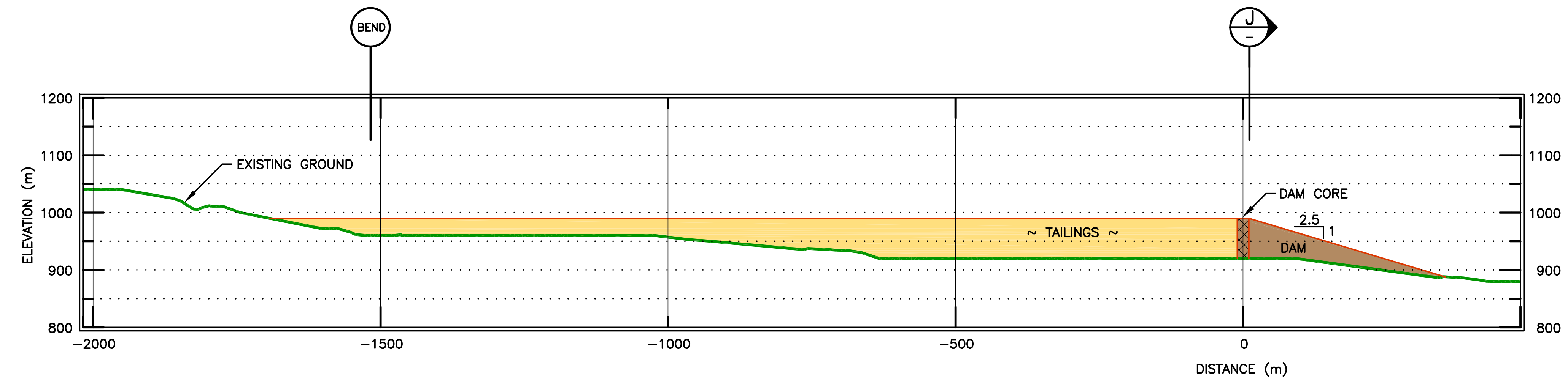

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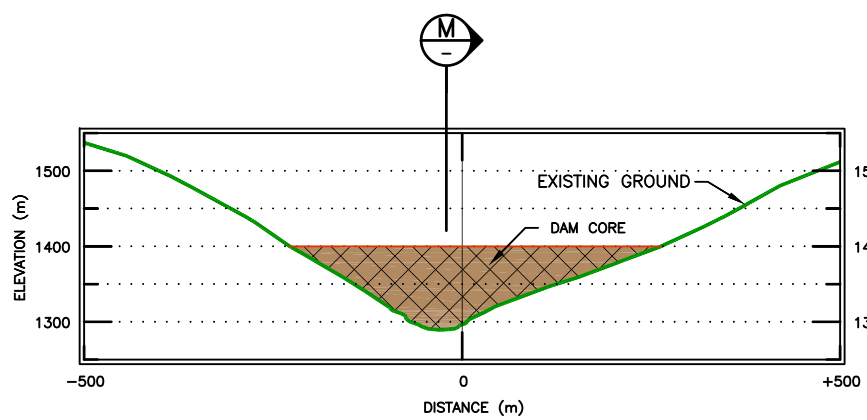

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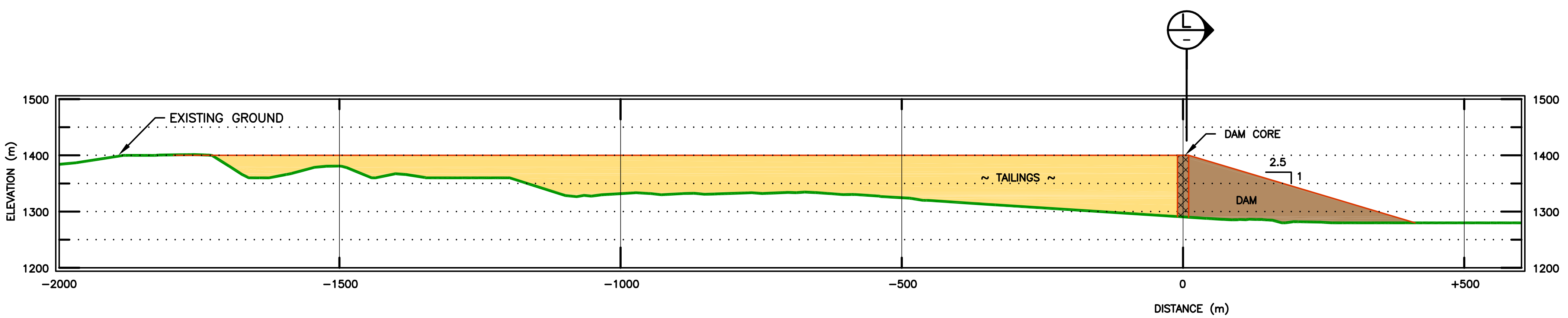

SECTION M/1 TSF5

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TITLE	TSF3 AND TSF5 SECTIONS
PROJECT No.	M09519A01
FIG. No.	4

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February 27, 2009

Commerce Resources Corp.
1450 – 789 West Pender St.
Vancouver, British Columbia
V6C 1H2

Ms. Jenna Hardy
Technical Services, Regulatory and Environment

Dear Ms. Hardy:

Blue River – Upper Fir Deposit
September 2008 Site Visit Report

1. INTRODUCTION

On September 6-7, 2008, KCBL Geological Engineer Shane Warner, E.I.T. made a visit to Commerce Resources' Blue River property to conduct a preliminary field assessment of sites identified as potential tailings storage facilities (TSFs) in the draft Tailings and Waste Rock Scoping Study (KCBL, 2008). The purpose of the site visit was to review the site conditions, confirm that the preliminary conclusions from the desktop Scoping Study were reasonable, and to identify any issues/opportunities to be considered in future design phases. The assessment was focused on the TSF5 site and possible TSF sites on Gum Creek (including, but not limited to, TSF1 and TSF2).

Upon arrival at Blue River shortly after 12 pm on September 6, a helicopter tour covering all the Scoping Study TSF options was done to become familiar with the sites and plan ground investigations. The afternoon of September 6 was spent investigating TSF5, and the morning of September 7 was used to investigate Gum Creek before departing for Vancouver at approximately 1 pm.

2. SITE INVESTIGATION FINDINGS

2.1 Chappell Creek (TSF5)

TSF5 is located on a tributary of Chappell Creek approximately 8 km northwest of the Upper Fir Deposit on the west side of the North Thompson River between 1280 m and 1400 m elevation. The valley side slopes are relatively moderate for the region (approximately 3.3H:1V on the east side and 2H:1V on the west side) and consist of a thin (approximately 1 m to 10 m) layer of silty sand and gravel till overburden underlain with strong to very strong micaceous schist/gneiss with near vertical foliation striking roughly ENE (valley perpendicular). Near the dam site, the rockmass is intact with few

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significant fractures, though at the upstream end of the facility, the rock is moderately fractured with minor folding and possible minor faulting represented by a foliation parallel layer of residual rock that may be fault gouge. Significant areas of the side slopes have been logged, but there was no evidence of major slope failure observed.

Numerous small creeks run down the west slope at regular, roughly 100 m intervals with observed flows estimated between 10 L/s and 50 L/s (after a relatively dry period). One major advantage of TSF5 is the small catchment area of approximately 7 km^2, and given the gentle slopes, it would likely be relatively easy to construct diversion ditches along the sides of TSF5 to reduce the catchment area to around 1 km^2. Construction of a closure spillway, likely on the west side, would also be fairly easy, with moderate slopes and competent near-surface rock providing good conditions for spillway construction.

At the potential dam site, a 150 m long bench extends approximately 75 m into the valley from the west side at El. 1325 m. Given the slope breaks and lack of outcrop, this is likely a thick wedge of overburden up to approximately 40 m thick, and may raise seepage concerns though it should not significantly impact dam stability. A similar bench exists about 500 m upstream, and this could be a potential source of borrow material for dam construction. An aerial view of the TSF5 dam site is shown in Figure 1.

Figure 1 TSF5 Dam site looking south up Chappell Creek tributary

The upstream end of the facility would likely require a small (e.g. 10 m to 20 m high) dam at the saddle to allow the facility to reach the conceptual design elevation of 1400 m, but the valley is confined between two large rock outcrops that would significantly limit the size of the dam and would act as good abutments.

Access to the area is currently from the south along a logging road along Miledge Creek. This road could likely be upgraded to handle traffic during construction and operation, and would also be the likely route for the tailings line to the TSF. The road grade is generally less than 10% and is consistently up, with only a few small troughs. This means that only a few short sections would require re-routing to remove the troughs and excessively steep sections that would complicate pipeline operation along the route. No evidence of major slope instability was observed despite the relatively steep slopes in the area.

2.2 Gum Creek (TSF1 and TSF2)

Gum Creek is located immediately north of the Upper Fir Deposit. In the Scoping Study, two conceptual TSFs (TSF1 and TSF2) were laid out on Gum Creek between 1100 m and 1500 m elevation with the understanding that the optimum site on Gum Creek might be somewhere in between them. The lower 3 km of Gum Creek are quite steep with an average grade of approximately 20% and would require a very large dam to create sufficient storage capacity, so investigations focused on the central section of the valley around TSF2 where grades are around 7% and the catchment area is reduced.

The north side of the Gum Creek valley is moderately sloped (approximately 3.5H:1V) and made up of medium to fine sand with some silt, trace gravel and some cobbles and boulders. Bedrock outcrops of schist were observed near the TSF1 dam, suggesting that the overburden is quite thin in this area. The schist is weak to very strong depending on the amount of weathering. However, further up the valley toward TSF2, there was no indication of rock near surface on the north side of the valley. Given that the side streams have eroded into the slope several meters, there is likely a significant (> 5 m) thickness of overburden in this area. No evidence of major slope movement was seen in either the forested or logged areas on the north side of the valley. The TMF2 dam site is shown in Figure 2.

The south side of the valley around TSF2 is extremely steep, with extensive, sheer rock cliffs. Numerous small to medium sized avalanche chutes are clearly visible along the face roughly every 300 m, with approximately 40 m tall talus/snow cones built up at their bases. These are shown in Figure 3. However, no large boulders or rock slide debris were seen and the rock in the cliffs appeared strong and massive suggesting that large slides are not common. Given the large annual snowfall at the site, avalanches in this area are likely a regular event, though the steep cliffs likely reduce the avalanche size by limiting the amount of snow that builds up on them. Additionally, the steep cliffs are broken across the rock bedding suggest that there may be a fault down the middle of the valley which could be a potential seepage pathway.

Construction of a diversion ditch on the south side of Gum Creek would be extremely difficult given the steep slopes, and any ditch there would quickly become blocked by avalanches or debris slides. Construction of a diversion on the north side seems feasible, but unless the bedrock is very near-surface, a very large diversion/spillway with significant riprap protection would be required to safely pass flood events from the large upstream catchment area without causing erosion damage.

Avalanches and debris slides falling into the TSF pond from the south side of the Gum Creek valley would also create a risk of waves and sudden surges in pond volume, thus requiring significant additional freeboard be provided by the dam to prevent overtopping.

Figure 2 TMF2 Dam site looking west down Gum Creek

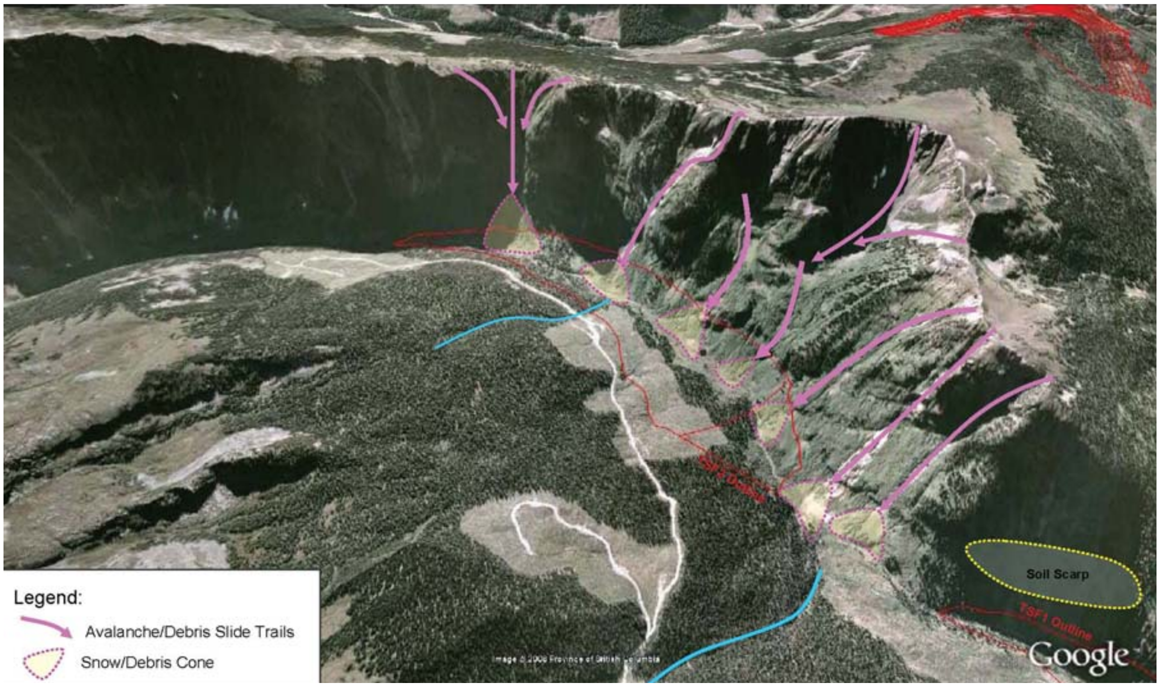

Figure 3 Avalanche/Debris slide trails and cones on the south side of Gum Creek

2.3 Other Sites

Based on the helicopter tour of Pyramid Creek (TSF3), there do not appear to be any significant new issues to consider with this option. However, the presence of a glacier at the head of the valley and the large creek flows observed reinforced that water management would be a significant and costly issue with this site.

A flyover of TSF4/WSF4 was also conducted. The valley floor at this location is a swamp which would likely require substantial effort to improve the foundations. Furthermore, the existing access road to site and the hydro station being constructed on Bone Creek pass through this site and would need to be relocated. Construction activities associated with the hydro project are occurring at this location and as a result this area may not be available for waste/tailings storage.

Figure 4 View of TSF4/WSF4 site showing swampy foundation conditions

3. SUMMARY

The Scoping Study identified TSF5 as a preferred option for tailings storage, and the findings from this site investigation support this conclusion. Foundation conditions at the site are favourable for both seepage and stability, the hazard risk from slope movement and avalanches is low, possible zones of borrow material have been identified nearby and water inflow from the catchment would be small and could likely be significantly reduced with the construction of simple diversions.

Construction of a TSF on Gum Creek near TSF2 would also be possible, but given the large catchment, potential challenges in spillway construction and rockfall and avalanche hazard, it is not the preferred option.

Insufficient time was available to properly investigate the waste rock options. However given that the project requirements relating to waste rock may change significantly as additional reserves may be identified and the option of underground mining is considered, waste rock storage concepts will need to be revisited anyway.

Yours truly,

KLOHN CRIPPEN BERGER LTD.

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APPENDIX 3
STATEMENT OF QUALIFICATIONS

Janine Brown obtained a B. Sc. degree in geology from the University of Alberta in 2009. She has worked on the Blue River property for three years and is registered as a G.I.T with the Association of Professional Engineers, Geologists and Geophysicists of Alberta. The fieldwork described in this report was supervised by John Gorham from May to November 2008. John Gorham obtained a B. Sc. degree in geology with distinction from the University of Calgary in 1976. He is registered as a P. Geo. with the Association of Professional Engineers and Geologists of British Columbia and the Association of Professional Engineers, Geologists and Geophysicists of Alberta, as well as the Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories. He has more than 30 years of experience in mineral exploration. He has been a project geologist on the Blue River Carbonatite project since 2006.