

BC Geological Survey
Assessment Report
34484

INTERPRETIVE REPORT
ON
BC GOVERNMENT
AIRBORNE GEOPHYSICS
AND
REGIONAL STREAM SEDIMENT SAMPLING
WITHIN AND AROUND THE
YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA
ATLIN MINING DIVISION, BRITISH COLUMBIA

PROPERTY LOCATION: 100 km south of the village of Atlin
58° 62' 69" N Latitude, 133° 46' 85" W Longitude
NTS: 104K/11, 12 BCGS: 104K.063, 104K.073

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SUMMARY and CONCLUSIONS

The Yellow Bluff Property is located in the Atlin Mining Division, approximately 100 kilometers south of the town of Atlin. The property is comprised of 4 contiguous tenures that total 1,447 hectares.

The government-funded RGS sampling program has eight sites around and within the Yellow Bluff Property for which anomalous results may be caused by mineralization with the property. One of the strongest anomalous results occurs at the Driftwood River site which occurs south of the property and which drains its central part where mineralization is known to occur. This site is strongly anomalous in copper, zinc, arsenic, and lead; and moderately anomalous in gold, silver, and molybdenum.

Also sample sites south, west, and north of the property as well as two sample sites within the eastern part of the property indicate mineralization of economic interest may occur within the southern, western, northern and eastern parts of the property.

The airborne gravity survey shows that the property occurs on the eastern edge of a gravity high anomaly occurring to the west. This may be caused by an intrusive, much of which would occur below the surface and which may belong to the Bulkley Plutonic Suite. This intrusive may be the source of mineralization on the property as well as possibly being the heat engine causing the mineralization.

RECOMMENDATIONS

Recommendations have been given in previous reports but have not been followed up on due to lack of funding. It consists of MMI soil sample, magnetic, and induced polarization/resistivity surveying as well as geological mapping.

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INTRODUCTION AND GENERAL REMARKS

This report discusses the results of government-funded regional geochemistry sampling, specifically stream sediment type, that occur on and around the Yellow Bluff Property, as well as government-flown gravity surveys over the property.

The purpose of the exploration program on this property is to look for (1) calc-alkalic porphyry copper type mineralization, possibly associated with gold and silver values, especially underlying the Core Alteration Zone, and (2) epithermal gold/silver vein-type mineralization.

PROPERTY AND OWNERSHIP

The property is comprised of 4 contiguous tenures that comprise an area of 1,447 ha and is located within the Atlin Mining Division as shown on figures #2 and #3: These tenures occur on NTS map sheet 104K/11, 12 and on BCGS map sheets 104K.063 and 104K.073.

<u>Tenure Number</u>	<u>Type</u>	<u>Claim Name</u>	<u>Good Until</u>	<u>Area</u> (ha)
516543	Mineral		20120720	202.066
532180	Mineral	ERIC 6	20130930	420.27

532185	Mineral	ERIC 7	20120720	420.522
532186	Mineral	ERIC 8	20120720	403.783

Total Area: 1446.641 ha

The claims are owned by Optima Minerals Inc. of Kelowna, British Columbia.

LOCATION AND ACCESS

The Yellow Bluff Property is located in the Atlin Mining Division in the upper northwest corner of British Columbia, just east of the Alaska-BC border. The center of the property is about 100 kilometers south of the community of Atlin. The property is centered at latitude 58°62'69" North Latitude and 133°46'85" West Longitude on BCGS map sheets 104k.063, and 104k.073, with an NTS of 104k/11 and 104K/12.

Access to the region is either by fixed or rotary-wing aircraft or by shallow-draft boat or barge up the New Taku River. Nearest centres for aircraft charter are Atlin and Juneau, although helicopters are intermittently based in the Tulsequah Valley. Two gravel airstrips are serviceable. Northwest of the confluence of the Taku and Tulsequah rivers, a strip more than a kilometre long will accommodate STOL (short takeoff and landing) aircraft but is subject to flooding two or more times each summer. A less flood prone, much shorter strip at the New Polaris (Polaris-Taku) minesite, a few kilometres west of the Yellow Bluff Property, will accommodate small aircraft or those with short takeoff capability. Float equipped aircraft can land on the New Taku River and Border Lake. There are several river crossings to negotiate for travel by land between this strip and the project site. There are no roads or established trails within the map area; travel from airstrips to other localities is most effectively done by helicopter.

There is daily scheduled air service into either Whitehorse, Yukon or Juneau, Alaska the two nearest centres with commercial airline airports. Atlin is accessible by either charter aircraft or road and lies approximately 180 kilometres south of Whitehorse via Highways 7 and 1 (the Alaska Highway). These roads are good, all-weather roads for the entire length between Whitehorse and Atlin and are open year-round. The nearest major city centre is Whitehorse, 230 kilometres north of the project area. Whitehorse is a supply centre for this northern region and has an ample labour force. Due to historic mining activity in the area, an experienced work force, including mining personnel are available in Whitehorse and Atlin. The communities of Atlin and Whitehorse are government centres, and supply and service points for fuel, groceries, accommodation, etc. Large amounts of equipment can be flown into the Yellow Bluff Property from Atlin. For advanced programs, equipment can be flown to the airstrip at the New Polaris site; there is a limitation on the size and weight that can be air freighted as the maximum runway length is 427 metres.

PHYSIOGRAPHY AND VEGETATION

The Yellow Bluff Property is situated within the rugged ranges of the Coast Mountains. The topography is mountainous and can be extremely rugged and precipitous at higher elevations. The area includes a sizeable icefield around Mount Sittakanay in the central portion of the property and Mount Ogden in the southern portion. Elevations range from about 20 metres above sea level (ASL) in the New Taku River valley to 2263 metres at the top of Mount Ogden.

The property area has a coastal climate with temperatures which average 20°C in July and -15°C in December and receives somewhat less precipitation than Juneau. The average annual temperature is -6°C. Average annual precipitation is approximately 190 centimetres (75 inches) of which 71 centimetres (28 inches) occurs as rainfall, and 119 centimetres (47 inches) as snow. Winters are mild, however, heavy snowfall often leads to poor flying conditions. Generally, exploration programs are not carried out in the winter months although the weather would not impact on a mining operation. The practical field season is from May through November dependent on the project's elevation. Snow pack can exist from the treeline to the mountain peaks until late July; however, the valleys will be clear of snow by early to mid-May. Summer conditions can be highly variable from year to year. It is not unusual to have significant periods of rainfall and low cloud cover during the summer months impeding exploration activities. The property has no inhabitants. There are several, generally minimally-equipped seasonal hunting/fishing cabins within 40 kilometres of the property, owned and operated by outfitters. Additionally, the New Polaris minesite has all-season accommodations for up to 30 people and Redfern Resources Ltd.'s camp at the Tulsequah Chief minesite is of approximately equal size.

Braided channels and flanking sloughs of the southwest-flowing New Taku River occupy a swath 2.5 kilometres wide through the northern claim block of the property. Stuhini Creek and major parallel drainages north and south, the Sittakanay River and Zohini Creek respectively, are deeply incised, and meet the New Taku River on grade. Other streams occupy U-shaped hanging valleys and freefall into the New Taku River. Such streams are in turn, commonly fed from hanging valleys. Travel from one valley to the next is often not possible without technical climbing. The topography of the area is rugged with steep peaks sculpted by glaciers into jagged spires and narrow saw-toothed ridges. The area has a relief of approximately 2240 metres, with Mount Ogden at an elevation of 2268 metres and the New Taku River at about 20 metres above sea level (ASL). The treeline is at 1000 metres (Figure 4). The lower valleys are choked with alder forest and the slopes to the treeline are composed of fir. Rock and temperate rainforest comprise roughly equal proportions with about 5 per cent outcrop beneath forest canopies. Areas of 100 per cent cover are restricted to glaciers, river bottoms and swamps. Geological fieldwork is challenged by steep topography, snow and ice cover, dense brush in major valley bottoms and generally poor weather. The southern half of the Ericksen-Ashby portion of the property is mainly outcrop, almost all of which is accessible by foot. The only exception is a steep to nearly

vertical cliff to the east side of the mountain. The northern half of this portion of the property is along a gently sloping ridge covered by trees and bushes with relatively limited exposure in areas of economic potential. There is adequate supply of water available at most sites for exploration and mining purposes. Minimal harvestable timber is available on the property.

The author did not see any topographic or physiographic impediments for potential mine, mill, heap leach or waste disposal sites. Suitable lands occur throughout the project area that should allow development of such facilities. However, there are certain areas of steep terrain in which such facilities could not be located.

HISTORY OF PREVIOUS WORK

The general geology of the Yellow Bluff Property was originally mapped in 1930 and 1932 by Kerr (1931a, b; 1948) followed in 1958 to 1960 by Souther (1971) who completed 1:250,000-scale mapping of the Tulsequah area. Monger (1980) mapped parts of the northern Stuhini Creek area. Regional mapping in 1994 by Mihalynuk extended previous 1:50,000 mapping of the Tulsequah River mapsheet (104K/12) in 1993, (Mihalynuk *et al.*, 1994a, b) eastward into the Stuhini Creek map area (Mihalynuk *et al.*, 1995a, b).

In 2008 the author carried out MMI soil sampling on a six line grid within the property.

GEOLOGY

The following regional setting and the Taku Star block setting is derived in whole or in part from (Mihalynuk *et al.*, 1994a, b; 1995a, b).

Regional

Four major building blocks constitute the terrane superstructure of northwestern British Columbia: a western block of polydeformed, metamorphosed Proterozoic to middle Paleozoic pericontinental rocks (Nisling Assemblage); an eastern block of exotic oceanic crustal and low-latitude marine strata (Cache Creek Terrane); central blocks including Paleozoic Stikine Assemblage and Triassic arc-volcanic and flanking sedimentary rocks of Stikine Terrane; and overlying Late Triassic to Middle Jurassic arc-derived strata of the Whitehorse Trough (including the Inklin overlap assemblage). Mesozoic rocks of the Taku Property area are dominated by arc-flanking strata of the Whitehorse Trough: parts of the Upper Triassic Stuhini Group and the Lower to Middle Jurassic Laberge Group. These are overlain by Tertiary continental arc volcanic rocks of the Sloko Group which are intruded by partly comagmatic Coast Plutonic Complex plutons. The Stikine Assemblage is restricted mainly to the south and western margins of the region, but probably extends beneath much of the Mesozoic and Tertiary cover. On the northern and southern edges of the map area, the geology is influenced by two major crustal structures. Eastern splays of the transcurrent Llewellyn fault system juxtapose ductilely deformed Paleozoic rocks with Mesozoic rocks

between Sittakanay River and Stuhini Creek. To the north, southwest-verging frontal thrusts of the King Salmon fault system interleave Jurassic and Triassic Whitehorse Trough strata. Second order normal, or high-angle reverse faults, juxtapose Tertiary volcanics with Mesozoic and Paleozoic rocks. Deformation generally increases in intensity with age.

Property

Northern Section

Paleozoic Stikine Assemblage strata underlay the western margin of the Yellow Bluff Property north of the New Taku River but towards the south end of the claim block where the claim boundary extends westward. The Paleozoic belt comprises over three-quarters of the underlying stratigraphy on the property.

North of the New Taku River Paleozoic rocks are traced along the west side of Mount Metzgar and can be correlated on a unit-by-unit basis with well-defined Pennsylvanian to Permian Stikine Assemblage rocks of the Mount Eaton Formation to the northwest which hosts the Tulsequah Chief and Big Bull sulphide deposits. Rocks south of the New Taku River, on Sittakanay Mountain, have been confidently correlated with the Stikine Assemblage but unlike well preserved correlative strata to the north, polyphase deformation, indistinct lithologies and precipitous terrain prevent extensive subdivision of these rocks. Mount Ericksen lies midway between the Mount Metzgar and Sittakanay Mountain areas and is largely underlain by rocks that are tentatively correlated by Mihalyuk with the Stikine Assemblage.

A wide variety of arc lithologies crop out along the eastern cirque of Mount Metzgar. From north to south these include: maroon and green, fine-grained lapilli ash tuff; well-bedded, tan bioclastic limestone; bedded to massive chert; sulphidic, calcareous, rusty, black, well-bedded argillite and siltstone; decimetre-thick interbeds of limestone and chert; bright green, chlorite and calcite amygdaloidal, monomict andesite tuff; light grey, stretched limestone-cobble debris flow; purple to green, pyroxene-phyric pillow breccia with a calcareous matrix; pyroxene-phyric pillow breccia with a calcareous matrix; dark green, flattened lapilli tuff of probable basaltic andesite composition; and centimetre to decimetre interbeds of argillite and cherty, tuffaceous siltstone. The last few units apparently change along strike downslope into dark brown and green, fine grained tuffaceous sediments and sparse lapilli tuffite, that form locally developed, albeit inconspicuous, centimetre to decimetre thick beds. More commonly these form disrupted beds with metre-scale close to isoclinal folds. Matrix compositions are typically siliceous with carbonate locally predominating. Hornfelsing is common possibly due to plutonic rocks in the near subsurface. Rhyolite has also been reported in this area. Dark green volcanic breccia and bedded tuff predominate farther west along the southern ridge of Mount Metzgar.

In general, ductile deformation increases in intensity while confidence in correlation decreases both northeast and southwest of Mount Sittakanay. Northeast of Mount

Sittakanay in the Stuhini Creek valley, dynamothermally metamorphosed phyllite and schist are cut by discrete shear bands within the Sittakanay shear zone (Figure 9). To the southwest, extensive intrusion by Coast Plutonic Complex plutons caused widespread thermal metamorphism. Primary sedimentary component decreases to the northeast where a lower succession of massive volcanic strata is dominant. Protolith textures are best preserved in a belt of distinctive units that extend south into the Sittakanay River valley. Mapping by Mihalynuk within this belt focused mainly on Mount Sittakanay. Conspicuous white-weathering carbonate layers determined to be of Late Carboniferous age outline the belt. Some distinctive individual units were correlated with those in the Tulsequah River area where unit designations are those of Mihalynuk *et al.* (1994b).

The peak and southern flanks of Mount Ericksen are underlain by green to black, fine to medium grained basaltic pyroxene +/- feldspar porphyry breccia, lesser flows and intrusive equivalents. Epidote-chlorite alteration of matrix and along fractures is pervasive but is less intense in pyroxene phenocrysts that comprise 10 per cent to rarely 50 per cent of the rock. Hypabyssal gabbroic intrusions are believed to be comagmatic with volcanic strata. Both are cut by veins of epidote, hornblende and potassium feldspar.

Sediments and fine-grained basalt dominate northern slopes of Mount Ericksen. Included in the sedimentary package are hornfelsed, dark green and purplish cherty siltstone and conspicuous contorted white and black-banded carbonate and massive white marble layers, 6 metres or more thick. Hornfelsed siltstone is commonly interbedded with green to pink laminated carbonate, at one locality containing basaltic 'clasts' up to 40 centimetres in diameter. Pervasive thermal alteration of these rocks has produced widespread silicification, development of fine-grained biotite and formation of epidote-actinolite-chlorite quartz veins and knots. Grossularite occurs in isolated pockets. These sediments are similar to those exposed low on the eastern slopes of Mount Metzgar.

Two small areas underlain by rocks of the Upper Triassic Stuhini Group were mapped by Mihalynuk *et al.* in 1994. These include an area of basaltic rock about 2 kilometres east of Mount Sittakanay and an area of undivided volcanic rocks less than 3 kilometres north of the basalts on the north side of Stuhini Creek.

A part of the northeast section of the Taku Star block (Ericksen-Ashby area) is underlain by a succession of volcanic intrusive clast-dominated conglomerates, sandstone, feldspathic wacke, siltstone, minor metamorphic clast-rich and chert-pebble conglomerate and rare tuffite of the Jurassic Laberge Group. This succession covers a vast area to the east and north of the property. Much of the succession represents shallow-marine deposition in a prograding deltaic fan environment. Accumulations of Laberge strata may reach as much as 3000 metres.

Next to the Stikine Assemblage rocks, Early Eocene Sloko Group rocks are the most dominant on the Taku Star block, primarily underlying the west-central to southeast part of the claim area. Geological mapping by Mihalynuk in the region in 1993 and 1994 indicates

that Sloko Group lithologies are much more extensive than previously thought. Most of the rocks around Yellow Bluff, Kwashona Creek and Stuhini Creek area were included in the Sloko Group. Unlike typical Sloko volcanics to the north, these strata are steeply dipping and locally folded. Sloko Group volcanics are bimodal, but dominated by felsic lithologies. They rest unconformably upon a high-relief paleosurface that was etched into Mesozoic and Paleozoic strata. Voluminous air-fall units are regionally mappable, but the distribution of flow and epiclastic units is profoundly affected by paleotopography and synvolcanic faulting. These units occur as more isolated and sporadic units. Due to rapid facies changes within the Sloko volcanics, not all units comprising the Sloko Group in the Tulsequah area (Mihalynuk *et al.*, 1994a, b) occur within the Stuhini Creek map area. Previous regional mapping outlined six different mappable units including a basal conglomerate; massive, well indurated, black pyroclastics (Opposer Formation); massive, tan-weathering breccias (Mount Haney Formation); interlayered feldspar-phyric flows and volcanoclastics (Nakonake Formation); rhyolite domes and tuffs; and trachyte flow succession(s). In the Stuhini Creek area, several additional units are required to describe the Sloko Group. Two of these units were persistent enough to warrant informal formation designation by Mihalynuk; coarse sandstone and Laberge Group clast-rich conglomerate and siltstone (Niagara Formation); and vitrophyric tuff containing fragments of feldspar crystals, pumice, coarse ash and fine lapilli (Teepee Formation). Other units include: thick, bleached and silicified, indurated feldspar-phyric flows and lesser interflow breccia and tuff, green hornblende and feldspar-phyric lapilli breccias; chaotic intermediate to felsic feldspar-phyric lapilli tuff to breccia; well-bedded fine tuff or tuffite; and biotite and sanidine-phyric breccias.

While smaller stocks consisting of Triassic to Cretaceous rocks occur on the Optima Mineral property, by far the most significant plutonic rocks occurring are those of the Paleocene to Eocene Sloko-Hyder Suite which cover much of the northern quarter of the Taku Star block as well as the eastern extent of the Taku Gold block (Figure 10). The plutons and stocks of this suite are spatially associated with and probably comagmatic with Sloko Group volcanics. The Sloko-Hyder Suite consists of east-west elongated, high-level, multiphase plutons and stocks. In outcrop, these intrusions weather white, light grey, tan, pink or orange. They are compositionally and texturally variable, ranging from fine to medium grained quartz-feldspar porphyritic monzonite and diorite to granite with as much as 15 per cent biotite, magnetite, and/or hornblende. Contacts with solid country rock are sharp and chilled. The plutons and stocks are crosscut by northeast-trending faults resulting in brittle deformation and subsequent local alteration, hydrothermal alteration and precious and base metal mineralization (i.e. auriferous arsenopyrite with sphalerite and galena in clay alteration zones and molybdenum along fractures in gossanous zones).

Southern Section

Volcanoclastics of the Paleozoic Stikine Assemblage extend south from the north section of the property and underlie much of the area beneath the south section. Greenstone and

greenschist metamorphic rocks of the Devonian to Mississippian Whitewater Metamorphic Complex underlie the western portion of the block near Mount Ogden.

The oldest rocks exposed on the south claims consist of Stikine Assemblage Permian limestones, dolomitic limestones, and minor chert. These occur with fine grained Stikine clastic sediments and intercalated volcanic rocks which are largely altered to greenstone and phyllite. These metasediments and volcanics have been intruded by felsic dikes and plutons of Late Cretaceous and Tertiary age. The sediment series is primarily hornfels sediments intruded by rhyolite, felsite and andesite dikes. Skarn mineralization is relatively common. A Late Cretaceous pluton lies about 2 kilometres west of a Paleocene to Eocene Sloko-Hyder batholith consisting of granite to alkali granite. Surface exposures indicate the Cretaceous stock is about 2 kilometres long and 1 kilometre wide. The pluton is composed of inequigranular to subporphyritic fine-grained alaskite which contains quartz, K-feldspar, plagioclase, and less than 1 per cent biotite, chlorite, sphene, and fluorite. This alaskite is also molybdenite-bearing. An intrusive body in the Y zone area, to the southeast of the alaskite pluton, is considered to be a compositionally similar but texturally different phase. Prominent and distinctive quartz eyes and feldspar phenocrysts occur in an aphanitic matrix are its defining characteristics.

Mineralization

North Section

Ericksen-Ashby (MINFILE 104K 009)

The area underlying Mount Ericksen consists of Late Carboniferous to Permian volcanosedimentary strata of the Stikine Assemblage. According to Mihalyuk (1996), the strata are predominantly pyroxene-phyric andesite or basaltic andesite and gabbro. Near the north end of the ridge, the volcanic strata are interrupted by two interlayers comprised of chert and carbonate (Figure 12). They are approximately 100 metres thick due to folding which obscures the original stratigraphic thickness. The structurally highest sedimentary unit bifurcates northward to envelop andesite of approximately the same thickness. It also includes a thin layer of rhyolite. A subjacent, tabular, porphyritic quartz monzonite, 50 to 100 metres thick (and up to 350 metres thick locally), known as the Ericksen sill, thermally metamorphoses the entire section on Mount Ericksen.

Mineralization occurs within at least thirteen different zones, each of which contains one or more discontinuous lens-shaped bodies of disseminated to massive sulphide (Payne, 1979). The sulphides are mostly a mixture of pyrrhotite, sphalerite, pyrite and galena. The skarn mineralogy typically consists of rhodonite, diopside, tremolite and magnetite. All massive sulphide mineralization of economic interest occurs in the upper sedimentary division (SED-2 of Payne, 1979). Within SED-2, sulphide layers with high zinc, lead and silver contents occur above the discontinuous rhyolite layer. Some sulphide pods and lenses are

discordant, clearly related to late skarn alteration and/or remobilization of the stratiform sulphides.

The property is divided into two structural blocks by a major fault, called the Bracken fault which strikes north-northwest and is thought to be related to a regional fault system in the Taku River area. A small subsidiary fault occurs just northwest of Bracken fault, and is called Zone 8A fault. Also, a minor north-northwest trending fault occurs within epidotized andesites/basalts south of the mineralized zones.

South of the Bracken fault, which includes Zones 1, 2, 2S, 2N and the Glory Hole, mineralization occurs with and possibly related to the major footwall rhyolite. A typical stratigraphic section consists of a lower zone of rhyolite and pyritic rhyolite, overlain by more pyritic rhyolite with lenses of massive pyrite and of magnetite, which in turn, is overlain by massive sulphides. Commonly, galena and sphalerite are concentrated towards the top of the massive sulphide section. Silver minerals reported include argentite, freibergite and argentiferous galena. Rhodonite and magnetite are abundant in small skarns near the rhyolite and massive sulphides. Drilling in 1981 within Zone 1 indicated ore grade material extends to depth. Mineralization consists of massive sulphides which are roughly lensoid or podiform and plunge about 20 degrees south. The zones of mineralization all occur near the unconformable contact of a slightly metamorphosed, occasionally brecciated limestone-chert sequence with a massive basaltic tuff unit. Rhyolite occurs near the unconformable contact, and dips about 75 degrees southwest and strikes northwest. Mineralization is found in a rhyolite breccia with the matrix that surrounds altered fragments which include chert, andesite and limestone. Locally, garnetiferous zones occur within the breccia.

In 1981, drillhole No. 3 intersected 20.2 metres which assayed 567.1 grams per tonne silver, 4.94 per cent lead and 4.22 per cent zinc; drillhole No. 4 intersected 5.1 metres which assayed 627.4 grams per tonne silver, 6.42 per cent lead and 6.2 per cent zinc (Hemingway and Elliott, 1982). High gold values of up to 1.37 grams per tonne across 3 metres were reported in 1963 from Zone 2 (Bernius, 1963). Encouraging gold values were obtained from several locations south of Zone 2S and include values of 26,200 and 2320 parts per billion, respectively from silicified andesite and skarn outcrops (Bojczyszyn, 1988).

North of the Bracken fault, the lithologies are predominantly chert, limestone, and hornfelsed siltstone. Mineralization is associated with cherts and limestones. This mineralization generally contains massive sulphide zones with lower grades. In 1981, a 15.1 metre drill intersection in mineralized cherts in Zone 8 assayed 173.1 grams per tonne silver, 1.2 per cent lead and 1.37 per cent zinc (Hemingway and Elliott, 1982). A more complete description of the various zones is found under History (Section 6).

In 1964, indicated reserves were reported to be 907,100 tonnes grading 214.9 grams per tonne silver, 2.23 per cent lead and 3.79 per cent zinc (year of reserves is reported to be questionable) (Vancouver Stock Exchange Application for Listing 142/80 as documented in

MINFILE 104K 009). This resource estimate was calculated prior to the implementation of National Instrument 43-101 and is not compliant with those standards.

Massive sulphide mineralization at the Ericksen-Ashby has been referred to as both skarn-related and as volcanogenic in origin. Field evidence has predominantly pointed to a volcanogenic origin for the deposit. Like the volcanogenic massive sulphides to the immediate north (e.g. Tulsequah Chief), it is closely associated with a felsic tuff horizon. Mineralization is dominantly stratiform and mainly restricted to the single SED-2 interval (Payne, 1979). Furthermore, a lithologically similar calcareous layer between SED-2 and the Ericksen sill is unmineralized although, given its closer proximity to the intrusion, it would seem a more likely host for skarn mineralization. Thus, Payne interpreted the Ericksen-Ashby as primarily a volcanogenic massive sulphide deposit with partial late remobilization due to the Ericksen sill. While Mihalynuk *et al.* (1995b) reported that field observations were consistent with those of Payne and his volcanogenic interpretation, subsequent isotopic dating of lead from galena taken from the massive sulphide lenses were incompatible with the Paleozoic age of the enclosing volcanics and are in keeping with 53.7 +/- 0.7 Ma (Tertiary) age of the Ericksen sill as derived through U-Pb geochronology dating (Mihalynuk *et al.*, 1996).

Yellow Bluff (MINFILE 104K 049)

Yellow Bluff is a steep, north trending gossanous cliff with 330 metres of vertical relief above the Taku River. Pyritic massive sulphide lenses occur with variable copper, lead, zinc, gold, and silver values that are associated with felsic volcanic rocks. The area stratigraphy has recently been reassigned to the Early Eocene Sloko Group and consists of andesitic feldspar porphyry flows and tuffs, coarse sediments to conglomerates, rhyolitic to dacitic flows and tuffs and coarse volcanoclastic and pyroclastic volcanic rocks. The strata across the bluff area strike at about 325 degrees. A Tertiary granitic dike strikes east-west through the strata.

Goat (Mt. Manville) (MINFILE 104K 094)

The Goat property is underlain by interbedded rhyolitic tuffs and breccias of andesitic composition and graphitic argillite with minor volcanic sandstone and subvolcanic andesite. These units strike 230 degrees with vertical to steep dips. Area rocks are mapped as Carboniferous Stikine Assemblage. Minor amounts of disseminated chalcopyrite and sphalerite were found in rhyolitic rocks along the western edge of the survey area.

Maidas (MINFILE 104K 020)

Rocks are comprised of andesitic flows and fragmentals with limestone belts belonging to a Late Carboniferous to Permian volcanosedimentary unit of the Stikine Assemblage. The strata are crosscut by felsic dikes. Mineralization appears to be associated with the dikes and consists of dark sphalerite with interspersed grains of galena, associated pyrite,

pyrrhotite, and a little chalcopyrite. The orebody was reported to be 6.7 metres wide, with a northwest strike and vertical dip. A 2.4 metre wide vein is reported to be well mineralized. A sample taken in 1929 assayed 2.57 grams per tonne gold, 548.56 grams per tonne silver, 8.0 per cent lead, and 26 per cent zinc (Minister of Mines Annual Report 1929). This historic showing, which consisted of the Maidas I-II claims and the adjoining Mohawk 1-6 claims is now part of the Ericksen-Ashby property.

Spring (MINFILE 104K 096)

A large limonitic and hematitic gossanous zone occurs on the north side of a prominent east-southeast trending valley that drains west into the Sittakanay River. Area stratigraphy has recently been reassigned to the Paleozoic Stikine Assemblage which in the area is intruded by a quartz monzonite stock and associated feldspar porphyry dikes related to the Tertiary Sloko-Hyder Plutonic Suite.

In 1980, prospecting on the Spring and Reto claims by Island Mining & Exploration Co. Ltd. located an area of heavy pyrrhotite mineralization with lesser amounts of pyrite, chalcopyrite, sphalerite, galena and molybdenite. Minor silver and gold also accompany the sulphides. Although the massive sulphide lenses have attracted the most interest, mineralization occurs mainly within extensive crosscutting fractures and veins associated with shear zones within the andesitic to intermediate volcanic rocks. Metal banding was noted in some samples, however, it was reported that there was no indication of a syngenetic (VMS) origin for the sulphides. A grab from the sulphide lens assayed 0.17 gram per tonne gold, 356.6 grams per tonne silver, 10.3 per cent zinc, and 0.12 per cent copper (Clouthier, 1981a). In 1990, Goldbelt Resources located a shear zone containing pods of massive sulphide. Grab samples of the massive sulphide yielded values of up to 0.25 per cent copper, 0.5 gram per tonne gold and 14.7 grams per tonne silver (Lambert, 1991). In 1991, a drill program designed to follow up a previous EM survey consisted of 195 metres of BQ drilling in one hole. The only noteworthy mineralization intersected was from 57.61 to 59.13 metres (1.52 metres) which analysed 0.31 per cent zinc (Taylor, 1992).

Council (MINFILE 104K 017)

In 1930, a group of six claims called the Council was located near the mouth of the south fork of the Taku River. The occurrence consists of a well-defined shear zone traced by several cuts along the west bank of a creek for about 90 metres, from 30 to 50 metres elevation above the river. The shear cuts metamorphosed rocks, mainly Carboniferous metasediments of the Stikine Assemblage. Mineralization consists of massive and disseminated stibnite with some finely disseminated pyrite in a gangue of quartz and lesser calcite. Oxides of antimony are widely distributed. A green diffusion band about 46 centimetres wide occurs within the mineralized shear that is exposed in an upper cut. It was described as an insoluble silicate coloured by chromium (possibly mariposite) with some iron and trace nickel. In 1930, a sample of this band assayed trace gold, silver and nickel with no copper; a sample of dark, quartzose-sheared material with antimony oxide

from the lower showing yielded traces of silver and gold (Minister of Mines Annual Report 1930). No work since 1930 is documented.

Baker (MINFILE 104K 048)

The Baker occurs on the north side of Stuhini Creek, highlighted by a distinct yellowish alteration zone within rocks of the Early Eocene Sloko Group. The vertical exposures on the north side of the creek are limonitic stained and gossanous with pervasive sulphide mineralization and strongly silicified. Locally, felsic volcanics exhibit a tuffaceous texture and may be rhyolite tuffs. Quartz-eye rhyolite tuffs with pervasive sulphide mineralization (>5 per cent finely disseminated pyrite) occur on the west side of the tributary near the confluence with Stuhini Creek. Also occurring nearby are sulphide-rich rhyolite tuff breccias composed of large, angular, dark grey fragments hosted in a silica-sulphide matrix. Locally, the wallrock along the drainage is sheared and slickensided with extensive limonite and manganese oxide staining. A sample of the intermediate, silicified and pyritic pyroclastic from this alteration zone assayed trace gold, 1.37 grams per tonne silver, 0.01 per cent copper, 0.02 per cent lead, and 0.01 per cent zinc (Greig, 1981). Wesa (1990) states that the zone of interest exhibits “advanced argillic alteration with local intense silicification and pervasive pyritization and gossanous limonitic surface weathering. The strong, pervasive silicification of the felsic volcanics...may represent the silica cap covering an epithermal system.”

Surveyor (MINFILE 104K 016)

A mineralized shear zone is hosted by altered Carboniferous arkosic argillite, quartzite, and quartz-mica schists of the Stikine Assemblage. In 1930, a group of ten claims called Surveyor covered the zone. The occurrence consists of a well defined shear zone about 3.3 metres wide, striking 310 degrees and dipping 50 degrees southwest. The shear is traceable from 15 to 58 metres elevation above the river. The shear zone is banded and reticulated in structure and is well mineralized with streaks, bunches, and veinlets of massive and disseminated stibnite, accompanied by fine disseminations of pyrite, in a gangue of quartz and calcite. In some places the stibnite has been extensively weathered to an antimony oxide, possibly stibiconite or cervantite. In some sections, the gangue contains greenish diffusion bands, which were identified as chromium silicate, thought to be a very fine distribution of mariposite. In 1930, a sample was taken from the quartz-rich part of the zone which was mineralized with pyrite and minor stibnite. This sample assayed 37 per cent antimony and contains no values in silver and gold (Minister of Mines Annual Report 1930). It was reported that the antimony ore is remarkably free from refractory impurities and may possibly be of commercial importance on this account.

Squat (MINFILE 104K 062)

The Squat claims were located 5 kilometres southeast of Tulsequah along Stuhini Creek in 1980 and were owned by Redfern Resources Ltd. and Comaplex Resources International

Ltd. (Exploration in British Columbia 1980). Pyrite, chalcopyrite, sphalerite, and galena are reported to occur in a brecciated zone in the Paleozoic schists. The deposit has an apparent bedded nature. No other information is available.

Anty (MINFILE 104K 023)

The Anty Creek fault hosts massive stibnite mineralization as well as disseminated stibnite and arsenopyrite in quartz vein fissure fillings within the shear zone. Trenching in 1967 revealed a 107 metre zone of mineralization carrying massive and disseminated stibnite in a gangue of quartz within tightly folded micaceous quartzites and schists and is related to a pronounced northwest-trending shear. Mineralization consists of fracture replacement over a width of 12 metres. In 1965, a report stated that a section 33.5 metres long with an average width of 1.5 metres assayed 3.25 per cent antimony and another section 73 metres long with an average width of 1.6 metres assayed 9.5 per cent antimony (Minister of Mines Annual Report 1967). The stratigraphy is assigned to a Carboniferous unit of the Stikine Assemblage.

Green Ham (MINFILE 104K 127)

The area is underlain by Paleozoic Mount Eaton Formation chert, tuff, tuffaceous sediments and argillite. These rocks have been intruded by Eocene hornblende-biotite quartz diorite, and gabbro. Mineralization occurring in glacial float and moraine debris was found during a provincial government regional mapping program in 1993 (Mihalynuk *et al.*, 1994a, b). Rusty weathering black argillite contains disseminated to massive pyrite, pyrrhotite and chalcopyrite with minor amounts of sphalerite. The head of the cirque (to the southwest) is heavily oxidized and rusty weathering but was inaccessible due to topographic constraints. It is assumed that this is the source of the mineralized debris.

South Section

The principal country rock is a Carboniferous to Permian sequence of the Stikine Assemblage consisting of high rank metamorphics which include Permian limestones, dolomitic limestones with chert, and Carboniferous fine grained, hornfelsed clastic sediments and intercalated volcanics which are largely altered to greenstone and phyllite. These rocks are intruded by a Tertiary-Cretaceous granitic stock exposed in nine locations on Mount Ogden.

There are two intrusive types. One is a series of thin, widely-spaced, light coloured dikes and the other is the mineralized intrusive stock which is a light coloured, fine-grained alaskite with quartz and feldspar phenocrysts. The alaskite stock is about 1000 metres wide and 2000 metres long and is informally known as the Mt. Ogden stock. Molybdenite mineralization occurs in several modes within the alaskite and the exploration focus prior to 1980 was on zones DD, G, L, M, N, O, P, Q and Z (not on the Taku Property). A new molybdenite-bearing zone, the Y zone, was found late in the 1979 season about 750 metres

southeast of the area that had been previously been examined in detail. Location maps from Assessment Report 9085 (Appendix G) and Figure 8 from Karelse (2006) show the only graphic representations of the Y zone or the Y zone drill site. Measurements from all the maps place the Y zone within the present claim boundaries of the Moly Taku block of Optima Minerals. The Y zone is reported as being downhill to the northeast of the drill site which 1980 drill logs indicate is at 1808 metres elevation. The MINFILE location is clearly in error as it plots in the area L to Z zones (Appendix H).

The Y zone is about 600 metres southeast of the Mt. Ogden stock where the other original zones occur. It is a large, 150 metre long outcrop. The exposure consists of quartz-feldspar porphyry containing molybdenum-tungsten mineralization. Compositionally, the Y zone intrusion is similar to the Mt. Ogden stock but texturally it is a distinctly separate intrusive phase. Prominent and distinct quartz eyes and feldspar phenocrysts in an aphanitic matrix distinguish it from the Mt. Ogden alaskite stock. In 1980, a bulk sample from this zone assayed 0.073 per cent molybdenite (MoS_2); and 0.084 per cent tungstic oxide (WO_3). Traces of powellite have been detected under ultraviolet lamp, as well as scheelite (Elliott and Clouthier, 1981).

In 1979 and 1980, drillhole Y-1 was drilled to 662.9 metres and Y-2, from the same set-up above the Y zone, was drilled to 332.5 metres. Both holes were collared in dark brown to black, banded meta-argillite which has loosely been called "hornfels" as a field term. A thin section of the hornfels showed a recrystallized texture and very fine (0.5 millimetre) bands or laminations of quartz-rich and biotite-rich mineralogy. Approximately one-third of the length of the hornfels section (to a depth of 607.8 metres) in hole Y-1 was intruded by dikes of andesite, dacite, felsite, alaskite, and quartz feldspar porphyry. These dikes vary from 4 centimetres to 25.4 metres in apparent width. The most important dikes in hole Y-1 are the four quartz-feldspar porphyry dikes intersected between 486 and 596 metres. These porphyries are strongly altered to chlorite and sericite and contain 2-3 per cent disseminated and fracture pyrite. In general, alteration of the hornfels and dikes varied from weak to extremely strong and consisted of sericitization, chloritization, epidotization, silicification and K-feldspathization. Drillholes Y-1 and Y-2 both ended in alaskite of the Mt. Ogden stock. It was observed that this leucocratic granite was clearly later than the mineralization and alteration found in the upper sections of the drillholes. The alaskite is relatively fresh but does contain some disseminated molybdenite and quartz veins with molybdenite.

Mineralized quartz veins occurred throughout the drill core. The most common type of vein intersected was quartz-pyrite-pyrrhotite-sphalerite which also contain minor scheelite. Other common vein types were quartz-molybdenite, quartz-epidote-pyrite-magnetite-scheelite and quartz-magnetite-epidote. Quartz veins with pyrrhotite, chalcopyrite, and scheelite also occurs as well as quartz veins with just sphalerite or scheelite. Fluorite-bearing and magnetite-bearing veins were intersected in drillhole Y-1. Fracture-coating

mineralization also occur but less commonly than mineralized veins. The fracture coatings include pyrrhotite, chalcopyrite, molybdenite, magnetite, sphalerite and pyrite.

Elliott and Clouthier (1981) reported the following conclusions. Diamond-drill holes Y-1 and Y-2 intersected sections of a large halo of alteration, quartz veining and mineralization which is thought to be associated with a buried felsic stock. Both drillholes ended in the post-mineral Mt. Ogden alaskite stock which crops out to the north. Although an orebody was not intersected the following information was obtained:

- (1) Molybdenite and scheelite-bearing quartz veins occur throughout the drill cores.
- (2) Sericitization of the “hornfels” occurs throughout 600 metres of drillhole Y-1. Commonly this alteration results in sections of complete sericitization.
- (3) Silicification, K-feldspathization, and chloritization all increase below 400 metres in depth in drillhole Y-1.
- (4) The intensity of quartz veining increases with depth in both drillholes Y-1 and Y-2.
- (5) Fluorite-bearing and magnetite-bearing veins occur at depth in drillhole Y-1.

These above indicators suggest that drillholes Y-1 and Y-2 have intersected a thick portion of a strong hydrothermal, mineralized system. The four altered and pyritic quartz feldspar porphyry dikes that were intersected in drillhole Y-1 may be associated with a buried pluton responsible for the molybdenite mineralization; a mineralized “hood” zone around the buried stock was postulated by Elliott and Clouthier (1981) who stated that future drilling should be undertaken to the south to find it. The ground south of the drill sites is held as part of the southern section of the Yellow Bluff Property, owned by Optima Minerals Inc.

STREAM SEDIMENT SAMPLING

The stream sediment sampling was carried out by the government with each sample being tested for 36 elements. Ten were chosen by the writer, being silver, arsenic, gold, copper, molybdenum, nickel, lead, antimony, uranium, and zinc are shown on the accompanying maps, figures 5a to 5j, inclusive.

AIRBORNE GEOPHYSICS

The airborne geophysics consists of gravity with the following three maps given:

1. Isostatic Residual Anomaly, figure 6a – As the name suggests, this is the entire magnetic field from all sources
2. Free Air Anomaly, figure 6b – This is the calculation of the rate of change in the magnetic field. Thus anomalous areas would indicate higher rates of change, that is,

where the magnetic field is changing more quickly. Anomalous areas often occur along the edges of strong total magnetic field anomalies.

3. Bouguer Anomaly, figure 6c – This is the total magnetic field map with the regional magnetic field subtracted from it. The result is the residual magnetic field which consists of localized magnetic features.

DISCUSSION OF RESULTS

There are seven RGS sample sites either within or around the Chaco Bear Property that could be affected by mineralization within the property, as shown on figures 6a to 6h. Almost all are anomalous in seven of the elements, being arsenic, copper, gold, lead, molybdenum, silver, and zinc, and varying in anomalous strength from weak to strong.

One of the strongest sample sites is the one occurring on Driftwood River to the south of the property. This river drains the west central part of the property, including Big Lake. This site is strongly anomalous in copper, zinc, arsenic, and lead; and moderately anomalous in gold, silver, and molybdenum. It is known that mineralization occurs along this drainage system within the property. Also, the MMI soil sampling grid was emplaced on the north side of Big Lake, and that is contained highly anomalous results in copper and lead, and moderately anomalous results in gold and silver.

Three sample sites occur to the south and west of the property and these are moderately to strongly anomalous in gold, copper and lead. They are also moderately anomalous in zinc, molybdenum, and arsenic; and weakly anomalous in silver. The central sample of these three occurs at the southwest corner of the property and thus its causative source very likely occurs within the southwest part of the property. Therefore, there is a strong indication of mineralization of economic interest occurring within the southwestern part of the property.

One sample site occurs on a creek that drains the northern part of the Chaco Bear Property and that is a tributary of Patcha Creek. This site is strongly anomalous in lead, silver, copper, and zinc; moderately anomalous in arsenic, and weakly anomalous in gold and molybdenum. It therefore indicates the possibility of mineralization occurring within the northern part of the property.

Two sample sites occur within the eastern part of the property. The northern sample site drains the northern part of the property including the Round Lake area and is strongly anomalous in arsenic; moderately anomalous in lead, zinc, and silver; and weakly anomalous in gold, copper, and molybdenum. The southern sample site drains the eastern part of the property and is strongly anomalous in gold (strongest in the area) and arsenic; moderately anomalous in lead, silver, copper, and zinc; and weakly anomalous in molybdenum. This site strongly indicates that mineralization, especially gold and arsenic, occur within the eastern part of the property.

The three government airborne magnetic maps, figures 5a, 5b and 5c, indicate a northwest to north-northwest trend through the property, which correlates with the geology maps. The property is underlain by a magnetic high which would be due to the calc-alkaline (basic to ultra-basic) volcanic rocks which underlie almost all the property. The regional total magnetic field map and the 1st derivative magnetic map indicate the western side of the property has a particularly strong magnetic field indicating a rock-type with a higher magnetic intensity, perhaps an ultra-basic volcanic rock-type.

The gravity free air anomaly map, figure 5d, shows the property occurring on the edge of a gravity high that occurs to the west. This may be reflecting a deeper, below-surface feature, perhaps an intrusive probably belonging to the Bulkley Plutonic Suite. This may be the source of mineralization on the Chaco Bear Property as well as possibly being the heat engine causing the mineralization.

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GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Surrey, in the Province of British Columbia, do hereby certify that:

I am registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

I am a Consulting Geophysicist of Geotronics Consulting Inc, with offices at 6204 – 125th Street, Surrey, British Columbia.

I further certify that:

I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.

I have been practicing my profession for the past 44 years, and have been active in the mining industry for the past 47 years.

This report is compiled from geophysical and RGS geochemistry data obtained from the BC government web-site, MapPlace.

I do not hold any interest in Optima Minerals Inc., nor in the property discussed in this report, nor in any other property held by this company, nor do I expect to receive any interest as a result of writing this report.

David G. Mark, P.Geo.
Geophysicist

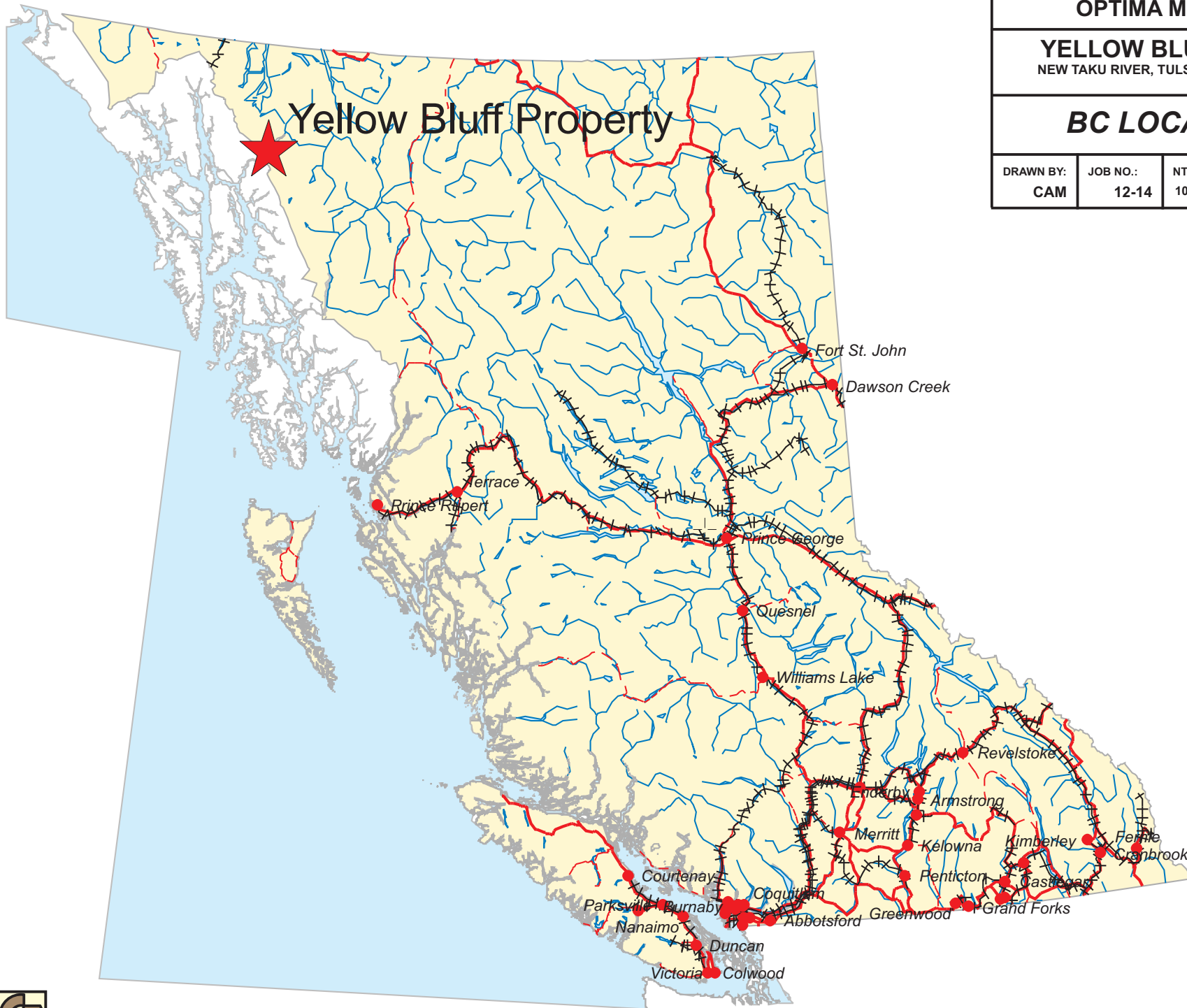
August 29,2012

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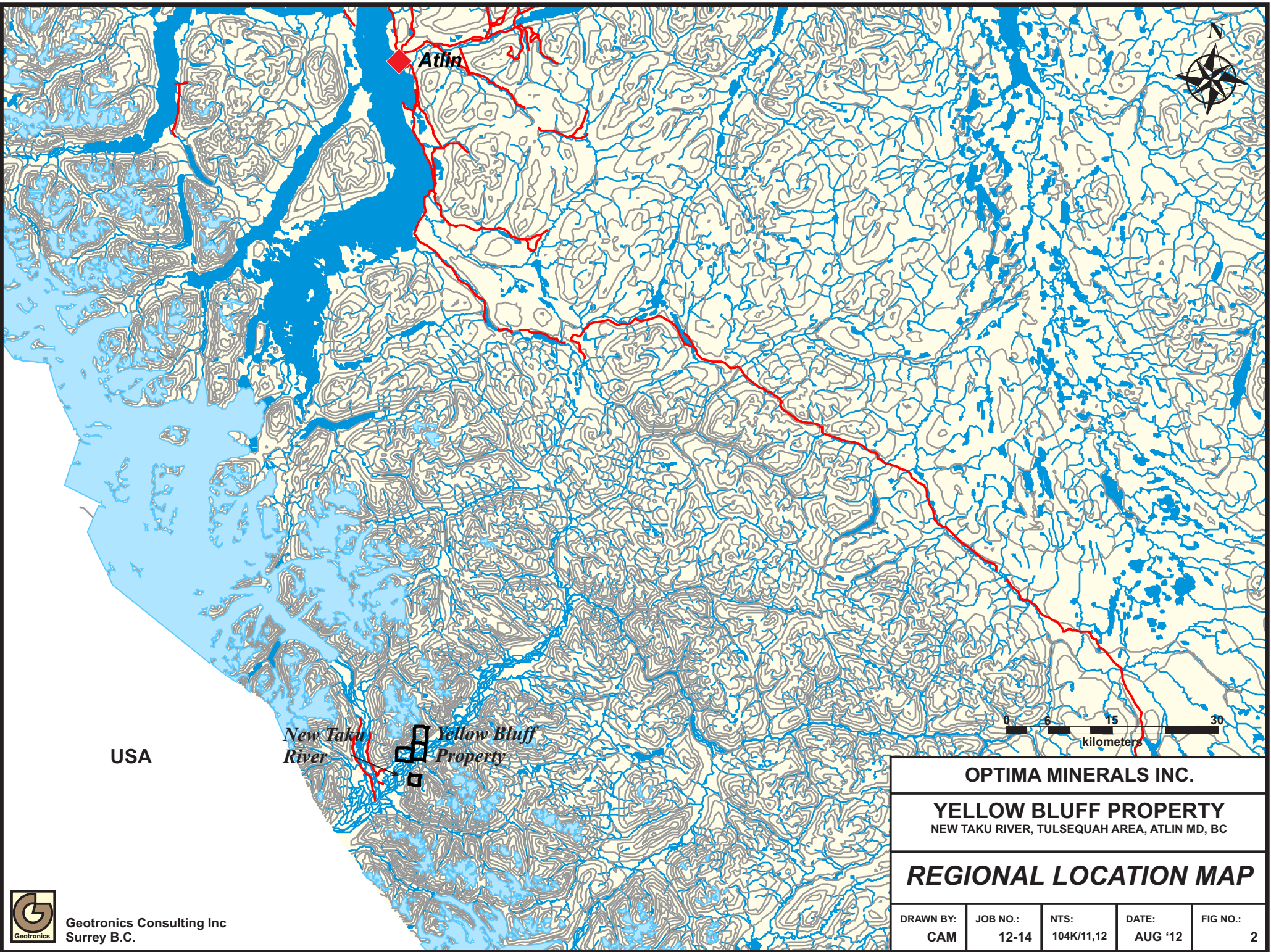
YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

BC LOCATION MAP

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	1



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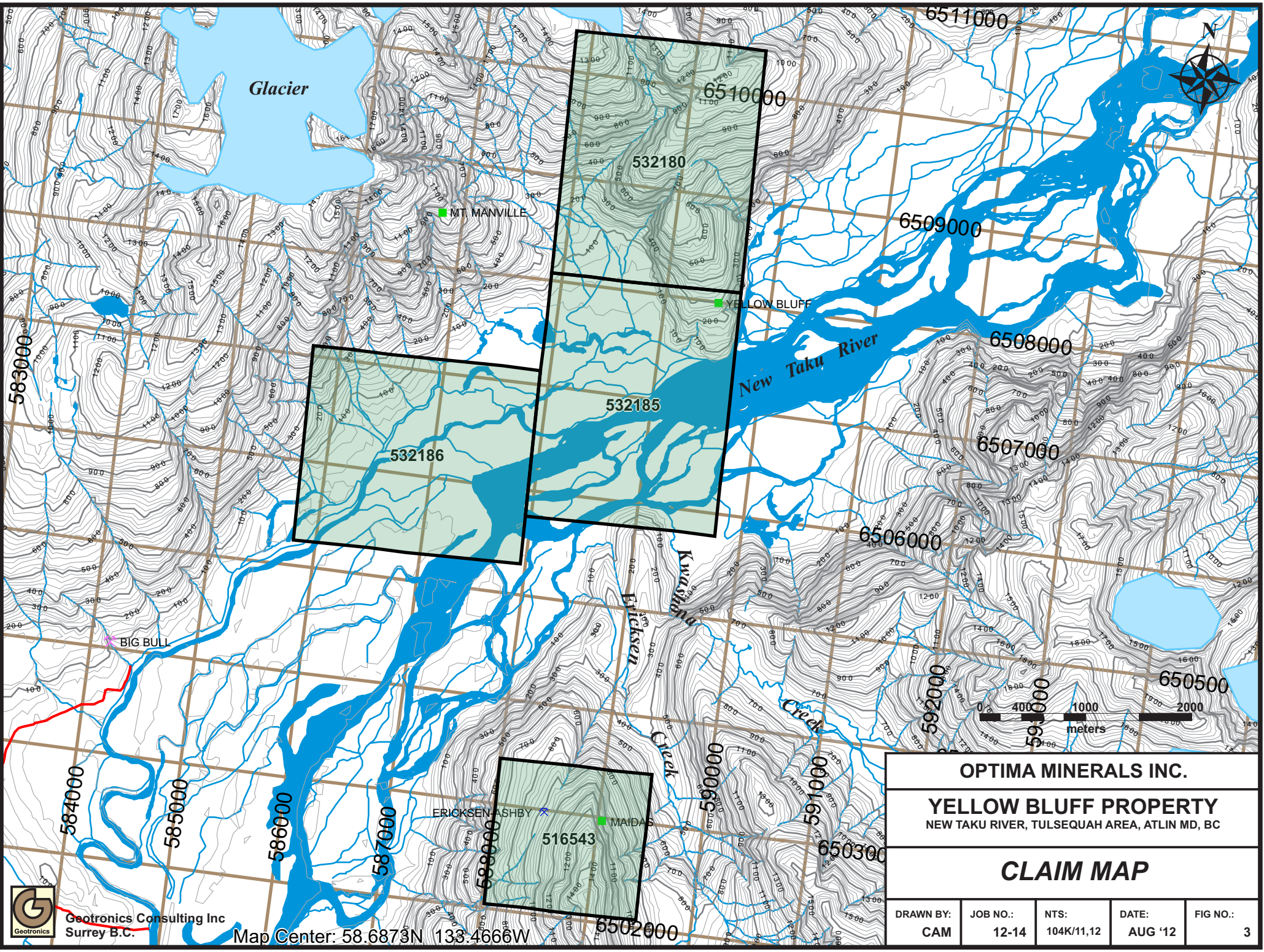
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NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

REGIONAL LOCATION MAP

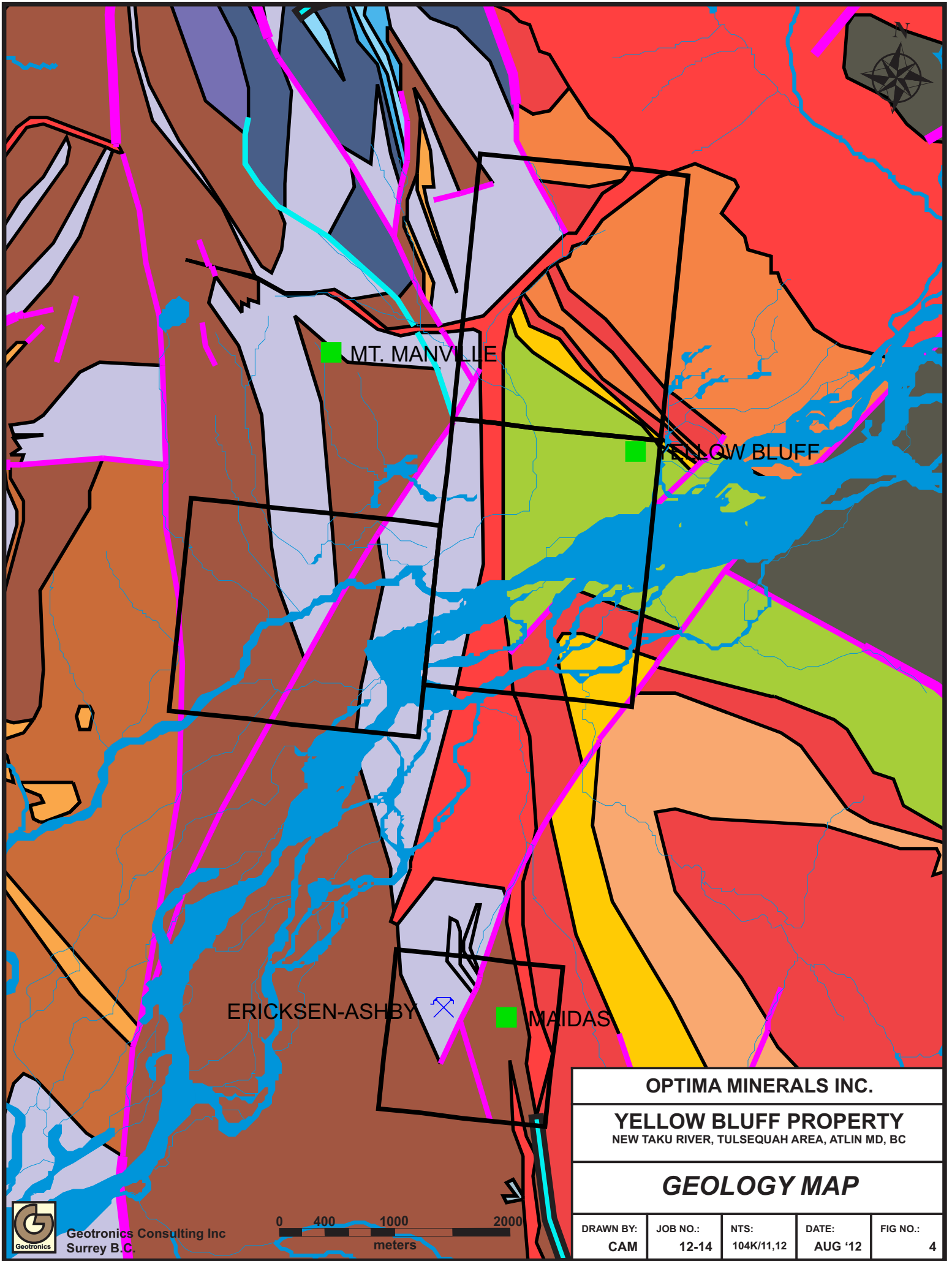
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CAM	12-14	104K/11,12	AUG '12	2



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OPTIMA MINERALS INC.				
YELLOW BLUFF PROPERTY				
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC				
CLAIM MAP				
DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	3



MT. MANVILLE

YELLOW BLUFF

ERICKSEN-ASHBY

MAIDAS

OPTIMA MINERALS INC.

YELLOW BLUFF PROPERTY
 NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

GEOLOGY MAP

DRAWN BY: CAM	JOB NO.: 12-14	NTS: 104K/11,12	DATE: AUG '12	FIG NO.: 4
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-  STIKINE ASSEMBLAGE Mississippian bimodal volcanic rocks
-  STIKINE ASSEMBLAGE Mississippian undivided volcanic rocks
-  STIKINE ASSEMBLAGE Carboniferous volcanoclastic rocks
-  STIKINE ASSEMBLAGE Carboniferous coarse clastic sedimentary rocks
-  STIKINE ASSEMBLAGE Carboniferous conglomerate, coarse clastic sedimentary rocks
-  STIKINE ASSEMBLAGE Pennsylvanian undivided volcanic rocks
-  STIKINE ASSEMBLAGE Pennsylvanian dolomitic carbonate rocks
-  STIKINE ASSEMBLAGE Lower Permian limestone, marble, calcareous sedimentary rocks
-  STIKINE ASSEMBLAGE Permian chert, siliceous argillite, siliciclastic rocks
-  LABERGE GROUP - TAKWAHONI FORMATION Lower Jurassic conglomerate, coarse clastic sedimentary rocks
-  SLOKO-HYDER PLUTONIC SUITE Paleocene to Eocene granite, alkali feldspar granite intrusive rocks
-  SLOKO GROUP Early Eocene andesitic volcanic rocks
-  SLOKO GROUP Early Eocene volcanoclastic rocks
-  SLOKO GROUP Early Eocene conglomerate, coarse clastic sedimentary rocks
-  SLOKO GROUP Early Eocene coarse volcanoclastic and pyroclastic volcanic rocks
-  SLOKO GROUP Early Eocene rhyolite felsic volcanic rocks

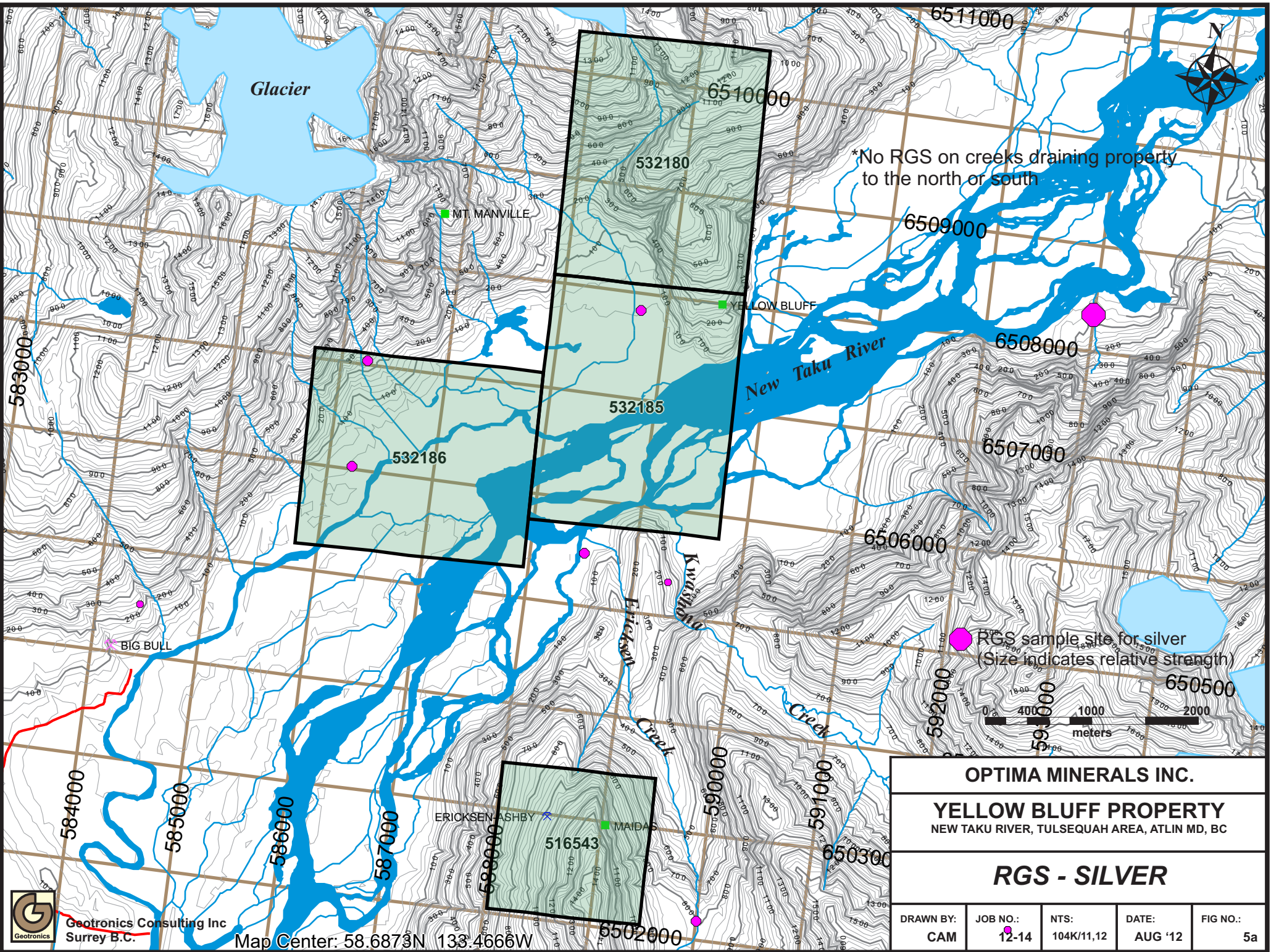
OPTIMA MINERALS INC.

YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

GEOLOGY LEGEND

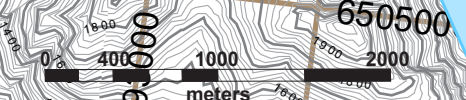
DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	4a





*No RGS on creeks draining property to the north or south

RGS sample site for silver
(Size indicates relative strength)

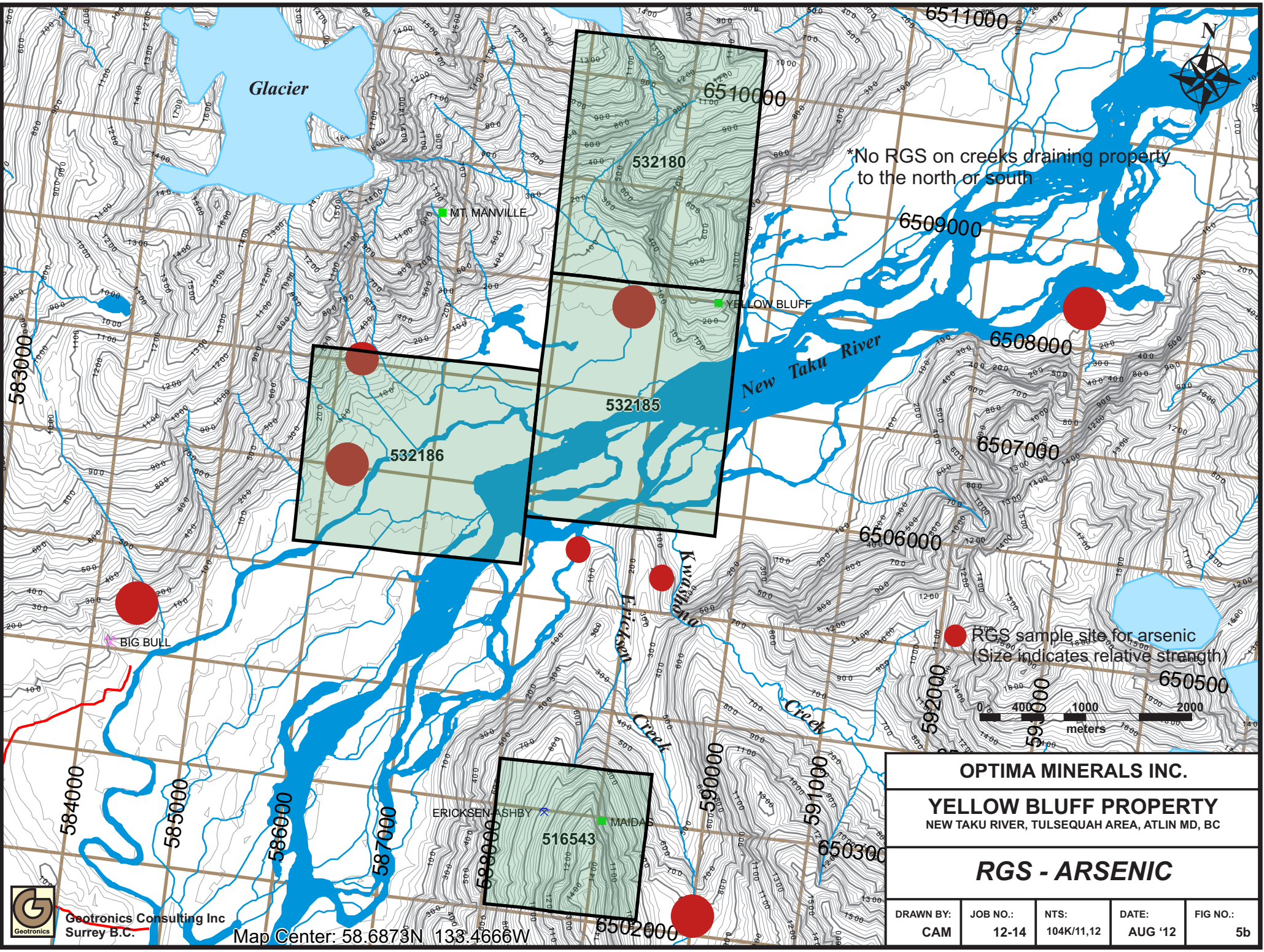


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YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

RGS - SILVER

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	5a



*No RGS on creeks draining property to the north or south

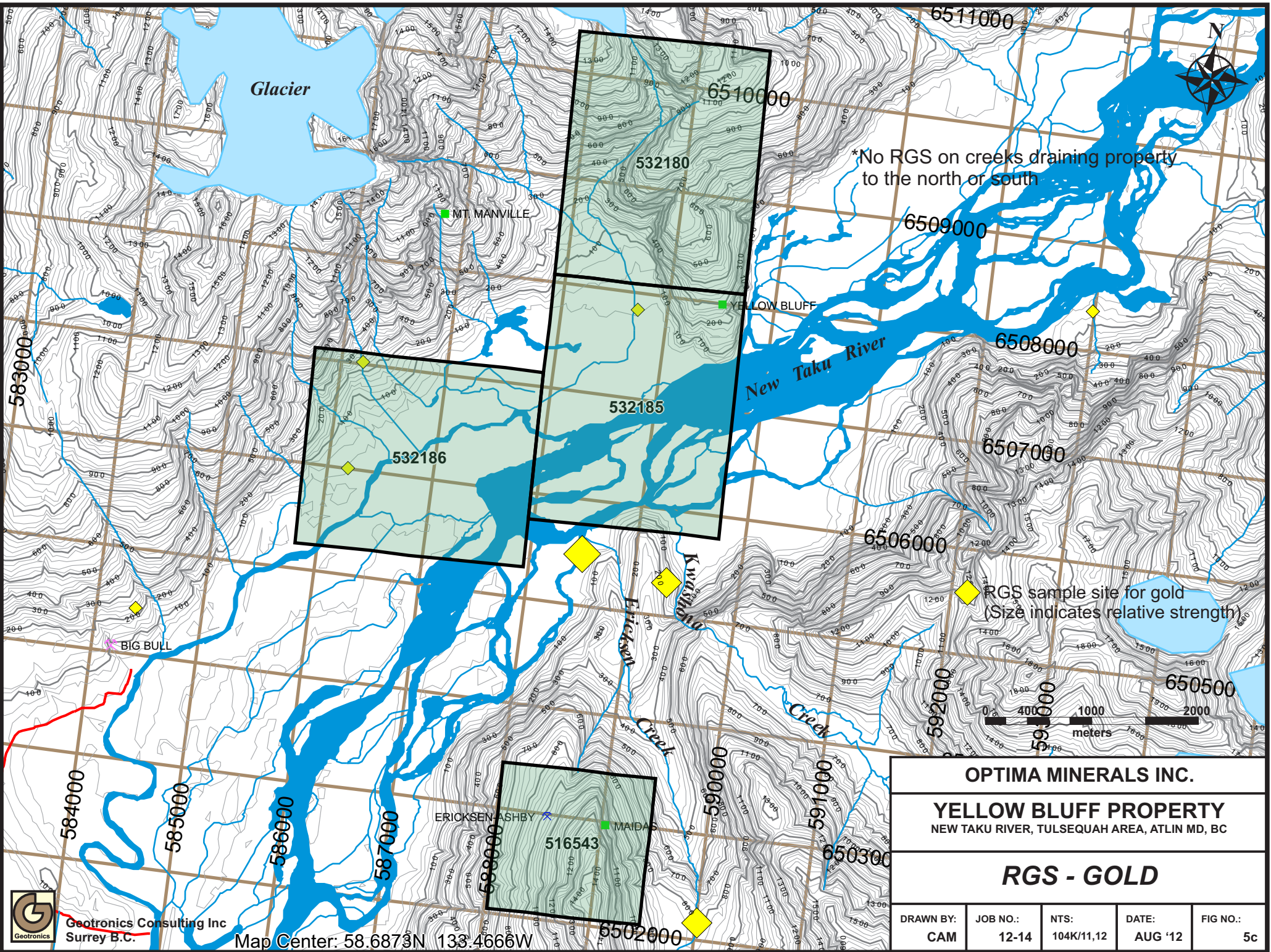
RGS sample site for arsenic
(Size indicates relative strength)

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YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

RGS - ARSENIC

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	5b



*No RGS on creeks draining property to the north or south

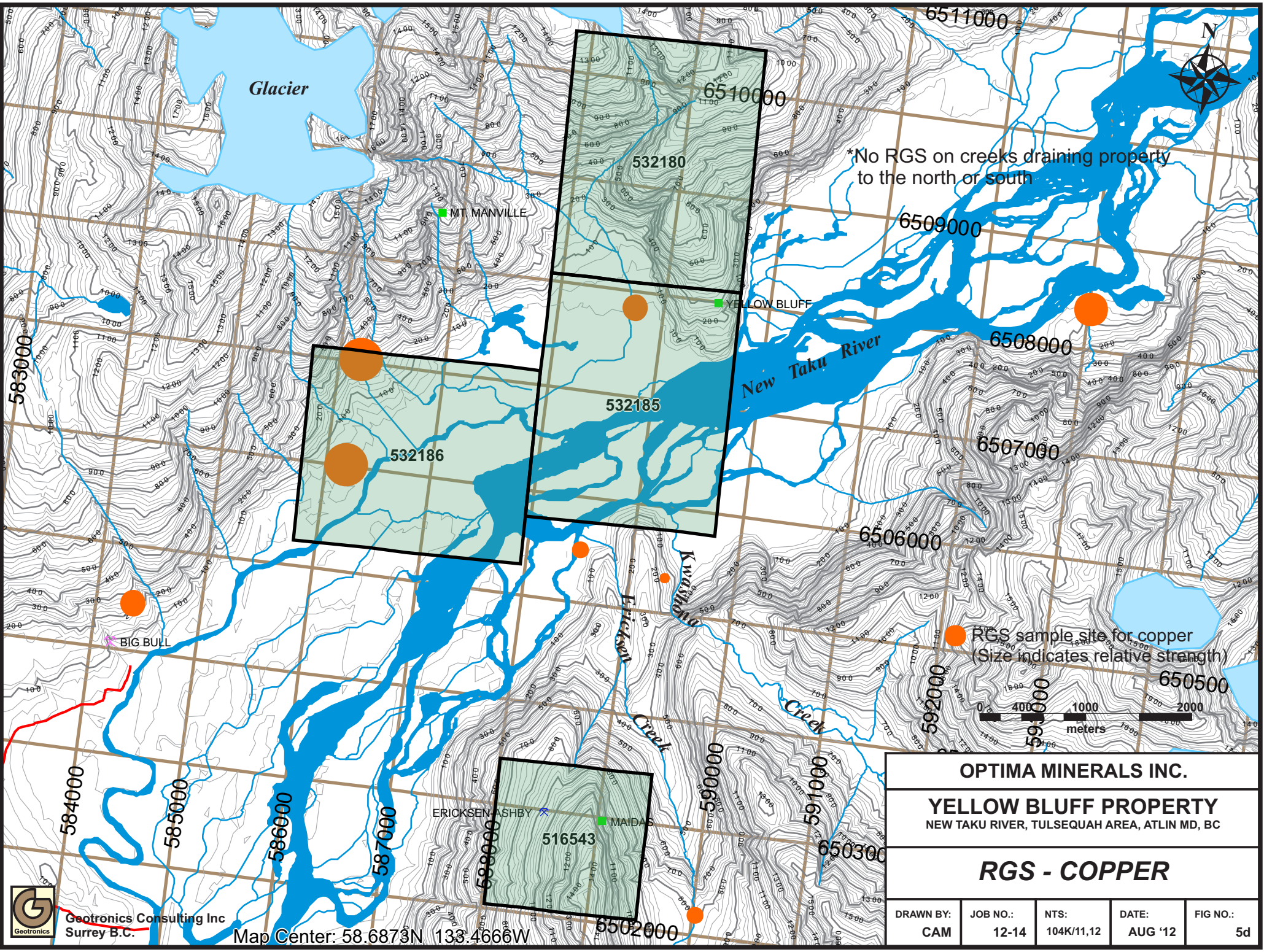
RGS sample site for gold (Size indicates relative strength)

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YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

RGS - GOLD

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	5c



*No RGS on creeks draining property to the north or south

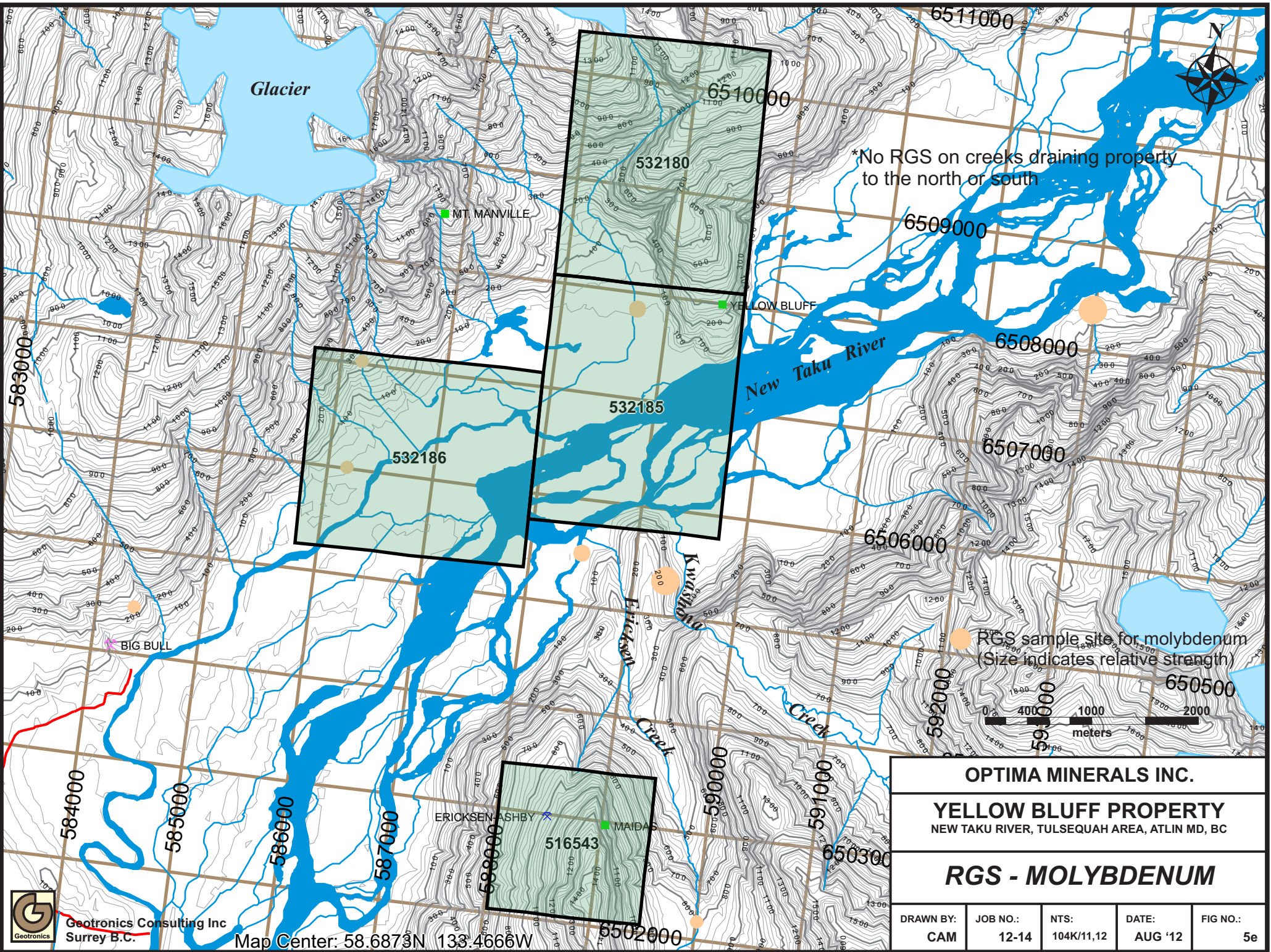
RGS sample site for copper
(Size indicates relative strength)

OPTIMA MINERALS INC.

YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

RGS - COPPER

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	5d



*No RGS on creeks draining property to the north or south

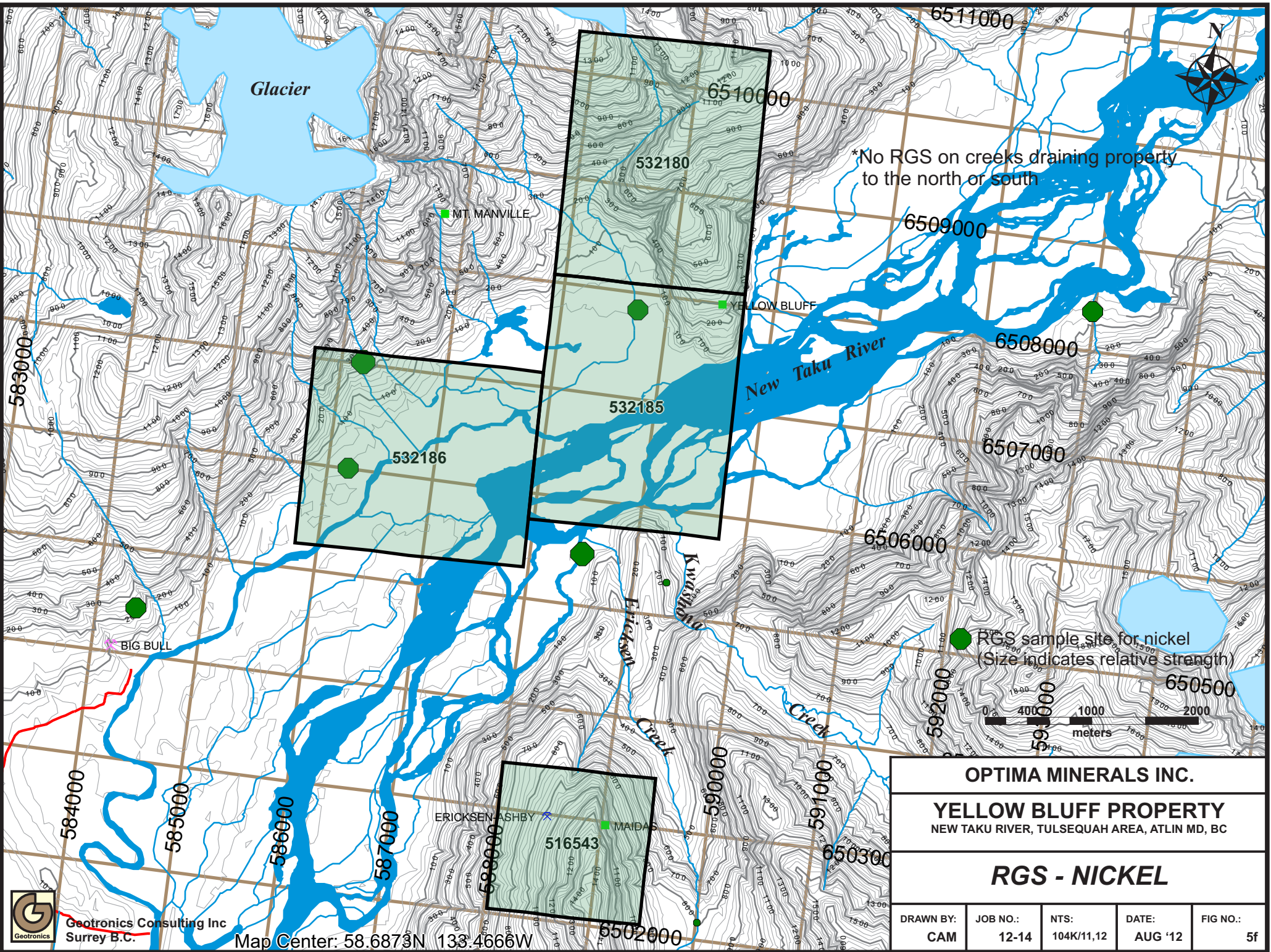
RGS sample site for molybdenum
(Size indicates relative strength)

OPTIMA MINERALS INC.

YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

RGS - MOLYBDENUM

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	5e



*No RGS on creeks draining property to the north or south

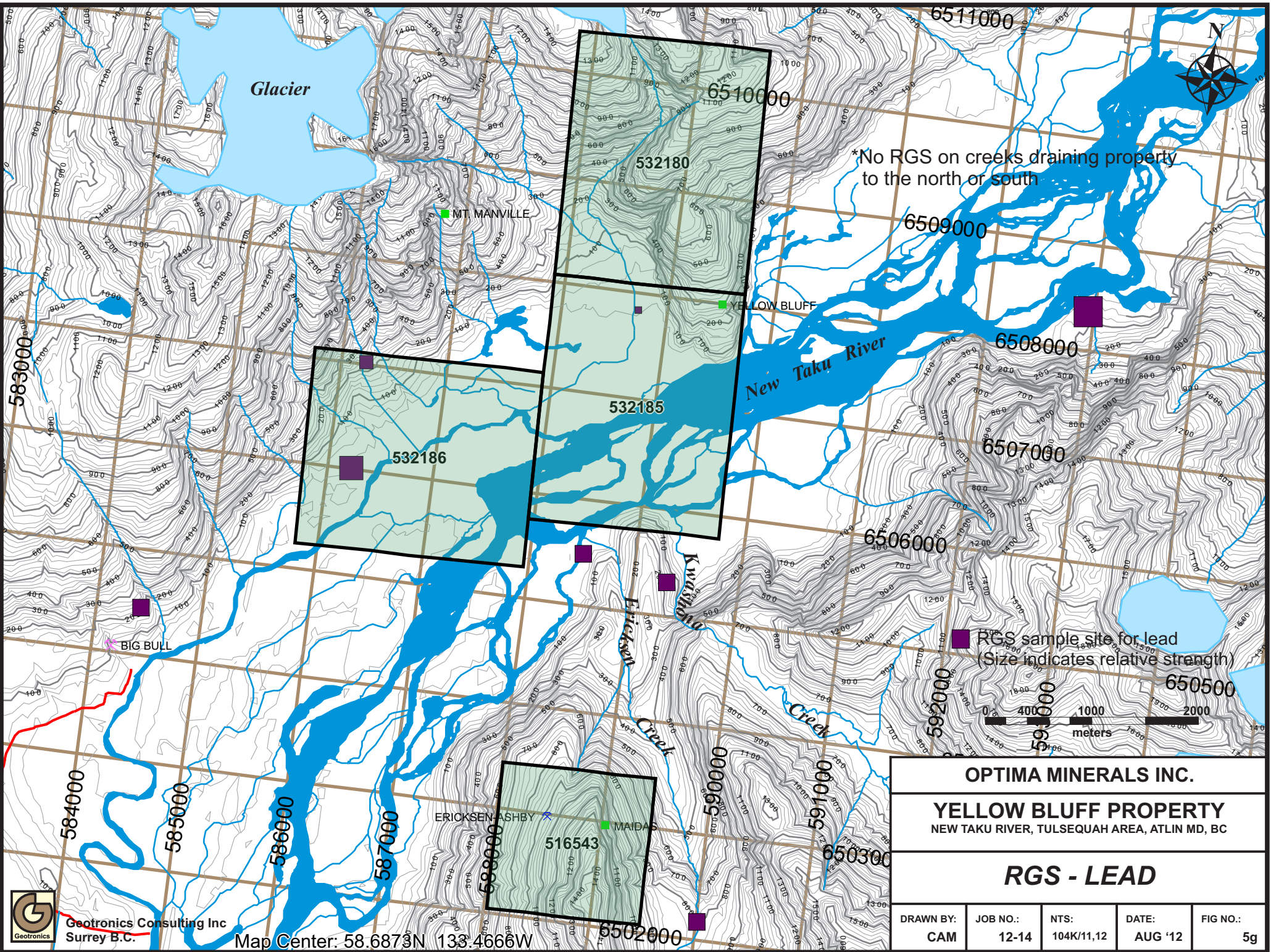
RGS sample site for nickel
(Size indicates relative strength)

OPTIMA MINERALS INC.

YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

RGS - NICKEL

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	5f



*No RGS on creeks draining property to the north or south

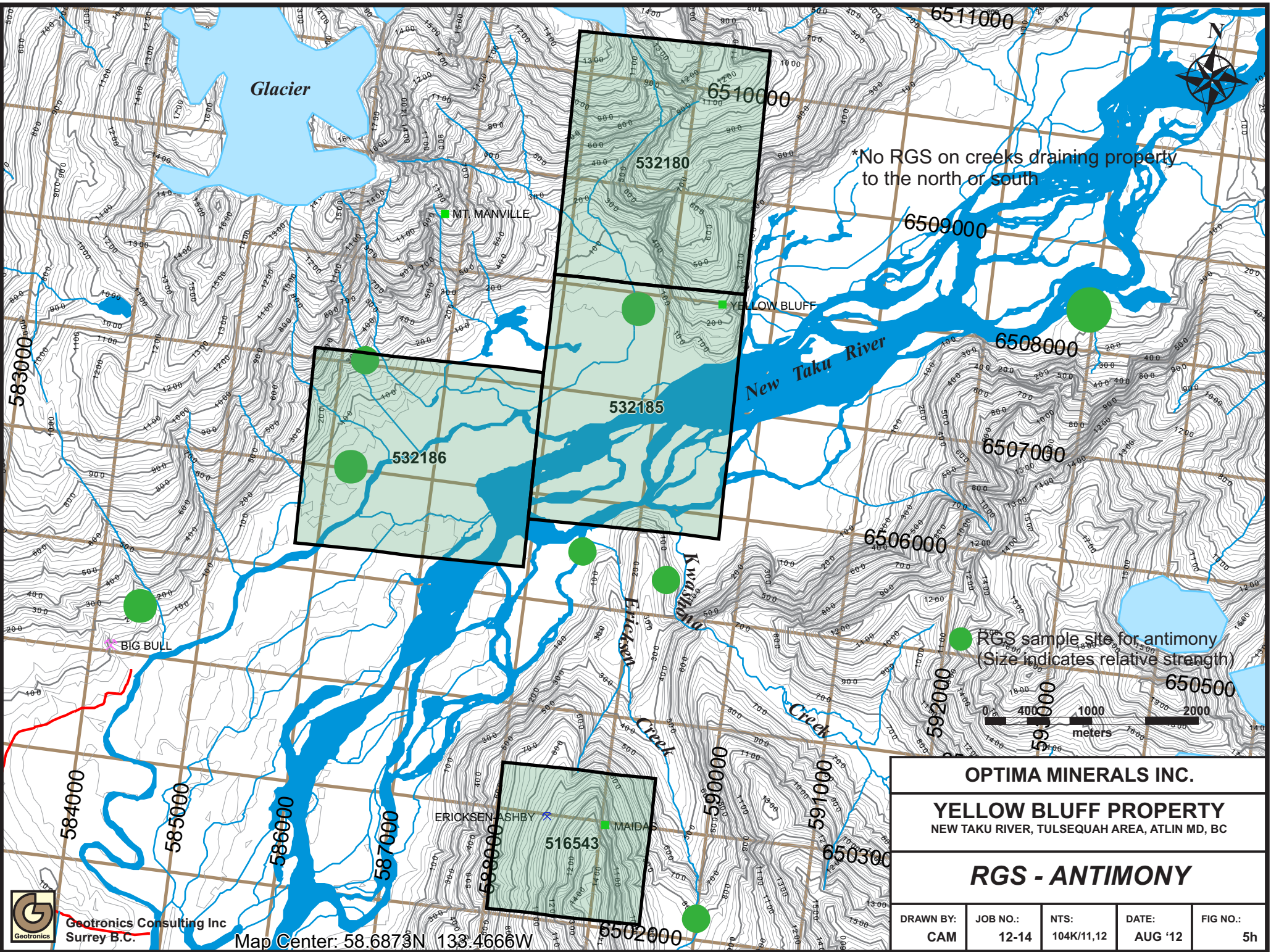
■ RGS sample site for lead
(Size indicates relative strength)

OPTIMA MINERALS INC.

YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

RGS - LEAD

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	5g



*No RGS on creeks draining property to the north or south

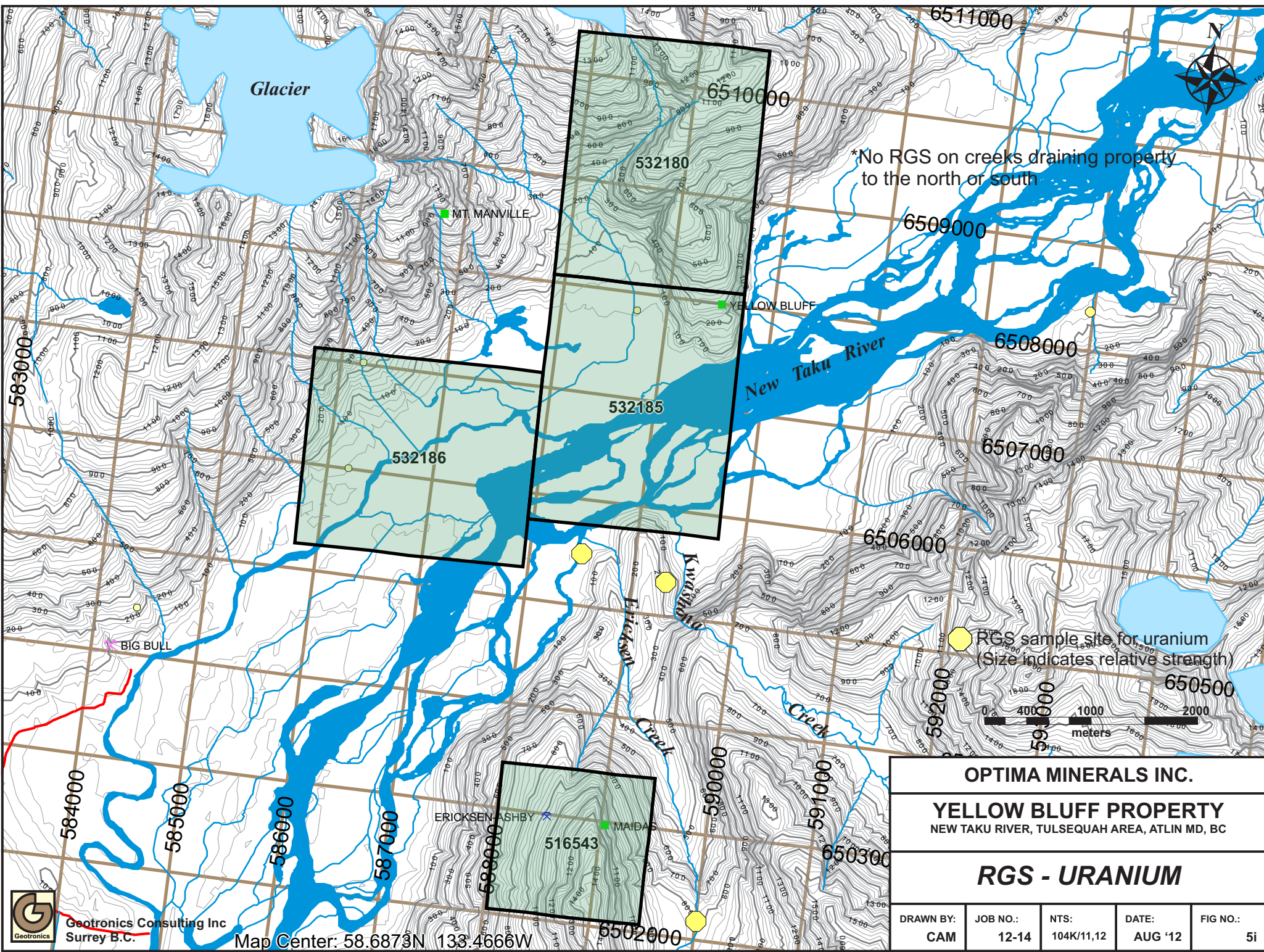
RGS sample site for antimony
(Size indicates relative strength)

OPTIMA MINERALS INC.

YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

RGS - ANTIMONY

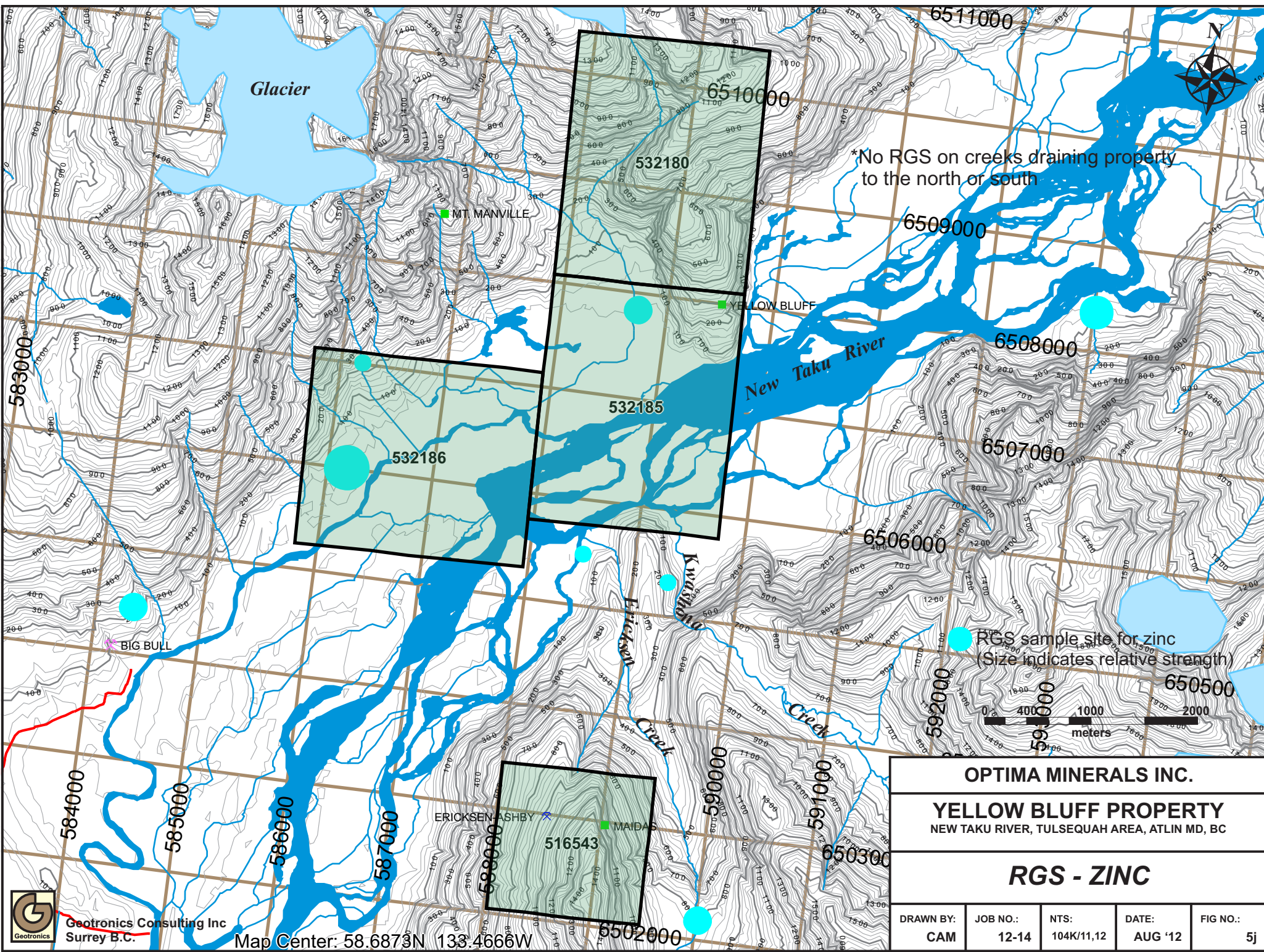
DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	5h



*No RGS on creeks draining property to the north or south

RGS sample site for uranium
(Size indicates relative strength)

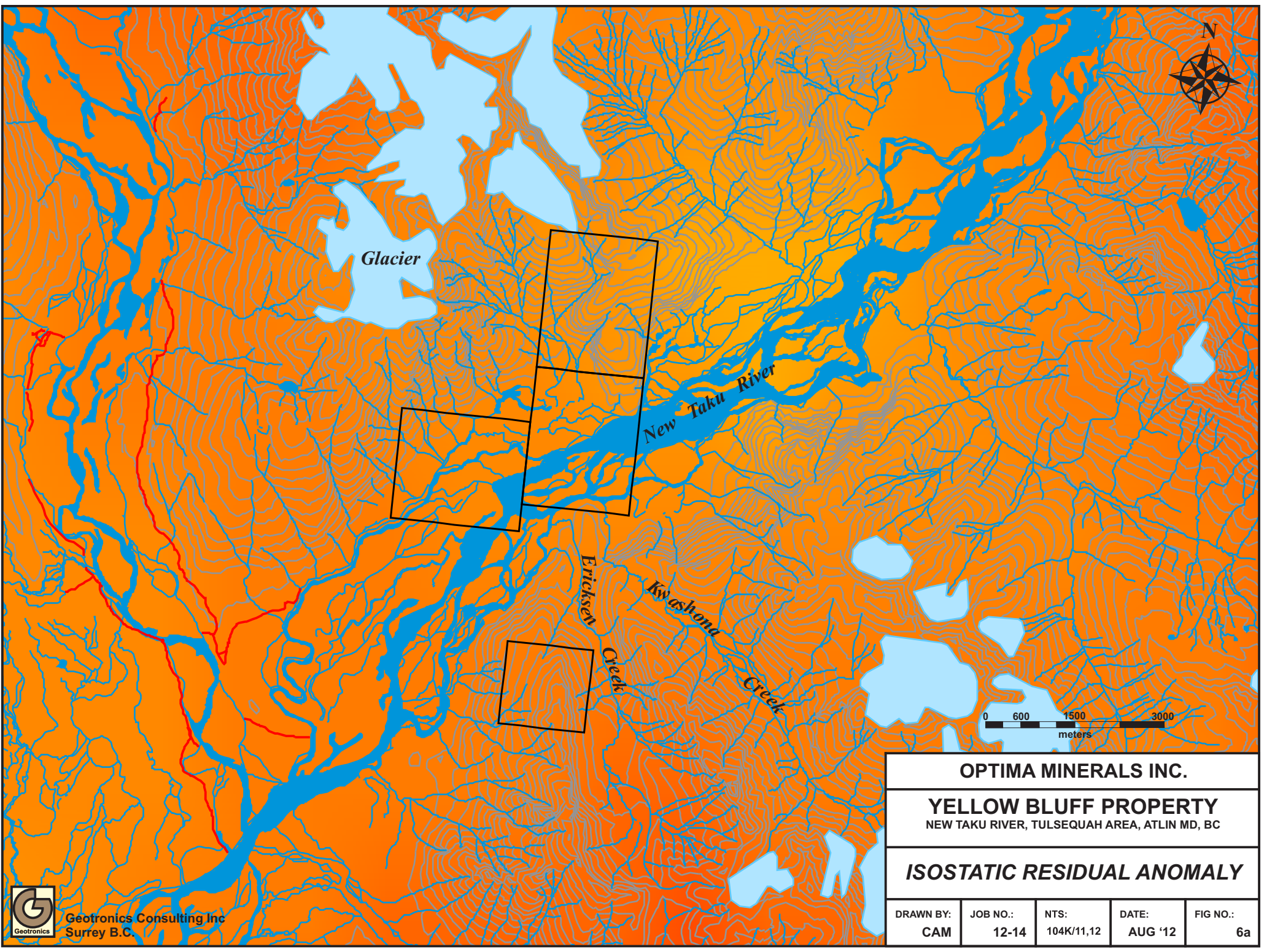
OPTIMA MINERALS INC.				
YELLOW BLUFF PROPERTY NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC				
RGS - URANIUM				
DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	5i




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Map Center: 58.6873N 133.4666W

OPTIMA MINERALS INC.				
YELLOW BLUFF PROPERTY NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC				
RGS - ZINC				
DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	5j



Glacier

New Taku River

Ericksen
Creek

Kwashona
Creek

0 600 1500 3000
meters

OPTIMA MINERALS INC.

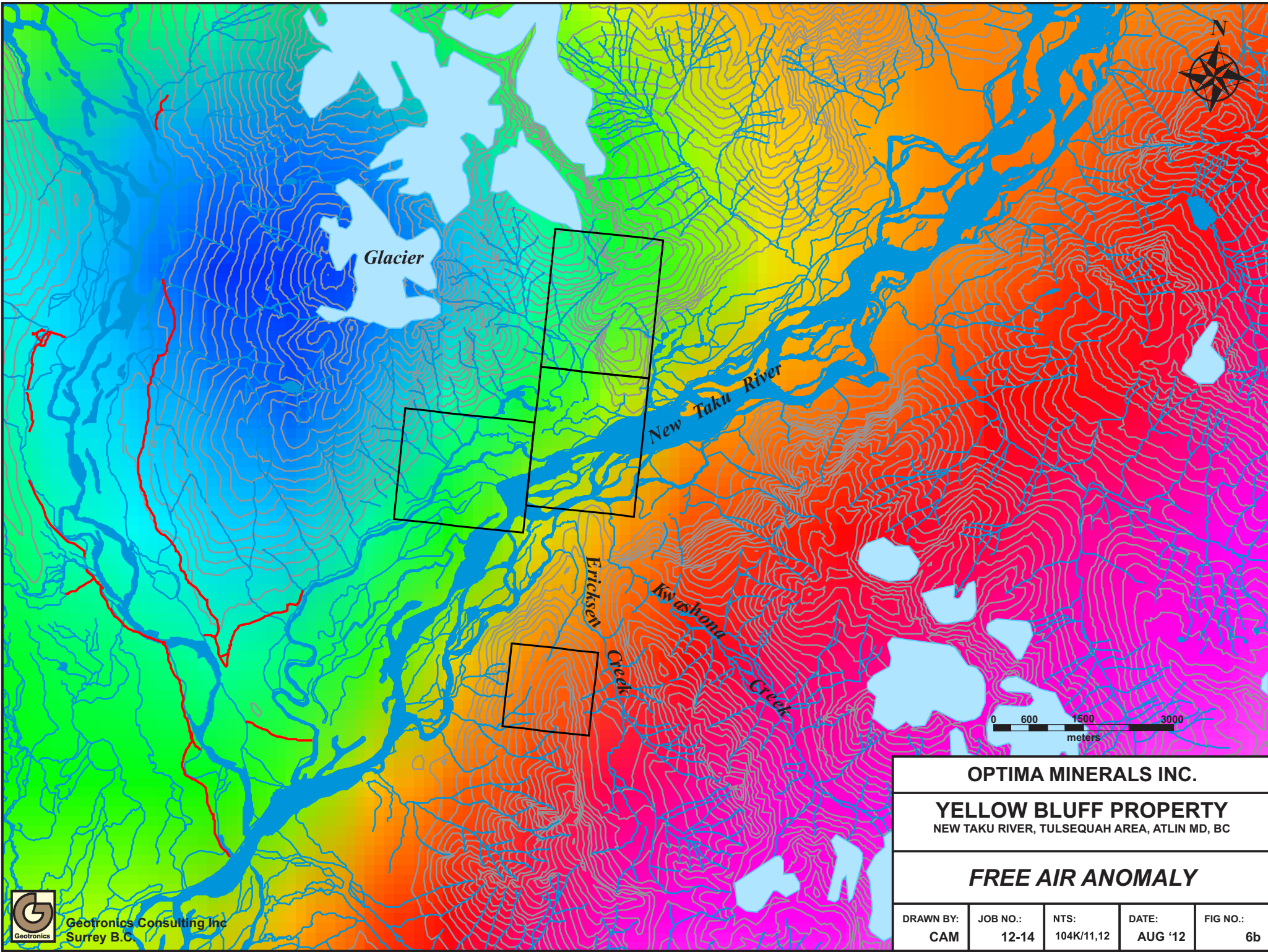
YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

ISOSTATIC RESIDUAL ANOMALY

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	6a



Geotronics Consulting Inc
Surrey B.C.



Glacier

New Taku River

Ericksen Creek

Kwashona Creek

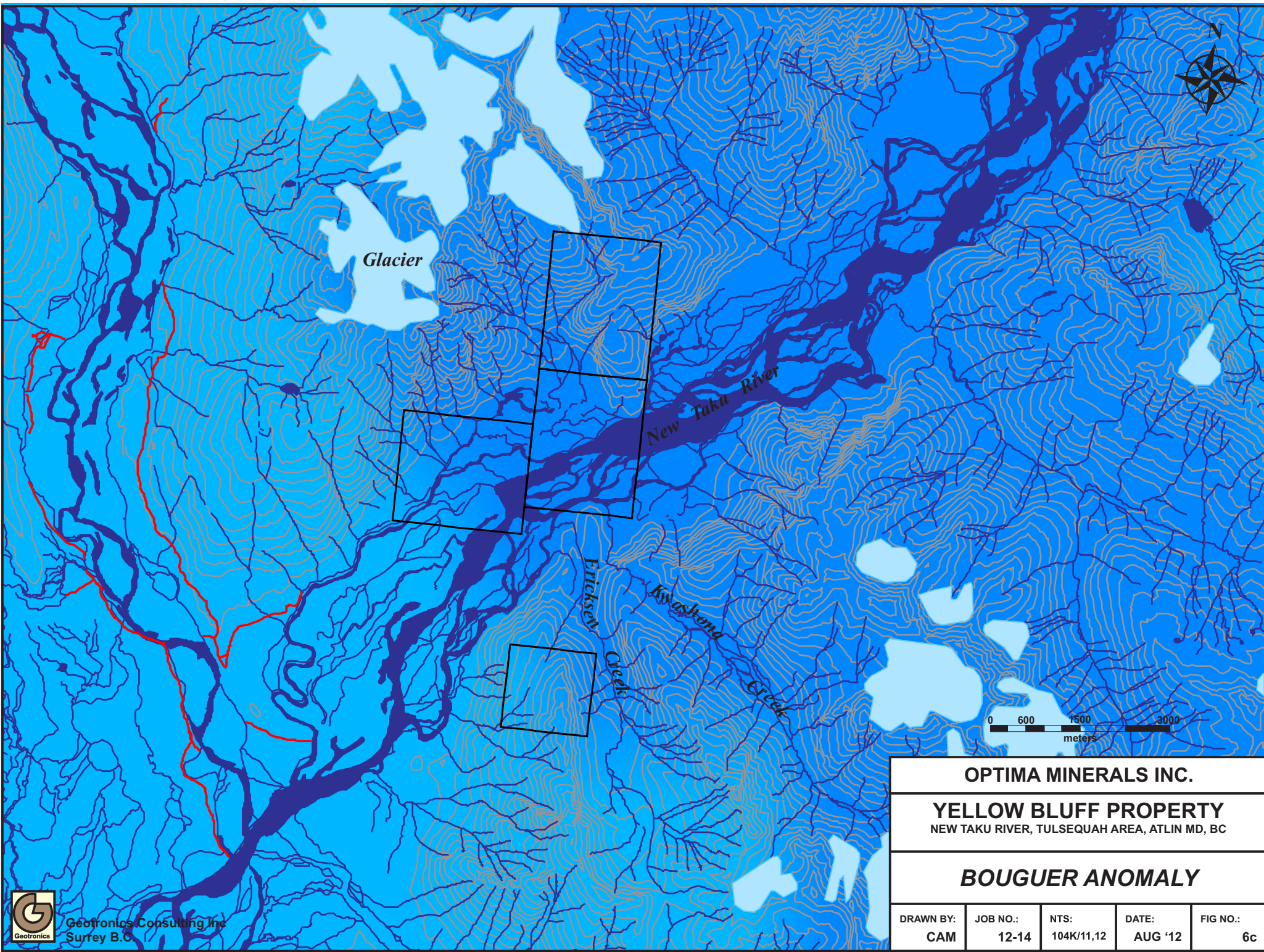


OPTIMA MINERALS INC.

YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

FREE AIR ANOMALY

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	6b



Glacier

New Taku River

Ericksen
Creek

Kwashond
Creek

OPTIMA MINERALS INC.

YELLOW BLUFF PROPERTY
NEW TAKU RIVER, TULSEQUAH AREA, ATLIN MD, BC

BOUGUER ANOMALY

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
CAM	12-14	104K/11,12	AUG '12	6c