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BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geological Report on 2010 field activities at the Ice River **TOTAL COST:** $12593.00

AUTHOR(S): Jarrod Brown **SIGNATURE(S):**

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): **YEAR OF WORK:** 2010

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 4873695

PROPERTY NAME: Ice River

CLAIM NAME(S) (on which the work was done): MTO 516355, 504463

COMMODITIES SOUGHT: REE, Nb

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 082N 028

MINING DIVISION: Golden **NTS/BCGS:** 82N/01W

LATITUDE: 51 ° 10 ' " **LONGITUDE:** 116 ° 23 ' " **(at centre of work)**

OWNER(S):
1) Eagle Plains Resources Ltd **2)**

MAILING ADDRESS:
Suite 200, 44-12 Ave. S.
Cranbrook BC, V1C 2R7

OPERATOR(S) [who paid for the work]:
1) Waterloo Resources Ltd **2)**

MAILING ADDRESS:
1050-625 Howe St. Vancouver BC, V6C 2T6

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Ice River Complex, Ottertail Formation, syenite, carbonatite, REE, Nb

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 28187, 29013

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TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock	18	516355, 504463	5037.20
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)	2x1 km	516355, 504463	7555.80
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	$12593.00

GEOLOGICAL REPORT

On 2010 field activities at the

ICE RIVER PROPERTY

Waterloo Prospect area

Golden Mining Division

Mapsheet 82N/01W

Center of Work

Latitude 51° 10' N, Longitude 116°23'W

Prepared for:

WATERLOO RESOURCES LTD.

1050-625 Howe St

Vancouver, BC V6C 2T6

And

EAGLE PLAINS RESOURCES LTD

Suite 200, 44-12th Ave. S.

Cranbrook, B.C. V1C 2R7

By

Jarrod A. Brown, M.Sc., P.Geo.

TERRALOGIC EXPLORATION SERVICES

Suite 200, 44-12th Ave. S.

Cranbrook, B.C. V1C 2R7

July 1, 2011

Summary

The 2010 TerraLogic Exploration program at the Ice River property continued exploration for REE and Nb mineralization associated with syenite and carbonatite intrusions of the Ice River Complex (IRC) and host Cambrian to Ordovician carbonates. The 2010 program consisted of a 4 person-day program of prospecting, geologic mapping and rock sampling as follow-up to the 600m x 600m REE+Nb+Ba+Mo soil anomaly identified in 2009, along the southeast flank of Buttress Peak (in MTO claims 504463 and 516355).

Geological mapping confirmed that the host rocks in this area are Ottertail limestone, with several sheeted arrays of carbonatite (carbothermal?) and syenite dykes and sills. Two subunits of the Ottertail Formation are evident in the area examined. At higher elevations, bluish-grey, thinly bedded, hard sucrosic limestone (unit 2b) is predominant. At lower elevations, well bedded, tan coloured limestone (unit 2a) is present.

The REE (La, Ce, Y) anomaly on the southeast flank of Buttress Peak, consistent over a 600 x 600 meter area, was the prime target for 2010 evaluation. The 2010 followup to this soil anomaly revealed significant REE mineralization in the form of carbonatite (or carbothermal?) sills contained within host limestone, within a 50 meter wide horizon proximal to the 2a/2b subunit contact of the Ottertail Formation. Sixteen out of 18 of the insitu rock samples collected returned anomalous to very anomalous TREE results, with a best result of 22834 ppm TREE. Out of the 18 samples collected over a 700m strike region, 5 returned greater than 10000 ppm TREE, and 12 returned greater than 3000 ppm TREE.

Field work to date has established a widespread spatial distribution of REE and Nb mineralization with economic potential. Total REEs in excess of 26000 ppm have been documented insitu with 36 samples over 5.6 kilometeres returning greater than 3000 ppm tREE. Thirty-four samples over 5.6 kilometeres have returned greater than 600 ppm Nb, with the best sample returning 3923 ppm Nb. The styles of mineralization are now well established with the most prospective mineralization associated with syenite and carbonatite dykes and zones that have been extensively zeolite and/or fennite altered.

A number of other commodities are being passively explored for on the property. Those which show some promise include 1) (nepheline) syenite as a source of ceramic grade feldspathic minerals, 2) sodalite syenite as a source of semi-precious gemstones or aggregate, and 3) a wide variety of intrusive phases of the Ice River complex which could be used as dimension stone. Despite the complex structural history of the area, felsic and mafic phases of the complex are remarkably undeformed and could readily be developed into a range of attractive building products.

Future work should include additional detailed prospecting and mapping of the REE, Nb, Mo soil anomaly along the SE aspect of Buttress Peak followed by trenching activities. Depending on the initial findings, ground based geophysical surveys including magnetics, scintillometer and possibly I.P. could be employed to further delineate sound drilling targets.

As well, detailed prospecting and mapping in the northern area of the property on the south flank of Sentry peak and along the ridge above the south South Bowl is highly recommended. Thus far no detailed exploration has been undertaken in these areas.

Total expenditures related to the 2010 field season were $12593.00

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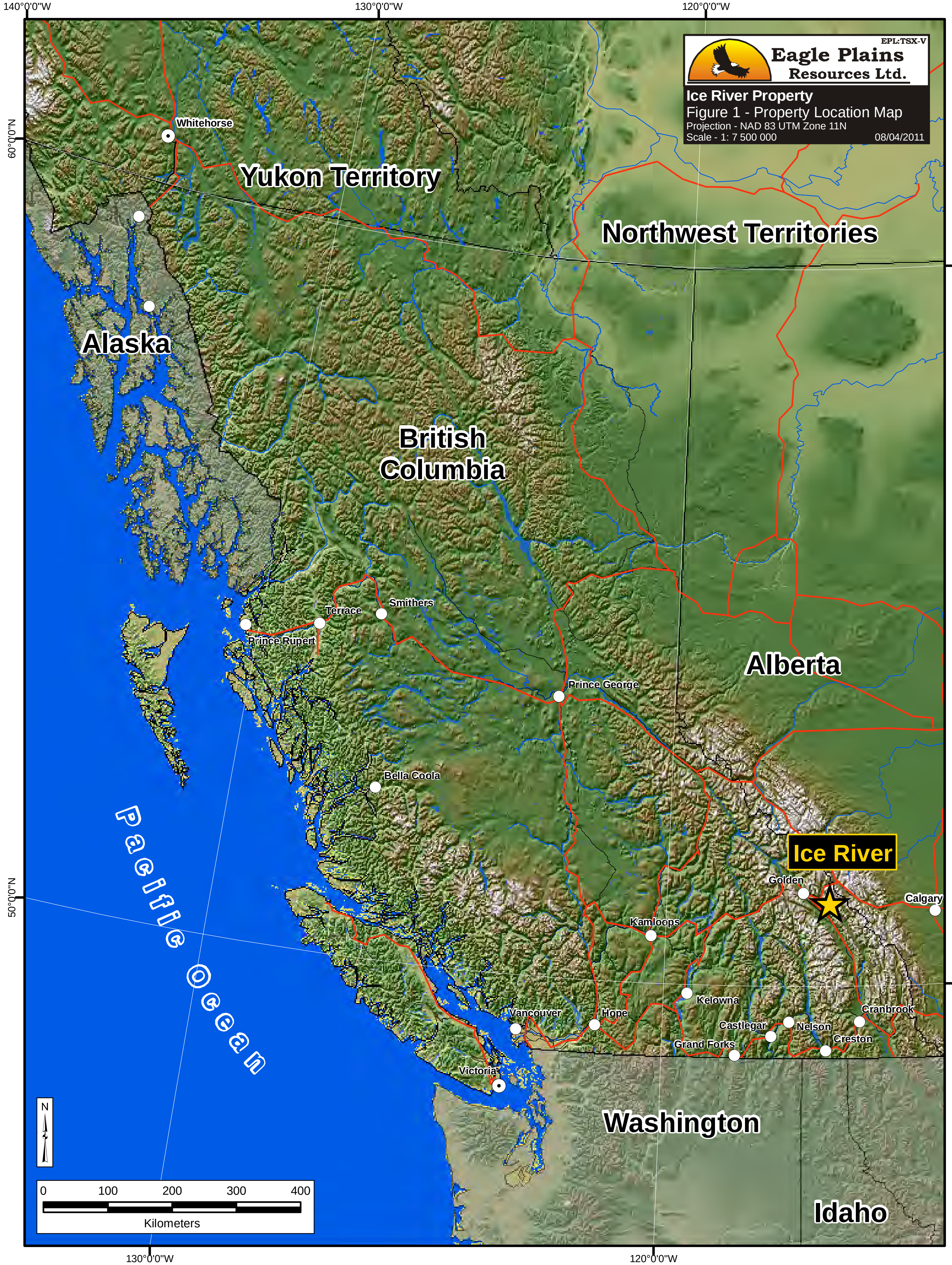
Location and Access

The Ice River property is located within the Golden Mining Division, on NTS mapsheet 82N/1W at Latitude 51° 10' N, Longitude 116° 23' W (Figure 1). It is located within the headwaters of Moose Creek, occupying the western side of the valley. Moose Creek drains southward to the Beaverfoot Valley, which flows northwestward to the Kicking Horse River . The property is situated 45 km east of Golden, B.C. and is currently accessed by helicopter. Forest Service roads reach to within 5km of property boundaries.

The property is located from elevation 1760 to 2800m, and consists of primary subalpine scrub vegetation and talus. Lower elevations are forest-covered, with mature spruce and pine dominating. The climate is dominated by prevailing moist westerly winds from the Pacific Ocean. Occasionally, drier continental weather patterns extend over the region. Generally, summers are short and cool, with occasional hot spells, while winters are long and snowy. Annual precipitation in the adjacent Kootenay National Park ranges from less than 380 mm at lower elevations to over 1250 mm at higher elevations. In valley bottoms, average January highs are -7°C, while July highs average 22°C. Average temperatures decrease by about 0.5°C for every 100 m of elevation gain.



Eagle Plains Resources Ltd.
EPL:TSX-V
Ice River Property
Figure 1 - Property Location Map
Projection - NAD 83 UTM Zone 11N
Scale - 1: 7 500 000
08/04/2011
Yukon Territory
Northwest Territories
Alaska
British Columbia
Alberta
Washington
Idaho
Pacific Ocean
Ice River
Whitehorse
Terrace
Smithers
Prince Rupert
Prince George
Bella Coola
Golden
Calgary
Kamloops
Kelowna
Vancouver
Hope
Castlegar
Nelson
Cranbrook
Creston
Grand Forks
Victoria
140°0'0"W
130°0'0"W
120°0'0"W
60°0'0"N
50°0'0"N
N
0
100
200
300
400
Kilometers

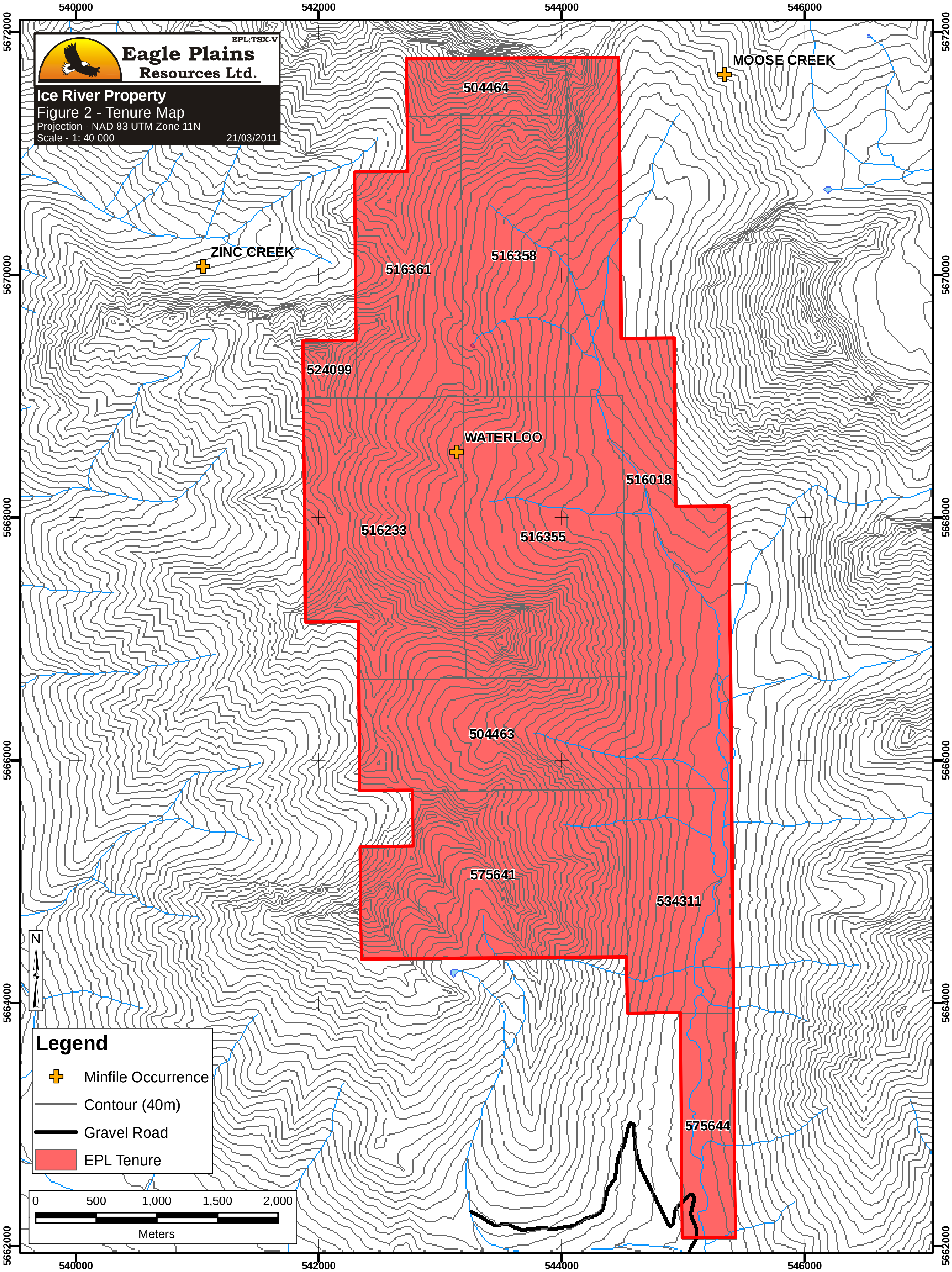
TENURE

The property consists of 11 MTO mineral claims totaling 2169 Ha, located within NTS mapsheet 082N/01W, and is entirely within 1:20000 mapsheet 082N.019 (Figure 2). The area is approximately 45 kilometres east of Golden, B.C. The claims are owned 100% by Eagle Plains Resources Ltd. and carry no underlying encumbrances.

Table 1 – Ice River Tenure Summary

Tenure Number	Ownership	Claim Name	Recording Date	Expiry Date*	Mining Division	Area (ha)
575641	100% EPL	IV	08/02/2008	15/11/2016	6 Golden	283.9060
575644	100% EPL	IV	08/02/2008	15/11/2016	6 Golden	81.1473
524099	100% EPL	IV (ZINC MTN)	20/12/2005	15/11/2016	6 Golden	20.2630
534311	100% EPL	IV	23/05/2006	15/11/2016	6 Golden	162.2380
504463	100% EPL	IV	21/01/2005	15/11/2016	6 Golden	202.7440
504464	100% EPL	IRC 6	21/01/2005	15/11/2016	6 Golden	60.7630
516018	100% EPL	IRC EAST	05/07/2005	15/11/2016	6 Golden	385.0650
516233	100% EPL	IV	07/07/2005	15/11/2016	6 Golden	283.7520
516355	100% EPL	IV	08/07/2005	15/11/2016	6 Golden	304.0240
516358	100% EPL	IV	08/07/2005	15/11/2016	6 Golden	202.5960
516361	100% EPL	IV	08/07/2005	15/11/2016	6 Golden	182.3390

*as of June 20, 2011


EPL:TSX-V
Eagle Plains
Resources Ltd.
Ice River Property
Figure 2 - Tenure Map
Projection - NAD 83 UTM Zone 11N
Scale - 1: 40 000
21/03/2011
540000
542000
544000
546000
5672000
5670000
5668000
5666000
5664000
5662000
MOOSE CREEK
ZINC CREEK
WATERLOO
504464
516361
516358
524099
516018
516233
516355
504463
575641
534311
575644
N
Legend
Minfile Occurrence
Contour (40m)
Gravel Road
EPL Tenure
0
500
1,000
1,500
2,000
Meters

History and Previous Work

The Ice River group of claims overlies a sequence of rocks that has seen geologic investigation since the early 1900s. This is due to both the unique geological and geochemical characteristics of the area, and the considerable economic potential located there. Various groups have completed programs in the area, first described in 1914 by J.A. Allan in GSC Memoir No. 55, Map 142A. Albany Oil and Gas in 1971 staked the Bow 1-49 claims, which cover most of the area now underlain by the Ice River tenures. Their work consisted of evaluating the property for a number of commodities, including titaniferous magnetite, uranium, columbium/niobium, and sodalite. Cominco Ltd. investigated the Moose Creek area in 1971 (Webber and MacKean, 1971).

In the late 1980's to early 1990's the property was revisited for its sodalite potential (Addie, 1990). The area is of great interest to mineral collectors primarily for sodalite, and also for a wide variety of rareminerals associated with alkaline complexes (http://www.mindat.org/loc-475.html).

In 1993, the headwaters of the Moose Creek basin were acquired by Magtite Mineral Ltd. and restaked as the Kim and Gust claims. The initial focus of work was to test the potential of industrial quality titaniferous magnetite and ilmenite (Termuende, 1998; Butrenchuck, 2001). Results included a rough resource calculation and brief notes on the distribution of sodalite on the property.

The Ice River Complex is one of the largest and best preserved alkaline ijolite/syenite/carbonatite complexes in the world. As such, it has been the focus of several projects from both economic and academic perspectives. Over the decades since its discovery, several competing theories have been presented to explain its derivation, evolution, and emplacement. Many details remain speculative or controversial. In particular, little work on the metallogenesis of the complex has been reported.

Allan (1914) originally mapped the central core carbonate units as limestone inclusions. Allan's work was revised and updated by Currie (1975) after Rapson (1963) argued for the presence of an igneous carbonatite body. Gussow (1977) supported Allan's interpretation that the crystalline limestone masses of the complex are recrystallized and remobilized limestone. He went further to suggest that the entire\ complex is actually a Precambrian basement complex brought to the surface in two thrust sheets, comprising nepheline and sodalite syenite, paragneiss and crystalline limestones. These arguments were made despite the prevailing body of knowledge supporting igneous derivation and emplacement, supported by textural evidence (Currie, 1975), differentiation trends (Campbell, 1961) and Devonian K-Ar mica dates (Baadsgaard, 1961; Rapson 1963). Parrish et al., (1987) proposed an age of 368+-4 Ma for the complex, based on a synthesis of dating techniques, including U-Pb dating of zircon and sphene, Rb-Sr analysis of various minerals, and $^{40}Ar/^{39}Ar$ age spectrum on hornblende. He acknowledged that all isotopic systems are disturbed. Locock (1994) discussed the metamorphic conditions that affected these and other isotopic systems, and provided a concordant U-Pb age date of 356+-6 Ma.

Questions are ongoing regarding the petrogenetic evolution of the complex. Currie (1975), and Locock (1994) concluded that the complex was emplaced mainly as sill-like bodies and subordinate dykes and plugs. The diverse array of rock types were derived from a single magma pulse, ultimately affected by various combinations of fractional crystallization, and silicate/carbonate and silicate/silicate immiscibility. Work done by Peterson (1983) agreed with Currie's petrologic subdivisions, but brought into question the role of liquid immiscibility and specifics of emplacement.

Peterson and Currie (1994) provided evidence to suggest that the ijolite and nepheline syenite were derived from separate magma batches, but that the evolution of the igneous system is complex because of variable degrees of incorporation of country rock. They also suggested that metasomatic activity may provide possible mechanisms for the formation of some of the rock types in the complex, particularly the units rich in zeolites. They concluded that it is difficult to explain the complex shape and distribution of the units of the Ice River Complex while envisioning a single source pluton of simple shape.

History of work by Eagle Plains Resources Ltd.

The northern half of the current tenure was staked by Eagle Plains Resources in October of 2003. Work commenced in 2005 and included reconnaissance rock geochemical sampling and prospecting of talus and outcrop in the cirques and valleys east of the Yoho National park boundary (Brown, 2006). Two persons spent five days exploring alpine and subalpine areas north and east of the ridges delimitated by Buttress Peak west to Manganese Mountain, and Manganese Mountain north to the minor peak between Zinc Mountain and Sentry Peak.

Traverses in the property area successfully located or verified mineral potential for the semiprecious gemstone sodalite, dimension stone (syenite, and alkaline mafic intrusive rock), and industrial or rare metals including titanium, niobium, zirconium and a variety of rare earth elements (REEs). Many occurrences of zeolite mineralization/alteration were also noted throughout the property area, both as large euhedral vug filling masses, and as microscopic alteration of syenite as mapped by Currie (1975). Massive sulfide mineralization at the Waterloo showing comprises of structurally controlled and replacement mineralization, with 2005 outcrop samples containing up to several percent lead and zinc, greater than 6500 ppm copper, 1200 ppb gold, and above detection limit silver (>100 ppm) (Brown, 2006). Total expenditures for the 2005 program were $19,186.51.

The 2006 Bootleg Exploration program (Brown, 2007) consisted of four components: i) Detailed stratigraphic and structural mapping of country rock in the vicinity of the Waterloo Zn-Pb-Ag showing; ii) property-scale geologic mapping of the cirque east and north of the divides defined by Zinc Mountain, Manganese Mountain and Buttress Peak; iii) lithogeochemical and contour soil geochemical sampling within areas iⅈ and iv) stream, silt and heavy mineral sampling of Moose Creek and tributaries.

The geologic mapping at the Waterloo showing area identified a significant sub-unit lithological contact within the Ottertail Formation, and a swarm of lamprophyre (ultramafic diatreme) and syenite dykes and a dominant WNW trending, tight fold system. Mapping of the cirque below Zinc and Manganese mountains provided greater detail of the distribution of the zoned syenite and layered mafic intrusions of the Ice River complex. Mapping also revealed the presence of two previously unreported zones rich in sodalite syenite. One such zone coincides with a multi-element soil geochemical anomaly (Zn, Pb, Li, Mo, Y, Ba, Cu, La, and Nb). Total expenditures for the 2006 program were $40,015.81.

The 2007 exploration program conducted by Bootleg Exploration Inc (Brown, 2008) consisted of two parts: i) a nine day field program consisting of soil sampling, prospecting and mapping along the east flank of Buttress peak and the upper benches from Sodalite cirque and the 2800 m elevation marker on the south flank of the Sentry peak. ii) A five hole diamond drill program from two pad locations, Pad A located 20 m WSW of the main Waterloo adit and Pad B, located near the projected intersection of the 2a-2b contact and a second parallel set of lamprophyre-syenite dykes, located 120 m ENE of the

Waterloo adit.. This drill program coincided with prospecting and sampling the ridge lines and the northern and southernmost bowls below Sentry peak and south of Butress peak respectively.

The 2007 drilling program successfully verified significant Pb, Zn, Ag, Cu metal contents in addition to notable gold up to 340 ppb. At the property scale, mineralization is generally conformable to E-W bedding planes, but this association is complicated by other subparallel foliation structures, as well as a number of crosscutting features (dykes and veins), that also exhibit base metal mineralization. Of great significance to future programs at the showing is the fact that associated mineralization was intersected at Pad B, 120 metres west of the showing, thus verifying the continuity of mineralization along a predictable stratigraphic/structural feature.

Two days were spent on the property in 2008, conducting geologic mapping focused on the layered mafic complex along the ridge between Zinc Mountain and Sentry peak, the Waterloo adit and an outcrop of crosscutting syenite dykes located 600 m north of Manganese Mountain. Recent mapping has extended delineations of the Ottertail Limstone (Unit 2) into the north and south bowls. Although, mineralization at the Waterloo is associated with the unit 2a-2b contact; extensive ankerite gossan with minor sulphides have also been observed along the stratigraphically higher 2b-2c contact. Semimassive, stratabound pyrrohtite was observed near the contact, in the midst of a sizable gossan. Total expenditures for the 2007 and 2008 programs were $216,789.13.

The 2009 Bootleg Exploration program at the Ice River property continued exploration for REE and Nb, Zr, (Ta, Hf), (Fe,Ti,P), and (Pb-Zn-Ag-Cu-Au) associated with syenite and carbonatite intrusions of the Ice River Complex (IRC) and Cambrian and Ordovician carbonates. This consisted of geophysical surveying, grid and contour soil sampling, ground mapping and prospecting, and rock and stream sediment sampling. A total of 5.4 line-kilometres of I.P was completed in the vicinity of the Waterloo Showing. A total of 129 rock samples were collected for analysis. The soil and silt geochemical sampling program included 419 soil samples and 4 stream sediment samples. Total 2009 expenditures were $191,988.31.

The I.P. and ground magnetic surveys carried out over the known mineralization at the Waterloo showing indicated a pronounced anomalous signature of high chargeability, low resistivity and extreme high and low magnetic signatures.

Extension of previous systematic soil, and stream-silt geochemical surveys have successfully highlighted targets of interest. A REE (La, Ce, Y) anomaly on the southeast flank of Buttress Peak is consistent over a 600 x 600 meter area and represents a prime target for further evaluation. Additional spotty anomalies in Nb and Mo were detected.

Field work up to 2009 has established a widespread spatial distribution of REE and Nb mineralization. Total REEs in excess of 26000 ppm have been documented insitu, with 36 samples over 5.6 kilometeres returning greater than 3000 ppm TREE. Thirty-four samples over 5.6 kilometeres have returned greater than 600 ppm Nb, with the best sample returning 3923 ppm Nb. The styles of mineralization are now well established with the most prospective mineralization associated with syenite and carbonatite dykes and zones that have been extensively zeolite and/or fennite altered.

Geology

Regional Geology

The Ice River Complex (IRC) is a large, J-shaped alkaline intrusion, approximately 18 kilometres in length with a total exposure of 29 square kilometres (Figure 3). Within the complex, two distinct suites are present: an early, rhythmically layered, feldspar-free intrusion of jacupirangite, ijolite and urtite, cored by a carbonatite plug and cross-cut by carbonatite dykes rich in mafic silicates and oxides; and a later zoned and cross-cutting syenitic series, associated with a zeolite and feldspar-bearing carbonatite. The alkaline rocks intruded Cambrian and Ordovician shales and carbonates of the Chancellor, Ottertail and McKay Formations. The following stratigraphic unit descriptions are derived mainly from Currie (1975):

Stratigraphy

Country Rock

The oldest country rock in the area consists of sheared argillaceous rocks of the Upper Cambrian *Chancellor Formation* (Unit 1). The lowest parts of the formation comprise grayish calcareous shales or argillites, sometimes showing phyllitic parting, whereas upper lithologies are dominated by reddish slate interbedded with dolomite or siliceous limestone (Currie, 1975). In the Ice River Valley, a succession more than 600m thick is exposed. No exposures have been documented in the Moose Creek drainage area. Macroscopically there is a sharp contact between the Chancellor Formation and the overlying Ottertail limestone; however, lithologies consistent with one formation are noted to interbed in the adjacent one, suggesting a conformable gradational contact at a local scale.

The overlying *Ottertail Formation* (Unit 2) consists of essentially massive limestone with some intercalated shaly beds near the base. On a fresh surface the rock displays a blue-grey shade, weathering to pale grey. This unit is the most common throughout the map area, and may obtains thicknesses greater than 500m (Currie, 1975). The unit is almost pure carbonate, with only minor insoluable constituents including argillaceous material and lesser quartz. Towards the top of the formation, lithologies exhibit a characteristic olive shade, with a transition from massive cliff-forming limestone to sharply angular blocks. This physical variation demarcates a transition to the overlying McKay Group.

The *McKay Group* (Unit 3) exposed in the Ice River area is characterized by alternating bands of slate, siliceous slate, siliceous limestone, and dolomite. The colour is commonly olive to brownish, with distinct colour striping, as on Striped Mountain southeast of the area. The unit forms a capping on the ranges of the Ice River, and is thus thickest at higher elevations. Currie (1975) calculated a true thickness of exposure on top of Mt. Goodsir to a minimum of 1035 m. Another large but thin exposure exists on Eagle Ridge and parts of Mt. Mollison, where it appears to form a narrow synclinal core in the Ottertail Formation. Fossil evidence suggests an Ordovician age for the top of the Group, and a Late Cambrian age for the base (Aitken and Norford, 1967).

Layered Mafic Intrusion (units 5-9)

The lowermost units of the Ice River Complex are characterized as mafic mesocratic to melanocratic rocks, with a general lack of feldspar, and a poorly to moderately developed layered structure. Five units were recognized and described by Currie (1975): jacupirangite, mela-ijolite, melanite ijolite, ijolite, and urtite. In general, the units are coarse grained with a high proportion of euhedral to subhedral crystals, but textures of the mafic complex are highly variable comprising significant numbers of veins, schlieren and pegmatitic patches. The general pattern of layering consists of a repetitive sequence of graded layers 10-200 m thick, with each layer becoming richer in nepheline towards the top.

The *jacupirangite* (unit 5) is a brown- and green-weathering ultramafic rock having granular and gneissic textures. White carbonate and/or syenitic veining is common. Rocks of the unit are high density with a panidiomorphic texture comprising grains averaging more than 5mm in length. Pyroxene and magnetite are primary constituents, with lesser honey coloured sphene and minor patches of phlogopite flakes. Nepheline and apatite are common minor to trace constituents.

The *mela-ijolite* (unit 6) has a distinctive fine-grained bluish matrix, and contains abundant mica in the form of large euhedral books up to 10 cm across. Pyroxene is the most abundant constituent with lesser nepheline as rounded or scalloped grains approaching a cubic form. Sphene is moderately abundant. Apatite is present, but in lesser volumes in comparison to the jacupirangite.

The *melanite ijolite* (unit 7) exhibits a typical ijolite texture (subequal amounts of cubic nepheline enclosed in stubby laths of pyroxene). Melanite, a black titanium-rich garnet, commonly comprises 5-15% of the volume. The unit is characterized by coarse to pegmatitic grain sizes, with greenish grey nepheline surrounded by greenish black pyroxene. Biotite forms as a minor constituent rimming pyroxene and less commonly as fine disseminations. Apatite is common as sizable euhedra. Sphene occurs rarely and is lesser brown than in the mela-ijolite. Alteration of nepheline to carbonate, natrolite, cancrinite and/or sericite is much more widespread than in the more mafic units.

The *ijolite* (unit 8) is recognized as the largest component of the layered igneous complex, and is characterized as mesocratic to melanocratic in appearance with generally greenish tones, in comparison to the bluish-black tones of the more mafic units. Large scale textures are the most variable of all the mafic units; and may include coxcomb textures, megapoikolitic areas, pegmatitic schlieren and porphyritic textures, and others. Composition is essentially equal proportions of nepheline and pyroxene, with accessory sphene and apatite, and trace biotite and opaques.

Rocks of the *urtite* (unit 9) were identified by Currie (1975) on the basis of nepheline content (>65%) and lack of the typical ijolite or 'buckshot' texture. In hand specimen the urtite is leucocratic with a pale greenish or grayish colour, punctuated by clots of greenish black pyroxene. The texture is always coarse grained with common fissile or schistose textures due to the elongation of pyroxene or presence of oriented wollastonite. Mafic minerals are commonly poikilitic at fine to coarse scale. Kaersutite and melanite are found occasionally, as is small amounts of anhedral, interstitial albite. This is the only unit of the layered mafic complex that contains primary feldspar. Other trace minerals, also coarse grained, include sphene, apatite and calcite. The urtite unit is believed to represent the end member differentiation product of the mafic layered complex, which culminated in a leucocratic nepheline-rich rock. However, the unit shows an impoverishment of Zr, Nb and REE's compared to the ijolites and syenites of the zoned complex, suggesting that these elements may have been siphoned off elsewhere as residual differentiates (Currie, 1975).

Carbonatite (unit 10)

A 400 m wide intrusive carbonate unit in the northwestern part of the complex occurs as a lenticular mass with occasional apparent layering. Smaller dykes and sills are also evident throughout the complex crosscutting the mafic layered complex, but are clearly crosscut by the later zoned syenite complex. In outcrop, purer carbonatite tends to be buff or reddish brown with a rounded ropy surface. More silicaterich rocks tend to have a dark greenish appearance, with pronounced fluidal banding. Vugs and solution cavities are prevalent throughout. Composition is >50% carbonate – heavy hand samples suggest high Fe content (Currie, 1975). Crystal faces of the carbonate are always present, and commonly exceed 5 mm in length. Minor minerals include iron-stained to black phlogopitic mica, acmitic pyroxene, and lesser apatite and pyrite. Rare alkali feldspars are interpreted as xenoliths. Margins commonly exhibit skarn-like mineral assemblages including apple green diopside, sprays of white tremolite, epidote and chlorite. Sodalite was observed as veins within the carbonatite, but no disseminations were noted. Anastomosing leucocratic veins are also common in the carbonatite masses, containing abundant natrolite and dark margins of the Fe-serpentine, berthierine (Peterson and Currie, 1994).

Zoned syenite complex (units 11-15)

The syenitic complex as mapped by Currie (1975) comprises 5 units including unit 11) Saturated syenite and contact breccia, 12) Melanocratic syenitic agmatite and migmatite, 13) Leucocratic grey nepheline syenite, 14) Sodalite-nepheline syenite, and 15) Altered zeolite-rich syenite. In simplest terms, the syenite complex is envisioned as an inwardly crystallized mass of feldspar-nepheline-rich rocks, comprising a saturated (contaminated) border zone, and evolution from melanocratic syenites to progressively lighter coloured feldspar-sodalite-zeolite enriched lithologies.

The *contact breccia syenite* (unit 11) is characterized as a white to pale grey, fine-grained, commonly porphyritic syenite, which forms a discontinuous rim varying from a few centimetres up to 200 m in width. In outcrop, it is a drab whitish colour with abundant plate-like crystals of albite, which reveal a distinctive tracery of white lines. Inclusions of all sizes, shapes and compositions are common. Both alkali and plagioclase feldspars are present, commonly comprising more than 75% of rock volume. Pyroxene is the most common mafic mineral, with common but subordinate epidote and Na-rich amphiboles. Minor minerals include: sphene, commonly partially replaced by ilmenite; analcite, commonly intergrown with thompsonite, natrolite and calcite. Calcite may also be common, and associated with nepheline.

The *melanocratic syenite* (unit 12) comprises mesocratic to melanocratic rocks with variable agmatitc and migmatitic textures. In had specimen the rocks are characterized by large amphibole euhedra and bluish-grey alkali feldspar with good crystal faces but with form variations from near equant grains in more mafic lithologies to elongated laths in the more salic rocks. Alkali feldspar, nepheline and sodalite are virtually always present, with the nepheline vs. feldspar ratio generally higher in the darker lithologies. Kaersutite is very characteristic of this unit, and is closely associated with late pyroxene of aegirinic affinity. Biotite is present in the more mafic rocks, as rimming alteration of pyroxene, and more rarely as chains of small euhedra parallel to foliation defined by alignment of pyroxene and amphibole. Sphene and apatite are the most common accessory minerals.

The *leucocratic grey nepheline syenite* (unit 13) is white to pale grey in outcrop and is readily identifiable as smooth non-weathered cliff forming outcrops. Compared to the melanocratic syenite, rocks of this unit are much more homogeneous and free of inclusions. Many examples have a slight greenish tinge, others show a strong gneissic texture. The previous unit grades continuously into this unit, and is conspicuous by a low content of coarse-grained euhedral mafics which may include hedenbergitic pyroxene, aegirine, kaersutite, hastinsite and biotite. Intensely jade green to opaque aegirine is perhaps quite common, as is poikilitic amphibole. Feldspar is typically up to several centimetres in length as tabular and aligned prisms. Nepheline is less common in this unit than in the darker syenites, rarely exceeding 20%. It typically formed rounded and corroded grains with square or hexagonal cross-section, and is invariably rimmed with cancrinite. Sodalite is commonly associated with nepheline, and may locally exceed nepheline in volume. The sodalite occurs both as overgrowths on nepheline and as individual interstitial grains. It has been noted by previous workers, that intensely blue sodalite is commonly associated with pyrite cubes. Sphene is invariably present, but apatite occurrences are more rare. Sr and Ba contents are among the highest observed in the Ice River Complex, but Nb and rare-earth contents are lower than in the older units (Currie, 1975).

The *sodalite-nepheline syenite* (unit 14) is widely distributed throughout the Ice River complex, but is volumetrically insignificant. Most of the rocks from this unit are coarse grained to pegmatitc. The unit is easily identifiable as containing leucocratic rock rich in jade-green to blue sodalite. The volumetrically lesser mafic minerals, also commonly exhibit a distinct jade-green tinge. Feldspar is volumetrically the most significant mineral, generally occurring as subhedral forms with complex sutured edges. Nepheline is common, but not in large amounts, occurring as rounded and xenomorphic grains with little alteration. In contrast to the other units of the complex, sphene and apatite are essentially absent. Accessory minerals found include disseminated fluorite, and a variety of rare minerals characteristic of sodium-rich rocks, including lavenite, lamprophyllite, ramsayite, and possibly arfvedsonite (Currie, 1975).

The *altered zeolite-rich syenite* (unit 15) is a distinctive buff-weathering, medium-grained, inhomogeneous syenite. It occurs as irregular, poorly defined layers some 10’s of metres thick. In handsample the rock is pale brown and dominated by phenocrysts of alkali feldspar up to 2cm across. Acmitic pyroxene is the dominant mafic mineral, occurring as stubby rounded prisms. Biotite occurs locally as an overgrowth on pyroxene. In thin section, significant volumes of the zeolite natrolite (unit 14), were observed as large radiating sheaves along veins, and as a fine granular mass in the matrix of the rock.

Mafic dyke rocks (unit 16)

Mafic dykes are found cross-cutting all units of the Ice River complex and are found most commonly near the presumed roof of the complex. They are all lamprophyric, meaning that they contain only mafic phenocrysts, and no salic phenocrysts. Biotite followed by olivine are the most common phyric components. As determined in thin section (Currie, 1975), alkali feldspar and lesser nepheline are the most common interstitial minerals, along with minor biotite or pyroxene. Sphene, calcite and apatite are common accessory minerals. Chemically, the lamprophyre is identical to the mela-ijolite (Currie, 1975), thus presenting timing and emplacement conundrums considering they also intrude some of the youngest syenite units.

Contact metamorphism and alteration

Emplacement of the Ice River Complex in late Devonian time (Parish et al., 1987; Locock, 1994), resulted in significant contact metamorphism of the surrounding country rock. These effects are most visible within the prevalent Ottertail Formation as extensive and pervasive hornfelsing, and morelocalized skarn development.

“The hornfels is composed of extremely hard dense, greenish grey to olive rocks with characteristic brownish spots 2-10 mm in diameter. The rocks break into discs or plates a few centimetres thick, commonly along slickensided surfaces which may contain quartz or calcite veinlets up to a centimetre thick forming en echelon gash or ladder veins. Carbonate interbeds in the hornfels are invariably finely sacharroidal marble, even when the containing beds are intensely altered to hornfels. Near the contact of the igneous rocks, the spots in the hornfels tend to become elongate, forming augen, and the rock takes on a more marked foliation becoming phyllitic. Within a few feet of the contact, some hornfels become more massive and pinkish, approaching foliated syenite gneiss, generally with interbeds of syenite material (Curie, 1975, pg. 8).” The margins of the hornfels are difficult to delineate as they blend into low-grade regional metamorphic rocks, which are also characterized as fine grained and hard with an angular habit.

Fenitization is defined as a type of alkali metasomatism characterized by secondary K-feldspar as well as sodic amphiboles and pyroxenes. Typical minerals include sodic amphibole, wollastonite, nepheline, mesoperthite, antiperthite, aegerine-augite, pale brown biotite, phlogopite and albite. Most fenites are zones of desilicification with additions of Fe^{3+}, Na and K (Birkett and Simandl, 1999). The net result is to alter the host to a rock resembling a syenite. Thus, it often becomes difficult to distinguish the alkali intrusives from metasomatically altered gneiss (http://geology.csupomona.edu/drjessey/fieldtrips/mtp/mtnpass.htm). Fenitization is commonly associated with alkaline intrusions. Surprisingly, its recognition is sparse in the vicinity of the Ice River complex (Peterson and Currie, 1994; Currie 1975). Peterson and Currie (1994) did recognize and describe limited examples of fenitic alteration in the Garnet Mountain area. i) Alteration of limestone screens within ijolite to zeolites+aegirine. Zeolite rich lithologies alter to a distinctive white to pink or red. Large bodies of zeolite-rich syenite recognized by Currie (1975) may represent coalesced, melted fenites. ii) Secondary? wollastonite in pegmatitic dykes of ijolite and urtite, as evidence for fenitization, and iii) A cap of pegmatitic syenite overlying an ijolite-carbonatite dyke swarm. It is composed of the only silica saturated rocks known in the drainage area, and is interpreted to be the product of isochoric replacement of country rock.

Economic Geology

Four minfile occurences are located within the Ice River Complex or within its contact metamorphic halo (Table 2; Figure 3).

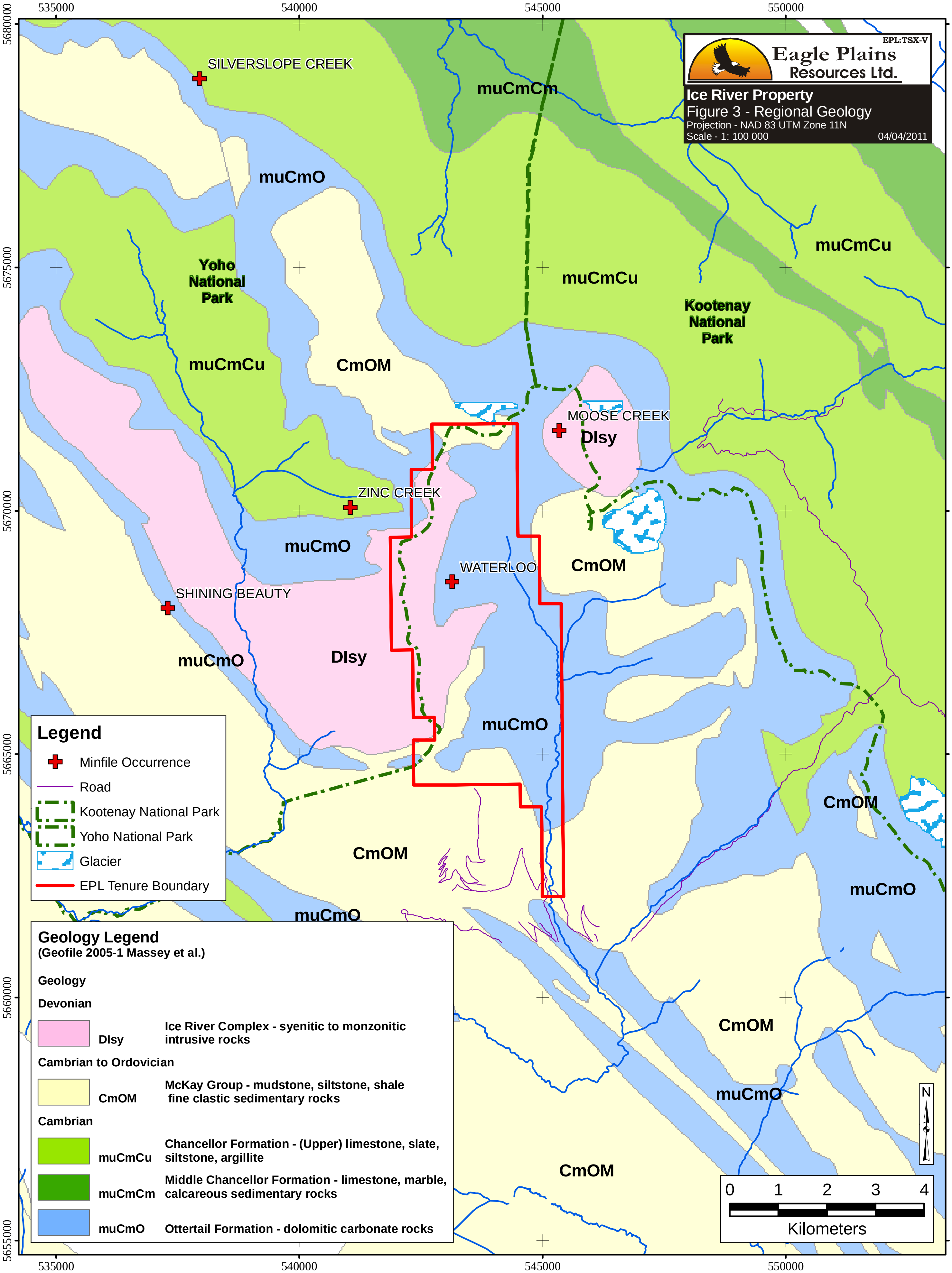
Table 2 – Minfile Mineral Occurrences

Minfile No.	Name	Status	Commodities	Deposity Type	Latitude	Longitude
082N 025	Shining Beauty, Shining Beauty Creek	Past Producer	Zn, Ag, Pb, Cu	I05	51 09 44	116 28 00
082N 026	Zinc Creek	Showing	Zn, Pb	E12	51 10 50	116 24 46
082N 027	Moose Creek, Bow, Demon, Colti	Develope d Prospect	Ma, Ti, Rs, Nb, Th	N01	51 11 40	116 21 04
082N 028	Waterloo, QEM	Prospect	Ag, Pb, Zn, Cu, Au, Gs, Ur, Ns	E14, J01, N01	51 10 00	116 22 59

The *Waterloo prospect* and *Shining Beauty mine site* are both hosted in limestone of the Ottertail Formation. Both showings contain Zn-Pb-Ag-Cu base metal mineralization associated with moderate to high temperature replacement, mantos or vein structures. Base metal mineralization at the Waterloo showing is also anomalously enriched in U-Th and rare earth elements as well as Au. Mining operations at the Shining Beauty from 1908-1911 produced an unspecified amount of silver and zinc ore from 3 almost parallel tunnels about 60 metres apart. Only the Waterloo prospect lies within the current EPL mineral titles listed in Table 1.

The *Zinc Creek showing* occurs within a thick series of thin bedded, well-cleaved calcareous shales of the Chancellor Group. Interbedded with the shales are narrow bands of siliceous limestone 0.6 to 0.9 metre thick. Lead-zinc mineralization is developed within one of these bands. An irregular lenticular pocket of quartz-calcite with bands of pyrite, arsenopyrite, sphalerite and galena replaces a siliceous limestone band about 3 metres thick.

The *Moose Creek developed prospect* contains a number of commodities all hosted in or closely associated with layered mafic units of the Ice River Complex. Ilmenite-magnetite mineralization, mainly as sphene and magnetite, occurs in quartzite, pegmatite and jacupirangite rocks. Assays range up to 13.2 per cent TiO_2 and 20.6 per cent iron (Assessment Report 3389). Knopite, a cerium-bearing perovskite, is present in a pegmatite dike. Sodalite occurs as veins in the intrusion. Analysis for columbium/niobium yielded 0.67 per cent Cb_2O_5 (Assessment Report 3389). A radioactive northeast-trending shear zone, 1200 metres to the south, yielded up to 0.019 per cent uranium. Other commodities include thorium (up to 0.077 per cent ThO_2 over 3 metres) and traces of rare earths, chiefly lanthanum and ytterbium (Minister of Mines Annual Report 1954, page 150). Ilmenite-magnetite bearing gravels and sands occupy the valley along Moose Creek. A 10 by 300 metre area assayed up to 8.2 per cent TiO_2 (Assessment Report 3389).



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Ice River Property
Figure 3 - Regional Geology
Projection - NAD 83 UTM Zone 11N
Scale - 1: 100 000
04/04/2011
535000
540000
545000
550000
5680000
5675000
5670000
5665000
5660000
5655000
SILVERSLOPE CREEK
ZINC CREEK
MOOSE CREEK
WATERLOO
SHINING BEAUTY
Yoho National Park
Kootenay National Park
muCmCm
muCmO
muCmCu
CmOM
DIsy
Legend
Minfile Occurrence
Road
Kootenay National Park
Yoho National Park
Glacier
EPL Tenure Boundary
Geology Legend
(Geofile 2005-1 Massey et al.)
Geology
Devonian
DIsy Ice River Complex - syenitic to monzonitic intrusive rocks
Cambrian to Ordovician
CmOM McKay Group - mudstone, siltstone, shale fine clastic sedimentary rocks
Cambrian
muCmCu Chancellor Formation - (Upper) limestone, slate, siltstone, argillite
muCmCm Middle Chancellor Formation - limestone, marble, calcareous sedimentary rocks
muCmO Ottertail Formation - dolomitic carbonate rocks
N
0 1 2 3 4
Kilometers

Property Geology

Historic geologic mapping at the Ice River property is limited to regional scale (1:25000) mapping by Currie (1975) and Allan (1914). The western half of the 2.8 km wide by 6.0 km long property is dominated by intrusives of the zoned syenite complex and subordinate but significant occurrences of the layered mafic complex (Figure 4). The central to eastern parts of the property, including the eastern flanks of Zinc and Buttress peaks down to the valley bottom, is dominated by limestone of the Ottertail formation. The Waterloo prospect (MF 082N 028; Table II) lays essentially dead centre of the property area, within the Ottertail formation, approximately 350 metres east of the northerly trending contact with the syenite complex.

Geological mapping carried out in 2006 (Brown, 2007) contributed greater detail of east aspect lithologies over a 2 x 1.8 kilometre area centred along the ridge separating the sodalite-bearing cirque and the Waterloo-bearing bowl (Figure 4). The original Currie (1975) map was used as a basemap with modifications overlain on Figure 4. Important modifications include:

1) Subdivision of the Ottertail Formation (Unit 2) into four subunits:
    a) Tannish-grey, medium- to fine-well bedded, fine to very fine grained, silty to phyllitic limestone.
    b) Brown to grey weathering, light bluish-grey to greenish-grey fresh, hard blocky, medium to finely laminated, poorly bedded, fine to medium grained calcareous limestone. 2Bf: Grey, poorly bedded, fragmental limestone; common on the east aspect at the northern limit of mapping (Figure 4).
    c) Grey and light grey, thin and thick interbedded, well bedded limestone.
    d) Orange weathering, tannish-grey, thin-well bedded limestone with pervasive ironcarbonate alteration.
2) Extension of Unit 2 (2b) southwards: Rationale – Several unambiguous limestone outcrops exposed in the main sodalite-bearing bowl.
3) Additional layered mafic units were observed in several areas of the sodalite-bearing bowl and up to the divide between Manganese and Zinc mountains.

A large unit 14 is interpreted based on abundant exposure of sodalite-bearing syenite at the base of the cliffs at the head of sodalite-bowl. The northern limit of this unit is entirely obscured by talus. The southern limits are tentatively interpreted to extend upslope toward the col between Manganese Mountain and Buttress Peak. Verification of these contacts requires technical climbing traverses.

Structure

Regional mapping of the area by Allan (1914) indicates that the country rock is close to flat lying, with a slight average low angle dip to the east. Local bedding orientation however may vary markedly depending on vicinity to the Ice River Complex, and other regional structures present in the area. Structures in the property area are consistent with the 3 phases of deformation recognized by Currie (1975) for the Ice River Complex as a whole.

The earliest fold structures consist of small-scale tight folds around the margins of the zoned syenite complex. The small folds are rare at distances greater than a few hundred metres from the complex, and are interpreted to be related to the intrusion of the complex. Currie (1975) did not observe these structures adjacent to the contact between country rock and the layered mafic complex.

The main fold structure in the area is defined as open to isoclinal folding with a frequency of a couple hundred metres. In the property area, the main expression of this structure is as a NNW to WNW sigmoidal-shaped anticline-trace exposed along the saddle dividing Zinc mountain and Sentry Peak (Figure 4). Currie (1975) tentatively interpreted the fold structure to follow the Moose Creek Valley along the eastern reaches of the property area. A plunge calculation based on So planes from Currie's (1975) map indicates a plunge at the saddle of 69/132.

The sigmoidal shape of the axial traces of the main fold structure mentioned above is a result the 3rd phase of deformation in the region. The axes of the pair of folds defined by the sigmoidal deformation trend north to northwest, approximately parallel to the regional trend, but the plunge of these folds appears to be almost vertical.

Currie (1975) noted a surprising lack of significant faults in the region, and attributed this to a stress regime that decompressed via small-scale displacements and flowage. Much of the deformation appears to have been taken up by homogeneous deformation of the country rock, with the igneous complex largely undeformed. The lack of deformation of the igneous complex has preserved many primary features such as igneous layering and flow banding.

Structural measurements made by the author in 2006-2007 confirm an increasing intensity of tight folding in proximity to the eastern margin of the Ice River Complex. In the bowl above the Waterloo showing, limestone of the Ottertail Formation exhibits a monoclinal character over several hundreds of metres, with sudden attenuation into tight to isoclinal overturned fold hinge zones on the order of 50-80 metres wide (Brown, 2007).

Mineralization

Within the property area, a variety of commodities have been recognized, or are interpreted to have good economic potential in light of the nature of the mineral deposit type: alkaline/carbonatite intrusive complex. Commodities generated during primary magmatic formation of the layered and syenite complexes could include dimension stone of varying lithologies, industrial minerals such as nepheline and feldspar, and industrial elements including Ti, Fe and P. Deposits containing gemstones (sodalite, corundum?), industrial minerals (zeolite, vermiculite?), high field strength elements such as Nb, Ta, Zr, Hf, and rare metals including the REE's may also have formed in economic quantities. The latter set of elements is also found associated with base and precious metal occurrences in hydrothermalreplacement, skarn or mantos type deposits within the metasomatic halo of the IRC (ie. Waterloo prospect; Table 2).

One of the most recent discoveries of mineralization are summarized in a February 20, 2008 news release:

> **Cranbrook, B.C., February 20th, 2008: Eagle Plains Resources (TSX-V:EPL)** has recently received whole rock analyses from Eagle Plains 100% owned Ice River Property. Encouraging values were returned, including up to 3.0% REOs (total Rare Earth Oxides), and 5600 g/t Nb2O3 (Niobium / "Columbium" oxide). One 2.5 metre chip sample (JBIVR048) returned 2.4% REOs. Mineralization is hosted in syenite and carbonatite dyke systems that are numerous and widespread over a 4+ kilometre long corridor within

the Ice River Intrusive Complex, located 40 kilometres southeast of Golden, British Columbia, Canada.

Rare Earth Elements (REEs) and other elements with high-tech applications, including Nb and Zr, have long been suspected as potential commodities on the property; but it was not until resultsfrom the recent 2005-2007 mapping and geochemical surveys, that this suite of elements became fully appreciated. Other potential commodities identified include extensive nepheline syenite as an industrial mineral source, and presence of the ornamental mineral sodalite.

Previous and ongoing work by Eagle Plains at the Ice River Property has focused on the economic potential of strataform/replacement massive sulphides of the Waterloo prospect (see August 23, 2007 news release). At the Waterloo occurrence, sulfide horizons are exposed in two historical adits excavated in the early 1900's, with historical samples returning assays up to 3.69% Pb, 16.10% Zn, 1.59% Cu, 27.30% Fe, 99.4 g/T Ag and 1.7 g/T Au (GSC Memoir 55, page 229).

In 2006-2007, detailed surface and underground mapping by EPL Chief geologist Jarrod Brown, P.Geo., revealed a combination of structural and stratigraphic controls over the mineralization. A 5-hole, 259m drill program was completed on the property in August, 2007 and intersected massive to semi-massive strataform sulfide mineralization and associated stockwork zones, hosted in variably altered limestone wall-rock of the Ice River Intrusive Complex.

The known style of Nb mineralization at the Ice River property within altered pegmatitic syenite and microsyenite shares similarities to that documented in alkaline complexes in Greenland (Gupta and Suri, 1994). The Sarfortoq deposit in southwest Greenland, is a high grade low tonnage deposit containing mineralized pyrochlore-rich veins. The mineralized rock on average carries 1.5% Nb_2O_5, with tonnage estimates on the order of 0.1 million tones. The Motzfeldt So deposits located in south Greenland are made up of multiple intrusions of syenite, broadly divided into central nepheline syenite and an outer altered syenite characterized by hydrothermal alteration. Similar to the Ice River, Nb mineralization at Motzfeldt So is hosted in altered syenite and microsyenite near the outer margins of the intrusive complex. Niobium content in the minaeable rock varies between 0.4 and 1.0% Nb_2O_5, contained in nearly 80 million tones of peralkaline microsyenite (Gupta and Suri, 1994). This rock type is also host to huge reserves of zirconium and rare earths with contents of 1-2% ZrO_2 and less than 1% rare earth oxides.

Rare earth element (REE) mineralization at the Ice River property is in its early stages of understanding. REE accumulations have been noted in syenite units containing red minerals visually similar to the Zr- REE bearing silicate eudialyte. Eudialyte is a critical defining component of a rare subgroup of peralkaline intrusive rocks termed *agpaitic* nepheline syenites (Sorensen, 1992). This IUGS rock type definition is limited to nepheline syenites containing chemically complex minerals such as eudialyte or mosandrite, rather than chemically simple minerals such as zircon and ilmenite. Rocks of this type are known to form economic deposits of high field strength elements (Zr, Nb, U, Y) and rare earth elements (REE's). Important examples include the Ilimaussaq Complex in Greenland and the Khibina and Lovozero Complexes of the Kola Peninsula in Russia (Salvi and Williams-Jones, 2005). Eudialyte is particularly advantageous from a metallurgical perspective, as it is easily digested in weak acid. To date,

REE bearing structures at the Ice River Property, also enriched in barium, zirconium and thorium share similarities to altered fennite/syenite veins and dykes and associated carbonatites in the Southern Bear Lodge Mountains of Northeastern Wyoming (Staatz, 1983) and in the Wet Mountains Area of Colorado (Armbrustmacher, 1988).

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EPL:TSX-V
Ice River Property
Figure 4 - Property Geology and Geologic Stations
Projection - NAD 83 UTM Zone 11N
Scale - 1: 10 000
04/04/2011
Geology ***
QUATERNARY
17 glacial and fluvial sediments, talus rock flour and related materials
DEVONIAN OR CARBONIFEROUS
16 lamprophyre dykes; melanocratic rocks occasionally ocellar, with phenocrysts of pyroxene, kaesrdutite, and sometimes olivine in a feldspar-bearing matrix
15 zeolite-rich syenite; buff-weathering rocks rich in secondary natrolite with minor carbonate and acmite
14 SYENITE GNEISS COMPLEX sodalite-rich syenite; massive to faintly gneissic leucocratic green to blue rocks, including veins and dykes
13 SYENITE GNEISS COMPLEX leucocratic nepheline syenite; pale greenish, distinctly gneissic rock commonly bearing kaersutite and sodalite
12 SYENITE GNEISS COMPLEX mesocratic to melanocratic nephaline syenite; migmatite and agmatite gneiss
11 SYENITE GNEISS COMPLEX contact syenite and agmatite; pale-coloured, fine-grained hybrid rocks, commonly saturated with metasediment blocks, includes minor amounts of units 12, 13
10 carbonitite; white to buff foliated carbonate, and massive, altered, melanocratic silicocarbonatite
9 LAYERED MAFIC COMPLEX urtite and wollastonite urtite; coarse-grained to pegmatitic pale green rocks
8 LAYERED MAFIC COMPLEX ijolite; medium- to coarse-grained bluish rocks with cubic nepheline set in euhedral pyroxene lathes
6 LAYERED MAFIC COMPLEX mela-ijolite; coarse-grained blue-black rocks with prominent biotite phenocrysts and clumps
5 LAYERED MAFIC COMPLEX jacupirangite; black to greenish pyroxenite with small cubes of nepheline, and minor biotite
4 hornfels, banded skarn and calc-silicate rocks, contact-altered sedimentary rocks
CAMBRO-ORDOVICIAN
3 limy shales with interbanded thin limestones generally grey-green with local brownish stripings
CAMBRIAN
2 Undifferentiated massive grey-blue limestone, shaly horizons toward the base and top
2a Tannish - grey, medium to finely well bedded, fine to very fine
2b Brown to grey weathering, light bluish-grey to greenish-grey fresh, hard blocky, medium to finely laminated, poorly bedded,
2bf Grey-poorly bedded, fragmental limestone. Common on the east aspect at the nothern limit of mapping fragmental textures
2c Grey and light grey, thin and thick interbedded, well bedded limestone
2r Orange weathering, tannish grey, thin-well bedded limestone with
1 reddish slaty shale, commonly thinly fissile, minor limy horizons
Fold
Syncline - approximate
Overturned - approximate
Anticline - approximate
Geologic Contact
Approximate
Assumed
Defined
Fault - Inclined
*** Geology After: Currie, K.L. 1979: The Geology and Petrology of the Ice River Alkaline Complex, British Columbia; Geological Survey of Canada., Bulletin 245, Figure 1. Unit 2 subdivisions defined by Brown (2006)
Magnetic Declination for 2005: 17° 33' East
Geologic Stations
1:1,500
JBIV300
JBIV301
JBIV302
JBIV303
JBIV304
JBIV305
JBIV306
JBIV307
JBIV308
MMIVG001
MMIVG002
MMIVG003
MMIVG004
MMIVG005
MMIVG006
MMIVG007
MMIVG008
MMIVG009
544100
544200
544300
544400
5666800
5666700
5666600
5666500
See Inset Map
544000
546000
5670000
5668000
5666000
5664000
0
400
800
1,200
1,600
Meters
N
Legend
Geologic Station
River
Contour (100m)
Bedding
2009 Outcrop
2007 Dyke corridors
National Park Boundary
EPL Tenure Boundary

2010 Exploration Program Results

2010 Summary of work

Fieldwork by TerraLogic personnel in 2010 consisted of a 4 person-day program of prospecting, geologic mapping and rock sampling. The purpose of the program was to follow-up the 600m x 600m REE+Nb+Ba+Mo soil anomaly along the southeast flank of Buttress Peak (Figure 4).

The field crew of 4 was mobilized from the airport in Golden, BC using a Bell 207 provided by Alpine Helicopters on July 24, 2010.

A total of 18 rock samples were collected for analysis. All samples were sent to ACME laboratories in Vancouver BC for lithium-metaborate fusion followed by ICP-MS for refractory, HFSE and LILE (ACME package 4B; Appendix 5.1). Sulphide associated metallic elements were determined on an aquaregia digest followed by ICP-MS (package 1Dx). Check analysis on the full rock suite was completed at SGS laboratories in Toronto, using a Na-peroxide fusion followed by ICP-MS (SGS package ICM90A; Appendix 5.2).

2010 Program Results

The 2010 exploration consisted of two contouring traverses between 1850m and 2075m AMSL, in the vicinity of the highest 2009 soil geochemical anomaly stations, on the southeast flank of Buttress peak. Geological mapping confirmed that the host rocks in this area are Ottertail limestone, with several sheeted arrays of carbonatite (carbothermal?) and syenite dykes and sills. Two subunits of the Ottertail Formation are evident in the area examined. At higher elevations, bluish-grey, thinly bedded, hard sucrosic limestone (unit 2b) is predominant. At lower elevations, well bedded, tan coloured limestone (unit 2a) is present.

Bedding orientations at the scale of 10's to 100's of meters are highly variable, but there is an overall general northnortheast strike with moderate to flat dips to the east or west. Similar to the Waterloo showing area, bedding is homoclinal for several 10's of meters, before a sudden transition into tight outcrop-scale fold structures. Despite the evident folding, it appears that the steep topography, cutting relatively shallow bedding, is the dominant control on the apparent *layer cake* distribution of rock units.

Alteration in the area examined was significant, with ubiquitous moderate ankerite alteration and discontinuous hematite-rich stratabound horizons, with localized purple to pink fluorite. Calcite and or dolomite veins or dykes/sills were common in the area examined. Upon first examination, differentiation of ankerite altered carbonate sills from ankerite altered Ottertail limestones was difficult to make in the field; but the identification was easy to verify in the presence of carbonate-rich dyke structures which intersected seamlessly with sills of the same composition. Sills and dykes also commonly pinch out laterally into hematite or ankerite altered limestone horizons.

All 18 rock samples (Figure 5), were collected along strike within an approximate 50 meter wide horizon which is at or proximal to the 2a/2b subunit contact of the Ottertail formation. Sixteen out of eighteen of these rock samples returned anomalous to very anomalous TREE results, with a best result of 22834 ppm TREE (MMIVR004). Out of the 18 samples collected over a 700m strike region, 5 returned greater than 10000 ppm TREE, and 12 returned greater than 3000 ppm TREE.

The rocks are very LREE enriched, with HREE/TREE generally less than 2%. Niobium is weakly anomalous with a 2010 program maximum of 215 ppm (JBIVR124). Barium and strontium are enriched in the mineralized samples, with occasional spikes in molybdenum or lead. There is a good correlation between REE mineralization and zinc which reaches a maximum of 2732 ppm Zn in the most REE enriched sample (MMIVR004). Tantalum, zirconium, thorium and uranium are extremely low. These samples have a negligible radiometric response.

It is significant to note that this apparently stratabound REE mineralization occurs at the same stratigraphic horizon (Ottertail 2a/2b contact), as sulphide mineralization at the Waterloo Showing, which also exhibits a minor REE anomaly signature. This 2a/2b contact is located low in the valley and is moderately to poorly exposed over the 3 kilometre strike distance between the Waterloo showing and the 600x600 m soil geochemical anomaly area explored in 2010.


EPL:TSX-V
Eagle Plains Resources Ltd.
Ice River Property
Figure 5a - 2010 Geochemistry - Sample Location
Projection - NAD 83 UTM Zone 11N
Scale - 1: 10 000
06/04/2011
Sample Location
1:1,500
544100
544200
544300
544400
5666800
5666700
5666600
5666500
JBIVR123
JBIVR124
JBIVR121
JBIVR122
JBIVR116
JBIVR115
JBIVR117
JBIVR118
JBIVR119
JBIVR120
MMIVR002
MMIVR001
MMIVR003
MMIVR004
MMIVR005
MMIVR008
MMIVR006
MMIVR007
See Inset Map
542000
544000
546000
5670000
5668000
5666000
5664000
N
0
50
100
150
200
Meters
Legend
Rock Sample Location
River
Contour (100m)
2009 Outcrop
2007 Dyke corridors
National Park Boundary
EPL Tenure Boundary

EPL:TSX-V
Eagle Plains Resources Ltd.
Ice River Property
Figure 5d - 2010 Geochemistry Results - Y
Projection - NAD 83 UTM Zone 11N
Scale - 1: 10 000
05/04/2011
542000
544000
546000
5670000
5668000
5666000
5664000
Sample Location
1:1,500
544100
544200
544300
544400
5666800
5666700
5666600
5666500
61
39.4
34.5
56.8
51.2
10.4
22.8
35.2
12.5
93.7
28.3
21.2
54.8
33.5
14.2
18.1
39.4
71.2
See Inset Map
N
0
400
800
1,200
1,600
Meters
Legend
Rock Sample - Y (ppm)
River
Contour (100m)
2009 Outcrop
2007 Dyke corridors
National Park Boundary
EPL Tenure Boundary

EPL:TSX-V
Eagle Plains Resources Ltd.
Ice River Property
Figure 5d - 2010 Geochemistry Results - Nb
Projection - NAD 83 UTM Zone 11N
Scale - 1: 10 000
05/04/2011
Sample Location
1:1,500
544100
544200
544300
544400
5666800
5666700
5666600
5666500
215.3
25.9
63.7
115.3
56
12.2
8.9
175
33.2
75.9
157
128.7
13.5
2
82
25.1
44.3
202.5
See Inset Map
542000
544000
546000
5670000
5668000
5666000
5664000
N
0
400
800
1,200
1,600
Meters
Legend
Rock Sample - Nb (ppm)
River
Contour (100m)
2009 Outcrop
2007 Dyke corridors
National Park Boundary
EPL Tenure Boundary

EPL:TSX-V
Eagle Plains Resources Ltd.
Ice River Property
Figure 5d - 2010 Geochemistry Results - TREO
Projection - NAD 83 UTM Zone 11N
Scale - 1: 10 000
05/04/2011
542000
544000
546000
5670000
5668000
5666000
5664000
Sample Location
1:1,500
544100
544200
544300
544400
5666800
5666700
5666600
5666500
1604.15
2429.33
.7106.2
9284.99
51.26
3993.31
8098.9
101.84
5046.17
4221.82
1161.58
1562.44
9258.47
22868.36
15703.41
17327.16
14367.95
10417.64
See Inset Map
N
0
400
800
1,200
1,600
Meters
Legend
Rock Sample - TREO (ppm)
River
Contour (100m)
2009 Outcrop
2007 Dyke corridors
National Park Boundary
EPL Tenure Boundary

Conclusions

The Ice River property has the potential to host several commodities of economic significance both within the intrusive phases of the Ice River Complex and within altered and unaltered country rocks proximal to the intrusive contact. The current tenure is well situated by virtue of its location: straddling the easternmost contact of the Ice River Alkaline Complex. Historical exploration on the property was limited mostly to prospecting, and site specific mining activities (i.e. Waterloo adits). Mid elevations on the property do offer good exposure, however access to the upper (>2400 m) elevations on the property is hampered by extreme topography. Below 2000 m AMSL, outcrops are rare due to talus, glacial drift and vegetation cover.

Field work to date has established a widespread spatial distribution of REE and Nb mineralization with economic potential. Total REEs in excess of 26000 ppm have been documented insitu with 36 samples over 5.6 kilometeres returning greater than 3000 ppm TREE. Thirty-four samples over 5.6 kilometeres have returned greater than 600 ppm Nb, with the best sample returning 3923 ppm Nb.

The 2009 soil geochemical results were very encouraging. The REE (La, Ce, Y) anomaly on the southeast flank of Buttress Peak, consistent over a 600 x 600 meter area, was the prime target for 2010 evaluation. The 2010 followup to this soil anomaly revealed significant REE mineralization in the form of carbonatite (or carbothermal?) sills contained within host limestone, within a 50 meter wide horizon proximal to the 2a/2b subunit contact of the Ottertail Formation. Sixteen out of 18 of these rock samples returned anomalous to very anomalous TREE results, with a best result of 22834 ppm TREE. Out of the 18 samples collected over a 700m strike region, 5 returned greater than 10000 ppm TREE, and 12 returned greater than 3000 ppm TREE.

In contrast to other known REE targets on the property, this target type has a negligible radiometric response. It is significant to note that this apparently stratabound REE mineralization occurs at the same stratigraphic horizon (Ottertail 2a/2b contact), as sulphide mineralization at the Waterloo Showing, which also exhibits a minor REE anomaly signature. This 2a/2b contact is located low in the valley and is moderately to poorly exposed over the 3 kilometre strike distance between the Waterloo showing and the new insitu REE mineralization discovered during the 2010 program as followup to the 2009 soil geochemical anomaly.

RECOMMENDATIONS

Fieldwork and geochemical programs carried out over the last few seasons have successfully determined a number of rock type hosts to REE and Nb +- Zr+-Hf mineralization. Continuing exploration on the property should focus on these elements with high-tech and metallurgical applications. Field identification of the REE minerals has proven to be very difficult as most samples comprise fine bands, wisps and disseminations of very fine orange, brown and black amorphous mineralization, generally obscured by a strong Fe-Mn overprint. Further petrographic and XRD studies to identify the mineral carriers of the REE and Nb +- Zr+-Hf mineralization are needed.

The REE, Nb, Mo soil anomaly and 2010 rock sampling along the SE aspect of Buttress Peak is of intense interest. Additional prospecting and mapping should occur in this area, followed by trenching activities. Depending on the initial findings, ground based geophysical surveys including magnetics, scintillometer and possibly I.P. could be employed to further delineate sound drilling targets.

Detailed prospecting and mapping in the northern area of the property on the south flank of Sentry peak is recommended to follow up prospective float found in 2007-2009 in elevation lower talus. As well, prospecting and mapping along the ridge above the south South Bowl is highly recommended to follow up the high REE 2009 sample BWIVR016. Thus far no detailed exploration has been undertaken in these areas. An airborne radiometric survey is recommended as this may delineate areas of high REE concentration.

The current contour soil lines should also be extended to cover the slope below the south South Bowl. This would require approximately 2 line-kilometres of soil sampling, which at 25 meter spacing would be 80 samples.

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(http://www.mindat.org/loc-475.html): list of minerals from the ice river complex at mindat.org

APPENDICES

On 2010 field activities at the
ICE RIVER PROPERTY

Waterloo Prospect area
Golden Mining Division
Mapsheet 82N/01W

Center of Work
Latitude 51° 10' N, Longitude 116°23'W
Prepared for:

WATERLOO RESOURCES LTD.
1050-625 Howe St
Vancouver, BC V6C 2T6

And

EAGLE PLAINS RESOURCES LTD
Suite 200, 44-12th Ave. S.
Cranbrook, B.C. V1C 2R7

By
Jarrod A. Brown, M.Sc., P.Geo.
TERRALOGIC EXPLORATION SERVICES
Suite 200, 44-12th Ave. S.
Cranbrook, B.C. V1C 2R7

July 1, 2011

APPENDIX I – STATEMENT OF QUALIFICATIONS

I, Jarrod A. Brown of 6660-A Harrop-Procter Road, in the city of Nelson in the Province of British Columbia hereby certify that:

1) I am a Professional Geoscientist registered with the Association of Professional Engineers and Geoscientists of British Columbia (#29239).

2) I am a graduate of the University of Manitoba with the degree of Master of Science in Geology (2001).

3) I am a graduate of Simon Fraser University with the degree of Bachelor of Science in Physical Geography (1997).

4) I have practiced my profession in North America since 1998, having worked for various Junior Resource Companies and government surveys.

5) This report is based upon a personal examination of all available company and government reports pertinent to the subject property, and upon fieldwork undertaken on the property in July of 2010.

6) I have been granted stock options in Eagle Plains Resources Ltd.

Dated this 1st day of July, 2011, in Nelson, British Columbia.

PROFESSIONAL
PROVINCE OF
J. A. BROWN
#29239
BRITISH COLUMBIA
GEOSCIENTIST

Jarrod A. Brown, P. Geo.

APPENDIX II: Statement of 2010 Expenditures					
Exploration Work type	**Comment**	**Days**			**Totals**
TerraLogic Personnel / Position	**Field Days**	**Days**	**Rate**	**Subtotal**	
Jarrod Brown, P.Geo	24/07/2010	1.60	600	$960.00	
Michelle McKeough, Project Geologist	24/07/2010	1.00	495	$495.00	
Glen Hendrickson, Field Technician	24/07/2010	1.60	525	$840.00	
Nathan Taylor, Field Technician	24/07/2010	1.00	425	$425.00	
				$2,720.00	**$2,720.00**
Office Studies	**List Personnel**				
Project Management and Planning and reporting	Jarrod Brown, P.Geo	3.39	600	$2,034.00	
Database management	Brad Robison	0.50	525	$262.50	
Nathan Taylor, Field Technician	field supplies	0.85	218.3	$185.56	
Appendix and figures	Jason Kolcun	2.60	385	$1,001.00	
				$3,483.06	**$3,483.06**
Consultants/Subcontractors					
				$0.00	**$0.00**
Geochemical Surveying	**Number of Samples**	**No.**	**Rate**	**Subtotal**	
Rock - ACME	61 Rocks			$ 902.42	
Rock - SRC	12 samples			$ 758.00	
				$1,660.42	**$1,660.42**
Transportation		**No.**	**Rate**	**Subtotal**	
fuel				$82.25	
Helicopter				$2,004.00	
heli fuel				$225.00	
				$2,311.25	**$2,311.25**
Accommodation & Food	**Rates per day**				
Hotel				$359.80	
Meals				$231.00	
				$590.80	**$590.80**
Geological and Geochemical					
Sampling Consumables	sample bags, tags, flagging, etc...			$4.20	
				$4.20	**$4.20**
Equipment Rentals					
Computer wi printer - per day				20.00	
Field kits - per day	pack with gear, GPS, palm, etc...			140.00	
Radio wi charger - per day				40.00	
Satellite phone wi charger - per day				30.00	
Scintillometer RS-125 - per day				270.00	
Survival Kit - per day				5.00	
Truck wi insurance - per day Unit#02				100.00	
XRF Innov-X - per day				315.00	
				$920.00	**$920.00**
Freight					
				$189.80	**$189.80**
TerraLogic Exploration Handling and Adminstration Fees					
				$713.47	**$713.47**
TOTAL Expenditures					**$12,593.00**

APPENDIX III – GEOCHEMICAL PROTOCOL

3.1 Geochemistry- Field sampling techniques

The purpose of rock, soil, and stream silt sampling at Ice River property was to locate areas with elevated base metals and high-tech metals, as well as other potential pathfinder elements, in order to assess the overall economic potential of the area. Known base metal occurrences of economic significance in the area are hosted mainly in limestone host rocks, within the metamorphic halo of the Ice River Complex. Known high-tech metal occurrences have been observed both within and external to the Ice River Complex. The most significant mineralised zones are associated with late? stage dyke systems contained within the complex, but also extend greater than 1 kilometre out into the host limestone. These dyke systems are the main focus of recent prospecting and geochemical sampling programs. The dykes themselves are targets for high-tech metals. For the base-metals, the dyke systems represent possible structural features that may have contributed to the formation of mineralized sulphide zones.

Rock samples were collected in the field by placing 1-3 kg of material in heavy grade plastic sample bags with the sample number written on both sides in permanent marker. Each sample bag was then sealed with a plastic cable tie and samples were transported back to camp at the end of each day. A representative piece of each sample was often collected and returned to camp for further examination in the event of an interesting or exceptional analytical result.

Soil samples were collected from the B-horizon wherever possible. Silt samples were collected from active creeks whenever possible. Both soil and silt samples were placed and sealed into brown paper kraft bags. Samples were dried in the field daily, weather permitting. Relevant details pertaining to the soil and silt samples such as location parameters, depth, horizon, quality, were recorded by the sampler in the field.

Sample sites were marked in the field with orange or pink arctic-grade flagging and an aluminum tag, both having been marked with the appropriate sample number. Sample locations were determined by hand-held GPS set to report locations in UTM coordinates using the North American datum established in 1983 (NAD 83). The Ice River property lies within UTM zone 11. Thus, all maps, figures and UTM coordinates referring to herein may be assumed to reference UTM NAD 83 zone 11.

All surface geochemical samples were collected by company geologists or sampling technician employees trained by Bootleg staff geologists. All drill core logging and sampling was completed by Bootleg geologists Jarrod Brown, M.Sc., P.Geo. and Thomas Mumford B.Sc. (M.Sc. pending). Once returned to camp, samples were organized, dried and catalogued and then placed in poly woven “rice” bags. The samples were maintained as a single group that were demobilized from camp to Cranbrook, BC, at the end of the program with the field crew. All rock, silt and soil samples were sent for analysis at ACME labs in Vancouver BC.

3.2 Geochemistry- Analytical techniques

All samples were sent to ACME Laboratories in Vancouver BC, which is a certified lab under the Assayers Certification Program of British Columbia. Rock samples were analyzed using the ***Group 4B*** package which is a two part analysis. Rare earth and refractory elements are determined by ICP mass spectrometry (ICP-MS) following a Lithium metaborate/tetraborate fusion; while precious and base metals are determined using the 1Dx package by aqua regia digestion followed by ICP-MS.

2010 Analyses by Acme Labs (http://www.acmelab.com)

Package	Elements
Group 4B: LiBO2 Fusion + Nitric Acid ICP-MS - 5g	Be,Co,Cs,Ga,Hf,Nb,Rb,Sn,Sr,Ta,Th,U,V,W,Zr,Y, La,Ce,Pr,Nd,Sm,Eu,Gd,Tb,Dy,Ho,Er,Tm,Yb,Lu
Group 1DX: Aqua regia ICP-MS - 0.5g	Mo,Cu,Pb,Zn,Ni,As,Cd,Sb,Bi,Ag,Au,Hg,Tl,Se

Appendix 4.1 - Rock Samples

Station Number	Date (dd/mm/yyyy)	Type	Elevation (m)	Easting (m)	Northing (m)	Location Method	GPS Accuracy (m)	Comments
JBIV300	24/07/2010	outcrop	2019	544308	5666578	GPS		1st gulley
JBIV301	24/07/2010	outcrop	1996	544337	5666576	GPS		
JBIV302	24/07/2010	outcrop	1960	544391	5666564	GPS		Soil high target IVL003 750N
JBIV303	24/07/2010	outcrop	1965	544395	5666596	GPS		Large cliff oc
JBIV304	24/07/2010	outcrop	1975	544369	5666632	GPS		Same lith a stat 301
JBIV305	24/07/2010	outcrop	1974	544369	5666741	GPS		Middle of alder near good soils has high bkg rad (250-350).
JBIV306	24/07/2010	outcrop	1996	544315	5666798	GPS		2b/2a contact with good med scale z-folds
JBIV307	24/07/2010	outcrop	1917	544426	5666793	GPS		2nd ravine
JBIV308	24/07/2010	outcrop	1901	544448	5666799	GPS		Same strat horizon as prev = same as waterloo showing
MMIVG001	24/07/2010	outcrop		544223	5666535	GPS	3	OC 15m east of soil anomaly IVL002 7+50m
MMIVG002	24/07/2010	outcrop		544236	5666539	GPS	3	IRsamp mmivr001 in host
MMIVG003	24/07/2010	outcrop		544225	5666520	GPS	10	Oc 5m north of ivl002 7+50m
MMIVG004	24/07/2010	outcrop		544213	5666499	GPS	4	At IVL002 7+50m
MMIVG005	24/07/2010	outcrop		544190	5666504	GPS	4	
MMIVG006	24/07/2010	outcrop		544165	5666484	GPS	4	At high soil anomalyIVL002 7+00m
MMIVG007	24/07/2010	outcrop		544070	5666479	GPS	4	At high soil anomaly IVL002 6+50m
MMIVG008	24/07/2010	outcrop		544062	5666466	GPS	9	
MMIVG009	24/07/2010	outcrop		544055	5666489	GPS	6	

Appendix V – Analytical Certificates

Acme Analytical Laboratories (Vancouver) Ltd.
1020 Cordova St. East Vancouver BC V6A 4A3 Canada

www.acmelab.com

Client: **TerraLogic Exploration Inc.**
Suite 200, 44 - 12th Ave. S.
Cranbrook BC V1C 2R7 Canada

Submitted By:	Jarrod Brown
Receiving Lab:	Canada-Vancouver
Received:	July 28, 2010
Report Date:	August 18, 2010
Page:	1 of 2

CERTIFICATE OF ANALYSIS VAN10003553.1

CLIENT JOB INFORMATION

Project:	Ice River
Shipment ID:	IU10-001
P.O. Number	
Number of Samples:	18

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	18	Crush, split and pulverize 250 g rock to 200 mesh			VAN
4B02	18	LiBO2/Li2B4O7 fusion ICP-MS analysis	0.2	Completed	VAN

SAMPLE DISPOSAL

RTRN-PLP	Return
DISP-RJT	Dispose of Reject After 90 days

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

ADDITIONAL COMMENTS

Invoice To: TerraLogic Exploration Inc.
Suite 200, 44 - 12th Ave. S.
Cranbrook BC V1C 2R7
Canada

CC: Chris Gallagher

BRITISH COLUMBIA CERTIFIED ASSAYER
CLARENCE LEONG
GENERAL MANAGER

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.
All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only.
"*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

AcmeLabs Acme Analytical Laboratories (Vancouver) Ltd.
1020 Cordova St. East Vancouver BC V6A 4A3 Canada
Phone (604) 253-3158 Fax (604) 253-1716
www.acmelab.com

Client: TerraLogic Exploration Inc.
Suite 200, 44 - 12th Ave. S.
Cranbrook BC V1C 2R7 Canada

Project: Ice River
Report Date: August 18, 2010

CERTIFICATE OF ANALYSIS VAN10003553.1

	Method	WGHT	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B
	Analyte	Wgt	Ba	Be	Co	Cs	Ga	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	1	1	0.2	0.1	0.5	0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1
JBIVR115	Rock	0.43	235	<1	1.3	0.3	1.8	0.5	12.2	14.5	<1	1006	0.3	33.8	0.2	8	<0.5	27.7	10.4	7.9	16.9
JBIVR116	Rock	0.48	3272	<1	0.8	0.5	2.1	0.1	56.0	20.5	1	5186	<0.1	9.7	<0.1	27	<0.5	7.6	51.2	1368	1905
JBIVR117	Rock	0.55	5231	<1	6.2	0.6	9.2	0.3	33.2	8.2	1	2314	0.7	32.7	1.1	43	<0.5	15.1	35.2	1150	2589
JBIVR118	Rock	1.42	2598	<1	34.6	3.2	15.4	0.8	175.0	40.1	2	1562	3.7	24.8	1.3	63	1.9	26.6	22.8	1223	2069
JBIVR119	Rock	0.24	400	<1	0.6	<0.1	2.5	0.3	8.9	3.3	<1	1337	0.3	1.5	0.1	19	<0.5	9.1	12.5	10.1	34.3
JBIVR120	Rock	0.98	638	<1	4.3	0.1	5.9	<0.1	75.9	0.8	<1	1579	0.1	118.9	0.9	38	<0.5	0.3	93.7	1106	3995
JBIVR121	Rock	0.63	12821	<1	2.1	0.2	10.9	0.3	115.3	7.1	17	8132	0.5	33.3	0.3	160	0.6	6.4	34.5	2704	4748
JBIVR122	Rock	1.12	6985	1	1.0	0.4	2.6	0.4	63.7	16.5	4	7668	0.2	25.3	<0.1	54	<0.5	10.4	56.8	2332	3505
JBIVR123	Rock	1.36	22564	<1	2.7	1.0	5.9	0.2	25.9	5.1	1	2835	0.4	35.7	<0.1	36	<0.5	7.8	61.0	458.7	1210
JBIVR124	Rock	1.23	8908	5	17.7	7.5	22.9	0.5	215.3	93.3	3	1325	1.8	114.9	2.3	162	16.4	23.8	39.4	149.4	683.1
MMIVR001	Rock	2.17	3146	4	12.8	19.0	18.2	5.9	157.0	130.6	10	790.4	8.0	26.9	4.1	309	26.1	274.6	21.2	453.2	787.8
MMIVR002	Rock	1.23	6814	4	28.2	21.5	18.6	5.5	128.7	155.1	4	1206	7.3	16.2	2.9	248	5.2	253.8	28.3	347.3	552.7
MMIVR003	Rock	1.11	1314	<1	3.6	0.2	3.2	<0.1	13.5	1.5	2	3089	0.2	77.6	0.6	19	<0.5	8.9	54.8	2227	4777
MMIVR004	Rock	1.68	20034	<1	0.4	0.3	<0.5	<0.1	2.0	3.9	<1	20340	0.5	88.9	0.2	14	<0.5	1.7	33.5	7099	11679
MMIVR005	Rock	1.64	21429	1	2.0	2.0	4.8	0.7	202.5	24.6	7	7018	0.5	33.7	0.9	74	0.9	27.6	71.2	2391	5427
MMIVR006	Rock	1.23	7682	<1	1.1	<0.1	1.0	0.6	25.1	0.6	5	20741	<0.1	52.6	0.5	24	<0.5	13.8	18.1	5623	8893
MMIVR007	Rock	1.25	7425	2	1.6	2.7	1.2	0.6	44.3	26.7	3	15751	0.2	44.8	0.6	26	<0.5	19.1	39.4	4932	7133
MMIVR008	Rock	1.69	1836	<1	13.2	0.4	1.1	<0.1	82.0	2.2	<1	3243	0.1	44.1	2.1	<8	<0.5	1.6	14.2	5428	7829

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1020 Cordova St. East Vancouver BC V6A 4A3 Canada
Phone (604) 253-3158 Fax (604) 253-1716
www.acmelab.com

Client: **TerraLogic Exploration Inc.**
Suite 200, 44 - 12th Ave. S.
Cranbrook BC V1C 2R7 Canada

Project: Ice River
Report Date: August 18, 2010

CERTIFICATE OF ANALYSIS VAN10003553.1

	Method	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	Analyte	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Mo	Cu	Pb	Zn	Ni	As	Cd	Sb
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.02	0.3	0.05	0.02	0.05	0.01	0.05	0.02	0.03	0.01	0.05	0.01	0.1	0.1	0.1	1	0.1	0.5	0.1	0.1
JBIVR115	Rock	1.96	7.1	1.43	0.42	1.48	0.24	1.52	0.27	0.76	0.11	0.68	0.09	0.2	3.4	5.0	9	2.8	8.6	<0.1	<0.1
JBIVR116	Rock	156.7	420.5	36.34	8.81	22.18	2.31	10.14	1.62	4.45	0.65	4.46	0.61	27.6	1.8	14.3	180	<0.1	6.9	<0.1	<0.1
JBIVR117	Rock	264.6	893.8	60.77	11.57	23.37	2.03	8.37	1.13	2.55	0.49	3.36	0.49	101.2	47.0	28.0	589	6.5	15.3	0.3	<0.1
JBIVR118	Rock	192.1	627.7	45.41	9.12	19.93	1.64	6.18	0.75	1.95	0.30	2.02	0.26	620.0	304.0	228.9	569	70.9	34.7	0.8	0.1
JBIVR119	Rock	5.14	24.8	4.27	1.33	3.42	0.46	2.53	0.41	1.22	0.17	1.06	0.13	1.3	0.3	5.0	6	0.5	6.7	<0.1	<0.1
JBIVR120	Rock	514.8	2063	178.0	27.79	69.76	6.25	26.04	2.94	7.05	1.04	6.49	0.94	175.2	51.7	89.6	1034	4.9	135.8	3.0	0.1
JBIVR121	Rock	410.2	1246	76.37	14.30	30.51	2.48	9.76	1.00	2.96	0.49	3.25	0.51	537.0	0.6	31.1	1139	<0.1	8.6	0.5	<0.1
JBIVR122	Rock	298.0	789.3	55.14	11.74	31.34	2.90	11.89	1.74	4.71	0.70	4.78	0.66	31.8	1.2	20.3	1090	<0.1	8.3	0.2	<0.1
JBIVR123	Rock	140.1	452.3	42.91	10.12	23.84	2.60	12.04	1.99	5.49	0.87	6.29	0.92	129.2	4.3	187.8	559	3.2	6.0	0.1	<0.1
JBIVR124	Rock	116.5	501.5	59.88	11.88	24.25	2.25	8.94	1.08	2.65	0.41	2.58	0.33	6.9	21.3	1490	391	52.0	6.0	0.2	<0.1
MMIVR001	Rock	68.89	192.6	16.27	2.87	8.83	0.97	4.39	0.74	2.09	0.31	1.97	0.31	22.1	36.8	3.7	70	19.1	10.7	<0.1	0.1
MMIVR002	Rock	48.15	142.8	15.31	3.64	9.89	1.23	6.01	0.97	2.46	0.34	2.18	0.30	17.2	77.7	10.5	101	16.0	15.0	<0.1	<0.1
MMIVR003	Rock	493.7	1495	110.7	21.55	50.39	3.97	14.28	1.69	3.78	0.59	4.01	0.51	130.1	30.0	215.5	219	<0.1	10.7	0.3	0.1
MMIVR004	Rock	938.4	2786	185.7	35.40	88.46	5.31	13.49	0.79	0.73	0.24	2.13	0.22	39.4	0.7	89.0	2732	<0.1	8.1	0.1	<0.1
MMIVR005	Rock	559.5	1696	137.9	29.31	67.87	5.71	20.23	2.29	4.78	0.66	3.88	0.45	84.7	3.4	58.9	620	1.5	11.0	0.1	<0.1
MMIVR006	Rock	690.7	1908	109.0	19.61	54.29	2.94	6.89	0.33	0.53	0.13	1.13	0.11	68.9	2.9	35.3	1628	<0.1	5.8	0.8	<0.1
MMIVR007	Rock	581.4	1507	92.65	17.64	43.19	3.48	11.74	1.15	2.58	0.35	2.34	0.27	26.5	2.0	26.0	1263	1.5	10.1	5.4	0.3
MMIVR008	Rock	626.3	1637	95.27	17.13	46.16	2.62	5.97	0.23	0.43	0.12	1.04	0.10	170.1	260.6	13.3	2676	3.8	19.1	21.3	1.2

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CERTIFICATE OF ANALYSIS VAN10003553.1

	Method	1DX	1DX	1DX	1DX	1DX	1DX
	Analyte	Bi	Ag	Au	Hg	Tl	Se
	Unit	ppm	ppm	ppb	ppm	ppm	ppm
	MDL	0.1	0.1	0.5	0.01	0.1	0.5
JBIVR115	Rock	<0.1	<0.1	1.9	<0.01	<0.1	<0.5
JBIVR116	Rock	0.2	<0.1	1.0	<0.01	<0.1	<0.5
JBIVR117	Rock	0.6	<0.1	1.6	0.03	<0.1	<0.5
JBIVR118	Rock	7.8	1.1	0.9	0.02	0.2	0.5
JBIVR119	Rock	<0.1	<0.1	<0.5	<0.01	<0.1	<0.5
JBIVR120	Rock	4.3	0.4	1.2	0.08	<0.1	<0.5
JBIVR121	Rock	1.3	0.1	0.7	<0.01	<0.1	<0.5
JBIVR122	Rock	0.2	<0.1	<0.5	0.01	<0.1	<0.5
JBIVR123	Rock	5.8	0.1	2.2	0.02	0.7	<0.5
JBIVR124	Rock	23.6	0.4	2.2	0.02	1.0	<0.5
MMIVR001	Rock	<0.1	<0.1	0.8	<0.01	0.5	<0.5
MMIVR002	Rock	0.1	<0.1	0.6	<0.01	0.6	<0.5
MMIVR003	Rock	2.5	0.4	<0.5	<0.01	0.1	<0.5
MMIVR004	Rock	1.0	0.2	<0.5	0.07	<0.1	<0.5
MMIVR005	Rock	2.3	0.2	1.1	0.02	0.2	<0.5
MMIVR006	Rock	0.2	<0.1	<0.5	0.04	<0.1	<0.5
MMIVR007	Rock	<0.1	<0.1	<0.5	0.04	<0.1	<0.5
MMIVR008	Rock	0.2	0.2	0.8	0.10	0.4	<0.5

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QUALITY CONTROL REPORT VAN10003553.1

	Method	WGHT	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B
	Analyte	Wgt	Ba	Be	Co	Cs	Ga	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	1	1	0.2	0.1	0.5	0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1
Pulp Duplicates																					
JBIVR119	Rock	0.24	400	<1	0.6	<0.1	2.5	0.3	8.9	3.3	<1	1337	0.3	1.5	0.1	19	<0.5	9.1	12.5	10.1	34.3
REP JBIVR119	QC																				
Reference Materials																					
STD DS7	Standard																				
STD OREAS45PA	Standard																				
STD SO-18	Standard		506	1	26.7	7.1	17.6	8.8	20.1	28.1	15	397.7	6.8	10.5	15.9	213	14.1	286.4	31.0	12.0	27.0
STD SO-18	Standard		502	<1	27.2	6.9	17.9	9.5	20.3	28.1	15	400.0	7.0	10.0	16.0	208	14.0	289.4	30.8	12.5	26.5
STD SO-18	Standard		521	<1	26.3	7.2	19.6	9.4	20.7	28.3	16	400.5	6.9	10.6	16.1	208	14.9	294.4	31.4	12.1	26.4
STD SO-18	Standard		519	<1	26.6	7.2	18.7	9.6	21.4	28.2	15	412.7	7.0	10.6	16.0	205	15.3	296.8	31.9	12.3	26.9
STD DS7 Expected																					
STD OREAS45PA Expected																					
STD SO-18 Expected			514	1	26.2	7.1	17.6	9.8	21.3	28.7	15	407.4	7.4	9.9	16.4	200	14.8	280	31	12.3	27.1
BLK	Blank																				
BLK	Blank		<1	<1	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<1	<0.5	<0.1	<0.2	<0.1	<8	<0.5	0.8	<0.1	<0.1	<0.1
BLK	Blank		<1	<1	<0.2	<0.1	<0.5	<0.1	<0.1	<0.1	<1	<0.5	<0.1	<0.2	<0.1	<8	<0.5	1.0	<0.1	<0.1	<0.1
Prep Wash																					
G1	Prep Blank	<0.01	1014	3	5.0	4.5	18.3	3.9	26.7	130.8	2	754.1	1.7	10.9	3.5	56	<0.5	142.9	17.2	30.0	60.1
G1	Prep Blank	<0.01	1009	3	4.3	4.5	18.4	4.2	26.8	129.6	2	764.1	1.6	10.8	3.6	53	<0.5	151.1	17.0	31.4	63.5

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www.acmelab.com

Client: **TerraLogic Exploration Inc.**
Suite 200, 44 - 12th Ave. S.
Cranbrook BC V1C 2R7 Canada

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QUALITY CONTROL REPORT VAN10003553.1

	Method	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	4B	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	Analyte	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Mo	Cu	Pb	Zn	Ni	As	Cd	Sb
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.02	0.3	0.05	0.02	0.05	0.01	0.05	0.02	0.03	0.01	0.05	0.01	0.1	0.1	0.1	1	0.1	0.5	0.1	0.1
Pulp Duplicates																					
JBIVR119	Rock	5.14	24.8	4.27	1.33	3.42	0.46	2.53	0.41	1.22	0.17	1.06	0.13	1.3	0.3	5.0	6	0.5	6.7	<0.1	<0.1
REP JBIVR119	QC													1.4	0.5	5.0	6	0.2	6.5	<0.1	<0.1
Reference Materials																					
STD DS7	Standard													21.8	120.2	76.6	422	59.3	62.0	7.2	4.7
STD OREAS45PA	Standard													1.0	664.2	22.7	128	316.5	5.2	<0.1	0.1
STD SO-18	Standard	3.32	13.5	2.75	0.80	2.87	0.49	2.76	0.59	1.72	0.27	1.69	0.26								
STD SO-18	Standard	3.57	14.3	2.86	0.83	2.85	0.48	2.87	0.58	1.76	0.26	1.71	0.26								
STD SO-18	Standard	3.37	14.5	2.88	0.82	2.89	0.49	2.84	0.59	1.78	0.28	1.82	0.25								
STD SO-18	Standard	3.34	15.1	2.96	0.86	2.98	0.49	2.92	0.61	1.79	0.27	1.78	0.26								
STD DS7 Expected														20.5	109	70.6	411	56	48.2	6.4	4.6
STD OREAS45PA Expected														0.9	600	19	119	281	4.2	0.09	0.13
STD SO-18 Expected		3.45	14	3	0.89	2.93	0.53	3	0.62	1.84	0.27	1.79	0.27								
BLK	Blank													<0.1	<0.1	<0.1	<1	<0.1	<0.5	<0.1	<0.1
BLK	Blank	<0.02	<0.3	<0.05	<0.02	<0.05	<0.01	<0.05	<0.02	<0.03	<0.01	<0.05	<0.01								
BLK	Blank	<0.02	<0.3	<0.05	<0.02	<0.05	<0.01	<0.05	<0.02	<0.03	<0.01	<0.05	<0.01								
Prep Wash																					
G1	Prep Blank	6.63	23.6	3.93	1.02	3.21	0.49	2.81	0.53	1.65	0.27	1.85	0.30	<0.1	2.9	3.5	48	3.4	0.6	<0.1	<0.1
G1	Prep Blank	6.87	25.0	4.13	1.04	3.43	0.49	2.89	0.55	1.59	0.26	1.84	0.31	<0.1	3.0	3.4	48	3.3	0.6	<0.1	<0.1

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QUALITY CONTROL REPORT VAN10003553.1

	Method	1DX	1DX	1DX	1DX	1DX	1DX
	Analyte	Bi	Ag	Au	Hg	Tl	Se
	Unit	ppm	ppm	ppb	ppm	ppm	ppm
	MDL	0.1	0.1	0.5	0.01	0.1	0.5
Pulp Duplicates							
JBIVR119	Rock	<0.1	<0.1	<0.5	<0.01	<0.1	<0.5
REP JBIVR119	QC	<0.1	<0.1	<0.5	<0.01	<0.1	<0.5
Reference Materials							
STD DS7	Standard	5.2	1.0	55.4	0.24	4.2	2.9
STD OREAS45PA	Standard	0.2	0.3	54.6	0.03	<0.1	0.5
STD SO-18	Standard						
STD SO-18	Standard						
STD SO-18	Standard						
STD SO-18	Standard						
STD DS7 Expected		4.5	0.9	70	0.2	4.2	3.5
STD OREAS45PA Expected		0.18	0.3	43	0.03	0.07	0.54
STD SO-18 Expected							
BLK	Blank	<0.1	<0.1	<0.5	<0.01	<0.1	<0.5
BLK	Blank						
BLK	Blank						
Prep Wash							
G1	Prep Blank	0.2	<0.1	3.4	<0.01	0.3	<0.5
G1	Prep Blank	0.1	<0.1	2.4	<0.01	0.3	<0.5

SGS analytical results: June 29, 2011

TO114717 PO# IV10-003 Project I

ANALYTE	Al	Ba	Be	Ca	Cr	Cu	Fe	K
METHOD	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A
DETECTION	0.01	0.5	5	0.1	10	5	0.01	0.1
UNITS	%	ppm	ppm	%	ppm	ppm	%	%
JBIV115	0.77	230	<5	34.1	20	<5	0.48	0.3
JBIV116	0.27	3210	<5	26.9	10	<5	3.3	0.4
JBIVR117	0.87	4840	<5	24.5	20	48	5.62	0.1
JBIVR118	3.75	2410	<5	9.3	70	325	13.6	0.6
JBIVR119	0.44	381	<5	>35	10	<5	0.39	<0.1
JBIVR120	0.32	617	<5	25.2	20	53	8.36	<0.1
JBIVR121	0.18	>10000	<5	23.5	20	<5	7.86	0.2
JBIVR122	0.25	7180	<5	26.8	10	<5	3.54	0.4
JBIVR123	1.4	>10000	<5	25	20	6	4.12	0.2
JBIVR124	9.02	9380	5	1.2	110	20	7.59	2.5
MMIVR001	7.93	3120	8	4.8	20	36	3.39	2.5
MMIVR002	7.99	6950	6	4.8	20	76	6.84	3.4
MMIVR003	0.19	1290	<5	26.3	10	29	5.28	<0.1
MMIVR004	0.07	>10000	<5	18.6	<10	<5	4.46	<0.1
MMIVR005	0.65	>10000	<5	21.9	10	<5	4.1	0.5
MMIVR006	0.03	8160	<5	18.4	10	<5	5.08	<0.1
MMIVR007	0.36	7640	<5	21.1	10	<5	3.88	0.6
MMIVR008	0.08	1820	<5	17.9	10	246	8.99	<0.1
AGIVR003	7.86	>10000	10	1.6	40	43	9.08	2
AGIVR004	5.88	>10000	9	5.1	50	92	10.3	1.4
BWIVR016	4.01	3930	6	27.2	20	78	6.63	0.6
MGIVR006	8.78	763	5	0.3	10	7	3.66	5.6
MGIVR007	8.65	1390	8	0.3	10	<5	4.49	2.2
NTIVR011	11.4	393	<5	1.4	10	<5	1.66	6.2
NTIVR016	11.2	602	<5	1.1	10	<5	1.45	5.9
NTIVR024	11.4	257	5	1.1	10	<5	1.72	5.8
JBIVR094	5.92	3370	<5	7.7	30	331	8.37	<0.1
JBIVR106	8.3	1080	9	0.3	20	<5	5.15	5.1
JBIVR110	7.74	428	31	2.5	40	5	3.59	2.5
JBIVR111	8.56	566	15	0.9	<10	<5	3.69	3.3
O-1	0.98	2750	7	30.4	<10	<5	2.73	0.7
O-2	1	2800	7	30.8	10	6	2.78	0.7
S-1	10.7	350	<5	5.6	20	<5	4.14	1.5
S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-MMIVR004								

SGS analytical r
TO114717 PO#

ANALYTE	Li	Mg	Mn	Ni	P	Sc	Sr	Ti
METHOD	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A
DETECTION	10	0.01	10	5	0.01	5	0.1	0.01
UNITS	ppm	%	ppm	ppm	%	ppm	ppm	%
JBIV115	20	1.88	110	<5	0.04	<5	976	0.07
JBIV116	70	4.94	13300	<5	0.09	<5	5420	0.03
JBIVR117	<10	3.57	19400	8	0.15	<5	2270	0.16
JBIVR118	40	2.8	11300	70	0.23	<5	1550	0.65
JBIVR119	20	0.73	990	<5	<0.01	<5	1340	0.03
JBIVR120	<10	4.13	12000	6	0.41	<5	1610	0.03
JBIVR121	20	3.43	31400	<5	0.17	<5	8040	0.04
JBIVR122	60	4.34	12000	<5	0.47	<5	8150	0.03
JBIVR123	10	1.99	14600	5	0.2	<5	2890	0.03
JBIVR124	350	1.46	4270	51	0.08	19	1360	0.49
MMIVR001	50	2.81	520	20	0.45	6	767	1.59
MMIVR002	50	2.65	1540	16	0.39	9	1180	1.56
MMIVR003	<10	3.71	20600	<5	0.59	<5	3210	0.01
MMIVR004	10	7.85	22600	<5	0.87	<5	>10000	<0.01
MMIVR005	120	5.03	16400	<5	0.29	<5	7280	0.05
MMIVR006	10	8.15	20000	<5	0.55	<5	>10000	<0.01
MMIVR007	100	6.93	13400	<5	0.69	<5	>10000	0.03
MMIVR008	<10	7.29	15100	<5	0.33	<5	3250	<0.01
AGIVR003	10	1.19	2910	18	0.56	7	2410	1.88
AGIVR004	20	1.57	6390	28	0.24	12	2590	1.86
BWIVR016	230	2.27	8230	28	0.15	16	1320	0.05
MGIVR006	110	0.85	2150	10	0.03	<5	214	0.49
MGIVR007	<10	0.06	1610	<5	<0.01	<5	338	0.32
NTIVR011	40	0.04	750	8	<0.01	<5	251	0.07
NTIVR016	30	0.06	840	5	<0.01	<5	372	0.05
NTIVR024	10	0.03	1030	<5	<0.01	<5	215	0.07
JBIVR094	<10	0.24	9690	24	0.7	<5	8090	0.55
JBIVR106	100	0.6	2480	<5	<0.01	<5	189	0.48
JBIVR110	60	0.51	4780	15	0.08	<5	564	0.56
JBIVR111	<10	0.04	1710	<5	<0.01	<5	408	0.32
O-1	<10	1.27	6280	<5	1.08	<5	>10000	0.13
O-2	<10	1.27	6400	<5	1.14	<5	>10000	0.13
S-1	40	0.3	850	9	0.06	<5	1190	0.17
S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-MMIVR004								

SGS analytical r
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ANALYTE	V	Zn	Ag	As	Bi	Cd	Ce	Co
METHOD	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A
DETECTION	5	5	1	5	0.1	0.2	0.1	0.5
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
JBIV115	9	12	<1	<5	<0.1	<0.2	18.2	2.1
JBIV116	30	285	<1	<5	0.4	<0.2	2160	1.4
JBIVR117	26	693	<1	9	0.4	0.3	2810	5.4
JBIVR118	55	655	1	26	6.7	0.6	2300	34.9
JBIVR119	9	16	<1	<5	0.1	<0.2	38.4	1.1
JBIVR120	26	1130	<1	108	3.5	2.2	4320	4.4
JBIVR121	166	1220	<1	<5	1.1	0.3	5160	2.5
JBIVR122	58	1680	<1	<5	0.1	0.3	4110	1.4
JBIVR123	39	635	<1	<5	4.8	<0.2	1310	3.5
JBIVR124	153	442	<1	<5	19.8	0.2	697	16.9
MMIVR001	288	67	<1	7	<0.1	<0.2	806	12.4
MMIVR002	233	110	<1	9	0.1	<0.2	588	26.4
MMIVR003	25	246	<1	<5	2.1	0.2	5100	4.3
MMIVR004	21	2850	<1	<5	0.7	<0.2	>10000	0.8
MMIVR005	76	706	<1	<5	1.9	<0.2	5980	2.8
MMIVR006	29	1820	<1	<5	0.1	0.6	9600	1.7
MMIVR007	31	1400	<1	<5	<0.1	4.6	7780	2.2
MMIVR008	17	2590	<1	12	0.1	15.3	8350	13.1
AGIVR003	146	163	<1	44	0.3	0.5	3730	30.5
AGIVR004	157	434	<1	68	0.9	0.6	2760	54.3
BWIVR016	41	107	<1	5	0.3	<0.2	5150	59.7
MGIVR006	20	263	<1	<5	0.1	0.4	104	6.9
MGIVR007	18	186	1	<5	1.1	0.4	308	3.7
NTIVR011	<5	86	<1	<5	<0.1	<0.2	200	10.8
NTIVR016	<5	53	<1	<5	<0.1	<0.2	223	2.4
NTIVR024	<5	106	<1	<5	<0.1	0.4	239	5.6
JBIVR094	41	566	<1	27	0.5	0.2	2250	21.8
JBIVR106	38	514	2	7	0.9	0.5	162	8.2
JBIVR110	26	892	INF	<5	1	1.9	563	10.3
JBIVR111	6	317	INF	<5	<0.1	0.5	168	2.2
O-1	201	489	INF	<5	0.1	4.1	1890	6.1
O-2	203	521	INF	<5	0.1	3.5	1790	5.9
S-1	7	94	<1	<5	<0.1	0.2	123	2.6
S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-MMIVR004								

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ANALYTE	Cs	Dy	Er	Eu	Ga	Gd	Ge	Hf
METHOD	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A
DETECTION	0.1	0.05	0.05	0.05	1	0.05	1	1
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
JBIV115	0.3	1.47	0.95	0.53	2	1.54	<1	<1
JBIV116	0.6	11.1	5.32	10.5	10	21.3	1	<1
JBIVR117	0.7	8.62	4.02	13.1	15	23.5	2	<1
JBIVR118	3.1	6.45	2.54	10.4	22	20.3	2	<1
JBIVR119	<0.1	2.55	1.28	1.49	1	3.41	<1	<1
JBIVR120	0.1	27	10	33	23	71.7	4	<1
JBIVR121	0.1	10.1	3.97	16.5	22	30	3	<1
JBIVR122	0.4	13.5	5.77	13.8	17	26.8	2	<1
JBIVR123	1	12.8	6.62	10.9	10	22.2	<1	<1
JBIVR124	7.4	9.12	3.67	13.2	26	24.9	4	<1
MMIVR001	18.7	4.79	2.55	3.19	22	9.04	2	6
MMIVR002	23.1	6.49	2.98	4.19	23	10.1	2	6
MMIVR003	0.1	15.7	5.77	24.9	25	46.5	3	<1
MMIVR004	0.4	16.8	3.68	41.7	52	77.4	6	<1
MMIVR005	2.1	22.4	7.23	35	29	64.2	4	1
MMIVR006	<0.1	8.27	2.18	23.2	39	39.8	4	<1
MMIVR007	2.6	12	4.05	20.6	33	36	3	<1
MMIVR008	0.4	6.09	1.69	20.1	34	32.4	3	<1
AGIVR003	0.6	44.1	13.4	71.7	31	141	4	2
AGIVR004	1.3	19.7	7.43	52	31	81.1	4	3
BWIVR016	2.4	65.7	22.9	95	42	180	12	<1
MGIVR006	17.9	3.08	2.15	1.28	69	3.69	2	60
MGIVR007	0.8	6.51	4.71	3.18	74	7.79	2	86
NTIVR011	4.9	1.48	0.8	0.71	33	1.85	<1	4
NTIVR016	5.5	1.53	0.78	1.24	33	2.72	<1	2
NTIVR024	4.7	3.1	2.28	0.99	37	3.04	1	11
JBIVR094	<0.1	75	30.6	49	34	132	3	<1
JBIVR106	25.7	3.6	3.38	1.33	72	3.29	2	85
JBIVR110	13.7	19.7	12	7.07	96	20.5	3	48
JBIVR111	7.8	6.21	4.44	1.78	71	5.06	2	68
O-1	0.9	13.6	5.85	13.6	13	26.7	1	<1
O-2	1.2	13.5	5.76	13.1	13	26.6	1	<1
S-1	1.6	18.7	14.7	1.98	37	14.4	1	11
S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-MMIVR004								

SGS analytical r

TO114717 PO#

ANALYTE	Ho	In	La	Lu	Mo	Nb	Nd	Pb
METHOD	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A
DETECTION	0.05	0.2	0.1	0.05	2	1	0.1	5
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
JBIV115	0.31	<0.2	9.1	<0.05	<2	9	8.2	<5
JBIV116	2.08	<0.2	1650	0.67	48	52	477	15
JBIVR117	1.53	0.4	1280	0.39	98	28	888	24
JBIVR118	1.01	<0.2	1380	0.17	598	156	619	210
JBIVR119	0.49	<0.2	12.1	<0.05	5	6	23.9	<5
JBIVR120	4.3	0.6	1240	0.82	189	70	2040	76
JBIVR121	1.58	0.3	3110	0.46	509	99	1230	25
JBIVR122	2.27	<0.2	2900	0.6	57	56	906	19
JBIVR123	2.37	0.2	494	0.81	127	21	487	159
JBIVR124	1.47	<0.2	161	0.27	7	205	533	1310
MMIVR001	0.86	<0.2	497	0.28	20	152	207	<5
MMIVR002	1.13	<0.2	389	0.26	18	127	162	12
MMIVR003	2.39	0.3	2480	0.45	122	10	1510	197
MMIVR004	1.93	0.3	8110	0.12	34	<1	2950	68
MMIVR005	3.23	<0.2	2760	0.37	95	191	1830	49
MMIVR006	1	0.3	6660	<0.05	69	21	2070	27
MMIVR007	1.76	<0.2	5840	0.19	26	42	1630	29
MMIVR008	0.79	<0.2	6220	<0.05	152	74	1730	10
AGIVR003	6.33	<0.2	1570	0.73	5	335	1390	97
AGIVR004	2.97	<0.2	1130	0.61	8	422	1260	251
BWIVR016	10.2	<0.2	786	0.91	<2	11	4370	80
MGIVR006	0.65	<0.2	60.6	0.46	2	637	25.6	8
MGIVR007	1.35	<0.2	188	0.78	4	1010	85.6	71
NTIVR011	0.26	<0.2	159	0.17	4	355	32.3	16
NTIVR016	0.29	<0.2	185	<0.05	3	73	38.5	14
NTIVR024	0.68	<0.2	178	0.26	4	277	43.4	20
JBIVR094	12.8	<0.2	1070	2.13	29	207	956	207
JBIVR106	0.88	<0.2	98.7	0.64	3	1070	38.2	70
JBIVR110	4.14	<0.2	346	1.19	2	1270	153	110
JBIVR111	1.32	<0.2	98.6	0.66	<2	1760	39.6	20
O-1	2.24	<0.2	1070	0.51	15	2800	511	73
O-2	2.32	<0.2	1030	0.53	16	2580	504	76
S-1	4.55	<0.2	58.5	2.13	<2	20	59.6	9
S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-MMIVR004								

SGS analytical r

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ANALYTE	Pr	Rb	Sb	Sm	Sn	Ta	Tb	Th
METHOD	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A
DETECTION	0.05	0.2	0.1	0.1	1	0.5	0.05	0.1
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
JBIV115	2.21	14.1	0.1	1.6	<1	<0.5	0.24	34.9
JBIV116	179	20.2	0.3	43.8	2	<0.5	2.73	10.4
JBIVR117	296	7.8	0.2	68	2	<0.5	2.44	31.9
JBIVR118	214	38.1	0.3	52.2	2	1.9	2	28
JBIVR119	5.76	3	<0.1	4.8	1	<0.5	0.44	1.8
JBIVR120	575	0.8	0.2	202	<1	<0.5	7.04	120
JBIVR121	456	7.5	0.2	86.2	16	<0.5	3.25	35.3
JBIVR122	341	16.3	<0.1	66.1	4	<0.5	3.34	25.1
JBIVR123	151	5.1	0.1	49	2	<0.5	2.75	35.3
JBIVR124	124	90.3	0.5	67.8	4	1	2.25	108
MMIVR001	74.6	127	0.3	18.3	9	7.2	1.04	24.9
MMIVR002	53.7	154	0.3	18.1	5	6.8	1.29	16
MMIVR003	507	1.7	0.2	123	3	<0.5	4.74	72.4
MMIVR004	>1000	4	0.2	216	<1	<0.5	7.34	84.1
MMIVR005	602	23.9	0.2	162	8	<0.5	6.55	33.2
MMIVR006	789	0.8	<0.1	131	5	<0.5	3.96	52.6
MMIVR007	625	26.9	0.4	110	14	<0.5	4.25	41.4
MMIVR008	666	2.4	1.1	109	1	<0.5	3.26	41.6
AGIVR003	400	56.6	1.4	311	9	10.8	12	>1000
AGIVR004	328	64.9	2.1	265	10	6.9	5.81	>1000
BWIVR016	>1000	24.7	1.6	484	9	<0.5	16.7	>1000
MGIVR006	8.55	774	1.1	4.4	3	20.2	0.54	37.2
MGIVR007	27.7	141	1.1	12.3	6	30	1.05	58.9
NTIVR011	14.4	316	0.4	3.4	4	13.2	0.31	56.6
NTIVR016	15.7	326	0.3	5	2	1.4	0.32	50
NTIVR024	18.2	366	0.4	4.4	4	7	0.5	70.8
JBIVR094	264	1.5	2.7	161	3	3.4	16.3	909
JBIVR106	14.2	704	0.7	4.9	6	30.2	0.54	68.6
JBIVR110	51.2	311	0.8	23.9	7	9.9	3.33	801
JBIVR111	14.3	348	0.4	5.9	6	67	0.87	58.7
O-1	172	35.9	0.6	53.1	<1	30.7	3.18	50.2
O-2	164	35.9	0.7	51.5	1	27.3	3.2	48.2
S-1	15.1	54.3	0.2	12.2	8	<0.5	2.71	1.6
S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
REP-MMIVR004								

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ANALYTE	Tl	Tm	U	W	Y	Yb	Zr	Ce
METHOD	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	ICM90A	IMS91B
DETECTION	0.5	0.05	0.05	1	0.5	0.1	0.5	50
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
JBIV115	<0.5	0.11	0.25	<1	9.8	0.6	25.4	N.A.
JBIV116	<0.5	0.73	0.09	1	49.7	4.6	20.7	N.A.
JBIVR117	<0.5	0.5	1.1	1	33.6	3.2	12	N.A.
JBIVR118	<0.5	0.3	1.32	3	22.6	1.8	23	N.A.
JBIVR119	<0.5	0.17	0.15	1	12.7	1	7.4	N.A.
JBIVR120	<0.5	1.11	1.05	2	87.8	6.1	0.8	N.A.
JBIVR121	<0.5	0.48	0.35	2	35.1	3.2	6.1	5440
JBIVR122	<0.5	0.74	0.18	2	54	4.8	10.6	N.A.
JBIVR123	<0.5	0.89	0.09	1	56.6	6.3	5	N.A.
JBIVR124	0.9	0.44	2.43	16	37.5	2.5	21.3	N.A.
MMIVR001	0.6	0.33	4	28	20.5	2.2	256	N.A.
MMIVR002	0.7	0.37	2.93	7	27.3	2.2	243	N.A.
MMIVR003	<0.5	0.63	0.69	2	53.1	3.7	7.1	5740
MMIVR004	<0.5	0.28	0.2	<1	33	1.5	1.4	12200
MMIVR005	<0.5	0.68	0.95	3	69	3.4	22.5	6380
MMIVR006	<0.5	0.15	0.59	1	17.8	0.7	10.8	10400
MMIVR007	<0.5	0.4	0.61	1	38.2	2	22.5	8270
MMIVR008	<0.5	0.11	2.08	2	13.9	0.7	1.5	8950
AGIVR003	<0.5	1.31	3.18	7	136	6.4	28	N.A.
AGIVR004	<0.5	0.76	5.29	8	80	5.2	43	N.A.
BWIVR016	<0.5	2.13	1.55	9	289	9.4	7.2	5260
MGIVR006	0.8	0.37	26.1	5	17.4	3	3330	N.A.
MGIVR007	<0.5	0.77	61.8	10	34	6	4590	N.A.
NTIVR011	0.6	0.11	49.7	10	8.9	0.8	274	N.A.
NTIVR016	0.6	0.09	6.27	5	8.9	0.7	142	N.A.
NTIVR024	0.6	0.37	14.7	6	23.2	2.6	804	N.A.
JBIVR094	<0.5	3.6	12.5	4	341	18.3	7.5	N.A.
JBIVR106	0.8	0.58	59	7	23.2	4.8	4360	N.A.
JBIVR110	<0.5	1.7	55.7	7	144	10.2	3530	N.A.
JBIVR111	<0.5	0.71	170	6	37.9	5.3	3510	N.A.
O-1	<0.5	0.68	28.4	1	56.9	4.3	77.3	N.A.
O-2	<0.5	0.73	22.4	3	56.1	4.1	72.1	N.A.
S-1	<0.5	2.23	0.72	1	117	15.6	509	N.A.
S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	N.A.
REP-S-2	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	
REP-MMIVR004								12300

SGS analytical r
TO114717 PO#

ANALYTE	Pr	Th	La
METHOD	IMS91B	IMS91B	IMS91B
DETECTION	10	5	50
UNITS	ppm	ppm	ppm
JBIV115	N.A.	N.A.	N.A.
JBIV116	N.A.	N.A.	N.A.
JBIVR117	N.A.	N.A.	N.A.
JBIVR118	N.A.	N.A.	N.A.
JBIVR119	N.A.	N.A.	N.A.
JBIVR120	N.A.	N.A.	N.A.
JBIVR121	N.A.	N.A.	N.A.
JBIVR122	N.A.	N.A.	N.A.
JBIVR123	N.A.	N.A.	N.A.
JBIVR124	N.A.	N.A.	N.A.
MMIVR001	N.A.	N.A.	N.A.
MMIVR002	N.A.	N.A.	N.A.
MMIVR003	N.A.	N.A.	N.A.
MMIVR004	1060	N.A.	7960
MMIVR005	N.A.	N.A.	N.A.
MMIVR006	N.A.	N.A.	7130
MMIVR007	N.A.	N.A.	6070
MMIVR008	N.A.	N.A.	6540
AGIVR003	N.A.	2120	N.A.
AGIVR004	N.A.	1860	N.A.
BWIVR016	1070	4810	N.A.
MGIVR006	N.A.	N.A.	N.A.
MGIVR007	N.A.	N.A.	N.A.
NTIVR011	N.A.	N.A.	N.A.
NTIVR016	N.A.	N.A.	N.A.
NTIVR024	N.A.	N.A.	N.A.
JBIVR094	N.A.	N.A.	N.A.
JBIVR106	N.A.	N.A.	N.A.
JBIVR110	N.A.	N.A.	N.A.
JBIVR111	N.A.	N.A.	N.A.
O-1	N.A.	N.A.	N.A.
O-2	N.A.	N.A.	N.A.
S-1	N.A.	N.A.	N.A.
S-2	N.A.	N.A.	N.A.
REP-S-2			
REP-MMIVR004	1070	N.A.	8020

Appendix 6.1 - Station Locations

Station Number	Date (dd/mm/yyyy)	Type	Elevation (m)	Easting (m)	Northing (m)	Location Method	GPS Accuracy (m)	Comments
JBIV300	24/07/2010	outcrop	2019	544308	5666578	GPS		1st gulley
JBIV301	24/07/2010	outcrop	1996	544337	5666576	GPS		
JBIV302	24/07/2010	outcrop	1960	544391	5666564	GPS		Soil high target IVL003 750N
JBIV303	24/07/2010	outcrop	1965	544395	5666596	GPS		Large cliff oc
JBIV304	24/07/2010	outcrop	1975	544369	5666632	GPS		Same lith a stat 301
JBIV305	24/07/2010	outcrop	1974	544369	5666741	GPS		Middle of alder near good soils has high bkg rad (250-350).
JBIV306	24/07/2010	outcrop	1996	544315	5666798	GPS		2b/2a contact with good med scale z-folds
JBIV307	24/07/2010	outcrop	1917	544426	5666793	GPS		2nd ravine
JBIV308	24/07/2010	outcrop	1901	544448	5666799	GPS		Same strat horizon as prev = same as waterloo showing
MMIVG001	24/07/2010	outcrop		544223	5666535	GPS	3	OC 15m east of soil anomaly IVL002 7+50m
MMIVG002	24/07/2010	outcrop		544236	5666539	GPS	3	IRsamp mmivr001 in host
MMIVG003	24/07/2010	outcrop		544225	5666520	GPS	10	Oc 5m north of ivl002 7+50m
MMIVG004	24/07/2010	outcrop		544213	5666499	GPS	4	At IVL002 7+50m
MMIVG005	24/07/2010	outcrop		544190	5666504	GPS	4	
MMIVG006	24/07/2010	outcrop		544165	5666484	GPS	4	At high soil anomalyIVL002 7+00m
MMIVG007	24/07/2010	outcrop		544070	5666479	GPS	4	At high soil anomaly IVL002 6+50m
MMIVG008	24/07/2010	outcrop		544062	5666466	GPS	9	
MMIVG009	24/07/2010	outcrop		544055	5666489	GPS	6	

Appendix 6.2 - Lithology

Station Number	User	Date (dd/mm/yyyy)	Station Type	Map Unit	Rock Type	Colour	Colour Weathered	Grain size	Texture	Notes
JBIV300	JB	24/07/2010	outcrop		limestone2a					Wl bedded bl-gry +brn, buff weathering. Distinct ank alt w py.
JBIV301	JB	24/07/2010	outcrop		limestone2a					Cntact rad grey boring lst above, rusty lst below
JBIV302	JB	24/07/2010	outcrop		limestone2a					Gry-bm to buff and rsty, fn lam, w conform brick red banding w 5% py.
JBIV303	JB	24/07/2010	outcrop		limestone2a					Grey & buff bndd lst w mod to intense ank alt+ 1-2% ds py
JBIV304	JB	24/07/2010	outcrop		limestone					Boring grey med grey lst w 1% py. Rad to 1300cnt.
JBIV305	JB	24/07/2010	outcrop							
JBIV306	JB	24/07/2010	outcrop		limestone2a					Wht&grey lst above, olive wl fol lst below
JBIV307	JB	24/07/2010	outcrop		limestone2a					Wt&brn lst w red banding
JBIV308	JB	24/07/2010	outcrop		limestone2a					Lst2a with 10-15m rusty bed=intense ank+mn alt, cut by 1m mag mafic dyke
MMIVG001	MM	24/07/2010	outcrop		limestone2b	light grey	beige	fine	veined	
MMIVG002	MM	24/07/2010	outcrop		limestone	dark grey	dark	fine	veined	Lg rusty oc 15m east of soil anomaly ivl002 7+50m
MMIVG003	MM	24/07/2010	outcrop		sulfides	brownish	dark	fine		Rusty dyke (strong hcl rxn); sulfide rich
MMIVG004	MM	24/07/2010	outcrop		limestone2b	greyish	light grey	fine	veined	Euhedral pyrite rich bands in lst; blue-gr min; euhedral and feathery veined
MMIVG005	MM	24/07/2010	outcrop		carbonatite	pinkish grey	brownish	fine-medium		Folded carbonate-rich dyke w/5-8% euhedral pyrite; altered
MMIVG006	MM	24/07/2010	outcrop		carbonatite	pinkish grey	dark	medium	veined	Carbonate and py rich float at soil pit
MMIVG007	MM	24/07/2010	outcrop		carbonatite	pinkish grey	dark	fine-medium		Pyrite rich carbonatite float at soil pit
MMIVG008	MM	24/07/2010	outcrop		carbonatite	pinkish grey	dark	fine-medium		
MMIVG009	MM	24/07/2010	outcrop		carbonatite	pinkish grey	dark	fine-medium		

Appendix 6.3 - Structure

Station Number	Structure Name	Quality	Azimuth	Dip / Plunge	Comments
JBIV300	bedding	GOOD	252	62	
JBIV302	bedding	GOOD	344	12	Lst2a
JBIV302	foliation (dominant)	GOOD	334	71	10cm blocky
JBIV306	bedding	GOOD	290	80	Rolling over- shallow-steep northwards
JBIV306	foliation (dominant)	GOOD	40	44	
JBIV306	intersection lineation (z)	GOOD	304	3	Med scale fold
JBIV308	dike	POOR	227	60	