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**GEOLOGICAL AND GEOCHEMICAL REPORT**

**EXCELSIOR 1-30 CLAIMS**

**Grant # YC94439-YC94468**

**NTS 1150 / 05**

**63° 24' N / 139° 48' W**

**Dawson Mining District**

**Claim owner:**

**Michael Schuss  
Canadian International Minerals Inc.**

**Report By:**

**A. Brand, M.Sc.**

**Mackevoy Geosciences Ltd.**

**Fieldwork performed: May 30, 2010 to June 1, 2010**

**Date of report: July 09, 2010**



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## **Introduction**

Canadian International Minerals Inc. contracted Mackevoy Geosciences Ltd. to visit the Excelsior property prior to the expiration of the claims on June 4, 2010. The purpose of the site visit was to assess the property accessibility and terrain, characterize the local geology, and ultimately gauge the property's potential for hosting gold-mineralization akin to recent gold discoveries in the area including the Golden Saddle and Coffee Creek prospects.

## **Summary of Previous Work**

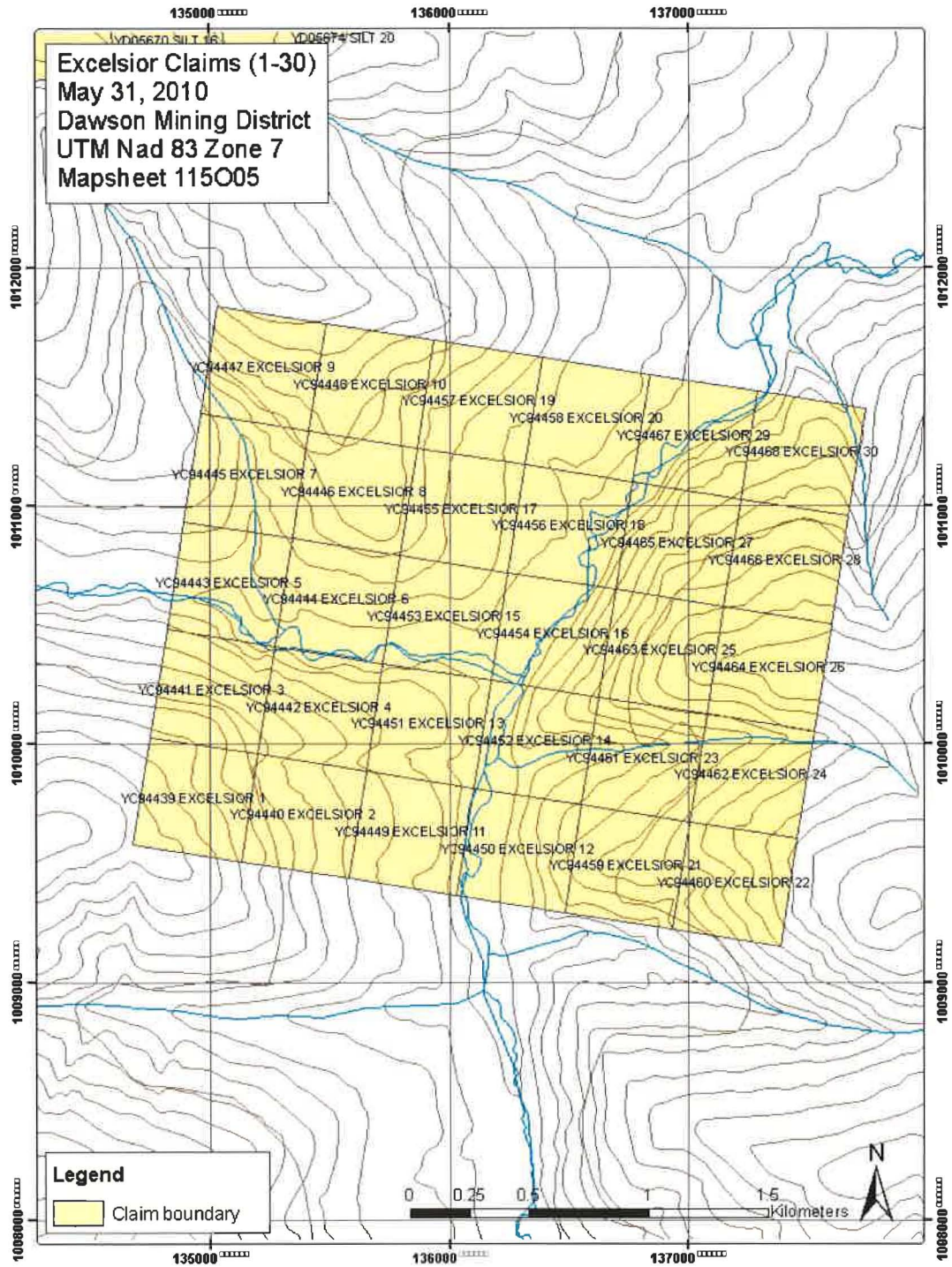
The area encompassed by the Excelsior Claim Block was originally staked as Gigantic and Buster June 1907 by J.A. Anderson, who restaked the Gigantic in October 1909 and drove a 4.3 m adit prior to 1912. Maclachlan took samples (Maclachlan, 1914) took samples for assay; these results were published by the Yukon Government. No MacLean describes an adit which was driven in 1917 into quartz porphyry (see below; Geology). The property was restaked as Excelsior cl 1-30 (YC94439) in Jun/2009 by B. Naughty.

## **List of Claims**

Table 1 lists the details of the Excelsior Property claims and Figure 1 shows the distribution of claims on the property.

**Table 1. Claim information on the Excelsior Property**

| <b>Claim Name</b> | <b>Grant Number</b> | <b>Claim Holder</b>                  | <b>Operator</b>           |
|-------------------|---------------------|--------------------------------------|---------------------------|
| EXELSIOR 1        | YC94439             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 2        | YC94440             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 3        | YC94441             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 4        | YC94442             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 5        | YC94443             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 6        | YC94444             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 7        | YC94445             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 8        | YC94446             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 9        | YC94447             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 10       | YC94448             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 11       | YC94449             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 12       | YC94450             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 13       | YC94451             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 14       | YC94452             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 15       | YC94453             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 16       | YC94454             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 17       | YC94455             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 18       | YC94456             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 19       | YC94457             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 20       | YC94458             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 21       | YC94459             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 22       | YC94460             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 23       | YC94461             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 24       | YC94462             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 25       | YC94463             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 26       | YC94464             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 27       | YC94465             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 28       | YC94466             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 29       | YC94467             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |
| EXELSIOR 30       | YC94468             | Canadian International Minerals Inc. | Mackevoy Geosciences Ltd. |



**Fig. 1: Claim distribution of the Excelsior Property**

## Geology

The Excelsior property lies within the Yukon-Tanana Terrane, which comprises mainly complexly deformed Paleozoic meta-igneous and metasedimentary rocks. The general area was most recently mapped by J. Ryan and S. Gordey (2004) of the Geological Survey of Canada beginning in 2000. J. Ryan reported that the Stewart River area is underlain by twice-transposed, amphibolite-facies gneiss and schist of mostly Paleozoic age. These are intruded by younger plutonic rocks (Jurassic, Cretaceous and Eocene) and overlain by upper Cretaceous volcanic rocks. Metasiliclastic rocks are widespread and dominated by psammite and quartzite, with lesser pelite and rare conglomerate. Preliminary detrital zircon geochronology and geochronology for plutonic rocks constrain the siliclastic rocks to the Middle Paleozoic. Amphibolite interdigitates with and stratigraphically overlies the siliclastic rocks. Marble horizons occur within the amphibolite and siliclastic rocks. Orthogneissic rocks with diorite, tonalite and granodiorite protoliths intrude both the siliclastic and amphibole assemblages; it is interpreted as a subvolcanic intrusive complex.

Geological mapping by J. Ryan and S. Gordey shows the area surrounding the occurrence is underlain by Devonian to Mississippian orange K-feldspar rich, granitic orthogneiss commonly with biotite, banded to layered and commonly includes or associated with K-feldspar augen gneiss. Interestingly, information from “Lode mining in Yukon. Mines Branch Publication” (MacLachlan, 1914) describes minor work done on Excelsior creek. These four claims are mentioned in the Yukon archives on the Minfile report; however, the claim information is not registered as it is too old and has not been digitized. The original reference is shown below in figures 2 and 3. The description of the location is concurrent with the later locations of the Minfile occurrence. The porphyry body described was not seen on the day of field work by the authors of this report, but should be easy to locate in subsequent visits using this information. Therefore, the adit described by MacLachlan should be identifiable with further investigation on foot; however, it may be extremely overgrown.

MacLachlan reported that the adit was driven on a belt or dyke of quartz porphyry about 94 m wide. The porphyry was traced for about 1000 m. The accuracy of the description is quite possible and a porphyry dyke could have been missed by regional mapping. MacLachlan did not observe any mineralization in the surrounding area and five samples collected by him from the various rock types in and around the adit returned trace amounts of gold and nil silver.

The Excelsior property was staked in order to explore for intrusive related gold mineralization similar to that discovered at Underworld Resources Ltd' White Gold (Minefile Occurrence #115O 165, 166 etc.) and Kaminak Gold Corporation's Coffee (Minfile Occurrence #115J 110) property located in the region.

Property here was visited by Mr. D. MacLachlan, who describes it as follows:—

Excelsior creek flows in a northeasterly direction, and enters the left limit of Yukon river, about 53 miles above Dawson. Five miles up the creek, from its mouth, 4 claims have been staked by Messrs. J. A. Anderson and MacIntosh. These are named: Fernie, Midnight Wonder, Gigantic, and Buster.

A belt or dyke of quartz porphyry, about 300 feet wide, strikes easterly and westerly across the creek. This was traced for several thousand feet. The contact to the south is granite, while that to the north is a dark, fine grained rock, which in the field has somewhat the appearance of a dark grey limestone, and is locally known as such. On application of dilute hydrochloric acid, the effervescence was so slight as to indicate a very small percentage of lime.

The belt of porphyry constitutes the material prospected for gold values.

A tunnel was started, by Mr. Anderson, into the side hill, on the left limit of the creek, and driven 14 feet. This entry is in a bluff, which attains a height of about 40 feet. It is distant about 100 feet from the creek bed. Five samples, considered typical of the mass, were taken, as follows:—

No. 348, about 1,200 feet westerly from the tunnel, the elevation here being 370 feet higher than the latter.

No. 349, about 60 feet upstream from the entry in a direction parallel with the stream itself.

No. 350, taken across 4 feet width of the tunnel face.

No. 351, taken about 30 feet down stream from the entry.

No. 352, taken about 1,200 feet easterly from the tunnel, and at an elevation 590 feet above the latter.

None of the above samples, when assayed, gave any values above traces, neither was any gold seen in pannings, and, so far as noted, there is practically no mineralization. (Assay sheet No. 27.)

**Fig. 2. Description of work completed by MacLachlan in 1914.**

PICKERING PROPERTY ON YUKON SAMPLES, EXCELSIOR CREEK ET AL.—ASSAY SHEET No. 27.

| Sample No. | Material.          | Colour.            | Weight. |     | Minerals in pan. | Location.                                   | Assay in ounces (a) per ton of |       | Value per ton. |    | Width of sample. |       | Check assay (b) |   | Remarks. |
|------------|--------------------|--------------------|---------|-----|------------------|---|--------------------------------|-------|----------------|----|------------------|-------|-----------------|---|----------|
|            |                    |                    | Lbs.    | Oz. |                  |   | Au.                            | Ag.   | \$             | c. | Ft.              | In.   | Au.             | Ag.                                       |          |
| 342        | Schistose material | Yellowish to dark  | 0       | 14  | -                | Face of cliff adjoining S. side No. 1 drift | nil                            | nil   | -              | 10 | 0                | trace | nil             | Pickering.                                |          |
| 343        | Quartz and schist  | Rusty to black ... | 3       | 14  | -                | Roof of drift at entry.                     | nil                            | nil   | -              | 5  | 6                | trace | nil             | Pickering.                                |          |
| 344        | Quartz and schist  | Darkgreenish ....  | 2       | 6   | -                | In crosscut 70' from entry drift.....       | trace                          | trace | -              | 4  | 0                | trace | nil             | Pickering.                                |          |
| 345        | Quartz.....        | Grey bluish.....   | 4       | 6   | -                | Entry No. 2 drift.....                      | trace                          | trace | -              | 4  | 0                | 0.02  | nil             | Pickering.                                |          |
| 346        | Quartz.....        | Dark rusty.....    | -       | -   | -                | Stringers 25' S. of No. 2 drift.....        | trace                          | trace | -              | 0  | 8                | trace | nil             | Stringer of quartz dark graphitic schist. |          |
| 348        | Porphyry.....      | Grey to brownish   | 4       | 0   | -                | 1,200' westerly from tunnel.....            | trace                          | nil   | -              | -  | -                | trace | nil             | Excelsior creek.                          |          |
| 349        | Porphyry.....      | Grey to brownish   | 4       | 2   | -                | 60' upstream from tunnel.....               | nil                            | nil   | -              | -  | -                | nil   | nil             | Excelsior creek.                          |          |
| 350        | Porphyry.....      | Grey to brownish   | 4       | 6   | -                | Face of tunnel.....                         | trace                          | nil   | -              | 4  | 0                | trace | nil             | Excelsior creek.                          |          |
| 351        | Porphyry.....      | Grey to brownish   | 6       | 4   | -                | 30' down stream from tunnel.....            | nil                            | nil   | -              | -  | -                | trace | nil             | Excelsior creek.                          |          |
| 352        | Porphyry.....      | Grey to brownish   | 4       | 12  | -                | 1,200' westerly from tunnel.....            | nil                            | nil   | -              | -  | -                | trace | nil             |   |          |

Fig. 3. Table of samples collected during the 1914 field work by MacLachlan. (see #348 onward)

## Description of Data Collected

During fieldwork, access to the property was limited by a lack of suitable helicopter landing sites. The property is densely forested, with the only suitable landing spots being adjacent to drainages at the bottoms of valleys (Figure 4). Previous forest fires have left enough dead trees standing that clear spots large enough to land a helicopter are uncommon. Many spots could easily be cleared for landing spots if a larger exploration program were undertaken.



**Fig. 4. Photograph of the Excelsior Property looking west across the Excelsior Creek Valley.**

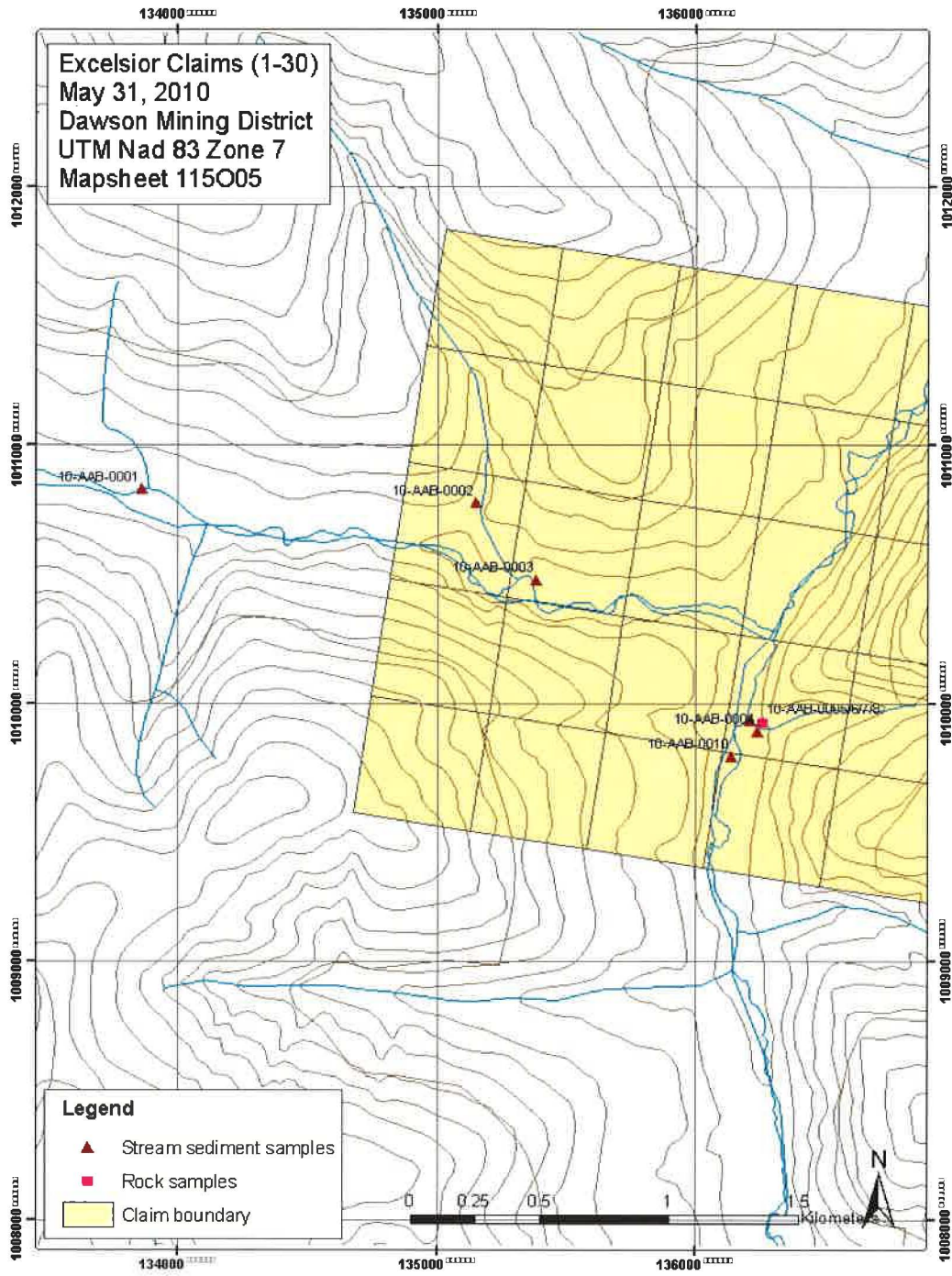
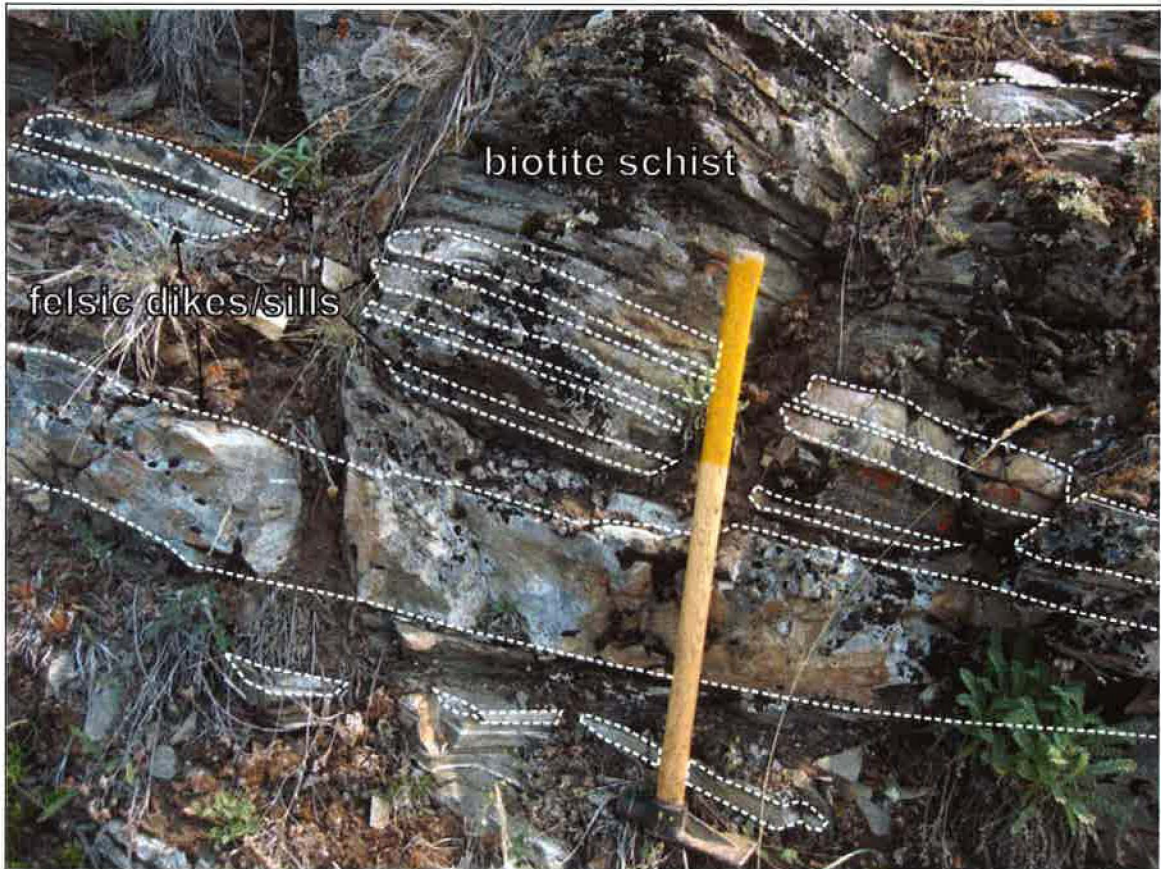


Fig. 5. Sample locations of rock samples and silt samples.

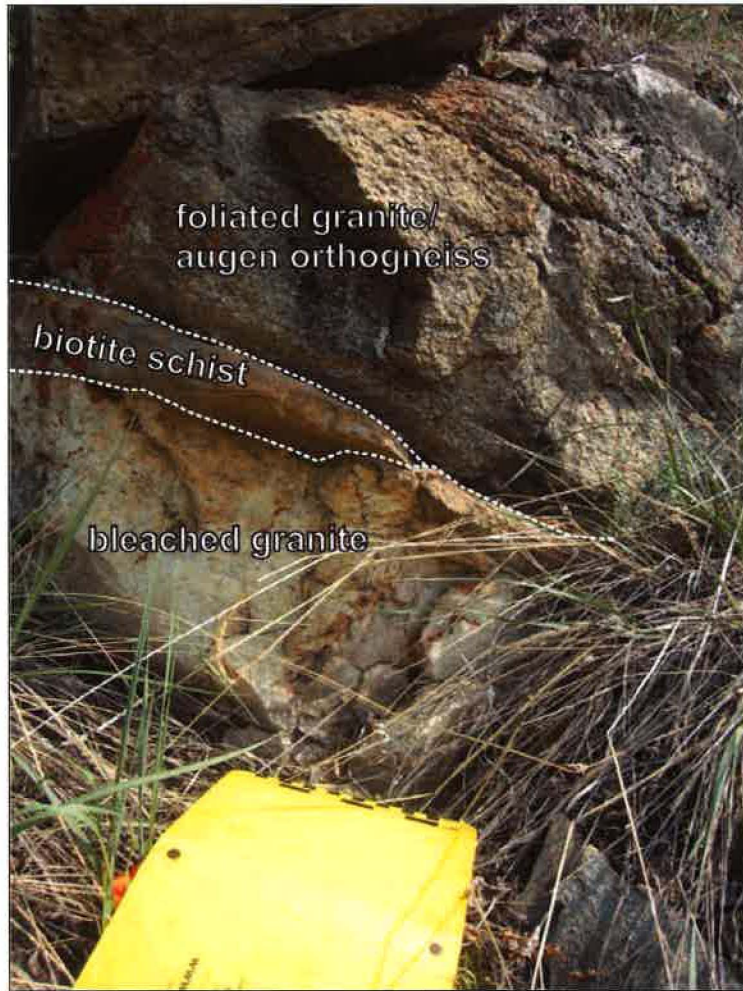
Steam sediments were sampled at drainages adjacent to landing spots. A total of 6 sediment samples were taken from 6 separate drainages on (and one off) the property (see Figure 5.) The sediments were mainly grayish-brown sandy silt with higher organic contents in the smaller drainages. Samples were collected by hand and were roughly 0.5-1 kg in mass.

One outcrop was accessed during the property visit. Four rock samples representing various units were collected during the visit; all samples were collected from one location (see Fig. 5). It is situated at the terminus of a ridge-crest above the intersection of two drainages. The outcrop is comprised of foliated, medium-grained biotite-muscovite schist intruded by two or more phases of granitic dikes and sills. Biotite in the schist was slightly chloritized and the dominant foliation was defined by the alignment of micaceous minerals and oriented roughly 005/31 (strike and dip, right hand rule). Strong fracture sets also occur in the schist oriented at 295/80 and 220/50. Decimeter-scale beige aplitic dikes occur at decimeter to meter scale spacings and are oriented parallel to the dominant foliation (Figure 6). The aplitic dikes are fine-grained and dominated by quartz and feldspar. 5 to 10% fine grained mafic minerals are present in the aplite, but all have been replaced by chlorite. A separate unit of foliated granite occurs parallel to the aplite dikes and is roughly 40 to 80 cm thick. The foliated granite is medium grained and hosts an augen texture indicating the unit could conversely be classified as a granitic orthogneiss. It is plagioclase-rich and comprised of up to 20% chlorite. Rare autoliths of the biotite-schist occur within the foliated granite, confirming the intrusive relationship between the two units.



**Fig. 6. Photograph of interfingering biotite schist and felsic dikes (Facing E).**

The southernmost part of the outcrop hosts a separate, highly bleached granitic unit. This unit cuts the foliated granite and does not have a regular, planar orientation (Figure 7). The unit is massive, and dominated by milky white feldspar (albite?). The bleached granite also contains roughly 15% medium to coarse-grained muscovite and 5 to 10% fine-grained chlorite. Rare crystals of weathered pyrite and chalcopyrite up to 2 mm in diameter occur in the bleached granite. Small zones in and around the bleached unit host patches of vuggy, euhedral quartz-crystals exhibiting open-space filling textures.



**Fig. 7. Photograph of foliated granite/biotite schist/bleached granite contact (Facing NE).**

Several other outcrops were observed from the air, adjacent to the central drainage (Excelsior Creek) near the bottom of the valley. These outcrops were not accessed by foot, but were observed to be similar to the outcrop described above. This indicates that there is a widespread occurrence of felsic dikes intruding host schist in the vicinity of Excelsior Creek on the Excelsior Property.

## Sample Locations and Descriptions

Figure 5 shows the locations of all samples described in this report. Table 2 (below) indicates sample types, locations and descriptions for the 6 sediment and 4 rock samples collected during the study.

**Table 2. Sample coordinates, types, and descriptions collected from the Excelsior Property. (Coordinates are given in UTM NAD83 Zone 7)**

| Sample ID   | Easting | Northing | Type     | Description   |
|-------------|---------|----------|----------|---|
| 10-AAB-0001 | 557462  | 7030250  | Sediment | Brown grey, sandy silt from wide stream               |
| 10-AAB-0002 | 558750  | 7030369  | Sediment | Dark brown, organic-rich muddy-silt from small stream |
| 10-AAB-0003 | 559022  | 7030104  | Sediment | Dark grey, organic-rich sandy silt from small stream  |
| 10-AAB-0004 | 559949  | 7029638  | Sediment | Brown-grey, sandy silt from small stream              |
| 10-AAB-0005 | 559964  | 7029675  | Rock     | fine-grained chlorite aplite                          |
| 10-AAB-0006 | 559964  | 7029675  | Rock     | bleached muscovite-rich granite                       |
| 10-AAB-0007 | 559964  | 7029675  | Rock     | foliated granite/augen orthogneiss                    |
| 10-AAB-0008 | 559964  | 7029675  | Rock     | biotite-muscovite schist                              |
| 10-AAB-0009 | 559914  | 7029678  | Sediment | Brown, sandy silt from wide stream                    |
| 10-AAB-0010 | 559862  | 7029529  | Sediment | Brown, silty sand from wide stream                    |

## Sample Assay Data

Samples submitted to ALS in Whitehorse on June 3, 2010. Au was analyzed via Fire Assay (program #Au-ICP-21); rock samples were analyzed via ICP-MS (Program #MEMS-81), and silt samples were analyzed via ICP-MS (program # MEMS-41). Assays are presented below in Table 3 (rock sample data) and Table 4 (silt sample data).

No significant direct Au values are seen in either data set; all samples are trace to nil. However, the data set is small and from an isolated number of locations. Rock sample data shows several features. The aplite (10-AAB-0005) is depleted in Ba relative to the other units, including the schist, which register values between ~900 and 1000 ppm Ba, as well as Zr. The aplite is more enriched than the other intrusive units in Th and trace rare elements, Ca and Mg, as well as Cr, V, and Zn, which are significantly higher in the metasedimentary host rocks than the other intrusive rocks. This suggests the aplite is possibly a more evolved igneous phase, and/or is scavenging some elements from the metasedimentary rocks it is inter-fingering with. If the latter is true, this indicates the possibility of hydrothermal activity, which has mineralizing potential. Silt sample data is largely uniform; one sample (10-AAB-0002) has an As value elevated above the others at 28 ppm (others range between 5-9 ppm), however no other anomalous values were noted.

**Table 3. Sample assay data: Rock samples (Au by fire assay, all others ICP)**

|                                | 10-<br>AAB-<br>0005 | 10-<br>AAB-<br>0006 | 10-<br>AAB-<br>0007 | 10-<br>AAB-<br>0008 |
|--------------------------------|---------------------|---------------------|---------------------|---------------------|
| SiO <sub>2</sub> (%<br>ox.)    | 73.40               | 74.40               | 74.10               | 59.30               |
| Al <sub>2</sub> O <sub>3</sub> | 14.75               | 15.00               | 14.60               | 14.10               |
| Fe <sub>2</sub> O <sub>3</sub> | 1.98                | 1.15                | 1.20                | 7.35                |
| CaO                            | 2.18                | 1.54                | 0.85                | 5.47                |
| MgO                            | 1.22                | 0.44                | 0.47                | 5.55                |
| Na <sub>2</sub> O              | 5.32                | 5.66                | 6.93                | 2.60                |
| K <sub>2</sub> O               | 0.95                | 1.01                | 0.70                | 1.62                |
| Cr <sub>2</sub> O <sub>3</sub> | 0.01                | 0.01                | 0.01                | 0.03                |
| TiO <sub>2</sub>               | 0.16                | 0.07                | 0.10                | 0.73                |
| MnO                            | 0.03                | 0.02                | 0.02                | 0.12                |
| P <sub>2</sub> O <sub>5</sub>  | 0.06                | 0.02                | 0.09                | 0.16                |
| SrO                            | 0.04                | 0.06                | 0.04                | 0.04                |
| BaO                            | 0.07                | 0.12                | 0.11                | 0.10                |
| LOI                            | 1.08                | 0.70                | 1.10                | 2.08                |
| Total                          | 101.50              | 100.00              | 100.50              | 99.30               |
| Au (ppm)                       | 0.007               | <0.001              | 0.003               | <0.001              |
| Ag                             | <1                  | <1                  | <1                  | <1                  |
| Ba                             | 578                 | 996                 | 902                 | 840                 |
| Ce                             | 7.1                 | 2.4                 | 2.9                 | 29                  |
| Co                             | 5.5                 | 2.6                 | 1.8                 | 24                  |
| Cr                             | 50                  | 20                  | 20                  | 190                 |
| Cs                             | 1.03                | 0.54                | 0.31                | 0.87                |
| Cu                             | 13                  | 13                  | 6                   | 25                  |
| Dy                             | 0.72                | 0.21                | 0.45                | 3.18                |
| Er                             | 0.42                | 0.13                | 0.25                | 1.98                |
| Eu                             | 0.23                | 0.08                | 0.11                | 0.92                |
| Ga                             | 16.7                | 17.8                | 21.7                | 15.7                |
| Gd                             | 0.82                | 0.27                | 0.44                | 3.45                |
| Hf                             | 2.2                 | 3.3                 | 3.3                 | 2.7                 |
| Ho                             | 0.14                | 0.04                | 0.09                | 0.67                |
| La                             | 3.6                 | 1.2                 | 1.4                 | 14.5                |
| Lu                             | 0.06                | 0.02                | 0.03                | 0.31                |
| Mo                             | <2                  | <2                  | <2                  | <2                  |
| Nb                             | 7.4                 | 6.1                 | 3.3                 | 6.8                 |
| Nd                             | 3.5                 | 1.1                 | 1.5                 | 14.2                |
| Ni                             | 6                   | <5                  | 6                   | 23                  |
| Pb                             | 13                  | 14                  | 11                  | 9                   |
| Pr                             | 0.88                | 0.29                | 0.37                | 3.65                |
| Rb                             | 30.4                | 22.3                | 15.3                | 41.3                |
| Sm                             | 0.73                | 0.25                | 0.43                | 3.19                |
| Sn                             | <1                  | <1                  | <1                  | 1                   |
| Sr                             | 353                 | 528                 | 357                 | 357                 |
| Ta                             | 0.6                 | 0.5                 | 0.3                 | 0.4                 |
| Tb                             | 0.12                | 0.04                | 0.07                | 0.52                |

**Table 3. cont.**

|    | <b>10-<br/>AAB-<br/>0005</b> | <b>10-<br/>AAB-<br/>0006</b> | <b>10-<br/>AAB-<br/>0007</b> | <b>10-<br/>AAB-<br/>0008</b> |
|----|------------------------------|------------------------------|------------------------------|------------------------------|
| Th | 1.09                         | 0.4                          | 0.19                         | 4.41                         |
| Tl | <0.5                         | <0.5                         | <0.5                         | <0.5                         |
| Tm | 0.06                         | 0.02                         | 0.04                         | 0.3                          |
| U  | 0.35                         | 0.14                         | 0.54                         | 1.42                         |
| V  | 37                           | 20                           | 21                           | 162                          |
| W  | <1                           | <1                           | <1                           | <1                           |
| Y  | 4.2                          | 1.3                          | 2.5                          | 19.1                         |
| Yb | 0.41                         | 0.14                         | 0.25                         | 1.97                         |
| Zn | 47                           | 25                           | 31                           | 85                           |
| Zr | 58                           | 79                           | 114                          | 98                           |

**Table 4. Sample assay data: Silt samples (Au by fire assay, all others via ICP)**

|          | 10-AAB-0001 | 10-AAB-0002 | 10-AAB-0003 | 10-AAB-0004 | 10-AAB-0009 | 10-AAB-0010 | min    | max     | avg    | stvdev |
|----------|-------------|-------------|-------------|-------------|-------------|-------------|--------|---------|--------|--------|
| Al (%)   | 1.21        | 1.35        | 1.33        | 1.19        | 1.01        | 1.23        | 1.01   | 1.35    | 1.22   | 0.11   |
| Ca       | 0.57        | 0.99        | 0.68        | 0.61        | 0.40        | 0.63        | 0.40   | 0.99    | 0.65   | 0.18   |
| Fe       | 2.70        | 3.26        | 2.47        | 2.59        | 2.72        | 2.46        | 2.46   | 3.26    | 2.70   | 0.27   |
| K        | 0.09        | 0.08        | 0.08        | 0.19        | 0.11        | 0.09        | 0.08   | 0.19    | 0.11   | 0.04   |
| Mg       | 0.66        | 0.58        | 0.67        | 0.57        | 0.61        | 0.61        | 0.57   | 0.67    | 0.62   | 0.04   |
| S        | 0.02        | 0.06        | 0.03        | 0.03        | 0.02        | 0.03        | 0.02   | 0.06    | 0.03   | 0.01   |
| Na       | 0.03        | 0.04        | 0.03        | 0.02        | 0.02        | 0.03        | 0.02   | 0.04    | 0.03   | 0.01   |
| Ti       | 0.07        | 0.08        | 0.08        | 0.07        | 0.06        | 0.08        | 0.06   | 0.08    | 0.07   | 0.01   |
| Au (ppm) | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.01        | 0.00   | 0.01    | 0.00   | 0.00   |
| Ag       | 0.05        | 0.10        | 0.07        | 0.06        | 0.04        | 0.06        | 0.04   | 0.10    | 0.06   | 0.02   |
| As       | 9.20        | 27.80       | 6.70        | 5.40        | 8.70        | 6.10        | 5.40   | 27.80   | 10.65  | 7.79   |
| Au       | <0.2        | <0.2        | <0.2        | <0.2        | <0.2        | <0.2        | 0.00   | 0.00    | 0.00   | 0.00   |
| B        | <10         | <10         | <10         | <10         | <10         | <10         | 0.00   | 0.00    | 0.00   | 0.00   |
| Ba       | 160.00      | 400.00      | 180.00      | 330.00      | 200.00      | 210.00      | 160.00 | 400.00  | 246.67 | 87.50  |
| Be       | 0.34        | 0.32        | 0.33        | 0.38        | 0.37        | 0.34        | 0.32   | 0.38    | 0.35   | 0.02   |
| Bi       | 0.09        | 0.12        | 0.10        | 0.15        | 0.11        | 0.10        | 0.09   | 0.15    | 0.11   | 0.02   |
| Cd       | 0.17        | 0.27        | 0.18        | 0.18        | 0.17        | 0.23        | 0.17   | 0.27    | 0.20   | 0.04   |
| Ce       | 22.40       | 24.90       | 20.80       | 29.30       | 25.30       | 23.90       | 20.80  | 29.30   | 24.43  | 2.65   |
| Co       | 13.40       | 10.20       | 10.80       | 11.20       | 14.20       | 11.20       | 10.20  | 14.20   | 11.83  | 1.45   |
| Cr       | 26.00       | 27.00       | 26.00       | 20.00       | 22.00       | 24.00       | 20.00  | 27.00   | 24.17  | 2.48   |
| Cs       | 2.91        | 0.57        | 2.37        | 1.56        | 0.92        | 0.79        | 0.57   | 2.91    | 1.52   | 0.86   |
| Cu       | 22.40       | 21.80       | 22.50       | 13.10       | 13.30       | 15.50       | 13.10  | 22.50   | 18.10  | 4.21   |
| Ga       | 4.47        | 4.15        | 4.51        | 4.70        | 4.44        | 4.53        | 4.15   | 4.70    | 4.47   | 0.16   |
| Ge       | 0.07        | 0.07        | 0.07        | 0.09        | 0.09        | 0.09        | 0.07   | 0.09    | 0.08   | 0.01   |
| Hf       | 0.05        | 0.07        | 0.05        | 0.03        | 0.03        | 0.04        | 0.03   | 0.07    | 0.05   | 0.01   |
| Hg       | 0.03        | 0.04        | 0.03        | 0.03        | 0.01        | 0.02        | 0.01   | 0.04    | 0.03   | 0.01   |
| In       | 0.02        | 0.02        | 0.02        | 0.02        | 0.02        | 0.02        | 0.02   | 0.02    | 0.02   | 0.00   |
| La       | 11.30       | 13.00       | 11.00       | 13.50       | 11.50       | 11.40       | 11.00  | 13.50   | 11.95  | 0.94   |
| Li       | 25.10       | 12.80       | 21.30       | 14.30       | 14.80       | 14.60       | 12.80  | 25.10   | 17.15  | 4.46   |
| Mn       | 640.00      | 336.00      | 419.00      | 582.00      | 959.00      | 666.00      | 336.00 | 959.00  | 600.33 | 199.00 |
| Mo       | 0.88        | 0.74        | 0.60        | 0.81        | 1.04        | 0.62        | 0.60   | 1.04    | 0.78   | 0.15   |
| Nb       | 1.19        | 1.35        | 1.22        | 1.30        | 1.05        | 1.20        | 1.05   | 1.35    | 1.22   | 0.09   |
| Ni       | 20.50       | 22.10       | 20.00       | 14.80       | 17.10       | 18.20       | 14.80  | 22.10   | 18.78  | 2.40   |
| P        | 830.00      | 1220.00     | 790.00      | 720.00      | 830.00      | 860.00      | 720.00 | 1220.00 | 875.00 | 160.49 |
| Pb       | 6.70        | 6.90        | 6.10        | 11.50       | 8.10        | 6.70        | 6.10   | 11.50   | 7.67   | 1.82   |
| Rb       | 9.30        | 7.40        | 9.10        | 18.70       | 10.40       | 9.80        | 7.40   | 18.70   | 10.78  | 3.66   |
| Re       | <0.001      | <0.001      | <0.001      | <0.001      | 0.00        | 0.00        | 0.00   | 0.00    | 0.00   | 0.00   |
| Sb       | 0.28        | 0.49        | 0.28        | 0.27        | 0.20        | 0.25        | 0.20   | 0.49    | 0.30   | 0.09   |
| Sc       | 4.20        | 4.00        | 4.20        | 4.60        | 3.80        | 4.20        | 3.80   | 4.60    | 4.17   | 0.24   |
| Se       | 0.60        | 0.70        | 0.60        | 0.50        | 0.40        | 0.50        | 0.40   | 0.70    | 0.55   | 0.10   |
| Sn       | 0.30        | 0.40        | 0.30        | 0.50        | 0.30        | 0.40        | 0.30   | 0.50    | 0.37   | 0.07   |
| Sr       | 38.40       | 58.50       | 42.90       | 35.00       | 27.90       | 41.30       | 27.90  | 58.50   | 40.67  | 9.34   |
| Ta       | <0.01       | <0.01       | <0.01       | <0.01       | <0.01       | <0.01       | 0.00   | 0.00    | 0.00   | 0.00   |
| Te       | 0.02        | 0.02        | 0.01        | 0.01        | 0.02        | 0.02        | 0.01   | 0.02    | 0.02   | 0.00   |

**Fig. 4 cont.**

|    | <b>10-AAB-0001</b> | <b>10-AAB-0002</b> | <b>10-AAB-0003</b> | <b>10-AAB-0004</b> | <b>10-AAB-0009</b> | <b>10-AAB-0010</b> | <b>min</b> | <b>max</b> | <b>avg</b> | <b>stvdev</b> |
|----|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------|------------|------------|---------------|
| Tl | 0.07               | 0.05               | 0.06               | 0.09               | 0.07               | 0.07               | 0.05       | 0.09       | 0.07       | 0.01          |
| U  | 2.55               | 0.66               | 2.82               | 1.05               | 0.99               | 1.47               | 0.66       | 2.82       | 1.59       | 0.81          |
| V  | 54.00              | 57.00              | 52.00              | 44.00              | 52.00              | 52.00              | 44.00      | 57.00      | 51.83      | 3.93          |
| W  | 1.02               | 0.44               | 0.59               | 0.37               | 0.17               | 0.21               | 0.17       | 1.02       | 0.47       | 0.28          |
| Y  | 7.54               | 8.77               | 7.64               | 9.89               | 7.38               | 8.71               | 7.38       | 9.89       | 8.32       | 0.89          |
| Zn | 69.00              | 69.00              | 69.00              | 60.00              | 71.00              | 69.00              | 60.00      | 71.00      | 67.83      | 3.58          |
| Zr | 1.40               | 2.40               | 1.60               | 1.10               | 1.30               | 1.50               | 1.10       | 2.40       | 1.55       | 0.41          |

## Interpretations and Conclusions

Outcrops observed during fieldwork indicate a widespread presence of granitic dikes intruding metasedimentary country rocks. The outcrop encountered in the field on this study also indicated the presence of hydrothermal alteration associated with some of these dikes, indicating a potential for gold mineralization. It was hoped that assay results from the sediment samples would directly indicate potential presence for gold or other styles of mineralization in the area. While no significant Au values were directly seen in the few samples collected, the potential still exists as it is likely the main quartz porphyry body has not been re-discovered. A small As anomaly on one silt sample should be investigated, while the aplite unit appears to be more evolved than other (earlier) granitic phases (possibly scavenging elements from the metasedimentary host rocks it intrudes). This suggests the possibility of hydrothermal alteration, which has mineralizing potential.

A map of landing sites and outcrop (Fig. 7) is included for the purposes of planning future visits, possibly via fly camps. As most outcrop is seen in valleys, a camp in one of these locations is recommended, rather than on ridge tops. Helipads can also easily be made using a chainsaw in areas of sparse low burn. Figure 8 shows all data collected: sample points, outcrop points, landing sites, and claim boundaries. Although the few samples collected did not show significant Au values, the authors recommend a small fly camp program to explore the area (dominantly inaccessible by helicopter) on foot more extensively. This type of exploration would increase the chances of locating the historical adit and workings, where trace Au was found in the early part of the 20<sup>th</sup> century. The geological setting and rock types seen indicate a generally correlative setting to Au mineralized projects in the surrounding areas. Additional staking of 26 claims was conducted in 2010, and these have been grouped with the existing claims. This entire area should be looked at in more detail for Au potential (as the new claims have not been thoroughly explored in any capacity).

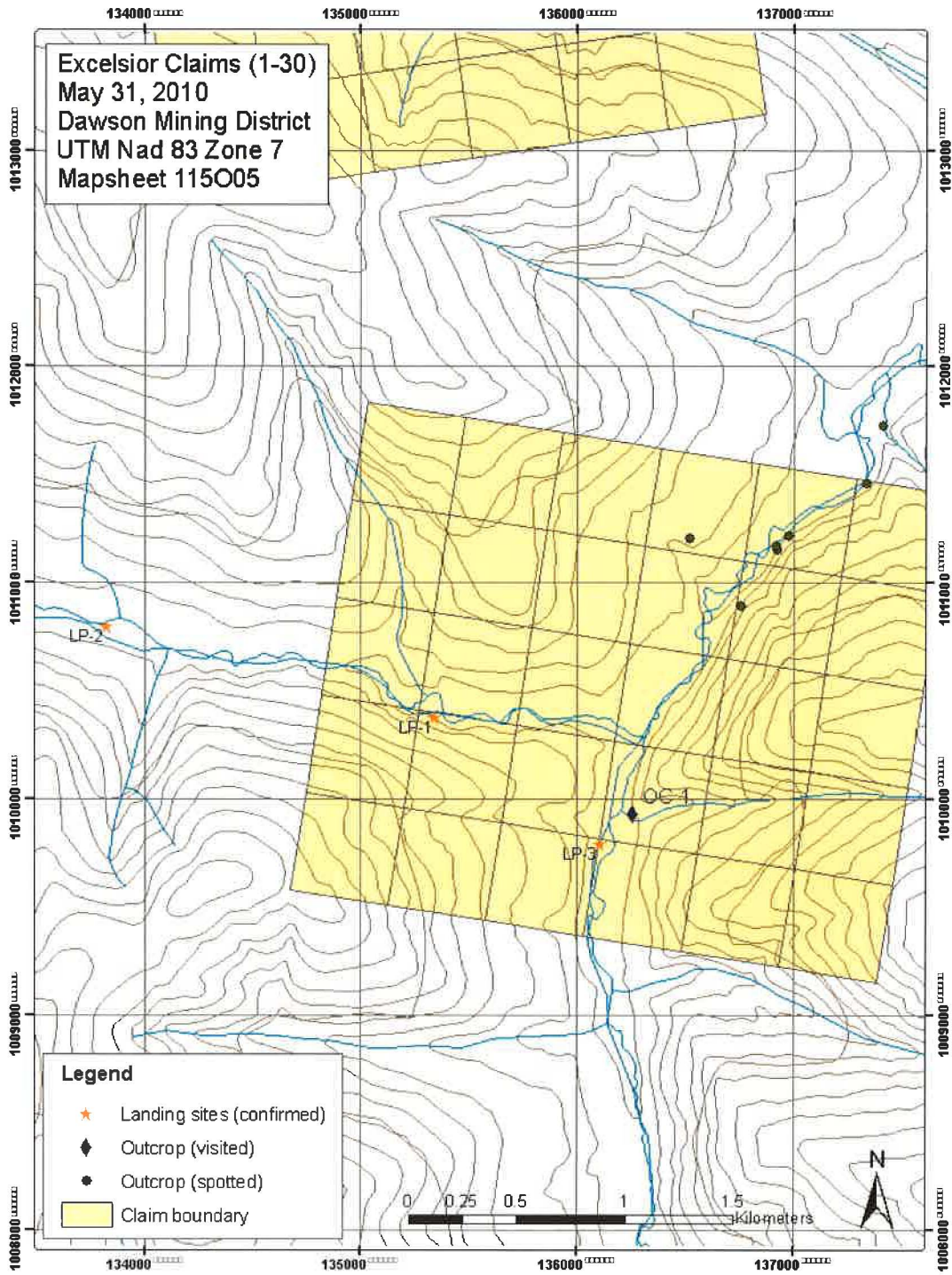
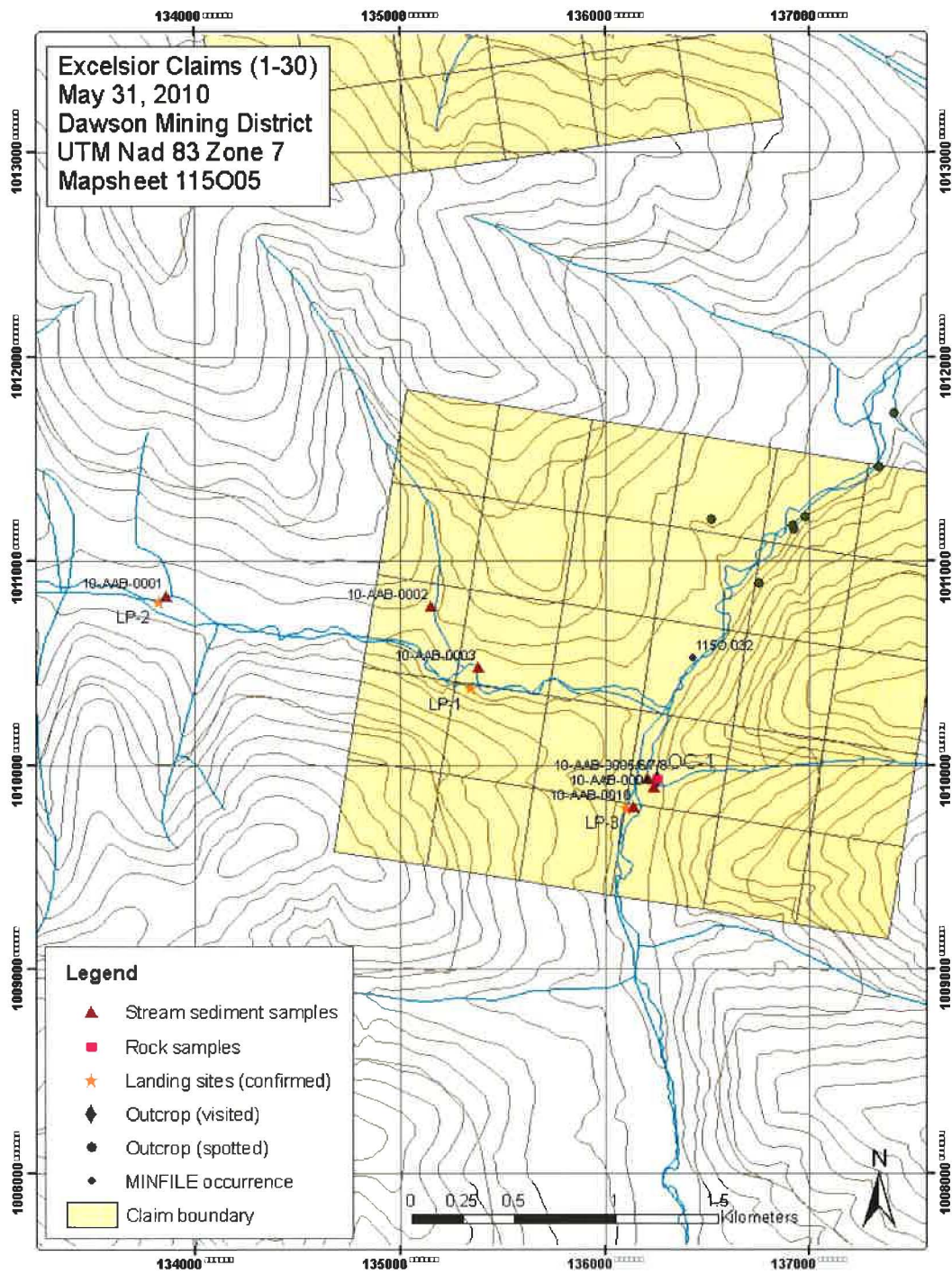


Fig. 7. Pad locations and outcrop only.



**Fig. 8. All information: sample locations, outcrop locations, and landing sites.**

## Statement of Qualifications

I, Allison Brand, graduated from The University of British Columbia in 2006 with a B.Sc. in geology and in 2009 with an M.Sc. in Geology. I have practiced my profession as a geologist since 2006 and have worked on mineral exploration projects throughout Canada.



Allison Brand, M.Sc.

## Statement of Expenditures

|  | Total        |
|--|--------------|
| Total Wages (2 geos)                                       | \$ 5,787.50  |
| Helicopter   | \$ 3,711.71  |
| Truck Rental   | \$ 465.85    |
| Fuel   | \$ 183.58    |
| Accommodation  | \$ 277.20    |
| Food/consumables   | \$ 649.46    |
| Assays - Robust multi element ICP<br>and Fire Assay for Au | \$ 524.48    |
| Total Cost   | \$ 11,599.78 |

## References

Kaminak Gold Corporation. Jun/2010. Website: [www.kaminak.com](http://www.kaminak.com)

Ryan, J.J. and Gordey, S.P. 2004: Geology of the Stewart River Area (Parts of 115N/1, 2, 7, 8 and 115O/2-12), Yukon Territory; Geological Survey of Canada, Open file 4641, scale 1:100 000.

MacLaughlan, T.A., 1914. Lode mining in Yukon. Mines Branch Publication 222, p. 121.

Underworld Resources Ltd. Jun/2010. Website: [www.underworldresources.com](http://www.underworldresources.com)



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537 KENNETH STREET  
VICTORIA BC V8Z 2B6

Page: 1  
Finalized Date: 25-JUN-2010  
Account: MACGEO

## CERTIFICATE WH10070775

Project: EXCELSIOR

P.O. No.:

This report is for 4 Rock samples submitted to our lab in Whitehorse, YT, Canada on 4-JUN-2010.

The following have access to data associated with this certificate:

ALLISON BRAND

DAVID TURNER

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION                    |
|----------|--------------------------------|
| WEI-21   | Received Sample Weight         |
| LOG-22   | Sample login - Rcd w/o BarCode |
| CRU-31   | Fine crushing - 70% <2mm       |
| SPL-21   | Split sample - riffle splitter |
| PUL-31   | Pulverize split to 85% <75 um  |

## ANALYTICAL PROCEDURES

| ALS CODE  | DESCRIPTION                  | INSTRUMENT |
|-----------|------------------------------|------------|
| ME-ICP06  | Whole Rock Package - ICP-AES | ICP-AES    |
| OA-GRA05  | Loss on Ignition at 1000C    | WST-SEQ    |
| ME-MS81   | 38 element fusion ICP-MS     | ICP-MS     |
| TOT-ICP06 | Total Calculation for ICP06  | ICP-AES    |
| Au-ICP21  | Au 30g FA ICP-AES Finish     | ICP-AES    |

To: **MACKEVOY GEOSCIENCES**  
ATTN: DAVID TURNER  
537 KENNETH STREET  
VICTORIA BC V8Z 2B6

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:



Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - A  
 Total # Pages: 2 (A - D)  
 Finalized Date: 25-JUN-2010  
 Account: MACGEO

Project: EXCELSIOR

**CERTIFICATE OF ANALYSIS WH10070775**

| Sample Description | Method<br>Analyte<br>Units<br>LOR | WEI-21          | Au-ICP21  | ME-MS81   | ME-MS81   | ME-MS81   | ME-MS81   | ME-MS81   | ME-MS81   | ME-MS81   | ME-MS81   | ME-MS81   | ME-MS81   | ME-MS81   | ME-MS81   | ME-MS81   |
|--------------------|-----------------------------------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                    |                                   | Recvd Wt.<br>kg | Au<br>ppm | Ag<br>ppm | Ba<br>ppm | Ce<br>ppm | Co<br>ppm | Cr<br>ppm | Ca<br>ppm | Cu<br>ppm | Dy<br>ppm | Er<br>ppm | Eu<br>ppm | Ge<br>ppm | Gd<br>ppm | Hf<br>ppm |
|                    |                                   | 0.02            | 0.001     | 1         | 0.5       | 0.5       | 0.5       | 10        | 0.01      | 5         | 0.05      | 0.03      | 0.1       | 0.05      | 0.2       |           |
| 10-AAB-0005        |                                   | 2.18            | 0.007     | <1        | 578       | 7.1       | 5.5       | 50        | 1.03      | 13        | 0.72      | 0.42      | 0.23      | 16.7      | 0.82      | 2.2       |
| 10-AAB-0006        |                                   | 3.12            | <0.001    | <1        | 996       | 2.4       | 2.6       | 20        | 0.54      | 13        | 0.21      | 0.13      | 0.08      | 17.8      | 0.27      | 3.3       |
| 10-AAB-0007        |                                   | 2.46            | 0.003     | <1        | 902       | 2.9       | 1.8       | 20        | 0.31      | 6         | 0.45      | 0.25      | 0.11      | 21.7      | 0.44      | 3.3       |
| 10-AAB-0008        |                                   | 1.22            | <0.001    | <1        | 840       | 29.0      | 24.0      | 190       | 0.87      | 25        | 3.18      | 1.98      | 0.92      | 15.7      | 3.45      | 2.7       |



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Total # Pages: 2 (A - D)  
Finalized Date: 25-JUN-2010  
Account: MACGEO

Project: EXCELSIOR

## CERTIFICATE OF ANALYSIS WH10070775

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 |      |
|--------------------|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
|                    |                                   | Ho      | La      | Lu      | Mo      | Nb      | Nd      | Ni      | Pb      | Pr      | Rb      | Sm      | Sn      | Sr      | Ta      | Tb   |
|                    |                                   | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm  |
|                    |                                   | 0.01    | 0.5     | 0.01    | 2       | 0.2     | 0.1     | 5       | 5       | 0.03    | 0.2     | 0.03    | 1       | 0.1     | 0.1     |      |
| 10-AAB-0005        |                                   | 0.14    | 3.6     | 0.06    | <2      | 7.4     | 3.5     | 6       | 13      | 0.88    | 30.4    | 0.73    | <1      | 353     | 0.6     | 0.12 |
| 10-AAB-0006        |                                   | 0.04    | 1.2     | 0.02    | <2      | 6.1     | 1.1     | <5      | 14      | 0.29    | 22.3    | 0.25    | <1      | 528     | 0.5     | 0.04 |
| 10-AAB-0007        |                                   | 0.09    | 1.4     | 0.03    | <2      | 3.3     | 1.5     | 6       | 11      | 0.37    | 15.3    | 0.43    | <1      | 357     | 0.3     | 0.07 |
| 10-AAB-0008        |                                   | 0.67    | 14.5    | 0.31    | <2      | 6.8     | 14.2    | 23      | 9       | 3.65    | 41.3    | 3.19    | 1       | 357     | 0.4     | 0.52 |



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 Account: MACGEO

Project: EXCELSIOR

**CERTIFICATE OF ANALYSIS WH10070775**

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 |
|--------------------|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|----------|
|                    |                                   | Th      | Tl      | Tm      | U       | V       | W       | Y       | Yb      | Zn      | Zr      | SiO2     | Al2O3    | Fe2O3    | CeO      | MgO      |
|                    |                                   | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | %        | %        | %        | %        | %        |
|                    |                                   | 0.05    | 0.5     | 0.01    | 0.05    | 5       | 1       | 0.5     | 0.03    | 5       | 2       | 0.01     | 0.01     | 0.01     | 0.01     | 0.01     |
| 10-AAB-0005        |                                   | 1.09    | <0.5    | 0.06    | 0.35    | 37      | <1      | 4.2     | 0.41    | 47      | 58      | 73.4     | 14.75    | 1.98     | 2.18     | 1.22     |
| 10-AAB-0006        |                                   | 0.40    | <0.5    | 0.02    | 0.14    | 20      | <1      | 1.3     | 0.14    | 25      | 79      | 74.4     | 15.00    | 1.15     | 1.54     | 0.44     |
| 10-AAB-0007        |                                   | 0.19    | <0.5    | 0.04    | 0.54    | 21      | <1      | 2.5     | 0.25    | 31      | 114     | 74.1     | 14.60    | 1.20     | 0.85     | 0.47     |
| 10-AAB-0008        |                                   | 4.41    | <0.5    | 0.30    | 1.42    | 162     | <1      | 19.1    | 1.97    | 85      | 98      | 59.3     | 14.10    | 7.35     | 5.47     | 5.55     |



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 Account: MACGEO

Project: EXCELSIOR

**CERTIFICATE OF ANALYSIS WH10070775**

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | ME-ICP06 | OA-GRA05 | TOT-ICP06 |
|--------------------|-----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
|                    |                                   | Na2O     | K2O      | Cr2O3    | TiO2     | MnO      | P2O5     | SrO      | BeO      | LOI      | Total     |
|                    |                                   | %        | %        | %        | %        | %        | %        | %        | %        | %        | %         |
|                    |                                   | 0.01     | 0.01     | 0.01     | 0.01     | 0.01     | 0.01     | 0.01     | 0.01     | 0.01     | 0.01      |
| 10-AAB-0005        |                                   | 5.32     | 0.95     | 0.01     | 0.16     | 0.03     | 0.06     | 0.04     | 0.07     | 1.08     | 101.5     |
| 10-AAB-0006        |                                   | 5.66     | 1.01     | <0.01    | 0.07     | 0.02     | 0.02     | 0.06     | 0.12     | 0.70     | 100.0     |
| 10-AAB-0007        |                                   | 6.93     | 0.70     | <0.01    | 0.10     | 0.02     | 0.09     | 0.04     | 0.11     | 1.10     | 100.5     |
| 10-AAB-0008        |                                   | 2.60     | 1.62     | 0.03     | 0.73     | 0.12     | 0.16     | 0.04     | 0.10     | 2.08     | 99.3      |



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Page: 1

Finalized Date: 25-JUN-2010

Account: MACGEO

## CERTIFICATE WH10070776

Project: EXCELSIOR

P.O. No.:

This report is for 6 Sediment samples submitted to our lab in Whitehorse, YT, Canada on 4-JUN-2010.

The following have access to data associated with this certificate:

ALLISON BRAND

DAVID TURNER

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION                     |
|----------|---------------------------------|
| WEI-21   | Received Sample Weight          |
| SCR-01   | Screen - Save plus fraction     |
| LOG-22   | Sample login - Rcd w/o BarCode  |
| SCR-42   | Screen to -180 um, discard plus |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION               | INSTRUMENT |
|----------|---------------------------|------------|
| Au-ST44  | Super Trace Au - 50g AR   | ICP-MS     |
| ME-MS41  | 51 anal. aqua regia ICPMS |            |

To: **MACKEVOY GEOSCIENCES**  
**ATTN: DAVID TURNER**  
**537 KENNETH STREET**  
**VICTORIA BC V8Z 2B6**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

  
Colin Ramshaw, Vancouver Laboratory Manager



# ALS Chemex

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ALS Canada Ltd.

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North Vancouver BC V7H 0A7

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537 KENNETH STREET  
VICTORIA BC V8Z 2B6

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Plus Appendix Pages  
Finalized Date: 25-JUN-2010  
Account: MACGEO

Project: EXCELSIOR

## CERTIFICATE OF ANALYSIS WH10070776

| Sample Description | Method<br>Analyte<br>Units<br>LOR | WEI-21          | Au-ST44   | ME-MS41   | ME-MS41 | ME-MS41   | ME-MS41   | ME-MS41  | ME-MS41   | ME-MS41   | ME-MS41   | ME-MS41 | ME-MS41   | ME-MS41   | ME-MS41   | ME-MS41   |
|--------------------|-----------------------------------|-----------------|-----------|-----------|---------|-----------|-----------|----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|-----------|
|                    |                                   | Recvd Wt.<br>kg | Au<br>ppm | Ag<br>ppm | Al<br>% | As<br>ppm | Au<br>ppm | B<br>ppm | Ba<br>ppm | Be<br>ppm | Bi<br>ppm | Ca<br>% | Cd<br>ppm | Ce<br>ppm | Co<br>ppm | Cr<br>ppm |
| 10-AAB-0001        |                                   | 0.36            | 0.0011    | 0.05      | 1.21    | 9.2       | <0.2      | <10      | 160       | 0.34      | 0.09      | 0.57    | 0.17      | 22.4      | 13.4      | 26        |
| 10-AAB-0002        |                                   | 0.28            | 0.0049    | 0.10      | 1.35    | 27.8      | <0.2      | <10      | 400       | 0.32      | 0.12      | 0.99    | 0.27      | 24.9      | 10.2      | 27        |
| 10-AAB-0003        |                                   | 0.28            | 0.0017    | 0.07      | 1.33    | 6.7       | <0.2      | <10      | 180       | 0.33      | 0.10      | 0.68    | 0.18      | 20.8      | 10.8      | 26        |
| 10-AAB-0004        |                                   | 0.40            | 0.0008    | 0.06      | 1.19    | 5.4       | <0.2      | <10      | 330       | 0.38      | 0.15      | 0.61    | 0.18      | 29.3      | 11.2      | 20        |
| 10-AAB-0009        |                                   | 0.40            | 0.0009    | 0.04      | 1.01    | 8.7       | <0.2      | <10      | 200       | 0.37      | 0.11      | 0.40    | 0.17      | 25.3      | 14.2      | 22        |
| 10-AAB-0010        |                                   | 0.40            | 0.0050    | 0.06      | 1.23    | 6.1       | <0.2      | <10      | 210       | 0.34      | 0.10      | 0.63    | 0.23      | 23.9      | 11.2      | 24        |



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Account: MACGEO

Project: EXCELSIOR

## CERTIFICATE OF ANALYSIS WH10070776

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 |      |
|--------------------|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
|                    |                                   | Ca      | Cu      | Fe      | Ga      | Ge      | Hf      | Hg      | In      | K       | La      | Li      | Mg      | Mn      | Mo      | Na   |
|                    |                                   | ppm     | ppm     | %       | ppm     | ppm     | ppm     | ppm     | ppm     | %       | ppm     | ppm     | %       | ppm     | ppm     | %    |
|                    |                                   | 0.05    | 0.2     | 0.01    | 0.05    | 0.05    | 0.02    | 0.01    | 0.005   | 0.01    | 0.2     | 0.1     | 0.01    | 5       | 0.05    | 0.01 |
| 10-AAB-0001        |                                   | 2.91    | 22.4    | 2.70    | 4.47    | 0.07    | 0.05    | 0.03    | 0.018   | 0.09    | 11.3    | 25.1    | 0.66    | 640     | 0.88    | 0.03 |
| 10-AAB-0002        |                                   | 0.57    | 21.8    | 3.26    | 4.15    | 0.07    | 0.07    | 0.04    | 0.019   | 0.08    | 13.0    | 12.8    | 0.58    | 336     | 0.74    | 0.04 |
| 10-AAB-0003        |                                   | 2.37    | 22.5    | 2.47    | 4.51    | 0.07    | 0.05    | 0.03    | 0.017   | 0.08    | 11.0    | 21.3    | 0.67    | 419     | 0.60    | 0.03 |
| 10-AAB-0004        |                                   | 1.56    | 13.1    | 2.59    | 4.70    | 0.09    | 0.03    | 0.03    | 0.022   | 0.19    | 13.5    | 14.3    | 0.57    | 582     | 0.81    | 0.02 |
| 10-AAB-0009        |                                   | 0.92    | 13.3    | 2.72    | 4.44    | 0.09    | 0.03    | 0.01    | 0.017   | 0.11    | 11.5    | 14.8    | 0.61    | 959     | 1.04    | 0.02 |
| 10-AAB-0010        |                                   | 0.79    | 15.5    | 2.46    | 4.53    | 0.09    | 0.04    | 0.02    | 0.020   | 0.09    | 11.4    | 14.6    | 0.61    | 666     | 0.62    | 0.03 |

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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## CERTIFICATE OF ANALYSIS WH10070776

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 |     |
|--------------------|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----|
|                    |                                   | Nb      | Ni      | P       | Pb      | Rb      | Re      | S       | Sb      | Sc      | Se      | Sn      | Sr      | Ta      | Te      | Th  |
|                    |                                   | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | %       | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm |
|                    |                                   | 0.05    | 0.2     | 10      | 0.2     | 0.1     | 0.001   | 0.01    | 0.05    | 0.1     | 0.2     | 0.2     | 0.2     | 0.01    | 0.01    | 0.2 |
| 10-AAB-0001        |                                   | 1.19    | 20.5    | 830     | 6.7     | 9.3     | <0.001  | 0.02    | 0.28    | 4.2     | 0.6     | 0.3     | 38.4    | <0.01   | 0.02    | 2.9 |
| 10-AAB-0002        |                                   | 1.35    | 22.1    | 1220    | 6.9     | 7.4     | <0.001  | 0.06    | 0.49    | 4.0     | 0.7     | 0.4     | 58.5    | <0.01   | 0.02    | 2.3 |
| 10-AAB-0003        |                                   | 1.22    | 20.0    | 790     | 6.1     | 9.1     | <0.001  | 0.03    | 0.28    | 4.2     | 0.6     | 0.3     | 42.9    | <0.01   | 0.01    | 2.2 |
| 10-AAB-0004        |                                   | 1.30    | 14.8    | 720     | 11.5    | 18.7    | <0.001  | 0.03    | 0.27    | 4.6     | 0.5     | 0.5     | 35.0    | <0.01   | 0.01    | 3.6 |
| 10-AAB-0009        |                                   | 1.05    | 17.1    | 830     | 8.1     | 10.4    | 0.001   | 0.02    | 0.20    | 3.8     | 0.4     | 0.3     | 27.9    | <0.01   | 0.02    | 3.7 |
| 10-AAB-0010        |                                   | 1.20    | 18.2    | 860     | 6.7     | 9.8     | 0.001   | 0.03    | 0.25    | 4.2     | 0.5     | 0.4     | 41.3    | <0.01   | 0.02    | 2.8 |



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## CERTIFICATE OF ANALYSIS WH10070776

| Sample Description | Method<br>Analyte<br>Units<br>LOR | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 | ME-MS41 |     |
|--------------------|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|-----|
|                    |                                   | Tl      | Tl      | U       | V       | W       | Y       | Zn      | Zr  |
|                    |                                   | %       | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm |
|                    |                                   | 0.005   | 0.02    | 0.05    | 1       | 0.05    | 0.05    | 2       | 0.5 |
| 10-AAB-0001        |                                   | 0.074   | 0.07    | 2.55    | 54      | 1.02    | 7.54    | 69      | 1.4 |
| 10-AAB-0002        |                                   | 0.075   | 0.05    | 0.66    | 57      | 0.44    | 8.77    | 69      | 2.4 |
| 10-AAB-0003        |                                   | 0.081   | 0.06    | 2.82    | 52      | 0.59    | 7.64    | 69      | 1.6 |
| 10-AAB-0004        |                                   | 0.068   | 0.09    | 1.05    | 44      | 0.37    | 9.89    | 60      | 1.1 |
| 10-AAB-0009        |                                   | 0.060   | 0.07    | 0.99    | 52      | 0.17    | 7.38    | 71      | 1.3 |
| 10-AAB-0010        |                                   | 0.084   | 0.07    | 1.47    | 52      | 0.21    | 8.71    | 69      | 1.5 |



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## CERTIFICATE OF ANALYSIS WH10070776

| <b>Method</b> | <b>CERTIFICATE COMMENTS</b>  |
|---------------|--|
| ME-MS41       | Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g). |