ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: Flan-Consolidated Group focusing on southwest facing slope of Mt Adam (Tenures 507295, 509012, 513281, 543699, 590156, 943829, 1013900 and 1015862)

TOTAL COST:$ 40,500.

AUTHOR(S): Mikkel Schau
SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): N/A
STATEMENT OF WORK EVENT NUMBER(S)/DATE(S): N/A

YEAR OF WORK: 2012

PROPERTY NAME: Flan Consolidated

CLAIM NAME(S) (on which work was done):

507295, 5099012, 543699, 553495,and 590156

COMMODITIES SOUGHT: Au, Cu

MINERAL INVENTORY MINFILE NUMBER(S),IF KNOWN: 092L288, 092L289

MINING DIVISION: Nanaimo
NTS / BCGS: 092L01
LATITUDE: _____50___° _____06___' ___9_____"
LONGITUDE: __126___° _____15___' __27_____" (at centre of work)
UTM Zone: EASTING: NORTHING:

OWNER(S): Mikkel Schau

MAILING ADDRESS:
3919 Woodhaven Terrace, Victoria, V8N 1S7
OPERATOR(S) [who paid for the work]: Mikkel Schau and
Interwest Enterprises Ltd
MAILING ADDRESS: 3919 Woodhaven Terrace, Victoria, V8N 1S7 (Schau)
660 W49 Avenue, Vancouver BC, V6M 2S1 (Interwest)

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. **Do not use abbreviations or codes**)
Mid Triassic sediment sill unit, Late Triassic Karmutsen Basalt, Schoen Creek Stock (2 mica granite) of uncertain age, hornblende biotite, granodiorite of the Jurassic Island Suite, shear zones, contact zones, sulphide matrixed tectonic breccias, granite breccias, lowgrade regional alteration, local spot of quartz-sericite-pyrite alteration, arsenopyrite, Gold mineralization in sulphides

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:
23546, 26793, 27311, 28382, 29360, 29551, 30009, 30471, 31046, 31679, 31786, 32654

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	100 ha, 1:10,000	507295, 553495 509012,	5,000
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other: Magnetic susceptibility	37 sites, 119 readings	507295, 509012, 543699, 553495	3,700
Airborne			
GEOCHEMICAL (number of samples analysed for …)			
Soil			
Silt ACME	11	07295, 509012, 543699, 553495	1,100
Rock ACME	77 + 11	507295, 509012, 543699, 553495 and 590156	16,500
Other: Hemlock twigs (ACTLAB)	15	507295, 509012, 543699, 553495,and 943829	1,500
DRILLING (total metres, number of holes, size, storage location)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling / Assaying Fire assaying with ICP finish	93	507295, 509012, 543699, 553495,and 590156	1,800
Petrographic	30	507295, 509012, 543699, 553495,and 590156	6,000
Gravimetric Fire Assay	2	509012	200
PIMA (Heberlein)	26	507295, 509012, 543699, 553495,and 590156	700
PROSPECTING (scale/area)	500 ha	507295, 509012, 543699, 553495, 590156. and 943829	4,000
PREPATORY / PHYSICAL			
Line/grid (km)			
Topo/Photogrammetric (scale, area)			
Legal Surveys (scale, area)			
Road, local access (km)/trail			
Trench (number/metres)			
Underground development (metres)			
Other			
		TOTAL COST	40,500

Flan-Consolidated Group

focusing on

south west facing slope of Mt Adam

(Tenures 507295, 509012, 513281, 543699, 553495, 590156, 943829, 1013900 and 1015862)

in the

Nanaimo Mining Division

in

092L/01

at 50 deg 06 min 9 sec North and 126 deg 15 min 27 sec West

for

Mikkel Schau

by

Mikkel Schau, P.Geo.

For

January 25, 2013

SUMMARY

The Flan showing is a high grade gold showing, consisting of boulder sized, basal till fragments, carrying up to 135 gm/mt Au in the form of small grains of electrum, trapped in chalcopyrite blebs in a pyrrhotite rich matrix to a fault breccia. (AR29360 and 30009) It is located within the Schoen Creek drainage basin, south of Schoen Lake Provincial Park in northern Vancouver Island. It is reached by active logging roads both from the road to Gold River and by logging roads up the Kokummi Creek in White River drainage. It is near deep water ports at Kelsey Bay and Port McNeil, and a short distance from truck transportation along Highway 19.

Mineral rights to the claims covering 3,460.684 ha. are held by Mikkel Schau, free miner 142134.

New work reported herein includes:

A talus fragment collected from the original FLAN showing (basal till) location

Sample ID	Type	Gold	Copper
1415801	**Talus Fragment**	**83.5 gm/t**	**More than 1%**

Gold by Gravimetric Fire Assay,

A chip samples in the form of an backwards L when looking westward, from mineralized quartz-sericite-pyrite altered, brecciated granitic dyke cutting sedimentary and sill unit and located below a vegetation kill zone on Mt Adam south west slope (Heart zone)

.

Sample ID	Type	Gold	Copper
Calculated from 5 vertical sub samples	21 m (63 ft) chip sample	1.5 ppm	351 ppm
Calculated from 3 horizontal samples in going westward from bottom of vertical chip sample	10 m (30 ft) chip sample	0.28 ppm	272 ppm

Gold by Fire Assay with ICP finish, Calculated as discussed in text.

These values are across apparent thicknesses, the actual thickness is not known.

Several grab samples from Heart region are shown below Samples were split and two portions were separately ground and analyzed in an effort to avoid the “nugget effect”.

Sample Id	Type	Gold by fire assay-ICP finish	Copper
16617	Quartz sericite pyrite altered breccia formed in a granitic dyke	3353 ppb	691 ppm
16617R	As above	3323 ppb	734 ppm
16619	Quartz sericite pyrite altered breccia formed in a granitic dyke	6247 ppb	1787 ppm
16619R	As above	6046 ppb	1533 ppm
16620	Quartz sericite pyrite altered breccia formed in a granitic dyke	3905 ppb	1430 ppm
16620R	As above	3385 ppb	1544 ppm

In situ grab samples from altered hornfels/skarn rocks in an adjacent and somewhat higher area, to the east but not connected to the Heart region, termed the “MLR” ,showed several anomalous values:

Sample Id	Type	Gold by fire assay-ICP finish (ppb)	Copper (ppm)
16559	see table in Appendix A-1b	5222	1032
16659R	As above	5262	1077
16560	see table in Appendix A-1b	2984	104
16560R	As above	2386	105
16603	see table in Appendix A-1b	6228, 6636*	4875
16603R	As above	6167	4704
16604	see table in Appendix A-1b	2761	1304
16604R	As above	2805	1456
16612	see table in Appendix A-1b	2190	1341
16612R	As above	2934	1191

R means that a sample “reject” was re-ground and analyzed * indicates duplicate analyzes

These *in situ* samples indicate the local presence of significant gold bearing rocks forming the south west facing slopes of Mt Adam. The alteration is suggestive of a porphyry system. The source of the high grade samples collected from the original basal till showing, located, below these slopes, remains to be located.

The claims continue to have merit and a comprehensive exploration effort is recommended.

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Introduction

Ongoing work in the Flan-Consolidated Claim Block covering the Schoen Creek drainage basin south of Schoen Lake Provincial Park, on Northern Vancouver Island, has focused on locating the *in situ* location of mineralized till fragments found at the Flan showing. This work has included a study of alteration to help vector towards their source of high grade mineralization..

Property location, access and title

The original Flan Showing (recently accorded Minfile Status 092L-288) is found in tenure 509012 within the Flan-Consolidated Claims located on Northern Vancouver Island and is within the Nanaimo Mining District jurisdiction. The Flan-Consolidated Group claims cover the drainage area of most of the Schoen Creek valley about 30 km east-southeast of Woss, on Vancouver Island B.C. (Figures 1, 2).. They are located in the Vancouver Island Ranges within NTS 092L/01 (or 92L019 and 92L009) and are centred at approximately 50 deg 06 min 9 sec North and 126 deg 15 min 27 sec min West (Fig. 2, 3). This year (2012) work was concentrated at the southwestern flank of Mount Adam,

Access to the claims can be had via two different routes. *One,* the more convenient, is via a logging main (towards Gold River) branching off the Island Highway and continuing along subsidiary logging roads south of Davies River, passing through Schoen Lake Provincial Park, south of the lake, into the area of interest. This road proceeds south (upstream) along the west side of the creek until, several km along, the road splits and several parts of the claims are accessible. This road will probably become unavailable after logging stops in drainage area. The western part of the claim block is entered before the park is traversed, up the logging main labelled “Club” road. *Another* way to access the claims is via the upper Adam Main logging road system, eventually driving up a side road to the head of Kokummi Creek. This road is well constructed, save a washed out bridge near the mouth of Kokummi creek, but is passable with a four wheel drive vehicle. This route is probably the best for accessing the higher parts of the eastern section of the claim block, which are currently of interest, with the added advantage this way does not go through the park to access the claims, and logging is likely to continue in this region for some considerable time.

Claims of FLAN-Consolidated:

Tenure Number	Old Due date	Ownership	Area, ha.
507295	10/10/16	100% Schau	517.912
509012	18/11/16	100% Schau	165.753
513281	10/10/16	100% Schau	497.218
543699	10/05/16	100% Schau	227.868
553495	10/01/17	100% Schau	518.106
590156	10/01/17	100% Schau	518.087
943829	28/01/13	100%Schau	518.3
1013900	10/22/13 (not included in this assessment report	100% Schau	373.04
1015862	01/10/14(not included in this assessment report	100% Schau	124.4

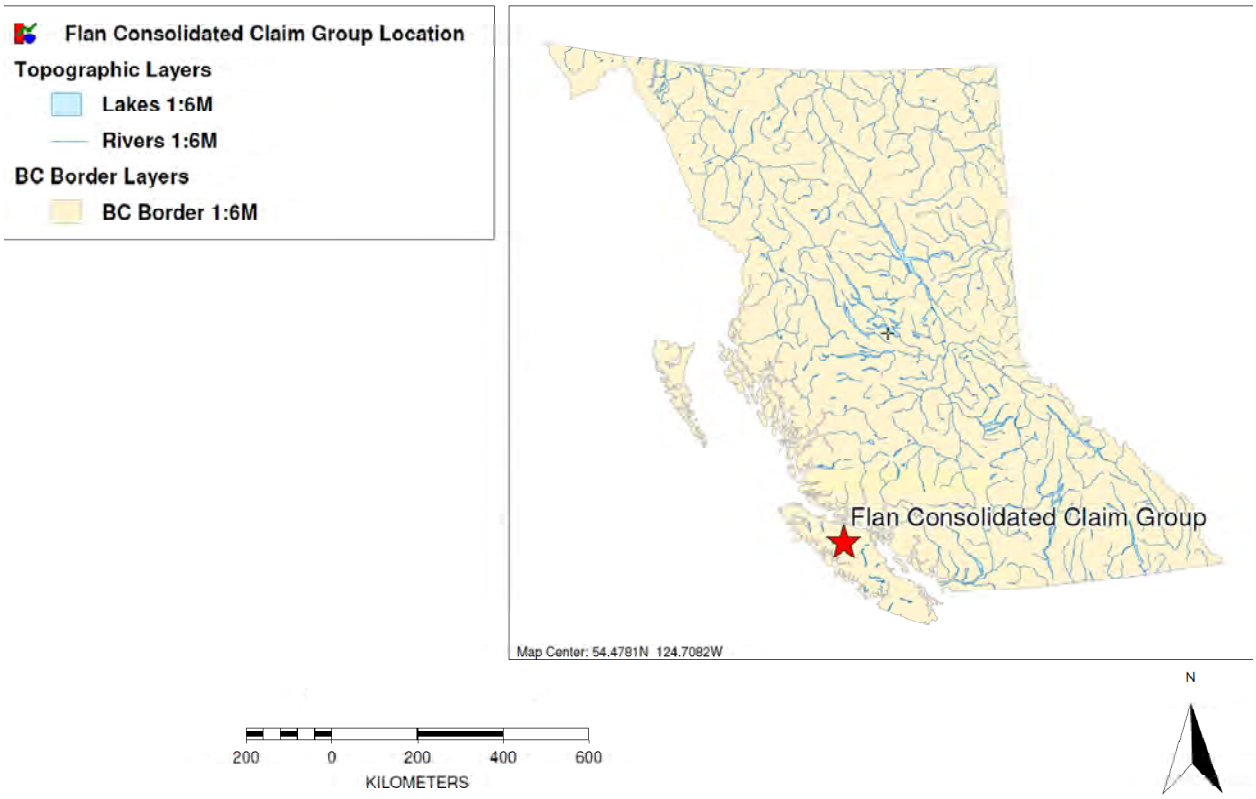
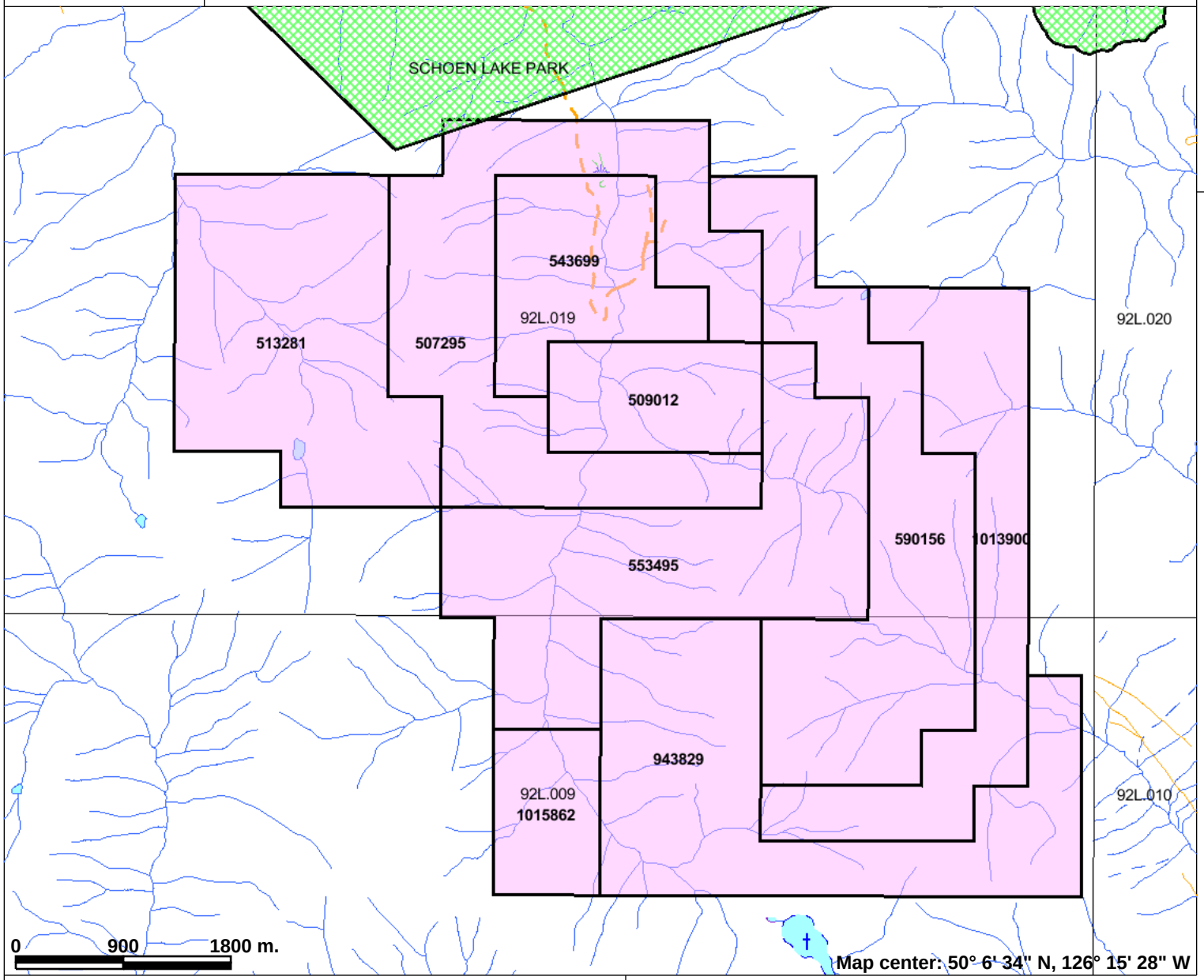


Figure 1: Location Map

Figure 2: Claim Map



Legend

Parks

Mineral Tenure (current)

Mineral Claim

Mineral Lease

N

Scale: 1:50,000

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

The area of tenures totals 3,460.684 ha.. The claims currently are held 100% by Mikkel Schau, BC Free Miner 142134. Interwest Enterprises were part owners but have returned their portion of the claims to me, the original owner. Claims on which work was done this year include:507295, 5099012, 543699, 553495,and 590156.

The land situation is typical of BC; I have claimed the mineral rights in a lawful manner. According to the MTOnline website:

"...Any subsequent activities, permits, approvals or decisions related to exploration or development work on mineral or placer claims will require the Province British Columbia to meet applicable legal obligations to consult with, and if appropriate, accommodate, affected First Nations". There is no record, available to me, that this provincial consultation has been carried out for these claims.

To the best of my knowledge the Land Claim Treaty Process has not directly discussed these lands although they are under general claim by several groups. The SOI of 'Namgis Nation covers the lands within the Nimpkish River watershed wherein the majority of the claim group is located, but the lands near and east of the height of land including Mt Adam are subject to a competing SOI of the several First Nations. Contact has been made with all the nations as recommended by the Ministry. In particular, I have been in contact with the Treaty Office of the 'Namgis: they are aware of details of my current work.

There has been no impediment to my claiming or working the land to time of writing. Local people have told me they would like there to be more exploration, and possibly mining in the region, to shore up their local economy.

Previous work

This section is an *update* of similar material presented in previous assessment reports for this area. There are many similarities with earlier reports written by the author, but this version is the most up to date. Earliest reports from this area reported locations in NAD 27, later ones, as well as this one, report locations in NAD83. All locations are found in UTM Zone 9.

The general area has had a sparse history of mineral exploration. Previous mapping by government sponsored regional mapping programs conducted and summarized by J.E. Muller et al. (1974) (Fig. 4) and made available in modified digital form by N.W. Massey (1995, 2004). A government sponsored regional geochemical survey (RGS23) indicate that creeks in the Schoen Lake watershed are anomalous, showing moss values up to 160 ppb Au. (MapPlace, 2011). An adjacent creek valley and a hill crest to the west of the Schoen Creek valley were staked in 1993 and shown to carry anomalous concentrations of several economic elements, including Cu, Zn, Ag, Pb, Mo and Au (AR 23546). A rock sample with 1 gm/mt Au was recorded at this time. Those claims have since lapsed. Claims to the east of Mount Adam have been explored by me over the years, and nearby ones are currently held by another prospector at this time.

In 2000, a sample with about 60 gm/mt gold was found at the Flan showing by the current owner, prospecting for precious metals, under the Prospector's Assistance Program, and it was staked in late 2000 based on results of the initial assay reports. A granite was recognized in the course of later mapping and an area was staked to cover the apparent edges of this granite. Anomalous stream sediment survey prompted the staking of the complete watershed. The current owner is conducting grass-roots exploration and looking at the possibility of enlarging the showing to become a viable prospect. Previous assessment work,

totalling about $179,625.04, has been done by owner(s) on the claims as listed below:

AR Number	Date off confidential	Operator	Exploration Expenditures (original dollars)
32654	*2012 – 10 - 20*	*Self and Interwest Enterprises*	*$20,400.00*
31786	*2011 – 08 - 20*	*Self and Interwest Enterprises*	*$6,135.61*
31679	*2011 – 06 - 24*	*Self and Interwest Enterprises*	*$95,025.67*
31046	*2010 – 10 - 09*	*Self*	*$6,150.00*
30471	*2009 – 06 - 30*	*Self*	*$16,200.00*
30009	*2009-03-02*	*Self*	*$950.00*
29551	*2008-10-18*	*Self*	*$12,000.00*
29360	*2008-07-28*	*Self*	*$5,200.00*
28382	*2007-02-14*	*Self*	*$6,600.00*
27311	*2004-08-26*	*Self*	*$3,563.55*
26793	*2002-11-15*	*Self*	*$7,400.21*

AR 26793 produced data on the surrounds of the original gold discovery location

AR 27311 discussed veins in a nearby, hitherto unknown, 2 mica granite thought to be a possible source of mineralization

AR 28382 added geological information on basalts and veins on on the west side of Maquilla Ridge.

AR 29360 focused on new high grade sulphide grab samples from basal till at the original location. “Metallic” gold assays on 500 gm samples yielded up to 135gm/mt from pyrrhotite rich copper bearing basal till boulders.

AR 29551 discussed alteration on the claims and conclude that low grade regional metamorphism affected Triassic basalts and shales. Local phyllic alteration has affected the 2 mica pluton, showing a local chlorite rich zone and a sericite rich zone. The granite was thought to have been emplaced in a high strain zone. The possibility that the west of the creek was displaced with regard to the east side was suggested.

AR30009 presents evidence that the gold at Flan Showing is found in small grains of electrum (range 5 to 72 micron grains; median and mode is 15 microns) along with small grains of BiTe in chalcopyrite, and less so in pyrrhotite and sphalerite.

AR300471 Provided more instances of mineralized boulders as well as locating in situ copper rich zones located within the sediment-sill unit, (also called the Daonella Beds). These rocks were compared with other mineralized black shales.

AR31046 presented a lineament study of a high quality orthophoto, and added more assay values from the area. Provided graphite analyzes of black shales.

AR31679 presented results of a large prospecting, geological and geochemical program which located two distinct “potential exploration” targets based on geochemical anomalies.

AR31786 presented evidence that the White River granodioritic rocks extend up Kokummi Creek into the eastern claims. The upper anomaly on Jackpot Creek is thus favoured as a target.

AR32654 presented evidence that tributary creeks on North side of Jackpot Creek contained talus and in situ gold bearing samples.

Summary of work done

The field work, reported herein, is located near 50 deg 06 min 9 sec North and 126 deg 15 min 27 sec West and was carried out August 27-September 4, 2012. Thus this work does not apply to tenures 1013900. and 1015862.

Geological mapping in a small area 100 ha) of significance. This area has steep pitches, a skilled crew of climbers were contracted to collect some samples and advanced rope techniques were used. Several fixed ropes have been left in place for the use by next year's crew.

Geochemical Analytical work see Appendix A and D

Rock Assays (Methods preparation and analyzes by Acme Analytical Labs)

Rock (55 in situ, 8 in chip samples and 9 in float) in **Appendix A-1a, A-1b., and A-1c**

VAN12004218.1 71 samples, R200-2w50, FA fusion Au,Pt,Pd 1:1:1 AR digestion ICP-ES on 30 gms, 2 samples M150 G604 (Metallic Au and Ag)

VAN12004218P.1 11 specimens, P200, FA fusion Au,Pt,Pd 1:1:1 AR digestion ICP-ES on 30 gms (check samples)

Silt Assays are recorded in **Appendix A-2**

VAN1200219.1 11 samples

Bio-geochemical Assays (Actlabs) recorded in **Appendix A-3**

Bio-geochemical Method preparation using Actlab codes

A12-10126: 15 samples of Western Hemlock twigs

Magnetic Susceptibility measurements

37 stations/ 119 determinations recorded in **Appendix B**

Petrographic Descriptions recorded in **Appendix C-1**

30 thin sections (of which 4 are polished thin sections) and polished slabs produced by Van Petrographic and described by self.

Density determinations (see Appendix C) produced by self.

Mineralogical determinations using PIMA methods (see **Appendix C-2**)

KH194: produced by Kim Heberlein, P.Geo.

Original Assay documents (listed above) are found in **Appendix D**

Detailed data and interpretation

Purpose

The work recorded herein presents new information on the distribution of gold bearing rocks on the southwest lopes of Mount Adam along tributaries of Jackpot Creek, as well as more geological mapping and geochemical and petrological sampling to locate and understand alteration.

General Surficial Geology

This section is taken from previous assessment reports written by this author on these claims.. There are several modifications to the text and this presentation is the most up to date version.

The claims are mainly located in the Schoen Creek drainage basin. The mineralized boulders (FLAN showing) are located about the junction of a sharply incised tributary from the south east (informally called "Jackpot Creek by logging companies") with the main U-shaped Schoen Creek valley.

The eastern and western ridge of the main creek is largely steep and rugged and shows outcrop near the mountain tops. The valleys are filled with downward thickening glacial deposits and post glacial stream and talus deposits. The mapped road outcrops are technically subcrops; only a few knobs of bedrock crop out on the lower slopes; only at the upper steeper slopes are steep cliff forming outcrops present. Very large blocks of material from the upper slopes have cascaded down the hill. In virgin forest such blocks are difficult to distinguish from actual outcrop. The depth of till generally increases downhill, as does colluvium. The bottoms of the valleys are occupied by creeks cutting through their own, earlier fluvial sediments.

According to Howes (1981, 1983) there are two glacial periods and interglacials recorded on northern Vancouver Island. The earliest glacial episode occurred some 50,000 years ago, and is said to have left only sporadic evidence of its presence, but it was probably as extensive as the Fraser Glaciation. Only limited dated interglacial sediments have been preserved (ibid). The later Fraser Glaciation was widespread and consisted of three stages. An early stage (prior to 25,000 years before present) includes glaciers forming in valleys draining the Vancouver Island Ranges. At maximum (some 16,000 years ago, the ice from the coast mountains, on the mainland, spread over the the early valley glaciers of Vancouver Island and spread southwestward. At deglaciation, starting at 12,000 years ago, the valley glaciers re-established themselves to fade away by 9000 years before the present. Later streams reworked the tills and outwash materials in the valley bottoms.

In the general area, glacial striae on subcrops indicate that the valley glacier in the Schoen Creek drainage scraped debris from south to north, toward Schoen Lake. Howes (1981) reports that on the nearby Mount Victoria, at 1550 m elevation, glacial striae linked with the Fraser maximum, flowed from NE to SW.

It is concluded that a basal till observed at Flan is associated with valley glaciers and not with the late, short lived Fraser Glaciation Maximum ice cover.

The Flan showing is on the western side of the Schoen Creek, on the northern edge of a small subsidiary creek (called "Jackpot Creek," according to local logging lore). Glacial debris was likely carried by this smaller creek and would join with the debris of the main down valley ice flow somewhat to the west of the current surface. Striae were noted on the southern most subcrops near the Flan showing, where the surficial debris had been washed away after the road had been pushed through. Striae indicated ice

movement was parallel with the valley wall and to the north, down valley, toward Schoen Lake. Presumably these striae mark early, pre-maximum glaciation and indicate that up-ice for glacial basal till boulders would be at the headwaters of Schoen Creek or its tributaries (cf Hicock, 1986). Because of its location, it is likely that the basal till at the showing is likely associated with the tributary glacier descending "Jackpot Creek". This is relevant, because the direction of ice flow is important for tracing the mineralized boulders back to source (Proudfoot et al, 1995).

Jackpot Creek is cut down through broken bedrock, and has created a deep chasm as it descends towards Schoen Creek. The topography is not that of a glacial valley but rather that of a deeply incised fault valley. It is remarkable that a fault could be excavated as deeply as Jackpot creek is in the mere 8000 years since last deglaciation.

The high grade samples are located in the interface between bedrock and basal till. The samples are loose and are part of the basal till package. "...*most studies on gold dispersal trains show that distances of transport of detectable materials are rather short.* ..." (p. 45, Plouffe, 1995) and Proudfoot et al, (1995) indicates that till fragments rise in the glacier as the distance from the source increases. Fragments, such as those at Flan, which are at the base of the till, are said to be very close to the source.(ibid, p.25).

The road cuts at the showing are unstable, and between the summer of 2007 and 2012, several ten or so metres wide slides brought down trees, soil and till over previously exposed till and bedrock sections. Erosion has thus continuously exposed new sulphide rich fragments the surface. Another high grade sample was collected this year. These mineralized fragments quickly disappear since the pyrrhotite is quickly oxidized to porous and loosely consolidated rusty material and fine talus.

Creeks draining the south side of Mount Adam, emptying into Jackpot Creek are also very steep and clearly postdate the latest glaciation. Two subsidiary creeks were of special interest in 2012. The more eastern one, called Y creek, is a large subsidiary marked by a prominent junction halfway up the south facing slope. To the west the so-called "Heart" Creek area consists of a creek that splits into an eastern segment that bifurcates upward, and is locally called the "Rubicon" Creek and an western segment which characterized by a vegetation kill zone in the crude shape of a heart through which the western strand of the "Heart" Creek passes. The topography is very rugged and steep in these creeks and slopes and experienced mountain climbers/prospectors collected the samples from the cliffs.

Regional Geology

This section is modified from earlier Assessment reports and represents the latest knowledge.

The regional geology was mapped by Muller et al 1974, prior to the construction of current logging roads, and as such, suffers from not having access to the subcrops now exposed. Observations gained while prospecting in the region, after the logging roads were available, indicate that the valleys contain different units than those encountered on the sub-alpine ridges. The latest digital compilation (Massey et al 2005) has not included information gathered by industry and is thus also deficient. In particular, a small two mica granite stock occurs in Schoen Creek valley. The contacts of this stock are seen in several places, both intrusive and faulted, and its general elongate shape can be deduced from distribution of talus and subcrops in the region. The valley and adjacent areas are part of a large NS fault zone system and is generally, but differently, portrayed by Massey (2005) and Mueller (1974) to be along the higher eastern ridges see Figure 3.

Recent work has extended the outcrops of a Jurassic hornblende-biotite-granodiorite batholith, from a contact previously postulated to be near the headwaters of the White River, to a contact in the headwaters of Kokummi creek and into the Jackpot Creek head-water area. The outline of the

aeromagnetic anomaly (from MapPlace) and the outline of this magnetic pluton now seem more closely related. Forests precludes accurate contacts. Similarly, the area in the northeast part of the claims appear to be underlain by an intrusive stock of some sort. Samples of diorite float are found below supposed outcrops high on the ridge. North of Mt Adam. This area has been marked for a visit next year. Both these areas were previously said to be underlain by Karmutsen Basalt.

Regional geology of the immediate area is generally simple. Late Paleozoic limestone is exposed in low lying areas east of the claims. They are overlain by the informally named "Daonella beds", a middle Triassic unit of black shale and siliceous tuffaceous cherts which in turn is overlain by the Triassic (lower Karnian) Karmutsen basalts, a thick pile of pillowed and massive sub-aqueous to sub-aerial lavas. Intrusive rocks include Triassic gabbro sills (mainly emplaced in the Daonella beds), and later, large Jurassic granodiorite plutons to the northwest , (northeast?) and to the southeast as well as a stock of two mica granite in the main Schoen Creek valley (called the Schoen Creek stock)..

Regional faults affect area. Although there is not a single north directed fault surface, as shown on government maps there is a wide heavily fracture cleaved and complexly veined zone trending in that direction (called Lacy rocks as a field term). The apparent sense of movement on the mostly steeply east dipping north-south faults is west side up, but associated slickensides indicate largely horizontal displacement. It would appear that regionally, Jurassic plutons postdate some of the NS faulting since they cut some fault zones and are largely undeformed. The two mica granite (Schoen Creek Stock), on the other hand, is faulted both in NS and EW directions. Small dykes are seen to extend from eastern parts of the stock. Steep, later?, east west faults are associated with abundant alteration and a possible dextral sense of displacement. Local, later, Tertiary? dykes that cross the east west faults, and stocks are noted within this same general region (near Mt Cain). Although transverse faulting is indicated by the prevalence of sub-horizontal slicken lines, in a few locations down dip slickenlines have been located. The tectonic history is complex, overprinted as it is by later regional dextral movements.

The geology in Schoen Creek is incompletely known, and deep till and fluvial material cover much of the valley at the base of the U shaped creek valley precluding a detailed map of even this small claim group. Nevertheless, a cross-section from east to west, across the Schoen Creek valley, in the vicinity of Mt Adam, would include these features from east to west:

East

Shallow dipping Karmutsen Basalts overlying Daonella beds, and Paleozoic Limestone intruded to the southeast by a Jurassic granodiorite

Mt Adam Ridge

Mt Adam cut by a fault system(steep and northerly trending)-shown on Muller's map.(west side up)

Mt Adam west flank, underlain by Karmutsen basalts (with very east shallow dip),

Middle Triassic black shales and cherts/gabbro sills faulted against Karmutsen Basalts with locally folded, mainly shallow easterly dips

Thicker Gabbro sills in tuffaceous cherts (cf. FLAN Showing)

Schoen Creek valley, mainly underlain by Schoen Creek Stock, also locally underlain M.Tr black shales and local cherts/gabbro sills

Across the Schoen Creek, and up the hill to west

Schoen Creek Stock emplaced in black shale/gabbro, in north and Karmutsen basalt in west

Ridge

Karmutsen feldspar phyric basalt flows with shallow west? dip, near top of hill

Nimpkish Pluton intruding the western edge of the claims

West

Age	#	Unit	Lithology	Relationship with unit below	Comments
Holocene (post glacial)		Alluvium	Country rock from high hills and ridges	unconformity	Thickness increases to valley bottom
Holocene several? Glacial episodes		Moraine, basal till	Comminuted country rock, up ice, larger boulders	unconformity	Thickness increases to valley bottom,
Late Tertiary				UNCONFORMITY	
Probably Tertiary		Hypabyssal dykes	Andesite?	Cuts across EW fault zone, north of Schoen Lake	
later Mesozoic or Tertiary			local alteration of 2 mica granite	Faulting, mainly strike slip? Also minor EW cross faults ,	(copper-gold mineralization event?)
Early Mid Mesozoic	4	Island Intrusions (Mgd)	Magnetite bearing granodiorites	Intrudes all previous Units unknown w/ respect to 2mg	Local metamorphic halos (copper-gold mineralization event?)
Mesozoic??	3	Unofficially named Schoen Creek Granite Stock	2 mica Granite, (2mg)	intrudes shales, gabbro, and Karmutsen basalts unknown w/ respect to grnd, appears to be affected by some NS faulting	Carries minor molybdenite in quartz veins
Mesozoic				Normal faulting, west side down? affects all older units	(copper-gold mineralization event?)
Triassic (Karnian?)	2	Karmutsen Formation TrKb	Basalts with feldspar phenocrysts	Upper contact not seen in this area; lower contact, disconformable?	Thick section
Triassic (Karnian?)	1b	Unnamed gabbro TrGb	gabbro	Sills, intrusive into siliceous tuffs? and shales	Widespread and thin
Mid Triassic	1	"Daonella" Beds TrDb	Black shale and siliceous tuff and chert	Upper contact with Karmutsen, disconformable;	Recessive unit, possible source of sulphides in area
Latest Paleozoic				UNCONFORMITY	
Late Paleozoic	0	Buttle Lake Formation	Bioclastic Limestone and local limy siltstone	Contact not seen, unconformable?.	

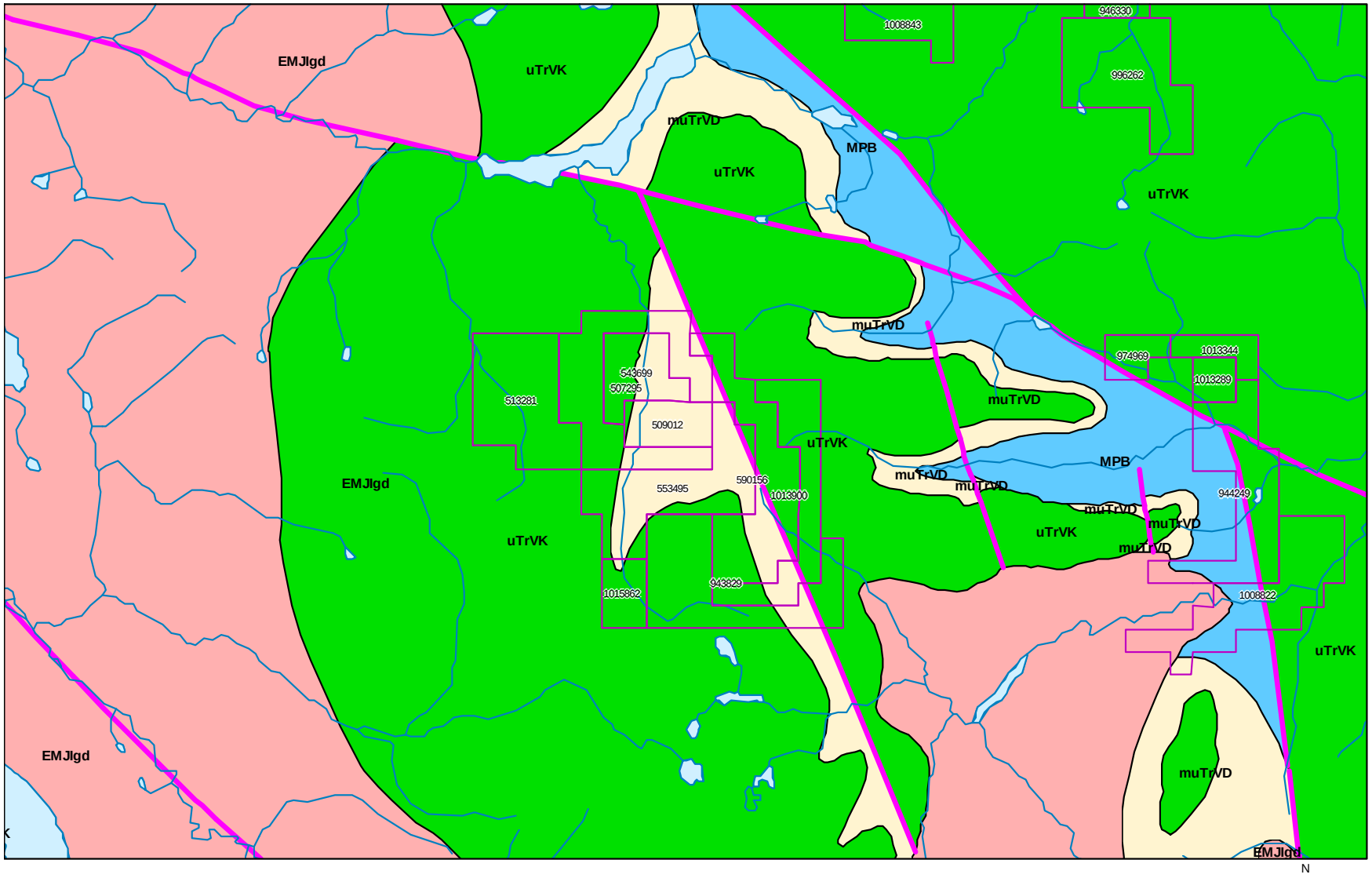
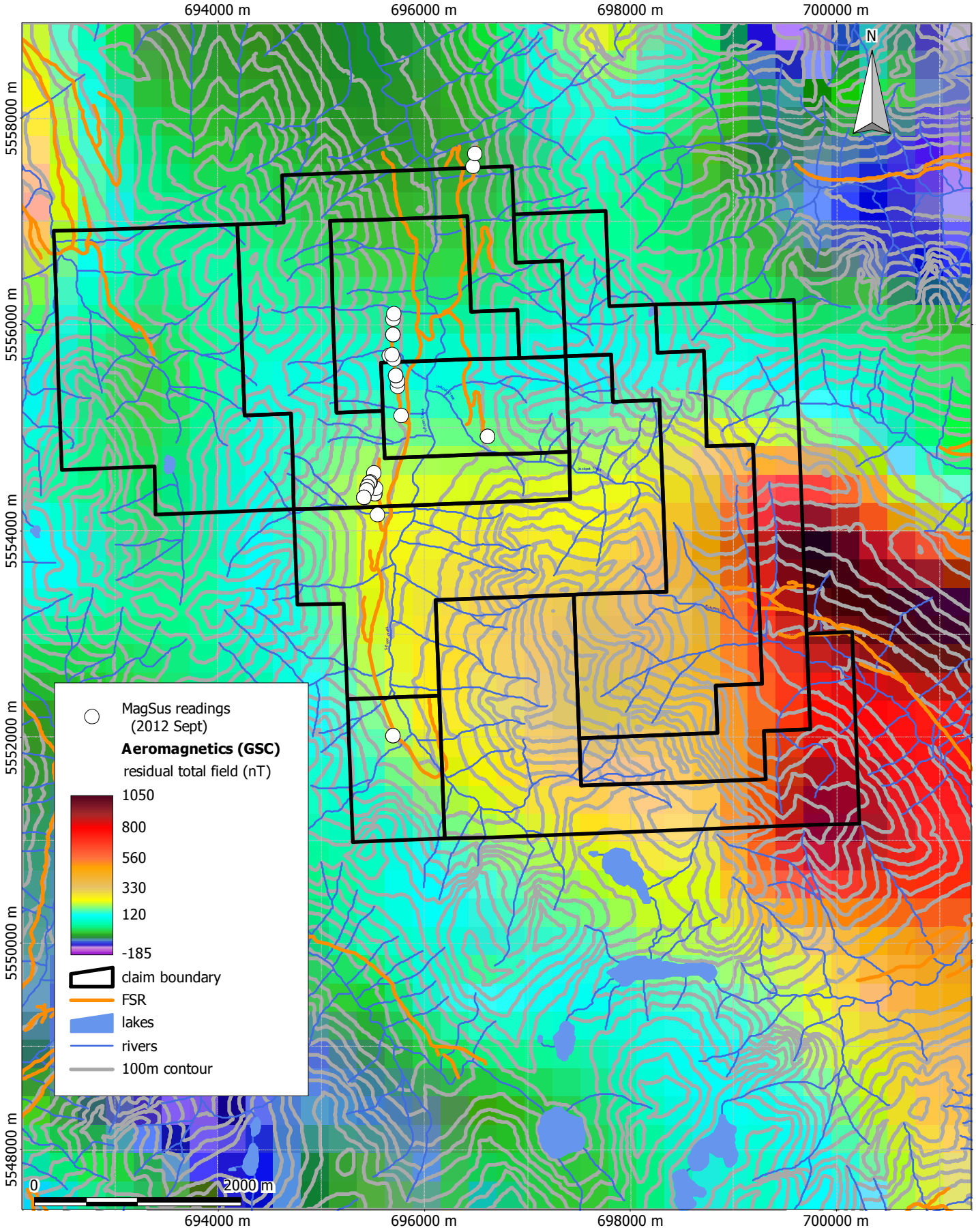
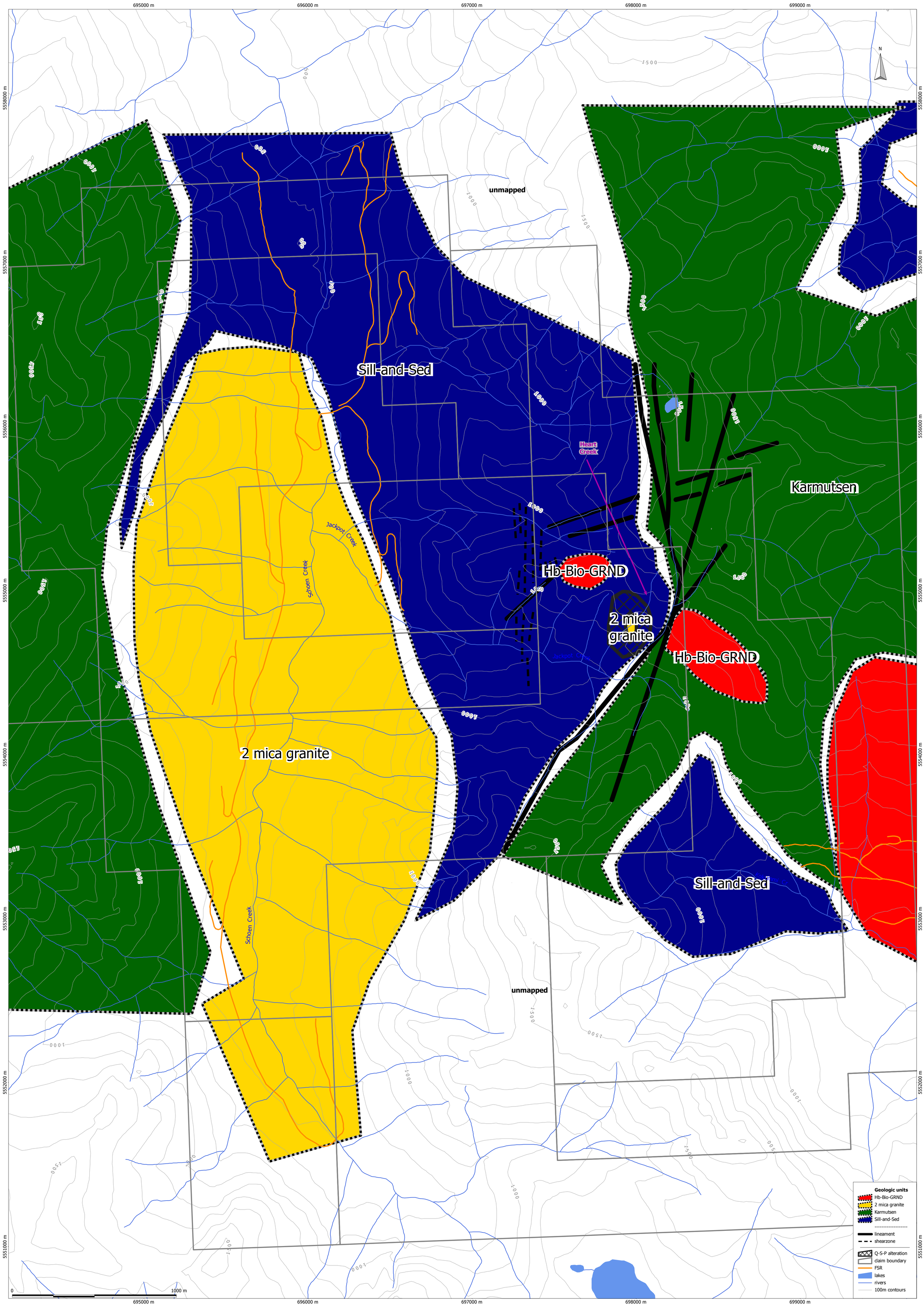


Figure 3: Regional Geology

BCGS 2005 from MapPlace



Projection/Datum: UTM 9(N) NAD83 scale: 1:50000 0 2000 m	**THE FLAN PROJECT** **January 2013**	**Figure 4:** **Regional Aeromagnetic Map**



Projection/Datum: UTM 9(N) NAD83 scale: 1:10000 0 — 1000 m	**THE FLAN PROJECT** **January 2013**	**Figure 5:** **Property Geology**

Regional Geophysics

Aeromagnetic maps released half a century ago give a crude estimation of the magnetic nature of rocks on the ground. Figure 4 shows the positive regional aeromagnetic map. Note the magnetic anomaly in the southeast corner of the claims. The is anomaly is largely explained by the presence of a magnetite bearing granodiorite, and in a few instance by magnetite skarns.

Property geology

Figure 5 shows the preliminary geology for the south-eastern tenures of the Flan-consolidated claims. The detailed geological mapping is focused this year on the southwest facing flank of Mt Adam. Several gullies/streams have been investigated. The gully features have been named here to facilitate discussion. The “A” gully, the westernmost creek was the first to show a gold anomaly in the silts (AR 2009). Eastward, the next south draining creek is called Heart Junction Creek for the heart shaped pattern of a vegetation kill zone displayed at the junction of two (“Heart” and “Rubicon”) gullies halfway up hillside, and drains a now known gold bearing area. The easternmost Y creek is named after the a prominent Y confluence of two large gully/streams.

As shown on the preliminary map the geology of these claims is relatively simple. The stratigraphy sequence is sediment-sill unit (also known as Daonella Beds) overlain by Karmutsen basalts. A muscovite-biotite granite (Schoen Creek Stock) is found underlying the Schoen Creek valley The headwaters of Kokummi Creek show the continuance of a large granodiorite Jurassic pluton from the southeast near White River.

The hornblende-biotite granodiorite is even grained and shows minor interior variation. Near the contact a few xenoliths of country rock are found. The unit is in general quite magnetic. The contact is abrupt. In one locality this contact of granodiorite and sheared Karmutsen basalt is locally exposed and intruded by small granodiorite/andesite dykes with minor copper mineralization. Faulting is complex in the head-water area,of Kokummi Creek. Granodiorite intrudes broken faulted ground and is faulted itself by a very wide gouge zone best exposed at the end of the Kokummi logging road. The map (Figure 5) presented is a best estimate of the geology as currently known, but more mapping could change the picture. A small patch of granodiorite intruding Karmutsen Basalt was noted In 2009, above south draining tributaries of Jackpot Creek. This patch has now been considerably enlarged. It occupies a large portion of the south facing hillside above Jackpot Creek. It is apparently faulted and these faults are enhanced by creeks/gullies.

Similarly the Schoen Creek stock's area of influence has enlarged. Indirect evidence such as talus of skarn and granite from west facing creeks indicate the the stock is located in the hills above. Other quartz rich phases of the stock has also been noted elsewhere within the stock. Although the granite is fairly homogeneous some textural variation has been noted. In particular, a quartz rich phase of the stock has been mapped in the area of Jackpot South Extension (AR) and a small fault-disrupted granitic dyke has been mapped as emanating from the main body (on the lower slopes of Jackpot Creek.). The external relations of the stock are both intrusive and tectonic. The western edge and most of the eastern borders of the pluton are tectonic. The northern contact is sharp and probably an east west fault. Part of the southern edge is intrusive. A well developed intrusive breccia consisting of angular country rocks with a fresh granitic matrix has been located to the south. This season an altered brecciated version of a quartz rich seriate to quartz porphyry like dyke? Has been noted in the “Heart Complex.

Faulting within the stock is complex and directed both northerly and easterly. It appears to be more

deformed than the hornblende biotite granodiorite.

Karmutsen basalts occupy the tops of ridges including the long one capped by Mt Adam. Pillows are locally developed. Diabase (fine grained gabbro) massive flow centres or sills are noted near the top of the ridge. A particularly distinctive axiolitic basalt with few microphenocrysts and rare amygdales is noted near the base.

Cherts and siltstones and silicified tuffs of the sediment and sill unit (the “Daonella” beds) act as hosts to thick (in excess of 200 m) diabase (very fine grained gabbro) similarly textures as those emplaced in the basalts above. The bedding in the siltstones is mm to cm thick and pyrite is locally concentrated along certain thin beds. Pyritic cross veins (of different composition) also traverse rock ,particularly in the Jackpot creek area,.

The structure of the sediment and sill unit and the overlying basalt on the west flank of Mt Adam is that of gentle eastward dips. Much faulting has disrupted the rock and these intersecting northerly trending fault surfaces are marked by zeolite and clay veins giving rise the the “lacy” rock unit. The result is that rocks that are dark when fresh end up looking white from a distance because the rock splits along the fracture planes. Very deceiving rocks

Alteration (documented in petrology section) is that of quartz-sericite-pyrite alteration near the Heart, and magnetite and sulphide bearing skarn/hornfels alteration at the MLR showing. Topographically and stratigraphically above, argillic alteration is located and the host rocks at low pumpellyite containing regional metamorphic grades. Later faults show presence of low temperature alteration such as zeolite and smectites.

Alteration within the SC stock is best described as deuteric, showing illite and kaolin replacing feldspars and chlorite replacing part of the biotite, and crossing faults may show prehnite and lower grade minerals.

The following part summarizes the geology of the property to the west of the current area of interests and is taken from previous reports:

The rest of the area is summarized below. New logging roads high up on the eastern side of Schoen Creek expose faulted black shale in subcrop; these are the so called Daonella beds or sediment-sill Complex The beds dip to the east, in several locations along strike, and are locally foliated and cut by fault surfaces with slickensides. It appears that a small anticline has developed against the fault, perhaps in response to west side up movement on a major east dipping fault. South, along strike of this fault zone, the Jurassic granodiorite intrusion mentioned above, seals the fault trace, but locally rocks show structures indicative of long lived faulting.

Cliffs and outcrops on the east side of main creek are mainly formed in fine-grained diabase of the sills. A small area near the headwaters of Jackpot Creek is known to be underlain by Karmutsen basalts. A small stock of Hb-bio-granodiorite is partially exposed in this general area. The larger pluton in Kokummi Creek also intrudes area.

Lower in the valley, the subcrops exposed on the logging roads to the east of the creek are of gabbro, cut by major steeply dipping NS and minor EW faults and veins. Large truck sized talus pieces of Karmutsen pillow basalt are locally abundant. Presumably these fragments are derived from basalt on the East side of the major NS fault mapped along the west flank of Mt Adam. The subcrops exposed by logging, show that local NS faulting cut by later cross faults and veins are widely distributed.

2 mica granite has been located in Jackpot Creek and a thin dyke is seen to intrude cherts, argillites and diabase sills. The “Jackpot-south” mineral showing is located in fault breccia located at the tectonic contact between these same two units.

The area from the road to the creek is covered by till overlain by soil and talus. A few chips of black slate in the till, and chip fragments in the creek, raise the possibility that these slates may, as shown by Muller (op cit), underlie part of the valley. Outcrops of 2 mica granite are locally present in creek bed.

Crossing Schoen Creek and coming up the western slope, subcrops and abundant talus are of 2 mica granite, widely chloritic, locally phyllic/argillic, veined and faulted. In the northern part of the claims patches of metasediment and metagabbro crop out. Widespread talus of chert is noted here as well. The contact between Hornblende-Hornfels/metagabbro and granite is also marked by an east west fault in which metasediments are caught up as fragments. The possibility that the elongate 2 mica granite stock predates the early faulting has not been ruled out, but it is currently considered to be of much later age since it is, in part, emplaced in the fault zone.

The lower western slopes Schoen Creek are underlain by 2 mica granite. The fresh granite is a medium grained muscovite biotite granite with about equal amounts of quartz and microcline and minor normally zoned oligoclase to albite. The biotite and mica appear in small clots together, surrounding small accessory monazite and/or zircon and less abundantly, pyrite. The biotite is partially converted to chlorite, the plagioclase core is altered to very fine clay/white mica. Local, very thin chlorite veins traverse the rock. In some instances thin carbonate veins cut the chlorite veins. Modal proportions of minerals indicate that it is peraluminous as would be expected from the micaceous nature. Portions of the stock are deformed by small faults sub-parallel to northerly trending steeply dipping regional ones, and these zones, and small subsidiary sets at right angles have been silicified, chloritized and locally epidotized. Ductile faulting, with the foliation merging into the high strain zone are noted in several locations. A later period of cataclastic faulting has also taken place, generating crush zones. The earlier ductile zones carry pyrite, whereas the later crush zones generate fault surfaces on which the sulphides are smeared. The surrounding granite has been argillically altered to various degrees. Pyrite and minor amounts of other sulphides are locally present. Veining is parallel and also normal to foliation; it is marked by chlorite, locally epidote, or quartz with or without small amounts of ankeritic carbonate. The veins are locally mineralized with pyrite and very minor amounts of other sulphides. Adjacent to the veins are argillically altered zones in which feldspars, mainly plagioclase, is reduced to clay or white mica. These zones are barren. Some veins are a bluish colour and are composed of very fine grained quartz with very fine grained pyrite disseminated throughout. These veins are seen to have elevated lead concentrations. Chlorite veins cut the ductilely deformed quartz veins, and are cut by carbonate carrying veins, and both are cut by the crush zones. The paragenesis and geographical distribution of alteration has not been fully explained yet. A few veins, rich in iron and manganese, contain many pathfinder elements. The current state, i.e. a very dark plastic chlorite rich muck, is presumably due to near surface weathering of carbonate/ankerite/rhodochrosite/ chlorite. In the southern part, along an east west fault, surfaces developed in the granite show several mm thick veins of rhodonite.

This type of granite is generally thought to have formed at a relatively shallow depth from a “dry” granite magma emplaced in crustally sheared thickened continental crust. The meridional (northerly trending) faults seen at surface are part of a long-lived and deeply penetrating fault system.

High on the western slope, outcrops of Karmutsen basalts provide talus fragments to lower slopes. There is thus a contact near the western edge of claims between metasediments and Karmutsen, as shown by Muller (op cit).

Mineralization

The mineralization is of several types:

At Flan showing, east of the Schoen Creek:

I/ Early, green, poly-metallic, epidote-chlorite-sulphide veins (the green vein) with irregular

pods of quartz, and tens of cm wide, replace a fault zone cutting a gabbro sill. Sphalerite, chalcopyrite and pyrite are common sulphides, but analyzes suggest molybdenite and galena are present in small measure as well. Gold is variably anomalous.

II/ A later, thin, white weathering, apparently cross cutting, quartz-sulphide (pyrite and chalcopyrite) vein assemblage with local Au concentration developed in gabbro. Seems to carry best gold values near the earlier veins.

At Jackpot south showing (south of Flan and the creek) the matrix of a fault breccia with angular granite fragments is composed of various proportions of chlorite, quartz, chalcopyrite, sphalerite and minor galena. The structure seems to project toward and along strike to the Green Vein.

At Jackpot south extension, located in Jackpot Creek, quartz rich veins and fault zones carry irregularly distributed chalcopyrite. This fault zone possibly extends along Jackpot Creek and shows very little apparent off set, although the hand specimen structures indicate a shear zone.

Last season (2011), mineralized rock were located up south draining tributaries of Jackpot Creek. .Sulphidic rock carrying up to 4 gm/t Au have been located in situ above a talus fragment assaying 21.5 gm/t Au.

This season two mineralized areas (Heart and MLR showings) each with grades up to 6 ppm were found in tributaries to Jackpot Creek on the southwest facing slopes of Mount Adam.

Elsewhere, east of Schoen Creek, in the northern portion of the claims, outcrops of black shales and sills are pyritic and pyrrhotitic and locally carry copper minerals, including chalcopyrite and sparse malachite

West of the Schoen Creek a polymetallic vein with pyrite, chalcopyrite, sphalerite, galena and anomalous gold cuts Karmutsen country rock near the northern and western contact of 2 mica granite and Karmutsen Basalts (AR23546).

Within the 2-mica granite the mineralization is of four types:

i/ molybdenite bearing quartz veins.

ii/ pyrite in altered granite with no elevated gold values.

iii/ pyrite, minor galena in quartz veining with minor elevated gold values (blue veins).

iv/ rusty manganiferous alteration zones/ex-veins? rich in pathfinder elements.

Exploration Target

The exploration is at early stages and fixing on a single mineral deposit model is premature. Previously, although there are a number of possibilities; one mineral deposit model seemed to be favoured by the limited amount of information then available. It was the *INTRUSION RELATED Au PYRRHOTITE VEINS* (Aldrick, 1996).selected from the BC Mineral Deposit Suite: category I02.

With new information garnered this year, it seems now that a preferred model is a *PORPHYRY* related model selected from the BC Mineral Deposit Suite: category L04 and related models. The presence of Au, Cu, and Mo spatially associated with intrusives and the location of Au mineralized brecciated termination of a granitic dyke altered to quartz-sericite-pyrite seem positive indications that a form of the porphyry model might be appropriate.

More

Detailed sampling results

New Results,

The new data is contained in the appendices with tables and figures listed below.

Appendix (table)	Figure with locations	Figure with data
A-1a Chip sample assays	Figure 6	Figure 7
A-1b Grab sample assays	Figure 6	Figure 7
A-1c Float Sample Assays	Figure 8	Figure 9
A-2 Silt sample assays	Figure 8	Figure 9
A- 3 Hemlock twig assays	Figure 10	Also Figure 10
B Magnetic Susceptibility measurements	Figure 11	Figure 11
C-1 Petrology section, thin section descriptions	Figure 12	
C-2 Heberlein -PIMA report	Figure 13	
D Original Assay certificates	Not applicable	Not applicable

Interpretations and conclusions

Results from outcrops

Geological Results

Inspection of figure 5 indicates that a granitic dyke intrudes the southwestern slopes of Mt Adam, and that this dyke has a been brecciated and is now largely quartz-sericite-pyrite rock (Heart Showing). The hosting country rock is the “sediment and sill” unit which has been widely regionally metamorphosed to low grades and locally to skarn and or hornfels grade (presumably by the granite). The MLR showing is in deeply weathered skarn like material showing local magnetite replacement of chert layers and sporadic development of pyrrhotite and pyrite semimassive sulphide lenses or veins. Topographically, stratigraphically and structurally above , Karmutsen basalts show mild alteration effects. These findings are discussed in greater detail in petrology section.

Results from lithogeochemical sampling of in situ samples

The best 9 assays from are shown below. The double values shown in gold column are results of the “reject” sample being re-crushed and re-analyzed. Both gold analyzes are by FA with ICP-ES finish

Sample	Descriptor	Au, ppb	Cu, ppm	As ppm	Bi ppm
16619	Heart, Brecciated granite (QSP)	6247/6046	1797	10001	54
16603	MLR, Semi massive sulphide	6228/6167	4875	10001	32
16559	MLR, mainly clay gouge	5222/5262	1032	72	38
16620	Heart, Brecciated granite (QSP)	3905/3385	1430	4522	15
16617	Heart Brecciated granite (QSP)	3353/3323	691	149	3
16565	Heart, chip 5 m, Brecciated granite (QSP)	3075/3253	711	10001	6
16560	MLR- hornfels	2984/2386	104	835	31
16604	MLR pyrite veined hornfels	2761/2805	1304	10001	29
16612	MLR Semi massive sulphide	2190/2934	1341	10001	<3

(As values reported as 10001 ppm contain an excess of 1 % As, but no accurate values are available).

These in situ samples from either the Heart showing or the MLR showing show elevated Au values. Inspection show the samples to be divided into As rich samples and not so rich As samples. It is assumed that arsenopyrite is present in the As rich samples. Some but not all samples are also enriched in Bi. Obviously, Au content is not immediately associated with these traditional path-finder elements.

For comparison, the gold rich (83.53 gm/t) till fragment collected this year from the basal till (FLAN showing), contains <2 ppm As and 39 ppm Bi. So these new samples are not the source of the high grade sample found at the original FLAN basal till showing.

Another element of interest, Mo appears in the SC stock. A sample from the MLR also shows elevated values of Mo along with Cu but little else of interest.

ID	notes	Mo ppm
1416013	From within Schoen Creek stock.	361
16608	From a gossan rich cave (MLR)	107

Results from secondarily dispersed media:

Float Fragments

A sample of a 15 cm by 10 cm by 5 cm fragment was recovered from till at the FLAN showing, the location is shown in Figure 8 and the analysis in Appendix A-2 and Appendix D.

Sample	Descriptor	Au,	Ag	Cu, ppm	Zn ppm	As ppm	Bi ppm	S%
1415801	Gossany till fragment from basal till at FLAN showing	**83.52 gm/t#**	**65 gm/t#**	**More than 1% copper**	**1265**	**<2**	**39**	**14.36**

Lead collection fire assay fusion, Grav finish

The sampled streams drain a large area and cobbles give a hint to what bedrock might lie upstream. Cobbles in Kokummi Creek suggest that the granodiorite shown in subcrops along roads are

available for erosion above the road until the contact is reached, whereupon dark aphanites of the Karmutsen basalts and diabase of the sediment sill unit become common. A easily recognized pilotaxitic diabase is also locally abundant.

Cobbles from Schoen Creek headwaters vary. From the east, big apartment-sized blocks of Karmutsen pillow basalts are noted, along with hyaloclastite from the middle of the Karmutsen Group, and locally, an axiolitic diabase noted above. In the south, creeks show a mix of black chips of argillite and chert, dark aphanites of the Karmutsen, minor SC stock cobbles, and rare quartz veins w/ minor sulphides and leached pits. From the west, rusty pillow basalts, small black chips of siltstone and local pink granite and 2 mica granite. It would seem there is more 2 mica granite in the south west claims but its location is currently not known.

Stream silts

Stream sediments show items of some interest.

One of these samples (F61S) was collected from a small spring depositing abundant brown secondary coating on the alluvial sand and pebbles at the site and was collected to have some indication of what was currently being deposited by seepage of ground waters. The sample is near a large Br anomaly located in 2009 (AR) Inspection of table below shows that most obvious element to be deposited is Manganese.

Another sample (F62S) was collected from the black dried mud at the base of a depression near edge of a self-potential anomaly (AR). It was collected to check if this carbon rich reducing environment was acting as a collector of selected elements. Comparison of the two samples, which were taken near each other, are shown below:

ID	Au	Pd	Cu	Ni	Co	Mn	Fe	V	As	Cr	Mg	Ca	Al	S
F61S (Spring)	5	37	171	25	43	3044	3.88	92	11	32	0.51	0.84	4.79	<0.5
F62S (black mud)	10	7	177	6	13	455	0.78	32	<2	11	0.08	0.42	1.6	0
Ratio Mud/spring	**2**	0.19	**1**	0.24	0.3	**0.15**	0.2	0.35	**<0.2**	0.3	**0.16**	0.2	0.33	**3**

It is of interest that most elements are found in lower abundance in the black mud and this might be attributed to a dilution effect by carbon rich materials. Assuming that ratio of 0.2-0.3 express a common dilutant effect by carbonaceous material , some elements remain noteworthy.

Cu, Au and S are noticeably enhanced in the black mud, whereas elements such as Mn, As, Mg, show a much larger “dilutant effect”. Another way to express this is to say that the materials being deposited presently from the spring are enriched in As, Mg and Mn compared to the black mud.

Other stream samples are taken from small tributary streams. Of interest is a pair from Jackpot Creek. These samples were taken near each other in the same stream bed to test whether adjacent stream sediments would return homogeneous results. In this case, assay values are relatively stable with exception of gold which is a rare mineral grain and expected to vary, as well as As, which presumably is associated with rare and small discrete fragments of arsenopyrite.

ID	Au, ppb	Cu, ppm	Fe, %	Mn, ppm	As, ppm	Mg, %	S, %
1416014	**11**	197	3.44	528	56	1.06	0.09
1416015	**21**	186	3.31	531	71	1	0.08
Other sites							
1416004	**18**	177	2.84	776	17	0.77	0.08
1416016	**28**	335	4.78	1132	10	0.91	0.07

Regions upstream of the two stream sediment samples 1416004 (from north east corner) and 1416016 (from southwest corner) are potential secondary exploration targets in the future.

Hemlock Twigs

15 samples of last years hemlock twigs were analyzed by Act labs

The black mud area noted above, which contains slightly anomalous Au, yielded 3 sets of Hemlock twigs (FAH 010,011, and 012) from trees rooted in the mud that showed values Au values ranging from 0.03 to 0.6 ppb which is only slightly above detection limit.

A twig sample from a tree growing on the till with the gold bearing anomalous till fragments at the FLAN showing returned a value of 0.3 ppb Au.

In sharp contrast, on the west side of the valley, a sample (FAH007), recorded an elevated value of Au at 12.4 ppb which is about ten times the next lower value and about 100 times detection limit. Rock sampled from this area report less than detection limit (<2 ppb) concentration of Au. Two stream samples down hill from this general area returns 6 and 2 ppb. In spite of these negative corroborating data, this is an area of possible interest.

Another sample (FAH006) returned an elevated of Mo at 0.43 ppm which is more than ten times the next lowest value. This is also an area of possible interest.

In a previous survey (AR31679 reported in 2009) a circle of anomalous values for Br were recorded from an Enhanced Enzyme Leach survey grid from a small area near the FLAN location. Hemlock twigs from the most anomalous sample region in this “circle” returned Br value of 0.44 ppm.

Values of at least twice this value are reported from several localities:

ID	Br, ppm	Cs ppm
FAH001	1.49	0.27
FAH002	1.3	0.15
FAH004	1.58	0.11
FAH015-extra	1.02	0.26

These 4 samples are from the south of the claim area. Br anomalies are important in that they are apparently one of the indicators of local reduction that often occurs above oxidizing sulphides. Cs is elevated in these twigs samples as well. This area is of future prospecting

Results from petrophysics

Magnetic susceptibility

The magnetic susceptibility meter measured 37 sites mainly within the granite stock (Schoen Creek Stock).

Of interest was the internal dykes of slightly more reddish granite dykes were as diamagnetic as the main body was in general, but near the granite dyke the contact became mu. There is no apparent variation between the magnetic susceptibility and the general alteration within the stock. Near the southern brecciated contact different phases are seen as matrix the the angular breccia fragments of country rock, these susceptibility values are less diamagnetic. A sulphide vein measures a low positive value reflecting iron silicates in vein.

Unfortunately the meter was not used by the climbing team and so the exact values of the magnetic layered units (skarn or hornfels) in the MLR areas are not known, save that qualitatively ,they are locally very magnetic.

Results from Petrography

Thirty thin-sections and several polished slabs were examined to determine nature of rock types and alteration.

Rock types

Sediment and sill unit is the oldest (probably middle Triassic in age and consists of chert, siltstone, some of which is carbonaceous, as well as sandy acid tuffs.

Chert is seen to be a very fine grained complex of intergrown polycrystalline quartz Sediment is and other unresolved very fine grained clayey materials.

Diabase shows typical but fine grained intersertal textures

Karmutsen basalts of Karnian, (or lower Upper Triassic) age form the high ridges in claims and consist of a thousands metre of pillow basalts and massive flow centres/or diabase sills.

Basalt Basalt is widespread and shows many different structures and fabrics. Pillows are well displayed near Mt Adam peak. One basalt unit near the base has an axiolitic texture which is quite characteristic, and which has previously been noted as widespread float in the valley.

Diabase shows typical but fine grained intersertal textures. Locally pyrite veining affects these rocks if they are near a pluton.

Dyke intrusion/breccia is located in the Heart showing where granitic dyke has intruded and been brecciated several times.

Granite dyke/breccia: A later period of brecciation is accompanied by sub parallel slip planes and is probably largely tectonic in origin. But fragments within this breccia are themselves breccias with sharp angular corners and probably were brecciated prior to the tectonic event.

Alteration

Regional metamorphism

Low grade regional metamorphism is seen in mafic rocks where pumpellyite is locally prominent.

Local contact and hydrothermal metamorphism

Deuteric alteration is seen in the Schoen Creek Stock where plagioclase cores are degraded to clay (Kaolin and illite) and biotite largely altered to chlorite and associated small opaque minerals.

Contact metamorphism has resulted in chert carrying cm thick beds or lenses of magnetite (skarn) and very fine grained to cryptocrystalline aggregates (hornfels). Semimassive sulphides in layers replace matrix while preserving quartz grains inside cellular fabric. The sulphides are probably associated with skarn formation.

hydrothermal alteration is best manifested in the **quartz-sericite-pyrite** alteration which has affected the breccia at Heart Showing. Scarce veinlets with arsenopyrite accompany the much more abundant pyrite veinlets and disseminations.

Weathering

Subsequent weathering of sulphide materials is best shown at the MLR showing where partially to completely weathered sulphides now are seen as gouge, or semi-gouge.

Results from PIMA

PIMA spectral analyzes of 26 offcuts and grab samples gave mostly good to excellent results.

Minerals found include kaolinite, illite, smectite, zeolite, chlorite, prehnite, carbonate, amphibole, and probable silica. The main alteration in the offcuts is kaolinite-illite. The grab samples show more zeolite-smectite alteration.

A possible time line (paragenesis) is shown below:

Timing	Structural event	Metamorphic events	Rock Units
	Faulting (reactivation of old steep NS faults	Zeolite and montmorillonite	
	Faulting generally northeast south west	Faulting with zeolite, montmorillonite and prehnite	
Middle Jurassic			Hornblende Biotite Granodiorite (unnamed and Nimpkish batholith
	North south faulting	Chlorite, after biotite, illite and kaolin alteration of feldspars	
			Schoen Creek Stock (2 mica granite)
	Regional readjustment	Regional low grade metamorphism	
Karnian (Upper Triassic)			Karmutsen basalts
Middle Triassic			Sediment and sill unit

Summary

The recognition of complex intrusive/faulting relationships of the granitic dyke in the Heart Complex and the bounding magnetite and sulphide skarn deposit of MLR coupled with the location of gold carrying rocks in situ marks a successful exploration program.

Recommendations for future work

Mineral deposit Models

A very clear exposition of the importance of "GEOLOGICAL MODELS IN EPITHERMAL-PORPHYRY EXPLORATION:" stresses the importance of identifying the style of alteration.(Corbett, no date) .. BCGS Mineral deposit model L04 of porphyry suggest the following exploration guides :

GEOCHEMICAL SIGNATURE*: Calcalkalic systems can be zoned with a cupriferous (* Mo) ore zone having a 'barren', low-grade pyritic core and surrounded by a pyritic halo with peripheral base and precious metal-bearing veins. Central zones with Cu commonly have coincident Mo, Au and Ag with possibly Bi, W, B and Sr. Peripheral enrichment in Pb, Zn, Mn, V, Sb, As, Se, Te, Co, Ba, Rb and possibly Hg is documented. Overall the deposits are large-scale repositories of sulphur, mainly in the form of metal sulphides, chiefly pyrite.*

GEOPHYSICAL SIGNATURE*: Ore zones, particularly those with higher Au content, can be associated with magnetite-rich rocks and are indicated by magnetic surveys. Alternatively the more intensely hydrothermally altered rocks, particularly those with quartz-pyrite-sericite (phyllic) alteration produce magnetic and resistivity lows. Pyritic halos surrounding odoriferous rocks respond well to induced polarization (I.P.) surveys but in sulphide-poor systems the ore itself provides the only significant IP response.*

OTHER EXPLORATION GUIDES*: Porphyry deposits are marked by large-scale, zoned metal and alteration assemblages. Ore zones can form within certain intrusive phases and breccias or are present as vertical 'shells' or mineralized cupolas around particular intrusive bodies. Weathering can produce a pronounced vertical zonation with an oxidized, limonitic leached zone at surface (leached capping), an underlying zone with copper enrichment (supergene zone with secondary copper minerals) and at depth a zone of primary mineralization (the hypogene zone).*

"

These suggestions will be very helpful in future exploration.

Experienced climbers will be needed to continue exploring the southwest facing side of Mt Adam above Jackpot Creek. Somewhere on that hill is the origin of the high grade samples. The lesser grades of the i*n situ* samples should serve as guides to the higher grades. The presence of gold bearing QSP alteration is taken as a positive exploration guide.

Magnetic and electromagnetic surveys

The granodiorite is magnetic, the 2 mica granite is diamagnetic, the country rock is very weakly magnetic, the pyrrhotite veins are variably magnetic and shear zones are less magnetic than country rocks. The massive sulphide cobbles and boulders found in the till, will show up in an EM survey. These attributes would make an integrated airborne geophysical survey an ideal method to help focus attention of now hidden accumulations of magnetic and conductive bodies.

Future Exploration:

A junior company is a good candidate to commission an integrated airborne geophysical survey. An aerial survey would designate areas of interest based on measured physical parameters rather than on ease of access. Current mineralization is largely located near logging roads or in exposed locations on the mountain side After analysis of geophysical results, such a company could perform larger, more systematic geochemical and geophysical surveys on well established grids to explore anomalous airborne regions..

A prospector based exploration program, using experienced climbers, could include continuing chip sampling in mineralized areas and visiting known cliffs shedding talus fragments. Contour soil sampling, where feasible, may help locate mineralized veins under the sparse plant cover. Other hand based techniques could be used.

Budget

No budget is provided as the project can be configured in many different ways depending on available resources and personnel.

Recommendation

This is a project of **merit** and continued exploration is recommended.

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Author's qualifications

I, Mikkel Schau

have been a rock hound, prospector and geologist for over 53 years. My mineral exploration experience has been with Shell, Texas Gulf Sulfur, Kennco, Geophoto, Cogema and several smaller public and private mining juniors. I have worked 10 years in southern BC and spent 23 years with the GSC as a field officer focused on regional mapping in northeastern Arctic Canada before retiring. For the last 17 years I have prospected and mapped in Nunavut, Nunavik, Yukon, Ontario and BC.

reside at 3919 Woodhaven Terrace, Victoria, BC, V8N 1S7

was educated as a geologist, graduating with an honours B.Sc. In 1964, and a Ph.D. in Geology in 1969, both, from UBC.

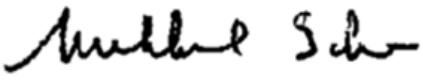
My experience in geochemical exploration spans half a century. I was on a follow up crew for a province wide Kennco geochemical survey in the early sixties. Later I was a teaching assistant to Dr Delavault's Exploration Geochemistry course at UBC. Subsequently, I was the geochemist for a major exploration focused geochemical survey in NE BC. Hence, I lectured on the subject of Aqueous Geochemistry, a fourth year course at University of Manitoba. I currently use geochemical methods in my exploration work.

I am a P.Geo (25977) in BC.
I am a BC Free Miner, # 142134 in good standing.

All mineral rights to FLAN Claims totalling 3460.684 ha. Are held by Mikkel Schau.

I am the author of the report entitled "Flan-Consolidated Group focusing on south west facing slope of Mt Adam (Tenures 507295, 509012, 513281, 543699, 553495, 590156, 943829, 1013900 and 1015862) in the Nanaimo Mining Division in 092L/01", dated and submitted January 25, 2013.

Signed



Mikkel Schau, P.Geo

Itemized cost statement

These costs do not include HST (HST is shown separately)

Exploration Type work

personnel (name)/position

Schau, Mikkel ,Geologist (August 23 – September 4) @600.	7200.00 no HST
Contract team: (August 23– September 4) (Invoice 12091101)	10500.00+1260.00
Tebbutt, Alec, prospector/sampler, Group Leader	
Gibson, Ian, prospector/sampler/climber	
Till, Richard, prospector/sampler/climber	
Expenses (Contract Invoice)	1245.50+148.46

Helicopter Expenses

Helicopter support for Climbers	
August (positioning climbers on shoulder of Mt Adams	
September (removing samples from new site in Y gully). small recce flight.	
September (collecting camp from mountain, small recce flight.)	
E and B Helicopters, Campbell River inv 10610,	1534.+167.70
E and B Helicopters, Campbell River inv 10632	2478+270.90
E and B Helicopters, Campbell River inv 10644	1062.00+116.10

Office Studies

Report preparation (Schau (7 days at Between November and January	4200 no HST
GIS (Tebbutt 20 maps at $100 /map (Inv)	2000.00+240.HST
Geological surveying	
New mapping (Schau, with input from contract team) how many hectares	included
Geochemical Surveying	
Rock samples Acme 71 Geo4 method, 2 E6 method VANI47690	2256.50+247.42
Check Rock samples Acme 11 Geo4 method, VANI151708	287.65+34.25
Silt samples ACME Geo4 method ,VANI45190	275.44+33.05
15 Hemlock Twigs, Actlabs A12-10126	411.75+49.41
Geophysical Surveying	
119 readings, 37 sample sites @ 6/site	222.00 + no HST
Petrological studies	
30Thinsections, with polished some slabs (Inv	850.00+102.00

Petrographic reports (Self) @150		4500 + no HST
PIMA studies by K. Heberlein P.Geo. (Inv KH184A0		520.00+62.40
Freight		
Van Petrographic	31.65+3.80	
Acme	30.10+3.61	
Accommodation and Food		
Climbers camped on mountain, food packed in (see expenses for contract)		
Schau and Tebbutt food and room at Rugged Mountain Motel, Woss		
+climbing crew for mob and demobilization		905.00 + 99.50
Transportation		
Till truck (included in contract)		
Tebbutt truck (included in contract costs)		
Mobilization and Demobilization (included in contract)		
Equipment rental		
Safety equipment and climbing equipment, many supplies		
(included in Contract)		
Miscellaneous		
Printing and supplies (Monks)		16.80
TOTAL (not including HST)		***40500.59***

Appendix A-sample descriptions, locations and selected assays

Appendix A-1 Table of locations, descriptions and selected assay values for in situ samples. Sample locations for *in situ* rocks are shown in Figure 6 a; Au, Cu, As values are shown in Figure 7.

Appendix A-2 Table of locations, descriptions and selected assay values for float, silt and soil (secondary media) samples Sample locations for “are shown in Figure 8 and Au, Cu, As is shown in Figure 9

Appendix A-3 Sample locations for hemlock twigs are shown in Figure 10 along with Au values.

Chip Samples

Sample ID	NAD83E	NAD83N	Unit	Description	Au ppb	Cu ppm	As ppm	Bi ppm	S %
VERTICAL									
16564	698003.82	5554895.8	1	1 m vertical chip, on top, grey fine grained rock, chert? PIMA verifies kaolinite and illite in this rock.	1483	339	8737	<3	<0.05
16565	698007.19	5554893	1	5 m vertical chip, rock above stain, grey fine grained rock, chert? With irregular pyrite veins	3075 3253	711	>10000	5	0.94
16566	698009.18	5554892	3	5 m vertical chip , starting sampling dark stained quartz sericite pyrite rock with small white areas of softer material with small pyrite grains a few mm across and small irregular pyrite veins Was this a porphyry once?	1229	249	7194	<3	0.76
16567	698011.48	5554889	3	5 m vertical chip , bright red stain begins, orange stained quartz sericite pyrite rock with small pyrite grains a few mm across and small irregular pyrite veins	742	164	1833	3	0.58
16568	698012.24	5554886	3	5 m vertical chip, rock has been consistent for last 10 m orange stained quartz sericite pyrite rock with small pyrite grains a few mm across and small irregular pyrite veins	1095	280	243	<3	0.69
HORIZONTAL									
16569	698008.94	5554886	3	3 m horizontal chip, across stain, orange stained quartz sericite pyrite rock with small weathered and rusty grains a few mm across and small irregular rusty veins Broken porphyry?	595	151	117	<3	0.29
16570	698005.26	5554887	3	3 m horizontal chip, across stain, rusty stained fine breccia, mainly fairly hard rock possibly with minor sericite	201	251	2306	<3	0.27
16571	698001.4	5554887	2	3 m horizontal chip, out of stain very fine grained moderately soft grey rock Quartz veins, small chlorite smears. Hornfels or altered diabase	59	415	53	<3	0.05

In Situ Grab Samples

Sample ID	NAD83E	NAD83N	Unit	Description	Au ppb	Cu ppm	As ppm	Bi ppm	S %
16551	698467	5555667	2	rust stained dark grey rock with small cleavage flakes, rock type is vertically disposed, (gabbro dyke?) dark, fine grained dense rock showing scattered pyrite/pyrrhotite? grains and thin seams of rust. Rock surface is hard.	4	108	<2	<3	1.61
16552	698075	5554918	1	sample from overhang in a rusty alcove high on Rubicon creek. Rock very weathered/clayey, little sign of pyrite and dark grey heavy, mildly stained by rust, possibly layered, could be altered chert or hornfels	48	236	26	<3	0.32
16553	698075	5554920	1	sample from adjacent rock to 16552, made of chips collected over 1 m vertical, thought to be less weathered, taken in Rubicon valley from a thin zone of rusty rock appearing on both side of the creek with an approximate strike of 100 and dipping steeply south. Country dark grey heavy, mildly stained by rust, possibly layered, could be altered chert or hornfels	7	152	16	<3	0.09
16554	698109	5554928	1	sample1 going down vertical tributary to Rubicon creek area, sample above rusty swath continuing from Heart, dark grey heavy, mildly stained by rust, possibly layered, could be altered chert or hornfels	23	196	<2	<3	<0.05
16555	698099	5554918	1	sample2 going down vertical tributary to Rubicon creek area, sample from rusty area on east side of creek, rusty stained, grey rock of altered and locally silicified with local chlorite, scarce pyrite (chert or hornfels?)	11	265	5	<3	1.11
16556	698098	5554917	1	sample3 going down vertical tributary to Rubicon creek area, sample at bottom of creek 2 m below rusty spot, grey very fine grained clay rich rock with very minor calcite and local silicification remnants	51	325	15	<3	0.07
16557	698087	5554921	3	rusty clay altered rock, RT rusty rock on ridge below Rubicon, west side of Rubicon; tectonic breccia, brown gouge locally silicified, with bright yellow patches, remainder of bluish coloured quartz-sericite-rare pyrite alteration set in matrix of more pyrite rich matrix	1009	231	303	3	0.38

In Situ Grab Samples

Sample ID	NAD83E	NAD83N	Unit	Description	Au ppb	Cu ppm	As ppm	Bi ppm	S %
16558	698088	5554920	Gouge QSP	On ridge east of Rubicon, following rusty vein striking SE with 40 plunge down slope; brown gouge locally silicified, with bright yellow patches, remainder of bluish coloured quartz-sericite-rare pyrite alteration	776	140	151	<3	0.25
16559	698089	5554920	gouge	Very oxidized and rotten rock with pyrite, highly corroded center to vein (see 16557, 16558 and 16560 over 3 m vertical drop) ; crudely layered (fracture partings) variable brown clay, very porous gouge, very fine grains of disseminated pyrite/marcasite?	5222 5262	1032 1077	73	6	3.11
16560	698090	5554920	Gouge	Sample collected under tree root, part of the rusty trend noted above. Heavy largely gossany rock.	2984 2386	104 105	834	38	0.2
16561	698077.5	5554927	1	30 cm wide, 1.5 m long vein of rusty clayey material in dark (local chlorite) very fine grained rock, local pyrite, vague layering, but sharp edges.	21	163	15	31	0.69
16562	698092	5554919	1	sample taken under tree root, difficult to access, also see RT notes angular brown stained dark grey rock with darker layers (chlorite) cut by many small anastomosing sulphide layers pyrite and scarce chalcopyrite noted	22	286	4	<3	2.24
16563	698093	5554919.8	1	rusty, tan soft clay altered chert?	9	261	8	<3	0.38
16572	698012	5554887	3	grab sample from vertical chip sample area, quite pyritic, close to contact on North end of stain at heart. Very siliceous rock with thin rusty stained veinlets, small flecks of pyrite scattered throughout. Texture is heterogeneous and vague, with only suggestive areas of fragments.	1071	517	131	<3	3.08
16573	698001.4	5554886	breccia	taken from south end of Heart stain, rust and manganese stained with finegrained pyrite or oxide pseudomorphs, rock is soft, clay rock with aphanitic texture with suggestion of tectonic layering and augen set in more pyritic matrix	186	532	55	<3	0.62

In Situ Grab Samples

Sample ID	NAD83E	NAD83N	Unit	Description	Au ppb	Cu ppm	As ppm	Bi ppm	S %
16574	698007	5554886	3	taken from middle of base of Heart stain, rust and yellow stains grey granular rock, made of mainly quartz grains in a micaceous (sericite?) matrix and cut by darker pyritic veins and local quartz veins, saw crystals of chalcopyrite, probably a thoroughly altered quartz rich porphyry	401	442	763	<3	1.27
16601	698083	5554915	1	601-to 604 are part of a 330 trend of very rusty rock across a ridge between two small creeks/gullies rusty brecciated rock, nature not discerned by heavy staining.	8	260	18	<3	0.83
16602	698084	5554912.4	1	gossanous breccia; fragments more coherent and show relic plagioclase laths, beige (clay) altered material in a matrix more rusty and soft, white vein fill zeolite	8	415	29	<3	1.09
16603	698085	5554910	1	Angular shaped blocks of heavy gossany semi massive sulphide rock with minor augen shaped light coloured clay altered fragments to a few cm, but mainly mm sized. A sulphide matrixed tectonic breccia. Mainly pyrite probably arsenopyrite, not yet located. This sample also returned Zn=1216ppm (also see 16604)	6228 6167	4875 4704	>10000	<3	11.59
16604	698086.2	5554908.4	1	Gossany soft very fine grained clay with white augen shapes of clay, possibly as much as 15% sulphide (mainly pyrite) disseminated through out rock. Possibly gouge	2781 2805	1304 1456	>10000	32	6.7
16605	698091	5554918		Rust stained tectonic breccia with cm sized augen of quartz in greyish brown soft clay matrix. Scarce pyrite cubes noted a variably silicified breccia with 3 cm by 11/2 cm by 1 cm frags of quartz and fragments with relic phenocryst and scattered pyrite as well as other well developed cleavage surfaces set in clay rich grey brown matrix/gouge and cut by pinky beige disrupted vein fill with minor sulphide in selvage.	43 42	269 304	633	29	1.77
16606	698099	5554913	1	variegated grey and light grey very fine grained to aphanitic and soft. Darker phase not magnetic. 2 cm white fragment is calcareous With about 15% sulphide disseminated Skarn or Hornfels (From Root cave) also a 340 trend	24	821	207	<3	6.27

In Situ Grab Samples

Sample ID	NAD83E	NAD83N	Unit	Description	Au ppb	Cu ppm	As ppm	Bi ppm	S %
16607	698099	5554913	1	rusty stained, very fine grained, layered on cm scale, dark layer magnetic, scattered pyrite, possibly some pyrrhotite and or chalcopyrite. Skarn or Hornfels (near Root Cave)	18	397	70	<3	4.22
16608	698099	5554913	1	strongly magnetic black part contrast with lighter grey portion with sparse pyrite, some of the black is massive chlorite rock is skarn/hornfels From Root Cave)This sample also returned Mo=107ppm	13	1225	20	<3	3.87
16609	698088	5554916	1	rusty stained, grey, soft, aphanitic sporadic calcitic clay altered chert?	8	164	45	<3	0.07
16610	698088	5554918	1	grey blocky fracturing soft altered chert?	4	44	133	<3	<0.05
16611	698087	5554919	1	rusty stained, grey, soft, aphanitic locally calcitic clay altered chert?	<2	75	280	5	0.11
16612	698090	5554919	1	Rusty weathering **semi-massive sulphide breccia** showing cm scale partings, cut by very rare thin rust seams, rock shows a brecciated texture with sulphide rich and locally silicified fragments set in a matrix of chlorite, rust, very minor malachite, and scattered sulphides. Two sulphides, one softer and more bronzy (chalcopyrite?) than the other (pyrite?), local black patches, with arsenopyrite?, magnetic fragments (confirmed with magnet) rock is likely a skarn?	2190 2934	1341 1191	>10000	<3	7.13
16613	698096	5554914.4	1	dark very fine grained rock (diabase?) cut by thin veinlets with pyrite, can see very small white plagioclase laths	13	325	32	<3	0.38
16614	698101	5554909	1	rust stained heavy cm thick grey and magnetic black layered with local patches of sulphides (pyrite and arsenopyrite? Rock is a skarn?	235	488	604	<3	1.54
16615	698101	5554909	1	dark grey rock with relic igneous texture, scattered pyrite veins and cubes cut by quartz veins possibly a diorite?	7	322	20	<3	0.11
16616	697979	5554892	1	west of heart gully lacy (cut by zeolite veins) faulted grey rocks	6	237	50	<3	0.08

In Situ Grab Samples

Sample ID	NAD83E	NAD83N	Unit	Description	Au ppb	Cu ppm	As ppm	Bi ppm	S %
16617	698014	5554884	3	Light coloured hard rock with rusty cross cutting pyrite veins. Rock itself is crackled quartz set in matrix of micaceous minerals (sericite) and scattered pyrite grains, local very small patches of malachite around dark sulphide patch. Pits with relic pyrite along trace of pyrite vein. Sample is from Heart Gully target area (the stain shaped like a nose)	3353 3323	691 734	149	3	2.73
16618	698014	5554885	3	greyish speckled rock composed mainly of quartz with irregular veinlets and blebs of pyrite, and thin open spaces. This is from waterfall adjacent to the target.	821	347	152	<3	3.17
16619	698014	5554882	3	Veined, pyritic, blue grey medium hard rock with fine grained “igneous” texture, siliceous with small openings and abundant micaceous rims, local mm sized grains of pyrite and abundant very thin veinlets of pyrite, two thin cross cutting veins of very dark material and associated with quartz crystal fill, normal to vein walls, may be where arsenopyrite is localized. Sample is bounded by slicken sides showing origin in a shear zone, cut by 0.2 mm calcite vein. Taken beneath the target in light grey rocks.	6247 6046	1797 1633	>10000	54	6.37
16620	698012.4	5554881	3	A specimen chosen for thin section is :Tan to beige rock, pale grey fine to medium grained hard (siliceous) rock crossed by many pyrite vein and disseminated pyrite grains. One small patch of grey crystalline arsenopyrite located. Can see plagioclase laths? Has igneous relic texture, now quartz-sericite-pyrite rock? Also darker rusty stained siliceous rocks with sulphides, typical of grey samples beneath above sample Would indicate a fuzzy contact present in this area. Whiter rock perhaps and altered dyke?.	3905 3385	1430 1544	4522	20	5.06
1415804	696460	5557476	1	Brown weathering diabase with pyrrhotite and chalcopyrite wall paper cut by fault zone with local zeolite fill, could be a dyke in a fault. sulphide vein cutting dark green rock, chloritic/actinolitic sheared diabase	2	278	<2	<3	0.44

In Situ Grab Samples

Sample ID	NAD83E	NAD83N	Unit	Description	Au ppb	Cu ppm	As ppm	Bi ppm	S %
1415805	696492	5557658	1	Angular lighter coloured diorite? fragments in darker matrix with scattered sulphides, can see feldspar laths. Magnetic (1), noncarbonate, nonconductive,	6	226	3	<3	<0.05
1415806	695737	5555436	3	pyrite vein 4 mm wide and 1 cm wide rusty selvage with manganese stain and chlorite patches with local chalcopyrite crystals , cutting “2mg”, also epidote veins cutting rock,	<2	171	<2	<3	2.95
1415807	695737	5555436	3	epidote and chlorite veins cutting chloritic fine grained phase of 2MG unit see above sample (see above sample)	<2	29	<2	<3	<0.05
1415808	695728	5555501	3	fine to medium grained granite with pink feldspar up to 7 mm, white feldspar to 4 mm and biotite clumps and quartz grains to 3 mm.	<2	2	<2	<3	<0.05
1415809	695693	5555783	3	tan to rusty with much manganese staining affecting very quartz rich version of 2mg unit, biotite still preserved	<2	1	5	<3	<0.05
1415810	695700	5555916	3	Sample is a beige quartz rich clay altered feldspar in a leucogranite	<2	7	6	<3	<0.05
1415811	696128	5551959	2	pale grey, veined with minute disrupted sulphide veinlets, Text of host volcanic breccia (autoclastic pillow breccia?) rock is mottled in dark green and lighter greens. Cut by a vein with white selvage. Pillow breccia from Karmutsen formation with trace scattered pyrrhotite and pyrite	<2	682	<2	<3	1.75
1415812	695521	5554353	3	Fracture slip in granite with biotite flakes and a triangular cross section, contains a dark brown part of an finer grained inclusion. Inclusion more magnetic than host rock, but both are magnetic Buff brown alteration is smectite and kaolinite according to PIMA.	<2	5	2	<3	<0.05
1415813	695530	5554402	3	Tan weathering clay altered granite with local pink feldspars, green chlorite, white feldspars, abundant quartz and black manganese stain splotches broken in a fault zone Main powdery alteration is an zeolite according to PIMA	<2	3	<2	<3	<0.05
1415814	695470	5554459	3	Grey to pink clay altered gouge in fault zone in granite Smectie and kaolinite are present as is quartz, chlorite and minor prehnite	<2	2	<2	<3	<0.05

In Situ Grab Samples

Sample ID	NAD83E	NAD83N	Unit	Description	Au ppb	Cu ppm	As ppm	Bi ppm	S %
1415815	695458	5554421	3	rusty and or pink weathering clay altered gouge cutting a very fine grained white granite	<2	6	<2	<3	<0.05
1415816	695445	5554400	3	Sample from country rock, White granite with grey and white feldspar and prismatic dark spots CI 20	<2	2	<2	<3	<0.05
1415817	695443	5554391	3	Pink alteration, very powdery. Local spots of chlorite?, country rock more beige than but distinct pink and white feldspar. Cut by irregular mm wide quartz vein	<2	2	<2	<3	<0.05
1415818	695425	5554322	3	rusty clay rich fault zone and quartz vein in granite. Noticed yellow alteration, not any pink here.	<2	2	<2	<3	<0.05
1416005	696466	5556338	1	1 to cm wide sulphide veinlet cross cutting chert sample below	73	462	860	<3	11.67
1416006	696466	5556338	1	brown stained mainly hard chert/silicified tuff with fragments up to 2 mm across, layers are cm scale and pyrite is found along layers and in crossing veinlets A good example of the Daonella beds	2	188	26	<3	2.15
1416013	695531	5554406	3	Small otc of pinkish altered granite with a thin (1-2 cm) rusty vein ;note Mo=361; PIMA shows brown clay to be smectite (Montmorillonite). And kaolinite	38	5	6		<0.05

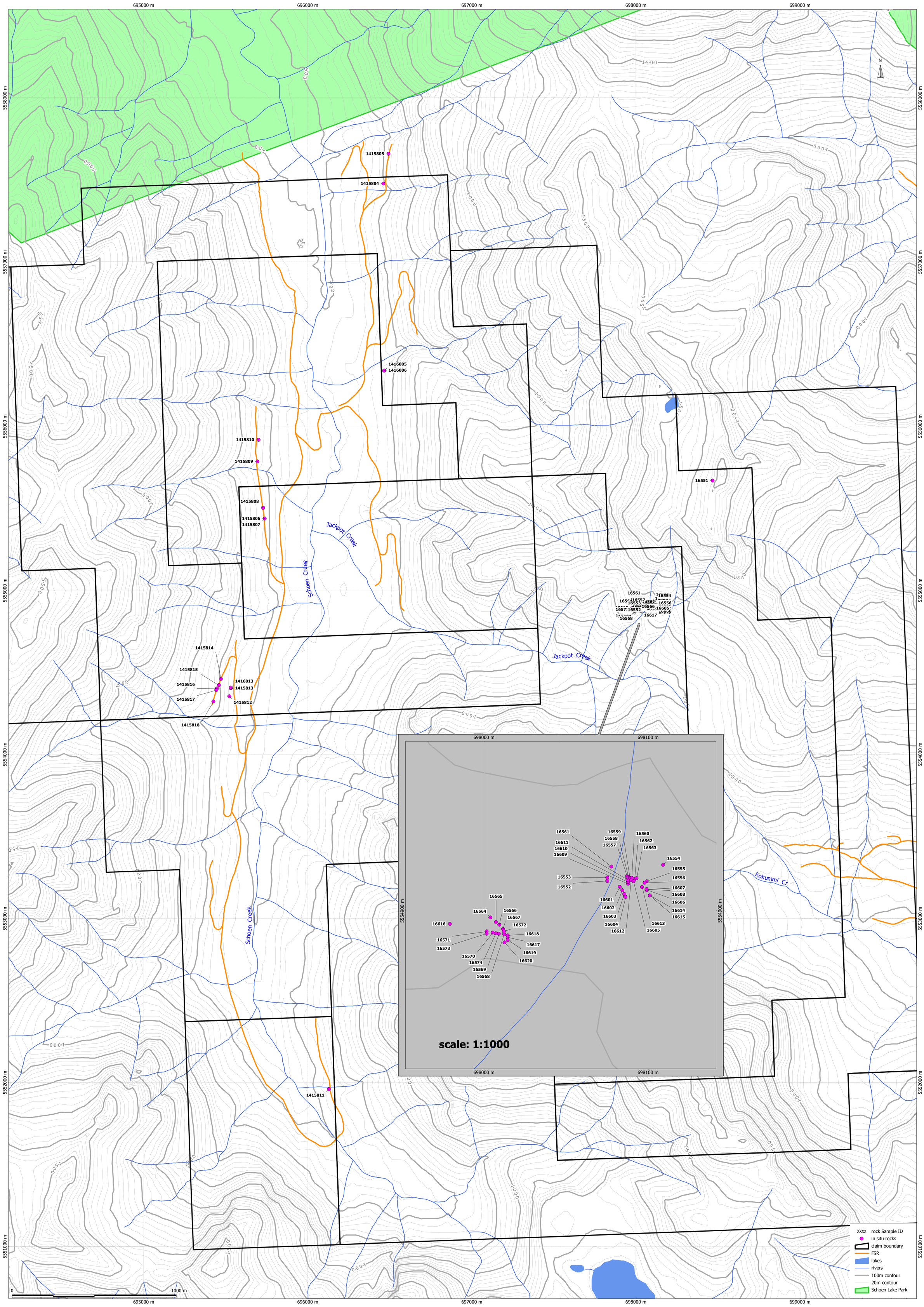
Float Samples

SampleID	NAD83E	NAD83N	Description	Au ppb or gm/T	Cu ppm	As ppm	Bi ppm	S %
1415801	696570	5554955	From basal till just newly emerged onto the weathering surface; Sample is gossanous semi massive sulphide,	83.5 gm/t	>10000	<2	39	14.36
1415802	696335	5557157	From landslide, calcite vein and tremolite and chlorite selvage	36	418	12	<3	0.06
1415803	696335	5557157	From landslide, mainly calcite center of several cm thick vein,	3	17	<2	<3	<0.05
1415819	696577	5554891	float on road by Jackpot creek,gossany massive sulphide vein in quartz rich breccia	773 448 0.53 gm/t	8195 7619	95	7	15.8
1416001	696396	5556727	from till, gossan cobble.	3	203	<2	<3	1.45
1416002	696331	5557188	From landslide, 4 cm wide brown gouge or gossan, in basaltic rock, deeply leached, about a third of rock has been leached away. In remaining rock calcite vein with specks of chalcopyrite was seen	201	102	152	<3	0.94
1416003	696333	5557212	From landslide, grey very fine grained rock with trace of a clay altered igneous fabric showing feldspars in a dioritic mesh	3	53	2	<3	<0.05
1416009	696149	5551967	Float in creek, A hard grey layered rock with small grains of clay alteration and mm sized grains, look rounded. Various poorly defined layers show various amounts of pyrite Chert or hornfels.	32	666	117	4	6.17
1416010	696149	5551967	Float in creek, Layered rock with 2 cm thick quite magnetic black layer , was once chert, now a skarn/hornfels	18	932	<2	<3	4.56

Silt Samples

Sample ID	type	NAD83 E	NAD83N	Description	Au ppb	Cu ppm	As ppm	Bi ppm	S %
1416004	creek	696477	5557445	from base of a small waterfall, 40% organic, 5 % small pebbles	18	177	17	<3	0.08
1416007	creek	695697	5555738	from a cut in bank wash out of rock and log, water heard underground, mainly silt	9	120	51	<3	<0.05
1416008	creek	695689	5555803	waterfall at FSR, good silt sample	3	22	61	<3	<0.05
1416011	creek	695575	5554154	25 m up from road, fine sand and silt	6	148	14	<3	<0.05
1416012	creek	695531	5554324	small washout with small creek	2	58	6	<3	<0.05
1416014	creek	696550	5554809	Jackpot creek, below road end south side, good silt	11	197	56	<3	0.09
1416015	creek	696514	5554799	Jackpot creek, below road end south side, 25 m downstream of 1416014 good sand and silt	22	186	71	<3	0.08
1416016	creek	695579	5553447	small creek in riparian zone, poor sample, 95% organic, with hemlock duff	28	335	10	<3	<0.05
1416017	creek	695511	5553234	Small creek in riparian zone, 1 m wide 50% pebbles, 10% organic, rest silt, Pd = 61 ppb, Mn=2048 ppm	4	171	27	<3	0.07
F61S	seep	696597	5554873	Sample taken from a seep in hill near end of road in area seen to be rich in colloidal coating of sand grains, Mn=3044 ppm	5	177	11	<3	<0.05
F62S	dry pond	696642	5554935	Sample from taken on 60E line, taken from black soil from a depression above the basal till sample near bed rock	10	37	<2	<3	0.14

Sample ID	NAD83E	NAD83N		notes	Au ppb	As ppm	Br ppm	Mo ppm
FAH-001	696122	5551574		4 m high, 10 cm diameter	1	**0.33**	1.49	<0.01
FAH-002	696122	5551574		25 m high, 1.2 m diameter	<0.1	0.22	1.3	<0.01
FAH-003	696067	5552435		20 m high, 20 cm diameter	1	0.21	0.64	<0.01
FAH-004	696420	5551566		on elk trail, E of Schoen Main, 4 m high, 12 cm diameter	0.4	0.17	**1.58**	<0.01
FAH-005	695733	5554536		Schoen Main, 6 m high, 20 cm diameter	1.4	<0.01	0.32	<0.01
FAH-006	695539	5554692		25 m past end of FSR, 5 m high, 18 cm diameter	1.5	<0.01	0.29	**0.43**
FAH-007	695419	5554262		5 m high, 12 cm diameter	**12.4**	0.06	0.28	<0.01
FAH-008	695910	5555950		4 m high, 8 cm diameter	1.5	0.05	0.22	<0.01
FAH-009	696595	5554828		4 m high, 12 cm diameter	0.6	<0.01	0.44	<0.01
FAH-010	696639	5554937		5 m east of line 60 E, 4 m high, 12 cm diameter	0.6	<0.01	0.32	<0.01
FAH-011	696639	5554937		beside FAH-010, 4 m high, 10 cm diameter	0.3	<0.01	0.3	<0.01
FAH-012	696620	5554924		6 m high, 16 cm diameter	0.3	<0.01	0.48	<0.01
FAH-013	695937	5557388		6 m high, 20 cm diameter	0.4	0.18	0.31	<0.01
FAH-014	696570	5554962		Immediately below basal till with high grade samples 4 m high, 8 cm diameter	0.3	<0.01	0.34	<0.01
FAH-015-extra	695559	5553452		Up creek some 15 m,4 m high, 12 cm diameter	0.5	<0.01	1.02	<0.01



Projection/Datum: UTM 9(N) NAD83 scale: 1:10000 0 — 1000 m	**THE FLAN PROJECT** **January 2013**	**Figure 6:** **Locations of** **analysed "in situ" samples**

Projection/Datum: UTM 9(N) NAD83
scale: 1:10000

0 1000 m

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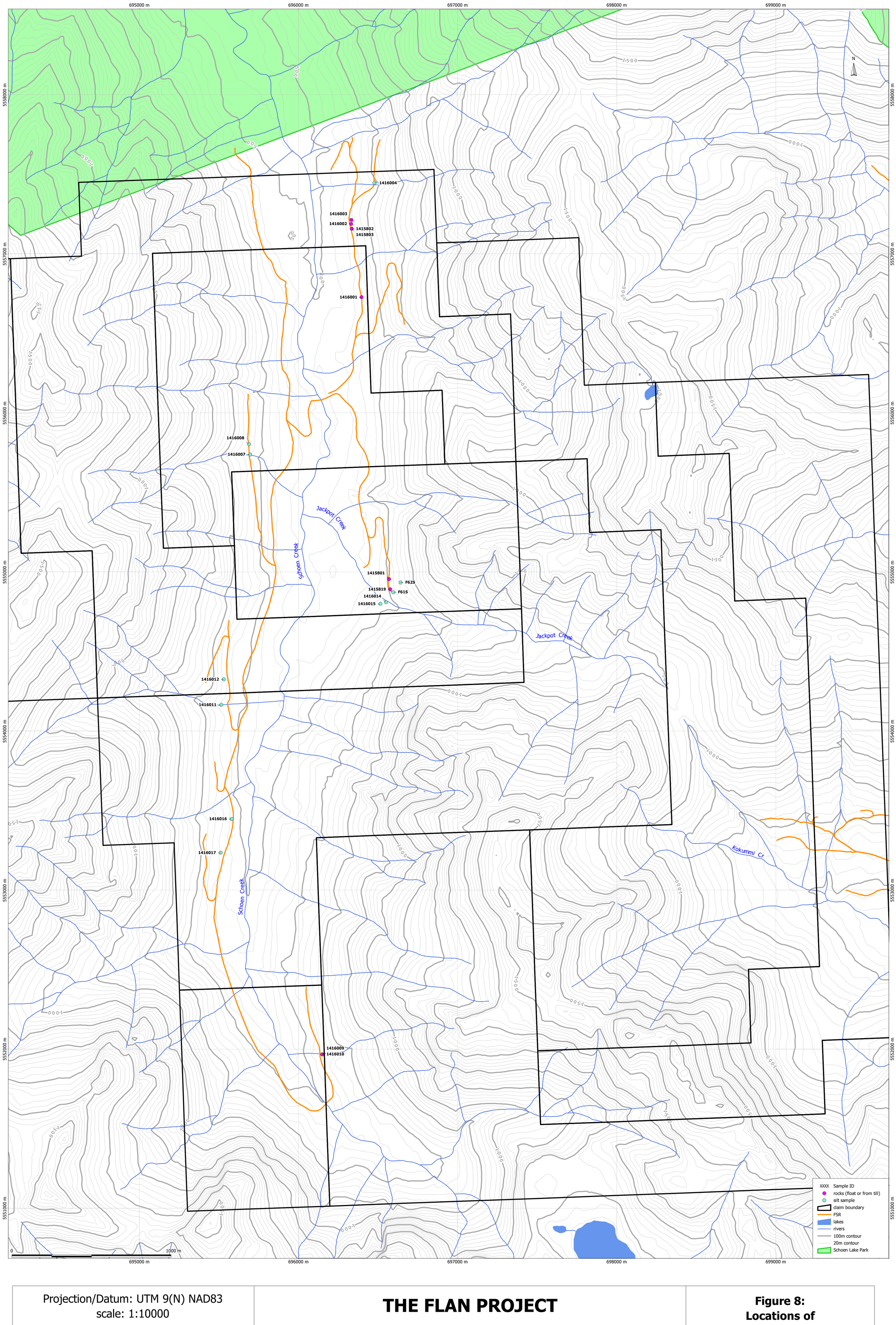
Figure 7:
Au, Cu, As assay values from "in situ" samples



Projection/Datum: UTM 9(N) NAD83
scale: 1:10000

0 1000 m

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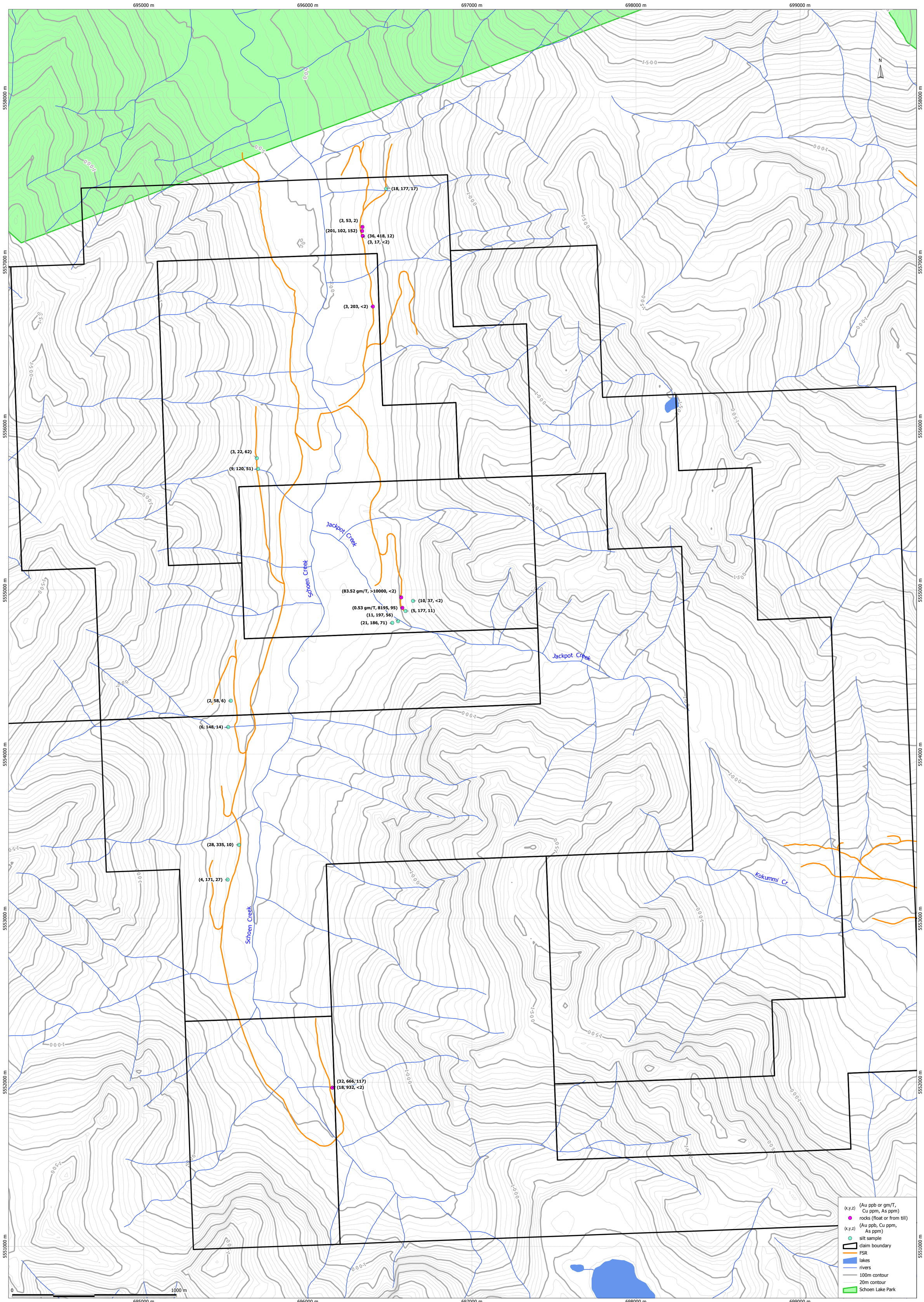
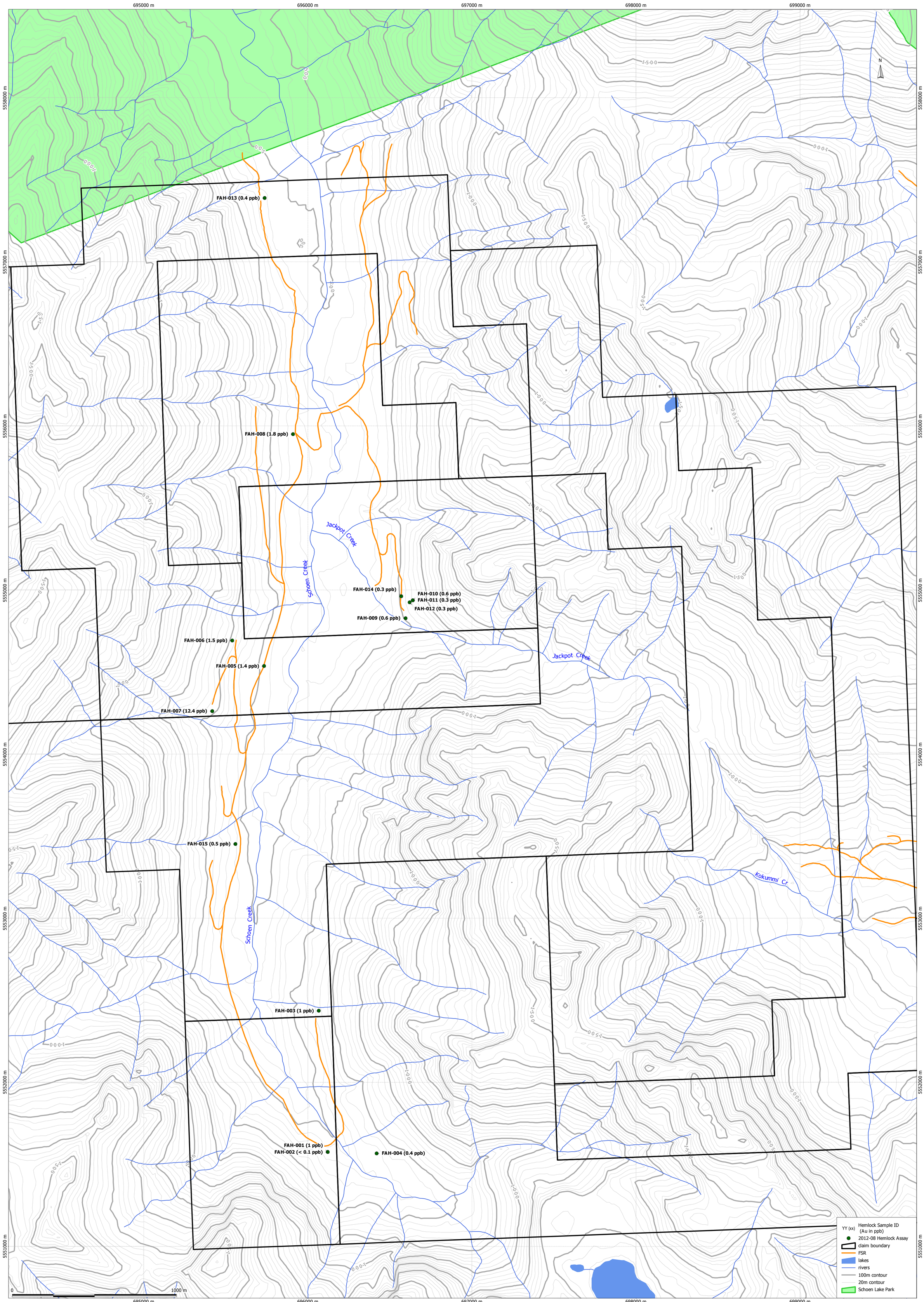
Figure 8:
Locations of
samples of secondary media



Projection/Datum: UTM 9(N) NAD83 scale: 1:10000 0 — 1000 m	**THE FLAN PROJECT** **January 2013**	**Figure 9:** **Au, Cu, As assay values from secondary media**



Projection/Datum: UTM 9(N) NAD83
scale: 1:10000

0 1000 m

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Figure 10:
Locations and Au results for assays of Hemlock twigs

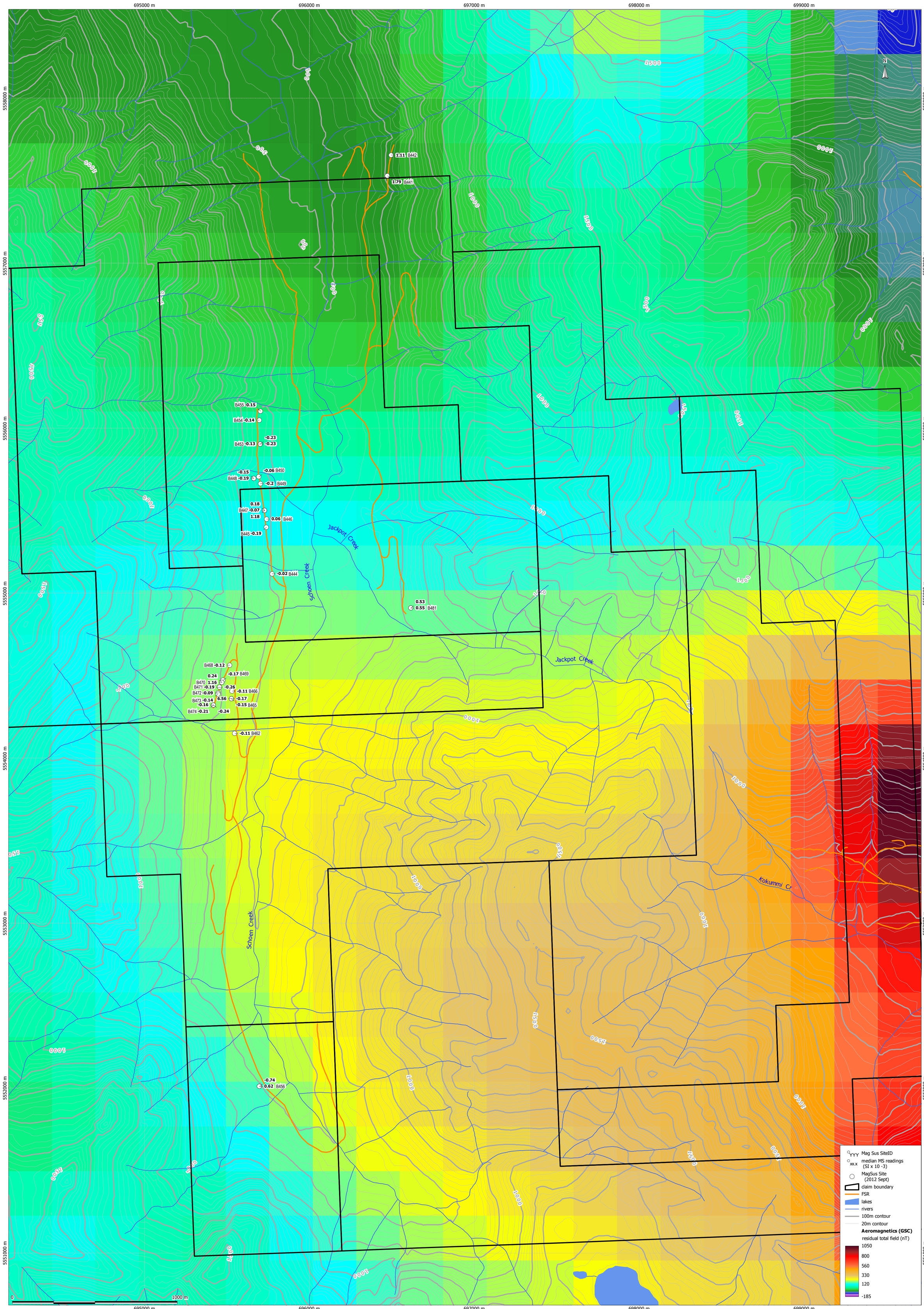
Appendix B-magnetic susceptibilities of selected sites

Magnetic Susceptibilities of field locations reported in SI (10^{-3}) units. 37 sites involving 115 measurements. Site locations are listed below and results (median value) are shown on Figure 14

Measurements are mainly from the two mica granite (2MG) and they are largely diamagnetic as befits a quartz rich unit. A number of pink granite dykes are reported, they are equally diamagnetic and presumably related to the stock.

WPT	NAD83E	NAD83N	Elev_m	Rock	Note	MSMedian	MS1	MS2	MS3	MS4	MS5
B441	696473	5557530	617.8	fault zone	fine grained dark grey	1.79	2.06	1.79	1.76		
B442	696495	5557655	625.1	basalt	o/c; 0.5m below till	1.11	2.35	1.02	1.11		
B444	695773	5555117	586.1	granite	o/c on FSR	-0.02	-0.17	-0.02	1.02		
B445	695739	5555399	604.7	granite	S end of long o/c on FSR	-0.19	-0.24	-0.19	-0.08		
B446	695740	5555449	605	granite	N end of long o/c on FSR; readings at sample site	0.06	0.23	0.06	-0.17		
B447	695728	5555502	616.9	pink dike	pink granite dyke 1415808	-0.07	-0.02	-0.12	-0.07		
B447	695728	5555502	616.9	granite	2m S of pink dike	0.18	0.07	0.67	0.18		
B447	695728	5555502	616.9	granite	2m N of pink dike	1.18	-0.16	2.63	1.18	-0.06	2.15
B448	695662	5555696	627.9	on pink in fault surface	N end of o/c at switchback; fault surface; pink at top; grey/green lower	-0.19	-0.19	-0.19	-0.2		
B448	695662	5555696	627.9	on grey/green in fault surface	N end of o/c at switchback; fault surface; pink at top; grey/green lower	-0.15	-0.15	-0.06	-0.16		
B449	695703	5555664	630	granite	o/c lower branch of FSR, N of junction	-0.2	-0.2	-0.2	-0.04		
B450	695693	5555705	621.2	black slightly rusty	o/c, long, on FSR; MS on black/rusty w quartz	-0.06	-0.03	-0.06	-0.08		
B453	695702	5555904	623.3	pink dike	pinkish dike? in granite; MS on pink,	-0.23	-0.2	-0.24	-0.23		
B453	695702	5555904	623.3	granite	2m S of pink dike	-0.23	-0.27	-0.15	-0.23		
B453	695702	5555904	623.3	granite	2m N of pink dike	-0.13	-0.2	-0.13	-0.12		
B454	695696	5556048	649.2	granite	o/c	-0.14	-0.21	-0.14	-0.09		
B455	695704	5556103	641.6	granite	o/c end of FSR	-0.15	-0.21	-0.15	-0.15		
B456	695697	5552010	707.1	breccia	S of contact w some brecciation	0.62	0.35	0.62	0.79		
B456	695697	5552010	707.1	granite	2m N of contact; on 2MG	-0.74	-0.86	-0.72	-0.74	-0.96	0.14
B462	695547	5554150	621.8	granite	2 MG o/c at S side of creek on old FSR branch	-0.11	-0.1	-0.11	-0.17		
B465	695526	5554360	655	granite	1m N of vein: o/c in small landslide; small vein in 2 MG	6.56	5.79	6.56	7.17		
B465	695526	5554360	655	granite	0.5m S of vein; o/c in small landslide; small vein in 2 MG	-0.15	-0.2	-0.15	-0.11		
B465	695526	5554360	655	vein	on vein; o/c in small landslide; small vein in 2 MG	-0.17	-0.2	-0.17	-0.11		

WPT	NAD83E	NAD83N	Elev_m	Rock	Note	MSMedian	MS1	MS2	MS3	MS4	MS5
B466	695531	5554406	654.7	granite	on 2MG N of small pinkish/rusty vein in o/c; similar readings S of vein. This vein carries Mo	-0.11	-0.05	-0.11	-0.12		
B468	695517	5554563	678.5	granite	N end of 2MG o/c on upper branch of FSR at switchback	-0.12	-0.11	-0.12	-0.17		
B469	695476	5554472	699.5	granite	S end of 2MG o/c on upper branch of FSR at switchback; small slide	-0.17	-0.17	-0.17	-0.18		
B470	695469	5554459	698.6	pink veins/rusty	pink veins in 2MG; at sample site; N end of o/c	1.16	1.18	0.35	1.16		
B470	695469	5554459	698.6	granite	pink veins in 2MG; N end of o/c	0.24	0.53	-0.11	0.24		
B471	695454	5554430	694.9	granite	pink veins in 2MG; S end of o/c	-0.19	-0.87	-0.19	-0.13		
B471	695454	5554430	694.9	pink veins/rusty	pink veins in 2MG; at sample site; S end of o/c	-0.26	-0.33	-0.26	-0.23		
B472	695446	5554395	708.7	molybdenum	o/c w molybdenum; sample 1415816 does not show Mo in assay.	-0.09	-0.09	-0.07	-0.16		
B473	695445	5554389	697.4	pink	o/c; sample	-0.14	-0.13	-0.14	-0.22		
B474	695418	5554322	697.7	granite	S of rusty vein in 2MG	-0.16	-0.17	-0.13	-0.16		
B474	695418	5554322	697.7	granite	N of rusty vein in 2MG	-0.21	-0.21	-0.23	-0.2		
B474	695418	5554322	697.7	vein	rusty vein in 2MG	-0.24	-0.25	-0.24	-0.22		
B481	696615	5554910	635.2	breccia	o/c SW corner of bump; breccia and diabase contact	0.53	0.48	0.57	0.53		
B481	696615	5554910	635.2	diabase	o/c SW corner of bump; breccia and diabase contact	0.55	0.37	0.78	0.55		



Projection/Datum: UTM 9(N) NAD83 scale: 1:10000 0 — 1000 m	**THE FLAN PROJECT** **January 2013**	**Figure 11:** **Locations and results of Magnetic Susceptibility study**

Appendix C Petrological Descriptions

Appendix C-1 Petrological Descriptions and locations are shown presented below and results and locations are shown on Figure 12, units are shown as special symbols.

Appendix C-2 Results of mineralogical studies using infrared technology (PIMA) to study hydrous alteration minerals. Results provided by Kim Heberlein, P.Geo are presented below, as in a map showing locations of samples (save the reference samples). See Figure 13.

Sample Number 16572 **TS number B-01** **Station Number 16572** **Collector IG**

Zone 9 UTME 698012 **UTMN 5554887**

Field sample notes large grab sample from vertical chip sample area, with abundant pyrite, close to “upper” contact of rusty layer in Heart

Hand Specimen Description: Very siliceous rock with thin rusty stained veinlets, small flecks of pyrite scattered throughout. Texture is heterogeneous and vague, with only suggestive areas of fragments.

non Magnetic, noncarbonate, nonconductive,

Thin Section Descriptions

Lithological observations Fault breccia (protomylonite) with angular quartz fragments and other fragments, up to 1 mm across of quartz set in fluxion textured matrix of Quartz-sericite-pyrite and veined by pyrite. A breccia with brecciated fragments.

Mineralogy

primary

quartz grains, strained, angular sand and silt sized

altered area which may have been feldspar, now replaced by illite/sericite

secondary

mainly quartz-sericite illite matrix

small patches of chlorite

pyrite veins and elongate patches in fabric of breccia

weathering

limonite

Fabric

Fault breccia (protomylonite)

Veins

pyrite veins in fabric

pyrite veins cross fabric

limonite veinlets following weaknesses along and cross fabric

Interpretation

Fault breccia (protomylonite) developed in brecciated granite?

Alteration is pervasive, strong and consists of quartz-sericite-pyrite.

Sample Number 16605 TS number B-02 Station Number 16605 Collector RT

Zone 9 UTME 698091 UTMN 5554917

Field sample notes stained black to dark brown outcrop below tree root

Hand Specimen Description: Rust stained tectonic breccia with cm sized augen of quartzose augen in a greyish brown soft clay matrix. Scarce pyrite cubes noted in variably silicified breccia with 3 cm by 1 1/2 cm by 1 cm frags of quartz and fragments with relic phenocryst and scattered pyrite as well as other well developed cleavage surfaces set in clay rich grey brown matrix/gouge and cut by pinky beige disrupted vein fill with minor sulphide in selvage.

Magnetic (2), carbonate with slow fizz, nonconductive, density 2.74

Thin Section Descriptions

Lithological observations: A breccia with a carbonate matrix

Mineralogy

Original

material not preserved, fine grained salt and pepper texture in a few tectonic fragment

Secondary

70 % calcite/carbonate forms a large part of the breccia matrix with admixed clays

25% Clays and chlorite make up rest of rock

5% Pyrite seams

weathering

black staining and local rust along fractures and pyrite veins

Fabric

primary unknown

Fabric is that of a breccia with crystalline matrix of calcite showing local contorted cleavage traces

Veins

small thin Pyrite veins

Interpretation

descriptive Carbonated breccia or fault gouge

Alteration is carbonate, chlorite and clay bearing gouge

Sample Number 16612 **TS number** **B-03** **Station Number 16612** **Collector RT**

Zone 9 **UTME** **698089** **UTMN** **5554918**

Field sample notes Black stained heavy rock with abundant sulphides

Hand Specimen Description: Rusty weathering **semi-massive sulphide** showing cm scale partings, cut by very rare thin rust seams, rock shows a brecciated texture with sulphide rich and locally silicified fragments set in a matrix of chlorite, rust, very minor malachite, and scattered sulphides. Two sulphides, one softer and more bronzy (pyrrhotite?) than the other (pyrite?), local black patches, perhaps arsenopyrite?, magnetic fragments (confirmed with magnet). Rock is likely a skarn?

Magnetic (3), noncarbonate, nonconductive, density 3.59

Thin Section Descriptions

Lithological observations

Breccia with angular fragments and layers of pyrrhotite set in a mainly chlorite matrix

Mineralogy

primary

Apparently a vein fill.

secondary

40% massive pyrrhotite with alteration products along minor fractures, also replacing fragments of a network of sulphide including very small grains of quartz

30% chlorite, essentially isotropic, pale greenish in colour, and and show very little pleochroism (possibly a composition similar to pycnochlorite) acts as host to main pyrrhotite layers

15% quartz as fragments and host to other silicate minerals in less sulphidic layers

pyrite cubes noted in chlorite

trace high relief mineral in chlorite with high birefringence is carbonate?

One grain of chalcopyrite encased in pyrrhotite noted

Did not recognize any arsenopyrite in thin section.

weathering

15% Multilayered limonite line most veins and penetrate part of pyrrhotite

Fabric

Layered and fragmental semi massive sulphide. Sulphides show both crystalline or a cellular nature, the latter inclosing small quartz grains.

Veins

Mainly small 0.01 planar cross veins of chlorite and also more scarce quartz veins fewer of quartz

Interpretation

semi-massive sulphide in a weathered shear zone

pervasive, intense layered pyrrhotite chlorite quartz assemblage.

Sample Number 1415801 **TS number** **B-04** **Station Number 1415801 Collector MS**

Zone 9 UTME 696570 **UTMN 5554955**

Field sample notes Fragment from Basal till at FLAN showing , newly emergent fragment about 15 by 10 by 5 cm.

Hand Specimen Description: Heavy, with partially rusty edge, and rest mainly semi-massive sulphide. Texture is that of a breccia with mainly quartz fragments?, coated with iron sulphides (chalcopyrite in part) set in a matrix of rusty sulphide and chlorite; a few patches show malachite stain, The breccia fabric is roughly planar and is crossed by later veins also with quartz and sulphides

Magnetic (2), noncarbonate, nonconductive,

Thin Section Descriptions

Lithological observations Breccia with abundant quartz rich fragments set in opaque matrix.

Mineralogy

secondary

20% quartz grains and quartz rich aggregates, few chlorite some albite, grains in masses

5% magnetite irregular mm sized grains interspersed in pyrrhotite.

30% pyrrhotite largely altered to marcasite? In crustiform manner

5% pyrite as small cubes in veins and grains in pyrrhotite and altered products

2% thin chalcopyrite veins and small blebs in pyrrhotite and secondary alteration. May be unweathered when seen in limonite

trace sphalerite in pyrrhotite (one small grain noted)

weathering

20% limonite veinlets cut mass, other limonite replaces outside of grains

Fabric

Mainly a shear fabric with an abundance of opague breccia matrix

A secondary fabric has developed around the breakdown of pyrrhotite, A cellular type of alteration where marcasite? replaces the pyrrhotite. This fabric is also found in other samples recovered from this till locality.

Veins

Early veins include this chalcopyrite veins.

The breakdown of pyrrhotite is a mass of veins of marcasite?,

Later breakdown of iron sulphides has given rise to limonite veins sets of considerable complexity.

Interpretation

Breccia with mainly sulphide fill (semi massive sulphide)

pervasive intense quartz-iron sulphides and oxides assemblage (hydrothermal)

Sample Number 16551 **TS number B-05** **Station Number 16551** **Collector IG**

Zone 9 UTME 698467 UTMN 5555667

Field sample notes Rusty vertical seam in outcrop, also nearby similar rusty horizontal seam, rock is dark grey with very small flashing cleavage plates

Hand Specimen Description: dark, fine grained dense rock showing scattered pyrite/pyrrhotite? grains and thin seams of rust. Rock surface is hard.

Magnetic (1), noncarbonate, nonconductive, density 2.85

Thin Section Descriptions

Lithological observations A typical microporphyritic diabase with fine randomly oriented microlites of feldspar set in dark altered glass. Microphenocrysts are in part thin prisms of feldspar and in part prismatic shapes suggestive of olivine but now occupied by pyrite, chlorite and alteration products.

Mineralogy

primary

60% Plagioclase, as radiating microlites (.5 mm long and 0.02 wide)and microphenocrysts, now altered

35% Blocky prismatic microphenocrysts now altered, were mafic minerals, olivine or pyroxene?

2% Scattered small grains of opaques in groundmass

Glassy matrix now altered

secondary

plagioclase now albite and local clay

mafic crystals now chlorite and opague (pyrite)

matrix brown clay and altered glass

weathering

coated with rusty coating and white clay? weathering veneer about 1 mm thick

Fabric

primary texture is that of a rapidly cooled basalt with a few feldspar and “olivine or pyroxene” phenocrysts

small amygdale filled with quartz

The fabric is cut by small slip surfaces bur otherwise not affected.

Interpretation

altered rapidly cooled basalt with few microphenocrysts of plagioclase and “olivine or pyroxene”

pervasively altered to argillic assemblage while preserving the texture

Sample Number 16566 **TS number B-06** **Station Number 16566** **Collector IG**

Zone 9 UTME 698009 **UTMN 5554891**

Field sample notes part of vertical chip samples at Heart, just above the really rusty part of the heart.

Hand Specimen Description: Rock with large leach openings containing relic pyrite surrounded with light coloured selvage hosted in patchy rusty grey matrix. Much of rock seem to be crackled quartz. Sulphide not magnetic, some white is soft, sericite?

Magnetic (1), noncarbonate, nonconductive,

Thin Section Descriptions

Lithological observations: microbreccia of granite?, with many slip panes with set in sericitised matrix

Mineralogy

primary

quartz fragments sand sized and locally strained

secondary

fine grained quartz and very sparse plagioclase intergrown with sericitic matrix

very fine grained sericite-illite-clay makes up the majority of the matrix

small local chlorite patches near sericite rich patches

opague dust which includes small grains of pyrite

weathering

limonite coats grains and stains much of rock

Fabric

Rock is a tectonic breccia, possibly generated in a granite

Veins

Quartz veins irregular in shape, some disrupted, contributing quartz grains to the main rock.

Pyrite veins cut rock mostly along partings.

Arsenopyrite veins (small prisms) cut across the breccia partings.

Interpretation

Brecciated granite

Alteration is pervasive, strong and consists of quartz-sericite-pyrite

Sample Number 16568 TS number B-07 Station Number 16568 Collector IG

Zone 9 UTME 698012 UTMN 5554885

Field sample notes lower part of vertical chip samples at Heart, within the really rusty part of the heart near bottom.

Hand Specimen Description: Siliceous grey rock composed largely of grains of crackled quartz, minor sulphide and small flakes of a light colored platy mineral (sericite?), cut by thin darker and rusty sulphide bearing veinlets

non Magnetic, noncarbonate, nonconductive, 2.63

Thin Section Descriptions

Lithological observations Fault breccia with sand and silt sized fragments, many angular, most strained, set in a sericite matrix with scattered pyrite grains

Mineralogy

primary

quartz grains, many angular, most strained

Grains that may have been feldspar are now quartz-sericite-illite

secondary

very fine grained quartz and illite-sericite form the breccia matrix,

small patches of chlorite noted

pyrite is distributed irregularly throughout slide

weathering

limonite coats slip planes, grains and stains sericite and chlorite

Fabric

Rock is a fault breccia, almost a protomylonite marked by pyritic slip planes.

Most fragments about 2 mm across, but locally up to 5 cm quartz grains sit in a sericite-quartz matrix

Veins

pyrite veins coat slip planes

Interpretation

Fault breccia (perhaps even a protomylonite)

Alteration is pervasive, strong and consists of quartz-sericite-pyrite.

Sample Number 16569 TS number B-08 Station Number 16569 Collector IG

Zone 9 UTME 698009 UTMN 5554886

Field sample notes beginning of horizontal chip sample, about 3 m above creek bottom

Hand Specimen Description: Quartz grains and silicic fragments set in porous orange stained softer clayey matrix with rusty veins

non Magnetic, noncarbonate, nonconductive,

Thin Section Descriptions

Lithological observations Breccia with silicic clasts and clay/sericite matrix dotted with scarce pyrite grains

Mineralogy

primary

quartz large fragments, up to 3 mm across locally strained

secondary

small quartz grains sub mm size intergrown with fine mesh of sericite/illite

local chlorite patches

pyrite grains

weathering

rust stains edges of silicic clasts and especially the clay minerals

Fabric

primary a fault breccia up to .5 mm sized lenticular silicic fragments and salic inter-growth f fragments with quartz albite and sericite shreds intermingled with broken muscovite grains presumably represent an original quartz rich granite or possibly quartz porphyry.

Quartz is strained, and rock cut by slip planes marked with pyrite. Main fabric is tectonic

Veins

irregular rusty veinlets cut rock

Interpretation

tectonic breccia developed in quartz rich granite

rust stained pervasive and strong quartz-sericite-pyrite alteration

Sample Number 16571 **TS number** **B-09** **Station Number 16571** **Collector IG**

Zone 9 **UTME** **698001** **UTMN** **5554887**

Field sample notes Last horizontal chip sample (west of nose

Hand Specimen Description: dark brownish grey, hard, very fine grained rock cut by very thin dark quartz veins cut by later thin white quartz veins. There is a suggestion of a layering on a multi cm scale,

Magnetic (1/2), minor carbonate disseminated in matrix and veinlets, nonconductive,

Thin Section Descriptions

Lithological observations

Altered rock with relic patches of basaltic texture and microphenocrysts of altered plagioclase

Mineralogy

primary

plagioclase altered microphenocrysts

thin platy plagioclase crystals(.5 mm long and very narrow (microlites)

groundmass and possible mafic minerals not distinguishable

opaques small grains

secondary

30% albite replaces plagioclase microlites

clay and chlorite replaces areas resembling prismatic outlines (mafic minerals or plagioclase microphenocrysts?)

50% chlorite abundant and clays (probably mainly smectite) form the majority of the rock.

10%Leucoxene is also mixed in with the clay matrix.

10% calcite is in small blebs in groundmass

weathering

rusty along openings

Fabric

primary basaltic texture featuring plagioclase microlites and possibly microphenocrysts

plagioclase mainly replaced by albite, all others are replaced by clay

Veins

calcite and quartz veins semi planar and fairly abundant

pyrite in slip surfaces

Pyrite veins cut quartz veins which cut calcite veins which cut alteration which affects diabase

Interpretation

Altered finer grained diabase probably faulted

strong pervasive argillic/phyllic alteration (no epidote seen here) affecting a diabase.

NOTE this sample marks the western limit of the QSP alteration of the granite breccia.

Sample Number 16574 **TS number** **B-10** **Station Number 16574** **Collector IG**

Zone 9 UTME 698007 **UTMN 5554886**

Field sample notes taken from middle base of heart stain, much rusty and yellow staining

Hand Specimen Description: Rock contains 5 cm angular clasts set in slightly darker matrix, rock is medium grained grey granular rock, made of mainly quartz grains in a micaceous (sericite?) matrix and cut by darker pyritic veins

non Magnetic, noncarbonate, nonconductive, density 2.66

Thin Section Descriptions

Lithological observations

Rock is a breccia with a texture in HS suggestive of a brecciated quartz rich intrusive rock

Mineralogy

secondary

quartz 55% highly strained, grains to 1 mm as well as part of the fine grained mixture mentioned below.

sericite/illite 20% Both shreds of “muscovite” and much more abundant very small grains of 2nd order birefringent micaceous mineral called sericite and also abundant much lower birefringent platy grains called illite. Some of the bigger grains looks though were part of original muscovite flakes, the finer grained mix is probably replacing feldspars 5% illite from K, maybe a kaolinite/illite mix?

chlorite 3% found in very small flakes in among the sericite rich areas

sulphides 20% mainly pyrite, arsenopyrite indicated but not seen, the hand specimen is about 2% pyrite, but thin section crossed at a small angle a pyrite rich vein. Edges of cubes are coated by a thin layer of limonite Some pyrite is disseminated in the fragments.

weathering

an acid yellow stain on slip surfaces, rusty brown variably permeates rock

Fabric

primary fabric was possibly porphyritic; a quartz porphyry?

Platy minerals have replaced, with partial pseudomorphism, micas and feldspars

tectonic fabric shows as extensive brecciation and slip veining (including small s shaped en echelon slips filled with pyrite

Veins

irregular, mm wide pyrite veins as well as irregular quartz and pyrite veins are throughout rock.

overprinting relationships The “quartz porphyry?” has been subjected to later sericitic alteration

Interpretation

Recrystallized and broken Quartz porphyry?

strongly and pervasively altered brecciated **quartz sericite pyrite** rock.

Sample Number 16613 **TS number** **B-11** **Station Number 16613** **Collector RT**

Zone 9 **UTME** **698096** **UTMN** **5554914**

Field sample notes This sample is west of small cave with similar dark rock

Hand Specimen Description: dark very fine grained rock (diabase?) cut by thin veinlets with pyrite, can see very small white plagioclase laths

Magnetic (1/2), noncarbonate, nonconductive, density 2.85

Thin Section Descriptions

Lithologic description Altered and recrystallized fine grained diabasic textured rock with local “plagioclase” phenocrysts and “dark spots” (altered mafic mineral?) cut by pyrite veins

Mineralogy

primary

Plagioclase laths, original composition not known

Mafic grains, poorly distinguished, possibly were once hornblende?

Opaques grains, altered in part

secondary

Plagioclase partially altered to pumpellyite and chlorite as well as albite

Mafic now mixture of pumpellyite and actinolite, locally intergrown with chlorite

Very fine grained patches of High relief Hi birefringence mineral: titanite and/or local leucoxene

Weathering

thin weathering rind accentuates very small grains of ?. Much clay alteration of all minerals, like a brown coating over the mineral grains

Fabric

primary igneous, fine grained ½ mm intergrown mafics and feldspars

infill/replacement feldspars retain their shape but are filled with albite and pumpellyite and chlorite

mafic minerals loose shape and are mainly pumpellyite, tremolite and chlorite

tectonic fabric shows as very thin planes of minor slip, some of which are filled with opaques (mainly sulphides).

Veins

early ones with quartz and later seams of pyrite bearing irregular shapes, composed of mainly pumpellyite, some tremolite and chlorite as very fine laths oriented so that the long direction of grains is normal to vein walls, and vein envelope alteration merges with general alteration over very short distance. The nature of the vein fill implies static opening while vein material precipitated

Interpretation

low grade “regionally” (or distal contact metamorphism?) metamorphosed diabase

grade similar to pumpellyite-actinolite facies

Name: Moderately and pervasively altered igneous textured pumpellyite-tremolite albite rock, once diabase

Sample Number 16617 TS number B-12 Station Number 16617 Collector RT

Zone 9 UTME 698014 UTMN 5554883

Field sample notes sample is from the brown stained part of the Heart

Hand Specimen Description: Light coloured hard rock with rusty cross cutting pyrite veins. Rock itself is crackled quartz set in matrix of micaceous minerals (sericite) and scattered pyrite grains, local very small patches of malachite around dark sulphide patch. Pits with relic pyrite along trace of pyrite vein.

Magnetic 1/4, noncarbonate, nonconductive,

Thin Section Descriptions

Lithologic description Breccia with fragments of brecciated quartz rich granite/quartz sericite-pyrite alteration rock

Mineralogy

secondary

60% quartz highly strained, grains and finer granulated part of the fine grained mixture mentioned below.

30% sericite/illite/kaolinite? Both shreds of "muscovite" and much more abundant very small grains of 2nd order birefringent micaceous mineral called sericite and also abundant much lower birefringent platy grains called illite. Also almost opague dust (Kaolinite). Some of the bigger grains looks though were part of original muscovite flakes, the finer grained mix is probably replacing feldspars

3 % chlorite found in very small flakes in among the sericite rich areas

5% sulphides mainly pyrite, arsenopyrite indicated but not seen, the hand specimen is about 2% pyrite, Edges of cubes are coated by a thin layer of limonite Some pyrite is disseminated in the fragments. Trace amount of finely distributed chalcopyrite.

Weathering 2% rust and leach pits along and adjacent to veins and slip surfaces

Fabric

primary was possibly granitic

Platy minerals have been replaced, with partial pseudomorphism of micas and feldspars

tectonic extensive brecciation and slip veining (including small s shaped en echelon slips filled with pyrite

Veins

irregular, mm wide pyrite veins as well as irregular quartz and pyrite veins are throughout rock.

The "granite" has been subjected to later sericitic alteration, then faulted?

Interpretation

altered broken quartz rich granite?

strongly and pervasively altered brecciated quartz sericite pyrite rock.

Sample Number 16618 **TS number** **B-13** **Station Number 16618** **Collector RT**

Zone 9 **UTME** **698014** **UTMN** **5554885**

Field sample notes This is companion to 16617, taken across the contact in non stained rock from waterfall

Hand Specimen Description: greyish speckled rock composed mainly of quartz with irregular veinlets and blebs of pyrite, and thin open spaces

non Magnetic, Thin veinlet shows carbonate, host does not, fizz nonconductive, density 2.61

Thin Section Descriptions

Lithological observations Fine grained breccia with many small fractures cutting illite/sericite matrix with variable angular and round strained quartz grains and small patches of chlorite and slightly coarser sericite. Abundant small veinlets of opague minerals (mainly pyrite)

Mineralogy

primary

25% Quartz grains are in part original crystals, especially the larger, more strained grains

Also some of the finer grained quartz may be relic of groundmass quartz

(15%) Now replaced vague prismatic shapes (now illite/sericite) remnants of feldspars

(5%) Small clusters of what used to be inter-growths of biotite and muscovite (now sericite and chlorite)

secondary

5% Veinlets of mainly pyrite

65% illite (some sericite) replacing much of the rock

5% minor chlorite as veins and replacement masses

secondary grains of quartz scattered throughout

weathering

rock is very finely porous, material has been leached from it

Limonite has stained and resulted from breakdown of iron minerals (sulphides?)

Fabric

primary fabric is almost destroyed, only patches of granitic texture remain

Fine grained secondary replacement has been main agent, probably enhanced by the widespread brecciation faulting and veining.

Veins are thin, irregular, intersecting mainly pyrite with minor chlorite, no obvious selvage.

Interpretation

Pervasively and strongly altered granitic dyke rock

The alteration is typical fine grained quartz-sericite-pyrite alteration.

Sample Number 16619 **TS number B-14** **Station Number 16619** **Collector RT**

Zone 9 UTME 698014 **UTMN 5554882**

Field sample notes This light grey sample is taken beneath the brown stain

Hand Specimen Description: Veined, pyritic, hard rock, with fine grained “igneous” texture, siliceous with small openings and micaceous rims, local mm sized grains of pyrite and abundant very thin veinlets of pyrite, two thin cross cutting veins of very dark material and associated with quartz crystal fill, normal to vein walls, may be where arsenopyrite is localized. Also .2 mm calcite vein. Sample is bounded by slicken sides showing origin in a shear zone.

non Magnetic, noncarbonate groundmass, nonconductive,

Thin Section Descriptions

Lithological observations

Rock is from a a highly strained and altered 2 mica granite dyke. Fragments are 2 mm across of quartz set in a quartz -sericite-pyrite matrix

Mineralogy

primary

40% Quartz grains, now strained and broken

30% Fragmented shapes representing now altered feldspars

10% Clusters representing now altered biotite-muscovite grains

secondary

15% Pyrite, disseminated, in clusters and veinlets from small up to a mm across

(30%) Sericite/kaolinite replaces feldspars and in veinlets

(10%) Chlorite replaces biotite, in veins and small clusters

2% dark sulphide (arsenopyrite)in small blebs near pyrite

trace chalcopyrite, possible located a few small discrete grains

trace opaques (rutile) in altered biotite

weathering

3% Limonite along some veinlets,

an increased porosity implies material leached away

Fabric

locally shows a primary granitic texture

secondary minerals have replaced original fabric to a large extent and now accentuates the breccia aspect shown by irregular veins and fault surfaces and strained larger crystals

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Veins

thin mainly planar vein with radiating chlorite crystals growing normal to the vein walls and quartz fill in center, cut by later limonite Late planar calcite vein cuts all.

Interpretation

tectoclastic altered salic intrusive rock (granitic)

strong and pervasively distributed tectoclastic texture and quartz-sericitic pyrite assemblage

Sample Number 16620 stain TS number B-15 Station Number 16620 Collector RT

Zone 9 UTME 698012 UTMN 5554880

Field sample notes Lower in the valley beneath the stain in Heart Region

Hand Specimen Description: pale grey fine to medium grained hard (siliceous) rock crossed by many pyrite vein and disseminated pyrite grains. One small patch of grey crystalline arsenopyrite located. Can see plagioclase laths?

non Magnetic, noncarbonate, nonconductive, density 2.82

Thin Section Descriptions

Lithological observations Fine grained breccia with many small fractures cutting illite/sericite matrix with variable angular and round strained quartz grains and small patches of chlorite and slightly coarser sericite. Local patches of partially replaced feldspars. Abundant small veinlets of opague minerals (mainly pyrite, some arsenopyrite prisms noted)

Mineralogy

primary

35% Quartz grains are in part original crystals, especially the larger, more strained grains

Also some of the finer grained quartz may be relic of groundmass quartz

(55%) Now replaced vague prismatic shapes (now illite/sericite) remnants of feldspars, local patches of albite replaced largely by illite.

(5%) Small clusters of what used to be inter-growths of biotite and muscovite (now sericite and chlorite)

secondary

5% Veinlets of mainly pyrite also isolated grains all sub mm in size.

Tr Small stringers of prisms typical of arsenopyrite cut altered rock

55% illite replacing much of the rock

5% minor chlorite as veins and replacement masses

secondary grains of quartz scattered throughout

weathering

rock is very finely porous, material has been leached from it

Limonite has stained and resulted from breakdown of iron minerals (sulphides?)

Fabric

primary fabric is almost destroyed, only patches remain showing intrusive nature of unit

Fine grained secondary replacement has been main agent, probably enhanced by the widespread brecciation faulting and veining.

Veins are thin, irregular, intersecting mainly pyrite with minor chlorite, no obvious selvage and

arsenopyrite is seen as small prismatic crystals along edges of a 0.1 mm wide vein.

Interpretation

Pervasively and strongly altered granitic dyke rock

The alteration is typical fine grained quartz-sericite-pyrite alteration.

Sample Number 1415802 **TS number B-16** **Station Number 1415802** **Collector MS**

Zone 9 UTME 696335 **UTMN 5557157**

Field sample notes Float from landslide, calcite rich shear zone, this is sample of calcite vein selvage.

Hand Specimen Description: Quartz rich vein/cataclasite with rusty casts and relic sulphides, mainly pyrite, minor chalcopyrite noted

non Magnetic, carbonate in vein, nonconductive,

Thin Section Descriptions

Lithological observations: A sheared rock with calcite veins in a quartz tremolite/actinolite matrix and showing small tectoclasts of siliceous clay/chlorite altered rock

Mineralogy

primary

A secondary rock

secondary

Mainly matted quartz and tremolite inter-growths

Quartz, Chlorite and Clay fragments within the sheared portions

Calcite veins with bent cleavages

Minor pyrite

weathering

Abundant Limonite staining

Fabric

Tectonic rock, a fault rock with shear foliation, clasts, and deformed calcite veining

Veins

Calcite in partings, a few mm thick, deformed cleavage

Interpretation

Shear zone with clasts and veins

The alteration of predominant rock (quartz, tremolite +/- calcite) is a low grade contact metamorphic assemblage, suggesting an igneous contact up in landslide area.

Sample Number 1415805 **TS number** **B-17** **Station Number 1415805** **Collector MS**

Zone 9 UTME 696492 **UTMN 5557658**

Field sample notes in situ sample of breccia , check for sulphides, check if it is diorite, if so it would be another hitherto unknown example of an igneous body traversing the stratigraphy

Hand Specimen Description: Angular lighter coloured diorite? fragments in darker matrix with scattered sulphides, can see feldspar laths.

Magnetic (1), noncarbonate, nonconductive,

Thin Section Descriptions

Lithologic observation Fine grained gabbro/diorite

Mineralogy

primary

40% or so Plagioclase laths, original composition not known a few show relic zoning from cores of about An40 to An0 rims

50% Mafic grains, prisms of pyroxene? poorly distinguished, partially altered to clay and amphibole

10% Opaques grains, altered in part to leucoxene

secondary

Plagioclase partially altered to pumpellyite and chlorite as well as albite

Mafic now mixture of pumpellyite and actinolite, locally intergrown with chlorite

Very fine grained high relief high birefringence mineral: titanite and/or local leucoxene

Weathering

Much clay alteration of all minerals, like a brown coating over the mineral grains

Fabric

primary fabric igneous, fine grained ½ mm intersertal intergrown mafics and feldspars

feldspars retain their shape but are filled with albite and pumpellyite and chlorite

mafic minerals loose shape and are mainly pumpellyite, tremolite/actinolite and chlorite

tectonic fabric shows as very thin planes of minor slip, some of which are filled with opaques (mainly sulphides). Vague suggestion of preferred orientation of silicate minerals.

Veins

with irregular shapes, composed of mainly pumpellyite, some tremolite and chlorite as very fine laths oriented so that the long direction of grains is normal to vein walls, and vein envelope alteration merges with general alteration over very short distance

Interpretation

regionally metamorphosed leucogabbro or 'epidiorite'

regionally metamorphosed into pumpellyite-actinolite facies

Name: Moderately and pervasively altered igneous textured pumpellyite-tremolite albite rock, possibly of gabbroic origin

Sample Number 1415808 **TS number** **B-18** **Station Number 1415808** **Collector MS**

Zone 9 UTME 695728 **UTMN 5557658**

Field sample notes in situ Sample 1 m wide dyke along a fault 240 / vertical and slickenlines plunging 25 to SW. cutting hosting 2 mica granite,

Hand Specimen Description: fine to medium grained granite with pink feldspar up to 7 mm, white feldspar to 4 mm and biotite clumps and quartz grains to 3 mm.

non Magnetic, noncarbonate, nonconductive, density 2.61

Thin Section Descriptions

Lithological observations Fine grained to medium grained granite with up to 1 cm reddish plagioclase feldspars (clay cores) set in 1/2 cm grained matrix.

Mineralogy

primary

32% quartz about 2-4 mm sized, mildly strained

30% normally zoned and twinned plagioclase whose cores of 3 mm sized crystals have been variably altered by clay (these are the pink feldspars)

30% potash feldspar shows local microperthitic development (the white feldspars)

5% muscovite flakes and shreds to 1 mm

3% biotite, possibly zoned, now altered largely to chlorite

trace monazite high relief grains

trace zircon with radiation damage zones in altered biotite

secondary

clay alteration of plagioclase is mainly to cores

biotite altered to chlorite with small rutile needles

Fabric

Granitic texture with small shreds of phyllosilicates and accessory minerals

Interpretation

Granite with two micas

Minor deuteric alteration/argillic? of plagioclase cores and biotite

Sample Number 1415810 **TS number B-19** **Station Number 1415810** **Collector MS**

Zone 9 UTME 695700 **UTMN 5555916**

Field sample notes in situ sample from road material quarry, from orange brown stained 3 m wide fault zone in hosting 2 mica granite.

Hand Specimen Description: Sample is a beige quartz rich clay altered feldspar in a leucogranite

non Magnetic, noncarbonate, nonconductive, density 2.74

Thin Section Descriptions

Lithological observations Fractured Granite with strained/altered plagioclase cut by black slip planes

Mineralogy

primary

30% quartz 4 mm grains with vague strain shadows

55% plagioclase 4 mm, twinned, normally zoned, with parts of core replaced by clay. Grains are slightly crushed and broken

10%potash feldspar 4 mm with microperthitic internal texture slightly crushed

5% phyllosilicates (mainly biotite?) mainly replaced (small wisps of Muscovite near altered biotite

trace monazite?

secondary

Clay replaces plagioclase, mainly in cores

Chlorite and locally abundant Fine powdery opague replace most of phyllosilcates

weathering

limonite stains rock

Fabric

fine to medium grained granitic texture

Veins

.1 mm wide irregular powdery black opague minerals fill veins, openings, coat phyllosilicates

Interpretation

Crushed Granite-granodiorite

Deuterically/argillic altered and opague veined

Sample Number 1415811 **TS number B-20** **Station Number 1415811** **Collector MS**

Zone 9 UTME 696128 **UTMN** 5551959

Field sample notes Karmutsen pillow breccia with local and rusty sulphides

Hand Specimen Description: pale grey, veined with minute disrupted sulphide veinlets, Texture of host rock is mottled in dark green and lighter greens. Cut by a vein with white selvage. Pillow breccia from Karmutsen formation with trace scattered pyrrhotite and pyrite

Magnetic (3), noncarbonate, nonconductive, density 2.98

Thin Section Descriptions

Lithological observations Brecciated feldspar rich clay altered basalt fragments in similar matrix

Mineralogy

primary

(60%) plagioclase phenocrysts

mafic scarce and well altered

(35%) groundmass now replaced

2% opague grains (magnetite/ilmenite grains)

secondary

60% Clay alteration and albitization of feldspars is ubiquitous

35% chlorite replaces much of the groundmass and is dotted with .01 mm opague dots

3% pyrite and possibly pyrrhotite as very fine grains

trace chalcopyrite (few grains seen in hand-specimen)

weathering

minor limonite stains rock

Fabric

Feldspar rich basalt fragments in similar matrix

Alteration has essentially altered all components

Veins

few planar quartz veins with opague (pyrite) grains filling part

also patches of irregular quartz veins with pyrite

vein envelope alteration

Interpretation

Highly altered basaltic hyaloclastite breccia

Pervasively and strongly altered finely dispersed chlorite-albite opague assemblage

Sample Number 1415812 **TS number** **B-21** **Station Number 1415812** **Collector MS**

Zone 9 UTME 695521 **UTMN 5554353**

Field sample notes Samples from dark brown stained fault slip,a thin fault zone in granite, orientation of fault 030/70 with a slickenline plunging 60 to the south, as well as horizontal slickenline. (apparent sinistral movement).

Hand-specimen Description: granite with biotite flakes and a triangular cross section, contains a dark brown part of an finer grained inclusion. Inclusion more magnetic than host rock, but both are magnetic

Magnetic (2), noncarbonate, nonconductive, (Buff alteration is mixture of smectite and kaolin)

Thin Section Descriptions

Lithological observations Quartz rich porphyritic to seriate granite with fresh brown biotite

Mineralogy

primary

40% Quartz, seriate and up to 6 mm across, crystals only very mildly strained

20% plagioclase, seriate up to 2 mm across and fresh twinned normally zoned and rimmed 0.2 mm across forming part of matrix. Some larger crystals have minor clay alteration at the core

20% potash feldspar, small grains intergrown with quartz in matrix, also rim plagioclase crystals

10% quartz small grains in matrix, almost vermiform in feldspars

5% Biotite grains in matrix, fresh, brown, only sparingly altered, a few intergrown with muscovite up to 0.7 mm long). A few biotite grains are associated with a scarce opague. Other very small biotite grains rim large quartz phenocrysts

trace black opague, possibly very fine grained magnetite?

secondary

Minor chlorite alteration of biotite

minor clay alteration to cores of plagioclase

buff slip planes kaolin and smectite

weathering

minor brown staining

Fabric

Seriate to porphyritic quartz set in granitic matrix

Local slip planes (minor fracturing)

Interpretation

Seriate quartz rich granite

Fresh save minor deuteric or weathering alteration

Comment

The quartz rich nature of this fresh sample raises the question as to whether this type of rock is the protolith for the QSP altered quartz rich rocks in the Heart Area.

Sample Number 1415816 **TS number** **B-22** **Station Number 1415816** **Collector MS**

Zone 9 **UTME 695445** **UTMN 5554400**

Field sample notes Rusty sample from a fault zone. Trend of fault 290/70 with horizontal slicken line, small fault lines 040/70 curve into fault, implying sinistral movement

Hand Specimen Description: Sample from country rock, White granite with grey and white feldspar and prismatic dark spots CI 20

non Magnetic, noncarbonate, nonconductive,

Thin Section Descriptions

Lithological observations Granite

Mineralogy

primary

30% Quartz to 2 mm grains, scarcely strained,

30% Plagioclase, to 2 mm complexly twinned and zoned, with altered core altered

30% Potash feldspar to 2 mm showing microperthitic growth, complex twins noted

Clusters of minor minerals Dark spots scattered evenly (like measles)

Biotite largely altered

5% Muscovite small wisps, mainly near biotite

tr Monazite grains adjacent to muscovite grains

tr Opaque grains rare, near biotite

secondary

5% chlorite and opague dust(fine rutile?) replaces most biotite

tr clay , some illite/sericite, replaces cores of plagioclase

weathering

tr minor limonite

Fabric

massive and granitic textured

Interpretation

Altered muscovite biotite granite with sporadic black spots

moderate and local clay-illite-chlorite-rutile deuteric alteration

Sample Number 1415817 **TS number** **B-23** **Station Number 1415817** **Collector MS**

Zone 9 **UTME 695443** **UTMN 5554391**

Field sample notes Sampled a pink coloured fault gouge along a subsidiary fault at 040/steep merging into fault 290/vertical

Hand Specimen Description: Pink alteration, very powdery. Local spots of chlorite?, country rock more beige than but distinct pink and white feldspar Cut by irregular mm wide quartz vein

non Magnetic, noncarbonate, nonconductive,

Thin Section Descriptions

Lithological observations granite showing fresh muscovite and partially altered and chloritized brown biotite, cut by many small slip surfaces.

Mineralogy

primary

30% quartz to 2 mm

40% plagioclase to 2 mm, normally zoned, complexly twinned, much of core altered

20% potash feldspar to 1 ½ mm, local microcline grid

6% biotite pleochroic brown, mainly altered to 1 mm partially altered

4% muscovite to 1 mm in shreds near potash feldspar plagioclase junctions, also as individual grains included in feldspars and quartz.

Trace monazite up to 0.5 mm and found near biotite and inside some feldspar

secondary

Chlorite and powdery opague grains partially alter biotites

Cores of plagioclase are altered to clay/illite, sometimes small shreds of sericite

weathering

limonite

Fabric

Granitic texture

Veins

thin chlorite partings

quartz vein with irregular borders cutting across mineral grains (such as muscovite) with no apparent effect.

Interpretation

Granite, obviously the solid part in the fault-zone was sectioned.

moderately intense and selective clay/illite and chlorite deuteric? alteration

Sample Number 1416003 **TS number** **B-24** **Station Number 1416003** **Collector AT**

Zone 9 **UTME 696333** **UTMN 5557212**

Field sample notes Float, (epi)diorite?

Hand Specimen Description: grey fine grained “epi”diorite, composed of mainly grey feldspar and angular mafic mineral

non Magnetic, noncarbonate, nonconductive, density 2.71

Thin Section Descriptions

Lithological observations Gabbroic texture altered to low grade metamorphic rock

Mineralogy

primary

50% plagioclase, some with partial relic zoning

40% mafic minerals 2 types, one, less abundant, ovoid and replaced by clay/chlorite; the other angular and replaced by amphibole and local chlorite

10% opaques

secondary

albite replacing feldspar and act as host to pumpellyite

small grains of pumpellyite replaces feldspars

chlorite and brownish clay replaces mafic minerals, some relic pyroxene

opaques and leucoxene

Fabric

Gabbroic texture with feldspar laths set in mafic host and interspersed opague grains.

Veins

mostly planar prehnite-calcite vein traverses slide. No selvage, i.e. a late vein.

Interpretation

altered gabbro or leucogabbro (two mafics)

pervasively but mildly altered to pumpellyite facies.

Sample Number 1416009 **TS number** **B-25** **Station Number 1416009** **Collector AT**

Zone 9 UTME 696149 **UTMN 5551967**

Field sample notes float from creek

Hand Specimen Description: Good example of the tuffaceous rock in Daonella beds: layered rock with a lighter grey fine grained layer , mm thick beige siliceous layer and a thicker darker v fine grained layer,. Very fine grained pyrite, some in beige lamellae, probably more fine grained pyrrhotite in the fine veinlets in the darker layer.

darker layer magnetic(1), lighter is not, noncarbonate, nonconductive,

Thin Section Descriptions

Lithological observations Hard tough rock. Layered rock with dark (opague) layers and thicker lighter coloured quartz rich layers. Variation in grain size defines the less obvious layering in the lighter portion. A foliation at large angles is faintly imposed on the layering..

Mineralogy

primary

45% quartz intergrown cryptocrystalline to very fine grains in lighter layers

30% other layers show very fine grains of materials range in size up to clastic grains

20% magnetite and chlorite in dark layers

1% carbon rich (graphite plates) layers also give a dark appearance to some layers

secondary

recrystallized very fine grained intergrown albite (few examples of albite twinning seen), quartz and chlorite altered grains and matrix

4% pyrite grains and dust

weathering

limonite

Fabric

sedimentary layering (including sulphides and “graphite” along layers

finely recrystallized rock with incipient foliation at about 60 degrees to layering; small folded layers indicate bedding slip

magnetite in some layers and very fine recystallization aspect suggest rock is probably a skarn

Veins

,01 mm or less thick irregular veins with feathering into, and in part coplanar, with foliation, mainly pyrite and chlorite

very thin quartz veins traverse layers

Interpretation

metamorphosed and recrystallized layered chert/siltstone

pervasive intense skarnification

NOTE This skarn like rock suggests that an igneous contact is found up slope of this creek. Intrusion post dates or is coeval with foliation.

Sample Number 1416010 **TS number B-26** **Station Number 1416010** **Collector AT**

Zone 9 UTME 696147 **UTMN 5551967**

Field sample notes Float in creek, sulphide rich sample,(also see 1416009)

Hand Specimen Description: white prism shaped vein fill cut by smaller sulphide veinlets set in a pistachio green matrix host rock and darker magnetic layer with sulphides. Sulphide is possible magnetic agent (seen on magnet)

Magnetic (3), noncarbonate, nonconductive, density 3.07

Thin Section Descriptions

Lithological observations: a layered rock. A light layer, with an adjacent darker 1 cm thick layer and a third 3 cm thick layer, Secondary veins and fracture cleavage cut all layers. Darker layers are very magnetic, light, not so much. Lighter layer in part of shear zone with lenticular fragments of microporphyritic basalt encased in opague .mm thick layers showing small local crystals of epidote. The darker layers are mainly shear zone fill.

Mineralogy

primary (35% basalt)

.5 mm plagioclase undeformed

groundmass fine-grained unresolved matrix material (epidote-chlorite-actinolite-leucoxen complexly intergrown on a fine scale

rounded amygdales filled with actinolite and chlorite

secondary 65%, dark layers)

50% opague tectonic layers (mainly opague sulphides +/- magnetite) and chlorite, actinolite, rare epidote and quartz

10% quartz rich layers with opague material as very fine crystals

5% Chlorite and actinolite rich layers

Scarce albite (few albite twinned crystals seen) in lighter layers

weathering

Fresh

Fabric

Sheared and veined fabric with well preserved augen of basaltic host rock

Veins

Most of rock is recrystallized gouge with complex internal fabric noted above

Cut later by thin veins of mainly quartz and opague sulphide

This rock has a complex history: a fragment of well preserved basalt in a complexly sheared gouge which has then been recrystallized and reconstituted to a distal contact rock.

Interpretation

Basalt in a recrystallized shear zone/gouge

pervasive intense recrystallized quartz-chlorite-actinolite (distal) contact rock later mineralized by iron minerals (oxides, sulphides and silicates)

Note; This rock indicates that a mineralized shear zone affects basalt upstream. Considering this rock and 14166009, it is obvious that a complex mineralized contact is to found above.

The reason for the strong magnetism is not known, it is most likely due to magnetite but the possibility that some pyrrhotite is also present cannot be discounted. The presence of pyrite is confirmed.

Sample Number 1416152 **TS number** **B-27** **Station Number 1416152 (RF11-003** **Collector RT**

Zone 9 UTME 698455 **UTMN 5552810**

Field sample notes From Kokummi side, mineralized gabbro representative of rusty section in cliff south of road.

Hand Specimen Description: dark fragmental rock mottled texture and with cm sized black clasts cut by abundant sulphide veins

Magnetic (2), noncarbonate, nonconductive,

Thin Section Descriptions

Lithological observations Medium grained gabbro cut by sulphide veins (pyrite, minor chalcopyrite)

Mineralogy

primary

55% plagioclase 4 mm and larger, twinned labradorite, locally degraded

40% intersertal texture mafic largely degraded (Augite?)

5% small patches of interstitial opaques (magnetite/ilmenite)

secondary

Albite has altered large plagioclase grains where fractures associated with the veining cut the feldspar, especially near the edge of veins

Chlorite replaces majority of mafic mineral

Titanite was noted rimming oxide grains

weathering

very little, some rust

Fabric

primary

gabbroic, plagioclase in intersertal “augite”

infill/replacement

albite replaces feldspar along twin planes, cleavage planes and fractures giving the primary feldspar a moth eaten look

chlorite in decussate fill of space of mafic mineral

opaques are surrounded by small clusters of chlorite and leucoxene

tectonic

shear veins

feldspar grains are bent, broken, and locally recrystallized into smaller domains

Veins

sulphide veins a few mm across and present but not abundant, with irregular distribution

vein envelope alteration is noted as a thin (.1mm) zone of finely recrystallized feldspars intergrown with chlorite and small opague grains (pyrite)

Interpretation

sulphide veined medium grained deformed gabbro

weak pervasive chlorite-albite alteration (Could be low grade and regional

Sample Number IF-035 **TS number** **B-28** **Station Number IF-035** **Collector IG**

Zone 9 **UTME 698519** **UTMN 5555671**

Field sample notes from onion like structures just south of Mt Adam Peak, type 2 rock of R.Till, not pillows, maybe weathering rind on a massive unit

Hand Specimen Description: dark hard rock with mottled texture. Lighter portion probably feldspars, can see plagioclase laths, so rock would be fine grained

Magnetic (1), noncarbonate, nonconductive, density 2.68!

Thin Section Descriptions (thick)

Lithological observations An unusual rock consisting of abundant platy mainly pyroxene but locally altered to amphibole crystals interspersed with clay altered feldspars. Is probably an altered gabbro with an unusual primary fabric and later clay alteration of feldspar.

Mineralogy

primary

40% plagioclase altered 2 mm laths

50% pyroxene abundant in flat 1 to 2 mm laths some altered

5% opaques scattered grains

secondary

Kaolin clay replaces the feldspar leaving them almost isotropic, in a few thin parts of thin section scarce grains of very low very fine grained clay was seen

Amphibole replaces parts of pyroxenes, determined by lower extinction angles and 60 degree cleavages

5% Chlorite locally in groundmass between grains

accessory leucoxene near some opague grains

weathering

not obvious in section, rust stained in outcrop

Fabric

primary

Gabbroic intersertal texture with plagioclase laths set in pyroxenes

Amphibole has later replaced part of the pyroxenes

Kaolin? pseudomorphs most the feldspars

Some plagioclase show albite twinning and are probably albite now

tectonic

A thin mylonite seam borders the slide indicating local deformation

Veins

Few veins of plagioclase of reduced size with minor smaller pyroxenes cut the primary fabric (these veins are presumably part of initial fabric)

Interpretation

Altered gabbro with a platy structure (layering?)

pervasive intense pseudomorphing kaolin, albite-amphibole assemblage. (hydrothermal?)

Sample Number RF11-002 **TS number B-29** **Station Number RF11-002** **Collector RT**

Zone 9 UTME 698453 **UTMN 5553100**

Field sample notes Typical Sample from head water of Kokummi Creek

Hand Specimen Description: dark fine to medium grained gabbro flashing dark cleavage planes

Magnetic (2), noncarbonate, nonconductive, density 3.16

Thin Section Descriptions

Lithological observations A gabbroic rock with typical texture in which plagioclase is relatively fresh and pyroxene is mainly altered, not the usual order of alteration.

Mineralogy

primary

50 % 2 mm plagioclase normally zoned (from at least An 50 to An0) and twinned

40% 2 mm pyroxene intersertal still fresh parts green and pink pleochroism, rest altered

3% 0.3 mm opague

secondary

plagioclase partially alters to tan coloured clay albite quartz near disruptions

pyroxene mainly alters to fibrous amphibole and lightly coloured chlorite which becomes more green at edge of replaced grain .

Opaques alter to leucoxene and/or chlorite

plagioclase shows local cracking along cleavage planes, these are filled with chlorite

weathering

Some clay formation may be due to weathering

Fabric

Gabbroic fabric with intersertal pyroxenes

Metamorphic replacement of plagioclase is incomplete, as is replacement of pyroxene

Minor slip zones

Veins

Many of the original crystals have been broken with very little offset, these are mainly filled with chlorite

Interpretation

altered gabbro

moderate-sporadic alteration with replacement albite-chlorite-actinolite-leucoxene (low grade and regional?

Sample Number RF12-114 **TS number** **B-30** **Station Number RF11-114** **Collector RT**

Zone 9 UTME 698238 **UTMN 5555592**

Field sample notes rusty sample on east face, near top of Mt Adam similar to “type 2 material of R. Till, see IF-035”

Hand Specimen Description: dark fine grained hard rock, probably a diabase, scattered sulphide replaces mafic microphenocrysts

Magnetic (3), nonfizzing, nonconductive,

Thin Section Descriptions

Lithological observations A dark rock which in thin section is seen to be in two parts, a darker more pyritic portion and a greener portion. Similar primary textures are seen in both parts. Pyritic “grains” are seen to be replacements of some of the phenocrysts. Although carbonate features prominently in section the off cut does show any fizzing. This may reflect a more complex carbonate.

Mineralogy

primary

10% altered olivine?, pyroxene, and plagioclase microphenocrysts

80% groundmass of very fine grained acicular felted feldspar laths set in very fine grained matrix, mostly altered “glass” and scattered opague grains (magnetite?)

secondary

(10%) microphenocrysts? now replaced by calcite, chlorite, local “biotite”and pyrite

((30%)) plagioclase axiolites is now mainly calcite, chlorite quartz

((60%)) groundmass matrix a fine grained mass of carbonate crystals set with chlorite, clay, leucoxene, pyrite and quartz

10% half slide has been darkened almost to blackness by more pyrite and slightly different balance between minerals seen in pseudomorphs. In particular, a 2nd order green brown mica like mineral forms plates in a matrix of chlorite. It is possible this may be a biotite associated with influx of pyrite in the darker part

weathering

the darker part may also in part be due to manganese staining.

Fabric

Original fabric, now pseudomorphed, is microporphyritic very fine grained basalt

Metamorphic recrystallization has generated a finer grained rock with local areas of pseudomorphed crystals

Veins

The darker mass could be interpreted as a part of a very wide selvage introducing pyrite into the rock.

Interpretation

Altered microporphyritic basalt of Karmutsen formation

pervasive-partial alteration by chlorite carbonate,pyrite, and “biotite” assemblage.

NOTE this rock is topographically, structurally and stratigraphically above the Quartz-sericite-pyrite alteration facies discussed elsewhere.

PIMA SPECTRAL ANALYSIS
KH194

SAMPLE ID	NAD83 E	NAD83 N	unit	2200 WAVE	OTHER WAVE	UNID	HiX ILL	ILL	SMEC	KAO	CHL	CAR	ZEO	AMPH	PREHN	SIL	COMMENTS
LOCATED SAMPLES																	
194R001A	695715	5556101		2210						X						x?	yellow/grey laminated siliceous
194R001B				2210						X						x?	yellow/grey laminated siliceous
194R002A	695715	5556101		2202				X		tr						x?	Pale brown/grey QF
194R002B				2206				X		tr	tr					x?	Pale brown/grey QF
194R003A	695701	5556088	3	2208				x		X						x?	Pale brown/grey QF
194R003B				2208				x		X						X?	Pale brown/grey QF
194R004A	695697	5555875	3	2208				x		X						x?	Pale brown/grey QF
194R004B				2210				x		X						x?	Pale brown/grey QF
194R005A	695692	5555852	3	2208	2257			X		tr	X					x?	Grey QF, dark fracture fill. Fe Chlorite
194R005B				2207	2262			x		tr	X					x?	Grey QF, dark fracture fill. Fe Chlorite
194R006A	695694	5555791		2210						X						x?	Fe stained partly leached QF. Good xln kaolinite
194R006B				2210						X						x?	Fe stained partly leached QF. Good xln kaolinite
194R007A	695694	5555791		2210	2336					x		X				x?	White xln calcite, yellow fracture. Slight Fe slope
194R007B				2210	2336					x		X				x?	White xln calcite, yellow fracture. Slight Fe slope
194R008A	695694	5555791		2206					x	X						x?	Bx, buff soft frags with gybrown silic mx
194R008B				2208					x	X						x?	Bx, buff soft frags with gybrown silic mx
194R009A	695447	5554399	3		1478	?							x?		x?		Pink/grey QF. 1478 could be prehnite? Contamination from epoxy between 1600-1800nm, probably in 2300nm range too
194R009B					1478	?							x?		x?		Pink/grey QF. 1478 could be prehnite? Contamination from epoxy and red writing
194R010A	695515	5554554		2208				x		X						x?	Grey/brown QF, Fe staining
194R010B				2208				x		X						x?	Grey/brown QF, Fe staining
194R011A	695515	5554554	3	2201	2260			X			tr	?				x?	Grey QF, black mottled. Fe Chlorite.
194R011B				2201	2260			X			x	?				x?	Grey QF, black mottled. Fe Chlorite
194R012A	692267	5556791	3	2206			X			tr						x	QV. Normal HiX illite
194R012B				2209				x		X						X	QV
194R013A	696615	5554976	1		2318									X			Grey buff fg hard/offwhite qv. Probable tremolite?
194R013B					2320									X		x?	Offwhite qv
194R014A	695751	5554506	3	2238											X		Green/grey hard bx
194R014B				2244													Green/grey hard bx

X=major component; x=minor component; tr=trace; x?=probably present

K. Heberlein

2013-01-24

PIMA SPECTRAL ANALYSIS
KH194

SAMPLE ID	NAD83 E	NAD83 N	unit	2200 WAVE	OTHER WAVE	UNID	HiX ILL	ILL	SMEC	KAO	CHL	CAR	ZEO	AMPH	PREHN	SIL	COMMENTS
194R020A	696757	5554531	1		1438								X				White soft fine xln fault fill
194R020B					1435								X				White soft fine xln fault fill
194R021A	656654	5554531	1		1437								X				Green fg/white soft stringers
194R021B					1436								X				Green fg/white soft stringers
194R022A	695531	5554406	1	2206					X	?							Buffbrown soft altn
194R022B				2205					X	x							Buffbrown soft altn
194R023A	695521	5554353	3	2210					X	tr							Brown soft vnlt
194R023B				2207	2263				X	tr	x	?					Brown soft vnlt/QF. Fe Chlorite
194R024A	695530	5554402	3		1435								X				Offwhite/brown mottled soft altn
194R024B					1435								X				Offwhite/brown mottled soft altn
194R025A	695470	5554459	3	2210	2264				X	?	tr						Lt brown soft
194R025B				2236	2353				x?						X	x?	Lt brown/grey soft
194R026A	698003.8	5554895.8	1	2207				X		tr						x?	Lt brown soft
194R026B																x?	Redbrown pervasive, probably just Fe-oxides. No jarosite
UNLOCATED SAMPLES																	
194R015A	MC samples are from a location on Mt Cain in Jurassic intrusive This is outer edge of an alteration zone			2208	2253				X		X						Pink hard/greenblack mottled altn. Int FeMg Chlorite
194R015B	As above, this is an inner zone in same rock			2253	2352						tr				X		Green mod soft/greenblack mottled. Trace Int Chlorite?
194R016A	As above, this is vein causing alteration			2238	2354										X		Main vein, greenwhite
194R016B	As above, this is a late vein crossing previous alteration and vein.				1433				?				X				bright white stringer
194R017A	A white efflorecrnce ona polished specimen of a highly mineralized pyrrhotite sample				1965	x										?	White fg efflorescence. Water features only
194R017B	A white efflorecrnce ona polished specimen of a highly mineralized pyrrhotite sample				1945	x											White fg efflorescence. 1452/1945nm could be very weak anhydrite?

K. Heberlein

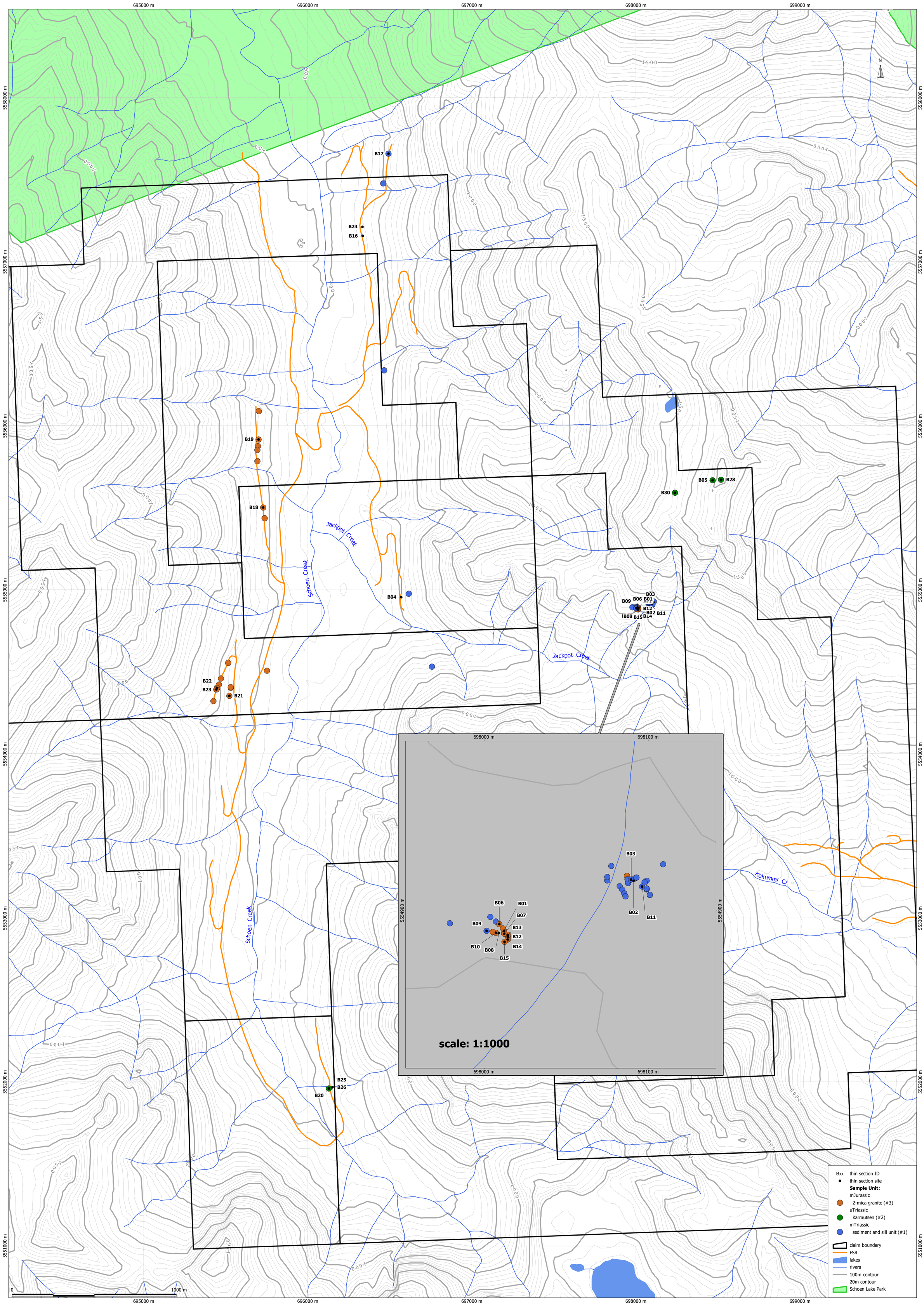
X=major component; x=minor component; tr=trace; x?=probably present

2013-01-24

PIMA SPECTRAL ANALYSIS
KH194

SAMPLE ID	NAD83 E	NAD83 N	unit	2200 WAVE	OTHER WAVE	UNID	HiX ILL	ILL	SMEC	KAO	CHL	CAR	ZEO	AMPH	PREHN	SIL	COMMENTS
194R018A	From Jinglepot junction with highway 19, the well exposed Unconformity in Nanaimo			2209	2259				tr		X						Conglomerate, green fg clasts. Fe-rich chlorite
194R018B	From Jinglepot junction with highway 19, the well exposed Unconformity in Nanaimo				2338						tr	X	x?				Conglomerate, white mx. Calcite, probable zeolite
194R019A	Scoriaceous basaltic lava from Karmutsen to East filled with zeolite				1435								X				Offwhite friable crystalline mx
194R019B	Scoriaceous basaltic lava from Karmutsen to East filled with zeolite				1435								X				Offwhite friable crystalline mx

X=major component; x=minor component; tr=trace; x?=probably present



Bxx thin section ID
thin section site
Sample Unit:
mJurassic
2-mica granite (#3)
uTriassic
Karmutsen (#2)
mTriassic
sediment and sill unit (#1)
claim boundary
FSR
lakes
rivers
100m contour
20m contour
Schoen Lake Park

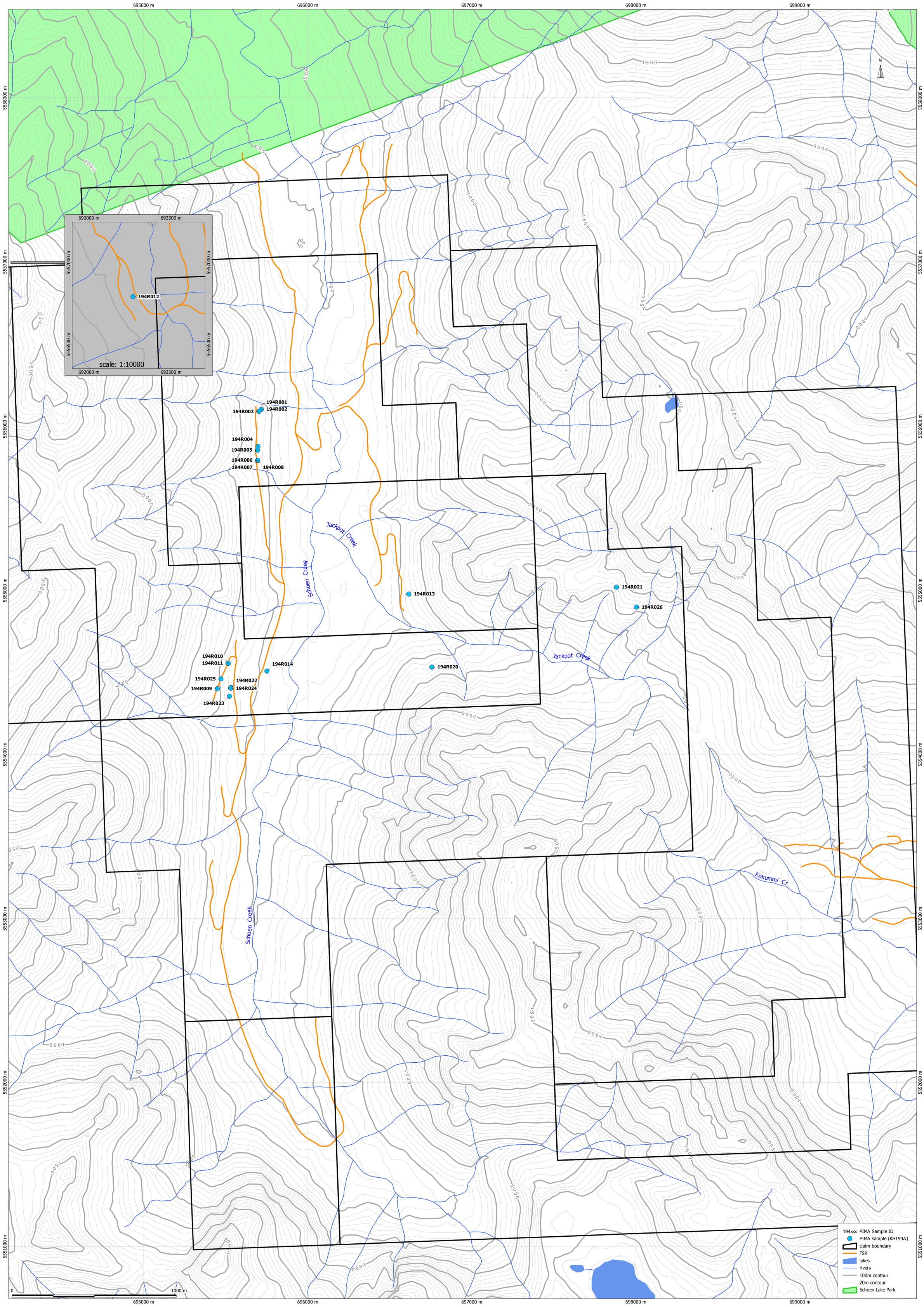
Projection/Datum: UTM 9(N) NAD83
scale: 1:10000

0 1000 m

THE FLAN PROJECT

January 2013

Figure 12: Locations of petrological samples



Projection/Datum: UTM 9(N) NAD83
scale: 1:10000

0 1000 m

THE FLAN PROJECT

January 2013

Figure 13:
Locations of
PIMA alteration study

Appendix D-Assay certificates

Rock

Acme VAN1240018 and check samples VAN1240018P

G6-Au grav included.

Silt

Acme VAN1240019

Hemlock twigs

Act Labs A12-10126

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

www.acmelab.com

Client: **Schau, Mikkel**
3919 Woodhaven Terrace
Victoria BC V8N 1S7 Canada

Submitted By: Mikkel Schau
Receiving Lab: Canada-Vancouver
Received: September 05, 2012
Report Date: October 05, 2012
Page: 1 of 4

CERTIFICATE OF ANALYSIS VAN12004218.1

CLIENT JOB INFORMATION

Project: FLAN
Shipment ID: RK 2012-09
P.O. Number
Number of Samples: 71

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
RTRN-RJT Return

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	71	Crush, split and pulverize 250 g rock to 200 mesh			VAN
M150	2	Crush, Pulverize and Sieve 500g, save +150 and -150 mes			VAN
GEO4	71	FA fusion Au Pt Pd; 1:1:1 AR digestion ICP-ES analysis	30	Completed	VAN
M150	2	Weight Total fraction by metallics screen 150# ty			VAN
G604	2	Metallic Au and Ag	30	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: Schau, Mikkel
3919 Woodhaven Terrace
Victoria BC V8N 1S7
Canada

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
RAYMOND CHAN
CHIEF ASSAYER

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. Results apply to samples as submitted.
"*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

Acme Analytical Laboratories (Vancouver) Ltd.
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Client: **Schau, Mikkel**
3919 Woodhaven Terrace
Victoria BC V8N 1S7 Canada

Project: FLAN
Report Date: October 05, 2012

CERTIFICATE OF ANALYSIS VAN12004218.1

Method		WGHT	M150	3B	3B	3B	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
Analyte		Wgt	TotWt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb
Unit		kg	g	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.01	1	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	2	1	0.5	3
G1	Prep Blank	<0.01	544	<2	<3	<2	<1	<1	<3	44	0.4	3	4	534	1.87	<2	<2	4	49	<0.5	<3
G1	Prep Blank	<0.01	N.A.	<2	<3	<2	<1	<1	3	46	<0.3	3	4	555	1.98	<2	<2	3	51	<0.5	<3
016551	Rock	0.80	N.A.	4	8	13	<1	108	<3	15	0.7	260	45	172	3.21	<2	<2	<2	20	0.8	<3
016552	Rock	0.39	N.A.	48	4	33	<1	236	<3	87	0.7	61	39	652	8.28	26	<2	<2	92	1.0	<3
016553	Rock	0.47	N.A.	7	<3	24	<1	152	<3	34	<0.3	37	20	303	3.18	16	<2	<2	116	1.4	<3
016554	Rock	0.84	N.A.	23	<3	21	<1	196	<3	21	0.7	15	8	184	1.70	<2	<2	<2	14	<0.5	<3
016555	Rock	0.80	N.A.	11	<3	32	7	265	<3	32	<0.3	38	26	249	4.51	5	<2	<2	6	0.5	<3
016556	Rock	0.91	N.A.	51	<3	31	<1	325	<3	54	0.6	29	20	516	4.13	15	<2	<2	23	0.8	<3
016557	Rock	0.68	N.A.	1009	8	11	<1	231	18	162	<0.3	267	32	1829	15.08	303	<2	<2	<1	0.8	<3
016558	Rock	0.85	N.A.	776	5	13	<1	140	10	130	<0.3	160	12	1279	11.57	151	<2	<2	48	<0.5	<3
016559	Rock	0.85	N.A.	5222	8	15	<1	1032	76	788	3.2	222	19	1966	22.20	73	4	<2	<1	11.4	<3
016560	Rock	1.17	N.A.	2984	9	15	<1	104	131	193	1.9	193	12	2177	17.82	834	2	<2	<1	0.9	<3
016561	Rock	1.05	N.A.	21	<3	13	<1	163	4	22	<0.3	171	25	188	2.58	15	<2	<2	87	<0.5	<3
016562	Rock	1.07	N.A.	22	<3	31	<1	286	4	40	<0.3	35	26	327	5.90	4	<2	<2	11	0.8	<3
016563	Rock	0.66	N.A.	9	<3	34	<1	261	<3	29	<0.3	25	16	255	3.63	8	<2	<2	36	<0.5	<3
016601	Rock	0.78	N.A.	8	<3	18	<1	260	<3	12	<0.3	20	16	149	2.47	18	<2	<2	40	<0.5	<3
016602	Rock	0.41	N.A.	8	<3	31	<1	415	9	144	<0.3	38	16	1424	11.46	29	<2	<2	19	0.9	<3
016603	Rock	0.94	N.A.	6228	<3	30	<1	4875	<3	1218	9.5	55	208	897	32.89	>10000	<2	<2	2	18.1	48
016604	Rock	1.04	N.A.	2761	<3	29	<1	1304	17	154	3.0	46	74	1312	23.54	>10000	<2	<2	1	<0.5	21
016605	Rock	0.76	N.A.	43	<3	31	<1	269	<3	97	<0.3	44	32	1521	10.60	633	<2	<2	19	<0.5	<3
016606	Rock	0.61	N.A.	24	<3	16	2	821	<3	23	<0.3	34	31	234	11.22	207	<2	<2	12	<0.5	<3
016607	Rock	0.70	N.A.	18	<3	5	<1	397	10	57	0.3	14	9	253	8.53	70	<2	<2	4	<0.5	<3
016608	Rock	0.53	N.A.	13	3	25	107	1225	4	45	0.6	39	29	300	8.16	20	<2	<2	8	<0.5	<3
016609	Rock	0.57	N.A.	8	<3	21	<1	164	<3	37	0.3	28	13	208	2.46	45	<2	<2	180	0.5	<3
016610	Rock	0.53	N.A.	4	5	12	<1	44	<3	115	<0.3	402	40	365	3.15	133	<2	<2	99	0.7	<3
016611	Rock	0.61	N.A.	<2	<3	13	<1	78	<3	81	<0.3	425	46	528	3.45	280	<2	<2	103	1.2	<3
016612	Rock	0.82	N.A.	2190	<3	8	2	1341	12	686	1.0	178	60	2005	30.84	>10000	<2	<2	1	5.5	<3
016613	Rock	0.79	N.A.	13	<3	33	<1	325	<3	21	<0.3	14	8	228	2.74	32	<2	<2	6	<0.5	<3
016614	Rock	0.41	N.A.	235	<3	31	2	488	<3	59	0.4	51	39	637	7.87	604	<2	<2	60	<0.5	<3
016615	Rock	0.50	N.A.	7	<3	33	<1	322	<3	48	0.5	26	18	233	3.15	20	<2	<2	89	<0.5	<3

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Project: FLAN
Report Date: October 05, 2012

CERTIFICATE OF ANALYSIS VAN12004218.1

Method		1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D			1D	G6.ME	G6.ME	G6.ME
Analyte		Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Ga	S	Sc	Tot Wt	+ Wt	+Ag
Unit		ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppm	g	g	mg
MDL		3	1	0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	5	0.05	5	1	0.01	0.001
G1	Prep Blank	<3	34	0.41	0.077	7	7	0.57	225	0.11	<20	0.90	0.07	0.46	3	7	<0.05	<5	544	24.41	0.062
G1	Prep Blank	5	36	0.42	0.080	7	8	0.59	234	0.11	<20	0.94	0.07	0.48	3	7	<0.05	<5	N.A.	N.A.	N.A.
016551	Rock	<3	33	0.71	0.015	<1	124	0.80	9	0.09	<20	1.00	0.16	0.02	<2	<5	1.61	<5	N.A.	N.A.	N.A.
016552	Rock	<3	402	1.51	0.090	2	84	3.00	85	0.32	<20	5.29	0.28	0.16	3	22	0.32	13	N.A.	N.A.	N.A.
016553	Rock	<3	146	2.17	0.078	3	53	0.99	48	0.26	<20	3.89	0.27	0.07	<2	13	0.09	5	N.A.	N.A.	N.A.
016554	Rock	<3	64	1.01	0.080	2	16	0.50	11	0.13	<20	0.99	0.13	0.05	<2	12	<0.05	<5	N.A.	N.A.	N.A.
016555	Rock	<3	138	0.78	0.073	3	9	0.38	2	0.18	<20	0.74	0.06	0.02	<2	10	1.11	<5	N.A.	N.A.	N.A.
016556	Rock	3	168	1.17	0.086	3	17	1.06	13	0.24	<20	1.81	0.09	0.02	<2	8	0.07	11	N.A.	N.A.	N.A.
016557	Rock	<3	221	0.10	0.021	<1	835	5.61	5	0.11	<20	6.55	<0.01	0.02	<2	18	0.38	29	N.A.	N.A.	N.A.
016558	Rock	6	151	0.43	0.014	<1	554	4.33	16	0.10	<20	5.10	0.02	0.03	<2	12	0.25	21	N.A.	N.A.	N.A.
016559	Rock	38	272	0.06	0.023	<1	956	6.21	<1	0.12	<20	8.06	<0.01	<0.01	<2	22	3.11	36	N.A.	N.A.	N.A.
016560	Rock	31	295	0.06	0.017	<1	1039	6.26	13	0.17	<20	7.57	<0.01	0.04	<2	16	0.20	36	N.A.	N.A.	N.A.
016561	Rock	<3	38	2.06	0.035	<1	72	0.80	10	0.12	<20	3.10	0.34	0.02	2	9	0.69	<5	N.A.	N.A.	N.A.
016562	Rock	<3	141	0.69	0.079	3	16	0.76	5	0.31	<20	1.27	0.07	0.02	<2	9	2.24	8	N.A.	N.A.	N.A.
016563	Rock	<3	156	1.04	0.073	3	13	0.47	21	0.20	<20	1.26	0.17	0.04	<2	5	0.38	5	N.A.	N.A.	N.A.
016601	Rock	<3	43	1.47	0.048	1	24	0.40	18	0.14	<20	2.17	0.26	0.02	<2	9	0.83	<5	N.A.	N.A.	N.A.
016602	Rock	<3	385	1.20	0.092	2	39	2.51	25	0.28	<20	4.26	0.03	0.06	<2	20	1.09	21	N.A.	N.A.	N.A.
016603	Rock	32	245	0.21	0.053	<1	22	1.41	16	0.10	<20	2.89	<0.01	0.04	2	15	11.58	14	N.A.	N.A.	N.A.
016604	Rock	29	364	0.17	0.069	<1	34	1.95	19	0.15	<20	3.72	<0.01	0.05	4	21	6.70	18	N.A.	N.A.	N.A.
016605	Rock	<3	382	3.36	0.068	2	34	2.39	30	0.18	<20	3.32	<0.01	0.09	<2	19	1.77	24	N.A.	N.A.	N.A.
016606	Rock	<3	90	0.72	0.046	1	8	0.37	7	0.19	<20	1.15	0.07	0.01	3	6	6.27	6	N.A.	N.A.	N.A.
016607	Rock	<3	19	0.46	0.037	2	6	0.28	2	0.13	<20	0.75	0.04	<0.01	<2	8	4.22	<5	N.A.	N.A.	N.A.
016608	Rock	<3	119	0.85	0.071	2	13	0.71	7	0.25	<20	1.12	0.06	0.02	2	5	3.87	<5	N.A.	N.A.	N.A.
016609	Rock	<3	85	2.68	0.061	2	39	0.76	48	0.16	<20	4.11	0.26	0.05	3	15	0.07	<5	N.A.	N.A.	N.A.
016610	Rock	<3	40	1.26	0.015	<1	400	2.95	22	0.05	<20	3.59	0.08	0.05	<2	8	<0.05	<5	N.A.	N.A.	N.A.
016611	Rock	5	68	2.10	0.018	<1	395	2.47	21	0.06	<20	4.62	0.18	0.04	<2	<5	0.11	9	N.A.	N.A.	N.A.
016612	Rock	<3	178	0.11	0.046	<1	33	3.67	7	0.03	<20	5.52	<0.01	0.02	<2	15	7.13	23	N.A.	N.A.	N.A.
016613	Rock	<3	99	0.76	0.070	2	12	0.50	3	0.21	<20	0.78	0.07	0.03	<2	<5	0.38	<5	N.A.	N.A.	N.A.
016614	Rock	<3	170	3.63	0.086	2	19	1.41	20	0.21	<20	3.96	0.18	0.05	<2	9	1.84	10	N.A.	N.A.	N.A.
016615	Rock	<3	134	2.61	0.084	5	24	1.01	22	0.19	<20	4.26	0.25	0.03	<2	16	0.11	<5	N.A.	N.A.	N.A.

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Method		G6.ME	G6.ME	G6.ME	G6.ME	G6.ME
Analyte		- Ag	Tot Ag	+ Au	- Au	Tot Au
Unit		gm/t	gm/t	mg	gm/t	gm/t
MDL		5	5	0.001	0.17	0.17
G1	Prep Blank	11	11	<0.001	<0.17	<0.17
G1	Prep Blank	N.A.	N.A.	N.A.	N.A.	N.A.
016551	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016552	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016553	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016554	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016555	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016556	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016557	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016558	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016559	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016560	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016561	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016562	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016563	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016601	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016602	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016603	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016604	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016605	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016606	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016607	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016608	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016609	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016610	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016611	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016612	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016613	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016614	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016615	Rock	N.A.	N.A.	N.A.	N.A.	N.A.

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Method		WGHT	M150	3B	3B	3B	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
Analyte		Wgt	TotWt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb
Unit		kg	g	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.01	1	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	2	1	0.5	3
016564	Rock	2.33	N.A.	1483	<3	3	<1	339	<3	5	0.9	<1	<1	27	13.18	8737	<2	10	6	<0.5	<3
016565	Rock	4.13	N.A.	3075	<3	<2	<1	711	<3	23	1.7	<1	7	279	6.38	>10000	3	5	2	<0.5	<3
016566	Rock	3.75	N.A.	1229	<3	<2	<1	249	<3	17	0.7	<1	9	265	5.66	7164	<2	5	3	<0.5	<3
016567	Rock	3.88	N.A.	742	<3	<2	<1	164	<3	12	1.2	<1	3	221	5.61	1833	<2	5	3	<0.5	<3
016568	Rock	4.15	N.A.	1095	<3	<2	<1	280	<3	20	0.7	<1	2	228	6.63	243	<2	5	11	<0.5	<3
016569	Rock	2.00	N.A.	595	<3	<2	<1	151	<3	19	<0.3	<1	2	534	5.01	117	<2	4	27	<0.5	<3
016570	Rock	2.30	N.A.	201	<3	16	<1	251	<3	118	<0.3	78	44	2346	10.69	2306	<2	<2	25	<0.5	<3
016571	Rock	2.31	N.A.	59	<3	18	<1	415	<3	116	0.3	86	41	2210	9.53	53	<2	<2	48	<0.5	<3
016572	Rock	2.62	N.A.	1071	<3	<2	1	517	<3	26	0.7	<1	2	347	7.21	131	<2	5	2	<0.5	<3
016616	Rock	0.41	N.A.	6	<3	16	<1	237	<3	53	<0.3	52	26	492	4.22	50	<2	<2	162	<0.5	<3
1415801	Rock	2.20	619	>10000	<3	7	7	>10000	<3	1265	49.1	62	343	496	36.06	<2	83	<2	<1	12.1	<3
1415802	Rock	0.83	N.A.	36	<3	15	<1	418	<3	62	<0.3	45	22	1520	4.54	12	<2	<2	95	<0.5	<3
1415803	Rock	0.52	N.A.	3	<3	<2	<1	17	<3	3	<0.3	2	1	1015	0.32	<2	<2	<2	164	0.6	<3
1415804	Rock	0.28	N.A.	2	<3	30	<1	278	<3	46	<0.3	42	29	296	4.04	<2	<2	<2	26	<0.5	<3
1415805	Rock	0.73	N.A.	6	<3	23	<1	226	<3	27	<0.3	18	11	258	2.68	3	<2	<2	72	<0.5	<3
1415806	Rock	0.33	N.A.	<2	<3	<2	4	171	14	46	0.4	<1	6	359	4.03	<2	<2	7	8	<0.5	<3
1415807	Rock	0.76	N.A.	<2	<3	<2	2	29	<3	42	<0.3	<1	<1	364	1.37	<2	<2	7	13	<0.5	<3
1415808	Rock	0.25	N.A.	<2	<3	<2	<1	2	<3	18	<0.3	<1	<1	469	0.72	<2	<2	8	8	<0.5	<3
1415809	Rock	0.48	N.A.	<2	<3	<2	<1	1	<3	13	<0.3	<1	<1	484	0.85	5	<2	8	4	<0.5	<3
1415810	Rock	0.75	N.A.	<2	<3	<2	<1	7	<3	15	<0.3	<1	<1	406	0.76	6	<2	7	4	<0.5	<3
1415811	Rock	0.48	N.A.	<2	<3	10	<1	682	<3	42	<0.3	84	54	297	3.95	<2	<2	<2	26	<0.5	<3
1415812	Rock	0.36	N.A.	<2	<3	<2	<1	5	<3	27	<0.3	3	2	683	1.07	2	<2	5	37	<0.5	<3
1415813	Rock	0.63	N.A.	<2	<3	<2	<1	3	<3	15	<0.3	1	1	492	0.81	<2	<2	5	144	<0.5	<3
1415814	Rock	0.72	N.A.	<2	<3	<2	<1	2	<3	27	<0.3	<1	1	647	1.10	<2	<2	6	15	<0.5	<3
1415815	Rock	0.92	N.A.	<2	<3	<2	<1	6	<3	36	<0.3	2	<1	383	0.67	<2	<2	6	51	<0.5	<3
1415816	Rock	0.91	N.A.	<2	<3	<2	<1	2	4	20	<0.3	<1	<1	418	0.60	<2	<2	9	14	<0.5	<3
1415817	Rock	0.74	N.A.	<2	<3	<2	<1	2	<3	18	<0.3	<1	<1	574	0.75	<2	<2	8	33	<0.5	<3
1415818	Rock	0.55	N.A.	<2	<3	<2	<1	3	<3	24	<0.3	<1	<1	275	0.82	<2	<2	9	5	<0.5	<3
1415819	Rock	1.19	529	773	<3	3	7	8195	73	365	71.2	2	120	519	23.91	95	9	<2	<1	3.1	<3
1416001	Rock	1.52	N.A.	3	4	24	2	203	<3	74	0.4	68	43	454	6.81	<2	<2	<2	39	<0.5	<3

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Method		1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D			1D	G6.ME	G6.ME	G6.ME
Analyte		Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Ga	S	Sc	Tot Wt	+ Wt	+Ag
Unit		ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppm	g	g	mg
MDL		3	1	0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	5	0.05	5	1	0.01	0.001
016564	Rock	<3	11	0.04	0.050	5	2	0.02	125	0.02	<20	0.51	<0.01	0.20	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
016565	Rock	5	6	0.05	0.034	3	<1	0.25	91	0.03	<20	1.22	<0.01	0.20	<2	7	0.94	<5	N.A.	N.A.	N.A.
016566	Rock	<3	6	0.04	0.033	2	1	0.26	95	0.02	<20	1.11	<0.01	0.21	<2	6	0.76	<5	N.A.	N.A.	N.A.
016567	Rock	3	5	0.05	0.032	4	<1	0.23	77	0.01	<20	1.02	<0.01	0.18	<2	<5	0.56	<5	N.A.	N.A.	N.A.
016568	Rock	<3	6	0.08	0.040	5	2	0.23	124	0.02	<20	1.50	<0.01	0.24	<2	<5	0.89	<5	N.A.	N.A.	N.A.
016569	Rock	<3	7	0.43	0.042	6	<1	0.28	129	0.02	<20	1.46	<0.01	0.22	<2	<5	0.29	<5	N.A.	N.A.	N.A.
016570	Rock	<3	278	3.37	0.060	7	174	3.31	42	0.10	<20	5.27	<0.01	0.10	<2	11	0.27	23	N.A.	N.A.	N.A.
016571	Rock	<3	289	4.51	0.063	7	181	3.23	33	0.20	<20	4.96	0.01	0.08	<2	10	0.05	26	N.A.	N.A.	N.A.
016572	Rock	<3	7	0.13	0.042	5	2	0.34	127	0.02	<20	1.64	<0.01	0.28	<2	<5	3.08	<5	N.A.	N.A.	N.A.
016616	Rock	<3	151	3.11	0.065	3	86	1.34	52	0.43	<20	4.27	0.14	0.06	<2	11	0.08	11	N.A.	N.A.	N.A.
1415801	Rock	39	87	0.04	0.018	2	4	0.53	2	0.02	<20	1.14	<0.01	<0.01	<2	<5	14.36	6	619	22.63	2.023
1415802	Rock	<3	177	9.26	0.054	2	75	1.59	6	0.17	<20	2.50	0.02	0.03	<2	9	0.06	8	N.A.	N.A.	N.A.
1415803	Rock	<3	12	34.96	<0.001	<1	2	0.10	2	0.01	<20	0.15	<0.01	<0.01	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415804	Rock	<3	159	1.10	0.093	4	21	1.00	48	0.24	<20	1.73	0.17	0.03	<2	6	0.44	7	N.A.	N.A.	N.A.
1415805	Rock	<3	179	1.50	0.086	5	13	0.55	73	0.17	<20	1.54	0.21	0.05	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415806	Rock	<3	3	0.10	0.012	6	3	0.07	61	<0.01	<20	0.71	0.03	0.25	<2	<5	2.96	<5	N.A.	N.A.	N.A.
1415807	Rock	<3	3	0.14	0.013	8	3	0.08	66	0.01	<20	0.74	0.04	0.25	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415808	Rock	<3	3	0.19	0.007	8	2	0.10	43	0.04	<20	0.48	0.06	0.14	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415809	Rock	<3	3	0.05	0.007	14	2	0.01	31	<0.01	<20	0.20	0.05	0.08	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415810	Rock	<3	2	0.06	0.007	13	3	<0.01	46	<0.01	<20	0.20	0.05	0.09	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415811	Rock	<3	62	4.15	0.025	<1	61	0.50	4	0.14	<20	3.58	0.02	0.09	<2	<5	1.75	<5	N.A.	N.A.	N.A.
1415812	Rock	<3	9	0.60	0.011	6	2	0.20	30	0.03	<20	1.52	0.04	0.09	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415813	Rock	<3	4	3.15	0.015	15	3	0.13	68	<0.01	<20	4.31	0.02	0.16	<2	11	<0.05	<5	N.A.	N.A.	N.A.
1415814	Rock	<3	9	0.25	0.009	8	3	0.23	40	0.08	<20	0.76	0.06	0.10	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415815	Rock	<3	4	0.73	0.007	8	3	0.07	39	0.02	<20	1.30	0.03	0.12	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415816	Rock	<3	3	0.25	0.014	7	3	0.07	41	0.02	<20	0.59	0.05	0.15	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415817	Rock	<3	4	0.70	0.016	10	1	0.10	56	0.03	<20	1.04	0.05	0.15	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415818	Rock	<3	5	0.06	0.008	13	3	0.05	29	<0.01	<20	0.35	0.04	0.07	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1415819	Rock	7	2	<0.01	0.003	2	<1	0.05	13	<0.01	<20	1.40	<0.01	0.03	<2	<5	15.80	<5	529	23.17	1.185
1416001	Rock	<3	209	0.85	0.099	2	74	2.06	193	0.31	<20	2.64	0.16	0.11	<2	7	1.45	7	N.A.	N.A.	N.A.

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Report Date: October 05, 2012

CERTIFICATE OF ANALYSIS VAN12004218.1

Method		G6.ME	G6.ME	G6.ME	G6.ME	G6.ME
Analyte		- Ag	Tot Ag	+ Au	- Au	Tot Au
Unit		gm/t	gm/t	mg	gm/t	gm/t
MDL		5	5	0.001	0.17	0.17
016564	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016565	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016566	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016567	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016568	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016569	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016570	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016571	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016572	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016616	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415801	Rock	65	65	5.184	78.0	83.5
1415802	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415803	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415804	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415805	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415806	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415807	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415808	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415809	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415810	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415811	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415812	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415813	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415814	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415815	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415816	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415817	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415818	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1415819	Rock	81	80	0.011	0.5	0.5
1416001	Rock	N.A.	N.A.	N.A.	N.A.	N.A.

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CERTIFICATE OF ANALYSIS VAN12004218.1

Method		WGHT	M150	3B	3B	3B	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
Analyte		Wgt	TotWt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb
Unit		kg	g	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.01	1	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	2	1	0.5	3
1416002	Rock	1.55	N.A.	201	<3	9	<1	102	4	20	<0.3	28	19	1843	7.17	152	<2	<2	277	0.7	<3
1416003	Rock	1.22	N.A.	3	<3	<2	<1	53	<3	49	<0.3	106	25	641	3.36	2	<2	<2	56	<0.5	<3
1416005	Rock	0.73	N.A.	73	<3	12	8	462	9	22	1.1	100	50	423	22.96	860	<2	<2	12	<0.5	<3
1416006	Rock	0.89	N.A.	2	<3	8	4	188	<3	15	<0.3	15	20	178	4.91	26	<2	<2	34	<0.5	<3
1416009	Rock	0.69	N.A.	32	7	58	5	666	39	126	1.3	56	62	494	8.78	117	<2	<2	5	<0.5	<3
1416010	Rock	0.48	N.A.	18	11	35	1	932	<3	28	0.5	126	100	145	8.08	<2	<2	<2	45	<0.5	<3
1416013	Rock	0.42	N.A.	38	<3	3	361	5	8	38	<0.3	1	3	1152	2.36	6	<2	5	152	<0.5	<3
016573	Rock	0.48	N.A.	186	<3	23	2	532	<3	115	1.8	25	10	1590	15.56	55	<2	<2	2	<0.5	<3
016574	Rock	2.05	N.A.	401	<3	<2	<1	442	<3	26	0.6	<1	4	632	4.85	763	<2	3	14	<0.5	<3
016617	Rock	0.84	N.A.	3353	<3	<2	<1	691	<3	19	1.5	<1	3	228	6.29	149	3	3	5	<0.5	<3
016618	Rock	0.66	N.A.	821	<3	<2	<1	347	<3	17	0.5	<1	4	331	6.24	152	<2	5	5	<0.5	<3
016619	Rock	1.12	N.A.	6247	6	10	<1	1797	3	104	3.6	41	63	1041	16.49	>10000	6	<2	<1	<0.5	<3
016620	Rock	1.04	N.A.	3905	<3	<2	<1	1430	<3	38	2.1	2	14	351	9.21	4522	3	3	3	<0.5	<3

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CERTIFICATE OF ANALYSIS VAN12004218.1

	Method	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D			1D	G6.ME	G6.ME	G6.ME
	Analyte	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Ga	S	Sc	Tot Wt	+ Wt	+Ag
	Unit	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppm	g	g	mg
	MDL	3	1	0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	5	0.05	5	1	0.01	0.001
1416002	Rock	<3	173	9.86	0.040	5	46	2.82	18	0.17	<20	3.14	<0.01	0.03	<2	9	0.94	12	N.A.	N.A.	N.A.
1416003	Rock	<3	50	1.54	0.180	8	156	2.84	20	0.15	<20	2.60	0.07	0.04	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
1416005	Rock	<3	111	0.32	0.054	3	13	1.64	38	0.18	<20	3.14	0.02	0.03	<2	<5	11.67	9	N.A.	N.A.	N.A.
1416006	Rock	<3	178	0.59	0.091	2	15	1.11	157	0.18	<20	1.82	0.14	0.15	<2	5	2.16	15	N.A.	N.A.	N.A.
1416009	Rock	4	188	5.54	0.074	3	20	0.69	<1	0.45	<20	4.60	<0.01	<0.01	<2	12	6.17	6	N.A.	N.A.	N.A.
1416010	Rock	<3	70	1.52	0.077	3	9	0.23	6	0.35	<20	1.74	0.25	0.03	<2	<5	4.56	<5	N.A.	N.A.	N.A.
1416013	Rock	21	27	2.77	0.015	13	4	0.30	67	0.02	<20	4.58	0.01	0.15	<2	17	<0.05	<5	N.A.	N.A.	N.A.
016573	Rock	<3	351	0.13	0.060	5	193	2.66	29	0.13	<20	5.39	<0.01	0.08	<2	12	0.62	30	N.A.	N.A.	N.A.
016574	Rock	<3	6	0.76	0.041	3	<1	0.38	117	<0.01	<20	1.56	<0.01	0.23	<2	<5	1.27	<5	N.A.	N.A.	N.A.
016617	Rock	3	6	0.08	0.047	3	<1	0.27	121	<0.01	<20	1.39	<0.01	0.24	<2	<5	2.73	<5	N.A.	N.A.	N.A.
016618	Rock	<3	5	0.23	0.043	3	<1	0.37	119	0.03	<20	1.60	<0.01	0.25	<2	<5	3.17	<5	N.A.	N.A.	N.A.
016619	Rock	54	142	0.18	0.048	3	91	1.71	53	0.06	<20	3.86	<0.01	0.11	<2	<5	6.37	13	N.A.	N.A.	N.A.
016620	Rock	15	5	0.14	0.039	3	<1	0.30	89	<0.01	<20	1.68	<0.01	0.20	<2	<5	5.06	<5	N.A.	N.A.	N.A.

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CERTIFICATE OF ANALYSIS VAN12004218.1

Method		G6.ME	G6.ME	G6.ME	G6.ME	G6.ME
Analyte		- Ag	Tot Ag	+ Au	- Au	Tot Au
Unit		gm/t	gm/t	mg	gm/t	gm/t
MDL		5	5	0.001	0.17	0.17
1416002	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1416003	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1416005	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1416006	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1416009	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1416010	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
1416013	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016573	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016574	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016617	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016618	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016619	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
016620	Rock	N.A.	N.A.	N.A.	N.A.	N.A.

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QUALITY CONTROL REPORT VAN12004218.1

	Method	WGHT	M150	3B	3B	3B	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Wgt	TotWt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb
	Unit	kg	g	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	1	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	2	1	0.5	3
Pulp Duplicates																					
016558	Rock	0.85	N.A.	776	5	13	<1	140	10	130	<0.3	160	12	1279	11.57	151	<2	<2	48	<0.5	<3
REP 016558	QC						<1	143	14	128	0.7	160	13	1283	11.67	154	<2	<2	49	<0.5	<3
016603	Rock	0.94	N.A.	6228	<3	30	<1	4875	<3	1218	9.5	55	208	897	32.89	>10000	<2	<2	2	18.1	48
REP 016603	QC			6636	<3	31															
1415804	Rock	0.28	N.A.	2	<3	30	<1	278	<3	46	<0.3	42	29	296	4.04	<2	<2	<2	26	<0.5	<3
REP 1415804	QC						<1	276	<3	45	<0.3	41	28	291	3.96	<2	<2	<2	26	<0.5	<3
1415812	Rock	0.36	N.A.	<2	<3	<2	<1	5	<3	27	<0.3	3	2	683	1.07	2	<2	5	37	<0.5	<3
REP 1415812	QC			<2	<3	<2															
1416006	Rock	0.89	N.A.	2	<3	8	4	188	<3	15	<0.3	15	20	178	4.91	26	<2	<2	34	<0.5	<3
REP 1416006	QC			3	4	8															
016620	Rock	1.04	N.A.	3905	<3	<2	<1	1430	<3	38	2.1	2	14	351	9.21	4522	3	3	3	<0.5	<3
REP 016620	QC						<1	1414	<3	39	2.1	2	14	351	9.25	4660	2	3	3	<0.5	<3
Core Reject Duplicates																					
016609	Rock	0.57	N.A.	8	<3	21	<1	164	<3	37	0.3	28	13	208	2.46	45	<2	<2	180	0.5	<3
DUP 016609	QC	<0.01	N.A.	8	<3	20	<1	148	<3	36	<0.3	26	12	213	2.46	45	<2	<2	183	<0.5	<3
1415818	Rock	0.55	N.A.	<2	<3	<2	<1	3	<3	24	<0.3	<1	<1	275	0.82	<2	<2	9	5	<0.5	<3
DUP 1415818	QC	<0.01	N.A.	<2	<3	<2	<1	3	<3	24	<0.3	1	<1	280	0.89	<2	<2	8	6	<0.5	<3
Reference Materials																					
STD CDN-PGMS-19	Standard			221	100	495															
STD CDN-PGMS-19	Standard			229	111	467															
STD CDN-PGMS-19	Standard			234	119	496															
STD DS9	Standard						10	100	119	311	1.3	40	7	559	2.31	28	<2	5	64	1.9	<3
STD DS9	Standard						12	99	118	318	1.4	36	7	550	2.25	27	<2	5	67	2.1	6
STD DS9	Standard						14	115	133	327	1.8	44	8	647	2.51	25	<2	6	75	2.2	3
STD OREAS45CA	Standard						<1	489	12	64	<0.3	247	95	948	16.20	4	<2	8	14	<0.5	<3
STD OREAS45EA	Standard						<1	619	7	30	<0.3	345	49	381	22.27	12	<2	10	3	<0.5	<3
STD OREAS45CA	Standard						<1	482	17	51	<0.3	236	87	899	15.08	5	<2	6	14	<0.5	<3
STD OREAS45EA	Standard						1	673	9	24	<0.3	373	50	379	23.04	10	<2	9	3	<0.5	<3

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Client: **Schau, Mikkel**
3919 Woodhaven Terrace
Victoria BC V8N 1S7 Canada

Project: FLAN
Report Date: October 05, 2012

QUALITY CONTROL REPORT VAN12004218.1

	Method	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D			1D	G6.ME	G6.ME	G6.ME
	Analyte	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Ga	S	Sc	Tot Wt	+ Wt	+Ag
	Unit	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppm	g	g	mg
	MDL	3	1	0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	5	0.05	5	1	0.01	0.001
Pulp Duplicates																					
016558	Rock	6	151	0.43	0.014	<1	554	4.33	16	0.10	<20	5.10	0.02	0.03	<2	12	0.25	21	N.A.	N.A.	N.A.
REP 016558	QC	5	153	0.43	0.015	<1	563	4.31	16	0.10	<20	5.16	0.02	0.03	2	21	0.25	21			
016603	Rock	32	245	0.21	0.053	<1	22	1.41	16	0.10	<20	2.89	<0.01	0.04	2	15	11.58	14	N.A.	N.A.	N.A.
REP 016603	QC																				
1415804	Rock	<3	159	1.10	0.093	4	21	1.00	48	0.24	<20	1.73	0.17	0.03	<2	6	0.44	7	N.A.	N.A.	N.A.
REP 1415804	QC	<3	155	1.11	0.092	4	20	0.98	47	0.23	<20	1.71	0.17	0.03	<2	6	0.43	6			
1415812	Rock	<3	9	0.60	0.011	6	2	0.20	30	0.03	<20	1.52	0.04	0.09	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
REP 1415812	QC																				
1416006	Rock	<3	178	0.59	0.091	2	15	1.11	157	0.18	<20	1.82	0.14	0.15	<2	5	2.16	15	N.A.	N.A.	N.A.
REP 1416006	QC																				
016620	Rock	15	5	0.14	0.039	3	<1	0.30	89	<0.01	<20	1.68	<0.01	0.20	<2	<5	5.06	<5	N.A.	N.A.	N.A.
REP 016620	QC	15	6	0.14	0.039	3	1	0.31	92	<0.01	<20	1.67	<0.01	0.20	<2	<5	5.12	<5			
Core Reject Duplicates																					
016609	Rock	<3	85	2.68	0.061	2	39	0.76	48	0.16	<20	4.11	0.26	0.05	3	15	0.07	<5	N.A.	N.A.	N.A.
DUP 016609	QC	<3	81	2.61	0.057	2	37	0.76	45	0.16	<20	4.15	0.26	0.05	<2	11	0.07	<5	N.A.	N.A.	N.A.
1415818	Rock	<3	5	0.06	0.008	13	3	0.05	29	<0.01	<20	0.35	0.04	0.07	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
DUP 1415818	QC	<3	5	0.07	0.009	13	4	0.05	34	<0.01	<20	0.38	0.05	0.08	<2	<5	<0.05	<5	N.A.	N.A.	N.A.
Reference Materials																					
STD CDN-PGMS-19	Standard																				
STD CDN-PGMS-19	Standard																				
STD CDN-PGMS-19	Standard																				
STD DS9	Standard	8	38	0.67	0.083	9	109	0.61	312	0.09	<20	0.90	0.08	0.38	4	9	0.16	<5			
STD DS9	Standard	5	36	0.69	0.080	10	105	0.60	307	0.10	<20	0.88	0.08	0.39	3	<5	0.16	<5			
STD DS9	Standard	6	45	0.78	0.091	14	134	0.66	349	0.12	<20	1.03	0.10	0.43	3	<5	0.18	<5			
STD OREAS45CA	Standard	<3	217	0.45	0.038	14	698	0.11	161	0.13	<20	3.28	0.01	0.07	<2	20	<0.05	45			
STD OREAS45EA	Standard	<3	290	0.03	0.025	4	777	0.07	135	0.09	<20	2.93	0.02	0.04	<2	7	<0.05	73			
STD OREAS45CA	Standard	<3	206	0.43	0.041	15	694	0.13	157	0.12	<20	3.35	0.01	0.07	<2	15	<0.05	45			
STD OREAS45EA	Standard	<3	294	0.03	0.027	6	843	0.08	142	0.09	<20	3.00	0.02	0.05	<2	8	<0.05	83			

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QUALITY CONTROL REPORT VAN12004218.1

	Method	G6.ME	G6.ME	G6.ME	G6.ME	G6.ME
	Analyte	- Ag	Tot Ag	+ Au	- Au	Tot Au
	Unit	gm/t	gm/t	mg	gm/t	gm/t
	MDL	5	5	0.001	0.17	0.17
Pulp Duplicates						
016558	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
REP 016558	QC					
016603	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
REP 016603	QC					
1415804	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
REP 1415804	QC					
1415812	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
REP 1415812	QC					
1416006	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
REP 1416006	QC					
016620	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
REP 016620	QC					
Core Reject Duplicates						
016609	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
DUP 016609	QC	N.A.	N.A.	N.A.	N.A.	N.A.
1415818	Rock	N.A.	N.A.	N.A.	N.A.	N.A.
DUP 1415818	QC	N.A.	N.A.	N.A.	N.A.	N.A.
Reference Materials						
STD CDN-PGMS-19	Standard					
STD CDN-PGMS-19	Standard					
STD CDN-PGMS-19	Standard					
STD DS9	Standard					
STD DS9	Standard					
STD DS9	Standard					
STD OREAS45CA	Standard					
STD OREAS45EA	Standard					
STD OREAS45CA	Standard					
STD OREAS45EA	Standard					

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QUALITY CONTROL REPORT VAN12004218.1

		WGHT Wgt kg 0.01	M150 TotWt g 1	3B Au ppb 2	3B Pt ppb 3	3B Pd ppb 2	1D Mo ppm 1	1D Cu ppm 1	1D Pb ppm 3	1D Zn ppm 1	1D Ag ppm 0.3	1D Ni ppm 1	1D Co ppm 1	1D Mn ppm 2	1D Fe % 0.01	1D As ppm 2	1D Au ppm 2	1D Th ppm 2	1D Sr ppm 1	1D Cd ppm 0.5	1D Sb ppm 3
STD OREAS45EA	Standard						3	754	<3	33	0.3	415	57	434	25.70	4	<2	10	4	<0.5	<3
STD OREAS45CA	Standard						2	563	17	62	<0.3	276	100	1022	17.18	<2	<2	7	16	<0.5	<3
STD PD1	Standard			553	484	564															
STD PD1	Standard			586	520	598															
STD PD1	Standard			547	458	573															
STD SP49	Standard																				
STD PD1 Expected				542	456	563															
STD CDN-PGMS-19				230	108	476															
STD DS9 Expected							12.84	108	126	317	1.83	40.3	7.6	575	2.33	25.5	0.118	6.38	69.6	2.4	4.94
STD OREAS45EA Expected								709	14.3	30.6	0	357	52	400	22.65	11.4	0.05	10.7	4.05		
STD OREAS45CA Expected							1	494	20	60	0.275	240	92	943	15.69	3.8	0.043	7	15	0.1	0.13
BLK	Blank			<2	<3	<2															
BLK	Blank			<2	<3	<2															
BLK	Blank			<2	<3	<2															
BLK	Blank			<2	<3	<2															
BLK	Blank																				
BLK	Blank			<2	<3	<2															
BLK	Blank			<2	<3	<2															
BLK	Blank						<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<2	<1	<0.5	<3
BLK	Blank						<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	7	<2	<2	<1	<0.5	<3
BLK	Blank						<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<2	<1	<0.5	<3
Prep Wash																					
G1	Prep Blank	<0.01	544	<2	<3	<2	<1	<1	<3	44	0.4	3	4	534	1.87	<2	<2	4	49	<0.5	<3
G1	Prep Blank	<0.01	N.A.	<2	<3	<2	<1	<1	3	46	<0.3	3	4	555	1.98	<2	<2	3	51	<0.5	<3

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QUALITY CONTROL REPORT VAN12004218.1

		1D Bi ppm 3	1D V ppm 1	1D Ca % 0.01	1D P % 0.001	1D La ppm 1	1D Cr ppm 1	1D Mg % 0.01	1D Ba ppm 1	1D Ti % 0.01	1D B ppm 20	1D Al % 0.01	1D Na % 0.01	1D K % 0.01	1D W ppm 2	Ga ppm 5	S % 0.05	1D Sc ppm 5	G6.ME Tot Wt g 1	G6.ME + Wt g 0.01	G6.ME +Ag mg 0.001
STD OREAS45EA	Standard	<3	321	0.03	0.032	8	938	0.10	153	0.10	<20	3.48	0.03	0.06	<2	<5	<0.05	91			
STD OREAS45CA	Standard	<3	231	0.45	0.042	18	794	0.15	172	0.14	<20	4.00	0.02	0.08	<2	11	<0.05	51			
STD PD1	Standard																				
STD PD1	Standard																				
STD PD1	Standard																				
STD SP49	Standard																			30.03	1.631
STD PD1 Expected																					
STD CDN-PGMS-19																					
STD DS9 Expected		6.32	40	0.7201	0.0819	13.3	121	0.6165	330	0.1108		0.9577	0.0853	0.395	2.89	4.59	0.1615	2.5			
STD OREAS45EA Expected			295	0.032	0.029		849	0.095	139			3.32	0.027	0.053		11.7	0.044	78			
STD OREAS45CA Expected		0.19	215	0.4265	0.0385	15.9	709	0.1358	164	0.128		3.592	0.0075	0.0717			0.021				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																			30.00	<0.001
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<3	<1	<0.01	<0.001	<1	<1	<0.01	<1	<0.01	<20	<0.01	<0.01	<0.01	<2	<5	<0.05	<5			
BLK	Blank	<3	<1	<0.01	<0.001	<1	<1	<0.01	<1	<0.01	<20	<0.01	<0.01	<0.01	<2	<5	<0.05	<5			
BLK	Blank	<3	<1	<0.01	<0.001	<1	<1	<0.01	<1	<0.01	<20	<0.01	<0.01	<0.01	<2	<5	<0.05	<5			
Prep Wash																					
G1	Prep Blank	<3	34	0.41	0.077	7	7	0.57	225	0.11	<20	0.90	0.07	0.46	3	7	<0.05	<5	544	24.41	0.062
G1	Prep Blank	5	36	0.42	0.080	7	8	0.59	234	0.11	<20	0.94	0.07	0.48	3	7	<0.05	<5	N.A.	N.A.	N.A.

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QUALITY CONTROL REPORT VAN12004218.1

		G6.ME - Ag gm/t 5	G6.ME Tot Ag gm/t 5	G6.ME + Au mg 0.001	G6.ME - Au gm/t 0.17	G6.ME Tot Au gm/t 0.17
STD OREAS45EA	Standard					
STD OREAS45CA	Standard					
STD PD1	Standard					
STD PD1	Standard					
STD PD1	Standard					
STD SP49	Standard			0.539		
STD PD1 Expected						
STD CDN-PGMS-19						
STD DS9 Expected						
STD OREAS45EA Expected						
STD OREAS45CA Expected						
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank			<0.001		
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
Prep Wash						
G1	Prep Blank	11	11	<0.001	<0.17	<0.17
G1	Prep Blank	N.A.	N.A.	N.A.	N.A.	N.A.

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Submitted By: Mikkel Schau
Receiving Lab: Canada-Vancouver
Received: November 05, 2012
Report Date: November 14, 2012
Page: 1 of 2

CERTIFICATE OF ANALYSIS VAN12004218P.1

CLIENT JOB INFORMATION

Project: FLAN
Shipment ID: RK 2012-09
P.O. Number
Number of Samples: 11

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
P200	11	Pulverize to 85% passing 200 mesh			VAN
GEO4	11	FA fusion Au Pt Pd; 1:1:1 AR digestion ICP-ES analysis	30	Completed	VAN

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
RTRN-RJT Return

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

Re-analysis of G604 from rock reject splits.

Invoice To: Schau, Mikkel
3919 Woodhaven Terrace
Victoria BC V8N 1S7
Canada

CC:

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. Results apply to samples as submitted.
"*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

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CERTIFICATE OF ANALYSIS VAN12004218P.1

Method		3B	3B	3B	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
Analyte		Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V
Unit		ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MDL		2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	2	1	0.5	3	3	1
G1	Prep Blank	<2	<3	<2	<1	1	<3	48	<0.3	4	5	561	1.87	<2	<2	4	48	<0.5	<3	<3	36
016559	Rock	5262	9	15	3	1077	91	755	4.0	207	21	1821	21.26	68	3	<2	<1	8.6	4	40	256
016560	Rock	2386	11	15	3	105	140	171	2.4	174	15	2011	16.11	799	3	<2	<1	<0.5	4	29	264
016565	Rock	3253	<3	<2	1	654	<3	22	1.6	<1	7	274	6.61	>10000	3	5	2	<0.5	<3	6	5
016603	Rock	6167	5	32	2	4704	31	1164	9.7	53	199	833	30.78	>10000	3	<2	2	19.1	66	28	244
016604	Rock	2805	3	29	2	1456	37	147	3.6	43	73	1106	22.60	>10000	<2	<2	1	<0.5	42	25	313
016605	Rock	42	5	32	1	304	16	95	0.8	46	31	1512	9.99	759	<2	<2	19	1.3	<3	<3	357
016612	Rock	2934	<3	9	5	1191	44	507	1.7	172	67	1792	29.45	>10000	<2	<2	<1	4.4	<3	<3	173
1415819	Rock	448	<3	<2	8	7619	78	373	66.9	1	123	505	23.44	152	<2	<2	<1	2.3	<3	3	3
016617	Rock	3323	<3	<2	<1	734	<3	22	1.7	<1	4	242	6.42	171	<2	4	6	<0.5	<3	6	6
016619	Rock	6046	<3	10	2	1633	14	91	4.2	35	62	943	16.14	9790	5	<2	2	<0.5	<3	40	129
016620	Rock	3385	<3	<2	<1	1544	<3	46	2.4	2	17	374	9.89	4698	<2	3	4	<0.5	<3	20	7

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CERTIFICATE OF ANALYSIS VAN12004218P.1

Method		1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D			1D
Analyte		Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Ga	S	Sc
Unit		%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppm
MDL		0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	5	0.05	5
G1	Prep Blank	0.47	0.080	7	7	0.62	229	0.12	<20	0.91	0.06	0.49	<2	<5	<0.05	<5
016559	Rock	0.06	0.023	3	925	6.47	<1	0.10	<20	8.40	<0.01	<0.01	4	7	3.60	36
016560	Rock	0.05	0.017	2	995	6.28	6	0.15	<20	7.84	<0.01	0.04	<2	6	0.19	35
016565	Rock	0.04	0.038	4	<1	0.23	92	0.03	<20	1.18	<0.01	0.20	<2	<5	1.05	<5
016603	Rock	0.19	0.053	5	23	1.57	5	0.09	<20	3.07	<0.01	0.04	5	<5	11.71	13
016604	Rock	0.14	0.066	4	35	1.94	13	0.11	<20	3.71	<0.01	0.04	<2	<5	7.05	16
016605	Rock	3.06	0.070	3	34	2.42	28	0.15	<20	3.54	<0.01	0.08	<2	8	2.07	23
016612	Rock	0.10	0.050	5	37	3.72	2	0.02	<20	5.84	<0.01	0.02	<2	<5	7.40	22
1415819	Rock	<0.01	0.003	4	4	0.06	<1	<0.01	<20	1.36	<0.01	0.02	4	<5	15.65	<5
016617	Rock	0.09	0.049	4	2	0.26	95	<0.01	<20	1.35	<0.01	0.20	<2	<5	2.74	<5
016619	Rock	0.17	0.045	4	75	1.45	36	0.05	<20	3.59	<0.01	0.10	<2	<5	6.76	10
016620	Rock	0.14	0.039	5	2	0.32	59	0.01	<20	1.72	<0.01	0.17	<2	<5	5.60	<5

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Client: **Schau, Mikkel**
3919 Woodhaven Terrace
Victoria BC V8N 1S7 Canada

Project: FLAN
Report Date: November 14, 2012

QUALITY CONTROL REPORT VAN12004218P.1

	Method	3B	3B	3B	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V
	Unit	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	2	1	0.5	3	3	1
Pulp Duplicates																					
016565	Rock	3253	<3	<2	1	654	<3	22	1.6	<1	7	274	6.61	>10000	3	5	2	<0.5	<3	6	5
REP 016565	QC				<1	658	<3	21	2.0	<1	7	275	6.63	>10000	2	5	2	<0.5	<3	7	6
016605	Rock	42	5	32	1	304	16	95	0.8	46	31	1512	9.99	759	<2	<2	19	1.3	<3	<3	357
REP 016605	QC	46	<3	32																	
Reference Materials																					
STD CDN-PGMS-19	Standard	230	106	487																	
STD DS9	Standard				12	102	104	317	1.7	39	8	575	2.20	28	<2	5	68	2.4	5	8	39
STD OREAS45EA	Standard				4	613	28	24	0.5	361	56	384	23.31	5	<2	9	3	<0.5	5	<3	291
STD PD1	Standard	539	475	556																	
STD PD1 Expected		542	456	563																	
STD CDN-PGMS-19		230	108	476																	
STD DS9 Expected					12.84	108	126	317	1.83	40.3	7.6	575	2.33	25.5	0.118	6.38	69.6	2.4	4.94	6.32	40
STD OREAS45EA Expected					1.78	709	14.3	30.6	0.311	357	52	400	22.65	11.4	0.053	10.7	4.05				295
BLK	Blank	<2	<3	<2																	
BLK	Blank	10	<3	<2																	
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<2	<1	<0.5	<3	<3	<1
Prep Wash																					
G1	Prep Blank	<2	<3	<2	<1	1	<3	48	<0.3	4	5	561	1.87	<2	<2	4	48	<0.5	<3	<3	36

Acme Analytical Laboratories (Vancouver) Ltd.
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Client: **Schau, Mikkel**
3919 Woodhaven Terrace
Victoria BC V8N 1S7 Canada

Project: FLAN
Report Date: November 14, 2012

QUALITY CONTROL REPORT VAN12004218P.1

	Method	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D			1D
	Analyte	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Ga	S	Sc
	Unit	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppm
	MDL	0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	5	0.05	5
Pulp Duplicates																
016565	Rock	0.04	0.038	4	<1	0.23	92	0.03	<20	1.18	<0.01	0.20	<2	<5	1.05	<5
REP 016565	QC	0.04	0.038	4	3	0.25	90	0.03	<20	1.23	<0.01	0.20	<2	<5	1.04	<5
016605	Rock	3.06	0.070	3	34	2.42	28	0.15	<20	3.54	<0.01	0.08	<2	8	2.07	23
REP 016605	QC															
Reference Materials																
STD CDN-PGMS-19	Standard															
STD DS9	Standard	0.69	0.085	11	115	0.59	320	0.10	<20	0.90	0.08	0.39	<2	<5	0.14	<5
STD OREAS45EA	Standard	0.03	0.029	9	821	0.09	151	0.09	<20	2.92	0.02	0.05	<2	<5	<0.05	79
STD PD1	Standard															
STD PD1 Expected																
STD CDN-PGMS-19																
STD DS9 Expected		0.7201	0.0819	13.3	121	0.6165	330	0.1108		0.9577	0.0853	0.395	2.89	4.59	0.1615	2.5
STD OREAS45EA Expected		0.032	0.029	8.19	849	0.095	148	0.106		3.32	0.027	0.053		11.7	0.044	78
BLK	Blank															
BLK	Blank															
BLK	Blank	<0.01	<0.001	<1	<1	<0.01	<1	<0.01	<20	<0.01	<0.01	<0.01	<2	<5	<0.05	<5
Prep Wash																
G1	Prep Blank	0.47	0.080	7	7	0.62	229	0.12	<20	0.91	0.06	0.49	<2	<5	<0.05	<5

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Client: **Schau, Mikkel**
3919 Woodhaven Terrace
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Submitted By: Mikkel Schau
Receiving Lab: Canada-Vancouver
Received: September 05, 2012
Report Date: September 25, 2012
Page: 1 of 2

CERTIFICATE OF ANALYSIS VAN12004219.1

CLIENT JOB INFORMATION

Project: FLAN
Shipment ID: Silt 2012-09
P.O. Number
Number of Samples: 11

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
Dry at 60C	11	Dry at 60C			VAN
SS80	11	Dry at 60C sieve 100g to -80 mesh			VAN
GEO4	11	FA fusion Au Pt Pd; 1:1:1 AR digestion ICP-ES analysis	30	Completed	VAN

ADDITIONAL COMMENTS

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

Invoice To: Schau, Mikkel
3919 Woodhaven Terrace
Victoria BC V8N 1S7
Canada

CC:

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. Results apply to samples as submitted.
"*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

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Client: **Schau, Mikkel**
3919 Woodhaven Terrace
Victoria BC V8N 1S7 Canada

Project: FLAN
Report Date: September 25, 2012

CERTIFICATE OF ANALYSIS VAN12004219.1

Method		3B	3B	3B	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
Analyte		Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V
Unit		ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MDL		2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	2	1	0.5	3	3	1
1416004	Silt	18	<3	30	2	177	7	99	<0.3	64	23	776	2.84	17	<2	<2	66	2.4	<3	<3	94
1416007	Silt	9	<3	9	2	120	13	215	<0.3	52	18	1015	2.44	51	<2	<2	36	3.0	<3	<3	54
1416008	Silt	3	<3	8	1	22	<3	77	<0.3	12	5	730	1.47	62	<2	<2	17	<0.5	<3	<3	29
1416011	Silt	6	<3	11	1	148	7	84	<0.3	46	20	821	3.02	14	<2	<2	59	<0.5	<3	<3	77
1416012	Silt	2	<3	11	8	58	6	59	<0.3	24	22	987	2.66	6	<2	<2	12	<0.5	<3	<3	83
1416014	Silt	11	<3	17	3	197	8	78	<0.3	51	24	528	3.44	56	<2	<2	78	<0.5	<3	<3	114
1416015	Silt	21	<3	17	3	186	<3	81	<0.3	49	24	531	3.31	71	<2	<2	78	<0.5	<3	<3	107
1416016	Silt	28	<3	16	<1	335	15	89	0.3	65	46	1132	4.78	10	<2	<2	84	<0.5	<3	<3	138
1416017	Silt	4	<3	61	<1	171	6	171	<0.3	50	22	2048	3.26	27	<2	<2	49	1.5	<3	<3	120
F61S	Silt	5	<3	37	6	177	3	37	<0.3	25	43	3044	3.88	11	<2	<2	31	<0.5	<3	<3	92
F62S	Silt	10	<3	7	<1	37	<3	13	<0.3	6	13	455	0.78	<2	<2	<2	20	<0.5	<3	<3	32

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Client: **Schau, Mikkel**
3919 Woodhaven Terrace
Victoria BC V8N 1S7 Canada

Project: FLAN
Report Date: September 25, 2012

CERTIFICATE OF ANALYSIS VAN12004219.1

Method		1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D			1D
Analyte		Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Ga	S	Sc
Unit		%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppm
MDL		0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	5	0.05	5
1416004	Silt	2.99	0.060	4	74	0.77	294	0.207	<20	3.92	0.04	0.05	<2	8	0.08	<5
1416007	Silt	0.86	0.033	14	63	0.59	66	0.108	<20	2.48	0.04	0.06	<2	<5	<0.05	<5
1416008	Silt	0.40	0.019	9	26	0.20	36	0.082	<20	1.68	0.02	0.03	<2	<5	<0.05	<5
1416011	Silt	1.45	0.032	6	48	0.82	31	0.165	<20	2.66	0.04	0.06	<2	8	<0.05	<5
1416012	Silt	0.34	0.032	7	49	0.25	26	0.271	<20	3.21	0.02	0.02	<2	9	<0.05	<5
1416014	Silt	1.99	0.061	3	64	1.06	68	0.213	<20	3.71	0.08	0.06	<2	9	0.09	5
1416015	Silt	2.26	0.065	3	61	1.00	63	0.200	<20	4.02	0.07	0.06	<2	11	0.08	5
1416016	Silt	1.45	0.073	3	81	1.47	28	0.339	<20	3.60	0.04	0.06	<2	10	<0.05	7
1416017	Silt	1.89	0.059	2	97	0.91	21	0.274	<20	2.62	0.04	0.03	<2	8	0.07	<5
F61S	Silt	0.84	0.064	5	32	0.51	62	0.186	<20	3.79	0.06	0.04	<2	8	<0.05	<5
F62S	Silt	0.41	0.081	3	11	0.08	37	0.043	<20	1.60	0.02	0.02	<2	<5	0.14	<5

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Project: FLAN
Report Date: September 25, 2012

QUALITY CONTROL REPORT VAN12004219.1

	Method	3B	3B	3B	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V
	Unit	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	2	1	0.5	3	3	1
Pulp Duplicates																					
F62S	Silt	10	<3	7	<1	37	<3	13	<0.3	6	13	455	0.78	<2	<2	<2	20	<0.5	<3	<3	32
REP F62S	QC	8	<3	12	<1	36	4	12	<0.3	6	12	441	0.76	<2	<2	<2	19	<0.5	<3	<3	31
Reference Materials																					
STD DS9	Standard				12	105	128	358	1.7	40	7	589	2.33	28	<2	3	73	2.3	5	7	41
STD OREAS45CA	Standard				<1	536	26	65	<0.3	257	94	959	17.00	5	<2	<2	15	<0.5	<3	<3	221
STD PD1	Standard	532	441	541																	
STD PD1 Expected		542	456	563																	
STD DS9 Expected					12.84	108	126	317	1.83	40.3	7.6	575	2.33	25.5	0.118	6.38	69.6	2.4	4.94	6.32	40
STD OREAS45CA Expected					1	494	20	60	0.275	240	92	943	15.69	3.8	0.043	7	15	0.1	0.13	0.19	215
BLK	Blank	<2	<3	<2																	
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<2	<1	<0.5	<3	5	<1

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QUALITY CONTROL REPORT VAN12004219.1

	Method	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D			1D
	Analyte	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Ga	S	Sc
	Unit	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppm
	MDL	0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	5	0.05	5
Pulp Duplicates																
F62S	Silt	0.41	0.081	3	11	0.08	37	0.043	<20	1.60	0.02	0.02	<2	<5	0.14	<5
REP F62S	QC	0.39	0.079	3	10	0.08	36	0.042	<20	1.52	0.02	0.02	<2	<5	0.14	<5
Reference Materials																
STD DS9	Standard	0.72	0.083	12	127	0.61	323	0.110	<20	0.96	0.09	0.39	2	<5	0.18	<5
STD OREAS45CA	Standard	0.43	0.040	16	792	0.14	161	0.142	<20	3.76	0.02	0.07	<2	6	<0.05	49
STD PD1	Standard															
STD PD1 Expected																
STD DS9 Expected		0.7201	0.0819	13.3	121	0.6165	330	0.1108		0.9577	0.0853	0.395	2.89	4.59	0.1615	2.5
STD OREAS45CA Expected		0.4265	0.0385	15.9	709	0.1358	164	0.128		3.592	0.0075	0.0717			0.021	
BLK	Blank															
BLK	Blank	<0.01	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<5	<0.05	<5

Quality Analysis ... *Innovative Technologies*

Date Submitted: 14-Sep-12
Invoice No.: A12-10126
Invoice Date: 05-Oct-12
Your Reference: FLAN PROJECT

Mikkel Schau
1007 Barkway Terrace
Brentwood Bay BC V8M 1A4
Canada

ATTN: Mikkel Schau

CERTIFICATE OF ANALYSIS

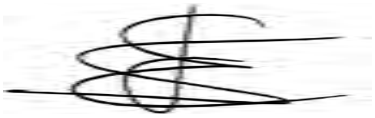
15 Vegetation samples were submitted for analysis.

The following analytical package was requested: Code 2B-15g Vegetation INAA(INAAGEO)

REPORT **A12-10126**

Notes:

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Activation Laboratories Ltd. Report: A12-10126

Analyte Symbol	Au	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hg	Hf	Ir	K	Mo	Na	Ni	Rb	Sb	Sc	Se	Sr	Ta	Th
Unit Symbol	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.3	0.01	5	0.01	0.01	0.1	0.3	0.05	0.005	0.05	0.05	0.1	0.01	0.05	1	2	1	0.005	0.01	0.1	100	0.05	0.1
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
FAH-001	1.0	< 0.3	0.33	< 5	1.49	0.59	0.2	2.0	0.27	0.024	< 0.05	< 0.05	< 0.1	0.41	< 0.05	108	< 2	4	0.033	0.10	< 0.1	< 100	< 0.05	< 0.1
FAH-002	< 0.1	< 0.3	0.22	9	1.30	0.53	0.2	1.8	0.15	0.012	< 0.05	< 0.05	< 0.1	0.42	< 0.05	98	< 2	6	0.021	0.05	< 0.1	< 100	< 0.05	< 0.1
FAH-003	1.0	< 0.3	0.21	< 5	0.64	0.59	0.2	2.4	0.16	0.026	< 0.05	< 0.05	< 0.1	0.38	< 0.05	87	< 2	4	0.025	0.07	< 0.1	< 100	< 0.05	< 0.1
FAH-004	0.4	< 0.3	0.17	< 5	1.58	0.43	0.2	0.8	0.11	0.013	< 0.05	< 0.05	< 0.1	0.33	< 0.05	85	< 2	4	0.024	0.05	< 0.1	< 100	< 0.05	< 0.1
FAH-005	1.4	< 0.3	< 0.01	< 5	0.32	0.59	0.1	0.7	< 0.05	0.010	< 0.05	< 0.05	< 0.1	0.53	< 0.05	45	< 2	3	< 0.005	0.04	< 0.1	< 100	< 0.05	< 0.1
FAH-006	1.5	< 0.3	< 0.01	< 5	0.29	0.31	< 0.1	0.4	< 0.05	0.008	< 0.05	< 0.05	< 0.1	0.39	0.43	45	< 2	7	< 0.005	0.04	< 0.1	< 100	< 0.05	< 0.1
FAH-007	12.4	< 0.3	0.06	< 5	0.28	0.46	0.2	0.6	0.07	0.008	< 0.05	< 0.05	< 0.1	0.29	< 0.05	46	< 2	4	< 0.005	0.04	< 0.1	< 100	< 0.05	< 0.1
FAH-008	1.8	< 0.3	0.06	< 5	0.22	0.44	0.1	0.5	0.08	0.012	< 0.05	< 0.05	< 0.1	0.53	< 0.05	54	< 2	6	0.010	0.05	< 0.1	< 100	< 0.05	< 0.1
FAH-009	0.6	< 0.3	< 0.01	< 5	0.44	0.65	0.2	< 0.3	0.06	0.009	< 0.05	< 0.05	< 0.1	0.29	< 0.05	69	< 2	2	< 0.005	0.04	< 0.1	< 100	< 0.05	< 0.1
FAH-010	0.6	< 0.3	< 0.01	< 5	0.32	0.60	0.1	0.5	0.09	0.008	< 0.05	< 0.05	< 0.1	0.36	< 0.05	43	< 2	4	< 0.005	0.03	< 0.1	< 100	< 0.05	< 0.1
FAH-011	0.3	< 0.3	< 0.01	< 5	0.30	0.41	0.1	0.6	0.07	0.008	< 0.05	< 0.05	< 0.1	0.51	< 0.05	40	< 2	6	< 0.005	0.03	< 0.1	< 100	< 0.05	< 0.1
FAH-012	0.3	< 0.3	< 0.01	< 5	0.48	0.63	0.1	0.5	0.07	0.007	< 0.05	< 0.05	< 0.1	0.45	< 0.05	51	< 2	4	< 0.005	0.03	< 0.1	< 100	< 0.05	< 0.1
FAH-013	0.4	< 0.3	0.18	< 5	0.31	0.61	0.2	0.6	0.12	0.019	< 0.05	< 0.05	< 0.1	0.43	< 0.05	72	< 2	3	0.011	0.09	< 0.1	< 100	< 0.05	< 0.1
FAH-014	0.3	< 0.3	< 0.01	< 5	0.34	0.34	0.2	0.7	0.07	0.012	< 0.05	< 0.05	< 0.1	0.45	< 0.05	46	< 2	3	< 0.005	0.05	< 0.1	< 100	< 0.05	< 0.1
FAH-015 extra	0.5	< 0.3	< 0.01	< 5	1.02	0.42	0.3	< 0.3	0.26	0.009	< 0.05	< 0.05	< 0.1	0.46	< 0.05	67	< 2	4	< 0.005	0.04	< 0.1	< 100	< 0.05	< 0.1

Analyte Symbol	U	W	Zn	La	Ce	Nd	Sm	Eu	Tb	Lu	Yb	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
Detection Limit	0.01	0.05	2	0.01	0.1	0.3	0.001	0.05	0.1	0.001	0.005	
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
FAH-001	0.08	< 0.05	16	0.48	0.4	< 0.3	0.043	< 0.05	< 0.1	< 0.001	< 0.005	15.0
FAH-002	< 0.01	< 0.05	13	0.18	0.3	< 0.3	0.015	< 0.05	< 0.1	< 0.001	0.021	15.3
FAH-003	< 0.01	< 0.05	10	0.14	< 0.1	< 0.3	0.012	< 0.05	< 0.1	< 0.001	< 0.005	15.2
FAH-004	< 0.01	< 0.05	15	0.10	< 0.1	< 0.3	0.010	< 0.05	< 0.1	< 0.001	< 0.005	15.0
FAH-005	< 0.01	< 0.05	20	0.08	< 0.1	< 0.3	0.009	< 0.05	< 0.1	< 0.001	< 0.005	15.4
FAH-006	< 0.01	< 0.05	15	0.08	< 0.1	< 0.3	0.008	< 0.05	< 0.1	< 0.001	< 0.005	15.6
FAH-007	< 0.01	< 0.05	17	0.08	< 0.1	< 0.3	0.009	< 0.05	< 0.1	< 0.001	0.009	15.6
FAH-008	< 0.01	< 0.05	27	0.09	< 0.1	< 0.3	0.013	< 0.05	< 0.1	< 0.001	< 0.005	15.8
FAH-009	< 0.01	< 0.05	17	0.07	< 0.1	< 0.3	0.010	< 0.05	< 0.1	< 0.001	< 0.005	15.2
FAH-010	< 0.01	< 0.05	12	0.08	< 0.1	< 0.3	0.007	< 0.05	< 0.1	< 0.001	< 0.005	15.7
FAH-011	< 0.01	< 0.05	16	0.05	< 0.1	< 0.3	0.007	< 0.05	< 0.1	< 0.001	< 0.005	15.7
FAH-012	< 0.01	< 0.05	11	0.08	< 0.1	< 0.3	0.009	< 0.05	< 0.1	< 0.001	< 0.005	15.3
FAH-013	< 0.01	< 0.05	20	0.09	< 0.1	< 0.3	0.012	< 0.05	< 0.1	< 0.001	< 0.005	15.7
FAH-014	< 0.01	< 0.05	13	0.08	< 0.1	< 0.3	0.010	< 0.05	< 0.1	< 0.001	< 0.005	15.5
FAH-015 extra	< 0.01	< 0.05	15	0.08	< 0.1	< 0.3	0.007	< 0.05	< 0.1	< 0.001	< 0.005	15.7

Quality Control

Analyte Symbol	Au	As	Ba	Br	Ca	Co	Fe	K	Na	Sb	Sc	Sr	U	Zn	La	Ce	Sm	Yb
Unit Symbol	ppb	ppm	ppm	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.1	0.01	5	0.01	0.01	0.1	0.005	0.01	1	0.005	0.01	100	0.01	2	0.01	0.1	0.001	0.005
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
L-STD-2b Meas	20.0	0.75	44	4.46	3.63	0.9	0.231	1.30	848	0.211	0.46	< 100	0.12	48	1.43	2.8	0.194	0.151
L-STD-2b Cert	20.0	0.800	47.0	4.40	3.50	0.900	0.230	1.30	905	0.200	0.490	96.0	0.12	50.0	1.47	3.10	0.220	0.160