YMIP 2001

JAMES S. DODGE

#01-001

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PART I
GEOCHEMICAL TILL SAMPLING

Abstract

Geochemical glacial till sampling was carried out by James S. Dodge under the Yukon Mining Incentives Program 2001 in southeastern Yukon in an attempt to locate the bedrock source of the high grade stratiform sphalerite "Dodge" boulder on the bank of the Hoole River.

Hand dug pits exposed unweathered till at 35 stations in a ENE line along the stoss slope of two upland areas over a 10 km trend. The 2 kg samples of fine till from each pit were processed at ACME Laboratories in Vancouver, British Columbia and assayed by ICP-MS for 37 elements.

Two geochemically anomalous assays, one for copper/cobalt and one for lead/silver called for re-sampling and digging of off-set pits; comparable assays were obtained. The presence of till on bedrock at both stations could mean that the bedrock source lies less than 1 km up-ice from the station.

Prospecting significance was attached to the discovery of many angular clasts of fluorspar-bearing greisen in off-set till pit Station #11-W. This immediately led to discovery of the western end of extensive bedrock greisen only 40 meters in a down-ice direction.

Introduction

The 2001 Yukon Mining Incentives jProgramme undertaken by James S. Dodge focused on a glacial till geochemical sampling programme intended to pointup the location of the up-ice concealed bedrock source of the high grade, stratiform, sphalerite-bearing "Dodge" boulder alongside the Hoole River in the Pelly Mountains some 80 km southeast of the town of Ross River.

An attempt was made to closely follow the methodology used by Mr. Jeffrey Bond of Yukon Geosciences in his Weasel Lake (105G-13) till geochemistry program in 2000 (p.73-96) Yukon Exploration and Geology 2000. The following excerpt from Bond's report (p. 78) presents the guidelines for Dodge's programme: "Basal lodgement and basal meltout till are deposited directly from the base of the ice sheet and consist of sediment that has relatively short transpor;t distances ranging from l-8 km. This is the primary medium sampled for geochemistry studies".

Dodge sampled 35 sites by hand dug pits along the stoss side of a dissected upland plateau extending for 10 km in an east-west array, at altitudes ranging 1200-1370 m, with sample sites where feasible on 200 m centers. The latter spacing was a 'call' as to sample density selected with respect to the size of the up-ice 'V' pattern in relation to the Hoole River zinc boulder site.

The location of each sample station was recorded using Garmin etrex Global Positioning System (GPS) reported in degrees and minutes of longitude and latitude. This proved apropos in facilitating the relocation of several sites, well hidden in thick bush, that required duplicate and off-set sampling where the initial sampling results indicated high geochemical anomalies.

Supplemental to the till sampling was the collection of till clasts and bedrock specimens. Included in the variety of separate lithologies were augen gneiss, welded quartz-eye felsic tuff breccia, chlorite and garnet amphibolite schist, fine to medium grained muscovite granodiorite, and conspicuous fluorspar-tourmaline greissen.

Motivated by the discovery of large fluorspar-rich greisen outcrops, approximately one-fifth of the total field-time budget was redirected to bedrock prospecting. Details on sampling of the greisen and staking of the FLO 1-4 claims follow in the Conclusions of the till and greisen sampling programme of this report.

Till Geology

The 2001 YMIP project by James S. Dodge was undertaken to sample glacial till as a geochemical aid in the search for an up-ice bedrock source for the "Dodge" boulder of high grade stratiform zinc found along the Hoole River.

The rocks underlying the Hoole River and Mink Creek drainages of the project area are metaplutonic and mafic to felsic metavolcanics of probable Devonian-Mississippian age.This assemblage is most likely coeval with Mortensen's (1998) "middle unit" of the Yukon Tanana Terrane of southeastern Yukon. The oval-of-Cassini shape project area is displayed as Unit 1 on the accompanying map.

Augen gneiss of probable metaquartz-monzonite parentage, believed to be of early Mississippian age, is the dominant bedrock of the project area. Muscovite granodiorite and monzonite meta-pluton outcrop near the western end of the project area. Upper Devonian to lower Mississippian mafic schist, perhaps coeval with the Fyre Lake Cu-Co-Au deposit, is present along the southern border of the augen gneiss. Of perhaps common age is a small outcrop area of felsic welded quartz-eye tuff breccia near the granitic meta-pluton outcrops. Thin to medium bedded carbonaceous dolomitic limestone of possibly Pennsylvanian age outcrops along the northern border of the augen gneiss.

Fluorspar, quartz, tourmaline, and white mica are featured in epithermal replacement, veining, and breccia in a prominent greisen of pervasively silicified augen gneiss outcropping near the east-central portion of the project area.

Till Sample Collection

In advance of field work, and with the guidance of Mr. Jeffrey Bond of the Geosciences Group, preliminary air photo interpretation of glacial landforms was undertaken in order to prioritize the choices of sampling traverses. Four site specific areas, designated 'A' 'B' 'C' 'D' were selected, and best estimates were made as to the number of sample stations to be allotted for each, given the terrain, 'reach' from several helicopter base camps and field personnel. Proposed traverses were plotted in an ENE direction, i.e. perpendicular to the ice flow direction.

Field personnel comprised Jim Dodge who worked out of the four field camps which Trans North Helicopters set-in by a 25-minute flight from Ross River. The attempt to domesticate a bear for sample pit digging boomeranged with crashing of Camp No. 1 by a grizzly on a peanut butter jag.

At each sample site a D-handled shovel was used to dig through moss, ash, and B/C soil horizons to reach and penetrate the unweathered till. Bedrock was reached in many pits. Depths of the pits ranged from 35cm to 100cm at one poorly drained site. Permafrost was present at only one station. While crouching in the pit, till was scraped into a 12" x 20" plastic bag while coarse (+1cm) clasts were flipped out by hand.. A fisherman's scale, hooked into the top of the bag, was used to measure a 2-kg sample. A handful of clasts was then collected and bagged for lithologic identification using a binocular microscope at base camp.

Metal tags and flagging were used to identify each sample station; the odd broken shovel was left as mute evidence. The attached data sheet format, similar to that of Bond's Weasel Lake project, was filled out at each station. Station altitudes were adjusted as a reflection of the daily "altitude" change of base camp.

Till Sample Preparation and Analysis

Again, in an attempt to pattern Dodge's methodology of till sampling with that of Bond's, samples were sent to ACME Analytical Laboratories in Vancouver, British Columbia for analysis. Early in the field season many bagged samples became very wet when seasonal frost melted. These were spread out at camp for partial air drying before rebagging, followed by ACME's drying,sieving, and assaying. ACME sample preparation included drying at 60 C prior to splitting and sieving 100 grams to –230 mesh. Following near total acid digestion for the precious and base metals by aqua regia, a 30- gram sample of the –230 fraction was assayed under ACME's Group IF-MS, i.e. ultratrace ICP by mass spectrometer.

Turn around time, including Greyhound transport from Whitehorse to Vancouver, and receipt of ACME's Fax soft copy of assays, was a surprisingly short 12-15 days. This was of much benefit because it permitted timely return to existing sample stations shown to have anomalously high geochemical values, for re-sampling and digging of off-set pits for continuity or 'spread' sampling.

Till Sample Assay Results

Attached (Appendix) are the following four ACME geochemical analysis certificates on till samples with File Nos. A101909, A102240, A102576, and A103008. Anomalously high geochemical till values for copper, zinc, lead, and silver are highlighted in the following text.

Copper

Sample #122605 on File No. A101909 from Station JD01-04 assayed 360 ppm copper from a 25 cm thick interval just above garnet amphibolite schist bedrock at total pit depth of 55 cm. Inspection of clasts and bedrock revealed sparse ticks of a bright yellow mineral – later to be confirmed as chalcopyrite.

The high copper, plus accompanying cobalt (57 ppm), backed the decision to return to the 04 Station, re-sample the basal till, and dig two off-set pits to test for possible lateral extent of this geochemically high anomaly. As noted on sample #1122648 on File No. 101008, its 326 ppm copper and 46 ppm cobalt from the resampling closely matches the initial pit sample.

(Cont'd)

The first of two off-set pits, sample #122649 from pit No. JD01-04N at 20 m north of the parent station, assayed 100 ppm copper and 32 ppm cobalt. Meanwhile, sample #122650 from pit No. JD01-04W, 20 m west of the parent station, assayed 92 ppm copper and 32 ppm cobalt. Large (20 cm) size rough-edged clasts and bedrock slabs of garnet amphibolite schist in the off-set pits closely resemble lithology of the 'discovery' pit No. –04. The attitude of the schist appears to be 120 inclined steeply southwest

Lead

Two anomalously high lead assays were obtained from till samples, namely (1) Sample #122612 (File No. 102240), the initial sample from Station JD01-ll, grading 225 ppm Pb, 147 ppm Zn, and 452 ppb Ag, and (2) Sample #122644 (File No. 103008), the re-sample of Station JD01-ll, assaying 159 ppm Pb, 149 ppm Zn, and 205 ppb Ag –and thereby a close replicate with the parent sample.

Sample #122647 (File No. 103008) is from Station JD01-11W, an off-set 20 m west of Station ll, is notable for its 179 ppm Zn, high 733 ppb Ag,, yet only weakly anomalous 57 ppm Pb.

Note: Attention is drawn to the serendipity of having found a large boulder of greisen, with veinlets of sulfides and fluorspar, l50 m northwest of Stations ll and llW. From a 2kg select sample, No. ll8655 (File No. Al03489), the following assay was obtained: 3263 ppm Cu, 6877 ppm Pb, 3478 ppm Zn, 83281 ppb Ag, and 840 ppm B.

Although tempting, clearly there is no bedrock data on which to contemplate a base/precious metal ratio-factor between till and boulder assays. Both are "homeless", both reflect nearby (<l km) bedrock sources for sulfides and probably boron.. A mothership is needed for 'docking'!

Zinc

Zinc assays of till are judged geochemically to be only moderately anomalous. Sample #122612 (File No. A102240) from the initial Station JD01-ll grading 147 ppm Zn was replicated in resampling by Sample #122644 (File No. A103008) which assayed 149 ppm zinc.

The off-set sample #122622 (File No. A103008) from Station JD01-11W, 20 meters west of Station JD01-ll, gave 179 ppm zinc and a high of 733 ppb for silver.

Approximately 2 km to the west, an assay from Station JD-07 graded a weakly anomalous 140 ppm zinc from Sample #122608 (File No. A101909). This is of interest solely because the dominant lithology of clasts is welded quartz-eye rhyolite tuff breccia; however, no other anomalous base/precious element was detected in this sample.

Note: Attention is drawn to the serendipity of having found a large boulder of greisen, with veinlets of sulfides and fluorspar, 150m northwest (down ice) of Stations 11 and 11W. From a 2kg select rock sample, #118655 (File No. A103489), the following assay was obtained: 3263 ppm Cu, 6877 ppm Pb, 3478 ppm Zn, 83281 ppb Ag, and 840 ppm B.

Although tempting, clearly there is no bedrock data on which to contemplate a base/precious metal ratio-factor between till and boulder assays. Both are "homeless" and both reflect proximal (<1 km) bedrock sources for sulfides and probably boron. A bedrock "mothership" is needed for "docking"!

Silver

Several till samples in the vicinity of Station JD01-11 are considered anomalously high in silver. At Station JD01-11 itself, Sample #122612 (File No. 102240) assayed 452 ppb silver. The re-sampling of Station 11 by Sample #122644 (File No. 103008) yielded only 205 ppb silver; yet, a sample from the offset pit Station JD01-11W, 20 m west, Sample #122647 (File No.103008) assayed a significant 743 ppb silver.

There are three other widely separate samples with anomalously weak to moderately high silver assays. These are (1) Station JD01-12 (File No.12240) having standing water at 100 cm depth with a clayey mix of rounded schist and gneiss, with an assay of 236 ppb from Sample #122613 (File No. 102240); (2) Station JD01-20, fartherest east of greisen hill area at the limestone/greisen contact, with Sample #122620 (File No. 102240) grading 384 ppb silver; and (3) Station JD01-30 on south facing greisen hill above the 'game trail' trench, with Sample #122643 (File No. 102576) assaying 257 ppb silver.

The above three Stations 12, 20, and 30 are aligned in the 60 direction along the hillside roughly parallel to and south of the greisen hill. Their proximity to the greisen may indicate that the concealed southern contact of the greisen lies less than 1 km to the south.

YMIP – 2001
PART-II

FLO CLAIMS
FLOURSPAR-TOURMALINE-WHITE MICA GREISEN
PELLY MOUNTAINS, YUKON

Abstract

Prospecting by James S. Dodge in map area 105G-12 under YMIP 2001 discovered a large epithermal replacement greisen in Devonian-Mississippian augen gneiss characterized by non-pegmatite pervasive silicification, quartz-veining, and breccia with accompanying fluorspar, tourmaline, and white mica.

Dolomitic limestone beds nearby are the probable source of calcium for the fluorspar, yet, contrary to expectations, no intrusive rocks or tactites have been observed on or adjacent to the greisen.

An angular greisen boulder found 75 m north of the greisen outcrops hosts several 5 cm-wide veinlets comprising a core of green fluorspar sandwiched between partly oxidized metallic sulfide seams. Grab samples of the veinlets assayed 0.33% copper, 0.69% lead, 0.35% zinc, and 2.3 oz silver.

Accordingly, four FLO claims were staked to cover not only greisen outcrops but also the sulfide bearing boulder area nearby and till Station No. 11 from which anomalously high lead/silver assays were obtained.

The quartz veining and locally high concentrations of boron (tourmaline) and white mica in the greisen, coupled with amphibolite clasts in till sample pits south of the greisen, hold out a prospect for occurrence of emerald nearby.

Greisen Geology

The geology of the terrane covered in part by the recently staked FLO 1-4 claims in map area 105G-12 is a 'textbook' greisen which does not appear to have been documented. The FLO greisen is a hydrothermally silicified augen gneiss with non-pegmatitic mineralization comprising replacement and vein type concentrations of fluorspar, tourmaline, white-mica – from volatile fluids rich in fluorine, boron, lithium(?) and some sulfur. The acidic pluton from which the volatiles rose has not been seen.

The greisen, as revealed from partially exposed bedrock, covers an area at least 600 m EW, over 100 m NS, and 55 m in topographic relief. Grey chalcedonic silica, with minor fluorspar and mica, forms a distal band around the two separate centers of core mineralization within the broad area of silicified greisen. Dolomitic limestone proximal to eastern outcrops of the greisen are probable source of the calcium for the fluorspar occurrences.

Greisen Sample Collection

Fourteen rock samples, from 1 to 5 kg were collected from greisen which displayed green and/or purple fluorspar replacing or veining the silicified augen gneiss. An additional eight samples came from moderately to intensely silicified greisen with only traces of fluorspar. These latter samples were chosen in the belief, at that time, that the epithermal quartz replacement and veining might be a pathfinder to precious metal concentrations.

Once field work established the greisen nature of the site, further ICP assays included boron and beryllium because of their common component in Alaskan greisens (Sainsbury); this was proven to be prudent..

Near the projected northern boundary of the greisen a large (70 cm) greisen boulder displayed several 5 cm wide veins comprising a fluorspar core bounded by cm-wide oxidized sulfide bands. Over 2 kg of select vein samples were taken.

Greisen Sample Preparation and Analysis

Handpicked rock samples from distal (fluorspar-poor) and core (fluorspar-rick) areas of the greisen, as well as the sulfides-fluorspar veinlets of the greisen boulder, were bagged and shipped to ACME Laboratories in Vancouver, British Columbia for assaying. A 0.5 gm sample, sieved to –150 mesh, was digested by aqua regia and assayed by ICP-ES.Additionally, separate rock samples from the greisen and from other bedrock sites in the project area, were sent to International Plasma via Northern Analytical Laboratories for similar preparation and analysis by ICP.

Greisen Sample Assay Results

Attached (Appendix) are four geochemical analysis certificates on greisen rock samples. Two certificates are by ACME Laboratories under File Nos. A102271 and A103489. Two certificates are by Northern Analytical Laboratories/International Plasma Laboratories under WO#00200 and WO#00221.

Of particular interest are (1) the anomalously high suite of copper, lead, zinc, and silver exposed as bands flanking the fluorspar veinlets in a greisen boulder. The following assays were obtained from Sample #118655 of ACME File No. A103489: 3263 ppm copper, 6877 ppm lead, 3478 ppm zinc, 2.3 oz silver, and 840 ppm boron.- and (2) the quite anomalously high values for boron in a cluster of fluorspar-rich (high Ca %) greisen samples.

The cluster of high boron assays from a group of nine samples (below) taken near the center of the 'upper' greisen indicates that the tourmaline and fluorspar (note high Ca in assays) are concomitant – even in the above veinlet Sample #118655.

File Number	Sample Number	Boron ppm	Location
A103489	118655	840	Boulder vein
A103489	118660	149	Lower greisen
A103489	118659	36	Upper greisen
A103489	118661	745	Upper greisen
A103489	118662	251	Upper greisen
A103489	118663	268	Upper greisen
A103489	118664	309	Upper greisen
A102271	122630	516	Upper greisen
A102271	122631	108	Upper greisen

Correlation between Ca % and B ppm indicates that in samples with a high concentration of fluorspar (CaF2) there is a corresponding high in boron (as in tourmaline), and conversely where fluorspar is sparse or absent, noticeably in chalcedonic silica flooding near borders of the greisen, boron content is very low if detectable.

Greisen Petrography Report

Two greisen rock samples were submitted to Vancouver Petrographic Laboratory of Langley, British Columbia for petrographic study. Their report dated 09 November on samples FLO 'A' and FLO 'B' was prepared by K. E. Northcote (Appendix).

Only sparse tourmaline was observed in the thin section. This is not unexpected, as tourmaline is not uniformly distributed in the greisen and, moreover, the samples were not particularly rich in fluorspar which assays have shown to be concomitant with boron (tourmaline).

Where seen, tourmaline tends to occur as stubby crystals which evidently preferentially replace feldspar bands of the augen gneiss. The dark gray aspect of quartz bands in the greisen, although not identified in the report, may well be the result of tourmaline infusion of quartz. Away from the greisen the quartz and feldspar are their typical fresh appearance.

The 7-10% content of muscovite, along with the 10-15% microcrystalline sericite, are apparent in the hand specimens; especially in FLO 'B'.

CONCLUSIONS

1. After a review of assays of the 35 till samples taken at 200 meter intervals, it is concluded that a glacially dispersed geochemical zinc plume, originating from a potentially sizeable bedrock stratiform deposit, was not indicated during the 2001 program.

2. The tourmaline-quartz-white mica concentrations in the greisen, coupled with presence of chromium-bearing amphibolite in till sample pits, point .....to the. geological environment for occurrence of emerald.

3. Significantly, the elevated level of copper, lead, zinc, and silver in the assay of fluorspar and sulfides veinlets in the greisen boulder, although sub-economic in grade, were of ratios altogether similar to those commonly found in volcanogenic massive sulfide bodes. It may not be too speculative to consider that ascending greisenization fluids rich in fluorine/boron robbed metals from a concealed VMS deposit and precipitated their sulfides in late-stage veinlets near the border of the greisen.

RECOMMENDATIONS

Conduct additional close-spaced pit sampling of till in the vicinity of Stations JD01-04 and JD01-11 in order to further define the extent of till geochemical anomalies of copper/cobalt and lead/silver, respectively.

Map details of FLO Claims geology with special attention to greisen contacts with augen gneiss, limestone, and mafic schists which might host emerald.

Lay out a grid for soil sampling across the projected linear and lateral exrtensions of the greisen. Objective is to clarify the extent of the base metals, silver, and boron geochemical anomalies already indicated from the reconnaissance till sampling and bedrock prospecting during 2001. Supplemental to the 37-element ICP-MS assays, beryllium and tin would be included, as both are commonly present in greisens.

REFERENCES

Bond, J. D., Surficial Geology and Till Geochemistry of Weasel Lake Map Area (105G-13), East-Central Yukon in Yukon Exploration and Geology 2000, Yukon, Indian and Northern Affairs Canada, p. 73-96.

Yukon Exploration and Geology 1999, Yukon, Indian and Northern Affairs Canada, Emerald Exploration, p. 26.

Mortensen, J. K. and Jilson, G. A., 1985, Evolution of the Yukon-Tanana Terrane: Evidence from Southeastern Yukon Territory: Geology, 13, p. 806-810.

Sainsbury, C. L., 1967. Tin and Beryllium Deposits of the Central York Mountains, Western Seward Peninsula, Alaska, in Ore Deposits of the United States, 1933-1967, part 11, chapter 74, U. S. Geological Survey..

ABRIDGED RESUME
JAMES S. DODGE, P.ENG.

Education:

B.S. Mining Engineering, 1941, Missouri School of Mines, Rolla, Missouri, U.S.A..
M.S. Economic Geology, 1951, Leland Stanford University, Palo Alto, California, U.S.A.
Field Geology Mapping, 1940 , Princeton University , Red Lodge, Montana, U.S.A.
African Ore Deposits, 1952, Albert Ludwigs Universitaet, Freiburg im Breisgau, Germany

Experience:

Miner - 1939 South London, Colorado; 1941 Hirst Chichagof, Alaska
Mine Geologist – 1941-1943, under Reno Sales, Anaconda Copper, Butte, Montana
Mine Operator – 1945 U.S.Army Engineer Lieutenant, air field construction, Kyushu, Japan
Deputy Chief, Mining/Geology – 1946-1949 SCAP Occupation, Tokyo, Japan
Senior Exploration Geologist – 1954-1955 U.S.Atomic Energy Commission, Washington, D C.
Prospector/Mine Operator – 1956-1959 Fryingpan Uranium Co., Aspen, Colorado
Prospector – 1958-1959 - Southern Rhodesia/Northern Rhodesia – emeralds
Geologist – 1959 – Guest Gov't. France, Uranium deposits, Massif Central, France
Consultant – 1960-1964 – Mitsui Mining/Smelting – Porphyry Coppers Peru, Chile, U.S.A.
Consultant – 1963-1966 - Mitsui Mining/Smelting – Pb/Zn Massive Sulfides, Vangorda, Yukon
Consultant - 1967 · · · · · · ·

Thayer Lindsay (B.C.); ESSO staked Eaglehead (B.C.); Eisenman Chemical Nevada discovered largest No.Am. barite deposit; Glidden Co. barite New Mexico; DIAND Whitehorse copper; unconformity uranium, Sask.; magnetite Southern California; beach sand gold, Yagataga, Alask Atlas Exploration, copper Chile; bedding sands, Manitoba; expa nded shale, Japan; TEA barite Yukon; minette pipes, Dawson, Yukon; Tarvisio, Italy Pb/Zn; Morocco/Algeria 1952 Pb/Zn

Affiliation·

Senior Fellow, Society of Economic Geologists
Member, Association of Professional Engineers, Yukon Territory

EMERALD EXPLORATION

Expatriate Resources conducted a field program to define the extent of emerald-bearing host rock, and to evaluate the quality of the emeralds and their extractability on the Goal-Net property in the Finlayson Lake area. Detailed prospecting in the vicinity of the discovery showing has located numerous emerald-bearing float trains in an 800- by 400-metre-area that straddles a ridge top. A Cretaceous granite body occurs approximately 600 metres east of the emerald locality, while a small ultramafic body occurs just to the west. Bedrock consists of interfingered metagabbro and chlorite schist. Hand trenching has exposed four golden-weathering chlorite-phlogopite(?)-tourmaline schist horizons which range from 50 centimetres to 4 metres thick, intersected by gently dipping, subparallel quartz-tourmaline veins. Emeralds occur in the golden-weathering schist horizon and the quartz-tourmaline veins. Where the veins intersect the favourable schist horizons, a higher concentration of emeralds occur. Both the host schists and veins project subhorizontally beneath the ridge at a shallow depth, making the emerald prospect potentially suitable for open pit mining. Washing and hand sorting of about one-half tonne of material from trenches in the first phase of the program yielded about one kilogram of green beryl. The sampling program recovered small gem quality emeralds up to approximately one-quarter carat in size (Fig. 26) with excellent colour and clarity. The sampling program was confined to talus trains. The program was designed to establish geological controls for the emeralds, define the limits of favourable host lithologies (more than three square kilometres at present), identify additional emerald showings, and evaluate the abundance of gem quality stones and potential for larger stones.

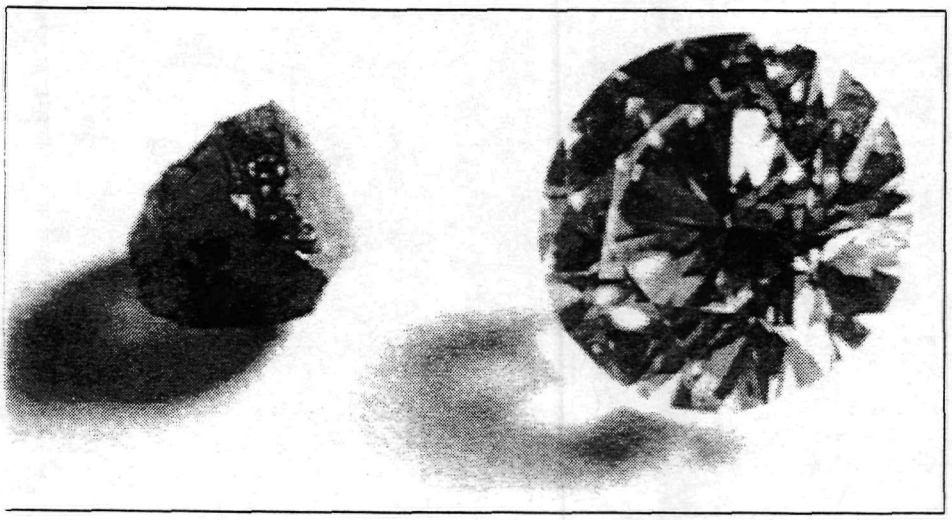


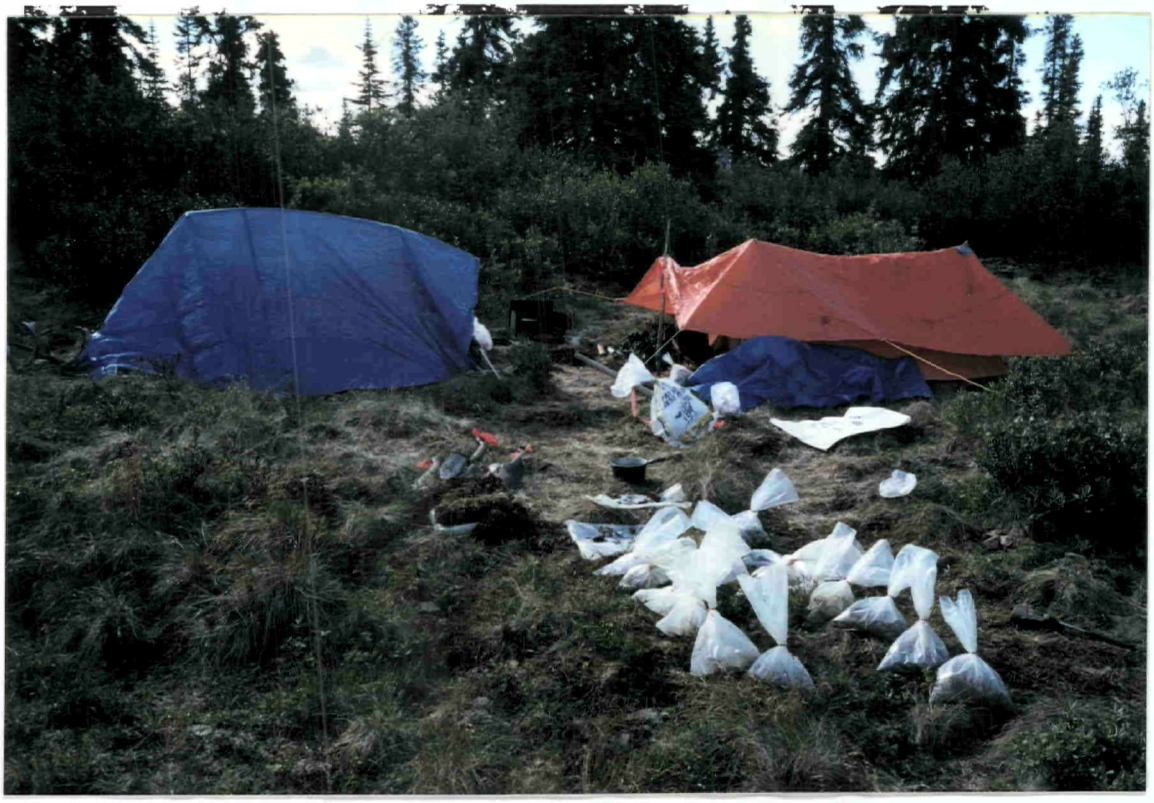
Figure 26. A gem quality emerald is pictured beside a one carat diamond for scale. Photo by North Light Images Ltd.

COAL EXPLORATION

Usebelli Coal Mine Inc, conducted a spring 1999 exploration program on Cash Resources **Division Mountain** (Yukon Minfile, 1997, 115H 013) coal property. This program successfully discovered coal seams up to 14 metres thick in a previously undrilled area at Corduroy Mountain, 10 kilometres east of Division Mountain. The coal was found in a reverse-circulation drill hole that was one of a fence of holes. Drilling took place across favourable stratigraphy, in a till-covered area, on the west limb of a seven-kilometre-long syncline. Only one additional hole tested the coal-bearing unit along strike, and is located about 200 metres to the north. Both holes intersected a thick sequence of coal-bearing sandstone, with one seam having a true thickness of 14 metres. Preliminary results indicate that the thickness, coal quality and stratigraphic position of the new discovery are very similar to the coal in the Division Mountain area. For a description of the stratigraphy and associated coal quality in the Division Mountain area, see Allen, this volume.

#1 Base camp with Station JD01-00 air drying first till sample

#2 Washing and drying till clasts from Station JD01-00



#3 Bagged till and matching clast samples

#4 Dodge examining till sample clasts with field microscope

#5 Breaking up air-dried 'adobe' cemented till resulting from thawing of frost laden clayey sample

#6 Angular sub-crops of greisen at Lower showing

#7 Flurosplar (green and purple) from greisen at Lower showing

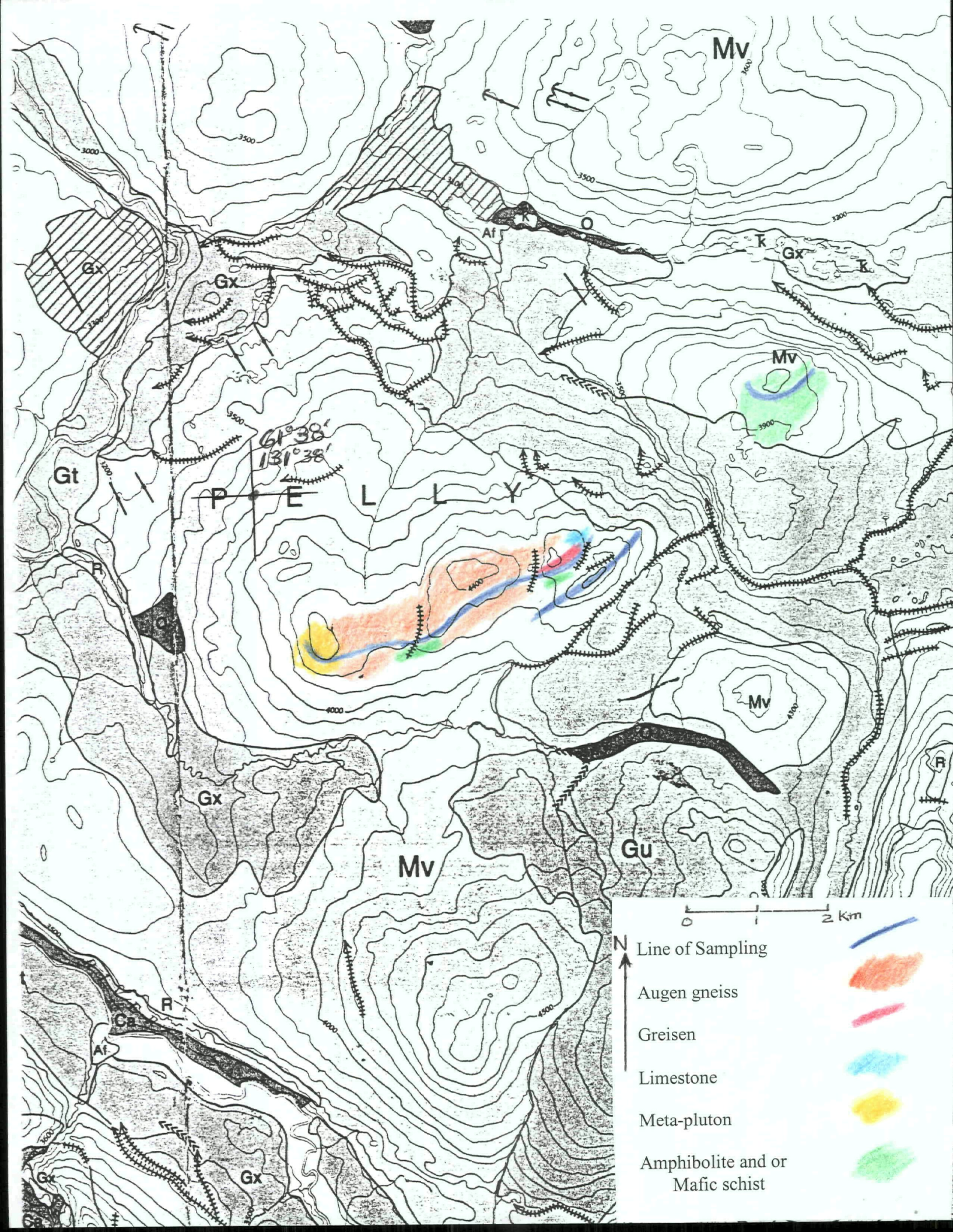
#8 Drying till clasts collected from several Stations.

#9 Trenching Upper showing of bedrock greisen. Fluorspar-rich zone, between red flagging, Is 6 m wide and extends at least 45 m at 60 inclined steeply south

#10 Trenching on Game-trail showing of chalcedony border phase of greisen

#11 Posts No. 1 FLO 1 and 2 Claims

#12 Posts No. 2 FLO 3 and 4 Claims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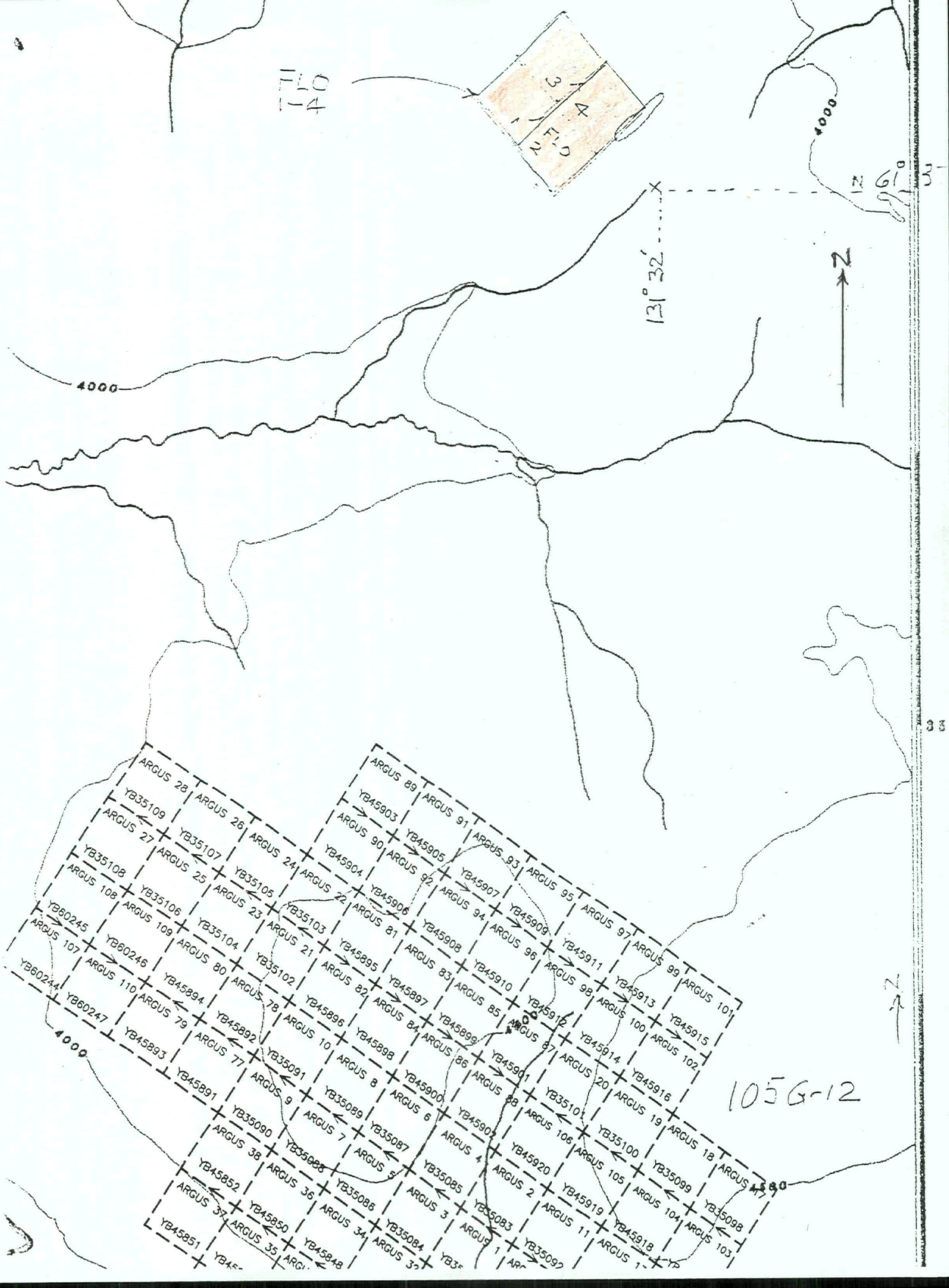
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James S. Dodge
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Whitehorse, Y.T.
Y1A 5P7

November 9, 2001

Dear Mr. Dodge,

Re: your samples FLO 'A' and FLO 'B'

Enclosed is your petrographic report, together with your polished thin sections and offcuts.

Tourmaline is present in these samples, but only in small amounts, if the sections are representative. I checked the sections for topaz and was unable to find any, although it can be mistaken for quartz unless the cleavage is visible (which it should be if there were significant amounts present).

Should you have any questions, please do not hesitate to contact me at 604-796-2034 or bknorthcote@yahoo.ca.

Sincerely,

Bruce Northcote

Encl.

[1] FLO 'A' Breccia

Summary Description

Possibly originally similar to FLO 'B', this rock is fractured, healed with quartz. Textures indicate this was a multistage process, with silicified material, veins/breccia matrix and some late drusy quartz. Metamorphic fabric is disrupted and not as regular as in FLO 'B'. K-feldspar augen are not conspicuous, but locally there is a banded texture. Schistose muscovite domains are very sparse and discontinuous. Fluorite has undergone some relatively minor fracturing and is locally coated with crustiform quartz.

Microscopic Description
Transmitted Light

Quartz; 45-50%, anhedral (<0.01 to ~3 mm). Apparently multistage. Most quartz is fine grained to microcrystalline strongly silicified material. Coarser, strained quartz (with minute fluid and mineral inclusions) is found in what appear to be vein segments, or some intermediate stage breccia matrix. In the latest stage there is some crustiform quartz coating fragments. A few small open spaces remain.

Fluorite; 25-30%, subhedral (0.1 to cm-scale). Abundant fluorite is fractured but not crushed. In some cases thinly coated with crustiform quartz. Fluorite, like quartz, may be multistage, but not part of the latest brecciation/healing.

Sericite; 10-15%, (microcrystalline). Patches and streaks of sericite found throughout the section. The sericite is commonly iron stained.

K-feldspar; 5-7%, anhedral (0.1 to several mm). Fragments of K-feldspar are sparse in this section. Partly sericite altered.

Muscovite; traces+, anhedral (0.01 to 0.5 mm). Sparse coarser colourless mica.

Tourmaline; traces, anhedral (<0.01 to 0.05 mm). Tentatively identified. Crystals are not well-formed.

Apatite; traces, subhedral (0.1 to 0.3 mm). A few sparse prismatic crystals.

Zircon(?); traces, subhedral (<0.01 mm). Minute inclusions in quartz.

Reflected Light

Leucoxene; traces, microcrystalline. Scattered small aggregates, generally found with sericite.

Pyrite; trace, anhedral (<0.01 mm). Very sparse minute grains noted in sericite.

[2] FLO 'B' Cataclastically deformed Augen Gneiss

Summary Description

Cataclastically deformed gneissic rock, possibly originally pegmatitic or megacrystic, based on the apparent size of original K-feldspar crystals. Consists of partly comminuted K-feldspar augen separated by bands of quartz. Within this quartz are narrow muscovite schistose domains. Fluorite is found in a lens similar to the K-spar and also in what appears to be a deformed crosscutting vein in the hand specimen. Minor tourmaline is found in a single irregular, poikilitic grain enclosing quartz.

Microscopic Description
Transmitted Light

K-feldspar; 40-45%, anhedral (0.1 mm to cm scale). K-feldspar forms partly comminuted lenses or augen generally 1-3 cm in diameter. Original crystals appear to have had similar sizes, as many of the augen consist mainly of optically continuous K-spar apparently belonging to the same crystal. Patchy sericite alteration is locally strong.

Quartz; 30-35%, anhedral (0.01 to ~5 mm). Bands of quartz divide lenses (augen) of K-feldspar. Quartz is generally strained, and appears to have undergone some earlier stages of recrystallization.

Sericite; 10-15% (microcrystalline). Mainly found as an alteration product of feldspar.

Muscovite; 7-10%, anhedral/subhedral (0.01 to ~1 mm). Muscovite forms thin schistose domains in quartz-rich domains.

Fluorite; ≤1% (~3 mm). Less abundant in this sample. Irregular, roughly lensoidal forms.

Tourmaline; traces, anhedral (0.01 to 0.5 mm). Sparse brown and green tourmaline. Appears poikilitic, or forming some complex intergrowth.

Monazite; trace, subhedral (~0.1 mm). Single grain noted - appears to be biaxial, consistent with monazite, rather than zircon.

Apatite; traces, euhedral (0.05 to 0 3 mm). Sparse prismatic epidote.

Reflected Light

Leucoxene/rutile; traces (microcrystalline to 0.1 mm). Sparsely scattered in small aggregates found mainly with sericite and in coarser muscovite. Some coarser rutile found with sphene.

Hematite; trace, euhedral (0.1 mm). Single pseudomorph in quartz. Probably after pyrite.

Photomicrographs

FLO 'A'

R01-XXII-0 and 1. Plane polarized light and crossed nicols. Pictured: fluorite, crustiform quartz coating, small open space. Long axis field of view is 2 mm.

R01-XXII-6 and 7. Plane polarized light and crossed nicols. Pictured: fluorite, crustiform quartz coating, sericite. Long axis field of view is 2 mm.

FLO 'B'

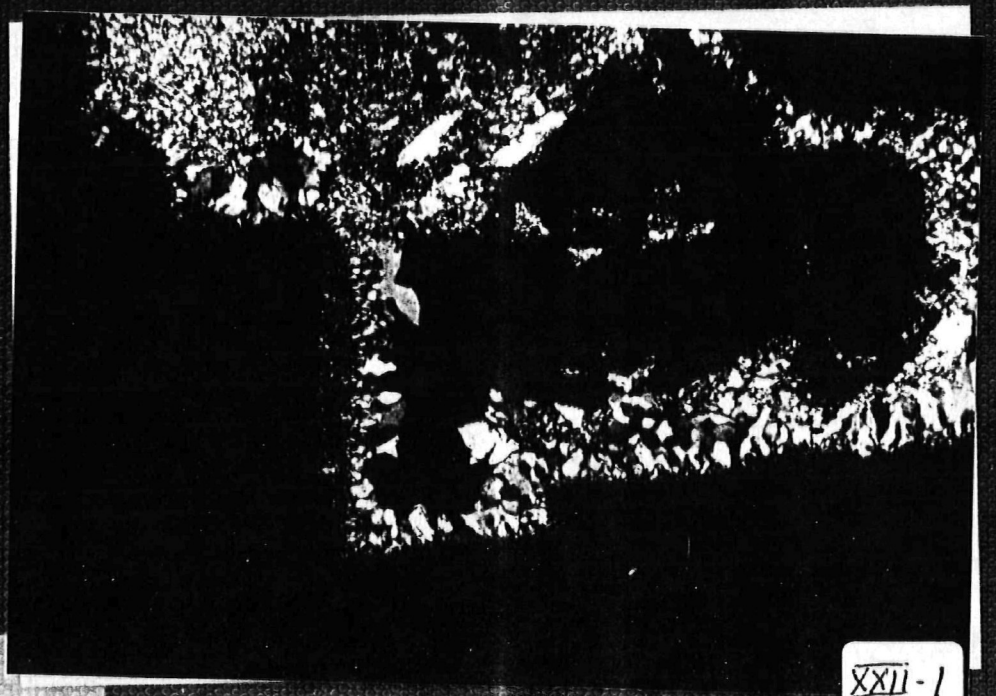
R01-XXII-9. Crossed nicols. Pictured: K-feldspar with sericite alteration. Long axis field of view is 2 mm.

R01-XXII-10. Crossed nicols. Pictured: strained, recrystallized quartz, narrow schistose segregation. Long axis field of view is 2 mm.

R01-XXII-11 and 12. Plane polarized light and crossed nicols. Pictured: tourmaline. Long axis field of view is 1 mm.

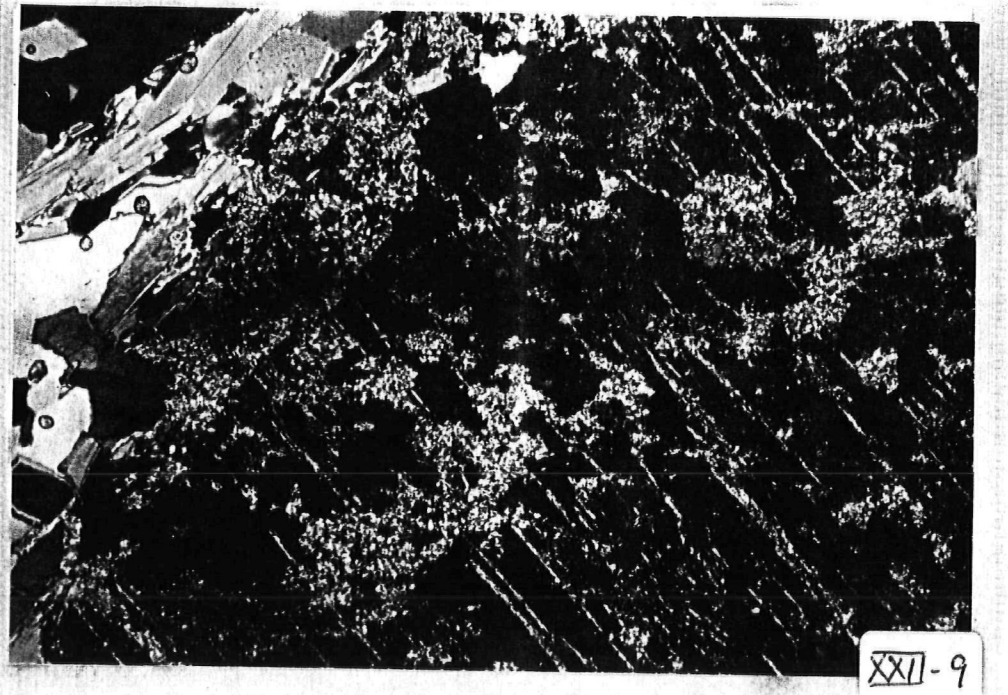
XXII-0

XXII-6

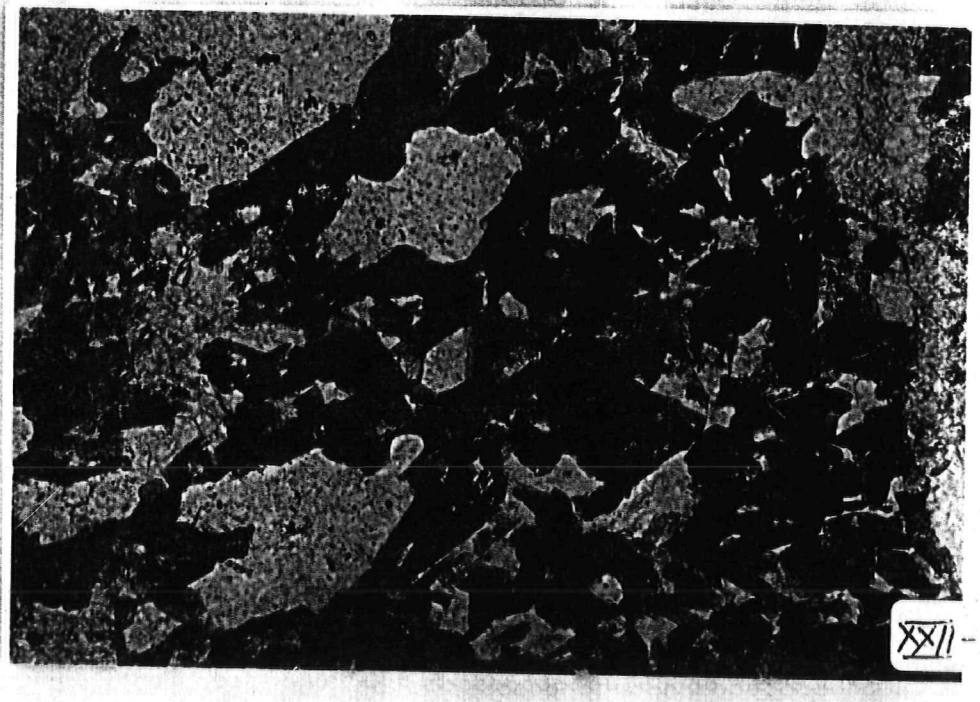


XXII-1

XXII-7

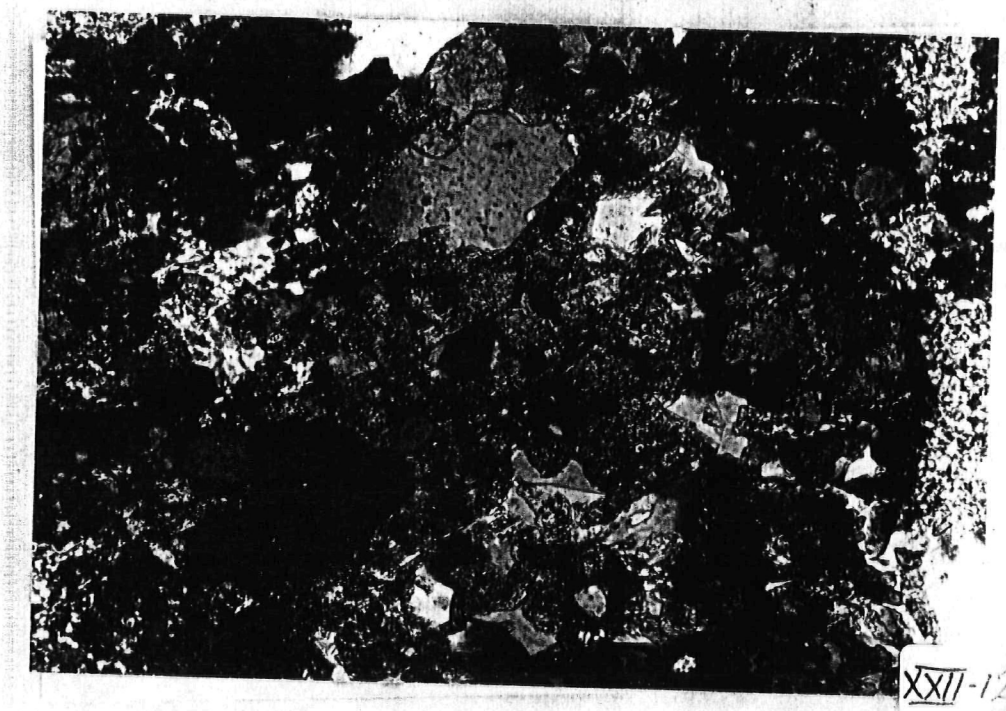


XXII-9



XXII-11

XXII-10



XXII-12

Till Samples

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Dodge, Jim PROJECT ROSS RIVER File # A101909

Box 31013 MPO, Whitehorse YT Y1A 5P7 Submitted by: Jim Dodge

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm	Sample gm
C 122601	1	24	12	43	18	06	87	0	140	33	0	9	6	427	2	14	8	8	3	0	4	4	4	6	30	9	28	67	38	29	50	096	30	1	35	7	45	322	0	021	1	95	006	10	5	1	8	08	01	32	2	02	3	4	30
C 122602	1	09	28	85	24	13	93	4	25	45	6	13	2	524	3	00	12	5	1	4	4	4	10	5	12	3	21	75	34	37	14	066	53	0	52	1	55	264	4	010	<1	39	004	08	3	3	7	10	< 01	47	< 1	02	4	8	30
C 122603		95	34	40	26	58	116	3	65	51	5	14	2	512	3	11	12	8	2	1	6	7	11	4	14	3	35	76	42	43	17	069	50	7	60	3	67	332	1	026	<1	41	005	08	3	4	0	09	< 01	39	2	03	5	0	30
C 122604	1	17	14	96	24	35	82	7	35	31	7	8	3	421	2	20	10	9	2	5	4	2	16	0	22	1	21	84	32	27	35	102	34	1	27	6	40	282	6	016	<1	91	004	09	2	2	2	08	01	16	< 1	02	3	6	30
C 122605	1	58	360	41	10	24	122	5	155	59	5	57	1	523	7	82	8	3	1	0	1	9	3	4	19	0	18	31	77	217	19	022	10	5	51	7	3	18	170	6	170	<1	4	28	022	81	3	8	9	8	1	19	03	12	1	1	07	14	6	30
RE C 122605	1	50	359	84	9	58	122	2	143	56	7	55	1	517	7	80	8	0	9	1	8	3	2	17	6	18	30	71	218	19	021	10	7	51	2	3	17	169	5	170	<1	4	26	021	77	3	6	9	1	1	16	02	14	1	1	08	14	0	30
C 122606	1	39	32	91	18	19	117	5	155	47	1	11	1	367	2	74	13	7	9	3	7	8	7	35	2	31	1	16	26	48	40	106	31	0	40	6	63	445	6	026	1	1	23	009	12	3	3	3	12	< 01	93	2	04	4	6	30
C 122607		82	20	01	18	88	84	5	22	43	5	17	2	457	2	82	11	6	8	1	9	8	3	14	5	15	48	20	35	19	086	25	0	40	0	64	205	7	007	<1	1	38	003	07	< 2	2	4	07	< 01	13	3	03	4	6	30
C 122608	1	63	37	09	31	88	140	8	77	61	4	17	6	886	3	66	16	6	8	3	6	12	6	32	7	32	1	08	31	49	44	108	47	3	52	0	68	375	5	020	<1	1	59	009	24	2	4	1	16	02	62	< 1	04	6	9	30
C 122609	1	43	12	95	31	49	110	4	79	34	3	9	4	231	2	60	10	3	1	4	5	5	10	9	8	1	33	71	57	29	11	067	34	4	39	2	44	100	7	014	<1	1	57	005	11	2	2	0	09	< 01	26	2	02	4	6	30
C 122610	1	30	7	31	28	61	83	9	64	17	2	5	6	177	2	14	9	9	1	5	6	9	8	6	8	0	25	64	43	24	12	071	28	0	26	3	31	79	6	020	<1	98	003	07	3	1	3	07	< 01	23	1	< 02	3	6	30
C 122611		74	17	45	18	61	58	1	23	110	9	16	0	427	2	62	17	0	2	5	6	2	11	1	15	2	08	66	36	32	19	065	31	7	116	5	91	124	1	032	1	99	005	05	6	2	9	07	< 01	12	3	02	3	8	30
STANDARD DS3	9	26	128	03	34	18	154	6	287	36	5	11	9	799	3	11	30	1	6	1	20	2	4	0	27	3	5	63	5	23	5	27	76	50	091	16	8	185	3	58	141	7	093	1	1	67	029	16	3	9	2	8	97	02	227	1	2	1	11	6	4	30

GROUP 1F30 - 30.00 GM SAMPLE, 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 600 ML, ANALYSIS BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: TILL S230 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUN 27 2001 **DATE REPORT MAILED:** July 9/01 **SIGNED BY.....** D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data ✓ FA ___

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Dodge, Jim File # A102240

Box 31013 MPO, Whitehorse YT Y1A 5P7 Submitted by: Jim Dodge

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm	Sample gm
C 122612	3.58	33.56	224.55	147.0	452.11	4.3	169.1	1.86	30.5	8.7	10.5	26.6	28.6	18	82.3	06	13	39	119.55	2	16.6	21	176.7	001	<1	81	004	16	<2	1.4	31	04	13	5	02	2.8	30
C 122613	1.40	27.51	26.14	101.1	236.32	1	9.7	519.2	33.11	5	2.5	7.1	9.0	45.1	47.1	47	31	36	51	155.23	5	30.0	54	315.8	019	1.1	06	013	08	3	2.8	14	<01	85	7	04	3.6	30
C 122614	1.53	16.21	23.71	63.0	110.27	7	9.1	243.2	54.12	6	2.6	2.5	12.6	11.0	27	69	53	33	17	089.20	8	36.8	52	100.1	008	1.1	35	003	06	3	1.6	13	<01	30	6	<02	4.6	30
C 122615	1.25	14.32	29.92	48.1	23.19	4	7.7	375.1	99.0	4.5	3.3	17.2	11.5	13	41	44	23	20	081.27	4	29.0	40	108.4	007	<1	1.10	003	07	3	1.5	19	<01	9	7	<02	4.2	30
C 122616	1.00	9.74	30.93	40.6	25.16	3	5.1	222.1	71.10	1	6.8	6.1	19.4	14.0	11	36	75	16	31	115.30	0	26.2	35	69.9	009	<1	77	004	07	3	1.3	13	<01	9	7	02	3.5	30
RE C 122616	1.03	10.29	34.17	40.0	29.16	2	5.3	223.1	72.10	6	6.9	8.2	20.8	14.3	09	40	79	16	31	120.31	7	30.2	35	70.6	009	<1	78	003	07	3	1.4	15	02	7	9	<02	3.5	30
C 122617	92	27.47	19.34	71.4	67.54	6	13.1	640.2	92.14	3	2.4	8.5	8.7	31.8	15	83	29	39	38	147.30	4	69.3	80	221.6	023	1.1	33	009	06	4	4.1	09	<01	48	7	03	4.7	30
C 122618	78	14.78	31.18	94.3	50.31	7	10.6	462.2	62.12	4	2.9	4.4	21.1	15.4	12	44	1.08	28	25	080.61	5	48.5	64	125.7	009	1.1	45	004	06	3	2.1	17	<01	11	9	02	5.0	30
C 122619	1.59	11.29	31.78	63.1	129.9	3	3.9	146.1	48.5	7	2.1	2.4	12.1	9.0	23	36	1.02	12	16	076.16	4	13.0	25	104.1	003	1	86	003	10	2	9	17	01	15	5	<02	3.8	30
C 122620	1.75	51.48	20.67	117.0	384.59	5	19.0	775.3	72.20	1	1.3	5.0	9.4	119.5	54	1.47	35	67.3	67	131.30	5	87.3	1.34	409.9	029	1.2	23	016	18	4	4.9	23	06	99	4	04	8.1	30
C 122621	4.74	69.93	23.46	79.9	131.39	9	15.3	597.3	65.16	2	1.2	3.3	13.5	48.5	08	66	50	30	54	054.28	3	61.3	81	216.9	001	<1	2.18	003	18	2	3.4	49	01	30	1	03	13.5	30
STANDARD OS3	9.22	124.10	33.42	152.9	281.33	3	11.2	789.3	07.27	8	6.0	22.2	3.5	27.9	5.38	4.97	5.10	72	52	087.15	9	183.4	57	143.1	082	2.1	68	028	16	3.7	2.6	1.00	03	226	1.1	1.01	6.1	30

GROUP 1F30 - 30.00 GM SAMPLE, 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 600 ML, ANALYSIS BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: TILL S230 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUL 18 2001 **DATE REPORT MAILED:** July 30/01 **SIGNED BY** ..... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Data ___ FA ___

ACME ANALYTICAL LABORATORIES LTD. (ISO 9002 Accredited Co.)
852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-17.

GEOCHEMICAL ANALYSIS CERTIFICATE

Dodge, Jim File # A102576

Box 31013 MPO, Whitehorse YT Y1A 5P7 Submitted by: Jim Dodge

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm	Sample gm
C 122634	2	45	13	90	19	82	64.9	113	20	9	6	8	180	2	50	13	4	1.9	1	6	6.0	7.4	.21	1.04	47	46	.06	037	17	0	33.3	39	104	9	012	1	1.54	003	.05	.3	1	4	.13<	01	24	.1	02	6.5	30
C 122635	3	12	15	84	21	35	73.5	62	15.7	5	0	184	2	80	13	3	5.3	3	4	11.0	7	1	.18	93	53	46	06	061	16.4	26	2	23	81	6	006	<1	1	57	001	.06	.3	1.1	18	01	15	.1	.03	7.7	30
C 122636	1.40	15	06	14	02	59	4	36	45	2	10	4	263	2.52	12	2	6	1	5	3.8	10	9	18	98	25	47	.11	049	15	8	56.5	.51	173	9	.012	<1	1	43	.005	.07	.4	1	6	08	.02	14	.1	.02	5.0	30
C 122637	2	31	20.75	22.89	77	7	87	40	6	12	3	291	3.34	18	8	1.6	22	1	7	6	10	6	.19	1.25	35	59	11	069	22	0	61	3	.60	158.7	012	<1	2.20	.003	.05	.4	2	1	14	01	38	2	03	7	3	30
C 122638	2	01	20	17	17	45	77	1	75	48	6	17.8	339	3	73	12	2	1	1	1	6.7	12.1	.19	.90	26	69	.15	059	21	4	76	3	.83	227	6	011	<1	2	00	.004	.06	<.2	2.6	.09<.01	11	1	03	7	1	30
RE C 122638	2.03	20	23	17	63	76	6	70	48	5	18	0	350	3	80	12	4	1.1	5	5	6	7	12	5	.19	93	.25	70	.15	.059	21.9	76	4	.85	234.9	012	1	2	10	.003	05	<.2	2	7	.89<.01	12	2	03	7	1	30
C 122639	1.79	34	73	24	55	89.0	117	65	3	21	8	710	4	13	12	2	8	0	2	1	15.2	19	0	.17	88	32	68	20	064	27.9	93	1	1.07	161.4	.011	1	2	63	.008	.07	<.2	3.9	.15	.01	13	.1	.02	8.1	30
C 122640	2.72	17	32	17.55	57	7	95	23	2	7	5	190	2.66	20.0	3	5	2	2	9	9	12.9	25	1	31	.51	34	.15	.093	24.8	34.2	41	118	8	012	1	1	02	.003	06	3	1	5	.15	.01	13	<.1	.02	4.0	30
C 122641	1.29	17.95	15	02	58	6	33	43.0	10.8	211	2	64	10.2	1	4	3	7	5.5	17	3	10	.74	.23	49	20	.078	23	4	57	5	.70	154.4	.014	1	1	55	.004	.05	.3	2	0	.10<.01	14	< 1	<.02	5.4	30
C 122642	2	00	11	50	15.13	69.5	35	27.5	8.4	192	2.64	13	4	1	3	1.3	6	2	8	6	19	.95	.28	48	08	057	20.5	46	3	.49	115.7	.012	1	1.41	003	.05	.3	1	5	11<.01	10	<.1	.03	5.4	30
C 122643	3	15	26.75	23.65	76.5	257	53	9	17	5	316	3	53	24	3	3	3	5	1	13.8	22	1	28	1	18	.51	54	17	.105	24.7	71	7	.73	166.7	.011	1	2.10	.003	07	.3	2.8	18	.02	22	2	03	6.1	30
STANDARD DS3	9.62	129.60	35	07	160	8	279	36.2	12.7	863	3.11	31.2	6	8	18.9	4	0	28.9	5	88	5.51	5.95	80	.55	.100	18.6	184.9	.62	150.4	.094	1	1.78	027	.17	3.8	2.8	1.01	.04	228	1.0	1.10	6.6	30

GROUP 1F30 - 30.00 GM SAMPLE, 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 600 ML, ANALYSIS BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: TILL S230 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 8 2001 DATE REPORT MAILED: Aug 17/01 SIGNED BY..... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

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ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Dodge, Jim File # A103008

Box 31013 MPO, Whitehorse YT Y1A 5P7 Submitted by: Jim Dodge

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm	Sample gm
118651	63	73.83	28.51	42.4	134	101.6	39.5	460.8	07	10.6	2.9	1.6	28.4	262.1	07	24.2	52	12.2	71	084	92.9	22.6	1.35	67.1	003	<1	1.70	002	04	< 2	2.8	07	05	29	6	14	4.8	30
118652	1.06	24.00	16.69	80.6	46	44.9	18.2	418.3	55	20.6	1.2	1.6	11.0	44.4	08	60	40	50	40	040	37.7	47.8	1.11	318.7	016	1	2.30	007	10	< 2	3.0	21	< 01	20	3	04	6.8	30
118653	1.26	24.08	15.60	76.9	170	43.1	17.6	618.3	28	23.3	8	2.7	9.8	35.0	16	97	34	50	44	035	38.4	40.9	73	469.8	023	2	1.69	011	15	< 2	3.4	15	< 01	50	5	04	5.6	30
118654	35	35.00	14.28	64.8	124	56.4	21.0	458.3	58	32.9	7	7	30.2	27.2	08	15	49	18	51	064	64.0	42.3	1.43	97.9	004	<1	2.36	002	07	< 2	1.9	06	01	19	< 1	04	7.2	30
122644	2.59	21.14	159.41	149.3	205	13.4	5.0	187.1	74	21.3	7.3	5.8	28.4	18.7	19	60.1	79	13	37	105	49.2	17.3	25	148.0	002	<1	92	003	18	< 2	1.5	26	< 01	15	4	< 02	2.9	30
122645	1.30	45.75	18.24	80.6	94	68.5	20.4	960.3	76	15.7	1.7	6.0	8.4	46.5	18	96	23	62	69	247	42.2	74.7	1.01	263.7	031	1	1.75	011	08	< 2	7.0	10	02	58	6	03	6.1	30
RE 122645	1.30	47.91	18.40	81.3	96	70.5	20.8	969.3	79	16.4	1.6	5.7	9.0	45.9	22	1.00	23	64	69	236	44.9	75.8	1.02	268.3	033	1	1.77	011	09	2	7.7	10	< 01	67	6	03	6.1	30
122646	1.52	41.73	15.76	110.9	161	71.6	23.1	686.3	84	14.3	8	1.7	7.7	142.0	70	1.10	21	74	3.77	175	37.5	88.9	1.44	457.2	048	1	2.04	010	14	< 2	4.6	09	01	57	4	04	6.8	30
122647	5.87	39.08	57.27	179.1	733	36.3	14.2	443.3	34	30.8	1.7	10.2	13.3	14.9	53	1.03	1.76	43	31	108	20.9	55.2	79	205.1	009	1	1.84	004	14	< 2	2.2	18	< 01	19	4	05	7.6	30
122648	1.29	327.56	10.65	117.7	126	56.2	46.2	536.6	23	7.0	7	1.9	3.4	16.4	17	37	63	192	30	025	11.2	48.3	2.62	186.9	161	1	4.00	030	70	3.7	7.8	88	03	10	7	05	12.0	30
122649	1.03	100.12	15.42	94.4	84	81.3	31.5	440.3	81	11.4	9	2.0	8.5	13.1	15	49	80	83	25	062	23.7	99.2	1.19	274.3	119	1	2.43	013	20	4.3	4.7	25	01	13	5	03	8.4	30
122650	80	91.94	18.89	88.2	91	64.4	31.5	523.3	93	8.5	5	1.2	4.4	12.6	09	37	60	110	44	048	14.6	85.3	1.78	160.1	091	1	2.61	033	17	20.5	5.9	29	01	21	3	03	8.6	30
STANDARD DS3	9.05	124.98	32.89	156.7	265	35.1	12.0	781.3	03	29.5	5.5	20.5	3.9	26.1	5.40	5.07	5.45	75	52	084	16.3	192.4	58	148.4	090	2	1.68	027	17	4.0	2.8	1.03	01	231	1.2	1.03	6.3	30

GROUP 1F30 - 30.00 GM SAMPLE LEACHED WITH 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 600 ML, ANALYSED BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: TILL S230 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 5 2001 **DATE REPORT MAILED:** Sept 17/01 **SIGNED BY.....** D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

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Greisen & Mafic Samples

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-17..
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Dodge, Jim File # A102271

Box 31013 MPO, Whitehorse YT Y1A 5P7 Submitted by: Jim Dodge

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb	Hg ppb
C 122622	3	123	390	46	<.3	7	1	36	.72	67	<8	<2	2	6	.7	<3	<3	4	<.01	.005	1	95	.01	110	<.01	<3	.16	.02	.21	3	35.9	<10
C 122623	5	270	1358	77	.6	3	1	33	.89	75	<8	<2	3	7	1.2	<3	3	2	<.01	.005	1	67	.01	81	<.01	<3	.22	.03	.32	3	53.6	15
C 122624	4	10	12	51	<.3	7	1	202	1.04	3	10	<2	11	3	<.5	<3	<3	4	.08	.048	5	64	.07	28	<.01	<3	.91	.02	.42	<2	1.3	<10
C 122625	6	8	68	5	<.3	3	<1	64	.69	25	<8	<2	7	9	<.5	<3	<3	2	.16	.103	6	79	.01	78	<.01	4	.39	<.01	.42	2	23.5	<10
C 122626	4	22	109	9	<.3	7	<1	83	.58	8	<8	<2	7	4	<.5	<3	<3	3	.04	.016	5	99	.02	70	<.01	4	.48	<.01	.46	2	5.5	<10
RE C 122626	3	22	107	9	<.3	7	<1	83	.59	8	<8	<2	7	4	<.5	<3	<3	3	.04	.017	5	98	.02	72	<.01	4	.48	.01	.46	2	5.3	<10
C 122627	7	3	7	7	<.3	15	1	90	.43	4	<8	<2	10	20	<.5	<3	<3	8	3.26	.043	13	50	.15	46	<.01	12	2.82	<.01	1.56	2	1.2	<10
C 122628	8	7	40	3	<.3	6	1	43	1.68	186	<8	<2	6	45	<.5	4	<3	5	1.19	.023	15	82	.05	383	<.01	5	1.51	.01	.86	3	138.2	<10
C 122629	5	3	7	2	<.3	3	<1	35	.47	10	<8	<2	4	11	<.5	<3	<3	3	.73	.007	9	62	.04	44	<.01	4	1.18	<.01	.64	2	4.0	<10
C 122630	9	7	14	4	<.3	4	1	57	.40	11	<8	<2	7	40	<.5	<3	<3	5	11.06	.019	6	74	.05	46	<.01	516	1.62	.05	.92	2	2.4	<10
C 122631	6	4	6	6	<.3	3	1	67	.59	15	<8	<2	9	25	<.5	<3	<3	5	5.72	.029	9	67	.07	77	<.01	108	2.84	.02	1.62	3	1.3	<10
EXOTICA C 122632	3	239	260	3703	1.4	9	4	591	5.73	28	<8	<2	6	18	17.4	<3	3	26	.10	.060	5	70	.12	90	<.01	3	.87	.03	.89	<2	675.7	135
C 122633	3	650	44	6579	1.1	83	29	3108	9.13	61	<8	<2	<2	30	33.6	<3	<3	61	.38	.093	4	72	.50	88	<.01	4	2.76	.02	1.14	<2	136.6	<10
STANDARD DS3/C3	9	129	38	146	.3	35	11	761	2.97	29	<8	<2	4	32	5.4	4	5	73	.52	.092	20	185	.57	150	.09	<3	1.68	.02	.16	4	21.8	1005

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES.
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: ROCK R150 60C AU* BY ACID LEACHED, ANALYZE BY ICP-MS. (10 gm)
HG GROUP 1C - ANALYSIS BY FLAMELESS AA FROM A.R. LEACH. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUL 19 2001 DATE REPORT MAILED: Aug 2/01 SIGNED BY ..... D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

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ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716
(ISO 9002 Accredited Co.)

GEOCHEMICAL ANALYSIS CERTIFICATE

Dodge, Jim File # A103489

Box 31013 MPO, Whitehorse YT Y1A 5P7 Submitted by: Jim Dodge

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppb	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Sc ppm	Tl ppm	S %	Hg ppb	Se ppm	Te ppm	Ga ppm	Ce ppm	Be ppm	Sample gm
SI	21	46	16	2	3	3	<1	5	02	1	<1	7	<1	29	<01	03	<02	<2	11	001	<5	15	<01	33	001	<1	01	477	01	3	1	<02	<01	<5	1	<02	<1	2	<1	30
C 118655	28	59	3262	95	6876	89	3477	7	83281	16	23	150	1	60	10	1	16	28	10	1	42	0	34	45	41	148	62	5	8	99	004	49	83	05	221	2	002	840	1	24	104	62	11	31	37	65	47	25	11	60	84	88	4	30
C 118656	26	99	130	36	180	84	59	0	2238	14	9	141	87	38	19	8	11	6	6	5	42	98	5	15	2	83	044	89	11	2	05	216	9	002	3	1	02	009	62	21	5	35	03	12	10	06	42	17	0	6	30
C 118657	4	00	8	31	48	45	6	5	266	24	4	45	43	32	5	5	46	8	7	05	41	1	14	2	1	69	026	65	15	0	04	27	3	001	10	1	47	007	76	16	4	35	<01	<5	2	03	58	11	1	5	30
C 118658	3	18	4	76	11	00	3	0	108	17	2	39	39	12	2	24	23	7	2	10	5	02	41	31	<2	07	028	29	15	4	01	146	5<	001	2	30	004	37	27	2	27	04	11	<1	02	11	57	3	30
C 118659	3	10	7	50	9	42	4	2	70	25	7	36	49	65	4	15	30	13	6	02	91	45	<2	2	07	004	43	17	9	04	42	9	002	36	1	11	010	68	19	8	34	02	<5	<1	03	56	64	5	30
C 118660	10	09	3	80	8	86	6	0	18	15	23	65	39	44	15	4	11	8	45	5	01	47	21	2	6	82	032	97	15	3	09	314	1	003	138	2	85	047	2	15	23	18	105	<01	5	<1	02	12	0	18	4	8	30
RE C 118660	10	43	4	21	9	54	6	3	18	15	16	65	40	45	16	3	12	3	45	9	02	49	22	2	6	79	034	99	15	9	09	319	6	003	149	2	92	053	2	15	26	23	108	<01	6	2	<02	12	6	17	7	10	30
C 118661	1	81	4	60	8	61	3	7	9	21	7	29	35	12	8	8	12	28	30	5	01	45	23	2	8	18	010	51	48	8	03	13	3	002	745	1	20	081	59	14	29	32	<01	5	5	<02	53	10	8	4	30
C 118662	12	09	3	53	9	25	5	1	33	9	17	48	39	13	9	12	18	2	7	5	33	9	02	64	36	4	8	48	025	73	57	1	06	63	7	004	251	2	18	044	1	18	13	29	58	<01	9	4	<02	9	1	14	7	7	30
C 118663	4	85	4	44	10	84	4	8	14	26	15	52	36	71	9	16	68	35	3	02	36	32	4	9	05	020	62	59	7	05	92	0	002	268	1	96	063	1	18	16	29	54	<01	13	3	<02	73	13	1	7	30
C 118664	3	25	3	90	8	33	4	9	14	3	11	47	42	96	9	21	79	45	3	10	03	33	3	10	03	027	59	39	5	05	147	7	002	309	2	16	080	1	61	7	30	68	<01	7	3	02	90	12	9	12	30
STANDARD DS3	9	10	120	68	35	20	151	0	260	35	7	12	2	790	3	15	29	6	60	21	4	38	26	7	5	51	5	38	5	46	76	54	093	18	0	186	8	59	161	2	087	1	1	63	029	17	41	27	1	05	02	244	13	101	64	31	4	23	30

GROUP 1F30 - 30.00 GM SAMPLE LEACHED WITH 180 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 600 ML, ANALYSED BY ICP/ES & MS.
UPPER LIMITS - AG, AU, HG, W, SE, TE, TL, GA, SN = 100 PPM; MO, CO, CD, SB, BI, TH, U, B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: ROCK R200 60C Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 3 2001 DATE REPORT MAILED: Oct 15/01 SIGNED BY: C. Leong D. TOYE, C.LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

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CERTIFICATE OF ANALYSIS
iPL 01H0916

INTERNATIONAL PLASMA LABORATORY LTD
2036 Columbia Street
Vancouver, B C
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898
Email ipl@direct ca

Client : Northern Analytical Laboratories
Project: WO#00200

11 Samples
11=Pulp

[091617·52 43·10081601]

Out Aug 16, 2001
In : Aug 14, 2001

Sample Name		Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	Ba ppm	W ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
27301	P	0.2	11	18	4	7	<	<	2	<	<	<	1	2	61	<	175	2	38	5	20	2	<	<	0 88	3.05	0.42	0 03	0.46	0.04	0.01
27302	P	0 2	12	44	13	134	<	<	2	<	<	<	2	2	19	<	86	<	18	3	8	1	<	<	0.11	0.03	1.10	0 01	0.10	0.01	0.01
27303	P	0 5	12	39	5	142	<	<	2	<	<	<	3	1	40	<	71	<	15	3	9	1	<	<	0 08	0 01	1 26	<	0.08	0 01	0.01
27304	P	0.3	4	27	3	44	<	<	21	<	<	<	1	2	73	<	155	<	26	4	15	1	<	<	0 51	0.96	0 70	0 02	0.37	0 02	0 01
27305	P	<	5	14	10	17	<	<	6	<	<	<	1	3	27	<	167	2	33	5	5	1	<	<	0.44	0.32	0.62	0.02	0.26	0.01	0.03
27306	P	<	4	7	5	<	<	<	1	<	<	<	<	<	15	<	104	<	27	7	3	1	<	<	0.39	0.24	0 19	0 01	0 22	0.01	0.02
27307	P	0.3	10	29	12	<	<	<	1	<	<	0.1	1	<	30	<	78	<	33	9	8	1	<	<	0.32	0.23	0 60	0.02	0.16	0.01	0.05
27308	P	0 4	10	56	6	24	<	<	1	<	<	<	1	2	237	<	114	<	28	3	16	1	<	<	0 09	0.02	0 54	0.01	0.10	0.01	0.01
27309	P	<	4	12	4	10	<	<	1	<	<	<	1	2	320	<	99	<	19	2	32	1	<	<	0.09	0 01	1 11	<	0.17	0.01	0.01
27310	P	0 3	5	13	6	71	6	<	1	<	<	<	1	<	175	<	109	<	24	5	30	1	<	<	0 10	0.01	1 25	0 01	0 19	0.01	0.01
27311	P	0.3	14	11	12	9	<	<	7	<	<	<	1	2	121	<	128	<	23	3	27	<	<	<	0 04	<	0 54	<	0.09	0.01	0 01
Min Limit		0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	2	5	1	2	1	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Max Reported*		99 9	20000	20000	20000	9999	999	9999	999	999	9999	99.9	9999	9999	9999	999	9999	9999	9999	9999	9999	9999	9999	1 00	9.99	9.99	9.99	9.99	9.99	5.00	5.00
Method		ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

——=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No SampleP=Pulp

CERTIFICATE OF ANALYSIS
iPL 01I1092

INTERNATIONAL PLASMA LABORATORY LTD

2036 Columbia Street
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Phone (604) 879-7878
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Email ipl@direct ca

Client : Northern Analytical Laboratories
Project: W.O. 00221

5 Samples
5=Pulp

[109213:09:05:10092701]

Out· Sep 27, 2001
In : Sep 24, 2001

Sample Name		Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	Ba ppm	W ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
27312	P	<	43	89	56	<	13	<	4	<	<	<	18	40	90	<	87	46	202	29	316	1	5	0.08	3 81	3.31	2.69	0.91	0.12	0.26	0 03
27313	P	<	38	62	37	<	13	<	2	<	<	<	17	39	99	<	82	25	269	20	47	1	3	0.06	0.99	1.45	2.56	0.61	0.32	0.05	0.01
27314	P	<	36	15	49	<	<	<	3	<	<	<	16	31	137	<	77	30	222	23	45	1	4	0.07	1.39	0.79	2.89	0.84	0.63	0 05	0.02
27315	P	<	56	38	62	<	8	<	4	<	<	<	27	31	308	<	123	118	523	9	27	1	7	0	21	1 92	0 82	3.03	1 19	0.81	0.12	0.07
27316	P	<	241	19	38	<	<	<	2	<	<	<	37	15	39	5	32	67	268	2	68	1	5	0	06	1.99	1.57	2.55	0.68	0 06	0.20	0.05
Min limit		0.1	1	2	1	5	5	3	1	10	2	0 1	1	1	1	2	5	1	2	1	2	1	1	1	0 01	0 01	0 01	0 01	0 01	0 01	0.01	0 01	0.01
Max Reported*		99.9	20000	20000	20000	9999	999	9999	999	999	9999	99.9	9999	9999	9999	999	9999	9999	9999	9999	9999	9999	9999	1.00	9.99	9 99	9 99	9.99	9 99	5 00	5.00
Method		ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

——=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No SampleP=Pulp

Northern Analytical Laboratories ltd.

105 Copper Road
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E-mail: NAL@yknet.yk.ca

14/08/2001 Certificate of Analysis

James Dodge WO#00200

Certified by

Sample #	Au ppb
r 27301	19
r 27302	144
r 27303	168
r 27304	63
r 27305	13
r 27306	8
r 27307	10
r 27308	36
r 27309	19
r 27310	89
r 27311	13

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25/09/2001

Certificate of Analysis

James Dodge

WO# 00221

Certified by

	Sample #	Au ppb
r	27312	21
r	27313	15
r	27314	91
r	27315	9
r	27316	8

Till Station Forms

TILL SAMPLES

SAMPLE NUMBER: JD01-03
Date (mm/dd/yy): 08/06/03

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

GSP minutes converted to seconds
61°36'19"
131°36'45"

NTS Mapsheet: 105 G 12
UTM Position: 131°36'45" East
61°36'19" m North

SITE CHARACTERISTICS:

Elevation (ft): 4150
Slope (deg): 5°S
Aspect: S facing
Map Unit:
Sample Medium:

Drainage
- [x] Poor
- [ ] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [x] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:
BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[x] none	[ ] low	[ ] none	[x] none
Detrital:	5	[ ] weak	[x] mod	[x] mild	[ ] weakly
Ash:	5	[ ] mod	[ ] high	[ ] mod	[ ] mod
A-horizon:	5	[ ] high		[ ] high	[ ] well
B-Horizon:	15				
Permafrost:					

Total Depth (cm): 65

Soil and Sedimentary Notes

MATRIX:

Percent: 75
Color: tan
Texture: weakly pebbly sandy silt

CLASTS:

Size
- [x] Pebble
- [x] Cobble
- [ ] Boulder

Max (cm): 20

Roundness
- [ ] Angular
- [x] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS: 3

TILL SAMPLES

SAMPLE NUMBER: JD 01-01
Date (mm/dd/yy): 10/06/01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G 12
UTM Position: 13136.426 m East; 61 36.580 m North

SITE CHARACTERISTICS:

Elevation (ft): 4350
Slope (deg): 10°S
Aspect: SOUTH
Map Unit:
Sample Medium:

Drainage
- [x] Poor
- [ ] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other

Topographic Position:

BEDROCK: ~~Granite~~ ~~monzonite~~ FOR monzonite fn to med grained granular igneous orthoclase + muscovite - weak foliation

SOIL PROPERTIES:

Soil Profile (cm)	Friability	Density	Oxidation	Jointing
Disturbed:	[x] none [ ] weak [ ] mod [ ] high	[ ] low [ ] mod [x] high	[ ] none [x] mild [ ] mod [ ] high	[x] none [ ] weakly [ ] mod [ ] well
Detrital: 5 cm				
Ash: 5 cm				
A-horizon:				
B-Horizon:				
Permafrost: melted				

Total Depth (cm): 60

Soil and Sedimentary Notes:
5 moss
5 ash
40 choc brown
10 cm greying pebble
Bedrock @ 60cm

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [x] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD-01-02
Date (mm/dd/yy): 11-06-01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105 G-12
UTM Position: 131°36.212 m East; 68°36.611 m North

SITE CHARACTERISTICS:

Elevation (ft): 4280
Slope (deg): Flat
Aspect: —
Map Unit: ~~Qtz~~ Qfk "boulder"

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Sample Medium:

Vegetation
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [x] Willow
- [ ] Pine
- [ ] Grassland
- [ ] Alpine
- [ ] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir
- [ ] Other:

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK: May be bedrx as exposed @ 40cm depth - (could be large boulder).

SOIL PROPERTIES:

Soil Profile (cm)	Fissility	Density	Oxidation	Jointing
Disturbed:	[x] none	[ ] low	[ ] none	[x] none
Detrital: 5	[ ] weak	[x] mod	[x] mild	[ ] weakly
Ash: 5	[ ] mod	[ ] high	[ ] mod	[ ] modl
A-horizon: 20	[ ] high		[ ] high	[ ] well
B-Horizon: 15				
Permafrost:				

Total Depth (cm): 60

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color: Grey
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-03
Date (mm/dd/yy): 12-06-01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131° 36.632 m East; 61° 36.519 m North

SITE CHARACTERISTICS:

Elevation (ft): 4280
Slope (deg): Flat
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [x] Poor
- [ ] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [ ] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other: Extender beneath roots

Topographic Position: Beneath windblown spruce roots

BEDROCK: ?

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[ ] none
Detrital:		[ ] weak	[ ] mod	[ ] mild	[ ] weakly
Ash:		[ ] mod	[ ] high	[ ] mod	[ ] mod
A-horizon:		[ ] high		[ ] high	[ ] well
B-Horizon:					
Permafrost:					

Total Depth (cm):

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD-01-04
Date (mm/dd/yy): 13-06-01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105 G-12
UTM Position: 131°35,501 m East; 61°36.911 m North

SITE CHARACTERISTICS:

Elevation (ft): 4420
Slope (deg): ~~0°~~ 5°
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other
- [ ] Grassland
- [ ] Alpine
- [ ] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other

Topographic Position:

BEDROCK: Amphibolite +/- garnet
chalcopyrite

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[ ] none
Detrital:	5	[ ] weak	[ ] mod	[x] min	[ ] weakly
Ash:	5	[ ] mod	[ ] high	[ ] mod	[x] mod
A-horizon:	15	[ ] high		[ ] high	[ ] well
B-Horizon:	30				
Permafrost:	Frost				

Total Depth (cm): 55

Soil and Sedimentary Notes:

MATRIX:

Percent: 70%
Color: tan
Texture:

CLASTS:

Size
- [ ] Pebble
- [x] Cobble
- [ ] Boulder

Max (cm): 20

Roundness
- [x] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: RESAMPLE 04
Date (mm/dd/yy): 08/23/01

Sample Type
- [ ] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105-G-12
UTM Position: 131°35.503 m East; 61°36.908 m North

SITE CHARACTERISTICS:

Elevation (ft): 4420
Slope (deg): 5
Aspect: S
Map Unit:

Drainage
- [ ] Poor
- [ ] Moderate
- [ ] Well

Sample Medium:

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [ ] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [ ] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[ ] none
Detrital:		[ ] weak	[ ] mod	[ ] mild	[ ] weakly
Ash:		[ ] mod	[ ] high	[ ] mod	[ ] mod
A-horizon:		[ ] high		[ ] high	[ ] well
B-Horizon:					
Permafrost:					

Total Depth (cm):

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD-01-04 NE
Date (mm/dd/yy): 08/24/01

Sample Type: Routine Sample; Field Duplicate; Control Standard

NTS Mapsheet: 105G12
UTM Position: 131°35.500 m East; 61°36.928 m North

SITE CHARACTERISTICS:

Elevation (ft): 4420
Slope (deg): —
Aspect:
Map Unit:
Topographic Position:

Drainage: ✓Poor; Moderate; Well
Sample Medium:

Vegetation: White Spruce; ✓Black Spruce; Aspen; Willow; Pine; Grassland; Alpine; Dwarf Birch; Birch; Subalpine Fir; Other:

Exposure Type: ✓Hand Pit; Stream cut; Drill; Road cut; Mine cut; Other:

BEDROCK: St Subcrop - many large (>30cm) slabs garnet amphibolite schist

SOIL PROPERTIES:

Soil Profile (cm)		Friability	Density	Oxidation	Jointing
Disturbed:		none; weak; mod; high	low; mod; high	none; mild; mod; high	none; weak; mod; well
Detrital:	05				
Ash:	05				
A-horizon:	15				
B-Horizon:	35				
Permafrost:					

Total Depth (cm): 60

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size: Pebble; Cobble; Boulder
Max (cm):

Roundness: Angular; Subangular; Subrounded; Rounded; Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

SAMPLE NUMBER: JD01-04 NW

Date (mm/dd/yy): 08-23-01

Sample Type: ☑ Routine Sample ☐ Field Duplicate ☐ Control Standard

NTS Mapsheet: 105G-12

UTM Position: 131°35.510 m East; 61°36.913 m North

SITE CHARACTERISTICS:

Elevation (ft): 4420

Slope (deg): —

Aspect:

Map Unit:

Sample Medium:

Drainage: ☐ Poor ☐ Moderate ☐ Well

Vegetation: ☐ White Spruce ☑ Black Spruce ☐ Aspen ☐ Willow ☐ Pine ☐ Other: ☐ Grassland ☐ Alpine ☐ Dwarf Birch ☐ Birch ☐ Subalpine Fir

Exposure Type: ☑ Hand Pit ☐ Stream cut ☐ Drill ☐ Road cut ☐ Mine cut ☐ Other:

Topographic Position:

BEDROCK: Angular in place garnet amphibolite schist

SOIL PROPERTIES:

Soil Profile (cm)	Fissility	Density	Oxidation	Jointing
Disturbed:	☐ none ☐ weak ☐ mod ☐ high	☐ low ☐ mod ☐ high	☐ none ☐ mild ☐ mod ☐ high	☐ none ☐ weakly ☐ mod ☐ well
Detrital: 5				
Ash: 5				
A-horizon: 20				
B-Horizon: 20				
Permafrost:				

Total Depth (cm): 50

Soil and Sedimentary Notes:

MATRIX:

Percent:

Color:

Texture:

CLASTS:

Size: ☐ Pebble ☐ Cobble ☐ Boulder

Max (cm):

Roundness: ☐ Angular ☐ Subangular ☐ Subrounded ☐ Rounded ☐ Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-05
Date (mm/dd/yy): 14-06-01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105 G-12
UTM Position: 131°36.105 m East
61°36.725 m North

SITE CHARACTERISTICS:

Elevation (ft): 4270
Slope (deg): 10°
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [x] Grassland
- [ ] Alpine
- [ ] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:
BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Friability	Density	Oxidation	Jointing
Disturbed:		[ ] none [ ] weak [ ] mod [ ] high	[ ] low [ ] mod [ ] high	[ ] none [ ] mild [ ] mod [ ] high	[ ] none [ ] weakly [ ] mod [ ] well
Detrital:	5				
Ash:	5				
A-horizon:					
B-Horizon:	70-80				
Permafrost:	Frost				

Total Depth (cm): 80

Soil and Sedimentary Notes:
multiple carbon zones (each 5cm) in zone 10cm (base of ash) to 70cm depth

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-06
Date (mm/dd/yy): 14.06.01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105-G-12
UTM Position: 131°35.889 m East; 61°36.799 m North

SITE CHARACTERISTICS:

Elevation (ft): 4270
Slope (deg): Flat
Aspect: —
Map Unit:
Sample Medium:

Drainage
- [x] Poor
- [ ] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [x] Willow
- [ ] Pine
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir
- [ ] Other:

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:
BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Friability	Density	Oxidation	Jointing
Disturbed:		[ ] none [ ] weak [ ] mod [ ] high	[ ] low [ ] mod [ ] high	[ ] none [ ] mild [ ] mod [ ] high	[ ] none [ ] weakly [ ] mod [ ] well
Detrital:	5				
Ash:	5				
A-horizon:	40				
B-Horizon:	50-60				
Permafrost:	Frost				

Total Depth (cm): 60

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-07
Date (mm/dd/yy): 15-06-01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G 12
UTM Position: 131°36.655 m East; 61°36.585 m North

SITE CHARACTERISTICS:

Elevation (ft): 4100
Slope (deg): 10°
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [x] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [ ] Dwarf Birch
- [x] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none [ ] weak [ ] mod. [ ] high	[ ] low [ ] mod. [ ] high	[ ] none [ ] mild [ ] mod. [ ] high	[ ] none [ ] weakly [ ] mod. [ ] well
Detrital:	10				
Ash:	5				
A-horizon:					
B-Horizon:	65-80				
Permafrost:	Frost				

Total Depth (cm): 80

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-08
Date (mm/dd/yy): 16-06-01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°36.860 m East; 61°36.605 m North

SITE CHARACTERISTICS:

Elevation (ft): 4350
Slope (deg): 15°
Aspect: S
Map Unit: 93smoozon
Sample Medium:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [x] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[ ] none
Detrital:		[ ] weak	[ ] mod	[ ] mild	[ ] weakly
Ash:		[ ] mod	[ ] high	[ ] mod	[ ] mod
A-horizon:		[ ] high		[ ] high	[ ] well
B-Horizon:					
Permafrost:	Bedrock 25				

Total Depth (cm): 35

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations
see notes					

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-09
Date (mm/dd/yy): 16.06.01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G.12
UTM Position: 131°37.074 m East
61°36.655 m North

SITE CHARACTERISTICS:

Elevation (ft): 4370
Slope (deg):
Aspect:
Map Unit: Rtzmon3
Sample Medium: just @ top of bedrock

Drainage
- [ ] Poor
- [ ] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other
- [x] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other

Topographic Position:
BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)
Disturbed:
Detrital:
Ash:
A-horizon:
B-Horizon:
Permafrost: Bedrock

Friability
- [ ] none
- [ ] weak
- [ ] mod
- [ ] high

Density
- [ ] low
- [ ] mod
- [ ] high

Oxidation
- [ ] none
- [ ] mild
- [ ] mod
- [ ] high

Jointing
- [ ] none
- [ ] weakly
- [ ] mod
- [ ] well

Total Depth (cm): 55

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JM01-10
Date (mm/dd/yy): 19-06-01

Sample Type
- [ ] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°35.036 m East; 61°36.809 m North

SITE CHARACTERISTICS:

Elevation (ft): 4370
Slope (deg):
Aspect:
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [ ] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:
BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Friability	Density	Oxidation	Jointing
Disturbed:		[ ] none [ ] weak [ ] mod [ ] high	[ ] dlr [ ] mod [ ] high	[ ] none [ ] mild [ ] mod [ ] high	[ ] none [ ] weakly [ ] mod [ ] well
Detrital:	5				
Ash:	5				
A-horizon:	20 sand				
B-Horizon:	25 clay gravel				
Permafrost:	Frost				

Total Depth (cm): 55

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-11
Date (mm/dd/yy): 04·07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 1056-12
UTM Position: 131 33.208 m East; 61°37.304 m North

SITE CHARACTERISTICS:

Elevation (ft): 4380
Slope (deg): 15
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Vegetation
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:
BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[x] none	[x] low	[ ] none	[ ] none
Detrital:	5	[ ] weak	[ ] mod	[ ] mild	[ ] weakly
Ash:	5	[ ] mod	[ ] high	[ ] mod	[ ] mod.
A-horizon:	30	[ ] high		[x] high	[ ] well
B-horizon:	25				
Permafrost:					

Total Depth (cm): 65

Soil and Sedimentary Notes:
Till sample; 50% clayey-argillized weakly schistose gneiss; 50% pebble-sized clasts

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max. (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: RE-SAMPLE STA 11

Date (mm/dd/yy): 08/21/01

Sample Type
- ☐ Routine Sample
- ☑ Field Duplicate
- ☐ Control Standard

NTS Mapsheet: 105G·12

UTM Position: 131°33.208 m East; 61°37.304 m North

SITE CHARACTERISTICS:

Elevation (ft):

Slope (deg):

Aspect:

Map Unit:

Drainage
- ☐ Poor
- ☐ Moderate
- ☐ Well

Sample Medium:

Vegetation
- ☐ White Spruce
- ☐ Black Spruce
- ☐ Aspen
- ☐ Willow
- ☐ Pine
- ☐ Other
- ☐ Grassland
- ☐ Alpine
- ☐ Dwarf Birch
- ☐ Birch
- ☐ Subalpine Fir

Exposure Type
- ☐ Hand Pit
- ☐ Stream cut
- ☐ Drill
- ☐ Road cut
- ☐ Mine cut
- ☐ Other

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)	Fissility	Density	Oxidation	Jointing
Disturbed:	☐ none	☐ low	☐ none	☐ none
Detrital:	☐ weak	☐ mod	☐ mild	☐ weakly
Ash:	☐ mod	☐ high	☐ mod	☐ mod
A-horizon:	☐ high		☐ high	☐ well
B-Horizon:				
Permafrost:				

Total Depth (cm):

Soil and Sedimentary Notes:

MATRIX:

Percent:

Color:

Texture:

CLASTS:

Size
- ☐ Pebble
- ☐ Cobble
- ☐ Boulder

Max (cm):

Roundness
- ☐ Angular
- ☐ Subangular
- ☐ Subrounded
- ☐ Rounded
- ☐ Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-11E1
Date (mm/dd/yy): 08-21-01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°33.199 m East; 61°37.297 m North

SITE CHARACTERISTICS:

Elevation (ft): 4385
Slope (deg): 5
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[ ] none
Detrital:	5	[x] weak	[x] mod	[ ] mid	[ ] weakly
Ash:	5	[ ] mod	[ ] high	[x] mod	[ ] mod
A-horizon:	20	[ ] high		[ ] high	[ ] well
B-Horizon:	45				
Permafrost:					

Total Depth (cm): 75

Soil and Sedimentary Notes

20-40 sandy 50% clayey 50%
40-75 clayey

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-11 W1

Date (mm/dd/yy): 08·22·01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12

UTM Position: 131°33.221 m East; 61°37.314 m North

SITE CHARACTERISTICS:

Elevation (ft): 4380

Slope (deg): 0

Aspect:

Map Unit:

Sample Medium:

Drainage
- [ ] Poor
- [ ] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK: Bedrock - see below

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[ ] none
Detrital:	05	[ ] weak	[ ] mod	[ ] mild	[ ] weakly
Ash:	05	[ ] mod	[ ] high	[ ] mod	[ ] mod
A-horizon:	10	[ ] high		[ ] high	[ ] well
B-Horizon:	20				
Permafrost:					

Total Depth (cm): 50

Soil and Sedimentary Notes:

Bedrock @ bottom
15cm of greesen w purple CaF_2 + green CaF_2
Few specks of metallic sulfide

MATRIX:

Percent:

Color:

Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-1151
Date (mm/dd/yy): 08/22/01

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°33.218 m East; 61°37.299 m North

SITE CHARACTERISTICS:

Elevation (ft): 4375
Slope (deg):
Aspect:
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:
BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none [ ] weak [ ] mod [ ] high	[ ] low [ ] mod [ ] high	[ ] none [ ] mild [ ] mod [ ] high	[ ] none [ ] weakly [ ] mod [ ] well
Detrital:	5				
Ash:	5				
A-horizon:	15				
B-horizon:	35				
Permafrost:					

Total Depth (cm): 60

Soil and Sedimentary Notes:
15 cm brown
35 cm Grey to boulder of chl.-schist !
None of tan to cream argillized gneiss found in JD01-11

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: Da-12
Date (mm/dd/yy): 05/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°33.534 m East; 61°37.301 m North

SITE CHARACTERISTICS:

Elevation (ft): 4320
Slope (deg): Flat
Aspect: —
Map Unit:
Sample Medium:

Drainage
- [x] Poor
- [ ] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[x] none	[ ] low	[ ] none	[x] none
Detrital:	5	[ ] weak	[ ] mod.	[x] mod.	[ ] weakly
Ash:	5	[ ] mod.	[x] high	[ ] mod.	[ ] mod.
A-horizon:	35	[ ] high		[ ] high	[ ] well
B-Horizon:	55				
Permafrost:	—				

Total Depth (cm): 100

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01 - 13
Date (mm/dd/yy): 05/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G · 12
UTM Position: 131°33.787 m East
61°37.304 m North

SITE CHARACTERISTICS:

Elevation (ft): 4420
Slope (deg): 10
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Vegetation:
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Friability	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[x] none
Detrital:	5	[x] weak	[x] mod.	[x] mild	[ ] weakly
Ash:	5	[ ] mod.	[ ] high	[ ] mod.	[ ] mod.
A-horizon:	20	[ ] high		[ ] high	[ ] well
B-Horizon:	30				
Permafrost:					

Total Depth (cm): 60

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01 - 14
Date (mm/dd/yy): 06/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105 G 12
UTM Position: 131°33.964 m East
61°37.245 m North

SITE CHARACTERISTICS:

Elevation (ft): 4400
Slope (deg): 10°
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Vegetation:
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)

Disturbed:	
Detrital:	5
Ash:	5
A-horizon:	30
B-Horizon:	25
Permafrost:	

Fissility
- [ ] none
- [x] weak
- [ ] mod.
- [ ] high

Density
- [x] low
- [ ] mod.
- [ ] high

Oxidation
- [ ] none
- [x] mild
- [ ] mod.
- [ ] high

Jointing
- [x] none
- [ ] weakly
- [ ] mod.
- [ ] well

Total Depth (cm): 65

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-15
Date (mm/dd/yy): 07/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°34.190 m East
61°37.226 m North

SITE CHARACTERISTICS:

Elevation (ft): 4390
Slope (deg): 10°
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[x] low	[ ] none	[x] none
Detrital:	5	[x] weak	[ ] mod	[x] mild	[ ] weakly
Ash:	5	[ ] mod	[ ] high	[ ] mod	[ ] mod
A-horizon:	25	[ ] high		[ ] high	[ ] well
B-Horizon:	30				
Permafrost:					

Total Depth (cm): 65

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-16

Date (mm/dd/yy): 07/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12

UTM Position: 131°34.421 m East; 61°37.197 m North

SITE CHARACTERISTICS:

Elevation (ft): 4390

Slope (deg): 10°

Aspect: S

Map Unit:

Sample Medium:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[x] none
Detrital:	5	[x] weak	[x] mod	[x] mild	[ ] weakly
Ash:	5	[ ] mod	[ ] high	[ ] mod	[ ] mod
A-horizon:	25	[ ] high		[ ] high	[ ] well
B-Horizon	25				
Permafrost:					

Total Depth (cm): 60

Soil and Sedimentary Notes

MATRIX:

Percent:

Color:

Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILE SAMPLES

SAMPLE NUMBER: JD01 - 17
Date (mm/dd/yy): 11/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 13134.736 m East; 61°37.178 m North

SITE CHARACTERISTICS:

Elevation (ft): 4410
Slope (deg): 15°
Aspect: S
Map Unit:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Sample Medium:

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[x] none
Detrital:	5	[x] weak	[x] mod	[x] mild	[ ] weakly
Ash:	5	[ ] mod	[ ] high	[ ] mod	[ ] mod.
A-horizon:	20	[ ] high		[ ] high	[ ] well
B-Horizon:	30				
Permafrost:					

Total Depth (cm): 60

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-18
Date (mm/dd/yy): 12/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G·12
UTM Position: 131°32.977 m East; 61°37.308 m North

SITE CHARACTERISTICS:

Elevation (ft): 4360
Slope (deg): 10°
Aspect: S
Map Unit: Aspen meadows
Sample Medium:
Topographic Position:
BEDROCK:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Vegetation
- [ ] White Spruce
- [x] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other

SOIL PROPERTIES:

Soil Profile (cm)		Friability	Density	Oxidation	Jointing
Disturbed:		[ ] none [x] weak [ ] mod [ ] high	[ ] low [ ] mod [x] high	[ ] none [x] mild [ ] mod [ ] high	[x] none [ ] weakly [ ] mod. [ ] well
Detrital:	5				
Ash:	5				
A-horizon:	20				
B-Horizon:	Bedrock 20				
Permafrost:					

Total Depth (cm): 50

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD.01 - 19
Date (mm/dd/yy): 12/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°32.821 m East; 61°37.400 m North

SITE CHARACTERISTICS:

Elevation (ft): 4375
Slope (deg): 10°
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[ ] none
Detrital:	5	[x] weak	[x] mod	[x] mild	[x] weak
Ash:	5	[ ] mod	[ ] high	[ ] mod	[ ] mod
A-horizon:	30	[ ] high		[ ] high	[ ] well
B-Horizon:	25				
Permafrost:					

Total Depth (cm): 60

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-20
Date (mm/dd/yy): 13/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105 G-12
UTM Position: 131°32.731 m East; 61°37.515 m North

SITE CHARACTERISTICS:

Elevation (ft): 4440
Slope (deg): 15°
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed		[ ] none	[ ] low	[ ] none	[ ] none
Detrital	5	[x] weak	[x] mod	[x] mild	[x] weakly
Ash	5	[ ] mod	[ ] high	[ ] mod	[ ] mod
A-horizon	35	[ ] high		[ ] high	[ ] well
B-horizon	10=68cm				
Permafrost					

Total Depth (cm): 55

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: ~~JD07 45[illegible]~~ 21

Date (mm/dd/yy): 23/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G12

UTM Position: 131°32.107 m East; 61°37.209 m North

SITE CHARACTERISTICS:

Elevation (ft): 4500

Slope (deg): 20°

Aspect: S

Map Unit: augen gneiss

Sample Medium:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir
- [ ] Other:

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Friability	Density	Oxidation	Jointing
Disturbed:		[ ] none	[x] low	[ ] none	[ ] none
Detrital:	03	[x] weak	[ ] mod	[x] mild	[x] weakly
Ash:	?	[ ] mod	[ ] high	[ ] mod	[ ] mod
A-Horizon:		[ ] high		[ ] high	[ ] well
B-Horizon:					
Permafrost:					

Total Depth (cm): 0-20

Soil and Sedimentary Notes:

MATRIX:

Percent:

Color:

Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-22
Date (mm/dd/yy): 23/07
Sample Type: ☑ Routine Sample ☐ Field Duplicate ☐ Control Standard
NTS Mapsheet: 105G/12
UTM Position: 131°32.044 m East; 61°37.336 m North

SITE CHARACTERISTICS:

Elevation (ft): 4470
Slope (deg): 10
Aspect: SE
Map Unit:
Sample Medium:

Drainage: ☐ Poor ☐ Moderate ☑ Well

Vegetation: ☐ White Spruce ☐ Black Spruce ☐ Aspen ☐ Willow ☐ Pine ☐ Grassland ☐ Alpine ☑ Dwarf Birch ☐ Birch ☐ Subalpine Fir ☐ Other:

Exposure Type: ☑ Hand Pit ☐ Stream cut ☐ Drill ☐ Road cut ☐ Mine cut ☐ Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		☐ none ☑ weak ☐ mod ☐ high	☑ low ☐ mod ☐ high	☐ none ☑ mild ☐ mod ☐ high	☐ none ☑ weakly ☐ mod ☐ well
Detrital:	0				
Ash:	5				
A-horizon:	10				
B-Horizon:	Bedrock				
Permafrost:					

Total Depth (cm): 20

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size: ☐ Pebble ☐ Cobble ☐ Boulder
Max (cm):

Roundness: ☐ Angular ☐ Subangular ☐ Subrounded ☐ Rounded ☐ Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JDa-23
Date (mm/dd/yy): 23/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°32.326 m East; 61°37.208 m North

SITE CHARACTERISTICS:

Elevation (ft): 4500
Slope (deg): 15°
Aspect: S
Map Unit:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Sample Medium:

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Grassland
- [ ] Alpine
- [ ] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir
- [ ] Other:

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other: *see —

Topographic Position: 3-6 cm till (oxidized) on polished bedrock (aug gneiss)

BEDROCK: Augen gneiss

SOIL PROPERTIES:

Soil Profile (cm)
Disturbed:
Detrital:
Ash:
A-horizon:
B-Horizon: above)
Permafrost:

Friability
- [x] none
- [ ] weak
- [ ] mod
- [ ] high

Density
- [x] low
- [ ] mod
- [ ] high

Oxidation
- [ ] none
- [ ] mild
- [ ] mod
- [x] high

Jointing
- [x] none
- [ ] weakly
- [ ] mod
- [ ] well

Total Depth (cm): <6

Soil and Sedimentary Notes

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-24
Date (mm/dd/yy): 24/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105 G.12
UTM Position: 131°32.527 m East
61°37.150 m North

SITE CHARACTERISTICS:

Elevation (ft): 4470
Slope (deg): 15°
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir
- [ ] Other:

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other: scrapings on bedrock

Topographic Position:

BEDROCK: augen gneiss

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[x] none	[x] low	[ ] none	[x] none
Detrital:		[ ] weak	[ ] mod.	[ ] mild	[ ] weakly
Ash:		[ ] mod.	[ ] high	[ ] mod.	[ ] mod.
A-horizon:		[ ] high		[x] high	[ ] well
B-Horizon:	2cm				
Permafrost:					

Total Depth (cm): 2

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max. (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JDO-25

Date (mm/dd/yy): 24/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G/12

UTM Position: 131°32.664 m East; 61°37.103 m North

SITE CHARACTERISTICS:

Elevation (ft): 4400

Slope (deg): 15°

Aspect: S

Map Unit:

Sample Medium:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [ ] Subalpine Fir
- [ ] Other:

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[x] none	[x] low	[ ] none	[x] none
Detrital:	3	[ ] weak	[ ] mod	[ ] mild	[ ] weakly
Ash:	5	[ ] mod	[ ] high	[ ] mod	[ ] mod
A-horizon:	15	[ ] high		[x] high	[ ] well
B-Horizon:	10 (base)				
Permafrost:					

Total Depth (cm): 33

Soil and Sedimentary Notes

MATRIX:

Percent:

Color:

Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-26

Date (mm/dd/yy): 27/05/07

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12

UTM Position: 131°32.842 m East; 61°37.045 m North

SITE CHARACTERISTICS:

Elevation (ft): 4360

Slope (deg): 15°

Aspect: S

Map Unit:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Sample Medium:

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [ ] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none	[ ] low	[ ] none	[ ] none
Detrital:	5	[ ] weak	[ ] mod	[ ] mild	[ ] weakly
Ash:	5	[ ] mod	[ ] high	[ ] mod	[ ] mod. well
A-horizon:	20	[ ] high		[ ] high	[ ] well
B-horizon:	30				
Permafrost:					

Total Depth (cm): 60

Soil and Sedimentary Notes:

MATRIX:

Percent:

Color:

Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-27
Date (mm/dd/yy): 31/07

Sample Type
- [ ] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°32.842 m East; 61°37.370 m North

SITE CHARACTERISTICS:

Elevation (ft): 4355
Slope (deg): Flat
Aspect:
Map Unit:
Topographic Position:
BEDROCK:

Drainage
- [ ] Poor
- [x] Moderate
- [ ] Well

Sample Medium:

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[ ] none [ ] weak [ ] mod [ ] high	[ ] low [ ] mod [ ] high	[ ] none [ ] mild [ ] mod [ ] high	[ ] none [ ] weakly [ ] mod [ ] well
Detrital:	5				
Ash:	5				
A-horizon:	30				
B-Horizon:	Bdr/gravesin				
Permafrost:					

Total Depth (cm): 40

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JDor 28
Date (mm/dd/yy): 6/1/08

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G·12
UTM Position: 13132308 m East
61°37.186 m North

SITE CHARACTERISTICS:

Elevation (ft): 4520
Slope (deg): 20°
Aspect: SE
Map Unit:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Sample Medium:

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir
- [ ] Other:

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		none / weak / mod / high	low / mod / high	none / mild / mod / high	none / weakly / mod / well
Detrital:	5				
Ash:	5				
A-horizon:	10				
B-Horizon:	20 Bhs				
Permafrost:					

Total Depth (cm): 40

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JD01-29
Date (mm/dd/yy): 01/08

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°32.492 m East; 61°37.129 m North

SITE CHARACTERISTICS:

Elevation (ft): 4320
Slope (deg): 15
Aspect: S
Map Unit:
Sample Medium:
Topographic Position:
BEDROCK:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[x] none [ ] weak [ ] mod [ ] high	[x] low [ ] mod [ ] high	[ ] none [x] mild [ ] mod [ ] high	[x] none [ ] weakly [ ] mod [ ] well
Detrital:	5				
Ash:	5				
A-horizon:	5				
B-Horizon:	5 Bhx				
Permafrost:					

Total Depth (cm): 20

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS:

TILL SAMPLES

SAMPLE NUMBER: JDa-30
Date (mm/dd/yy): 03/08

Sample Type
- [x] Routine Sample
- [ ] Field Duplicate
- [ ] Control Standard

NTS Mapsheet: 105G-12
UTM Position: 131°32.889 m East; 61°37.385 m North

SITE CHARACTERISTICS:

Elevation (ft): 4370
Slope (deg): 15°
Aspect: S
Map Unit:
Sample Medium:

Drainage
- [ ] Poor
- [ ] Moderate
- [x] Well

Vegetation
- [ ] White Spruce
- [ ] Black Spruce
- [ ] Aspen
- [ ] Willow
- [ ] Pine
- [ ] Other:
- [ ] Grassland
- [ ] Alpine
- [x] Dwarf Birch
- [ ] Birch
- [x] Subalpine Fir

Exposure Type
- [x] Hand Pit
- [ ] Stream cut
- [ ] Drill
- [ ] Road cut
- [ ] Mine cut
- [ ] Other:

Topographic Position:

BEDROCK:

SOIL PROPERTIES:

Soil Profile (cm)		Fissility	Density	Oxidation	Jointing
Disturbed:		[x] none	[x] low	[ ] none	[x] none
Detrital:	5	[ ] weak	[ ] mod	[ ] mild	[ ] weakly
Ash:	5	[x] mod	[ ] high	[x] mod	[ ] mod
A-horizon:	15	[ ] high		[ ] high	[ ] well
B-Horizon:	15 dry				
Permafrost:					

Total Depth (cm): 40

Soil and Sedimentary Notes:

MATRIX:

Percent:
Color:
Texture:

CLASTS:

Size
- [ ] Pebble
- [ ] Cobble
- [ ] Boulder

Max (cm):

Roundness
- [ ] Angular
- [ ] Subangular
- [ ] Subrounded
- [ ] Rounded
- [ ] Well rounded

CLAST DESCRIPTIONS:

Clast Type	Percent	Size	Roundness	Mineralization	Striations

CLAST NOTES:

PHOTOS: