

**GEOCHEMICAL / GEOLOGICAL REPORT**

on the

**RUM RUN PROPERTY**

Quartz Claims RUM RUN 1- 20  
Grant Nos. YC17658-677  
Dawson Mining District  
Owner: Gordon G Richards

Claim Sheet No 115O/1,2, 115J/15,16  
Latitude 63 01'  
Longitude 138 40'

written by  
Gordon G Richards

work performed

June 24 on RUM RUN 1-20 YC17658-677  
By D Bennett & G Richards

January 27, 2001



This report has been examined by  
the Geological Evaluation Unit  
under Section 53 (4) Yukon Quartz  
Mining Act and is allowed as  
representation work in the amount  
of \$ ~~999~~ 2600.

*M. B.*  
Regional Manager, Exploration and  
Geological Services for Commissioner,  
of Yukon Territory.

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Figure 1. Property Location

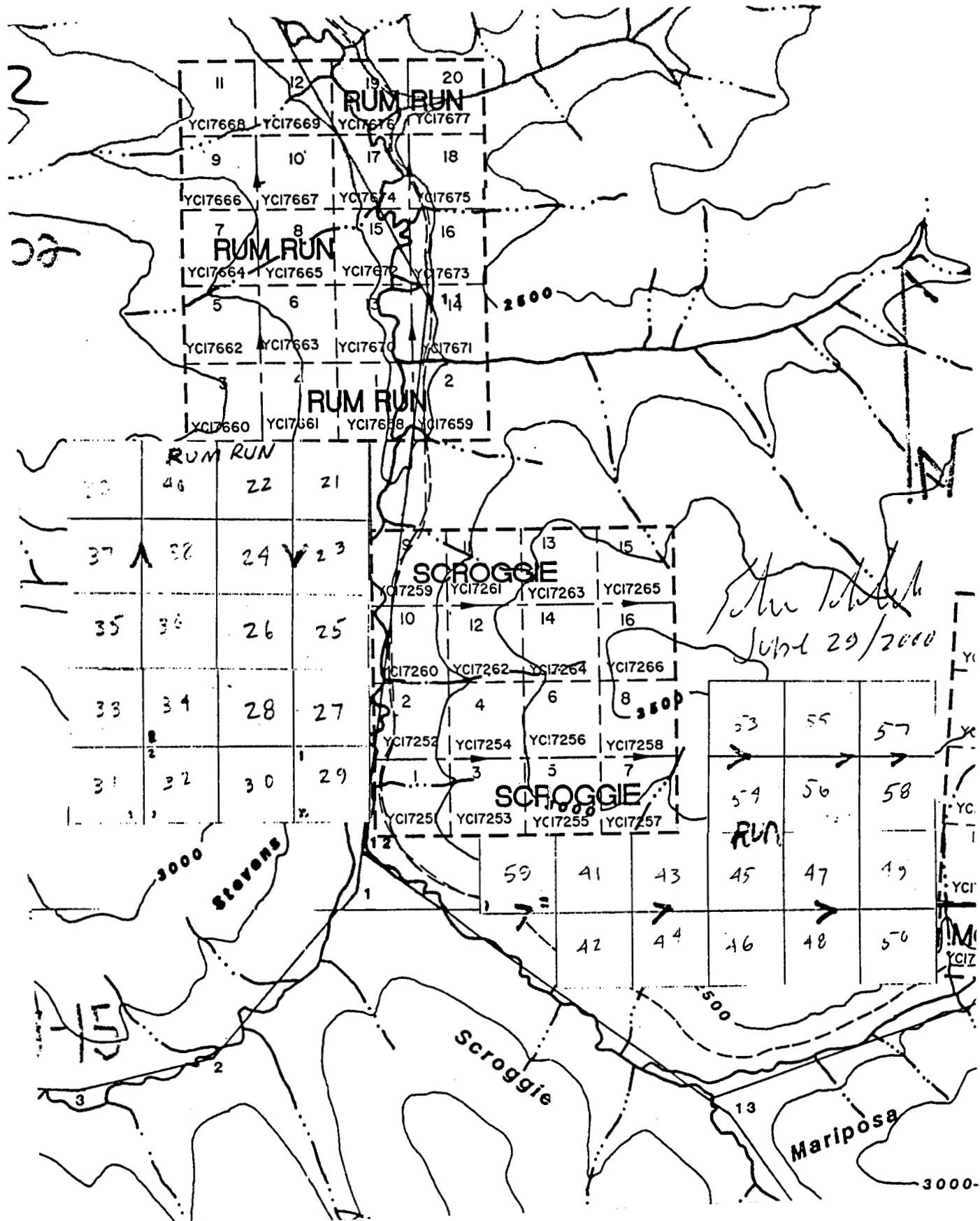


Figure 2. Claim Map.

## **LOCATION AND ACCESS.**

The claims are located 70 km south of the Dawson City airport along Scroggie Creek on map sheet 1150/1,2. See Figure 1. The property is accessible by fixed-wing aircraft from Dawson City to a 750-meter long north-south airstrip along Scroggie Creek in the center of the claims. The property is also accessible by ATV from Pelly Farm on the north side of Pelly River, 40 km west of Pelly Crossing. This is an easy four hour trip over 90 km of the old Dawson Trail to the mouth of Walhalla Creek and then up Scroggie Creek along a good road over the ridge tops east of Scroggie Creek. A placer gold mine has been in operation over the past few years along Scroggie Creek from a camp at the north end of the airstrip. From here access by ATV over existing roads is possible along Scroggie and Mariposa Creeks.

## **CLAIMS.**

Claims covered by this report include the following:

RUM RUN 1 – 20 inclusive, Grant No YC17658 – YC17677 inclusive

Record Date: Sept 16, 1999

Work performed by G Richards and D Bennett June 24, 2000

RUM RUN 21 – 40 inclusive, Grant No YC20192 – YC20211 inclusive

Record Date: June 29, 2000

Work performed by G Richards Aug 26-29, 2000

RUM RUN 41 – 50 inclusive, Grant No YC20212 – YC20221 inclusive

RUM RUN 53 – 59 inclusive, Grant No YC20222 – YC20228 inclusive

Record Date: June 29, 2000

Work performed by G Richards Aug 30, 31, Sept 1, 2000

Owner of all claims is Gordon Richards. All claims lie in Dawson Mining

District.

## **HISTORY.**

Scroggie and Mariposa Creeks are old placer gold creeks first discovered in 1898 and extensively mined by hand with the aid of steam boilers and points in the early 1900's. Refer to GSC Memoir 97. Two small cuts were mined by tractor, equipped with cable dozer blade in the mid-1950's. Cat mining began in earnest about 1980 as a result of the then high gold prices and has continued uninterrupted until today. The writer mined with partners along Scroggie Ck from two km below the airstrip to a point along Mariposa Ck about four km above it's mouth. Although early records have not been

thoroughly researched, something like 100,000 ounces raw gold with a fineness of 905 has likely been produced from Mariposa and Scroggie Creeks between the top of Mariposa Ck and a point four-km below the airstrip on Scroggie Ck. This area coincides with the bulk of cabins, shafts and diggings associated with pre dozer-tractor mining.

A granite batholith mapped by H S Bostock in 1935-37 and shown on GSC Map 711A, Ogilvie, occurs north of the area of placer mining. Schists and gneisses of the Yukon Group underlie the placer mining area. A large body of pyroxenite underlies Pyroxene Mountain to the northeast.

During 1988, mining cuts along Scroggie Ck just downstream from Stevens Ck yielded abundant arsenopyrite crystals in the sluice-concentrates over about 300 meters. No bedrock source for the arsenopyrite could be found in the mining cuts. In 1990 a black-sand sluice-concentrate, with coarse gold recovered, was sent to Chemex Labs for multi-element analyses to determine other significant metals that might be present in the Scroggie drainage. See Appendix – "BLACK SAND RESORE" sample on report A9015617. This concentrate was highly anomalous for several elements including Au, Pd, Pt, Ag, Bi, Pb, W and Sn, which, except for the Pd-Pt are indicative of intrusion-related gold deposits.

Common minerals found in sluice concentrates include gold, magnetite, garnet and kyanite.

Over 100 WINE and FISH quartz claims were staked in 1987 over the area encompassing the significant placer gold production area described above. Only minor representation work was recorded with a modest gold anomaly described in soils north of upper Mariposa Ck and now covered by the MCPHEE claims, recently lapsed. Quartz veins staked in 1917 are described along Mariposa Ck in this same area (Minfile O-075). Other minfile occurrences, well removed from all the recently staked claims include a Cu-Mo occurrence, a U occurrence and PGM-Au potential over Pyroxenite Mt.

The writer began prospecting the area assisted by Mr. Dave Bennett, in 1999 with aid of a YMIP grubstake grant and staked the RUM RUN 1-20 quartz claims in Sept 1999. The writer returned in June 2000 with Mr. Dave Bennett to continue prospecting the general area, conduct representation work on the RUM RUN 1-20 and to stake the

RUM RUN 21-50 and 53-59. The writer returned again in late Aug 2000 by ATV from Pelly Farm to evaluate the RUM RUN 21-50 and 53-59.

### **GEOLOGY.**

“The large granitic body exposed on either side of Scroggie and Walhalla Creeks is a coarse white granite near the junction of these creeks but, farther south and east, is more nearly a granodiorite and carries large pink feldspar crystals. Along its southern contact is a zone composed mainly of hornblende and pink feldspar. The body contains numerous xenoliths of the Yukon Group and innumerable pegmatitic intrusions that, in places, make up fully 30 percent of the volume of the rock.” H.S. Bostock, 1942, Map 711A, OGILVIE. The area described in this report lies along the southern contact of this batholith, Figure 3. Granite in this area contains pink feldspar phenocrysts up to two cm long, is often foliated and contains hornblende and lesser biotite of 10 to 20 percent. This fits with Bostock’s description of the granodiorite. Country rock includes schists and gneisses of the Yukon Group.

Two granite bodies, additional to the granite batholith mapped by Bostock, were mapped as shown on Figure 3. A stock of granite, separated from the main batholith by three to five km of metamorphic rocks is a coarse-grained moderately foliated granite composed of one-half cm long quartz grains set in coarse to medium-grained pink feldspar with five to ten percent variably chloritized hornblende and biotite. About 20 percent of the feldspars are white. Mafic biotite-hornblende rich xenoliths are common locally. Another granitic body underlies much of the MB claim and extends uphill to the east some unknown distance.

Angular float of pale cream-colored quartz-eye rhyolite occurs at C178, just west of the WOLF claims. Similar float with felsic tuff occurs in creeks at sample sites C27 to C33 at the southernmost limit of sampling shown on Figure 3.

Aplite occurs along the ridge east of sample sites X41 and X42 and as float in these creeks.

A large poorly defined body of pegmatite occurs as shown on Figure 3 northwest of the airstrip within the granite batholith described by Bostock. It measures three by four km as defined by chips in soil pits, float in creeks, boulders on hillsides and a few outcrops. Dykes of pegmatite can be seen cutting granite outcrop near camp and along

adjacent Scroggie Creek. The pegmatite is typically 20 – 30 percent quartz, 50 percent Kspar, 20 percent plagioclase and <5 percent biotite plus muscovite. Mirololytic cavities are present but rare. Pegmatite can also be seen as narrow dykes within the country rocks at numerous locations.

“A large body of massive, coarse, green pyroxenite forms Pyroxene Mt.” Bostock 1942. Streams sampled by C1 to C6 did not contain any float or outcrop of this rock type where sampled.

Float of metamorphic rocks along Scroggie and Mariposa Cks display a wide variety of textures. Most common are quartz-feldspar-hornblende gneisses of highly variable grain size containing garnet of quite variable size and content. Kyanite, often found with magnetite, occurs in some of these garnetiferous gneisses. Float of pegmatite, granite and chlorite rich gneisses is also common.

A quartz-muscovite schist unit, QMS, up to a few hundred meters thick has been mapped across the area from Mariposa Ck to Cabin Ck. The unit is not massive as intercalations of other schists and gneisses do occur within it. Its muscovite content, generally ten to twenty percent but locally over 90 percent characterize it. Weathering of pyrite, usually forming less than one percent has produced a distinctive orange surface. The unit strikes northwest and dips about 45 degrees northeast except near Scroggie Creek. Nearing Scroggie Creek from the east, strikes become progressively more northerly and dips steepen to near vertical. This change could be caused by drag along an unexposed north-south fault with right lateral sense of movement lying just west of the valley floor. Other narrower muscovite bearing schists occur and are particularly noticeable along the roads northwest of Mariposa Creek. In 1986 during placer mining, the unit was seen by the writer to terminate against a sharp fault as shown on Figure 3 along Mariposa Creek. The similar rock type mapped further north of this point may be a faulted offset of the same unit and not a repetition.

South of the QMS unit along Scroggie Creek, from Mariposa Creek to north of Stevens Creek, a dark green chlorite rich gneiss with fine laminations and augen of pink feldspar makes a distinctive unit several hundred meters thick. It outcrops across the floor of Scroggie Creek as seen during the coarse of placer mining in the late 1980's and now

evidenced by the abundance of angular pieces of this rock type on the placer tailing piles. Some quartzo-feldspathic gneisses are intercalated with the chlorite gneiss.

The chlorite gneiss could be metamorphosed andesitic volcanics and the overlying(?) quartz-muscovite schist metamorphosed acid volcanics. If so, a volcanogenic massive sulfide target could exist, particularly when the anomalous base metal geochemistry described below is considered.

North of the quartz-muscovite schist and south of the chlorite gneiss, outcrops of quartzo-feldspathic gneiss containing variable amounts of hornblende and garnet make up the bulk of the country rock, excepting the granites.

A low angle fault dipping 10 degrees easterly was mapped in outcrop north of the mouth of Mariposa Creek.

## **GEOCHEMISTRY & MINERALIZATION.**

### **General.**

RUM RUN claims cover two different styles of alteration/mineralization although both contain gold.

On the RUM RUN 1 – 20, gold associated with sulfide in pegmatite dykes along Scroggie Creek apparently extends over one km west in an area underlain by a large pegmatite stock.

On the RUM RUN 21 – 40, anomalous gold in soils occurs over QMS. QMS outcrops from here to the east beyond the limit of placer gold mining. RUM RUN 41 – 50, 53 – 59 covers some of this QMS without any strong Au anomalies based on limited sampling.

The claim area lies just beyond the limit of oldest glaciation in the Yukon as described by A. Duk-Rodkin in GSC Open File 3694. However, fresh sulfides are found at surface in placer cuts, road cuts and creek float indicating an absence of deep leaching. Any loess that may have existed on the slopes has by now been removed by erosion or mixed into the soil profile.

Soils were collected by auger except for samples B71-108 where a mattock was used. Although the auger reached depths of up to a meter, no outcrop was encountered in the bottom of any holes. About one kg of soil was collected and placed in numbered gusseted kraft sample bags. Local permafrost prevented sampling in some areas.



Stream sediments were collected from active silt in creeks by scoop. Float was examined at all silt sample sites and used as a guide to mapping. Rock samples were made up from 3 to 7 rock chips and placed in numbered gusseted kraft sample bags. A hand specimen was collected and numbered by felt pen from each rock sample site.

#### **RUM RUN 1 – 20.**

Work in 2000, involved mapping and the collection of 14 soil and three rock chip samples.

During placer mining in the early 1990's the writer saw local areas of silicification with fine-grained sulfide in pegmatite bedrock along Scroggie Creek west of camp. In July 1999 a contour soil line, Y61 to Y93 returned good gold values over a one-km length.

Rock samples collected in 1999 from two areas of altered pegmatite returned anomalous gold values. Immediately south of camp, across the small creek, pegmatite nests intrude the granite. Both are strongly altered over one-half of the outcrop. See Figure 4. Alteration is comprised of partial breakdown of feldspars to clays, development of abundant epidote, and hematite and manganese staining throughout. Quartz veinlets are common. Rock chip samples Z32 to 36 were low except for Z35, which assayed 3020 ppb Au. This sample was the only sample collected from this site that contained pyrite, about 3 percent. Detailed examination and mapping in 2000 found only local traces of pyrite across this outcrop.

Other samples of pegmatite containing hairline fractures and wispy streaks of extremely fine-grained pyrite associated with irregular quartz veinlets were collected in 1999 from very angular material, thought to be ripped bedrock from placer mining activity, along Scroggie Creek in front of camp. Z37, Z38 and Y95, Y96 are all of such altered pegmatite, and returned values of 430, 880, <5, and 425 ppb Au. Y95, <5 ppb Au, contained quartz veinlets but only minor sulfide. The above sampling demonstrates a good correlation of gold with sulfide and is further substantiated from sampling in 2000.

Y95 and Y96 were analyzed by 32 element ICP to check for pathfinder elements that might be an aid in evaluating soil samples anomalous for gold collected over pegmatite to the west. Y96, (425 Au), was anomalous for Ag (3.0 ppm), Mo (2990 ppm), Pb (268 ppm), S (.28 ppm), and Sb (6 ppm).

In the fall of 1999, the writer returned to stake the RUM RUN 1 – 20 at which time soil samples X1 to X32 were collected above the original soil line. They were anomalous for gold over a length of 300 meters.

In 2000, soil samples C44 – 50 and C158 – 170 were collected across the previous two soil lines, as shown on Figure 3, yielding anomalous Au values over its length of one km. All soil chips, boulders, creek float and outcrop encountered on the soil lines were 100 percent pegmatite indicating a large plug of pegmatite exists under this hill. Regional prospecting traverses help define the limits of this body. However, not all soil pits contained chips of any kind. Xenoliths of granite, schists or gneisses could occur within the plug. Numerous xenoliths of country rock are known to occur within the granite along Scroggie Creek over the next 15-km to the north.

At camp, which has been leveled for trailers, there is much angular pegmatite and some granite rubble. A 30 meter outcrop of granite with < 1 meter wide pegmatite dykes, displaying weak to moderate epidote-clay alteration, occurs at the south limit of camp. Outcrops along the road to the east are foliated granite similar to granite of the area. About 100 meters west of camp, a small knoll has outcrop of foliated granite with narrow pegmatite dykes.

Mapping the west wall of mining cuts along Scroggie Creek beginning at the downstream end at C184 yielded the following.

- 0 m. C184, 920 ppb Au, was from a 2-5m wide pegmatite dyke cutting granite and containing hairline quartz with fine-grained pyrite.
- 57m. Outcrop of aplite and pegmatite.
- 105m. Outcrop of granite with pegmatite dykes.
- 255m. Subcrop of granite with <10 cm pegmatite dykes.
- 340 to 410m. Outcrop of granite with pegmatite dykes.
- 580m. Subcrop granite with pegmatite dykes.
- 710m. C185, 30 ppb Au, sampled a pegmatite boulder laced with quartz veinlets with low amount of very fine-grained sulfide.
- 750m. C186, <5 ppb Au, sampled a granite boulder cut by carbonate (ankerite?) veinlets. Ankeritic (?) alteration within granite and pegmatite is very common on sluice tails here.

1000m. End alteration.

1050m. Fresh granite on sluice tails from here up beyond start of airstrip.

From the above description, it is obvious that local patches of pyrite mineralized pegmatite, containing interesting anomalous gold values of 425 to 3020 ppb Au, occur along Scroggie Creek near camp. More continuous anomalous Au within soils exists further west over a large irregular area measuring over 500 meters by 1000 meters, open uphill to the west and downhill towards Scroggie Creek. Gold mineralized rocks described above along Scroggie Creek, are also anomalous for Mo, Pb, Ag, Sb, and S, which could aid in evaluating this target.

The north-south fault described above to be responsible for offset and drag of the QMS unit on RUM RUN 21 - 40, may here lie between Scroggie Creek and the anomalous Au in soils and may even form the east contact of the pegmatite plug. If so it would form an excellent exploration target for gold mineralization as it could be genetically related to a mineralizing event.

**RUM RUN 21 – 40.**

Work in 2000 involved mapping and collection of 52 soil samples, 11 rock chip samples and 2 stream sediment samples.

In 1999, soil lines Y1 to Y24 and Y26 to Y51 were collected to search for gold above a section of Scroggie Creek known to contain arsenopyrite crystals in placer concentrates. Some anomalous gold occurred in the samples that were run. Selected samples that were run for 32 element ICP yielded anomalous values for Bi, Pb, S, As and Zn.

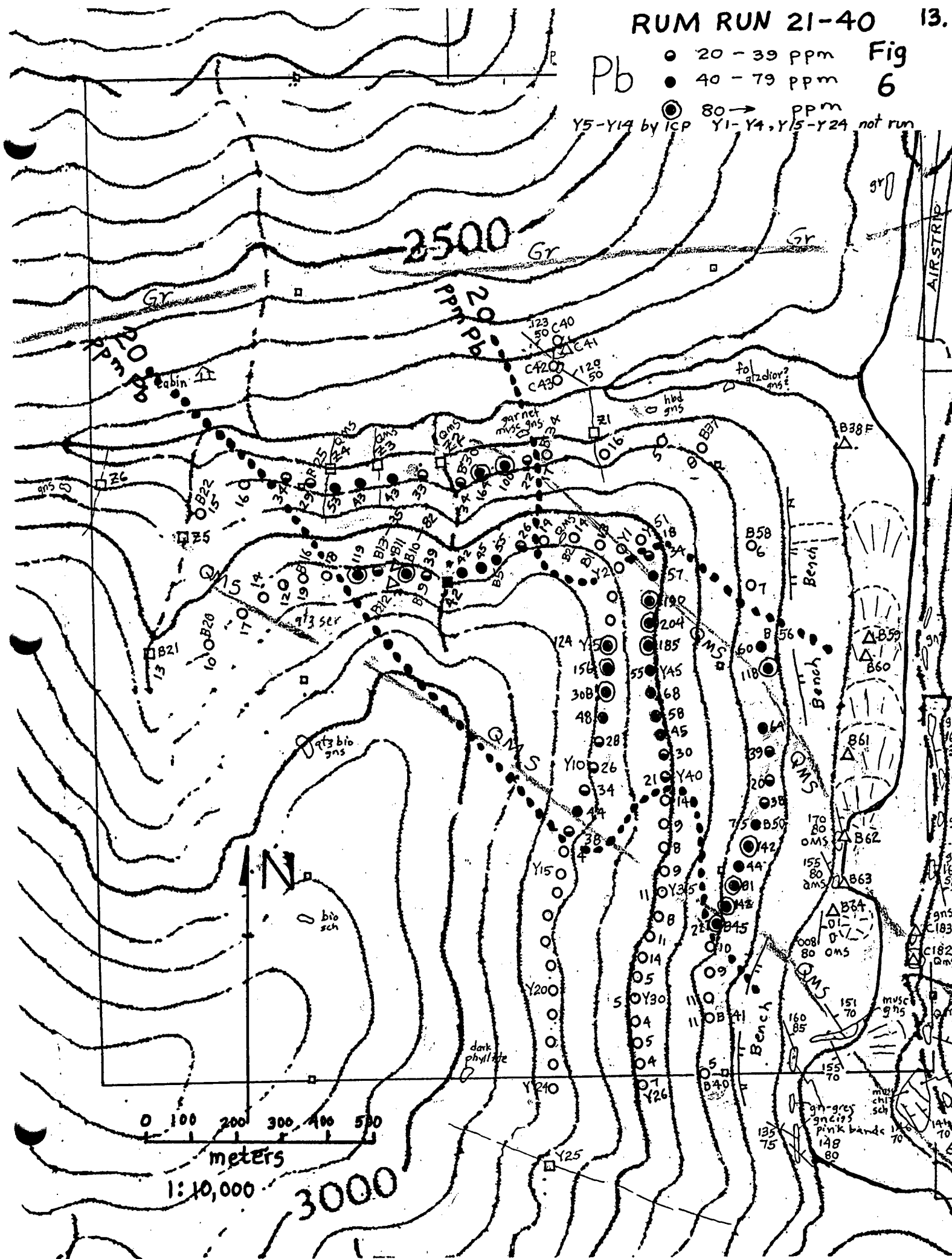
Claims were staked in June 2000. Samples B1 to B64 collected in late August 2000. Soils B40 to 58 could be influenced by an old bench representing an earlier Scroggie Creek valley floor. In collecting these samples, it was attempted to stay above and clear of this influence but it is uncertain if that was accomplished.

QMS on the claims is restricted to chips from soil pits, float in creeks and outcrop along Scroggie Creek. This unit extends over 10 km easterly as shown on Figure 3 and probably is terminated against the granite ± pegmatite batholith to the northwest. Pegmatite was found at sample sites B2, B4, B22 and B29. (Rusty at B4 and B29). Mapping of this unit by using chips in soil pits and float is considered only a rough



Pb  20 - 39 ppm Fig 6  
 40 - 79 ppm 6

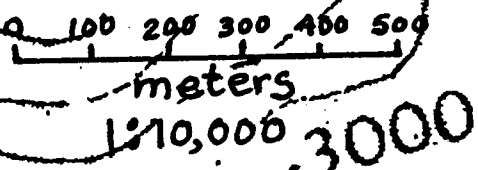
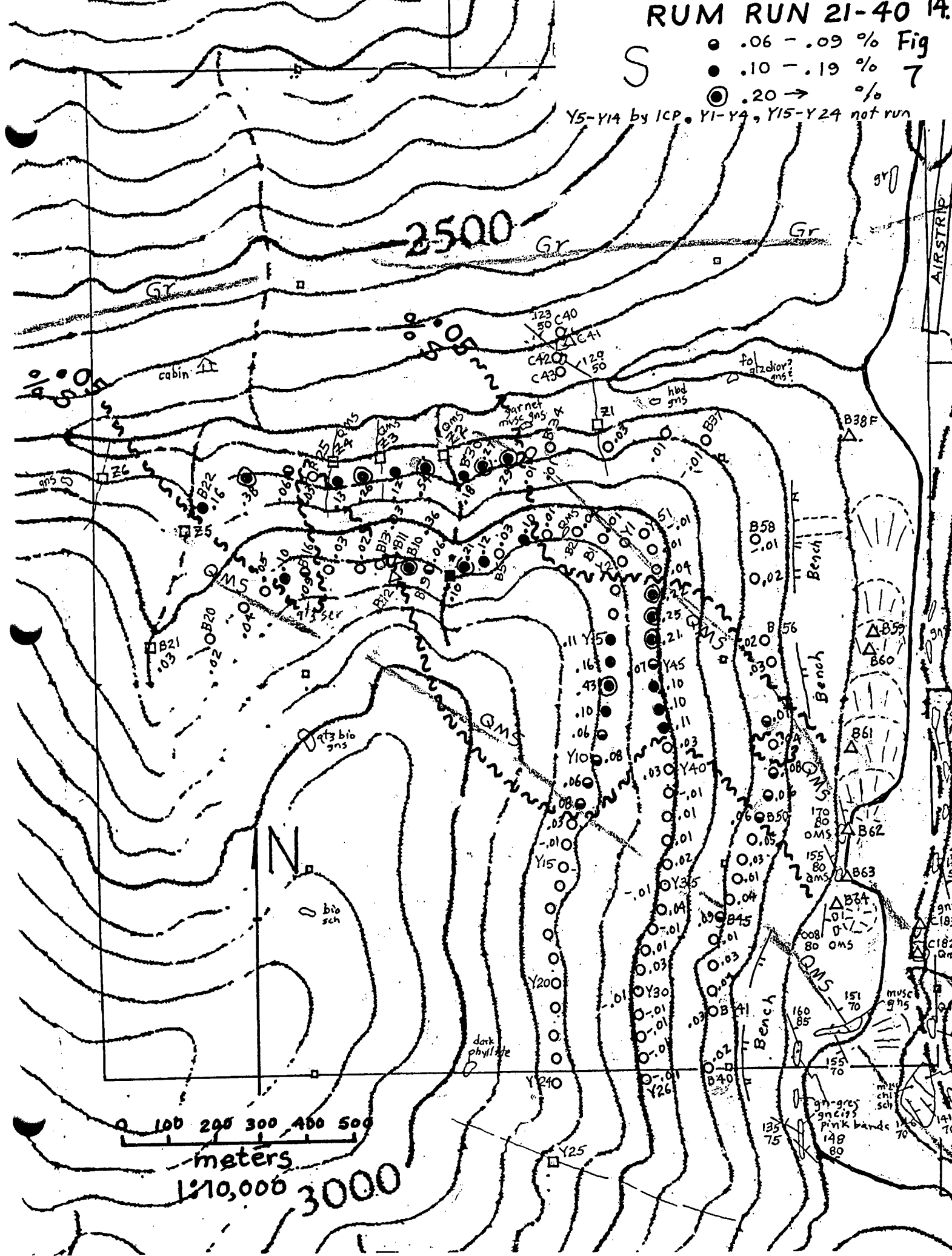
80 → ppm  
Y5-Y14 by ICP Y1-Y4, Y15-Y24 not run



# RUM RUN 21-40 14.

- .06 - .09 % Fig
- .10 - .19 % 7
- ⊙ .20 → %

Y5-Y14 by ICP. Y1-Y4, Y15-Y24 not run

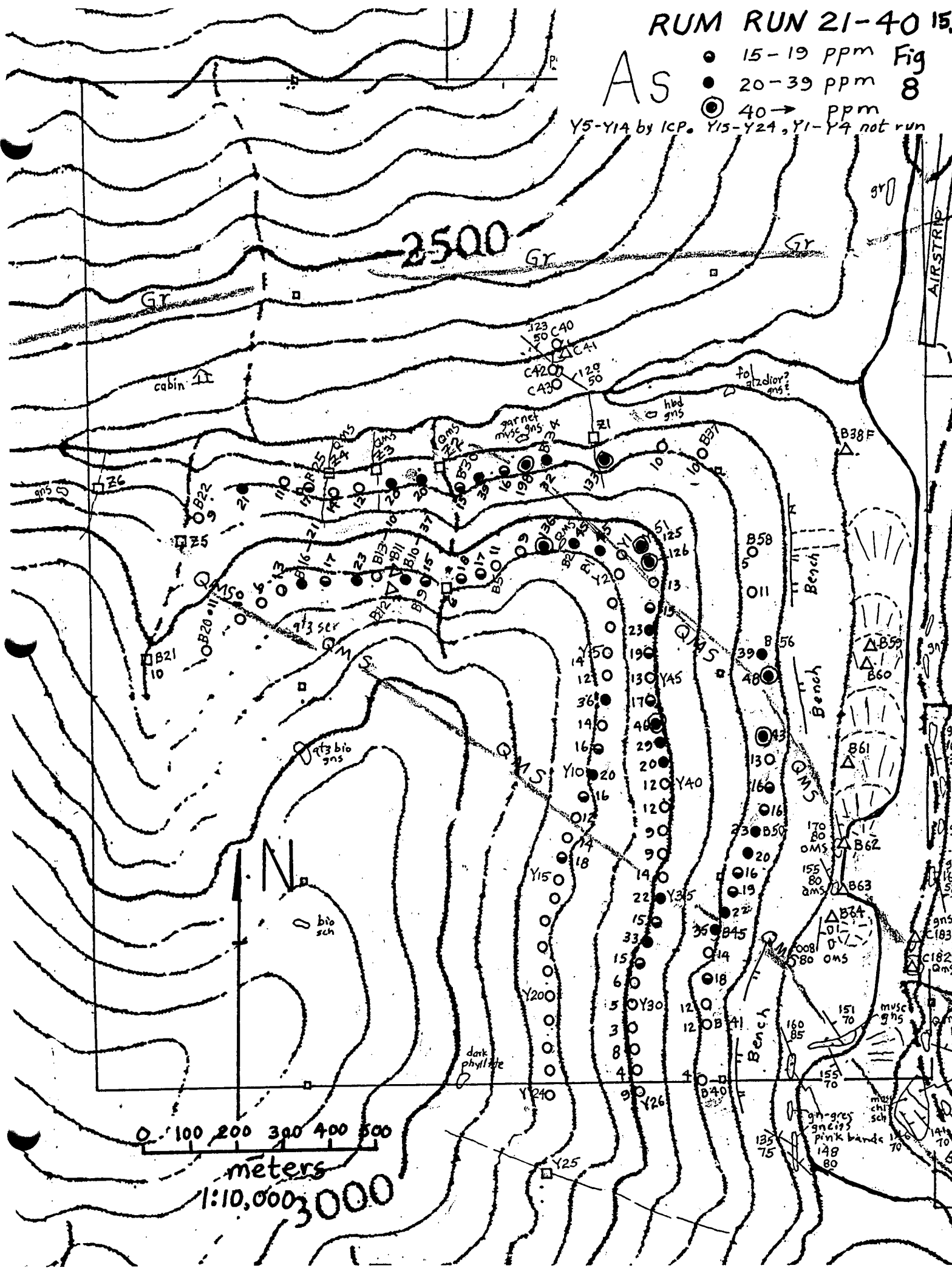


# RUM RUN 21-40 15.

AS

- 15-19 ppm Fig 8
- 20-39 ppm 8
- ⊙ 40 → ppm

Y5-Y14 by ICP. Y15-Y24, Y1-Y4 not run

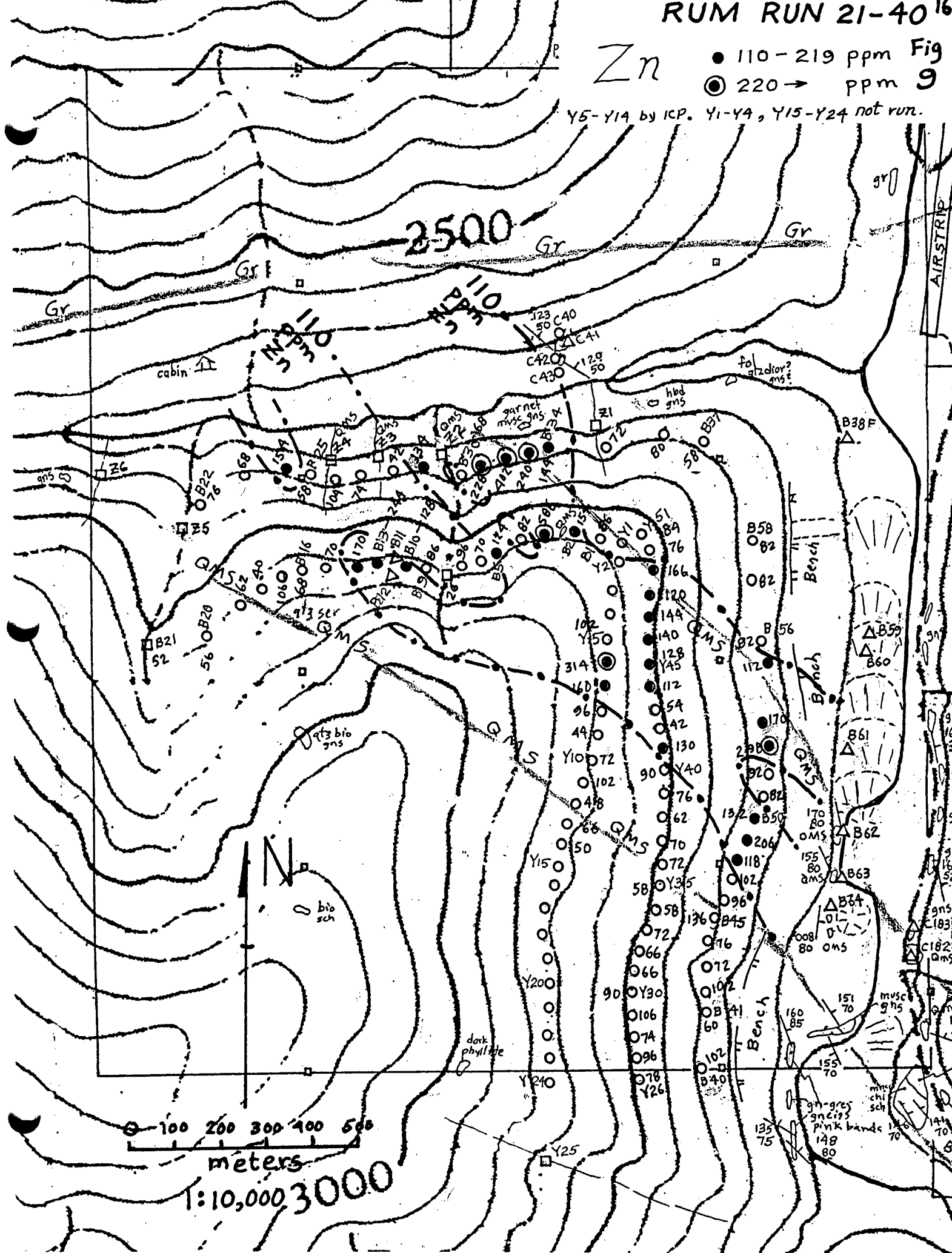


0 100 200 300 400 500  
meters  
1:10,000

# RUM RUN 21-40 16.

Zn ● 110-219 ppm Fig  
◎ 220 → ppm 9

Y5-Y14 by ICP. Y1-Y4, Y15-Y24 not run.



0 100 200 300 400 500  
meters  
1:10,000

approximation of the trace of bedrock contacts. Foliation attitudes within the QMS are 50 to 80 degrees northeast, but away from Scroggie Creek and the possible north-south fault with its complications as described above, foliation attitudes are believed to be closer to the norm of 40 to 55 degrees northeast.

Altered outcrops and angular rubble were examined along Scroggie Creek. B38, and B59–B60, all <5 ppb Au, were subangular float of biotite-hornblende quartz-feldspar gneiss with one to three percent pyrite-pyrrhotite. B60 contained 25 percent pyrite as disseminations and bands paralleling foliation. B62-64 and C182, all <5 ppb Au, were samples of QMS outcrop with 1-3 percent pyrite.

Geochemically, the soils are anomalous for several elements. Figure 3 shows the approximated QMS contacts and gold values. Figures 5 to 9 show the patterns for Bi, Pb, S, As and Zn respectively. Trend lines were selected somewhat arbitrarily, and did not use any statistical thresholds to determine their values. Anomalous Bi and Pb values mimic each other exceptionally well as a comparison of Figures 5 and 6 demonstrate. Anomalous S and Zn form similar patterns to Bi and Pb though somewhat more irregular. Anomalous Au and As are difficult to contour but do reflect the same overall pattern of the other elements discussed. Variable leaching and mechanical transport have probably diluted and smeared the patterns somewhat though they correlate exceptionally well with the distribution of QMS. The northwest trend line on the northeast side of anomalous Bi, Pb, S and Zn patterns even appear to reflect the northeast QMS contact as defined from foliation attitudes seen at C41 and C42 immediately north.

Samples Y1 to Y24 were run for gold. Samples Y5 to Y14 of this line were analyzed by ICP analyses. Other soils were analyzed by ICP- Mass Spec which provided much lower detection levels for Bi. (And other elements not considered in this discussion). For Bi the ICP detection limit is 2 ppm but the MS limit is .02 ppm. As .5 ppm Bi is anomalous, those Y5 to Y14 samples <2 ppm could be greater or less than the .5 ppm Bi. All are considered > .5 ppm because Bi correlates so well with Pb and these same samples were anomalous for Pb.

The occurrence of anomalous Au-Bi-As-Pb in soils with Sn-W in placer concentrates in association with granite and pegmatite is indicative of intrusion related gold mineralization. The geochemically anomalous patterns indicate a width of 400

meters and a strike length of 1200 meters open along strike to the southeast for a maximum of 200 meters where they are thought to be terminated by the north-south fault. The patterns are open to the northwest for 500 meters or more where they are terminated by the granite batholith.

**RUM RUN 41-50, 53-59.**

Work in 2000 involved mapping and collection of 31 soil samples, 1 rock chip sample and 2 stream sediments.

These claims were staked on spec to cover available ground underlain by QMS between existing claims.

QMS outcrops along the road in the southwest portion of the claim block, dip moderately northeast. The unit could be offset along a fault crossing Mariposa Creek seen by the writer in 1986 during placer mining.

Areas of pegmatite rubble occurred along the two roads that were soil sampled within hornblende-quartz-feldspar gneisses.

Geochemically only two samples were anomalous for gold, silt C156, 16 ppb Au, and soil B104, 10 ppb Au. None were run for multi-elements by ICP analyses. Soils collected along the road immediately east of the claims produced a single gold anomaly, 76-ppb Au at C67. Adjacent soils C68-70 ran 10, 12, 10 ppm As; .37, .70, .57 ppm Bi; 16, 40, 46 ppm Pb; .16, .32, .16 ppm Ag; and .40, .40, .55 Te respectively. These samples may lie on the MCPHEE claims but, nevertheless, show an interesting anomalous geochem pattern, again associated with QMS and on trend with ground covered by all the recently staked claims.

## **CONCLUSIONS AND RECOMMENDATIONS.**

### **General.**

Placer mining is active on Scroggie Creek from a camp just north of the airstrip. For a reasonable fee the miners might accommodate a small crew. With land management approvals, their heavy equipment could be hired for building access roads to areas of intensive work.

### **RUM RUN 1 – 20.**

Anomalous gold is associated with fine-grained pyrite in quartz veinlets within pegmatite dykes cutting Kspar porphyritic foliated granite along Scroggie Creek near the southern contact of the granite with Yukon Group metamorphic rocks. Density of such mineralized dykes is low. Gold values in rocks range from 430 to 3020 ppb Au. This mineralization is also anomalous for Mo, Pb, Ag, and Sb, which could aid in the evaluation of gold soil anomalies.

To the west, a 3 km by 4 km stock of pegmatite has been defined by rock chips in soil pits and float in creeks. Soils collected over this pegmatite, beginning 700 meters west of the anomalous Au in pegmatite dykes along Scroggie Creek, are anomalous for gold over an area roughly 500 meters by 1000 meters, open to the east and west. Anomalous gold values range from 10 to 70 ppb Au. Higher Au values, all  $\geq 25$  ppb Au in samples Y71 to Y77, occur over a 400 meter length and could be a center of mineralization. A north-south fault proposed further south on RUM RUN 21 – 40, may exist along the eastern contact of the pegmatite and could even be related to mineralization. Higher-grade mineralization could exist along such a fault if it is genetically related to the mineralization.

A detailed soil grid should be placed over the more intense soil gold anomaly, Y71 to Y77. Trenches should then be dug over some of the better gold values to determine the tenor and style of mineralization. Recce soil lines north and west of C44 should be run to search for extensions of anomalous gold.

### **RUM RUN 21 – 40.**

No anomalous gold has been discovered in any rocks. Numerous soil samples are anomalous for Au, Bi, Pb, S, As, and Zn over an area of 400meters by 1200 meters open

to the northwest. Anomalous patterns for Bi, Pb, S and Zn are strikingly similar, less so for Au and As along the 1200 meter strike length. Geochemically anomalous soils occur in an area underlain by quartz muscovite schist that is believed to be a meta-rhyolite. Geochem patterns even reflect the foliation attitude of the QMS across the hillsides. The occurrence of granite and pegmatite with anomalous Au, Bi, As, Pb in soils and Sn and W in placer concentrates, is indicative of intrusion related gold mineralization.

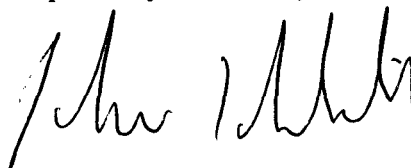
Soils should be collected from a grid over an area somewhat larger than the anomalous geochemical patterns described. Geology should be mapped from outcrop and float. Trenches should be dug over a number of soil anomalies to locate and determine style and grade of mineralization responsible for the anomalies.

**RUM RUN 41 – 50, 53 – 59.**

The claims cover a 3-km strike length of the QMS unit offset into two sections by a northwest trending fault. Little anomalous geochemistry has been found on the claims. Immediately to the east, a good Au, As, Bi, Pb, Ag, and Te anomaly in soils within QMS leads onto the claims.

Additional soil sampling is recommended over the QMS unit as only 10 soils have been collected over the QMS to date.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Gordon G Richards', written in a cursive style.

Gordon G Richards P.Eng.

**STATEMENT OF COSTS**

**RUM RUN 1 - 20**

Mob – Demob

Men and equipment : Whs – Dawson – Scroggie (return)      \$ 1200.00

Wages

D Bennett June 24 : 1 day @ \$400/day      400.00

G Richards June 24 : 1 day @ \$600/day      600.00

Expenses

Sifton Air: No 0309 Dawson - Scroggie      1112.80

Food: 4 man days @ \$35/day      140.00

Chemex: portion of I0110060; 14/21 of 261.48      159.16

Portion of I0110061; 3/5 of 70.26      42.16

Supplies: string, flagging, sample bags, etc      100.00

Report

Portion of Drafting, writing, typing, reprod, collating      800.00

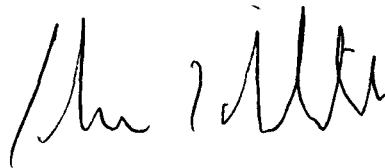
**TOTAL      \$ 4,554.12**

## STATEMENT OF QUALIFICATIONS

I, Gordon G Richards, of 6170 Tisdall Street, Vancouver, B.C., Canada do hereby certify that:

1. I am a graduate of The University of British Columbia ( B.A.Sc in Geology 1968, M.A.Sc in Geology 1974)
2. I am registered as a Professional Engineer in the Province of British Columbia.
3. I have practiced my profession since 1968.
4. This report is based on my fieldwork and supervision of Mr. D Bennett's fieldwork during June 24, Aug 26-31, Sep 1, 2000 and literature cited.

Respectfully submitted,



Gordon G Richards, P.Eng.

**APPENDIX**

**GEOCHEM RESULTS**



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221



GIMLEX ENTERPRISES LTD.

3921 W. 31ST AVE.  
VANCOUVER, BC  
V6S 1Y4

Project :  
Comments: CC: JIM CHRISTIE

Page Number : 1-A  
Total Pages : 1  
Invoice Date: 30-MAY-90  
Invoice No. : I-9015617  
P.O. Number :

## CERTIFICATE OF ANALYSIS A9015617

SAMPLE DESCRIPTION	PREP CODE	Au ppb AFS	Pd ppb AFS	Pt ppb AFS	Ag ppm AAS	Al % (ICP)	Ba ppm (ICP)	Be ppm (ICP)	Bi ppm (ICP)	Ca % (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Cr ppm (ICP)	Cu ppm (ICP)	Fe % (ICP)
BLACK SAND <i>Rosace</i>	235 290	>10000	240	4900	128.0	1.25	810	< 0.5	582	1.37	< 0.5	51	404	38	>25.0



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3921 W. 31ST AVE.  
VANCOUVER, BC  
V6S 1Y4

Project :  
Comments: CC: JIM CHRISTIE

Page Number : 1-B  
Total Pages : 1  
Invoice Date: 30-MAY-90  
Invoice No. : I-9015617  
P.O. Number :

## CERTIFICATE OF ANALYSIS A9015617

SAMPLE DESCRIPTION	PREP CODE	K % (ICP)	Mg % (ICP)	Mn ppm (ICP)	Mo ppm (ICP)	Na % (ICP)	Ni ppm (ICP)	P ppm (ICP)	Pb ppm (ICP)	Sr ppm (ICP)	Ti % (ICP)	V ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	Sn ppm
BLACK SAND <i>Rosace</i>	235 290	< 0.01	0.32	4360	64	0.05	134	950	4550	53	5.38	965	>10000	208	>1000



# ALS Chemex

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Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221 FAX: 604-984-0218

o: RICHARDS, GORDON  
6170 TISDALL ST.,  
VANCOUVER, BC  
V5Z 3N4

A0110063

Comments: ATTN: GORDON RICHARDS

CERTIFICATE

A0110063

also A0110263

(NDJ) - RICHARDS, GORDON

Project: SCROGGIE  
P.O. #:

Samples submitted to our lab in Vancouver, BC.  
This report was printed on 10-JAN-2001.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	91	Dry, sieve to -80 mesh
202	91	save reject

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	91	Au ppb: Fuse 30 g sample	FA-AAS	5	10000



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British Columbia, Canada V7J 2C1

PHONE: 604-984-0221 FAX: 604-984-0218

J: RICHARDS, GORDON

6170 TISDALL ST.,  
VANCOUVER, BC  
V5Z 3N4

Project : SCROGGIE  
Comments: ATTN: GORDON RICHARDS

Page No. : 1  
Total Pages : 3  
Certificate Date: 10-JAN-2001  
Invoice No. : I0110063  
P.O. Number :  
Account : NDJ

## CERTIFICATE OF ANALYSIS

A0110063

SAMPLE	PREP CODE	Au ppb FA+AA											
B1	201	202	< 5										
B2	201	202	< 5										
B3	201	202	< 5										
B4	201	202	5										
B5	201	202	15										
B6	201	202	10										
B7	201	202	35										
B8	201	202	15										
B9	201	202	10										
B10	201	202	5										
B13	201	202	25										
B14	201	202	20										
B15	201	202	15										
B16	201	202	35										
B17	201	202	10										
B18	201	202	45										
B19	201	202	20										
B20	201	202	15										
B21	201	202	15										
B22	201	202	10										
B23	201	202	10										
B24	201	202	10										
B25	201	202	10										
B26	201	202	5										
B27	201	202	15										
B28	201	202	10										
B29	201	202	25										
B30	201	202	< 5										
B31	201	202	25										
B32	201	202	10										
B33	201	202	5										
B34	201	202	10										
B35	201	202	15										
B36	201	202	15										
B37	201	202	< 5										
B40	201	202	< 5										
B41	201	202	< 5										
B42	201	202	< 5										
B43	201	202	< 5										
B44	201	202	< 5										

CERTIFICATION:



# ALS Chemex

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 Analytical Chemists \* Geochemists \* Registered Assayers  
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 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

Client: RICHARDS, GORDON

6170 TISDALL ST.,  
 VANCOUVER, BC  
 V5Z 3N4

Page Number :2  
 Total Pages :3  
 Certificate Date: 10-JAN-2001  
 Invoice No. :10110063  
 P.O. Number :  
 Account :NDJ

Project : SCROGGIE  
 Comments: ATTN: GORDON RICHARDS

CERTIFICATE OF ANALYSIS	A0110063
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SAMPLE	PREP CODE	Au ppb FA+AA							
B45	201 202	< 5							
B46	201 202	< 5							
B47	201 202	10							
B48	201 202	< 5							
B49	201 202	5							
B50	201 202	10							
B51	201 202	< 5							
B52	201 202	< 5							
B53	201 202	5							
B54	201 202	< 5							
B55	201 202	5							
B56	201 202	10							
B57	201 202	65							
B58	201 202	< 5							
B71	201 202	< 5							
B72	201 202	< 5							
B73	201 202	< 5							
B75	201 202	< 5							
B76	201 202	< 5							
B77	201 202	< 5							
B78	201 202	< 5							
B79	201 202	< 5							
B80	201 202	< 5							
B81	201 202	< 5							
B82	201 202	< 5							
B83	201 202	< 5							
B84	201 202	< 5							
B85	201 202	< 5							
B86	201 202	< 5							
B87	201 202	< 5							
B88	201 202	< 5							
B89	201 202	< 5							
B90	201 202	5							
B91	201 202	< 5							
B92	201 202	< 5							
B93	201 202	< 5							
B94	201 202	< 5							
B95	201 202	< 5							
B96	201 202	< 5							
B97	201 202	< 5							

CERTIFICATION:



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 PHONE: 604-984-0221 FAX: 604-984-0218



To: RICHARDS, GORDON

6170 TISDALL ST.,  
 VANCOUVER, BC  
 V5Z 3N4

Project: SCROGGIE  
 Comments: ATTN: GORDON RICHARDS



Page Number :3  
 Total Pages :3  
 Certificate Date: 10-JAN-2001  
 Invoice No. : I0110063  
 P.O. Number :  
 Account : NDJ

<b>CERTIFICATE OF ANALYSIS</b>	<b>A0110063</b>
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SAMPLE	PREP CODE	Au ppb FA+AA									
B98	201	202	< 5								
B99	201	202	< 5								
B100	201	202	< 5								
B101	201	202	< 5								
B102	201	202	< 5								
B103	201	202	< 5								
B104	201	202	10								
B105	201	202	< 5								
B106	201	202	< 5								
B107	201	202	< 5								
B108	201	202	< 5								

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 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

To: RICHARDS, GORDON  
 6170 TISDALL ST.,  
 VANCOUVER, BC  
 V5Z 3N4

A0110064

Comments: ATTN: GORDON RICHARDS

<b>CERTIFICATE</b>	<b>A0110064</b> A0110064
--------------------	-----------------------------

(NDJ) - RICHARDS, GORDON

Project: SCROGGIE  
 P.O. #:

Samples submitted to our lab in Vancouver, BC.  
 This report was printed on 10-JAN-2001.

SAMPLE PREPARATION		
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	12	Geochem ring to approx 150 mesh
226	12	0-3 Kg crush and split
3202	7	Rock - save entire reject

ANALYTICAL PROCEDURES					
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	12	Au ppb: Fuse 30 g sample	FA-AAS	5	10000



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RICHARDS, GORDON

6170 TISDALL ST.,  
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 V5Z 3N4

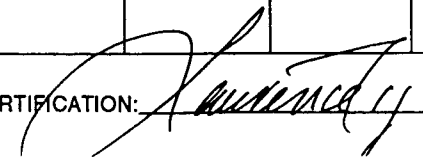
Project: SCROGGIE  
 Comments: ATTN: GORDON RICHARDS

Page No. : 1  
 Total Pages : 1  
 Certificate Date: 10-JAN-2001  
 Invoice No. : I0110064  
 P.O. Number :  
 Account : NDJ

## CERTIFICATE OF ANALYSIS

### A0110064

SAMPLE	PREP CODE		Au ppb FA+AA									
B11	205	226	< 5									
B12	205	226	< 5									
B38	205	226	< 5									
B59	205	226	< 5									
B60	205	226	< 5									
B61	205	226	< 5									
B62	205	226	< 5									
B63	205	226	< 5									
B64	205	226	< 5									
B65	205	226	< 5									
B74	205	226	< 5									
C41	205	226	< 5									

CERTIFICATION: 



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 British Columbia, Canada V7J 2C1  
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RICHARDS, GORDON  
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 VANCOUVER, BC  
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Page No. : 1  
 Total Pages : 1  
 Certificate Date: 10-JAN-2001  
 Invoice No. : 10110080  
 P.O. Number :  
 Account : NDJ

Project :  
 Comments: ATTN: GORDON RICHARDS

<b>CERTIFICATE OF ANALYSIS</b>	<b>A0110060</b>
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SAMPLE	PREP CODE	Au ppb FA+AA									
C40	201 202	< 5									
C42	201 202	< 5									
C43	201 202	< 5									
C44	201 202	< 5									
C45	201 202	10									
C46	201 202	< 5									
C47	201 202	< 5									
C48	201 202	25									
C49	201 202	25									
C50	201 202	20									
C158	201 202	5									
C159	201 202	10									
C160	201 202	10									
C161	201 202	10									
C162	201 202	5									
C163	201 202	25									
C164	201 202	15									
C165	201 202	15									
C166	201 202	25									
C167	201 202	5									
C168	201 202	10									
C169	201 202	15									
C170	201 202	5									

CERTIFICATION:



# ALS Chemex

Aurora Laboratory Services Ltd.  
Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221 FAX: 604-984-0218

J: RICHARDS, GORDON

6170 TISDALL ST.,  
VANCOUVER, BC  
V5Z 3N4

Page No. : 1  
Total Pages : 1  
Certificate Date: 15-JAN-2001  
Invoice No. : 10110061  
P.O. Number :  
Account : NDJ

Project :  
Comments: ATTN: GORDON RICHARDS

## CERTIFICATE OF ANALYSIS

A0110061

SAMPLE	PREP CODE	Au ppb FA+AA										
C182	205	226	< 5									
C183	205	226	< 5									
C184	205	226	920									
C185	205	226	30									
C186	205	226	< 5									

CERTIFICATION:



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221 FAX: 604-984-0218

to: RICHARDS, GORDON

6170 TISDALL ST.,  
VANCOUVER, BC  
V5Z 3N4

Project: TIN  
Comments: ATTN: GORDON RICHARDS

Page Number : 1-A  
Total Pages : 1  
Certificate Date: 10-SEP-1999  
Invoice No. : 19927488  
P.O. Number :  
Account : NDJ

## CERTIFICATE OF ANALYSIS A9927488

SAMPLE	PREP CODE		Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn
			ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%	ppm
99Y 5	244	229	2.0	1.73	14	< 10	140	< 0.5	6	0.14	< 0.5	4	18	28	2.57	< 10	< 1	0.10	10	0.36	180
99Y 6	244	229	1.6	2.22	12	< 10	120	< 0.5	< 2	0.18	< 0.5	4	16	81	3.34	< 10	< 1	0.22	30	0.70	355
99Y 7	244	229	2.6	1.64	36	< 10	170	< 0.5	16	0.12	< 0.5	3	10	46	3.30	< 10	1	0.19	30	0.33	170
99Y 8	244	229	0.2	1.75	14	< 10	160	< 0.5	< 2	0.11	< 0.5	4	19	33	2.79	< 10	< 1	0.07	10	0.35	130
99Y 9	244	229	0.2	1.47	16	< 10	150	< 0.5	< 2	0.13	< 0.5	4	19	31	2.66	< 10	< 1	0.05	20	0.31	110
99Y 10	244	229	< 0.2	1.57	20	< 10	190	< 0.5	< 2	0.11	< 0.5	4	19	14	3.32	< 10	< 1	0.06	20	0.30	110
99Y 11	244	229	< 0.2	1.30	16	< 10	100	< 0.5	< 2	0.10	< 0.5	4	15	14	3.17	< 10	< 1	0.07	10	0.21	120
99Y 12	244	229	0.4	1.37	12	< 10	100	< 0.5	6	0.08	< 0.5	3	11	9	3.78	< 10	< 1	0.06	20	0.16	60
99Y 13	244	229	0.2	1.71	14	< 10	230	< 0.5	< 2	0.34	< 0.5	8	24	15	2.92	< 10	< 1	0.08	40	0.45	260
99Y 14	244	229	< 0.2	1.35	18	< 10	260	< 0.5	< 2	0.43	< 0.5	7	30	13	2.23	< 10	< 1	0.26	60	0.52	255
99Y 61	244	229	< 0.2	2.25	8	< 10	560	< 0.5	< 2	0.54	< 0.5	12	34	27	3.33	< 10	< 1	0.15	30	0.78	420
99Y 62	244	229	< 0.2	2.55	6	< 10	430	< 0.5	< 2	0.51	< 0.5	12	28	22	3.76	< 10	< 1	0.22	20	0.78	350
99Y 63	244	229	< 0.2	2.43	10	< 10	300	< 0.5	< 2	0.32	< 0.5	10	34	19	3.29	< 10	< 1	0.15	10	0.74	320
99Y 64	244	229	< 0.2	3.16	6	< 10	370	< 0.5	< 2	0.73	< 0.5	15	34	13	4.50	< 10	< 1	0.25	10	1.15	425
99Y 65	244	229	< 0.2	1.99	4	< 10	270	< 0.5	< 2	0.45	< 0.5	10	35	18	2.95	< 10	< 1	0.12	10	0.76	345
99Y 66	244	229	< 0.2	2.36	10	< 10	480	< 0.5	< 2	0.84	< 0.5	11	22	15	3.38	< 10	< 1	0.18	30	0.91	560
99Y 67	244	229	< 0.2	2.07	6	< 10	460	< 0.5	< 2	0.48	< 0.5	11	29	32	3.15	< 10	< 1	0.10	20	0.72	410
99Y 68	244	229	< 0.2	1.84	8	< 10	540	< 0.5	< 2	0.84	< 0.5	11	29	39	2.78	< 10	< 1	0.09	30	0.72	605
99Y 69	244	229	< 0.2	1.70	2	< 10	290	< 0.5	< 2	0.74	< 0.5	11	31	13	2.99	< 10	< 1	0.25	< 10	1.00	360
99Y 70	244	229	< 0.2	2.03	4	< 10	280	< 0.5	< 2	0.66	< 0.5	12	18	32	3.14	< 10	< 1	0.63	10	1.15	410
99Y 71	244	229	< 0.2	2.19	6	< 10	400	< 0.5	< 2	0.44	< 0.5	11	31	14	3.11	< 10	< 1	0.12	10	0.72	300
99Y 72	244	229	< 0.2	2.45	10	< 10	880	< 0.5	< 2	0.65	< 0.5	14	32	40	3.87	< 10	< 1	0.21	30	0.84	600
99Y 73	244	229	< 0.2	1.57	6	< 10	350	< 0.5	< 2	0.45	< 0.5	8	21	11	2.72	< 10	< 1	0.16	10	0.68	275
99Y 74	244	229	< 0.2	1.85	10	< 10	350	< 0.5	< 2	0.47	< 0.5	11	28	14	3.15	< 10	< 1	0.17	10	0.73	440
99Y 75	244	229	0.2	1.66	8	< 10	370	< 0.5	< 2	0.60	< 0.5	11	25	11	3.00	< 10	< 1	0.14	< 10	0.71	550
99Y 76	244	229	< 0.2	1.82	8	< 10	350	< 0.5	< 2	0.59	< 0.5	16	35	44	3.77	< 10	< 1	0.17	< 10	0.86	660
99Y 77	244	229	0.2	2.58	8	< 10	470	< 0.5	< 2	0.89	< 0.5	14	53	33	3.94	< 10	< 1	0.22	10	1.08	520
99Y 78	244	229	< 0.2	1.90	6	< 10	450	< 0.5	< 2	0.62	< 0.5	11	28	24	3.17	< 10	< 1	0.15	10	0.71	430
99Y 79	244	229	< 0.2	1.73	6	< 10	260	< 0.5	< 2	0.57	< 0.5	11	30	26	2.54	< 10	< 1	0.05	10	0.65	390
99Y 80	244	229	0.2	1.62	12	< 10	280	< 0.5	< 2	0.39	< 0.5	9	25	14	2.33	< 10	< 1	0.05	< 10	0.55	335
99Y 83	244	229	< 0.2	2.33	2	< 10	350	< 0.5	< 2	0.42	< 0.5	14	18	15	3.76	< 10	< 1	0.68	< 10	1.42	525
99Y 84	244	229	< 0.2	1.25	8	< 10	320	< 0.5	< 2	0.15	< 0.5	7	22	12	2.24	< 10	< 1	0.16	10	0.43	345
99Y 85	244	229	< 0.2	3.42	< 2	< 10	640	< 0.5	< 2	0.88	< 0.5	19	12	25	5.90	10	< 1	1.38	< 10	2.00	965
99Y 86	244	229	< 0.2	2.64	10	< 10	500	< 0.5	< 2	0.45	< 0.5	13	37	25	3.90	< 10	< 1	0.28	10	0.87	430
99Y 88	244	229	< 0.2	2.41	6	< 10	420	< 0.5	< 2	0.28	< 0.5	11	41	25	3.56	< 10	< 1	0.21	10	0.74	290
99Y 89	244	229	< 0.2	3.51	6	< 10	930	< 0.5	< 2	0.78	< 0.5	19	66	34	5.17	10	< 1	0.47	40	1.90	660
99Y 90	244	229	< 0.2	2.08	12	< 10	350	< 0.5	< 2	0.68	< 0.5	11	36	30	2.95	< 10	< 1	0.08	10	0.75	370
99Y 91	244	229	< 0.2	1.82	6	< 10	250	< 0.5	< 2	0.32	< 0.5	10	25	13	2.77	< 10	< 1	0.19	< 10	0.85	320
99Y 92	244	229	0.2	3.24	20	< 10	1240	< 0.5	< 2	0.43	< 0.5	12	38	33	4.13	< 10	< 1	0.20	10	0.80	530
99Y 93	244	229	< 0.2	3.99	8	< 10	440	< 0.5	< 2	0.40	< 0.5	19	26	7	5.95	10	< 1	1.06	< 10	2.11	745

CERTIFICATION: 



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

To: RICHARDS, GORDON

6170 TISDALL ST.,  
 VANCOUVER, BC  
 V5Z 3N4

Project: TIN  
 Comments: ATTN: GORDON RICHARDS

Page Number : 1-B  
 Total Pages : 1  
 Certificate Date: 10-SEP-1999  
 Invoice No. : 19927488  
 P.O. Number :  
 Account : NDJ

## CERTIFICATE OF ANALYSIS A9927488

SAMPLE	PREP CODE	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
99Y 5	244 229	1	0.03	7	270	124	0.11	< 2	2	29	0.06	< 10	< 10	35	< 10	102
99Y 6	244 229	1	0.03	7	580	156	0.16	< 2	1	42	0.10	< 10	< 10	25	< 10	314
99Y 7	244 229	2	0.07	4	500	308	0.43	< 2	3	49	0.05	< 10	< 10	22	< 10	160
99Y 8	244 229	1	0.03	7	240	48	0.10	< 2	2	31	0.05	< 10	< 10	36	< 10	96
99Y 9	244 229	1	0.02	8	190	28	0.06	< 2	3	34	0.05	< 10	< 10	36	< 10	44
99Y 10	244 229	3	0.03	7	250	26	0.08	< 2	2	35	0.05	< 10	< 10	38	< 10	72
99Y 11	244 229	3	0.02	8	260	34	0.06	< 2	1	25	0.03	< 10	< 10	32	< 10	102
99Y 12	244 229	2	0.02	4	260	44	0.08	< 2	1	35	0.03	< 10	< 10	22	< 10	48
99Y 13	244 229	3	0.01	11	570	38	0.03	< 2	3	44	0.06	< 10	< 10	31	< 10	66
99Y 14	244 229	< 1	0.01	18	860	4	< 0.01	< 2	1	27	0.08	< 10	< 10	19	< 10	50
99Y 61	244 229	1	0.03	20	490	6	< 0.01	< 2	6	40	0.12	< 10	< 10	70	< 10	58
99Y 62	244 229	1	0.02	18	750	6	< 0.01	< 2	6	36	0.07	< 10	< 10	67	< 10	62
99Y 63	244 229	1	0.02	18	260	6	< 0.01	< 2	4	33	0.12	< 10	< 10	70	< 10	54
99Y 64	244 229	1	0.04	19	1030	2	< 0.01	< 2	6	43	0.12	< 10	< 10	91	< 10	80
99Y 65	244 229	1	0.03	17	290	6	< 0.01	< 2	5	35	0.12	< 10	< 10	65	< 10	58
99Y 66	244 229	1	0.03	14	1030	6	0.01	< 2	5	46	0.11	< 10	< 10	60	< 10	74
99Y 67	244 229	1	0.02	17	420	6	< 0.01	< 2	5	30	0.10	< 10	< 10	61	< 10	58
99Y 68	244 229	2	0.02	23	710	6	0.02	< 2	6	38	0.07	< 10	< 10	53	< 10	60
99Y 69	244 229	2	0.03	19	1100	4	< 0.01	< 2	4	29	0.10	< 10	< 10	57	< 10	70
99Y 70	244 229	3	0.03	10	1570	< 2	0.01	< 2	3	29	0.14	< 10	< 10	69	< 10	78
99Y 71	244 229	1	0.02	14	370	6	< 0.01	< 2	4	31	0.10	< 10	< 10	63	< 10	62
99Y 72	244 229	1	0.03	18	920	2	0.01	< 2	11	43	0.10	< 10	< 10	72	< 10	82
99Y 73	244 229	5	0.02	9	620	4	< 0.01	< 2	4	29	0.10	< 10	< 10	58	< 10	56
99Y 74	244 229	6	0.02	12	620	6	< 0.01	< 2	5	27	0.11	< 10	< 10	66	< 10	64
99Y 75	244 229	3	0.02	11	900	4	0.01	< 2	4	28	0.09	< 10	< 10	58	< 10	68
99Y 76	244 229	4	0.03	16	820	6	< 0.01	< 2	5	28	0.10	< 10	< 10	74	< 10	76
99Y 77	244 229	3	0.03	29	910	4	0.01	< 2	8	39	0.14	< 10	< 10	78	< 10	92
99Y 78	244 229	3	0.02	14	780	10	< 0.01	< 2	7	31	0.11	< 10	< 10	59	< 10	72
99Y 79	244 229	2	0.03	21	610	6	< 0.01	< 2	4	39	0.09	< 10	< 10	53	< 10	60
99Y 80	244 229	1	0.02	14	660	6	0.02	< 2	3	28	0.07	< 10	< 10	49	< 10	60
99Y 83	244 229	1	0.02	10	780	2	< 0.01	< 2	9	24	0.17	< 10	< 10	92	< 10	64
99Y 84	244 229	1	0.01	11	160	6	< 0.01	< 2	4	15	0.06	< 10	< 10	47	< 10	38
99Y 85	244 229	< 1	0.04	5	2610	< 2	< 0.01	< 2	9	32	0.28	< 10	< 10	131	< 10	124
99Y 86	244 229	1	0.01	22	740	6	< 0.01	< 2	8	38	0.13	< 10	< 10	78	< 10	66
99Y 88	244 229	1	0.01	23	300	6	< 0.01	< 2	7	29	0.11	< 10	< 10	68	< 10	62
99Y 89	244 229	< 1	0.03	26	1380	6	< 0.01	< 2	9	84	0.24	< 10	< 10	120	< 10	92
99Y 90	244 229	1	0.04	21	590	6	< 0.01	< 2	6	45	0.12	< 10	< 10	61	< 10	58
99Y 91	244 229	1	0.02	11	360	4	< 0.01	< 2	5	22	0.13	< 10	< 10	63	< 10	52
99Y 92	244 229	2	0.02	18	490	8	< 0.01	< 2	8	35	0.14	< 10	< 10	93	< 10	76
99Y 93	244 229	< 1	0.03	10	1480	2	< 0.01	< 2	10	27	0.23	< 10	< 10	135	< 10	118

CERTIFICATION: \_\_\_\_\_



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

To: RICHARDS, GORDON

6170 TISDALL ST.,  
 VANCOUVER, BC  
 V5Z 3N4

Project: TIN  
 Comments: ATTN: GORDON RICHARDS

Page Number : 1-A  
 Total Pages : 1  
 Certificate Date: 09-SEP-1999  
 Invoice No. : I9927489  
 P.O. Number :  
 Account : NDJ

## CERTIFICATE OF ANALYSIS A9927489

SAMPLE	PREP CODE		Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn
			ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%	ppm
99Y 95 <i>no 50</i>	244	229	0.2	0.41	< 2	< 10	160	< 0.5	< 2	0.66	< 0.5	1	92	12	0.92	< 10	< 1	0.12	< 10	0.23	215
99Y 96 <i>30% P</i>	244	229	3.0	0.22	< 2	10	830	< 0.5	< 2	9.41	1.0	22	89	9	3.72	< 10	< 1	0.13	< 10	4.19	1705



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## CERTIFICATE OF ANALYSIS A9927489

SAMPLE	PREP CODE		Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
			ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
99Y 95	244	229	17	0.06	3	80	16	0.04	< 2	1	38	< 0.01	< 10	< 10	8	< 10	20
99Y 96	244	229	2990	< 0.01	73	940	268	0.28	6	17	551	< 0.01	< 10	< 10	20	< 10	82



# ALS Chemex

Aurora Laboratory Services Ltd.  
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To: RICHARDS, GORDON

6170 TISDALL ST.,  
 VANCOUVER, BC  
 V5Z 3N4

A0110594

Comments: ATTN: GORDON RICHARDS

**CERTIFICATE**

**A0110594**

(NDJ) - RICHARDS, GORDON

Project: SCROGGIE  
 P.O. #:

Samples submitted to our lab in Vancouver, BC.  
 This report was printed on 23-JAN-2001.

## SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
244	80	Pulp; prev. prepared at Chemex

\* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

## ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
9201	80	Al %: ICP + ICP-MS package	ICP	0.01	15.00
9202	80	Sb ppm: ICP + ICP-MS package	ICP-MS/ICP	0.05	10000
9203	80	As ppm: ICP + ICP-MS package	ICP-MS/ICP	0.1	10000
9204	80	Ba ppm: ICP + ICP-MS package	ICP-MS/ICP	0.2	10000
9205	80	Be ppm: ICP + ICP-MS package	ICP	0.05	100.0
9206	80	Bi ppm: ICP + ICP-MS package	ICP-MS/ICP	0.01	10000
9235	80	B ppm: ICP + ICP-MS package	ICP	10	10000
9207	80	Cd ppm: ICP + ICP-MS package	ICP-MS/ICP	0.01	500
9208	80	Ca %: ICP + ICP-MS package	ICP	0.01	15.00
9209	80	Cr ppm: ICP + ICP-MS package	ICP	1	10000
9210	80	Co ppm: ICP + ICP-MS package	ICP-MS/ICP	0.1	10000
9211	80	Cu ppm: ICP + ICP-MS package	ICP-MS/ICP	0.2	10000
9212	80	Ga ppm: ICP + ICP-MS package	ICP-MS/ICP	0.05	10000
9213	80	Ge ppm: ICP + ICP-MS package	ICP-MS	0.05	500.0
9214	80	Fe %: ICP + ICP-MS package	ICP	0.01	15.00
9215	80	La ppm: ICP + ICP-MS package	ICP-MS/ICP	0.2	10000
9216	80	Pb ppm: ICP + ICP-MS package	ICP-MS/ICP	0.2	10000
9217	80	Mg %: ICP + ICP-MS package	ICP	0.01	15.00
9218	80	Mn ppm: ICP + ICP-MS package	ICP	5	10000
9219	80	Hg ppm: ICP + ICP-MS package	ICP-MS/ICP	0.01	10000
9220	80	Mo ppm: ICP + ICP-MS package	ICP-MS/ICP	0.05	10000
9221	80	Ni ppm: ICP + ICP-MS package	ICP-MS/ICP	0.5	10000
9222	80	P ppm: ICP + ICP-MS package	ICP	10	10000
9223	80	K %: ICP + ICP-MS package	ICP	0.01	10.00
9224	80	Sc ppm: ICP + ICP-MS package	ICP-MS/ICP	0.1	10000
9237	80	Se ppm: ICP + ICP-MS package	ICP-MS	0.2	1000
9225	80	Ag ppm: ICP + ICP-MS package	ICP-MS/ICP	0.01	100.0
9226	80	Na %: ICP + ICP-MS package	ICP	0.01	10.00
9227	80	Sr ppm: ICP + ICP-MS package	ICP-MS/ICP	0.2	10000
9236	80	S %: ICP + ICP-MS package	ICP	0.01	5.00
9228	80	Te ppm: ICP + ICP-MS package	ICP-MS	0.01	500
9229	80	Tl ppm: ICP + ICP-MS package	ICP-MS/ICP	0.02	10000
9230	80	Ti %: ICP + ICP-MS package	ICP	0.01	10.00
9231	80	W ppm: ICP + ICP-MS package	ICP-MS/ICP	0.05	10000
9232	80	U ppm: ICP + ICP-MS package	ICP-MS/ICP	0.05	10000
9233	80	V ppm: ICP + ICP-MS package	ICP	1	10000
9234	80	Zn ppm: ICP + ICP-MS package	ICP	2	10000



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J: RICHARDS, GORDON

6170 TISDALL ST.,  
 VANCOUVER, BC  
 V5Z 3N4

Project: SCROGGIE  
 Comments: ATTN: GORDON RICHARDS

Page No. : 1-A  
 Total Pages : 2  
 Certificate Date: 23-JAN-2001  
 Invoice No. : I0110594  
 P.O. Number :  
 Account : NDJ

## CERTIFICATE OF ANALYSIS A0110594

SAMPLE	PREP CODE	Al %	Sb ppm	As ppm	Ba ppm	Be ppm	Bi ppm	B ppm	Cd ppm	Ca %	Cr ppm	Co ppm	Cu ppm	Ga ppm	Ge ppm	Fe %	La ppm	Pb ppm	Mg %	Mn ppm
B1	244 --	1.96	0.45	44.5	214.2	0.55	0.28	< 10	0.12	0.21	31	8.1	21.8	6.05	0.05	3.06	12.8	13.2	0.52	270
B2	244 --	2.47	0.25	45.3	244.6	0.60	0.24	< 10	0.19	0.22	18	12.3	21.0	7.25	0.05	3.79	12.2	14.2	1.12	575
B3	244 --	2.53	0.20	136.0	111.6	1.75	0.26	< 10	1.12	0.35	16	20.2	35.8	6.40	0.20	4.19	43.2	13.6	1.43	785
B4	244 --	1.37	0.20	9.2	101.2	0.30	0.69	< 10	0.20	0.09	20	3.5	14.2	5.40	0.05	2.43	16.2	25.8	0.34	170
B5	244 --	1.45	0.30	11.3	99.0	0.30	0.73	< 10	0.43	0.14	24	11.3	30.2	4.95	0.05	3.01	16.6	55.2	0.41	590
B6	244 --	1.47	0.30	17.2	173.2	0.30	2.99	< 10	0.22	0.11	19	3.4	31.4	4.75	0.05	3.34	20.0	45.4	0.33	95
B7	244 --	0.97	0.30	18.0	139.8	0.25	1.33	< 10	0.28	0.10	15	2.0	17.8	3.70	0.05	2.82	17.0	42.4	0.18	60
B8	244 --	0.51	0.10	5.5	109.8	0.15	4.07	< 10	0.13	0.07	9	1.2	6.6	2.05	< 0.05	0.85	14.0	42.0	0.07	30
B9	244 --	1.35	0.30	14.7	100.0	0.20	1.04	< 10	0.27	0.15	23	5.3	11.0	4.65	0.05	3.19	19.4	38.6	0.36	190
B10	244 --	1.18	0.25	36.8	115.4	0.45	4.85	< 10	0.12	0.04	9	4.9	12.6	4.30	0.05	4.39	32.6	82.4	0.15	185
B13	244 --	1.44	0.25	10.2	102.6	0.40	0.74	< 10	0.47	0.16	21	10.0	12.0	5.45	0.05	3.08	25.2	35.0	0.46	625
B14	244 --	1.17	0.25	23.0	82.8	0.30	0.98	< 10	0.42	0.16	16	6.6	11.8	3.95	0.05	2.56	27.4	118.5	0.31	185
B15	244 --	0.77	0.20	16.6	87.2	0.20	0.20	< 10	0.11	0.09	11	4.1	7.6	4.70	0.05	2.18	8.4	17.8	0.19	180
B16	244 --	1.36	0.40	20.5	185.2	0.35	0.21	< 10	0.13	0.14	19	7.7	11.0	4.80	0.05	3.34	20.8	19.0	0.39	345
B17	244 --	2.20	0.25	12.9	493.6	0.55	0.22	< 10	0.11	0.40	50	14.9	16.6	9.10	0.15	4.00	27.6	12.0	1.16	525
B18	244 --	1.23	0.15	5.8	156.6	0.35	0.23	< 10	0.12	0.13	15	5.5	17.8	4.75	0.05	2.26	20.4	13.8	0.28	255
B19	244 --	1.42	0.20	10.1	243.2	0.40	0.21	< 10	0.11	0.22	17	9.5	12.8	4.80	0.05	2.88	17.8	16.8	0.42	340
B20	244 --	1.38	0.20	10.5	168.2	0.25	0.16	< 10	0.12	0.34	22	12.9	11.6	4.90	0.05	2.59	18.8	10.0	0.47	1015
B21	244 --	0.97	0.15	9.7	124.8	0.20	0.43	< 10	0.15	0.37	18	9.2	12.0	3.15	0.05	2.01	18.0	13.4	0.43	430
B22	244 --	1.55	0.25	8.9	124.0	0.45	0.23	< 10	0.06	0.15	22	12.5	13.2	5.25	0.05	3.86	21.6	15.2	0.54	560
B23	244 --	1.31	0.25	20.7	190.8	0.35	0.29	< 10	0.09	0.13	15	11.7	16.4	5.75	0.10	3.95	35.0	16.8	0.49	705
B24	244 --	1.16	0.15	11.1	117.2	0.45	0.76	< 10	0.30	0.21	11	12.9	10.8	4.05	0.05	3.10	19.4	34.0	0.39	580
B25	244 --	0.76	0.20	17.1	88.6	0.20	0.29	< 10	0.16	0.13	10	4.5	12.4	3.15	0.05	1.78	15.2	29.4	0.18	230
B26	244 --	1.32	0.30	13.5	120.2	0.40	1.63	< 10	0.19	0.13	21	5.8	11.4	4.40	0.05	3.28	24.4	53.8	0.34	340
B27	244 --	1.37	0.35	11.9	205.2	0.35	2.80	< 10	0.21	0.11	29	4.0	27.2	3.45	0.05	3.24	27.6	43.0	0.36	120
B28	244 --	0.94	0.25	20.7	113.2	0.20	4.53	< 10	0.13	0.09	16	2.0	15.2	3.70	0.05	3.14	20.0	42.8	0.15	50
B29	244 --	2.27	0.20	20.3	291.4	0.75	1.90	< 10	0.28	0.05	16	3.2	100.0	6.00	0.10	4.27	36.0	33.0	0.45	205
B30	244 --	1.51	0.25	14.9	246.8	0.50	2.19	< 10	0.25	0.12	20	3.2	70.1	4.00	0.05	2.98	26.8	34.0	0.28	115
B31	244 --	1.28	0.40	38.7	183.4	0.55	6.29	< 10	0.40	0.08	13	4.6	47.0	4.35	0.10	4.31	28.4	163.6	0.32	150
B32	244 --	1.96	0.40	15.6	233.2	0.75	1.16	< 10	1.26	0.17	16	10.9	41.6	5.90	0.10	3.93	30.0	99.7	0.85	565
B33	244 --	1.72	0.35	198.0	166.8	0.65	0.50	< 10	1.30	0.23	27	12.0	20.2	5.65	0.05	3.01	21.6	21.6	0.59	545
B34	244 --	1.89	0.35	32.0	203.6	0.40	0.35	< 10	0.22	0.24	28	15.0	21.2	6.90	0.05	3.42	12.8	17.4	0.86	645
B35	244 --	1.11	2.05	132.5	118.6	0.35	0.24	< 10	0.10	0.15	18	10.4	19.4	4.60	0.05	2.92	13.2	15.8	0.35	530
B36	244 --	3.10	0.25	9.6	363.6	0.30	0.09	< 10	0.09	0.45	24	22.1	22.6	10.50	0.10	4.16	7.2	5.4	2.16	570
B37	244 --	2.16	0.30	10.1	206.6	0.30	0.13	< 10	0.07	0.27	29	11.5	15.2	7.05	0.05	2.99	9.4	7.8	1.06	270
B40	244 --	2.69	0.25	4.1	472.0	0.60	0.08	< 10	0.10	1.01	50	19.3	38.8	8.80	0.15	4.44	35.4	5.2	1.59	665
B41	244 --	1.48	0.25	11.8	201.6	0.45	0.11	< 10	0.12	0.94	36	9.8	21.0	5.20	0.05	2.87	39.2	10.8	0.77	480
B42	244 --	1.55	0.25	11.7	150.0	0.45	0.11	< 10	0.13	0.44	18	11.0	14.6	5.85	0.05	3.32	29.2	11.0	0.64	425
B43	244 --	1.37	0.30	18.1	237.4	0.50	0.08	< 10	0.17	0.88	18	11.0	22.8	4.65	0.05	2.78	33.8	9.0	0.57	475
B44	244 --	2.01	0.25	13.5	302.2	0.65	0.10	< 10	0.10	0.65	44	10.4	23.2	6.40	0.15	3.25	49.8	10.0	0.92	390

CERTIFICATION: 



# ALS Chemex

Aurora Laboratory Services Ltd.  
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DR: RICHARDS, GORDON

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## CERTIFICATE OF ANALYSIS

### A0110594

SAMPLE	PREP CODE	Hg ppm	Mo ppm	Ni ppm	P ppm	K %	Sc ppm	Se ppm	Ag ppm	Na %	Sr ppm	S %	Te ppm	Tl ppm	Ti %	W ppm	U ppm	V ppm	Zn ppm
B1	244 --	0.03	1.65	17.0	360	0.05	4.0	< 0.2	0.12	0.01	19.8	0.01	0.07	0.10	0.07	0.30	1.70	58	86
B2	244 ---	0.01	2.75	13.0	760	0.42	3.3	< 0.2	0.15	0.01	20.0	0.04	0.09	0.26	0.13	0.20	1.15	60	154
B3	244 ---	0.01	1.25	13.5	1020	1.26	7.8	< 0.2	0.09	0.01	19.4	0.01	0.12	0.90	0.20	0.30	3.75	73	568
B4	244 ---	0.01	1.65	6.5	440	0.08	2.2	< 0.2	0.09	0.03	38.0	0.10	0.11	0.12	0.07	0.25	1.75	36	82
B5	244 ---	0.02	1.35	10.5	550	0.10	2.7	0.6	0.36	0.01	21.6	0.03	0.39	0.14	0.07	0.15	1.75	45	124
B6	244 ---	0.05	1.45	8.5	510	0.08	2.7	1.6	0.25	0.03	43.6	0.12	0.24	0.14	0.05	0.25	2.40	37	70
B7	244 ---	0.06	2.55	5.5	520	0.07	1.9	1.2	0.33	0.05	35.2	0.21	0.11	0.08	0.04	0.15	2.15	29	96
B8	244 ---	0.04	1.30	4.0	350	0.04	1.3	0.8	0.35	0.02	21.8	0.10	0.11	0.06	0.01	0.35	1.10	9	26
B9	244 ---	0.03	1.65	9.5	540	0.06	2.4	1.2	0.19	0.02	23.8	0.06	0.65	0.10	0.06	0.15	1.50	40	86
B10	244 ---	0.02	3.80	4.5	550	0.08	2.3	2.4	0.40	0.10	61.0	0.36	0.38	0.08	0.03	0.05	2.15	20	128
B13	244 ---	0.03	1.75	9.0	520	0.12	2.3	< 0.2	0.25	0.01	17.6	0.03	0.65	0.16	0.07	0.15	2.10	41	244
B14	244 ---	0.07	2.40	8.5	600	0.07	2.2	0.6	0.45	0.01	21.6	0.02	1.68	0.10	0.03	0.20	2.20	29	170
B15	244 ---	0.01	2.00	4.0	340	0.12	1.4	< 0.2	0.15	< 0.01	13.0	0.03	1.77	0.14	0.05	0.10	0.95	35	70
B16	244 ---	0.04	1.30	9.0	550	0.08	2.4	< 0.2	0.18	0.02	30.8	0.09	0.26	0.10	0.04	0.15	1.55	34	68
B17	244 ---	0.02	1.25	29.0	1400	0.26	4.1	< 0.2	0.14	0.03	55.1	0.10	0.18	0.16	0.16	0.15	1.95	68	106
B18	244 ---	0.03	1.15	6.5	390	0.09	2.4	< 0.2	0.18	0.02	21.6	0.05	0.11	0.08	0.04	0.10	2.55	29	40
B19	244 ---	0.01	1.45	8.5	490	0.07	2.9	< 0.2	0.13	0.01	20.0	0.04	0.23	0.08	0.05	0.30	2.00	42	62
B20	244 ---	0.03	1.10	10.5	540	0.08	2.9	< 0.2	0.07	0.01	20.2	0.02	0.05	0.10	0.07	0.20	1.60	48	56
B21	244 ---	0.01	1.40	9.5	890	0.10	2.6	< 0.2	0.10	0.01	21.8	0.03	0.11	0.10	0.06	0.10	1.35	32	52
B22	244 ---	0.02	1.45	8.5	560	0.13	3.1	< 0.2	0.09	0.05	32.2	0.16	0.11	0.14	0.08	0.20	2.60	37	76
B23	244 ---	< 0.01	1.35	5.0	720	0.23	2.8	0.2	0.11	0.08	65.4	0.38	0.32	0.12	0.10	0.05	3.60	34	68
B24	244 ---	0.01	2.85	6.0	640	0.18	2.2	0.4	0.16	0.02	26.0	0.06	1.58	0.22	0.08	0.15	2.80	25	154
B25	244 ---	0.02	1.90	5.0	410	0.05	1.3	0.2	0.17	0.01	17.4	0.03	1.13	0.12	0.02	0.10	1.70	21	58
B26	244 ---	0.04	1.65	9.0	530	0.07	2.3	0.6	0.23	0.04	40.2	0.13	0.27	0.10	0.05	0.15	2.30	33	104
B27	244 ---	0.05	1.75	11.0	570	0.09	2.7	2.8	0.28	0.05	47.6	0.26	0.23	0.12	0.05	0.15	3.25	26	74
B28	244 ---	0.05	2.25	6.0	520	0.05	1.8	2.8	0.45	0.03	26.0	0.12	0.16	0.06	0.03	0.15	1.80	28	42
B29	244 ---	0.02	2.25	5.0	690	0.42	4.0	3.8	0.20	0.09	69.4	0.54	0.16	0.30	0.11	0.20	6.40	36	134
B30	244 ---	0.05	2.40	8.5	570	0.09	3.4	2.2	0.36	0.04	45.8	0.18	0.13	0.12	0.04	0.15	4.25	29	68
B31	244 ---	0.17	2.65	6.0	530	0.18	3.0	10.0	1.44	0.05	32.6	0.27	0.65	0.20	0.04	0.20	3.30	33	228
B32	244 ---	0.05	1.50	9.5	600	0.50	4.7	1.6	0.69	0.05	61.5	0.29	0.18	0.42	0.12	0.15	3.00	41	402
B33	244 ---	0.02	1.50	13.5	510	0.14	3.7	< 0.2	0.12	0.01	16.6	0.01	0.09	0.16	0.08	0.20	1.90	51	240
B34	244 ---	0.02	2.65	17.0	540	0.21	4.2	< 0.2	0.13	0.01	18.0	0.01	0.13	0.20	0.11	1.10	1.10	60	144
B35	244 ---	0.03	4.50	16.0	440	0.11	3.0	< 0.2	0.08	0.01	17.2	0.03	0.13	0.18	0.06	0.30	1.15	43	72
B36	244 ---	0.01	1.05	17.5	1040	0.98	6.1	< 0.2	0.05	0.02	19.2	0.01	0.04	0.34	0.23	0.15	0.45	114	80
B37	244 ---	0.01	0.95	14.0	430	0.28	4.0	< 0.2	0.05	0.01	19.2	< 0.01	0.05	0.18	0.13	0.15	0.55	69	58
B40	244 ---	0.04	0.65	24.5	1300	0.66	7.6	< 0.2	0.11	0.02	52.1	0.02	0.05	0.22	0.15	0.15	1.40	64	102
B41	244 ---	0.03	1.10	20.5	830	0.14	3.7	< 0.2	0.14	0.02	45.2	0.03	0.08	0.08	0.06	0.15	2.70	37	60
B42	244 ---	0.02	1.45	8.0	700	0.25	3.2	< 0.2	0.08	0.02	35.0	0.04	0.19	0.12	0.08	0.55	2.45	39	102
B43	244 ---	0.03	0.95	11.0	930	0.32	3.4	< 0.2	0.09	0.01	35.2	0.03	0.12	0.16	0.09	0.10	2.85	38	72
B44	244 ---	0.02	0.85	29.0	910	0.37	5.6	< 0.2	0.14	0.01	42.8	0.01	0.07	0.26	0.14	0.15	3.60	44	76

CERTIFICATION: 



# ALS Chemex

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Project: SCROGGIE  
 Comments: ATTN: GORDON RICHARDS

Page No. : 2-A  
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 Invoice No. : 10110594  
 P.O. Number :  
 Account : NDJ

## CERTIFICATE OF ANALYSIS A0110594

SAMPLE	PREP CODE	Al %	Sb ppm	As ppm	Ba ppm	Be ppm	Bi ppm	B ppm	Cd ppm	Ca %	Cr ppm	Co ppm	Cu ppm	Ga ppm	Ge ppm	Fe %	La ppm	Pb ppm	Mg %	Mn ppm
B45	244 --	1.32	0.35	34.7	199.2	0.60	1.35	< 10	0.15	0.23	13	6.3	16.2	4.20	0.05	3.45	23.4	226.6	0.40	205
B46	244 --	1.35	0.35	22.4	262.0	0.60	0.72	< 10	0.14	0.30	20	7.0	15.4	4.20	0.05	3.01	23.2	142.0	0.54	325
B47	244 --	1.55	0.40	18.7	381.4	0.55	0.56	< 10	0.14	0.41	35	7.8	21.8	5.15	0.10	2.88	32.0	80.8	0.62	250
B48	244 --	1.93	0.25	15.5	389.8	0.60	1.50	< 10	0.22	0.45	49	10.5	22.4	5.75	0.10	3.31	41.0	43.8	0.82	400
B49	244 --	1.45	0.30	20.2	227.6	0.60	2.54	< 10	0.49	0.18	20	9.3	18.0	4.20	0.10	2.85	40.8	141.5	0.34	520
B50	244 --	1.72	0.30	22.6	307.6	0.60	2.11	< 10	0.44	0.24	33	7.3	30.2	5.10	0.10	3.30	35.2	75.4	0.52	220
B51	244 --	1.40	0.30	16.4	255.8	0.60	2.02	< 10	0.29	0.10	24	4.8	40.2	4.20	0.05	2.78	33.0	37.8	0.33	145
B52	244 --	1.48	0.35	16.4	321.4	0.65	1.03	< 10	0.23	0.19	33	6.1	39.6	4.50	0.05	2.95	32.0	20.2	0.46	170
B53	244 --	1.90	0.35	12.7	351.0	0.65	2.14	< 10	0.60	0.25	56	11.4	55.1	5.40	0.10	3.09	39.0	38.6	0.69	300
B54	244 --	1.86	0.55	43.2	363.2	0.70	1.62	< 10	0.54	0.30	37	14.3	95.3	5.20	0.05	3.50	35.8	64.4	0.48	495
B55	244 --	1.73	0.35	47.5	179.0	0.45	1.66	< 10	0.25	0.23	25	8.1	24.0	5.05	0.05	3.07	23.2	117.5	0.55	245
B56	244 --	1.41	0.30	38.6	156.8	0.35	1.28	< 10	0.20	0.28	20	7.2	17.0	4.20	0.05	2.43	20.8	60.0	0.43	235
B57	244 --	2.36	0.20	11.4	319.2	0.35	0.14	< 10	0.06	0.49	20	12.8	17.6	7.15	0.10	3.52	16.0	7.2	1.14	440
B58	244 --	4.00	0.15	5.3	636.1	0.55	0.08	< 10	0.05	0.76	23	20.6	29.4	12.10	0.15	4.35	23.0	6.2	2.69	400
99Y 26	244 --	3.11	0.30	8.7	339.0	0.60	0.08	< 10	0.05	0.33	63	21.1	36.4	7.90	0.05	4.50	8.6	7.2	1.49	440
99Y 27	244 --	3.44	0.15	4.1	315.8	0.60	0.02	< 10	0.04	0.48	80	27.5	47.6	7.50	0.10	4.91	8.2	3.6	2.40	665
99Y 28	244 --	2.58	0.30	8.4	340.4	0.55	0.09	< 10	0.07	0.29	46	18.9	25.4	7.00	0.10	3.92	9.6	5.4	1.37	440
99Y 29	244 --	3.18	0.15	3.0	522.5	0.60	0.04	< 10	0.05	0.70	35	22.3	39.8	9.75	0.15	5.68	10.0	3.6	1.73	700
99Y 30	244 --	2.63	0.20	4.9	369.8	0.50	0.08	< 10	0.09	0.61	52	19.5	31.0	8.30	0.05	4.20	13.2	5.2	1.59	555
99Y 31	244 --	1.96	0.30	5.7	241.0	0.35	0.08	< 10	0.12	1.18	31	17.0	35.6	6.85	0.05	3.25	12.0	5.2	1.28	440
99Y 32	244 --	1.74	0.30	15.2	300.8	0.45	0.15	< 10	0.16	0.74	23	12.6	34.8	5.80	0.05	3.05	44.0	13.6	0.68	435
99Y 33	244 --	1.99	0.40	33.1	307.8	0.75	0.11	< 10	0.10	0.42	27	13.8	28.0	6.25	0.05	3.29	44.0	10.8	0.74	565
99Y 34	244 --	1.47	0.35	15.7	331.0	0.50	0.08	< 10	0.23	1.20	20	10.8	33.8	4.75	0.05	2.38	37.6	7.6	0.62	410
99Y 35	244 --	1.92	0.35	21.9	280.2	0.50	0.12	< 10	0.06	0.53	31	10.8	20.6	6.05	0.05	3.01	53.0	10.8	0.59	355
99Y 36	244 --	1.94	0.25	13.5	386.2	0.65	0.10	< 10	0.12	0.75	39	12.4	32.2	6.95	0.15	2.94	60.2	8.8	0.92	320
99Y 37	244 --	1.70	0.15	9.2	325.6	0.70	0.08	< 10	0.13	0.59	32	10.5	24.2	5.70	0.15	2.65	68.0	7.8	0.73	325
99Y 38	244 --	1.96	0.15	8.6	497.6	1.10	0.10	< 10	0.06	0.69	56	11.3	26.4	5.85	0.10	2.72	48.8	9.4	1.12	240
99Y 39	244 --	1.87	0.20	12.2	326.0	0.90	0.12	< 10	0.07	0.55	17	7.8	15.2	4.45	0.05	3.11	40.2	13.6	0.77	310
99Y 40	244 --	1.99	0.25	11.9	182.8	0.60	1.44	< 10	0.11	0.23	51	9.9	19.4	5.30	0.10	3.59	31.4	21.0	1.08	290
99Y 41	244 --	2.19	0.30	20.4	479.2	0.95	0.83	< 10	0.17	0.19	61	8.3	22.0	6.50	0.10	3.56	43.4	30.2	0.60	215
99Y 42	244 --	1.24	0.35	28.6	179.0	0.40	1.27	< 10	0.07	0.09	17	3.3	48.0	4.00	0.05	3.30	33.2	44.6	0.23	80
99Y 43	244 --	1.68	0.55	45.7	185.8	0.35	4.36	< 10	0.10	0.10	21	3.6	63.4	5.25	0.05	3.67	21.8	58.4	0.29	85
99Y 44	244 --	2.04	0.70	16.6	203.8	0.50	3.16	< 10	0.19	0.14	24	5.8	49.0	5.35	0.05	3.35	22.4	67.8	0.49	180
99Y 45	244 --	1.71	0.30	12.8	262.8	0.55	2.83	< 10	0.52	0.17	22	6.5	46.0	5.00	0.05	2.88	24.6	55.2	0.46	210
99Y 46	244 --	1.32	0.30	18.9	159.4	0.35	4.63	< 10	0.23	0.10	16	3.5	24.0	3.90	0.05	2.96	26.8	184.6	0.38	140
99Y 47	244 --	1.29	0.40	22.5	132.8	0.40	3.16	< 10	0.40	0.07	13	3.2	26.8	3.90	0.05	2.77	34.6	204.4	0.28	125
99Y 48	244 --	1.33	0.35	15.2	189.6	0.30	0.73	< 10	0.38	0.08	18	3.8	24.4	3.90	0.05	2.79	30.2	190.1	0.35	130
99Y 49	244 --	1.74	0.35	13.1	236.2	0.55	0.65	< 10	1.00	0.12	22	8.9	22.0	4.55	0.05	2.99	16.8	57.0	0.44	375
99Y 50	244 --	1.34	0.30	126.0	194.8	0.45	0.37	< 10	0.34	0.13	19	4.9	14.2	5.30	0.05	2.19	18.2	34.2	0.30	240
99Y 51	244 --	1.90	0.50	125.0	209.2	0.85	0.29	< 10	0.14	0.12	33	7.8	21.8	5.50	0.05	2.94	20.6	17.6	0.50	305

CERTIFICATION:



# ALS Chemex

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Project: SCROGGIE  
 Comments: ATTN: GORDON RICHARDS

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 Account: NDJ

## CERTIFICATE OF ANALYSIS

A0110594

SAMPLE	PREP CODE	Hg ppm	Mo ppm	Ni ppm	P ppm	K %	Sc ppm	Se ppm	Ag ppm	Na %	Sr ppm	S %	Te ppm	Tl ppm	Ti %	W ppm	U ppm	V ppm	Zn ppm
B45	244 --	0.02	2.40	7.0	420	0.16	2.8	1.8	0.31	0.02	44.2	0.09	1.81	0.14	0.06	0.05	2.55	23	136
B46	244 --	0.01	1.90	9.5	560	0.27	3.7	0.6	0.19	0.01	43.6	0.04	0.95	0.22	0.08	0.15	2.40	34	96
B47	244 --	0.04	1.45	21.5	500	0.09	5.3	< 0.2	0.22	0.02	40.8	0.01	0.55	0.10	0.09	0.10	2.95	42	102
B48	244 --	0.01	1.40	25.0	950	0.19	5.2	< 0.2	0.27	0.01	48.6	0.03	0.47	0.16	0.10	0.10	4.15	39	118
B49	244 --	0.03	2.05	10.5	360	0.08	3.8	0.8	0.53	0.01	41.8	0.05	0.81	0.10	0.04	0.10	3.35	31	206
B50	244 --	0.03	2.45	17.0	450	0.09	4.4	1.6	0.46	0.03	53.8	0.06	0.70	0.10	0.07	0.15	3.70	41	132
B51	244 --	0.01	2.55	10.5	320	0.06	4.1	1.6	0.22	0.02	38.4	0.06	0.19	0.06	0.05	0.15	3.70	33	82
B52	244 --	0.01	2.05	15.5	370	0.06	4.4	1.4	0.19	0.03	45.4	0.08	0.11	0.06	0.06	0.05	3.35	39	92
B53	244 --	0.04	1.45	30.5	700	0.07	5.5	3.0	0.39	0.02	41.6	0.04	0.39	0.12	0.07	0.05	3.90	42	298
B54	244 --	0.03	2.05	24.0	720	0.09	5.7	1.8	0.43	0.03	38.6	0.07	0.27	0.14	0.06	0.20	3.10	47	170
B55	244 --	0.04	2.30	11.5	520	0.18	4.3	2.2	0.57	0.01	25.8	0.03	0.33	0.18	0.10	0.10	2.80	47	112
B56	244 --	0.03	1.40	9.0	520	0.13	3.2	1.0	0.33	0.01	23.4	0.02	0.19	0.12	0.09	0.15	1.70	41	82
B57	244 --	0.01	2.40	12.5	660	0.59	5.4	< 0.2	0.08	0.02	24.8	0.02	0.07	0.26	0.17	0.15	1.05	60	82
B58	244 --	0.01	0.85	13.5	1130	1.48	10.4	< 0.2	0.08	0.03	25.2	< 0.01	0.04	0.32	0.26	0.10	1.20	114	82
99Y 26	244 --	< 0.01	1.00	27.0	470	0.47	3.7	< 0.2	0.05	0.01	25.0	< 0.01	0.04	0.22	0.22	0.25	0.45	71	78
99Y 27	244 --	< 0.01	1.00	27.0	610	1.15	2.5	< 0.2	0.10	0.01	39.6	< 0.01	0.03	0.52	0.28	0.20	0.35	70	96
99Y 28	244 --	0.01	0.95	26.0	430	0.35	3.9	< 0.2	0.05	0.01	26.0	< 0.01	0.03	0.18	0.17	0.15	0.45	67	74
99Y 29	244 --	< 0.01	0.90	19.5	1600	0.69	5.6	< 0.2	0.06	0.01	40.2	< 0.01	0.04	0.24	0.16	0.05	0.55	73	106
99Y 30	244 --	0.01	1.00	23.0	1280	0.56	3.8	< 0.2	0.09	0.02	43.8	< 0.01	0.04	0.20	0.21	0.20	0.50	72	90
99Y 31	244 --	0.03	0.50	18.0	1070	0.15	6.1	< 0.2	0.10	0.02	48.0	0.03	0.05	0.06	0.09	0.55	1.00	71	66
99Y 32	244 --	0.03	0.90	16.0	620	0.20	5.2	< 0.2	0.12	0.02	34.0	0.01	0.09	0.08	0.09	0.15	1.85	57	66
99Y 33	244 --	0.02	1.05	15.5	550	0.27	5.8	< 0.2	0.16	0.01	22.8	< 0.01	0.07	0.16	0.10	0.10	2.15	50	72
99Y 34	244 --	0.04	0.75	15.0	750	0.24	4.1	0.2	0.12	0.02	42.8	0.04	0.05	0.12	0.08	0.15	1.75	45	58
99Y 35	244 --	0.01	1.05	17.0	340	0.26	4.7	< 0.2	0.09	0.01	25.2	< 0.01	0.06	0.18	0.09	0.15	1.95	50	58
99Y 36	244 --	0.04	0.50	29.0	870	0.49	5.2	< 0.2	0.15	0.01	42.2	0.02	0.10	0.28	0.15	0.30	3.15	45	72
99Y 37	244 --	0.03	0.50	37.0	840	0.43	4.3	< 0.2	0.09	0.01	29.6	0.01	0.05	0.30	0.12	0.10	3.60	34	70
99Y 38	244 --	0.02	0.40	31.5	1170	0.37	4.8	< 0.2	0.11	0.02	63.9	0.01	0.06	0.26	0.14	0.15	2.80	35	62
99Y 39	244 --	0.01	0.60	8.5	820	0.32	3.5	< 0.2	0.12	0.02	30.8	< 0.01	0.07	0.26	0.07	0.05	2.15	27	76
99Y 40	244 --	< 0.01	1.15	28.5	920	0.34	3.8	< 0.2	0.16	0.01	22.2	0.03	0.28	0.26	0.14	0.05	2.15	36	90
99Y 41	244 --	0.01	1.70	27.0	660	0.07	5.8	0.2	0.20	0.01	51.0	0.03	0.11	0.10	0.07	0.10	4.00	57	130
99Y 42	244 --	0.04	3.85	7.5	290	0.07	2.9	5.6	0.41	0.03	41.4	0.11	0.16	0.06	0.03	0.15	2.45	28	42
99Y 43	244 --	0.05	2.20	8.5	350	0.07	3.3	18.4	0.93	0.03	34.4	0.10	0.69	0.10	0.04	0.15	2.15	33	54
99Y 44	244 --	0.04	1.80	11.0	320	0.12	3.2	6.8	0.72	0.03	33.2	0.10	0.51	0.22	0.07	0.05	2.05	42	112
99Y 45	244 --	0.04	1.40	10.5	390	0.09	4.1	2.6	0.42	0.02	29.0	0.07	0.27	0.14	0.06	0.10	3.05	38	128
99Y 46	244 --	0.07	1.45	7.5	360	0.11	2.7	4.2	0.90	0.05	37.0	0.21	0.69	0.18	0.06	0.05	2.55	28	140
99Y 47	244 --	0.08	2.20	6.0	330	0.14	2.2	4.6	1.48	0.06	46.2	0.25	0.63	0.22	0.05	0.05	3.10	21	144
99Y 48	244 --	0.04	1.75	7.0	330	0.13	2.6	2.0	0.64	0.05	36.6	0.22	0.24	0.14	0.06	0.10	2.40	32	120
99Y 49	244 --	0.01	1.45	11.5	280	0.12	2.9	0.6	0.27	0.01	21.4	0.04	0.16	0.12	0.04	0.15	1.65	40	166
99Y 50	244 --	0.03	1.45	10.0	350	0.07	2.5	< 0.2	0.54	0.01	15.8	0.01	0.08	0.08	0.04	0.25	1.35	40	76
99Y 51	244 --	0.04	2.60	18.0	220	0.06	4.2	< 0.2	0.12	0.01	15.4	< 0.01	0.26	0.10	0.05	0.20	1.85	53	84

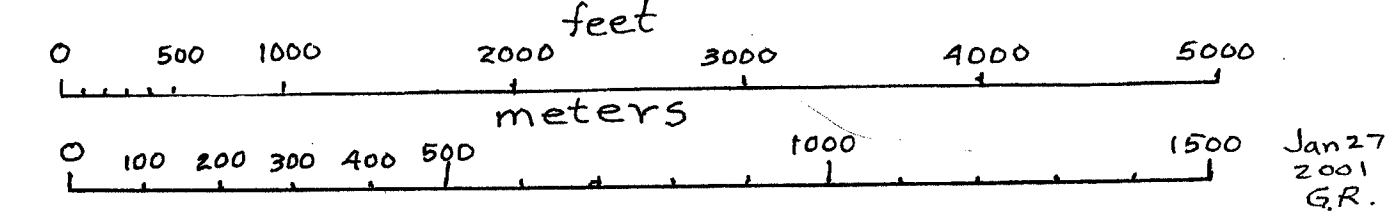
CERTIFICATION:

# GOLD GEOCHEMISTRY & GEOLOGY

FIGURE 3.

- soil sample
  - silt sample
  - △ rock sample
  - ppb Au
  - sample number
  - < 10 ppb Au
  - > 10 ppb Au
  - > 100 ppb Au
  - > 1000 ppb Au
- Gr - granite
  - peg - pegmatite
  - gn - gneiss
  - sch - schist
  - QMS - quartz-muscovite schist
  - outcrop + foliation
  - placer mining tailing piles
  - back limit old creek bench
  - Location of samples + oc by hip chain, compass & topo map

Scale 1:10,000



Jan 27 2001 G.R.

