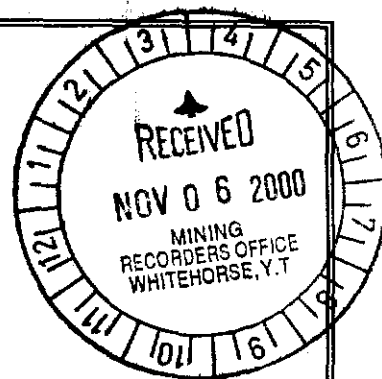


# The Ross Property

**Southwest Yukon**

094145



## A GEOLOGICAL REPORT

ON

# THE ROSS PROPERTY

## Yukon Territory

This report has been examined by  
the Geological Evaluation Unit  
under Section 59 (4) Yukon Quartz  
Mining Act and is allowed as  
representation work in the amount  
of \$ 700.00.

*L.P. G.*

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

By: **Larry Tremblay**

**October 2000**

PROPERTIES:

ROSS

094145

SWEDE JOHNSON

SANDRA

BUY CHANCE

KELLI

KID

SELL





# Claim Status Report

10 October 2000

Claim Name and Nbr.	Grant No.	Expiry Date	Registered Owner	% Owned	NTS #s
BC 1 - 4	YB36275 - YB36278	2001/01/28	Arthur Ross McIntosh Fred Ellis	50.00 50.00	115-G-06 , 115-G-11
FRM 1 - 7	YB36945 - YB36951	2001/01/28	Arthur Ross McIntosh Fred Ellis	50.00 50.00	115-G-11
KC 1 - 7	YB36260 - YB36266	2001/01/28	Arthur Ross McIntosh Fred Ellis	50.00 50.00	115-G-05 , 115-G-11 , 115-G-12
NJ 1 - 8	YB36267 - YB36274	2001/01/28	Arthur Ross McIntosh Fred Ellis	50.00 50.00	115-G-06
O.K. 1 - 8	YA95718 - YA95725	2001/01/28	Arthur Ross McIntosh Fred Ellis	50.00 50.00	115-G-12
ROSS 1 - 14	YB27831 - YB27844	2001/01/28	Arthur Ross McIntosh Fred Ellis	50.00 50.00	115-G-11 , 115-G-12

Criteria(s) used for search: *LAT 139.30° EAST LON. 61.30° NORTH*

CLAIM STATUS: ACTIVE & PENDING OWNER RPN: 2501207 REGULATION TYPE: QUARTZ

LOCATION The claim block lies along the northwestern margin of the Shakwak Trench, is transected by the headwaters of four northeasterly striking forks of Swede Johnson Creek.

OWNERS Fred Ellis  
R.R. 1  
Foxboro, Ontario  
KOK 2B0  
Tel. 613-962-7464 Fellis @ intranet. ca  
Ross McIntosh  
84 Bridge St. W.  
Belleville, Ontario  
K8P 1J5  
Tel. 613-966-0301

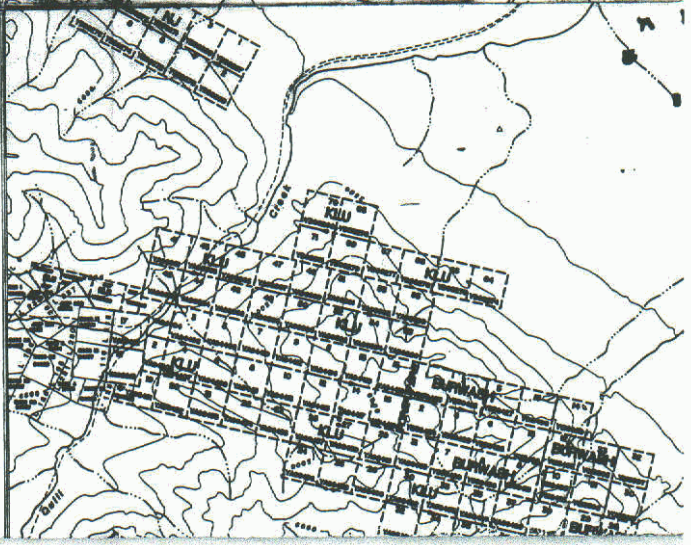
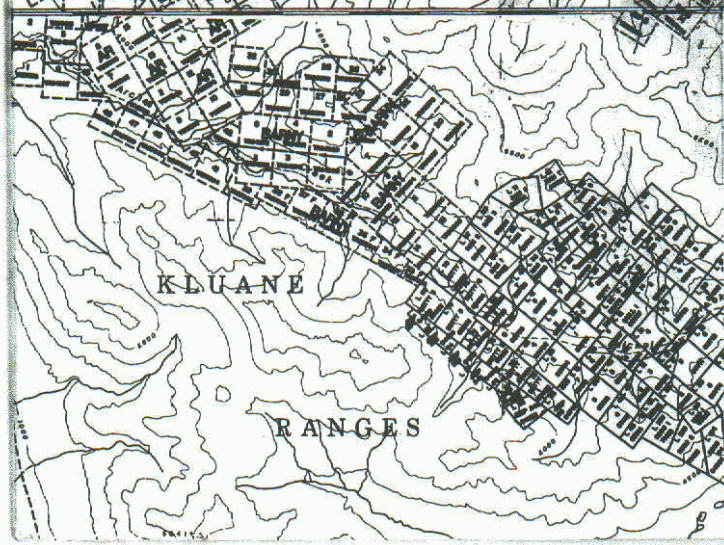
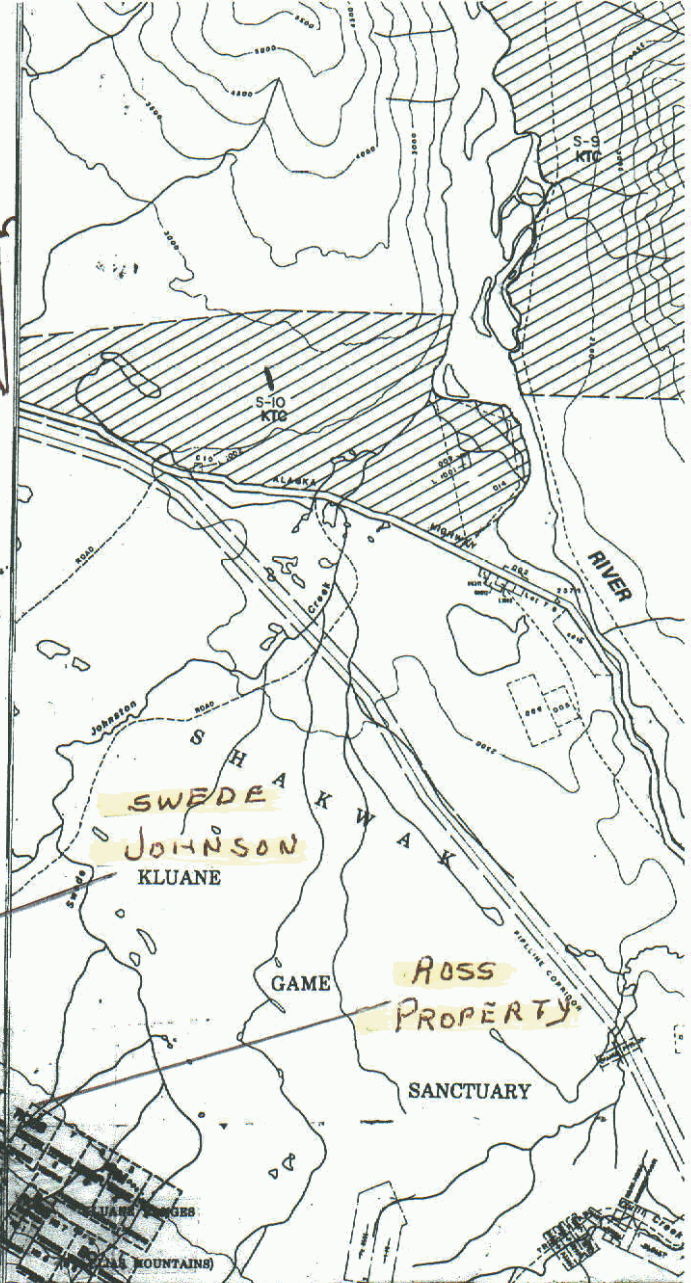
ACCESS Four wheel all-terrain vehicle, leaves Alaska Highway KM 1804, mile 1121, follows muskeg trail two hours to L. Smiths mining camp on Swede Johnson Creek, then southwesterly along the base of the outter mountain ridges approximateley 45 minutes to Ross Camp located on the first fork of Swede Johnson Creek.

CAMP About 183m above post #2, OK claim #2 on the left limit bank of the creek. 12 X 12 foot square, 2X4 inch framing and plywood tent frame with canvas cover. 2 beds, pots, camp stove, dishes, water buckets.

Left column indicator legend:

R - Indicates the claim is on one or more pending renewal(s).  
P - Indicates the claim is pending.

Total claims selected : 48





FRED \* ROSS - *Gov. Geologist - ETC.*

This geological investigation, evaluation and report was not intended to be or is not based on assay results. While all old and any new assays would be used as a tool, their importance towards the overall project would be of a minor nature, of interest but limited.

This decision involving the importance of the assays is based entirely on the past history of the assay in this district. Most if not all prospectors and geologists have been confronted with these well known radical soils, silts and rock assays. How many years, 40 - 50 ?? and the answer remains the same, "contamination", "nugget or placer effect", to "can't duplicate his samples"(loading of samples) etc.

Generally the property evaluation is carried out in a few short hours, even on the Kelli where exposure is extensive. Collect a number of samples and run. Everything is based on the results of the assay, very little if any geological investigation is carried out, the why and what of any project.

The company geologist of today is not paid for or is not allotted time to investigate the "why and what". It is now the responsibility of the prospector and/or private geologist to investigate, interpret and prepare such data and information to be presented to interested parties.

For instance, the exploration importance of the red clays and quartz-carbonate nodules that are always associated with the gold in this district. While these most important pathfinders will not be recorded in an assay, their presence will be detected in a panning program, and will support or discredit assays, especially when we know the origin and importance of the clays and nodules.

Had structuring of the ROSS PROGRAM been based on the collection of various assays, it would be of little value to the property owners. A waste of my time and knowledge, and their money. This has been repeated time and time again over the years, always with the same classical ending, "the assays are interesting, but". Thus it was time to break the cycle and go back to old time geology of using the eyes, feet and known general characteristics of the deposit being looked for.

When searching for or exploring Mesothermal deposits, one must first carry out a detailed reconnaissence of the study area, with emphasis placed on ridging and slumping, consideration must also be given to exposed bedrock, drainage patterns, creek rocks and gravels. QUOTE World class thermal (economic) geologists, literature, Universities and text books. NEXT the trenching and if some pathfinders are known, the use of the pan or sluice is essential to separate the pathfinders from the soils. THEN the assays, a sampling program structured to encompass all the known or suspected factors.

This report is based on a large number of "givins", glacial behaviour and tracks, origins of the canyons and narrow valleys, the obvious ridging and slumping, known structural characteristics of the Kelli deposit, numerous pathfinders described in this report and others that are not, ore shutes, workings of the old timers.

There are a number of statements and theories presented that I am fully prepared to support. The furthering of science is based on the acceptance of statements untill proven wrong or expanded upon. To be dismissed without investigation is not in the interest of science, geology of the Ross property in this instance.

Signed

LARRY TREMBLAY

DATE

Nov. 3, 2000.



ABOVE: Classic glacial sculpturing on the northern limit of the Shakwak Valley. Note the drainage patterns resulting from the melting glacier, most would have been below ice level, between the ice and the warming mountain.

BELOW: The Ross Property owners friend just waiting for them to return, sends his regards.

094145



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Envelope:    Memorandum 1992. Placer Dome Exploration  
              Various Information. Ross McIntosh and Fred Ellis

\* \* \* \* \*

# STATEMENT OF QUALIFICATIONS

## LARRY TREMBLAY

Whitehorse, Yukon

867 667-6886

This program was planned, recorded and interpreted from data collected and prepared for presentation in this report. Recommendations are made.

## BACKGROUND

1953 - 1985

Government of Canada

*Biologist/Geologist*

Working in the areas of Biology, Glaciology, Topography (land forms).

- Recommended, initiated, supervised and/or carried out extensive research and technical programs throughout Canada as well as the high Arctic, many with international overtones.
- Planned programs and related budgets.
- Collected, interpreted and recorded all field data.
- Compiled and mapped reports for national and foreign reference and use.
- Supervised professional and technical employees involved in technical and research programs, evaluating all data and reports with in-depth comments and recommendations.

1985 - Present

Geology background - 15 years.

## EDUCATION

Masters Degree in Biology

University of Victoria extension courses:

- Hot springs Au-Ag deposits; Continental Margin Rifting and District Scale Fracture Systems; Hydro-thermal Ore Deposits; Phanerozoic deposits; Western Cordillera Deposits.

## EXPERIENCE

Extensive communication with Canadian and USA world class economic geologists specializing in thermal geology with recommendations, advice, encouragement and some supervision.

Fifteen years on the Kelli Property, exposing, studying, interpreting and recording the geology of the area. Collecting and compiling data. Collecting assays and the interpreting results. Preparing assessment and geological reports.

Considerable exploration has been carried out in other locations in the Kluane and Desadeash areas to obtain glacial and geological information. Formulated theories and established comparisons.

**ACKNOWLEDGEMENTS**

For their advice, recommendations and guidance.

**A. Panteleyeve**, Consulting Geologist, Victoria, BC  
Who has been of great help to me these past eight years.

**R. McMillan**, Consulting Geologist, Victoria, BC

**Craig Leach**, Consulting Geologist, Vancouver, BC

**Garry Clark**, Professor of Glaciology, University of British Columbia  
Extensive experience in the St. Elias Icefields, who supports my theories.

**L. Frazer**, Economic Geologist, Thermo Geology, US Government  
Who has visited the property (Kelli) three times and has helped me through advice, recommendations, literature and text books.

\* \* \* \* \*

## **A. KLUANE GOLD FIELDS**

### **History**

In the Southwest corner of the Yukon, generally in the Kluane Lake area, lie the Kluane Gold Fields. Gold was first discovered on the Fourth of July Creek in 1903, by the fall of that year and the following spring a number of well-paying creeks had been discovered and about 1,000 miners were in the area. By the autumn of 1904, it is estimated that 5,000 miners were scattered throughout the area on about 70-80 creeks.

Centres such as Silver City, Bullion City, Canyon City, Jaquot Landing (now Burwash Landing) were established to supply the miners. A North West Mounted Police Post was established at Silver City. By 1905, a wagon road to Whitehorse had been completed. Supplies also came in by Jack Dalton's pack horse trains via the Dalton Trail from Haines, Alaska.

By 1908, a large number of the miners had rushed to new discoveries in the Yukon and Alaska, but a good number remained here. Many of the creeks continued to produce until about 1915 when most of the miners left to fight in World War I, or to work in the war effort. While mining continued on a limited scale, only the best paying creeks were worked from about 1915 to 1929.

The Depression of the 1930s revived interest in the Kluane Gold Fields. It is estimated that about 2,000 miners returned to the creeks during that time. Supply centres such as Silver City, Champagne, Klu Lake and Burwash Landing flourished only to die at the beginning of World War II. Except for news items published in the Whitehorse papers of that time and reports prepared by the Geological Survey of Canada, no official records exist of the Kluane areas, or of the creeks worked, claims staked, miners in the area, or gold recovered prior to 1940.

It was at this time that the Mining Recorders Office at Silver City (1904 - 1939) was closed and all records moved to the Yukon capital at Dawson City to be stored in a basement and later lost to flooding and fire.

Only a few of the Old Timers remained on the creeks during the war years. Access provided by the building of the Alaska Highway allowed the introduction of heavy mining equipment and reasonable supply and transportation costs. Thus, the area experienced limited revival during the post war low gold price years of the late 1940s through to the 1970s. Most of this new interest was supported by heavy equipment, the most successful being Burwash Mining who mined on Burwash Creek and recovered an estimated 95,000 ounces of gold and 800 ounces of platinum (1946-1978).

Increases in gold prices of the 1970s brought a revival of the mining that continues to today.

It is estimated that the creeks of this district have produced well in excess of 200,000 ounces of gold and 1,000 ounces of platinum, between 1903 to the present. More than 75% of the gold is coarse, averaging 85 to 92 fine. Nuggets ranging from one to eight ounces are common. Burwash Creek produced many nuggets up to 21 ounces, while Squaw Creek is famous for its numerous nuggets in the 20 to 40 ounce class with the largest recorded at 73 ounces. Generally, platinum are of small flake nature, but nuggets to one half ounce have been recovered.

\* \* \* \* \*

## **B. THE ROSS PROPERTY**

### **History**

Old workings and dating of cut tree stumps by age rings\* date some activity on this easterly fork of Swede Johnson Creek during the years of 1904-1915, and again from about 1929 to the early 1940s. This is consistent with the old timers who carried out extensive work on other local creeks, such as the creek tributaries of Reed, Arch, the main branch of Swede Johnson, Burwash, and many other creeks during the same time period.

{\*Sample site, 17 stumps, two live white spruce trees approximately 140 and 160 years old. All stumps, age recorded, were cut by saw, probably crosscut, and were of a size suitable for building. No axe cut stumps were observed.}

Extremely high value silt assays are well documented and confirmed directly adjacent to the main creek on OK Claims 3/4/5/6, indicating a swarming of high value mesothermal gold lode type veins and possible ore chutes with bonanza gold. Exploration carried out September 2000 strongly supports the existence of such veins as found at other common-like properties in the area. Considerable trenching and other workings by the old timers in this high value zone proves to me that they knew it existed, were hunting the source, or most likely mining the deposit. As other such deposits were being mined in the district, more than likely they would be aware such deposits existed or possibly associated with these other miners.

To gain some knowledge of the number of miners, length of stay and related information will require a detailed reconnaissance of the area to find and identify possible old cabins, tent frames or other facilities. Tent frames generally were considered to be a minimum requirement if the miner remained in any location for an extended period of time. Cabins, regardless of size, were desirable due to the protection provided as well as a safe place to store provisions while working.

Harry Fromme, a well known old time miner spent considerable time on Arch Creek during the late 1930s and early 1940s informed me that there were miners on most of the creeks throughout the district during the 1930s. Some only made grub money, others did very well.

To the writer's knowledge, no old claim posts have been recovered from the property. As with all other early day mining activity in the Kluane District, no records exist today. Well known old time miner, Bert Cluitt, who passed on a number of years back, is reported to have mined on this creek to some extent as late as the latter 1940s.

This assumption has merit as he mined on the main fork of Swede Johnson Creek for many years and had a well built cabin located there. Bill Brewster who managed the grocery store at Burwash after the war stated; "He always seemed to have plenty of coarse gold and always payed by gold." When he was ready to return to the Creek with his groceries, Bill would drive him to Glacier Creek about a mile Northwest of Quill Creek where Bert had a trail to his mine.

Another factor that supports long-term mining on the Swede Johnson area is the routing of the Jaquot Brothers pack horse trains that supplied the miners. Frank Bee, a long time resident of the Burwash area worked for the Jaquot brothers from 1929 to the early 1950s as a packer, miner and dog musher. While difficult to understand during his latter years, he said there were miners on nearly every creek in the district and Jaquots would pack in supplies about once each month, most miners stayed on the creeks all summer and only came to the supply centres at the end of the season.

Frank said he made this circle trip many a time over the years, from the supply centre at Burwash Landing to Burwash Creek, to the adjacent creeks, to the head of Arch Creek where the trail split (one down Arch and the other over a low pass to the north) and then down a tributary of Reed Creek (the Kelli property).

Leaving the Kelli property just below the canyon where the cabins on this creek were situated, the trail heads easterly along the frontal ranges generally paralleling Reed Creek, on to both forks of Swede Johnson Creeks, on to Quill Creek and thus to Burwash Landing.

The Jaquots were well known for their hypothesis. If the miners wanted the brothers to haul supplies to their creeks, the miners on that creek must build good access trails to their camps. Poor trails or no trails meant no supplies. Even after 70 years these trails are clearly identifiable and with a minimal amount of work many of these old trails could be used today. These trails lend support to the theory that there had to be mining on creeks other than Swede Johnson. It would have taken a large number of men over a considerable amount of time to establish the type of trail that existed.

Close investigation of all the creeks along this section of the frontal range may establish that the miners were far more active than we know of today. Jaquots did not build trails and they would not have travelled this extended route unless there was a requirement for supplies and money to be made.

While history of past activity on any creek is just one of the minor tools of exploration used today, it does provide us with an appreciation of the difficulty encountered by and the courage and fortitude of the old timers who blazed the trails we follow today.

The owners of the Ross property first staked placer claims on this creek in 1980. The staking decision was based on the favourable results they obtained in placer exploration operations by hand which was coarse gold, common to gold found on other paying creeks in the area. The OK quartz claims were staked later over their placer claims to protect their interests in these claims. This was done because problems had developed between the placer and quartz claim owners in other districts

where one owned the surface placer rights, the other the subsurface quartz rights. Singular ownership, therefore, would eliminate this problem.

During the late 1980s and early 1990s there was considerable interest in the potential of the area that generated wide-spread quartz claim staking. This, combined with the exceptional assay results the partners obtained from the core OK claims, convinced them to expand the property block to what it is today.

A thorough exploration of this creek was carried out on September 11th-15th, 2000. It was found that the workings of the old timers was extensive. They worked most of the valley bottom for the full length of OK claims 1 to 4 and northward on Ross 3. Wingdams, water conduits, rows of rocks piled three to four feet high, ditches for water supply/control. Time did not allow us to check for old cabins or other evidence of existence, but I am sure they will be there, possibly off the creek where timber is suitable for building. Identifying and following the old Jaquot trails could lead a person to such a site or sites.

The high value silt samples indicate that this little creek could be economically viable to mine. While the samples only show fine gold, the fine gold in this district is always associated with coarse gold. The fine gold is also one of the great pathfinders that lead to bonanza ores. Thus, I am not surprised to see the extent of the old workings. We will never know but this could have been an exceedingly rich little creek for those old timers.

Without question, their working greatly increased the potential of the property.

\* \* \* \* \*

### **C. PROJECT AUTHORIZATION**

Fred Ellis and Ross McIntosh, owners of the Ross quartz claims, authorized a geological evaluation of the Ross Property to be carried out by the writer "Larry Tremblay". An initial program covering as many claims as possible with the main thrust to increase our knowledge of the core OK claims where extremely high-value silt assays have been obtained in previous projects.

The owners would provide all expenses, including hiring a short-term contract person to assist me, renting of all-terrain vehicles, and if necessary a helicopter service.

A complete report consistent with recognized geological reports complete with assays, maps, graphs, photos, locations of samples and work, with recommendations and evaluations to be submitted no later than November 1, 2000. Such report suitable to be applied as assessment work on the property.

### **OBJECTIVE**

To increase the overall knowledge and potential of the Ross block of quartz claims, by applying wherever possible and applicable, the Kelli mesothermal model developed on the Kelli block of claims located northwesterly along the same mountain range. This would provide an opportunity to apply and test theories and findings on a property with many common characteristics as the Kelli. This would also greatly enhance the value of the Kelli and associated claims if the model could be applied to the Ross claims.

### **PROPOSED EXPLORATION GOALS**

To cover on foot as many of the claims as feasible, especially across the four drainage valleys to observe and record bedrock exposure, ridging, slumping and general drainage patterns. Sampling would be limited due to weight, food and camping gear for one to two nights and would have to be transported along with the prospectors.

Closely examine ridges between each creek valley to identify ridging and slumping consistent with exploration methods used in locating Mother Lode deposits, to observe and map these formations from one valley to the next.

Collect random soils along the valley bottom on the OK claims. Site selection based on land forms that may host thermal activity and alteration.

Rock samples would generally be limited to formations that have common characteristics as found on the Kelli, with preference given to the OK claims. (Due to very bad access even by four wheeler all terrain sampling would be limited due to weight).

Identify and record workings and facilities carried out by the old timers on all of the creeks. Estimated gold values obtained by them would be of considerable interest and value to our own program.

Panning of silts and soils proved to be a very successful and a valuable pathfinder on the Kelli and other properties. This tool to be applied extensively on the Ross property, hopefully to replace sampling in the remote and more difficult areas.

### **SETTING ROSS CLAIMS**

The claims are located on the northern flanks of the northwest trending range of the St. Elias mountains which form the southwest margin of the Shakhwak Trench, a major physiographic feature which extends across the southwest Yukon into Alaska.

Elevations range from 700 meters along the northern edge of the claim block to near 1,900 meters at the southern margin. Vegetation cover varies from dense white spruce, willow and alder forest at the lower elevations to grass, moss, scrubby shrubbery and alders interspersed with lichen covered scree slopes at higher elevations

Permafrost is continuous on the moss, brush and spruce covered lee slopes and discontinues on the sun slopes. The annual active retreat is less than one meter on these vegetative slopes.

The claims are transected by four northerly flowing small creeks that originate from seepage springs in the upper reaches of the valleys and a number of small springs that drain the ridges that flank the lower valleys on the westerly and easterly limits. All four of these small creeks are easterly tributaries of Swede Johnson Creek that flow northerly, then trend westerly to join Swede Johnson Creek.

### **LOCAL GLACIATION**

Areas between 1,100 meters and 1,675 meters were lightly glaciated by the northwesterly flowing Nisling and the later Ruby glacial periods along the northern slopes of the mountains. Marginal channel deposits from these two glacial periods form intermittent terraces at the 1,675 level.

The upper valleys would have been occupied by minor cirque glaciers during these two glacial periods and show no evidence of glacial scouring, having near vertical headwalls and steep talus slopes on each flank. What appears to be thin valley deposits are comprised of rock and fine materials from the valley slopes. No rock foreign to this section of the valley was observed.

The section of the valleys below 1,500 meters have been subjected to glaciation but appear to be of a minor nature. The northwesterly advancing glaciers crossed over the northeasterly trending valleys, rounding off the upper reaches of the relatively low ridges that separate each valley from the next. Each valley contains a large number of well-rounded glacial shaped rocks common with other rocks transported long distances by continental glaciers, suggesting a reworking of a pre-St. Elias mountain glacial period.

The four valleys are "V" shaped with narrow bottoms and display little or no evidence of glacial scouring or shaping. The northeasterly flanks are steep with a dense cover of moss, alder and scrubby shrubbery. Inverted "V" type drainage slumps support a dense cover of alder and sparse spruce trees. The northwesterly flanks rise less steeply than the right hand limit walls, support a mixed forest of white spruce, willow, alder, low understory of brush and moss. Below the 1,100 meter elevation, both flanks of the valleys support a thick vegetative cover that is common to the northern boreal forest.

When examining these upper slopes on the claim block, there is no evidence of glacial retreat, suggesting that the property only experienced the initial surge across the claims to the northwest. While the deeper sections of the glacier in the Shakwak trench to the north did experience the dying process of short surges and longer retreats, the sections along the mountains to the southwest were shallow and never surged, dying where they lay.

Careful exploration strongly suggests that all four valleys were occupied by local stream overflow glaciers or extensions of the cirque glaciers into the lower valleys. Thus providing a bridge for the larger Shakwak glaciers to cross with no damage to the lower section of the valley. As these small glaciers that occupied the small valleys would probably be of lower elevation than their respective flanking ridges, the large glaciers would deposit some of the large rocks and related till that is always carried along the glacial snout and dump some of it into these low lying depressions. This would explain the generally even placement of the large glacial boulders found in the valley bottoms today. No glacial boulders or till is visually evident on the ridges or valley slopes.

I suggest that the merge zone between the static mountain slope glacier and the active Shakwak glacier can be identified on the air photo contained within this report. Directly below where the narrow valley canyons emerge into the broad Shakwak Valley and paralleling the frontal mountain range is an elongated zone of ridging and slumping clearly evident on the air photo.

Numerous small ponds, lakes and wetlands occupy depressions throughout the length of this series of structures. Placer mining on Burwash and the Kelli property reveals a sudden drop-off in excess of ten meters at almost the exact distance below the canyon mouths. A similar drop-off on Quill Creek, exact location unknown, compares favourably with Burwash and the Kelli. While the drop off may be faulting, it is consistent with glacial gouging of altered bedrock.

While one must assume there was some influence by the major transcurrent fault laying just to the north, initial indications are that there was considerable stress generated between the static section of the glacier stacked on the steep mountain slopes and the active relatively flat lying glacier lying in the Shakwak trench. Indications are that the static glacier lying on the mountain slopes may have slipped to some degree a number of times down the slope into the active flat lying glacier. Great stress would have been applied along this merging location, especially when the flat-lying section was in retreat and had lost a percentage of its volume.

While this is just an unsubstantiated theory at this time, considerable merit must be accredited until proven otherwise. Interpretation of silt and soil samples must consider that material may have originated from the mountain slopes or along the valley wall.

\* \* \* \* \*



ROSS----- 1  
SWEDE JOHNSON- 2  
KELLI----- 3

NOTE Parallel ridging and slumping along  
northeasterly base of mountain ridges

WELLGREEN PROPERTY- nicle-copper-gold---4

## **D. INTRODUCTION**

Beginning on September 1st and 2nd and continuing September 11th to 15th, the author conducted an examination and evaluation of the Ross block of claims on the northerly margin of the Kluane mountain range north west of Quill Creek. This project was conducted to gain knowledge of the topography, estimate the potential of the claims and to determine the source of high stream silts and lithogeochemical gold results up to 89.65 ounces of gold ton stream silts and 174.1 to 450.8 grams gold ton from lithogeochemical and to establish the degree of similarity between the Ross and other properties in the area.

## **EXPLORATION MODEL**

Close examination of the property indicates that the gold mineralization is hosted within fault/shear controlled quartz veins. These fault/shear zones strike northeasterly, northwesterly and northerly with presently known mineralization being localized at the junction of these various strike veins, but is not limited to these junctions.

## **GEOLOGY**

The Ross property lies along the southern margin of the Shakhak Valley with hosts the large Denali Fault, a major northwest trending transcurrent fault with upwards of 250 kilometres of right lateral movement and forms the easterly limits of the Wrangellia Terrain.

Generally, the rock of the area consists of Permo-Pennsylvanian andesitic pyroclastic volcanics of the Station Creek formation overlain by shales, turbidites and bedded limestone of Permian age. These rocks are overlain by amygdaloidal basalt and gabbro of Triassic age whose stratigraphic relationship with the underlying rock is uncertain. This sequence of rocks is repeated by a series of anastomosing vertical imbricated faults that have cut and sheared Oligocene dikes in the area, indicating that the faulting is Tertiary and/or younger.

Exploration strongly supports that the geology of the Ross property is common to the Kelli property which is underlain by the northeast striking greenstone assemblages that are altered and sheared to mylonized, generally calcareous limestone and argillaceous limestone along with extensive schists.

This sequence has experienced extensive faulting and shearing, predominately northerly, northwesterly and northeasterly, predominantly along the northeasterly strike of the greenstone assemblages. Quartz-feldspar to hornblende porphyries is common throughout the area. One porphyry dike of Oligocene age (K/Ar date of 23.5 my years, "Armstrong and Gabites" 1989) has been identified on the Kelli.

These faults and shears associated with massive hydro-thermal alteration have subjected both the volcanics and dikes to conversion to mylonites and quartz granules to clays and to an extreme of quartz-carbonate-graphite cut by quartz veinlets.

Associated with the swarms of faults and shears are numerous quartz veins which exhibit a multi-phase history, most of these quartz veins have been entirely crushed and/or thermally altered to gouge and granular quartz. In places, others have been subjected to asymmetric drag folding and others crosscut obliquely by younger veins.

Hydro-thermal alteration is extensive and in some locals massive, exhibits intense sericitization, carbonization and in places foliation is prevalent adjacent to and above the veins.

Numerous episodes of intense hydro-thermal activity associated with the structuring of the vein system created the mass alteration pattern that resulted in the forming of these narrow canyons and steep walled valleys.

\* \* \* \* \*

## **E. GLACIATION**

The St. Elias mountains have never been subjected to continental glaciation during the lifetime of these mountains. Three minor glacial ages challenged these mountains but only scoured the lower reaches on the northwesterly. The St. Elias surge was from within the mountains and barely reached the Shakwak Trench on the northerly margin and had only minor impact on the Kluane Goldfields.

Unlike the continental glaciers born in the north and flowing southeasterly, the Nysling and Ruby glaciers were valley glaciers, born in southeastern Alaska, flowed northwesterly occupying the Shakwak Trench and other valleys associated with the Trench.

The broad northwesterly trending Shakwak Trench which extends across southeast Yukon into Alaska for unknown reasons did not experience continental glaciation during the last great ice age, rather, it acted as a dividing line between the continental glacier and the St. Elias mountains. On the north margin, classic continental glacial sculptured mountains and on the south margin, classical non-glaciated mountains.

The Nysling and Ruby glaciers were valley glaciers that never gained the size in their short life to invade the St. Elias block from the east. The main surge was along the Shakwak releasing ice pressure build up to the valleys leading northeasterly. The Shakwak was joined by valley glaciers surging up the Alsek and Tatshenshine valleys from the Gulf of Alaska. Minor glaciers such as the Alsek Pass, Slims, Duke and Donjek which were born in the St. Elias, surged out of their respective valleys to join the large Shakwak Glacier.

Glacial debris, moraines and landforms tell us that the St. Elias glaciers were active and in place in the outer Shakwak valley before the large Shakwak glaciers reached their merge zones. The Alsek Pass (Haines Junction), Slims, Duke and Donjek had surged out into the Shakwak Valley to be crossed at a later time by the large Shakwak glacier.

This example would account for the deep glacial gouging at Haines Junction, the Duke, Donjek and at Kathleen Lake. Kluane Lake is a classic. The Kaskawulsh Glacier flowed northerly out of the Slims River Valley, then trended northwesterly flanking the outer mountain range. The big Shakwak Glacier surged in from the northeast overrunning the lesser Kaskawulsh Glacier. The combined weight gouged out the deep northeasterly end of Kluane Lake. As they both surged northward, the Shakwak gradually restricted the flow of Kaskawulsh below with a loss of weight and gouging power, resulting in the gradual shallowing of the lake basin northwesterly to the mouth of the Kluane River.

The Slims, Alsek Pass, Donjek and Kathleen Lake, exhibit moderate scouring on the lower slopes, small tributary valleys of the Shakwak exhibit little or no glacial gouging. These tributary valleys were occupied by small valley or cirque glaciers that were trapped throughout each glacial period within the confines of their respective valleys. There is little or no evidence of glacial scouring in these valleys and no apparent behaviour change by the Shakwak as it crossed the face of these valleys.

## **HISTORY**

### **Placer - Load Gold**

Since gold was first discovered in the southwest Yukon, countless prospectors and geologists have searched for the source of the big gold that occurs from Squaw Creek on the southeast to the Donjek and beyond in the north. Rich pockets or areas were found on all the creeks that were worked, but most were inconsistent compared to other placer fields. Large nuggets were common, many of a rough, wiry nature with quartz gangue. In many areas, the gangue was not of the same colour or texture when found in the same location. It ranged from milky white to grey to black and from very hard to almost clay-like, generally carbonate. Gold ranged from 78 to 94 fine and in many places mixed together.

Burwash Creek has been of considerable mystery over the years, has produced many thousands of ounces of gold since 1904 and still produces today. Generally, both the right hand and left hand limit benches are similar but only the right hand limit benches produced economic values, some stretches were very rich. Almost no gold was found on the left limit benches.

Little gold has been recovered from the left limit benches or the valley floor adjacent to these benches, rich placer gold is found on some of the upper slopes of the left limit valley wall. Tatamagouche, a left limit tributary of Burwash Creek produced large quantities of coarse rough gold and the only exception pertaining to the left hand limit benches was at the mouth of this creek and northerly along Burwash Creek for about 150 meters.

Another example is Quill Creek north of Burwash where economic gold is only recovered below and in the mouth of the canyon. The present operator successfully mines glacial till and eluvium directly northwest of the canyon mouth.

The four drainages north of Quill Creek including the Kelli property that have been prospected or placered all produced a few large well rounded slugs of gold, completely different than a majority of the gold recovered from the creeks. These slugs were all found directly below the canyons, the most southwesterly margin of the Shakwak Glacier.

Every miner who has successfully mined the creeks in the Kluane area knew, "without exception" consistent economic values will only be found where reddish clays, native copper nuggets and small well rounded nodules of milky white quartz, generally carbonate, is found.

Copper nuggets range from minute size to many tens of pounds. Clays, not the dense glacial mud like clays, but fine textured mud-like material that easily breaks down when washed has colours ranging from redish-brown to white to near black.

## **RESEARCH**

Communication with numerous placer miners and geologists combined with highly erratic silt and soil samples, recovery locations and conditions, glaciation, etc., identified a need to evaluate all the given and unknown factors. I am firmly convinced that there are many obvious indicators, if viewed as an overall picture, that will result in some major discoveries throughout this area.

While glaciation played a minor role in shaping the southwestern margin of the Shakwak Valley, I suggest it provides some of the best pathfinders when searching for lode deposits along the lower reaches of the valleys which the glaciers had crossed. Two very important factors must always be considered, direction of flow at any given point and, with the exception of the erratic, coarse gold cannot be moved by glaciers for any appreciable distance and remain as coarse gold.

I suggest that a very large percentage of all coarse gold found in most if not all of these creeks was placed by glaciers at or near the location it was recovered from. Water played a very minor part in any distribution in the creeks. This is supported by the erratic location of economic values that do not conform to the recognized distribution of placer gold in other districts. Small gold of any but the very finest is found beyond a few hundred feet below the mouth of any valley where values would normally be expected to wash out of the steep narrow canyons. Special consideration must be given to the necessary thermal clays, quartz nodules and copper nuggets.

Big, flat copper nuggets to many tens of pounds could not be moved by the largest of gully-washers, if they had been washed the clays and nodules would be gone. Rather, the clays, quartz nodules, gold and copper nuggets must and do occur as a unit to be economically viable. Without a doubt, some sorting by water took place in all the creeks but all placer miners state that by far the richest was where the combination existed.

Burwash Creek is the richest and most consistent producer in the Kluane District. The Shakwak Glacier turned the Duke Glacier across the upper Burwash Uplands. Both glaciers flowed towards the Donjek but indications are that the Shakwak lost power and did not join with the Donjek Glacier, it butted up against the northwesterly wall of the Burwash valley the most westerly advance at the canyon near Johnson Creek.

The only interpretation that seems to explain distribution in the Burwash Valley is that the Shakwak Glacier forced its way westerly, deeply scouring a northeasterly and northerly trending gold deposit located on the right limit ridge of Burwash Creek and depositing it into the northeasterly side of Burwash Valley. During a normal series of advances and retreats, the northeasterly side of the valley filled with gold bearing glacial till, thus the bench gold and Henry Besner's statement, "The right hand limit of the valley was far richer than the left hand limits." The left limit became an elongated lake of ice that filled the length of the valley on the left limits.

The rich areas of Tatamagouche Creek and the richest area of Burwash Creek are in a direct line with the strike of the glacier advance from the Shakwak Valley suggesting that gold rich till was scoured from deposits on the right limit banks of Burwash Creek and transported over the ice to Tatamagouche. Millions of dollars have been spent prospecting and drilling for the source of the Tatamagouche gold, no luck.

The Burwash area was the only location in the Kluane area that the Shakwak glaciers penetrated well within the boundaries of the St. Elias mountains. It influenced the values on this creek for a large portion of its length. Other creeks in the local area, Quill Creek northwesterly to the Donjek River, were all influenced by the Shakwak glaciers but only for a short section of their length.

The low flanking ridges of the four Swede Johnson creeks extended much farther out into the Shakwak Valley from the transition zone where the mountain rises steeply than on the Kelli property. Scouring was over a much greater distance than on the Kelli.

The right hand limit below the canyon on the Kelli property was very rich for the Kluane District, ran about one-fourth to one-third ounces per cubic yard. Worked extensively by the old timers, we've only got the leavings. The same condition is apparent on Swede Johnson Creek and the first fork on the Ross property. Quill Creek values have proven to be in the glacial till. This leaves little doubt that existing gold deposits on the northeasterly ridges were gouged by the glaciers and this material deposited in the right limit of these creeks. This would explain the origin of the gold slugs found below the canyons.

Abundance of thermal clays, fragile canyon walls, undisturbed material along the valley floors, all attest to little or no evidence that these creeks experienced high water even during the glacial melts. They appear to remain much as they would have been before the periods of glaciation.

These are only a few of the many indicators left by the glaciers that should prove useful for the prospector/geologist. I suggest that before any structured soil or silt sampling program takes place, there would be a detailed exploration of the topography carried out. As learned on the Kelli property, knowledge of ridging and slumping is very important when structuring a sampling program. Thermally altered zones slumped by general erosion are generally flanked by ridging on one or both sides.

Extremely high value soils and silts have always been perplexing for the geologist and prospector in the Kluane District. Understanding glacial flow and resulting landforms should be of considerable help.

The white hydro-thermal clays, highly pyritic, are the red channel clays the old timers and today's placer miners refer to with reverence. They occur as narrow clay conduits that lead to the veining below and as massive structures at the junction of swarming various striking veins. Recorded at the Lower and Middle Canyon and on the Kelli

property as massive funnel type structures over 80 feet along strike and over 100 feet high, these structures are the remnants of hydro-thermally altered quartz veining. The well rounded quartz carbonate nodules found in placer recovery originate from these white clays.

The rich pay channels on Burwash Creek exhibited the red clays, but at some rich locations, black staining sticky mud appeared to be very important to the pay. Not recognized then but now known as a very important structure on the Kelli, is graphite.

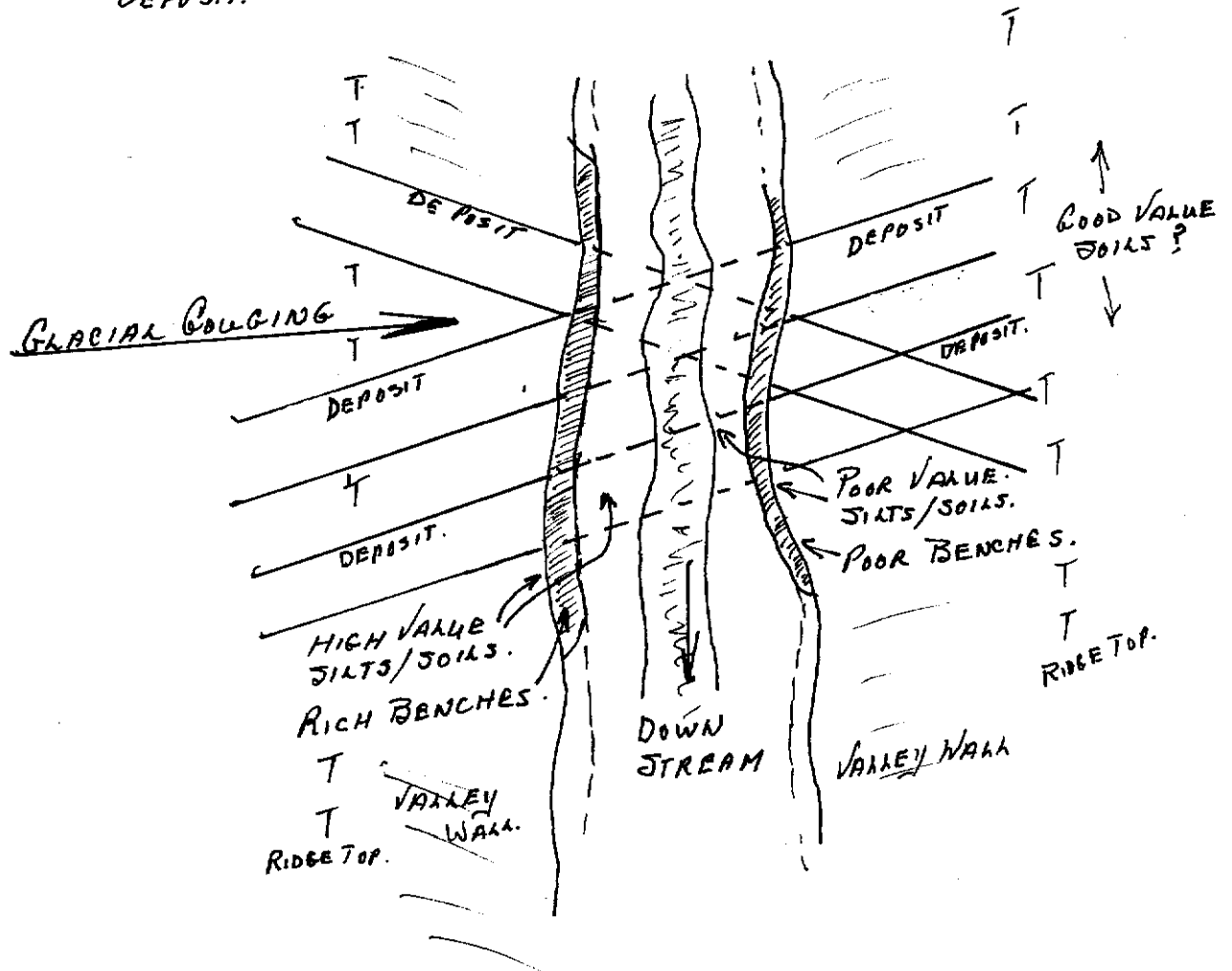
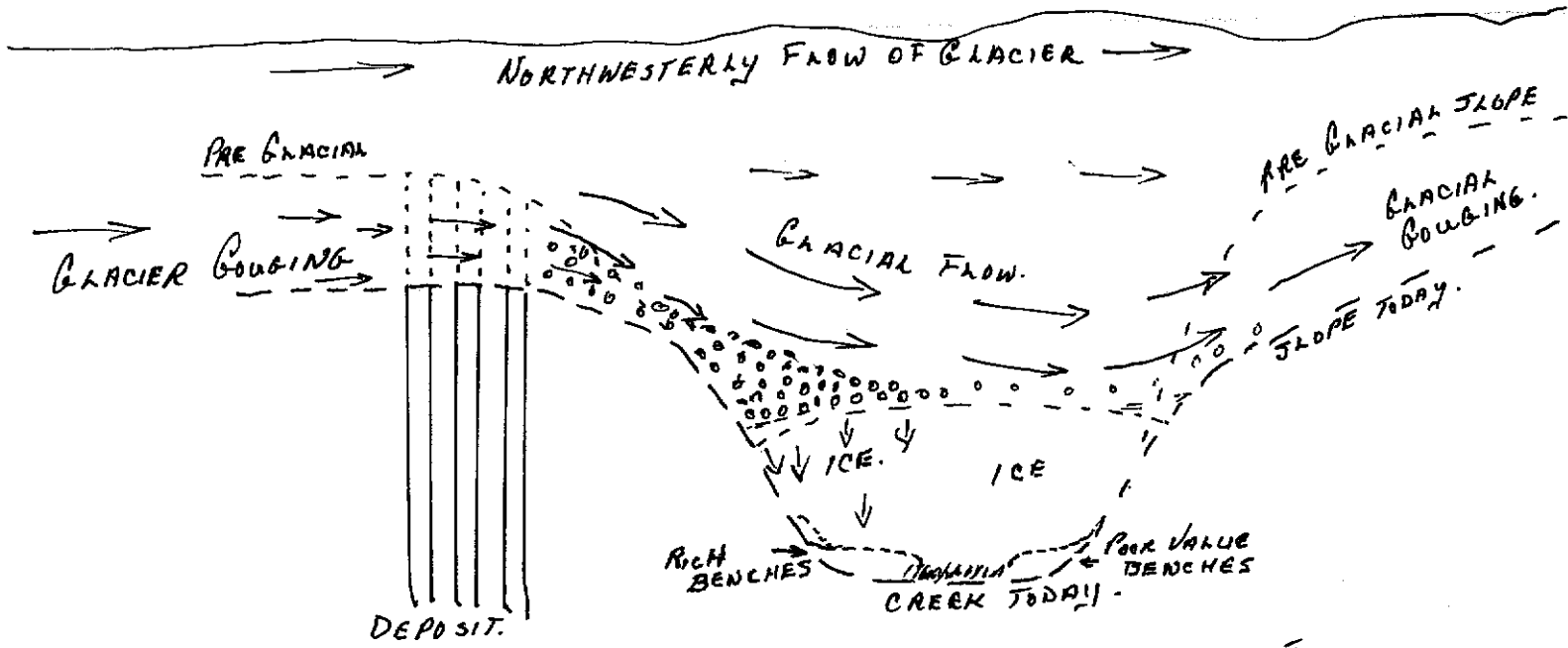
Panning is a very effective tool if one recognizes, understands and interprets the material that is recovered, who has the knowledge and ability to read the topography for potential sources of material; then follow the leaders.

The native copper nuggets must be closely associated with the ore chutes that produce the bonanza type gold. Many exhibit a quartz-carbonate clay breccia source. The placer miners lament, "No copper, no gold."

The origin of the platinum nuggets is unexplained. It generally occurs as small flakes but nuggets to one half ounce have been recovered. One small nugget found on the Kelli is adhered to a small flake of quartz, suggesting a breccia source.

Had the glaciers gained the necessary size to deeply scour the valley ridges and walls, I am sure the mining history of the Kluane District would have been quite different.

\* \* \* \* \*



**F. FIELD TRIP - September 1st & 2nd, 2000**

Visited the property accompanied by a friend from B.C. who has a keen interest in prospecting. His nephew and a friend transported us and our packs by all terrain four wheel bikes from W. Pfisterer's mining camp just below the mouth of the Quill Creek Canyon, across the lower mountain slopes to the most northeasterly fork of Swede Johnson Creek . Ross Property Claims YB36269 NJ3 and YB36270 NJ4.

We worked our way up the creek for about 750 meters to where generally the mountain slope quickly rises from the lower ridges. No belt chain was used due to the great difficulty in moving along this little creek whose bottom and lower flanking slopes support dense stands of alder, willow and shrubbery. Very difficult to travel through.

Large glacial transport rock and other materials foreign to the area is intermixed with local sand to coarse rock which line the valley bottom. The local material suggests it was gouged from the northeasterly flanking ridge as it does not appear to have been influenced by glacial transportation, at least for any great distance.

Exploration of creek materials produced quantities of small white nodules of quartz carbonate, (originates from the white thermal blossom clays) lumps and plates of sericite schist, banded quartz carbonate veining, a wide range of highly altered rock. Considerable mariposite, sulphides ranging from moderate to abundant, few specimens of graphitic calcareous rock common on the Kelli, banded limestone with some marble like. All rock common to the Kelli.

Trenching, piles of rock, wing dams, overgrown foot trails, rotten alder stumps cut by saw all attest that workings by old timers is far in excess of casual or just exploratory. Considerable work was evident the length of the creek I travelled.

These creeks possibly did not produce as well as many other creeks, but they were shallow, easy to divert and not prone to flooding. The big glacial boulders could be handled due to the steepness of the creek and the old timers liked big rocks that would hold the gold. All considered, many miners would be better off on these small creeks rather than fighting an ever changing big creek like Burwash.

Exposed bedrock on this creek is very limited on the lower sections where we worked. Three andesite dikes widths of 3 meters, 4.3 meters and 4.3 were examined, recorded and approximately located on the map. As with the Kelli, the section where they strike northeasterly across the creek is missing, a distance of about 8 meters does not exist. As all dikes display pyritic staining and faulting northerly across their strike. I suggest that thermal faulting along the common valley fault as is common on the Kelli, has completely altered this section and it no longer exists.

### **Rock Samples**

Three small exposures were explored, identified, recorded and samples. All sample locations identified by a sample number on a metal tag with adequate blaze orange flagging.

**Number GR-01-00**, about 152 meters northerly of Post #2 Claim YB36269 NJ3 on the left limit bank 2 meters from the creek. Exposed by bank slippage, 1 meter across, 2 meters high appears to be fault crush zone but common to the ore chute material found on the Kelli; a dark brown burned like material containing small quartz lensing and fine quartz breccia. Panning did not produce gold but did produce an abundance of fine grained sulphides. Small trench sample across the 1 meter <.001

**Number GR-02-00**, 5 meters northerly of Post #2, Claim YB36269 NJ3 on the right limit bank 3 meter sat right angles from the creek. A small bank sluff exposed a small zone of northeasterly trending sericite schist, badly decomposed, appears verticle, foliated. Panning produced an abundance of sulphides. Sample width just under 1 meter, <.003.

**Numbers GR-02-00** and "Missing" about 100 meters above Post #2, Claim YB36270. Located on the right hand bank limit 3 meters from the creek 3.5 meters wide pyritic stained bluff of badly fractured blocky like calcareous veining, common with examples on the Kelli at the Lower Canyon and above the canyon. Appears to be a merge of two strikes, veining striking northeasterly and northwesterly, verticle or near verticle. Where identifiable veining appears to be about three quarters meter across. Two chip samples 1.75 wide across the face. <.001.

Three soil samples were taken as we moved up the creek. Locations of samples were not established because of no established starting point. Location of NJ3 and NJ4 number two posts allowed us to roughly estimate the location of the samples. All sample locations were marked with a metal identification tag and excessive blaze orange flagging.

**Number G-100-00**, Claim YB36269, approximately 100 meters from the most northerly margin of NJ3, 2.7 meters easterly of the creek on the right limit bank at base of inverted "V" type slump from the valley slope. Some fine soils, 80% organic. 116 ppb gold.

**Number G-101-00**, Claim YB36269 NJ3, approximately 225 meters along creek from northerly margin of NJ 3, 2 meters from the creek on the right bank, at the base of the inverted "V" slump. 70% organic, 30% soils. 30 ppb gold.

**Number G-102-00**, Claim YB36270, NJ4, approximately 150 meters southerly of Post #2 at the base of a small landslide from the right hand upper valley slopes, 3 meters from the creek. 50% organic, 50% soils volcanic ash. 1038 ppb gold.

Panning was continuous as we moved up the creek, testing both creek material and banks, and material from the valley slopes. Creek gravels were consistent with small colours in about 30% of the pans, sulphides, quartz carbonate nodules, small quantities of magnetite, flakes of mariposite, sericite schist and quartz was found in the large majority of the pans. The quartz/carb nodules identify that white thermal clays exist in the area and probably fairly continuous, the length of the creek.

Results from panning soils from the right hand limit valley slopes were far superior than anything we found on the left limits. Two pans yielded a few flakes of very small bright gold, soil samples were taken at these sites. Mariposite, quartz/carb nodules, clays, schist, quartz was recovered from a number of pans from the right limit, very little in the way of vein material was recovered from the left limit. This supports my theory that the glaciers scoured vein material and dumped it in the right limits of the valley. Scouring on the left limit would have scattered any vein material up and over the ridges, possibly creating a halo that will influence soil samples.

Late afternoon and early evening we crossed the claims as we headed northwesterly, located the posts of NJ 5 to NJ 8 along the way. Glacial activity has left a relatively flat plateau type alpine area, dwarf willow and birch, brushy shrubbery, sedges with alders and willows in the slump zones. Most slump areas striking northeasterly and northwesterly hosts well established belts of alders, willows and shrubby brush with the old stunted spruce. This was also true of the drainage patterns that trend northward. I believe that most of these slumps are thermal alteration zones that retain the moisture required by this vegetative cover. No bed rock was observed.

Camped the night of September 1st on the 3rd fork of Swede Johnson Creek. Panning up the creek the morning of September 2nd, results were common as on the other creek, excepting that we found less gold. The right hand limit banks were far superior than the

left limits. Some banded graphite calcareous rock was found in the creek bed above our camp site. Two areas in the creek produced an abundance of sulphides from fine to quite coarse. Some appearing as primary pyrite. While we saw evidence that the old timers had tested this creek, I doubt any substantial prolonged work was feasible. All appearances are that this creek probably only runs enough water to drink during a normal year.

Note: While it is far more difficult to go up a creek chocked with brush, then down, a person sees about 100% more going up than down. Thus, we went down, the ridges between creeks and then up the creeks.

Only a few of the slumping and ridging was recorded when crossing from the 3rd to the 2nd fork. Very little if any bedrock showing. Soil sampling would be a major job as the potential looks to be excellent with all the ridging and slumping. I suggest that grids either be narrow or both across and up the slopes to encompass all the slumps and ridging.

Time did not allow us to closely examine the 2nd fork as we wanted to explore the upper reaches of the 1st fork of Swede Johnson, where incredibly high value samples up to 89 ounces per ton were recovered and later confirmed by "Placer Dome".

Limited planning results were far better than the 3rd fork but not near equal as on the 4th fork of Swede Johnson Creek. Again, all the good pans came from the right limit.

Two andesite dikes of about 2 meters wide strike northeasterly across the creek. As with all other creeks and valley bottoms along this frontal mountain range, no evidence of dike material remains for about 4 meters across the creek. Northern faulting and pyritic staining is clearly evident. No other bedrock was observed for the short distance we covered this stream.

Crossed over the separating ridge to the 1st fork, descending a slumping gulley to the location of the extremely high silt values at OK Posts for Claims 3-4-5-6. Panning on the right hand limit of the creek bank, we recovered a number of fine colours of gold and considerable sulphides. As time was of the essence, and we knew we had a ride waiting for us at the Ross camp, we made a hurried trip up valley and back to observe basic information for future exploration. Mapping and sampling would come later if the partners wish to carry forward with a property evaluation. Descending down the creek to the Ross camp, we were met by the two all-terrain bikes and transported over a very bad trail to the highway. End of trip and sore legs.

The 2nd Fork: While it appeared that the old timers had done some work on this creek, I believe that the lack of consistent water would be a major factor, even in hand mining.

\* \* \* \* \*

# Koss KRIPERTI

NJ 1-8

4th FORK SWEDE JOHANSON.

①

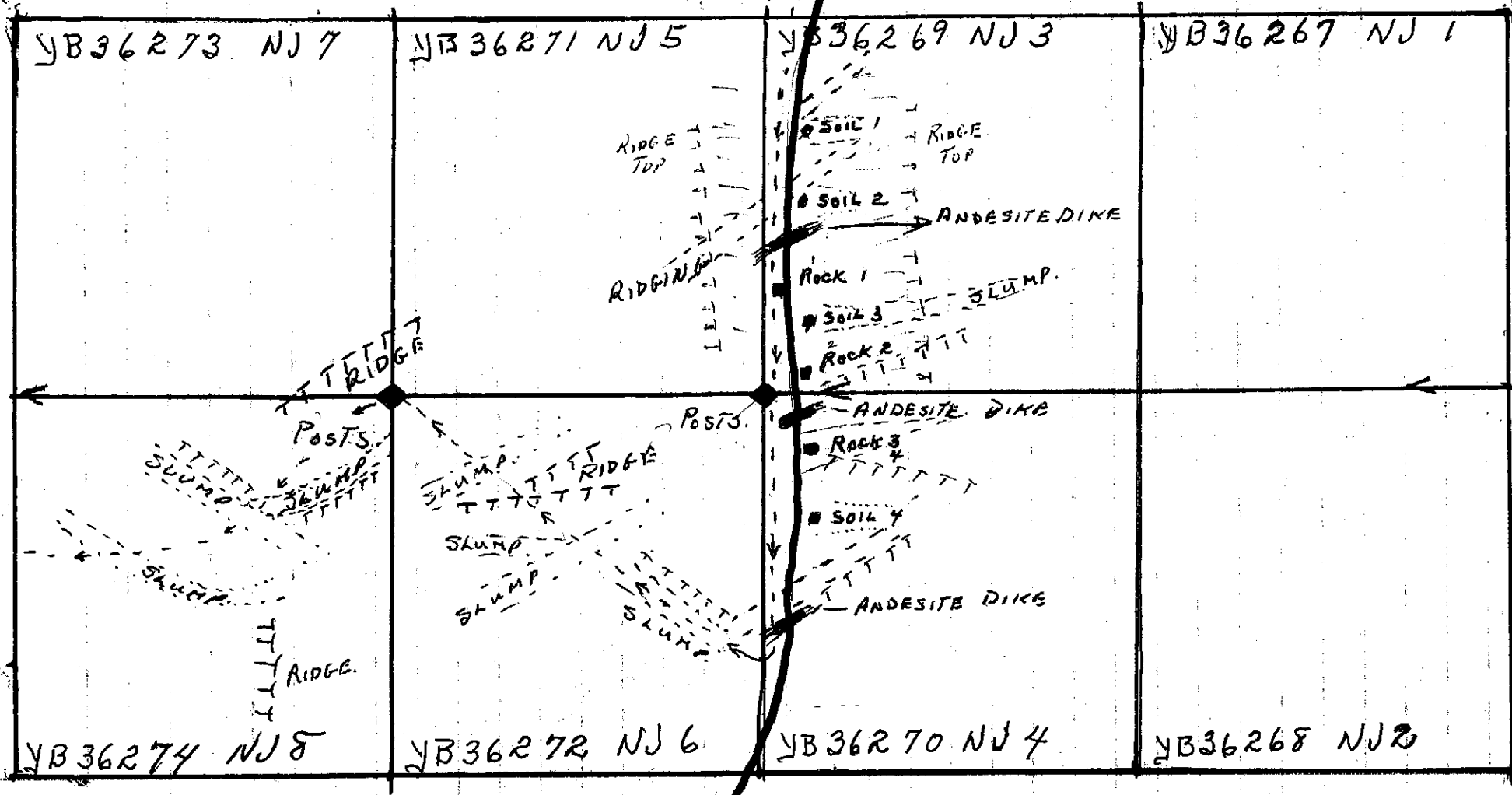
FRM 2.

RIDGING  
TTTTT

QUILL CREEK →

4 WHEEL ALL TERRAIN.

BC1



NO. 1  
KC. 1-2  
ROSS 12.

FRM. 6

(OPEN)

(9)

YB 2742 ROSS 12

YB 36266 KC 7

YB 36277 BC 3

YB 36275 BC 1

YB 36260 KC 1

SECOND  
FORK JWEDE JOHNSON  
CREEK

ANDESITE DIKE

ANDESITE DIKE

SLUMP  
CURRY

YB 36261 KC 2

RIDGE  
TOP

RIDGE  
TOP

YB 36265 KC 6

YB 36278 BC 4

YB 36276 BC 2

THIRD  
FORK JWEDE  
JOHNSON CREEK

CAMP FOR  
NIGHT

RIDGE  
TOP

RIDGE TOP

SLUMP

SLUMP

SLUMP

RIDGING

RIDGING

ANDESITE

SULFIDES

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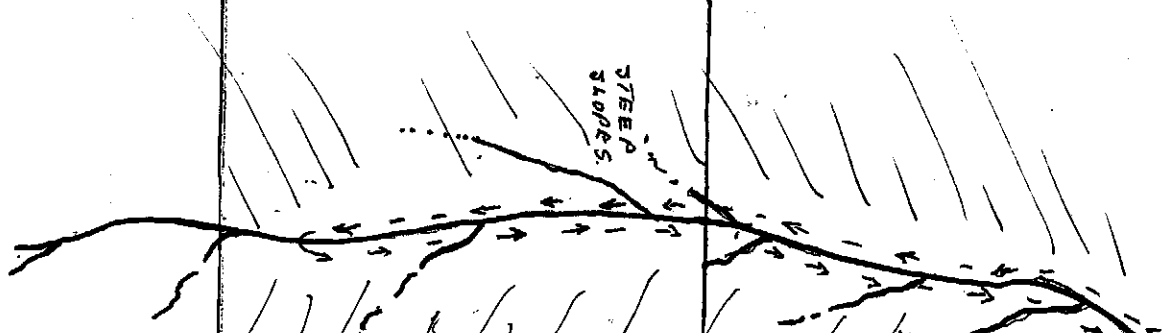
KC 4



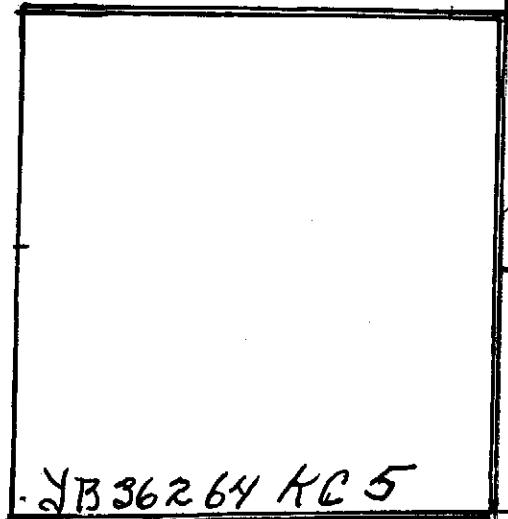
YB 27849 Ross 13

YA 95725 OK 8

YA 95723 OK 6



OK



YB 36264 KC 5

YB 27844 Ross 14

YA 95724 OK 7

YA 95722 OK 5

KC 2



(4)

SWEDEN JOHNSON  
CREEK



YB27834 ROSS 4

YB27833  
ROSS 3

YB27832 ROSS 2

YB27831 ROSS 1

YA95719 OK 2

YA95718 OK 1

YA95721 OK 4

YA95720 OK 3

4 WHEEL  
ALL TERRAIN  
TRAIL  
FROM  
CAMP

CAMP

GENTLE  
SLOPE

STEEP  
SLOPE

RIDGE TOP

LARGE  
SLUMP

CLIFF

STEEP MOUNTAIN SIDE

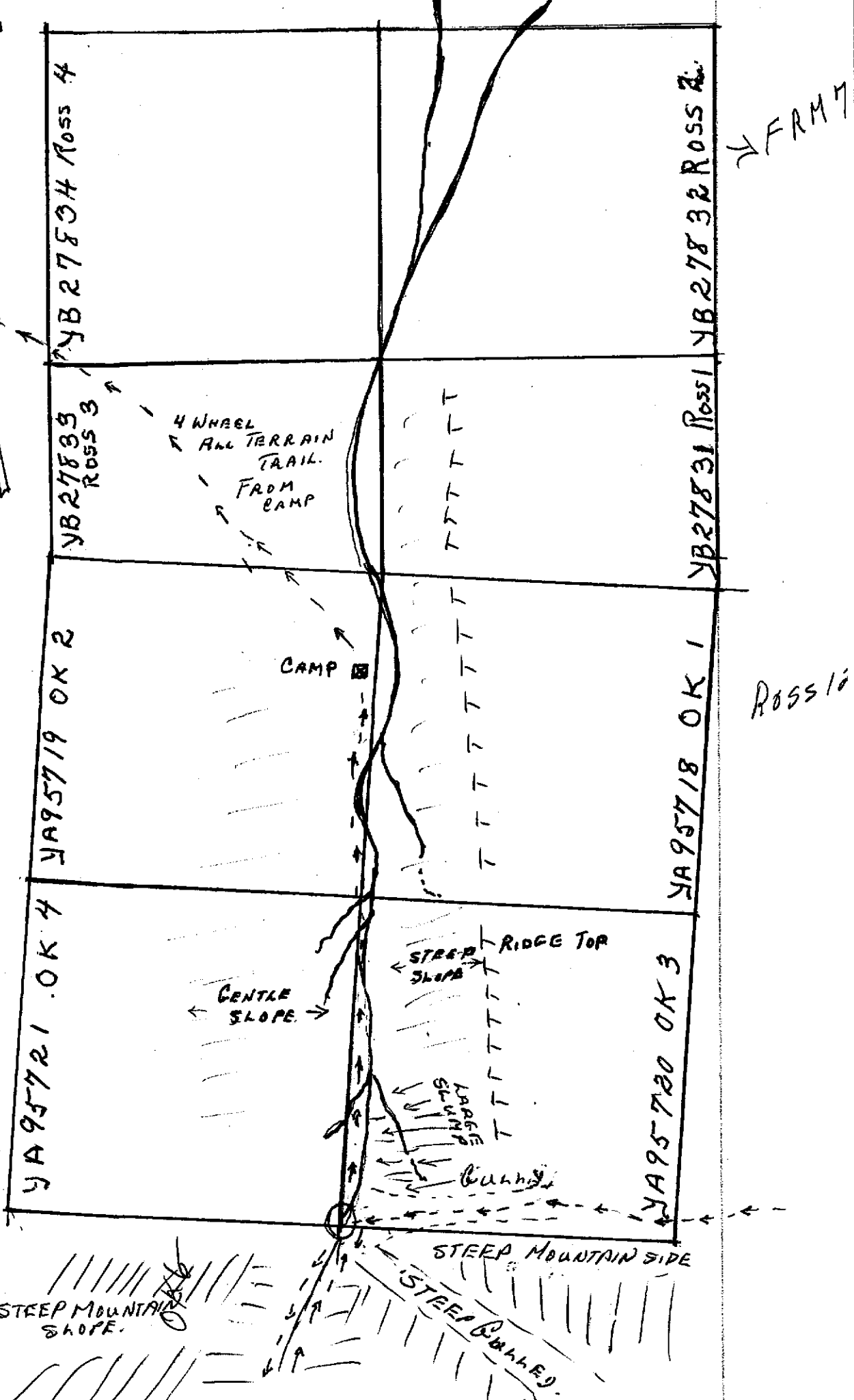
STEEP MOUNTAIN  
SLOPE

STEEP  
CLIFF

FARM

ROSS 16

KCH





*Above: 4th fork  
Swede Johnson  
Creek. Sericite  
schists, foliated  
trending northwest,  
verticle.  
Note metal indent,  
tag (circle).*



*Left: 4th fork  
Swede Johnson  
Creek.  
NJ 3 claim, right  
limit bank, upper  
strikes northeast  
lower section north-  
west. Calcareous,  
clays. Two samples.*

**094145**

## **G. THE ROSS PROPERTY**

### **A Report: September 11th - 15th, 2000**

Established a base at Lorne Smith's camp on Swede Johnson Creek, about a 40 minute, four wheel bike ride from the Ross Camp (tent frame) on the first easterly fork of Swede Johnson Creek.

Glen Smith was contracted to assist the project for a minimum of four days with a possible fifth day. He would receive \$150.00 per day which is comparable with other assistants (he earned his pay). He would also receive \$50.00 per day for the four wheeler rental (usually renting in Whitehorse for \$250.00 per day). I would pay all his expenses from Haines Junction and return; food and gas. We would have the free use of the Smith camp and, if required, their power saw. This provided a warm, dry place to cook and sleep and security for our supplies.

Lorne Smith gave permission to spend time on his property to identify exposures that may tie in with common structures on the Ross and Kelli properties. Placer Dome geologists stated that all the properties had the same characteristics and one model would apply to all. Knowing this, it would greatly enhance the Ross and Kelli properties if a number of common features and structures were discovered; the time would be well spent.

Glen worked like a slave as he is very interested in this work and wants to learn. He was like a yo-yo up and down the slopes collecting soils to pan in the creek and carried out a large percentage of the panning. Due to his never ending energy, we carried out a much larger and thorough exploration than would be expected, or my old legs could do.

A quick overview of the easterly portion of the claims had been accomplished on September 1st and 2nd. This phase of the program was to concentrate on the OK claims, from the upper valley to the Ross claims on the north.

A detailed reconnaissance and mapping of the area surrounding the zone of high value assays as well as panning of soils and examining any bedrock was a priority. A large number of soil or silt samples would not be taken along the creek because all this would be doing is confirming what a credible geologist has already confirmed. Soils would be collected from selective physiography features, prime sampling would be bedrock which have the potential to carry values.

### Day One

About 20 centimetres of snow in the upper narrow valley on claims OK 5 and 6 prevented any work being carried out in this area. Most of the snow had melted north of the transition zone where the ridges are much lower. Work could be carried out in the extremely high value location at the mouth of the narrow valley.

After carrying out a detailed reconnaissance on foot for a large part of the day, one has the sense that the high value local centred by OK claim pPosts 3/4/5/6 is a hub. (See attached sketch). A junction where gullies/slumps striking northeasterly and northwesterly merge with the northerly striking valley only to become evident on the other valley slope. The northeasterly gullies have considerably more width than the northwesterly. A small gully striking easterly/westerly that follows the transition zone to near the creek on the right hand limit cannot be detected on the left limit, possibly because the topography is less revealing than the easterly slopes.

Down slope creeping and sloughing of the gully materials is far more evident on the right hand limit than the left. While little bedrock materials are visually evident on the left limit, there was no difficulty in collecting this material anywhere on the right limit due to the slumping.

Numerous pans of soils were collected and panned from the low creek banks to the high slopes on both limits. By far, the best results are found on the right hand limit, due in large part to the difference in topography.

The heavy vegetative cover of scrubby shrubbery with a wide maze of roots intermixed with up to 45 centimetres of moss makes it quite difficult to obtain good samples. At first we flagged the locations where we took samples but soon saw that this was a futile exercise and served no useful service, thus future exploration should just ignore the numerous ribbons on the slopes. Some exceptional pans were recovered from the right limit slopes, a fine spray of almost micron gold, abundance of sulphides, small and large segments of quartz vein, considerable material with mariposite, epidote, fragment of sericite schists, some foliated, a goodly number of quartz carbonate nodules, hematite, fragments of limestone and porphyry all surrounded and at times loosely cemented by thermal clays.

Float rock recovered was exactly as I would expect to find on the Kelli, especially at the Lower Canyon and just below. Fist sized fragments of quartz carbonate veining, chunks of quartz clay breccia, abundance of sericite schist fragments, some foliated, what appears to be schistous, possibly highly altered chlorite schist. Lumps of quartz veining that originates from the upper vein structure, poor quality, purplish grey in colour always found on the Kelli in the poorly structured upper level of the veins. Calcareous veining as found on the Kelli and Swede Johnson, banded quartz carbonate veining with what appears to be graphite. An abundance of thermal clays highly pyritic, with an abundance of materials so familiar I could be working a combined slope of the Lower and Middle canyon on the Kelli.

## Day Two

Panning on the right limit slopes continued to produce a large percentage of high value soils from about 75 meters northerly of the hub to 42 meters on the southern side, a distance of 117 meters and could continue southward. Water could not have played any part into the distribution of these values. The walls of the valley south of the transition zone are far too fragile to have experienced any glacier or water movement common to what we find in the canyon on the Kelli.

The Shakwak glaciers crossed westerly over the valley and while they could have enriched the right limit slopes as they crossed westerly, there would be no lateral enrichment. There is little choice but to assume that the rich soils and silts combined with the favourable topography, strongly indicates a wide zone of enrichment. I wish now that we had taken a few soil samples from the southerly section but I am satisfied with and support my findings.

One of the major pathfinders that led to the ore chutes on the Kelli was the visible high value pans we obtained from soils; the closer to the chute the richer the soils. I have little doubt that the old timers used this leader quite successfully on the Kelli. They found all four where they were near surface in and above the canyon. I believe they were working on a chute at the hub on the Ross property. I suggest that bonanza ores follow the northern striking veins, especially where the interaction of numerous veins crossing each other allowed great quantities of thermal fluids to ascend.

Considerable time was spent on trenching with the objective to uncover some bedrock on the right limit slopes, no luck. While I believe that the overburden is shallow, better tools, more people and time is required to accomplish much.

There can be little doubt in anyones mind who studies the "Hub" area, that this is a major junction of various striking thermal structures common to the lower canyon on the Kelli. While the width of 117 meters is great, such widths could exist on the Kelli. Intermittent areas of bedrock exposure indicates the swarming veins exposed at the canyon could extend to the Kelli camp. Topographic features just up creek from the Swede Johnson camp on the left limit indicate this may well be a broad zone of swarming veining. Areas of exposed bedrock support this theory.

No organized sampling has been carried out on Swede Johnson, thus any information is of little use as no location is recorded.

Two soil samples were taken from the most northerly section of the big slump on the right limit. Proceeding down stream to the north, soil samples were taken at visually desirable locations. Tying off at OK posts 1 and 2, we went to camp.

### Day Three

Completed collecting soil samples and exploring the creek from the number two posts of OK 1 and 2 to the Ross camp.

Piles of rocks, wing dams, controlled water channels for sluicing and ground sluicing, zones where the big boulders have all been cleared away, all attest to the major amount of work carried out by the old timers on this creek from well northerly of the camp and probably beyond, to the number 2 posts of OK 3 and 4 and beyond to the south. They had done such a good job we did not have much luck pan checking the creek bottom, although results from the slopes were satisfactory and excellent in some areas. This would have been an easy creek for the old timers to work. Limited drainage almost guaranteed there would be minor if any flooding. The steepness allowed for ease of water control for sluicing, ground sluicing, and diversion. It is quite obvious that they rolled the big rocks into piles below or to the sides of their workings.

If they mined in a systematic fashion up the creek, and I suggest they did, they would have had little problems sluicing the material and staying ahead of their tailings.

The remainder of day three and half of day four systematically explored a large exposed bedrock structure on the right limit directly across the creek from Ross camp, for the purpose of this report hereafter known as the "Ross Exposure". We also investigated a smaller structure of exposed bedrock about 100 meters below the Ross camp, also on the right hand limit, referred to hereafter as the "Canyon Exposure".

Northeasterly and northwesterly slumping and ridging was investigated well up-creek from the Ross Exposure to well below the canyon structure easterly to the top of the valley slope bordering the second fork of Swede Johnson Creek.

All visual indicators suggest that a broad zone of northeasterly and northwesterly faulting and shearing combined with massive hydro-thermal alteration exists from well northerly of the Canyon Exposure to well southerly of the Ross Exposure. If proven, this structure would be much larger than what has tentatively been identified at the "Hub" and comparable or larger than such structures on the Kelli property. Both structures have the same characteristics found on the Kelli, especially the lower canyon site and just below the canyon.

### **ROSS EXPOSURE**

The Ross Exposure is 75.3 meters across the base of the exposure from the northerly margin to the southern margin. All indicators suggest this structure is far broader than what is presently exposed. Thermal clays, quartz carbon nodules, sericite schists, fragments of quartz veining, mariposite, and massive sulphides found in the soils along the base of the gully (see attached photo) combined with high silt values of 442 ppb gold (Sept 1990) identify this 15 meter wide slump as an altered segment of the Ross Exposure.

The exact same indicators were found on the northern margin (see sketch) where a large 16 meter wide slump was followed from the northeast to the Ross Exposure. In addition to all the indicators found on the southern margin were a few bright specks of gold. Creek silts directly below this structure were extremely high value, 798 ppb gold. (Normally very high value silts do not exceed 100 ppb gold).

This structure is centred towards the north by a 17 meter wide zone of intensely altered chlorite and sericite schists striking northwesterly. Quartz veinlets are common, epidote, hematite, mariposite are common throughout. The upper 2-3 meters of the exposure is contorted as is commonly found on the Kelli property. While asymmetric drag folding may account for some of the contortion, it is not reasonable to believe that only a few scant meters of the upper segment of the schists would be subjected to such faulting.

All of the structures I have excavated and investigated on the Kelli, and other such properties that have been subjected to massive hydro-thermal alteration, exhibit this contortion to some extent. The schists appear to be the predominant host for the vein structures thus most of the contortion is found in the schists or rocks associated with the schists. One must also consider that the structure of the schists would provide far easier access for the ascending fluids than most other rocks.

This intense contortion at the surface just does not exhibit the normal as found in other such deposits. I suggest that glacial ice was a major controlling factor rather than faulting. The schists were extensively altered by very hot ascending fluids. If there was a thick over-cover of glacial ice, quick cooling of the hot fluids at the surface would soon force the ascending fluids to flow laterally. (Such examples of lateral flow is evident at the Lower Canyon site on the Kelli). The near surface schists would be subjected to an extremely hot steam bath which could easily result in contortion.

Regardless of the age of the rocks that host the deposit, it is the age of the deposit that must be considered. The St. Elias mountains are less than 90 million years old and the deposit considerably younger, well within the age of the great glaciers. A porphyry dike on the Kelli property aged 23.5 million years gives some conception of the area being thermally active at that time. Unoxidized thermal bleached clays on the lee slopes of the Kelli Canyon date activity during the last local ice age, a few short thousand years ago.

The schists are flanked on the northern margin by a northeasterly trending structure 16 meters wide, dipping to the south. Brecciation, shearing and faulting is extensive, generally along strike but also to the north and northwesterly. This consists generally of calcareous block limestone veining, what appears to be argillaceous limestone, abundance of thermal clays, vertical intrusions of sericite schists 10 to 20 centimetres wide, extensive sulphides including chalcopyrite; serpentine is present. Segments of quartz veining (float) from the wall appears to have been altered, recrystallized, crushed and restructured a number of times (common to the Kelli). The gangue is very fine and contains a considerable amount of sericite as well as mariposite with moderate sulphides.

The northwesterly striking schists merge with the northeasterly calcareous veining on the norther limit of the schists. While the merge zone on the lower face of the structures appears to be verticle, the schists extend northerly over the blocky calcareous at the top of the structure (see photo). Further trenching may provide further detail but there is little evidence of stress or crushing at the merge.

While the northeasterly trending vein structures are generally far larger than the northern and northwesterly structures, the northwesterly trending veining always appears to dominate at the bedrock surface where they all join and cross. Example: Lower Canyon, Kelli property. When the bedrock was first exposed all veining trended northeasterly on bedrock surface. When about one meter was removed, over 90 percent of the veining trended northwesterly, possibly a later stage than the northeasterly and northerly veining. As no bedrock is exposed on the valley floor, one can only assume that the same holds true at the Ross Exposure.

The schists are flanked on the southern margin by a broad 44.3 meter structure trending northwesterly. While shearing and faulting obliquely across strike is considerable, it is more dominant along strike. Much of this could be vein strike slippage but initial investigation reveals little verticle or horizontal off-setting.

While thermal alteration is far more extensive and the veins are not as massive, they compare favourably and have most of the characteristics as those of the large standing structures on the Kelli and those on Swede Johnson Creek.

As with the Kelli structures, various degrees of altered chlorite and sericite schists tend to separate this big standing structure. It rarely exceeds 35 centimetres wide and in places nearly paper thin. Clay conduits in widths of about 10 to 30 centimetres verticle or near verticle, trending northwesterly and westerly, and some with thermal clays still intact are identified. All clays are highly pyritic, sulphides are from moderate to abundance, chalcopyrite was recovered from three sections near the southern margin. Porphyry identified as quartz-feldspar occurs as lenses, narrow veins and large intrusions (see photo). Some is highly altered and crosscut by little quartz veinlets. Some rock appears to be narrow bands of shales.

The southern margin of this structure appears to have undergone far more alteration than the northerly section. Large clay structures to one meter wide occupy verticle open spaces between the standing calcarious structures. Excavating will be required to identify vein conduits or the surface blossom of an ore chute as is common on the Kelli. Two quartz carbonate veining closely inspected appear well structured; .5 to .9 meters wide, verticle wall rock unattached.

On the extreme southern limit is a zone of graphitic calcarious banded limestone, the most southerly two meters thermally altered to mylonite and graphitic quartz clays. Excavation will be required to properly evaluate this showing. This appears to be the northern limit of the slump as indicated on the photo.

### CANYON STRUCTURES

Sixteen meters across base north to south, strikes northeasterly, dip slightly to the south. Almost an exact duplicate of the Lower Canyon site on the Kelli property.

Rather massive calcareous limestone verticle veining on the northern margin, invaded by narrow verticle 30 to 60 centimetres wide veins of banded quartz-carbonate with narrow instructions of sericite schists.

There is a gradual change in structure from the northern margin to the southern margin. Faults-shears and massive hydrothermal alteration have subjected the structures to conversion to mylonite to an extreme of poorly structured quartz-carbonate and graphite invaded by numerous quartz veinlets.

Brecciation is extensive, consisting of quartz, quartz carbonate, graphitic schists and clays, some well structured, others as a marl. Mariposite is present, chalcopryrite, abundance of other sulphides, sericite present in most rocks.

Run out of film -- no photos available.

The number of samples taken was limited by weight. Hiring a helicopter from Haines Junction would be costly. Rather than random sampling both exposures, one of the structures was systematically sampled. Known stream silt values directly below both structures were comparable; 748 ppb and 803 ppb indicating that both exposures carried credible values.

The larger Ross Exposure was systematically sampled. Weather permitting, a return will be made to sample and photograph the Canyon Exposure.

**NOTE:** Assays were not completed while this report was being compiled. The assays were deliberately withheld in order that I be free of their influence -- they can often be misleading. Regardless of whether they are high value, good or bad, all indicators support the high value silts. By choosing to assay the Ross Exposure and not the Canyon Exposure is just a turn of the cards, i.e., the first phase of exploration. Everything points to this property as having equal or better potential than the Kelli.

Before beginning this report, the author recognized it would be based on the field trips and investigation findings, on panning, checking creek rock and gravels, and carefully reading the topography rather than reliance on the assays. Consideration would also be given to previous silts and soils from the property. Recognizing and interpreting what had been investigated combined with the physical factors, would develop theories and suggestions. The foremost influence "applying the Kelli model" would be paramount throughout the investigations.

Sampling was completed on the fifth day. The balance of that day was spend on Swede Johnson Creek. I agree with Geologist Browlee of Placer Dome -- all three creeks are very similar and if the Ross and Swede Johnson properties had equal exposure with the Kelli, there would not be much of a difference.

Two rock samples of the large block calcarious structures on Swede Johnson and the Kelli were taken and compared with samples from the Ross property.

\* \* \* \* \*







UPPER POSTS: "HUB" posts, Ross Claims 3-4-5-6, the rich area

LOWER POSTS: Ross claims 1-2-3-4, note the thick brushy alders.



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Photo Above: From the "HUB" posts of Ross 3-4-5-6, looking down creek northerly. Alaska Highway and Kluane River in the distance. Note dense alder and willow.



Left photo:  
Ross Camp looking up  
creek "HUB" posts marked  
near location

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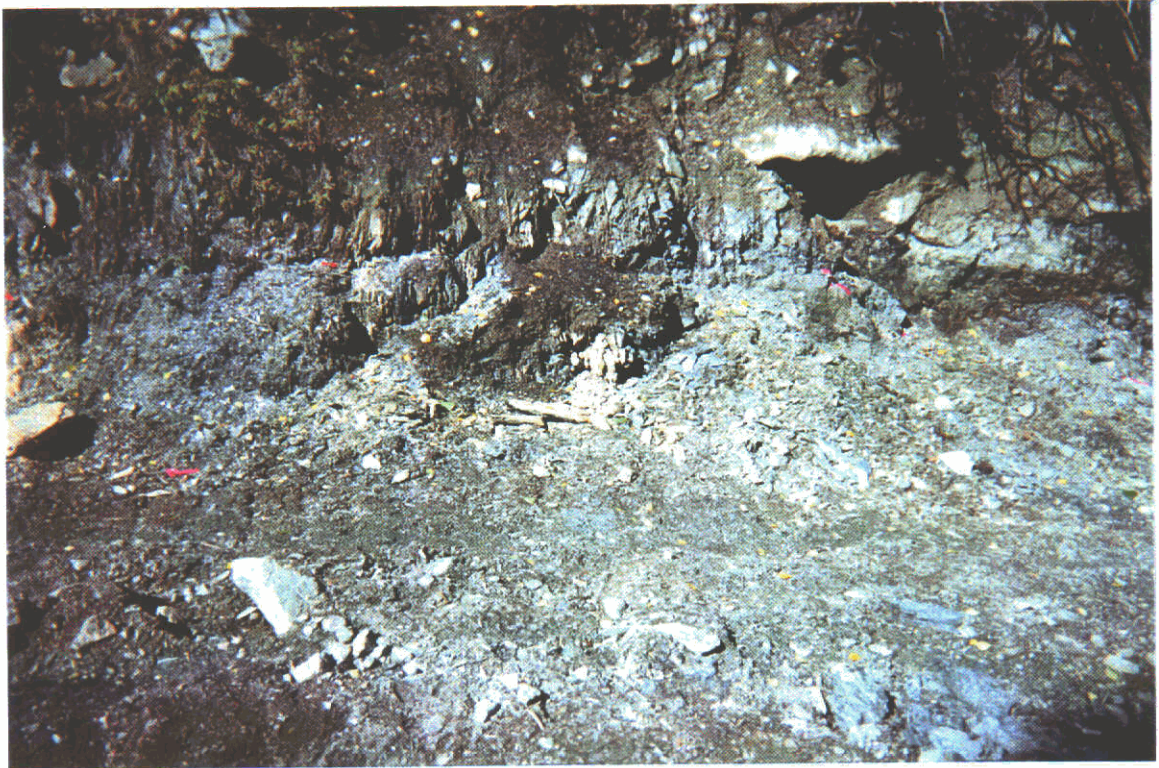
ROSS

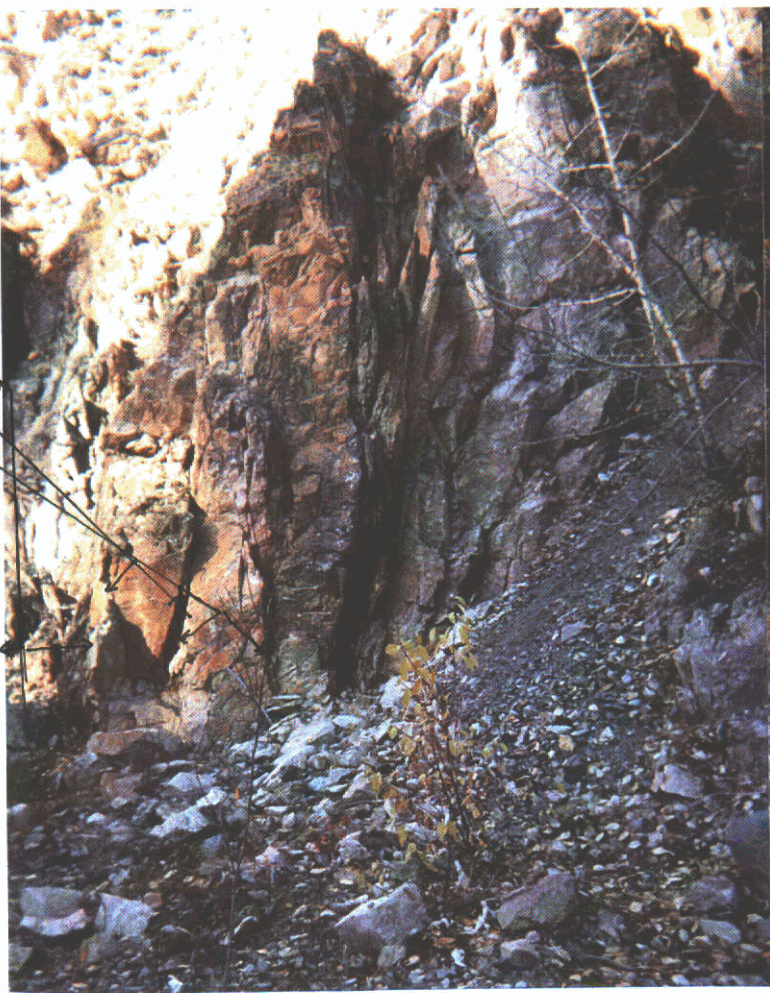


Both structures have almost the same characteristics, massive thin plated chlorite schists with sericite schists. Kelli exposure at least 80 meters wide, Ross exposure 18 meters + ?.

094145

KELLI





RC-101 (503)  
RC-102 (601)  
RC-103 (601)

SJR-101 SJR-102 SJR-103

KELLI PROPERTY

SWEDE JOHNSON

All three exposures are almost exactly the same, calcareous limestone veining, blocky, abundance of pyritic thermal clays  
Clays have eroded from the Kelli model with bleaching, all rock has the same characteristics.

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ROSS  
PROPERTY

KELLI



KELLI: Note the massive slump that trends southwest-northeast into the Lower Canyon and below on the Kelli, generally consists of highly altered chlorite to sericite schists, a massive thermal alteration.

ROSS: Massive southwest-northeast slump at the Ross Camp, one of two, the second is directly to the right

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ROSS CAMP

ROSS





Upper Photo: Old timers workings, rocks piled on right and left, used as a conduit to lead water to their diggings a short distance below, a wing dam 10 meters above and to the left.

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Lower Photo: Old timers workings just below "HUB Posts" OK 3-4, piles of rock piled in rows, right - centre- left (in brush) 4 to 5 feet high on left limit. Large wing dam up creek diverting creek to right limit.



S0-39-00  
94ppb →

Left Photo:

Big slump from lefthand limit. Note dense moss and vegetative cover.

Gentle sloping walls compared to lower photo taken on the right hand limit bank, while a dense over-story, there is far less moss.

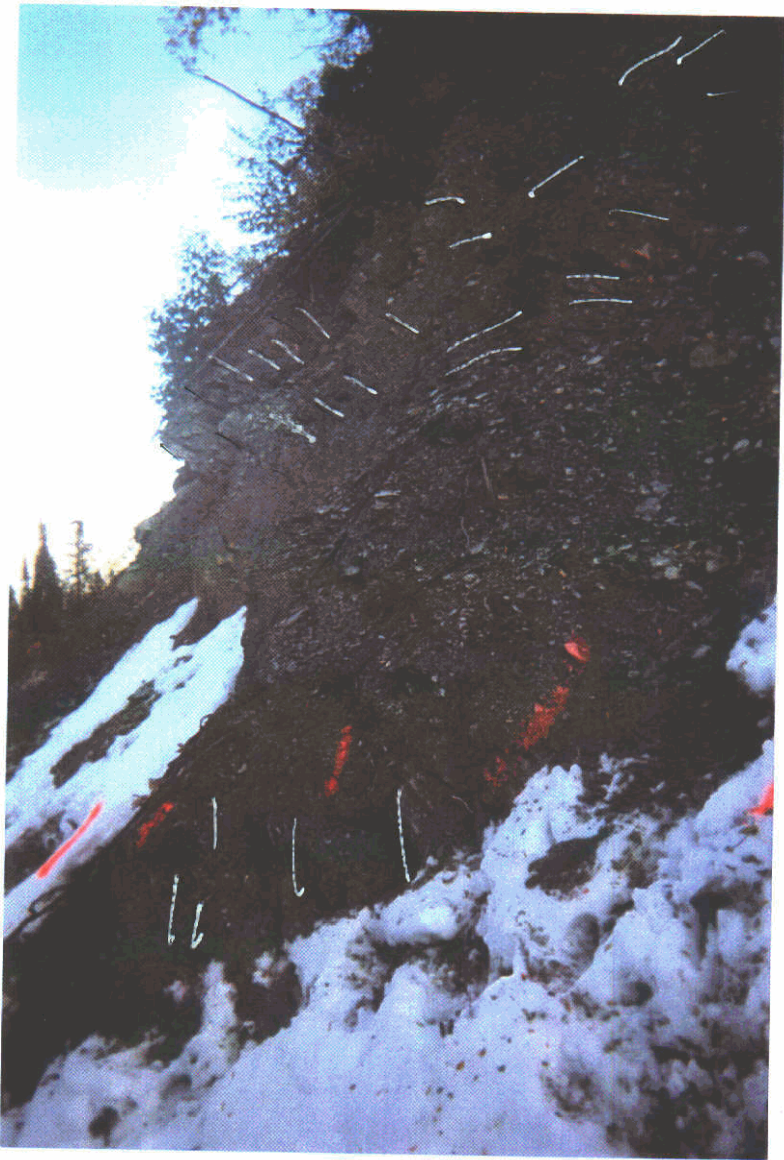
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ROSS  
CAMP ←

S0-40-00  
181ppb

S0-41-00  
185ppb



Left Photo: chloritic/sericite schists thermally altered. near verticle at base of structure while surface is twisted, contorted and strikes from verticle to horizontal as is common on the Kelli. usually above ore shute material

Below: Porphyry imbedded in calcarious veining, strike northwest, generally verticle.

Note large slump/gully on the right, strike northwest, suggest large thermal alteration.

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SLUMP  
Gully

50125  
50-44-00 (101) ppb  
30-45-00 (91) ppb  
51-19 (442) ppb

↓  
N.W.

→ S.W.



*Upper Photo: 110 meters below the Ross Camp on the right limit bank, strikes northeasterly. Appears to be calcareous limestone on the left, highly altered graphitic schist on the right, appearance of the ore chute material common to the Kelli deposits.*



*Lower Photo: Northwest trending andesite dike, strikes northwesterly, dips slightly to the south. Some epidote, hematite cloritic schists, blocky. Note faulting along face where dike material has been altered away about 30 meters above Ross camp, right limit bank.*

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## **H. SOIL SAMPLES**

Collected by L. Tremblay and G. Smith

### **First Fork Swede, Johnson Creek- September 2000**

1. YA95720 OK 3. All measurements are from Post #1, starting "O".
2. SO-30-00. 15 meters easterly of Posts #1. Huge slump from right hand limit valley slope, willow, alder, shrubbery and moss cover a. Large percentage organic with some soils. 14 ppb.
3. SO-31-00. 18 meters, 14 meters easterly of the creek on the right limit bank at the base of a huge slump from right limit valley slope, 40% soils, 60% organic. 21 ppb.
4. SO-31-00. 33 meters, 6 meters easterly of the creek at the base of the right limit valley slope. 50% soils, 50% organic. 81 ppb.
5. Andesite Dike: 57.9 meters (photos) strike northeasterly, exposure along right limit bank, very limited exposure on left limit, 14 meters between the two structures appears to have been thermally altered and eroded away. Andesite 4.8 meters across the dips slightly to the south, flanked on the south by chloritic schists with quartz lens and stringers. Considerable epidote and hematite.
6. R-01-00. 97.8 meters, 2 meters wide exposure of highly altered sericite schists. Rock sample 2 meter chip sampled across right hand limit 2.3 meters south of the creek. .001.
7. SO-33-00. 104.7 meters, 2 meters from creek at base of valley slope, right limit bank, inverted "V" shaped slough from upper valley slopes, rock-organic-soils. 118 ppb.
8. SO-34-00. 133.3 meter base of northeasterly slump/gully on right limit valley slope, 3 meters from the creek. Heavy moss, shrubbery, alder and willow, 50% soils, 50% organic. 65 ppb.

9. SO-35-00. 178.4 meter base of large northeasterly trending gully/slump on left hand limit 6 meters from the creek. Dense vegetation cover with scattered white spruce. 90% soils, 10% organic. 42 ppb.
10. SO-36-00. 270.2 meters, 3 meters westerly from creek at mouth of drainage draw on left hand limit, appears to be more of a thermal slump than normal draw, strikes northeasterly. Very dense vegetative cover ranging from bushy shrubbery to willows and alders to scattered white spruce. 80% soils, 20% organic. 129 ppb.
11. SO-37-00. 337 meters, 4 meters from creek on the left limit bank at the base of a large slump striking northeasterly. As above, dense vegetative cover with scattered spruce. 70% soils, 30% organic. 19 ppb.
12. SO-38-00. 440 meters from Post #1, 6 meters from the creek on the left hand bank at the base of a deep slumping draw striking northeasterly. Slumping continues across the creek up the right hand limit valley slope. Dense understory with numerous white spruce overstory. 75% soils, 25% organic and volcanic ash. 22 ppb.
13. YA95718. OK Claim #1. 0 measure from this Post.
14. SO-39-00. 41.2 meters, 6 meters from the creek on the left limit at the base of the northeasterly striking gully. As with sample 38, the gully/slump appears to continue across the creek to the right limit valley slope. Dense vegetation and considerable moss. Soils 80%, 20% organic with some volcanic ash. 94 ppb.
15. SO-40-00. 91.2 meters, 3 meters from the creek on the right limit bank at the base of a large slump from the upper valley slopes, striking northwesterly. Dense vegetation, spruce, moss. 90% soils, 10% organic, little volcanic ash. 19 ppb.
16. SO-41-00. 95.3 meters. 3 meters from the creek on the right hand limit at northerly base of large slump (same as 40 above). Rather than just a slump from the valley wall, it appears to be a large structure that crosses the creek and strikes northwesterly up the left limit valley wall.

A northeasterly structure appears to cross the other structure at the creek crossing. 90% soils, 10% organic and volcanic ash. 26 ppb.

17. 281-83. 138 meters northwest trending blocky andesite dike, 2 meters across, 10 degrees dip to the southwest. Quartz stringers, epidote and small intrusions of chloritic schists.
18. 283 meters, 4 soils samples collected at the large Ross Exposure. Two from the base of the large northwesterly striking gully/slump bordering the Ross structure on the southerly limit. The other two from the base of the large northeasterly striking slump that borders the Ross structure on the northern limit.
19. Slump/gully southern limit of Ross Exposure, right hand limit.
20. SO44-00. Collected from the southern segment of the gully/slump, 3 meters from the creek. 80% soils, 20% organic and volcanic ash. 101 ppb.
21. SO-45-00. Collected from northern segment of gully slump, 2.5 meters from the creek. 80% soils, 20% organic and volcanic ash. 91 ppb.
22. Slump northern limit of Ross Exposure, right hand limit of valley.
23. SO-46-00. The southern segment of the slump, 2 meters from the creek. 90% soils, 10% organic and volcanic ash. 181 ppb.
24. SO-47-00. The northern limit of the big slump. 90% soils, 10% silts and volcanic ash. 139 ppb.

### **Ross Exposure**

Thirty-one rock samples, R-02-00 to R-32-00 were collected, assaying a low of .001 to a high of .025 across the face of the exposure. See photo for details.

### **Canyon Exposure**

One rock sample R-33, assaying .001, consisting mainly of sheared and banded myelinated graphitic rock with minor quartz, mariposite, thermal clay, abundance of sulphides, 1.3 meters wide and orientation 68 degrees northeast.

Flanked on the south by a wide 4.2 meter structure of foliated schists, some quartz, shearing 162 degrees. Considerable sulphides with some chalcopyrite.

### **Swede Johnson Creek** (Comparison, see photo)

Three rock samples SJR-101 to SJR-103, assaying .001. Large blocky calcareous limestone structures, some appears as argillaceous, sheared and faulted 68 degrees along strike, 182 degrees and 163 degrees. White fine grained quartz lenses with pyrite, extensive orange/redish clays. Brecciation 3.5 centimetres wide or orientation 58 degrees NE, well cemented, agatized clear quartz with white quartz carbonate mariposite, minor chalcopyrite, and narrow near verticle bands of sericite schists 2 to 12 centimetres wide separate some of the structures.

### **Kelli Property** (Comparison, see photo)

Three rock samples RC-101 and 103, assaying -- one at .003 and two at .001. Large verticle standing structure, blocky, strikes northeasterly, generally fine grained calcareous/argillaceous limestone separated by narrow 2.5 to 15 centimetres wide verticle bands of myelinated sheared and folded graphitic rocks with thin quartz veinlets, sulphides and clays. Orientation 62 degrees NE.

### **Silts** (See sketch)

YB27837, Ross 7 and YB27839, Ross 9. Three silt samples SI-30-00 - SI32-00. Assaying ounce/ton/gold, .057, .001, .002. Most of the sample consisted of volcanic ash, estimated 85% organic and silts 15%. All three springs (drainage) appear to follow large northeasterly trending slumps.

### **Assays** Analyzing - Interpreting - Applying

### **Soil Samples**

As with all soils in the area, results from both forks of Swede Johnson Creek were above average, some well above average. With 9 out of 20 samples grading 90 ppb to 1038 ppb, must be considered a lot of high grade soils or a good job of sampling. 10 ppb is well above background, anything above that is of interest. All samples were from zones where it was difficult to obtain soils for panning. No samples were taken, such as springs, drainage areas, etc. As stated, "nothing would be gained by confirming the confirmed."

The samples are creditable and support the silt values obtained from this creek as well as lend support to my theories, especially numbers 44 to 47 inclusive, which I will refer to later in this report.

### **Silt Samples**

The three samples of silts were generally taken to establish a level of background values in the lower areas northerly of the ridges that border the creeks. Very poor quality material that I had doubts it would even run. As ppb all three values are creditable, especially SI-30-00. To my knowledge, no one has ever sampled this far out into the Shakwak valley, rock, soil or silts. No one knows or suspects such values may lay well away from the steep mountain ridges.

### **Rock Samples**

Thirty-nine rock samples were collected and assayed. Three from the 4th fork Swede Johnson, Two from the 1st fork Swede Johnson, 28 from the Ross Exposure, two each Swede Johnson and the Kelli Property.

Assay returns were very disappointing. The highest value was .025 ounces per ton, many minus .-001. May be considered to be a complete flop, BUT if one utilizes all the know factors and information combined with reasonable assumption, the poor assays become very important and may well provide that missing previously unknown factor that we have been looking for.

We know that the silt values on this property are spectacular the whole length of the creek. Most are far beyond 100 ppb that is considered very high in most locals of the world. Very few of these silts were taken from the main stream bed, thus flooding that may carry and spread values is not a consideration, as well as placering.

In many other districts, silt values tend to favour the right or left limit of the valleys. Not so on the Ross Property. High value silts are found consistently on both limits with no obvious preference.

Most, if not all, of the Ross Property drainage patterns that feed the creeks trend northwesterly or northeasterly. All appear to follow slumping, especially the right limit pups. Except for around the "Hub" these drainages generally carry the highest value silts, the "halos" and the leaders to gold deposits closely adjacent to where the silts were obtained.

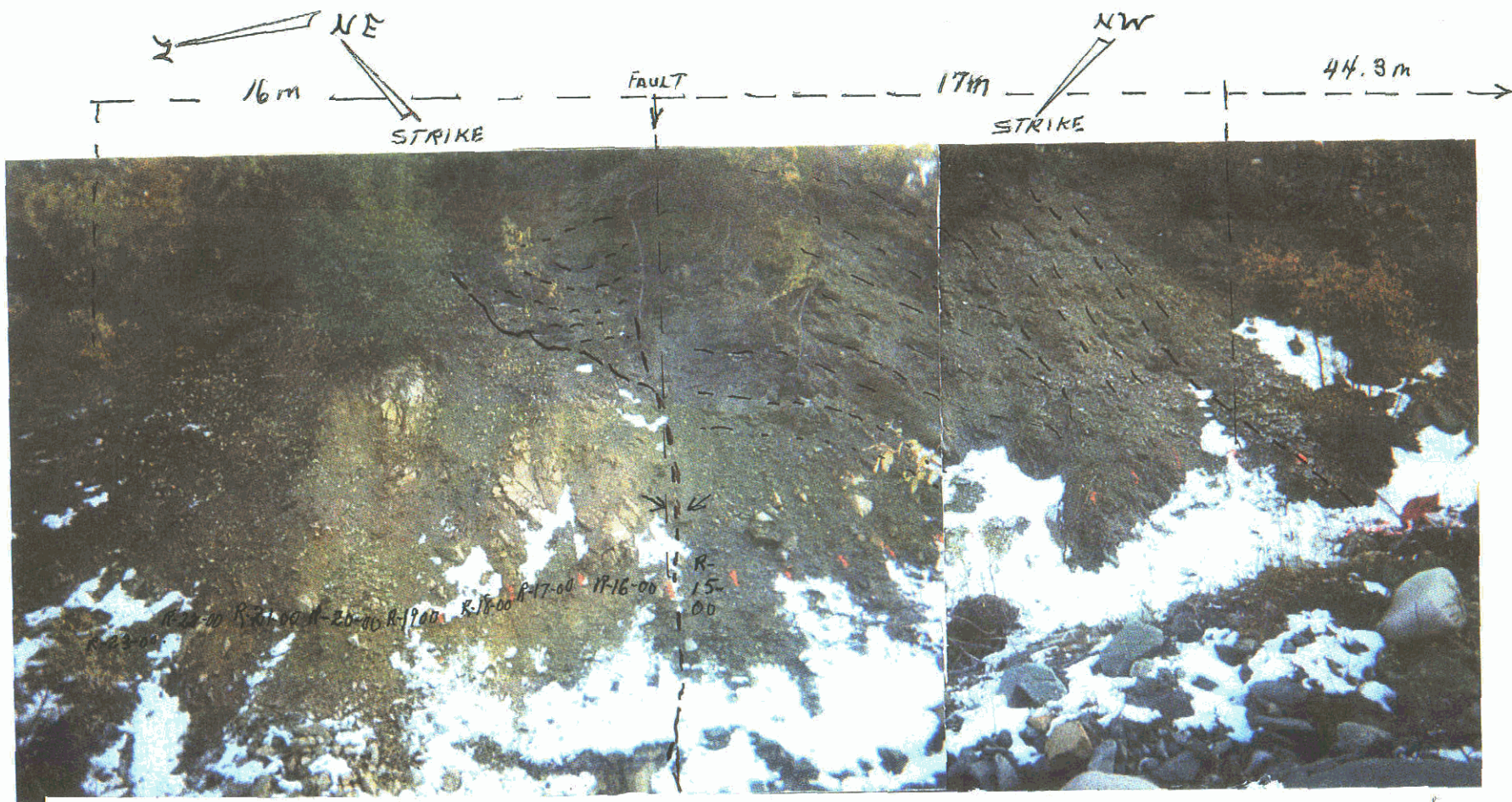
The Ross exposure is bordered on the souther limit by a large northwesterly drainage gully/slump with silt values of 422 ppb. Soils run 101 and 91 ppb. 76 meters to the north, this structure is bordered by a northeasterly slump with silt values of 748 ppb, soils of 161 and 139 ppb, yet the structure has provided us with no values. Thus we eliminate these structures as a source of the gold at this time, rather we use them as very valuable leaders.

With the elimination of these structures, there are only two possible sources of gold remaining. Either the gold halos are leaking from the north striking veins that occupy the common valley fault or from gold bearing veins that occupy or are related to the northwesterly and northeasterly trending slumps that cross cut the valley structures, or a combination of both as is common on the Kelli.

Everywhere I have prospected throughout the district, I have noted these big orange structures. They stand as ridges between or beside the slumps that generally provide creditable assays. Thus proving what the experts say when searching for or exploring large mesothermal systems and deposits. "One must first identify, explore and map the ridging and slumping, then the sampling.

How these structures are associated with the ore deposits is yet to be answered. Possibly they provided access for the hot thermal to ascend on their margins. Most strike northeasterly with the northeasterly trending greenstones, a few strike northwesterly. I have never seen any strike to the north or east/west.

\* \* \* \* \*



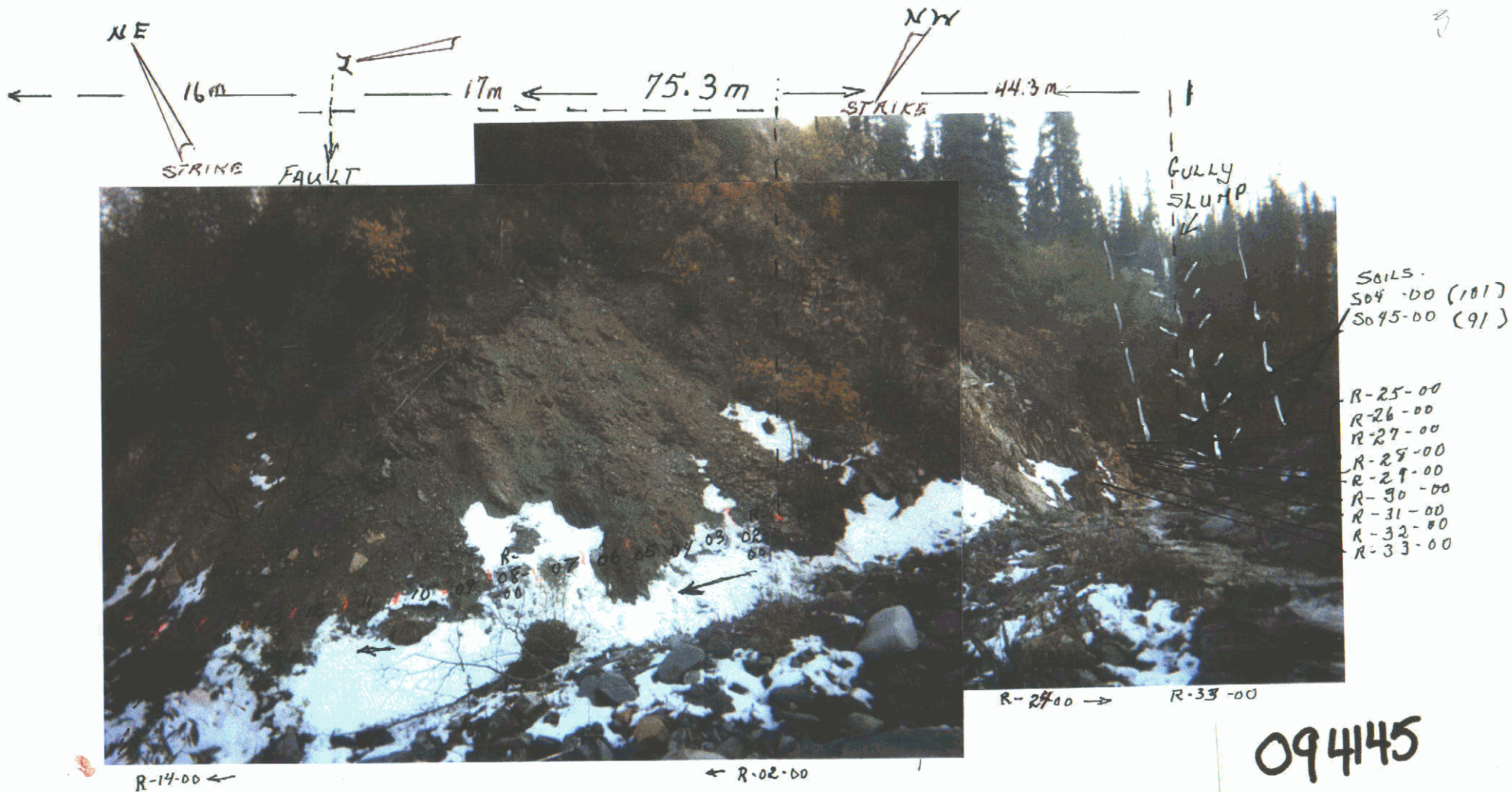
ROSS EXPOSURE Refer to pages G6 to G9 in text for detailed information and geology.

16 meters across a northeasterly striking structure dipping about 10 degrees to the south, generally consists of blocky calcareous limestone veining with narrow verticle intrusions of chlorite and sericite schists. moderate to high pyritic, sulfides includes chalcopyrite, clays, brecciation is evident.

R-15 to R-23-00, 9 chip samples across structure from south to north, 1.1 meter wide each.

NOTE Contortion of schists, center structure, rise from the verticle then trend horizontal, also overlays the limestone at top of photo.

094145



ROSS EXPOSURE: Refer to pages G-6 - G 9 in text for geological details.

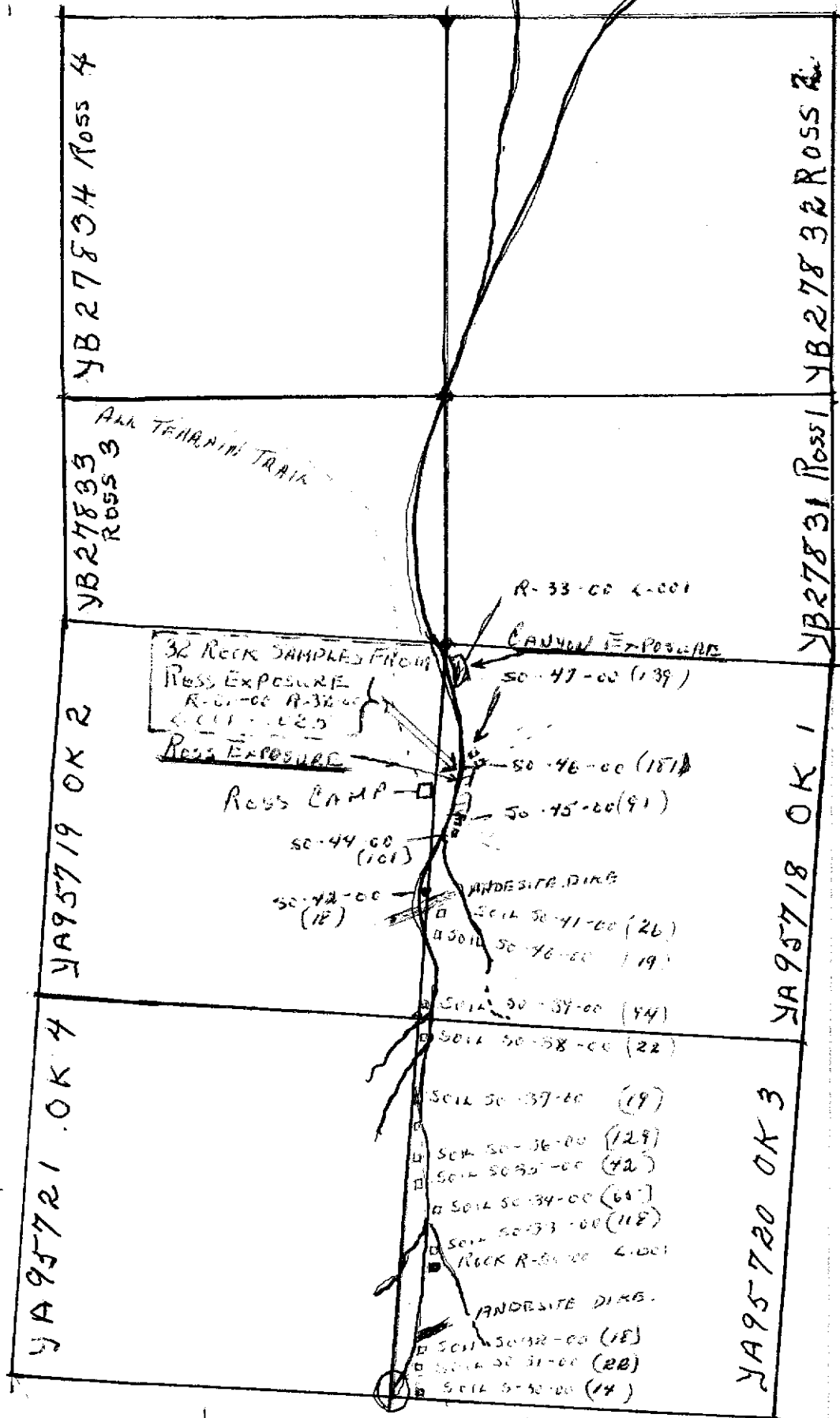
17 meters across a northwest striking bed-rock structure consisting of thermally altered chloritic/sericite schists, minor epidote, quartz veinlets, hematite, mariposite and abundant sulphides.

R-02-00 to R-14-00, 13 chip samples across base of structure, 1.1 m wide, south to north.

44.3 meters across a generally large blocky verticle standing calcarious lime stone structure, much of it seperated by narrow verticle bands of chlorite and sericite schists, porphyry intrusions clays and sulphides.

R-24-00 to R-33-00, 10 chip samples from southerly limit of structure, 1 meter wide each.

(4)



FARM

YB 27834 ROSS 4

YB 27832 ROSS 2

YB 27833 ROSS 3

YB 27831 ROSS 1

YA 95719 OK 2

YA 95718 OK 1

YA 95721 OK 4

YA 95720 OK 3

32 ROCK SAMPLES FROM  
ROSS EXPOSURE  
R-01-00 R-32-00  
C-01-00 C-25  
ROSS EXPOSURE

ROSS CAMP

R-33-00 2-001

CANON EXPOSURE

SO-47-00 (139)

SO-46-00 (187)

SO-45-00 (91)

SO-44-00 (101)

SO-42-00 (18)

ANDESITE DIKE

SOIL SO-41-00 (26)

SOIL SO-40-00 (19)

SOIL SO-39-00 (44)

SOIL SO-38-00 (22)

SOIL SO-37-00 (19)

SOIL SO-36-00 (129)

SOIL SO-35-00 (42)

SOIL SO-34-00 (64)

SOIL SO-33-00 (118)

ROCK R-30-00 2-001

ANDESITE DIKE

SOIL SO-32-00 (18)

SOIL SO-31-00 (20)

SOIL SO-30-00 (14)

SOILS - SO-30-00 (14) ppb.  
ROCK - R-01-00 2-001

ROSS 1a

KCH ←

OK 6



SILTS SI-30-00  
(.057)

YB 27840 Ross 10

YB 27838 Ross 8

YB 27836 Ross 6

Ross

JWEDE JOHNSON CAMP

POSTS.

ALL TERRAIN BIKE

TRAIL.

SI 32-00  
(0.002)

SI-31-00  
(0.001)

SI-30-00  
(.057)

ROSS CAMP.

094145

YB 27839 Ross 9

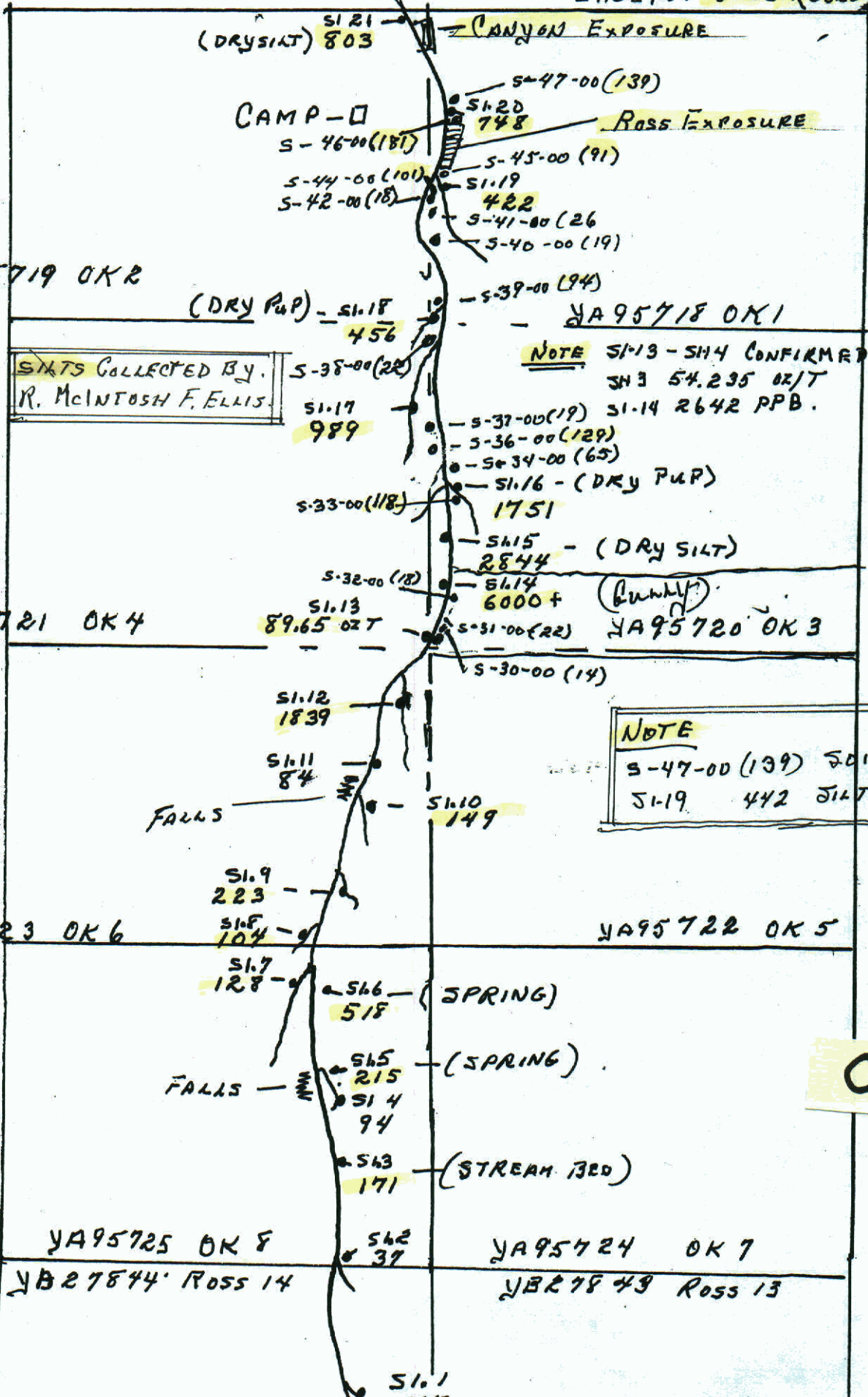
YB 27837 Ross 7

YB 27835 Ross 5



ROSS PROPERTY.

ALL ASSAYS PPB GOLD  
EXCEPT. 51.19. (GOLD OZ/T)



(DRYSILT) 51.21  
803

CANYON EXPOSURE

CAMP - □

S-46-00 (181)

S-47-00 (139)

51.20

748

ROSS EXPOSURE

S-45-00 (91)

S-44-00 (101)

51.19

422

S-42-00 (18)

S-41-00 (26)

S-40-00 (19)

YA 95719 OK 2

(DRY PAP) - 51.18

S-39-00 (94)

YA 95718 OK 1

456

NOTE 51.13 - 51.14 CONFIRMED BY ASSAY.

51.13 54.235 OZ/T

51.14 2642 PPB.

SILTS COLLECTED BY  
R. MCINTOSH F. ELLIS

S-38-00 (22)

51.17

989

S-37-00 (19)

S-36-00 (129)

S-34-00 (65)

51.16 - (DRY PAP)

S-33-00 (118)

1751

51.15 - (DRY SILT)

2844

51.14

6000+ (Bumpy)

YA 95721 OK 4

51.13

89.65 OZ/T

S-31-00 (22)

YA 95720 OK 3

S-30-00 (14)

51.12

1839

51.11

84

FALLS

51.10

149

NOTE

S-47-00 (139) 50145

51.19 442 SILTS.

YA 95723 OK 6

51.9

223

51.8

104

YA 95722 OK 5

51.7

128

S-66 - (SPRING)

518

S-65

215

S-64

94

FALLS

S-63

171

(STREAM BED)

094145

YA 95725 OK 8

S-62

39

YA 95724 OK 7

YB 27844 ROSS 14

YB 27843 ROSS 13

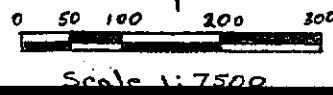
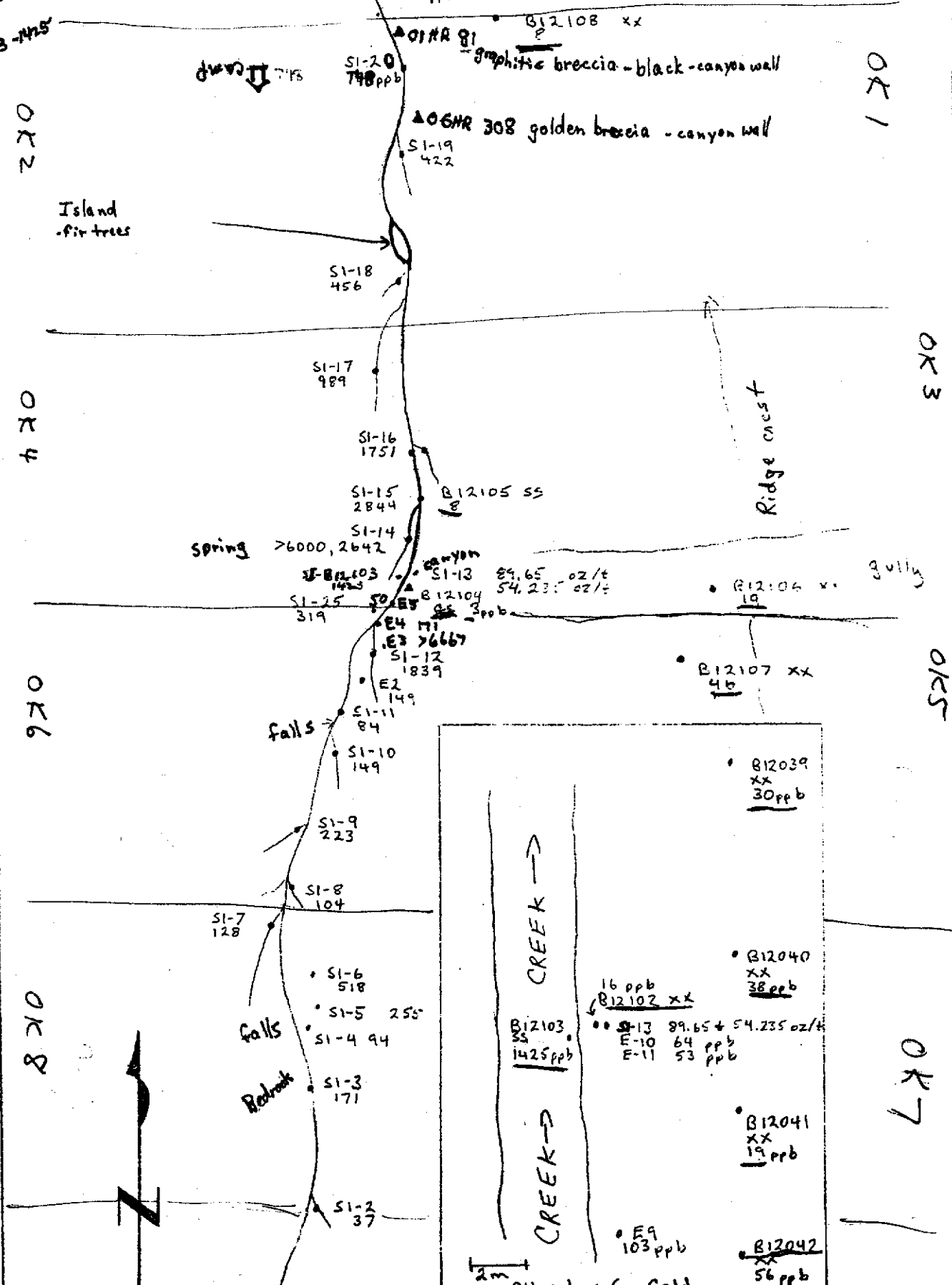
51.1

Summary Map  
 Sept 90 - 061440 308  
 Aug 91 - SS 13 89 g/tm  
 Aug 92 - E3 76667  
 Sept 92 - B12103 7425

Ross I

Figure 3

Ross I



SI-X Sample ID, B12107 Placer Dome  
 160 gold ppb xx - soil ss-silt GS - rocks

August 8, 1991

Work Order # 13298

OK/Ross Creek

Assay Certificate For Samples Provided

*Top-Rail 14*

Sample #	Au ppb
S1-01	115
S1-02	37
S1-03	171
S1-04	94
S1-05	255
S1-06	518
S1-07	128
S1-08	104
S1-09	223
S1-10	149
S1-11	84
S1-12	1839
S1-13	89.65*
S1-14	>6000
S1-15	2844
S1-16	1751
S1-17	989
S1-18	456
S1-19	422
S1-20	748
OK1-2 S1-21	803

*possible freegold nugget effect*

OK1-2

\* oz / ton

Certified by           *CHyacki*          



ROSS PROPERTY

LEFT FORK SWEDEN JOHNSON CREEK - SILT SAMPLES, 1990, 91.

YB27844 ROSS # 14

SI. 1 - 300 ft south of post # 1, small put on the right hand bank of main creek. 70% silts, 30% organic

YA95525 OK #8

SI. 2 small pup on right hand limit of main creek, 80% silts, 20% volcanic ash

SI. 3 stream bed silts, left hand limit bank, 100% silts

SI. 4 small right hand limit pup at falls on main stream, 90% silts, 10% volcanic ash/organic

SI. 5 run off spring on right hand limit bank of main stream 50% silts, 50% volcanic ash/organic

SI. 6 mountain drainage spring on right hand limit bank of main creek, 80% silts, 20% volcanic ash/organic

SI. 7 small pup on left hand limit bank of main creek. 90% silts 10% volcanic ash/organic

YA95423 OK #6

SI. 8 small pup on left hand limit bank of main creek. sample composition unrecorded.

SI. 9 small pup on right hand limit bank of main creek 90% silts 10% Organic

SI.10 small spring run-off pup on right hand limit bank of main creek, 90% silts, 10% organic

SI.11 stream sample from main stream, 90% silts, 10% organics

SI.12 small pup on right hand limit bank of main stream. 70% silts, 30% organic

YA95720 OK #3

SI.13 dry sample, 10ft off base line, right hand limit bank of main stream, 90% silts, 10% organic.

SI.14 small spring 20 ft off base line, right hand limit bank of main stream. 80% silts, 20% organic

SI.15 dry sample, dry pup, left hand limit near small stream entering main stream 90% silts, 10% organic.

SI.16 dry sample, dry pup, right hand limit of main creek, 70% silts, 30% volcanic ash/organic

YA95721 OK 4

SI.17 running creek pup, left hand limit bank of main creek, 200 ft above post #2, 50% silts, 50% organic

SI.18 dry pup, dry sample, left hand limit bank directly at post#2, 30 ft from base line. 90% silts, 10% organic

YA95718 OK #1

SI.19 running pup, right hand limit of main creek, 40 ft off base line. 60% silts, 40% organics

SI.20 main creek sample, right hand limit bank, across creek from camp. 80% silts, 20% organic

YA95719 OK #2

SI.21 dry sample from main creek banks directly above post #1  
80% silts, 20% organic

*Handwritten notes:*  
SI.14  
SI.15  
SI.16  
SI.17  
SI.18  
SI.19  
SI.20  
SI.21


19/10/2000

Certificate of Analysis

# of pages (not including this page): 3

Ross Project

WO# 00152

Certified by   
Justin Lemphers (Senior Assayer)

Date Received: 29/09/2000

**SAMPLE PREPARATION:**

Code	# of Samples	Type	Preparation Description (All wet samples are dried first.)
r	42	rock	Crush to -10 mesh; riffle split 200g; pulverize to -100 mesh
s	17	soil	Screen -80 mesh
s40	3	soil	Screen -80 mesh, -40 mesh for FA (insufficient -80 mesh)
ss	1	sediment	Screen -80 mesh
ss40	2	sediment	Screen -80 mesh, -40 mesh for FA (insufficient -80 mesh)

**ANALYTICAL METHODS SUMMARY:**

Symbol	Units	Element	Method (A:assay) (G:geochem)	Fusion/Digestion	Lower Limit	Upper Limit
Au	ppb	Gold	G: FA/AAS	15g FA / aqua regia	5	7000
Au	oz/ton	Gold	A: FA/AAS	1AT FA / aqua regia	0.001	0.400

AAS = atomic absorption spectrophotometry  
FA = fire assay

$$1000\text{ppb} = 1\text{ppm} = 1\text{g/mt} = 0.0001\% = 0.029166\text{oz/ton}$$

19/10/2000

Certificate of Analysis

Page 1

Ross Project

WO# 00152

Certified by 

Sample #	Au ppb	Au oz/ton
s40 G-100-00	116	4th Fork Swade Johnson Creek
s G-101-00	30	
s G-102-00	1038	
s40 S0-30-00	14	
s S0-31-00	21	
s S0-32-00	18	
s S0-33-00	118	
s40 S0-34-00	65	
s S0-35-00	42	
s S0-36-00	129	
s S0-37-00	19	
s S0-38-00	22	
s S0-39-00	94	
s S0-40-00	19	
s S0-41-00	26	
s S0-42-00	18	
s S0-44-00	101 ✓	
s S0-45-00	91 ✓	
s S0-46-00	181 ✓	
s S0-47-00	139 ✓	
r GR-01-00	<.001	4th Fork Swade Johnson Creek
r GR-02-00	0.003	
r GR-03-00	<.001	
r R-01-00	<.001	
r R-02-00	<.001	
r R-03-00	0.001	
r R-04-00	<.001	
r R-05-00	<.001	
r R-06-00	<.001	
r R-07-00	<.001	

19/10/2000

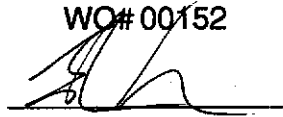
Certificate of Analysis

Page 2

Ross Project

WO# 00152

Certified by



Sample #	Au ppb	Au oz/ton
r R-08-00		<.001
r R-09-00		0.002
r R-10-00		0.004
r R-11-00		<.001
r R-12-00		<.001
r R-13-00		0.006
r R-14-00		0.003
r R-15-00		0.001
r R-16-00		0.025 ✓
r R-17-00		0.009
r R-18-00		0.003
r R-19-00		0.001
r R-20-00		0.001
r R-21-00		0.004
r R-22-00		0.001
r R-23-00		0.001
r R-24-00		0.002
r R-25-00		0.014
r R-26-00		<.001
r R-27-00		<.001
r R-28-00		0.025 ✓
r R-29-00		0.018
r R-30-00		0.001
r R-31-00		0.001
r R-32-00		<.001
r R-33-00	—	<.001
r RC-101		0.003
r RC-102		0.001
r RC-103		0.001
r SJR-101		<.001 - Swede JOHNSON.

HELLI

Swede JOHNSON.

19/10/2000

Certificate of Analysis

Page 3

Ross Project

WO# 00152

Certified by 

Sample #	Au ppb	Au oz/ton
r SJR-102		<.001
r SJR-103		<.001
ss40 S1-30-00		0.057
ss40 S1-31-00		0.001
ss S1-32-00		0.002

*Twede Johnson CREEK.*

*should have been ppb. "Silt's"*

## **I. SUMMARY**

After analyzing all the available information and data, I suggest that as of this date, the Ross Property must have the best potential when compared to the Kelli Property, and far more potential than Swede Johnson.

While the odd high value assay may be ignored or labelled erratic, the silts and soils values are just to consistent and of high to extreme values over the length of the creek and valley to be ignored or passed off as per chance, placer, the erratic or why are they there.

Common sense tells us that these big halos and micron sized gold are derived from a source that follows the valley wall or bottom, or a source that obliquely cross-cuts the valleys. Interpreting the assay results combined with the topography gives one the sense that both structures provide the assays we recover.

We know by visual examination on the Kelli that swarms of vein strikes in three directions, northerly with the common fault which is cut obliquely by northeasterly and northwesterly trending veins, a few east/west strike veins are recorded.

All indications on the Ross Property leads me to assume with a high level of confidence that the same type of structures and system exists as on the Kelli.

While I did not get to spend any appreciable time in the upper valley on the OK and Ross Claims, all indications were that much of the lower portions of the valley experienced massive thermal alteration comparable to the Kelli Canyon.

Although time restraints and few samples leave much to be desired on other sections of the Ross Property excepting for part of the OK claims, I feel confident that at least a considerable portion of this property deserves close direct exploration.

Silt values of 116 and 1038 ppb combined with many excellent results when panning on the 4th fork, makes one speculate that this could be another valley equal to the 1st fork.

While panning produced creditable results on the 2nd and 3rd forks, no assays were collected. Both valleys and the creek contents compare favourably with the two explored creeks. I hesitate to make any assumptions as of this date.

Consideration has been given to the placer effect that may have resulted from glacial placed gold rich materials. This possibility does not concern me as I avoided sampling any possible gold rich areas indicated by panning. Each site was carefully chosen so as not to include these potentially rich areas. Also, most samples contained a large majority of organic materials. I also studied the results of earlier silt sampling which identified the high potential areas.

\* \* \* \* \*

## **J. RECOMMENDATIONS**

The four creeks, all tributaries of Swede Johnson Creek, should be named officially or appointed names such as OK, Ross, Ellis, etc., by the partnership. There can be no question that this property will host extensive exploration over the next few years. Simple naming by the partnership will be appreciated and eliminate confusion.

A one to two mile placer lease should be staked on the 1st fork and possibly the 4th fork. Both could be valuable placer creeks, especially if the old timers did not always get to bedrock and there are some indications that they only worked the surface in some areas. While the partnership may not wish to carry out or lease placer, they should protect themselves from someone else trying to placer the ground they wish to explore and develop. They don't need that headache.

All-terrain access from just below the Quill Creek canyon should be investigated if the partnership wishes to continue exploration on their own behalf. This does not appear to be a large job for a couple of experienced persons. The present access is down-right horrid.

Establish an adequate helicopter pad near the Ross camp for transportation, emergencies, and visitations.

The present Ross camp can be made quite habitable with little work to provide geologists and others with a dry sleeping and storage facility.

While I recognize that considerably more sampling is required on all four of the valleys and the uplands that separate these valleys, I recommend that at least some initial identifying and mapping of the topography take place as well as some trenching prior to sampling.

Mapping the topography will identify a large portion of the all important ridging and slumping. Some initial trenching to expose bedrock in one of more of the high value drainages/slumps and across the valley floors and walls will provide invaluable information and the guidance necessary for a quality sample program.

The silt samples on the Ross claims numbers 7 and 9, indicate that the large swarm of veins that exist at the Lower Canyon Kelli Property, may extend well out into the lower elevations of the Shakwak Valley. Large slumps that trend northeasterly and northwesterly out into the Shakwak Valley from the Kelli and other properties support this assumption.

If these swarms of veins originate at the Denali Fault and trend southwesterly and southeasterly across the various properties, their halos will be detected by a well structured geo-chem program of silt and soil sampling. Such sampling to be concentrated along the northern margins of the Ross, Swede Johnson, and Kelli Properties with emphasis placed on sampling the large slumps.

\* \* \* \* \*

THE ROSS PROPERTY PROJECT

SEPT. ± OCT 2000

By L. TREMBLAY, HAINES JUNCTION, YUKON.

PHOTOGRAPHY:	2 disposable cameras, film development	\$ 81.64
PHOTOCOPYING	Color and black and white copying	127.16
SUPPLIES	flag tape, metal ident. tags, assay bags, paper, folders, pens, binders etc.	87.75
FUEL	Vehicle and all-terrain, 2 trips to Ross Property, to Whitehorse a number of trips for supplies, information, etc.	379.26
TELEPHONE	communications with the Ross Partnership, glacialogists, geologists, U of BC	119.16
ASSISTANT	field assistant \$150.00 day X 5 days	750.00
RENTAL	two all-terrain vehicles \$100.00 day X 5 days	500.00
FOOD, ETC.	supplies for field trips, travelling to the property, to Whitehorse	350.00
RENTAL	accomidation in Whitehorse to prepare major portion of the report,	175.00
ASSAYS	20 soils, 3 silts, 42 rock	1,142.23
SECRETARIAL SERVICES	structuring and typing	600.00
FIELD WORK	L. Tremblay \$150.00 day X 7 days	1,050.00
REPORT	L. Tremblay \$100.00 day X 10 days	1,000.00
<u>TOTAL COSTS</u>	<u>ROSS PROJECT</u>	<u>\$6,462.20</u>

September 25, 1990

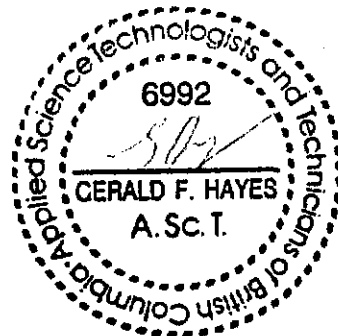
Work Order # 08395

Ross McIntosh  
84 Bridge St. W.  
Belleville, Ont.  
K8P 1J5

Assay Certificate For Samples Provided

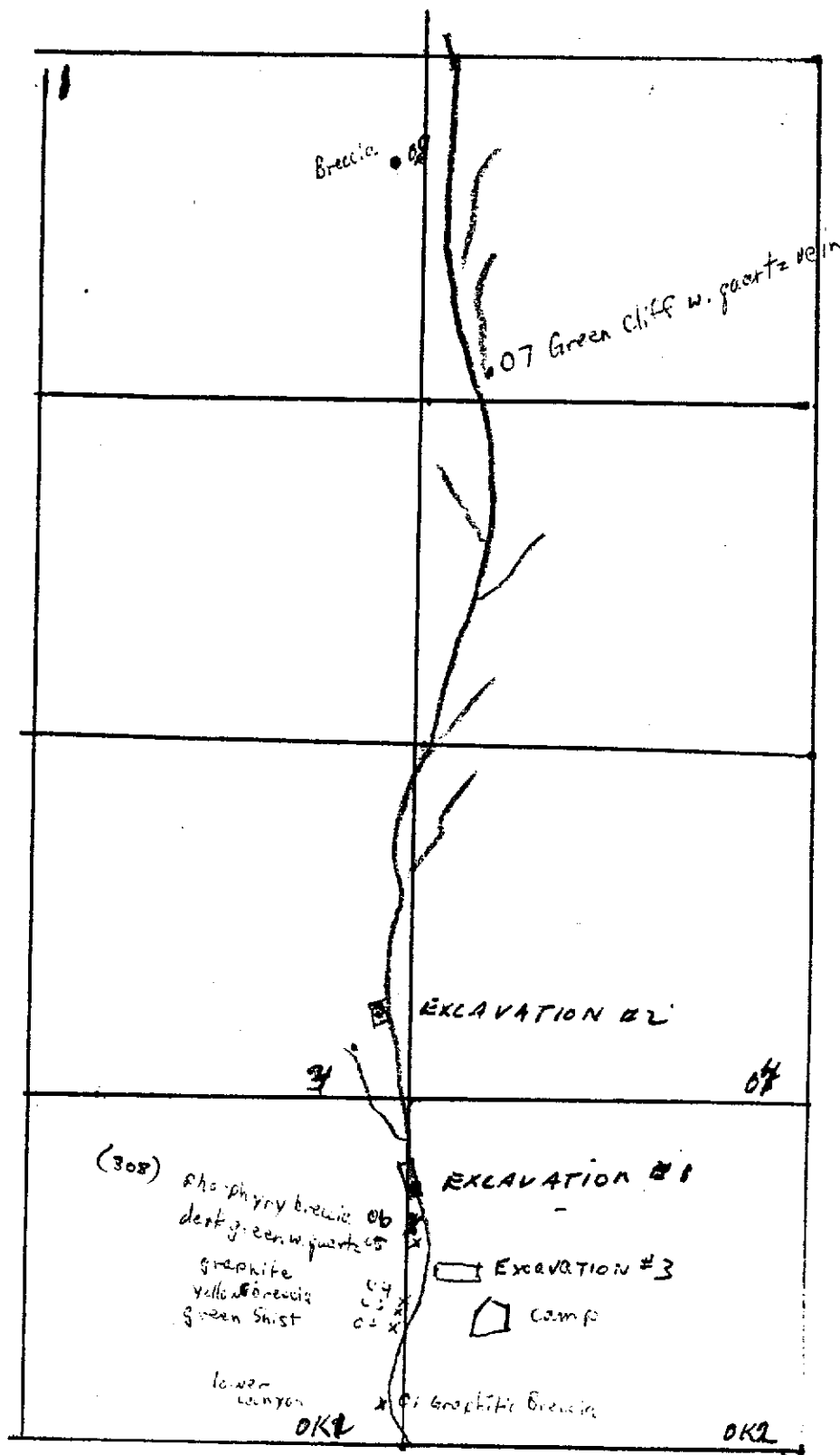
Sample	ppb Au	ppm Ag	ppm Cu	ppm Pb	ppm Zn	ppm As
graphite 01	81	<0.1	44	42	177	142
green schist 02	39	<0.1	28	6	32	110
yellow-green 03	34	0.3	12	18	37	78
black broken up 04	39	0.4	31	11	98	131
dark green w. quartz 05	50	0.4	60	7	14	152
golden breccia 06	308	<0.1	10	10	49	57
upper canyon 07	14	0.3	17	2	<1	87
stream 08	33	0.1	34	<1	33	110

Au -- 15g Fire Assay/AAS  
Metals -- Aqua Regia Digestion/AAS Geochem



1990

Hard Rock Assays Sept 25, 1990 - 01-08 R.M. Jantosh  
Trenching + Stripping Excavation #1, #2



Summary

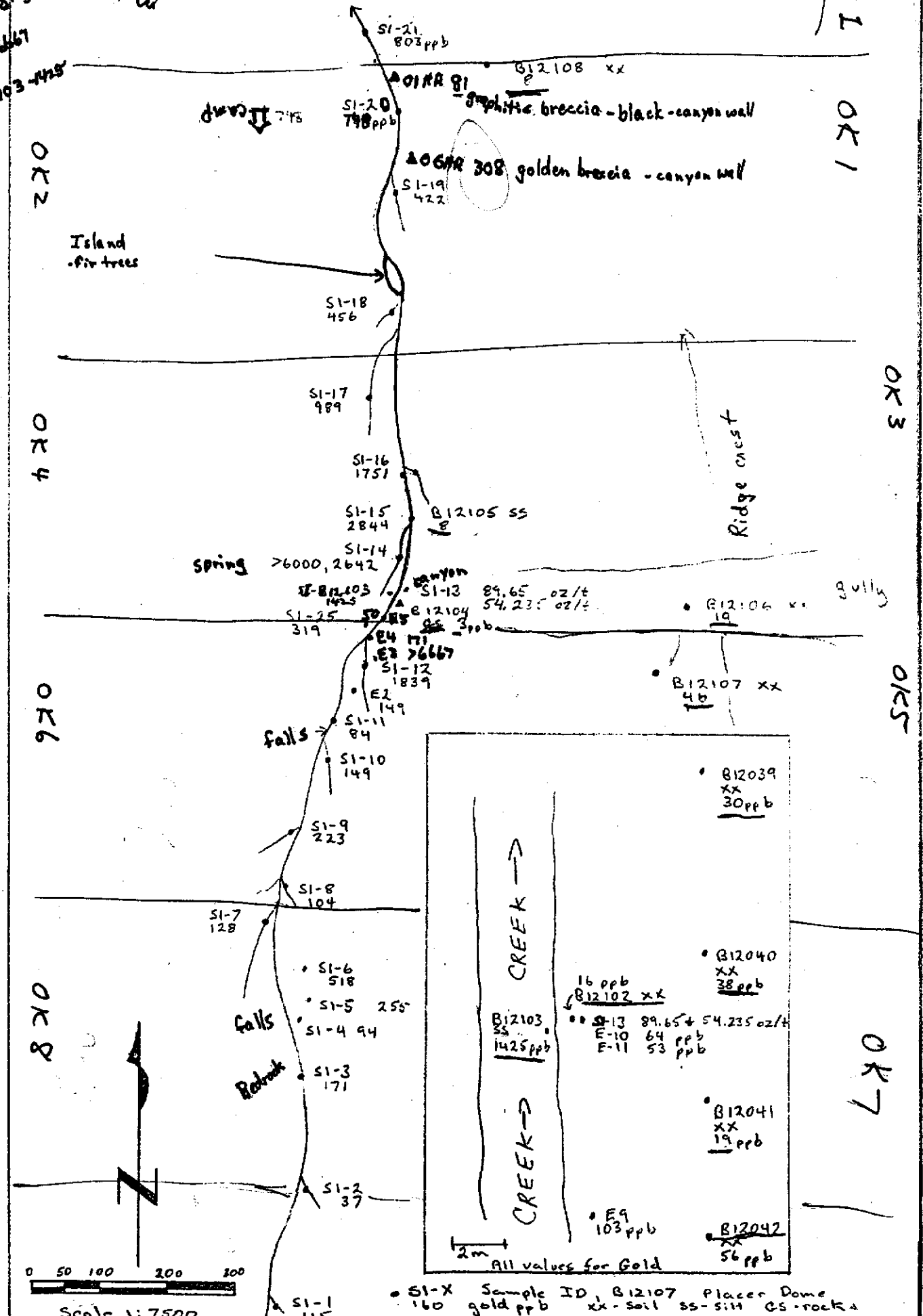
Sept 90 - 06/100 300  
 Aug 91 - SI 13 80 g/t  
 Aug 92 - E3 7667  
 Sept 92 - B12103 4428

5550

B12108 GS 5109 GS  
 5108 GS

Figure 2

Pass 1



OK2

OK1

OK4

OK3

OK6

OK5

OK8

OK7

07-Aug-92 date

Assay Certificate

page 1

Ross MacIntosh

WO#13667

Sample #	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm
E1	224	<0.1	155	8	62	211	24
E2	62	<0.1	109	13	73	128	16
E3	>6667	3.1	107	164	108	144	30
E4	171	Δ0.1	154	25	92	148	14
E5	50	Δ0.1	77	16	84	173	5
E6	157	Δ0.1	88	9	65	153	6
E7	214	Δ0.1	97	12	79	197	5
E8	68	Δ0.1	61	6	48	181	<1
E9	103	Δ0.1	59	21	88	186	<1
E10	64	Δ0.1	52	14	73	212	8
E11	53	Δ0.1	96	8	71	237	3
E12	79	Δ0.1	80	9	70	225	3
E13	164	Δ0.1	83	7	56	227	2
W1	140	Δ0.1	25	8	42	206	<1
W2	136	Δ0.1	27	6	38	237	<1

Certified by

*Chyolki*





The property geology is very similar to the Kelli property, which is underlain by the sequence of mainly andesitic volcanics and sheared to mylonized generally calcareous limestone and argillaceous limestone along with minor schists.

This sequence has been faulted and sheared at three locations; the lower, middle and upper canyon areas. The faulting is predominately northwest southeast and parallels the Denali Fault, however, there is a southwest northeast trending structure that follows the general course of Reed creek. A quartz-feldspar to hornblende feldspar porphyry dyke of Oligocene age (K/Ar date of 23.5 m.y. by Armstrong and Gabites 89) has intruded the sequence along the southwest northeast structure and the northwest southeast fault zones. The dyke which has intruded along the structure following the creek has been cut by the northwest southeast faults and shears. The northwest southeast faults and shears and associated hydrothermal alteration have subjected both the volcanics and dykes to conversion to mylonite and quartz granules and clays to an extreme of quartz-carbonate-graphite cut by quartz veinlets.

Associated with the northwest southeast faults and shears are numerous quartz veins, which exhibit a multiphase history. These quartz veins have been entirely crushed to gouge and granular quartz in places, in others subjected to asymmetric drag folding and in others crosscut obliquely by younger veins.

The gold mineralization is associated with the quartz veins emplaced along the northwest southeast trending faults and shears. The southwest northeast trending structures most likely provide additional structural preparation.

#### Work Performed:

The work performed was conducted as to test and confirm the spectacular stream silt geochemistry reported on the property (up to 54.235 & 89.65 oz gold per ton). These results were obtained from the creek bank directly below a small northwest trending gully, which is interpreted as being the surface expression of a fault/shear zone. The resampling of the area with 1 stream sample and 6 soil samples, confirmed the presence of anomalous gold values (1425 ppb gold stream; 19 to 56 ppb gold soil samples). Additionally, three rock samples were collected, with sample B12109 returning 540 ppb gold. This sample was collected from mylonized quartz-carbonate-graphitic rock similar to that found in the lower canyon of Reed Creek.

#### Land Status:

The Ross property consists of the Ok 1 to 8 claims, all owned and kept in good standing by Ross McIntosh and associates.

**Location and Access:**

The property is located along the front of the Kluane Range, thirty kilometres northwest of Burwash Landing, Yukon. The area is covered by NTS sheet 115G 12. Access to the property is by 4X4 bike along winter roads from the Alaska highway or by helicopter from Haines Junction, Yukon.

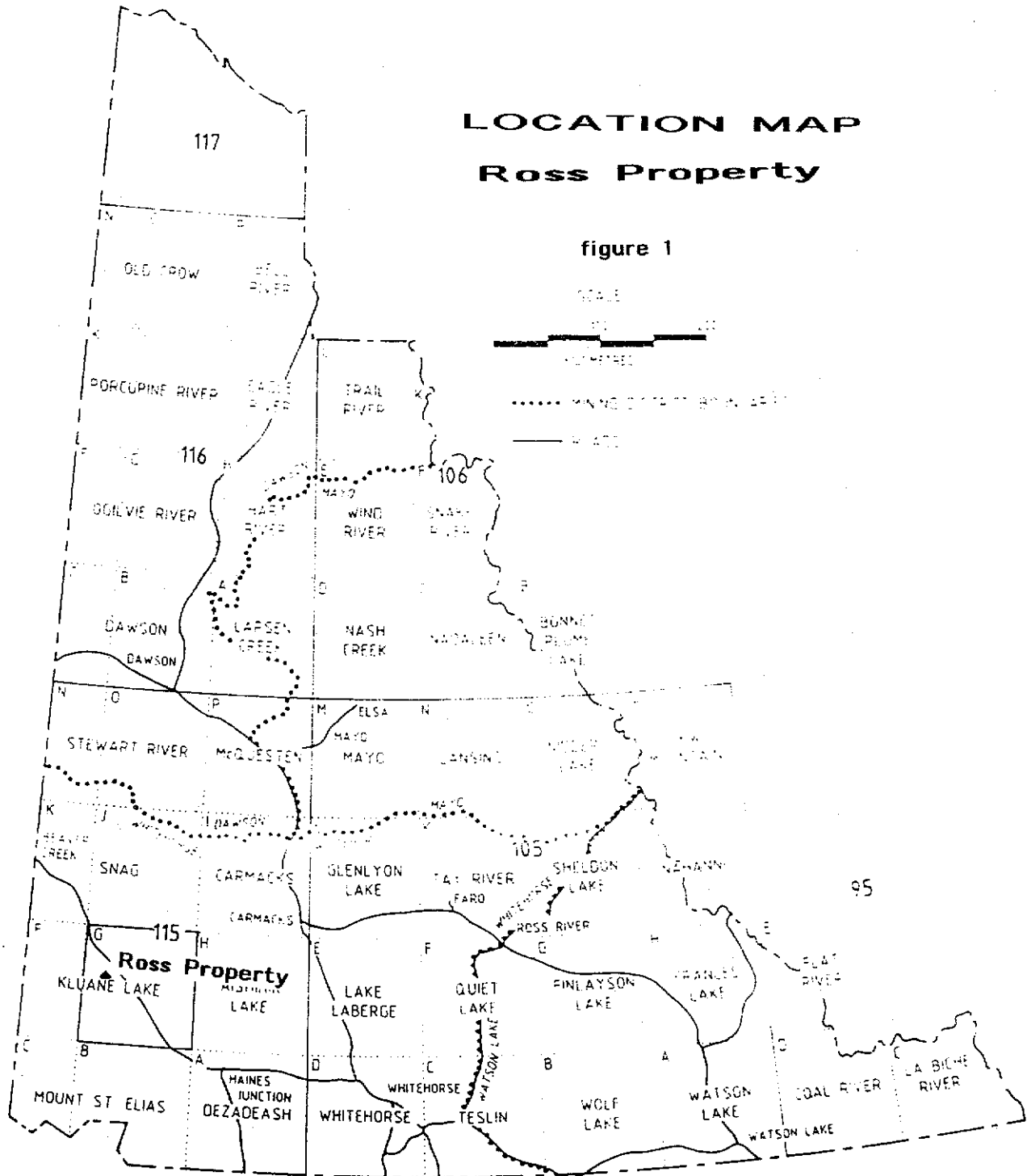
**SUMMARY & RECOMMENDATIONS:**

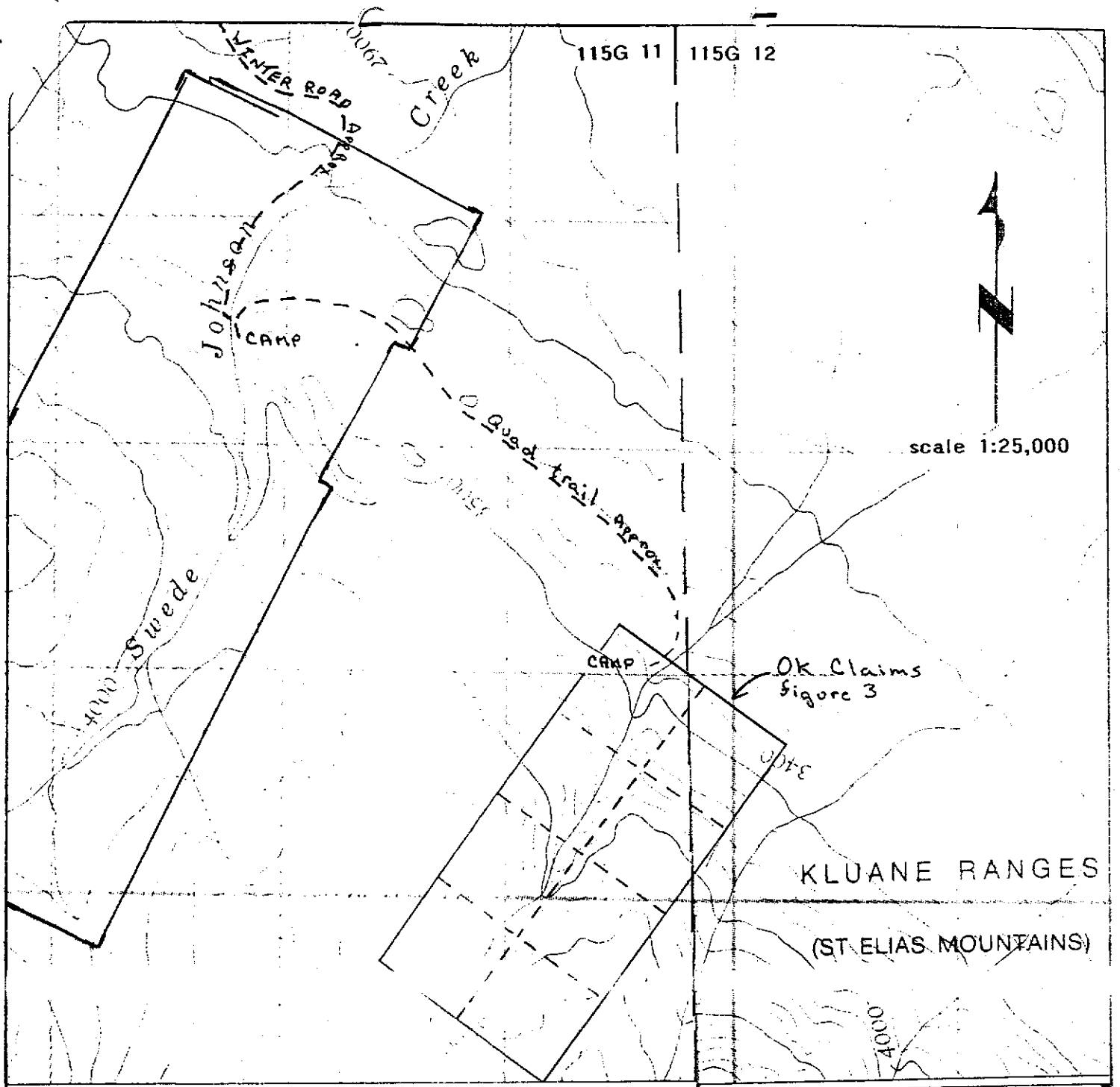
The gold mineralization at the Ross Property is hosted by fault and shear controlled quartz veins. While the gold mineralization could be of high grade, the size and tonnage potential at this time is limited.

The property is not recommended for option at this time, however, it should be reviewed periodically for any material changes in the size and tonnage potential of the property.

# LOCATION MAP Ross Property

figure 1





77

139°30'

981.20 E

61°30'

**Ross Property**

**Sample Locations**

**Claim Location**

figure 2

PLACER DOME RESEARCH CENTRE  
Geochemical Analysis

Stream Silt

Project/Venture: 1W  
Area: BURWASH  
Remarks: TWO ROSS AREA

Geol: D BROWNLEE  
Lab Project No.: (2549)

Date Received: SEPT 15, 1992  
Date Completed: SEPT 22, 1992

Page 1 of 1  
Attn: D BROWNLEE  
J KOWALCHUK  
E KIMURA

Au - 10.0 g sample digested with Aqua Regia and determined by Graphite Furnace A.A. (D.L. 1 PPH)

ICP - 0.5 g sample digested with 4 ml Aqua Regia at 100 Deg. C for 2 hours.

N.B. The major oxide elements, Ba, Be, Cr, La and W are rarely dissolved completely with this acid dissolution method

SAMPLE No	Au ppb	Ag ppm	Mo ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Cd ppm	Ni ppm	Co ppm	Mn ppm	Bi ppm	Cr ppm	V ppm	Ba ppm	W ppm	Be ppm	La ppm	Sr ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
B12103 ✓	1425	0.3	2	107	12	111	37	5	0.2	65	30	869	<2	84	68	59	<5	0.4	9	45	0.11	2.14	2.45	4.85	2.09	0.04	<0.01	0.08

PLACER DOME RESEARCH CENTRE  
Geochemical Analysis

Soils

Project/Venture: 1W  
Area: BURWASH  
Remarks: KELU AREA

Geol: D BROWNLEE  
Lab Project No.: E2550

Date Received: SEPT 15, 1992  
Date Completed: SEPT 22, 1992

Page 2 of 2  
Attn: D BROWNLEE  
J KOWALCHUK  
E KIMURA

Au - 10.0 g sample digested with Aqua Regia and determined by Graphite Furnace A.A. (D.L. 1 PPB)  
ICP - 0.5 g sample digested with 4 ml Aqua Regia at 100 Deg. C for 2 hours.

N.B. The major oxide elements, Ba, Be, Cr, La and W are rarely dissolved completely with this acid dissolution method

SAMPLE No.	Au ppb	Ag ppm	Mo ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Cd ppm	Ni ppm	Co ppm	Mn ppm	Bi ppm	Cr ppm	V ppm	Ba ppm	W ppm	Be ppm	La ppm	Sr ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
B12037	41	0.8	6	191	12	89	25	11	0.9	49	43	1291	△	78	78	130	<5	0.9	21	50	0.03	1.81	1.26	4.35	1.04	0.04	0.01	0.08
B12038	30	0.2	<1	87	11	98	19	5	0.3	46	25	880	△	62	52	110	<5	0.5	12	45	0.04	1.47	1.19	3.97	1.04	0.05	0.01	0.08
B12039	38	0.2	3	80	11	111	22	13	0.3	46	24	909	△	60	52	114	<5	0.4	9	48	0.04	1.50	1.31	3.98	1.05	0.05	0.02	0.09
B12040	19	0.2	5	97	13	107	22	<5	0.3	49	25	898	△	66	58	118	<5	0.4	9	46	0.04	1.65	1.35	4.27	1.17	0.06	0.02	0.09
B12041	56	0.1	4	120	10	105	21	5	0.3	64	28	649	△	86	73	89	<5	0.4	8	35	0.06	1.90	1.01	5.01	1.58	0.06	0.01	0.10
B12042	59	0.2	3	119	10	104	23	7	0.3	58	27	642	△	83	70	85	<5	0.4	7	33	0.05	1.83	0.97	4.85	1.53	0.06	0.01	0.09

PLACER DOME RESEARCH CENTRE  
Geochemical Analysis

Rocks

Project/Venture: 1W  
Area: BURWASH  
Remarks: KELLI AREA

Geol: D BROWNLEE  
Lab Project No: D2551

Date Received: SEPT 15, 1992  
Date Completed: SEPT 22, 1992

Page 1 of 1  
Attn: D BROWNLEE  
J KOWALCHUK  
E KIMURA

Au - 10.0 g sample digested with Aqua Regia and determined by Graphite Furnace A.A. (D.L. 1 PPB)

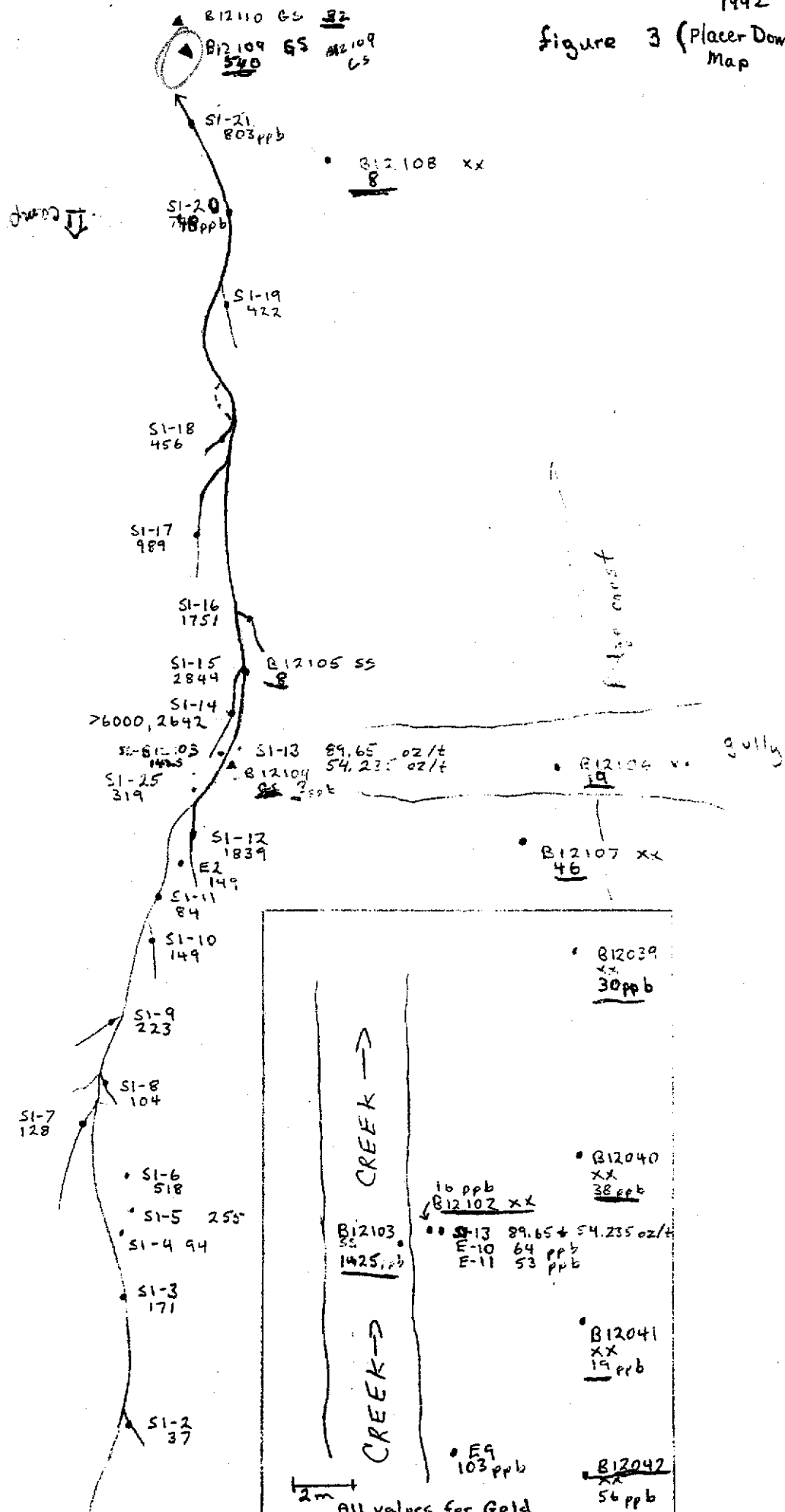
ICP - 0.5 g sample digested with 4 ml Aqua Regia at 100 Deg. C for 2 hours.

N.B. The major oxide elements, Ba, Be, Cr, La and W are rarely dissolved completely with this acid dissolution method.

SAMPLE No.	Au ppb	Ag ppm	Mo ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Cd ppm	Ni ppm	Co ppm	Mn ppm	Bi ppm	Cr ppm	V ppm	Ba ppm	W ppm	Be ppm	La ppm	Sr ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %			
	5	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	19	71	0.05	1.15	2.12	1.75	0.53	0.05	0.08	0.04			
																			10	83	0.01	2.21	4.30	3.84	0.95	0.25	0.09	0.12			
																			8	114	<0.01	1.26	4.73	5.99	1.86	0.14	0.02	0.08			
																			10	197	<0.01	1.88	6.47	6.38	2.14	0.16	0.02	0.08			
																			11	157	<0.01	2.16	5.55	4.22	2.14	0.16	0.02	0.08			
																			7	112	<0.01	0.84	3.83	3.43	1.84	0.15	0.02	0.08			
																			5	121	<0.01	1.92	3.45	3.87	2.76	0.14	0.02	0.08			
																				368	<0.01	0.24	16.44	3.96	2.09	0.07	0.02	0.04			
																			1	<0.01	0.60	3.67	3.39	0.96	0.15	0.02	0.09				
																			1	<0.01	0.59	3.67	3.50	0.96	0.15	0.02	0.09				
																			0	<0.01	0.18	0.96	0.91	0.20	0.09	0.02	0.01				
																			8	<0.01	0.59	4.66	5.69	0.99	0.18	0.03	0.07				
																			8	<0.01	0.14	21.66	2.07	2.09	0.05	0.02	0.03				
																			8	<0.01	0.08	22.82	1.12	1.30	0.03	0.01	0.02				
																			22	<0.01	0.30	7.36	2.28	1.31	0.07	0.02	0.06				
																							99	4.37	2.71	0.10	0.02	0.02			
																							48	3.94	2.99	0.08	0.02	0.04			
																							92	3.97	1.87	0.10	0.02	0.05			
																							88	4.03	1.43	0.13	0.02	0.26			
																							191	4.09	1.52	0.14	0.02	0.28			
																							32	1.79	0.63	0.11	0.02	0.08			
B12104	3	<0.1	3	53	10	48	17	12	0.4	32	25	869	<2	90	67	32	<5	0.8	17	57	0.05	1.94	4.39	3.31	1.95	0.15	0.02	0.08			
B12109	540	0.4	3	36	25	52	64	9	0.2	33	20	684	<2	85	21	31	<5	0.5	10	124	<0.01	0.30	3.58	4.59	1.05	0.11	0.03	0.04			
B12110	32	0.1	3	15	6	53	<5	6	<0.1	10	8	349	<2	70	19	34	<5	0.2	6	55	<0.01	0.96	2.28	1.88	0.66	0.12	0.05	0.05			
																							97	<0.01	0.23	5.26	1.82	0.41	0.05	0.04	0.02
																							77	<0.01	0.52	3.79	2.08	0.25	0.10	0.05	0.05
																							32	<0.01	0.30	6.38	3.53	1.30	0.10	0.03	0.07
																							37	<0.01	1.03	5.77	4.17	1.85	0.07	0.04	0.04
																							75	0.08	0.94	0.99	2.29	0.87	0.34	0.05	0.08

Figure 3 (Placer Dome) Map

Sept 90 - 206 (LH) 388  
Aug 91 - 513 89 g/t Au  
Sept 92 - 812193 - 1425



0 50 100 200 300  
Scale 1:7500

S1-X Sample ID, B12107 Placer Dome  
160 gold ppb xx - soil ss - silt GS - rock