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QUINTERRA RESOURCES INC.

SYLVANITE CREEK PROPERTY
Project Summary
to
February, 1984

CM83-5-C-62

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Quinterra's Sylvanite Creek Property
Summary of Work and Results to Dec. 1983

The Sylvanite Creek gold property, which is 100% owned by Quinterra Resources Inc., comprises 257 contiguous claims in Tooms, Greenlaw and Halcrow townships, about 90 miles southwest of Timmins. The group is in the Swayze greenstone belt and covers rocks which in geological setting and alteration are similar to those found in major gold camps in Ontario and Quebec.

In the past 2½ years, Quinterra, through the services of W.O. KARVINEN & Associates Ltd., has enhanced this mostly overburden-covered property from a grass roots level to an important prospect with gold mineralization in a variety of geological environments. Because the potential target area is so large (now estimated to measure at least 16000 feet by 2000 feet), it has taken much of the \$340,000 spent thus far just to realize the extent of potential environments where gold could be concentrated. Because of the cover, much of the drilling has been directed at obtaining bedrock geologic information with the hope that some mineralization could also be encountered. As a result of drilling and surface stripping and trenching, economic sections of gold have been encountered in isolated portions of the favourable rocks over a length of 8000 feet.

Detailed geologic and magnetic surveys as well as an induced polarization survey over a portion of the potential area have contributed immensely to the present understanding of the bedrock geology and setting for mineralization. The property is now nearing the stage where more influx of money will be necessary to test, mainly by diamond drilling, several of the new target areas.

The purpose of this report is to briefly summarize the sequence of work done, results obtained, the geologic setting of mineralization and proposed

work for the next phase.

Detailed reports on the various phases of work including maps are appended to this report.

Sequence of Events

May, 1981: area prospected by Innes and Karvinen. Based on boulders found in till and eskers and on a few bedrock exposures the area was considered favourable for gold mineralization. Potential area was suspected to lie between Sylvanite Creek and Betty Lake and to extend eastward to Hotstone Lake where an old gold prospect is known.

January, -82: Innes and Karvinen staked 12 claims in Tooms Township. Background data on the area was collected and some core from earlier drillings in area were found to be anomalous in gold. Property was proposed to Quinterra with the addition of 60 new claims.

April, May & June, 1982: more claims were staked bringing total to 70. These cover an area from south of Betty Lake to Sylvanite Creek and east to Hotstone Lake.

July 1982: report on area and property was prepared by W. O. Karvinen for Quinterra (see appendix). A basal till sampling program and surface prospecting were proposed.

October 1982: Access roads were bulldozed and 53 till pits dug at 300 ft. intervals along an east-west line south of Sylvanite Creek. Heavy mineral analysis gave ambiguous results because of the separation techniques used, however, the -200 mesh fraction analysis outlined several anomalous areas. Data from this work indicated gold-bearing bedrock to the north, but further (>1000 ft.) up-ice than had been anticipated.

Outcrop stripped on the road west of camp revealed the presence of lean pyritic exhalative rocks intercalated with

gray and green carbonates. These are cut by quartz-ankerite veins with tourmaline and pyrite and lamprophyre dikes. The newly exposed outcrops were trenched and channel sampled. Only anomalous results (up to 500 ppb) were obtained.

November -82: a 16,000 ft. base line with 1600 ft. long cross lines at 400 ft. intervals were cut from west of the above trenches, east to Sylvanite Creek. Fluxgate magnetometer and VLF Radem surveys were done in an attempt to better delineate the trend of the rocks found in the trenches. The VLF results were of little value, while the magnetometer survey revealed only the presence of highly magnetic, altered intrusive ultramafics which crossed the grid in Greenlaw Township.

Dec. 1982 to February -83: because of the financing arrangements made for the property by Quinterra, a certain amount of drilling was required by the end of 1982. Lacking any obvious targets, it was decided to drill two sections, 2400 and 1000 feet west of the trenches. In addition one hole was drilled about 600 feet east of the trenches. A total of 3132 feet representing five holes were completed. Numerous potential zones with anomalous gold were encountered and economic values over reasonable widths were intersected in two holes, SC-1 and SC-3.

April, 1983: because so little was yet known on this poorly exposed section of potential rocks, a program to surface prospect with the use of a bulldozer and overburden depth testing and an expanded grid with some detailed magnetic work, followed by diamond drilling was planned.

May, 1983: most of the month was spent putting in culverts and up-grading the road from Kormak to Betty Lake, a total of 10 miles.

June, July, 1983: the cross lines on the previous grid were extended up to 2800 feet north and south of the No.1 grid and a second base line was cut for 8000 feet from OE, northwestward to Sawbill Lake.

Cross lines at 400 foot intervals and 5000 feet long were established. A fluxgate magnetic survey was conducted in June over the new grid and the extended lines. Results indicated similar magnetic expressions to continue westward under the esker to Sawbill Lake. A few magnetic linears and discordances were also delineated. However, it was obvious that in order to trace out the different volcanic, carbonate and exhalative strata, a more detailed and sensitive magnetic survey was needed.

Surface prospecting, bulldozing of old roads and overburden depth testing lead to the discovery of four new widely-spaced outcrops, all with potential rocks. During the mag survey, an old shaft in green carbonate at the east end was discovered. Stripping and trenching was done in the area. Results indicated erratic, but economic gold mineralization on two of these newly-exposed outcrops, Nos. 6 and 7.

August to
Nov., 1983:

diamond drilling to follow-up on previous drill results, to build up the bedrock geologic picture and to test some features revealed by the magnetic survey was started in early August. A total of 5797 feet representing 14 holes were drilled (see summary reports, logs, and sections in Appendix). The first eight holes were in the vicinity of SC-1 and SC-3 where intersections had been made in the earlier drilling. One hole, SC-14, was put down into the esker, 800 ft. west of SC-3 to test for overburden depth and rock types and another, SC-15 was drilled west of trench area 6 where important vein-type mineralization had been found in a newly exposed outcrop. The remaining four holes, SC-16 to SC-19, were drilled to test magnetic "breaks" higher up in the stratigraphic section where exhalative type, stratabound mineralization was expected.

Results of the drilling indicated a stratabound zone of low-grade mineralization in the vicinity of the SC-3 intersection.

The gold is confined mainly to coarse cubic and irregular disseminated pyrite concentrations (5-10%) usually at the contacts of a mass of stratabound quartz-carbonate rock. The mineralized zone appears to strike NW and dip steeply NE. Mineralization and the quartz-carbonate rock appear to be spatially related to numerous lamprophyre dikes (see sections). The hole in the esker indicated 148 feet of overburden and a bedrock of talc-carbonate. Hole SC-15 failed to reveal any addition vein zones peripheral to those exposed at surface in trench area 6. The extension of these vein in SC-15 returned only anomalous values. The four last holes testing for stratabound chert-carbonates in less altered rocks higher in the section were most interesting; holes 18 and 19 intersected exhalative horizons with very anomalous (0.01 oz/ton to 0.03 oz./ton) values. Of particular interest was a pyritic chert-green carbonate section near the bottom of hole SC-19 (see sections).

In September, addition cross lines were cut on the east grid so that a detailed magnetometer survey could be done on lines spaced at 200 ft. intervals. Results of the detailed proton magnetometer survey, completed in early October, indicated a northwesterly trend of the rocks rather than 10 to 20 degrees south of east as previously thought. Also, some major linears and magnetic discordances, which may reflect important structural-stratigraphic areas for gold deposition were delineated. These were used to select sections drilled in the last four holes.

Nov. 1983: approximately 20 miles of I.P. survey using a 100 ft. dipole-dipole array was carried out by Rayan Explorations Ltd. on the north lines of No.1 grid from OE to 96E. Results show a number of high chargeability, high resistivity stratabound horizons which are probably pyritic chert-carbonate units similar to that intersected in SC-19.

Many linear and irregular resistivity and/or chargeability anomalies were delineated by the survey. Because of the past drilling, trenching and detailed magnetic survey, it is possible to assess the potential and possible causes of some of the anomalies. In some places it appears quite likely that the resistivity anomalies are caused by bedrock highs. Two such areas are evident: one is the scatter of partly linear anomalies in the vicinity of trench 7; the other is located around diamond drill hole SC-16. Also some of the anomalies between trench 7 and Camp Lake and north of Camp Lake may be due to bedrock ridges. The low resistivity, high conductivity anomaly south of the base line on lines 76E to 84E is probably due to graphite-bearing rocks. This anomaly has been identified by EM methods in previous surveys.

The folded linear, anomaly running westward from the Camp Lake turn off, along the trenches and up to line 24E is coincident with a concentration of cubic to irregular grains of pyrite (5-15%) in cherts and carbonatized tuff. This conductive horizon is exposed in trench 4. The trend of the conductor axis closely follows the strike of the rocks.

Six linear northwest-trending anomalies located southwest, west and north of drill holes SC-18 and SC-19 have orientations coincidental with the magnetic trend. (Few outcrops in the area also indicate northwest-southeast to be the strike of the rocks.) The most impressive of these is a strong, wide conductivity anomaly trending west and northwest from the tip of hole SC-19 for a distance of over 2000 feet. The anomaly is only weak just

west of the pyritic chert horizon intersected in SC-19 but appears to strengthen and possibly consist of two parallel conductors between lines 68E and 62E.

The next anomaly to the northeast may represent more conductive or wider extensions of lean cherty iron formations intersected in SC-18. Apart from concordant trends, the three linear anomalies to the northeast and the one to the southwest of the large anomaly, cannot be evaluated. They appear to reflect concordant bedrock conductivity and/or resistivity.

Geologic Setting

The main area of exploration to date on the Sylvanite Creek property covers a portion of Archean volcanic stratigraphy and zones of alteration similar to that found in major gold camps in the Abitibi greenstone belt. The rocks are komatiitic flows and intrusive equivalents, pillowed to massive mafic volcanic flows, mafic tuffs and lean iron formations. Extensive carbonatization, silicification and sericitization have transformed a major portion of the volcanic pile into green and gray carbonates, talc/chlorite carbonates, quartz-sericite schists, and quartz-carbonates. Associated with this alteration are zones of auriferous tourmaline-quartz-ankerite veining, stratabound pyritic quartz-ankerite rocks, and lamprophyre-syenite dikes.

Between Sylvanite Creek and Betty Lake, the volcanic rocks comprise a sequence of carbonatized ultramafic flows and tuffs in contact northward (probably upward) with mafic tuffs and flows. Within this sequence are narrow (up to 100 feet) intercalations of exhalative rocks and lean pyritic and magnetitic chert iron formations which appear to thicken and become dominant

northwestward towards Sawbill Lake. The section dips steeply north at about 70 degrees and apart from local flexures, trends about northwest-southeast.

The rocks in the Camp Lake area appear to be in facies contact with the suite of mainly carbonatized mafic tuffs, lean iron formations and exhalites towards the northwest, where a depositional basin existed during volcanism.

At the east end of the grid between the Tooms-Greenlaw boundary and where Sylvanite Creek turns northward, the sequences comprises predominantly of mafic tuffs, a thin (200 ft.) member of carbonatized quartz-sericite schist and some associated carbonatized ultramafic (green and gray carbonate) members. The rocks dip and face north on the north side near the property boundary, but dip south on the south side. Lineations and some direct measurements of primary layering indicate an easterly-plunging antiformal fold nose in this area.

A series of partially differentiated ultramafic intrusions are known (from a few outcrop exposures and geophysics) to have intruded both sections described above. These intrusions form an arc along the north side of Sylvanite Creek from southwest of Camp Lake to the east end of the grid. This linear zone of ultramafic intrusions crosscut the main stratigraphic trend at the west end but appears to be conformable to the east. An old Cu-Ni prospect in the south part of the grid in Tooms Township occurs near the contact of one of these intrusions.

Gold Mineralization

Gold mineralization is spatially related to zones of alteration, quartz-carbonate veining and stratabound exhalative rocks (quartz-carbonates and lean pyrite-chert and magnetite-pyrite-chert iron formations). Lamprophyre and/or syenite dikes are also an important association in some places on the property.

To date, no free gold has been observed on the property. Gold appears to be mainly associated with pyrite and although some sections of trace to $\frac{1}{2}$ % chalcopyrite have been encountered, there doesn't appear to be any correlation between copper and gold. Pyrite content in the host rocks ranges from $\frac{1}{2}$ to 15% with an average of about 2%. In the lean iron formations, a trace to $\frac{1}{2}$ % magnetite generally correlates with a noticeable increase in gold content. Black and brown tourmaline is an important constituent of quartz-ankerite veins found in the trenches west of Camp Lake, however, apart from elevated background values doesn't appear to correlate with high gold values.

Important Gold Values Obtained to Date

Feb. 1983: D.D.H. SC-1: 0.154 oz. Au/ton over 3.5 feet
D.D.H. SC-3: 0.113 oz. Au/ton over 24.5 feet

July 1983: trench area 6: 0.16 oz. Au/ton across 4 feet
(Vein zone)
trench area 7: 0.10 oz. Au/ton across 7 feet
trench area 7: 0.03 oz. Au/ton across 4 feet

Sept. 1983: D.D.H. SC-10: 0.172 oz. Au/ton from 129'4" to 130'
D.D.H. SC-10: 0.102 oz. Au/ton from 250'6" to 252'
D.D.H. SC-11: sections of 0.01 to 0.02 oz./ton from 113' to 295'

Nov. 1983: D.D.H. SC-18: 0.026 oz Au/ton from 147'6" to 151'
D.D.H. SC-18: 0.027 oz. Au/ton from 388' to 393'
D.D.H. SC-19: sections of 0.011 to 0.031 oz. Au/ton
from 155' to 431'

Conclusions

Extensive alteration typical of important types of hydrothermal gold deposition in a favourable volcanic environment indicate good potential for the discovery of commercial gold deposits on the property. It is obvious that a large and prolonged gold-bearing hydrothermal system was in operation in the area. Thus it is only a matter of locating the traps in which gold may have been concentrated in economic amounts. These traps could consist of quartz-carbonate vein systems in or near the hydrothermal vent areas, in ocean floor chemical sediments (pyritic-chert iron formations) or extrusive equivalents of vein material (stratabound quartz-carbonate oozes). With respect to the latter two traps, the facies change contact to the west and north of Camp Lake and the depositional basin towards Sawbill Lake are two known potential areas.

Proposed Program for 1984

Follow-up to I.P.: Because of uncertainties regarding bedrock ridge anomalies and possibly conductive clay layers in bedrock depressions, it is proposed that a program to test these anomalies with a portable overburden percussion drill be carried out prior to diamond drilling or any further I.P. surveys. About 10 to 15 holes to bedrock at each anomaly is recommended. This would tell us if the anomaly lies on a bedrock high or low, what the bedrock is at the anomaly and also some indication of the distribution of basal till could be obtained. About 80 holes are required. Assuming an average depth of 50 feet and an overall cost of \$4.00/ft., it would cost \$16,000 for 80 holes.

With the experience gained from this work and possibly even after some potential anomalies are drilled, further I.P. may be justified north to the Betty Lake property boundary and eastward to Hotstone Lake. Approximately 30 miles of I.P. costing \$30,000.00 would be required.

Greenlaw Portion of Property: the entire part of the property in Greenlaw Township should be cut with grid lines at 200 ft. intervals for the purpose of a detailed magnetometer survey, some I.P. and geologic mapping. This requires approximately 70 miles of line, which at \$300/mile would cost \$21,000. Detailed magnetic work would cost about \$7000 and geologic mapping \$5000.

Stripping, trenching and detailed surface prospecting should be carried out on the east side of Sylvanite Creek along the westward extension of the Hotstone gold zone. (This is now possible after the construction of a bridge across Sylvanite Creek by Noranda late in 1983.) Costs would be approximately \$12,000.

Betty Lake Portion: that part of the property north of the existing grid should also be cut by lines spaced at 200 ft. intervals for the purpose of magnetic, geologic and possibly I.P. surveys. This adds up to 55 miles, which at \$300/mile would cost 16,500. Detailed magnetometer and geologic surveys would be about \$5,500 and \$4,000 respectively. Some additional stripping and trenching on mineralized bedrock is required south of Betty Lake. Total cost of this is estimated to be \$3,000.

Sawbill Lake Portion: northward from the west grid across Sawbill Lake to the Halcrow boundary, requires approximately 20 miles of cut line to establish grid lines at 400 ft. intervals. Purpose of this would be to allow reconnaissance magnetometer and geologic surveys for both exploration and assessment requirements. Cost of line cutting would be \$6,000 while the magnetic and geologic surveys would cost \$2,000 and \$1,000 respectively.

Peripheral Claims: peripheral parts of the property in those areas west and south of Sawbill Lake and all unpatented claims in Halcrow Township should be put on extension for one year as they become due for work. Depending on what develops and is found in 1984, they may then be worked or dropped.

Core Claims: additional trenching is required at trench area 7 as well as possible stripping and trenching in new areas of shallow overburden located by the percussion drilling. Earlier proposed backhoe till work should be coordinated with this work. Total estimated cost is \$7000.

Diamond drilling: assuming the earlier appraisal of the I.P. anomalies is approximately correct, about 6000 feet of diamond drilling would be required to test them. Any positive or encouraging results would undoubtedly require

more drilling. A total of 10,000 feet initially is not unrealistic. Total costs at \$15/ft. would be \$150,000.

Budget Summary

Overburden drilling, 4000 ft., \$4.00/ft.	\$ 16,000.00
Till analyses	400.00
I.P. surveys, 30 miles, \$1000/mile	30,000.00
Total line cutting, 145 miles, \$300/mile	43,500.00
Magnetometer surveys, 145 miles, \$100/mile	14,500.00
Geologic surveys, 145 miles, \$75/mile	10,875.00
Total stripping, trenching, sampling and backhoe work	22,000.00
Till and rock analyses, 300 samples, \$10/sample	3,000.00
Pre-analysis sample processing, 300 samples, \$5/sample	1,500.00
Transportation and equipment rental for 3 months	6,000.00
Camp equipment and supplies	3,000.00
Consulting and supervision	10,500.00
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sub-total	\$161,275.00
Plus 10% contingency	\$ 16,130.00
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TOTAL exploration costs other than drilling	\$177,405.00
Diamond drilling 10,000 ft., \$15/ft.	\$150,000.00
Assay costs, \$1/ft.	10,000.00
Consulting, supervision	15,000.00
Core splitting, handling	4,000.00
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sub-total	\$179,000.00
Plus 10% contingency	17,900.00
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TOTAL diamond drilling costs	\$196,900.00

Total exploration budget: \$374,305.00.

The pre-drilling stage is estimated to take three months to complete, whereas the diamond drilling would require about 2½ months. Some of the work, such as the overburden drilling and some magnetometer work on Sawbill and Betty Lakes could be started in late February or early March. The remainder of the work should be done after break-up.

January 18, 1984

Dr. William O. Karvinen

I N P O C K E T

CLAIM MAP

GEOLOGICAL MAP WEST PART OF GRID 1

MAGNETIC SURVEY MAPS (2)

DIAMOND DRILL SECTIONS

A P P E N D I C E S

I Report on Exploration, Phase I, July 1983

II Summaries of Diamond Drilling, August-November 1983

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A P P E N D I X I

Report on Exploration, Phase I - July 1983

Report on Exploration, Sylvanite Creek Property,

Phase I, 1983

by

William O. Karvinen, Ph.D.

July 30, 1983

W.O. KARVINEN & Associates Ltd.

Introduction

Phase I of the 1983 exploration program on Quinterra's Sylvanite Creek property in the Swayze greenstone belt of Ontario was carried out under the direction of W.O. KARVINEN & Associates Ltd. during the months of May, June and July.

Objectives of the program were:

1. to attempt to delineate gold mineralization on or near surface on poorly exposed or lightly-covered outcrops in the favourable zone of rocks;
2. to prospect in detail the entire section of potential rocks enclosed within the property;
3. to attempt to map the bedrock geology in detail with the purpose of better defining the limits of the potential ore-bearing rocks and to gain a better understanding of the ore-forming environment.

The over all results of this work allow us to better identify target areas for diamond drilling where the best potential for economic gold mineralization may exist.

The above objectives were achieved by carrying out the following work:

1. repairing existing road facilities to the property to allow access for men, materials and heavy equipment;
2. overburden depth measurements in critical areas using light percussion drill equipment;
3. brushing-out of old roads for access and stripping areas of shallow overburden in potential areas;

4. cutting of 35 miles of additional control lines at 400 foot intervals on two grids covering 4.5 miles along the potential zone;
5. detailed sampling and trenching across strike of six newly-exposed outcrop areas distributed over a strike length of 2.5 miles along the favourable horizons;
6. a detailed magnetometer survey along 35 miles of cross lines with readings every 50 feet;
7. reconnaissance and detailed bedrock and overburden mapping and prospecting of that portion of the property between Sylvanite Creek in the east to Sawbill Lake to the west.

Detailed Descriptions of Work Done

Road Repairs

Because of the unusually wet spring and the generally poor condition of the access road into Tooms and Greenlaw townships, substantial money and time were spent on providing access for two-wheel drive vehicles. Washouts and culverts had to be repaired in four localities along the road and sand/gravel fill was needed in numerous places. This work was carried out by Esko Alajoki of Kormak who contracted his loader services for 40 dollars per hour. Total cost of road repairs was \$5540.00.

Overburden Depth Measurements

Overburden depth measurements were carried out by a two man crew (Bruce Raine and Karl Karvinen) for a total time of about three weeks. Equipment used was a gasoline Cobra plugger and 25 mm rod using a flow-through bit.

Purpose of the program was to test for bedrock in strategic areas where overburden thicknesses were suspected to be less than 10 feet.

From grid lines 32E to 50E, additional grid lines spaced at 100 feet were cut for a distance of 800 feet north of the base line and 100 feet to the south. Because this area contained trenches 1 to 5 located along the Betty Lake road just west of camp, it was felt that new outcrop, if found, especially to the north could have good potential for gold mineralization.

Because of sand and swampy conditions, depth measurements every 50 feet were done only on lines 41E to 50E.

Results of the work indicated three areas of shallow overburden (<6 feet). These are at 41E 400N; 45E 600N, and 50E 150N.

Depth measurements at 100-ft. intervals were also carried out along the following sections:

1. north for 1500 feet along the Betty Lake road from trench no. 1;
2. northeast for 2500 feet along the road to trench area 7 from camp;
3. southwest for 6100 feet along the road from west of trench area 10 (Shaft area) to south of the baseline on the Rideout Lake road.

Shallow overburden from these three sections was found only in one place. This was on the west side of the Betty Lake road about 1000 feet north from trench no. 1.

Although only a few shallow places were located, subsequent stripping by bulldozer reveal important bedrock in these areas.

Total cost of the depth measuring was \$1992.00.

Bulldozing and Stripping

In addition to areas of shallow overburden described above, previous prospecting by the writer has revealed poorly exposed outcrops over potential

rock types in two other areas. Also, during the course of the magnetometer survey, Roger Poulin uncovered two poorly-exposed and grown-over areas of trenches and pits. All these areas were stripped by contractor Simon Ouellette of Chapleau using D-6 dozer. The stripped areas are numbered 5 to 10 on the enclosed maps. In addition, approximately 4 miles of pre-existing roads were brushed out to provide access to the working areas.

Results of the work exposed important outcrops along the potential belt over a strike length of almost 2 miles.

Total cost of this phase of the program was \$4620.00.

Line Cutting

The 35 miles of line cutting included extending pre-existing lines on the east grid and cutting of a new 400-foot grid along an 8000-ft. base line to the west to Sawbill Lake. The work was carried out by John Jamieson and crew from Notre Dame du Nord in Quebec. The cost was \$5912.70.

Trenching and Sampling

A total of 665 feet of trenching was done in six separate areas uncovered by stripping (see map). About 36 grab samples and 108 detailed channel samples were collected and sent for analysis. The trenches were mucked out and mapped in detail. (See geology maps and assay plans enclosed).

Intensely altered rocks with thin (<1 ft.) beds of sulfidic, cherty iron formation and quartz-ankerite veins were uncovered at all the trench sites except at No. 8 where only bullish white quartz veins up to 2 feet thick and containing some disseminated pyrite and chalcopyrite occur in unaltered mafic tuffs.

Best gold values from detailed channel samples are found in trench areas 5, 6 and 7. Two zones of economic interest which were delineated are:

- 1) 0.16 oz. Au/ton across 3.7 feet in quartz vein material in area 6 and
- 2) a low grade section of about 0.10 oz. Au/ton across 7 feet in carbonatized tuff containing quartz veinlets and massive pyrite lenses in area 7.

Trench Area 5: approximately 40 feet of carbonatized tuff, green carbonate with quartz veining and lenses of lean iron formation are exposed in trench 5. This section is not unlike that found at the north end of trench 1. Eight channel samples and 3 grab samples returned anomalous but no ore grade values. The average value for this trench is 120 ppb. Tourmaline is abundant in the quartz veins and some disseminated pyrite (up to 2%) and traces of chalcopryrite are present in the wall rocks.

Trench Area 6: green and gray carbonatized tuff, badly contorted in places, and cut by numerous veins from a few inches to 2 feet in thickness, is the main rock type in these trenches. Disseminated pyrite with some chalcopryrite is widespread and averages about 5%. Two directions of veining are predominant (N20°W and N30°E) with shallow (<45°) dips to the east. The veins are quartz, ankerite and albite, with varying amounts of black tourmaline. Wall rocks are intensely mineralized with sulfides. Total area exposed by the trenching is 40 feet by 35 feet (see map). This exposure was found under 3 feet of sand by overburden depth measuring.

Except for one section, which assayed 0.16 oz. Au/ton across 44 inches (3.7 feet), the remainder of the trenches returned only anomalous values. Average of 5 grab samples and 22 channel samples assayed 385 ppb (0.01 oz. Au/ton). The ore grade section is a 2 ft. thick vein of quartz-ankerite-albite with pyritic wall rock selvages. It trends N20°W and dips east. It is exposed only partially at the north end of the trenched area.

Trench Area 7: a two-square foot outcrop of rusty-weathering carbonatized rock under 2 inches of moss was accidentally found in this area by the writer in the early summer of 1983. A detailed search of the area failed to turn up any more outcrops and depth overburden measurements in the area showed sand cover with thicknesses greater than 10 feet. Stripping revealed an area measuring 300 feet by 90 feet of rock under less than 3 feet of till and sand around and north of the small outcrop.

The main rock types in this area are brown and green carbonate (carbonatized ultramafics), carbonatized tuff, green, unaltered mafic tuff and silicified and ankeritized syenite. Quartz veining is common mainly as small veinlets in carbonatized tuff and syenite as well as a few larger veins up to 1.5 ft. thick which trend south of east and dip about 40 degrees to the north. The main alteration products are carbonate, sericite, fuchsite, brown tourmaline and quartz.

Best gold values were obtained in a zone of quartz veins and veinlets up to 6 inches thick in pyritic (1-2%) carbonatized tuff containing lenses up to 2 inches thick of massive pyrite. A combination of values indicates about 0.10 oz. Au/ton across 7 feet. In the same trench, about 12 feet to the south, a value of 0.03 oz. Au/ton across 4 feet was also encountered. Average value for the whole trench is 1010 ppb.

The carbonatized ultramafic rocks to the south contain very little sulfides and have low gold values (~40 ppb). The syenite intrusion in this area appears to be a dike about 10 to 15 feet thick and striking east-southeast. It is intensely fractured, silicified and cut by numerous milky quartz veins and contains 2% disseminated pyrite. A grab sample of this rock returned a value of 0.02 oz. Au/ton. Because of its rubbly nature, it has not been trenched. Further sampling of this rock will be carried out shortly.

Trench Area 8: old trenches across bullish white quartz veins in mafic tuff were discovered by Roger Poulin about 800 feet south of Betty Lake (see map). The area was stripped and sections of veins and wall rock were trenched and sampled. The predominant rock type is an unaltered mafic tuff which, within 6 inches of the veins, is carbonatized and pyritic. The veins trend east-southeast and dip steeply north. They consist predominantly of glassy white quartz, some ankerite and traces of chalcopyrite and pyrite.

All samples taken were from veins and nearby mineralized wall rock. Ten samples collected averaged 63 ppb. The lack of alteration and exhalative rocks indicate low potential for the discovery of economic mineralization in the vicinity of area 8.

Trench Area 9: stripping of a poorly-exposed section of mainly carbonatized felsic tuff with minor amounts of green carbonate and quartz veining was done along 1600 feet of strike length at the east end of the grid just west of Sylvanite Creek. Very little mineralization (sulfides) was encountered and the veins looked "dry". Although sericitization is intense in this area, it does not appear to have great potential. It appears to correlate with the Hotstone Lake showing, about $\frac{1}{2}$ mile to the east.

Eight grab samples of best looking material from area 9 returned an average of 43 ppb.

Trench Area 10: during the course of the magnetometer survey, Roger Poulin discovered old trenches and a shallow shaft in green carbonate east of area 7 (see map). Subsequent stripping and trenching revealed a section of green carbonate in contact to the north with carbonatized tuff and unaltered mafic tuff. Quartz veining is common as well as a section of very pyritic

(up to 70%) quartz-carbonate rock which may be exhalative in origin. The sequence trends about 120 degrees and dips 40 degrees to the north.

Sampling along two trenches (50 feet and 80 feet long) on both sides of the old shaft (estimated to be up to 50 feet deep) returned only anomalous values in gold. Best values were in the pyritic quartz carbonate which is about 7 feet wide. It averages about 208 ppb. The two trenches in total average only 49 ppb. A small outcrop on the south side of the trenches was uncovered but not trenched. It appears to be a felsic rock, possibly syenite. This will be further exposed and sampled in the near future.

Bedrock Geology

On a regional scale, the Sylvanite Creek gold property is located within a sequence of komatiitic ultramafic flows (?) in an area cut by major crustal fractures. In more detail, the rocks on the property are a sequence of altered ultramafic flows (?) overlain predominantly by mafic tuffs with some intercalated felsic tuffs and lean iron formation. The ultramafic flows are intruded by irregular bodies of peridotite and dunite and the entire section is cut by irregular intrusive bodies of altered syenite and lamprophyre dikes.

Alteration in the form of carbonatization, sericitization and silicification, is most intense and extend from the trenched area on Betty Lake road (Trench 1) to trench area 7, a total length of about 6000 feet. Intensity of alteration as well as mineralization decrease eastward as is evident in area 9. The altered section, which is probably a composite of two or more zones of carbonatized rocks and less altered tuffs, contains numerous thin (few feet) intercalations of sulfidic chert-carbonate rocks. These important horizons thicken westward into a thick sequence (~2000 ft. ?) of lean iron formation which appears to be in facies contact with the altered zone as well

as some of the overlying tuffs (see map).

All rocks on the property have been intensely deformed and contain a penetrative tectonic fabric. An east-trending, steeply dipping foliation as well as easterly plunging lineations (~45 degrees) are common on many tuff outcrops. The main structure on the property appears to be an easterly plunging anticline which closes to the east and is cored by altered ultramafic rocks. The sequence of mafic and felsic tuffs on the south side of the property appear to wrap around the fold nose near the east end of the grid and head northwestward where they are in facies contact with poorly-sorted clastic sediments and tuffs.

A major east-west linear along Ridout Lake in the east, continues westward from Hotstone Lake to south of Camp Lake and beyond. This major "break" follows the ultramafic flows and probably was the conduit along which they were intruded. Northwest-trending faults with dextral movement are present at Hotstone Lake and on the property just east of trench area 8 (see map). Also, a northerly-trending fault appears to underlie the enormous esker which cuts southward across the property from the west side of Betty Lake. Other faults are no doubt present on the property but extensive sand cover hides their topography expression.

Because of the extensive esker and outwash cover on the west grid, no bedrock is known to be exposed on or near surface from the Betty Lake road to Sawbill Lake. From diamond drill holes SC-3 and SC-5 to Sawbill Lake, this is a strike length of 9200 feet. The magnetic pattern in this area indicates rocks similar to that found in holes SC-3 and SC-5 to continue to Sawbill Lake. The strike of these lean iron formations shifts from about 100 to 110 degrees azimuth at trench 1 to about 130 to 140 azimuth at Sawbill Lake.

Irregular magnetic patterns in the vicinity of OW to 8W on the west grid indicate this to be the likely location of the north-south fault beneath the esker (see map).

Mineralization

Ore grade sections of gold mineralization have now been encountered at four different localities over a strike length of 8000 feet. These are: hole SC-3 at 1200E; hole SC-1 at 2800E; trench area 6 at 4100E; and trench area 7 at 9200E. (It is interesting to note that these are also the only exposures and drill holes along this zone.)

Economic concentrations of gold appear to occur in two forms: in sulfidic chert-carbonate horizons containing minor amounts of pyrite and in quartz-ankerite-albite veins with pyritic and chalcopyrite-bearing wall rocks. Tourmaline (both brown and black) as well as lamprophyric and syenitic dikes are common in both environments.

The sulfidic-chert-carbonate mineralization appears to be stratabound, while the vein-type is irregular and generally cross-cutting. Several generations of quartz veining appear to be present on the property. Some are cross-cutting and tightly-folded, while others are parallel to the strike of the country rocks, but dip at shallower angles (e.g. vein at area 7 dips 40 degrees north).

Below is a list of average gold values (in ppb) of all the trench areas:

trench 1	48
trench 2	144
trench 3	136
trench 4	85
trench 5	120
trench 6	385
trench 7	1010
trench 8	63
trench 9	45
trench 10	49

From this data, it is evident that areas 8 and 9 have less potential, whereas areas 6 and 7 are most attractive. Trench 6 appears to be just south of the eastward projection of intersections in holes SC-3 and SC-1 and thus its high value may reflect higher-grade values just to the north under overburden. Trench area 7 is a separate environment and may be related to the syenitic intrusion at its west end.

Ore-forming Environment

The mineralization on the property appears to be related to extensive hydrothermal alteration during Archean submarine volcanism. The exhalative processes were concentrated by a major crustal fracture along which ultramafic rocks were first extruded probably under rifting conditions. This was accompanied later in the process by the intrusion of syenites and lamprophyres and accompanying quartz-albite veins. During this hydrothermal period gold was deposited in the nearby basin to the west as stratabound lenses as well as within the sequence of quartz-carbonate rocks which mark the main area of alteration. It may be that the area of most quartz veining delineates the central part of the exhalative vent (north of trench 6?).

Conclusions

There is no doubt that the Sylvanite Creek gold property consists of rocks which represent an ore-forming environment equal in rank to those found in other parts of the Abitibi greenstone belt (e.g. Timmins, Kerr Addison, Matachewan). The extent and intensity of alteration indicates excellent potential for the discovery of several orebodies.

In addition to uncovering and delineating the favourable environments, this phase of work has revealed two additional ore zones and extended the

known mineralization up to 8000 feet along strike length. Several areas worthy of testing by diamond drilling are evident as well as a follow-up of the intersections made last year.

W O Karvinen

July 30, 1983

Dr. William O. Karvinen

A P P E N D I X I I

Summaries of Diamond Drilling, August to November 1983

Drilling Summary

<u>Hole No.</u>	<u>Time</u>	<u>Location</u>	<u>Direction</u>	<u>Dip</u>	<u>Depth</u>
83-1✓	Aug. 3 - 5, 1983	525N 1600E	190°	45°	357'
83-2✓	Aug. 7 -10, 1983	1000N 1600E	190°	45°	601'
83-3✓	Aug. 11 -15, 1983	550N 2400E	190°	45°	437'
SC-10✓	Sept. 17-19, 1983	520N 1240E	198°	45°	300'
SC-11✓	Sept. 20-22, 1983	620N 1250E	190°	45°	375'
SC-12✓	Sept. 23	500N 1250E	010°	60°	106'
SC-12A	Sept. 23-24, 1983	500N 1250E	010°	60°	208'
SC-13✓	Sept. 25-28, 1983	570N 1250E	010°	60°	330'
September 28, 1983 Total					2714 feet
SC-14✓	Oct. 2 - 3, 1983	400N 600E	190°	45°	382'
SC-15✓	Oct. 4 - 7, 1983	700 N 4170E	240°	45°	700'
October 7, 1983 Total					3796 feet
SC-16✓	Oct. 21-23, 1983	3550E 1850N	230°	45°	500'
SC-17✓	Oct. 25-28, 1983	3330E 1600N	230°	45°	500'
SC-18✓	Oct. 31 - Nov. 4	7600E 2400N	210°	45°	500'
SC-19✓	Nov. 5 - 8, 1983	7480E 2120N	210°	45°	501'
November 10, 1983 Total					5797 feet

Summary of Diamond drilling,
Sylvanite Creek, Aug. 3 to Oct. 7, 1983

A total of 3776 feet, representing nine holes, were drilled on Quinterra's Sylvanite Creek property in Tooms Township during the period Aug. 3 to Oct. 7, 1983. The following is a brief summary of where holes were drilled, what the objectives were and what results were obtained.

Hole 83-1: was drilled 350 feet east of drill hole SC-3 in which a significant gold intersection was made during the first phase of drilling last winter. The purpose of hole 83-1 was to test for the eastward extension of the auriferous zone which appeared to be stratabound. Although a section of lean chert-carbonate iron formation was encountered from 225 ft. to 290 feet, no zones similar to that in SC-3 were recognized. Hole 83-3 encountered an alternating sequence of white to gray quartz-carbonate rocks (exhalite ?) with lean iron formation in places and gray-green to green-black, carbonatized mafic tuff.

The very quartz-rich exhalite is conformable with the mafic tuffs and appears to have formed as a hot spring-type deposit on the ocean floor. It has intercalated lean iron formation beds but itself is quite massive. Veins of quartz, ankerite and albite with minor amounts of tourmaline, pyrite and trace chalcopryite are common in the quartz-carbonate rock.

The carbonatized mafic tuff is medium grained, foliated to massive and contains narrow quartz veinlets here and there with pyritic, bleached walls. Sulfides in general are scarce.

Gold values in the exhalites range from less than 20 ppb to 280 ppb. Average of 29 samples of the core was 87 ppb.

Hole 83-2: was drilled 475 feet north of 83-1. Purpose of the hole was to test for the types of rocks up stratigraphy from holes SC-3 and 83-1 with the hope of finding better mineralized horizons. The 601 feet drilled in this hole cut sequences of rock similar to that in 83-1, but more exhalative material (46%) was intersected. The hole collared in carbonatized ultramafic tuff to 140 feet, but then began cutting pyritic, gray siliceous exhalites with quartz-carbonate veins intercalated with mafic tuff and carbonatized mafic tuff.

Gold values ranged from less than 20 ppb to 706 ppb. The average of 45 samples of core assayed was 75 ppb. Strongest values (576 ppb and 706 ppb) were in a four ft. section of sulfidic iron formation from 557 ft. to 561 feet.

Hole 83-3: was drilled 400 feet west of SC-1 in which a short section (3'8") of 0.154 oz. Au/ton was intersected last winter. The purpose of the present hole was to test for similar stratigraphy and mineralized zones westward from that intersection. Hole 83-3 was disappointing in that the rocks intersected differ significantly from those cut in SC-1 and no mineralized zones were encountered. The predominant rock types in 83-3 are carbonatized ultramafic tuffs and flows (mainly talc and/or chlorite-carbonate rocks). Thin layers (10 feet) of siliceous exhalite exist within the altered ultramafics. One section (341 ft. to 353 ft.) of lean siliceous iron formation with 15% pyrite and some magnetite was the only zone of any interest. Highest gold value in the iron formation was 132 ppb. The remaining assays from siliceous exhalites average less than 100 ppb.

Hole SC-10: was drilled about 25 feet northwest of SC-3 and directed at 198° azm. so as to intersect the mineralized zone in SC-3 about 50 feet to the west. The zone was intersected at 236 feet and continued to 252 feet.

It is characterized by zones of dark chloritic rock with cubic pyrite and extensive sections of silicification and quartz-carbonate veins. Pyrite content varies from 3 to 15%. In this zone, only one short section (250'6" to 252') had a significant amount of gold (0.102 oz. Au/ton). The rest of the section averaged 119 ppb Au. It is interesting to note that high in the hole (129'4" to 130') within a siliceous exhalite, an eight inch section of pyritic chert-carbonate with 8% sulfides ran 0.172 oz. Au/ton.

SC-11: was drilled 70 feet north of SC-3 to determine the dip of the gold intersection in SC-3. The hole was stopped at 375 feet after having intersected rocks similar to the mineralized zone from 182 feet to 240 feet. This zone consists of chloritic rocks with cubic pyrite and gray pyritic quartz-carbonate zones with abundant veins intercalated with some carbonatized tuff units. The gold values in this section ranged from less than 20 ppb to 411 ppb, with an average of 148 ppb. Several other siliceous zones were intersected in the hole. Best value was a 3 ft. section of 603 ppb gold from 292 ft. to 295 ft.

SC-12 and SC-12A: were drilled northward from the SC-3 set up so as to intersect the cubic pyrite zone and associated siliceous rocks which appear to dip southwest rather than north as does the rest of the volcanic units. SC-12 was abandoned at 106 feet because of a sand seam which stuck the rods. SC-12A was put down to 208 feet after passing through 36 feet of gray, massive siliceous rocks with pyritic tuff and chert. Although pyrite content was high in places (up to 15%) and veining common, no high gold values were obtained. Assays from this section ranged from 23 ppb to 308 ppb with an average of 91 ppb.

SC-13: was drilled northward (N10°E) at 60° from the collar of SC-11. Because the zone of coarse cubic pyrite appeared to dip southwest, it was decided to attempt drilling it in the same direction as SC-12. For most of its length of 320 feet, the rock encountered in SC-13 was badly fractured and blocky. At 146'6" a white, massive quartz-carbonate zone was intersected. These rocks are well mineralized with cubic and anhedral pyrite, are well fractured and cut by numerous veins. The zone continued to 250 feet. At 265 feet, another silicified zone with 5 to 15% disseminated pyrite was also encountered. From the contact angles with the core axis, it is apparent that these siliceous zones are also dipping north at steep angles. Thus this apparently great thickness is due to the drill running nearly parallel to the zone. Layering in the adjacent tuffs also makes a small angle with the core axis but is definitely cut by the zones of silicification and veining. Values obtained in the first zone range from 11 to 106 ppb with an average of 47 ppb gold. In the second zone, gold content ranges from 10 to 160 ppb with an average of 47 ppb.

A geologic interpretation of the rock types encountered in the sectional drilling around SC-3 is depicted on the enclosed sketch. The simplified explanation illustrates a sequence of steeply-dipping carbonatized mafic tuffs cut by a northwest-trending zone of lamprophyre dikes and silicified/carbonatized rocks with zones of pyrite, particularly near their margins. The auriferous zone of coarse cubic pyrite in black, chloritic siliceous tuff intersected in holes SC-3, SC-10 and partly in SC-11, appears to be flat and possibly an appendage of the nearby siliceous zone.

It is concluded that the mineralization encountered in the vicinity of SC-3 is epigenetic and not stratiform as previously believed. The gold appears

to be erratically related to irregular zones of silicification, carbonatization and quartz veining which cross-cut the carbonatized tuffs and are accompanied by lamprophyre dikes,

SC-14: was drilled at 600E 400N, about 650 feet west of SC-3. Purpose of the hole was to test for overburden depths and conditions along the wide esker west of SC-3 and to determine what rock types are found there. A vertical thickness of 148 feet of sandy gravel with large boulders occur above bedrock at SC-14. Penetration was no problem, but the casing could not be retrieved. Rocks encountered were carbonatized tuffs with siliceous zones and altered ultramafics (talc-chlorite-carbonate). The hole was stopped at 382 feet.

SC-15: was drilled at 4170E, 700N in a S60°W direction at 45 degrees. Purpose of the hole was to test for vein zones in the section similar to that found in the trenches of nearby area 6. The hole passed through carbonatized mafic and ultramafic tuffs with numerous zones of veinlets and silicification and one zone of veins similar to that found in trench area 6. Gold values ranged from 12 ppb to 262 ppb with an average of 82 ppb.

October 30, 1983

Dr. William O. Karvinen

Summary of Diamond Drilling,
Sylvanite Creek, Oct. 21 to Nov. 8, 1983

Subsequent to a meeting in Sault Ste. Marie between G. Keevil, D.G. Innes and the writer, it was decided to test potential volcanigenic "breaks" or facies changes higher up in the volcanic pile. A recently completed detailed magnetic survey had revealed an angular discordance in magnetic patterns south of Betty Lake, some 2000 to 2400 feet north of the baseline. In addition to being potential targets, it was felt that the geologic information obtained would be useful in future exploration and geophysical interpretations. Thus an additional 800 feet of drilling was added to the remaining 1200 feet left on the 5000 ft. contract with Norex.

Four 500-ft. holes in two sections were proposed. These are described in more detail below.

Hole SC-16: was collared at 3550E, 1850N, about 1300 feet north-northwest of SC-15. It was directed S50°W at 45 degrees. Rocks encountered in the hole were mostly chloritic mafic tuffs and flows with zones of barren quartz-carbonate veins and a thin unit (33 ft.) of altered ultramafic tuff. Vein zones ranged in width from a few inches to 2 feet. Gold values obtained varied from 3 to 27 ppb.

Hole SC-17: was collared 300 feet southwest of SC-16 at 3330E, 1600N. Rocks encountered were similar to that in SC-16, but veining was more abundant and bleaching/alteration around veins more extensive.

Gold values ranged from 4 to 720 ppb (0.02 oz/ton) with an average of 147 ppb.

Based on these two holes, the angular discordance in magnetic patterns in this area south of Betty Lake cannot be explained. There does not appear

to be any change in rock type or obvious magnetism in this section. The only possibility could be an increase in alteration and thus decrease in magnetism in the south portion (hole SC-17).

Holes SC-18 and SC-19 were drilled to cut a section of stratigraphy in an area of angular magnetic discordance, about 1500 feet northwest of trench area 7.

Hole SC-18: was collared at 7600E, 2400N and directed S30°W at 45°. The section cut was most interesting; having collared in carbonatized ultramafic rocks, a sequence of mafic tuffs and minor altered ultramafic rocks containing layers of sulfidic and/or magnetic siliceous exhalites were intersected in most of the hole. These exhalative rocks which can also be classed as lean iron formations, range in thickness from 3 to 18 feet. Ten separate units of exhalites are present in the first 293 feet. Beyond 293 feet, only one exhalite was intersected and more altered ultramafic rocks are encountered. In this latter section, numerous zones of quartz-carbonate veinlets with bleached and pyritic walls are present.

Gold values in the lean iron formations ranged from 4 to 932 ppb (0.027 oz. Au/ton) with an average of 241 ppb Au. In the bleached quartz vein zones gold ranged from 56 ppb to 352 ppb (0.011 oz/ton) with an average of 215 ppb.

Hole SC-19: was collared 300 feet in a S30°W direction from SC-18 and drilled in the same direction at 45 degrees. For most of its length it encountered a monotonous sequence of gray to green to green-black altered ultramafic rocks (talc/chlorite-carbonate) and carbonatized mafic tuffs. Several zones of pyritic, bleached mafic tuff with quartz-ankerite veinlets (often hematized) were encountered. Many of these were sampled. The only sections of any significance in the hole are two units of gray, massive,

fractured chert with short sections (few inches) of massive pyrite and an average sulfide content of 10%. One chert unit is 14 feet thick (from 406 to 420 ft.) and the other 5 feet thick (from 431 to 436 feet). The sections are separated by veined pyritic, green carbonate.

The chert units contain gold values ranging from 147 ppb to 1070 ppb (0.031 oz/ton with an average of 625 ppb(0.01 oz/ton) across 15 feet. Section 429' to 431' of green carbonate ran 0.024 oz/ton across 2 feet.

The section cut by holes SC-18 and SC-19 is economically significant because it contains layers of chemically deposited ocean-floor sediments with highly anomalous gold values. This is where mineable concentrations of gold could be concentrated. The magnetic discordance is explained by the change from slightly magnetic exhalites in the upper part of hole SC-18 changing to less magnetic, altered ultramafic and mafic tuffs to the south. Potential for more and possibly better exhalites also exist north of SC-18.

November 19, 1983

Dr. William O. Karvinen

A P P E N D I X I I I

Summary of Trenching, October 1983

Summary of Surface Sampling,
Sylvanite Creek, Oct. 9 to Oct. 21, 1983

Results of some grab samples and channel samples from new trenching at Area 6 and along the south shore of Betty Lake are listed below:

<u>Sample No.</u>	<u>Sample Description</u>	<u>Location</u>	<u>Au (ppb)</u>
60482	silicified volcanic with 10% diss. sulfides	South shore Betty Lake	5
60483	black, graphitic pyritic I.F. boulder; 2% po-cpy	South shore Betty Lake	29
Blank	quartz-carbonate with diss. py (1%)	South shore Betty L. old trench	8
38208	grab sample	new trenches, Area 6	766
38209	grab sample	new trenches, Area 6	71
38210	grab sample	new trenches, Area 6	137
38211	grab sample	new trenches, Area 6	49
38212	grab sample	new trenches, Area 6	305
39213	grab sample	new trenches, Area 6	206
38214	grab sample	new trenches, Area 6	274
38215	grab sample	new trenches, Area 6	184
38216	grab sample	new trenches, Area 4	276
38217	grab sample	new trenches, Area 4	130
38218	g'		
60484			
60485			

Octo.

Summary of Trench Sampling

Oct. 20 to Oct. 25, 1983

Sylvanite Creek

Trench 6 - new trench #6S sampled from north to south:

0 - 6 ft.	15 ppb
6' - 12.5'	43 ppb
12.5- 17'	132 ppb
17' - 22'	228 ppb
22' - 28.5'	82 ppb
28.5- 35'	27 ppb
35' - 41'	22 ppb
41' - 48'	215 ppb

#6L sampled from north to south:

0' - 3.5' (qtz vein)	36 ppb
3.5'- 8'	59 ppb
8' - 13'	93 ppb
13' - 18'	658 ppb or 0.02 oz. Au/ton
18' - 23'	73 ppb
23' - 27'	137 ppb
27' - 32'	214 ppb
32' - 37'	384 ppb or 0.01 oz. Au/ton
37' - 42'	27 ppb
42' - 47'	25 ppb
47' - 52'	27 ppb

52' - 57'	36 ppb
57' - 62'	64 ppb
62' - 66'	18 ppb
66' - 70'	26 ppb
70' - 74'	27 ppb

Trench 4 Area - new trench #4 - 1:

0' - 3.5'	8 ppb
3.5 - 7'	47 ppb

new trench #4 - 2:

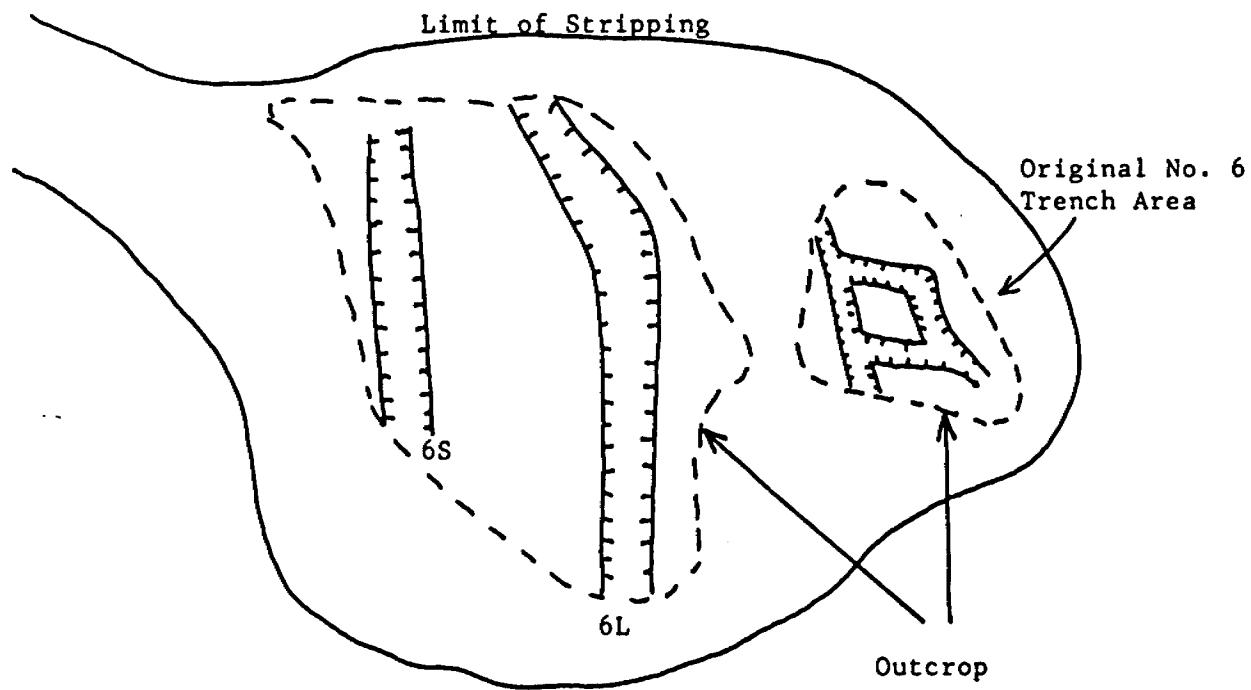
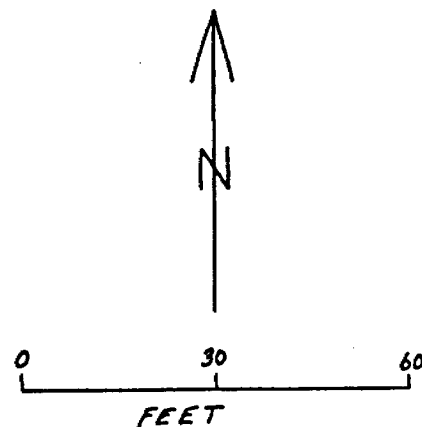
0' - 4'	38 ppb
4' - 9'	86 ppb

new trench #4 - 3:

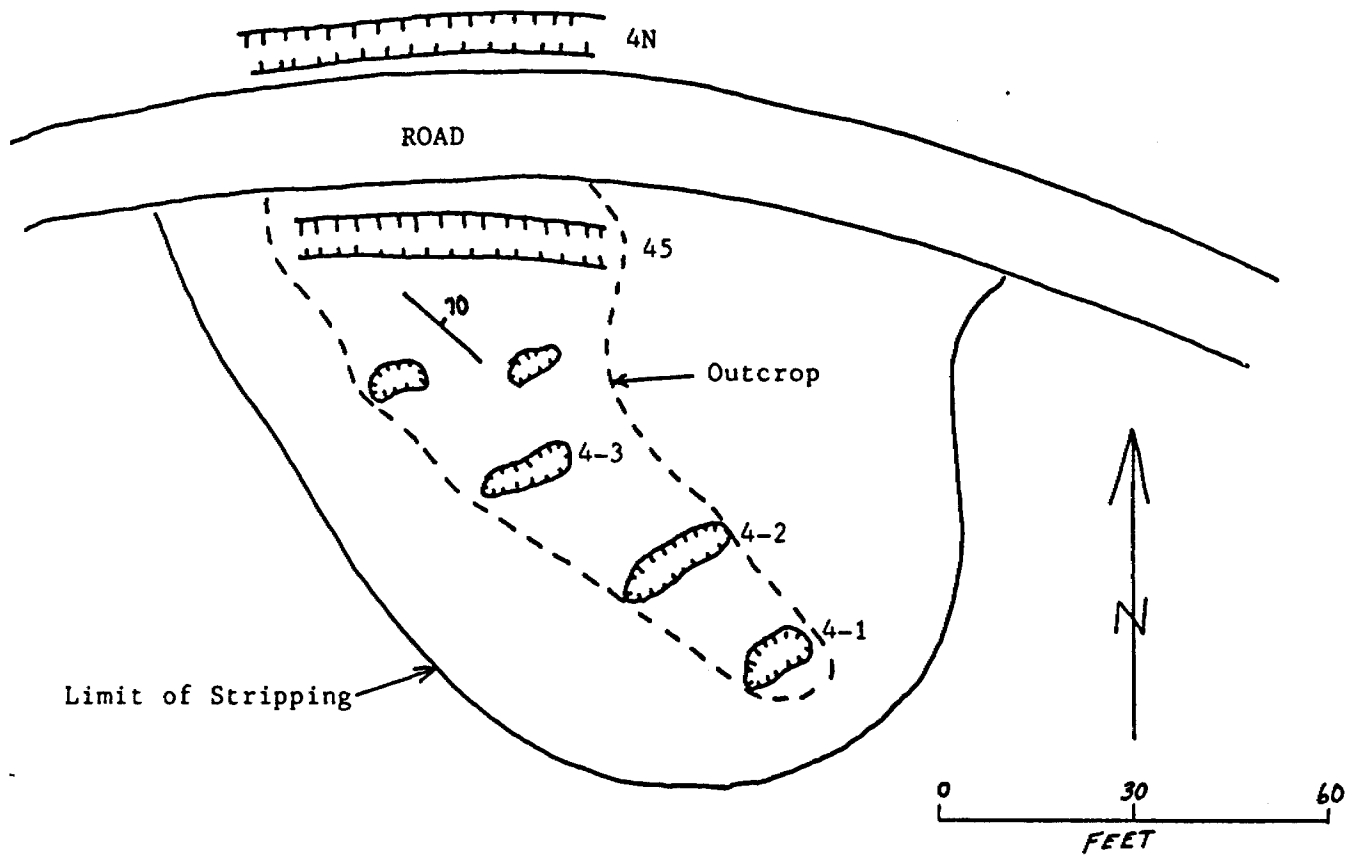
0' - 3'	no sample
3' - 4'	82 ppb (some cubic py)
4' - 4½'	52 ppb (heavy cubic py)

November 15, 1983

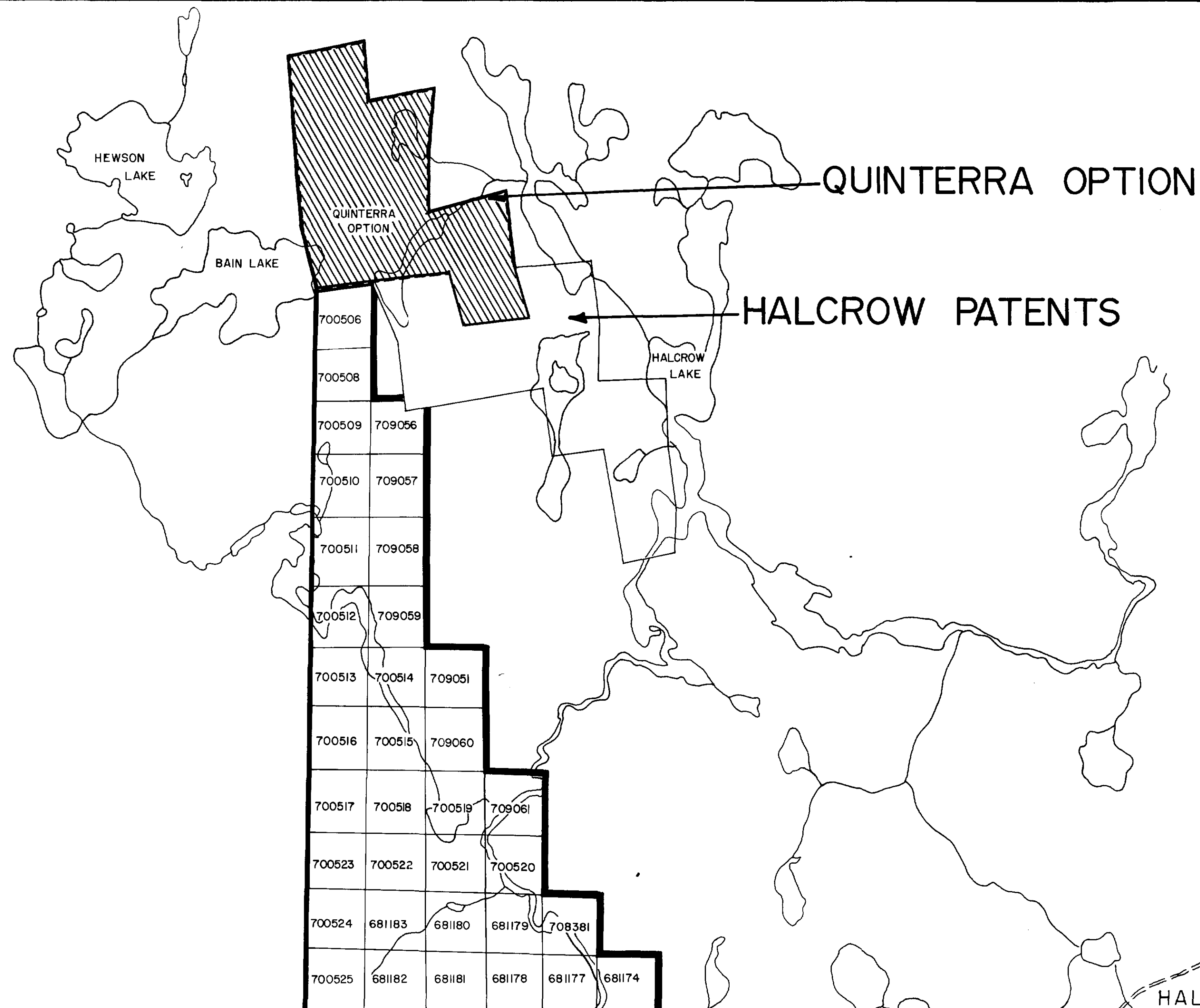
Dr. William O. Karvinen



Location of New Trenches 6L and 6S
in the No. 6 Trench Area, Sylvanite Creek



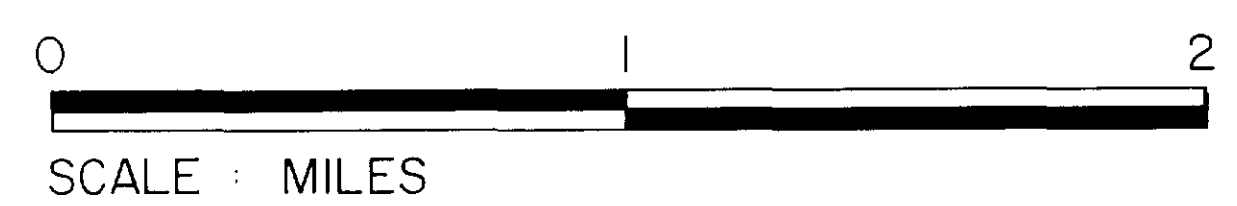
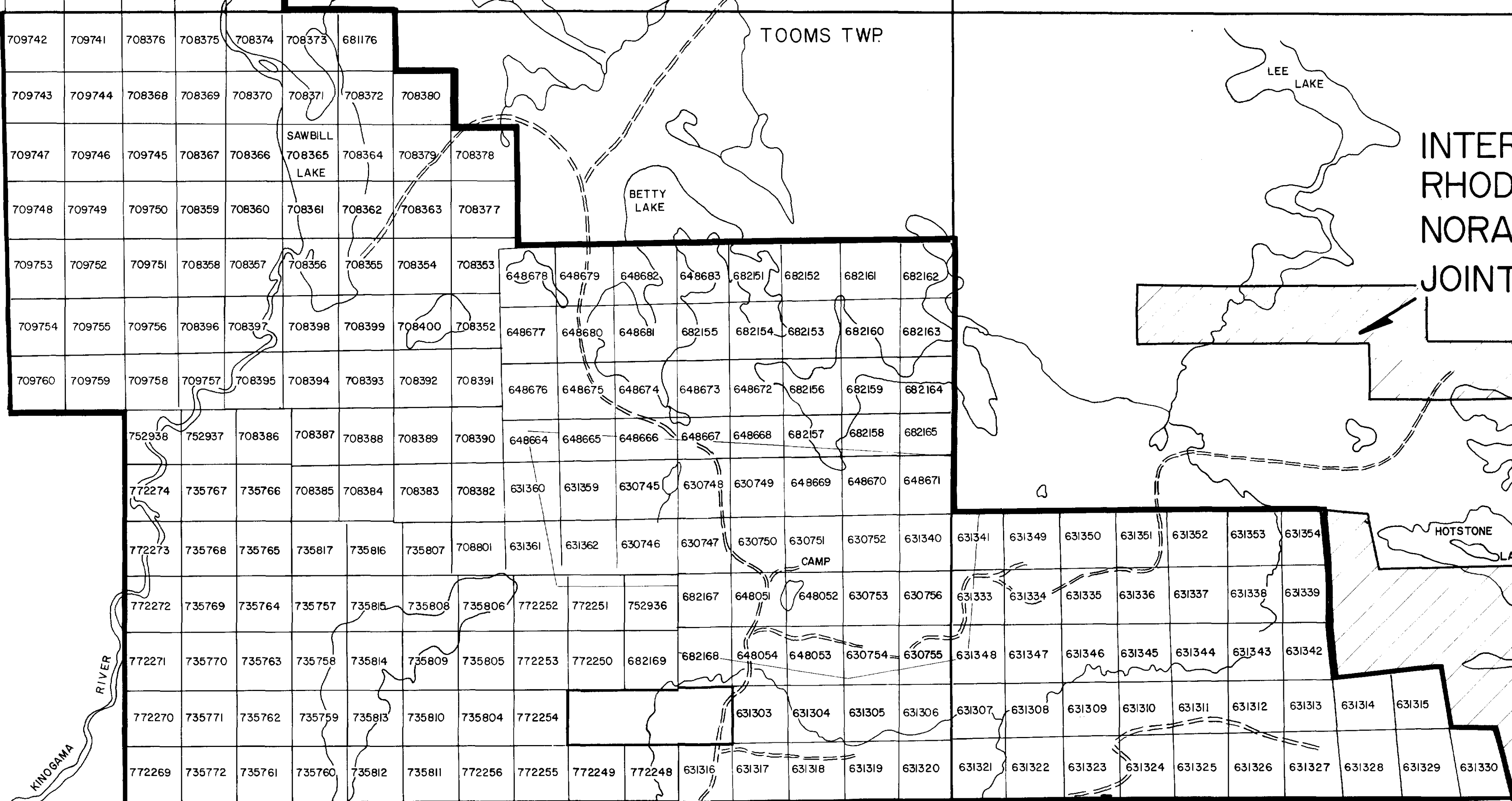
Location of New Trenches 4-1, 4-2 and 4-3
in No. 4 Trench Area, Sylvanite Creek



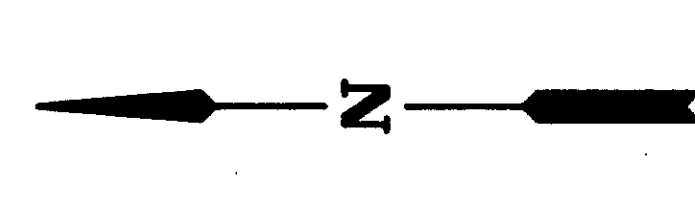
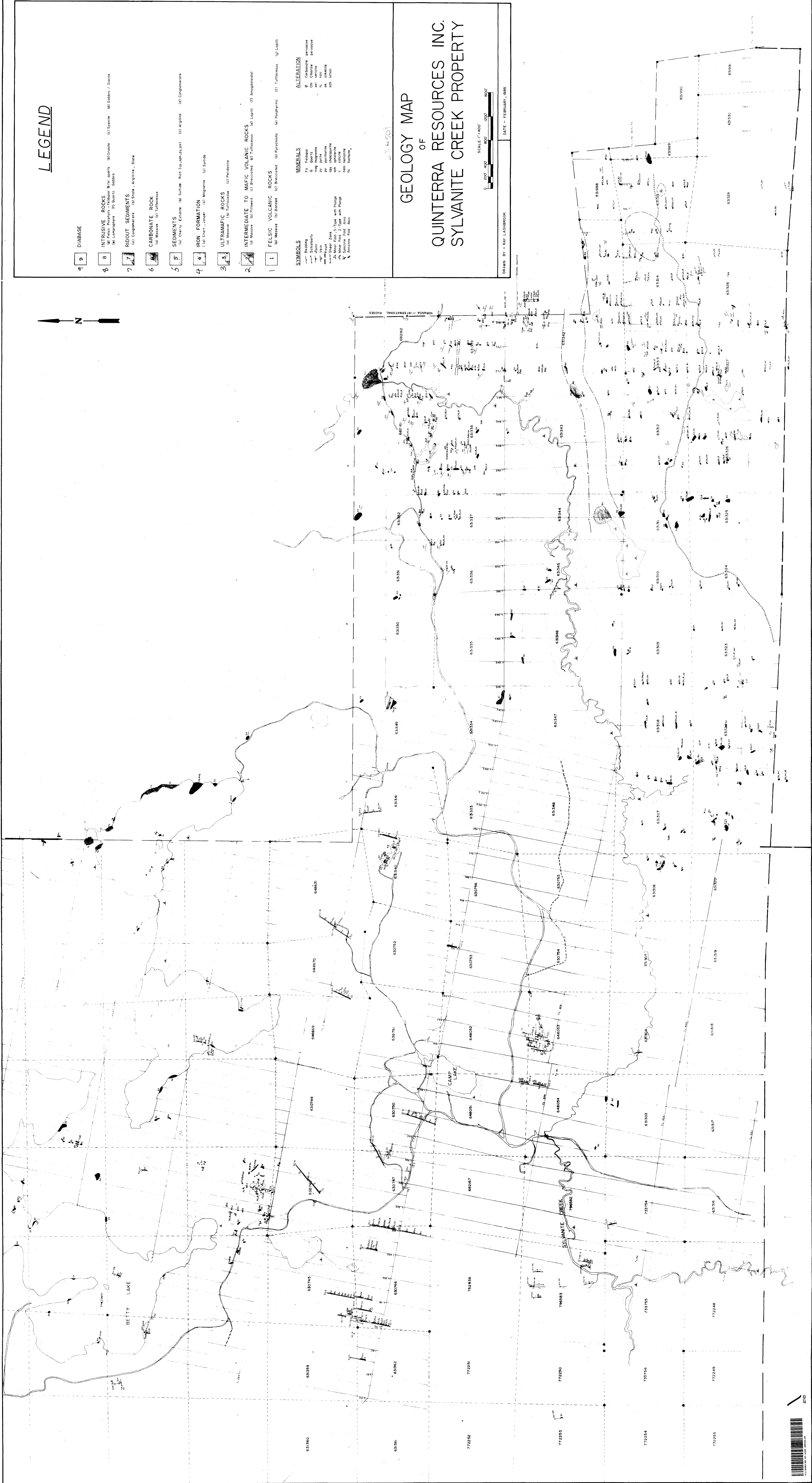
LACKNER TWP.
MOUNTBATTEN TWP.

HALCROW TWP.
TOOMS TWP.

DENYES TWP.
GREENLAW TWP.

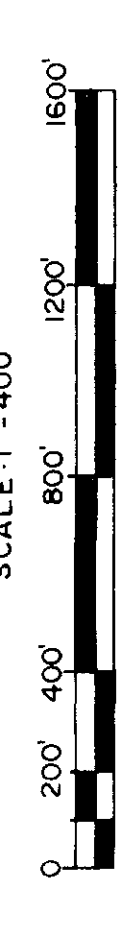


QUINTERRA RESOURCES INC.
SYLVANITE CREEK PROPERTY
CLAIM MAP #63-4305
DATE - MARCH 1984 BY - R.J.D.



3-4-501

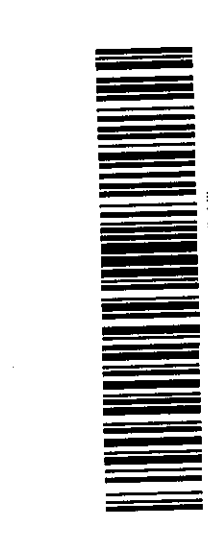
GEOLOGY MAP OF QUINTERRA RESOURCES INC. SYLVANITE CREEK PROPERTY

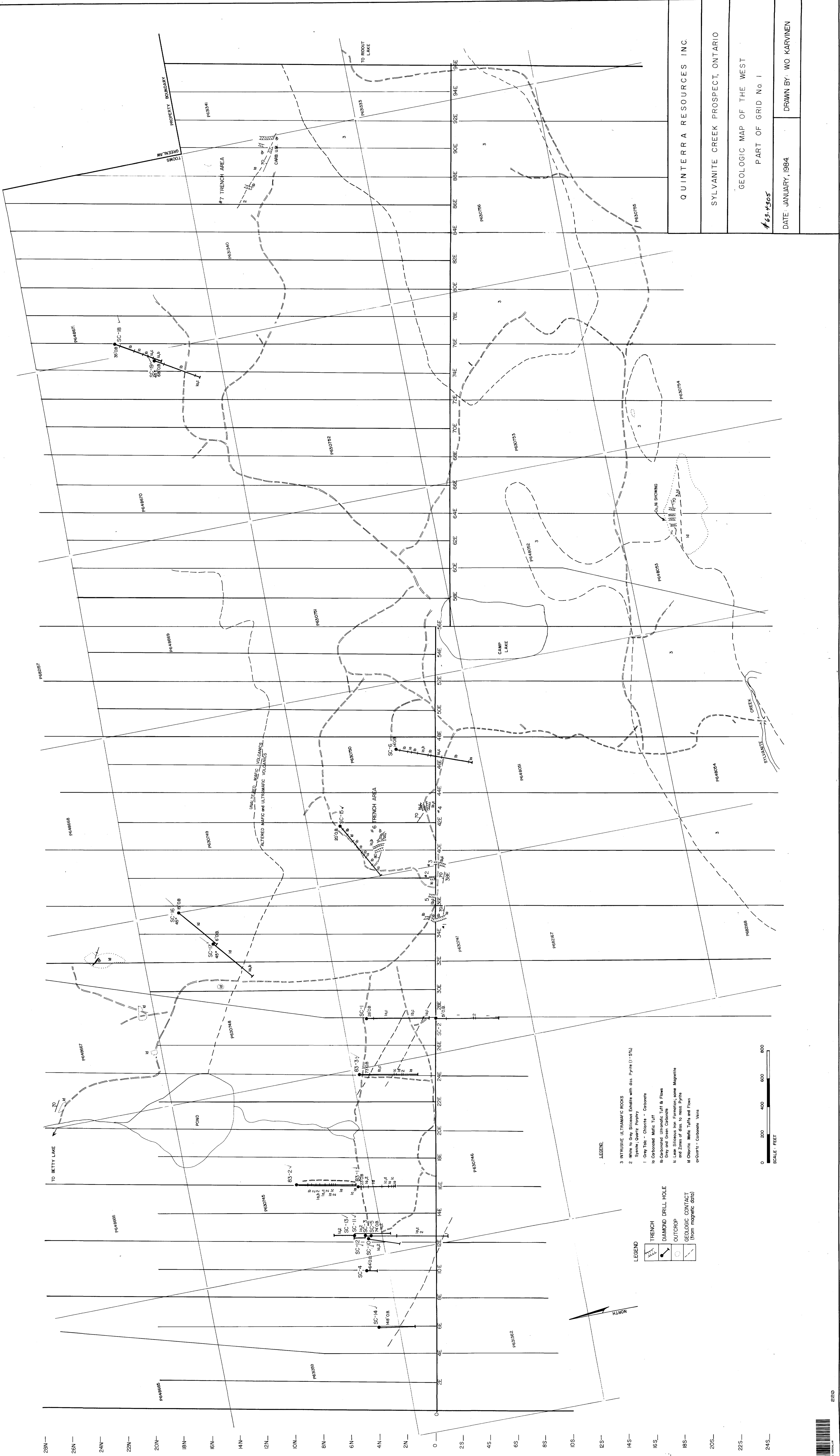


SCALE 1" = 400'
DATE - FEBRUARY, 1985
DRAWN BY - BOB LEIBROOK

LEGEND

- 9** DIABASE
 - 8** INTRUSIVE ROCKS
(a) Felsic Porphyry - K-feldspar & quartz (b) Granite (c) Syenite (d) Gabbro / Diorite
(e) Comagmatite (f) Quartz dykes
 - 7** RIDGOUT SEDIMENTS
(a) Conglomerate (b) Sand, Argillite, Slate
 - 6** CARBONATE ROCK
(a) Marble (b) Limestone
 - 5** SEDIMENTS
(a) Cherty Earth (b) Siltstone (c) Sandstone (d) Argillite (e) Conglomerate
 - 4** IRON FORMATION
(a) Chert-Jasper (b) Magnetite (c) Spinelite
 - 3** ULTRAMAFIC ROCKS
(a) Magnetite (b) Pyroxene (c) Olivine
 - 2** INTERMEDIATE TO MAFIC VOLCANIC ROCKS
(a) Basalt (b) Andesite (c) Brecciated (d) Tuffaceous (e) Lignite (f) Amphibolite
 - 1** FELSIC VOLCANIC ROCKS
(a) Basalt (b) Brecciated (c) Pyroxenic (d) Tuffaceous (e) Lignite
- SYMBOLS**
- Bedding
 - Fault
 - Vein
 - Road
 - Stream
 - Mine
 - Quarry
 - Dike
 - X - Amphibole Field Area
- MINERALS**
- F - Feldspar
 - Q - Quartz
 - Py - Pyroxene
 - Pl - Plagioclase
 - Sp - Spinelite
 - Ch - Chert
 - J - Jasper
 - Ms - Magnetite
 - Sl - Spinelite
 - Ma - Marble
 - St - Slate
 - Ca - Calcite
 - Gr - Garnet
 - Am - Amphibole
 - Ls - Limestone
- ALTERATION**
- o - Carbonate alteration
 - oh - Chlorite alteration
 - ic - Illite alteration
 - ac - Actinolite alteration
 - sk - Epidote alteration
 - sk - Epidote alteration
 - sk - Epidote alteration
 - sk - Epidote alteration
 - sk - Epidote alteration





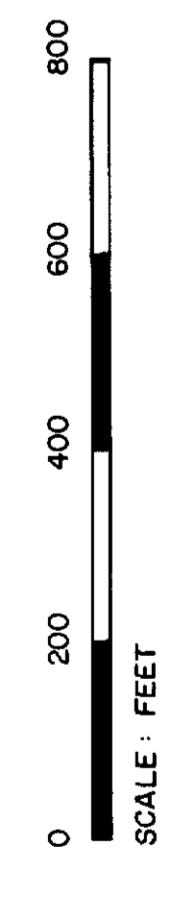
QUINTERRA RESOURCES INC.
 SYLVANITE CREEK PROSPECT, ONTARIO
 GEOLOGIC MAP OF THE WEST
 PART OF GRID No. 1
 #63-1505
 DATE: JANUARY, 1984
 DRAWN BY: WO. KARVINEN

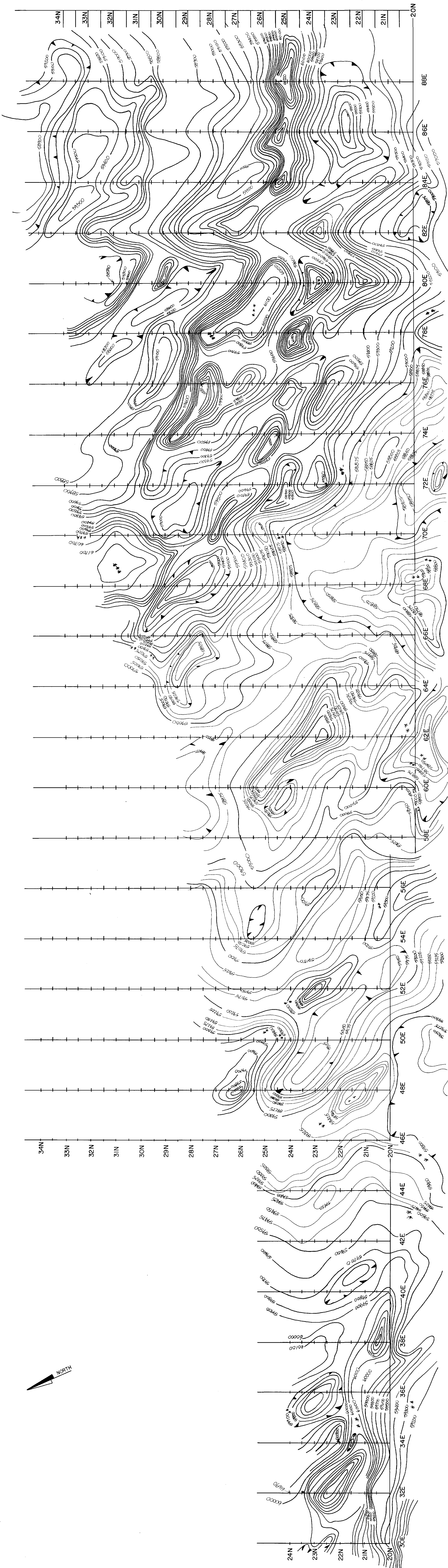
LEGEND

3 INTRUSIVE ULTRAMAFIC ROCKS
 2 White to Grey Siliceous Enclave with dis. Pyrite (1-5%)
 1 Grey Tuff - Chlorite - Carbonate
 1a Cobalcedo Mafic Tuff
 1b Cobalcedo Mafic Tuff & Flows
 1c Grey and Green Carbonate
 1d Lamin Siliceous Iron Formation; some Magnetite
 1e Zones of dis. to mass Pyrite
 1f Chloritic Mafic Tufts and Flows
 1g Quartz - Carbonate Veins

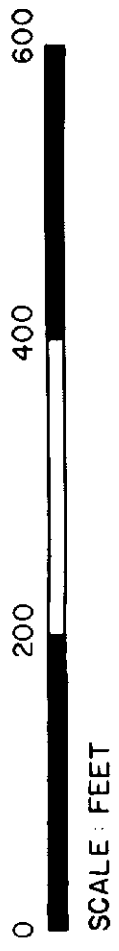
LEGEND

TRENCH
 DIAMOND DRILL HOLE
 OUTCROP
 GEOLOGIC CONTACT
 (from magnetic data)





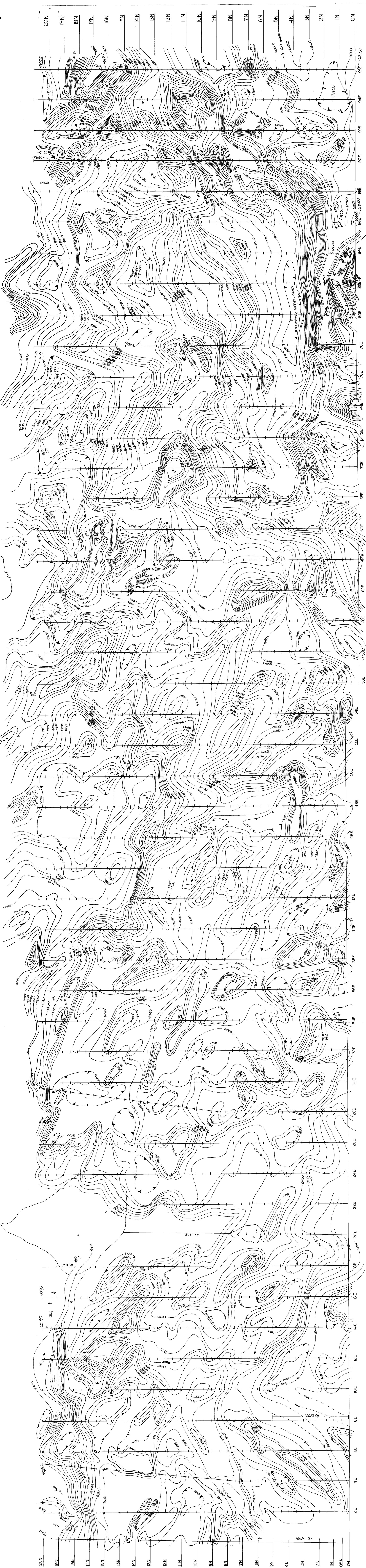
NOTE
 * Contour Interval = 100'
 *** Magnetic Low



MAGNETIC LOW

QUINTERRA RESOURCES INC.	
SYLVANITE CREEK PROPERTY	
WEST PART OF GRID NO. 1	
MAGNETIC SURVEY	
DATE: JANUARY, 1984	DRAWN BY: R. DEZALL
# 68-4505	
CONTOUR INTERVAL: 25' (UNLESS OTHERWISE INDICATED)	



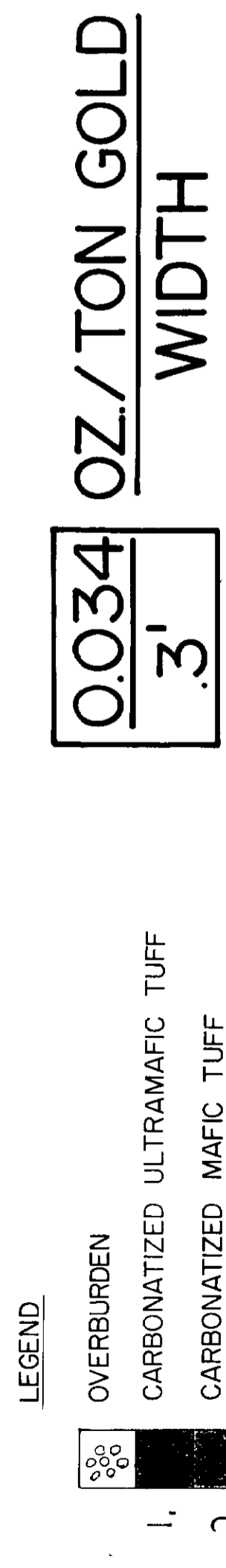
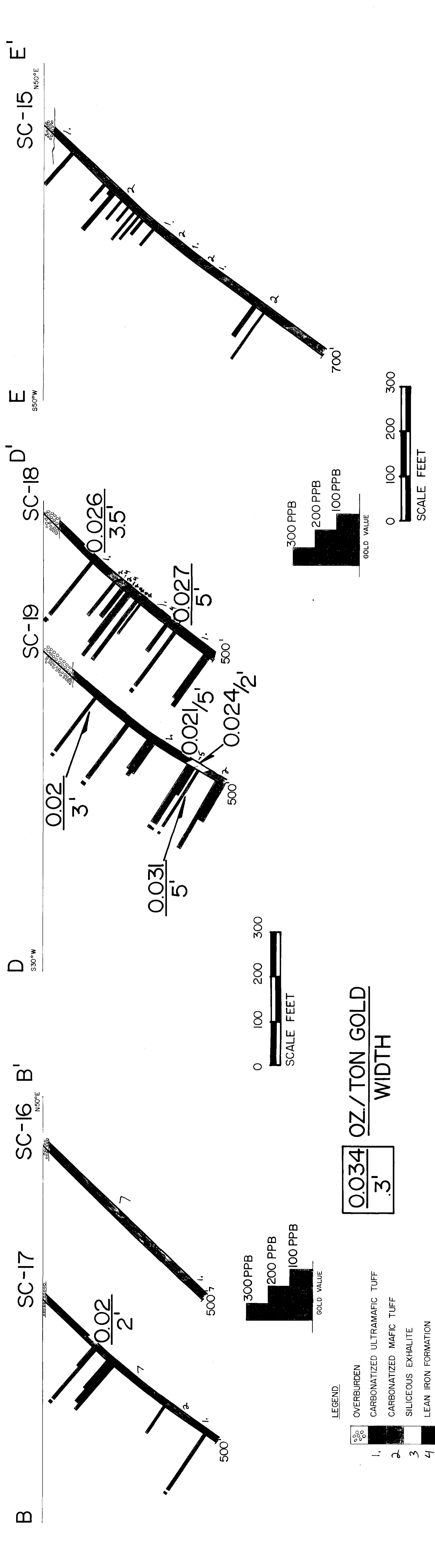
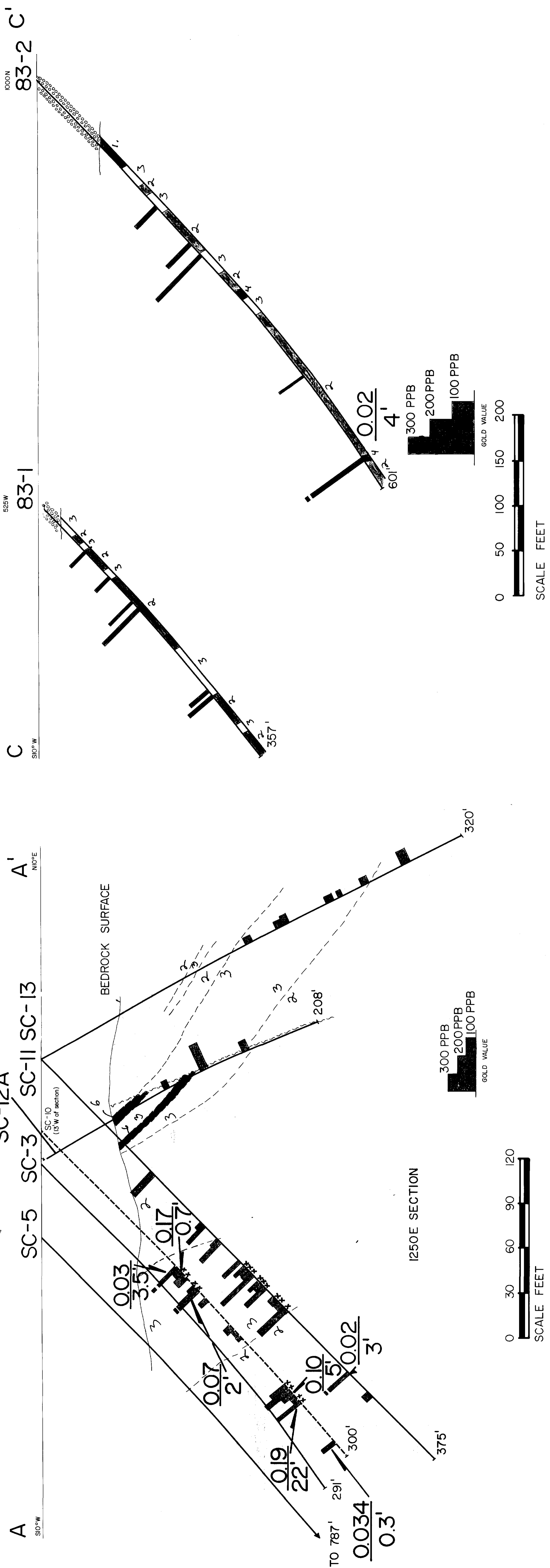


COUNTRERRA RESOURCES INC.
 SYLVANITE CREEK
 GRID NO. 1
 MAGNETIC SURVEY
 SEPTEMBER 1983

LEGEND
 ** CONTOUR INTERVAL CHANGE 25' to 100'
 --- 100' to 1000'
 *** MAGNETIC LOW

SCALE:
 0 200 400 600
 FEET

43-4205



#63-4305

QUINTERRA RESOURCES INC.
 SYLVANITE CREEK PROPERTY
 DIAMOND DRILL HOLE SECTIONS

DATE JANUARY 1984 DRAWN BY WO. KARVINEN

