

LOG NO: <i>April 30/91</i>	RD.
ACTION:	
FILE NO:	

**ASSESSMENT REPORT  
ON THE  
Q.C. PROPERTY  
(Q.C. 1-7, 9-10, 15 CLAIMS)**

**Liard Mining Division, British Columbia  
NTS 104G/9 & 16W  
Latitude: 57° 47' N  
Longitude: 130° 20' W**

on behalf of  
**DRYDEN RESOURCE CORPORATION**  
Vancouver, B.C.

by  
**David T. Mehner, M.Sc., FGAC**  
**KEEWATIN ENGINEERING INC.**  
#800 - 900 West Hastings Street  
Vancouver, B.C.  
V6C 1E5

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**21,250**

March 8, 1991

Keewatin Engineering Inc.

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## **INTRODUCTION**

The Q.C. property is situated along Quash Creek in the southwest portion of the Klastline Plateau in northwestern British Columbia.

Limited work by previous exploration groups since the mid-1960's has identified both a porphyry, copper-gold prospect and precious metal, shear-vein target on the property.

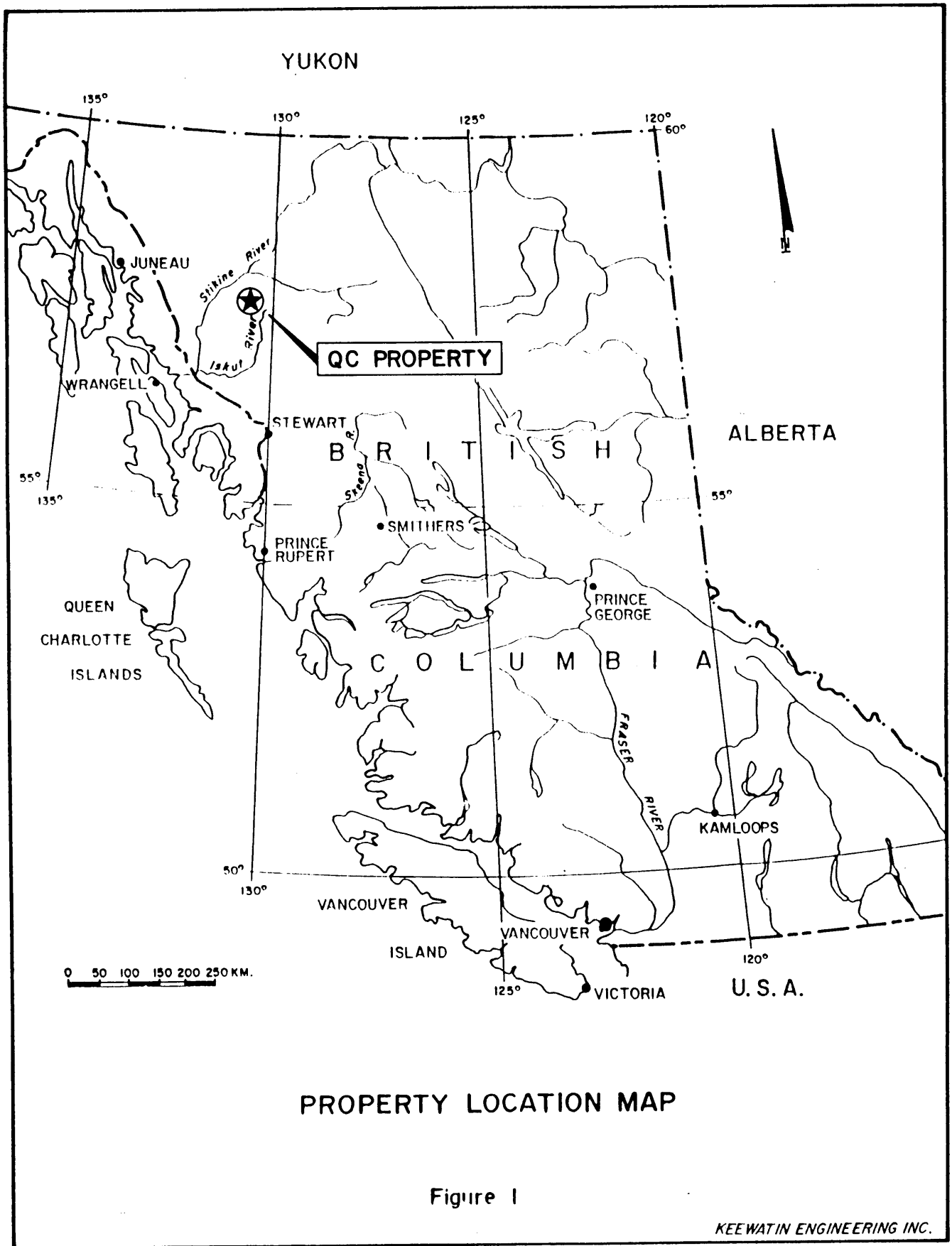
In the fall of 1990, Dryden Resource Corporation optioned the property from Triumph Resources Ltd. Keewatin Engineering Inc. was subsequently commissioned by Dryden Resource Corporation to carry out an exploration program on the property. Due to the lateness of the season the limited program was confined to the porphyry copper-gold zone and included stream silt and soil geochemical sampling, and, testing the western edge of a copper-gold soil anomaly with two diamond drilling holes totalling 377 metres.

Field work was carried out from the Iskut Valley Inn with the aid of a Hughes 500 helicopter, which was under contract from Vancouver Island Helicopters.

### **Location and Access**

The Q.C. property is situated in the Stikine region of northwestern British Columbia, approximately 203 km north of Stewart, B.C. (Figure 1). The claims are centred 21 km southwest of Iskut Village and 20 km west of Eddontenajon Lake at 57° 47' North latitude and 130° 20' West longitude on NTS map sheet 104G/9W and 16W (Figure 2). Quash Creek cuts through the centre of the Q.C. claims.

Alternate access is via helicopter from Canadian Helicopters Ltd. base at Tatogga Lake Lodge, a resort located 14 km south of Iskut Village and 21 km east-southeast of the property. Both the lodge and Iskut Village are situated on the Stewart-Cassiar Highway. The proposed B.C. Rail extension to Dease Lake is about 23 km northeast of the Tatogga Lake Lodge. Scheduled air service is available from Smithers to Iskut during the summer months.



**PROPERTY LOCATION MAP**

Figure 1

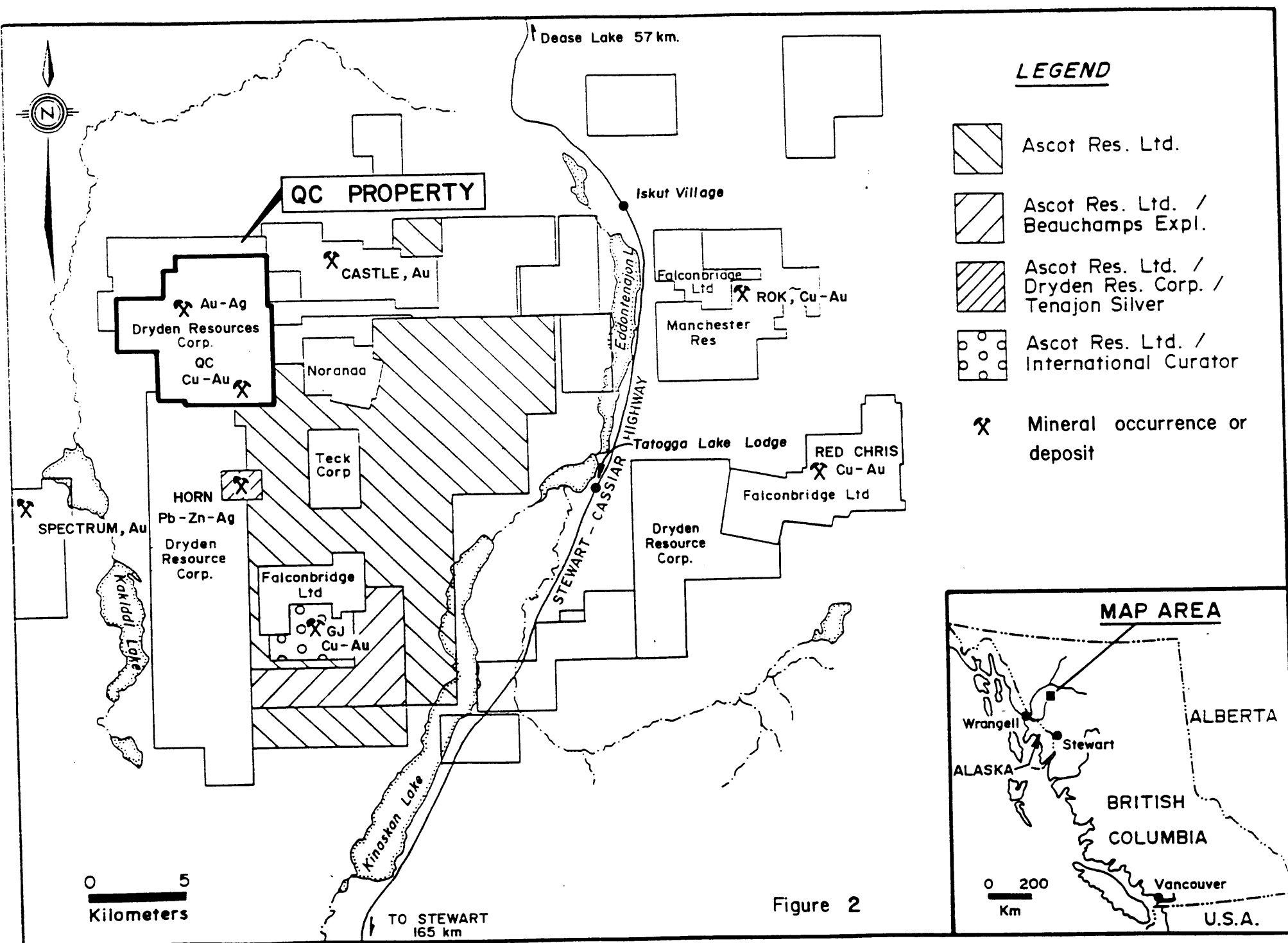


Figure 2

### **Physiography and Climate**

Topography on the property varies from fairly subdued with gently rolling hills atop the plateau in the northeastern portion of the property to extremely rugged with steep slopes and cliffs along the deeply incised Quash Creek valley (Figure 3). Much of the ground around the Q.C. porphyry copper zone is of the rugged variety with very steep east, west and north facing slopes making parts of the property relatively inaccessible. The western portion of the property is characterized by moderate and north facing slopes.

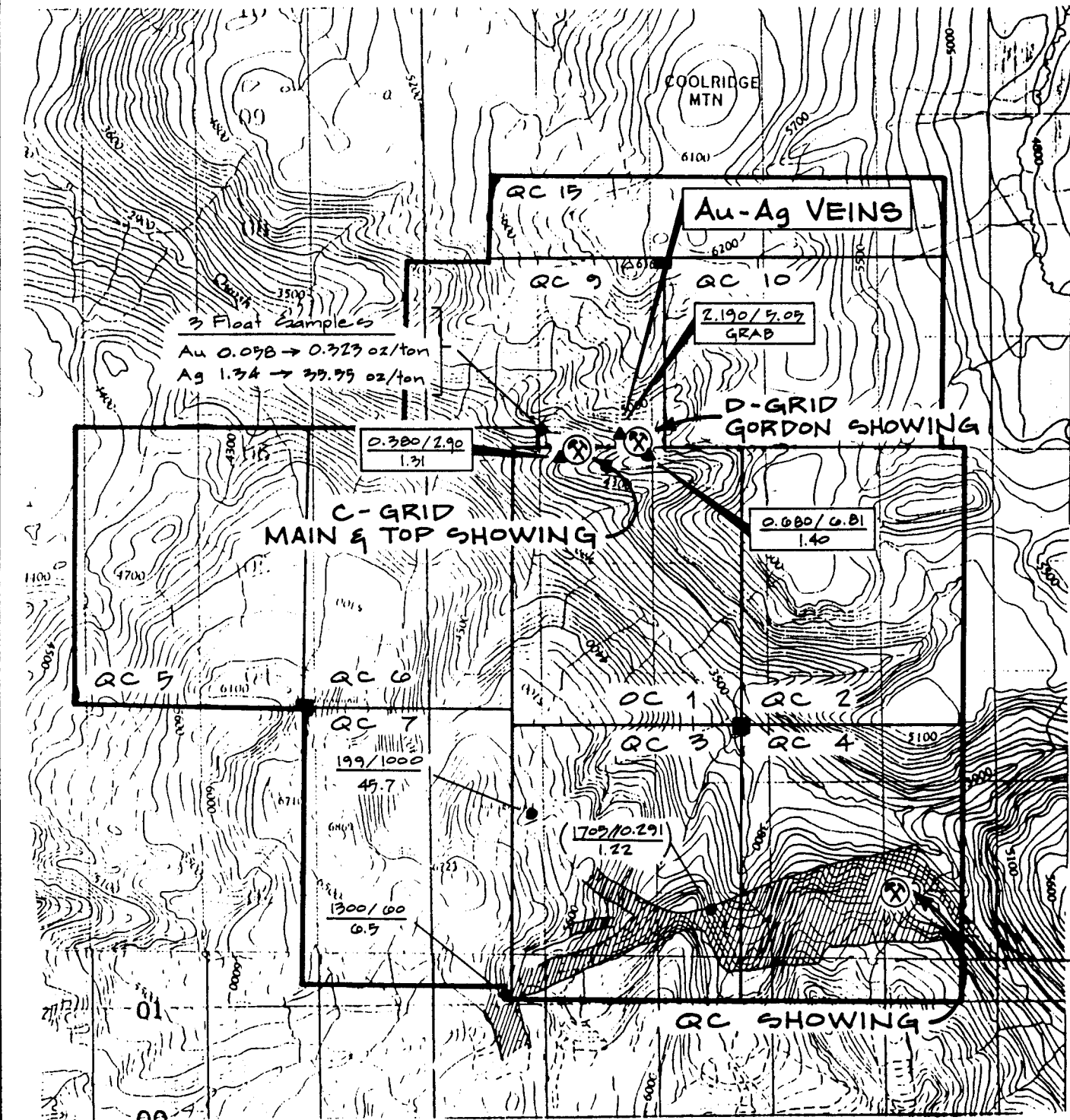
Elevations on the property vary from 975 metres (3,200 feet) above sea level along Quash Creek to 2,094 metres (6,869 feet) above sea level along the western side of the property near the southern claim boundary.

Vegetation varies from poplar and alder at the lowest elevations along the creek valleys to predominantly spruce along the steeper slopes at higher elevations. Sub-alpine scrub meanders through the property at about the 1,310 metre (4,300 foot) level with the tree line at about 1,370 metres (4,500 feet) above sea level. Alpine grasses and flowers are common on the Plateau. Remnant glaciers are common at the higher elevations just south of the Q.C. prospect.

Precipitation is moderate, averaging 100 cm per year. Thick accumulations of snow are common during winter. Fieldwork can commence at lower elevations in June, while it is seldom possible to begin surface geological work before July and difficult to continue past September, at the higher elevations.

### **Property and Ownership**

The Q.C. property consists of 10 claims, 196 units located in the Liard Mining Division (Figure 4). The claims include the following:



3 Float Samples  
 Au 0.098 → 0.329 oz/ton  
 Ag 1.34 → 39.99 oz/ton

0.380/2.90  
 1.31

Au-Ag VEINS

2.190/9.09  
 GRAB

D-GRID  
 GORDON SHOWING

C-GRID  
 MAIN & TOP SHOWING

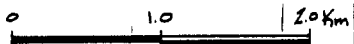
0.680/6.81  
 1.40

199/1000  
 49.7

1709/10.291  
 1.22

1300/100  
 6.5

QC SHOWING



DRYDEN RESOURCE CORPORATION

QC PROPERTY

MINERALIZED AREAS

Known porphyry alteration & mineralization

● Rock sample

◆ Float rock sample

$\frac{199}{1000}$  ppm Cu/ppb Au metres  
 49.7

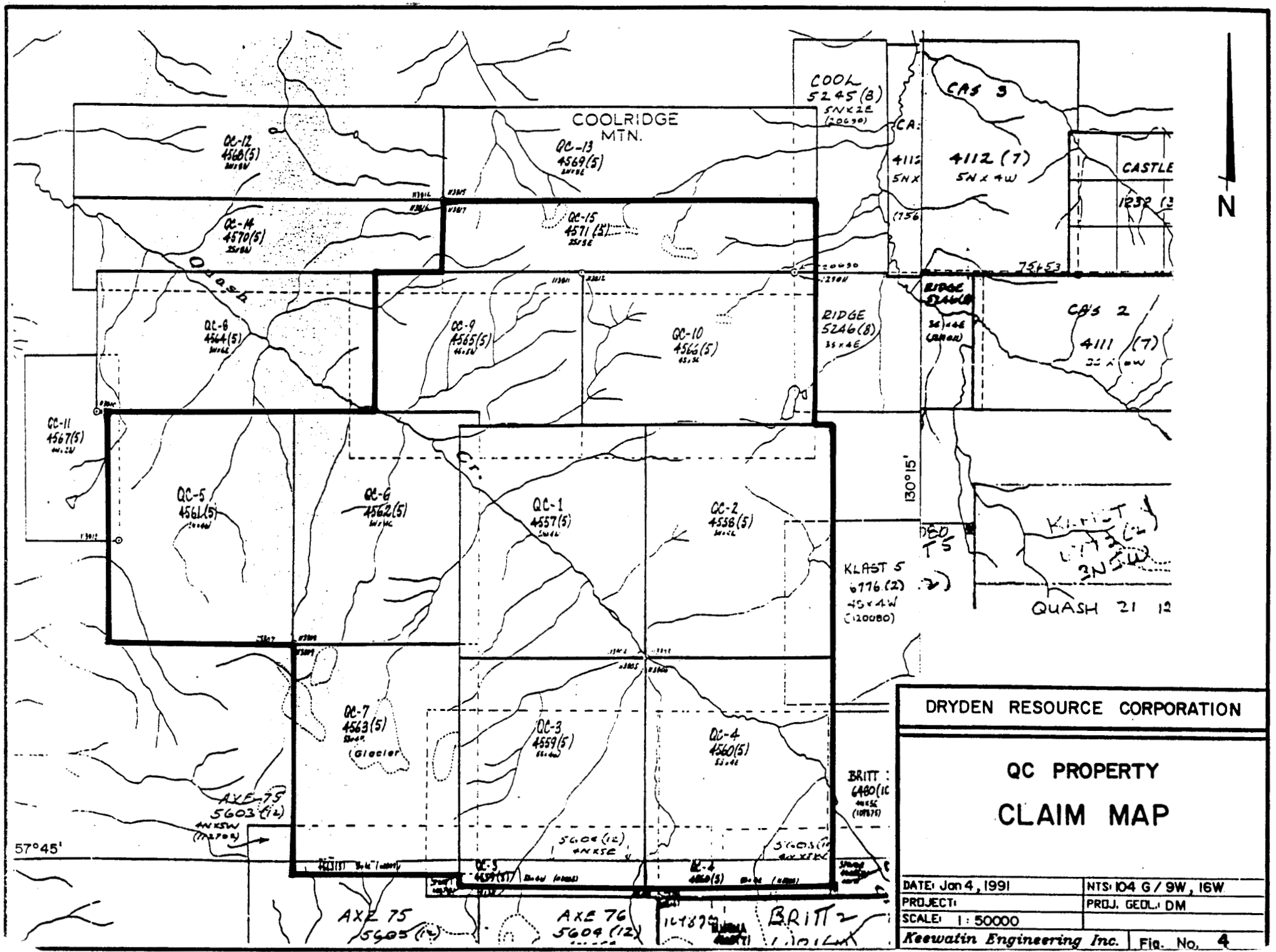
▲ Rock sample

$\left(\frac{1709}{10.291}\right)$  ppm Cu // oz/ton Au metres  
 1.22

$\frac{0.380}{2.90}$  oz/ton Au / oz/ton Ag metres  
 1.31

DATE: Jan. 1991	NTS: 104 G / 9w, 16w
PROJECT:	PROJ. GEOL.: DM
SCALE: 1:50000	
Keewatin Engineering Inc.	MAP No. 3





DRYDEN RESOURCE CORPORATION	
QC PROPERTY CLAIM MAP	
DATE: Jan 4, 1991	NTS: 104 G / 9W, 16W
PROJECT:	PRJ. GED. DM
SCALE: 1 : 50000	
Keewatin Engineering Inc. Fig. No. 4	

Claim Name	Record No.	No. of Units	Date of Record	Expiry Date
QC 1	4557	20	May 6, 1988	May 6, 1999
QC 2	4558	20	May 6, 1988	May 6, 1998
QC 3	4559	20	May 6, 1988	May 6, 1993
QC 4	4560	20	May 6, 1988	May 6, 1998
QC 5	4561	20	May 6, 1988	May 6, 1992
QC 6	4562	20	May 6, 1988	May 6, 1992
QC 7	4563	20	May 6, 1988	May 6, 1992
QC 9	4565	20	May 6, 1988	May 6, 1993
QC 10	4566	20	May 6, 1988	May 6, 1999
QC 15	4571	16	May 6, 1988	May 6, 1997

\* Due date after filing this report.

The Q.C. claims are owned by Teck Corporation (90%) and Silver Standard Resources Ltd. (10%). Triumph Resources Ltd. with offices at #1500 - 675 West Hastings Street, Vancouver, B.C., V6B 1N2 has an option to earn up to 50% of Teck's interest in the Q.C. claims.

In September, 1990 Dryden Resource Corporation with offices at 800 - 900 West Hastings Street, Vancouver, B.C., V6C 1E5 optioned the Q.C. claims from Teck Corporation, Silver Standard Resources Ltd. and Triumph Resources Ltd. The terms of the option allow Dryden to earn a 50 percent interest in the property by making cash payments of \$25,000 and issuing 100,000 shares upon signing the agreement and to make a further cash payment of \$25,000 and incurring exploration expenditures of \$1,000,000 by December 31, 1994.

#### Previous Exploration

The Axe property is located in the Stikine River area of northwestern B.C., a region well known for its alkalic plutons and associated porphyry copper-gold mineralization.

The first recorded work carried out on the property occurred in 1964 during a regional evaluation of the Klastline Plateau by Conwest Exploration Co. Ltd. That program identified a number of porphyry copper-gold and precious metal shear-vein targets on the plateau. One of the most significant of these was the Q.C. porphyry copper prospect (Figure 2). The Q.C. claims were staked and limited property work included silt and soil sampling and a small ground magnetometer survey.

In 1965, Hunttec conducted 2.19 km of Induced Potential and 1.83 km of ground magnetometer survey on the Q.C. claims over 2 lines for Conwest. Hunttec believed "the high apparent chargeability readings to be caused by extensive sulphide mineralization. The magnetometer and resistivity I.P. readings were very flat".

In 1969, further silt sampling along with detailed geological mapping (1" = 200 ft.), soil sampling and a ground magnetometer survey were conducted by Conwest over the malachite-stained, Q.C. gossan zone. The property was then optioned from Conwest by Amoco in 1970 and tested by 1,938.2 metres (6,359 feet) of drilling in nine B.Q. sized drill holes. Although thick overburden and broken ground prevented the first three holes from being drilled to their target depth, the average grade for 916.2 metres (3,006 feet) of core recovered from holes 70-2, 3, 4 and 5 averaged approximately 0.12% Cu. The best intersection was in hole 70-5 which returned 36.6 metres (120 feet) grading 0.19% Cu, 0.10 oz/ton Ag and trace Au.

In 1970 and 1971 Silver Standard Mines Ltd. staked the A1 claims immediately west of the Q.C. property to cover a number of copper occurrences located by prospecting (Seraphim, 1971). They conducted a limited geological mapping and sampling program and contracted McElhane Associates, B.C. Land Surveyors, to establish the position of their property relative to the Q.C. claims.

TexasGulf Canada Ltd. acquired the property in the mid-1970's and completed a small work program before letting it go. From then until 1988 the entire Klastline Plateau area remained relatively inactive until the G.S.C. carried out a regional stream silt sampling program (National Geochemical Reconnaissance, 1988). The same year, Teck Corporation staked the Q.C. 1 to Q.C. 15 claims in the Quash Creek area in order to cover gold-copper geochemical anomalies resulting from the GSC survey. After completing silt and soil geochemical sampling, hand trenching was used to expose veins that yielded values to 1.10 oz/ton Au and 6.8 oz/ton Ag over 2.8 metres in the "D" grid area, located 4.2 km northwest of the porphyry zone.

The Q.C. claims were optioned from Teck by Triumph Resources Ltd. in 1990. Triumph has carried out silt, contour soil and rock geochemical surveys over the Q.C. porphyry target and have resampled all the vein targets to the northwest (Konkin, 1990).

The Q.C. claims were optioned by Dryden in the fall of 1990. Dryden has carried out silt, soil and rock geochemical sampling and have drilled two holes totalling 377.04 metres into the western edge of a strong copper-gold geochemical anomaly identified in talus fines by Triumph.

## **GEOLOGY**

### **Regional Geology**

The property is located within the Intermontane Tectono-Stratigraphic Belt of the Canadian Cordillera (Figure 5). The claims lie within the northeastern half of the Stikine Arch, to the north of the Middle to Upper Jurassic sediments of the Bowser Lake Group.

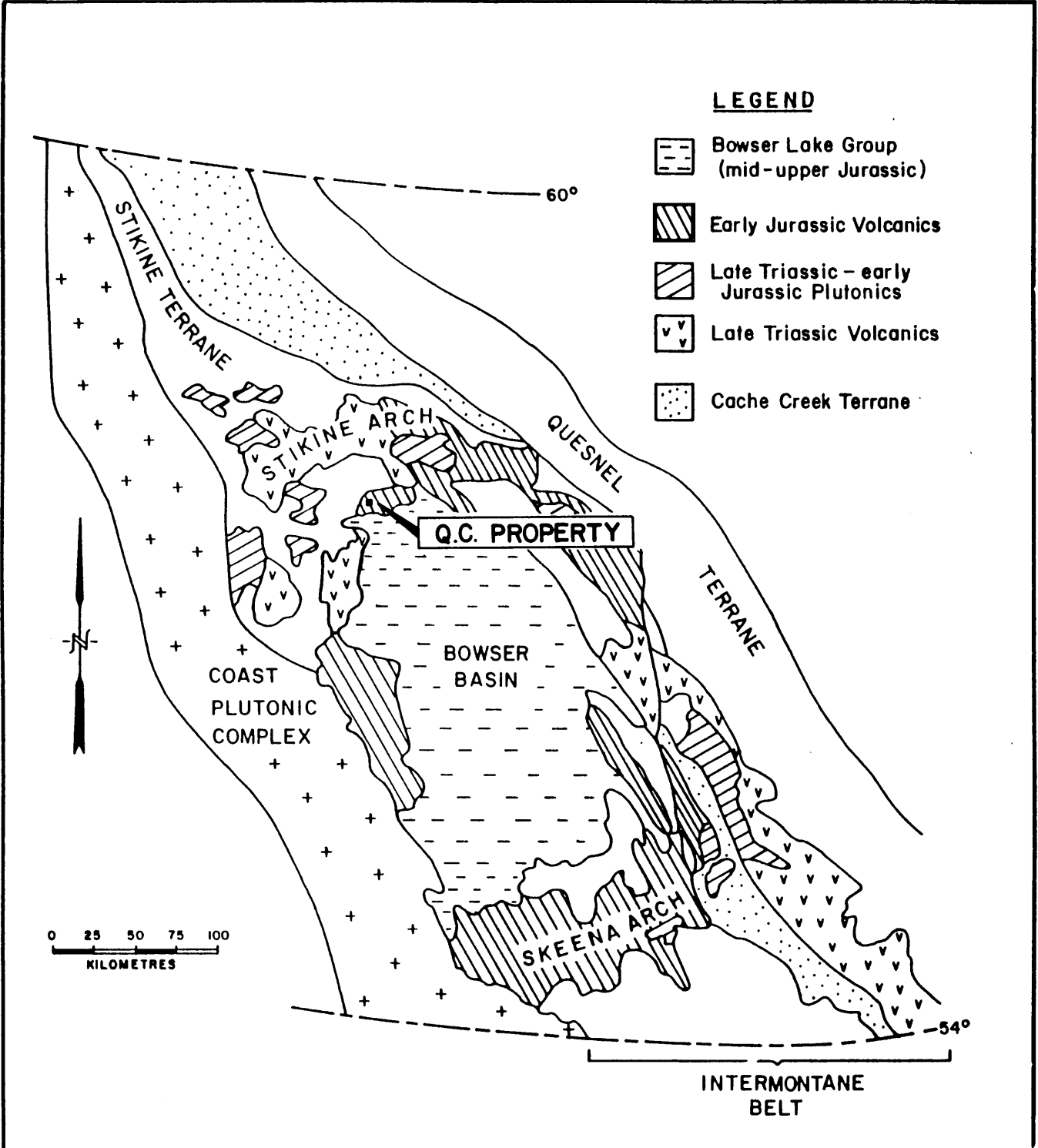
The regional geological setting (Figure 6) as mapped by Souther (1971) of the G.S.C. comprises Upper Triassic Stuhini Group(?) siltstone, chert, greywacke, volcanic conglomerate and minor limestone overlain by augite porphyry basalt flows, pyroclastic rocks and derived volcanoclastic rocks. These in turn are overlain by Lower to Middle Jurassic volcanics that are correlative with the Hazelton Group. The volcanic stratigraphy includes augite-andesite flows, pillow lavas, pyroclastics and derived volcanoclastic rocks.

Unconformably overlying the above units to the south are chert pebble conglomerate, grit, greywacke and siltstone of the Middle to Upper Jurassic Bowser Lake Group.

Transecting the Upper Triassic to Middle Jurassic assemblage is Upper Cretaceous to Lower Tertiary massive and flow banded rhyolite, orbicular rhyolite and massive felsite. This unit commonly weathers rusty orange due to the oxidation of fine grained pyrite.

Capping the stratigraphy at the higher elevations are Upper Tertiary and pleistocene basalt and olivine basalt flows, commonly exhibiting excellent columnar jointing.

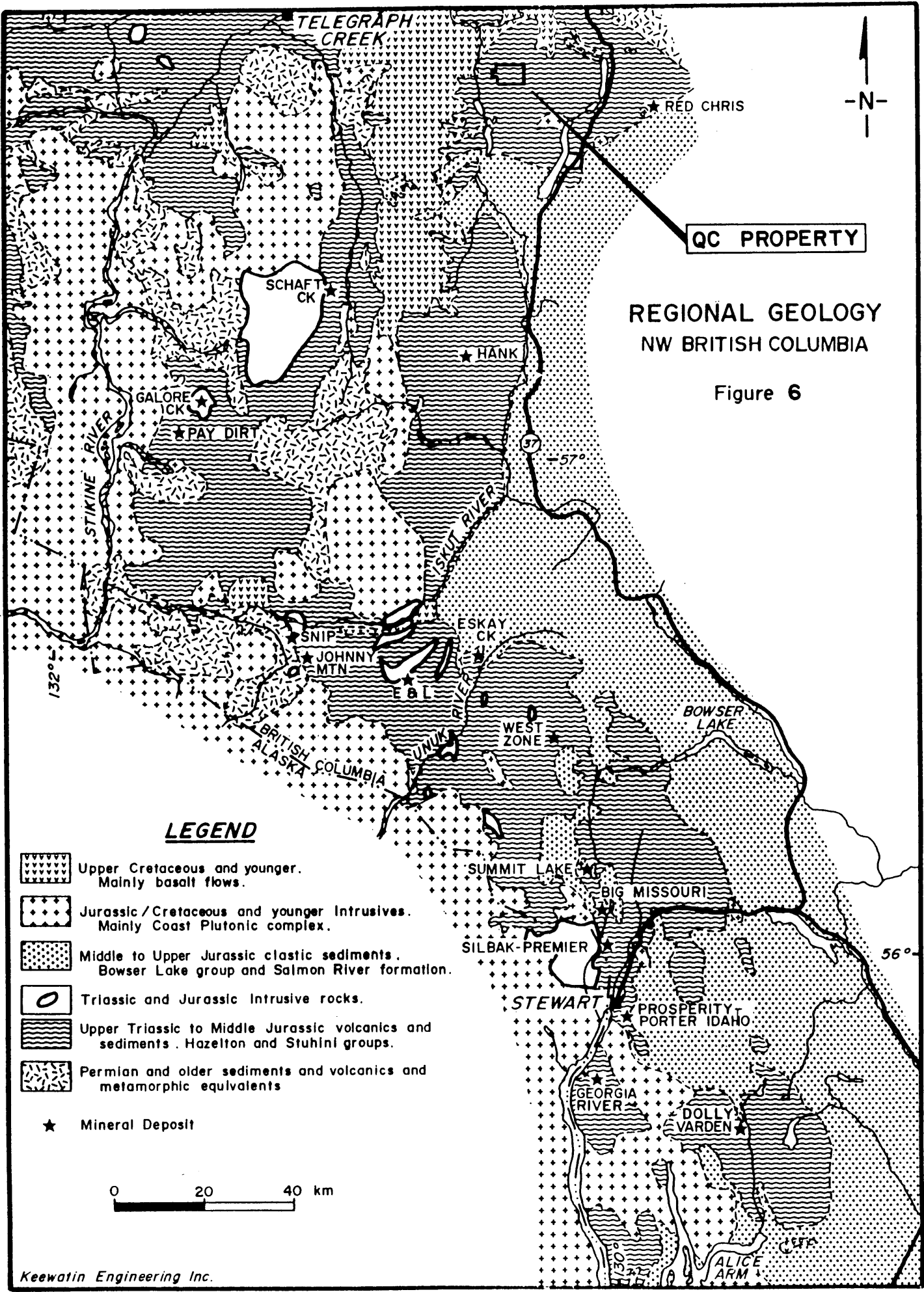
Intrusive rocks in the region are typically fine to medium grained plutons that are coeval with the Triassic to Middle Jurassic volcanic assemblages. Compositions vary from diorite, granodiorite monzodiorite, monzonite and syenite. Many of the smaller alkalic plutons, dated at between 185 and 195 million years (Schmitt, 1977), are associated with porphyry Cu-Au or precious metal vein systems. The intrusives all fall within the Stikine Arch structural domain, a regional feature along which Early Jurassic intrusive and related (island arc type) volcanic activity took place. Alkaline porphyry copper-gold deposits including the Galore Creek, Schaft Creek and Red Chris deposits occur within this trend (Figure 6). Some of the more notable deposits or occurrences of this type that are situated in the general area (Figure 2) include:



REGIONAL GEOLOGY  
BOWSER BASIN  
NW BRITISH COLUMBIA

(Outline of terrane boundaries and major rock groups of the Jurassic and Triassic - modified from Thomson, 1985).

Figure 5



TELEGRAPH CREEK







★ RED CHRIS

QC PROPERTY

REGIONAL GEOLOGY  
NW BRITISH COLUMBIA

Figure 6

**LEGEND**

-  Upper Cretaceous and younger. Mainly basalt flows.
-  Jurassic/Cretaceous and younger Intrusives. Mainly Coast Plutonic complex.
-  Middle to Upper Jurassic clastic sediments. Bowser Lake group and Salmon River formation.
-  Triassic and Jurassic Intrusive rocks.
-  Upper Triassic to Middle Jurassic volcanics and sediments. Hazelton and Stuhini groups.
-  Permian and older sediments and volcanics and metamorphic equivalents
- ★ Mineral Deposit

0 20 40 km

- A) The Red-Chris alkalic porphyry copper-gold deposit located 31 km east-southeast of the property. Explored in the mid 1970's by Texasgulf Inc. (now Falconbridge Ltd.) the deposit has published reserves of 45.2 million tons grading 0.56% Cu and 0.010 oz/ton Au (Panteleyev, 1977).
- B) The GJ porphyry copper-gold prospect, located on Groat Creek 12 km to the east-south-southeast, was discovered by Conwest Exploration Co. Ltd. in 1964.
- C) The Rok porphyry Cu-Au prospect situated on the southeastern half of Ehahcezetle Mountain, 26 km to the east. Discovered by Texasgulf Inc. in 1975, the property was drilled in 1990 by Consolidated Carina Resources Ltd. who intersected 27.87 metres grading 1.765% Cu and 0.066 oz/ton Au in the third hole of a three hole program.
- D) The Spectrum gold vein system located on the east slopes of Mt. Edziza, 14 km to the southwest. Recent drill intersections into this precious metal target by Columbia Gold Mines (Northern Miner, October 29, 1990) include 33 feet at 0.36 oz/ton Au, 8 feet at 0.60 oz/ton Au and 75 feet at 0.30 oz/ton Au.
- E) The Castle gold prospect located 7.5 northeast of the QC porphyry copper-gold prospect. Work to date by Teck Corp. and Triumph Resources Ltd. has identified a sulphide system 7 km long by up to 250 metres wide that contains visible gold and has yielded assays to 4.0 oz/ton Au from grabs and 0.93 oz/ton Au from one metre chips (Brock, 1990).
- F) The Horn (SF) silver prospect located 5.0 km south of the Q.C. porphyry prospect. Discovered by Conwest Exploration in 1964, a vein system has returned values of 11.04 oz/ton Ag over an area of 45 metres x 4.2 metres (Phendler, 1980).

### **Property Geology**

No geological mapping has been carried out on the Q.C. property by Dryden Resource Corporation. However, data from government maps and assessment reports indicates the oldest rocks on the property are Upper Triassic Stuhini Group argillites, chert, cherty siltstones, quartzite,

greywacke, grit, polymictic conglomerate and minor limestone. Interbedded with the sediments are similar age augite andesite flows, pyroclastics and volcanoclastic equivalents (Map 1).

Intruding the Upper Triassic stratigraphy are several irregularly shaped, hornblende diorite, granodiorite, monzodiorite and monzonite stocks that appear similar to the 8.5 km by 2.0 km, Early Jurassic stock (Schmitt, 1977) that hosts the GJ porphyry copper-gold mineralization to the south.

In the vicinity of the Q.C. prospect the intrusives have been subdivided into hornblende-biotite porphyry, monzonite, feldspar porphyry and quartz diorite. Both the hornblende-biotite and monzonite feldspar porphyries occur as dykes and sills up to 6 metres across or as irregularly shaped bodies of somewhat larger dimensions. Earlier workers believed that the hornblende-biotite porphyry is the main source of mineralization. The quartz diorite is a fine grained unit that is difficult to distinguish from the extensive andesitic rocks. The quartz diorite occurs as dykes within an andesite tuff/flow sequence on the east side of the porphyry zone.

The linear nature of the intrusive units within the region and particularly in the vicinity of the Q.C. prospect suggests pre- and/or post-intrusive faults exert a major control on their emplacement.

On the east side of the Q.C. claims, Upper Tertiary and Pleistocene basalt and olivine basalt flows unconformably cap the Triassic to Jurassic stratigraphy.

### Alteration

Alteration over much of the property, is restricted to local chlorite replacement of mafics and epidote and calcite fracture fillings related to minor faulting or intrusive contacts.

In the vicinity of the Q.C. prospect, alteration becomes significantly more intense. Here, an east-west propylitic alteration zone measures at least 4 km long by 0.80 km wide (Map 1). Alteration intensity including the presence of weak quartz veining, minor clay replacement of feldspars and minor secondary potassium feldspar flooding increases with proximity to the diorite intrusive contact.



## Structure

Well developed bedding in volcanoclastic units north of Quash Creek commonly strike east-west and dip 50° to 70° to the north. South of Quash Creek stratigraphy strikes east-west but dips 60° to 70° south.

The Q.C. porphyry copper prospect and subvolcanic intrusive bodies lie within a strongly developed fault zone trending 080° and dipping vertically or steeply to the north. Quartz veins and massive pyrite or pyrrhotite veins within the zone have similar orientations.

The mineralized zone is at least 4,000 metres long and varies from 200 to 800 metres in width. It appears to be cut off to the east by a major northwest striking fault that follows the Quash Creek Valley. To the west the fault zones appear to bifurcate into at least three separate east-west striking zones.

Further to the north on the Q.C. property, Teck Corp. has located a significant gold-silver bearing composite vein system that strikes 115° and dips vertically. These structures have been traced for at least 40 metres along strike.

## Mineralization

There are two main centres of mineralization on the Q.C. property. The porphyry copper-gold target south of Quash Creek and the precious metal, shear-vein 4.2 km to the northwest (Figure 3).

### i) Porphyry Copper-Gold Target

The porphyry copper-gold target consists of disseminated and veinlet pyrite ( $\leq 10\%$ ) with minor pyrrhotite ( $\leq 6\%$ ) and disseminated and fracture controlled chalcopyrite in an altered and strongly fractured andesite-diorite sequence within the 4,000 metre by 800 metre fault bounded zone. The rocks are strongly oxidized with iron gossans clearly marking the mineralized areas. Malachite and azurite staining is also very common.

In 1970, Amoco drill tested a 1,300 metre by 400 metre area in the far eastern end of the mineralized zone with nine, widely spaced B.Q. diamond drill holes (Map 1). Three of the drill holes were abandoned due to bad ground conditions while a fourth was lost in overburden.

Despite these problems, four of the holes; 70-2, 3, 4 and 5, tested an area of 400 metres by 400 metres over a vertical distance of between 100 and 300 metres. Amoco calculated a "potential" for 100 to 120 million tons, with an average grade of 0.12% Cu based on these results. The significant intersections include:

Drill Hole	Hole Length (metres)	Significant Interval	Cu %	Cu oxide %	Au oz/ton	Ag oz/ton
70-1*	25.60					
70-2**	163.07	14.94-163.07 includes 111.25-163.07	0.13 0.16	n/a 0.09	tr	tr n/a
70-3**	181.36	34.14-173.74	0.07	n/a	tr	tr
70-4	355.09	32.31-355.09	0.13	n/a	tr	tr
70-5	304.80	3.96-304.80 includes 268.22-304.80	0.12 0.19	n/a n/a	tr tr	tr 0.10

\* hole abandoned in overburden

\*\* holes abandoned due to bad ground conditions

In 1990, Triumph Resources Ltd. re-evaluated the porphyry zone by conducting extensive silt, soil, talus fines and rock geochemical sampling around the known, porphyry mineralization and over gossanous areas elsewhere on the property. The results of this work, particularly to the west and north of the drill tested area were very encouraging.

Copper and gold values to 1,300 ppm Cu and 700 ppb Au were obtained from a 550 metre by 250 metre soil grid established along the ridge top (above 1,524 metres), and west of holes 70-1 to 70-5.

Contour sampling of talus fines and soils below the grid at the 1,524 metre level yielded exceptionally high values over a considerable distance on the north and west facing slopes including:

Location	Line Length (metres)	Consecutive Samples	Average Cu (ppm)	Average Au (ppb)
North Slope	850	18	1,894	271
West Slope	1,250	26	1,999	327

Individual sample highs include 6,400 ppm Cu and 1,390 ppb Au.

Further soil sampling has since been carried out by Dryden Resources along the 1,173 and 1,280 metre elevation contours as well as along old cut lines between the 1,143 and 1,219 metre contours downslope and to the north of the previous drilling. As with the Triumph sampling, the results are very encouraging. Anomalous soils with values up to 3,555 ppm Cu and 504 ppb Au were obtained over a 500 metre by 900 metre area located north and northeast of holes 70-1 to 70-5. The anomaly which extends down to Quash Creek disappears to the west where overburden and glacial outwash appears to thicken.

Rock sampling within the soil sampled area on the west side of the previous drilling has yielded significant copper and gold values including a 40 metre chip sample along the west facing rock bluffs above the 1,524 metre contour that averaged 1,140 ppm Cu and 150 ppb Au. Rock grabs and chips taken above the 1,280 metre contour line have returned even higher values including:

Sample No.	Sample Size	Company	Cu ppm	Au ppb
48084	0.9 m	Triumph	1,600	2,000
49014	1.8 m	Triumph	3,370	190
49013	2.1 m	Triumph	745	1,020
SS-800-5	grab	Dryden	997	6,950
EB-800-4	grab	Dryden	3,037	30
SS-800-7	grab	Dryden	3,041	202

In October, 1990, two diamond drill holes totalling 377.04 metres drill tested a soil/rock, copper-gold geochemical anomaly west of the previous drilling. Both holes intersected strongly altered, pyritic rocks containing copper values in the 1,000 to 2,881 ppm range with gold values as high as 0.053 oz/ton over one 1.50 metre interval. A more complete description of drilling results is provided in the "Drilling" section of this report.

Surface sampling by Triumph Resources Ltd. elsewhere within the porphyry system has yielded additional significant values including 1,705 ppm Cu and 0.291 oz/ton Au over 1.22 metres in the Red Zone (1,300 metres west of hole 70-1 to 5), 199 ppm Cu and 1,000 ppb Au over 45.7 metres in the Orange Zone (3,000 metres northwest of holes 70-1 to 5) and grabs with 1,500 ppm Cu, 60 ppb Au and 615 ppm Cu and 1,000 ppb Au in the extreme southwest corner of the property (Figure 9).

ii) Shear/Vein Gold Target

An area located 4.2 km northwest of the Q.C. porphyry target contains significant gold-silver values in veins that were exposed and sampled by Teck Corp. in 1988. The veins contain pyrite, arsenopyrite, chalcopyrite, galena and sphalerite within quartz - carbonate  $\pm$  barite gangue. There are at least two separate, parallel systems approximately 400 to 450 metres apart. The veins strike 115° and dip at 90°. Vein widths vary from 0.15 metres to 2.8 metres and have been traced for 40 metres in the "D" grid and 30 metres in the "C" grid (Figure 10).

Initial rock sampling by Teck in 1988 yielded these significant gold and silver values:

Location	Width (metres)	Au oz/ton	Ag oz/ton
Main Zone/C-Grid	1.31	0.380	2.90
Top/C-Grid	1.00	0.340	10.60
North of C-Grid	grabs	to 0.323	to 35.55
D-Grid	1.00	1.000	4.70
D-Grid	2.80	1.100	6.80
Gordon/D-Grid	1.40	0.680	6.81
North of D-Grid	grabs	2.190	5.05

Limited prospecting and soil sampling by both Teck and Triumph Resources Ltd. indicates both the "C" and "D" vein systems are open along strike to the southeast and more significantly to the northwest where grab samples have returned values to 2.190 oz/ton Au and 35.55 oz/ton Ag.

A brief examination of showings in the "C" and "D" grid areas by Dryden Resource Corporation confirmed the presence of mineralized structures containing significant gold and silver

values. Individual samples taken by Dryden have yielded results as high as 1.969 oz/ton Au over 1.0 metre in the "D" grid and 569.4 ppm Ag from a grab in the "C" grid.

### **GEOCHEMISTRY**

During the 1990 field season 4 stream silts, 207 soils and 19 rock samples were collected from the porphyry copper zone in the southern part of the property.

The soil samples were collected from the 3,850 and 4,200 foot elevation contours and from 7 old, cut lines radiating from a point north of the 1970 drilling at about the 3,700 foot elevation contour. The samples were taken at 50 metres intervals with the aid of a mattock. Wherever possible, samples were taken from the "B" soil horizon and placed in Kraft sample bags. Where the horizon was not developed samples were taken of whatever material, usually talus fines that was available. A large outwash plain of glacial debris occurs near the mouth and east of Rusty Creek and as a result the geochemical response from this area may be masked by the thick cover.

All rock, silt and soil sample collection sites were marked with red and blue flagging.

### **Analysis**

All samples were sent to Min-En Laboratories Ltd. in Smithers, B.C. where they were processed and analyzed for gold. Pulps were then forwarded to Min-En Laboratories Ltd. in Vancouver for Hg analysis plus 7 element ICP which included Cu, Pb, Zn, Ag, As, Sb and Mo.

Analytical procedures used by Min-En Laboratories Ltd. are outlined in Appendix III.

### **Results**

- i) Stream silt samples were all collected from Rusty Creek, a fast flowing, turbulent creek that cuts through the stratigraphy west of the 1970 drilling. The results for the four samples collected show elevated copper values of between 149 ppm and 252 ppm with three of the four samples anomalous in gold values of 33 ppb to 134 ppb and mercury values of 265 ppb to 585 ppb. Geochemical analysis for the other elements returned relatively low results.

A complete print out of stream silt geochemistry results is available in Appendix IV. Sample descriptions are in Appendix V and results are plotted on Maps 1 to 5. Sample numbers are shown on Map 6.

ii) Contour soil sampling has identified two, large, multi-element anomalies plus a small copper-gold soil anomaly.

- a) The largest soil anomaly is situated north and downslope of drill holes 70-1 to 70-5. In this region a coincident copper-gold soil anomaly accompanied by elevated molybdenum, silver and arsenic values covers an area 900 metres east-west by 400 metres north-south. The anomaly is open to the east and uphill to the south. Although it appears cut-off to the west, increasing overburden thickness in this direction may be masking the underlying geology.

Significant results within this anomaly include:

<b>Copper:</b>	Twenty-three samples returned over 1,000 ppm Cu. The highest value is 4,357 ppm Cu.
<b>Gold:</b>	Twenty-nine samples with $\geq 100$ ppb Au. The highest value is 504 ppb Au.
<b>Silver:</b>	Twelve samples with $\geq 10.0$ ppm Ag. The highest value obtained is 37.4 ppm.
<b>Molybdenum:</b>	Thirty-nine samples with values between 10 ppm Mo and 56 ppm Mo.
<b>Arsenic:</b>	Seven samples along the west side of the anomaly yielded values of 102 ppm As to 272 ppm As.

- b) The second multi-element soil anomaly occurs along the 1,280 metre elevation contour on either side of Rusty Creek. Anomalous elements include copper, gold, mercury, lead and molybdenum. The overall extent of this anomaly has not yet been delineated.

<b>Copper:</b>	Sixteen samples with values between 250 and 1,046 ppm Cu.
<b>Gold:</b>	Ten samples with values between 100 ppb Au and 252 ppb Au.
<b>Molybdenum:</b>	Six samples with values of 13 ppm Mo to 42 ppm Mo.

**Mercury:** Six samples with values of 255 ppb Hg to 1,410 ppb Hg.  
**Lead:** Four samples with values of 41 ppm Pb to 56 ppm.

- c) A small copper-gold anomaly occurs along the 1,280 metre elevation contour where it crosses Bruns Creek. The poorly defined anomaly includes two samples with copper values of 216 ppm and 773 ppm and three samples with gold values of 362 ppb Au to 696 ppb Au.

The soil geochemistry results are all plotted on Maps 1 to 5 and sample numbers are shown on Map 6. Geochemical results are available in Appendix VI and soil sample descriptions are in Appendix VII.

iii) Rock sampling has been limited to grab samples of sulphide rich material and/or malachite-azurite stained float and outcrop taken from along Rusty Creek and to the north of the 1970 drilling. The sampling has returned highly anomalous copper and gold values up to 9,290 ppm Cu and 6,950 ppb Au and elevated silver values to 11.0 ppm. Weakly anomalous arsenic values of 11 ppm to 191 ppm are associated with the higher gold numbers. Molybdenum is also weakly anomalous with values of 10 ppm to 58 ppm. Lead, zinc, antimony and mercury results are low. Complete rock geochemistry results are given in Appendix VIII. Sample descriptions are available in Appendix IX and geochemical results are plotted on Maps 1 to 5. Sample locations are shown on Map 6.

A summary of the rock geochemistry results follows:

<b>Copper:</b>	Map 1 - Range 216 ppm - 9,290 ppm
<b>Gold:</b>	Map 2 - Range 1 ppb - 6,950 ppb
<b>Silver:</b>	Map 3 - Range 1.7 ppm - 11.0 ppm
<b>Lead:</b>	Map 4 - Range 6 ppm - 100 ppm
<b>Zinc:</b>	Map 4 - Range 19 ppm - 532 ppm
<b>Molybdenum:</b>	Map 4 - Range 1 ppm - 58 ppm
<b>Arsenic:</b>	Map 5 - Range 1 ppm - 191 ppm
<b>Mercury:</b>	Map 5 - Range 30 ppb - 85 ppb
<b>Antimony:</b>	Map 5 - Range 1 ppm - 6 ppm

## **DIAMOND DRILLING**

A two hole, 377.04 metre diamond drill program was carried out on the Q.C. porphyry copper zone to test a strong soil-rock, copper-gold geochemical anomaly identified by Triumph Resources Ltd. west of the previous drilling. The helicopter supported drill program was contracted out to Falcon Drilling of Prince George, B.C. who completed the drilling with B.G.M. sized tools. The core was flown to the Iskut Valley Inn where it was logged and sampled in 3.0 metre intervals. Sections with significant mineralization were sampled in 1.50 metre intervals. The core was then transported to a "common" core storage area on the Klappan Mine Road (immediately north of Ealue Lake) at approximately the 11 kilometre mark.

The location of the drill holes are shown on Map 1. Cross-sections are on Maps 7 and 8. Drill logs are included in Appendix X and geochemical and assay results are in Appendix XI.

### **Results**

i) DDH-90-Q-01 is located at an elevation of 1,450 metres (4,780 feet) along Rusty Creek. The hole intersected andesitic tuffs, mudstones and siltstones which are intruded by altered, porphyritic diorite dykes. Finely disseminated and fracture controlled pyrite ( $\leq 2\%$ ) and pyrrhotite ( $\leq 2\%$ ) is present throughout the core. Chalcopyrite is associated with weak quartz veining and narrow ( $\leq 3$  mm) pyrite veins/fracture filling.

Alteration includes propylitically altered andesite units and mottled, silicified (hornfelsed) and skarn altered mudstones and siltstones. Diorite dykes vary from "fresh looking" units with scattered, corroded feldspars to moderately altered intrusives with chloritized hornblendes and sericite replaced feldspars.

All units are magnetic as a result of the weak but widespread pyrrhotite mineralization.

Geochemical analysis of the core indicate sections of low grade copper values typically in the 1,100 ppm to 1,500 ppm range are widespread. Gold values are erratic with the best result returning 3,480 ppb over 3.0 metres. Silver values show a narrow range of 0.9 ppm to 4.0 ppm. Molybdenum results are weakly anomalous throughout the upper half of the hole with values commonly in the 10 to 20 ppm range with a high of 112 ppm over a 1.5 metre section. Arsenic values are erratic and



mostly low, however increased values to 1,208 ppm are associated with the higher gold results. Mercury results are variable from 60 ppb up to 2585 ppb.

A summary of the significant mineralized intervals in hole Q01 are as follows:

From-To (metres)	Length (metres)	Cu ppm	Au ppb	Ag ppm	As ppm	Pb ppm	Zn ppm
3.00 - 90.00	87.00	1,067	21	1.5	11	12	20
159.00-171.00	12.00	1,162	912	3.4	340	12	72

ii) DDH-90-Q-02 is collared at an elevation of 1,430 metres (4,680 feet) on the east side of Rusty creek, north of hole Q01.

The hole intersected the same silicified, mottled, skarn altered mudstone/siltstone assemblage encountered in hole Q01. Patchy K-feldspar flooding occurs throughout the hole. Sulphides include 3% to 4% disseminated and fracture pyrite but <1% pyrrhotite. Chalcopyrite occurs within limited quartz veining and/or pyrite fracture filling.

Geochemical analyses are similar to those in hole Q01 except that the low grade copper intervals are narrower and more erratic in hole Q02. Individual sample highs include 2,881 ppm Cu over 1.50 metres and 1,750 ppb Au over 1.50 metres. A summary of the significant mineralized intervals intersected in hole DDH-90-Q02 are as follows:

From-To (metres)	Length (metres)	Cu ppm	Au ppb	Ag ppm	As ppm	Pb ppm	Zn ppm
36.00- 52.50	16.50	1,168	16	2.2	15	13	25
60.00- 72.00	12.00	1,435	140	2.4	18	16	28
75.00- 76.50	1.50	1,118	20	2.2	1	16	21
109.50-111.00	1.50	1,038	15	2.2	1	10	26
123.00-124.50	1.50	1,931	1,750	3.7	87	26	142
129.00-132.00	3.00	1,060	38	2.6	1	12	87
135.00-145.50	10.50	1,057	34	2.3	12	13	28
150.00-151.50	1.50	1,358	104	2.6	254	17	32

## CONCLUSIONS

The Q.C. claims are located in a region of B.C. where significant porphyry copper-gold and gold-silver shear-vein deposits are known to occur. Exploration work on the property to date has identified a large porphyry system. Widely spaced drill testing within a part of this system indicates potential geological reserves of 100 million tons plus grading 0.12% copper (Amoco). Subsequent extensive soil and rock geochemical sampling throughout the system has greatly enlarged the area of anomalous copper and gold values and has also identified specific zones with significantly higher values in copper and gold. The potential for the porphyry system to contain higher grade zones which could be developed into an economic copper-gold deposit is considered excellent.

To the northwest, preliminary work on peripheral, precious metal shear-vein systems has yielded significant gold and silver values. These targets which are open along strike and down dip offer excellent potential to develop into high grade deposits, amenable to underground development.

## RECOMMENDATIONS

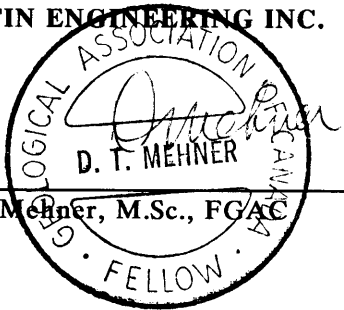
An exploration program including systematic geochemical, geological and geophysical work over the porphyry system is recommended in order to define the extent of copper-gold mineralization and establish the location of higher grade zones that will require follow-up drill testing.

Detailed follow-up including prospecting, soil and rock geochemical sampling followed by blasting, hand trenching and diamond drilling, if warranted is recommended for the precious metal vein/shear targets.

Respectfully submitted,

**KEEWATIN ENGINEERING INC.**

David T. Mehner, M.Sc., FGAC



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**APPENDIX I**

**Statement of Expenditures**

## STATEMENT OF EXPENDITURES

### O.C. Mineral Claims

#### Salaries

R. Nichols, Project Supervisor	6.0 days @ \$425/day	\$ 2,550.00	
D. Mehner, Senior Geologist	14.5 days @ \$375/day	5,437.50	
M. Bobyn, Project Geologist	3.0 days @ \$325/day	975.00	
J. Miller, Geologist	5.5 days @ \$275/day	1,512.50	
B. Ryziuk, Geological Technician	5.5 days @ \$300/day	1,650.00	
G. Nagy, Sampler	1.0 days @ \$250/day	250.00	
S. Creelman, Sampler	5.5 days @ \$225/day	1,237.50	
E. Birkeland, Sampler	8.0 days @ \$300/day	2,400.00	
K. Louis, Sampler	4.0 days @ \$175/day	700.00	
J. Tashoots, Sampler/Core Splitter	5.5 days @ \$175/day	962.50	
A. Hark, Sampler	7.0 days @ \$175/day	1,225.00	
V. Jordan, Cook/First Aid	9.5 days @ \$250/day	2,375.00	
J. Lund, Cook/First Aid	2.0 days @ \$250/day	<u>500.00</u>	
			\$ 21,775.00

Accommodation and Food                      109 man days @ \$ 60/day                      6,540.00  
(includes Keewatin personnel, pilot and Falcon Drilling crew)

Equipment Use                                      74 man days @ \$ 15/day                      1,110.00

#### Travel

Helicopters:	Hughes 500 - 37.9 hrs @ \$ 670/hr.	\$25,393.00	
	Bell 205 - 11.5 hrs @ \$1,680/hr.	19,320.00	
Truck:	4 x 4 - 1.0 month rental + gas	<u>1,374.35</u>	
			46,087.35*

#### Geochemistry

Soils:	207 samples @ \$10.00 ea.	\$ 2,070.00	
(includes sample preparation, Au fire geochem, Hg analysis and 7 element ICP)			
Silts:	4 samples @ \$10.00 ea.	40.00	
(includes analysis as for soils)			
Rocks:	19 samples @ \$12.50 ea.	237.50	
(includes sample preparation and analysis as for silts and soils)			
Drill Core:	175 samples @ \$12.50 ea.	<u>2,187.50</u>	
(analysis as for rocks)			
			4,535.00*

Diamond Drilling - contract                      \_\_\_\_\_ metres @ \$                      19,336.66\*  
plus cost of consumables and site preparation

#### Camp Communications and Maintenance

(includes radio rental, nails, diesel, etc.)                      1,436.49\*

#### Accommodation and Travel

Staff travel to and from Vancouver-Smithers-Iskut Village                      1,816.04\*

<u>Field Supplies</u> (includes sample bags, topo thread, flagging, rock hammer)		1,016.33*
<u>Expediting</u> - contract charges		1,241.10*
<u>Freight</u> Equipment and sample shipping (including truck and air freight)		631.93*
<u>Report Preparation</u>		
Pre-Field: base maps, prints, etc.	\$ 439.09*	
Post-Field: D. Mehner 3.5 days @ \$375/day	1,312.50	
drafting, typing, blueprints, accounting and computer time	<u>3,116.71</u>	
		<u>4,868.30</u>
<b>Sub-Total:</b>		<b>110,394.20</b>
3rd Party Invoices - 10% charged by Keewatin Engineering Inc. (denoted by *)		<u>7,654.00</u>
<b>TOTAL EXPENDITURES:</b>		<b><u>\$118,048.20</u></b>

**APPENDIX II**

**Summary of Personnel**

## SUMMARY OF PERSONNEL

<u>Name</u>	<u>Position</u>	<u>Sampler Code</u>	<u>Dated Worked</u>
Ron Nichols	Project Supervisor		Oct. 1, 23
David Mehner	Senior Geologist	"AA"	Sept. 15; Oct. 3 ( $\frac{1}{2}$ day), 6, 8, 9 ( $\frac{1}{2}$ day); Nov. 2 ( $\frac{1}{2}$ day), 9 ( $\frac{1}{2}$ day); Dec. 5 ( $\frac{1}{2}$ day), Jan. 22.
Marty Bobyn	Project Geologist	"F"	Sept 15; Oct. 6, 8.
Jason Miller	Geologist	"O"	Oct. 15 ( $\frac{1}{2}$ day), 16-20.
Bob Ryziuk	Geological Technician	"BR"	Oct. 6, 8 ( $\frac{1}{2}$ day), 1, 12 ( $\frac{1}{2}$ day), 15 ( $\frac{1}{2}$ day), 17, 18.
Grant Nagy	Sampler	"NN"	Oct. 8.
Steve Creelman	Sampler	"SS"	Oct. 8-11, 14 ( $\frac{1}{2}$ day), 15.
Eric Birkeland	Sampler	"EB"	Oct. 4, 6-12.
Keith Louis	Sampler	"CL"	Oct. 6, 8, 18-19.
James Tashoots	Sampler/Core Splitter	"JT"	Oct. 16-20, 21 ( $\frac{1}{2}$ day).
Alex Hark	Sampler	"AA"	Oct. 6-12.
Verna Jordan	Cook/First Aid		Oct. 9, 13-20, 21 ( $\frac{1}{2}$ day).
Joanne Lund	Cook/First Aid		Sept. 29; Oct. 6.



**APPENDIX III**

**Analytical Procedures Used by Min-En Laboratories**

## **ANALYTICAL PROCEDURES USED BY MIN-EN LABORATORIES**

### **Hg Analysis**

Samples are processed by Min-En Laboratories at 705 West 15th Street, North Vancouver, B.C., employing the following procedures.

After drying the samples @ 30°C, soil, and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ring pulverizer.

A 0.50 gram subsample is digested for two hours in an aqua regia mixture. After cooling samples are diluted to standard volume.

Mercury is analyzed by combining with a reducing solution and introducing it into a flameless atomic absorption spectrometer. A three point calibration is used and suitable dilutions made if necessary.

### **ICP Analysis for Cu, Pb, Zn, Ag, As, Sb, Mo**

After drying the samples at 95°C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized on a ring mill pulverizer.

0.50 gram of the sample is digested for two hours with an aqua regia mixture. After cooling samples are diluted to standard volume.

The solutions are analyzed by computer operated Jarrall Ash 9000 ICAP or Jobin Yvon 70 Type II Inductively Coupled Plasma Spectrometers.

### **Au Fire Geochem**

A suitable sample weight; 15.00 or 30.00 grams is fire assay pre-concentrated. The precious metal beads are taken into solution with aqua regia and made to volume.

For Au only, samples are aspirated on an atomic absorption spectrometer with a suitable set of standard solutions. If samples are for Au plus Pt or Pd, the sample solution is analyzed in an inductively coupled plasma spectrometer with reference to a suitable standard set.

### **Gold Assay Procedure**

Samples are dried @ 95°C and when dry are crushed on a jaw crusher. The  $\frac{1}{4}$  inch output of the jaw crusher is put through a secondary roll crusher to reduce it to  $\frac{1}{8}$  inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300 - 400 gram subsample (in accordance with Gy's statistical rules). This sub-sample is then pulverized in a ring pulverizer to 95% minus 120 mesh, rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

Samples are fire assayed using one assay ton sample weight. The samples are fluxed, a silver inquart added and mixed. The assays are fused in batches of 24 assays along with a natural standard and a blank. This batch of 26 assays is carried through the whole procedure as a set. After cupellation the precious metal beads are transferred into new glassware, dissolved, diluted to volume and mixed.

These aqua regia solutions are analyzed on an atomic absorption spectrometer using a suitable standard set. The natural standard fused along with this set must be within 3 standard deviations of its known or the whole set is re-assayed. Likewise the blank must be less than 0.015 g/tonne.

**Ag, Cu, Pb, Zn Assay Procedure**

A 2.000 gram sub-sample is weighed from the pulp bag for analysis. Each batch of 70 assays has a natural standard and a reagent blank included. The assays are digested using a HNO<sub>3</sub>-KCL04 mixture and when reaction subsides, HCL is added to assay before it is placed on a hotplate to digest. After digestion is complete the assays are cooled, diluted to volume and mixed.

The assays are analyzed on atomic absorption spectrometers using the appropriate standard sets. The natural standard digested along with this set must be within 3 standard deviations of its known or the whole set is re-assayed. If any of the assays are >1% they are re-assayed at a lower weight.

**APPENDIX IV**

**Silt Geochemistry Results**





**APPENDIX V**

**Silt Sample Descriptions**





**APPENDIX VI**

**Soil Geochemistry Results**

COMP: KEEWATIN ENGINEERING  
 PROJ: 800  
 ATTN: R. NICHOLS/D. MEHNER

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: OS-0709-SJ1+2  
 DATE: 90/10/27  
 \* SOIL \* (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90BR 800 S-001	128	1.3	355	39	181	1	1	1	1410
90BR 800 S-002	80	1.1	370	18	148	1	1	1	365
90BR 800 S-003	162	1.2	229	38	143	1	1	2	265
90BR 800 S-004	114	1.7	872	41	139	1	1	13	200
90BR 800 S-005	90	1.2	293	48	82	8	1	1	315
90BR 800 S-006	173	1.2	292	56	158	1	1	1	215
90BR 800 S-007	195	1.0	190	43	99	1	1	1	260
90BR 800 S-008	156	1.2	215	37	157	1	1	1	220
90BR 800 S-009	6	1.0	120	38	93	1	1	1	255
90BR 800 S-010	18	1.0	121	36	102	1	1	1	245
90BR 800 S-011	22	1.4	69	35	125	1	1	1	185
90BR 800 S-012	17	1.4	54	34	156	1	1	1	165
90BR 800 S-013	17	1.0	70	31	196	1	1	1	225
90BR 800 S-014	24	1.6	47	25	99	1	1	1	245
90BR 800 S-015	9	1.4	81	74	284	1	1	1	250
90BR 800 S-016	21	.7	48	22	179	1	1	2	195
90BR 800 S-017	36	1.0	60	60	400	1	1	1	255
90BR 800 S-018	12	.9	66	56	312	1	1	1	210
90BR 800 S-019	2	1.2	46	27	278	1	1	1	180
90BR 800 S-020	1	1.3	43	27	166	1	1	1	220
90BR 800 S-021	1	1.7	42	14	134	1	1	1	215
90BR 800 S-022	1	1.2	38	13	95	1	1	1	185
90BR 800 S-023	42	1.6	44	19	76	1	1	1	175
90BR 800 S-024	1	1.4	54	19	112	1	1	1	205
90BR 800 S-025	9	1.5	45	18	72	1	1	1	255
90BR 800 S-026	1	1.3	60	17	95	1	1	1	205
90BR 800 S-027	15	1.6	68	11	88	1	1	1	200
90BR 800 S-028	3	1.2	71	11	49	1	1	1	210
90BR 800 S-029	52	1.3	78	14	84	1	1	1	190
90BR 800 S-030	26	1.4	87	25	97	1	1	1	280
90BR 800 S-031	362	1.2	773	52	204	185	1	6	190
90BR 800 S-032	442	1.5	85	20	72	1	1	1	215
90AA 800 S-001	182	1.5	810	16	132	1	1	15	110
90AA 800 S-002	6	1.5	105	17	99	1	1	2	200
90AA 800 S-003	1	1.6	82	18	79	1	1	1	240
90AA 800 S-004	39	.8	180	34	62	1	1	3	180
90AA 800 S-005	42	1.0	309	23	134	1	1	2	165
90AA 800 S-006	1	1.3	65	22	118	1	1	1	140
90AA 800 S-007	22	.8	78	27	169	1	1	3	155
90AA 800 S-008	18	1.1	64	30	132	1	1	2	175
90AA 800 S-009	2	1.4	38	7	92	1	1	1	130
90AA 800 S-010	3	1.3	53	14	123	1	1	1	105
90AA 800 S-011	3	1.0	75	28	122	1	1	3	110
90AA 800 S-012	2	1.2	80	24	136	1	1	2	145
90AA 800 S-013	1	1.3	68	12	107	1	1	1	140
90AA 800 S-014	1	1.3	59	20	110	1	1	1	135
90AA 800 S-015	10	1.1	87	27	134	1	1	1	120
90AA 800 S-016	2	1.2	63	23	96	1	1	3	175
90AA 800 S-017	1	1.3	74	25	112	1	1	1	145
90AA 800 S-018	3	1.2	79	9	133	1	1	1	125
90AA 800 S-019	236	1.2	65	26	132	1	1	1	115
90AA 800 S-020	168	.9	313	39	109	218	1	5	145
90AA 800 S-021	218	1.3	571	28	136	175	1	2	85
90AA 800 S-022	244	1.5	494	49	179	102	1	1	175
90AA 800 S-023	258	.9	457	49	118	272	1	1	120
90AA 800 S-024	100	1.0	352	37	110	179	1	2	150
90AA 800 S-025	2	.9	80	15	122	1	1	2	170
90AA 800 S-026	1	.8	61	26	95	1	1	2	145
90AA 800 S-027	99	1.0	208	22	112	1	1	4	130
90AA 800 S-028	120	1.1	1823	20	76	1	1	18	275



COMP: KEEWATIN ENGRG.  
 PROJ: 800  
 ATTN: R.NICHOLS/D.MEHNER

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: OS-0689-SJ1+D1+2  
 DATE: 90/10/25  
 \* SOIL \* (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90EB 800 S-001	171	1.6	282	32	38	1	1	18	160
90EB 800 S-002	150	.6	372	36	48	13	1	22	105
90EB 800 S-003	187	1.4	981	21	75	1	1	18	100
90EB 800 S-004	252	2.2	1046	27	63	63	1	42	85
90EB 800 S-005	37	2.1	435	35	88	34	1	13	175
90EB 800 S-006	20	.8	188	46	92	1	1	6	135
90EB 800 S-007	37	1.8	238	25	91	1	1	9	110
90EB 800 S-008	83	1.8	364	34	60	16	1	14	120
90EB 800 S-009	138	2.0	623	19	110	1	1	1	70
90EB 800 S-010	94	1.6	438	46	105	14	1	11	85
90EB 800 S-011	11	1.9	511	21	137	1	1	1	80
90EB 800 S-012	28	1.5	269	28	67	6	1	6	105
90EB 800 S-013	92	1.4	352	23	86	1	1	6	65
90EB 800 S-014	41	1.1	98	29	115	1	1	5	85
90EB 800 S-015	2	1.5	80	26	194	1	1	1	85
90EB 800 S-016	10	.5	77	37	254	1	1	2	75
90EB 800 S-017	1	1.6	58	19	169	1	1	1	85
90EB 800 S-018	1	1.6	74	24	93	1	1	4	80
90EB 800 S-019	20	2.1	76	21	194	1	1	1	85
90EB 800 S-020	20	2.1	70	22	102	1	1	1	90
90EB 800 S-021	3	3.2	45	8	122	1	1	1	65
90EB 800 S-022	10	1.5	78	17	113	1	1	2	95
90EB 800 S-023	1	.2	106	29	146	1	1	1	70
90EB 800 S-024	1	2.0	66	8	105	1	1	1	80
90EB 800 S-025	23	2.3	151	13	72	1	1	2	105
90EB 800 S-026	17	.7	172	21	53	6	1	6	95
90EB 800 S-027	201	1.6	396	45	144	188	1	2	85
90EB 800 S-028	32	1.9	123	23	72	1	1	1	85
90EB 800 S-029	41	1.8	122	14	57	1	1	9	60
90EB 800 S-030	23	1.4	258	12	104	1	1	2	90
90EB 800 S-031	41	16.3	190	16	52	1	1	8	105
90EB 800 S-032	97	20.6	286	26	47	1	1	19	105
90EB 800 S-033	102	22.5	1024	32	47	1	1	17	100
90EB 800 S-034	162	10.9	2298	9	68	1	1	18	65
90EB 800 S-035	61	14.7	937	31	62	1	1	16	120
90EB 800 S-036	103	12.1	849	18	29	1	1	56	85
90EB 800 S-037	176	1.4	617	19	35	1	1	35	145
90EB 800 S-038	122	3.6	357	18	34	14	1	27	120
90EB 800 S-039	93	4.6	478	24	41	1	1	20	145
90EB 800 S-040	84	8.5	524	11	28	1	1	22	165
90EB 800 S-041	175	10.2	1204	24	31	1	1	30	130
90EB 800 S-042	184	9.9	1090	23	35	1	1	38	105
90EB 800 S-043	88	37.4	719	24	49	1	1	26	140
90EB 800 S-044	50	29.0	458	24	72	1	1	16	180
90EB 800 S-045	79	27.6	765	29	87	1	1	27	215
90EB 800 S-046	86	8.2	1405	29	169	1	1	15	120
90EB 800 S-047	68	8.1	4357	20	82	2	1	21	210
90EB 800 S-048	38	2.3	1190	28	125	1	1	7	180
90EB 800 S-049	23	2.0	1784	29	145	1	1	6	165
90EB 800 S-050	276	10.2	1061	10	35	1	1	50	75
90EB 800 S-051	137	4.0	487	23	39	1	1	37	135
90EB 800 S-052	40	6.0	165	34	97	42	1	5	200
90EB 800 S-053	504	11.8	856	16	38	1	1	42	100
90EB 800 S-054	183	2.7	1038	20	63	1	1	30	145
90EB 800 S-055	27	1.1	157	39	122	1	1	4	155
90EB 800 S-056	40	.5	423	28	104	1	1	10	95
90EB 800 S-057	21	2.2	127	10	167	1	1	1	105
90EB 800 S-058	696	1.5	216	35	246	1	1	1	95
90EB 800 S-059	42	2.6	59	9	114	1	1	1	85
90EB 800 S-060	1	1.8	47	27	82	1	1	1	115

COMP: KEEWATIN ENGRG.  
 PROJ: 800  
 ATTN: R.NICHOLS/D.MEHNER

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: OS-0689-SJ3+4  
 DATE: 90/10/25  
 \* SOIL \* (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90EB 800 S-061	12	2.1	27	8	87	1	1	1	95
90EB 800 S-062	21	.5	95	34	139	1	1	2	85
90EB 800 S-063	2	.9	35	29	122	1	1	3	105
90EB 800 S-064	2	2.1	26	17	42	1	1	1	110
90EB 800 S-065	3	1.4	73	35	155	1	1	2	85
90EB 800 S-066	3	.9	71	34	167	1	1	5	115
90EB 800 S-067	1	.5	80	81	217	1	3	8	80
90EB 800 S-068	30	1.2	109	32	148	30	1	4	100
90EB 800 S-069	1	.9	47	40	187	1	1	2	95
90EB 800 S-070	19	.6	66	68	212	41	1	1	65
90EB 800 S-071	1	1.0	58	39	156	1	1	1	65
90EB 800 S-072	3	1.4	28	14	63	1	1	1	110
90EB 800 S-073	1	1.9	47	32	153	1	1	1	85
90EB 800 S-074	1	1.1	125	30	140	1	1	2	150
90EB 800 S-075	30	1.0	116	29	139	21	1	5	130
90EB 800 S-076	1	1.2	145	33	167	1	1	3	185
90EB 800 S-077	1	.9	122	44	202	1	1	2	95
90EB 800 S-078	1	1.2	102	18	92	33	1	3	165
90EB 800 S-079	1	1.3	84	24	147	32	1	3	140
90EB 800 S-080	3	1.4	108	28	155	36	1	3	145
90EB 800 S-081	3	1.2	119	34	334	46	1	5	155
90EB 800 S-082	1	1.2	129	26	134	1	1	5	160
90EB 800 S-083	1	1.6	166	29	158	1	1	3	155
90EB 800 S-084	3	1.1	132	34	118	1	1	2	105
90EB 800 S-085	4	.9	132	21	143	17	1	4	125
90EB 800 S-086	19	.8	120	29	250	1	1	2	75
90EB 800 S-087	3	.9	96	23	123	1	1	2	115
90EB 800 S-088	1	1.2	78	30	127	19	1	3	100
90EB 800 S-089	1	1.3	131	30	122	1	1	2	155
90EB 800 S-090	2	1.3	87	26	131	1	1	3	135
90EB 800 S-091	1	.8	56	26	217	8	1	1	100
90EB 800 S-092	5	1.3	78	22	151	46	1	1	75
90EB 800 S-093	1	.8	125	33	142	1	1	1	110
90EB 800 S-094	1	1.1	98	35	124	1	1	1	85
90EB 800 S-095	6	.9	58	28	225	12	1	1	70
90EB 800 S-096	1	.8	65	26	124	25	1	2	75
90EB 800 S-097	1	1.0	69	28	110	18	1	4	95
90EB 800 S-098	6	1.3	75	32	207	1	1	2	110
90EB 800 S-099	1	1.0	98	29	260	1	1	1	85
90F 800 S-001	96	1.7	823	29	83	1	1	12	110
90F 800 S-002	131	1.7	1054	23	54	1	1	12	75
90F 800 S-003	107	1.4	675	27	53	1	1	9	110
90F 800 S-004	44	2.4	499	14	59	1	1	10	115
90F 800 S-005	60	1.2	1107	15	114	1	1	16	80
90F 800 S-006	103	1.4	1171	10	81	1	1	16	60
90F 800 S-007	51	1.0	666	23	91	1	1	18	100
90F 800 S-008	21	1.0	486	17	118	1	1	2	90
90F 800 S-009	50	1.9	99	10	114	1	1	1	95
90F 800 S-010	94	1.6	1169	10	85	1	1	9	65
90F 800 S-011	83	2.1	1455	26	149	1	1	13	95
90F 800 S-012	50	1.9	1001	35	159	1	1	11	115
90F 800 S-013	61	1.6	1038	19	153	1	1	9	110
90F 800 S-014	3	1.1	99	22	90	1	1	2	90
90F 800 S-015	43	1.4	614	26	131	1	1	12	110
90F 800 S-016	91	1.8	1464	18	143	1	1	15	70
90SS 800 S-001	256	1.6	471	10	98	1	1	13	85
90SS 800 S-002	244	2.2	3555	25	100	1	1	23	105
90SS 800 S-003	50	2.4	147	24	63	1	1	8	95
90SS 800 S-004	123	1.8	1863	12	79	1	1	17	70
90SS 800 S-005	142	1.6	2098	19	89	1	1	18	75



**APPENDIX VII**

**Soil Sample Descriptions**

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: QUASHI CR. - #800  
 Area (Grid): CONTOUR LINES  
 Collectors: DAVID MEHNER

Results Plotted By: \_\_\_\_\_  
 Map: \_\_\_\_\_ N.T.S.: 104G/16W  
 Date: OCTOBER 1990

Sample Number	Sample Location		Notes	Topography			Vegetation					Soil Data							
	Line	Station		Volley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development	Parent	Material	Colour
														CM	Good	Poor	Drift	Bedrock	Colour
90-AA-800-S		ELEV.																	
01			10% RK chips to 2.5cm; sand to gravel.		N			✓					B	25	✓		✓		Brn.
02			15% organics; 20% nodded frags ≤ 5mm; shale area				✓	✓					B	35	✓		✓		Brn
03			RK frags 20%; organics ≤ 10%; shale area.				✓	✓					B	45	✓		✓		Brn
04			10% org; 30% rk frags; RK frags to 10cm; 4x Clay-R4 in rk frags				✓	✓					B	35	✓		✓		Brn
05			70% rk frags; 10% organics		N			✓					B	25		✓	✓		Brn
06		1160M	30% rk frags to 10cm; 10% organics.		N			✓					B	35		✓	✓		Brn
07		08° slope.	10% organics; 8% rk frags ≤ 1cm;		N-08°			✓					B	45		✓	✓		Brn
08		10° slope 1162m	15% organics; rk frags ≤ 5cm		N			✓					B	45		✓	✓		Brn
09			20% organics; rk frags ≤ 5cm; sandy;		N			✓					B	35		✓	✓		BRN
10		10° slope	10% organics; rk frags ≤ 8cm.		N			✓					B	35	✓			✓	RBRN
11		1168M	10-15% organics; 25% gravel; rks ≤ 3cm		N			✓					B	40	✓			✓	BRN
12		10° slope 1168M	15% organics; 20% RK frags; RKs to ≤ 5cm		N			✓					B	40	✓			✓	RBRN
13		7° slope 1169M	15% organics; 15-20% gravel;		N			✓					B	40	✓			✓	BRN
14		10° slope 1170M	10% organics; 20-25% rk frags; ≤ 2cm		N			✓					B	45	✓			✓	BRN
15		12° slope 1172M	" " "		N			✓					B	35	✓			✓	BRN
16		1175M	10-15% organics; 15% rk frags ≤ 2cm.		N			✓					B	35	✓			✓	BRN
17		12° slope 1170M	15% organics; 15-20% rk frags ≤ 2cm		N			✓					B	40	✓			✓	BRN
18		1167M	" " "		N			✓					B	40	✓			✓	BRN
19		1167M	50% rk frags ≤ 3cm; to 30cm;				✓	✓					B	40		✓	✓		BRN
20		1162M	25-30% ≤ 1.5cm rk frags; west edge of large slide;		N			✓					B	35	✓			✓	RBRN
21		1162M	slide area; gravel; much sand.		N				✓				A	35		✓	✓		GBRN
22		1165M	slide area; 5% organics; 95% gravel		N				✓				A	45		✓	✓		G-BRN
23		1165M	gravel; 60% rk frags ≤ 4cm; 5% organics;						✓				B	30		✓	✓		BRN
24		1168M	80% gravel; roots everywhere;		N				✓				A	30		✓	✓		
25		1170M	10% frags 2-4mm; rest to silt.										B	35	✓			✓	RBRN



KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: QUASH CREEK - # 188  
 Area (Grid): CONTOUR LINES N. of 1970  
 Collectors: DAVID MEHNER

Results Plotted By: D. MEHNER  
 Map: \_\_\_\_\_ N.T.S.: 104G-16W  
 Date: OCTOBER 1990

Sample Number	Sample Location		Notes	Topography							Vegetation						Soil Data				
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grossland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Good	Horizon Poor	Parent Drift	Parent Bedrock	Material Colour	
90-AA-800-S		ELEV.																			
26		1173	10% rk frags ≤ 2 cm;		N			✓					B	45	✓				✓	RBRN	
27		1177	5-10% ≤ 2cm rk frags		N			✓					B	25						RBRN	
28		1173	poor soil; gravel.	✓									A	25		✓	✓			BRN	
29		1172	poor soil. many rk frags.					✓					A	35		✓	✓			BRN	
30		1138m	10% organics; 30% gravel; 10% rk frags.					✓					A	25		✓	✓			BRN	
31			30% sand; 40% silt; 10% gravel; 20% rk.					✓					A	30		✓	✓			BRN	
32			50% silt; 30% gravel; 20% rk frags.					✓					B	25	✓				✓	RBRN	
33			20% organic; 10% sand; 70% silt.					✓					B	25	✓				✓	RBRN	
34		1145m	20% organic; 10% sand; 10% rk; 60% silt		N			✓					B	30	✓				✓	RBRN	
35			70% silt; 10% sand; 20% organic		N			✓					B	30	✓				✓	RBRN	
36		1170m	10% organic; 10% rk frags; 20% sand.		N			✓					B	40	✓				✓	RBRN	
37		1173m	20% organic; 60% silt; 10% sand 10% rk.		N			✓					A	40	✓				✓	RBRN	
38		1163m.	30% organic; 60% silt; 10% frag.		N			✓					A	30		✓	✓			BRN	
39		1155	30% organics; 60% silt; 10% rk frags.		N			✓					B	25					✓	BRN	
40		1155	10% organic 90% silt		N								B	35	✓				✓	RBRN	
41		1152	20% organic; 80% silt		N			✓					B	35	✓				✓	RBRN	
42		1158	10% organic; 50% frag; 20% gravel; 20% silt		N			✓					A	25		✓	✓			BRN	
43		1155	west of slide; 10% organics; 90% silt		N			✓					B	30	✓				✓	RBRN	
44			slide area. 20% organics; 70% silt; 10% frags.					✓			✓		B	25	✓				?	BRN	
45		1155	slide area. 20% organics; 80% silt.					✓			✓		B	25		✓	✓			BRN	
46		1160	20% organics; 70% silt; 10% rk frags.					✓			✓		B	35	✓				✓	RBRN	
47		1165	10% organics; 90% silt					✓			✓		B	25	✓				✓	RBRN	
48		1165	20% organics; 80% silt					✓			✓		B	30	✓				✓	RBRN	
49		1160	10% organics; 80% silt 10% rk frags		N			✓					B	35	✓				✓	RBRN	
50		1150	10% organics; 90% silt.		N			✓					B	30	✓				✓	RBRN	
51		1150	10% organics; 10% rk frags; 10% sand; 70% silt.					✓			✓		B	35	✓				✓	RBRN	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: QUASH CREEK # 800

Results Plotted By: \_\_\_\_\_

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104G/16W

Collectors: ERIC BIRKELAND

Date: Oct. 6/90

Sample Number	Sample Location		Notes	Topography			Vegetation					Soil Data								
	ELEVATION	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent	Material	Colour
																Horizon	Develop-ment			
001	4205	0+60	ALL SAMPLES TAKEN IN										A+B	30	10	15		MB		
002	4220	0+10	TAKEN OUT SOIL - SAMPLE										A+B	35	20	30		MB		
003	4210	0+60	MATERIAL MOSTLY ORG.										A+B	30	15	20		MB		
004	4225	1+10	MATERIAL IN LOOSE TAKEN										A+B	30	20	70		B		
005	4200	1+60											A+B	40+	20	75		DB		
006	4200	2+10											A+B	30	20	40		B		
007	4200	2+60											A+B	25	15	25		B		
008	4190	3+10											A+B	25	15	50		B		
009	4200	3+60											A+B	25	15	40		B		
010	4200	4+10											A+B	25	15	80		MB		
011	4200	4+60											A+B	30+	10	89		DB		
012	4200	5+10											A+B	40+	15	75		DB		
013	4200	5+60											A+B	55+	15	60		B		
014	4200	6+10											A+B	35+	15	60		MRB		
015	4200	6+60											A+B	35	10	10		B		
016	4200	7+10	NO SAMPLE AT 7+60										A+B	30	15	30		B		
017	4200	8+10											A+B	30	15	25		MRB		
018	4180	9+10											A+B	20	15	30		MB		
019	4200	8+60	BACK 50 M										A+B	30	15	30		B		
020	4200	9+60											A+B	30	30	50		B		
021	4190	10+10											A+B	30	15	25		B		
022	4200	10+60											A+B	35	20	50		B		
023	4200	11+10											A+B	35	20	30		B		
024	4200	11+60											A+B	30	20	40		B		
025	4200	12+10											A+B	35	20	60		DB		
026	4200	12+60											A+B	40	30	60		DB		
027	4200	13+10											A+B	40	30	50		DB		
028	4200	13+60											A+B	55	20	60		DB		
029	4190	14+10											A+B	35	20	50		B		

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: QUASH CREEK #800

Results Plotted By: \_\_\_\_\_

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 1046/16W

Collectors: ERIC BURKELAND

Date: Oct. 6 + 7 / 90

Sample Number	Sample Location		Notes	Topography			Vegetation						Soil Data								
	Elevation RELATION	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent	Material	Bedrock	Colour
																% Good	% OK				
90 EIS 800 S- 030	4190	14+60											AB	35+	20	70					B
031	4180	15+10											"	40+	20	70					B
032	4200	15+60											"	40+	20	70					B
033	1277 M	16+10											"	55+	25	60					B
034	1280 M	16+60											"	25+	10	30					MB
035	1290	17+10											"	25+	10	30					B
036	1280	17+60											"	25+	20	40					DB
037	1283	18+10											"	25+	30	20					DB
038	1280	18+60											"	25+	30	20					DB
039	1280	19+10											"	25+	30	20					DB
040	1281	19+60											"	30+	30	50					DB
041	1280	20+10											"	30+	30	50					DB
042	1282	20+16											"	30+	30	30					DB
043	1281	21+10											"	30+	34	40					DB
044	1280	21+60											"	30+	30	40					DB
045	1280	22+10											"	30+	25	20					DB
046	1270	22+60											"	25+	10	20					DB



# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: QUASH CREEK #800

Results Plotted By: \_\_\_\_\_

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104G/160

Collectors: ERIC SICKELAND

Date: OCT 8/80

Sample Number	Sample Location		Notes	Topography				Vegetation				Soil Data							
	Elevation	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sample	Depth to Horizon	Horizon Development	Parent Material	Bedrock	Colour
90888003	ELEVATION																		
057	1281	16+00											A+B	25	10	10		B	
058	1285	16+50											"	30	10	10		B	
059	1280	17+00											"	35	10	10		B	
060	1280	17+50											"	30	10	25		B	
061	1285	18+00											"	30	10	20		B	
062	1280	18+50											"	30	10	20		B	
063	1280	19+00											"	30	15	25		MRB	
064	1281	19+50											"	30	20	35		B	
065	1275	20+00											"	30	10	30		B	
066	1285	20+50											"	30	10	20		B	
067	1280	21+00											"	30	22	20		B	
068	1265	21+50											"	25	5	15		B	
069	1270	22+00											"	30	10	15	MRB	MRB	
070	1280	22+50											"	30	15	20		B	
071	1280	23+00											"	30	15	30		B	
072	1280	23+50											"	30	15	30		B	
073	1278	24+00											"	40	15	40		B	

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: QUASH CREEK

Results Plotted By: \_\_\_\_\_

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104 G/16W

Collectors: ERIC BIRKELAND

Date: OCT 9 / 90

Sample Number	Sample Location		Notes	Topography				Vegetation					Soil Data						
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Develop-ment	Parent	Material	Colour
20 ER 800 S 074	1190 M	0+00											A+B	30	20	70			BL-DO
075	1193	0+46											"	30	20	70			"
076	1190	1+00											"	30	20	70			"
077	1188	1+50											"	30	20	70			"
078	1190	2+00											"	30	20	70			"
079	1192	2+50											"	30	20	70			"
080	1190	3+00											"	30	20	70			"
081	1190	3+50											"	30	20	70			"
082	1189	4+00											"	30	10	50			"
083	1190	4+50											"	30	10	70			"
084	1195	5+00											"	30	10	60			"
085	1193	5+50											"	30	5	90			"
086	1191	6+00											"	30	20	25			"
087	1190	6+50											"	25	15	40			"
088	1190	7+00											"	20	15	50			"
089	1182	7+50											"	25	15	90			"
090	1179	8+00											"	30	15	40			"
091	1175	8+50											"	25	40	20			"
092	1173	9+00											"	25	20	50			"
093	1172	9+50											"	25	20	30			"
094	1173	10+00											"	25	20	30			"
095	1150	10+50											"	25	20	90			"
096	1145	11+00											"	30	20	40			"
097	1135	11+50											"	25	20	50			"
098	1120	12+00											"	25	20	50			"
099	1120	12+50											"	25	20	50			"



# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

 Project: DRYDEN 800

 Results Plotted By: M. BOBYN

 Area (Grid): QUASH CREEK - HUB GRID

 Map: N.T.S.: 104 G/1600

 Collectors: M BOBYN / A HARK

 Date: OCT 2 1990

Sample Number	Sample Location		Notes	Topography				Vegetation					Soil Data							
	Line	Station (m)		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon cm Sample	Horizon Development		Parent Material		Colour
																Good	Poor	Drift	Bedrock	
90FB005001	0°	0+00	4060'; edge of NE chute		NE								A	30		✓	✓			RB
F 5002	0°	0+50	4000'; 20% rock frags; 10% organics		NE			✓					B	35	✓			✓		BrR
F 5003	0°	1+00	3910'; 15-20% org. No A/B horiz		NE			✓					A	35		✓	✓			Black
F 5004	0°	1+50	3870'; 15% org, 15% frags.		NE			✓					B	35	✓			✓		DBr
F 5005	0°	2+00	3810'; no distinctive A/B/Dirt.		NE			✓					A	50			✓			LBr
F 5006	0°	2+50	3780'; B horiz @ 10cm		NE			✓					B	40	✓			✓		LBr
F 5007	0°	3+00	3740'; Good silty loam 5% org		NE	✓		✓					B	30	✓			✓		RBr
F 5008	0°	3+50	3665'; no distinctive A/B		NE			✓					A	50		✓	✓			RBl
F 5009	0°	4+00	3700'; well dev AB; loam silt.		NE			✓					B	40	✓			✓		RBr
F 5010	125°	0+50	3650'; 15-20% org; 5-10% frags		NE			✓					B	40	✓			✓		MBr
F 5011	125°	1+00	3660'; B horiz @ 15cm		NE			✓					B	35	✓			✓		LBr
F 5012	125°	1+50	3620'; very dry org soils.		NE			✓					B	30	✓			✓		LBr
F 5013	125°	1+93	3640'; 10% frags; 15% org.		NE			✓					B	40	✓			✓		DBr
F 5014	090°	0+50	3605'; 15% org, well dev A+B		NE			✓					B	40	✓			✓		DBr
F 5015	090°	1+00	3590'; clay horiz @ 20cm	✓	NE		✓	✓					B	30	✓			✓		DBr
F 5016	090°	1+50	3580'; 10-15% org, 10% frags	✓	NE		✓	✓					B	40	✓			✓		LBr

JK.



**APPENDIX VIII**

**Rock Geochemistry Results**





**MIN  
• EN  
LABORATORIES**  
(DIVISION OF ASSAYERS CORP.)

**SPECIALISTS IN MINERAL ENVIRONMENTS**  
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

**VANCOUVER OFFICE:**  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C. CANADA V7M 1T2  
TELEPHONE (604) 980-5814 OR (604) 988-4524  
FAX (604) 980-9621

**THUNDER BAY LAB.:**  
TELEPHONE (807) 622-8958  
FAX (807) 623-5931

**SMITHERS LAB.:**  
TELEPHONE/FAX (604) 847-3004

*Assay Certificate*

OS-0690-RA1

Company: **KEEWATIN ENGRG.**  
Project: 800  
Attn: R.NICHOLS/R.MEHNER

Date: OCT-26-90  
Copy 1. KEEWATIN ENGRG., VANCOUVER, B.C.

*We hereby certify* the following Assay of 1 ROCK samples  
submitted OCT-17-90 by B.RYZIUK.

Sample Number	*AU g/tonne	*AU oz/ton	AG g/tonne	AG oz/ton
90SS 800 R-005	9.02	.263	12.2	.36

\*AU - 1 ASSAY TON.

Certified by

MIN-EN LABORATORIES

**APPENDIX IX**

**Rock Sample Descriptions**

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: 800 - QUASH CREEK

Results Plotted By: SEF

Location (Grid): \_\_\_\_\_  
 Collectors: STEVE CREELMAN / D. MEHNER

Map: \_\_\_\_\_ NTS: 104G/16W  
 Date: OCTOBER, 1990 Surface  Underground

SAMPLE NUMBER	LOCATION	NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH)					ROCK TYPE	SAMPLE DESCRIPTION	Cu PPM
				GRAB	CHIP	CHANNEL	CORE	FLOAT			
SS-800-F1	Rusty Springs Cr. (LEFT)							10cm	Felsic	gray altered felsic, silicified minor coarse clastic fine diff. pyf.	
SS-800-R2	TOP of cliff band. (LEFT)								CHERT	alteration zone; rusty sericitic & siliceous sds; fine pyf.	
SS-800-R3	mid cliff band. (RIGHT)								CHERT	as above; with calcite stringer veins	
SS-800-RY	"								DIKE	siliceous alteration; pyrite/malachite	
SS-800-CS	"				5m				DIKE ?	porph. siliceous alteration; pyrite/malachite.	
SS-800-R6	"								DIKE ?	rotten altered quartz veined dyke minor malachite.	
SS-800-R7	"								CHERT	vein 5-10cm x ? massive malachite/azurite.	
AA-800R01	Main Creek (Rusty Creek)							X	Hblt diorite	med. gr. hblt diorite w fract Py & <1% Ksp - chips from 4 bldrs.	
AA-800R02	on 3850 elev contour @							X	siltstone, siliceous	Bldr 1 1/2 m x 0.8 m; stockwork Py fract; - patchy epidote act.; tr. azurite on fract.	

# KEEWATIN ENGINEERING INC.

## ROCK SAMPLES

Project: Quash Creek; DRYDEN-800-  
 Area (Grid): \_\_\_\_\_  
 Collectors: M. BOBYN / D. MEHNER

Results Plotted By: M. BOBYN  
 Map: \_\_\_\_\_ NTS: 104G / 16W  
 Date: October 1990 Surface  Underground \_\_\_\_\_

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH)					ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
			GRAB	CHIP	CHANNEL	CORE	FLOAT			
S. WEST OF QUASH CREEK.										
10 F800R 001	Soil line 4+60m Small avalanche chute 4290' app.		✓				representative grab over 1.5m	Altered Andesitic Flow	Strongly fract. + jointed, carbonate + chlor altered ± sericite?, Patchy ½-1% dissemin Cpx Mal. stain; 1-2% Py; stringers to 0.5cm of mass. Cpx	
10 F800R 002	Soil line 13+14m Dry creek bed 4290' app.						✓	Gossanred Boulder/ Fq. Andesite	Fig. Dark Red-Brn Wx; Grey Fresh. Large angular boulder 2.0m diam. Source → immediately above is gossanous a/c; 3-5% finely dissemin Py, ½-1% Cpx, Tr Apl?	
10 F800R 003	Soil line - End of; small Avalanche chute 4255' app - on map.						✓	Altered Diorite? Andesite Volcanic?	Fig. Reddish Brown Wx; Lt. Grey Fresh; euhedral feldspar crystals; Heavily Malachite stain; 1-2% Cpx; Numerous (20-30) large angular mineralized boulders. Diorite? / Feldspar And. flow? Carb + Chlor altered. Source → likely from gossan directly above chute.	



**APPENDIX X**

**Drill Logs**



DRILL HOLE LOG							HOLE NO. DDH-90-Q01		PAGE NO. 1 of 4				
LOCATION: QUASH CREEK - KLASTLINE PLATEAU NTS 104G-9W 57°45'N; 130°18'W			AZIM: 073° DIP: -45°				ELEV: 1456.9m/4780 (ft) LENGTH: 194.46m		CORE SIZE: BGM				
STARTED: October 13, 1990 COMPLETED: October 15, 1990 PURPOSE: To test gossan and Cu-Au soil anomaly on east side of Rusty Springs Creek CORE RECOVERY: 97%			DIP TEST				PROPERTY: QUASH CREEK (DRYDEN-TRIUMPH OPTION) CLAIM NO: QC-4 SECTION: LOGGED BY: D. Mehner DATE LOGGED: October 14, 1990 DRILLING CO: FALCON DRILLING ASSAYED BY: MIN-EN LABS						
METREAGE		DESCRIPTION	SAMPLE NO.	METREAGE		LENGTH	ASSAYS						
FROM	TO			FROM	TO		Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	As (ppm)	
0.00	0.61	Casing											
0.61	12.80	Andesite tuffs or andesitic siltstones; bedded; grey. 2-3% quartz veins ≤2cm @ 040° to Core Axis and 060° to Core Axis. ≤1mm fractures with pyrite, pyrrhotite or chalcocopyrite occur @ 050° to 055° to Core Axis.  Varies from weak to strongly magnetic; propylitically altered; chloritization of mafics and on fractures; epidote envelopes to quartz veins and epidote patches; late calcite veins (≤1mm) and fracture filling.  Pyrite veins/fracture filling approximately 1% with pyrrhotite (≤1%) and trace chalcocopyrite; chalcocopyrite also occurs with quartz veins; Fe gossan on fractures; bedded units include mudstone, siltstone and possibly chert or siliceous siltstone; all units are silicified and are green-grey in colour.  Base of Fe oxides is 9.0 metres.	Q31401B Q31402B Q31403B Q31404B Q31405B Q31406B	0.61 3.00 6.00 7.50 9.00 10.50	3.00 6.00 7.50 9.00 10.50 12.00	2.39 3.00 1.50 1.50 1.50 1.50	867 1288 1035 795 743 1459	15 5 11 12 6 12	28 40 30 43 31 20	1.4 1.4 1.4 1.3 1.3 1.2	46 15 10 13 22 7	23 1 1 23 1 5	
12.80	16.50	As above but with 0.1-0.3% disseminated chalcocopyrite; unit is silicified green andesitic tuffs/siltstones to mudstones; chloritized; 1% epidote patches and envelopes to pyrite-pyrrhotite veins/fracture fillings; bedding (?) less distinct but where evident, 010° to Core Axis; 1-2% pyrite veins/fracture fillings @ 050° to Core Axis; 1% pyrrhotite veins/fracture filling; ≤½% dissemination, veinlet, fracture filling and quartz vein associated chalcocopyrite.	Q31407B Q31408B Q31409B	12.00 13.50 15.00	13.50 15.00 16.50	1.50 1.50 1.50	1517 1107 1102	17 8 18	25 15 13	2.0 1.1 1.0	12 1 1	1 23 14	

DRILL HOLE LOG										HOLE NO. DDH-90-Q01		PAGE 2 OF 4	
METREAGE		DESCRIPTION	SAMPLE NO.	METREAGE		LENGTH	ASSAYS						
FROM	TO			FROM	TO		Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	As (ppm)	
16.50	58.20	Siliceous grey-green siltstones to mudstones; very hard; bedded; andesitic composition?? Trace only chalcopyrite, 1-2% veinlet/fracture filling pyrite ( $\leq 1.5\text{mm}$ ) @ $035^{\circ}$ - $40^{\circ}$ to Core Axis and parallel pyrrhotite veinlets/fracture filling. $< 1\%$ quartz veins $\leq 4\text{mm}$ @ $065^{\circ}$ to Core Axis. Various degrees of magnetism due totally to pyrrhotite veins. Core shows some mottled texture. Bedding @ $010^{\circ}$ to Core Axis. Brecciated with light brown, angular rock fragments grading down to light green fragments from 35.97-37.00m.	Q31410B	16.50	18.00	1.50	578	13	12	1.1	21	11	
			Q31411B	18.00	19.50	1.50	445	11	11	1.1	6	4	
			Q31412B	19.50	21.00	1.50	728	11	12	1.0	10	62	
			Q31413B	21.00	22.50	1.50	1186	15	11	1.1	7	1	
			Q31414B	22.50	24.00	1.50	971	8	13	1.3	1	1	
			Q31415B	24.00	25.50	1.50	967	12	7	1.2	1	1	
			Q31416B	25.50	27.00	1.50	1557	16	13	1.3	2	1	
			Q31417B	27.00	28.50	1.50	1847	16	30	1.5	32	28	
			Q31418B	28.50	30.00	1.50	2113	13	16	1.4	10	1	
			Q31419B	30.00	33.00	3.00	1259	5	11	1.3	6	1	
			Q31420B	33.00	36.00	3.00	1046	17	13	1.4	191	7	
			Q31421B	36.00	39.00	3.00	1133	12	18	1.2	1	1	
			Q31422B	39.00	42.00	3.00	652	11	12	1.1	3	5	
			Q31423B	42.00	45.00	3.00	758	15	19	1.1	8	1	
			Q31424B	45.00	48.00	3.00	1003	20	18	1.1	3	1	
			Q31425B	48.00	51.00	3.00	1100	8	26	1.3	12	172	
			Q31426B	51.00	54.00	3.00	937	9	27	1.4	126	1	
Q31427B	54.00	57.00	3.00	928	12	20	1.2	2	1				
Q31428B	57.00	60.00	3.00	498	16	18	1.1	3	3				
58.20	60.34	Porphyritic, medium grained diorite with partly sericitized, moderately corroded plagioclase crystals to 4mm and chlorite replaced hornblende crystals to 3mm set in fine grained, green groundmass; $\leq 30\%$ plagioclase and $\leq 20\%$ hornblende crystals. Weakly magnetic. Calcite veins to 2mm = 3%. 1% disseminated and fractured pyrrhotite; rare speck of chalcopyrite.	Q31429B	60.00	63.00	3.00	485	7	18	1.1	4	1	
60.34	66.75	Same siliceous mudstone/siltstones as 16.50 - 58.20m; light grey brown to light grey green. Bedding @ $10^{\circ}$ to Core Axis. Mottled zones. $\leq 2\%$ fracture/vein pyrrhotite ( $>$ ) pyrite; veins/fractures $\leq 2\text{mm}$ and @ $20^{\circ}$ and $50^{\circ}$ to Core Axis. Trace to 0.1% chalcopyrite	Q31430B	63.00	66.00	3.00	674	10	22	1.2	3	2	
66.75	81.00	Same siliceous mudstones, mottled siltstones, pale green to grey green. Bedding @ $10^{\circ}$ to Core Axis. 1% quartz veins to 3mm @ $60^{\circ}$ to Core Axis. 1 - 2% pyrite veins to 3mm @ $40^{\circ}$ to Core Axis; get. $\leq 1\%$ pyrrhotite occurs with veins and locally. 5% disseminated pyrrhotite occurs over 60 - 70 cm intervals; these may be "skarn" zones. 0.5% chalcopyrite occurs as stringers/blebs within quartz veins, as small fracture fillings and blebs within pyrite veins and to a much lesser degree within disseminated pyrrhotite mineralization.	Q31431B	66.00	67.50	1.50	969	16	30	3.0	128	1	
			Q31432B	67.50	69.00	1.50	1803	12	28	2.7	14	1	
			Q31433B	69.00	70.50	1.50	1317	7	25	2.2	9	1	
			Q31434B	70.50	72.00	1.50	1438	16	19	2.4	9	1	
			Q31435B	72.00	73.50	1.50	1131	8	14	2.3	8	1	
			Q31436B	73.50	75.00	1.50	1648	14	14	2.3	16	1	
			Q31437B	75.00	76.50	1.50	1138	7	20	2.4	14	1	
Q31438B	76.50	78.00	1.50	1148	8	14	2.3	7	1				

DRILL HOLE LOG							HOLE NO. DDH-90-Q01		PAGE 3 OF 4			
METREAGE		DESCRIPTION	SAMPLE NO.	METREAGE		LENGTH	ASSAYS					
FROM	TO			FROM	TO		Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	As (ppm)
		Trace sphalerite disseminated in quartz veins.	Q31439B	78.00	79.50	1.50	1752	17	27	2.6	17	1
		N.B. 4mm pyrite veins as shallow as 15° to Core Axis; varies from moderate to strongly magnetic; increase to 2% irregular calcite fractures with depth.	Q31440B	79.50	81.00	1.50	1075	6	15	2.0	9	1
81.00	93.00	Similar siliceous mudstone as above, but ≤1% quartz veins. 3% crackle calcite fracturing, most at 75° to 85° to Core Axis; cross cut pyrite veins. Trace disseminated and fractured (with calcite) chalcopryrite. Disseminated and vein pyrite = 2%; pyrite veins common @ 40° and are 1 - 3mm; most pyrite as veins. Disseminated pyrrhotite = 3% - 5% in "spotted" ("skarn") beds. Overall unit is strongly magnetic, grey green, siliceous, hard. Bedding @ 0° to 5° to Core Axis; minor blocking offsets bedding.	Q31441B	81.00	82.50	1.50	1141	11	17	1.7	10	1
			Q31442B	82.50	84.00	1.50	1429	22	16	1.8	13	1
			Q31443B	84.00	87.00	3.00	848	6	19	1.9	8	1
			Q31444B	87.00	90.00	3.00	1272	11	19	2.1	20	15
			Q31445B	90.00	93.00	3.00	675	9	21	1.7	8	1
93.00	106.17	92.53-93.00m = 0.3% chalcopryrite associated with quartz veining and disseminated with pyrrhotite (3 - 5%) bearing skarn.										
		As above but chalcopryrite rare as disseminated grains with pyrrhotite in siliceous skarn. <<1% quartz veins.	Q31446B	93.00	96.00	3.00	675	15	20	2.5	31	1
			Q31447B	96.00	99.00	3.00	900	8	16	2.3	8	1
			Q31448B	99.00	102.00	3.00	809	8	26	2.3	12	1
		NOTE: pyrite veins are cut @ 90° by later calcite filled fractures.	Q31449B	102.00	105.00	3.00	667	16	17	2.1	13	1
106.17	141.38	99.97-100.26m = fault; ferrous oxides on fractures; slickensides 90° to 85° to Core Axis	Q31450B	105.00	108.00	3.00	719	14	23	2.4	19	6
		108.00-112.44m = very cherty; strongly siliceous.										
		Siliceous mudstones and minor siltstones with <<1% pyrite and ≤1% pyrrhotite (disseminated). 108.00-112.4m is very cherty; strongly siliceous; 3 - 4% ≤2mm calcite filled fractures; tension gashes??. Weak to moderately magnetic. Bedding @ 117m is 10° to Core Axis.	Q31451B	108.00	111.00	3.00	39	10	24	0.9	6	33
			Q31452B	111.00	114.00	3.00	369	11	42	1.8	17	198
			Q31453B	114.00	117.00	3.00	460	7	21	1.6	8	1
			Q31454B	117.00	120.00	3.00	475	6	25	2.0	11	1
			Q31455B	120.00	123.00	3.00	497	6	28	1.7	19	1
			Q31456B	123.00	126.00	3.00	152	13	19	1.5	54	447
		125.67m = 4mm arsenopyrite vein @ 70° to Core Axis	Q31457B	126.00	129.00	3.00	75	19	41	1.0	22	69
		137.77m = 5mm quartz vein with disseminated chalcopryrite and magnetite cuts core @ 55° to Core Axis.	Q31458B	129.00	132.00	3.00	221	6	22	1.9	11	6
			Q31459B	132.00	135.00	3.00	336	10	20	2.1	62	74
			Q31460B	135.00	138.00	3.00	774	15	29	2.2	25	1
			Q31461B	138.00	141.00	3.00	578	19	22	2.4	21	1

DRILL HOLE LOG

HOLE NO.  
DDH-90-Q01

PAGE 4 OF 4

METREAGE		DESCRIPTION	SAMPLE NO.	METREAGE		LENGTH	ASSAYS					
FROM	TO			FROM	TO		Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	As (ppm)
141.38	153.92	Massive siliceous green siltstone (andesitic); partly mottled and lesser (≤20%) green, silicified mudstone. 0.5% fracture pyrite and local patches (≤4cm) of 8% pyrrhotite. Trace chalcopyrite. Pyrite increases toward base of interval.	Q31462B	141.00	144.00	3.00	686	18	19	1.6	30	1
			Q31463B	144.00	147.00	3.00	400	13	62	2.2	67	3
			Q31464B	147.00	150.00	3.00	439	15	19	2.4	45	1
			Q31465B	150.00	153.00	3.00	776	19	121	2.8	123	73
153.92	160.53	Medium grained porphyritic hornblende (20%) biotite (≤5%) plagioclase (35%) diorite; locally trachytic. Plagioclase feldspars are corroded and faintly green after sericite. ≤1% quartz vein 3mm to 9mm @ 45° and 065° to Core Axis. Vein contains trace chalcopyrite, pyrite and arsenopyrite in vein and as envelopes. 1-2% calcite veins/fracture fillings @ 20 - 35° to Core Axis. ≤1% pyrite veins/networks; moderately magnetic.	Q31466B	153.00	156.00	3.00	610	10	37	2.4	45	11
			Q31467B	156.00	159.00	3.00	532	23	51	2.4	88	278
			Q31468B	159.00	162.00	3.00	884	13	155	3.7	3480	1208
160.53	179.90	Grey green andesitic silicified mudstone, siltstone tufts, possible skarn beds; mottled; local weak brecciation. 160.80-160.88m = quartz veining @ 20° to Core Axis with 5 - 8% disseminated arsenopyrite. ≤1% pyrite veining/fracture filling; ≤1% quartz veining; 3 - 5% calcite fracture filling; ≤1% pyrrhotite veinlets, patches; moderately magnetic; mismatch @ 172.13m.	Q31469B	162.00	165.00	3.00	1446	9	91	4.0	101	113
			Q31470B	165.00	168.00	3.00	635	11	19	2.7	28	1
			Q31471B	168.00	171.00	3.00	1682	15	22	3.2	39	37
			Q31472B	171.00	174.00	3.00	788	19	17	2.7	73	178
			Q31473B	174.00	177.00	3.00	502	17	15	2.2	99	115
			Q31474B	177.00	180.00	3.00	556	30	18	2.5	508	1
179.90	184.00	Medium grained porphyritic hornblende (20%), biotite (≤5%) plagioclase (25%) diorite, locally trachytic; hornblende fairly fresh; weak alteration and corrosion of plagioclase phenos. ≤1% quartz veinlets. Trace fracture pyrite and pyrrhotite; strongly magnetic.	Q31475B	180.00	183.00	3.00	279	10	24	1.9	84	49
184.00	194.46	Grey, grey-brown, green-grey-brown silicified mudstones to siltstones; weakly developed foliation @ 45° to Core Axis. 3 - 5% crackle fracture calcite; mottled skarn alteration; ≤1% pyrite, ≤1% pyrrhotite and trace (rare) chalcopyrite; chalcopyrite veinlet @ 190.00m. E.O.H.	Q31476B	183.00	186.00	3.00	188	6	24	2.0	220	5
			Q31477B	186.00	190.00	3.00	242	7	20	2.0	28	1
			Q31478B	190.00	193.00	3.00	211	16	94	2.1	63	220
			Q31479B	193.00	194.46	1.46	187	22	25	2.4	64	88
							EOH					
			Q31468B	159.00	162.00	3.00						
								oz/ton Au		oz/ton Ag		
									0.105	0.10		
							<b>SIGNIFICANT MINERALIZED INTERVALS</b>					
				3.00	90.00	87.00	1067	12	20	1.5	21	11
		includes:		10.50	16.50	6.00	1296	13	18	1.3	5	11
		and		25.50	39.00	13.50	1377	13	16	1.3	49	5
		and		67.50	90.00	22.50	1284	11	19	2.2	12	3
				159.00	171.00	12.00	1162	12	72	3.4	912	340

LOCATION: QUASH CREEK - KLASTLINE PLATEAU NTS 104G-9W 57°45'N; 130°18'W							DRILL HOLE LOG					HOLE NO. DDH-90-Q02		PAGE NO. 1 of 5	
AZIM: 043° DIP: -45°		ELEV: 1426.5m/4680 (ft) LENGTH: 182.58m		DIP TEST				PROPERTY: QUASH CREEK (DRYDEN-TRIUMPH OPTION)							
CORE SIZE: BGM				METREAGE		AZIMUTH		INCLINATION		CORR. INCLIN.		CLAIM NO: QC-4 SECTION:			
STARTED: October 15, 1990 COMPLETED: October 17, 1990 PURPOSE: To test gossan and Cu-Au soil anomaly on east side of Rusty Springs Creek approximately 300m north of DDH-90-Q01 CORE RECOVERY: 99%				91.14 182.58		043° 043°				-46° -46°		LOGGED BY: Jason Miller DATE LOGGED: October 17 - 19, 1990 DRILLING CO: FALCON DRILLING ASSAYED BY: MIN-EN LABS			
METREAGE		DESCRIPTION	SAMPLE NO.	METREAGE		LENGTH	ASSAYS								
FROM	TO			FROM	TO		Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	As (ppm)			
0.00	2.13	Casing													
2.13	36.27	Intensely silicified siltstone to mudstone -- brecciated. The unit is very mottled, but bedding can be seen locally. Fe stain is common on fractures. Minor clay altered fractures occur to 12.30m. 2% calcite veinlets occur (0.5 - 3.0mm). 4 - 5% pyrite as massive veinlets/bands and with calcite veins. These calcite veinlets are probably tension gashes due to the lensoidal shape of them. Bedding, where present occurs from 5 - 15° w.r.t. the Core Axis. Calcite veins (± pyrite) occur at preferred orientations 45° to 65° w.r.t. the Core Axis. Patches of maroon-pink alteration (±5%) ?? probably finely disseminated biotite (?) or Kfeldspar (?). No visible chalcopyrite.	Q31480 Q31481 Q31482 Q31483 Q31484 Q31485 Q31486 Q31487 Q31488 Q31489 Q31490	2.13 6.00 9.00 12.00 15.00 18.00 21.00 24.00 27.00 30.00 33.00	6.00 9.00 12.00 15.00 18.00 21.00 24.00 27.00 30.00 33.00 36.00	3.87 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00	84 109 198 181 467 536 447 605 779 752 726	19 25 24 17 12 16 6 8 23 18 24	8 12 10 12 12 12 11 12 9 12 9	1.3 1.4 1.5 1.1 1.4 1.3 1.0 1.0 1.9 1.8 1.9	23 47 58 60 30 19 14 21 17 28 18	53 52 30 21 1 1 40 22 48 6 3			
36.27	67.08	As above, except not brecciated. Still mottled with 5 - 10% patchy maroon-pink mudstone impurity (?) or Kfeldspar alteration(?). 1% calcite veining (up to 2% locally) cross cuts 1 - 2% quartz veining. Trace chalcopyrite (±0.2%) and pyrite occur with quartz veins. 4 - 5% pyrite occurs as veins/fracture fill and with calcite or quartz veins. Very silicified as above. Structural measurements w.r.t. the Core Axis are as follows: 32.37m = clay/chlorite slickensided fracture at 35° 40.50m = quartz/calcite vein (3 - 10mm) @ 44° 45.60m = calcite vein (3mm) @ 40° 48.70m = quartz/pyrite/chalcopyrite vein (2mm) @ 25°	Q31491 Q31492 Q31493 Q31494 Q31495 Q31496 Q31497 Q31498 Q31499 Q31500 Q31501	36.00 37.50 39.00 40.50 42.00 43.50 45.00 46.50 48.00 49.50 51.00	37.50 39.00 40.50 42.00 43.50 45.00 46.50 48.00 49.50 51.00 52.50	1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50	1372 1178 871 873 1005 418 872 1369 1046 894 2947	16 13 19 8 18 14 12 13 10 9 15	27 20 12 10 12 13 14 60 43 27 41	2.7 2.9 2.2 1.8 2.1 1.7 1.9 2.2 2.2 1.8 2.9	32 42 2 11 12 11 8 14 12 15 19	1 1 10 26 1 50 31 1 13 1 30			

DRILL HOLE LOG							HOLE NO. DDH-90-Q02		PAGE 2 OF 5			
METREAGE		DESCRIPTION	SAMPLE NO.	METREAGE		LENGTH	ASSAYS					
FROM	TO			FROM	TO		Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	As (ppm)
36.27	67.08 Cont.	51.70-52.10m = $\leq$ 90% quartz/pyrite/chalcopyrite vein @ 7° with calcite tension gashes cross cutting	Q31502	52.50	54.00	1.50	482	10	12	1.5	9	1
		54.10m = calcite veins (3 X 1mm) @ 67°	Q31503	54.00	55.50	1.50	714	12	14	1.9	9	1
		53.00m = calcite veins (1mm, 0.5mm) @ 49°	Q31504	55.50	57.00	1.50	752	15	13	1.9	7	31
		56.85m = quartz/pyrite/chalcopyrite vein (5 - 6mm) @ 38°	Q31505	57.00	58.50	1.50	553	19	12	1.8	8	9
			Q31506	58.50	60.00	1.50	420	4	13	1.6	7	1
		57.30m = calcite vein (1 - 5mm) @ 56°	Q31507	60.00	61.50	1.50	1187	12	14	2.1	20	5
		58.05m = calcite vein (2mm) @ 51°	Q31508	61.50	63.00	1.50	940	15	18	2.1	19	1
		59.10m = calcite vein (8 - 12mm) @ 45°	Q31509	63.00	64.50	1.50	1101	16	17	2.2	30	1
		61.60m = calcite vein (1.5mm) @ 17°	Q31510	64.50	66.00	1.50	909	15	16	2.1	42	1
		62.40m = calcite vein (4mm) @ 26°	Q31511	66.00	67.50	1.50	2881	20	91	3.4	888	88
		62.20m = calcite vein (1mm) @ 58°										
		63.95m = calcite vein (1 - 3mm) @ 31°										
		64.30m = calcite vein (1mm) @ 44°										
		64.65m = calcite vein (2 - 4mm) @ 13°										
		65.40m = calcite vein (2mm) @ 56°										
		66.45m = calcite vein (2mm) @ 50°										
67.08	72.20	Brecciated, silicified mudstone (?) as described above (2.13 - 36.27m). 10% Kfeldspar alteration local pervasive replacement of fragments. 10% pyrite decreases downhole to approximately 4% as massive veins and veins with quartz or calcite. No visible chalcopyrite. 2% calcite veinlets occur as well as minor quartz/pyrite veins (67.18 - 67.28m). Calcite veins appear to be tension gashes @ 0° and 55° to Core Axis. Massive pyrite veins are later as they cross cut calcite veins. Pyrite veins are @ 47° - 65° to Core Axis.	Q31512	67.50	69.00	1.50	1396	13	23	2.3	43	34
			Q31513	69.00	70.50	1.50	1431	14	23	2.5	44	11
			Q31514	70.50	72.00	1.50	1638	26	22	2.6	31	1
72.20	91.64	Intensely silicified siltstone to mudstone as described above (56.27 - 67.08m). Mottled by 5 - 10% patchy Kfeldspar (maroon-pink). $\leq$ 1.0% calcite veinlets and tension gashes cross cut earlier quartz/pyrite/±chalcopyrite/±pyrrhotite veins ( $\leq$ 0.5%). Bedding is recognized rarely. Unit becomes more chloritized below 85.00m (3 - 5%). Trace chalcopyrite ( $\leq$ 0.2%), trace pyrrhotite ( $\leq$ 0.1%), and $\leq$ 0.3% pyrite occur with quartz veining. The remaining 2 - 3% pyrite occurs as massive veinlets and fracture fill. Pyrite occurs on some fractures. Structural measurements w.r.t. the Core Axis are as follows:	Q31515	72.00	73.50	1.50	697	15	18	2.4	58	1
		77.40m = calcite vein (1mm) displaces bedding (right lateral) @ 54°	Q31516	73.50	75.00	1.50	539	17	20	1.9	16	43
			Q31517	75.00	76.50	1.50	1118	16	21	2.2	20	1
		77.40-77.70m = tension gash calcite @ 0°	Q31518	76.50	78.00	1.50	868	15	37	2.1	125	54
			Q31519	78.00	79.50	1.50	607	19	36	1.7	76	67
		77.70m = quartz/pyrite/chalcopyrite vein (2mm) @ 53°	Q31520	79.50	81.00	1.50	839	15	23	1.6	33	21
			Q31521	81.00	82.50	1.50	340	6	23	1.6	160	1
			Q31522	82.50	84.00	1.50	683	12	19	1.2	21	1
			Q31523	84.00	85.50	1.50	606	18	30	1.6	7	1
			Q31524	85.50	87.00	1.50	569	10	31	2.1	10	1
			Q31525	87.00	88.50	1.50	386	16	22	1.9	4	1
			Q31526	88.50	90.00	1.50	624	10	25	2.0	7	6
			Q31527	90.00	93.00	3.00	621	11	27	2.0	9	1

DRILL HOLE LOG

HOLE NO.  
DDH-90-Q02

PAGE 3 OF 5

METREAGE		DESCRIPTION	SAMPLE NO.	METREAGE		LENGTH	ASSAYS					
FROM	TO			FROM	TO		Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	As (ppm)
72.20	91.64			78.65m = quartz/pyrite vein (3mm) @ 47° 79.95m = quartz/pyrite vein (11mm) @ 65° 84.55m = quartz/chalcopyrite vein (3mm) is displaced by a calcite vein (1mm) @ 15° 85.65m = quartz/pyrite vein (1mm) @ 53° 85.85m = quartz/pyrite vein (3mm) @ 57° 87.05m = quartz vein (5mm) @ 53° displaced (right lateral) 8mm 87.25m = quartz/pyrite/chalcopyrite vein (3mm) @ 53°								
91.64	125.83	Dark green, intensely silicified mudstone to siltstone (andesitic composition?). Bedding seen locally where texture is less mottled. Dark colour is most likely due to fine grained disseminated chlorite (?) biotite (?). ≤3% patchy Kfeldspar occurs. Calcite tension gashes are cross cut by quartz/pyrite/chalcopyrite veins (≤0.3% veinlets) as well as massive pyrite veins and later calcite veins. 1.0 - 1.5% calcite veins and tension gashes occur. 3 - 4% pyrite as massive veins mostly. Trace chalcopyrite (≤0.2%) and sphalerite (60%) occur locally with quartz/pyrite veins. Structural measurements w.r.t. the Core Axis are as follows: 93.10m = calcite vein (3mm) @ 28° 99.25m = bedding @ 27° 99.70m = pyrite veins (1mm X 2) @ 48° and 32° 100.70m = calcite vein (2mm) @ 56° 107.80m = calcite tension gashes (5 X 1mm) @ 48° 108.75m = calcite veins (2 - 3mm) cross cut pyrite veins and are @ 23° 109.45m = quartz/pyrite/chalcopyrite veins (2 X 2mm) @ 59° 112.65m = pyrite vein cross cutting calcite tension gashes @ 45° (3mm) 112.95m = quartz/pyrite/chalcopyrite vein (2mm) @ 40° 113.95m = calcite tension gashes (10 X 0.5mm) @ 60° 116.10m = quartz/pyrite/chalcopyrite vein (5mm) @ 44° cross cuts calcite tension gashes 117.30m = calcite vein (2 - 4mm) @ 15° 119.55m = pyrite vein (3mm) @ 38° 121.90m = pyrite vein (3mm) @ 46° 124.40m = pyrite/chalcopyrite vein (8 - 10mm) @ 56° 124.50m = pyrite/sphalerite vein (5mm) @ 57° 125.50m = pyrite veins (2 - 3mm) @ 60° and 55°	Q31528 Q31529 Q31530 Q31531 Q31532 Q31533 Q31534 Q31535 Q31536 Q31537 Q31538 Q31539 Q31540 Q31541 Q31542 Q31543 Q31544 Q31545	93.00 96.00 99.00 102.00 105.00 106.50 108.00 109.50 111.00 112.50 114.00 115.50 117.00 117.50 118.50 120.00 121.50 123.00 124.50 125.00	96.00 99.00 102.00 105.00 106.50 108.00 109.50 111.00 112.50 114.00 115.50 117.00 118.50 120.00 121.50 123.00 124.50 126.00	3.00 3.00 3.00 3.00 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50	676 566 709 986 423 819 971 1038 923 869 643 640 619 915 722 908 1931 687	17 9 17 11 12 13 11 10 15 11 12 12 15 15 9 6 16 26 6	21 21 19 21 19 22 25 26 37 25 22 40 36 32 26 35 142 65	1.4 1.9 1.8 2.0 1.9 2.2 2.1 2.2 2.1 2.3 1.8 1.8 2.1 2.1 2.0 2.1 3.7 2.6	17 102 30 16 1 15 14 15 12 40 42 21 8 16 12 72 1750 42	7 14 12 1 1 25 1 1 1 1 1 1 1 1 1 1 1 87 1

DRILL HOLE LOG							HOLE NO. DDH-90-Q02		PAGE 4 OF 5			
METREAGE		DESCRIPTION	SAMPLE NO.	METREAGE		LENGTH	ASSAYS					
FROM	TO			FROM	TO		Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	As (ppm)
125.83	148.40	<p>Intensely silicified and Kfeldspar altered (<math>\leq 10\%</math>) maroon-pink siltstone to mudstone. Granular from 129.35 - 132.10m and 137.30 - 137.95m and 141.30 - 143.15m with 5% disseminated pyrite (0.5mm) possibly after mafics (intrusive?) or just secondary growth in same sediment. 4 - 5% pyrite as veins are cross cut by calcite veins (2%). Trace disseminated chalcocopyrite and as interstitial blebs (<math>\leq 0.3\%</math>); 135.30 - 135.50m = 5% interstitial bleb chalcocopyrite.</p> <p>No visible quartz veining. Trace disseminated pyrrhotite occurs throughout (<math>\leq 0.1\%</math>). Some calcite occurs as tension gashes (lensoidal). Texture is mottled throughout; no bedding recognizable. Structural measurements w.r.t. the Core Axis are as follows:</p> <p>103.15m = calcite vein (5mm) @ 24°  130.40m = pyrite vein (5mm) @ 42°  130.60m = calcite vein (2mm) @ 48°  131.20m = calcite/limonite vein (2.0mm) @ 42°  131.75m = calcite veins (2 X 1mm) @ 55°, 60°  132.15m = pyrite vein (4 - 5mm) @ 54°  133.60m = pyrite vein (1.5mm) @ 18° displaced by cross cutting calcite vein (2mm) @ 65°</p> <p>134.90m = pyrite vein (2mm) @ 40°  138.00m = calcite/pyrite vein (2mm) @ 45°  139.70m = calcite veins (2 X 2mm) @ 48°  140.65m = calcite vein (2mm) @ 40°  141.35m = calcite vein (<math>\leq 2</math>mm) @ 30°  141.45m = calcite/chalcocopyrite vein (1 - 3mm) @ 38°</p> <p>An intensely silicified, mottled plagioclase porphyritic to equigranular diorite dyke occurs from 143.15 - 144.53m. Contains 4 - 5% interstitial and veined pyrite as well as approximately 0.3% chalcocopyrite with quartz veining and flooding (<math>\leq 15\%</math> silicification).</p>	Q31546	126.00	127.50	1.50	445	6	65	2.0	16	1
			Q31547	127.50	129.00	1.50	279	15	18	1.5	7	9
			Q31548	129.00	130.50	1.50	1085	10	78	2.5	54	1
			Q31549	130.50	132.00	1.50	1035	14	96	2.7	21	1
			Q31550	132.00	133.50	1.50	419	23	22	1.7	52	1
			Q31551	133.50	135.00	1.50	596	21	28	2.2	50	1
			Q31552	135.00	136.50	1.50	1601	8	40	3.2	38	1
			Q31552	136.50	138.00	1.50	1036	10	37	2.7	23	1
			Q31554	138.00	139.50	1.50	1039	22	26	2.3	29	1
			Q31555	139.50	141.00	1.50	848	11	23	2.1	46	16
			Q31556	141.00	142.50	1.50	1073	10	28	2.1	45	17
			Q31557	142.50	144.00	1.50	631	15	13	1.8	27	20
			Q31558	144.00	145.50	1.50	1172	14	27	2.1	27	31
			Q31559	145.50	147.00	1.50	867	19	13	2.1	98	30
			Q31560	147.00	148.50	1.50	945	14	12	2.0	64	110
148.40	156.95	<p>Silicified, mottled plagioclase porphyritic to equigranular diorite dyke as described above (143.15 - 144.53m). Mafics have altered to brown biotite (3 - 4%). Less chalcocopyrite than above (<math>\leq 0.1\%</math>). 1.0% quartz veining and 1.0% pyrite veining are cross cut by later calcite veining. 2 quartz/pyrite veins @ 23° and 50° to Core Axis; calcite tension gashes predominantly @ 65° to Core Axis. Minor limonite on fractures.</p>	Q31561	148.50	150.00	1.50	501	25	103	2.3	1600	4241
			Q31562	150.00	151.50	1.50	1358	17	32	2.6	104	254
			Q31563	151.50	153.00	1.50	492	20	16	1.6	34	55
			Q31564	153.00	154.50	1.50	500	17	19	1.7	19	112
			Q31565	154.50	156.00	1.50	691	19	10	2.2	23	27
			Q31566	156.00	157.50	1.50	475	20	10	1.7	35	34





**APPENDIX XI**

**Drill Core Geochemical Results**



COMP: KEEWATIN ENGINEERING  
 PROJ: 800  
 ATTN: R. NICHOLS/ D. MEHNER

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: 0S-0719-RJ1+2  
 DATE: 90/10/30  
 \* ROCK \* (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90Q 800 R31431	128	3.0	969	16	30	1	1	45	140
90Q 800 R31432	14	2.7	1803	12	28	1	1	46	105
90Q 800 R31433	9	2.2	1317	7	25	1	1	66	110
90Q 800 R31434	9	2.4	1438	16	19	1	1	19	85
90Q 800 R31435	8	2.3	1131	8	14	1	1	10	75
90Q 800 R31436	16	2.3	1648	14	14	1	1	112	105
90Q 800 R31437	14	2.4	1138	7	20	1	1	23	85
90Q 800 R31438	7	2.3	1148	8	14	1	1	13	80
90Q 800 R31439	17	2.6	1752	17	27	1	1	11	75
90Q 800 R31440	9	2.0	1075	6	15	1	1	33	65
90Q 800 R31441	10	1.7	1141	11	17	1	1	20	65
90Q 800 R31442	13	1.8	1429	22	16	1	1	9	80
90Q 800 R31443	8	1.9	848	6	19	1	1	15	95
90Q 800 R31444	20	2.1	1272	11	19	15	1	11	80
90Q 800 R31445	8	1.7	675	9	21	1	1	17	75
90Q 800 R31446	31	2.5	675	15	20	1	1	18	85
90Q 800 R31447	8	2.3	900	8	16	1	1	13	90
90Q 800 R31448	12	2.3	809	8	26	1	1	12	75
90Q 800 R31449	13	2.1	667	16	17	1	1	22	90
90Q 800 R31450	19	2.4	719	14	23	6	1	16	75
90Q 800 R31451	6	.9	39	10	24	33	1	2	75
90Q 800 R31452	17	1.8	369	11	42	198	1	7	95
90Q 800 R31453	8	1.6	460	7	21	1	1	1	70
90Q 800 R31454	11	2.0	475	6	25	1	1	1	85
90Q 800 R31455	19	1.7	497	6	28	1	1	3	60
90Q 800 R31456	54	1.5	152	13	19	447	1	4	90
90Q 800 R31457	22	1.0	75	19	41	69	1	3	110
90Q 800 R31458	11	1.9	221	6	22	6	1	1	95
90Q 800 R31459	62	2.1	336	10	20	74	1	1	75
90Q 800 R31460	25	2.2	774	15	29	1	1	3	65
90Q 800 R31461	21	2.4	578	19	22	1	1	1	255
90Q 800 R31462	30	1.6	686	18	19	1	1	10	145
90Q 800 R31463	67	2.2	400	13	62	3	1	5	195
90Q 800 R31464	45	2.4	439	15	19	1	1	12	150
90Q 800 R31465	123	2.8	776	19	121	73	1	1	185
90Q 800 R31466	45	2.4	610	10	37	11	1	1	210
90Q 800 R31467	88	2.4	532	23	51	278	1	1	205
90Q 800 R31468	3480	3.7	884	13	155	1208	2	1	105
90Q 800 R31469	101	4.0	1446	9	91	113	1	2	180
90Q 800 R31470	28	2.7	635	11	19	1	1	2	185
90Q 800 R31471	39	3.2	1682	15	22	37	1	1	155
90Q 800 R31472	73	2.7	788	19	17	178	1	2	160
90Q 800 R31473	99	2.2	502	17	15	115	1	2	155
90Q 800 R31474	508	2.5	556	30	18	1	1	2	85
90Q 800 R31475	84	1.9	279	10	24	49	1	1	165
90Q 800 R31476	220	2.0	188	6	24	5	1	1	175
90Q 800 R31477	28	2.0	242	7	20	1	1	1	145
90Q 800 R31478	63	2.1	211	16	94	220	1	1	155
90Q 800 R31479	64	2.4	187	22	25	88	1	1	165
90Q 800 R31480	23	1.3	84	19	8	53	1	1	185
90Q 800 R31481	47	1.4	109	25	12	52	1	4	210
90Q 800 R31482	58	1.5	198	24	10	30	1	2	185
90Q 800 R31483	60	1.1	181	17	12	21	1	2	205
90Q 800 R31484	30	1.4	467	12	12	1	1	2	225
90Q 800 R31485	19	1.3	536	16	12	1	1	8	200
90Q 800 R31486	14	1.0	447	6	11	40	1	6	225
90Q 800 R31487	21	1.0	605	8	12	22	1	11	215
90Q 800 R31488	17	1.9	779	23	9	48	1	15	175
90Q 800 R31489	28	1.8	752	18	12	6	1	11	165
90Q 800 R31490	18	1.9	726	24	9	3	1	13	130

COMP: KEEWATIN ENGINEERING  
 PROJ: 800  
 ATTN: R. NICHOLS/ D. MEHNER

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: OS-0719-RJ3+4  
 DATE: 90/10/30  
 \* CORE \* (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90Q 800 R31491	32	2.7	1372	16	27	1	1	31	165
90Q 800 R31492	42	2.9	1178	13	20	1	1	18	125
90Q 800 R31493	2	2.2	871	19	12	10	1	28	95
90Q 800 R31494	11	1.8	873	8	10	26	1	9	130
90Q 800 R31495	12	2.1	1005	18	12	1	1	20	150
90Q 800 R31496	11	1.7	418	14	13	50	1	1	145
90Q 800 R31497	8	1.9	872	12	14	31	1	21	125
90Q 800 R31498	14	2.2	1369	13	60	1	1	21	140
90Q 800 R31499	12	2.2	1046	10	43	13	1	93	110
90Q 800 R31500	15	1.8	894	9	27	1	1	14	125
90Q 800 R31501	19	2.9	2947	15	41	30	3	83	95
90Q 800 R31502	9	1.5	482	10	12	1	1	11	100
90Q 800 R31503	9	1.9	714	12	14	1	1	12	95
90Q 800 R31504	7	1.9	752	15	13	31	1	15	105
90Q 800 R31505	8	1.8	553	19	12	9	1	3	140
90Q 800 R31506	7	1.6	420	4	13	1	1	6	95
90Q 800 R31507	20	2.1	1187	12	14	5	1	15	105
90Q 800 R31508	19	2.1	940	15	18	1	1	14	120
90Q 800 R31509	30	2.2	1101	16	17	1	3	35	155
90Q 800 R31510	42	2.1	909	15	16	1	1	12	135
90Q 800 R31511	888	3.4	2881	20	91	88	3	27	85
90Q 800 R31512	43	2.3	1396	13	23	34	2	18	135
90Q 800 R31513	44	2.5	1431	14	23	11	2	37	125
90Q 800 R31514	31	2.6	1638	26	22	1	1	21	160
90Q 800 R31515	58	2.4	697	15	18	1	1	13	145
90Q 800 R31516	16	1.9	539	17	20	43	1	9	190
90Q 800 R31517	20	2.2	1118	16	21	1	1	7	120
90Q 800 R31518	125	2.1	868	15	37	54	1	25	155
90Q 800 R31519	76	1.7	607	19	36	67	1	11	145
90Q 800 R31520	33	1.6	839	15	23	21	1	6	150
90Q 800 R31521	160	1.6	340	6	23	1	1	3	220
90Q 800 R31522	21	1.2	683	12	19	1	1	8	145
90Q 800 R31523	7	1.6	606	18	30	1	1	16	115
90Q 800 R31524	10	2.1	569	10	31	1	1	10	140
90Q 800 R31525	4	1.9	386	16	22	1	1	9	220
90Q 800 R31526	7	2.0	624	10	25	6	1	18	210
90Q 800 R31527	9	2.0	621	11	27	1	1	8	160
90Q 800 R31528	17	1.4	676	17	21	7	1	7	155
90Q 800 R31529	102	1.9	566	9	21	14	1	7	200
90Q 800 R31530	30	1.8	709	17	19	12	1	6	220
90Q 800 R31531	16	2.0	986	11	21	1	1	4	155
90Q 800 R31532	1	1.9	423	12	19	1	1	4	205
90Q 800 R31533	15	2.2	819	13	22	25	1	11	150
90Q 800 R31534	14	2.1	971	11	25	1	1	15	180
90Q 800 R31535	15	2.2	1038	10	26	1	1	10	155
90Q 800 R31536	12	2.1	923	15	37	1	1	23	165
90Q 800 R31537	40	2.3	869	11	25	1	1	12	160
90Q 800 R31538	42	1.8	643	12	22	1	1	7	175
90Q 800 R31539	21	1.8	640	12	40	1	1	11	155
90Q 800 R31540	8	1.8	619	15	36	1	1	8	135
90Q 800 R31541	16	2.1	915	9	32	1	1	11	145
90Q 800 R31542	12	2.0	722	6	26	1	1	3	150
90Q 800 R31543	72	2.1	908	16	35	1	1	19	155
90Q 800 R31544	1750	3.7	1931	26	142	87	1	9	25
90Q 800 R31545	42	2.6	687	6	65	1	1	5	120
90Q 800 R31546	16	2.0	445	6	65	1	1	6	150
90Q 800 R31547	7	1.5	279	15	18	9	1	6	125
90Q 800 R31548	54	2.5	1085	10	78	1	1	5	115
90Q 800 R31549	21	2.7	1035	14	96	1	1	7	105
90Q 800 R31550	52	1.7	419	23	22	1	1	7	115





**MIN  
• EN  
LABORATORIES**  
(DIVISION OF ASSAYERS CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS  
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

**VANCOUVER OFFICE:**  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C. CANADA V7M 1T2  
TELEPHONE (604) 980-5814 OR (604) 988-4524  
FAX (604) 980-9621

**THUNDER BAY LAB.:**  
TELEPHONE (807) 622-8958  
FAX (807) 623-5931

**SMITHERS LAB.:**  
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OS-0719-RA1

Company: **KEEWATIN ENGINEERING**  
Project: 800  
Attn: R. NICHOLS/ D. MEHNER

Date: OCT-30-90

Copy 1. KEEWATIN ENGINEERING, VANCOUVER, B.C.  
2. KEEWATIN ENGINEERING, VERNON, B.C.

We hereby certify the following Assay of 3 CORE samples  
submitted OCT-22-90 by D. MEHNER.

Sample Number	*AU g/tonne	*AU oz/ton	AG g/tonne	AG oz/ton
900 900 R31468	3.60	.105	3.5	.10
900 800 R31544	1.80	.053	3.7	.11
900 800 R31561	1.63	.048	3.3	.10

\*AU - 1 ASSAY TON.

Certified by \_\_\_\_\_

MIN-EN LABORATORIES

**APPENDIX XII**

**Statement of Qualifications**



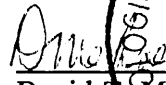
STATEMENT OF QUALIFICATIONS

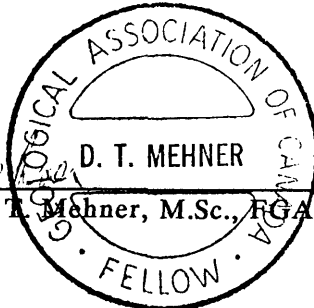
I, DAVID T. MEHNER, of 333 Scenic Drive, in the Municipality of Coldstream, in the Province of British Columbia, do hereby certify that:

1. I am a Consulting Geologist with Keewatin Engineering Inc., with offices at 800 - 900 West Hastings Street, Vancouver, B.C. V6C 1E5.
2. I am a graduate of the University of Manitoba, B.Sc. Honours, 1976, M.Sc. Geology, 1982.
3. I have practised my profession continuously since 1979.
4. I am a Fellow of the Geological Association of Canada.
5. During the period of August to October, 1989, I managed and carried out the exploration program on the Q.C. property claims near Kinaskan Lake on behalf of Dryden Resource Corporation.
6. From July to October, 1990, I managed and carried out the exploration program on the Q.C. property on behalf of Dryden Resource Corporation.
7. I do not own or expect to receive any interest (direct, indirect or contingent) in the properties described herein, nor in the securities of Dryden Resource Corporation in respect of services rendered in the preparation of this report.

Dated at Vancouver, British Columbia, this 8th day of March, A.D. 1991.

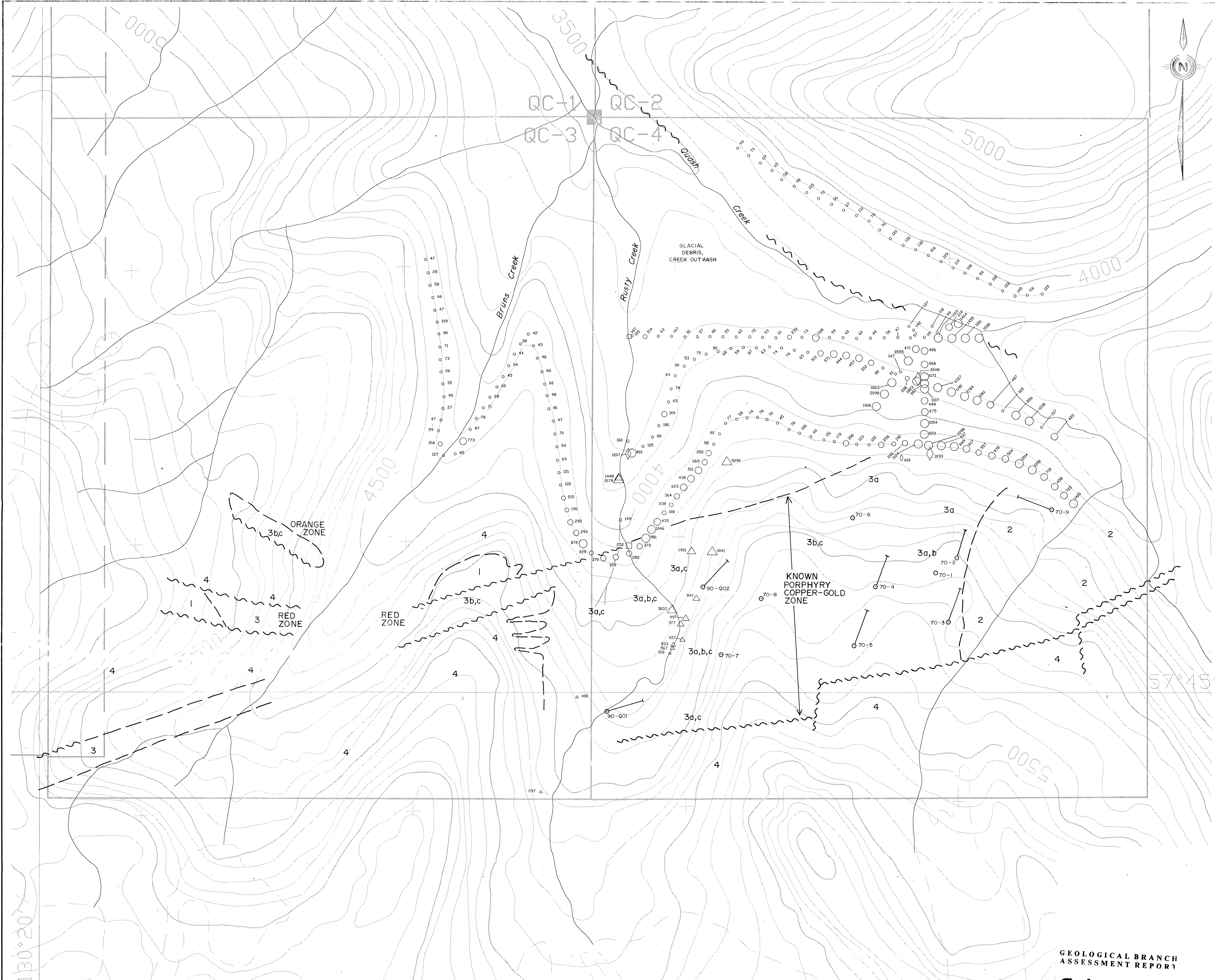
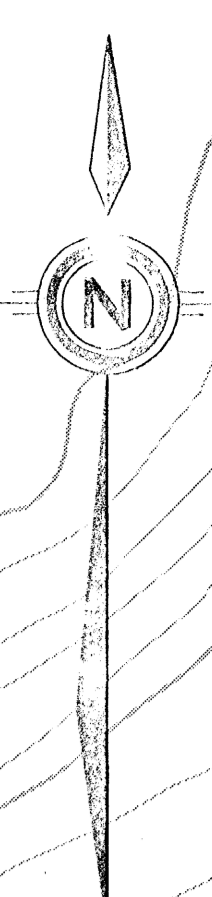
Respectfully submitted,

  
D. T. MEHNER  
David T. Mehner, M.Sc., FGAC



The stamp is circular with the text "GEOLOGICAL ASSOCIATION OF CANADA" around the top inner edge and "FELLOW" at the bottom. A horizontal line crosses the center of the stamp, passing through the name "D. T. MEHNER" and "David T. Mehner, M.Sc., FGAC".

Keewatin Engineering Inc.



130° 20'

57° 45'

**LEGEND**

- Soil sample
- Silt sample
- △ Rock sample
- ▽ Rock chip sample
- ◇ Rock float sample

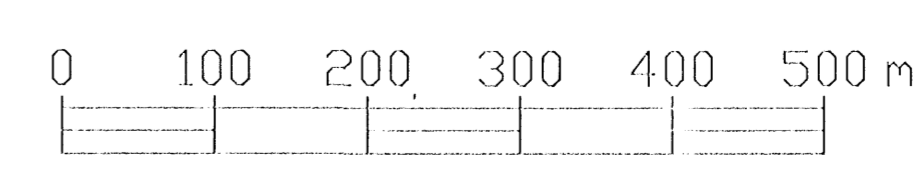
Soil and Silt Samples  
Cu (ppm)

○ □	≤ 100
○ □	101 - 250
○ □	251 - 400
○ □	401 - 800
○ □	> 800

Rock, Rock Chip and Rock Float Samples  
Cu (ppm)

△	≤ 500
▽	501 - 700
◇	701 - 1000
△	1001 - 2000
▽	> 2000

- UPPER TRIASSIC**
- 4 Fresh Basalt, Andesite Flows, Tuffs
  - 3 Propylitically Altered Zone:
    - 3a) altered andesite
    - 3b) siliceous diolite
    - 3c) altered siltstone
  - 2 Andesite Tuff, Quartz Diorite Dykes
  - 1 Hornblende - Biotite - Feldspar Porphyry
- → 1970 Drill Holes (AMOCO)  
 ○ → 1990 Drill Holes (DRYDEN RESOURCE CORP)  
 ~ Assumed Fault



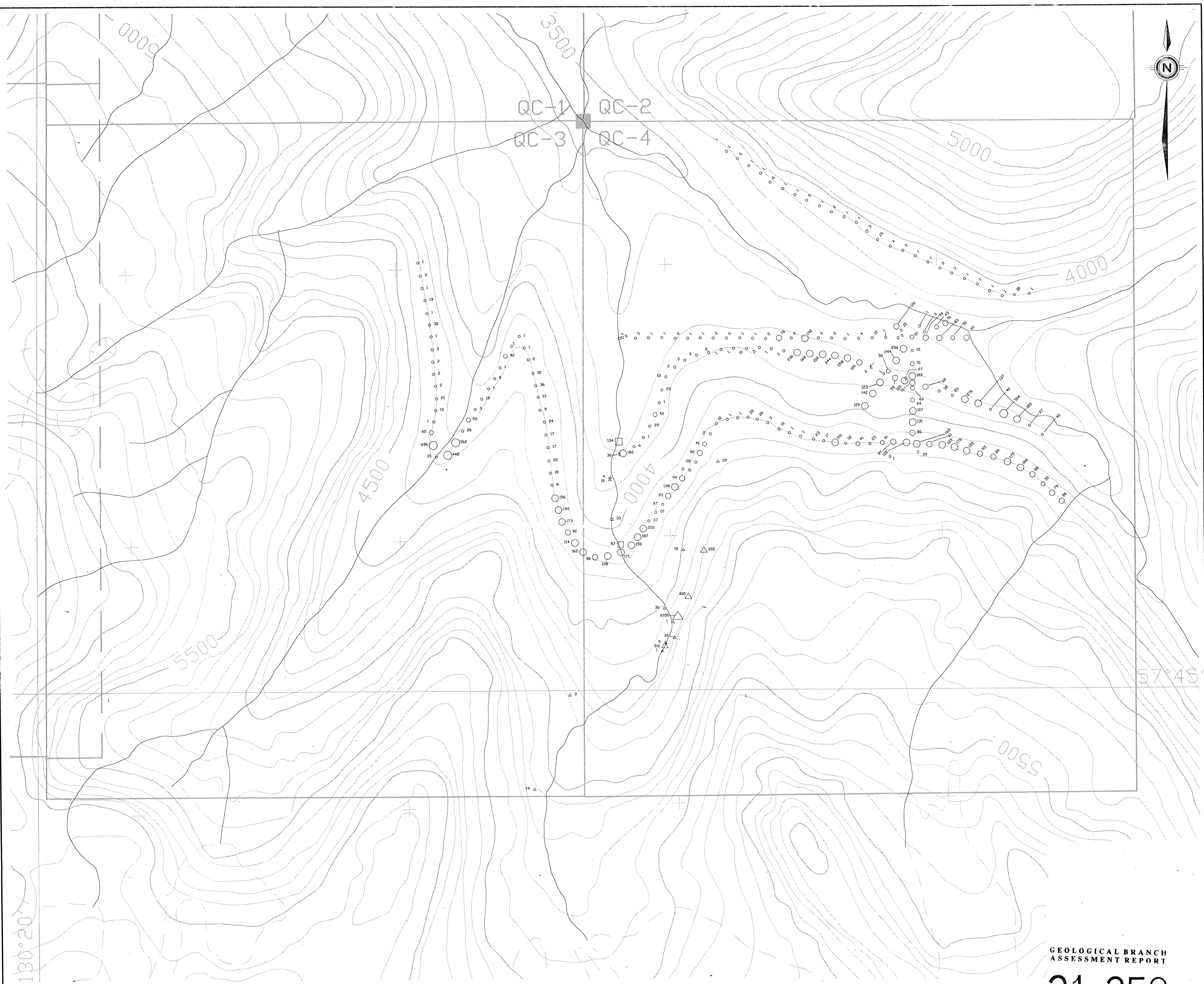
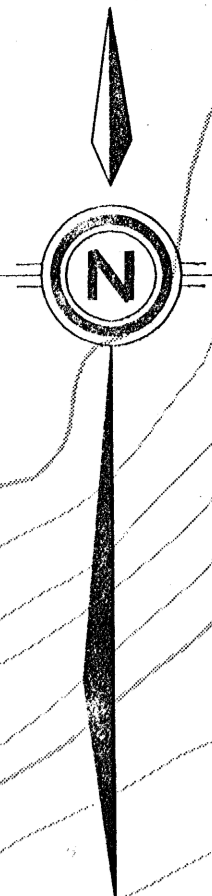
Note: Geology is extrapolated from an old map prepared by Amoco (1973). Due to the poor fit between this and new topographic maps, the geology & position of drill holes should be regarded as approximate only.

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**21,250**

DRYDEN RESOURCE CORPORATION  
 QC CLAIMS (PORPHYRY SYSTEM)  
 GEOCHEMISTRY (Cu)

DATE: FEB 1991	NTS: 104G/16W,9W
PROJECT:	BY:
SCALE: 1 : 5,000	
Keewatin Engineering Inc.	MAP No. 1



130°20'

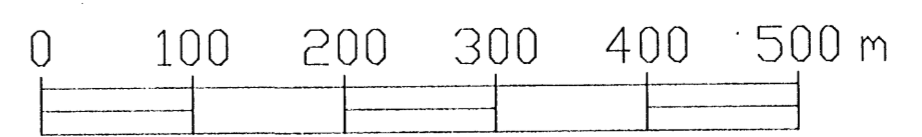
57°45'

**LEGEND**

- Soil sample
- Silt sample
- △ Rock sample
- ▽ Rock chip sample
- ◇ Rock float sample

- Soil and Silt Samples  
Au (ppb)
- □ ≤ 40
  - □ 41 - 60
  - □ 61 - 100
  - □ 101 - 300
  - □ > 300

- Rock, Rock Chip and Rock Float  
Samples  
Au (ppb)
- △ ▽ ◇ ≤ 60
  - △ ▽ ◇ 61 - 100
  - △ ▽ ◇ 101 - 500
  - △ ▽ ◇ 501 - 1000
  - △ ▽ ◇ > 1000



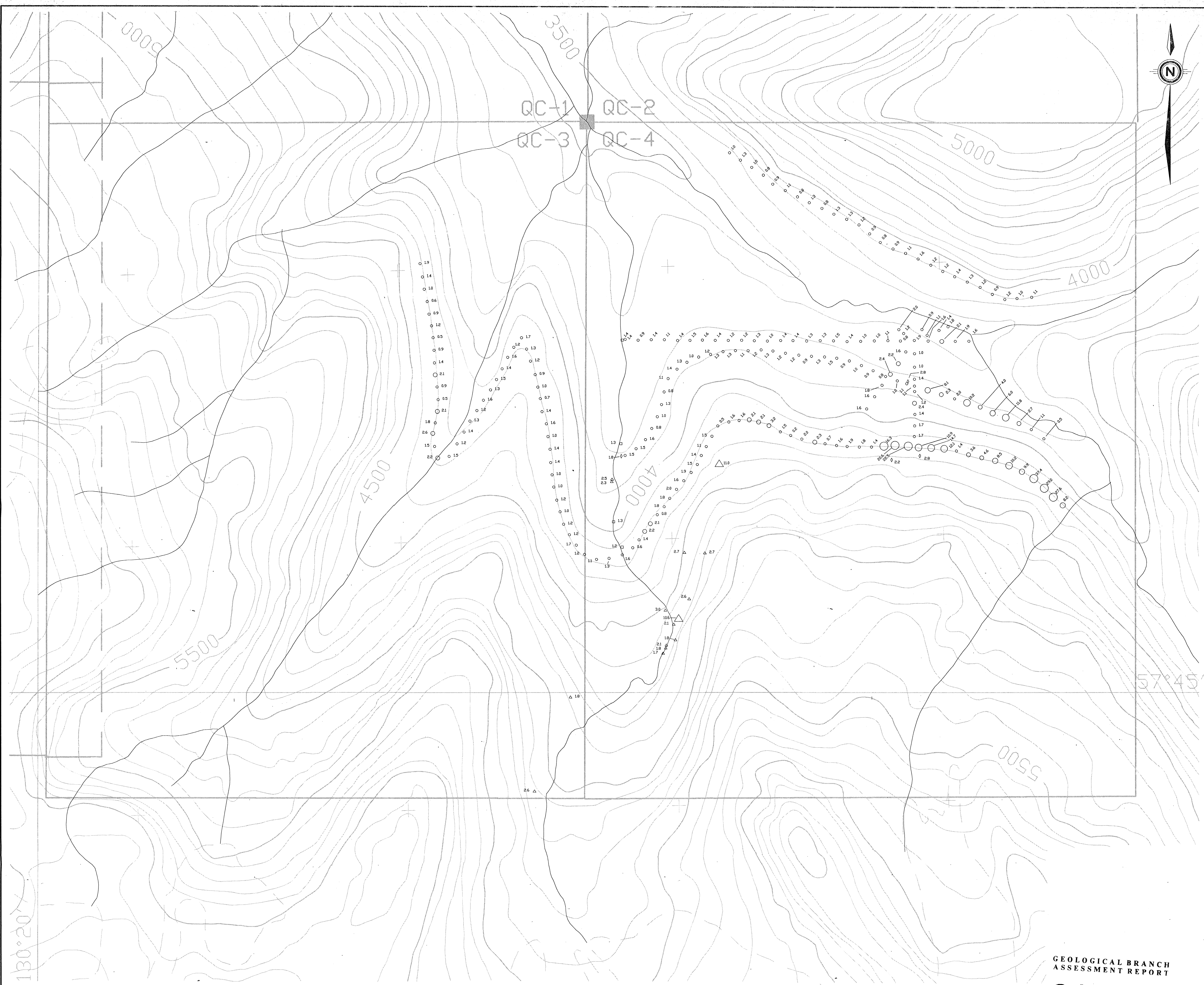
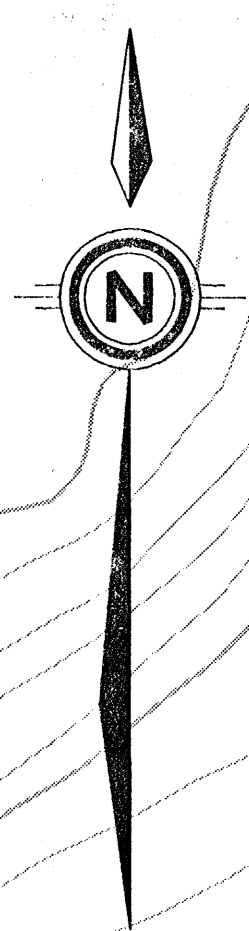
**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

# 21,250

**DRYDEN RESOURCE CORPORATION**

**QC CLAIMS  
(PORPHYRY SYSTEM)  
GEOCHEMISTRY  
(Au)**

DATE: FEB 1991	NTS: 104G/16W,9W
PROJECT:	BY:
SCALE: 1 : 5,000	
Keewatin Engineering Inc. MAP No. 2	

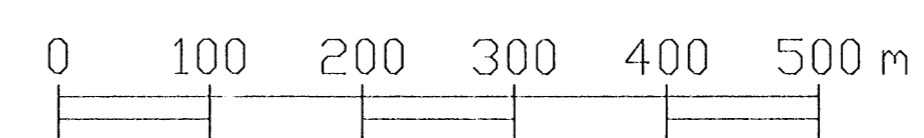


LEGEND

- Soil sample
- Silt sample
- △ Rock sample
- ▽ Rock chip sample
- ◇ Rock float sample

Soil and Silt Samples	Ag (ppm)
○ □	≤ 2.0
○ □	2.1 - 5.0
○ □	5.1 - 10.0
○ □	10.1 - 15.0
○ □	> 15.0

Rock, Rock Chip and Rock Float Samples	Ag (ppm)
△ ▽ ◇	≤ 3.5
△ ▽ ◇	3.6 - 6.0
△ ▽ ◇	6.1 - 10.0
△ ▽ ◇	10.1 - 20.0
△ ▽ ◇	> 20.0



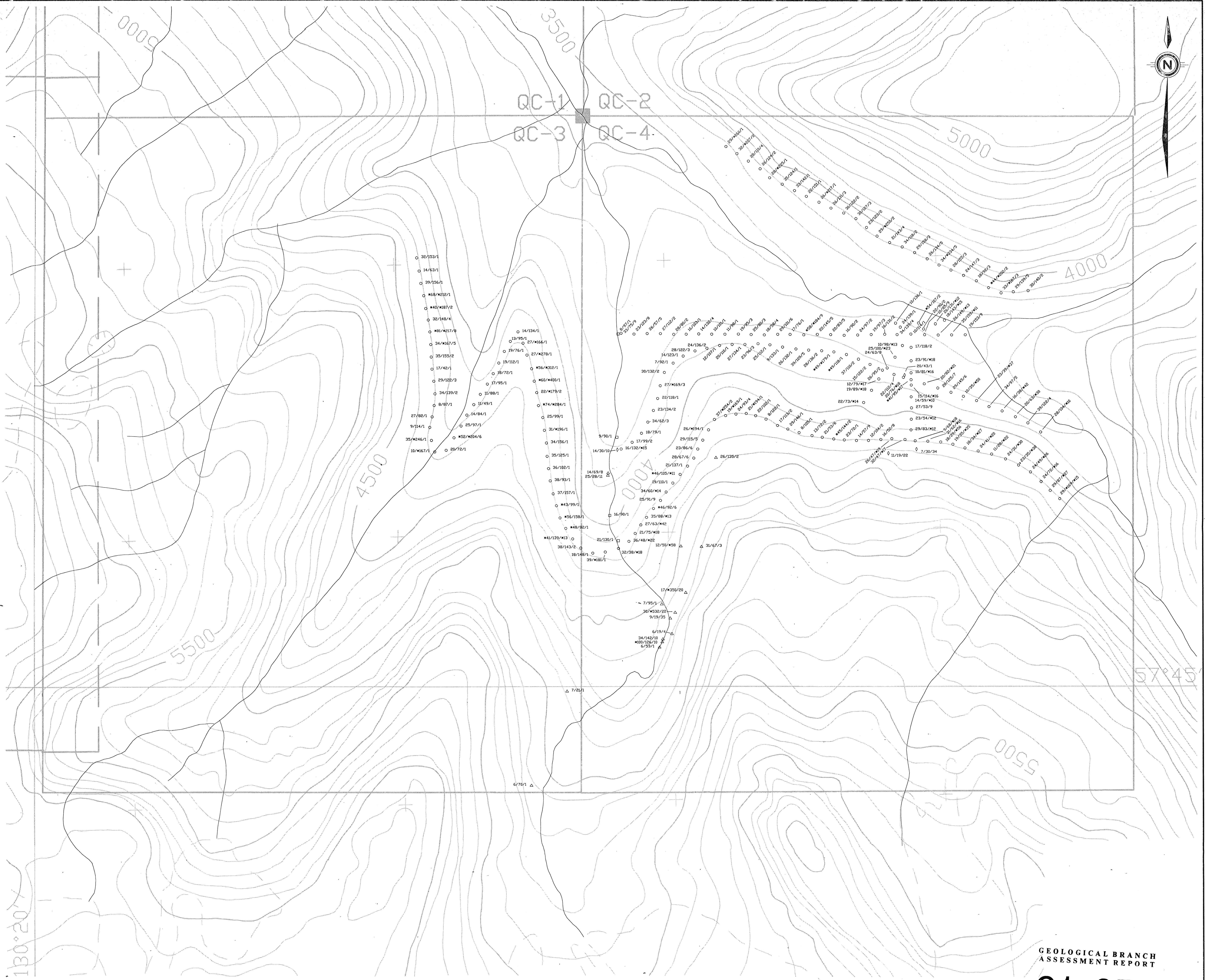
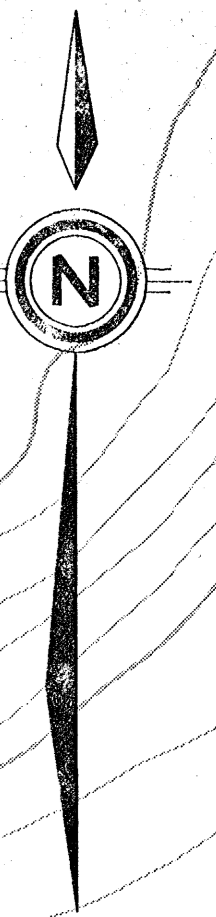
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

21,250

DRYDEN RESOURCE CORPORATION

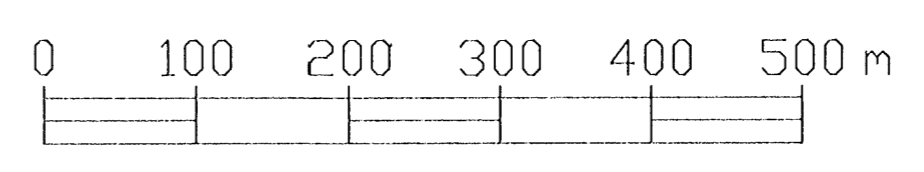
QC CLAIMS  
(PORPHYRY SYSTEM)  
GEOCHEMISTRY  
(Ag)

DATE: FEB 1991	NTS: 104G/16W,9W
PROJECT:	BY:
SCALE: 1 : 5,000	
Keewatin Engineering Inc.	MAP No. 3



**LEGEND**

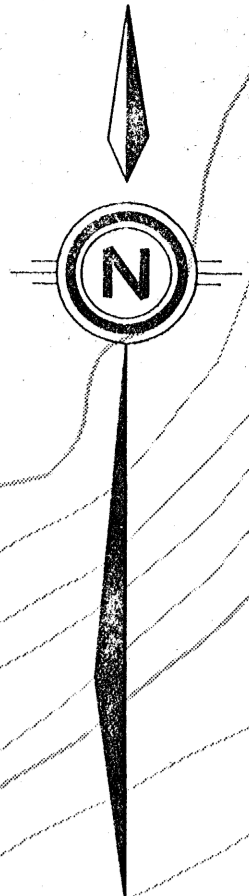
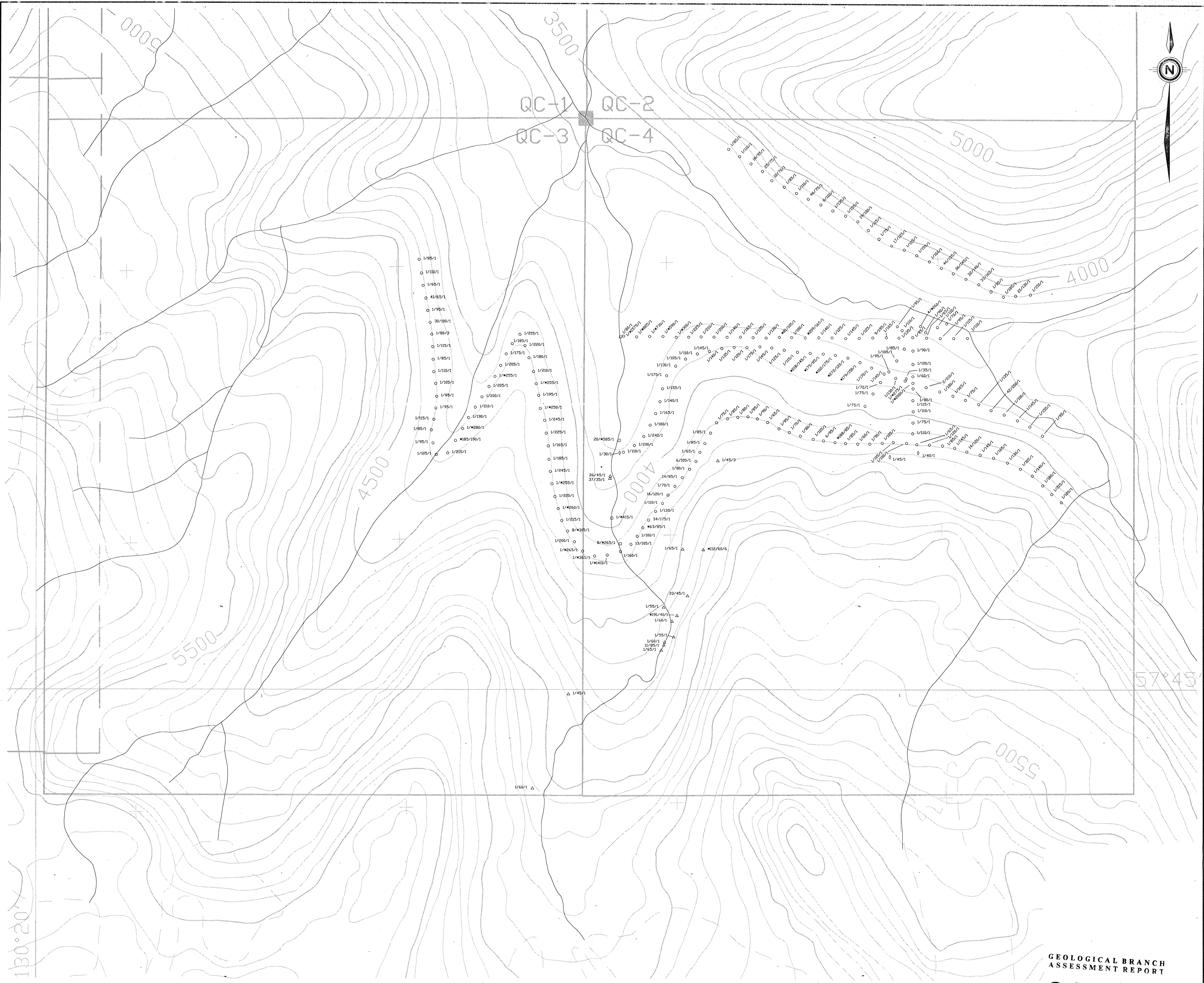
- Soil sample
- Silt sample
- △ Rock sample
- ▽ Rock chip sample
- ◇ Rock float sample
- 50/225/5 Pb(ppm)/Zn(ppm)/Mo(ppm)
- \*40/\*165/\*10 Anomalous values used for soil and silt samples
- \*50/\*150/\*40 Anomalous values used for rock, rock chip and rock float samples



**GEOLOGICAL BRANCH ASSESSMENT REPORT**

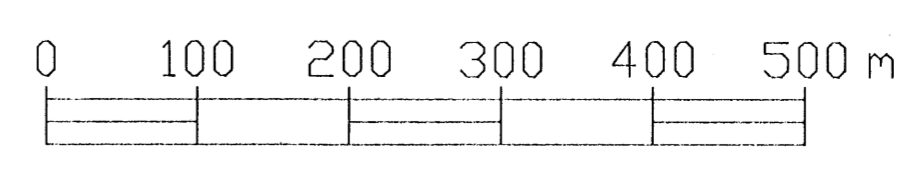
**21,250**

<b>DRYDEN RESOURCE CORPORATION</b>	
<b>QC CLAIMS</b> (PORPHYRY SYSTEM)	
<b>GEOCHEMISTRY</b> (Pb/Zn/Mo)	
DATE: FEB 1991	NTS: 104G/16W,9W
PROJECT:	BY:
SCALE: 1 : 5,000	
Keewatin Engineering Inc. MAP No. 4	



**LEGEND**

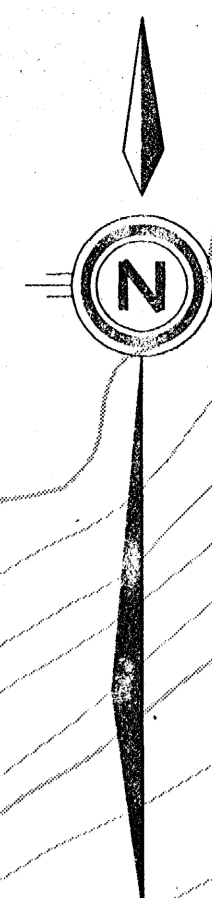
- Soil sample
- Silt sample
- △ Rock sample
- ▽ Rock chip sample
- ◇ Rock Float sample
- 40/325/5 As(ppm)/Hg(ppb)/Sb(ppm)
- \*50/\*250/\*10 Anomalous values used For soil and silt samples
- \*100/\*1000/\*50 Anomalous values used For rock, rock chip and rock float samples



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**21,250**

<b>DRYDEN RESOURCE CORPORATION</b>	
<b>QC CLAIMS (PORPHYRY SYSTEM)</b>	
<b>GEOCHEMISTRY (As/Hg/Sb)</b>	
DATE: FEB 1991	NTS: 104G/16W,9W
PROJECT:	BY:
SCALE: 1 : 5,000	
Keewatin Engineering Inc. MAP No. 5	



QC-1 QC-2  
QC-3 QC-4

5000

3500

5000

4000

4500

5500

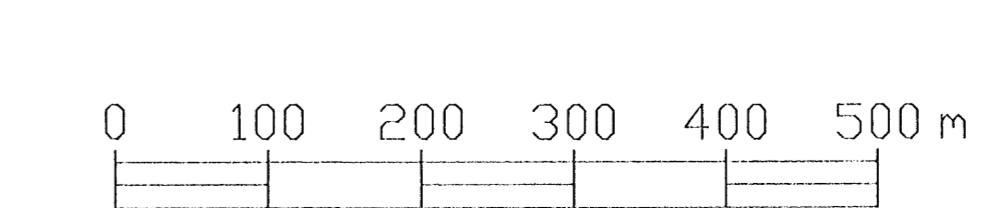
57°45'

5500

130°20'

LEGEND

- Soil sample
- Silt sample
- △ Rock sample
- ▽ Rock chip sample
- ◇ Rock float sample
- 90EBS057 Sample Number



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

21,250

DRYDEN RESOURCE CORPORATION

QC CLAIMS  
(PORPHYRY SYSTEM)

SAMPLE LOCATIONS

DATE: FEB 1991	NTS: 104G/16W,9W
PROJECT:	BY:
SCALE: 1 : 5,000	
Keewatin Engineering Inc. MAP No. 6	

feet  
above  
sealevel

metres  
above  
sealevel

EAST

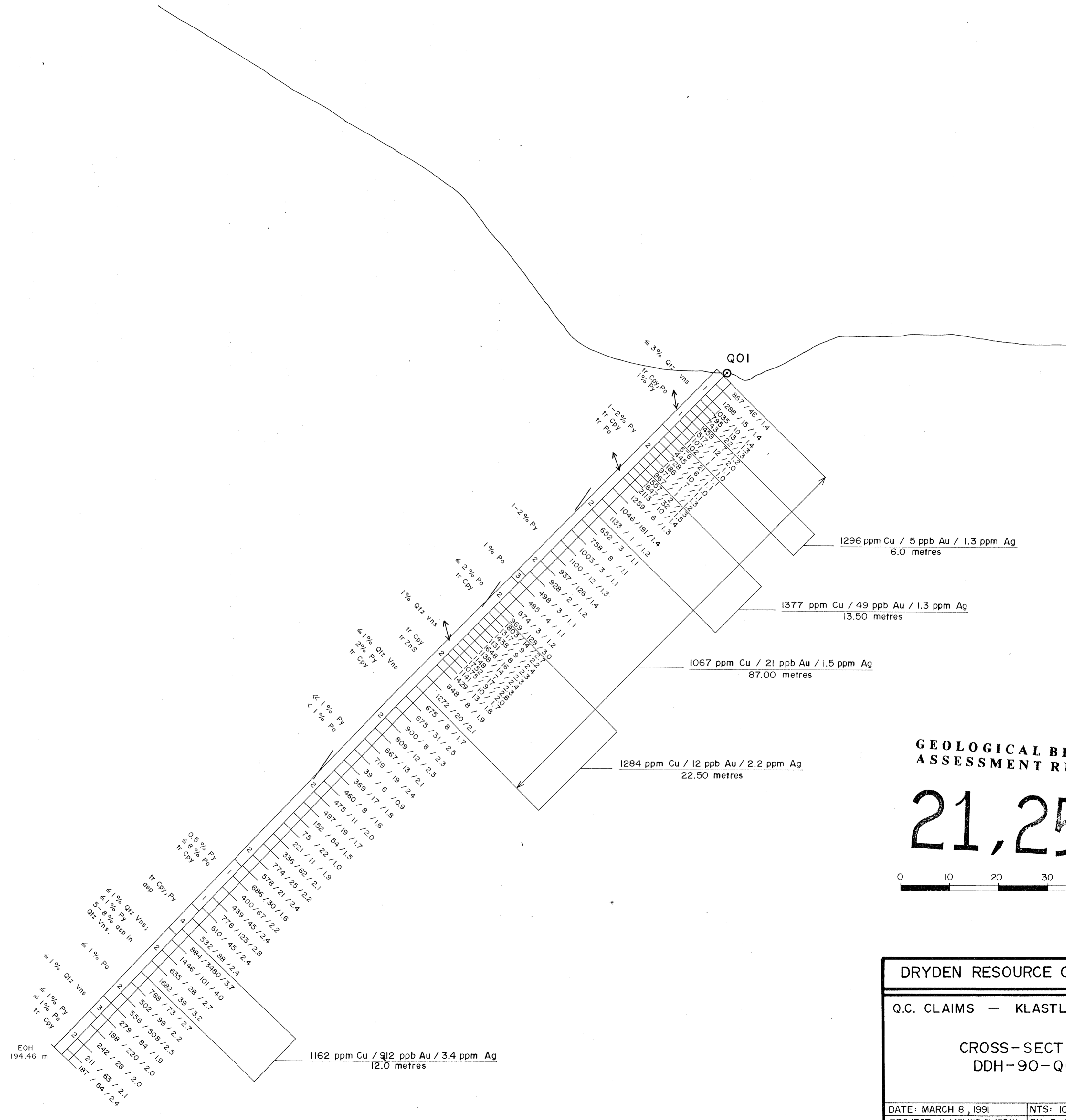
WEST

4900  
4800  
4700  
4600  
4500  
4400  
4300  
4200

- LEGEND**
- UPPER TRIASSIC TO LOWER JURASSIC
- 4 Porphyritic Hornblende-Biotite-Plagioclase Diorite
  - 3 Porphyritic Diorite: Plagioclase Phenocrysts
- UPPER TRIASSIC
- 2 Siltstones to mudstones: Siliceous
  - 2b Siltstones to mudstones with Andesitic Component
  - 1 Andesitic tuffs or siltstones

Kf	potassium feldspar	Cpy	chalcopyrite
Cal	calcite	Py	pyrite
lim	limonite	Po	pyrrhotite
Qtz	quartz	ZnS	sphalerite
Vns	veins	asp	arsenopyrite
tr	trace		

- Fault Zone
- Fractured Core
- Bedding
- Common Vein Orientation
- ppm Cu / ppb Au / ppm Ag



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**21,250**

0 10 20 30 40 50 m

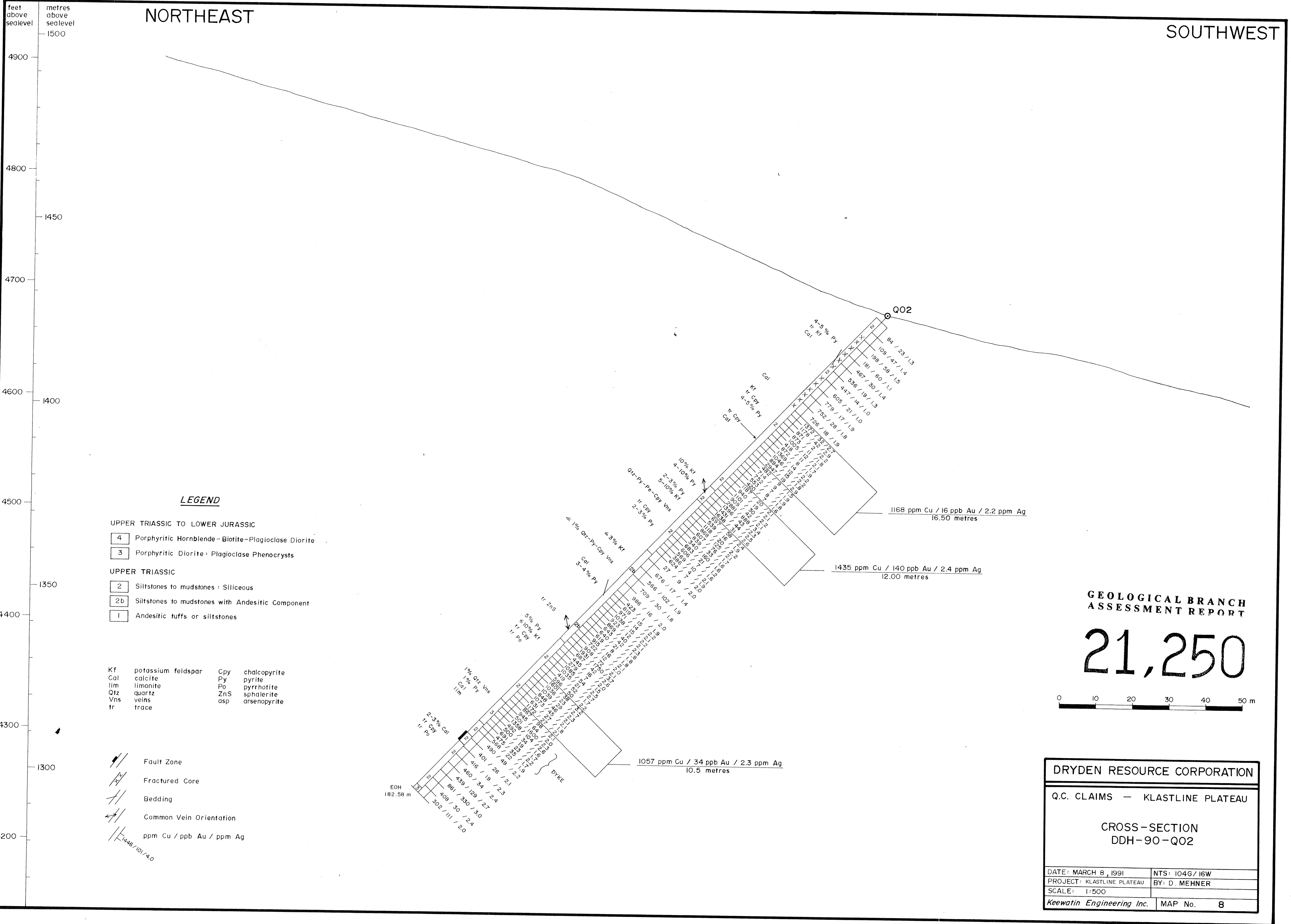
**DRYDEN RESOURCE CORPORATION**

**Q.C. CLAIMS — KLASTLINE PLATEAU**

**CROSS-SECTION  
DDH-90-Q01**

DATE: MARCH 8, 1991	NTS: 104G/16W
PROJECT: KLASTLINE PLATEAU	BY: D. MEHNER
SCALE: 1:500	
Keewatin Engineering Inc.	MAP No. 7





NORTHEAST

SOUTHWEST

feet above sealevel  
metres above sealevel

1500

4900

4800

1450

4700

1400

4600

1350

4500

4400

1300

4300

1250

4200

**LEGEND**

- UPPER TRIASSIC TO LOWER JURASSIC
- 4 Porphyritic Hornblende-Biotite-Plagioclase Diorite
  - 3 Porphyritic Diorite-Plagioclase Phenocrysts
- UPPER TRIASSIC
- 2 Siltstones to mudstones: Siliceous
  - 2b Siltstones to mudstones with Andesitic Component
  - 1 Andesitic tuffs or siltstones

- Kf potassium feldspar
- Cal calcite
- lim limonite
- Qtz quartz
- Vns veins
- tr trace
- Cpy chalcopyrite
- Py pyrite
- Po pyrrhotite
- ZnS sphalerite
- asp arsenopyrite

- /// Fault Zone
- /// Fractured Core
- /// Bedding
- /// Common Vein Orientation
- /// ppm Cu / ppb Au / ppm Ag

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**21,250**



**DRYDEN RESOURCE CORPORATION**

**Q.C. CLAIMS — KLASTLINE PLATEAU**

**CROSS-SECTION  
DDH-90-Q02**

DATE: MARCH 8, 1991	NTS: 104G/16W
PROJECT: KLASTLINE PLATEAU	BY: D. MEHNER
SCALE: 1:500	
Keewatin Engineering Inc.	MAP No. 8