LOG NO:	MAR 0 9 1993	RD.
ACTION.		
FILE NO:		· · · · · · · · · · · · · · · · · · ·

#### GEOLOGICAL REPORT

#### on the

PGR CLAIM GROUP

#### KAMLOOPS MINING DIVISION

NTS 92P/9W Lat. 50° 35'N Long. 120° 25'W

Author: R.C. Wells, B.Sc. F.G.A.C., Consulting Geologist Date: February 24, 1993

> GEOLOGICAL BRANCH ASSESSMENT REPORT

22.819

#### TABLE OF CONTENTS

CONC	LUSIONS AND RECOMMENDATIONS	4
1.0	INTRODUCTION	5
1.1	LOCATION AND ACCESS	5
1.2	TOPOGRAPHY AND VEGETATION	5
1.3	PROPERTY	7
1.4	EXPLORATION HISTORY	7
1.5	REGIONAL GEOLOGICAL SETTING	16
1.6	PROPERTY GEOLOGY	17
2.0	1992 WORK PROGRAM	19
2.1	METHODS	19
2.2	RESULTS	20
	(a) Southwest Area-Skarn Target (b) Eastern Area-Target 2 (c) Other Areas	20 21 22
3.0	REFERENCES	23
4.0	STATEMENT OF EXPENDITURES	24
5.0	STATEMENT OF QUALIFICATIONS	25

#### LIST OF FIGURES

			Following	Png	e
Figure :	L	LOCATION MAP		5	
Figure 2	2	PROPERTY MAP		7	
Figure 3	3	COMPILATION MAP (RAT RESOURCES)	t	12	
Figure 4		COMPILATION MAP (BP-SELCO) SILVER LAKE IP GRID	1	14	
Figure !		PROPERTY MAP WITH 1992 GRID AND ASSAY SAMPLES	Append	lix	3
Figure (	-	SOUTHWEST AREA: GRID AND SAMPLE LOCATIONS	Append	łix	3
Figure '		EASTERN AREA-TARGET 2: SAMPLE LOCATIONS	Append	dix	3

#### LIST OF TABLES

TABLE 1	PGR PROPERTY: CLAIM INFORMATION	9
TABLE 2	SUMMARY OF PREVIOUS EXPLORATION	10

#### APPENDICES

- APPENDIX 1 CERTIFICATES OF ANALYSIS
- APPENDIX 2 ROCK SAMPLE DESCRIPTIONS
- APPENDIX 3 LARGE FIGURES AND PLANS
- APPENDIX 4 STATEMENT OF WORK

#### CONCLUSIONS AND RECOMMENDATIONS

In 1992 exploration on the PGR property concentrated on two promising targets.

In the southwestern area, skarn mineralization with elevated gold and copper values is associated with strongly altered sediments and volcanics in contact with dioritic intrusive rocks. Roof pendants and inclusions of silicified volcanics in the diorite area to the north contain disseminated copper mineralization and local quartz veins with higher grade Cu, Ag (Au) mineralization.

In the Target 2, eastern area, significant Au, Ag, Mo, Cu, Pb and Zn values are associated with strong alteration zones in volcaniclastic rocks and local sediments. Limited previous diamond drilling in 1988 tested a very small part of the mineralized area. The northern area with strong k.feldspar alteration and quartz vein stockworks may represent the roof zone to a buried porphyry system.

Further exploration is strongly recommended for both areas. Grid coverage should be completed in the southwestern area. Target 2 requires a significant and integrated geological, geochemical, geophysical and diamond drilling program. The strong gold in soil anomalies of Target 1 (identified in 1991) were not examined in 1992 and require work.

#### INTRODUCTION

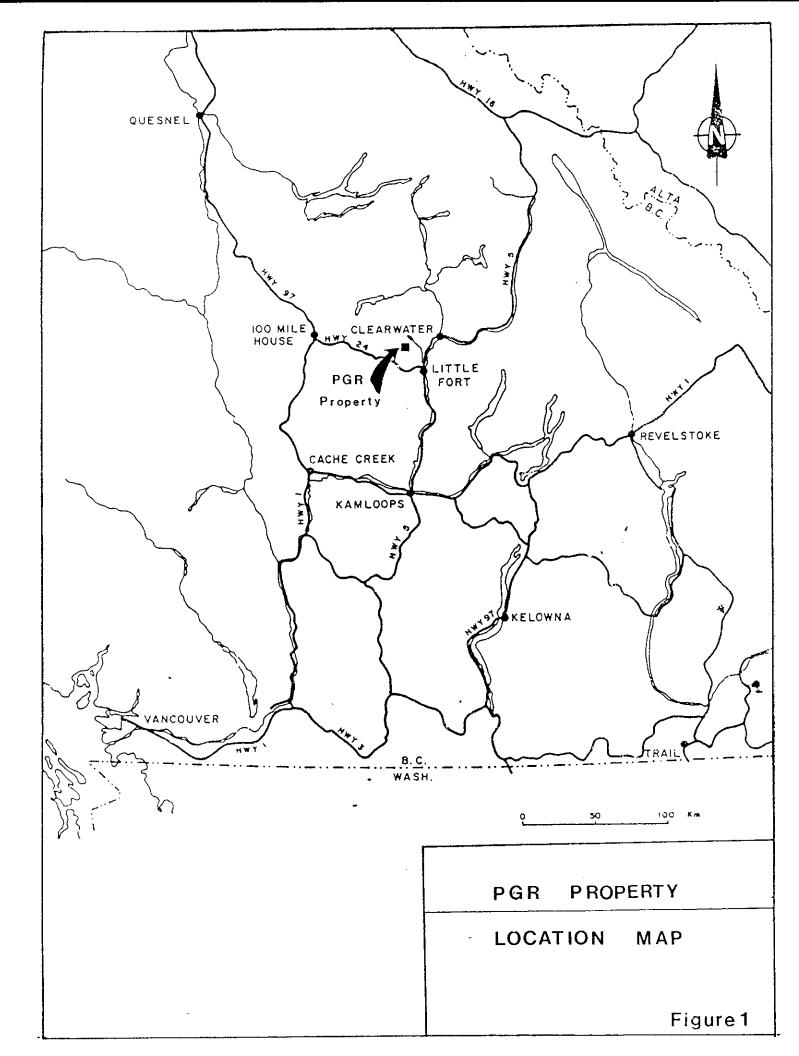
The PGR claim group is held by Paul Watt of Kamloops B.C. This is a short report on a prospecting, geological program conducted on the property in 1992 with a total cost of \$3,495.00. Kamloops Geological Services Ltd. of Kamloops and Paul Watt financed the 1992 work and supervision was by R.C. Wells, Consulting Geologist.

#### 1.1 LOCATION AND ACCESS

The PGR claim group (Figure 1) is located 22 kilometres northwest of Little Fort in the southwestern part of NTS map sheet 92P/9W. Lost Horse Lake lies in the northern part of the property. Access from Little Fort on the Jasper Highway (No.5) is west on Highway 24 for 19 kilometres then north on a logging road for 5 kilometres to Deer Lake. From the lake, the west fork is taken past Silver Lake and onto the property (1.7 km) then for 5 kilometres north past Lost Horse Lake to the north boundary. A network of old logging roads yields good access to much of the property.

#### 1.2 TOPOGRAPHY AND VEGETATION

The property lies within a gently undulating upland region with numerous lakes. Elevations are in the 1300 to 1600 m range. Fairly thick stands of spruce, fir and pine occur around the lakes in the northern claims. In the south and southeast large areas have been logged.



#### 1.3 PROPERTY

The PGR claim group consisted of 58 contiguous 2 post claims that cover an area of approximately 1450 hectares. All the claims lie within the Kamloops Mining Division and have P. Watt of Kamloops as the registered owner.

The claims are a partial restaking of the Ta Hoola 10, 11 and 12 (48 units) that came open in October 1990. These were part of a large group of claims collectively known as the Ta Hoola Property and held by SMDC (now Cameco).

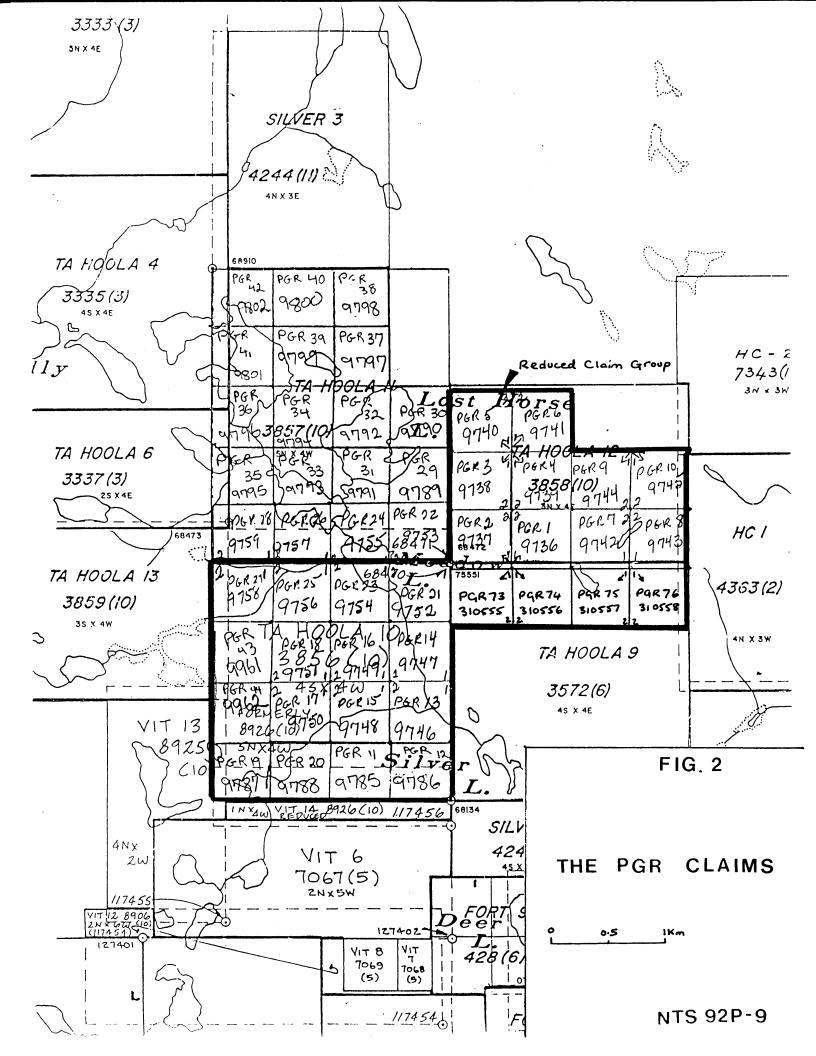
Limited time and financing in 1992 resulted in a reduced program on the property and consequently a number of units with less potential in the northwest area were allowed to come open. The present size of the claim group is 33 units for 825 hectares in area.

Details regarding the claims can be obtained from Table 1 and Figure 2.

#### 1.4 EXPLORATION HISTORY

The geology of the property area is highly favourable for a wide range of mineral deposits. This is strongly reflected by its long history of exploration and type of targets:

1. Before 1960 exploration was largely for base and precious metal, skarn/replacement deposits like Deer Lake associated with the margins of dioritic intrusive rocks.



CLAIM NAME	RECORD NO.	RECORDED DATE	CURRENT EXPIRY DATE
PGR 1	219658	Dec. 7, 1990	Dec. 7, 1993
PGR 2	219659	Dec. 7, 1990	Dec. 7, 1993
PGR 3	219660	Dec. 7, 1990	Dec. 7, 1993
PGR 4	219661	Dec. 7, 1990	Dec. 7, 1993
PGR 5	219662	Dec. 7, 1990	Dec. 7, 1993
PGR 6	219663	Dec. 7, 1990	Dec. 7, 1993
PGR 7	219664	Dec. 16, 1990	Dec. 16, 1993
PGR 8	219555	Dec. 16, 1990	Dec. 16, 1993
PGR 9	219666	Dec. 16, 1990	Dec. 16, 1993
PGR 10	219667	Dec. 16, 1990	Dec. 16, 1993
PGR 11	219707	Jan. 23, 1991	Jan. 23, 1994
PGR 12	219708	Jan. 23, 1991	Jan. 23, 1994
PGR 13	219668	Dec. 15, 1990	Dec. 15, 1993
PGR 14	219669	Dec. 15, 1990	Dec. 15, 1993
PGR 15	219670	Dec. 15, 1990	Dec. 15, 1993
PGR 16	219671	Dec. 15, 1990	Dec. 15, 1993
PGR 17	219672	Dec. 16, 1990	Dec. 16, 1993
PGR 18	219673	Dec. 16, 1990	Dec. 16, 1993
PGR 19	219709	Jan. 23, 1991	Jan. 23, 1994
PGR 20	219710	Jan. 23, 1991	Jan. 23, 1994
PGR 21	219674	Dec. 15, 1990	Dec. 15, 1993
PGR 22	219675	Dec. 15, 1990	Dec. 15, 1993
PGR 23	219676	Dec. 15, 1990	Dec. 15, 1993
PGR 25	219678	Dec. 15, 1990	Dec. 15, 1993
PGR 27	219680	Dec. 15, 1990	Dec. 15, 1993
PGR 29	219711	Jan. 24, 1991	Jan. 24, 1994
PGR 30	219712	Jan. 24, 1991	Jan. 24, 1994
PGR 43	219883	May 5, 1991	May 5, 1994

TABLE 1: PGR PROPERTY, CLAIM INFORMATION

CLAIM NAME	RECORD NO.	RECORDED DATE	CURRENT EXPIRY DATE
PGR 44	219884	May 5, 1991	May 5, 1994
PGR 73	31055	June 12, 1992	June 12, 1994
PGR 74	31056	June 12, 1992	June 12, 1994
PGR 75	31057	June 12, 1992	June 12, 1994
PGR 76	31058	June 12, 1992	June 12, 1994

#### TABLE 2 SUMMARY OF PREVIOUS EXPLORATION IN THE TA-HOOLA AREA (1965-1991)

COMPANY	PERIOD	GRID	GEOL.	SOIL GEOCHEM	MAG			OTHER	TRENCH.	PDH	DDH	AREA OR ZONE	TARGET STYLE
ANACONDA American Brass			XL	X Cu, Pb, Mo, Zn, Ag	x		x		x			Mainly TaHoola 4 11, 9, 12 Silver 1, 2	Porphyry Cu-Mo
											X	TaHoola 4	• •
IMPERIAL OIL .TO	1972-73	X	X	X Cu, Pb, Ho,								TaHoola 9, 12	• •
				Zn, Ag			X			x		TaHoola 2, 4	• •
BARRIER REEF RES.	1972-73	X	X	X	X	X	X					S and SW of Deer Lake	Porphyry, skarn
SHD MINING CO. LTD	1981-82	X	X	Hulti-Eieœ.	X	X	X	Litho	X Numzerous			TaHoola Group Several zones	Porphyry (alk) Cu-Au
LORNEX MINING CORP. LTD.										Vertical 33 holes 5 zones		PGR Property 10 holes Meadow Lake Zone (2 TaHoola 9, 12	Porphyry (alk) Cu-Au )
EP RESOURCES SELCO	1984-86												
	1984	λ	χ	hulti				Litho				TaHoola 9, 10, 11, 12 Silver 1, 2	Porphyry (alk) Cu-Au
	1985	X	x	Multi			X	Litho	31 Trenches Var. zones	3		Silver 3, 4 TaHoola HC	
AT RESOURCES	1987-89												
	1987										3	TaHoola 4	Alteration/vein hosted Au, Ag, Cu, Pb, Zn
	1988	X		Hulti							4	Neadow Lake TaHoola 9, 12	
	1989	X	X						3 Trenches			Meadow Lake TaHoola 9, 12	
Püř	1990											Rostaking TaHoola 10, 11, 12	Porph. skarn, vein

.

- 2. 1960 to 1975 Largely for Cu-Mo porphyry deposits mainly by Anaconda and Imperial Oil.
- 1975 to 1985 Alkalic Cu-Au porphyry deposits were the main target with auriferous structurally controlled alteration zones a distant second. SMD Mining, BP-Selco and Lornex.
- 4. 1987 to 1989 Structurally controlled auriferous alteration zones and veins by Rat Resources Ltd on a limited budget.

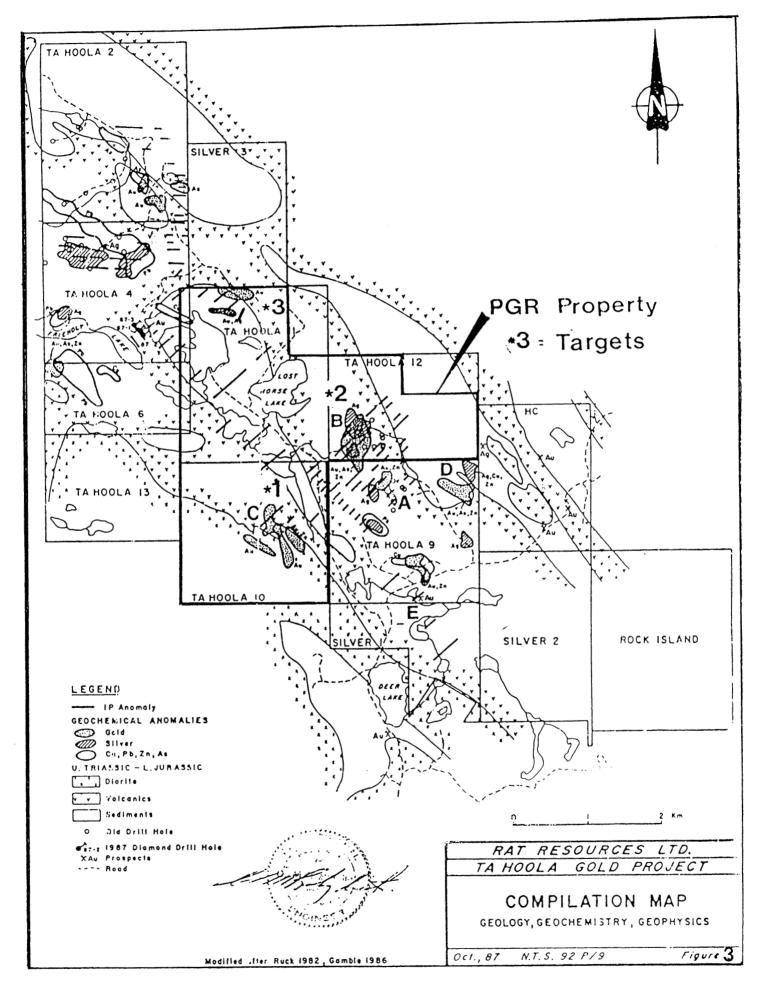
Table 2 gives a summary of previous exploration in the Ta Hoola area (1965 to 1991). Figures 3 and 4 are compilation maps for the property area and are based on exploration data generated between 1980 and 1987 (SMD, BP-Selco, Rat). These compilations by the property owners indicated a number of target areas with high potential that were judged to have received insufficient development and testing. Two of these target areas are relevant to the 1992 exploration program and are:

#### 1) TARGET 1

This lies in the southern part of the property. It consists of an area 1.5 km long by 0.75 km wide with numerous gold in soil anomalies covering the contact between a large dioritic intrusion and andesitic tuffs, schists (Figure 3). The geological setting is considered to have excellent potential for precious metal skarns, replacement deposits. The Deer Lake Cu-Au skarn replacement occurs in a similar geological environment 3 kilometres to the southeast (same dioritic intrusives).

The Target 1 area lies at the edge of the BP-Selco Silver Lake Grid (Figure 4) and received limited and patchy geological, geochemical and geophysical coverage. Soils were taken at 400m X 100m density with some fill-in at 100m X 50m. Numerous anomalous gold values greater than 50 ppb were produced including some up to 6 gt (that were reproduced during resampling). Some overlap occurs with arsenic in soil anomalies (Figure 4).





No further work has been conducted in this target area since the BP-Selco program. Geological mapping combined with magnetic and detailed soil surveys over the diorite contact zone could quickly define drill targets.

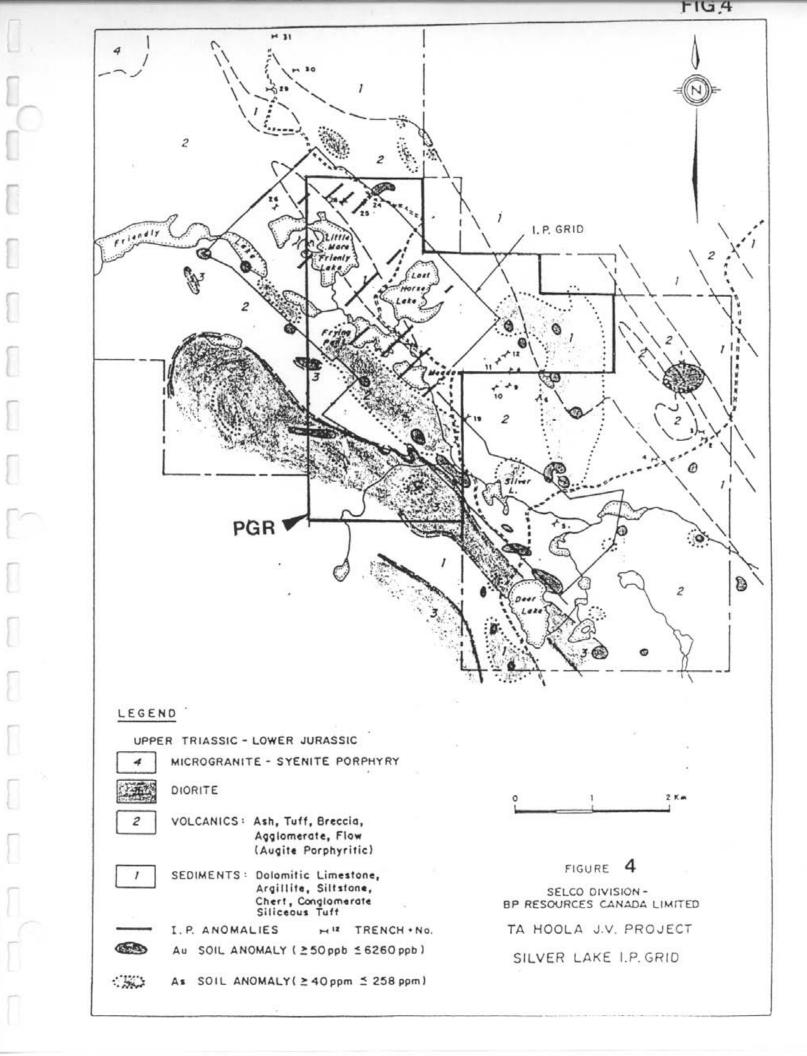
#### 2) TARGET 2

This is an area 700m X 400m with multi-element (Au, Zn, Pb, Ag) soil anomalies that coincide in part with broad I.P. chargeability anomalies (Figure 3 and 4). Outcrops are sparse in the area and consist predominantly of andesitic flows according to SMDC mapping.

In 1983 Lornex drilled 10 fairly widely spaced (100m) and vertical percussion holes on the northern part of the anomaly (IP geochemical targets). These holes often do not appear to have tested the better parts of SMDC's IP anomalies. Anomalous gold values greater than 100 ppb occur in many of the holes, with TA PDH #83-1 (118 feet) returning an average of 254 ppb Au, 5 g/t Ag over its entire length.

In 1988 Rat Resources Ltd (C.M. Rebagliati Consulting) drilled 3 holes across an IP anomaly 60 metres northeast of PDH 1 (Lornex). The IP anomaly coincided with anomalous Au-As-Cu-Pb-Zn in soils. Drilling intersected a southwesterly dipping sequence of siltstone, andesitic volcaniclastics and flows with narrow feldspar porphyry dykes. Hole 88-4 encountered a 4.61m wide quartzcarbonate vein from which 1.4m ran 0.62 gt Au, and 0.18% Zn. Another 1m wide vein in hole 88-5 ran 1.07 gt Au and 40 gt Ag. 800m to the south, a hole drilled by Rat Resources on the Ta Hoola 9 claim (same geochemical anomaly) returned 4.29 gt Au from a quartz carbonate vein 3.10 m wide.

Much of the central part of the multi element soil and IP anomaly remains basically untested. Potential exists for structurally controlled auriferous veins and stockworks. The presence of feldspar porphyry dykes in the 1988 drilling also indicates some potential for a buried porphyry system.



1

[

1

1

[

0

0

[

1

[

[

The <u>1991 exploration program</u> on the PGR property consisted of prospecting, examination of 1988 drill core and a preliminary geological examination including petrographic work.

Prospecting southwest of the Target 1 area identified a possible continuation of the Deer Lake skarn zone on the PGR 19 and 21 claims. This resulted in the staking of PGR 43 and 44 to the north.

Prospecting west of the Target 2 area identified concentrations of quartz and carbonate breccia float with significant pyrite and strong k. feldspar alteration (flooding). This suggested potential for a porphyry environment in the area. Examination of the core from the 1988 Rat Resources drilling in the northern part of the Target 2 area revealed the presence of polymetallic (Au, Ag, Pb, Zn) guartz carbonate veins in a mixed sequence of tuffs and sediments. The presence of elevated gold values in the 40 to 200 ppb range throughout Hole Ta 88-5 could not be explained by alteration or veining.

#### 1.5 REGIONAL GEOLOGICAL SETTING

The Ta Hoola property is situated within the Quesnel Trough, a 2000 km long northwesterly-trending belt consisting of Upper Triassic-Lower Jurassic volcanic rocks, derived sedimentary rocks and intrusives. The belt is characterized by a volcanic core of Triassic subaqueous andesite pyroxene porphyritic flows, tuffs and breccias. Interbedded with the volcanics are calcareous argillite, siltstone, siliceous cherty sediments and limestone. On the eastern and western margins of the volcanic core is an overlying and flanking sequence of Lower Jurassic pyroxene prophyritic volcaniclastic breccias with proximal to distal epiclastic sediments consisting of conglomerate, greywacke and argillite. To the extreme east are fine clastic sediments, consisting of a siltstone, shale and argillite assemblage, which appear to form the base of the Triassic sequence.

Regional mapping indicates that the property area is underlain by Nicola Group alkaline volcanic and sedimentary rocks intruded by numerous comagnatic diorite to syenite stocks (Preto 1970, Campbell and Tipper, 1971). The Ta Hoola claim block lies within an area of intense block faulting, formed where the North Thompson fault bifurcates into a multitude of northwesterly trending splays.

#### 1.6 PROPERTY GEOLOGY

The Ta Hoola property overlies the central Triassic volcanic core of the Nicola Group, which is flanked on the east by a sequence of interbedded Lower to Mid-Jurassic pyroxene porphyritic pyroclastics and distal epiclastic sediments (Figures 3 and 4). To the west, a large diorite pluton and a series of smaller satellitic plugs intrude the volcanic assemblage. Block faulting has disrupted the stratigraphy, which has been rotated into a near-vertical attitude.

Three main bands of pyroxene lapilli tuff-agglomerate trend northwesterly across the claims. These rocks are medium to dark green, massive and medium to coarse-grained pyroclastics. Fragment sizes vary from 1 cm to 20 cm and are comprised of subangular to subrounded porphyritic augite andesite. Clasts are supported by a matrix of fine-grained ash tuff. Subordinate units of andesite flows and feldspar crystal tuffs are interbedded with the pyroxene porphyritic units. Pyrite occurs in minor concentrations as widely-spaced disseminated grains.

The epiclastic sediments interbedded with and flanking the volcanic units comprise siltstone, argillite, chert, greywacke and conglomerate. Siltstone predominates. Pyrite is sparse, occurring as disseminated grains, but reached .5% to 10% in light grey bands as heavy disseminations with interstitial carbonate. Subordinate very-fine-grained, massive, black, carbonaceous argillite is occasionally interbedded with the siltstone. Disseminated pyrite is ubiquitous and commonly comprises up to 5% of the rock.

A large fine to medium-grain diorite stock comprised of 20% mafics, 75% plagioclase and 5% quartz lies along the western side of the claims. East of Deer Lake, the intrusive is a homblende-diorite.

At the boundary between the Ta Hoola 10 and Ta Hoola 13 claims, a diorite breccia has formed as a contact phase along the margin of the main diorite pluton. It contains angular diorite fragments to 10 cm in size, which are supported in a diorite matrix. Epidote-chlorite-quartz veins are present. The pyrite content is less than 1%.

Numerous northwest and northeast-trending faults traverse the property. Their traces are marked by the alignment of lake chains and a rectangular stream drainage pattern.

Carbonate alteration is widespread on the property. Narrow, randomly oriented, calcite stringers and grain aggregates are common in all units. They are generally sulphide free and barren. Veinlet density increases in the fractured rocks adjacent to many of the major structures.

#### 1992 WORK PROGRAM

Exploration on the PGR property in 1992 was funded by Kamloops Geological Services Ltd and the owner. This work took place in July, October and November 1992. Much of the fieldwork was by P. Watt and due to heavy snowfall had to be terminated early in November. The work that was completed consisted of three main elements:

- 1. Three days grid preparation in the southwestern part of the property along the favourable Deer Lake skarn trend
- 2. Prospecting and rock sampling in the new grid and Target 2 areas. A number of new logging roads in the eastern (Target 2) area were prospected and tied in.
- 3. Examination and geological description of all samples collected during the above surveys.

#### 2.1 METHODS

(a) Grid Preparation

A grid consisting of 100m spaced, northeast trending survey control lines was proposed to cover a 1 km strike length of the favourable stratigraphy and dioritic intrusive rocks (Figures 5 and 7). Grid preparation began in late October and unfortunately had to be terminated well before completion due to heavy snow. In three working days part of the Base Line and Lines 8+00N and 9+00N were completed. The lines were chained and flagged with slope corrected stations at 25m intervals, no cutting was involved.

#### (b) Prospecting and Sampling

A total of 36 rock samples were collected by prospector Paul Watt in July and October 1992, with single days spent in the southwest and Target 1 areas. The samples were taken from mineralized bedrock or float and located on 1:10,000 scale base maps derived from those in the 1986 report for B.P. Selco (by A.P.D. Gamble). The locations of a few new logging roads in the eastern area were added to the map (Figure 5). Sample locations are shown on Figures 5, 6 and 7.

Ten rock samples were taken from the southwestern area, seven of these were selected for analyses. Twenty-six rock samples were taken from the Target 1 area and to the east. Seven of these went for analyses. Fourteen samples in total were sent to Eco Tech Laboratories Ltd in Kamloops and analysed for 30 element by ICP and gold geochemically. High values in a number of samples required further assays for Au, Ag, Pb and Cu. Laboratory certificates for all these samples are available in Appendix 1.

(c) Sample Description

All samples taken during the 1992 surveys were transported back to Kamloops. Each sample was cut on a lapidary saw and one half stained for k. feldspar identification. Other tests included HCl for carbonates and magnetism. Complete sample description are available in Appendix 2. This laboratory and descriptive work was by R.C. Wells, Consulting Geologist.

#### 2.2 RESULTS

#### (a) Southwest Area - Skarn Target

Prospecting on the PGR 19 claim by P. Watt in 1991 discovered outcrops with magnetite skarn in strongly altered calcareous sediments (limestone) and volcanics proximal to dioritic intrusive rocks. New grid lines 8+00N and 9+00N crossed this area (Figure 6).

More detailed examination of the skarn area in 1992 revealed a northwest striking and north dipping sequence of crystal-lithic tuffs, silicified volcanics and sediments (Line 8+00N @5+00 to 6+00W). Magnetite replacement occurs in calcareous and narrow limestone units (local epidote-carbonate-magnetite skarn) on the north side of epidote altered and plagioclase porphyritic dioritic intrusives. The latter locally have secondary k. feldspar veinlets (Sample 9219), significant primary k. feldspar occurs in the crystal-lithic tuffs (Sample 9221). Quartz veins in the silicified volcanics and sediments contain significant pyrite with local chalcopyrite and molybdenite. Limited analyses from samples in the skarn area (22064 and 22065) produced elevated Au (to 125 ppb), Cu (to 171 ppm) and Mo (to 162 ppm) values. These were not vein samples.

A number of mineralized float samples were taken from the PGR 18 and 44 claims to the north (Figure 5 and 6). This area is largely underlain by dioritic intrusive rocks with roof pendants and inclusions of silicified volcanics. The latter commonly contain 5% or more disseminated and fracture controlled pyrite, minor chalcopyrite. These yielded copper values from 700 to 800 ppm with associated gold to 115 ppb. A quartz vein sample from PGR 44 returned 1030 ppb au, 2.16% Cu and 125 gt Ag. This sample contained significant fracture chalcopyrite and secondary malachite.

(b) Eastern Area - Target 2

This area in the eastern part of the claim group was defined as Target 2 in 1991 and earlier in this report. It is covered by the PGR 1, 2, 3, 4, 73 and 74 claims (Figures 5 and 7). Figure 7 is a more detailed sample location map.

Preliminary work in this area in 1991 indicated northwest striking volcanic and volcaniclastic rocks to the west and a mixed sequence of siltstones, cherts and volcanic sediments to the east. The contact between these two sequences basically follows the main valley floor. The polymetallic Au, Ag, As, Pb, and Zn soil geochemical anomalies lie over the volcanic sequence and received limited drill testing by Lornex in 1983 (percussion) and Rat Resources (diamond) in 1988. Many of the old trenches in the area rarely reached bedrock.

Very little outcrop occurs in the main Target 2 area in the north. Detailed prospecting and sampling by P. Watt in 1992 produced very interesting results. Large pieces of angular float occur in the northern area west of Rat Resources' Holes 88-5 and 88-6 (within the main area of Lornex percussion drilling). These consist of strongly brecciated k.feldspar altered volcanic with quartz vein stockworks and significant pyrite, galena, tetrahedrite, local molybdenite, sphalerite and chalcopyrite. This mineralization clearly has a source west of the Rat Resources holes. Samples 72058, 59 and 60 from this area produced values in the range: 760 to 2420 ppb Au, 19.4 to 73.0 gt Ag; Cu 336 to 1756 ppm; Mo 313 to429 ppm; Pb up to 0.26%; Zn and Sb up to 0.11.

Mineralized float containing similar metals continues for 900 metres to the southeast into the old trench area on PGR 74. These samples contain little secondary k.feldspar but are either strongly silicified or quartz-carbonate veined. Sample 22054 from trench 89A at the south end yielded 3940 ppb Au, 118.8 gt Ag and 0.18% Mo from quartz-carbonate vein material with galena and tetrahedrite.

It is interesting to note that between the two areas (Samples 9207,8 and 10) there are some outcrops of dark argillites with numerous fragments of pyritic volcanics. There is no mineralization other than the pyrite and local arsenopyrite. Sample 22061 to the south consisted of silicified pyritic volcaniclastic rocks with 295 ppb Au, 8.6 gt Ag, 188 ppm Cu, 195 ppm Mo, 492 ppm Pb and 662 ppm Zn.

The north and south areas of mineralized float and subcrop correlate well with the two main polymetallic soil geochemical anomalies A and B in Figure 3.

(c) Other Areas

Limited prospecting took place on the PGR 8 claim near the eastern boundary of the claim group (Figure 5). The geology in this area is northwest striking, bedded siltstones, sandstones and volcaniclastics with northerly trending, strong silicified structural zones. Sample 22062 from an old trench consisted of banded milky quartz vein material with disseminated chalcopyrite and local galena, tetrahedrite and sphalerite. Values include 310 ppb Au, 283.7 gt Ag, 0.22% Cu, 0.7% Zn and 925 ppm Sb.

#### 3.0 REFERENCES

- Campbell, R.B. and Tipper, H.W., 1971; Geology of Bonaparte Lake Map Area, British Columbia, G.S.C. Memoir 363
- Gamble, A.P.D., 1986; 1985 Summary Exploration Report, Geology, Geochemistry, Geophysics and Trenching on the Ta Hoola Project, Kamloops Mining Division.
- Hirst, P.E., 1966; Anaconda American Brass. Company correspondence.
- Preto, V.A.G., 1970; Geology of the area between Eakin Creek and Windy Mountain; in Geology, Exploration and Mining in British Columbia. B.C. Department of Mines and Petroleum Resources, pp 307-312
- Rebagliati, C.M., P.Eng. 1987; Assessment Report on the HC Gold Project, Kamloops Mining Division, for Lancer Resources Inc.
- Rebagliati, C.M., P.Eng. 1988; Assessment Report on the HC Project, Kamloops Mining Division, British Columbia for Lancer Resources Inc.
- Rebagliati, C.M., P.Eng. 1988; Assessment Report on the Ta Hoola Property, Kamloops Mining Division, British Columbia for Rat Resources Ltd.
- Ruck, P., 1982; 1982 Exploration Report, Geology, Geochemistry, Geophysics, Tahoola Project, Kamloops M.D.
- Serack, M.L., 1983; 1983 Percussion Drill Report on the Ta Hoola, RO and Silver Claims, Kamloops M.D., Lornex Mining Corporation.
- Wells, R.C., Evans, G.W., 1992; Geological and Prospecting Report on the PGR Claim Group. Assessment Report.
- B.C. Assessment Reports: 981, 1061, 1169, 1690, 4028, 4260, 4262, 4678, 4684, 5191, 10287, 10880, 11413, 12101, 15221.

#### STATEMENT OF EXPENDITURES

Grid Preparation (includes mapping in new logging roads) P. Watt 3 days @\$300 day Supplies Truck and Fuel - 3 days Sub total	900.00 50.00 <u>280.00</u> \$1,230.00
Geological Survey P. Watt sampling 2 days @\$200 day Assays Eco Tech Laboratories Kamloops R.C. Wells Consulting Geologist 1 day sample description Report writing and maps Sub total	400.00 329.03 350.00 <u>1000.00</u> \$2,265.03
Total cost 1991 program	\$3,495.00
Work required for assessment	\$3,300.00

24

#### 4.0

#### STATEMENT OF QUALIFICATIONS

I, RONALD C. WELLS of the City of Kamloops, British Columbia do hereby certify that:

- 1. I am a Fellow of the Geological Association of Canada.
- 2. I am a graduate of the University of Wales, U.K. B.Sc in Geology (1974), did post graduate (M.Sc) studies at Laurentian University, Sudbury, Ontario (1976-1977) in Geology.
- 3. That I am presently a consulting geologist residing in Kamloops, B.C.
- 4. That I have practised continuously as a geologist for more than fifteen years throughout Canada and have past experience and employment as a geologist in Europe. Ten years was spent as a Regional Geologist for major mining companies in Ontario, Quebec and British Columbia.

Signed and dated in Kamloops, British Columbia this <u>4</u> day of <u>Mareq</u> 1993.

K. .. Wel

#### 5.0

APPENDIX 1

CERTIFICATE OF ANALYSES

ECO-TECH LABORATORIES LTD. 10041 EAST TRANS CANADA HWY. KAMLOOPS, B.C. V2C 2J3 PHONE - 604-573-5700 FAX - 604-573-4557

#### VALUES IN PPM UNLESS OTHERWISE REPORTED

>30

PAUL WATT ETK 92-307 230 HOLLY AVE. KAMLOOPS, B.C. V2B 1M3

6 ROCK SAMPLES RECEIVED JULY 13, 1992

.08 20 61 10 <1

48 <5 <20 50

59

et <b>i</b>	DESCRIPTION AU			AL(%)	AS	-	BA					CR		FE(%)	• •		MG ( %)			NA(%)			PB	SB	SN		TI(%)		v		Y	-
1	- 22051		.8						2.81					4.79			2.12					1280			<20		<.01					
2	- 22052	95	2.4	.61	35	<2	45	<5	2.52	<1	9	35	986	5.47	.09	10	1.54	1710	15	.01	5	1370	48	15	<20	83	<.01	10	60	<10	4	90
3	- 22053	35	2.2	.37	45	4	60	<5	.06	<1	5	132	137	4.33	.20	10	.17	283	248	<.01	2	780	264	20	<20	15	<.01	10	26	<10	<1	185
4	- 22054	3940	>30	.08	210	28	15	<5	.16	6	20	186	826	3.17	<.01	<10	.05	120	1771	<.01	44	540	606	30	<20	13	<.01	10	43	<10	1	199
5	- 22055	1030	>30	.65	65	2	55	<5	.26	<1	16	92 3	>10000	14.57	.01	10	.33	326	29	<.01	2	<10	46	<5	<20	48	.08	20	58	10	<1	57
6	- 22056	115	9.8	.99	20	<2	265	<5	.44	<1	9	93	713	3.24	.07	<10	.70	268	53	.01	5	1350	12	<5	<20	46	<.01	<10	30	<10	4	38

QC DATA

JULY 29 , 1992

REPEAT #:

5 - 22055

NOTE: < = LESS THAN > = GREATER THAN

ECO-TECH FABORATORIES LTD. FRANK J. PEZZOTTI, A.Sc.T. B.C. Certified Assayer

.68 65 2 65 <5 .28 <1 17 96 >10000 14.97 .02 10 .35 339 27 <.01 4 <10

SC92/KAMMISC#2



### ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING 10041 East Trans Canada Hwy., Kamloops, B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

CERTIFICATE OF ASSAY ETK 92-307

PAUL WATT 230 HOLLY AVE. KAMLOOPS, B.C. V2B 1M3

SAMPLE IDENTIFICATION: 6 ROCK samples received JULY 13, 1992

ET#	Description	Ag (g/t)	Ag (oz/t)	Cu (%)	
4-	22054	118.80	3.47	_	
5-	22055	124.00	3.62	2.16	

ECO-TECH LABORATORIES LTD. FRANK J. PEZZOTTI, A.Sc.T. B.C. Certified Assayer

SC91/kmisc2

NOVE	MBER 19, 199	1	KAMLOOI PHONE -	PS, B.C - 604-5 604-5	• v2C	2J3 00										x.	AMLOOPS															
VALU	ES IN PPH UN	VLESS OTH	RWISE	REPORT	ED													ROCK : ROJECT		E RECEIV	TED N	ovembei	R 13, 1	992								
	DESCRIPTION			AL(%)	AS	B	BA	BI	CA(\$)	CD	00	CR	CU	FE(%)	K(%)	LA -	HG(∜)	NOT	ю	NA( <b>%</b> )	NI	P	PB	SB	SN	SR	TI(%)	U	۷	¥	Y	ŻN
1		>1000	8.6	.27	55	6	30	<5	.33	<1	15	73	215	5.70	.24	<10	.27	106	140	.02	14	1130	156	25	<20	33	.01	10	78	<10	2	73
2		>1000	>30	.15	75	8	30	<5	.58	5		215	605	3.54	.12	<10	.16	342		<.01	28	750		360		44	<.01	10	19	<10	3	340
3		>1000	19.4	.17	90	8	35	<5	.43	<1		132	336	4.83	.10	<10	.01	316		.02	18	960				39	<.01	10	17	<10	2	65
4 .		760	>30	.13	120	10	35	<5 <5	2.59	22		162 79	1756 188	4.17 5.81	.05 <.01	<10 <10	.41 1.86	455 1256		.01 .03	31 65	950 1170	2566 492	1060 35	<20 <20	274 278	<.01 <.01	<10 <10	13 40	<10 <10	5	1076 662
5 · 6 ·	- 22061 - 22062	295 310	8.6 >30			6 <2	35 30	<5 <5		18 144	27 14	79 362	188	3.44	<.01 <.01	<10	1.26	2031		.03 <.01	67		492 10000			141	<.01 <.01	<10	40 21	<10 <10	1	662 6977
-	- 22063		16.2		210	2	70	<5	1.90		115		3526	>15	.26	<10	.50	293	7	.02	58	360	1276		<20	66	.08	30	60	<10	10	68
	- 22064	125	1.4	.35	65	4	80	<5	. 37	<1			171		.01	<10	.16	283	162	<.01	4	270	92	<5	<20	37	.02	10	11	<10	<1	120
9	- 22065	75	1.4	.73	85	2	75	10	9.75	<1	49	44	57	>15	.01	<10	.30	1103	3	<.01	6	190	48	<5	<20	20	.02	20	42	<10	8	41
QC/D.	ATA																															
REPE	AT #:																															
1	- 22057		6.4	.31	65	10	35	<5	.44	<1	19	88	248	6.83	.28	<10	.31	133	169	.03	15	1410	174	30	<20	38	.01	10	93	<10	2	91
STAN	DARD 1991		1.6	2.02	55	4	140	<5	2.01	<1	22	73	89	4.36	.40	<10	1.06	786	1	.01	25	730	30	10	<20	71	.13	<10	85	<10	15	79

and the second second

PAUL WATT ETK 92-617

230 HOLLY AVENUE

į

.

 $\boldsymbol{v} \leftarrow \boldsymbol{v}$ 

NOTE: < - LESS THAN

CC: RON WELLS, PLACER DOME

ECO-TECH LABORATORIES LTD.

10041 BAST TRANS CANADA HWY.

ECO-TECH LABORATORIES LTD.

ECO-TECH LABORATORIES LID. FRANK J. PESZOTTI, A.Sc.T. B.C. Certified Assayer

BC92/KAHMISC#2

•



## ECO-TECH LABORATORIES LTD.

ASSAYING - ENVIRONMENTAL TESTING 10041 East Trans Canada Hwy. Kamloops. B.C. V2C 2J3 (604) 573-5700 Fax 573-4557

NOVEMBER 23, 1992

CERTIFICATE OF ASSAY ETK 92-617

PAUL WATT 230 HOLLY AVENUE KAMLOOPS, B.C. V2B 1M3

SAMPLE IDENTIFICATION: 9 ROCK sample received NOVEMBER 13, 1992 ------ PROJECT #:PGR

$\sim$

~ ET#	Description	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)	Pb (%)
1-	22057	1.33	.039	-	-	-
2-	22058	2.42	.071	73.2	2.14	-
3-	22059	1.02	.030	-	-	-
4-	22060	-	_	56.3	1.64	1.26
6-	22062	-	-	283.7	8.27	-

ECO-TECH LABORATORIES LTD. FRANK J. PEZZOTTI, A.Sc.T. B.C. Certified Assayer

SC92/KMISC#2

cc: RON WELLS, PLACER DOME

.

APPENDIX 2

ROCK SAMPLE DESCRIPTIONS

#### PGR PROPERTY - ROCK SAMPLE DESCRIPTIONS

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION	MAGNETIC
9201	Float	Light grey, moderately brecciated, fine grained rock possibly volcanic. Strong pervasive k.feldspar alteration, brecciated with later quartz veining. Fine disseminated pyrite, slightly coarser fracture controlled and vein pyrite. Total pyrite 2 to 3%. Minor chalcopyrite? Strong alteration obscures original textures.	No
9202	Float	Light brown, moderate to strongly brecciated, fine grained volcanic. Early pervasive k.feldspar alteration, quartz veining and siliceous overprint followed by late brecciation. Sparse disseminated pyrite <1%.	No
9203	Float	Very similar to above except the siliceous overprint is much stronger leaving small remnants of original k.feldspar alteration. Pervasive silicification rather than quartz veining. Sparse pyrite.	Na
9204	Float	As above, pervasive strong silicification no k. feldspar. Weak pervasive carbonate alteration and veins. 2% fine to medium grained disseminated pyrite.	No
9205	Float	Light grey, moderate to strong pervasive k. feldspar alteration obscuring original textures. Local carbonate veinlets. 3 to 5% fine disseminated and coarser blebby fracture controlled pyrite.	No
9206	Float	Coarse lapilli tuff, breccia. Light grey subangular to subrounded silicified volcanic fragments, up to several centimetres long 1-3% disseminated pyrite in a darker grey ash matrix without pyrite. The volcanic fragments are matrix supported and there is a strong suggestion of minor reworking. Best described as a coarse, matrix supported lapilli tuff.	No
9207	Subcrop	Dark argillite with subangular to rounded volcanic fragments many of which are silicified and strongly pyritic. Some altered augite-feldspar porphyry fragments which also contain significant pyrite. Fragments are poorly sorted and range from a few millimetres to several centimetres. The fragments are supported by a matrix which is dark grey to black locally ashy argillite, siltstone. Very little pyrite occurs in the sedimentary matrix.	No

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION	MAGNETIC
9208	Subcrop	Pyritic tuff. Light to medium grey. Weakly silicified with gritty texture, some crystals, local larger volcanic fragments to 4mm. 5-7% medium grained subhedral pyrite. May be reworked and epiclastic.	No
9209	Subcrop	Strongly k.feldspar altered augite porphyry. Chlorite altered subhedral to euhedral augite phenocrysts to 3mm in a fine grained k.feldspar altered groundmass. Numerous fine chloritic veinlets with local carbonate. Coarser k.feldspar rectilinear veinlets.	Weak
9210	Subcrop	Medium grey, very fine grained siltstone, argillite. Local weak bedding sparse pyrite. Local fine carbonate veinlets and patches.	No
9211	Float	Moderately brecciated ash tuff. Fine grained, moderate pervasive k.feldspar alteration of ash tuff. Fractures are commonly silicified or chloritic with local medium to coarse grained aggregates of pyrites.	No
9212	Subcrop	Similar to 9210 medium to dark grey argillite, siltstone, local fine bedding. Weakly brecciated. Very weak k.feldspar alteration, 1% fracture controlled fine to medium grained pyrite. Rare patches of fine carbonate.	No
9213	Outcrop	Weakly brecciated milky quartz vein material. Some fractures are chloritic with patchy medium grained pyrite, local galena. Others contain some fine k.feldspar. Quartz is locally vuggy. Patchy carbonate.	No
9214	Outcrop	Grey, bedded fine limestone. Metamorphosed, coarser units are converted to mottled white and pinkish coloured marble.	No
9215	Outcrop	Grey siltstone-greywacke sandstone. Massive weak very fine grained k.feldspar throughout. Very sparse pyrite. Local carbonate veinlets.	No
9216	Float	Brecciated fine grained siliceous rock with strong k.feldspar altered matrix. 1% patchy disseminated, fine grained pyrite. Locally	No
9217	Subcrop	Medium to coarse grained, aphitic textured diorite. Chlorite altered mafic minerals. Sparse medium to coarse grained, disseminated pyrite. Local chloritic veins.	No
9218	Subcrop	Medium brown, fine grained, very strong pervasive k.feldspar alteration. Fine carbonate veinlets. Sparse pyrite.	No

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION	MAGNETIC
9219	Subcrop?	Dark grey green, crowded plagioclase porphyry (diorite?) with saussuritized phenocrysts 1 to 2mm, tabular. Numerous fine epidote carbonate veinlets. Patchy veinlet controlled k.feldspar alteration (overprint). Sparse pyrite.	Moderate
9220	Outcrop	Light greenish grey, strongly silicified, fine grained volcanic?	No
9221	Outcrop	Light grey fine crystal-lithic tuff numerous k.feldspar crystals. Green volcanic fragments up to 3mm generally angular. 5% fine to medium grained disseminated and fracture pyrite. Late k.feldspar veinlets.	No
9222	Outcrop	Strongly oxidized fractured milky quartz vein material with up to 5% medium grained fracture controlled pyrite. Local 1mm flakes of molybdenum. Minor chalcopyrite.	No
9223	Float	Medium grained strongly carbonated diorite? with 3 to 4% disseminated medium to coarse grained pyrite. Original textures are largely obscured.	No
9224	Float	Fine grained amygdaloidal volcanic. Chloritic and carbonate amygdales to 3mm. Pervasive k.feldspar in groundmass, pervasive weak carbonate. Irregular quartz and carbonate veins and veinlets. 2-5% fine to medium grained disseminated pyrite.	Na
9225	Float	Light grey finely bedded siltstone and argillite. Bedding shows microfolding. Sparse pyrite.	No
9228	Float	Vuggy quartz carbonate veining, sparse fracture pyrite.	No
9229	Subcrop	Minor carbonate and green mica. 3-5% disseminated, patchy fine grained pyrite.	No
9230	Subcrop	Massive white to grey silicification with carbonate. 1- 3% very fine disseminated pyrite. Locally can observe vein stockworks.	No
9231	Suberop	Medium brownish green, k.feldspar altered with numerous fine carbonate veins. 1% fine to medium grained pyrite generally associated with veins.	No
9232	Float	Strong carbonate alteration, 2% fine to medium grained disseminated pyrite.	Na
9233	Float	Coarse augite porphyritic basalt. Augite phenocrysts, subhedral up to 3mm, fine groundmass. Rare pyrite.	Weak

#### PGR PROPERTY

## DESCRIPTIONS OF ROCK SAMPLES SENT FOR GEOCHEMICAL ANALYSES

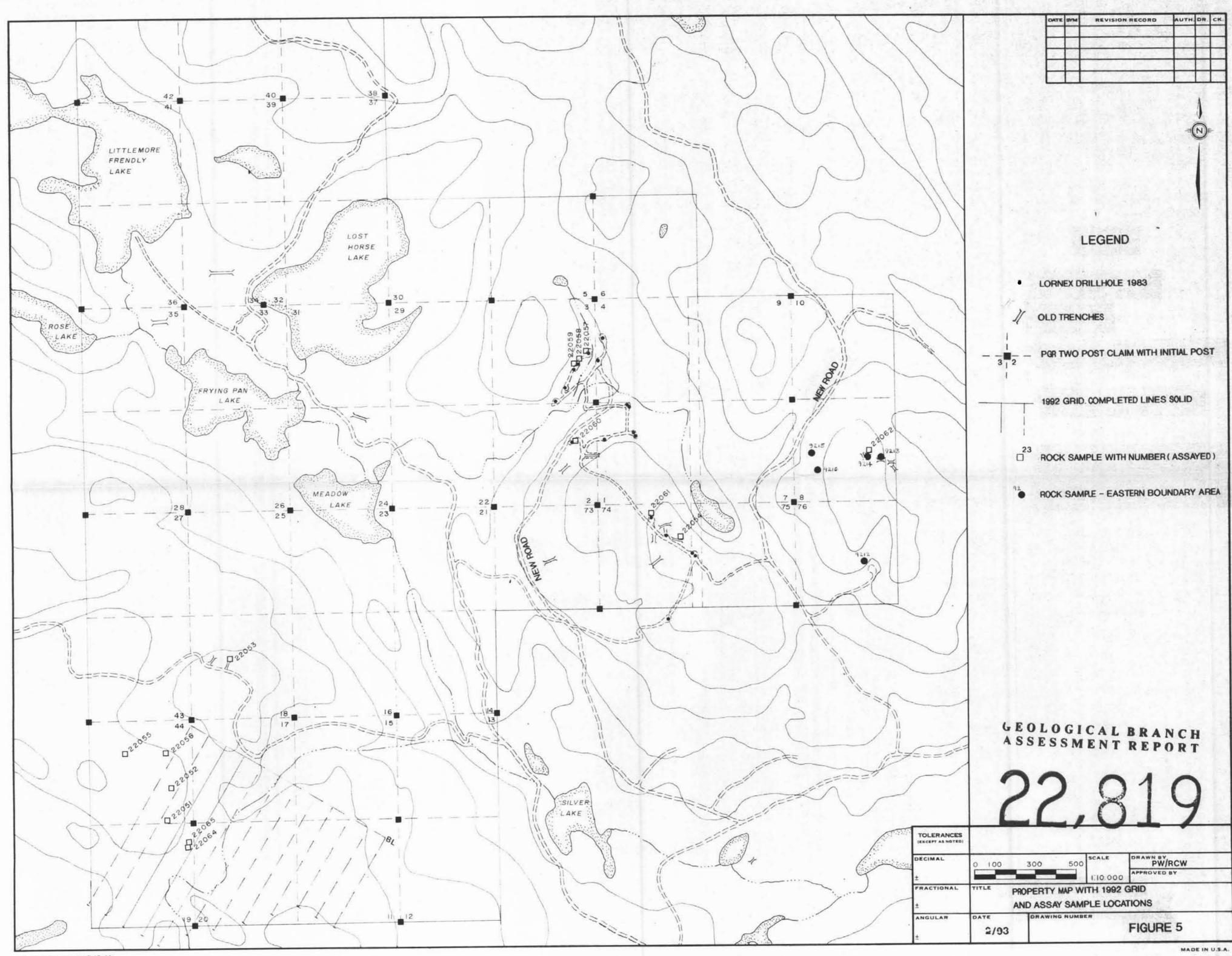
SAMPLE NO.			MAGNETIC
22051	Float	Strongly silicified volcanic or diorite, textures largely obscured. 1-2% disseminated pyrite, minor chalcopyrite, Au 5 ppb, Cu 850 ppm	
22052	Float	Light grey strongly silicified volcanic or finer diorite. Remnant plagioclase laths to 2mm, fine groundmass. Local fine fractures with 1-2% fine pyrite minor chalcopyrite. Au 95 ppb, Cu 986 ppm.	
22053	From old trench	Weakly brecciated and vuggy milky quartz vein material, local crystal to 4mm. Minor disseminated or fracture pyrite.	No
22054	From old trench, subcrop	Oxidized quartz with carbonate, vein material plus altered wallrock. Disseminated pyrite, possibly fine flakes of molybdenum or galena. Patches of fine tetrahedrite, Au 3940 ppb, Ag 118,8 gt, Cu 826 ppm, Mo 1771 ppm, Pb 606 ppm	No
22055	Float	Hematitic and fractured milky quartz with much malachite staining. 1-4% fracture controlled pyrite, chalcopyrite.	No
22056	Float	All samples sent for analysis. Silicified with disseminated pyrite, minor chalcopyrite. Some milky quartz. Au 115 ppb, Cu 713 ppm	No
22057	Float	Pervasive strong silicification, strongly oxidized fractures. 3% very fine disseminated pyrite. Au 1330 ppb, Ag 8.6 ppm, Cu 215 ppm, Mo 140 ppm	No
22058	Float	Brecciated brown, fine grained, pervasively k. feldspar altered rock. Numerous angular fragments in a milky quartz vein matrix - quartz stockwork. Minor disseminated fine pyrite, tetrahedrite.	
22059	Float	Grey, strong pervasive k. feldspar alteration of a fine grained rock (volcanic?). Brecciated with vuggy milky quartz veining, local carbonate. Patchy coarse pyrite in quartz veins possible tetrahedrite. Au 1020 ppb, Ag 19.4 ppm, Cu 336 ppm, Mo 313 ppm.	No
22060	Float	Similar to 22058, granular quartz breccia matrix rather than distinct veins, local carbonated. Some malachite staining, disseminated chalcopyrite, possible fine tetrahedrite. Coarse galena. Fine pyrite, strong k. feldspar alteration of fragments.	No

SAMPLE NO.	SAMPLE TYPE	DESCRIPTION	MAGNETIC
22061	Float	Medium to dark grey, fine grained silicified and fine quartz veined sediment. 3 to 5% fine grained disseminated and fracture controlled pyrite. Au 295 ppb, Ag 8.6 ppm, Cu 188 ppm, Mo 195 ppm, Pb 492 ppm. Zn 662 ppm	No
22062	Trench outcrop	Banded milky quarts vein with local medium grained disseminated chalcopyrite. Local bands of disseminated fine to medium grained galena, some tetrahedrite? sphalerite. Au 310 ppb, Ag 283.7 gt, Cu 2182 ppm, Mo 102 ppm, Sb 925 ppm, Zn 6977 ppm.	No
22064	Outcrop	Strongly oxidized and fractured, fine grained siliceous rock. Up to 10% pyrite in clusters, medium to coarse grained. Au 125 ppm, Cu 171 ppm, Mo 162 ppm	No
22065	Outcrop	Medium green epidote-carbonate skarn with medium grained magnetite. 5 to 8% coarse vein and disseminated pyrite. Massive with local pyrite filled fractures . Au 75 ppb, Cu 57 ppm.	Strong

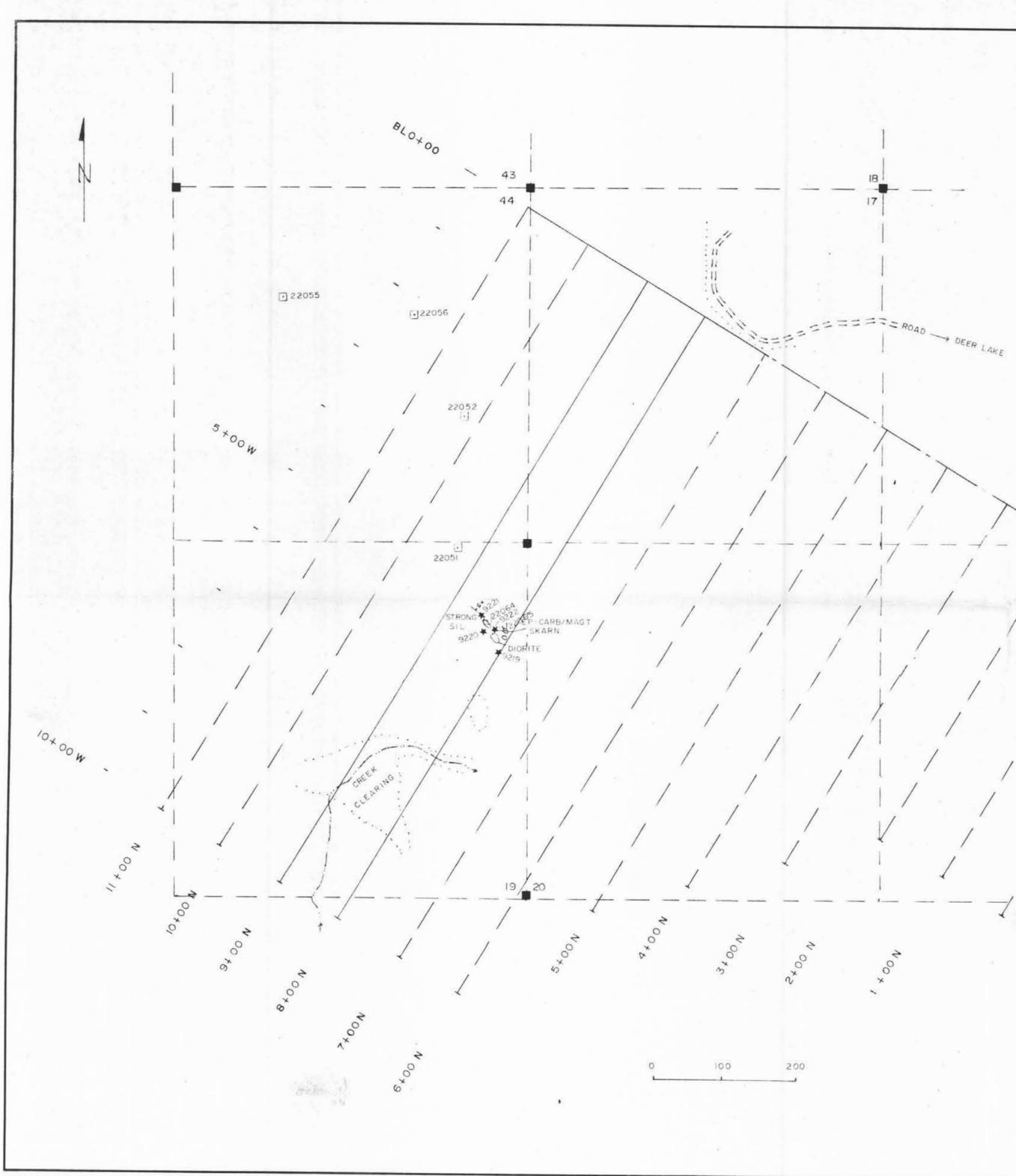
,

APPENDIX 3

LARGE FIGURES AND PLANS



KE CRYSTALENE & 17x22 ENGINEERS' STANDARD FORM



DATE	SYM	REVISION RECORD	AUTH.	DR.	CK
				100	1
				1.2	
			1	1	-
		and the second sec	-		-
-			+ -	10	
		12			1

# LEGEND



2 2 2 **2** 2

1

•

1992 Proposed grid, compled lines solid

PGR Claims with post locations

Outcrop

Clearing

Road

15 11

¥9217 ¥9218

Sample location (assayed) with number

Sample location with number

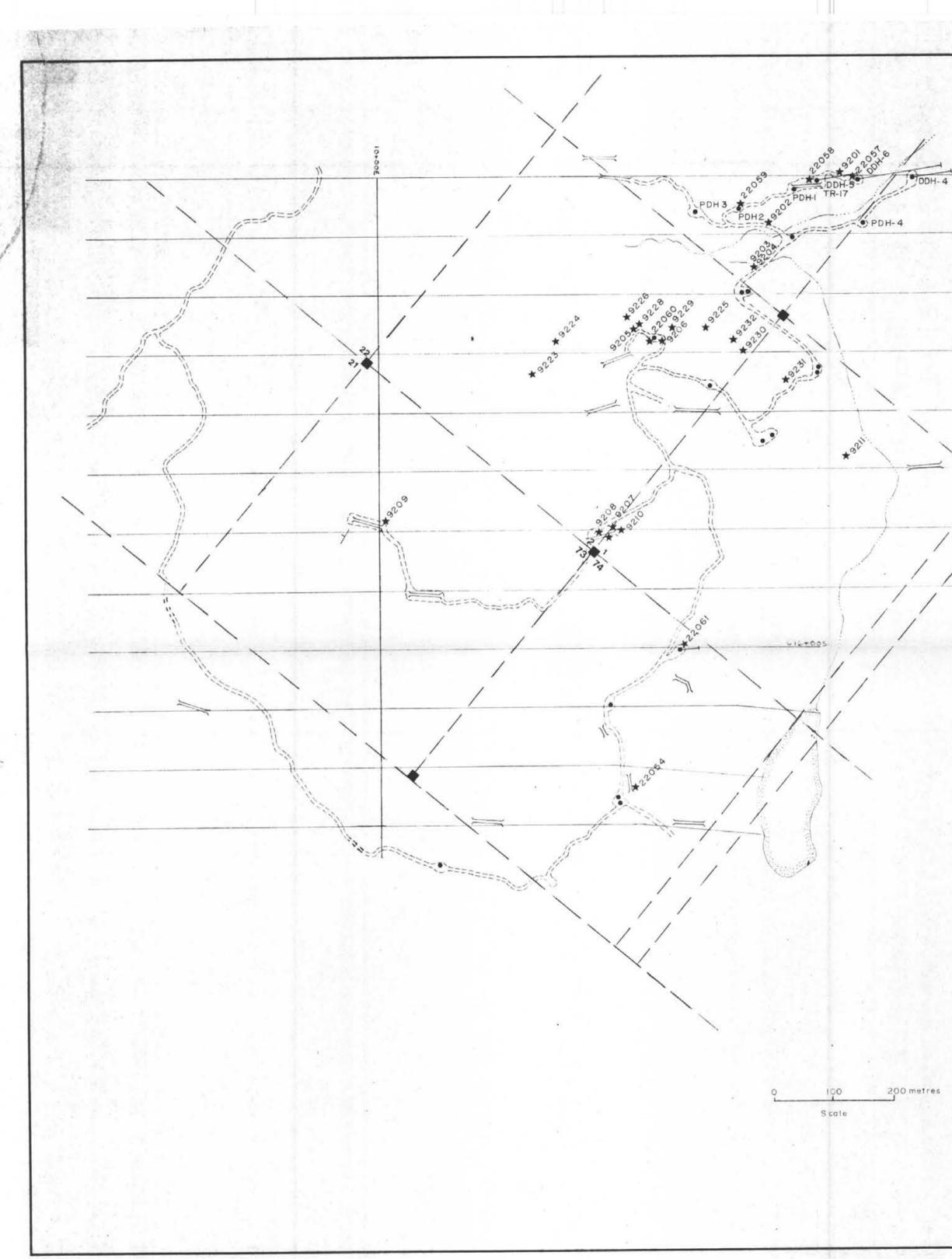
7BL AZ 300

# GEOLOGICAL BRANCH ASSESSMENT REPORT

22,819

TOLERANCES				
DECIMAL			SCALE	DRAWN BY
±				APPROVED BY
FRACTIONAL	TITLE SOUT	HWEST	AREA	
±	GRID AR	EA AND	SAMPLE	LOCATIONS
ANGULAR	3/93	FIGUR		

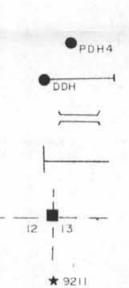
MADE IN U.S.A.



DATE	SYM	REVISION RECORD	AUTH.	DR.	CK
	5 8			62	
11.0			1000	12	2
51.05		and standard and	La Cal	1	1
			1.25		5.0
1.1		MARK PART	1.80	10	



## LEGEND



L8+005

1983 LORNEX PDH

1988 RAT Resources DDH

Old trench

L12+005

1984-85 BP/SELCO Grid (still useable)

PGR Claims with post locations

 
 TOLERANCES IEXCEPT AS HOTEDI

 DECIMAL

 ±

 PRACTIONAL

 TITLE EASTERN AREA - TARGET 2

 ±

 SAMPLE LOCATIONS

 ANGULAR

 3/93

 ±

Rock sample location with EOLOGICAL BRANCH ASSESSMENT REPORT

22,819