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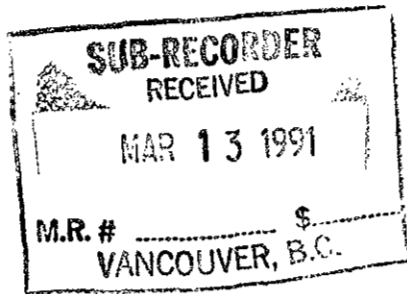
CHAMPION PROPERTY  
(reverted Crown Grant 423)

NTS 93H/4E

1990 Work Program  
Summary Report

*53° 01'*  
*(21° 30')*

P.M.D. Bradshaw  
March 1991



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

21,115

PAN ORVANA RESOURCES INC.  
710 - 1177 West Hastings Street, Vancouver, British Columbia, Canada V6E 2K3  
Telephone: 604 682 4929 Fax: 604 682 3888

## 1. INTRODUCTION

This report is a summary of exploration activity carried out by Pan Orvana Resources Inc. on the Champion claim (reverted Crown Grant 423) during June 1990 to December 1990.

Pan Orvana also holds under option (from Mosquito Consolidated Gold Mines) the Cariboo Gold Quartz property which adjoins the Champion ground on 3 sides (Fig.1) and the nearby Myrtle and Proserpine claims. The Cariboo property is the site of the old Cariboo Gold Quartz Mine which produced 620,000 oz Au underground, from a series of quartz veins. Pan Orvana is investigating the possibility of a bulk tonnage open pitable deposit on this property. Surface trenching and percussion drilling on part of one of the five zones mined underground has defined a proven/probable mining reserve of 380,000 t of 4.2 g/t Au with a strip ratio of 2:8:1 to a maximum mining depth of 60 m. The work completed to date has demonstrated the viability of the open pit concept. The reserves are open and a further phase of work has commenced to extend those known reserves. The Rainbow member, which is the host to the mineralization on the Cariboo property continues through the Myrtle and Proserpine claims. Although past exploration activity on these claims has focused on high grade quartz veins of the type previously mined at Cariboo Gold Quartz, Pan Orvana is concentrating their exploration effort on a bulk tonnage deposit. Work on the Cariboo Gold Quartz ground commenced 19 months before the work on Myrtle/Proserpine and Champion and the experience gained there has had a strong influence on the work program on these claims.

The work completed on the Champion claim to date has included:

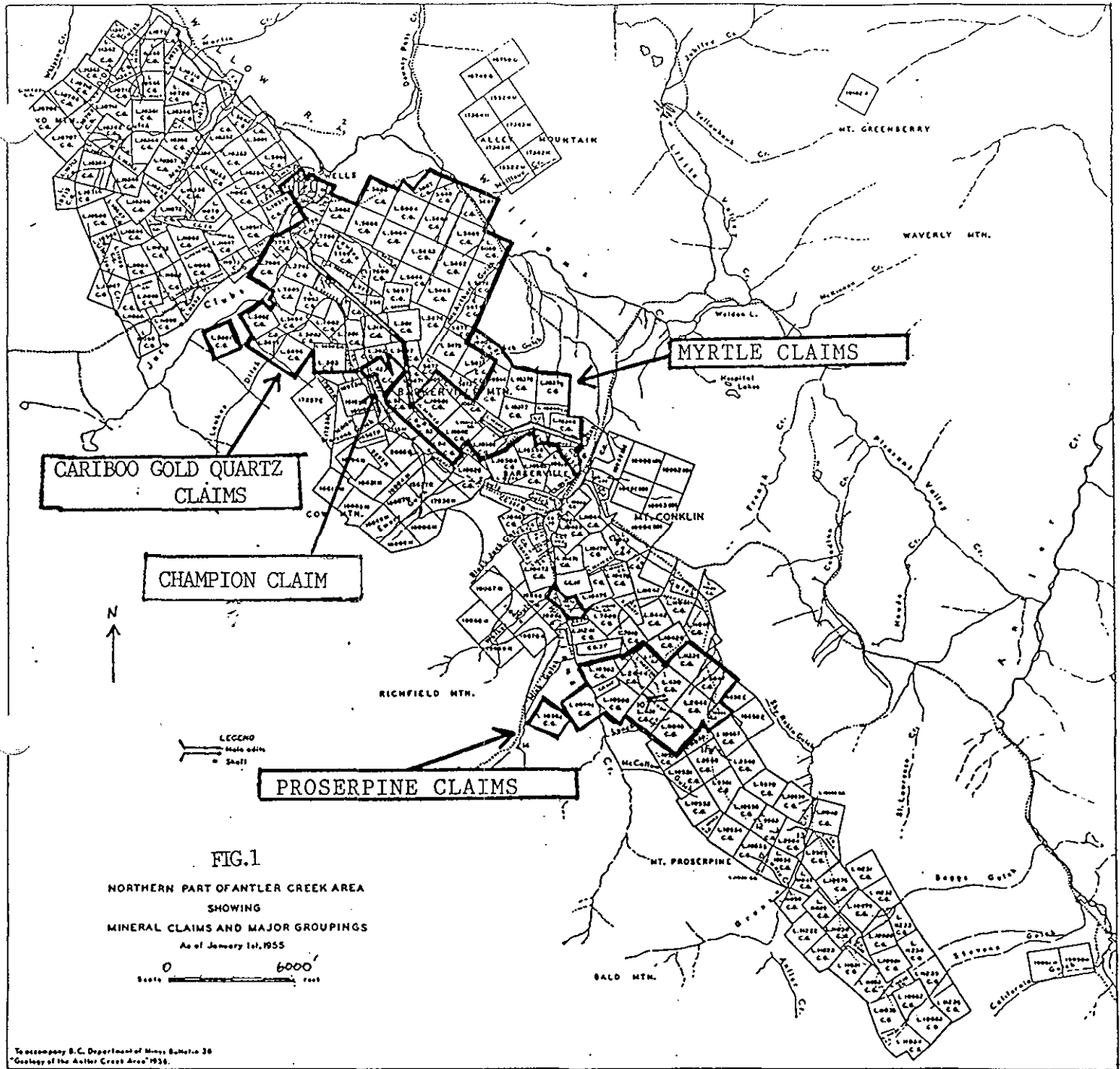
- > compilation of past work
- > establishing a metric grid (which adjoins and is continuous with the Cariboo Gold Quartz grid)
- > Geochemical sampling
- > Geological mapping and prospecting, which has been limited by the very sparse outcrop

## 2. PREVIOUS EXPLORATION IN THE WELLS-BARKERVILLE CAMP

This camp, which includes the Cariboo Gold Quartz, Myrtle/Proserpine and Champion claims was the site of a major gold rush in the 1850's. Placer mining gradually became more sophisticated with the use of underground drifting in the gravel at the bedrock interface and hydrolicing. A total of 2 million oz of Au was reported from the creeks in the camp, mainly before the turn of the century. The best set of maps showing the principal alluvial deposits in the area is by Alex Bowman (1895), who unfortunately died before he completed his written report. A summary of alluvial gold production is given by Holland (1988).

Geological mapping of the camp and a search for other hardrock source of the gold started before the turn of the century. Various reports on the whole camp include Harrison (1935), Johnston & Uglow (1926), Sutherland-Brown (1957) and Struick (1988).

Hardrock mining started at the Cariboo Gold Quartz Mine in 1933 and continued to 1959 when the mine was considered to be largely worked out. The adjacent Island Mountain Mine, which was owned by Newmont, commenced production in 1934, was sold to Cariboo Gold Quartz in 1954 and closed in 1967.



To accompany B.C. Department of Mines Bulletin 28  
 "Geology of the Antler Creek Area" 1953.

The Mosquito Mine, a much smaller producer, operated intermittently from 1980 - 85. A feature of the Island Mountain and Mosquito Mines is that the majority of their production came from massive sulphide replacement deposits rather than quartz veins. Production from the camp was:

<u>Mine</u>	<u>Mine Production</u>		<u>Total Ore &amp; Recovered Grade</u>	<u>Total Rec. Ozs Gold</u>
	<u>Quartz Vein Ore</u>	<u>Replacement Ore</u>		
Cariboo GQ	1,626,699 @ 0.39	55,252 @ 0.60	1,681,951 @ 0.373	626,755
Island Mtn.	761,646 @ 0.35	483,649 @ 0.67	1,245,295 @ 0.457	569,528
Mosquito Ck.	8,862 @ 0.14	77,539 @ 0.50	86,401 @ 0.375	32,400
Totals	2,397,207 @ 0.38	616,440 @ 0.64	3,013,647 @ 0.408	1,228,683

The lithology in the camp was a series of fine to medium grained sediments (mudstone to sandstone) variously mapped as very upper Precambrian to Ordovician. These have undergone metamorphism (with production locally of secondary biotite and garnet) and very major structural deformation. Workers are still not agreed on the structural interpretation of the camp. Interpretation is greatly hampered by the absence of marker horizons and very scarce exposure. However, the sequence is probably overturned as originally proposed by Benedict (1945). From an economic point of view, a most important feature of the structural history of the camp is a series of N-S faults which, although generally not well-mineralized themselves, are thought to be the feeders for the known mineralization.

The quartz vein mineralization in the camp, particularly in the Cariboo Gold Quartz Mine is related to specific vein sets as described by Sutherland Brown:-

<u>Type</u>	<u>Strike</u>	<u>Dip</u>
Transverse veins.....	North 30° - 55° east.....	70° southeast to 70° northwest.
Diagonal veins.....	North 70° - 90° east.....	Steeply southeast.
Northerly veins.....	North-north 20° east.....	45° to 80° east.
Strike veins.....	North 40° - 60° west.....	Steeply southwest to 60° northeast.

This same set of quartz veins are apparent elsewhere in the camp including on the Myrtle/Proserpine ground. The Transverse veins have been the biggest producers in the camp with the Diagonal the next most important. "The Transverse veins are the smallest veins and are by far the most numerous. There are countless fractures, thousands of veinlets and hundreds of known veins with the transverse direction. Mineable veins are commonly less than 100 feet long and 1 foot wide and are mineable only because they occur in clusters." (A. Sutherland Brown). Based on this and other descriptions, there appears to be good reason to suspect much of the gold could not be extracted economically underground.

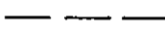
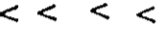

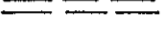
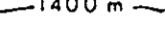



### 3. EXPLORATION OF THE CHAMPION GRID AND IMMEDIATELY ADJACENT GROUND

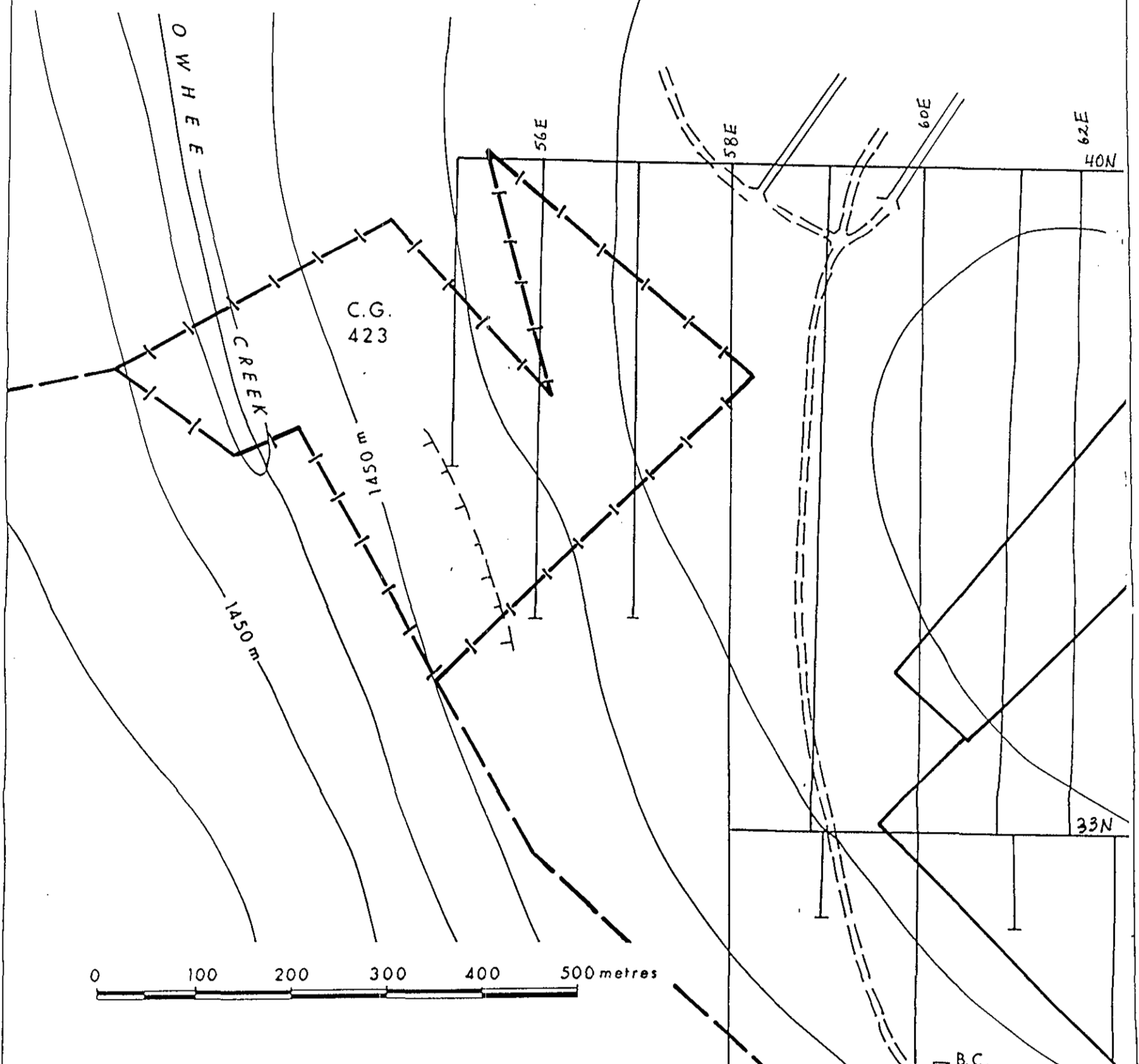
A 1:5000 base map of the Champion Grid, also showing some of the adjacent Cariboo Gold Quartz and Myrtle grids is given in Fig.2. Initially, the 33N base line and 40N tie line were established with cross lines every 200 m. Following interpretation to the initial geochemistry, 100 m infill lines were completed in anomalous areas, also as shown in Fig.2.

#### 3.1 *Exploration History*

This property and the surrounding ground has been explored for its hard rock potential

LEGEND

-  Trail
-  Ditch
-  Creek
-  Road
-  Topographical contour
-  Myrtle claim boundaries
-  Cariboo claims
-  CHAMPION CLAIM (423)



PAN ORVANA RESOURCES INC.

CHAMPION CLAIM (423)

NTS 93H/4E

Scale : 1 : 5 000	Date : October 1990.
Drawn : J. S.	Figure : 2

since at least the mid 1920's, when E.E. Armstrong is reported to have uncovered on the Myrtle property "a large number of transverse and some diagonal and strike veins. The values obtained ..... were encouraging." (A. Sutherland Brown).

In 1941, the BC shaft was sunk and joined to the Cariboo Gold Quartz 1500 level which just cuts the eastern boundary of the claim (Fig.3).

In addition to this major underground work, data exists for a series of trenches, shallow shafts and short adits on the Myrtle property. These are reported on a series of old maps compiled by different workers (not always identified). While physical features such as shafts and adits agree well from map to map, geology frequently does not.

It is important to note that all past workers only assayed individual quartz veins and so there is no data available relating directly to bulk tonnage potential.

In 1981 and 1983, Newmont Exploration of Canada undertook detailed soil geochemistry and geophysics over approximately 20% of the claim group, particularly over the Baker/Rainbow contact. They also collected a number of rock samples from old dumps and trenches, the results of which are reported in Fig.3.

#### 4. SURVEY CONTROL

A new metric grid was established over the Champion claim and the Myrtle/Proserpine claims using the Cariboo Gold Quartz datum point so data on all four properties can be directly related.

The grids are established with cut base lines oriented east-west and additional east-west tie lines, as appropriate. North-south cross line, which were trimmed and blazed, were initially established every 200 m. 100 m infill lines have also been located, were required for initial follow up.

All lines were flagged with stations marked every 20 m. The lines are marked with red flagging and blazed trees, and the trees have also been limbed to provide visibility. Chainage and azimuth errors are generally small. All closure errors are shown on the 1:5000 base maps. Locations of previous workings including adits, shafts, trenches and drill holes have been transposed to geological compilation maps, at the same scale.

#### 5. TOPOGRAPHY AND OVERBURDEN

The Champion claim straddles Lowhee Creek, a highly productive source of alluvial gold and hydroliced along its entire length. As a result of this human activity, the creek banks are now extremely steep and up to 25m high.

The overburden adjacent to the creek, in the creek valley, is a thick boulder till of transported origin. The overburden thins dramatically above the rim of the creek valley, and above the 1550m contour appears to be a fairly thin till which has been transported only a short distance. This is confirmed by the geochemical response in soils on the Cariboo and Myrtle claims.

The cut grid was not extended into the creek valley.



## 6. GEOLOGY

Outcrop is totally lacking on this claim. Some limited information can be obtained from the lithology in the geochemical samples where the overburden is thin and near residual. These data have been combined together present and past mapping on the Myrtle grid already referred to, to produce the geological compilation provided in Fig.3. Further lithological subdivision within the Rainbow, Baker and B.C. members is not possible without significantly greater exposure by trenching and/or drilling. (This was also found on the adjacent Cariboo Gold Quartz ground).

The major rock units in the area as observed in the field and described by others can be summarised as follows:

Baker Member	Caladon (light green) to buff phyllite Quartzite, calcareous and sericitic, schistose and micaceous, white and pale green. Fine rusty pyrite exists throughout this unit but generally less than in the Rainbow member
Rainbow Member	Grey to black pyritiferous phyllites and sandy phyllites with black argillite partings locally Fine to gritty quartzite and smoky quartzite, locally with bluish quartz eyes and locally bleached and sericitic
B.C. Member	Black argillite to silty argillite

The Champion claim is entirely underlayed by the B.C. Member.

Local patches of alteration (presumably hydrothermal) have bleached, silicified, chloritized and ankerized rocks locally.

## 7. GEOCHEMICAL SURVEY

### 7.1 *Sample Collection, Preparation and Analysis*

Initially soil sampling was carried out at 40 m intervals on all 200 m lines. Fill-in soil sampling at 100 x 40 m intervals was completed over the whole claim.

At each sample location a small pit was excavated to a depth of 20 - 40 cms with a grubhoe to expose the soil profile. With few exceptions, sample material was collected from the B horizon. Observation of the sample site, material sampled plus the composition and relative abundance of rock fragments in the soil were made of each location and recorded on sample description forms. These data are presented in Appendix 1 together with data from the immediately adjacent ground.

Soil samples were placed in kraft paper bags, air dried on site and shipped to Acme Analytical Laboratories, Vancouver, B.C., where they were further dried. The dried sample was then disaggregated and sieved with an 80 mesh (210 micron) stainless steel screen. The minus 80 mesh fraction was retained and used for analysis.

All samples were analyzed for Au employing a hot aqua regia acid leach of a 10 gm



sample followed by determination of contained Au by atomic absorption spectrophotometry: a detection limit of 1ppb Au is claimed. All samples were also analyzed for Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Be, Ti, B, Al, Na, K and W using 0.5 gms of minus 80 mesh material, digested with 3 ml of 3-2-1- HCL, HN03, H2O at 95 degrees C for one hour, diluted to 10 mls with H2O followed by determination made with simultaneous, multi-element Induction Coupled Plasma emission spectroscopy. Full listing of all analytical results is provided in Appendix 2.

## 7.2 *Data Handling and Data Presentation*

Analytical data were received from the laboratory in computer compatible format on floppy disk or via modem transfer. Sample location coordinates from part of the sample I.D.

All analytical data were reviewed for errors and inaccuracies prior to further manipulation using a microcomputer. Individual and multi-element distribution characteristics were evaluated by means of frequency histograms, x-y correlation diagrams, raw data and contour plots using the computer programs Lotus 1-2-3, V.P Planner, Datascan and Surfer. Subdivision of the data, contour intervals and anomaly recognition were effected from the frequency histograms. The Au and As data are plotted at 1:5000 to overly the 1:5000 base maps.

## 7.3 *Results*

Generally speaking, the overburden above the 1550 m contour level appears to be a fairly thin till and has been transported only a short distance. Consequently, the geochemistry of soils developed in this till should fairly faithfully reflect a nearby source. With progression down slope, the overburden gets thicker and the geochemical signature more confused. Further trenching data is required to confirm this point, but the geochemical response on the intermediate and lower slopes is almost certainly completely masked by thick transported overburden. Consequently favourable targets on low ground, based on other data, cannot be written off on the basis of a lack of geochemical response. This interpretation is entirely consistent with that on the adjacent Cariboo Gold Quartz ground.

The geochemical results for Au on the Champion and some of the adjacent Myrtle and Cariboo Gold Quartz ground is given in Fig.4 (raw data) and Fig.5 (contoured) and respectively for As in Figs.6 and 7.

There are a number of Au highs, up to 530 ppb. When contoured in conjunction with the adjacent data they show a NW trending anomaly, generally coincident with the lithology. There are also several As highs, displaced approximately 100m downhill.

## 8. INTERPRETATION AND RECOMMENDATIONS

The soil geochemical Au and As anomalies are erratic although locally strong. The probability is this anomaly represents Au in narrow quartz veins in the B.C. argillite, as found on the Cariboo Gold Quartz ground. Further work is required to determine the significance of the anomalies.

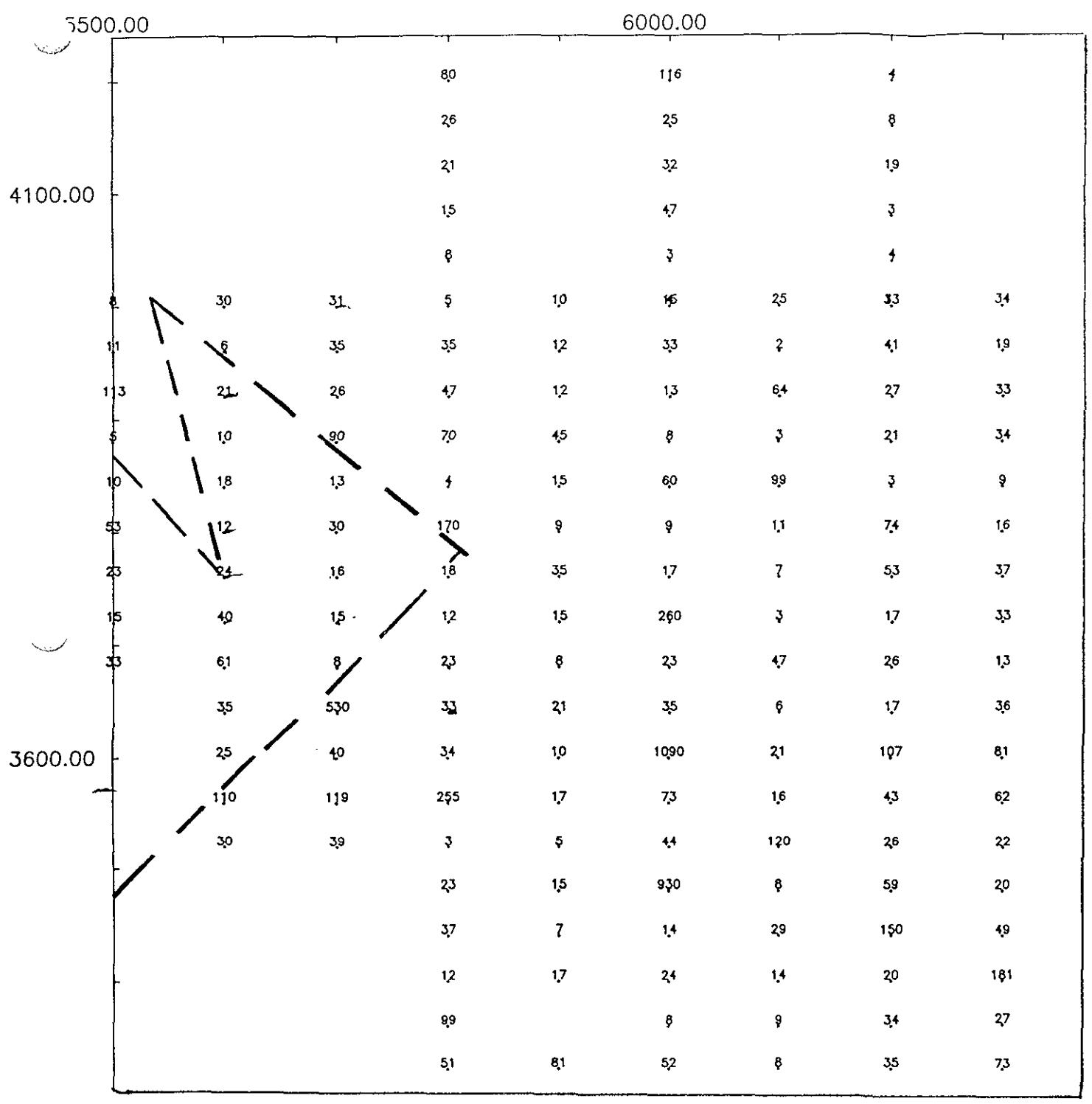
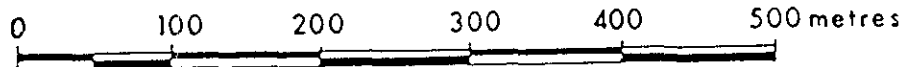


FIG.4  
 CHAMPION CLAIM  
 Soil Geochemistry  
 Au in ppb  
 1:5000



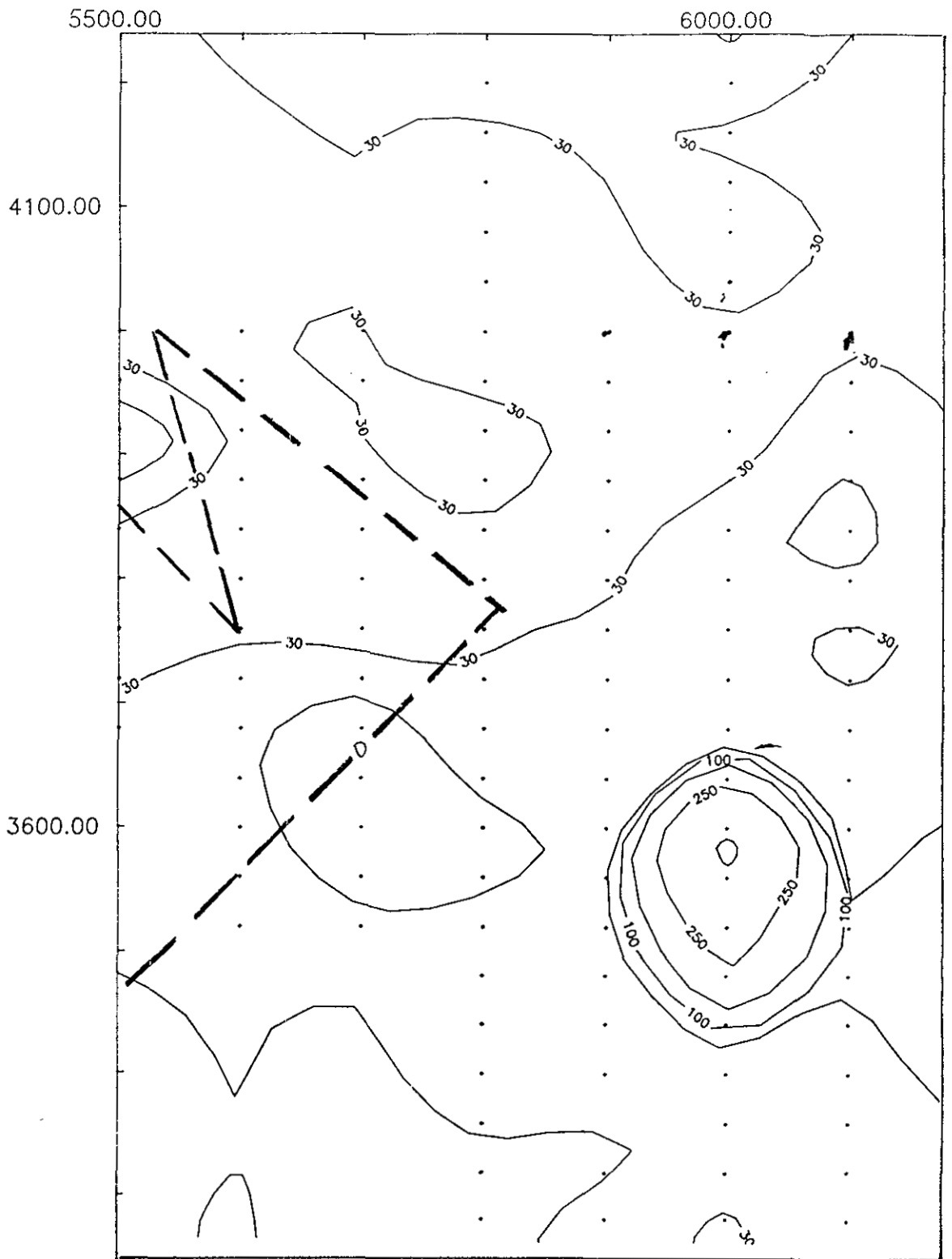


FIG.5  
 CHAMPION CLAIM  
 Soil Geochemistry  
 Au in ppb  
 1:5000

0 100 200 300 400 500 metres

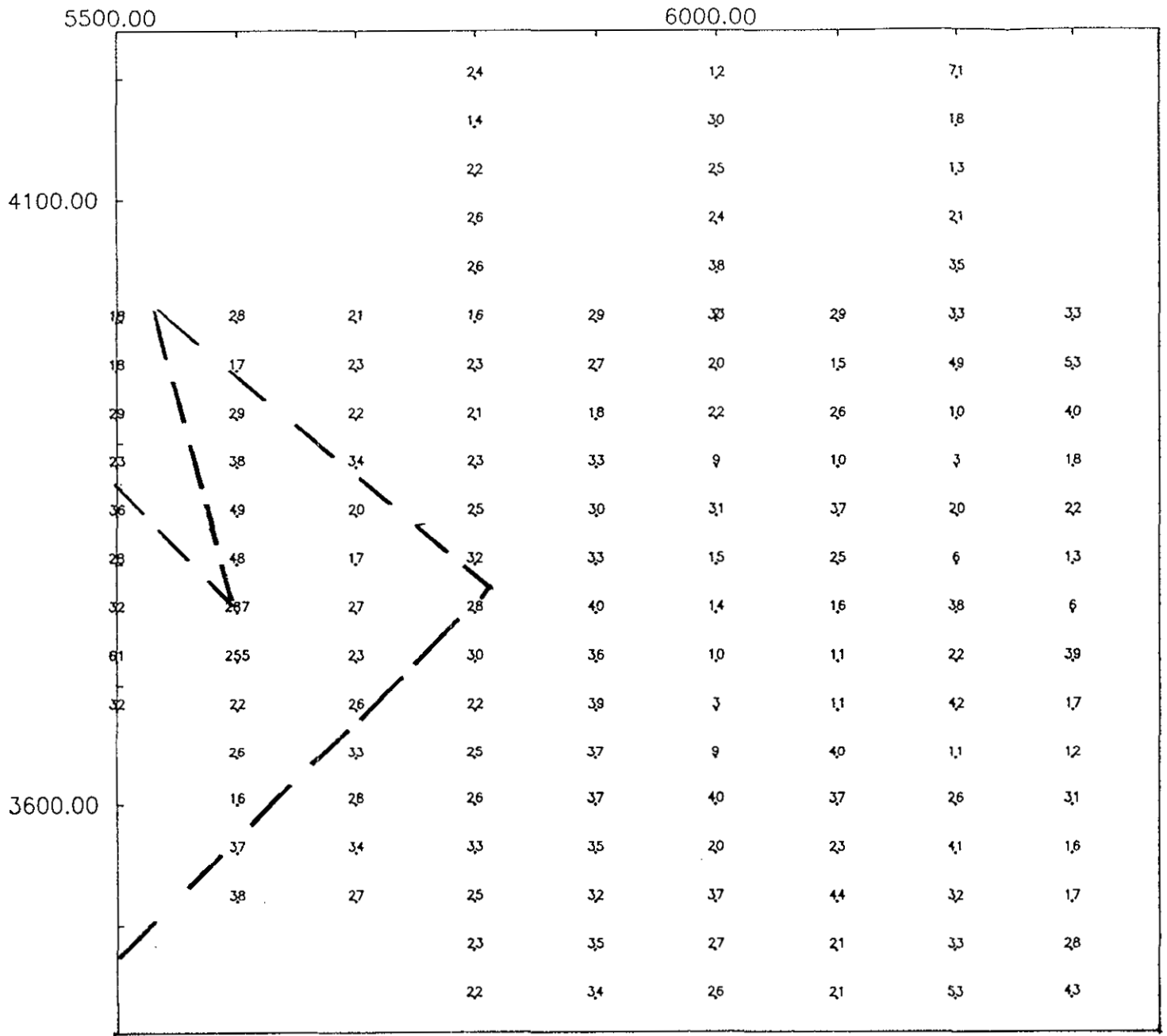
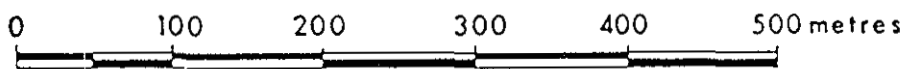


FIG.6  
 CHAMPION CLAIM  
 Soil Geochemistry  
 As in ppm  
 1:500



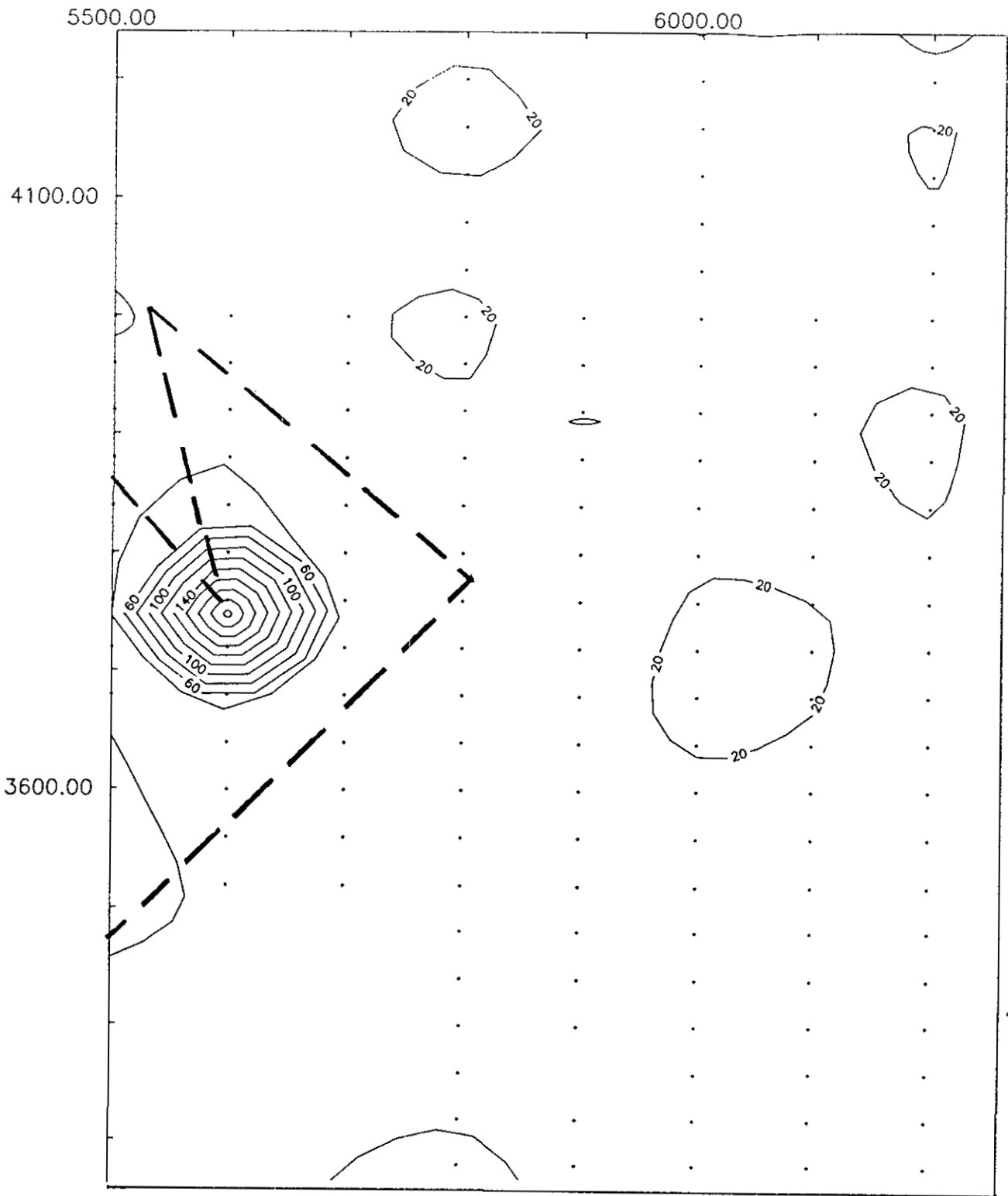
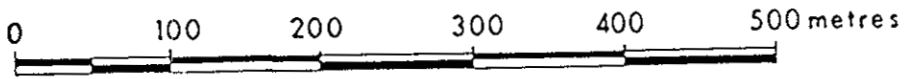


FIG.7  
 CHAMPION CLAIM  
 Soil Geochemistry  
 As in ppm  
 1:500



It is recommended that:

- 1 Fill in soil sampling on 50m lines be completed.
- 2 VLF-EM geophysics, which has been found effective on adjacent lines, be completed on all lines at 10m intervals and contoured, after Fraser filtering.
- 3 On the basis of the geochemistry and geophysics trenching targets be selected.



P.M.D. Bradshaw  
March, 1991

## REFERENCES

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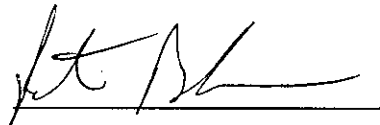
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Sutherland Brown, A. (1957), Geology of the Antler Creek Area, Cariboo District, B.C., EMPR Bull 38

## STATEMENT OF QUALIFICATIONS

I, Peter M.D. Bradshaw, of 4725 Rutland Road, West Vancouver, BC, V7W 1G6, hereby certify that:

- 1 I am a graduate (1962) of Carleton University, Ottawa, Ontario, with a Bachelor of Science degree in Geology; and a graduate (1965) of Durham University, Durham, England, with a Ph.D. in Geology.
- 2 I am a Professional Engineer in the Province of British Columbia.
- 3 I have been practising mineral exploration for 25 years.



Peter M.D. Bradshaw



STATEMENT OF COSTS

Champion Claim

*Expenditure from April 1, 1990 to December 30, 1990*

<u>Description</u>	<u>Amount</u>
INTERCO - Salary Applied	\$ 424.11
INTERCO - Employee Benefits	135.72
Employee Benefit Applied	238.78
Travel	22.05
Meals	60.57
Field Supplies	8.43
Assay/Analysis	405.54
Salary & Wages - Applied	1,256.72
Vehicle Expense	26.64
Lodging	63.72
Vehicle Rentals	35.81
Oil/Gas	23.51
Overhead Expenses Applied	703.76
Overhead Exp Applied - INTERCO	<u>182.37</u>
	<u>\$3,587.73</u>

APPENDIX 1

*CHAMPION*

Soil Sample Descriptions



LINE	STN	ELEV (m)	TR	DR	VG	SL	AZ	DP	HZ	COL	C	S	S	G	O	M	%	CT	RK1	RK2	RK3	PM
6200	4000	1606	SS	FR	PF	5	50	25	BF	5OU	1	2	1	6		Q	8		PHX			BR
6200	3960	1608	SS	FR	PF	10	360	25	BF	5TU	2	2	1	5		R	6		AGX		QV.	BR
6200	3920	1610	SS	EX	PF	10	10	35	AE	5A\$	1	=	=	8		R	9		PQX		QV.	BR
6200	3880	1615	SS	EX	PF	10	360	35	AE	5A\$	2	=	=	7		S	9		PQX		QV+	BR
6200	3840	1615	SS	EX	PF	10	250	35	BT	5AV	1	2		7		R	8		PQX			BR
6200	3800	1618	SS	FR	PF	5	275	30	BT	3AV	3	3	1	3		P	4		PHX			BR
6200	3760	1618	SS	IM	PF	2	320	25	BM	5T\$	3	2	2	3		Q	3		PHX			BR
6200	3720	1620	SS	IM	PF	2	260	25	BM	5T\$	3	2	1	4		P	5		PHX			BR
6200	3680	1623	SS	FR	PF	5	345	20	BF	5TO	2	1	1	6		S	7		PQX			BR
6200	3640	1625	SS	FR	PF	5	230	30	BF	5TO	2	1		7		S	7		PH8	PQ2		BR
6200	3600	1615	SS	IM	PF	5	285	35	BT	7T\$	3	2	1	4		O	3		PHX		QV.	CL
6200	3560	1620	SS	FR	PF	10	250	30	BT	5T\$	2	3	3	2		O	2		PH7	PQ3	QV.	TI
6200	3520	1625	SS	FR	PF	12	255	20	BF	5T\$	2	3	1	4		R	4		PHX			BR
6200	3480	1620	SS	FR	PF	20	220	25	BF	5TU	3	2	2	3		Q	3		AG6	PH4	QV.	TI
6200	3440	1615	SS	FR	PF	15	240	25	BT	5T\$	3	3	1	3		Q	5		PH8	AG2	QV.	BR
6200	3400	1608	SS	FR	PF	20	240	20	BF	5RU	3	2	1	4		P	4		PHX			BR
6200	3360	1602	SS	FR	PF	20	255	20	BF	5OT	2	1	1	6		P	6		PHX			BR
6200	3320	1597	SS	FR	PF	20	210	30	BF	5T\$	3	2	1	4		Q	4		PHX		QV.	BR
6200	3280	1592	SS	FR	PF	12	210	15	BF	5T\$	2	2		6		Q	6		PHX			BR
6200	3240	1583	SS	FR	PF	15	210	15	BF	5VT	3	4	1	2		O	2		PHX			CL
6200	3200	1575	SS	FR	PF	20	210	20	BF	5T\$	3	3	2	2		Q	2		PH8	AG2		CL
6200	3160	1570	SS	FR	PF	20	205	25	BF	3T\$	3	3	1	3		Q	3		PHX			TI
6200	3120	1560	SS	FR	PF	30	225	25	BT	5T\$	7	2		1		O	5		PHX			CL
6200	3080	1550	SS	FR	PF	15	200	25	BF	5UT	3	4	2	1		P	=		PH9	AG1	QV.	CL
6200	3040	1532	SS	FR	PF	15	200	25	BF	5TO	3	2	1	4		Q	4		PH7	PQ3		CL
6200	3000	1525	SS	FR	PF	10	190	25	BF	3RU	3	3	1	3		P	4		PH9			CL
6200	2960	1518	SS	FR	PF	15	190	10	AC	2V\$	2	7	1	1		P	4		AGX			BR

LINE	STN	ELEV (m)	TR	DR	VG	SL	AZ	DP	HZ	COL	C	S	S	G	O	M	%	CT	RK1	RK2	RK3	PM
6200	2920	1510	SS	FR	PF	20	210	15	BF	5V\$	2	2	1	5		Q	6		PH7	AG3		BR
6200	2880	1490	SS	FR	PF	25	230	25	BF	6T\$	2	2	1	5		P	5		PH7	AG3	QV.	CL
6200	2840	1480	SS	FR	PF	15	200	30	BF	5TY	4	3	1	2		P	2		AG6	PH4	QV.	CL
6200	2800	1472																				
6400	2600	1445	SS	IM	PF	10	200	25	BT	7T\$	3	2	1	4		P	4		AG6	PH4		CL
6400	2640	1455	SS	IM	PF	15	220	20	BT	5T\$	7	2	=	=		M	=					CL
6400	2680	1460	SS	IP	PF	15	190	25	BM	5YT	7	2	=	=		N	=					CL
6400	2720	1475	SS	IM	PF	10	190	25	BT	5AT	1	4	3	2		O	1		G			T1
6400	2760	1485	SS	FR	PF	20	210	30	BT	5RV	3	2	1	4		Q	4		AGS	PH5		CL
6400	2800	1492	SS	FR	PF	20	200	35	BF	5OT	1	=	=	8		R	7		PH8	AG2		BR
6400	2840	1505	SS	FR	PF	20	200	35	BT	5AV	3	1	1	5		R	4		AG7	PH3	QV.	CL
6400	2880	1512	SS	FR	PF	20	180	35	BT	5NA	3	4	1	2		Q	5		GAX			BR
6400	2920	1522	SS	FR	PF	15	200	30	BT	5VA	3	2	2	3		P	4		GA8	PH2		BR
6400	2960	1528	SS	FR	PF	20	200	25	BT	5U\$	3	3	2	2		P	4		AG7	PH3		CL
6400	3000	1542	SS	FR	PF	20	200	25	BT	5T\$	3	1	2	4		P	4		GA6	GP4	QV.	CL
6400	3040	1552	SS	FR	PF	20	200	25	BT	5T\$	3	1	2	4		Q	4		PHX		QV.	CL
6400	3080	1558	SS	FR	PF	20	190	20	BF	5RV	2	1	2	5		P	4		PH9		QV1	BR
6400	3120	1570	SS	FR	PF	20	175	25	BF	5RV	3	2	1	4		Q	4		PH8	Q22	QV.	CL
6400	3160	1576	SS	IM	PF	15	205	25	BM	5T\$	4	2	1	3		P	4		PHX			CL
6400	3200	1587	SS	FR	PF	15	195	25	BF	5T\$	3	1	3	3		P	3		PHX			CL
6400	3240	1590	SS	FR	PF	10	200	25	BT	5TV	3	2	2	3		P	2		PHX		QV.	CL
6400	3280	1595	SS	FR	PF	10	190	25	BT	5TV	3	2	1	4		Q	5		PH7	GP3		BR
6400	3320	1605	SS	FR	PF	10	185	25	BF	5TY	3	2	1	4		Q	5		QV7	PH3		BR
6400	3360	1610	SS	FR	PF	10	195	15	BF	5RV	1	1	1	7		Q	6		PHX		QV.	BR
6400	3400	1620	SS	FR	PF	2	210	25	BT	5TV	2	=	=	7		R	7		PH9		QV1	BR
6400	4000	1590	SS	FR	PF	20	25	35	BF	7T\$	1	1	2	6		R	7		PHX		QV.	BR
6400	3960	1598	SS	FR	PF	20	25	30	BF	5U\$	3	1	2	4		P	4		PHX		QV.	BR
6400	3920	1605	SS	FR	PF	5	10	25	BF	5T\$	2	1	2	5		R	6		AGX			BR
6400	3880	1608	SS	FR	PF	5	10	20	BF	5OU	2		2	6		P	5		PHX			BR
6400	3840	1610	SS	FR	PF	10	45	25	BF	5U\$	2	2		6		Q	6		PHX		QV.	BR
6400	3800	1615	SS	FR	PF	10	45	25	BF	5RU	4	2	1	3		Q	3		PHX			BR
6400	3760	1620	SS	FR	PF	15	75	25	BF	5T\$	1	1	1	7		R	7		PHX			BR
6400	3720	1620	SS	FR	PF	10	50	25	BF	5RT	1	2	1	6		R	6		PHX			BR
6400	3680	1622	SS	FR	PF	10	85	25	BF	5RV	1	2	1	6		Q	6		PHX			BR
6400	3640	1618	SS	IM	PF	5	60	20	BF	3T\$	3	5	1	1		P	1		AGX			BR
6400	3600	1622	SS	IM	PF	2	20	25	BM	5U\$	4	5		1		O	1		PHX		QV.	BR
6400	3560	1627	SS	FR	PF	10	45	25	BT	5U\$	2	1	3	4		R	4		PHX		QV+	BR
6400	3520	1630	SS	FR	PF	10	50	25	BF	5RU	3	1	2	4		R	5		PHX			BR
6400	3480	1637	SS	FR	PF	10	40	25	BF	5TU	2	1	1	6		P	6		PHX		QV+	BR
6400	3440	1642	SS	FR	PF	10	30	30	BF	5RT	1	2	2	5		Q	7		PHX			BR

ECRD	NCRD	ELEV	TR	DR	VG	DR	PM	SL	DIR	RK1	RK2	RK3	RK4	VEG	DP	HZ	COL	C	S	S	G	O	M	%	CT
5500	4000		SS			FR	TL	10	120	QV1	QT6	PH3		CF	15	B2	40U	3	4	2	1	-	O	5	
5500	3960		SS			FR	TL	15	120	AR5	QT3	PH2		CF	20	B1	5RU	3	4	2	1	-	P	5	
5500	3920		SS			FR	TL	15	120	AR9	PH1			CF	30	B2	50U	2	2	3	3	-	P	7	
5500	3880		SS			FR	TL	15	120	QTX				CF	30	B1	40U	4	4	1	1	-	O	3	
5500	3840		SS			FR	TL	15	120	QTX				CF	20	B1	50U	4	4	1	1	-	N	4	
5500	3800		SS			FR	TL	15	120	QT7	AR3			CF	15	B1	50U	4	4	1	1	-	M	3	
5500	3760		SS			FR	TL	15	120	QT8	QV1	AN1		CF	20	B1	4YU	3	3	2	2	-	N	5	
5500	3720		SS			FR	TL	10	140					CF	20	B2	6YA	5	4	1	0	-	-	0	
5500	3680		SS			FR	TL	10	140	QT5	PH3	QV2		CF	15	B2	6AU	2	3	2	3	-	P	7	
5600	3520		SS			FR	TL	20	140	AR7	PH2	QT1		CF	20	B2	6AU	4	3	2	1	-	O	4	
5600	3560		SS			FR	TL	20	140	QTX				CF	15	B2	5YA	3	2	2	3	-	N	6	
5600	3600		SS			FR	TL	15	140	QT9	QV1			CF	15	B1	60A	3	4	2	1	-	O	4	
5600	3640		SS			FR	TL	15	130	QT8	AR2			CF	20	B2	60A	2	3	2	3	-	O	7	
5600	3680		SS			FR	TL	15	120	QT8	AR2			CF	15	B1	50U	2	3	3	2	-	O	6	
5600	3720		SS			FR	TL	15	140	QT7	AR2	QV1		CF	15	B1	60U	4	3	2	1	-	Q	5	
5600	3760		SS			FR	TL	10	150	QTX				CF	15	B1	6AU	3	4	2	1	-	N	4	
5600	3800		SS			FR	TL	05	130	QTX				CF	15	B1	40U	3	4	2	1	-	O	4	
5600	3840		SS			FR	TL	10	120	QTX				CF	20	BC	70U	5	3	1	1	-	Q	5	
5600	3880		SS			FR	TL	10	130					CF	15	B2	70U	5	3	1	1	-	-	-	
5600	3920		SS			FR	TL	15	130					CF	20	B1	60U	4	4	1	1	-	-	-	
5600	3960		SS			FR	TL	10	130	QTX				CF	25	B2	7RU	3	2	2	3	-	N	7	
5600	4000		SS			FR	TL	10	120	QTX				CF	20	BC	70U	3	2	2	3	-	O	7	
5700	4000		SS			FR	TL	10	240	QT8	QV1	PH1		CF	20	B1	5UO	4	4	1	1	-	O	3	
5700	3960		SS			FR	TL	10	240	QT9	QV1			CF	20	B1	5U	2	4	2	2	-	O	5	
5700	3920		SS			FR	TL	10	230	QV7	QT3			CF	20	B2	5UO	3	3	2	2	-	Q	5	
5700	3880		SS			FR	TL	10	230	QT8	QV1	AR1		CF	20	B2	5U	4	3	2	1	-	O	7	
5700	3840		SS			FR	TL	10	230	PH7	QV2	QT1		CF	20	B1	60T	3	3	2	2	-	Q	6	
5700	3800		SS			FR	TL	10	240	QT6	PH3	QV1		CF	20	B1	60T	3	3	2	2	-	O	5	
5700	3760		SS			FR	TL	10	240	QT3	QV3	AR3		CF	25	B1	5UO	3	3	2	2	-	N	5	
5700	3720		SS			FR	TL	15	240	QT4	PH4	QR1	QV1	CF	25	B1	50Y	1	2	3	4	-	N	7	
5700	3680		SS			FR	TL	15	240	AR3	QT3	PH3	QV1	CF	25	B1	50T	3	2	3	2	-	P	7	
5700	3640		SS			FR	TL	15	250	AR4	QV2	QT4	AN1	CF	25	B2	60U	3	3	3	1	-	O	6	
5700	3600		SS			FR	TL	15	240	AR5	QV5			CF	30	B1	60T	2	3	3	2	-	N	6	
5700	3560		SS			FR	TL	15	240	QT4	AR3	PH2	QV1	CF	30	BC	4NU	2	3	3	2	-	P	6	
5700	3520		SS			FR	TL	15	240	ARX				CF	25	B2	4UN	2	3	3	2	-	O	5	

ECRD	NCRD	ELEV	TR	DR	VG	DR	PM	SL	DIR	RK1	RK2	RK3	RK4	VEG	DP	HZ	COL	C	S	S	G	O	M	%	CT
5900	4000		SS			FR	TL	05	100	PH8	AR2			CF	15	B2	7RU	3	3	2	2	-	0	5	
5900	3960		SS			FR	TL	05	100	PH6	QV4			CF	20	B1	6U	4	3	2	1	-	N	4	
5900	3920		SS			FR	TL	10	100	QT4	AR3	QV1	PH2	CF	25	B2	6RU	3	2	2	3	-	0	5	
5900	3880		SS			FR	TL	10	120	QV4	PH3	QT3		CF	25	B2	7OU	2	3	2	3	-	0	6	
5900	3840		SS			FR	TL	15	120	QT8	QV2			CF	15	B1	5OU	3	2	2	3	-	N	6	
5900	3800		SS	MN		FR	TL	00		QT5	PH5			CF	15	B2	5OU	2	3	2	3	-	0	6	
5900	3760		SS			FR	TL	10	110	QT8	PH2			CF	25	B2	5OU	3	2	3	2	-	0	6	
5900	3720		SS			FR	TL	05	100	QTX				CF	10	B2	6OU	4	3	2	1	-	0	4	
5900	3680		SS			FR	TL	05	120	QTX				CF	15	B1	7U	4	2	2	2	-	0	4	
5900	3640		SS			FR	TL	10	120	QT9	QV1			CF	20	B1	5OU	4	3	2	1	-	0	5	
5900	3600		SS			FR	TL	15	120	QT8	AR1	QV1		CF	15	B1	4OU	4	3	2	1	-	0	5	
5900	3560		SS			FR	TL	15	130	QTX				CF	25	B1	7U	4	3	2	1	-	Q	4	
5900	3520		SS			FR	TL	15	130	QT9	QV1			CF	25	B1	4OU	4	3	2	1	-	P	4	
5900	3480		SS			FR	TL	10	110	QT8	PH2			CF	15	B1	4OU	3	3	2	2	-	N	6	
5900	3440		SS			FR	TL	15	120	QTX				CF	20	B1	4OU	3	3	2	2	-	0	5	
5900	3400		SS			FR	TL	10	140	QT4	PH3	AR3		CF	15	B1	4OU	3	2	2	3	-	0	6	
5900	3360	COULD NOT SAMPLE																							
5900	3320		SS			FR	TL	10	120	QT8	QV1	AR1		CF	20	B1	4OU	4	3	2	1	-	0	5	
5900	3280		SS			FR	TL	10	120	QT7	AR3			CF	25	B1	5RU	4	3	2	1	-	0	3	
5900	3240		SS			FR	TL	10	150	QT9	QV1			CF	25	B2	5RU	2	2	2	4	-	0	7	
5900	3200		SS			FR	TL							CF	20	B1	7OU	4	3	2	1	-	-	-	
6100	3200		SS			FR	TL	10	220	QTX				CF	25	B1	5OR	3	4	2	1	-	0	4	
6100	3240		SS			FR	TL	10	220	QT8	QV1	AR1		CF	25	B2	5OT	3	4	2	1	-	P	4	
6100	3280		SS			FR	TL	10	220	QT5	AR4	QV1		CF	25	B2	5UT	3	4	2	1	-	0	4	
6100	3320		SS			FR	TL	10	230	QTX				CF	30	B2	5UT	4	4	1	1	-	Q	3	
6100	3360		SS			FR	TL	10	230	AR6	QT4			CF	20	B1	5OR	4	3	1	2	-	P	4	
6100	3400		SS			FR	TL	10	230	QT8	AR1	AN1		CF	20	B2	4UO	3	4	1	2	-	P	5	
6100	3440		SS			IP	TL	10	230	PHX				CF	30	XC	3NA	4	1	1	4	-	0	9	
6100	3480		SS			IP	TL	05	230	ARX				CF	30	XC	3NT	4	2	1	3	-	N	6	
6100	3520		SS			FR	TL	05	240	AR4	PH2	QT2	QV2	CF	20	B2	5OT	4	3	2	1	-	N	4	
6100	3560		SS			FR	TL	05	240	AR5	PH5			CF	30	B1	5OT	1	2	3	4	-	P	7	
6100	3600		SS			FR	TL	05	240	PH7	QT2	QV1		CF	35	B2	4UR	3	3	2	2	-	P	5	
6100	3640		SS			FR	TL	05	240	QT5	PH4	QV1		CF	25	B2	5U	4	2	2	2	-	P	5	
6100	3680		SS			FR	TL	10	240	PHX				CF	25	B2	4UR	3	3	2	P	5			
6100	3720		SS			FR	TL	10	240	PHX				CF	25	BC	4UR	2	3	2	3	-	0	8	
6100	3760		SS			FR	TL	5	230	PHX				CF	25	B2	5OT	3	2	2	3	-	N	7	

ECRD	NCRD	ELEV	TR	DR	VG	DR	PM	SL	DIR	RK1	RK2	RK3	RK4	VEG	DP	HZ	COL	C	S	S	G	O	M	%	CT	
6100	3800		SS			FR	TL	5	310	PH6	QT3	QV1		CF	25	B2	4RU	2	3	2	3	-	O	7		
6100	3840		SS			IP	TL	3	330	QTX				CF	30	BC	4UA	5	3	1	1	-	Q	3		
6100	3880		SS			FR	TL	3	330	PHX				CF	25	B2	5U	3	2	2	3	-	P	7		
6100	3920		SS			FR	TL	3	260	PH8	QT2			CF	25	BC	5UR	2	2	2	4	-	P	8		
6100	3960		SS			FR	TL	3	240	QTX				CF	30	BC	6TA	3	1	1	5	-	Q	9		
6100	4000		SS			FR	TL	3	360	PH2	QT4	QV4		CF	35	BC	6AT	2	2	1	5	-	Q	9		
6300	3280		SS			FR	TL	05	220	AR9	QV1			CF	15	B1	4OT	3	2	2	3	-	P	7		
6300	3240		SS			FR	TL	05	220	ARX				CF	35	XC	5AN	3	2	1	4	-	O	8		
6300	3200		SS			FR	TL	05	220	QF4	QT3	AR3		CF	20	BC	4TO	2	3	3	2	-	N	6		
6300	3160		SS			FR	TL	05	220	PH7	AR2	QT1		CF	25	BC	5OT	4	3	1	2	-	Q	8		
6300	3120		SS			FR	TL	05	220	QT9	PH1			CF	20	B1	5OT	3	4	2	1	-	O	4		
6300	3080		SS			FR	TL	05	220	QT9	AR1			CF	25	B1	4UO	3	3	3	1	-	N	5		
6300	3040		SS			FR	TL	05	220	AR7	QT2	PH1		CF	20	BC	5U	4	1	2	3	-	O	8		
6300	3000		SS			FR	TL	10	220	AR9	QV1			CF	30	XC	3NU	4	1	2	3	-	O	8		
6300	2960		SS			FR	TL	10	220	PH8	QT2			CF	25	BC	5OU	3	2	3	2	-	P	7		
6300	2920		SS			FR	TL	10	220	ARX				CF	20	BC	4U	3	2	2	3	-	O	8		
6300	2880		SS			FR	TL	10	220	PH9				CF	25	BC	4U	3	2	3	2	-	N	1		
6300	2840		SS			FR	TL	10	220	PH8	AR1	QV1		CF	25	B1	5OY	2	3	3	2	-	O	7		
6300	2800		SS			FR	TL	10	220	PHX				CF	30	B1	5OT	3	2	3	2	-	O	6		
6300	2760		SS			FR	TL	5	220	PH6	AR2	QT2		CF	30	BC	4UO	4	2	2	2	-	P	6		
6300	2720		SS			FR	TL	5	220	PH8	QV2			CF	30	B1	6TO	4	4	1	1	-	N	2		
6300	2680		SS			FR	TL	5	220					CF	20	B1	6TO	2	4	3	1	-	-	-		
6300	2640		SS			FR	TL	5	220	ARX				CF	20	B1	4TU	1	4	4	1	-	N	2		
6300	2600		SS			FR	TL	5	220	AR5	PH5			CF	25	B1	5TU	1	4	4	1	-	M	2		
ROAD BANK																										
6300	3320		SS			FR	TL	02	195	QV3	AR2	QT5		CF	30	BC	4OU	3	2	2	3	-	P	8		
6300	3360		SS			FR	TL	02	235	PH2	AR2	QT6		CF	20	B2	6OU	2	2	3	3	-	P	7		
6300	3400		SS			FR	TL	10	200	QV1	AR3	PH1	QT5	CF	25	B1	4OU	3	2	2	3	-	P	7		
6300	3440		SS			FR	TL	10	200	PH3	QT5	QV2		CF	30	BC	4YU	2	1	3	4	-	P	9		
6300	3480		SS			FR	TL	0		PH1	QT9			CF	25	B1	6OU	3	3	2	2	-	P	5		
6300	3520		SS			FR	TL	15	015	QV1	AR2	QT7		CF	25	BC	7OU	2	2	3	3	-	Q	8		
6300	3560		SS			FR	TL	05	340	QV1	QT4	PH5		CF	25	B1	4OU	3	2	2	3	-	P	6		
6300	3600		SS			FR	TL	02	040	QV1	QT4	PH5		CF	20	B1	4YU	3	3	2	2	-	O	4		
6300	3640		SW			IP	TL	0		PH6	QT4			CF	35	A1	5N	3	4	2	1	-	O	2		
6300	3680		SS			FR	TL	0		PH7	QT3			CF	25	B2	4OU	2	1	3	4	-	O	9		
6300	3720		SS			FR	TL	0		QT6	PH4			CF	20	B2	5OU	4	3	2	1	-	P	3		



ECRD	NCRD	ELEV	TR	DR	VG	DR	PM	SL	DIR	RK1	RK2	RK3	RK4	VEG	DP	HZ	COL	C	S	S	G	O	M	%	CT
6300	3760		SS			FR	CL	02	075	QT8	QV2			CF	35	A2	60A	1	1	4	4	-	P	9	
6300	3800		SS			FR	CL	10	040	QT8	QV2			CF	40	BC	4YA	1	1	4	4	-	Q	9	
6300	3840		SS			FR	BR	15	060	PH6	QT3	QV1		CF	40	BC	4OU	1	1	4	4	-	Q	9	
6300	3880		SS			FR	TL	10	005	PH3	QT7			CF	35	B1	60U	2	2	2	4	-	P	8	
6300	3920		SS			FR	TL	10	020	QV1	QT5	PH4		CF	30	B2	60U	2	2	3	3	-	P	7	
6300	3960		SS			FR	TL	0		QTX				CF	25	BC	4OU	2	1	3	4	-	O	7	
6300	4000		SS			FR	TL	15	030	QT9	PH1			CF	25	BC	6AU	2	2	3	3	-	P	8	
6500	2600		SS			FR	TI	04	200	PH3	QT6	AG1		CF	26	BC	4AU	2	4	3	1	0	P	6	S
6500	2640		SS			FR	TI	04	190	PH3	QT1	AG3	PR3	CF	26	B1	50U	3	4	2	1	0	Q	4	S
6500	2680		SS			FR	TI	09	220	QT7	AG3			CF	26	B2	50U	2	4	2	2	0	P	6	S
6500	2720		SS			FR	TI	04	210	QT3	QV1	AG6		CF	25	B1	30U	4	3	1	2	0	Q	6	S
6500	2760		SS			FR	CL	03	185	PH7	QT2	QV1		CF	29	BC	6AU	2	2	1	3	0	P	9	S
6500	2800		SS			FR	CL	04	195	PHX				CF	20	BC	6YU	2	1	3	4	0	R	9	A
6500	2840		SS			FR	TI	05	210	QT5	QV1	AG4		CF	28	B2	50U	3	4	2	1	0	O	3	S
6500	2880		SS			FR	TI	06	185	QT5	QV4	AD1		CF	27	B1	50U	2	4	3	1	0	P	4	S
6500	2920		SS			FR	TI	05	210	QTX				CF	24	B1	50U	3	4	2	1	0	M	3	S
6500	2960		SS			FR	TI	06	190	PH5	QT3	AG2		CF	24	BC	50U	3	2	2	3	0	P	7	S
6500	3000		SS			FR	TI	04	210	QTX	AN+			CF	19	BC	50U	4	1	1	4	0	Q	8	S
6500	3040		SS			FR	BR	06	210	QT9		AG1		CF	17	A2	5AU	1	2	3	4	0	Q	8	S
6500	3080		SS			FR	CL	03	230	PH4	QT5	AG1		CF	20	B1	60U	3	4	2	1	0	P	7	A
6500	3120		SS			FR	TI	05	230	PH8	QT2			CF	26	BC	50U	3	2	1	4	0	P	9	S
6500	3160		SS			FR	TI	02	220	QT8	AG2			CF	21	BC	6U	4	2	2	2	0	P	7	S
6500	3200		SS			FR	TI	03	180	QT5	QV1	AG4		CF	30	BC	4U	2	2	2	4	0	P	8	S
6500	3240		SS			FR	TI	01	190	PH3	QT7			CF	25	B1	50U	2	3	3	2	0	O	5	S
6500	3280		SS			FR	TI	02	230	PH1	QT6	QV2	AG1	CF	23	BC	5AO	2	4	3	1	0	P	6	S
6500	3320		SS			FR	TL	10	200	PH1	QT9			CF	25	BC	7OU	2	2	3	3	-	Q	7	
6500	3360		SS			FR	TL	15	200	PH4	QT6			CF	25	BC	4OU	2	1	3	4	-	Q	8	
6500	3400		SS			FR	TL	0		QTX				CF	15	B1	60U	3	3	2	2	-	O	6	
6500	3440		SS			FR	TL	02	040	PH1	QV1	QT8		CF	25	B1	4OU	3	3	2	2	-	Q	4	
6500	3480		SS			FR	TL	10	040	AR1	QV2	QT7		CF	20	B1	50U	4	3	1	2	-	P	5	
6500	3520		SS			FR	TL	10	050	QV1	PH4	QT5		CF	25	B1	7U	4	4	1	1	-	O	3	
6500	3560		SS			FR	TL	02	050	PH5	QT5			CF	30	BC	3YU	3	3	1	3	-	N	2	
6500	3600		SS			FR	TL	02	060	PH3	QV3	QT4		CF	20	B1	4OU	3	3	1	3	-	O	3	
6500	3640		SS			FR	TL	05	060	AR2	QV2	PH2	QT4	CF	15	B1	30U	3	3	1	3	-	O	4	
6500	3680		SS			FR	TL	05	040	QT5	PH5			CF	20	BC	6UA	3	2	2	3	-	P	5	
6500	3720		SS			FR	TL	05	060	AR1	PH2	QT7		CF	20	BC	4OU	1	1	4	4	-	P	8	

APPENDIX 2

*CHAMPION*

Soil Sample Analytical Results

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN PB SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: Soil -80 Mesh AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 19 1989 DATE REPORT MAILED: July 25/89 SIGNED BY: C. Long D. TOYS, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

PAN ORVANA RESOURCES INC. File # 89-2288 Page 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Mn	Co	Ni	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPB
60/3080	1	56	198	101	.8	51	24	1115	9.96	388	5	J	3	13	1	2	2	12	.06	.091	24	20	.09	53	.01	2	1.12	.01	.07	1	1890
60/3120	2	17	17	49	.1	15	6	214	3.20	39	5	ND	1	6	1	2	2	26	.02	.068	28	12	.07	45	.01	3	.77	.01	.05	1	74
60/3150	2	13	23	42	2.5	12	4	141	2.32	42	5	14	1	10	1	2	3	20	.03	.092	26	13	.12	61	.01	3	.66	.01	.05	3	65
60/3200	1	26	29	31	.7	23	9	296	5.39	38	5	ND	5	7	1	2	2	27	.05	.071	30	21	.23	90	.01	2	1.51	.01	.10	1	35
60/3240	1	19	15	65	.6	19	6	222	3.20	25	5	ND	5	10	1	2	2	18	.10	.051	30	15	.20	65	.01	4	.93	.01	.06	2	1
60/3290	1	32	26	30	.7	23	7	168	4.13	30	5	ND	1	13	1	2	2	26	.09	.096	29	16	.17	72	.01	2	.37	.01	.05	3	3
60/3320	1	34	92	102	.2	26	10	276	5.00	27	5	ND	1	13	1	2	2	30	.05	.059	26	22	.27	94	.01	3	1.32	.01	.06	2	52
60/3350	1	22	22	73	.5	18	8	222	3.77	23	5	ND	2	22	1	3	2	30	.32	.045	35	21	.34	60	.01	2	1.27	.01	.06	1	3
60/3400	1	26	50	114	.4	24	11	437	4.50	50	5	ND	2	9	1	2	2	25	.07	.046	27	17	.20	58	.01	4	.92	.01	.06	1	24
60/3440	1	15	13	60	.1	16	6	214	3.04	26	5	ND	1	13	1	3	2	25	.18	.041	30	15	.29	59	.01	2	.95	.01	.06	1	14
60/3460	2	13	17	89	.1	19	7	202	3.55	17	5	ND	3	9	1	2	2	23	.11	.057	32	18	.33	57	.01	2	1.19	.01	.05	1	930
60/3520	1	38	29	105	.1	42	18	759	4.41	37	5	ND	4	13	1	2	2	19	.15	.055	30	17	.34	51	.01	13	1.12	.01	.08	2	44
60/3560	3	11	8	23	.4	8	2	66	1.03	20	5	ND	2	4	1	2	2	12	.04	.024	34	5	.03	19	.01	2	.42	.01	.04	3	73
60/3600	1	30	35	63	.5	28	10	374	3.46	40	5	ND	2	16	1	2	2	27	.47	.049	22	13	.12	54	.01	2	1.03	.01	.05	1	1090
60/3640	1	114	15	117	.1	18	26	660	8.28	9	5	ND	7	14	1	2	2	40	.23	.116	29	11	.51	30	.01	2	2.65	.01	.03	1	25
60/3650	1	4	6	19	.1	5	2	44	.54	3	5	ND	3	5	1	2	2	11	.03	.014	40	6	.02	12	.01	9	.24	.01	.02	2	23
60/3720	1	56	29	98	.2	33	13	291	3.93	10	6	ND	4	14	1	2	2	19	.55	.103	81	23	.21	54	.01	2	2.47	.01	.05	1	260
60/3750	1	16	13	32	.1	16	6	363	3.09	14	5	ND	3	23	1	2	2	27	.20	.033	47	17	.20	88	.01	2	1.22	.01	.07	1	17
60/3800	2	10	15	53	.1	14	4	110	3.67	15	5	ND	4	5	1	2	2	20	.03	.050	27	12	.19	33	.01	2	1.11	.01	.04	1	9
60/3840	1	19	24	83	.1	21	7	306	4.60	31	5	ND	3	5	1	3	2	20	.03	.041	32	18	.25	50	.01	4	1.08	.01	.07	2	60
60/3880	1	20	20	85	.1	28	8	370	6.90	9	5	ND	5	5	1	2	2	17	.05	.052	24	25	.42	44	.01	2	1.81	.01	.02	1	8
60/3920	1	19	19	95	.1	20	7	170	5.19	22	5	ND	1	11	1	2	2	29	.10	.043	34	21	.26	73	.01	2	1.44	.01	.06	1	13
60/3960	1	8	9	39	.1	11	4	60	2.14	20	5	ND	3	4	1	3	2	25	.03	.020	39	8	.08	30	.01	2	.83	.01	.03	2	33
60/4000	2	16	18	63	.2	15	4	89	4.55	33	5	ND	5	3	1	3	2	23	.02	.056	38	12	.09	25	.01	2	1.00	.01	.04	1	15
62/2940	1	16	19	65	.5	21	6	174	5.16	33	5	ND	1	6	1	3	2	42	.06	.063	24	27	.32	84	.02	2	1.30	.01	.06	1	10
62/2890	1	20	28	59	.2	18	6	128	5.29	47	5	ND	5	6	1	2	2	18	.03	.051	33	13	.21	48	.01	2	.81	.01	.04	3	250
62/2920	1	21	19	109	.1	29	12	477	5.16	51	5	ND	1	8	1	2	3	20	.05	.087	25	16	.18	56	.01	3	.87	.01	.06	1	49
62/2960	1	64	40	146	1.4	48	35	1831	5.71	34	5	ND	1	44	1	3	2	24	.51	.191	17	21	.23	107	.01	7	1.69	.01	.12	1	2
62/3000	1	23	23	119	.2	21	8	246	5.46	34	5	ND	1	13	1	2	2	31	.10	.086	22	20	.18	61	.02	5	1.12	.01	.05	1	5
62/3040	1	25	16	79	.1	35	9	225	4.70	42	5	ND	1	7	1	3	2	32	.05	.051	25	32	.14	66	.01	2	.90	.01	.04	1	89
62/3080	1	13	16	50	.1	15	4	119	3.28	24	5	ND	4	4	1	2	2	24	.03	.058	25	17	.17	37	.01	5	.81	.01	.04	2	21
62/3120	1	43	32	97	.2	34	15	810	4.29	36	5	ND	1	13	1	3	2	24	.14	.056	34	20	.42	80	.01	2	1.69	.01	.10	3	3
62/3150	1	14	18	52	.1	13	4	116	3.30	27	5	ND	1	5	1	2	2	31	.05	.029	31	12	.12	50	.02	2	.70	.01	.04	3	9
62/3200	1	16	14	60	.1	15	6	143	3.75	32	5	ND	4	3	1	2	2	18	.01	.034	33	15	.32	42	.01	2	1.12	.01	.04	2	4
62/3240	1	15	14	52	.1	15	5	119	3.31	25	5	ND	1	5	1	3	2	22	.05	.037	33	13	.23	48	.01	5	.39	.01	.05	1	68
62/3300	1	23	19	34	.1	31	10	229	4.09	30	5	ND	4	3	1	3	2	17	.09	.036	34	15	.25	79	.01	2	1.29	.01	.07	1	6
STD C-20-B	19	52	44	136	7.9	65	31	1022	4.01	40	22	7	36	18	19	15	23	51	.30	.397	40	58	.93	185	.07	37	1.55	.06	.14	13	52

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPM
62/3321	1	24	19	74	.1	22	7	218	5.59	30	5	ND	3	6	1	2	2	25	.09	.056	27	16	.13	54	.01	3	.85	.01	.05	2	35
62/3350	1	33	24	35	.1	24	10	225	5.47	23	5	ND	4	5	1	3	2	27	.05	.042	30	14	.10	88	.01	2	.39	.01	.05	1	34
62/3360	1	22	20	56	.2	19	6	154	5.63	20	5	ND	4	4	1	2	2	25	.04	.046	25	18	.18	48	.01	4	1.22	.01	.05	1	30
62/3340	2	21	36	73	.1	25	7	252	6.56	53	5	ND	8	5	1	3	2	26	.02	.040	35	19	.13	58	.01	3	.92	.01	.05	2	150
62/3380	1	26	41	59	.2	19	6	169	7.65	33	5	ND	2	4	1	2	2	38	.02	.120	25	21	.13	36	.02	2	1.04	.01	.05	1	50
62/3520	1	15	43	47	.1	15	4	119	4.40	32	5	ND	7	5	1	3	2	21	.01	.031	35	14	.14	29	.01	2	.30	.01	.04	1	26
62/3550	1	22	29	59	.2	29	12	429	3.71	41	6	ND	4	17	1	2	2	17	.21	.056	30	15	.28	66	.01	2	1.05	.01	.05	1	43
62/3590	1	17	17	103	.1	23	3	401	3.27	26	5	ND	2	17	1	2	2	17	.33	.097	26	15	.28	57	.01	2	1.07	.01	.08	1	107
62/3540	1	43	17	99	.1	26	11	153	7.42	11	5	ND	5	5	3	2	2	25	.05	.079	30	17	.23	46	.01	2	1.33	.01	.05	1	17
62/3550	2	16	17	42	.1	15	5	115	3.57	42	5	ND	1	4	1	2	2	39	.02	.055	42	8	.06	13	.01	2	.70	.01	.04	1	26
62/3720	1	17	20	71	.1	18	7	237	4.47	22	5	ND	3	18	1	2	2	22	.18	.048	31	16	.24	103	.01	2	1.36	.01	.06	1	17
62/3750	1	29	27	91	.1	28	10	647	4.52	38	6	ND	2	9	1	2	2	22	.09	.063	42	20	.28	78	.01	2	1.43	.01	.09	1	53
62/3300	2	7	15	92	.2	9	3	79	2.36	6	5	ND	3	34	1	3	2	17	.54	.040	42	8	.11	58	.01	3	1.01	.01	.03	1	74
62/3340	1	10	10	45	.1	12	3	88	2.42	20	5	ND	1	7	1	3	2	33	.06	.052	32	9	.09	40	.01	3	.81	.01	.04	1	3
62/3350	1	5	5	24	.1	5	2	70	1.07	3	5	ND	1	5	1	3	2	28	.03	.024	29	9	.03	19	.02	2	.48	.01	.03	1	21
62/3520	1	5	9	23	.1	7	2	81	1.16	10	5	ND	1	3	1	2	2	17	.02	.023	29	5	.02	3	.01	4	.37	.01	.02	1	27
62/3350	1	40	45	139	.2	33	31	966	6.03	49	6	ND	3	18	2	2	2	22	.19	.103	25	21	.20	126	.01	4	1.85	.01	.07	1	41
62/3000	1	21	12	77	.1	19	6	210	7.04	53	5	ND	3	5	2	2	3	37	.04	.056	25	19	.18	35	.01	4	1.20	.01	.04	1	21
64/2500	1	24	21	67	.1	27	10	467	4.50	24	5	ND	2	11	1	2	2	25	.12	.052	29	20	.31	54	.02	2	1.32	.01	.06	1	56
64/2540	1	27	24	73	.2	30	13	460	4.09	37	5	ND	2	12	1	2	4	22	.13	.053	28	25	.41	78	.01	5	1.25	.01	.38	1	50
64/2550	1	23	22	50	.1	29	10	318	3.50	28	5	ND	3	13	1	3	2	22	.13	.040	34	23	.45	58	.01	5	1.14	.01	.07	1	126
64/2720	1	53	28	87	.3	55	19	1027	5.45	51	7	ND	2	24	2	3	2	23	.31	.089	23	25	.34	86	.01	5	1.75	.01	.11	1	630
64/2760	1	19	15	89	.2	25	11	763	4.89	32	5	ND	2	12	1	2	2	32	.12	.069	28	25	.28	73	.02	2	1.35	.01	.07	1	19
64/2800	1	21	11	57	.1	23	7	204	3.77	43	5	ND	1	7	1	2	2	32	.05	.056	32	10	.08	36	.02	4	.63	.01	.03	1	13
64/2340	1	35	17	74	.2	37	18	651	4.48	57	5	ND	2	19	1	3	2	19	.21	.076	26	17	.34	47	.01	2	.96	.01	.05	1	49
64/2580	1	82	63	81	.4	53	17	1308	5.32	124	12	ND	2	62	2	3	2	21	.60	.218	18	17	.24	74	.01	4	1.44	.01	.09	1	71
64/2520	1	51	17	45	.2	24	7	195	3.27	51	7	ND	1	18	1	2	2	20	.15	.051	25	14	.13	34	.01	2	.83	.01	.04	1	42
64/2960	1	83	23	91	.1	49	25	1217	5.34	35	7	ND	1	30	2	2	2	24	.35	.083	21	18	.28	62	.01	2	1.36	.01	.06	1	146
64/3500	1	15	21	48	.2	14	5	147	2.92	16	5	ND	1	19	1	2	2	31	.26	.029	24	13	.15	47	.01	2	.85	.01	.04	1	23
64/3040	1	19	20	67	.2	24	3	193	3.46	37	5	ND	3	17	1	3	2	17	.21	.056	29	16	.30	43	.01	2	1.02	.01	.05	1	26
64/2080	1	18	86	103	.1	18	7	378	5.69	27	5	ND	3	10	1	2	2	29	.11	.039	26	15	.12	54	.02	2	.89	.01	.05	1	35
64/3120	1	23	33	62	.1	22	12	380	4.11	39	5	ND	2	20	1	2	2	23	.30	.041	22	15	.20	43	.01	2	.97	.01	.05	1	21
64/2150	1	21	20	107	.1	26	12	309	4.39	27	5	ND	4	16	1	2	2	22	.20	.046	27	18	.35	77	.01	2	1.30	.01	.08	1	43
64/2200	1	17	21	75	.2	28	11	554	3.51	27	5	ND	1	23	1	3	2	17	.34	.059	21	14	.26	46	.01	2	1.19	.01	.06	1	34
64/2240	1	25	26	78	.2	32	16	632	4.35	25	5	ND	2	26	2	2	2	22	.38	.048	23	18	.30	48	.02	2	1.34	.01	.06	1	27
64/3260	1	19	21	76	.1	23	10	321	4.12	26	5	ND	3	14	2	2	2	20	.19	.028	29	18	.31	51	.01	2	1.03	.01	.06	1	31
STD C/AU-5	19	59	40	133	7.7	69	30	1032	4.28	40	21	8	36	48	20	15	21	61	.51	.095	40	55	.93	174	.07	34	2.00	.06	.13	12	52

GEOCHEMICAL ANALYSIS CERTIFICATE

Pan Orvana Resources Inc. File # 90-2853 Page 1

710 - 1177 W. Hastings St., Vancouver BC V6E 2K3

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
55/3680	1	42	30	95	.1	36	21	961	4.68	32	5	ND	3	15	.3	2	5	27	.16	.070	26	30	.36	123	.01	3	1.76	.01	.13	3	33
55/3720	1	26	23	81	.1	37	19	684	4.18	61	5	ND	5	16	.2	2	2	25	.24	.059	30	25	.53	95	.01	2	1.63	.01	.09	1	15
55/3760	1	29	23	78	.1	34	18	364	6.03	32	5	ND	7	5	.2	2	2	26	.04	.043	31	31	.65	66	.01	4	1.79	.01	.08	2	23
55/3800	1	33	30	77	.1	32	20	499	4.88	28	5	ND	4	13	.2	2	3	24	.13	.074	27	26	.44	54	.01	2	1.65	.01	.07	1	53
55/3840	1	24	24	76	.1	30	16	432	4.99	36	5	ND	5	10	.2	3	2	27	.11	.059	29	28	.46	84	.01	6	1.61	.01	.06	3	10
55/3880	1	22	24	68	.1	25	15	310	4.99	23	5	ND	10	6	.2	2	2	28	.05	.052	31	28	.42	80	.01	6	1.73	.01	.07	3	5
55/3920	1	33	23	76	6.4	28	14	220	6.09	29	5	ND	6	8	.2	2	2	27	.03	.128	29	21	.26	37	.02	2	1.03	.01	.03	1	113
55/3960	1	24	20	50	.4	15	10	263	4.78	18	5	ND	2	6	.2	2	2	28	.05	.065	25	23	.19	56	.01	2	1.23	.01	.05	1	11
55/4000	1	17	28	52	.4	17	11	319	4.53	18	5	ND	1	14	.2	2	2	29	.16	.060	22	22	.27	56	.02	2	1.26	.01	.05	1	8
56/3520	1	32	24	87	.2	29	14	303	4.61	38	5	ND	4	22	.2	2	2	22	.10	.096	24	23	.27	77	.01	4	1.12	.01	.07	1	30
56/3560	1	31	21	77	.1	27	15	386	3.94	37	5	ND	3	13	.2	2	2	21	.09	.058	28	18	.30	74	.01	5	1.06	.01	.08	3	110
56/3600	1	16	28	57	.4	19	12	817	3.33	16	5	ND	2	16	.2	2	2	25	.18	.053	25	19	.30	65	.01	4	1.18	.01	.05	1	25
56/3640	1	19	21	60	.9	18	10	313	3.98	26	5	ND	3	13	.2	2	3	23	.05	.077	25	19	.21	63	.01	5	.98	.01	.05	2	35
56/3680	1	21	26	67	.1	23	13	286	5.19	22	5	ND	3	6	.2	2	2	24	.06	.056	22	23	.32	51	.01	2	1.22	.01	.06	1	61
56/3720	1	25	21	67	.4	24	12	370	4.10	255	5	ND	1	12	.2	2	2	24	.17	.059	21	20	.21	67	.01	5	1.25	.01	.07	1	40
56/3760	1	41	25	72	.8	40	22	1318	4.55	287	6	ND	4	26	.2	2	5	23	.41	.068	29	26	.39	83	.01	2	1.86	.01	.11	2	24
56/3800	1	29	35	77	.3	32	17	370	4.48	48	5	ND	6	17	.2	2	2	21	.20	.058	27	24	.45	77	.01	4	1.63	.01	.07	2	12
56/3840	1	21	29	68	.2	30	17	321	4.53	49	5	ND	4	23	.2	2	2	23	.39	.060	25	22	.45	49	.01	2	1.47	.01	.06	1	18
56/3880	1	46	26	90	1.0	41	24	875	5.10	38	5	ND	5	31	.2	2	2	25	.43	.066	30	26	.41	103	.01	2	1.92	.01	.11	1	10
56/3920	1	41	25	96	.6	41	22	673	4.99	29	5	ND	5	35	.2	2	3	20	.57	.091	27	24	.38	89	.01	3	1.81	.01	.08	1	21
56/3960	1	39	29	61	.6	24	10	264	3.37	17	5	ND	1	52	.2	2	2	22	.88	.053	24	15	.13	64	.01	2	.87	.01	.05	1	6
56/4000	1	41	35	102	1.5	40	24	773	4.90	28	6	ND	5	38	.2	2	2	23	.73	.071	25	25	.37	89	.01	5	1.73	.01	.08	2	30
57/3520	1	32	44	96	.9	26	16	1050	4.35	27	5	ND	1	28	.2	2	2	23	.41	.107	22	21	.26	75	.01	2	1.10	.01	.07	2	39
57/3560	1	100	43	109	1.7	60	35	1148	5.17	34	9	ND	2	51	.2	2	2	28	.73	.113	28	27	.29	111	.01	2	1.76	.01	.12	1	119
57/3600	1	22	29	73	.1	23	12	297	4.50	28	5	ND	1	11	.2	2	2	24	.11	.098	24	18	.24	75	.01	2	.95	.01	.06	1	40
57/3640	1	18	17	56	.2	22	11	218	4.26	33	5	ND	8	8	.2	2	3	22	.04	.041	30	20	.26	58	.01	4	1.03	.01	.06	2	530
57/3680	1	21	34	66	.4	17	13	381	5.72	26	5	ND	2	7	.2	2	2	31	.05	.106	23	19	.19	55	.02	2	1.07	.01	.05	4	8
57/3720	1	22	28	71	.3	20	12	406	5.24	23	5	ND	6	4	.2	2	4	29	.04	.086	25	18	.22	46	.03	2	.88	.01	.04	1	15
57/3760	1	22	21	59	.4	19	11	219	4.22	27	5	ND	4	9	.2	3	2	23	.10	.048	26	19	.20	67	.01	2	1.26	.01	.07	1	16
57/3800	1	10	17	41	.6	10	7	187	3.21	17	5	5	2	5	.2	2	2	22	.03	.060	23	16	.20	38	.01	2	1.08	.01	.04	2	30
57/3840	1	14	16	66	.4	16	10	400	4.40	20	5	ND	2	11	.2	2	2	23	.11	.104	22	22	.27	62	.01	2	1.15	.01	.05	1	13
57/3880	1	36	33	73	1.0	29	17	783	4.22	34	5	ND	3	27	.2	2	3	20	.32	.078	23	19	.26	84	.01	2	1.31	.01	.10	2	90
57/3920	1	19	26	55	.4	16	12	475	3.61	22	7	ND	3	5	.2	3	2	21	.03	.065	30	18	.22	70	.01	3	1.03	.01	.09	2	26
57/3960	1	24	21	62	.4	20	12	747	3.35	23	5	ND	1	25	.2	2	2	19	.33	.073	28	16	.22	61	.01	2	1.03	.01	.06	1	35
57/4000	1	30	30	85	.8	20	15	1740	4.01	21	11	ND	1	32	.2	2	6	22	.48	.092	24	18	.20	76	.01	2	1.15	.01	.07	1	31
59/3200	1	32	28	107	1.1	41	22	1084	4.46	35	5	ND	3	23	.2	2	3	23	.30	.094	23	25	.35	118	.01	3	1.61	.01	.12	2	37
STANDARD C/AU-S	19	60	42	132	7.6	67	32	1095	4.01	42	24	7	36	52	18.6	15	22	56	.56	.099	36	60	.91	181	.07	37	1.93	.06	.14	12	49

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 - SAMPLE TYPE: Soil -80 Mesh AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 25 1990 DATE REPORT MAILED: Aug 1/90 SIGNED BY: C. Leong D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
59/3240	1	26	41	81	.5	28	11	246	4.33	36	5	ND	2	15	.3	2	2	33	.10	.106	30	27	.35	106	.02	8	1.52	.01	.13	2	48
59/3280	1	15	27	48	.4	14	6	163	3.76	15	5	ND	1	7	.2	2	2	28	.03	.095	29	19	.22	46	.01	7	1.10	.01	.04	1	11
59/3320	1	35	32	115	.3	36	19	501	5.03	42	5	ND	7	14	.3	3	2	25	.10	.090	35	28	.37	65	.02	17	1.60	.01	.08	2	81
59/3400	1	33	35	91	.5	34	14	409	5.63	32	5	ND	5	10	.4	2	2	34	.08	.060	35	39	.42	126	.01	6	2.15	.01	.14	2	17
59/3440	1	27	21	75	.2	27	12	231	5.02	34	5	ND	10	6	.2	2	2	25	.05	.053	47	30	.46	64	.01	11	1.71	.01	.10	1	7
59/3480	1	29	24	62	.2	20	10	282	6.27	35	5	ND	3	5	.3	2	2	28	.05	.073	31	27	.30	40	.02	5	1.30	.01	.06	1	15
59/3520	1	22	34	67	.1	18	8	171	5.40	32	5	ND	9	5	.2	2	2	36	.02	.058	38	25	.40	42	.01	7	1.60	.01	.04	2	5
59/3560	1	55	58	118	.6	56	22	1366	5.35	35	5	ND	5	43	.5	3	2	27	.58	.120	29	32	.43	130	.01	15	2.24	.02	.22	1	17
59/3600	1	19	25	50	.3	19	8	143	3.94	37	5	ND	4	5	.2	2	2	24	.04	.041	36	22	.29	53	.01	8	1.15	.01	.06	2	10
59/3640	1	27	36	72	.7	24	11	205	5.95	37	5	ND	3	6	.2	3	2	24	.03	.073	28	28	.28	44	.02	6	1.36	.01	.06	1	21
59/3680	1	73	50	159	1.1	56	26	2324	5.98	39	5	ND	5	51	.8	2	2	36	.92	.124	35	39	.47	144	.02	4	2.69	.02	.22	1	8
59/3720	1	67	41	86	.7	40	24	1055	5.17	36	5	ND	3	30	.4	2	2	32	.38	.079	44	29	.38	96	.02	3	1.96	.01	.13	1	15
59/3760	1	37	34	93	.4	26	13	400	4.30	40	5	ND	1	18	.2	3	2	30	.16	.066	30	26	.29	85	.02	5	1.52	.01	.12	1	35
59/3800	1	40	30	83	.1	39	20	547	4.75	33	5	ND	9	14	.2	2	2	24	.14	.046	50	28	.59	58	.01	2	1.76	.01	.10	1	9
59/3840	1	25	28	73	.1	23	12	273	4.06	30	5	ND	7	9	.2	2	2	26	.05	.039	42	22	.30	85	.01	4	1.48	.01	.08	2	15
59/3880	1	35	33	91	.3	35	18	1210	4.72	33	5	ND	4	48	.3	2	2	31	.46	.074	43	29	.33	148	.01	3	2.10	.01	.20	1	45
59/3920	1	23	31	69	.1	16	7	273	3.19	18	5	ND	1	24	.3	2	2	26	.26	.047	42	20	.23	151	.01	4	1.59	.01	.08	1	12
59/3960	1	49	35	100	.1	29	19	759	4.01	27	5	ND	4	86	.4	2	2	28	1.07	.075	64	23	.21	90	.01	6	1.94	.01	.07	1	12
59/4000	1	55	48	111	.1	44	21	1027	4.88	29	5	ND	5	31	.4	2	3	27	.38	.087	63	28	.37	82	.02	5	1.83	.01	.07	1	10
61/3200	1	25	29	67	.6	19	10	233	5.16	35	5	ND	6	6	.2	2	2	20	.04	.088	34	16	.24	40	.01	5	1.21	.01	.02	1	47
61/3240	1	29	27	71	.1	21	10	180	5.05	37	5	ND	3	26	.3	2	2	20	.40	.051	28	13	.21	54	.01	3	.97	.01	.03	2	64
61/3280	1	23	19	65	.1	19	10	164	3.70	31	5	ND	5	18	.2	2	2	24	.25	.030	35	14	.20	38	.01	5	1.04	.01	.04	1	8
61/3320	1	28	28	94	.5	27	17	596	4.26	26	5	ND	6	19	.2	3	3	31	.30	.054	35	27	.41	66	.01	3	1.98	.01	.09	1	8
61/3360	1	12	17	65	.1	18	8	150	3.26	16	5	ND	4	12	.2	2	2	25	.16	.034	33	19	.29	50	.01	2	1.29	.01	.02	1	9
61/3400	1	18	22	61	.1	15	8	157	3.45	26	5	ND	3	11	.2	2	2	28	.14	.032	31	16	.13	70	.02	3	1.12	.01	.02	1	14
61/3440	1	78	55	84	1.2	48	19	747	4.58	21	7	ND	6	31	.4	3	2	18	.45	.086	27	27	.41	56	.02	6	1.65	.01	.07	1	29
61/3480	1	72	33	93	1.9	47	13	264	5.60	21	7	ND	4	37	.5	3	2	18	.49	.126	26	20	.21	50	.01	2	2.21	.01	.05	1	8
61/3520	1	18	47	75	.8	22	11	324	3.91	44	5	ND	3	14	.2	2	2	25	.12	.038	34	17	.16	73	.02	5	1.09	.01	.05	1	120
61/3560	1	16	17	53	.1	21	9	245	3.29	23	5	ND	8	5	.2	2	2	34	.08	.028	36	22	.23	28	.06	3	.75	.01	.01	1	16
61/3600	1	31	58	90	.7	27	17	1193	4.22	37	5	ND	2	27	.2	2	2	24	.51	.080	23	21	.21	79	.01	2	1.50	.01	.07	1	21
61/3640	1	30	36	113	.1	37	13	211	4.66	40	5	ND	6	13	.2	2	2	22	.11	.055	31	21	.23	87	.01	5	1.84	.01	.10	1	6
61/3680	1	15	23	52	.1	12	5	67	3.50	11	5	ND	4	6	.2	2	2	19	.08	.039	27	11	.12	47	.01	3	.99	.01	.01	1	47
61/3720	1	19	17	81	.1	16	8	171	4.27	11	5	ND	8	7	.2	2	2	18	.04	.060	39	20	.58	45	.01	2	2.22	.01	.03	1	3
61/3760	1	28	36	97	.2	25	11	179	5.90	16	5	ND	10	26	.2	2	2	22	.25	.061	51	22	.34	92	.01	2	2.03	.01	.04	1	7
61/3800	1	20	27	60	.1	15	7	159	6.34	25	5	ND	4	9	.2	2	2	35	.10	.049	40	20	.17	63	.02	2	1.27	.01	.02	1	11
61/3840	1	392	34	92	.7	50	22	1092	4.20	37	5	ND	2	70	.4	2	4	23	1.04	.090	29	28	.37	85	.03	3	1.60	.01	.08	1	99
STANDARD C/AU-S	20	62	44	132	7.8	70	32	1057	4.02	41	22	7	40	53	18.5	15	22	61	.56	.093	39	60	.94	171	.09	36	1.98	.06	.15	11	46

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
61/3880	1	26	37	86	.2	28	12	249	5.35	10	5	ND	6	9	.2	2	3	13	.11	.055	50	18	.30	50	.01	2	1.20	.01	.06	1	3
61/3920	1	25	48	63	.1	21	13	206	5.12	26	5	ND	4	5	.2	2	5	25	.03	.041	28	16	.13	41	.01	2	1.12	.01	.06	1	64
61/3960	1	12	7	32	.1	11	5	101	2.18	15	5	ND	2	3	.2	2	3	22	.02	.032	29	6	.02	13	.01	2	.35	.01	.02	1	2
61/4000	1	20	15	41	.1	18	8	130	3.37	29	5	ND	2	3	.2	2	3	25	.03	.030	30	10	.04	23	.01	2	.61	.01	.04	1	25
63/2600	1	25	19	67	.1	32	14	370	3.87	22	5	ND	4	11	.3	2	2	23	.13	.043	28	28	.46	99	.02	2	1.42	.01	.10	1	4
63/2640	1	39	32	77	.5	38	19	871	4.59	40	5	ND	3	20	.2	2	2	19	.28	.087	23	22	.38	106	.01	4	1.49	.01	.09	1	13
63/2680	1	33	30	61	.3	34	17	668	4.03	44	5	ND	5	11	.2	2	2	17	.11	.048	31	20	.34	77	.01	3	1.12	.01	.07	1	20
63/2720	1	27	27	82	.1	38	16	343	4.87	33	5	ND	9	6	.4	2	2	23	.06	.035	32	29	.40	100	.02	3	1.63	.01	.09	1	4
63/2760	2	68	56	85	.3	54	26	1523	6.07	72	6	ND	3	23	.2	2	7	24	.27	.087	25	27	.39	143	.01	5	1.76	.01	.12	1	15
63/2800	1	27	16	59	.1	28	13	405	4.46	36	5	ND	1	13	.2	2	6	29	.14	.042	30	22	.22	75	.02	2	1.11	.01	.07	1	22
63/2840	1	24	22	71	.1	27	14	303	5.67	40	5	ND	2	12	.2	2	2	27	.13	.126	25	23	.25	59	.02	2	1.20	.01	.06	2	4
63/2880	1	45	19	66	.4	61	19	659	4.70	85	5	ND	2	21	.4	3	4	19	.19	.061	27	22	.27	59	.01	2	1.44	.01	.07	1	57
63/2920	1	46	27	108	.5	38	25	1119	5.82	46	5	ND	1	30	.3	2	2	28	.25	.135	19	22	.20	117	.01	3	1.20	.01	.09	1	8
63/2960	2	27	19	64	.1	33	16	548	4.85	43	5	ND	2	10	.4	2	4	24	.11	.065	23	23	.20	86	.01	2	1.20	.01	.06	1	64
63/3000	3	26	27	101	.4	40	12	269	5.09	74	5	ND	1	36	.2	2	10	27	.16	.082	20	19	.15	72	.01	7	1.12	.01	.07	1	10
63/3040	1	39	30	73	.4	30	14	271	4.10	35	5	ND	2	15	.3	2	2	21	.14	.055	27	16	.16	73	.01	2	.92	.01	.06	1	2
63/3080	1	19	26	86	.2	25	14	560	3.51	23	5	ND	3	16	.2	2	3	22	.25	.045	27	22	.36	84	.01	2	1.27	.01	.08	1	21
63/3120	1	22	29	73	.1	25	13	257	3.92	25	5	ND	5	7	.2	2	2	18	.08	.034	34	18	.37	65	.01	3	1.21	.01	.05	1	25
63/3160	1	17	16	84	.1	19	11	334	3.58	27	5	ND	2	12	.2	2	5	27	.12	.036	28	17	.16	79	.02	2	1.06	.01	.07	1	7
63/3200	1	12	21	47	.3	15	8	171	3.01	23	5	ND	3	11	.2	3	2	21	.16	.024	25	15	.15	49	.01	2	.94	.01	.05	1	3
63/3240	4	75	52	85	.1	30	21	445	6.08	35	5	ND	3	8	.2	2	2	14	.08	.043	26	10	.05	53	.01	2	.65	.01	.04	1	3
63/3280	1	26	15	85	.1	26	14	272	5.67	24	5	ND	4	6	.3	2	3	23	.09	.037	25	19	.29	52	.01	5	1.30	.01	.05	1	3
86/8800	2	20	29	92	.9	20	16	670	4.10	12	5	ND	1	20	.2	2	3	35	.33	.072	18	21	.25	162	.02	2	1.14	.01	.04	1	3
86/8840	2	50	39	130	.6	56	16	451	3.86	6	5	ND	3	20	.2	2	3	15	.31	.058	23	17	.31	147	.01	2	1.00	.01	.05	1	2
86/8880	1	48	34	127	1.4	53	22	1059	4.28	9	5	ND	1	37	1.4	2	2	26	.59	.077	18	26	.39	239	.02	2	1.42	.01	.07	1	4
86/8920	1	21	8	80	.9	32	3	259	.53	2	5	ND	1	216	1.2	2	2	3	4.45	.086	2	6	.52	243	.01	10	.30	.01	.02	1	2
86/8960	2	37	23	124	.2	57	28	3008	4.80	9	7	ND	3	28	.6	2	5	16	.38	.080	19	16	.30	260	.01	5	.83	.01	.04	1	4
86/9000	1	35	47	92	.8	39	15	467	3.03	10	5	ND	2	27	.6	2	2	22	.41	.078	18	25	.30	225	.01	6	1.36	.01	.05	1	9
86/9040	1	19	30	87	.3	26	11	458	3.37	11	5	ND	1	27	.2	2	2	21	.38	.053	18	18	.26	208	.01	3	.98	.01	.05	1	10
86/9080	2	28	48	114	.5	38	16	785	3.89	13	5	ND	2	25	.2	2	2	21	.37	.079	19	23	.34	251	.01	3	1.15	.01	.05	1	9
86/9120	1	28	36	107	.5	39	13	444	3.40	9	5	ND	1	31	.3	2	2	19	.40	.073	20	19	.31	286	.01	2	1.13	.01	.06	1	10
86/9240	1	25	37	95	.2	33	14	481	3.64	8	5	ND	1	20	.4	2	2	21	.23	.064	23	21	.32	204	.01	2	1.22	.01	.06	2	4
86/9280	1	26	37	83	.2	33	15	474	3.29	12	5	ND	5	20	.2	2	2	18	.27	.062	35	18	.32	178	.02	2	.91	.01	.06	1	11
86/9640	1	43	56	100	.1	40	21	701	4.32	31	5	ND	12	56	.4	2	2	24	1.14	.062	29	21	.50	89	.04	11	1.22	.02	.12	1	34
86/9680	1	46	52	114	.1	42	23	983	4.76	25	5	ND	11	28	.3	2	2	22	.45	.061	36	21	.48	94	.02	6	1.46	.01	.13	1	20
86/9720	1	30	32	93	.2	32	16	561	4.11	16	5	ND	2	13	.3	2	2	24	.15	.065	27	24	.38	117	.01	3	1.55	.01	.09	1	11
STANDARD C/AU-S	19	58	42	132	7.2	73	31	1110	4.13	42	24	7	36	53	18.8	15	19	55	.59	.098	37	59	.97	179	.07	39	1.94	.06	.13	11	45