

**REGIONAL RESOURCES LTD.  
GWR RESOURCES INC.  
LAC LA HACHE PROJECT  
1995 DRILL PROGRAM  
PMA PROPERTY**

**Longitude 121°17' W, Latitude 51°59' N  
Clinton Mining Division, B.C.**

**NTS 92 P/14W**

**February 1996  
Toronto, Canada**

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Strathcona Mineral Services Limited**

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## SUMMARY

The PMA property was optioned by the Lac La Hache joint venture in April of 1995. Line cutting, geological mapping and 13.5 kilometres of induced polarization (IP) and magnetometer surveys were performed, and followed by drilling of one hole (PM95-01) on Dora 2 claim in the southwest corner of the claim group. Drill target was the "East Zone Anomaly", an IP chargeability anomaly situated on the junction of the Peach Lake, PMA and Ophir Copper properties.

This anomaly was first discovered by Amax in 1972, and has been drilled by Amax (1972), Asarco (1991) and the Lac La Hache joint venture (1994). Most of the holes returned pyrite and sub-economic copper and gold in porphyritic and volcanic rocks, indicating a relatively extensive porphyry system. Drilling at the northeast flank of the anomaly ("Peach Melba") by GWR in April of 1995 resulted in a higher grade intersection (0.23% copper, 0.23% gold over 77 metres) in hole PL95-02. Much of the mineralization was found to be associated with steeply dipping veins and shears, which previous drilling of vertical holes had not properly tested.

Hole PM95-01 was drilled at -45° to the southwest, perpendicular to the strike of the IP anomaly, and intersected 112 metres of 0.20% copper and 0.13 g/t gold. Although this grade is uneconomic, the true width of the mineralized zone of approximately 80 metres and the presence of higher-grade intervals within the zone are encouraging and more drilling should be performed on the PMA claims before the option is terminated.

To test for an extension of the mineralized zone and for a higher copper-gold grade, it is recommended to drill 300 metres in one or two holes, some 400 to 500 metres southeast from hole PM95-01. The estimated cost for this program is \$35 000.

## INTRODUCTION

The Lac La Hache joint venture of Regional Resources Ltd. and GWR Resources Inc. was formed in 1993, to explore a block of claims north of Lac La Hache, south-central British Columbia (Figure PM-1), for porphyry and skarn-type copper and copper-gold deposits.

In 1995, the Joint Venture optioned four claims, located between the Peach Lake and Nemrud properties from PMA Resources Inc. These claims are largely overburden covered, but are interpreted to be underlain by lithologies similar to the Peach Lake property, which hosts the Spout Lake copper-magnetite skarn. Work on the PMA property in 1995 consisted of line cutting, geological mapping, rock sampling and 13.4 kilometres of induced polarization (IP) and magnetometer surveys<sup>(1)</sup>. Objective of the geophysical surveys was, to test the northeast portion of a strong IP anomaly ("East Zone Anomaly") located on the junction of Peach Lake, Ann and PMA claims.

This report describes results of drilling of one 300.9 metre-long, NQ-size hole on Dora 2 claim in the southwest corner of the PMA property. Field work was carried out by Strathcona Mineral Services Limited on behalf of the joint venture partners.

## LOCATION AND ACCESS

The PMA property is situated 21 kilometres northeast of Lac La Hache, in the Clinton Mining Division of south-central British Columbia, and is centred at Longitude 121°17' W and Latitude 51°59' N (Figure PM-2). The claims are accessible from Lac La Hache via the Rail Lake Road, and from Forest Grove via the Bradley Creek Road and secondary logging roads.

## PHYSIOGRAPHY AND CLIMATE

The Central Plateau in the Lac La Hache region is characterized by gentle, rolling hills with elevations ranging from 850 m to 1500 metres above sea level. About 40% of the forests in the area have been clear cut. The climate is cold temperate with an

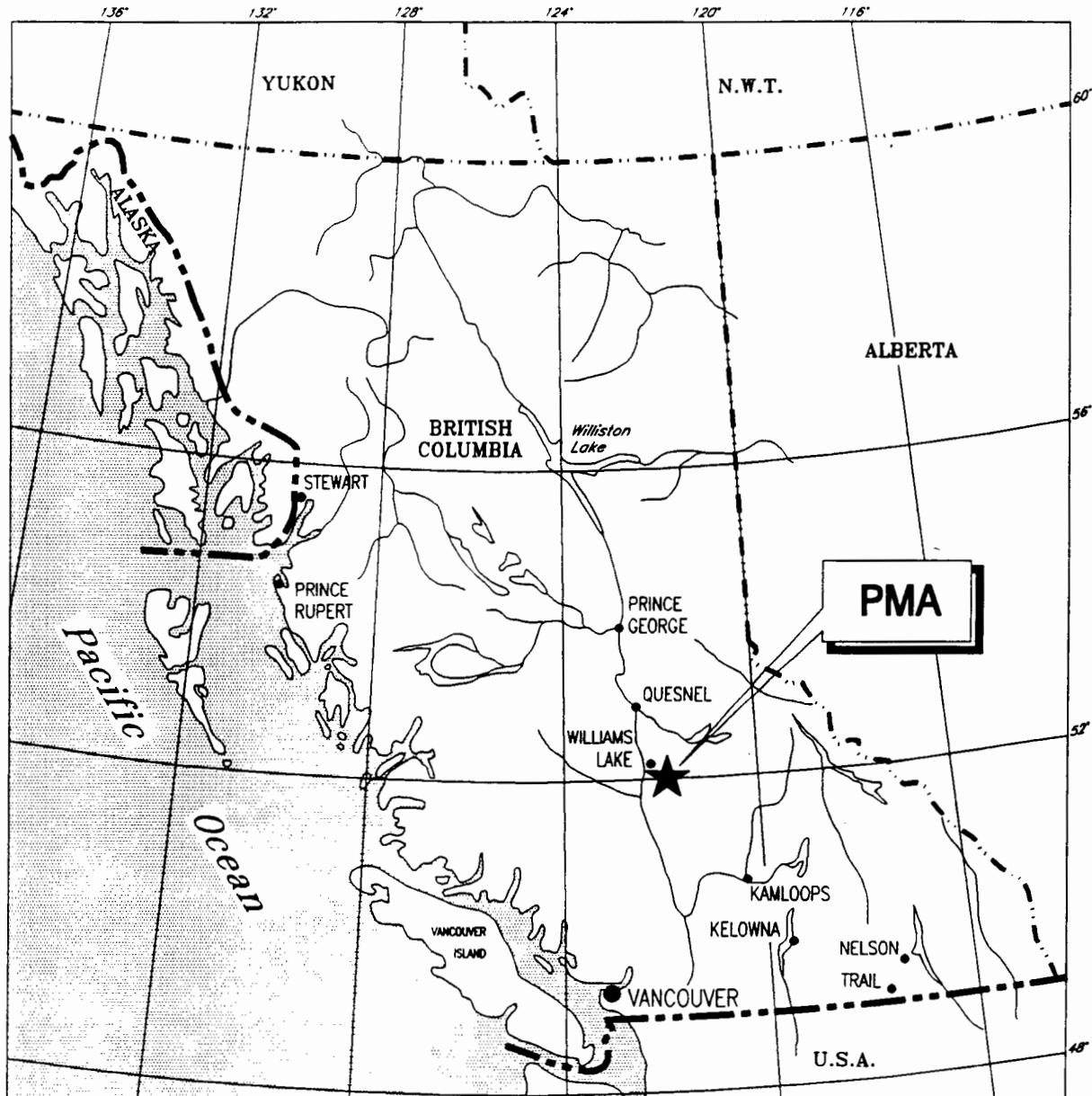
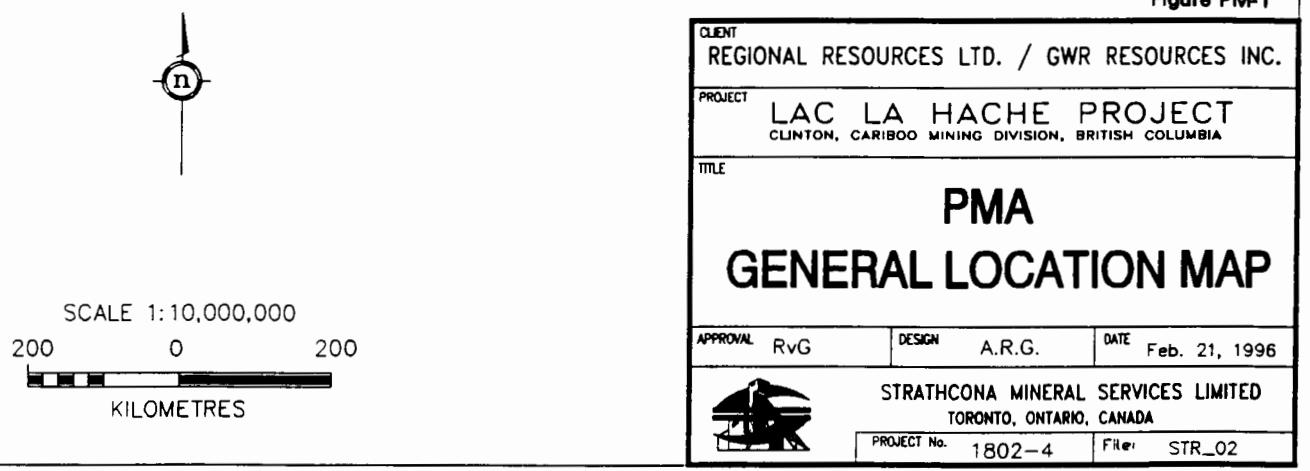


Figure PM-1



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annual precipitation of 500 to 1000 millimetres. Snow cover on the ground averages one to two metres, with snow arriving in November and departing by mid-April.

Elevation on the PMA property varies from approximately 1050 metres in the Peach Lake valley, to 1300 metres in the southeast corner of the claim group. Outcrop is confined to the slope south of the valley.

### **PROPERTY STATUS**

The PMA grid is located on the Dora 2, Dora 3 claims, in the Clinton Mining Division of south-central British Columbia. These and other claims listed below are under option from PMA Resources Inc. Regional Resources has the right to acquire a 60% interest in the property by incurring work costs of \$200 000 before June 1, 1998 and making payments of \$10 000 to PMA before September 1, 1998. Regional can earn an additional 25% in the property by incurring additional work costs of \$200 000 before June 1, 2000, and making payments of \$20 000 to PMA by September 1, 2000. The PMA option is subject to provisions under the Regional / GWR agreement whereby GWR's interest in the claims would be 40% of 85% if the second option is exercised. PMA's 15% interest is convertible into a 1.5% Net Smelter Return royalty.

#### **PMA Property**

<u>Claim Name</u>	<u>Record Number</u>	<u>Number of Units</u>	<u>Expiry Date</u>
Jack 1	313376	12	21-09-97
Jack 2	313377	20	22-09-97
Dora 2	313634	16	19-09-97
Dora 3	313635	<u>16</u> 64	20-09-97

### **PROJECT HISTORY**

The project area covers part of the southern lobe of a large aeromagnetic anomaly, which has attracted the attention of exploration companies since its delineation by the Geological Survey of Canada in 1967. Magnetic anomalies in areas underlain by

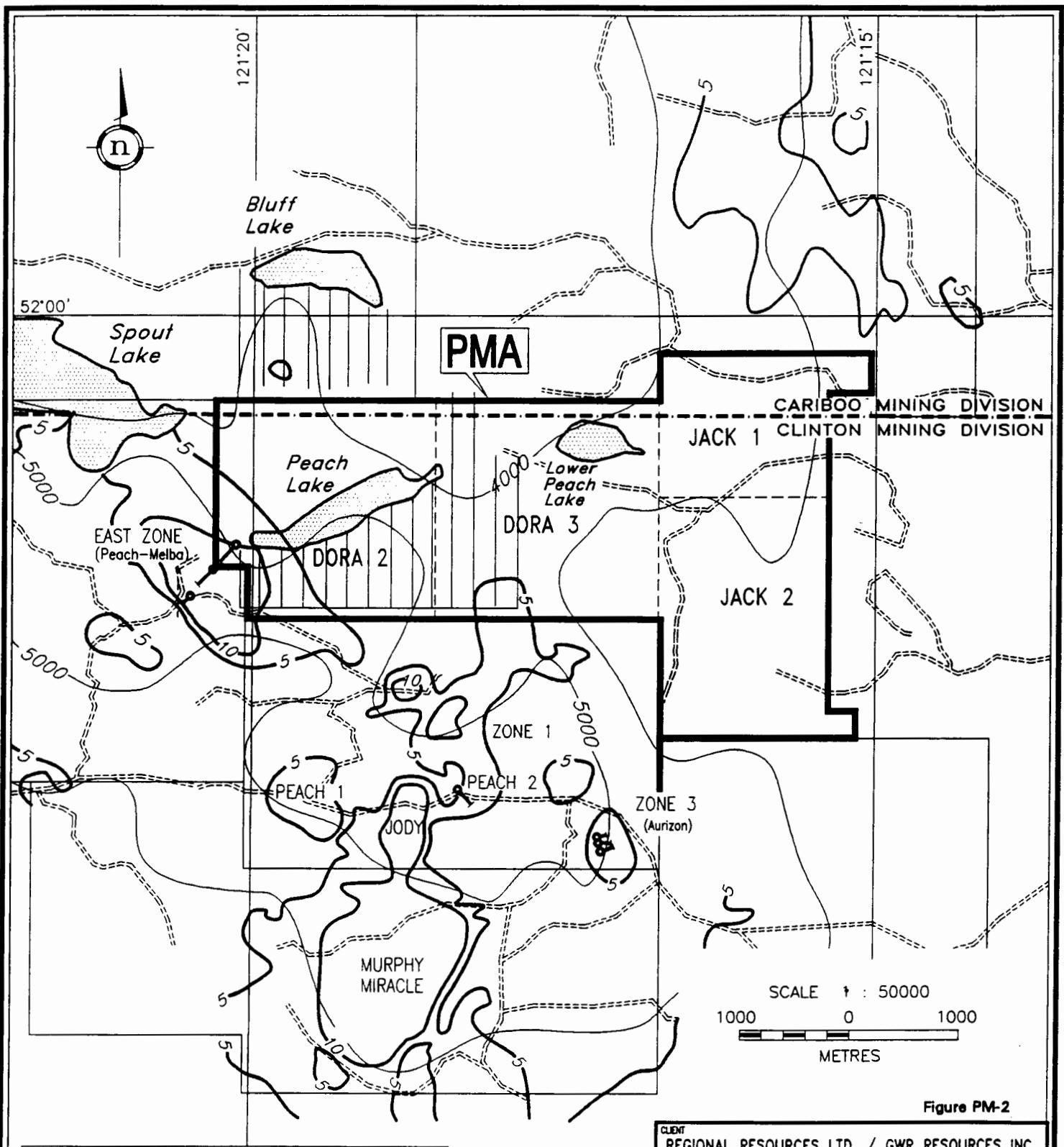


Figure PM-2

LEGEND

- 5000 Aeromagnetics, nT
- Induced Polarization chargeability contours 21 point triangular filter, msec
- 1995 diamond drill hole
- Logging road

CLIENT	REGIONAL RESOURCES LTD. / GWR RESOURCES INC.		
PROJECT	LAC LA HACHE PROJECT CLINTON, CARIBOO MINING DIVISION, BRITISH COLUMBIA		
TITLE	<b>PMA CLAIM LOCATION</b>		
APPROVAL	RvG	DESIGN	A.R.G.
		DATE October 1995	
		STRATHCONA MINERAL SERVICES LIMITED TORONTO, ONTARIO, CANADA	
		PROJECT No.	1802-4
		File: LLH-PMA	

Nicola Group rocks may indicate k-feldspar-magnetite alteration zones associated with alkaline porphyry copper-gold. Surveys were mostly directed towards areas of abundant outcrop along the southern portion of the magnetic anomaly and resulted in the discovery of the Spout Lake (WC) copper-magnetite skarn, the Peach 1, 2 zones, Miracle and Tim copper-gold occurrences and other showings associated with Nicola Group alkalic intrusions and volcanic rocks.

A portion of the area covered by the PMA claims south of Peach Lake was held by Coranex Syndicate, who staked over 500 claims in the area between Spout Lake Lower Peach Lake and Mt. Timothy in 1966, reportedly on the basis of regional geochemical prospecting. Coranex' claims were under option to Amax Potash Ltd. in 1972, who had discovered the Spout Lake chalcopyrite-magnetite skarn in 1971. Geological compilation maps by Amax <sup>(1)</sup> show the area of the PMA claims south of Peach Lake underlain by northwesterly striking Nicola Group rocks.

Induced polarization surveys by Amax (1972), Asarco (1991) and by the Lac La Hache joint venture in 1994, had outlined a strong, northwest trending IP anomaly ("East Zone", "Peach Melba Zone") at the west end of Peach Lake. The area defined by the 10 millisecond contour is 1.5 kilometres long and up to 0.8 kilometres wide. The anomaly was drilled by Amax (two holes) in 1972, Asarco (six holes) in 1991, Regional Resources (one hole) in 1994 and GWR Resources (three holes) in 1995. Most of these holes returned pyrite and sub-economic copper and gold in porphyritic and volcanic rocks, indicating a relatively extensive porphyry system. GWR's 1995 drilling resulted in a higher grade intersection (0.23% copper, 0.23% gold over 77 metres) in hole PL95-02. Higher-grade mineralization is generally associated with steeply dipping fractures and shears, which previous drilling of vertical holes had not properly tested.

Prospecting on the PMA property in 1993 and 1994 <sup>(3,4)</sup> located chalcopyrite in a quartz vein on Jack 2 claim, and traces chalcopyrite in andesitic volcanic rocks on Jack 1, and Dora 3 claims.

To assess the western portion of the PMA claim group and to close the East Zone IP anomaly, line cutting and 13.5 kilometres of IP and magnetometer surveys were performed on the PMA option in the summer of 1995. Results were presented to

PMA, Regional and GWR in a report by Lloyd Geophysics Inc., which had the following conclusions and recommendations:

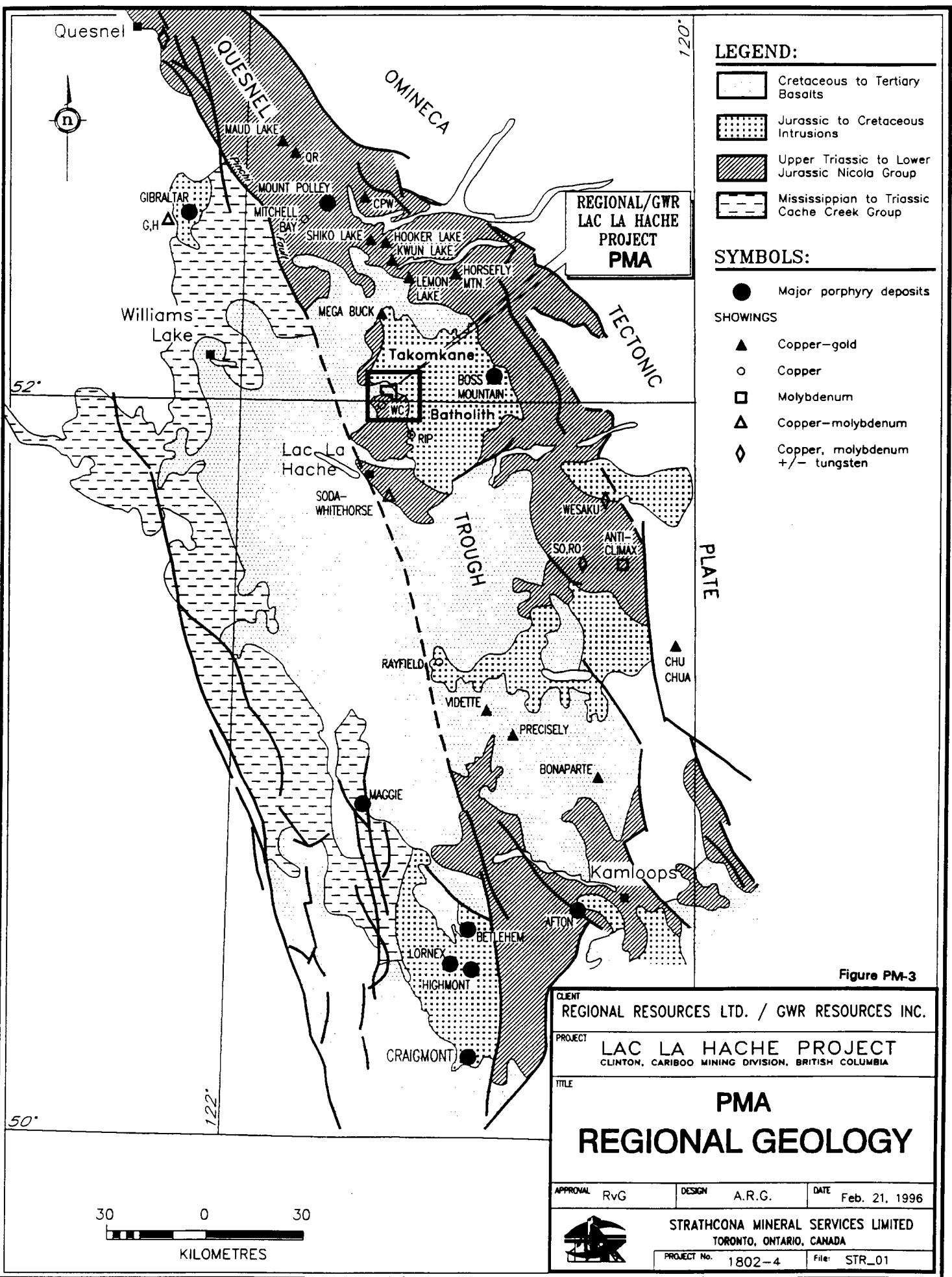
The IP survey described in this report delineated an anomaly on the western portion of the grid which is worthy of further exploration by drilling. The western and southern extensions of this anomaly have been outlined by previous geophysical surveys in 1991 and 1994. Drill testing of this anomaly should be based on drill results from previous holes in the surrounding area. The eastern portion of the grid showed no significant geophysical response and is not recommended for drilling at this time based on the geophysical data collected to date.

It was decided to test the anomaly by drilling of three inclined holes along a northeast-southwest orientated profile, at the west end of Peach Lake. One hole was to be located on Dora 2 claim (PMA Option) and two holes on the Peach Lake property, which is also part of the Lac La Hache property.

## **REGIONAL GEOLOGY**

The PMA claims are situated within the Upper Triassic to Lower Jurassic Nicola Group, which forms part of the Quesnel Trough (Figure PM-3), a volcanic and sedimentary arc sequence affected by Upper Triassic to Jurassic intrusions, and by volcanic activity continuing into the Quaternary. The Quesnel Trough extends for over one thousand kilometres from northern Washington State to north-central British Columbia, and hosts alkalic porphyry copper-gold deposits (Afton, Similco) and mine prospects (Mount Milligan, Mount Polley) as well as gold-skarns, and numerous porphyry occurrences.

Northeast of Lac La Hache, Nicola Group volcanic and sedimentary rocks are intruded by coeval small stocks of syenitic to dioritic composition. These high-level intrusions typically consist of densely crowded euhedral plagioclase phenocrysts and minor amounts of pyroxene, hornblende and biotite in a fine-grained feldspar matrix. Textures of intrusive and volcanic rocks may resemble each other closely which makes identification problematic.



The north-northwest ( $340^{\circ}$ ) striking Pinchi Fault separates the Quesnel Trough from the Cache Creek Group and straddles the east corner of Lac La Hache lake. Prominent structural features (faults, intrusive contacts) on the Lac La Hache property as indicated from geology, magnetics, IP surveys and topography, are  $300\text{-}310^{\circ}$ ,  $50\text{-}60^{\circ}$  and  $20\text{-}30^{\circ}$  south of Spout Lake,  $300^{\circ}$  and  $325^{\circ}$  at the east side of the property (Nemrud) and  $350^{\circ}$  in the Murphy Lake area.

Potassic and propylitic alteration has affected Nicola Group intrusives and metavolcanic rocks and includes K-feldspar flooding, development of biotite, magnetite, quartz, albite, epidote and chlorite. Porphyry and skarn-type chalcopyrite, bornite and pyrite mineralization is locally associated with these alteration zones (Peach, Miracle, Tim, WC, Nemrud).

The Takomkane batholith, a zoned, granodioritic intrusion measuring about 50 km in diameter, is located with its centre 35 kilometres northeast of Lac La Hache, and borders the Nicola Group at the east side of the Lac La Hache property. It is estimated to be 187-198 million years old <sup>(5)</sup>, and is cut by a younger (102 million years) quartz monzonite, which hosts the Boss Mountain molybdenum deposit. This deposit opened in 1965 and produced intermittently until 1983.

Spout Lake and Peach Lake are situated over the contact of Nicola Group to the south and coarse-grained monzonite to the north. The monzonite is most likely a phase of the Takomkane batholith and occupies the centre of the large annular aeromagnetic anomaly, which may have developed in Nicola Group rocks as a result of the intrusion.

Tertiary basalts unconformably overlie and crosscut Triassic-Jurassic rocks on the Lac La Hache property, and are most frequent on the Murphy Lake and Murphy claims.

## PROPERTY GEOLOGY

The PMA grid covers areas between Peach Lake and Lower Peach Lake and has outcrop exposure in its south-central portion only (Figure PM-4). These outcrops consist mainly of syenitic intrusives with traces of pyrite and chalcopyrite in the southwest corner of the grid, where the East Zone IP anomaly straddles the grid,

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followed by volcanic rocks to the east. Locally, meta-sedimentary rocks are present. Outcrop of calc-silicate hornfels indicates a northwest-southeast strike and northeasterly dip of rock units, which agrees with observations from drill holes. The strike of generally steeply dipping joints is northwest-southeast, northeast-southwest and east-west.

Rock samples of syenitic intrusive rocks returned maximum values of 205 ppm copper and 28 ppb gold (R081003). A sample of calc-silicate hornfels from outcrop near the north end of line 10E returned 1835 ppm copper and 656 ppb gold (R081301).

## DRILL PROGRAM

### General

Drilling of hole PM95-01 was performed by Tex Drilling Ltd. of Kamloops, using a Longyear 38 drill, mounted on a 690 John Deere undercarriage. Core was logged, cut and stored on Don Fuller's property in Lac La Hache.

Core samples were shipped to Acme Analytical Laboratories Ltd. in Vancouver for 30 element ICP analysis, and for gold fire assays of 30 gram samples.

Table 1: PMA PROPERTY - DRILL HOLE STATISTICS

DDH No.	Claim	Location		Azimuth	Incli-nation	Depth	Over-burden	Core	Assays
		North	East	(deg)	(deg)	(m)	(m)	(m)	
PM95-01	Dora 2	550	130	220	-45	300.9	21.3	279.6	74

### Results

The location of hole PM95-01 is shown on Figure PM-4, a 1:5000 scale geology map, and drill results on a 1:1000 scale section ( Figure PM-05).

Hole PM95-01 is located 60 metres off the southwest end of Peach Lake on Dora 2 claim, and was drilled at -45° to the southwest. It intersected mafic and intermediate metavolcanic rocks, monzonitic to syenitic intrusives and minor siltstone and skarn to

a depth of 301 metres. A pyrite zone extending from suboutcrop at 23 metres to a depth of 149 metres, is followed by a zone of finely disseminated chalcopyrite in k-feldspar and biotite-altered syenite between 149 and 186 metres. Andesite tuff, intersected from 186 to 223 metres, shows pervasive epidote, k-feldspar, hematite, biotite alteration and carries pyrite and minor chalcopyrite, while the interval from 223 to 301 metres has minor pyrite and traces of chalcopyrite only. Results from 74 samples (220 metres of core) are summarized in Table 2.

Table 2: DDH PM95-01 - ASSAY RESULTS

From (m)	To (m)	Length (m)	Cu (%)	Au (g/t)
23	56	33	0.13	0.09
56	113	57	0.07	0.06
113	122	9	0.25	0.16
122	135	13	0.08	0.07
135	225	90	0.21	0.14
113	225	112	0.20	0.13

Individual three metre-long samples reach highest values of 0.59% Cu, 0.39 g/t Au (198-201 m) and 0.46% Cu, 0.35 g/t Au (156-159 m).

The copper-rich zone encountered between 135 and 225 metres depth, is very likely the on-strike extension of copper mineralization found in hole PL95-02, drilled by GWR in April of 1995. Its true width is probably close to 80 metres assuming a steep dip of the mineralized horizon.

## CONCLUSIONS AND RECOMMENDATIONS

Drilling by GWR and Regional on Dora 2 claim in 1995 has indicated a zone of sub-economic copper-gold mineralization in Nicola Group monzonitic to syenitic intrusives and andesitic to basaltic flows and tuffs. The mineralized zone is approximately 80 metres thick and steeply dipping, and has an average grade of 0.20% copper and 0.13 g/t gold. It occupies the northeast margin of the East Zone (Peach Melba Zone) IP anomaly, which is situated at the junction of Peach Lake, PMA and Ophir Copper properties. Although the average grade of the zone (0.20% copper, 0.13 g/t gold) in hole PM95-01 is uneconomic, the width of the mineralization (80 metres) is encouraging, as well as the fact that it includes higher-grade individual samples.

Provided the assumed northwest-southeast strike is correct, the mineralized zone could have a maximum length of approximately one kilometre on the Dora 2 claim. To test for this possible extension, it is recommended to drill 300 metres in one or two holes some 400-500 metres to the southeast of PM95-01. Further work will depend on results of this program.

Two lines of IP (lines 20E, 22E), extended across the Peach Lake valley to the north, did not indicate sulfide mineralization near the inferred contact of Nicola Group and monzonite. From earlier mapping and prospecting on the PMA property, little chalcopyrite mineralization has been reported from Nicola Group volcanic rocks on Dora 3, Jack 1 and Jack 2 claims<sup>(3,4)</sup>, and no more work is proposed for these claims at this time.

The northern half of a north-striking aeromagnetic anomaly situated partly on Dora 2 claim (Figure PM-2) was covered by IP during a survey performed by the Lac La Hache joint venture south of Bluff Lake in 1994, which returned no significant chargeability anomalies. This anomaly is not a high-priority target, although its cause should be determined on the ground if outcrop is available.

**PROPOSED 1996 BUDGET**

	\$
Diamond drilling	
300 m @ \$100 .....	30 000
Geology and support .....	4 000
Contingency .....	<u>1 000</u>
Total	35 000

**EXPENDITURES****Table 3: PMA OPTION - 1995 EXPENDITURES**

Description	Jan 1 - Jul 31	Aug 1 - Dec 31	Total
Government Fees		1 280	1 280
Diamond Drilling		12 300	12 300
Geophysical Surveys	16 118	13 250	29 368
Geologists	2 550	8 991	11 541
Assaying		1 527	1 527
Linecutting	8 918	795	
Warehouse rental	80	160	240
Room & Board	523	1 061	1 584
Communications		39	39
Materials & Supplies	109	195	304
Travel	442	496	938
Freight, Truck	723	1 310	2 033
Project Management	822	793	1 615
<b>Total</b>	<b>30 285</b>	<b>42 197</b>	<b>72 482</b>

**REFERENCES**

- (1) Klit, D.A., Lloyd, J. (1995) An assessment report on induced polarization and ground magnetic surveys on the PMA property, Lac La Hache project area, Clinton Mining Division, British Columbia, for Regional Resources Ltd. / GWR Resources Inc.
- (2) Hodgson, C.J., DePaoli, G.M. (1972) 1971 Geochemical and geophysical report, Spout Lake copper property, Amax Potash Ltd.
- (3) Smith, S. (1993) Summary report and recommendations, Dora Group (Dora 2 & 3 and Jack 1& 2 claims), for PMA Resources Inc.
- (4) Newman, K.M. (1994) Summary report on reconnaissance geological mapping Dora Group, Dora 2, Dora 3, Jack 1, Jack 2 claims, Lac La Hache area, B.C., for PMA Resources Inc.
- (5) Campbell, R.B., Tipper, H.W. (1972) Geological Survey of Canada Memoir 363, Geology of Bonaparte Map Area

## **STATEMENT OF QUALIFICATIONS**

I, Reinhard von Guttenberg, residing at 171 Romfield Circuit, Thornhill, Ontario, do hereby certify that:

1. I am a graduate of the University of Munich, Germany (1969), and have obtained a Dr. rer. nat. in geology from that university in 1974;
2. I have been practising my profession as a geologist since graduation;
3. I have been employed by Strathcona Mineral Services Limited, of Toronto, Ontario, an independent consulting firm for the mining industry, since 1989;
4. I am a Fellow of the Geological Association of Canada, and a Member of the Canadian Institute of Mining, Metallurgy and Petroleum;
5. I have supervised and carried out on behalf of Regional Resources Ltd., and GWR Resources Inc. the work performed on the PMA property;
6. I have no interest, either direct or indirect, in the properties or securities of Regional Resources Ltd. and GWR Resources Inc.

Dated at Toronto, Ontario this 4th day of December, 1996



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Reinhard von Guttenberg

## **APPENDIX 1**

## REGIONAL RESOURCES LTD./GWR RESOURCES INC. - LAC LA HACHE PROJECT

Grid: PMA  
 Co-ords: 130E 550N  
 Azimuth: 220.0  
 Dip: -45.0  
 Elevation: Not surveyed, appr. 1070 m  
 Length: 300.9  
 Purpose: IP Anomaly  
 Assays: 74  
 Core at: D. Fuller

## DIAMOND DRILL RECORD

\*\*\* Dip Tests \*\*\*  
 Depth Azi. Dip  
 170.0 220.0 -42.0  
 270.4 220.0 -41.0

Hole No.: PM95-01

Claim: Dora 2  
 Date Started: October 5, 1995  
 Date Completed: October 9, 1995  
 Logged by: RvG  
 Contractor: Tex  
 Drill Type: Longyear 38  
 Core Size: NQ

From (m)	To (m)	Geology	Sample No.	From (m)	To (m)	Length (m)	Copper (ppm)	Gold (ppb)	Silver (ppm)
.00	21.34	OVERBURDEN							
21.34	67.20	BASALT / ANDESITE Dark grey green, fine-grained, with medium green grey ribbons and laminae of clinzozoisite +/- red k-feldspar and epidote, pyrite sub-parallel core axis. Non-magnetic. Hairline fractures with calcite at 60 degrees. 1 to 2% pyrite disseminated parallel ribbons. Epidote k-feldspar pyrite stringers parallel laminae or irregular. 23.45 29.40 Core strongly fractured, cm -size pieces. Fault breccias healed by white carbonate. Clay gouges. 24.90 35.50 Dark grey green, medium green grey ribbons. 1 to 3% epidote k-feldspar. 2 to 3% pyrite. Dark, fine-grained biotite. 27.75 28.15 50% red k-feldspar alteration. 35.00 35.25 Light grey, sericite quartz. 35.50 47.50 30 to 40% massive fine-grained red k-feldspar, also as ribbons at 15 to 30 degrees. 5% white carbonate stringers and veinlets at 35 to 80 degrees. <1% pyrite with dark rock, not with massive k-feldspar. Core strongly fractured. 47.50 59.00 10 to 30% k-feldspar alteration, massive red grey. 3 to 5% carbonate veins at 30 to 60 degrees. Weakly ribboned at 40 degrees. 58.60 Hematite carbonate chalcopyrite vein, 2 mm, at 10 degrees. <1% pyrite in dark, medium grey, biotitic andesite. 59.00 67.20 5% k-feldspar +/- epidote alteration. Disseminated pyrite 1%. Carbonate seams, shears at 35 to 60 degrees. Epidote blebs. 61.40 61.60 Chlorite pyrite +/- k-feldspar, epidote, calcite, chalcopyrite, hematite veining at 10 to 65 degrees.	31560	23.00	26.00	3.00	1183	94	
			31561	26.00	29.00	3.00	1075	102	
			31562	29.00	32.00	3.00	1300	118	
			31563	32.00	35.00	3.00	1349	101	
			31564	35.00	38.00	3.00	1758	108	
			31565	38.00	41.00	3.00	1149	81	
			31566	41.00	44.00	3.00	1262	58	
			31567	44.00	47.00	3.00	1335	95	
			31568	47.00	50.00	3.00	1335	84	
			31569	50.00	53.00	3.00	1205	70	
			31570	53.00	56.00	3.00	1264	72	
			31571	56.00	59.00	3.00	559	33	
67.20	71.50	MONZONITE Medium grey, medium grained to fine-grained, massive, white feldspar specks. Fractures at 25 to 40 degrees. Calcite on hairline fractures and with crackle breccia. Core moderate to strongly fractured.	31572	59.00	62.00	3.00	824	47	
			31573	62.00	65.00	3.00	1217	86	
			31574	65.00	68.00	3.00	918	52	

From (m)	To (m)	Geology	Sample No.	From (m)	To (m)	Length (m)	Copper (ppm)	Gold (ppb)	Silver (ppm)
		67.20 71.50 5 to 10% k-feldspar alteration. 1% pyrite disseminated and with epidote blebs	31575	68.00	71.00	3.00	277	15	
			31576	71.00	74.00	3.00	289	23	
71.50	72.30	MAFIC DIKE Dark grey green, chlorite biotite, 10% 2 to 4 mm euhedral pyroxene crystals replaced by chlorite. Calcareous matrix. 5% calcite veinlets and stringers. Trace pyrite. Upper contact 15, lower contact 35 degrees.							
72.30	86.00	ANDESITE 72.30 79.00 Strongly k-feldspar altered (70%). 20% carbonate quartz +/- chlorite veins and shears at 20 to 40 degrees. Core strongly fractured. <1% py. 79.00 86.00 Dark to medium green grey andesite, chlorite biotite, strongly fractured. 10% carbonate, k-feldspar alteration. 1 to 2% pyrite, trace chalcopyrite. Carbonaceous quartz chlorite shears, veins at 10 to 30 degrees. Calcite crackle breccia.	31577	74.00	77.00	3.00	260	32	
			31578	77.00	80.00	3.00	674	88	
			31579	80.00	83.00	3.00	777	65	
			31580	83.00	86.00	3.00	897	55	
86.00	112.00	MONZONITE / SYENITE 86.00 105.00 Medium grey matrix with epidote specks, massive. 15 to 25% k-feldspar alteration, brown red fine-grained massive k-feldspar bands and k-feldspar spreading from fractures. Carbonate quartz chlorite shears at 20 degrees. Fractures +/- chlorite calcite at 45 to 55 degrees. Weakly magnetic. 1 to 3% disseminated pyrite.	31581	86.00	89.00	3.00	1193	101	
			31582	89.00	92.00	3.00	1367	107	
			31583	92.00	95.00	3.00	425	26	
			31584	95.00	98.00	3.00	776	55	
			31585	98.00	101.00	3.00	938	59	
			31586	101.00	104.00	3.00	560	66	
			31587	104.00	107.00	3.00	505	39	
		104.50 105.00 Core strongly fractured, open vugs lined with calcite crystals.							
		105.00 111.40 Medium grey, medium grained to fine-grained, massive, homogeneous. Disseminated pyrite 1 to 3%. 3% k-feldspar alteration. Matrix with fine-grained chlorite (bi) epidote. Quartz carbonate k-feldspar biotite stringers, veinlets at 30 to 60 degrees.	31588	107.00	110.00	3.00	494	46	
			31589	110.00	113.00	3.00	991	77	
		111.40 112.00 Quartz carbonate k-feldspar biotite stringers, veinlets at 30 to 60 degrees							
112.00	135.15	ANDESITE Medium grey, fine-grained to medium grained, unaltered rock magnetic. Specks biotite epidote, 1 to 3% pyrite with epidote calcite stringers in incompletely altered andesite and with massive k-feldspar.	31590	113.00	116.00	3.00	3804	185	
		112.00 114.50 3 to 10% k-feldspar alteration.							
		114.50 121.00 50% k-feldspar alteration, 5% calcite stringers in crackle breccia and as veinlets at 45 to 60 degrees.							
			31591	116.00	119.00	3.00	2251	225	
			31592	119.00	122.00	3.00	1523	77	
			31593	122.00	125.00	3.00	813	36	
			33821	125.00	128.00	3.00	342	25	
			33822	128.00	131.00	3.00	463	50	
			33823	131.00	133.00	2.00	1234	96	
			33824	133.00	135.00	2.00	1311	164	
			31594	135.00	138.00	3.00	2106	199	
135.15	141.65	SILTSTONE Medium to dark grey, fine-grained, mm laminae, matrix fine-grained quartz feldspar biotite hematite. Weakly magnetic. Epidote, pyrite (1%), k-feldspar seams laminae (=foliation). Minor k-feldspar calcite stringers. Foliation 45 degrees.	31595	138.00	141.00	3.00	1533	69	
			31596	141.00	144.00	3.00	1030	50	

From (m)	To (m)	Geology	Sample No.	From (m)	To (m)	Length (m)	Copper (ppm)	Gold (ppb)	Silver (ppm)
141.65	146.20	SYENITE / MONZONITE Medium grey, medium grained, 'crowded' porphyry texture, white to pink feldspar. Disseminated pyrite epidote hematite. 5% k-feldspar carbonate alteration, veins stringers at 25 to 45 degrees. Lower contact 45 degrees.	31597	144.00	147.00	3.00	1097	44	
146.20	149.10	SILTSTONE Similar to 135.15 to 141.65. 10% k-feldspar alteration, foliation / lamination at 40 degrees. Trace chalcopyrite.	31598	147.00	150.00	3.00	970	82	
149.10	185.80	SYENITE / MONZONITE Similar to 141.65 to 146.20. <1% pyrite, trace to 0.5% chalcopyrite.  154.90 159.60 30 to 40% k-feldspar. Fractures at 45 to 80 degrees, also fractures sub-parallel core axis with calcite chlorite coatings. Trace to 0.5% chalcopyrite. Matrix with biotite, trace chlorite. 159.60 173.50 20 to 30% k-feldspar alteration, pervasive stringers to semimassive. 0.5% disseminated chalcopyrite, trace pyrite. Matrix with biotite, trace chlorite. 173.50 177.25 50% k-feldspar alteration. 0.5% chalcopyrite. 177.25 185.80 10 to 20% k-feldspar alteration. Trace chalcopyrite.	31599 31600 31601 31602 31603 31604 31605 31606 31607 31608 31609 31610	150.00 153.00 156.00 159.00 162.00 165.00 168.00 171.00 174.00 177.00 180.00 183.00 186.00	153.00 156.00 159.00 162.00 165.00 168.00 171.00 174.00 177.00 180.00 183.00 186.00	3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00	1519 2611 4614 1913 3681 3532 1565 1637 1261 1761 1369 1420	122 230 346 141 227 263 145 154 112 147 86 76	
185.80	223.40	ANDESITE TUFF Medium to dark grey, fine-grained to medium grained, granular, biotite feldspar chlorite lapilli tuff, partly lithic fragmental, magnetic. 85% k-feldspar calcite epidote alteration, mostly as stringers sub-parallel foliation. Trace pyrite, chalcopyrite. Foliation at 186 m 50 degrees. 191.45 192.70 Dark, fine-grained, chloritic, magnetic with calcite stringers. Upper contact 55, lower contact 40 degrees. 194.15 194.30 Fault breccia and gouge. Increasingly pyritic with depth, up to 10% pyrite. 195.00 218.40 10 to 20% epidote, k-feldspar, hematite, pyrite pervasive alteration and stringers. Dark biotitic matrix with calcite chlorite on fractures at 60 to 80 degrees. 2 to 5% pyrite, trace chalcopyrite. 206.10 Lapilli elongated at 70 degrees.  213.85 215.15 Monzonite dike, 1 to 3% disseminated pyrite. Pink k-feldspar alteration. Upper contact calcite shear at 20 degrees, lower contact 40 degrees. 216.15 218.40 Monzonite dike, 'crowded' porphyritic texture, 20% k-feldspar alteration, <1% pyrite. 218.40 223.40 3 to 5% pyrite, 20% epidote k-feldspar, light grey massive matrix (albite?). Foliation 60 degrees.	31611 31612 31613 31614 31615 31616 31617 31618 31619 31620 31621 31622 31623 31624	186.00 189.00 192.00 195.00 198.00 201.00 204.00 207.00 210.00 213.00 216.00 219.00 222.00 225.00 225.00	189.00 192.00 195.00 198.00 201.00 204.00 207.00 210.00 213.00 216.00 219.00 222.00 225.00 228.00	3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.00	1476 1432 1158 2261 5944 2357 2316 1897 2818 1341 1559 2811 1708 394	62 48 52 135 389 99 119 130 170 104 117 193 146 18	
223.40	257.90	VOLCANIC BRECCIA Medium to dark grey, massive, (not foliated). Partly feldspar porphyritic. 10% monzonite							

From (m)	To (m)	Geology	Sample No.	From (m)	To (m)	Length (m)	Copper (ppm)	Gold (ppb)	Silver (ppm)
		/ syenite fragments, 1 to 10 cm. 2 to 5% blebs k-feldspar, epidote, +/- calcite, hematite. 1 to 3% disseminated pyrite to 230 m, trace pyrite below 230 m. Trace chalcopyrite. 254.50 257.90 Increasing amount of pyrite (1-3%), and diopside alteration.	31625	228.00	231.00	3.00	628	38	
257.90	260.55	SKARN Medium to light green diopside skarn, fine-grained to aphanitic, laminae at 75 degrees. Ribbons, bands of k-feldspar epidote alteration. 1 to 3% disseminated pyrite.	31626	255.00	258.00	3.00	851	58	
260.55	265.40	ANDESITE Dark grey, massive, fine-grained, homogeneous, feldspar porphyritic. 3 to 5% k-feldspar epidote stringers and veinlets. Trace pyrite (chalcopyrite).	31627	258.00	261.00	3.00	744	44	
265.40	266.80	SKARN Similar to 257.90 to 260.55. 20% bands of epidote k-feldspar garnet calcite at 75 degrees. Trace pyrite. 267.00 Epidote calcite vein at 10 degrees, 2 cm.							
266.80	270.10	ANDESITE As 260.55 to 265.40.							
270.10	271.10	SYENITE DIKE Crowded texture, dark matrix, blebs epidote k-feldspar alteration, trace pyrite.							
271.10	292.25	SKARN Medium to light green to light brown diopside garnet skarn. Fine-grained to aphanitic. Banded, laminated at 75 degrees. Epidote calcite veins at 5 to 20 degrees. Trace to 1% pyrite mostly parallel laminae.	31628	272.00	275.00	3.00	972	68	
292.25	295.20	MONZONITE / SYENITE Medium grey, medium grained, feldspar porphyritic, pink feldspar. 20% k-feldspar epidote alteration. 5% calcite veinlets, trace pyrite. 294.30 295.20 Massive k-feldspar epidote chlorite veining. Blob coarse grained molybdenite at 295.05 m.	31629	275.00	278.00	3.00	600	38	
295.20	299.60	ANDESITE Dark grey, fine-grained, massive, homogeneous. 1% pyrite, trace chalcopyrite.							
299.60	300.85	SKARN Diopside garnet skarn, medium green to brown, fine-grained, ribbons to bands at 75 degrees. 1% pyrite. 300.85 End of hole.							

## **APPENDIX 2**

## GEOCHEMICAL ANALYSIS CERTIFICATE

Strathcona Mineral Services Ltd. PROJECT 1802-4 File # 96-0012  
12th floor - 20 Toronto St, Toronto ON M5C 2B8

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe ppm	As %	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca ppm	P %	La ppm	Cr ppm	Mg ppm	Ba ppm	Ti ppm	B %	Al ppm	Na ppm	K ppm	W ppb	Au** ppb	SAMPLE lb
033806 M	5	2250	20	68	.9	17	13	421	4.26	4	<5	<2	3	37	.2	<2	<2	132	1.07	.206	14	24	.76	54	.20	4	.87	.06	.43	<2	22	14
033807 M	5	258	12	65	.5	18	12	507	4.51	7	<5	<2	3	49	<.2	2	<2	162	1.68	.210	12	31	.95	36	.18	6	1.11	.05	.21	<2	7	14
033808 M	20	584	10	61	.3	17	13	611	4.42	5	<5	<2	2	48	<.2	<2	<2	150	2.48	.192	11	30	.96	24	.16	4	1.17	.05	.11	<2	6	14
033809 M	5	190	11	35	<.3	16	7	380	4.25	4	<5	<2	2	141	.3	<2	<2	149	1.36	.189	10	31	.76	46	.15	4	.99	.06	.19	<2	5	15
033810 M	8	345	5	41	.3	16	10	456	4.46	5	<5	<2	3	67	.2	<2	<2	156	1.66	.214	11	29	.84	35	.15	4	1.25	.04	.15	<2	11	15
033811 M	10	250	7	37	<.3	17	10	449	4.01	5	<5	<2	3	70	.2	<2	<2	142	1.62	.189	9	31	.74	40	.15	4	1.17	.05	.16	<2	8	15
033812 M	4	324	17	125	.4	7	24	1522	5.02	18	<5	<2	<2	174	.4	<2	<2	92	6.57	.119	4	4	1.46	7	.14	3	2.36	.08	.03	<2	31	15
033813 M	6	842	18	146	.5	9	20	874	4.58	16	<5	<2	<2	136	1.1	<2	<2	83	3.19	.130	4	6	.71	11	.17	6	1.46	.07	.04	<2	101	12
RE 033813 M	6	850	17	152	.7	9	20	871	4.59	15	<5	<2	<2	142	.5	<2	<2	84	3.36	.135	5	5	.75	12	.18	6	1.46	.07	.04	<2	75	-
RRE 033813 M	8	893	21	160	.8	11	21	912	4.77	19	<5	<2	<2	154	.6	<2	<2	90	3.55	.140	5	6	.79	12	.19	7	1.56	.07	.04	<2	101	-
033814 M	8	304	5	141	.5	11	17	850	6.01	18	<5	<2	<2	145	.5	<2	<2	148	2.84	.154	5	15	1.27	55	.26	12	2.16	.08	.17	<2	38	16
033815 M	1	655	4	83	1.1	22	26	1340	8.50	17	<5	<2	<2	270	.5	2	<2	259	4.32	.179	8	40	2.31	215	.51	6	2.73	.14	.75	<2	69	16
033816 M	5	288	5	75	.5	9	22	799	8.04	11	<5	<2	<2	129	.3	<2	<2	222	2.67	.168	7	12	1.79	51	.24	4	2.04	.10	.28	<2	71	15
033817 M	2	225	<3	62	.3	14	22	691	8.01	9	<5	<2	<2	145	.5	<2	<2	241	2.37	.171	7	13	1.77	129	.28	4	2.02	.13	.50	<2	50	15
033818 M	1	221	4	65	.5	12	20	796	7.25	10	<5	<2	<2	147	<.2	<2	<2	229	3.04	.178	8	12	1.61	87	.24	5	1.89	.09	.31	<2	34	15
033819 M	2	414	<3	66	.6	12	21	704	8.18	7	<5	<2	<2	109	<.2	<2	<2	230	2.56	.170	7	11	1.71	54	.25	4	1.88	.09	.34	<2	91	14
033820 M	2	189	4	53	.4	12	21	587	6.74	8	<5	<2	<2	165	<.2	<2	<2	231	2.29	.172	8	13	1.36	64	.27	5	1.94	.14	.37	<2	15	16
033821 M	7	342	7	30	.3	12	9	304	4.65	12	<5	<2	<2	61	<.2	<2	<2	159	1.69	.142	5	17	1.15	44	.24	3	1.24	.07	.39	<2	25	16
RE 033821 M	7	348	4	32	<.3	11	9	310	4.74	8	<5	<2	<2	62	<.2	<2	<2	162	1.73	.144	5	18	1.17	45	.25	3	1.27	.08	.40	<2	31	-
RRE 033821 M	7	349	7	32	.3	11	9	306	4.67	11	<5	<2	<2	62	<.2	<2	<2	160	1.71	.142	5	18	1.16	45	.25	3	1.25	.07	.39	<2	20	-
033822 M	2	463	4	27	.3	9	7	268	4.58	5	<5	<2	<2	60	.2	<2	<2	160	1.54	.120	5	20	.98	55	.23	3	1.09	.07	.38	<2	50	16
033823 M	3	1234	9	29	.8	18	11	360	5.27	6	<5	<2	<2	59	.2	<2	<2	184	1.60	.113	5	66	1.62	58	.31	<3	1.26	.08	.71	<2	96	16
033824 M	3	1311	7	35	.9	21	8	318	5.60	9	<5	<2	<2	57	.4	<2	<2	187	1.21	.110	5	64	1.65	48	.30	4	1.31	.09	.60	<2	164	14
033825 M	1	105	5	72	<.3	8	12	717	6.65	17	<5	<2	<2	109	<.2	<2	<2	191	2.73	.152	5	4	1.45	54	.18	6	1.70	.04	.15	<2	26	16
033826 M	1	54	4	66	.3	13	14	650	6.73	19	<5	<2	<2	139	.2	<2	<2	202	2.25	.147	5	13	1.45	61	.20	8	1.85	.06	.20	<2	24	16
STANDARD C/AU-R	23	59	37	132	6.5	75	31	1047	3.99	43	18	7	39	53	19.0	16	18	59	.51	.090	43	63	.93	190	.08	25	1.93	.07	.14	10	457	-

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.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB

- SAMPLE TYPE: CORE      AU\*\* ANALYSIS BY FA/ICP FROM 30 GM SAMPLE.

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JAN 2 1996 DATE REPORT MAILED: Jan 9/96 SIGNED BY: C.L. TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS





## Strathcona Mineral Services Ltd. PROJECT 1802-4 FILE # 95-4086

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ACME ANALYTICAL

ACME ANALYTICAL

SAMPLE#	No 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 %	Al %	Na %	K %	W ppm	Au* ppb	SAMPLE lb
31585 M	5	938	<3	18	.5	4	12	213	3.64	6	<5	<2	<2	56	<.2	<2	3	87	1.84	.133	8	5	.79	39	.16	6	.99	.07	.31	2	59	15
31586 M	4	560	5	14	.3	5	11	230	2.96	6	<5	<2	<2	54	<.2	<2	2	89	2.13	.123	8	4	.59	29	.13	4	.75	.06	.18	2	66	15
31587 M	13	505	<3	16	<.3	4	9	237	3.30	8	<5	<2	<2	58	.2	<2	4	96	2.23	.122	8	10	.82	31	.15	<3	.94	.07	.27	<2	39	15
31588 M	15	494	3	18	.3	5	10	181	4.15	3	<5	<2	<2	63	.2	<2	<2	105	1.50	.134	8	4	.98	40	.17	<3	1.04	.09	.30	<2	46	14
31589 M	44	991	3	18	.5	9	13	228	3.64	3	<5	<2	<2	51	<.2	<2	<2	103	1.51	.110	7	19	1.03	35	.19	3	.96	.08	.43	2	77	18
31590 M	6	3804	<3	21	.7	13	18	338	3.60	8	<5	<2	<2	52	.3	<2	4	106	3.34	.099	9	23	.73	23	.12	6	.81	.05	.27	<2	185	15
31591 M	7	2251	5	26	.8	12	24	309	4.07	8	<5	<2	<2	47	.4	2	2	115	2.20	.097	7	25	.97	30	.16	5	.92	.05	.29	<2	225	16
31592 M	4	1523	<3	26	.5	10	18	329	4.21	7	<5	<2	<2	64	<.2	<2	<2	135	2.11	.110	6	26	1.24	33	.21	3	1.15	.06	.37	<2	77	16
31593 M	4	813	4	24	.3	12	13	293	4.66	5	<5	<2	<2	73	.2	<2	3	164	1.63	.138	6	30	1.30	37	.24	3	1.18	.08	.42	<2	36	16
RE 31593 M	5	869	4	25	.4	13	15	310	5.00	7	<5	<2	<2	79	.3	<2	<2	175	1.74	.144	6	32	1.38	43	.25	6	1.25	.09	.45	2	37	-
RRE 31593 M	5	855	3	25	.5	13	14	298	4.88	8	<5	<2	<2	78	.3	<2	4	172	1.70	.142	6	29	1.36	42	.25	3	1.23	.08	.44	<2	37	-
E 93246	2	291	<3	59	.3	10	18	665	5.25	15	<5	<2	<2	131	.3	<2	<2	161	2.77	.238	9	11	1.29	41	.17	5	1.48	.07	.22	<2	41	15
E 93247	4	363	8	58	.4	9	58	634	7.42	27	<5	<2	<2	110	<.2	<2	3	168	2.17	.245	9	7	1.37	66	.18	7	1.53	.08	.40	2	283	16
E 93248	1	111	4	66	<.3	263	28	870	4.85	8	<5	<2	<2	4594	<.2	<2	<2	108	4.07	.178	16	108	2.97	435	.23	8	2.46	.41	.11	<2	18	16
E 93249	<1	888	12	95	.5	185	33	1127	5.56	6	<5	<2	<2	4490	.6	<2	2	131	5.34	.163	18	224	2.56	240	.17	3	2.39	.23	.12	<2	20	15
E 93250	<1	1933	7	80	.5	195	34	1227	5.06	3	<5	<2	<2	4488	.5	<2	6	114	6.22	.158	18	197	2.80	253	.15	<3	2.34	.23	.14	<2	21	15
STANDARD C/AU-R	22	63	37	136	6.5	70	31	1049	4.25	43	22	7	39	54	18.2	19	23	60	.49	.097	42	61	.97	195	.09	26	2.02	.06	.16	11	472	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.





## Strathcona Mineral Services Ltd. PROJECT 1802-4 FILE # 95-4170

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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 ppm	La ppm	Cr ppm	Mg ppm	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** ppb	SAMPLE lb
31627 M	22	744	4	33	.3	10	24	238	3.85	17	<5	<2	2	107	.2	<2	<2	56	1.71	.139	9	9	.34	25	.10	4	.92	.08	.07	<2	44	12
31628 M	65	972	<3	25	.5	18	51	1359	7.27	20	9	<2	7	46	<.2	<2	<2	66	5.72	.137	9	21	.54	23	.10	<3	.98	.03	.07	<2	68	18
31629 M	34	600	3	20	.3	19	23	691	4.27	15	7	<2	4	65	<.2	<2	<2	62	3.19	.146	8	20	.37	19	.11	<3	.73	.05	.07	<2	38	16
RE 31629 M	36	605	3	21	.4	18	23	692	4.31	15	5	<2	2	66	<.2	<2	<2	62	3.20	.146	8	19	.37	19	.11	3	.73	.05	.07	<2	46	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

