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# GEOCHEMICAL AND GEOPHYSICAL REPORT

## ON THE MAC 9 - 14 CLAIMS

### CARIBOO MINING DIVISION, B.C.

93J/14E

BY

LINDA DANDY, B.Sc., F.G.A.C., P.Geo.

JULY 1996

**LOCATION:** 54°56' NORTH LATITUDE; 123°14' WEST LONGITUDE

**OPERATOR:** LINDA DANDY, P.GEO.

**OWNER:** LINDA DANDY, P.GEO.

## GEOLOGICAL SURVEY BRANCH ASSESSMENT REPORT

P & L GEOLOGICAL SERVICES, C20, S4, RR#1, TELKWA, B.C. VOJ 2X0 PHONE 604-846-9242 FAX 604-846-9210

24,511

FILMED

**GEOCHEMICAL AND GEOPHYSICAL REPORT  
ON THE MAC 9-14 CLAIMS  
CARIBOO MINING DIVISION, B.C.**

**SUMMARY**

The **MAC 9-14** claims lie approximately 40 kilometres southwest of Mackenzie, and 1 kilometre north of the McLeod River. This region is underlain by Triassic-Jurassic Takla Group volcanics and Mississippian Slide Mountain Group sediments within the Omineca Crystalline Belt. These rocks are adjacent to a northwesterly trending pyroxenite dyke or sill. Dimensions of the pyroxenite body can be inferred from the airborne magnetic map to be approximately 4 kilometres by 300 metres. In the vicinity of the claim block, feldspar porphyry dykes possibly related to this intrusive, may be associated with epithermal style quartz veining containing visible stibnite and arsenopyrite.

Soil and rock sampling and magnetometer surveying was done on the **MAC 9-14** claims in June 1995 and May 1996. The soil sampling survey was designed to cross the quartz-stibnite outcrop, and to analyse rusty road cut material. Results of sampling returned gold values up to 334 ppb, with several samples greater than 100 ppb. Anomalous arsenic, antimony, zinc and cadmium were also found. Rock samples collected from the mineralized outcrop and rusty quartz-rich road cut outcrop returned gold values up to 5230 ppb, silver to 23.2 ppm, arsenic to 2940 ppm, antimony to >10,000 ppm. Most of the rock samples ranged from 2000 to 4000 ppb Au. The magnetometer survey did not define any significant trends likely due to the deep glacial overburden encountered away from the outcrops near the road cut.

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## GEOCHEMICAL AND GEOPHYSICAL REPORT ON THE MAC 9-14 CLAIMS CARIBOO MINING DIVISION, B.C.

### 1.0 INTRODUCTION

The **MAC 9-14** claims are a epithermal gold prospect located 40 kilometres southwest of Mackenzie in north-central British Columbia. The property was staked by the author to cover an outcrop containing quartz-stibnite mineralization.

Field work, consisting of geochemical and magnetometer surveys, was carried out by a two person crew working from a base camp near the property from June 8 to 10, 1995 and May 12 to 18, 1996. The purpose of this work was to determine the geology and extent of the visible epithermal style mineralization. Field work was carried out by the author and Perry Grunenberg, P.Geo., both of P & L Geological Services.

### 1.1 LOCATION AND ACCESS

The **MAC 9-14** claims are located along Des Creek, approximately one kilometre north of its confluence with the McLeod River, 40 kilometres southwest of Mackenzie, in the Cariboo Mining Division of north-central British Columbia (see Figure 1). The claims cover an area of 1.5 square kilometres and are centred at latitude 54°56' N and longitude 123°14' W on NTS mapsheet 93J/14E.

Access to the property is via a recently extended, good quality, all-weather, graded gravel logging road which leaves Highway 97 one kilometre south of Windy Point, approximately 160 kilometres north of Prince George. From the highway junction one travels west along the Finlay Forest Service Road for 9 kilometres to the junction of the Holder Mainline, then to the property at kilometre 24. The property is bisected by the Holder Mainline.

# MAC PROPERTY

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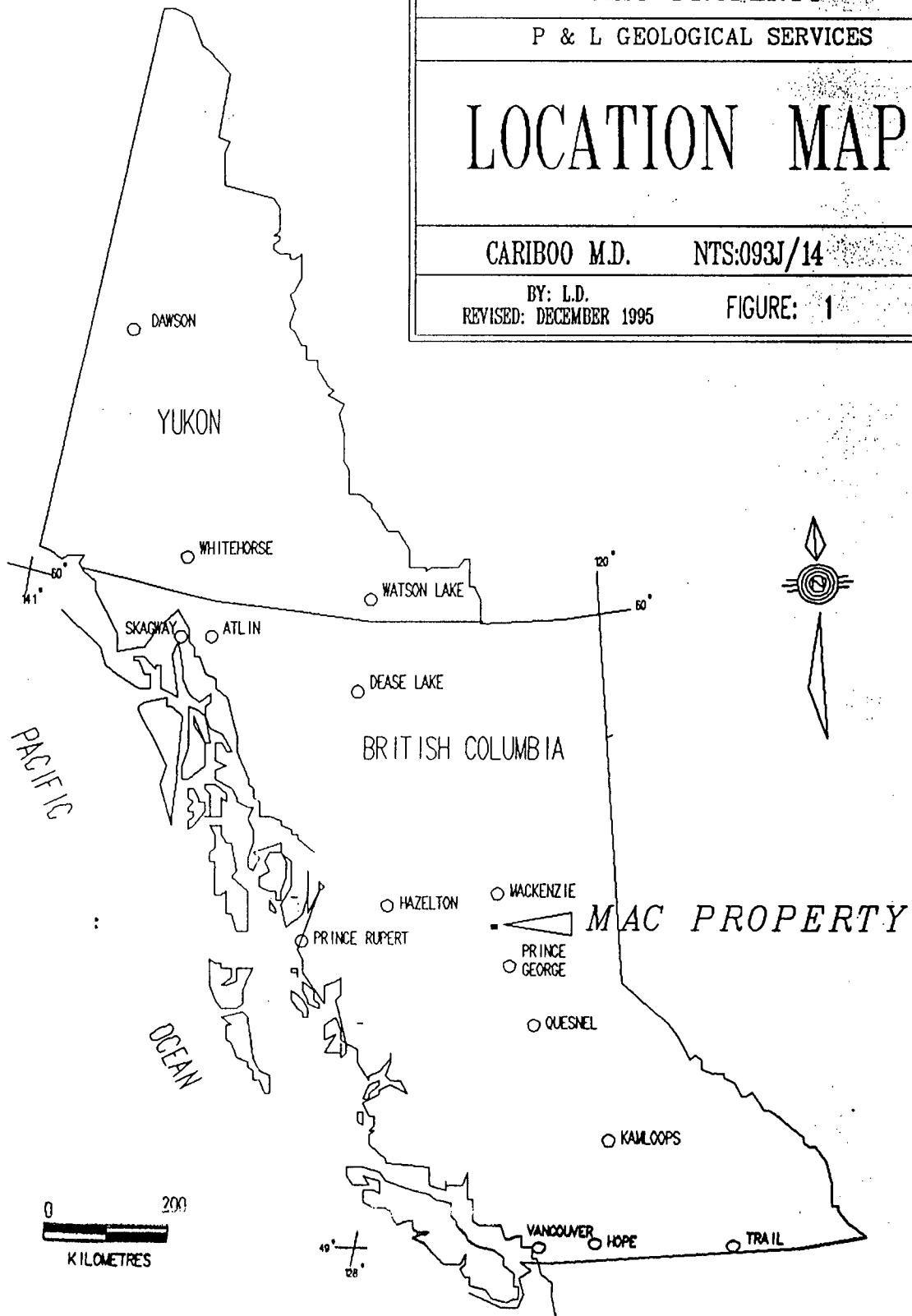
## LOCATION MAP

CARIBOO M.D.

NTS:093J/14

BY: L.D.  
REVISED: DECEMBER 1995

FIGURE: 1



## 1.2 PHYSIOGRAPHY

The **MAC 9-14** claims are in the physiographic division known as the Nechako Plateau, which is part of the Interior Plateau of British Columbia, located just west of the Rocky Mountain Trench. The property lies on glacially deposited material in an area of low topographic relief. Maximum relief is about 100 metres, with most of the property being at approximately 900 metres elevation. Drumlins and eskers in the vicinity of the property strike northeast. Several small, swampy areas are present on the property and are the result of glaciation and beaver activity.

Tree cover is extensive and consists mostly of aspen, white spruce, fir and lodgepole pine. Along Des Creek, and in low lying swampy areas are dense alder thickets and devil's club.

The climate in this portion of interior British Columbia is generally warm and dry with a moderately long, cold winter. Frost may occur at any time; however, day time temperatures in excess of 10°C are normal from early May until mid to late October, with occasional temperatures in excess of 30°C. In winter months, temperatures are generally in the -5°C to -10°C range with lows below -30°C being rare. The greatest accumulation of moisture (average of 25 mm per year) occurs during the fall, winter and early spring in the form of snow, with the remainder of the year being moderately dry. Moisture in the form of rainfall is generally confined to afternoon showers during the warm months.

## 1.3 PROPERTY STATUS

The **MAC 9-14** property is comprised of 7 two-post claims located within the Cariboo Mining Division (Figure 2). Table I lists claim names, record numbers and expiry dates for the **MAC 9-14** claims.

TABLE I

CLAIM NAME	RECORD NUMBER	NEW EXPIRY DATE
MAC 9	335824	MAY 16, 1998
MAC 10	335825	MAY 16, 1998
MAC 11	337555	JUNE 25, 1998
MAC 12	337556	JUNE 25, 1998
MAC 13	337557	JUNE 25, 1998
MAC 14	337558	JUNE 25, 1998
DWEEB	345885	MAY 15, 1998

123° 15'

DES CREEK

MAC 11	MAC 9	MAC 13
	DWBBB	
MAC 12	MAC 10	MAC 14



F.S. ROAD

RIVER

MCLOED

64° 55'

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MAC PROPERTY

CARIBOO MINING DIVISION

NTS: 93J/14W

CLAIM MAP

SCALE: 1: 50,000

BY: PG  
DATE: AUGUST 1996

FIGURE 2



#### 1.4 HISTORY AND PREVIOUS EXPLORATION

In the 1930's placer exploration and mining projects predominated in this region. In 1933 and 1934, the McDougall River area was extensively worked by Cariboo Northern Development Co. Ltd. and Northern Reef Gold Mines Ltd. These two companies held much of the mineralized ground east of the Reed Creek-McDougall River confluence. In 1933, Cariboo Northern Development tested their property and obtained encouraging results. The company manager reported that several low gravel benches ran as high as \$3.15 per yard (1933) with yardage ranging from 2 to 13 yards.

Fourteen random surface samples taken from zones other than quartz veins assayed as much as \$3.60 (1933) per ton in gold with all the concentrates carrying assayable platinum concentrations.

In 1934, Northern Reef Gold Mines continued the work begun by Cariboo. Additional work included the construction of a 26 kilometre tractor trail from McLeod Lake, ditch and dam construction, and underground workings. A 16 metre adit with a 8.5 metre winze at the end of it was driven in 3 metres above the river. Placer testing was carried out in 1934 at four points adjacent to the river with results averaging \$1.87 (1934) per cubic yard. Hydraulic mining started early in 1935 but the operation was apparently short lived, since only a small amount of ground was worked.

A gold bearing quartz vein on the north side of the McDougall River just downstream from Reed Creek was developed by a short adit at this time. Other quartz veins in the area are known to contain some gold. Pyroxenite intrusions have been reported to occur in the area and are thought to be the source rock of the platinum group minerals found in the placer deposits.

Regional geochemical survey data was released by the federal and provincial governments in early 1986. This data indicated a large area anomalous for many elements in the vicinity of the **MAC 9-14** claims. This survey prompted the previous claim holder Plasway National Resources Ltd. to stake a large claim block in this area. In 1993 the Plasway claims were allowed to lapse.

During the course of exploration work on the Plasway property, soil sampling outlined zones of anomalous gold, platinum and palladium values which appear to be related to mafic intrusive rocks.

#### 2.0 GEOLOGY

The **MAC 9-14** claims lie within the Upper Paleozoic units of the Omineca Crystalline Belt, at the boundary with the Rocky Mountain Trench (Tipper et al, 1979).

Geological mapping on the **MAC 9-14** claims has been limited by poor outcrop exposure. Outcrop exposure is confined to the road cut adjacent to Des Creek, and one mineralized outcrop 50 metres north of the road.

Due to limited outcrop exposure, formal geologic mapping of the property was not undertaken, however some conclusions can be drawn. The property appears to be underlain by Triassic-Jurassic Takla Group volcanic tuffs and Mississippian Slide Mountain Group argillites. Pyroxenite intruded as a large dyke or sill occurs immediately west of the property. The pyroxenite body (using the airborne magnetics map as reference) appears to trend for at least 4 kilometres in a northwesterly direction, and is likely at least 100 to 200 metres wide, in places appearing to be as wide as 500 metres. Narrow feldspar porphyry dykes appear in outcrop in the vicinity of the mineralization and may be associated with the larger mafic intrusive.

Outcrop exposed along a road cut adjacent to Des Creek consists of rusty argillite with quartz stockworking grading into completely silicified, pyritic rock. The silicified section of outcrop contains gold bearing, epithermal style, banded chalcedonic quartz veins with patches and bands of massive stibnite and lesser arsenopyrite.

### 3.0 GEOCHEMISTRY

#### 3.1 SOIL SAMPLING SURVEY

Soil samples were collected at 25 metre spacings along the Holder Mainline road cut, originating at Des Creek and heading east (samples DES-000 to DES-150). As well, three samples were taken at 10 metre spacing across the base of the quartz-stibnite bearing outcrop located 50 metres north of the road (samples SB 1 to SB 3). Using a mattock, a total of 10 'B' horizon soil samples were collected from these locations. Sample locations were marked with labelled flagging tape, and all samples were placed in correspondingly numbered kraft envelopes and shipped to Chemex Labs Ltd. in Vancouver for analysis.

In the laboratory, samples were oven dried at approximately 60°C and sieved to minus 80 mesh. The coarse fraction was then set aside and the minus 80 fraction was analysed for Au, Pt, Pd plus 31 additional elements by ICP.

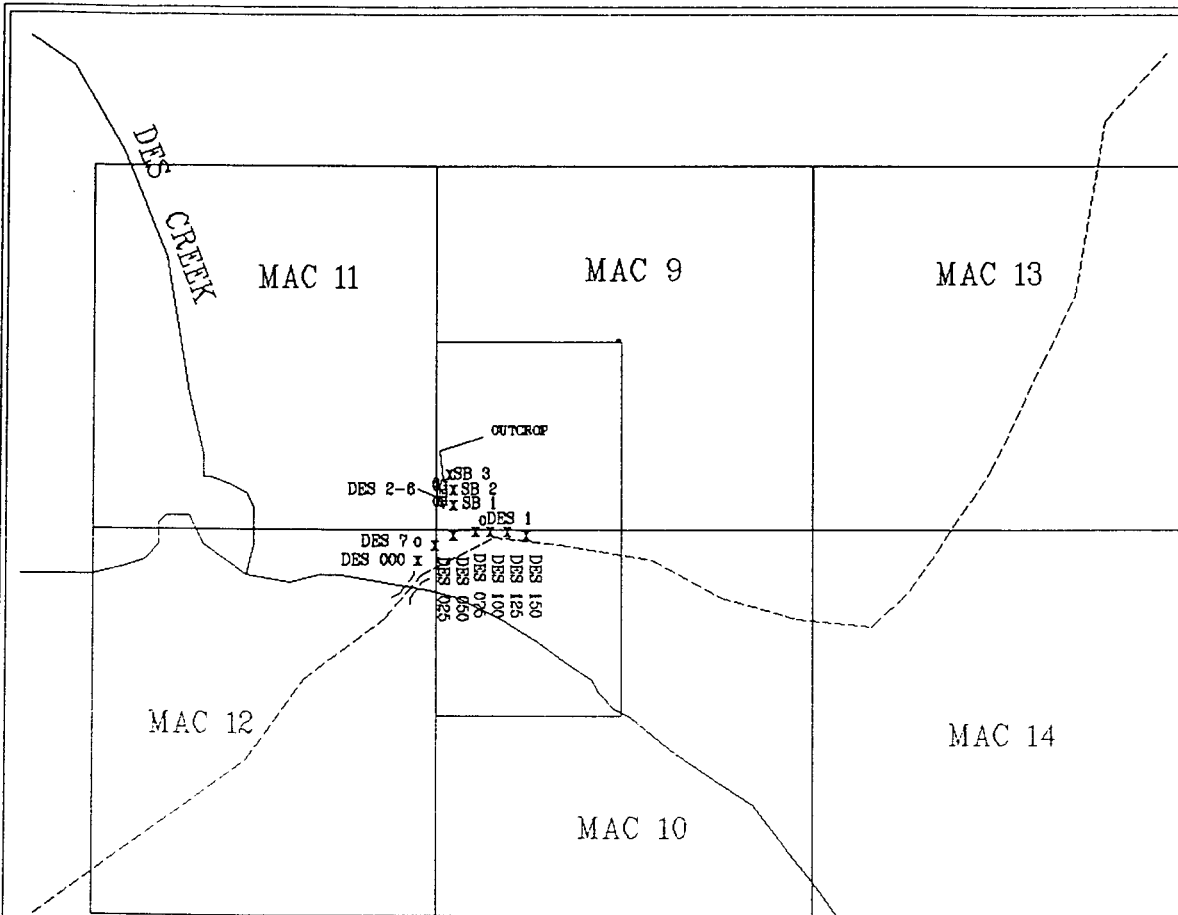
#### 3.2 SOIL SAMPLE RESULTS AND DISCUSSION

Figure 3 shows locations and significant results of the soil sampling program. For complete results see Chemex Labs Certificates of Analysis in the Appendix.

The samples collected from the road cut east of Des Creek contained anomalous gold values ranging from 32 to 178 ppb, silver values to 2.0 ppm, arsenic values to 354 ppm, antimony values to 40 ppm and zinc values to 496 ppm. The higher sample values occur in the centre and west portion of this line where overburden was very shallow. Stations DES125 and DES150 were located in glacial till overburden. The highest zinc value was obtained in the vicinity of rusty argillite outcrop at DES000.

Samples SB 1 to 3 were taken from south to north across a silicified, epithermally altered, quartz and stibnite bearing outcrop. Sample SB 2 was taken in the area of the best visible mineralization and returned values of 334 ppb Au, 3.0 ppm Ag, 326 ppm As, 58 ppm Sb, and 236 ppm Zn. Samples SB 1 and 3 were taken in overburden either side of the mineralized outcrop and did not return values as high as those of SB 1.

It can be concluded that the mineralized or rusty outcrop areas contain significant gold and silver values, which are drop off in areas of glacial overburden. Glacial overburden in this region is extensive and believed to be up to 50 metres thick.



P & L GEOLOGICAL SERVICES

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MAC PROPERTY

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CARIBOO MINING DIVISION      NTS: 93J/14W

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SOIL AND ROCK  
SAMPLE MAP

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BY: PG  
DATE: AUGUST 1996

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FIGURE 3



### RESULTS

SOILS	AU, AG, AS, SB, ZN				
	PPB	PPM	PPM	PPM	PPM
SB1	2,	0.2,	14,	<2,	182
SB2	334,	3.0,	326,	58,	236
SB3	12,	1.2,	44,	4,	234
DES00	104,	1.8,	138,	8,	496
DES25	116,	0.6,	348,	<2,	264
DES50	60,	1.2,	354,	40,	324
DES75	178,	1.0,	232,	10,	132
DES100	120,	0.6,	46,	2,	114
DES125	32,	0.2,	22,	<2,	192
DES150	40,	<0.2,	10,	<2,	156
ROCKS					
DES1	5230,	2.0,	2940,	76,	22
DES2	4110,	7.2,	1765,	3820,	326
DES3	3440,	3.6,	2280,	70,	30
DES4	915,	23.2,	464,	>10000,	64
DES5	2560,	9.2,	1220,	5640,	8
DES6	1420,	7.2,	376,	54	
DES7	150,	2.0,	60,	38,	56

X = SOIL SAMPLE LOCATION  
O = ROCK SAMPLE LOCATION

SCALE: 1:10,000

### 3.3 ROCK SAMPLING

A total of seven rock samples were collected from the MAC 9-14 Claims. All samples consisted of two or three fist size "grab" samples and were placed in labelled plastic bags. Sample sites were marked with correspondingly labelled flagging tape. Samples were labelled Des 1 to 7. Samples were shipped to Chemex Labs Ltd. in Vancouver for analysis.

In the laboratory, samples were crushed to -80 mesh, split and analysed for Au, Pt and Pd by Atomic Absorption, plus an additional 30 elements by ICP.

### 3.4 ROCK SAMPLE RESULTS AND DISCUSSION

Rock samples Des 2 to Des 6 were collected from a mineralized outcrop containing epithermal style quartz veining, stibnite and lesser arsenopyrite mineralization. Samples Des 1 and Des 7 were collected from the Holder Mainline road cut in the vicinity of the mineralized outcrop. See Table II for rock sample descriptions and see the Appendix for the Chemex Certificates of Analysis.

Figure 3 shows rock sample locations and significant results. Des 1 contained the highest gold value of 5230 ppb from a banded chalcedonic quartz vein found along the road cut. From the mineralized outcrop rock samples ranged from 915 to 4110 ppb Au, 3.6 to 23.2 ppm Ag, 464 to 2280 ppm As, and 70 to >10,000 ppm Sb. The high gold values obtained from samples collected across this outcrop indicate the presence of a potentially high grade epithermal system located under the extensive overburden coverage in this location.

TABLE II

SAMPLE NUMBER	DESCRIPTION	SIGNIFICANT RESULTS
DES 1	5 cm white, banded chalcedonic quartz with pyrite brxx along edge	5230ppb Au, 2.0ppm Ag, 2940ppm As, 76ppm Sb
DES 2	sil brxx with quartz stringers, brxx py, and minor stibnite	4110ppb Au, 7.2ppm Ag, 1765ppm As, 3820ppm Sb 326ppm Zn
DES 3	pyritic brxx, massive f.g. py with coarse stringers of py and qtz	3440ppb Au, 3.6ppm Ag, 2280ppm As, 70 ppm Sb
DES 4	similar to DES 3 with less py, more stibnite massive with 5cm xtals	915ppb Au, 23.2ppm Ag, 464ppm As, >10,000ppm Sb
DES 5	asst qtz-rich rock with dark brxx, minor py	2560ppb Au, 9.2ppm Ag, 1220ppm As, 5540ppm Sb
DES 6	brxx pyritic rock, qtz stringers, minor stibnite/arsenopyrite	1420ppb Au, 7.2ppm Ag, 704ppm As, 376ppm Sb
DES 7	brxx argillite with qtz stringers, minor py	150ppb Au, 2.0ppm Ag, 60ppm As, 38ppm Sb

#### 4.0 MAGNETOMETER SURVEY

##### 4.1 INSTRUMENT AND SURVEY TECHNIQUES

A Geometrics G816 Proton Magnetometer was used to conduct 2.2 line kilometres of ground magnetic survey on the MAC 9-14 claims (see Figure 4). The survey lines run across the claims along the Holder Mainline Road, along a portion of the central claim line, and in a cross over the quartz-stibnite mineralized outcrop. Stations along the road and claim line are placed at 25 metre intervals, while those crossing the mineralized outcrop are at 12.5 metres.

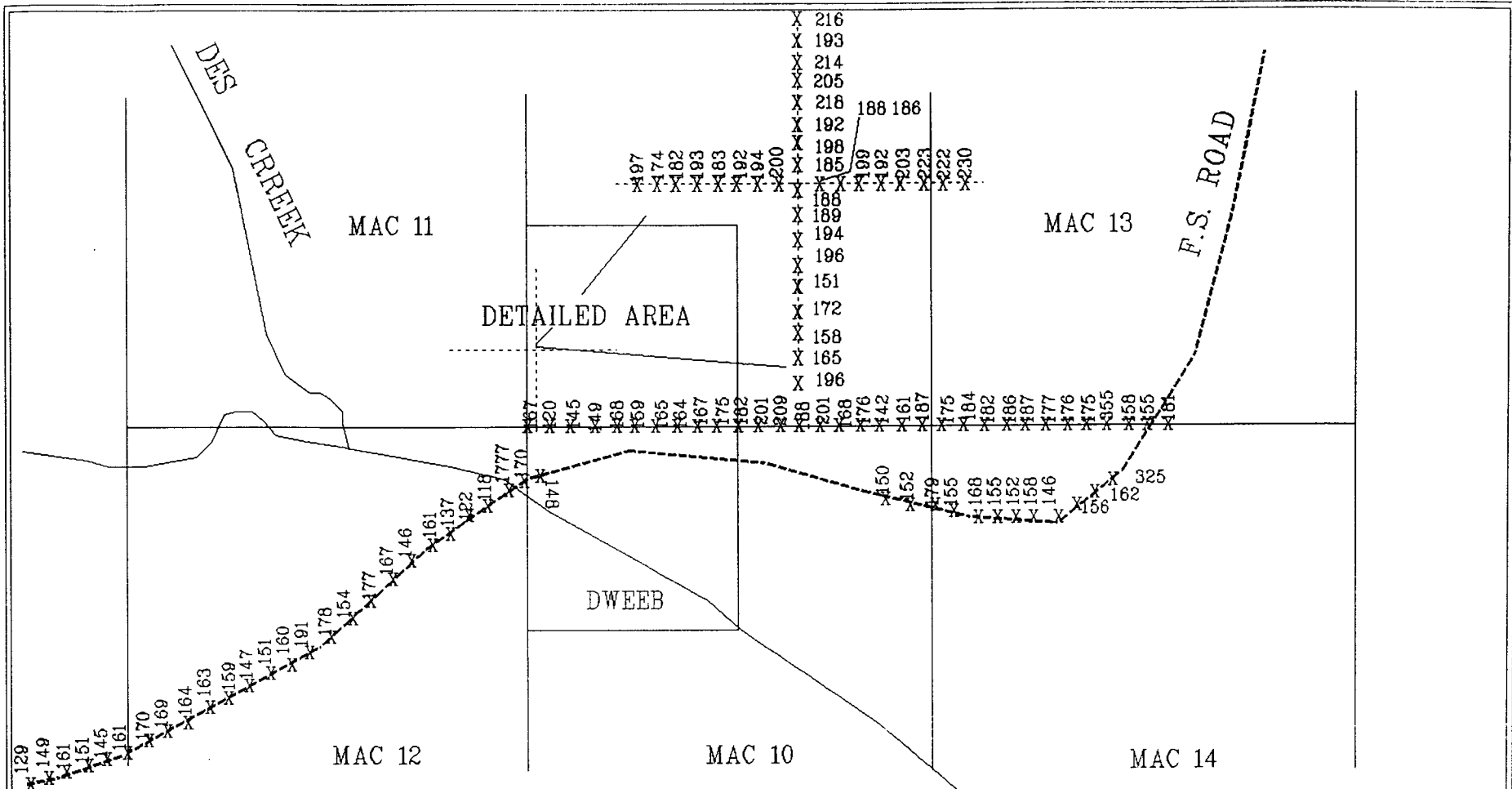
The G816 Proton Magnetometer measures the total intensity of the earth's magnetic field with a sensitivity up to +/- 1 gamma through the use of proton precession. By measuring the total field intensity orientation errors are minimized.

To ensure optimum results the sensor was always oriented north-south so that the sensor axis was perpendicular to the earth's field and held still to reduce random noise. A base station was put in to the east of the Des Creek bridge. By referring back to this station on closure of the traverse, a check on the accuracy of the survey and diurnal variations were obtained. Diurnal variation during the course of this survey was negligible, therefore corrections to the data prior to plotting was not necessary.

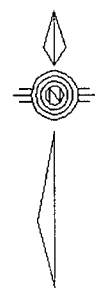
##### 4.2 PRESENTATION AND DISCUSSION OF RESULTS

The magnetometer survey data is plotted at 1:5,000 scale on Figure 4. As the survey was not conducted over a grid, contouring of the data was not done.

On the MAC 9-14 Claims, magnetometer readings range from 58,118 gammas (just west of Des Creek bridge to 58,355 gammas (near the east end of the claims), for a total relative change of 237 gammas. A higher reading of 59,777 was obtained on the Des Creek bridge, but is due to metal in the bridge structure so should not be considered significant. On the MAC 9-14 Claims, readings are generally quite flat, possibly due to the thickness of overburden once the lines leave the Des Creek area.



P & L GEOLOGICAL SERVICES	
MAC PROPERTY	
CARIBOO MINING DIVISION	NTS: 93J/14W
MAGNETOMETER SURVEY	
BY: PG	FIGURE 4
DATE: AUGUST 1996	



MAGNETIC BASE LEVEL: 57,000 GAMMAS  
 SCALE: 1:7500



## 5.0 CONCLUSIONS

1) The **MAC 9-14** Claims are underlain by Triassic-Jurassic Takla Group volcanic tuffs and Mississippian Slide Mountain Group argillites of the Omineca Crystalline Belt. These rocks are adjacent to a northwesterly trending pyroxenite dyke or sill. Dimensions of the pyroxenite body can be inferred from the airborne magnetic map to be approximately 4 kilometres by 300 metres. In the vicinity of the claim block, feldspar porphyry dykes possibly related to this intrusive, may be associated with epithermal style quartz veining containing visible stibnite and arsenopyrite.


2) Soil and rock samples taken in the vicinity of the quartz-stibnite bearing outcrop returned significant gold and silver values. Soils ranged up to 334 ppb Au and 3.0 ppm Ag while rocks ran as high as 5320 ppb Au and 23.2 ppm Ag with significant amounts of As, Sb and Zn.

3) The magnetometer survey run over the MAC 9-14 claims gives relatively flat readings, with no significant conclusions being apparent. The flat readings may be due to excessive overburden masking the underlying geology.

## 6.0 RECOMMENDATIONS

Future work, including expanded soil and rock chip sampling, detailed geological mapping, and trenching is required to further explore the extent and location of this epithermal style gold-silver mineralization.

Respectfully submitted

  
Linda Dandy, P. Geo.

## 7.0 REFERENCES

ARMSTRONG, J.E., 1965; Fort St. James Map Area, Cassiar and Coast Districts, B.C.: Geological Survey of Canada, Memoir 252.

ARMSTRONG, J.E., TIPPER, H.W., and HOADLEY, J.W., 1946; and MULLER, J.E. and TIPPER, H.W., 1961; Geology, McLeod Lake, British Columbia: Geological Survey of Canada, Map 1204A, Scale 1:253,440.

BRITISH COLUMBIA MINISTER OF MINES ANNUAL REPORTS, 1933 and 1934; McLeod River Area: p.A100-A104 (1933) and p.C13-C16 (1934).

DANDY, L., 1996; Geological and Geochemical Report on the Mac 1-8 Claims: Assessment Report.

RICHARDS, G.G., 1986; Report on the Mineral Potential of the McLeod Prospect, McLeod River, British Columbia for Plasway National Resources Ltd.: unpublished report.

TIPPER, H.W., CAMPBELL, R.B., TAYLOR, G.C. and STOTT, D.F., 1979; Parsnip River, British Columbia, Sheet 93: Geological Survey of Canada 1:1,000,000 Geological Atlas Series, Map 1424A.

TROUP, A.G. and DANDY, L., 1983; Geology, Geochemistry and Geophysics Report on the G NORTH Property for Ezekiel Explorations Ltd.: Assessment Report.

**8.0 QUALIFICATIONS**

**LINDA DANDY, B.SC., P.GEO., F.G.A.C.**  
**C20, S4, RR#1, WALCOTT RD.**  
**TELKWA, B.C. V0J 2X0**  
**PHONE: 604-846-9242**  
**FAX: 604-846-9210**

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**ACADEMIC:**

B.Sc. in Geology, University of British Columbia, 1981

**PROFESSIONAL:**

Fellowship, Geological Association of Canada, 1987

Membership, Association of Professional Engineers and  
 Geoscientists of B.C., 1992

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**EXPERIENCE:**

**NOV 1989 - PRESENT;** P AND L GEOLOGICAL SERVICES: Consulting and Contracting to the mineral industry and government in all aspects of mineral exploration, reclamation, and education

**MAY 1984 - NOV 1989;** HUGHES LANG EXPLORATION: Project Geologist involved in all aspects of mineral and placer exploration throughout BC, Yukon and USA locations

**APR - AUG 1982;** P AND L GEOLOGICAL SERVICES: Project Geologist, Tulameen and Barkerville placer projects

**MAY - DEC 1981** MARK MANAGEMENT LTD: Geologist, Quesnel Trough  
**SEPT - DEC 1982** and Atlin, B.C., and Dawson City, Yukon  
**MAY 1983 - APR 1984**

**9.0 COST STATEMENT**

WAGES - GEOLOGIST	3 mandays @ \$300.00	\$ 900.00
- ASSISTANT	3 mandays @ \$150.00	450.00
FOOD AND ACCOMMODATION	6 mandays @ \$60	360.00
TRANSPORTATION	Truck rental/fuel	220.00
ANALYSIS	10 soils @ \$26.86	268.60
	7 rocks @ \$36.11	252.77
	TOTAL ANALYSIS	521.37
SUPPLIES		56.00
TELEPHONE/FAX/POSTAGE		10.00
REPORT PREPARATION	1 mandays @ \$300.00	300.00
	<b>TOTAL COSTS</b>	<b>\$ 2817.37</b>

## APPENDIX

CHEMEX LABS LTD. CERTIFICATES OF ANALYSIS  
SOIL AND ROCK SAMPLES



**ANALYTICAL CHEMISTS & GEOCHEMISTS**  
 Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

S4, C20, RR #1  
 TELKWA, BC  
 V0J 2X0

Certificate Date: 29-MAY-95  
 Invoice No. : 19517940  
 P.O. Number :  
 Account : MRV

Project :  
 Comments: ATTN: PERRY B. GRUNENBERG CC: LINDA DANDY

**CERTIFICATE OF ANALYSIS A9517940**

SAMPLE	PREP CODE	Au ppb FA-AA	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Pb %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
DES-1	205 226	5230	2.0	0.49	2940	100	< 0.5	< 2	0.06	1.0	11	278	24	2.88	< 10	< 1	0.04	< 10	0.03	75
DES-2	205 226	4110	7.2	0.47	1765	150	< 0.5	< 2	0.33	2.0	8	240	19	1.56	< 10	< 1	0.22	< 10	0.14	150
DES-3	205 226	3440	3.6	0.89	2280	90	< 0.5	< 2	0.07	1.0	19	200	36	3.93	< 10	< 1	0.23	< 10	0.10	75
DES-4	205 226	915	23.2	0.24	464	40	< 0.5	2	0.28	2.0	10	221	37	1.96	< 10	2	0.09	< 10	0.12	80
DES-5	205 226	2560	9.2	0.19	1220	40	< 0.5	< 2	0.04	1.0	4	281	15	1.03	< 10	< 1	0.08	< 10	0.02	30
DES-6	205 226	1420	7.2	0.56	704	160	< 0.5	< 2	1.13	0.5	8	266	21	1.67	< 10	< 1	0.27	< 10	0.25	160
DES-7	205 226	150	2.0	0.25	60	80	< 0.5	< 2	0.15	< 0.5	5	319	13	0.87	< 10	< 1	0.11	< 10	0.02	120

CERTIFICATION:

*HautBichler*

05/31/95 09:14 FAX 604 984 0218

05/31/95 WED 09:14 FAX 604 984 0218



# VICTORIA LABS LTD.

Analytical Chemists \* Geochemists \* Registered Assayers

212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221 FAX: 604-984-0218

S4, C20, RR #1  
TELKWA, BC  
V0J 2X0

Project:

Comments: ATTN: PERRY B. GRUNENBERG CC: LINDA DANDY

Total Pages : 1  
Certificate Date: 29-MAY-95  
Invoice No. : I9517940  
P.O. Number :  
Account : MRV

## CERTIFICATE OF ANALYSIS

### A9517940

SAMPLE	PREP CODE		Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
			ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
DES-1	205	226	1	< 0.01	20	160	4	76	2	5	< 0.01	< 10	< 10	21	< 10	22
DES-2	205	226	< 1	< 0.01	18	180	2	3820	2	15	< 0.01	< 10	< 10	16	< 10	326
DES-3	205	226	3	< 0.01	39	230	2	70	7	6	< 0.01	< 10	< 10	37	< 10	30
DES-4	205	226	1	< 0.01	19	190	< 2	> 10000	< 1	11	< 0.01	< 10	< 10	8	< 10	64
DES-5	205	226	2	< 0.01	13	40	6	5540	< 1	3	< 0.01	< 10	< 10	8	< 10	8
DES-6	205	226	2	< 0.01	20	1410	4	376	2	19	< 0.01	< 10	< 10	21	< 10	54
DES-7	205	226	1	< 0.01	15	510	6	38	1	3	< 0.01	< 10	< 10	8	< 10	56

CERTIFICATION:

*Heidi Becher*



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
 212 Brooksbank Ave., North Vancouver  
 British Columbia, Canada V7J 2C1  
 PHONE: 604-984-0221 FAX: 604-984-0218

To: P & L GEOLOGICAL SERVICES

S4, C20, RR #1  
 TELKWA, BC  
 VOJ 2X0

Project: MAC  
 Comments: ATTN: LINDA DANDY

Page Number : 1-A  
 Total Pages : 1  
 Certificate Date: 08-JUN-96  
 Invoice No. : 19619854  
 P.O. Number :  
 Account : MRV

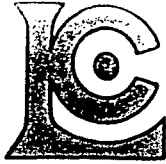
## CERTIFICATE OF ANALYSIS A9619854

SAMPLE	PREP CODE		Au ppb	Pt ppb	Pd ppb	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm
			AFS	AFS	AFS																
SB 1	201	202	2	< 5	< 2	0.2	1.21	14	120	< 0.5	< 2	0.25	0.5	8	32	18	3.05	< 10	< 1	0.08	< 10
SB 2	201	202	334	< 5	< 2	3.0	0.66	326	110	< 0.5	< 2	0.30	0.5	26	26	90	6.73	< 10	< 1	0.09	< 10
SB 3	201	202	12	< 5	< 2	1.2	2.05	44	320	< 0.5	< 2	0.42	2.0	22	50	32	5.17	< 10	< 1	0.11	10
DES-000	201	202	104	< 5	< 2	1.8	0.66	138	120	0.5	< 2	1.79	10.5	24	13	103	5.52	< 10	1	0.10	10
DES-025	201	202	116	< 5	< 2	0.6	0.90	348	120	1.0	< 2	0.96	2.5	32	31	84	7.95	< 10	< 1	0.11	20
DES-050	201	202	60	< 5	< 2	1.2	0.61	354	270	1.5	< 2	0.98	1.5	21	12	47	6.85	< 10	< 1	0.12	40
DES-075	201	202	178	< 5	< 2	1.0	0.48	232	130	< 0.5	< 2	0.48	< 0.5	28	11	50	5.09	< 10	< 1	0.10	30
DES-100	201	202	120	< 5	< 2	0.6	1.57	46	170	< 0.5	< 2	0.83	1.5	22	233	46	4.37	< 10	1	0.08	10
DES-125	201	202	32	< 5	2	0.2	1.60	22	170	< 0.5	< 2	0.86	1.5	13	45	34	3.21	< 10	< 1	0.07	10
DES-150	201	202	40	< 5	< 2	< 0.2	1.61	10	180	< 0.5	< 2	0.48	0.5	10	42	14	2.54	< 10	< 1	0.06	10
LR 25 SW	201	202	16	< 5	< 2	< 0.2	1.82	14	160	< 0.5	< 2	0.36	< 0.5	12	58	32	3.30	< 10	< 1	0.07	< 10
LR 0	201	202	6	< 5	< 2	0.8	2.86	16	320	0.5	< 2	0.86	0.5	20	84	84	4.58	< 10	< 1	0.16	< 10
LR 25 NE	201	202	4	< 5	< 2	< 0.2	2.18	8	50	< 0.5	< 2	0.65	< 0.5	23	229	82	5.39	10	< 1	0.05	< 10
LR 50 NE	201	202	< 2	< 5	< 2	< 0.2	2.14	8	80	< 0.5	< 2	0.58	< 0.5	31	183	83	4.07	< 10	< 1	0.04	< 10
LR 75 NE	201	202	28	< 5	< 2	< 0.2	1.17	4	120	< 0.5	< 2	0.30	< 0.5	6	34	9	2.27	< 10	2	0.08	10

CERTIFICATION:

*Hart Bichler*





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### A9619854

SAMPLE	PREP CODE	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
SB 1	201 202	0.35	240	2 < 0.01	22	1510	8	< 2	3	14	0.03	< 10	< 10	55	< 10	182	
SB 2	201 202	0.16	785	4 < 0.01	51	2030	16	58	9	24	0.01	< 10	< 10	35	< 10	236	
SB 3	201 202	0.76	1525	3 < 0.01	28	1010	10	4	7	22	< 0.01	< 10	< 10	81	< 10	234	
DES-000	201 202	0.23	710	20 < 0.01	122	3690	24	8	8	93	< 0.01	< 10	< 10	27	< 10	496	
DES-025	201 202	0.15	520	13 < 0.01	149	2920	22	< 2	17	79	< 0.01	< 10	< 10	29	< 10	264	
DES-050	201 202	0.07	885	27 < 0.01	65	3510	46	40	12	46	< 0.01	< 10	< 10	33	< 10	324	
DES-075	201 202	0.09	1505	5 < 0.01	71	1070	42	10	11	28	< 0.01	< 10	< 10	16	< 10	132	
DES-100	201 202	0.50	820	4 < 0.01	64	930	10	2	15	41	0.05	< 10	< 10	70	< 10	114	
DES-125	201 202	0.45	725	1 < 0.01	33	910	10	< 2	4	44	0.05	< 10	< 10	62	< 10	192	
DES-150	201 202	0.38	985	< 1 < 0.01	19	530	10	< 2	3	30	0.05	< 10	< 10	59	< 10	156	
LR 25 SW	201 202	0.61	355	< 1 < 0.01	25	1310	6	< 2	4	19	0.09	< 10	< 10	84	< 10	142	
LR 0	201 202	0.72	1480	3 0.01	60	740	14	< 2	11	54	0.04	< 10	< 10	84	< 10	122	
LR 25 NE	201 202	1.77	415	< 1 0.04	57	780	2	< 2	5	23	0.19	< 10	< 10	221	< 10	62	
LR 50 NE	201 202	1.76	390	< 1 0.04	74	560	< 2	< 2	4	18	0.19	< 10	< 10	169	< 10	40	
LR 75 NE	201 202	0.31	255	< 1 < 0.01	12	780	6	< 2	2	20	0.08	< 10	< 10	65	< 10	56	

CERTIFICATION:

*Hart Bickler*