



TRENCHING, GEOLOGICAL MAPPING & SAMPLING,
AND DIAMOND DRILLING PROGRAMMES
ON THE
SADIM PROPERTY
SADIM 1 - 6 CLAIMS

Missezula Mountain Area
Similkameen Mining Division, B.C.
NTS Ref. 92H/10E
Latitude: $49^{\circ}44'40''$
Longitude: $120^{\circ}30'40''$

For
LARAMIDE RESOURCES LTD.

By
I.M. WATSON & ASSOCIATES LTD.

I.M. Watson, P.Eng.
Vancouver, B.C.

March 1987

Table of Contents

| | <u>Page</u> |
|--|-------------|
| INTRODUCTION | 1 |
| LOCATION, ACCESS, PHYSIOGRAPHY | 1 |
| CLAIMS | 2 |
| HISTORY | 3 |
| SUMMARY OF WORK | 4 |
| Trenching/Sampling Programme (Phases I and II) | 5 |
| Diamond Drilling Programme | 6 |
| GEOLOGY | |
| Regional | 6 |
| SADIM Gold Showing | 7 |
| Lithology & Structure | 7 |
| Mineralisation | 8 |
| SUMMARY OF RESULTS | 10 |
| CERTIFICATE | 11 |
| REFERENCES | 12 |
| STATEMENT OF COSTS | |
| Phase I | 14 |
| Phase II | 15 |
| Diamond Drilling Programme | 16 |
| Summary | 17 |

Appendices

- A Diamond Drill Logs
- B Geochemical Analytical Reports

List of Illustrations

In Text

- Figure 1 Index Map
- Figure 2 Location, Access and Claims
- Figure 3 Regional Geology

In Pocket

- ✓ Figure 4 Drill Hole & Trenching Plan - SADIM 3/4 Claims 1:2500
- ✓ Figure 5 Geology - SADIM 3/4 Claims 1:2500
- Figure 6a Trench-Geology/Drill Holes East 1:200
- Figure 6b Trench-Geology West 1:200
- Figure 6c Trench-Geology South 1:200
- ✓ Figure 7a Trench-Geochemistry Rock Sampling East 1:200
- Figure 7b Trench-Geochemistry Rock Sampling West 1:200
- Figure 7c Trench-Geochemistry Rock Sampling South 1:200
- Figure 8 Longitudinal Drill Hole Section Geology 1:200
- Figure 8a Longitudinal Drill Hole Section Assays 1:200
- Figure 9 Cross Section 3+00S 1:200
- ✓ Figure 10 Cross Section 3+75S 1:200
- Figure 11 Section DDH 87-2 - Assays 1:200

INTRODUCTION

The SADIM 1 - 5 claims are situated in the Missezula Mountain area of southwestern B.C. The claims are underlain by rocks of the Nicola Belt in a geological setting essentially similar to that hosting the porphyry copper-gold deposits of the Quesnel Trough in the Quesnel-Cariboo area.

Geological and geochemical reconnaissance surveys of the SADIM 1 - 4 claims during the summer of 1985 revealed gold and silver bearing quartz veins within a northerly trending zone of altered tuffs close to the common boundary between the SADIM 3 and 4 claims (Watson, 1985). Preliminary sampling of the veins and host rocks gave encouraging results; follow-up trenching programmes during September/October and December 1986 led to a preliminary six-hole diamond drilling programme during January/February 1987.

This report summarises the results of the 1986 trenching and 1987 drilling programmes.

LOCATION, ACCESS & PHYSIOGRAPHY (Figures 1 and 2)

The SADIM claims are situated four kilometres east of Highway 5, 30 kms. north of Princeton and 45 kms. south of Merritt, within the Similkameen Mining Division. The centre of the property is at $49^{\circ}44'40''\text{N}$, $120^{\circ}30'40''\text{W}$. The NTS reference is 92H/10E.

Access to the property from Highway 5 is by the Dillard-Ketchan Creek main logging roads which branch east from the highway about 12 kms. south to the village of Aspen Grove. The Ketchan Creek road traverses the SADIM 1 and 3 claims in a southeasterly direction. Distance from Highway 5 to the property is approximately 16 kms.

An alternate access route is by gravel logging road from Highway 5 at a point 2.5 kms. north of Allison Lake. This road climbs east for 5 kms. to join the Ketchan Creek road at the northwestern corner of the SADIM 1 claim.



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Figure 1: Index Map

L. M. Watson & Associates Ltd.

Within the property boundaries, logging and 'mining' roads, and the B.C. Telephone microwave tower road, provide good access to all parts of the claim group. The B.C. Hydro power line crosses the centre of the SADIM 1 and 3 claims.

The property occupies the summit area of the broad, north trending ridge separating the deep fault valleys of Summers Creek to the east and Allison Creek to the west. Elevations on the property range from 1615 metres at the summit of Microwave Hill, on the common boundary between SADIM 1 and 2, to 1200 metres at the headwaters of Allison Creek, in the northwestern corner of the SADIM 1 claim. The topography is typical of this part of the Thompson Plateau, reflecting the effects of a predominantly northerly structural trend, accentuated by glaciation; heavily forested, relatively gentle upland slopes are cut by deep, steep-sided, north trending valleys. Bedrock exposure varies and is largely a function of glacial action; generally outcrop is abundant on ridges and along the upper slopes of steep valleys but lower slopes and valley bottoms bear a thick mantle of glacial overburden.

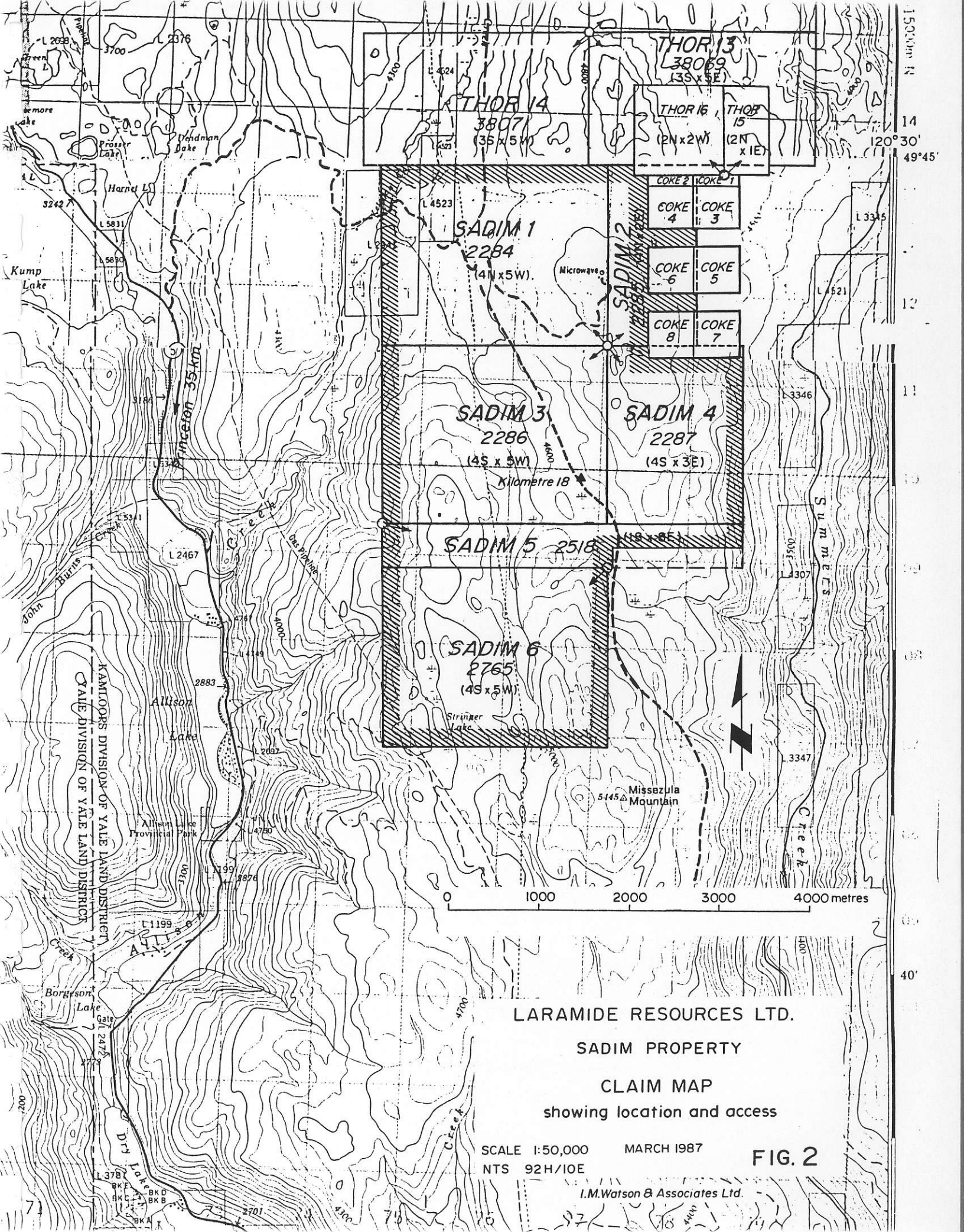
Away from the main north-south river valleys, drainage is weakly developed and consists of ill-defined water courses and seepages.

Vegetation is dense on shaded and northerly slopes, but is more open on south facing hillsides; mixed conifers, alder and poplar predominate. Logging operations are currently active immediately south of the SADIM claims.

CLAIMS (Figure 2)

The SADIM property consists of six mineral claims containing a total of 88 units, as follows:

| <u>Claim Name</u> | <u>No. of Units</u> | <u>Record No.</u> | <u>Recording Date</u> |
|-------------------|---------------------|-------------------|-----------------------|
| SADIM 1 | 20 | 2284 | 10 October 1984 |
| SADIM 2 | 8 | 2285 | 10 October 1984 |
| SADIM 3 | 20 | 2286 | 10 October 1984 |
| SADIM 4 | 12 | 2287 | 10 October 1984 |
| SADIM 5 | 8 | 2518 | 30 December 1985 |
| SADIM 6 | 20 | 2765 | 8 December 1986 |



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SADIM PROPERTY

CLAIM MAP

showing location and access

SCALE 1:50,000 MARCH 1987
 NTS 92H/10E

FIG. 2

I.M. Watson & Associates Ltd.

The SADIM 1-4 claims were staked by and on behalf of I.M. Watson on the 17th and 18th September 1984. Ownership was transferred to Laramide Resources Ltd. by bill of sale dated 12 November, 1985. The SADIM 5 and 6 claims were staked for Laramide on 5th December, 1985 and 30th November, 1986, respectively.

HISTORY

The earliest record of work in the SADIM claim area dates back to the early 1960's - the beginning of the porphyry copper exploration boom which persisted until the early 1980's. Most of the work recorded within the present SADIM claim area was concentrated in the northeastern and eastern part of the claim group, over the SADIM 2 and 4 claims.

The following is a summary of past activity in the property area.

- 1962 The 40 claim KR group was staked by Plateau Metals Ltd. Work consisted of a magnetometer survey, bulldozer trenching, and an undisclosed amount of diamond drilling. The claims occupied the area presently covered by the SADIM 2 claim, and by the northern part of the SADIM 4 claim.
- 1966 Adera Mining Ltd. optioned the KR claims and carried out soil sampling and magnetometer surveys followed by diamond drilling. The claims were allowed to lapse.
- 1970 Amax Explorations Inc. staked the RUM claims; the southern half of the property lay within the area now covered by the SADIM 2 and 4 claims. Work done by Amax consisted of geological mapping, soil sampling, and magnetometer and I.P. surveys, followed by a nine-hole, 1879-foot percussion drilling programme.
- 1972 Kalco Valley Mines Ltd. optioned the RUM claims, then relinquished the property after a programme of mapping and trench sampling.

- 1973-74 Bronson Mines Ltd. staked the CINDY claims, covering ground now lying within the SADIM 1 claim. Mapping and prospecting programmes were carried out.
- 1974 Ruskin Developments Ltd. acquired the RUM claims, and completed geological mapping and soil sampling surveys before allowing the ground to lapse.
- 1979-81 Cominco Ltd. staked 55 claims, (RUM 1-55), coincident with the main area of interest covered by the original RUM claims staked by Amax. Cominco refurbished and renumbered the old Amax grid and used it for control of geological, soil and rock geochemical, and magnetometer surveys. Since then Cominco has allowed the claims to lapse.
- 1984-85 The SADIM 1-4 claims were staked by I.M. Watson and subsequently transferred to Laramide Resources in 1985. In the fall of 1985 Laramide carried out reconnaissance mapping, prospecting and geochemical soil sampling. Encouraging soil and rock geochemical results in the southern part of the SADIM 3 and 4 claims led to detailed sampling and mapping of the anomalous area. Gold and silver bearing quartz veins were found in rusty altered tuffs, over a strike distance of at least 300 metres. Preliminary chip sampling of the mineralised vein material yielded assays of up to 4,120 ppb Au, and a selected grab sample contained 0.20 oz/ton Au.

SUMMARY OF WORK SEPTEMBER 1986 - FEBRUARY 1987

The area of gold mineralisation discovered in 1985 is situated 200 metres east of the Ketchan Creek logging road at kilometre 18. Recent logging (1983) has bared a triangular area, about 1 kilometre long and 500 metres wide at the north end of the clearing. The topographic grain is northerly. A shallow, south draining swampy depression bisects the cleared area. To the east the ground rises moderately from the edge of the clearing to the summit of the broad ridge separating Allison and Summer Creeks. The mineralised veins and host tuff are intermittently exposed along the

eastern side of the swamp over a distance of 300 metres. Other, smaller exposures of mineralised veins have been found up to 700 metres to the north, but the 1986-87 trenching, sampling and drilling programmes were confined to the larger southern area of interest.

(a) Trenching/Sampling Programme

Phase I - Sept. 23 to Oct. 2, 1986 (Figures 4, 6a, and 7a)

Ten trenches were completed using a JWSB H90 Excavator rented from Douglas Lake Ranch Co. Trenches were laid out east-west across the general strike of lithology in the showing area. Seven trenches (Nos. 1-7) were spaced at 25 metre intervals along a 160 metre strike length. Host rock exposures a further 100 metres to the north and south were investigated by trenches #9 and #10 (north) and #8 (south). The total length trenched during Phase I was 320 metres. Average depth of the trenches was 1.5 metres, and overburden cover ranged from zero to 2.0 metres.

All trenches were sampled and mapped; continuous chip samples were taken at 1 metre intervals. Additional chip and channel samples were taken to test individual veins or zones of specific interest. A total of 186 samples was collected, and shipped to Acme Analytical Laboratories Ltd. in Vancouver, to be analysed for Au, Ag, Pb and Cu. Gold was determined by atomic absorption (AA), and silver, lead and copper by the inductively coupled argon plasma method (ICP).

Phase II - December 10 to 17, 1986 (Figures 4, 6a-c, 7a-c)

The Phase II trenching programme was undertaken to test the extent and tenor of the gold bearing quartz vein stockwork revealed by Phase I. Trenches #'s 2 - 7 were extended to the east and the ground to the north and northeast of the anomalous zone was tested by new trenches 1A and

11; trenches, 12, 13 and 14 explored the area west of the swamp. Total length of trenches completed, mapped and sampled during Phase II was 455 metres. Average depth was approximately 1.5 metres. 175 chip samples were sent to Acme Laboratories for analysis.

b) Diamond Drilling Programme - January 24th - February 11th, 1987
(Figs. 4, 5 and 6a)

A preliminary diamond drilling programme was laid out to test the quartz-vein stockwork exposed by the trenching programme. Six vertical NQ diameter holes totalling 292 metres were drilled by Rainbow Diamond Drilling Ltd. of Merritt. The holes were evenly spaced along a 200-metre strike length; maximum depth attained was 94 metres in hole 87-3. The planned programme was curtailed by broken ground, and particularly by a wide easterly dipping shear zone. Circulation losses and high compressive forces prevented four of the holes penetrating the shear and only one of the other holes (87-3) reached target depth. All core was logged, split and sampled at one metre intervals. 270 samples were shipped to Acme Analytical Laboratories where they were analysed for gold, silver, lead and copper.

The split core is stored in covered racks at the Willow Heights Ranch, Aspen Grove.

GEOLOGY

Regional

The Upper Triassic Nicola Group rocks extend from the 49th parallel north to Kamloops Lake, and continue north beneath Tertiary cover to emerge in the Quesnel area as the Quesnel Belt (Preto, 1979).



Upper Triassic and Lower Jurassic volcanic rocks, significant copper deposits, and associated alkalic plutons in the Intermontane Zone.

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SADIM PROPERTY

REGIONAL GEOLOGY

SCALE 1:13,500,000(approx) MARCH 1987

FIG. 3

I.M. Watson & Associates Ltd.

The volcanics of the Quesnel and Nicola Belts form a mixed alkaline and calc-alkaline sequence of basalts and derived breccias, tuffs, and minor sediments.

The volcanic rocks are intruded by comagmatic alkaline plutons, ranging in composition from syenogabbro to alkali syenite. The intrusions appear to be structure related and occur in belts along major lineaments and faults. They vary in size from plugs to small batholiths, and have been emplaced into the volcanic centres which produced the abundance of volcanic material (Barr et al, 1976).

In the Allison Lake-Missezula area, Preto has delineated three assemblages - a Western Belt of easterly dipping calc-alkaline flows, pyroclastics and sediments; a Central Belt of alkaline and calc-alkaline volcanics and intrusions, and minor sediments; and an Eastern Belt of westerly dipping volcanic sediments, tuffs and alkaline flows associated with small monzonite porphyry stocks. The belts are separated by major north-striking faults.

Preto believes that the Central Belt of dominantly volcanic rocks originates from eruptive centres along the major fault system, and points out the greater concentrations of mineral deposits along this belt.

The SADIM claims lie immediately west of the Summers Creek Fault, which marks the eastern boundary of Preto's Central Belt.

The property is underlain by northerly striking intermediate to basic flows, green monolithic and polyolithic volcanic breccias, tuffs, and less abundant argillites and limestones. These rocks have been intruded by irregular bodies of gabbroic to dioritic composition. Volcanics and sediments marginal to the intrusions have been variably propylitised (epidote-pyrite-chlorite-carbonate) and locally host erratically distributed copper-pyrite zones.

SADIM Gold Showing Area (Figures 5, 6a-c, 8, 9 and 10)

Lithology and Structure: The trenching and drilling programmes have provided additional detailed information regarding the lithology, structure and mineralisation of

the area hosting the SADIM gold zone. The geological setting is shown on the 1:2500 geological plan (Figure 5).

The general trend is slightly west of north; dips are steep to moderate easterly. 'Tops' have yet to be recognised.

A major easterly dipping shear zone was intersected in all the drill holes and projects to surface along the north trending swamp in the middle of the map area (Figures 5, 8, 9 and 10). The fault, probably a thrust, separates essentially andesitic flows (**la**) and tuffs (**le**) on the west from mixed tuffs (**le sil**, **le cal**) on the east. The fault zone, which is about 15 metres thick, occurs along a dark grey carbonaceous limestone (See Figures 8 and 10), but also contains thick sections of quartz rich gouge.

The shear has caused intense and extensive fracturing and alteration (silification, pyritisation) in the adjacent rocks, particularly the tuffs above and to the east of the fault.

The silicified tuffs (**le sil**) appear to be altered equivalents of the green and grey tuff (**le**)-contacts in core and outcrop are irregular and transitional, and veins within the darker tuffs have alteration 'haloes' along their contacts. The silicified tuffs are pale grey, fine grained, and contain abundant small closely packed quartz eyes in a fine feldspathic groundmass. Pyrite occurs as fine disseminations, and is concentrated most heavily in zones of veining and fracturing. Weathering has oxidised the pyrite and the tuffs are strongly and pervasively hematitised to a depth of 10 metres.

An extensive fracture controlled quartz vein stockwork has developed in the altered tuffs, particularly in the silicified tuffs. Veins range from hair fractures to greater than one metre in thickness. There appear to be two dominant strike directions, roughly 30° north and south of east-west. Dips are southerly; the diagrammatic representation of veins in the 3+75S cross section (Figure 10) suggests that dips tend to flatten with depth as the veins close with the major shear zone.

Mineralisation: The quartz veins contain erratically disseminated sulphides, mainly pyrite, as well as chalcopyrite, and less commonly galena. In many cases, sulphides are concentrated along the vuggy margins or centres of a vein. Galena is usually

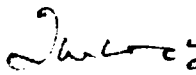
present as very fine crystal clusters or linings along hair fractures in the quartz. Sulphide concentration is related to vein size and to density of fracturing of the host tuff. Trench and drill hole sampling results show a close relationship between precious metal content, quartz veining (and fracturing), and sulphide concentration. The presence of galena is a good indication of elevated gold and silver content.

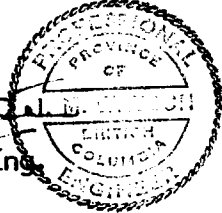
SUMMARY OF RESULTS

1. Gold mineralisation on the SADIM property occurs in a quartz-vein stock work within silicified and calcareous tuffs (le sil and le cal) above a major northerly striking, easterly dipping shear zone.
2. Significant precious metal contents have been obtained from trench sampling over an area approximately 200 metres by 60 metres. The gold content of chip samples ranges from 50 to 4,350 ppb. A 1.1 metre vein in Trench #2 assayed 6,390 ppb Au (0.19 opt.).
3. The six hole, 292 metres preliminary drilling programme was curtailed by bad ground within and adjacent to the shear zone, but tested the stockwork to a depth of 50 metres (Hole 87-1). Drill hole and trench sample data suggest that precious metal content increases from south to north (Figure 8a). The most northerly hole, 87-6, cut a 9.0 metre section from 22 metres to the bottom of the hole which averages 3,090 ppb Au (0.09 opt.) and 25.4 ppm Ag (0.74 opt.) and includes a one metre section assaying 19,800 ppb Au (0.58 opt.) and 159.1 ppm Ag (4.6 opt.).
4. The stockwork is open to the east (down-dip) and to the north. Although gold and silver content appears to diminish to the south, further, deeper drilling is needed to establish the southern limits of the mineralised veins.
5. Comparison of the geological and assay plans and sections shows a close correlation of gold/silver content with quartz veining and sulphide concentration (pyrite, chalcopyrite and galena in order of abundance). The presence of galena is a good indication of elevated gold and silver content. The Au:Ag ratio is consistently 1:8.

6. Further drilling and trenching is required to establish the full extent and tenor of the SADIM stockwork. The northerly strike and easterly down-dip potential of the zone are obvious priority targets.

I.M. WATSON & ASSOCIATES LTD.


I.M. Watson, P.Eng.



CERTIFICATE OF QUALIFICATIONS

I, Ivor Moir Watson, of 584 East Braemar Road, North Vancouver, British Columbia, hereby certify that:

1. I am a consulting geologist with offices at 816 - 675 West Hastings Street, Vancouver, B.C.
2. I am a graduate of the University of St. Andrews, Scotland (B.Sc. Geology 1955).
3. I have practised my profession continuously since graduation.
4. I am a member in good standing of the Association of Professional Engineers of B.C., and a Fellow of the Geological Association of Canada.
5. Work on the SADIM Property was carried out during the periods September 23rd to October 2nd, 1986; December 10th to 17th, 1986; and January 24th to February 11th, 1987 by the following personnel:
 - I. M. Watson - Geologist/Supervisor
 - J. H. Randa - Prospector/Sampler - Sept. 23 to Oct. 2,
 - D. England - Sampler - Sept. 29 to Oct. 2, 1986
 - D. Whalen - Prospector/Sampler - December 10 to 17, 1986
 - S. Angus - Prospector/Sampler - December 10 to 17, 1986
 - R. Gibbs - Core Splitter - January 24 to February 11, 1987

March 26, 1987
Vancouver, B.C.



I.M. Watson, B.Sc., P.Eng.



REFERENCES

- Barr, D.A., Fox, P.E., Northcote, K.E., and Preto, V.A., 1976.** The Alkaline Porphyry Deposits - A Summary; in CIM Special Vol. No. 15.
- Preto, V.A., 1975.** Notes to Accompany Preliminary Map No. 17. Geology of the Allison Lake - Missezula Lake Area. B.C. MEMPR.
- 1979.** Geology of the Nicola Group between Merritt and Princeton, Bull. 69, B.C. MEMPR.
- Watson, I.M., 1985.** Reconnaissance Geological and Geochemical Surveys of the SADIM Group, for Laramide Resources Ltd.

Assessment Reports

- #517 - 1963 Report on the K.R. Group of Plateau Metals Ltd. by Asarco Smelting & Refining Co. (Geology, magnetometer survey.)
- #985 - 1967 Geochemical report on the K.R. Group by C. Lammle for Adera Mining Ltd.
- #3363 - 1971 Geological, Geochemical and Geophysical Report on the Ketchan Creek property by J. Christofferson, G. DePaoli, and C. Hodgson for Amax Exploration Inc.
- #5044 - 1973 Geological and Prospecting Reports on the Cindy Group by D.C. Malcolm and E. Sleeman.
- #6036 - 1976 Geochemical Report on Rum Claim Group by D.G. Mark for Ruskin Developments Ltd.
- #8352 - 1980 Ground Magnetic and Soil Geochemical Survey over part of the Rum Property, by D.T. Mehner for Cominco Ltd.
- #9407 - 1981 Soil Geochemical Survey over part of the Rum Property, by D.T. Mehner for Cominco Ltd.

Statement of Costs - SADIM Claims

Phase I Trenching, Sampling & Mapping Programme -September
23 to October 2, 1986
SADIM 1 - 5 Claims

Phase II Trenching, Sampling & Mapping Programme - December
10 - 17, 1986
SADIM 1-4 Claims

Diamond Drilling Programme January 24 to February 11, 1987
SADIM 1 - 6 Claims

STATEMENT OF COSTS - SADIM CLAIMS

Phase I

a) Trenching - 23 - 26 September, 1986

Salaries

I.M. Watson (Consulting Geologist/Supervisor)

4 days @ \$400/day \$ 1,600.00

J. Randa (Prospector)

3 days @ \$185/day 555.00 \$ 2,155.00

Accommodation/Board 245.00

Vehicle Rental - (4 x 4)

4 days @ \$30/day 120.00

Fuel 51.50

Excavator Rental

JSWBH 90 Excavator

Operator

Mob & Demob

2,300.89 \$ 4,872.37

b) Geological Mapping/Sampling - 27 September to 2 October, 1986

Salaries

a) Field Work

I.M. Watson (Consulting Geologist/Supervisor)

6.5 days @ \$400/day \$ 2,600.00

J. Randa (Prospector)

6.5 days @ \$85/day 1,202.50

D. England (Labourer/Assistant)

3 days @ \$116/day 348.00 5,150.50

b) Report Preparation

I.M. Watson

3 days @ \$400/day 1,200.00

Accommodation/Board 660.31

Telephone, Freight 49.96

Vehicle Rental

6 days @ \$30/day 180.00

Fuel 50.75

Supplies 80.67

Geochemical Analyses - Acme Laboratories

186 samples @ \$11.50/ea (Au,Ag,Pb,Cu) 2,147.07

Drafting - D. Phillips

12 hrs. @ \$20.00/hr. 240.00 8,789.26

Total Phase I \$13,631.63

Phase II

a) Trenching Dec. 10-15, 1986

| | | | |
|---|---------------|-----------------|----------|
| Salaries | | | |
| I.M. Watson (Consulting Geologist/Supervisor) | | | |
| 3 days @ \$400.00/day | | \$ 1,200.00 | |
| Accommodation/Board | | 105.00 | |
| Vehicle Rental (4 x 4) | | | |
| 3 days @ \$30.00/day | | 90.00 | |
| Fuel | | 22.98 | |
| Excavator Rental | | | |
| JSWB490 - 41.5 hrs. @ \$95.00 | \$ 3,942.50 | | |
| Operator Costs | | | |
| 16.5 hrs. @ \$20.00/hr. | 330.00 | | |
| Mob/Demob - 7 hrs. @ \$66.75 | <u>467.25</u> | <u>4,739.75</u> | 6,157.73 |

b) Geological Mapping/Sampling Dec. 11-17, 1986

| | | | |
|---|-----------------------|---------------|----------------------------------|
| Salaries | | | |
| I.M. Watson (Consulting Geologist/Supervisor) | | | |
| 5 days @ \$400.00/day | 2,000.00 | | |
| S. Angus (Prospector/Sampler) | | | |
| 8 days @ \$140.00/day | 1,120.00 | | |
| D. Whalen (Prospector/Sampler) | | | |
| 8 days @ \$180.00/day | <u>1,840.00</u> | 4,560.00 | |
| Accommodation/Board | | 840.09 | |
| Telephone, Freight | | 34.94 | |
| Vehicle Rental (4X4) | | | |
| 5 days @ \$30.00/day | | 150.00 | |
| Fuel | | 45.97 | |
| Supplies | | 199.84 | |
| Geochem Analyses (Acme Analytical Labs) | | | |
| Au, Ag, Pb, Cu (175 samples + freight) | | 2,138.14 | |
| Drafting - D.L. Phillips Drafting Services | | | |
| 22 hrs. @ \$20.00/hr. | | <u>440.00</u> | <u>8,408.98</u> |
| | Total Phase II | | <u><u>\$14,566.71</u></u> |


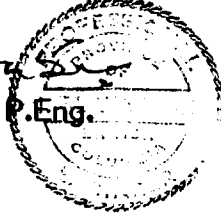
Diamond Drilling Programme - 24 January - 11 February, 1987

| | | |
|---|-----------------|---------------------------|
| Salaries | | |
| I.M. Watson (Consulting Geologist/Supervisor) | | |
| 19 days @ \$400.00/day | 7,600.00 | |
| R. Gibbs (Core Splitter) | | |
| 19 days @ \$115.00/day | <u>2,185.00</u> | 9,785.00 |
| Accommodation/Board | | 1,802.31 |
| Telephone/Freight | | 126.82 |
| Vehicle Rental (4 x 4) | | |
| 19 days @ \$35.00/day | | 665.00 |
| Fuel | | 269.46 |
| Supplies/Equipment | | 686.86 |
| Diamond Drilling - Rainbow Diamond Drilling | | |
| 292 m NQ @ \$59.05/m (1,800 ft.) | 17,244.00 | |
| Filed costs, consumables | <u>5,661.00</u> | 22,905.00 |
| Assaying - Acme Analytical Laboratories | | |
| 270 core samples @ \$10.50/ea | 2,835.00 | |
| Shipping | <u>96.98</u> | 2,931.98 |
| Map Printing | | 163.14 |
| Drafting - D.L. Phillips Drafting | | |
| 41.5 hrs. @ \$20.00/hr. | <u>830.00</u> | <u>40,105.57</u> |
| | Total | <u>\$40,105.57</u> |

SUMMARY

| | |
|---------------------------------------|--------------------|
| Phase I Trenching, mapping, sampling | \$ 8,759.26 |
| Phase II Trenching, mapping, sampling | 14,566.71 |
| Diamond Drilling | <u>40,105.57</u> |
| | <u>\$63,431.54</u> |

I.M. WATSON & ASSOCIATES LTD.


I.M. Watson, P.Eng.


APPENDIX A
DIAMOND DRILL LOGS

DIAMOND DRILL RECORD

PROPERTY Sagin

HOLE NO. 87-1 P₃

| DEPTH | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAYS | | | |
|-----------|---|------------|------|------|-------|--------|--------|--------|--------|
| | | | | | | Au ppm | Ag ppm | Pb ppm | Cu ppm |
| 7.00-28.8 | W. CONTAINS TWO GENERATIONS Qtz - 2nd. GROWN. CUT? CONT'D. BY MILKY OPAQUE. RISE IN W (W.K.) & WALL ROCK (HEAVY) | | | | | | | | |
| | 9.60-9.90: VENTS. ~ 75°/CA + MOD. DISSEN. Py | | | | | | | | |
| | 10.5-11.8: 7°/CA. MINOR Py IN W., MILY DISSEN. IN WALL ROCK. | 88708 | 10.0 | 11.0 | 1.0 | 31 | 0.1 | 4 | 131 |
| | 12.0-12.5: VENTS. ASSOCI'D WITH CHL. SLIPS 15°/CA | 88709 | 11.0 | 12.0 | 1.0 | 355 | 2.2 | 6 | 57 |
| | 13.0-13.3: " " " " 30°/CA | | | | | | | | |
| | 13.6-14.2: ABUND. F. VENTS IN SUBTERRAN (BUT TIGHT) TUFF ASSOCI'D WITH SPORADIC DISSEN. Py. W. @ 14.2-20°/CA. | 88710 | 12.0 | 13.0 | 1.0 | 10 | 0.1 | 3 | 18 |
| | CONTAINS Py, Ccd (MILKY MARLINS) 16.7: W @ 60°/CA (BRUSH) | 88711 | 13.0 | 14.0 | 1.0 | 265 | 1.5 | 6 | 58 |
| | 17.0-17.6: NUMEROUS RANDOMLY ORIENTED VENTS/VENTS (BRUSH CORE) ASSOCI'D WITH CHL. LINED FRACTS @ 30°/CA. | 88712 | 14.0 | 15.0 | 1.0 | 995 | 6.2 | 5 | 51 |
| | 17.7: 55°/CA (~ 0.5cms), SL. VUGGY. | | | | | | | | |
| | 18.3: RAMIFYING, ENCL. SMALL BR. FRAGS. | 88713 | 15.0 | 16.0 | 1.0 | 52 | 0.3 | 2 | 45 |
| | 18.7: 40°/CA (~ 3cms) Py ALONG CONTACTS | | | | | | | | |
| | 19.0 & 19.1: 55°/CA (1cm) - ASSOCI'D WITH CHL'S SLIPS (19.1-20.2) | 88714 | 16.0 | 17.0 | 1.0 | 33 | 0.1 | 4 | 4 |
| | 20.9-30.3: Qtz W + Py 'ZONE' - VENTS @ 20.9; 21.4-21.5; | 88715 | 17.0 | 18.0 | 1.0 | 12 | 0.1 | 6 | 51 |
| | 21.6-22.0 25°/CA INCL. Py, Ccd, v.f. PyS | | | | | | | | |
| | 22.1-22.2: VENTS @ 50°/CA. | 88716 | 18.0 | 19.0 | 1.0 | 185 | 0.9 | 7 | 83 |

DIAMOND DRILL RECORD

PROPERTY SADIM

HOLE NO. 87-1 P7

| DEPTH | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAYS | | | | | | | | | |
|---------------------|--|------------|------|------|-------|--------|--------|--------|--------|--|--|--|--|--|--|
| | | | | | | Ag ppt | Pb ppt | Fe ppt | Copper | | | | | | |
| 39.2-39.5 (0.3m) | ALTERATION ZONE (INTERVAL UNCERTAIN - GROUND CORE) CASBY XTALINE, QZ20 - FELSITIC, FINELY FRACT. CAR. / SER. DEVELOPED ALONG FRACT. PLANES. CONTAINS FINELY & WILLY DISSEMIN. PY. (CORE RECOVERY ~ 50%?) | 88737 | 39.0 | 40.0 | 1.0 | 109 | 0.8 | 4 | 60 | | | | | | |
| 39.5-39.7 (0.2m) | TUFF SILICIFIED - AS ABOVE - BROKEN FINELY & WILLY PYRITISED | | | | | | | | | | | | | | |
| 39.7-41.0 (1.3m) | ALTERATION ZONE (AS SEEN 39.2-39.5 ABOVE) PALE GREEN + WHITE, MINOR CAR. ALONG FRACT. PLANES - CONTAINS FRAGS. OF BLUE SILICIFIED TUFF. MINOR FINELY DISSEMIN. PY. (CORE RECOVERY ~ 65%) | 88738 | 40.0 | 41.0 | 1.0 | 151 | 1.1 | 2 | 44 | | | | | | |
| 41.0-41.5 (0.5m) | FAULT - 10cm. GYPSUM ZONE, QZ20. | 88739 | 41.0 | 42.0 | 1.0 | 285 | 1.9 | 7 | 33 | | | | | | |
| 41.5-42.2 (0.7m) | TUFF 'SILICIFIED' ? - MAROON - RED BROWN. QZ20 (TIGHTLY BLENDED SMALL QZ. ENDS), FINELY HEAVILY & TIGHTLY FRACT., FRAGS. HEAVY BY QZ KALTS | 88740 | 42.0 | 43.0 | 1.0 | 6 | 0.1 | 7 | 29 | | | | | | |

CLAIM NO. _____

DIAMOND DRILL RECORDPROPERTY SADIMHOLE NO. 87-3 D₁LATITUDE 4 40 S

ELEVATION _____

BEARING -DEPTH 93.6 mSTARTED 2.2.87COMPLETED 5.2.87CORE: NQDEPARTURE 7+78.6 W

SECTION _____

DIP -90°DRILLED BY Rainbow Diamond DrillingLOGGED BY IMW

| DEPTH | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAYS | | | | | | | | | |
|----------------------|---|------------|------|------|-------|--------|--------|--------|--------|--|--|--|--|--|--|
| | | | | | | Ag ppb | Ag ppm | Pb ppm | Copper | | | | | | |
| 0-3.05 | CASING | | | | | | | | | | | | | | |
| 3.05-12.4 (9.35m) | TUFF: SILICIFIED - DOM. POLE GREY F. CR. QZ EYE TUFF, HEAVILY KENAFITE STAINED, & HIGHLY BUT FINELY FRACTURED - DOM. FRACT. DIR. 50-55°/CA Occasional zones of 'unwatered' purple grey tuff ex. 3.73-4.0; 5.2-5.4; & 5.7-5.8. Pyrite inclusions. Dissect throughout, fine. Strombolite fringing QZ Vns/Vnats. Quartz Vns - 7.2 : (0.2 cm) 7.7-7.9 : ~ 5°/CA 8.4-8.7 : 40°/CA Py in vnl. Strombolite // Vn. 9.1-9.2 : 10.0 : (0.5 cm) 10.2-10.3 : Bid 40°/CA 11.5-11.6 : Br zone containing f. dk. metallic? Structure - Rusky narrow gouge zones @ 6.9 (60°/CA) | 88787 | 3.05 | 4.0 | 0.95 | 1 | 0.1 | 7 | 8 | | | | | | |
| | | 88788 | 4.0 | 5.0 | 1.0 | 1 | 0.1 | 2 | 74 | | | | | | |
| | | 88789 | 5.0 | 6.0 | 1.0 | 1 | 0.1 | 2 | 47 | | | | | | |
| | | 88790 | 6.0 | 7.0 | 1.0 | 1 | 0.1 | 4 | 46 | | | | | | |
| | | 88791 | 7.0 | 8.0 | 1.0 | 82 | 0.6 | 9 | 105 | | | | | | |
| | | 88792 | 8.0 | 9.0 | 1.0 | 97 | 0.3 | 5 | 83 | | | | | | |
| | | 88793 | 9.0 | 10.0 | 1.0 | 99 | 17.3 | 4 | 86 | | | | | | |
| | | 88794 | 10.0 | 11.0 | 1.0 | 1 | 0.1 | 4 | 56 | | | | | | |

DIAMOND DRILL RECORD

 PROPERTY SADIN

 HOLE NO. 87-3 f3

| DEPTH | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAYS | | | Gt | | | | | | |
|-------------|--|------------|------|------|-------|--------|------|------|-----|--|--|--|--|--|--|
| | | | | | | Gr | Pb | Zn | | | | | | | |
| (14.6-40.1) | ALL IN & ADJACENT TO QTZ. VNS / FRACTS | 88799 | 15.0 | 16.0 | 1.0 | 3620 | 37.1 | 1526 | 150 | | | | | | |
| Cont'd | QUARTZ VEINS / SULPHIDES - | 88800 | 16.0 | 17.0 | 1.0 | 40 | 0.10 | 2 | 59 | | | | | | |
| | 15.5-15.85 : QV HEAVY DISSEM Pbs, QV. CEP | 88951 | 17.0 | 18.0 | 1.0 | 1 | 0.3 | 8 | 73 | | | | | | |
| | 20.25-20.37 : QV MINOR Pbs, HEAVY DISSEM Pz @ FW CONTACT | 88952 | 18.0 | 19.0 | 1.0 | 1 | 0.2 | 6 | 20 | | | | | | |
| | (30°/CA) | 88953 | 19.0 | 20.0 | 1.0 | 1 | 0.3 | 2 | 65 | | | | | | |
| | 20.5 : QV (0.5cms) 25°/CA | 88954 | 20.0 | 21.0 | 1.0 | 87 | 1.1 | 8 | 98 | | | | | | |
| | 27.5-27.6 : Pz, MINOR FINELY DISSEM | 88955 | 21.0 | 22.0 | 1.0 | 1 | 1.3 | 4 | 48 | | | | | | |
| | 28.5-28.6 : QV 70°/CA, TR. V.F. SULPHIDES | 88956 | 22.0 | 23.0 | 1.0 | 1 | 0.2 | 10 | 30 | | | | | | |
| | 30.0 - DOWNHOLE INCREASING PYRITE, V.F. MOD | 88957 | 23.0 | 24.0 | 1.0 | 1 | 0.2 | 2 | 78 | | | | | | |
| | - HEAVILY DISSEM IN TIGHT ZONES ALONG QTZ VNS/VALS | 88958 | 24.0 | 25.0 | 1.0 | 65 | 0.4 | 6 | 52 | | | | | | |
| | 31.0 : QV (3cms) 65°/CA | 88959 | 25.0 | 26.0 | 1.0 | 1 | 0.1 | 5 | 19 | | | | | | |
| | 31.5 : QV (2cms) 50°/CA - Pz MOD DISSEM | 88960 | 26.0 | 27.0 | 1.0 | 155 | 1.3 | 8 | 445 | | | | | | |
| | 30.8-31.4 | 88961 | 27.0 | 28.0 | 1.0 | 106 | 1.0 | 4 | 231 | | | | | | |
| | 31.9-32.4 : Pz, MOD. DISSEM | 88962 | 28.0 | 29.0 | 1.0 | 92 | 0.4 | 6 | 74 | | | | | | |
| | 32.2 : QV (1cm) 40°/CA | 88963 | 29.0 | 30.0 | 1.0 | 19 | 0.1 | 2 | 76 | | | | | | |
| | 32.6-32.9 : QTZ VNS 55°/CA, Pz | 88964 | 30.0 | 31.0 | 1.0 | 1 | 0.1 | 4 | 102 | | | | | | |
| | 33.9 : QV 70°/CA Pz | 88965 | 31.0 | 32.0 | 1.0 | 350 | 2.6 | 10 | 77 | | | | | | |
| | 34.4 : QV 35°/CA Pz | 88966 | 32.0 | 33.0 | 1.0 | 155 | 1.3 | 5 | 120 | | | | | | |
| | 37.9-38.4 ~ 5-10% Pz | 88967 | 33.0 | 34.0 | 1.0 | 17 | 0.1 | 6 | 54 | | | | | | |
| | 38.8-40.1 ~ HEAVILY DISSEM ALONG FRACTS (230°/CA) | 88968 | 34.0 | 35.0 | 1.0 | 195 | 1.4 | 8 | 126 | | | | | | |

DIAMOND DRILL RECORD

 PROPERTY SADIM

 HOLE NO. 87-3 2a

| DEPTH | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAYS | | | | |
|------------------------|--|------------|------|------|-------|--------|--------|--------|--------|--------|
| | | | | | | Au ppm | Ag ppm | Pb ppm | Cu ppm | Zn ppm |
| 66.4-68.75 (2.35m) | TUFF SILICIFIED (POSS ALTERED AND. TUFF) Dm. BUFF. V.F.C.R., LOCALLY HOSTED PURPLE-GREEN INCL. NARROW ZONES OF DK. GREEN AND. TUFF. | 88997 | 66.0 | 67.0 | 1.0 | 1 | 0.1 | 6 | 76 | 74 |
| | 66.9-67.3 - QTZ. HEATED FRAGS @ 40°-60°/CA NARROW (1cm), WIDELY LYRITISED | 88999 | 67.0 | 68.0 | 1.0 | 3 | 0.1 | 6 | 74 | 71 |
| | 67.6 - SEM. GOUGE ZONE 60°/CA RECOVERED 95%+ | 88999 | 68.0 | 69.0 | 1.0 | 33 | 0.1 | 7 | 87 | 67 |
| 68.75-70.15 (1.40m) | FAULT GOUGE - GRAY-GREEN, INCL. FRAGS. BUFF ALT. SEC. AND TUFF? UPPER CONTACT SHARP @ 55°/CA MINOR QTZ. AS FRAGS IN LOWER 0.2m OF GOUGE. SCATTERED V.F. PY X-TALS IN GOUGE RECOVERED 85%+ | 89000 | 69.0 | 70.0 | 1.0 | 4 | 0.8 | 25 | 76 | 285 |
| 70.15-76.0 (5.85m) | ANGESITE BRECCIA - Dm. DK. GREEN CONT. GREEN & PURPLE FRAGS UP TO 1cm IN TUFFACEOUS CLAYMATS ABUND. FRAGS. QTZ (CARB?) HEATED, - SLEAKNES ZONES FRINGING QTZ VNS / FRAGS. | 88851 | 70.0 | 71.0 | 1.0 | 2 | 0.1 | 6 | 98 | 74 |
| | | 88852 | 71.0 | 72.0 | 1.0 | 3 | 0.1 | 6 | 75 | 67 |

CLAIM NO. _____

DIAMOND DRILL RECORD

PROPERTY SADIMHOLE NO. 87-4 P1LATITUDE 4+50S

ELEVATION _____

BEARING -DEPTH 33.5mSTARTED 6.2.87COMPLETED 7.2.87DEPARTURE 7+75W

SECTION _____

DIP -90°DRILLED BY RAINBOW DIAMOND DRILLING LOGGED BY IMM

| DEPTH | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAYS | | | | | | | | | |
|-----------|--|------------|------|------|-------|--------|--------|--------|--------|--|--|--|--|--|--|
| | | | | | | Au ppb | Ag ppm | Pb ppm | Cu ppm | | | | | | |
| 0-1.83 | OVERBURDEN (CASING TO 3.2) | | | | | | | | | | | | | | |
| | | 9110 | 1.63 | 2.29 | 0.66 | 265 | 2.4 | 55 | 90 | | | | | | |
| 1.83-2.79 | QUARTZ VEN: (EXPOSED TO 2.2m) FRACTURED (0.46) RUSTY ALONG FRACTS @ 45° & 60°/CA NO VISIBLE SULPHIDES CORE RECOVERY 65% | | | | | | | | | | | | | | |
| 2.79-8.13 | TUFF / CALCAREOUS CRIST: HEAVILY OXIDISED, (5.84) HEMATITIC, TO 6.0m. WHERE FRESH PALE GREEN, MED - CRSE. GRAINED, EQUICULAR SEM-ANGULAR PALE GREEN, GREEN, & RARE PURPLE PARTICLES. NARROW ZONES OF CRSE. CRIST - FINE CONC. (PEA SIZE) FINELY SPATTERED, FRACTURED, HEALED BY CARB/QTZ? VENIG., 20M. @ 30°/CA & 70°/CA RARE SULPHIDES, USUALLY AS SMALL ISOLATED XTALS PY. (WATER LOST @ 4.88.) RECOVERY 90% | 9111 | 2.29 | 3.0 | 0.71 | 104 | 1.1 | 13 | 93 | | | | | | |
| | | 9112 | 3.0 | 4.0 | 1.0 | 124 | 0.8 | 7 | 119 | | | | | | |
| | | 9113 | 4.0 | 5.0 | 1.0 | 32 | 0.2 | 6 | 48 | | | | | | |
| | | 9114 | 5.0 | 6.0 | 1.0 | 37 | 0.1 | 6 | 44 | | | | | | |
| | | 9115 | 6.0 | 7.0 | 1.0 | 44 | 0.7 | 9 | 60 | | | | | | |
| | | 9116 | 7.0 | 8.0 | 1.0 | 31 | 0.3 | 6 | 71 | | | | | | |

DIAMOND DRILL RECORD

PROPERTY SADIMHOLE NO. 87-4 P2

| DEPTH | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAYS | | | | | | | | | |
|-----------------------|--|-------------------------|----------------------|----------------------|-------------------|--------------|-------------------|----------------|--------------|--|--|--|--|--|--|
| | | | | | | As ppm | Ag ppm | Pb ppm | Cu ppm | | | | | | |
| 8.13-9.6 (1.47m) | FAULT GOUGE - KHAKI - BUFF TO 8.2, UNDERLAIN BY FRAGMENTED PALE PURPLE CALC. GRIT & GOUGE BROKEN CORE - RECOVERY 55% | 91117 91118 | 8.0 9.0 | 9.0 10.0 | 1.0 1.0 | 250 2 | 2.1 0.1 | 12 6 | 61 10 | | | | | | |
| 9.6-29.57 (19.97m) | CALCAREOUS GRIT: VARIABLE, PALE PURPLE - GREEN - BUFF, DOM. GRIT BUT COARSENER LOCALLY AS NARROW BANDS/BEDS F. CONG. ex. 24.5-25.5 GENERALLY FINELY FRACTURED, HEALED BY CARB. VNLS FRACTS. USUALLY PLANAR. OCCASIONAL LARGER CARB/QTZ VNLS. PYRITE ABSENT - RARE IN PURPLE ZONES, WEAKLY & SPORADICALLY DISSEM. IN BUFF, FINER GRAINED MATERIAL STRONGEST ANJ. TO FRACTURING/VENING - AND IN LOWER PART OF SECTION FROM 26.0M WHERE UNIT BECOMES BLEACHED, LESS CALC. 9.75 : GOUGE LINED FRACT. 50°/CA 11.7 : FRACT (0.5cm. DISPL.) 55°/CA 12.1 : QTZ. VN. - (4 CLUS) PILASTIC ZONES: 13.4-13.8 - F. DISSEM. IN BROKEN, FRACT. BUFF GRIT | 91119 91120 91121 | 10.0 11.0 12.0 | 11.0 12.0 13.0 | 1.0 1.0 1.0 | 1 85 4 | 0.1 0.7 0.1 | 11 16 12 | 2 27 3 | | | | | | |

DIAMOND DRILL RECORD

PROPERTY SaginHOLE NO. 87.6 P2

| DEPTH | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAYS | | | |
|-----------------------|--|------------|------|------|-------|--------|--------|--------|--------|
| | | | | | | Fe ppm | Cu ppm | Pb ppm | Zn ppm |
| | Rusty Sulfidic Sphs @ 35°/CA | | | | | | | | |
| | No vis Sulfides | | | | | | | | |
| | RECOVERY 90% | | | | | | | | |
| 11.6-12.4 (0.8m) | BRECCIA/TUFF - ARGILLIC SIM. TO SECT. . FURRE, CALL. SPT. CONTAINING LARGE ELONG. CLASTS GREEN CARB/LST. RUSTY, FRCT. & BROKEN. FRACTS @ 30°/CA. TRANSITIONAL CONTACT WITH ULYING UNIT. RECOVERY 90% | 91152 | 11.5 | 12.5 | 1.0 | 1 | 0.2 | 5 | 29 |
| 12.4-14.93 (2.53m) | BRECCIA/TUFF CALL., GREEN. SIM TO ABOVE INCR. LST. CONTENT INCL. NARROW IRREG. BANDS PALE GRN LST. BANDING/BERS 45°/CA. 14.4-14.5. GRIT BAND WITH SMALL FURRE CLASTS RECOVERY 95% | 91153 | 12.5 | 13.5 | 1.0 | 1 | 0.1 | 7 | 63 |
| | | 91154 | 13.5 | 14.5 | 1.0 | 1 | 0.2 | 7 | 104 |

