GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

KING, KING #1 to KING #4, and MO

MINERAL CLAIMS

OSOYOOS MINING DIVISION B.C.

82E - 4E, 5E

(49°15', 119°41'W)

FOR

DRC RESOURCES CORPORATION

and

STRATA ENERGY CORPORATION

(OPERATORS)

GEOLOGICAL BRANCH ASSESSMENT REPORT

BY

GRANT CROOKER, B.Sc., 1 1 (Section of the content o

OWNER - GRANT CROOKER

AUGUST, 1983

## TABLE OF CONTENTS

	<u>Page</u>
SUMMARY AND RECOMMENDATIONS	(Front)
INTRODUCTION	
General	1
Location and Access	1
Physiography	1
Property and Claim Status	1
History and Previous Work	2
EXPLORATION PROCEDURE	4
GEOLOGY	
Regional Geology	5
Claim Geology	5 5 7
Mineralization	.,
GEOCHEMICAL SURVEY	12
CONCLUSIONS AND RECOMMENDATIONS	12
REFERENCES	14
CERTIFICATE OF QUALIFICATIONS	15
APPENDIX	
Certificate of Analysis	

Detailed Cost Statement

## ILLUSTRATIONS

Figure		Page
1	Location Map	(Frontispiece)
2.	Claim Map	3
3.	Geology	(In Pocket)
4.	Geology King #4 MC	6
5.	Geology, Grid A	8
6.	Geology and Sample Plan Upper Kind Adit	9
7.	Soil Geochemisty	11

#### SUMMARY AND RECOMMENDATIONS

The Orofino Mountain property consists of the MO, KING, and KING #1 through KING #4 mineral claims covering 74 units in the Osoyoos Mining Division. Two Crown Grants, L 1148 and L 1149 are also included in the property. The property is located about 20 kilometers south of Penticton, B.C.

Mineralization on the property consists of quartz veins with related gold values. Sampling during the 1983 field program was minimal, but one sample returned 8,400 ppb (0.247 oz/ton) gold over 1.0 meter at the upper King Adit. Enough significant gold values have been obtained over the past several years to justify additional work.

Recommendations are to continue prospecting and mapping over the entire property, with detailed work including geochemical and VLF-EM surveys around the known showings.

#### INTRODUCTION

#### General

Field work was carried out on the property by the writer and one assistant from July 2 to July 9, 1983.

Geological mapping and prospecting were carried out on the King #3 and King #5 claims, with detailed geological mapping, prospecting and soil sampling on grid A. The soil samples were geochemically analyzed for gold.

#### Location and Access

The property is located 7 kilometers southeast of Twin Lakes, on Orofino Mountain (figure 1) in southern B.C. The claims lie between 49°14' and 49°16' latitude, and 119°39' and 119°42' longitude.

Access is via highway 3A turning onto a secondary road approximately 24 kilometers from Penticton. An all weather 2 wheel drive logging road leads to the claim area, with a network of logging roads and skid trails covering the entire claim area.

#### Physiography

The property is located in the Okanagan Highlands. Topography varies from rolling hills to steep slopes. Elevation varies from 1,000 meters to 1,600 meters above sea level.

Most areas are timbered with larch, spruce, fir or pine. Bunch-grass and sagebrush cover the open areas.

#### Property and Claim Status

The Orofino Mountain property consists of 6 mineral claims

totalling 74 units amd 2 Crown Grants (Figure 2). The mineral claims are owned by Grant Crooker of Keremeos with options to DRC Resources Corporation and Strata Energy Corporation. The Crown Grants are also under option to DRC Resources Corporation and Strata Energy Corporation.

Claim Units		Record No.	Expiry Date
мо	2	135	Oct 15, 1989
King	16	1386	May .8, 1986
King #1	16	1398	June 5, 1984
King #2	16	1461	Aug 31, 1984
King #3	16	1462	Aug 31, 1983
King #4	8	1630	Nov 12, 1983
Crown Gran	<u>t</u>	Lot Number	
Orofino		1448	
Independen	ce	1449	

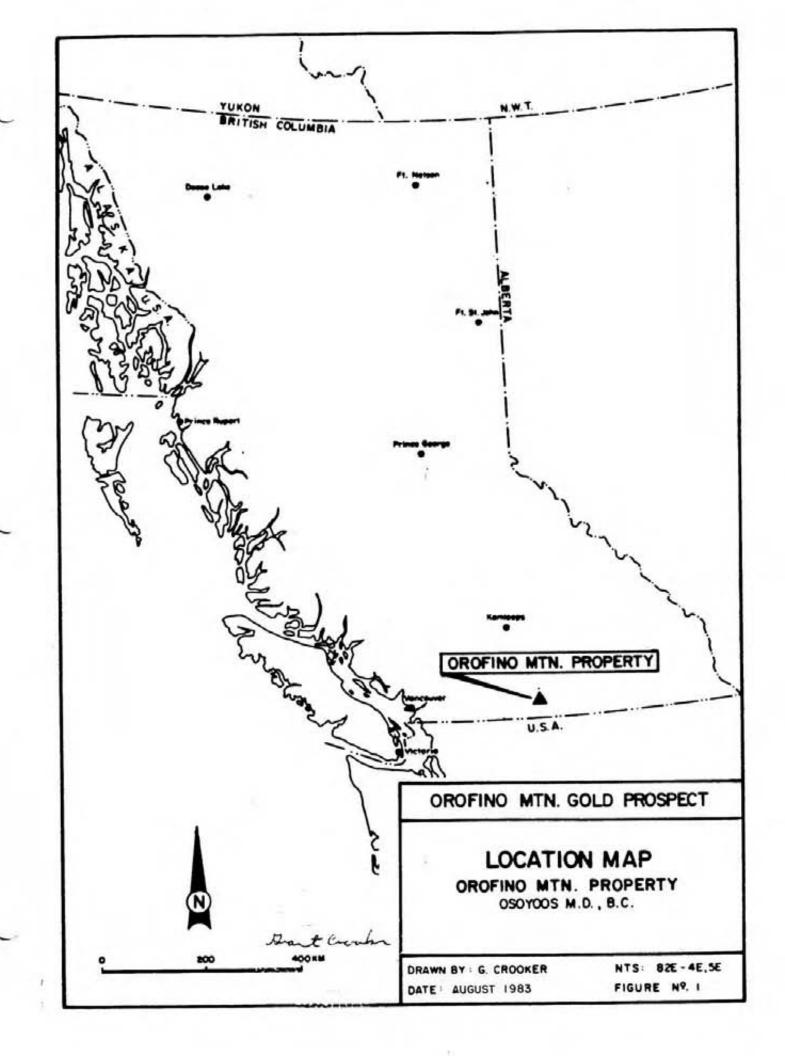
#### History and Previous Work

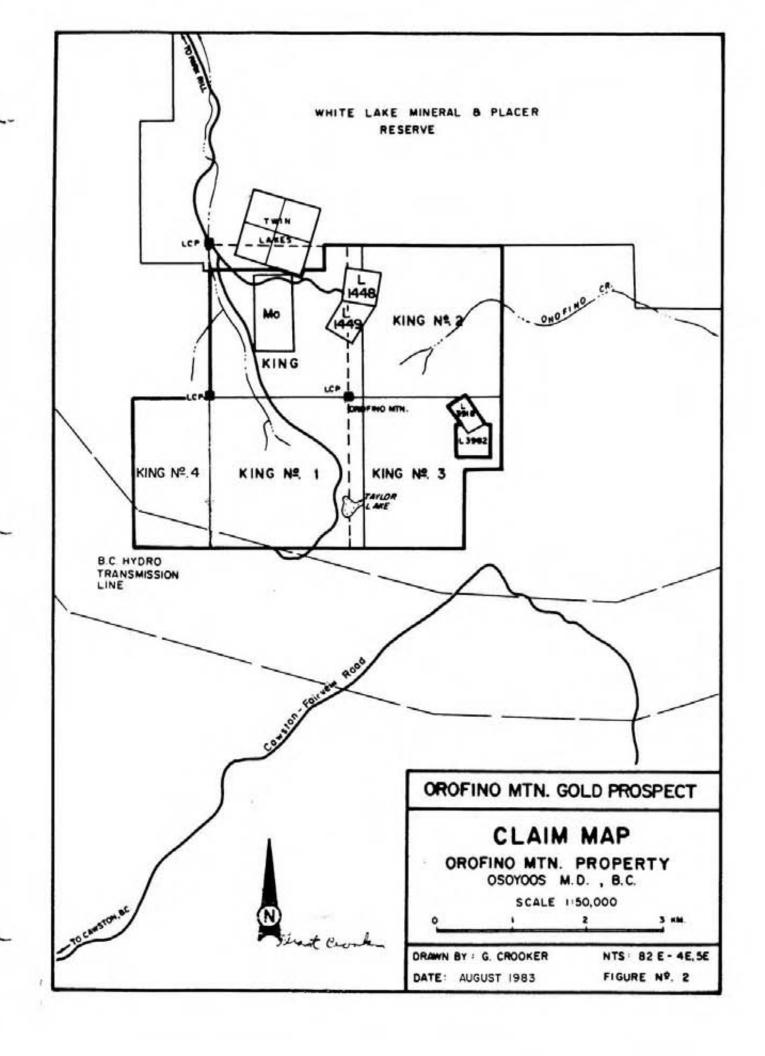
The Orofino Mountain gold camp dates back to the late 1890's when the Fairview Camp was being developed. The Orofino Camp is only 7 kilometers from the Fairveiw area, and has similiar geological conditions.

There are 3 properties in the Orofino Mountain Camp including the King and Grandoro covered by this report (Figure 3). The third property is the Twin Lakes which has other owners and is not covered by this report.

Most of the activity in the camp was from 1930 to 1940. At the Grandoro considerable underground development was carried out. This includes several adits, a tunnel and winzes leading to a lower level. The workings are not accessable at this time. A limited amount of diamond drilling was carried out at the same time, but no records are available.

Production from the quartz veins has generally been from





spectacular pockets of free gold. Minister of Mines Reports indicate the following production from the Grandoro:

Year	Tonnage	Grade	
1932	76	\$20.00 per ton	
1933	220	1.77 oz/ton goló	1
1935	10,000	0.50 oz/ton gold	ì
1941	251	0.69 oz/ton gold	1

At the King only a small amount of work has been carried out. Two adits were driven along with a winze. In the lower King adit some stoping was carried out, with production estimated at 2,000 tons. The grade is not known.

During 1981 a geological examination was carried out on the property. Geological mapping, prospecting and sampling of the old workings were carried out.

#### EXPLORATION PROCEDURE

The 1983 field program consisted of geologically mapping and prospecting the King #3 and King #4 mineral claims. As well, the area around Grid A, where high grade gold values were obtained in quartz vein float was geologically mapped, prospected and soil sampled. The upper King adit was also geologically mapped and 2 samples taken.

Geological mapping on the King #3 and King #4 mineral claims was at a scale of 1:5000. The data from the 1983 program was added to the base map produced in 1981. The upper King adit was mapped at a scale of 1:100.

A small grid was put in at Grid A. The baseline is 400 meters long and runs north-south, while the cross lines are at 100 meter intervals and run east-west. Samples were taken at 25

meter intervals along the lines. All lines were flagged and each station marked. The grid was geologically mapped at a scale of 1:2500.

Forty-seven soil samples and 3 rock samples were taken. The samples were taken from the B horizon at a depth of 5 to 15 centimeters. All samples were placed in soil geochemical bags for shipment to the laboratory.

The samples were all analyzed geochemically for gold by Rossbacher Laboratory Ltd., Burnaby, B.C. Laboratory technique for geochemical analysis includes grinding the samples to minus 80 mesh. Gold is analyzed by aqua-regia digestion, and concentration of gold determined by atomic absorption.

#### GEOLOGY

#### Regional Geology

The gold showings in the Orofino Mountain area occur in an area about 4 square miles in extent. The area is underlain by irregular, easterly trending belts of greenstone, sedimentary rocks, and highly altered rocks of uncertain origin. These rocks are intruded by bodies of diorite, granodiorite and granite. The Oliver Granite extends into the Fairview area. On the north and west Tertiary volcanics of considerable thickness are faulted against the older rocks.

#### Claim Geology

The oldest rocks underlying the Orofino Mountain gold prospect are quartzites of the Kobau Group (Unit 0, Figure 4) of Carboniferous age. The quartzites of the Kobau Group are faulted against Tertiary volcanics to the west, and form several narrow discontinuous bands. The quartzites are generally massive and vary from grey to blue-grey in color.

Triassic quartzites of the Shoemaker Formation (Unit 1, Figures 3 and 4) form two relatively narrow bands which strike



west and northwest across the King and King #2 claims. The quartzites vary from massive to thinly bedded and are light grey in color.

Altered rocks of uncertain origin form Unit 2. This rock type varies from massive coarse grained hornblende gabbros and biotite diorite to finer grained biotite schists. Small outcrops of quartzite are found within this unit, which may underlie the Triassic Shoemaker Formation to the north. This unit underlies a large area extending from the center of the claim block to the eastern boundary.

Units 3, 4, and 7 are members of the Okanagan Intrusives and intrude the older rocks.

Unit 3 is generally a pinkish, medium grained diorite containing hornblende and biotite. The unit is often difficult to distinguish from the diorite of Unit 2.

Unit 6 is a medium grained, grey granodiorite with hornblende predominating over biotite.

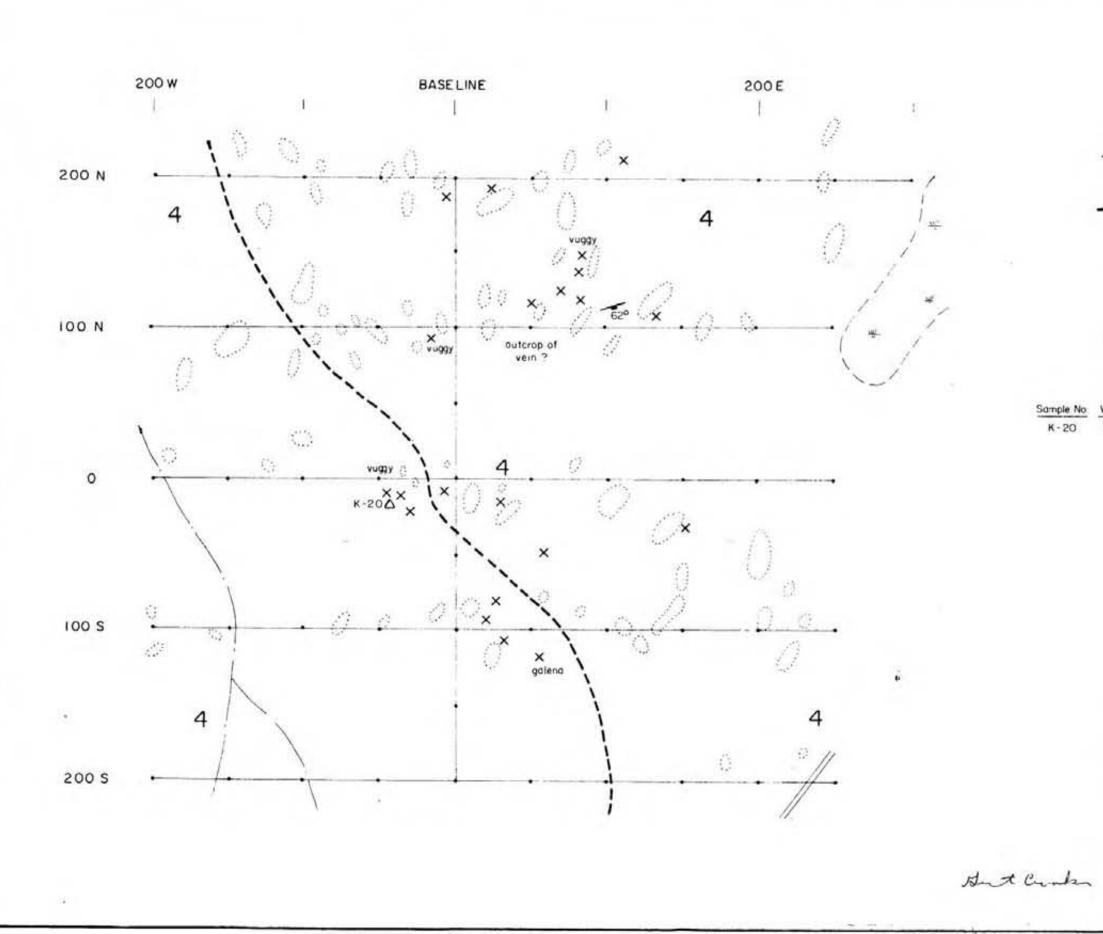
Units 3 and 7 are believed to be members of the Cretaceous Nelson Plutonic rocks.

The granite of unit 4 is generally light grey, porphyritic and coarse grained. It becomes more basic towards the contact and contains some granodiorite. Biotite and hornblende are the main mafic constituents. Unit 4 is believed to belong to the Cretaceous Valhalla Plutonic rocks.

Unit 7 is a brown, weathered vesiculiar basalt of the Marron Formation of Eocene or Oligocene age. This unit is faulted against older rocks on the north and west sides of the claim block.

#### Mineralization

Mineralization on the Orofino Mountain property consists of quartz veins in which pyrite, galena and free gold occur. The mineralization is similiar to that which occurs in the Fairview gold camp to the south of the claim block.



LEGEND

SWAMP

STREAM

QUARTZ FLOAT TRAIL

= ROAD

OUTCROP

JOINTING

GRAB SAMPLE

GRANITE

SAMPLE PLAN

Gold,oz/ton Silver,oz/ton 0.560

vuggy quartz

OROFINO MTN. GOLD PROSPECT

GRID "A" GEOLOGY

OSOYOOS M.D., B.C. SCALE 1: 2500

100 METRES

DRAWN BY - G CROOKER DATE AUGUST 1983

NTS | 82 E- 4E , 5E FIGURE Nº. 5

1.4111

## SAMPLE PLAN

Sample	Width	G	old	Materi	al	
No.	m.	ppb	oz/ton		_	
5-1	1.0	480		shear,	qtz	Py
5-2	1.0	8400				**

2

PORTAL 4640'asl

## LEGEND

Quartz vein

Gabbro

Raise

Winze

~~~ Shear zone

S-I I Chip sample location

Strike of quartz vein (vertical)

OROFINO MTN. GOLD PROSPECT

GEOLOGY & SAMPLE PLAN

OSOYOOS M.D., B.C. SCALE 1:100

2 0 2 4 METRES

DRAWN BY : G. CROOKER DATE : AUGUST 1983

N.T.S. 82E-4E,5E FIGURE Nº 6

Fally

The quartz veining appears to be associated with the granite which extends from Fairview to Orofino Mountain. Most veins in the area occur within one mile of the contact of the granite with older rocks. The quartz veins are associated with shear zones, and are up to 1.5 meters wide.

At grid A (Figure 3) a large amount of quartz float has been found. The float varies in size from hand specimens to boulders more than 1 meter in diameter.

From figure 5, it can be seen the float appears to be scattered along a slightly east of north trend. The float covers an area up to 150 meters wide and over 350 meters long. However intensive prospecting and a geochemical survey have failed to locate the source of the float. Some of the float contains vugs and cavities created by the leaching of pyrite. Sample S-3 also contained galena.

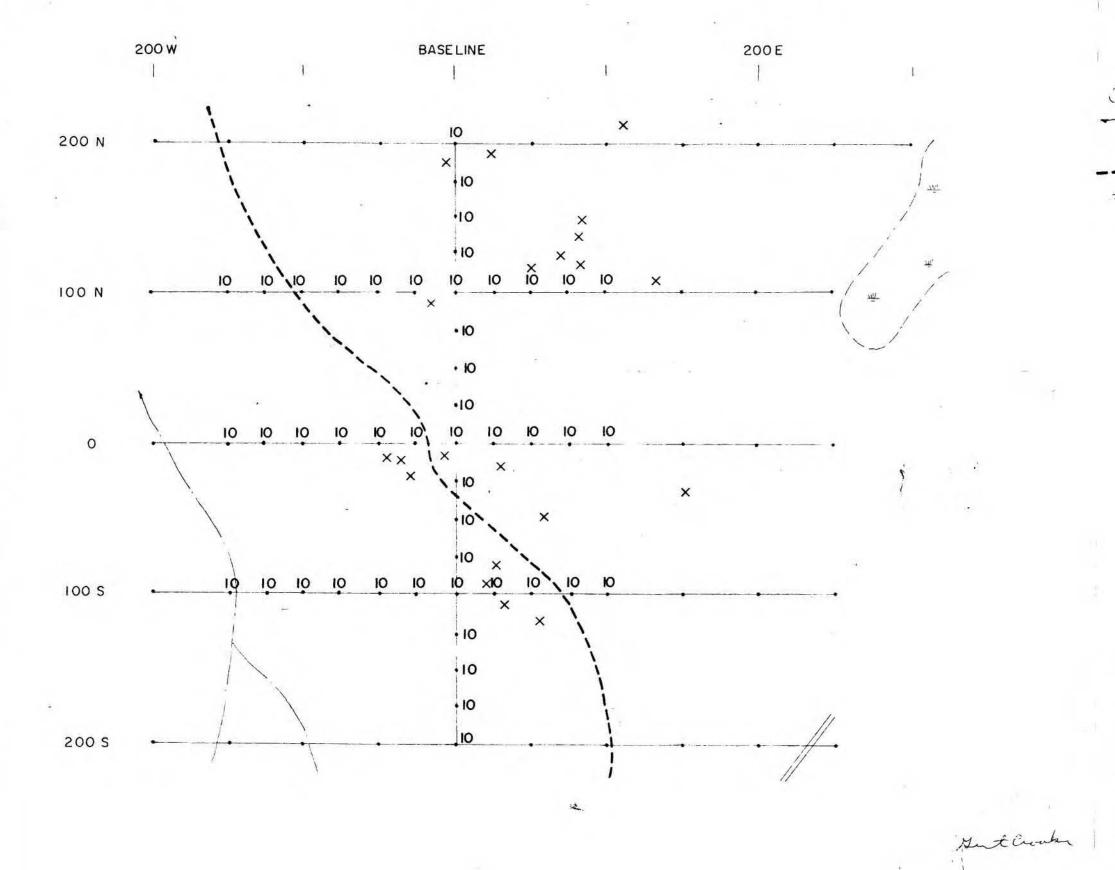
Four samples of float have been sent for assay, with the following results:

| Sample | Width | Gol    | <u>a</u> | Descri | iption   |     |
|--------|-------|--------|----------|--------|----------|-----|
| NO.    | (m)   | npb    | oz/ton   |        |          |     |
| K-20   | float | 20,000 | 0.560    | Vuggy  | quartz,  | py. |
| T-109  | n ·   |        | 0.001    | 300    |          | 0   |
| T-110  |       |        | 1.127    |        |          | 9   |
| S-3    | "     | 2,600  | (0.076)  | quarta | z, galen | a   |

From the results it can be seen that the gold values are extremely interesting, and additional work is warranted in the area.

The upper King Adit (Figures 3 & 6) is approximately 27 meters long and follows a quartz vein. The vein varies from 10 centimeters up to 1.4 meters in width, and follows a shear zone. The vein strikes S15°W, and is vertical. Pyrite is observed within the quartz and shear material.

Two samples were taken from the adit. A 1.0 meter chip



LEGEND

(E) SWAMP

STREAM

QUARTZ FLOAT

TRAIL



OROFINO MTN. GOLD PROSPECT

GRID "A" SOIL GEOCHEMISTRY-Au

> OSOYOOS M.D., B.C. SCALE 1: 2500

100 METRES

DRAWN BY : G CROOKER DATE AUGUST 1983

N.T.S : 82E-4E,5E FIGURE Nº. 7

sample (S-1) at the face returned 480 ppb (0.014 oz/ton) gold, while a 1.0 meter chip sample (S-2) of the back returned 8,400 ppb (0.247 oz/ton) gold. Sample S-2 is significant enough to warrant further work.

#### GEOCHEMICAL SURVEY

A geochemical survey was carried out over Grid A (Figure 7). A total of 47 soil samples were taken and analyzed for gold.

All samples returned 10 ppb gold.

No geochemical anomalies were found in the course of the survey.

#### CONCLUSIONS AND RECOMMENDATIONS

A number of quartz veins are found on the property, with related gold values. Higher gold values occur both as native gold, and associated with chalcopyrite. Lower, but still significant gold values are associated with pyrite.

At the upper King-Adit, a quartz vein up to 1.4 meters wide follows a shear zone. One assay over 1.0 meters returned 8.400 ppb (0.247 oz/ton) gold.

At Grid A, a large amount of quartz float has been found. This float returned values of up to 1.127 oz/ton gold. However the source of the float has not been located, and a geochemical survey failed to locate any anomalies.

A significant number of gold values have been obtained on the property, and additional work is warranted.

#### Phase I

- Prospecting and geological mapping be continued over all areas of the property to attempt to locate additional mineralization.
- Geochemical and VLF-EM surveys be carried out at the King,
   and Grandoro showings, and Grid A to gain additional geological information

3. Trenching be carried out at all showings to attempt to further define the length, width and grade of the quartz vein mineralization.

## Phase II

Contingent on the results of the above outlined program, a decision be made to drill test significant zones.

Respectfully submitted,

Ant Center

Grant Crooker, B.Sc. Geologist

#### REFERENCES

- Bostock, H.S. Geological Survey of Canada, Map 341A - Keremeos, 1940.
- Bostock, H.S. Geological Survey of Canada, Map 627A - Okanagan Falls, 1941.
- B.C.D.M. Annual Reports for 1896, 1898, 1900, 1901, 1916, 1923, 1929, 1930, 1932 1936, 1938, 1941 and 1959.
- B.C.D.M. Bulletin #20, Lode Gold Deposits of B.C.
- Cairnes, B.C. Geological Survey of Canada, Map 538A - Kettle River West Half, 1940.
- Cockfield, W.E. Geological Survey of Canada,

  Memoir 179, Lode Gold Deposits of Fairview Camp, Camp McKinney
  and Vidette Lake Area, and Dividend- Lakeview Property near
  Osoyoos, 1935.
- Crooker, Grant Geological Report on the King, King #1, King #2
  King #3 and MO Claims and L1448, L1449 Grown Grants, Dec. 11, 1981.
- Fox, P.E. and Topham, S.L. Geochemical Report on the Twin Lakes Claims, British Columbia, Osoyoos Mining Division, November, 27, 1980. (Assessment Report No 8585)
- Sookochoff, L. Geochemical Report on a Preliminary Soil Sampling Survey on the Twin Lakes Property of Cripple Creek Resources (NPL), September 12, 1973.

#### CERTIFICATE OF QUALIFICATION

- I, Grant F. Crooker, B.Sc., Geology of Box 234, Keremeos, British Columbia, state as follows:
  - That I graduated from the University of British Columbia in 1972 with a Bachelor of Science degree in Geology.
  - That I have prospected and actively pursued geology prior to my graduation and have practiced my profession since 1972.
  - 3. That I am a member of the Canadian Institute of Mining and Metallurgy.
  - 4. That I am a Fellow of the Geological Association of Canada
  - 5. That I am the sole owner of the MO, King, King #1, King #2, King #3 and King #4 mineral claims.

Dated at Vancouver, British Columbia this 30th day of August, 1983.

Grant Crooker, B.Sc.

Geologist

#### COST STATEMENT

## WAGES 1 Geologist, G. Crooker \$3,000.00 10 days @ \$300.00/day July 2-9, Aug. 18, 19, 1983 1 Field Assistant, F. Crooker 600.00 4 days @ \$150.00/day July 2-5, 1983 1 Field Assistant, W. Percy 600.00 4 days @ \$150.00/day July 6-9, 1983 ACCOMMODATIONS Geolgist 250.00 10 days @ \$25.00/day July 2-9, Aug. 18, 19, 1983 Field Assistants 200.00 8 days @ \$25.00/day July 2-9, 1983 MEALS Geologist 250.00 10 days @ \$25.00/day July 2-9, Aug. 18, 19, 1983 Field Assistants 200.00 8 days @ \$25.00/day July 2-9, 1983 TRANSPORATION Vehicle Rental (CHev 4x4) 320.00 8 days @ \$40.00/day July 2-9, 1983

GASOLINE

120.16

FREIGHT 7.25

SUPPLIES 50.00

ANALYSIS

47 soil samples - gold, \$4.00/sample 188.00 3 rock Geochem - gold, 5.50/sample 16.50

PREPARATION OF REPORT

Secretarial, Draughting, Reproduction, etc 800.00

TOTAL \$6,601.91

## Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

TO: DRC RESOURCES LTD.

## CERTIFICATE OF ANALYSIS

BURNABY, B. C.

CERTIFICATE NO. 83250 -/

3193

DATE ANALYSED 83/07/28

| No. | Sample           | рΗ    | سط | 20  | Au  |   |   |    | No    |
|-----|------------------|-------|----|-----|-----|---|---|----|-------|
| 01  | 0+ 150w          |       |    |     | 10  |   |   |    | 01    |
| 02  | 125w             |       |    |     | 10  |   |   |    | 02    |
| 03  | 100 w            |       |    |     | 13  |   |   |    | - 03  |
| 04  | 75w              |       |    |     | 1.  |   |   | 10 | 04    |
| 05  | 50W              |       |    |     | 13  |   |   |    | 0.5   |
| 06  | 25 W             |       |    |     | 12  |   |   |    | 06    |
| 07  | 0+ 25E           |       |    |     | 13  |   |   |    | 07    |
| 08  | 50 E             | 0.00  |    |     | 10  |   |   |    | 08    |
| 09  | 75E              |       |    |     | 12  |   |   |    | 09    |
| 10  | 0+ 100E          |       |    |     | 10  |   |   |    | 10    |
| 11  | 100NH 150W       |       |    |     | 13  |   |   |    | 11    |
| 12  | 1250             |       |    |     | 10  |   |   |    | 12    |
| 13  | 100 W            |       |    |     | 10  |   |   |    | 13    |
| 14  | 75W              |       |    |     | /3  |   |   |    | 14    |
| 15  | 50w              |       |    |     | 13  |   |   |    | 15    |
| 16  | 25w              |       |    |     | 10  |   |   |    | 16    |
| 17  | 100N+ 25E        |       |    |     | 10  |   |   |    | 17    |
| 18  | 50 E             |       |    |     | 13  |   |   |    | 18    |
| 19  | 75 E             |       |    |     | 12  |   |   |    | 19    |
| 20  | 100N+100E        |       |    |     | 13  |   |   |    | 20    |
| 21  | 1005+ 150W       |       |    |     | 10  |   |   |    | 21    |
| 22  | 125 W            |       |    |     | 10  |   |   |    | 22    |
| 23  | 100W             |       |    |     | 10  |   |   |    | 23    |
| 24  | 75W              |       |    |     | 12  |   |   |    | 24    |
| 25  | 50 w             |       |    | 1.0 | 12  |   |   |    | 25    |
| 26  | 25w              | y 100 |    |     | 10  |   |   |    | 26    |
| 27  | 1005+ 25E<br>50É |       |    |     | />  |   |   | 1  | 27    |
| 28  |                  |       |    |     | /3  |   |   |    | 28    |
| 29  | 75É              | -     |    |     | 10  |   |   | -  | 29    |
| 30  | 100-             |       |    |     | />  |   |   | -  | 30    |
| 31  | BL+ 25N          | -0    |    |     | 13  |   |   |    | 31    |
| 32  | 50N              |       |    |     | /3  |   |   |    | 32    |
| 33  | 75N              |       |    |     | 12  | - | - |    | 33    |
| 34  | IOON             |       |    |     | 10  |   | - |    | 34    |
| 35  | 125N             |       |    |     | 12  |   |   |    | 35    |
| 36  | ISON             |       |    |     | /3- | - | - |    | 36    |
| 37  | 175N             | -     |    |     | 13  | 1 |   | -  | 37    |
| 38  | BL+ 200N         |       |    |     | 1>  |   | - |    | 38    |
| 39  | 0+00             |       |    |     | />  |   |   | 11 | 39    |
| 40  |                  |       |    |     |     |   |   |    | stack |

# Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

TO: DRC RESOURCES LTD.

## CERTIFICATE OF ANALYSIS

BURNABY, B. C. CANADA

TELEPHONE: 299-6910

CERTIFICATE NO. 83250-

INVOICE NO.

3193

DATE ANALYSED

83/07/28

LINE

| No. | Sample     | pH  | M | -2    | Au      |             | 4 1      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | No |
|-----|------------|-----|---|-------|---------|-------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------|------|-------|----|
| 01  | BL+ 255    |     |   | -     | 10      | 7.          |          | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -         |        |      |       | 01 |
| 02  | 505        |     |   |       | 1,      |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -         |        |      |       | 02 |
| 03  | 755        |     |   |       | 10      |             |          | + +                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -         |        |      |       | 03 |
| 04  | 1005       |     |   |       |         |             |          | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -         |        |      |       | 04 |
| 05  | 1255       |     |   |       | 13      |             |          | _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -         |        |      |       | 05 |
| 06  | 1505       |     |   |       | 10      |             |          | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -         |        |      |       | 06 |
| 07  | 1755       |     |   |       | 10      |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 07 |
| 80  | BL+ 2005   |     |   |       | 10      |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 08 |
| 09  | SAMPLE #1  |     |   |       | 480     |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        | .017 |       | 09 |
| 10  | SAMPLE # 1 |     |   |       | 8400    |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        | ,247 |       | 10 |
| 11  | SAMPLE H3  |     |   |       | 2600    |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        | .676 |       | 11 |
| 12  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 12 |
| 13  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        | 7.   |       | 13 |
| 14  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 14 |
| 15  |            | (i) |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 15 |
| 16  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 16 |
| 17  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 17 |
| 18  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 18 |
| 19  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 19 |
| 20  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 20 |
| 21  |            | 1   |   | 1     |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        | 9111 |       | 21 |
| 22  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 22 |
| 23  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 23 |
| 24  |            |     | 1 |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | could.    |        |      |       | 24 |
| 25  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 25 |
| 26  |            |     |   |       | Ú       |             |          | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |        |      |       | 26 |
| 27  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 27 |
| 28  |            |     |   |       |         |             | - marin- | ALZY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |        |      |       | 28 |
| 29  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 29 |
| 30  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 30 |
| 31  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 31 |
| 32  |            |     |   |       |         | un un orași |          | de la companya della companya della companya de la companya della | Univaried |        |      |       | 32 |
| 33  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 33 |
| 34  |            |     |   |       |         |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 34 |
| 35  |            |     |   | J. T. |         |             | - Co. C  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3100      |        |      |       | 35 |
| 36  |            | 9(  |   |       |         |             | Level 1  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      |       | 36 |
| 37  |            |     |   |       | C-1-101 | 0-124       |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      | -01-1 | 37 |
| 38  |            |     |   |       | 9       |             |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | -51-52 |      |       | 38 |
| 39  |            |     |   |       | 1       |             | 14       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |        |      | //    | 39 |

VALUES IN PPM UNLESS NOTED OTHERWISE.

Cartified by

1. Olossbarch

## 1 d TOTIOL SAUPLES

- in walten 10.0 ga sample into 250 ml beaker.
- 2. /dd 15 ml HNO3, and boil with cover for 10 min.
- 3. Add 30 ml HOl, cover and digget for 20 min.
- 4 Remove cover, and take to almost dry (approx 2-3ml slurry left.)
- 5. Cool, adr. 10 ml HCl, and boil carefully to dissolve (cover)
- 6. And approx 25 ml 4,0 and boil to dissolve.
- 7. Cool, add water to make up to approx. 90 ml volume.
- d. Lot settle for 10 min., dilute to 100 ml.
- Stim the solution to make sure the residue and solution are well mired.
- 10. Let settle overnight.
- Decent 50 ml of clear solution using a graduated cylinder into a 125 ml erlenmeyer flask.
- 12. Dilute to approx. 100 ml, and add 10 ml MIBK. Stopper and shake vigorously for 1 min.
- 13. Add water from a squirt bottle, to bring the NIBK layer into the beck of the flask.

14. Fan on 1.A.

### 111 - 1111 12 1 M 1 LaS

- a. Feigh 5.0 gm into 250 ml boaker.
- 24. Ali 30 ml hlog, 10 al loo and cover. Leave overnight or until reaction subsides.
- 3a. Digest on hot plate until sulfides are oxidized.
  Add more HNO, as required.
- 4a. Remove cover, and evaporate to approx. 10 ml volume, cool.
- 5a. Add 5 ml WWO, and 30 ml HOl, and digest for 20 min.
- 6s. Continus as per stat 4.

## A.A. PAUCEDURE

- Set parameters for Au analysis.
- 2. Switch on background corrector, and warmup for 10 min.
- 3. Aspirate acetone to remove water from burner agreebly.
- 4. Aspirate FIBK blank, and set zero.
- 5. Aspirate 1 Mg Au standard, to read 58 Divisions.
- 6. Read sample, each division = 0.001 0z/t Au

## CALCULATION IF STANDARDS

1 ml of 10 mg/ml Au into 10 ml M1BK = 1 mg/ml Au US150 10 gm sample, extracted into 10 ml MIBK =

10 37 % 1 %/3 Au = 1 %/8m 10 gm

- SET 1 c/ml Au (0.0291 oz/t) to read 58 DIV.
   therefore 1 DIV = 0.0005 oz/t Au
- 2. USING 50 ml aliquot in 10 ml MIBK 1 DIV = 0.001 oz/t Au

### STANDARDS.

## STOCK COLUTION 1000 W/ml:

Meigh 0.5000 gm Au, add 4.6 ml aqua regia. Heat on steamonth until just dry. Do not bake:
Add 2 sl HCl, evan to almost dry.
Add 125 ml HCl, heat, cool, and dilute to 500 ml.

## 100 F/ml

Dilute 10 al of 1000 Mg/ml to 100 ml in 25% HCl.

## 10 g/ml

Dilute 10 ml of 100 g/ml to 100 ml (25% AC1)

## MIBK STANDARDS

1 ig Au = 4 ml of 10 ig/ml Au into a 500 ml flask. Add 40 ml col, dilute to about 400 ml, add 40 ml

## NIBK, shake for 1 min.

2 Ag Au = 0 ml of 10 Ag/ml as above
3 Au = 12 ml " "
4 Au = 16 ml " "
5 g Au = 2 ml of 100 g/ml as above
10 gAu = 4 ml " "

## GOLD AS: AT STANDARD ORIGINAL PULP

|        |         | RLAD | oz/t Au | READ | oz/t Au |
|--------|---------|------|---------|------|---------|
| P 1594 |         | 57   | 0.047   | 54   | 0.039   |
| F 1595 |         | 55   | 0.0/42  | 64   | 0.046   |
| F1526  | 1/10 ml | 92   | 0.305   | 35   | 0.252   |

