

DOLMAGE CAMPBELL & ASSOCIATES (1975) LTD.  
CONSULTING GEOLOGICAL & MINING ENGINEERS  
1000-1055 WEST HASTINGS STREET  
VANCOUVER, CANADA V6E 2E9

GEOLOGICAL AND DIAMOND DRILLING REPORT

on the

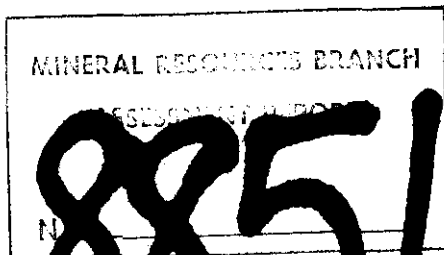
GOLDEN CROWN PROPERTY

in the  
Greenwood Area, B.C.

GREENWOOD MINING DIVISION  
Map Sheet: NTS 82E/2E 1/2  
(49° 05'N, 118° 35'W)

Owner of Claims  
CONSOLIDATED BOUNDARY EXPLORATION LIMITED

Operator  
MUNDEE MINES LTD., (N.P.L.)



Authors  
G.M. Keyte  
C.R. Saunders

15 December, 1980

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INTRODUCTION

LOCATION (Fig. 1)

The Golden Crown property is located thirteen kilometres northwest of Grand Forks, eight kilometres east of Greenwood, and three kilometres south of the formerly producing Phoenix copper mine. Access, from the Southern Transprovincial Highway (No. 3), is obtained via the old Phoenix mine road and then by old but well-kept bush roads. Road conditions are such that standard passenger cars can be driven right to the Golden Crown and Winnipeg shafts.

The claims are situated between 1250 and 1350 metres elevation in gently rolling wooded terrain, (Fig. 2). Climate in the area is Interior Dry Belt; precipitation is 40-50 cm per year.

PROPERTY (Fig. 2)

The property is located in the Greenwood Mining Division. It consists of two Crown granted claims, seven reverted Crown granted claims, and one recorded claim as follows:

<u>Claim</u>	<u>Record No.</u>	<u>Anniversary Date</u>
<u>Crown Granted Claims</u>		
Golden Crown		Tax due on 1 July
Winnipeg		Tax due on 1 July
<u>Reverted Crown Granted Claims</u>		
Calumet	1777	12 December
*Hard Cash	1774	12 December
Hecla	1772	12 December
Joe Joe	1775	12 December
*Nabob Fr.		12 December
Sissy	1776	12 December
War Cloud	1773	12 December
<u>Recorded Claim (Two-post)</u>		
Win Fr.	1784	24 September

\* These two reverted Crown granted claims were restaked as one claim.

### HISTORY

The original Winnipeg and Golden Crown claims were staked in 1891. Between then and 1905, both shafts were sunk and a total of 1784 metres of drifting were done on the two properties. Total production to 1912 was as follows:

	<u>Tonnes</u>	<u>Gold (oz./tonne)</u>	<u>Silver (oz./tonne)</u>	<u>Copper (%)</u>
Golden Crown	2,488	0.45	0.82	1.53
Winnipeg	53,318	0.20	0.62	0.16
Total	55,806	0.21	0.63	0.22

There has been no production since 1912. The Winnipeg produced more ore than all other gold properties combined in the Phoenix area during its productive period.

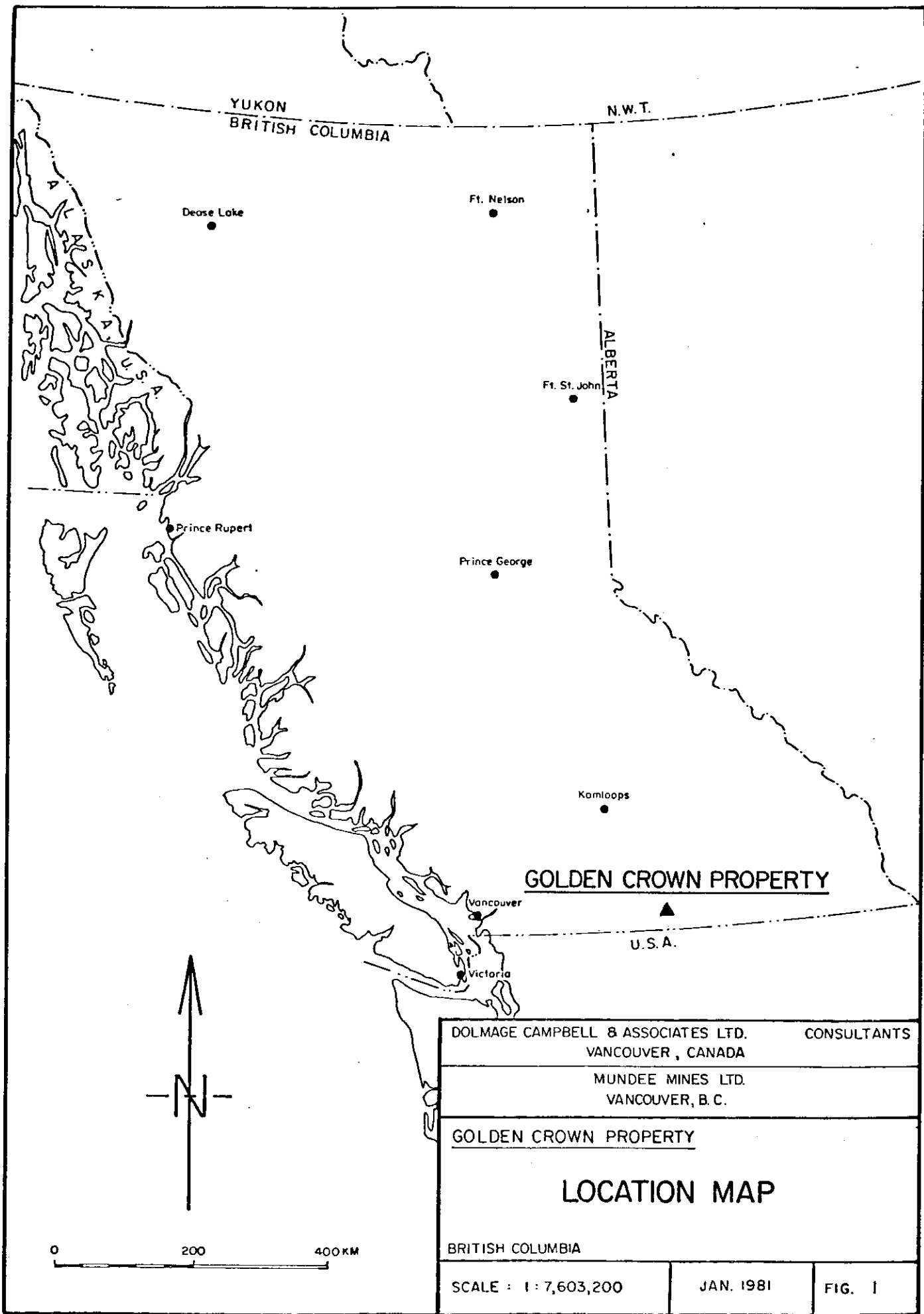
The property remained dormant until 1965 when it was acquired by Sabina Mines Ltd. They initiated some geophysical work but soon optioned the property to Scurry-Rainbow Oil Ltd. Scurry-Rainbow completed 15 diamond drill holes totalling 1652 metres, in a program designed to explore for nickel and chrome associated with serpentinite. In 1978, Con-Am Resources Ltd. optioned the property and drilled 13 holes totalling approximately 890 metres, exploring once again for gold. In 1979, Consolidated Boundary Exploration Ltd., the present owners of the property, drilled four holes of 329 metres total length.

In early 1980, the property was optioned to Munde Mines Ltd. who carried out the exploration program discussed in this report.





### WORK DONE-1980

In April, 1980, the Golden Crown shaft was dewatered down to the 30 metre level, below which point collapsed timbers prevented deeper access. The level was surveyed (transit and tape), geologically mapped at a scale of 1:250, and chip sampled before being allowed to refill with water. Results were later converted to 1:500. Total length of drift surveyed and geologically mapped was 250 metres; 56 chip samples were collected. Geology and sample results are shown on Figures 5 and 6 respectively.

In June a stadia survey was made of all the old surface workings (pits, trenches, shaft collars, roads) and, wherever possible, the collars of all previous drill holes were located and surveyed. Geological mapping of surface exposures was done at this time as well. In conjunction with



LEGEND

-  Diorite
-  Serpentinite
-  Andesite
-  Geological contact



MINERAL RESOURCES BRANCH  
 NO. 8851

DOLMAGE CAMPBELL & ASSOCIATES LTD. CONSULTANTS VANCOUVER, CANADA	
MUNDEE MINES LTD. VANCOUVER, B.C.	
GOLDEN CROWN PROPERTY	
<b>SURFACE GEOLOGY &amp; DRILL HOLE LOCATIONS (MINE AREA)</b>	
SCALE 1:1000	JAN. 1981
	FIG. 4

Andesite in general grey, hard, + 1%  
in blue and 8% hematite stringers of 10 to 20 cm.  
Dry Road fault with surface

Strike in stringers of 1-2 cm

Andesite in horizontal and 40%  
hard fault, parallel and perpendicular  
to main fault structures.

Strike in stringers with 2 m  
Strike in stringers  
25m dip within  
stringers of 10 to 20 cm  
steepened

STOPE

GOLDEN CROWN SHAFT

STOPE

On vein in 20m, showing  
4% hematite decreased to 1%  
clearing increased to 1.5%

Large shear zone - andesite 8 to 10 m

Diabase - mg, hard, greenish grey,  
highly altered near shear, by coatings of  
Fe-st. minerals. Some quartzite andesite

All shear surfaces are 10 and 15 cm wide  
in microclasts, clear to and separate

Thin 2cm clay gouge - in 10cm of 8 m wide







Diabase on veins - 4m, py.

Laxite shear

Stony quartzite on veins in  
10 to 20 cm, 8 stringers of  
10 to 20 cm, with 5 cm, thick

On tunnel, light quartz

LEGEND

-  Andesite
-  Diabase
-  Quartz, py, pyhrr. veins
-  Geological contact
-  Fracture
-  Strike with dip in degrees

MINERAL RESOURCES BRANCH

8851



0 10 20 30 METRES

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VANCOUVER, CANADA

MUNDEE MINES LTD.  
VANCOUVER, B.C.

GOLDEN CROWN PROPERTY

GEOLOGY  
30 METRE LEVEL

GREENWOOD M.D., B.C.

SCALE: 1: 500

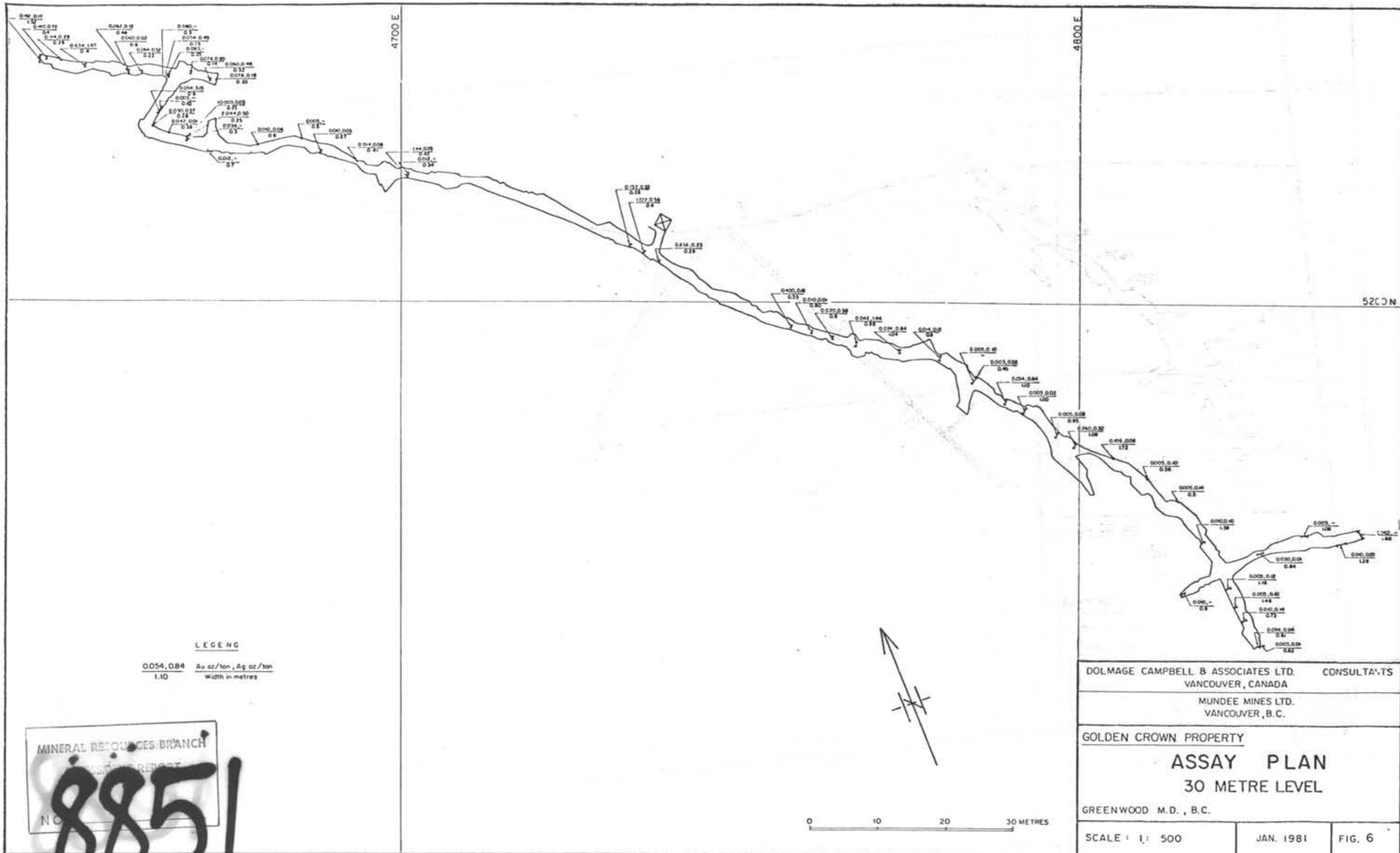
JAN. 1981

FIG. 5

52CON

4700 E

4800 E



LEGEND

0054, 084 Au oz/ton, Ag oz/ton  
1.10 Width in metres

MINERAL RESOURCES BRANCH  
EXPLORATION REPORT  
NO. 8851

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VANCOUVER, CANADA

MUNDEE MINES LTD.  
VANCOUVER, B.C.

GOLDEN CROWN PROPERTY

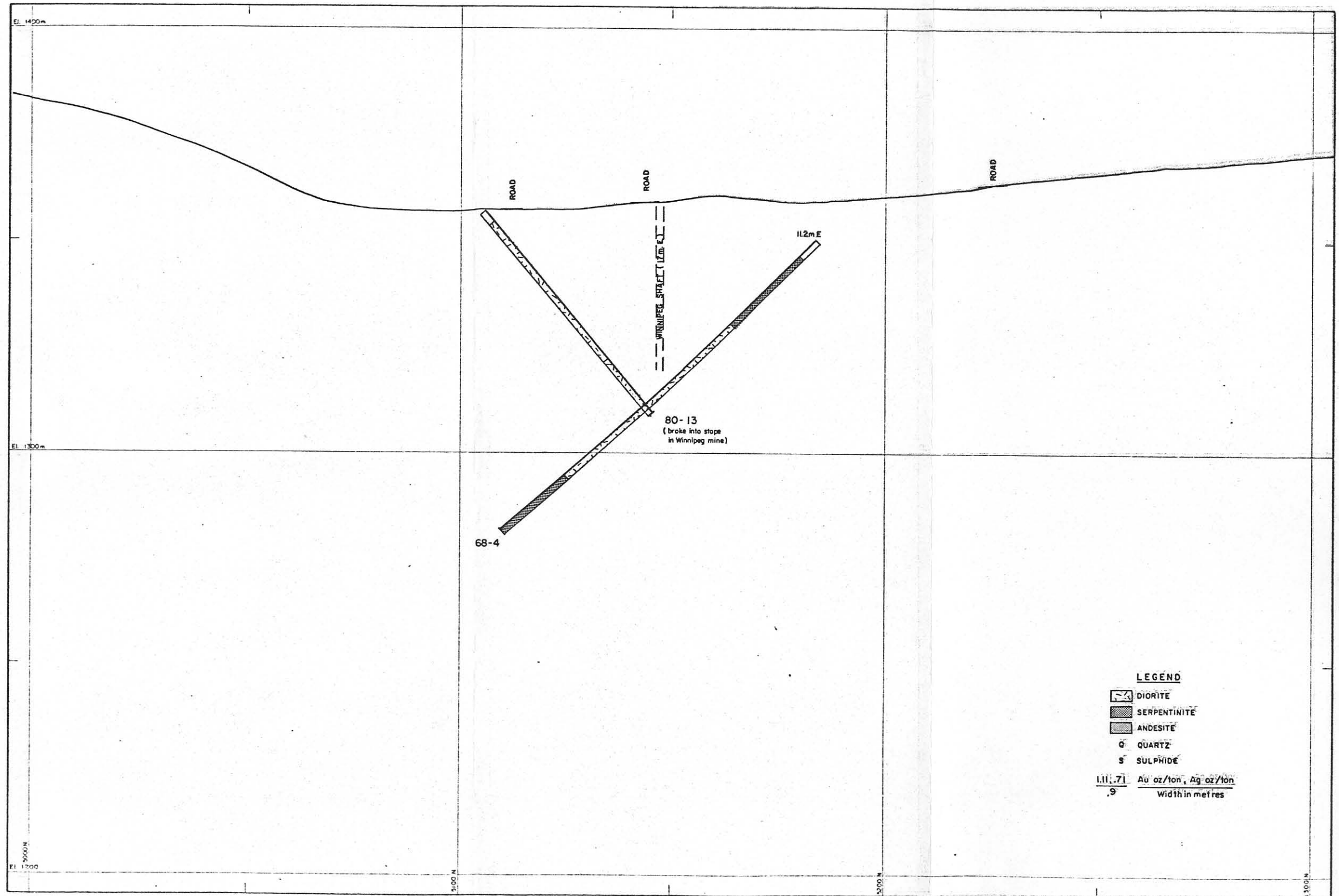
ASSAY PLAN  
30 METRE LEVEL

GREENWOOD M.D., B.C.

SCALE: 1: 500      JAN. 1981      FIG. 6



MINERAL RESOURCES BRANCH  
 8851



**LEGEND**

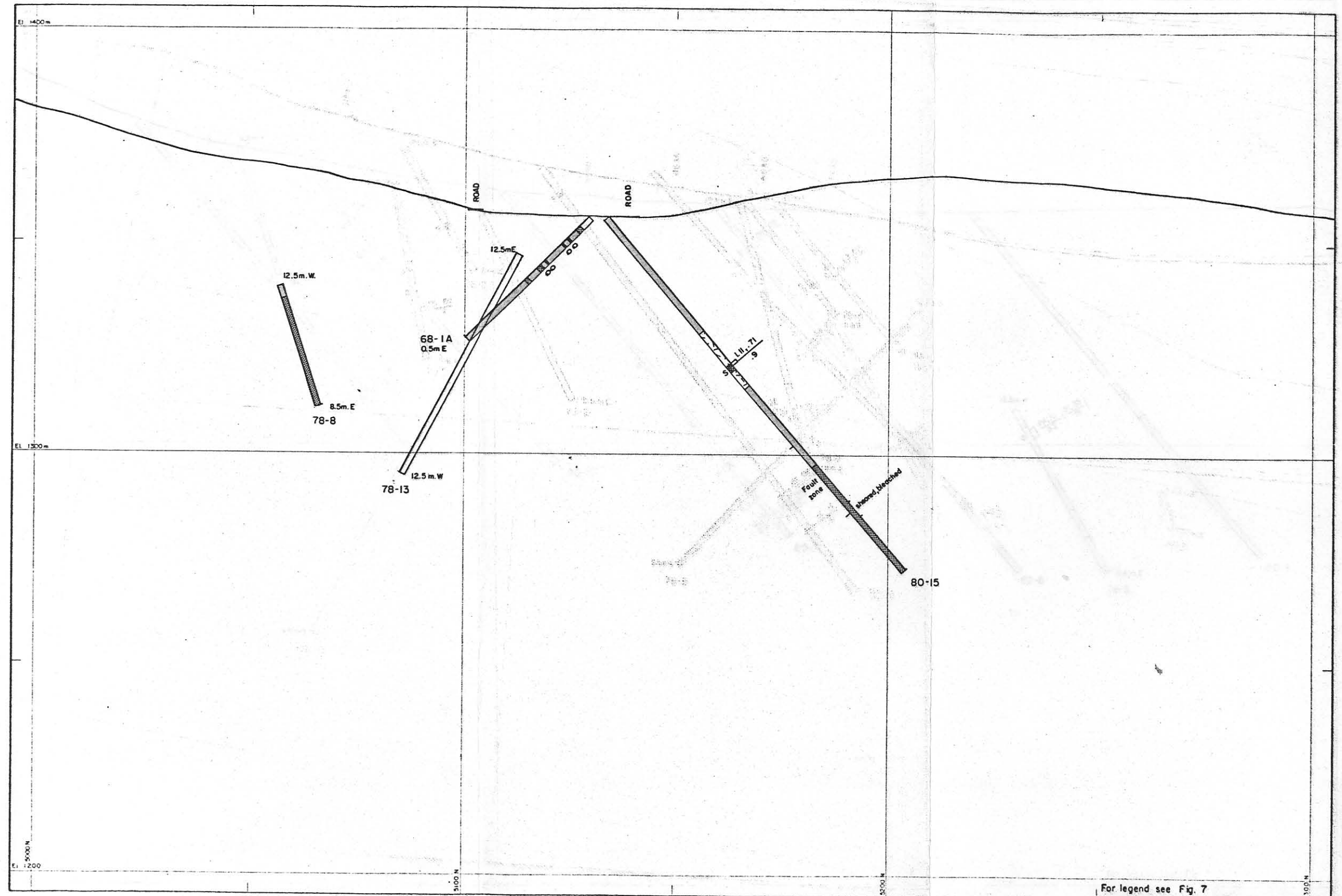
- DIORITE
- SERPENTINITE
- ANDESITE
- Q QUARTZ
- S SULPHIDE

1.11-.71 Au oz/ton, Ag oz/ton  
 .9 width in metres

MUNICIPAL MINES LTD. SECTION    SCALE 1:1000    LOCATION 50+00 E

FIGURE 7

MINERAL RESOURCES BRANCH  
**8851**

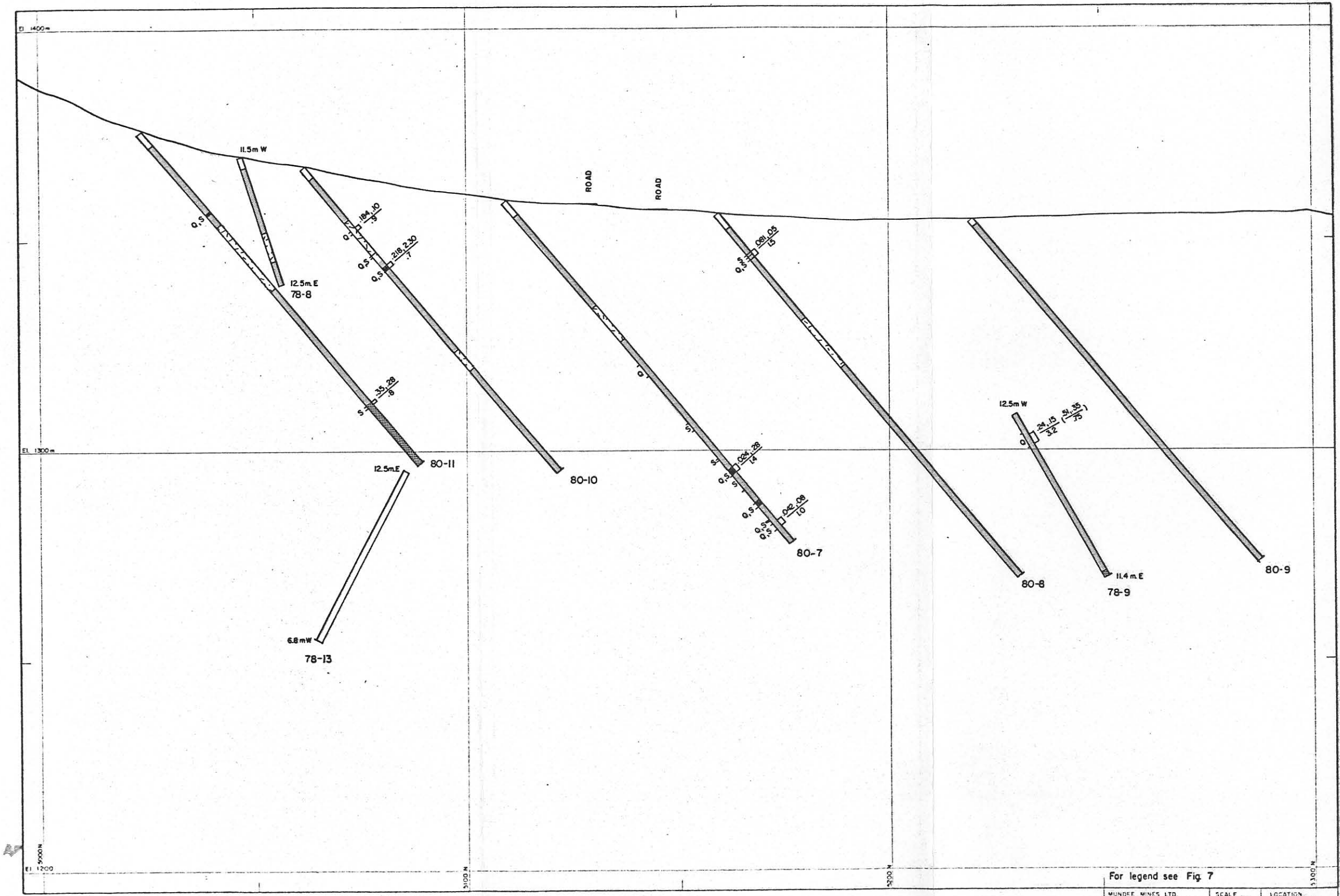


For legend see Fig. 7  
MUNDEE MINES LTD. SECTION SCALE 1:1000 LOCATION 49+25 E.

FIGURE 8

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

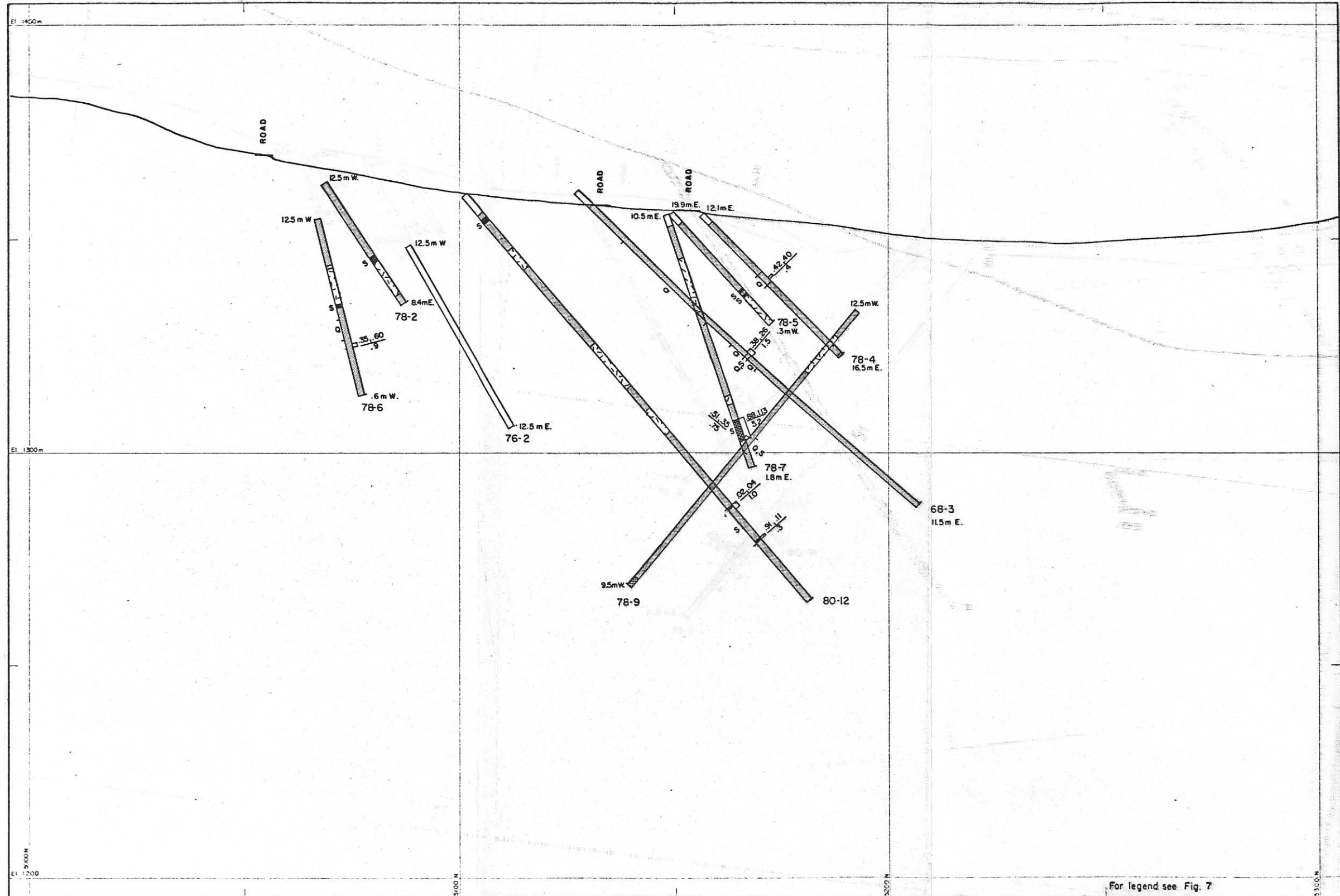
8851



For legend see Fig 7  
 MUNDEE MINES LTD. SECTION SCALE 1:1000 LOCATION 49+00 E.

FIGURE 9

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
 No. 8851

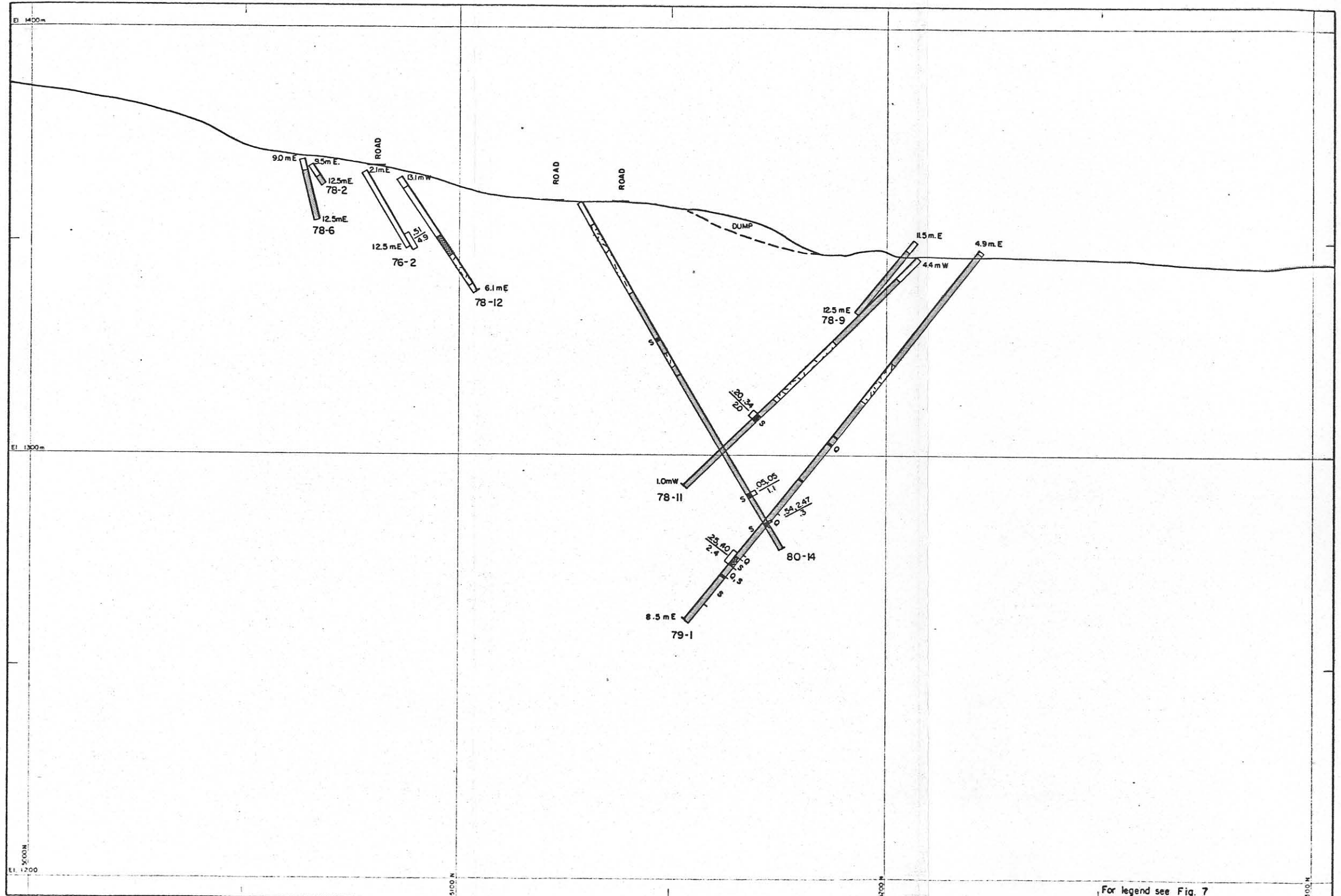


For legend see Fig. 7  
 MUNDEE MINES LTD.  
 SECTION I:1000 LOCATION 48+75 E.

FIGURE 10

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

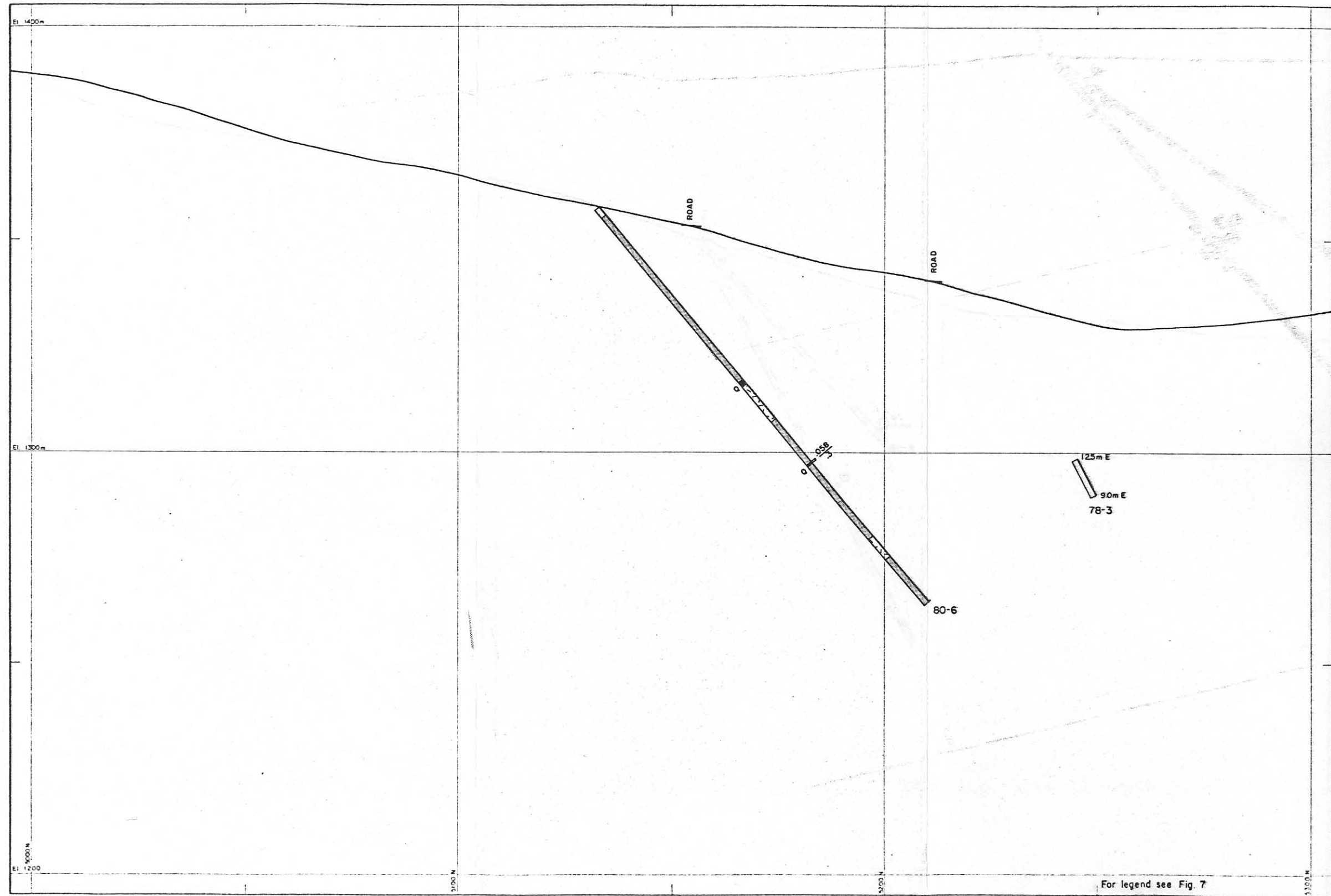
8851



For legend see Fig. 7  
MUNDEE MINES LTD.  
SECTION  
SCALE  
1:1000  
LOCATION  
48+50E

FIGURE 11

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
N 8851

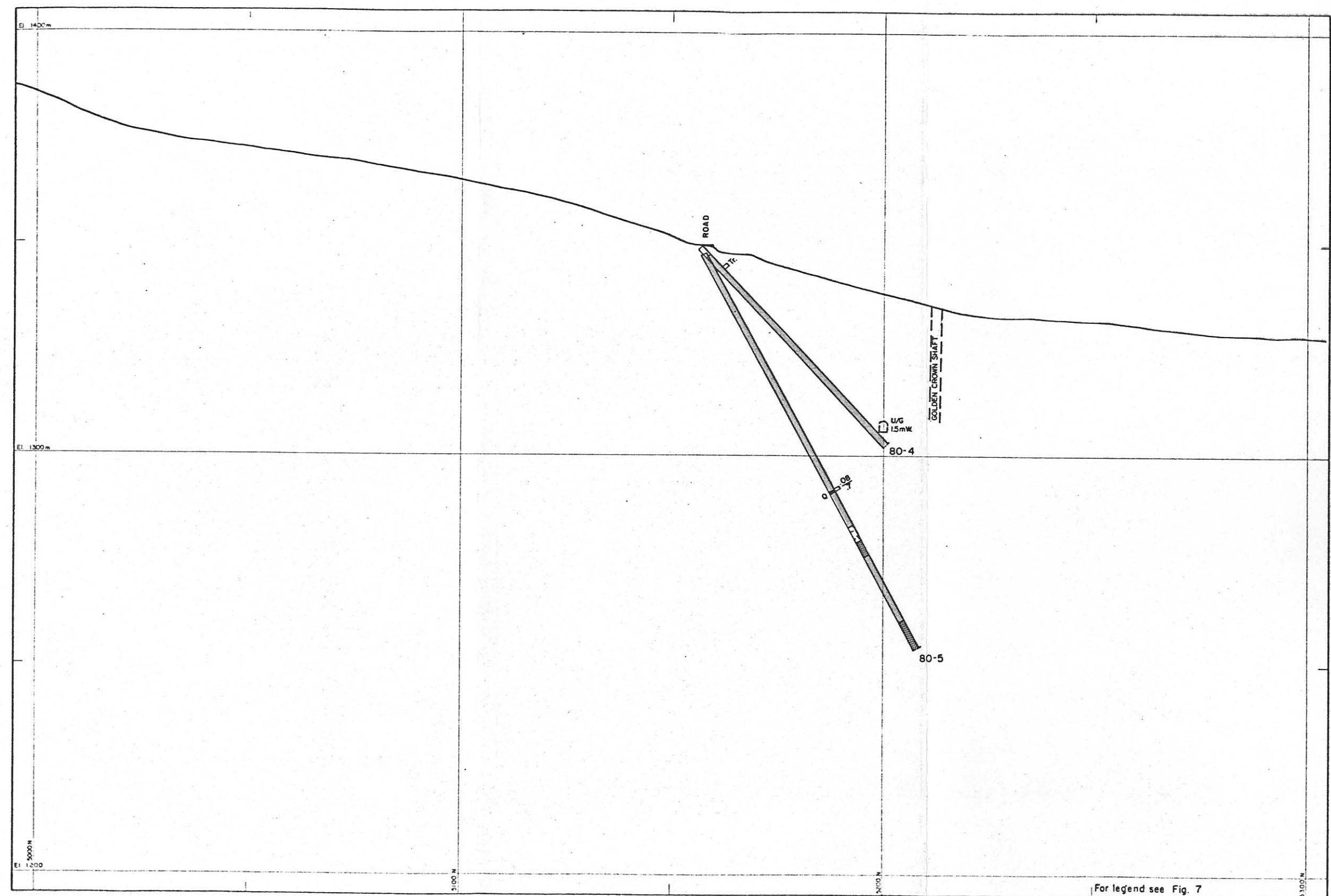


For legend see Fig. 7  
MUNDEE MINES LTD SECTION SCALE 1:1000 LOCATION 48+00 E

FIGURE 12

MINERAL RESOURCES BRANCH  
ESSM REE  
NO

8851

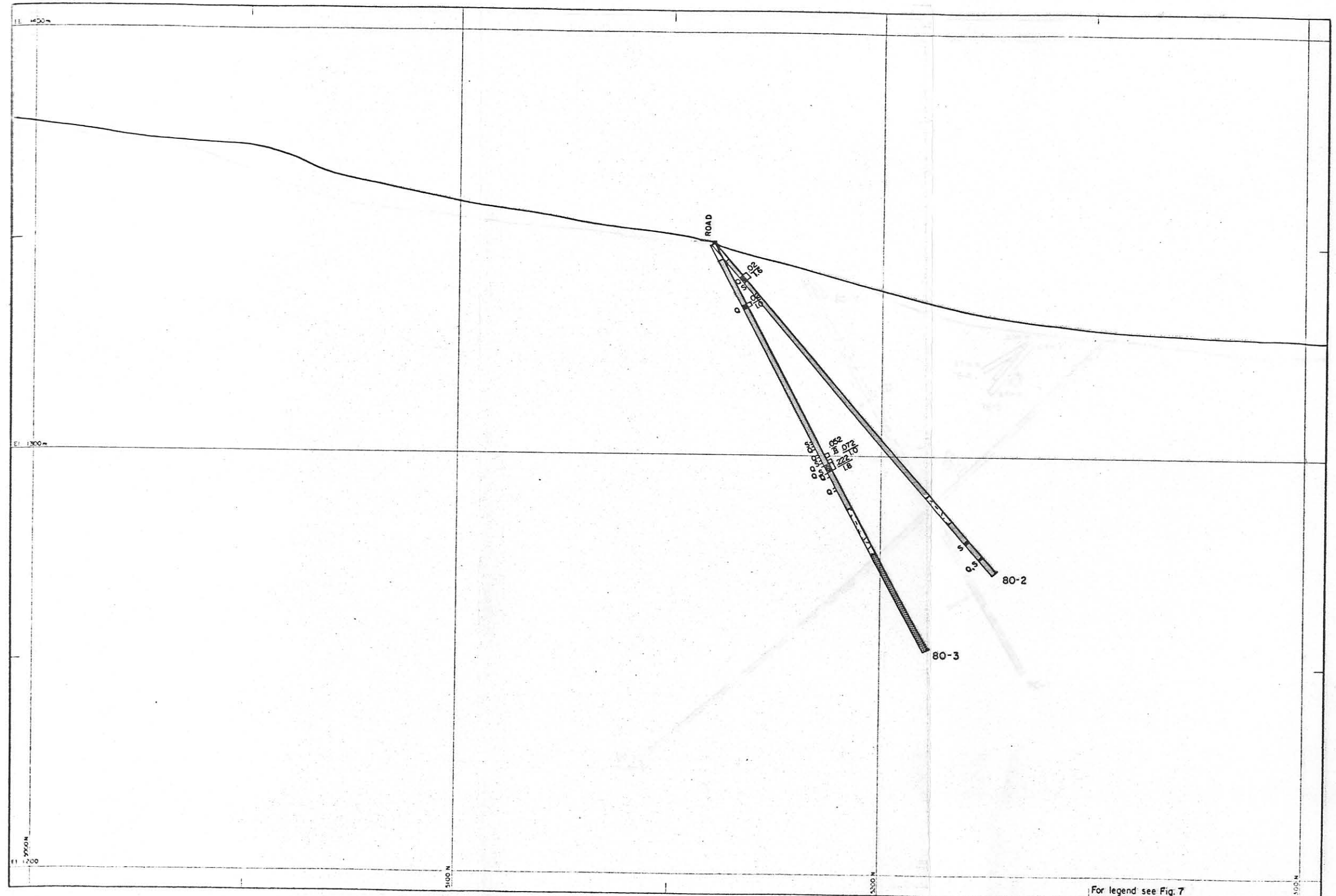


For legend see Fig. 7  
MUNDEE MINES LTD.  
SECTION SCALE 1:1000 LOCATION 47+50 E.

FIGURE 13

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

8851



For legend see Fig. 7  
MUNDFE MINES LTD. SECTION SCALE 1:1000 LOCATION 47+25 E

FIGURE 14



MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

8851

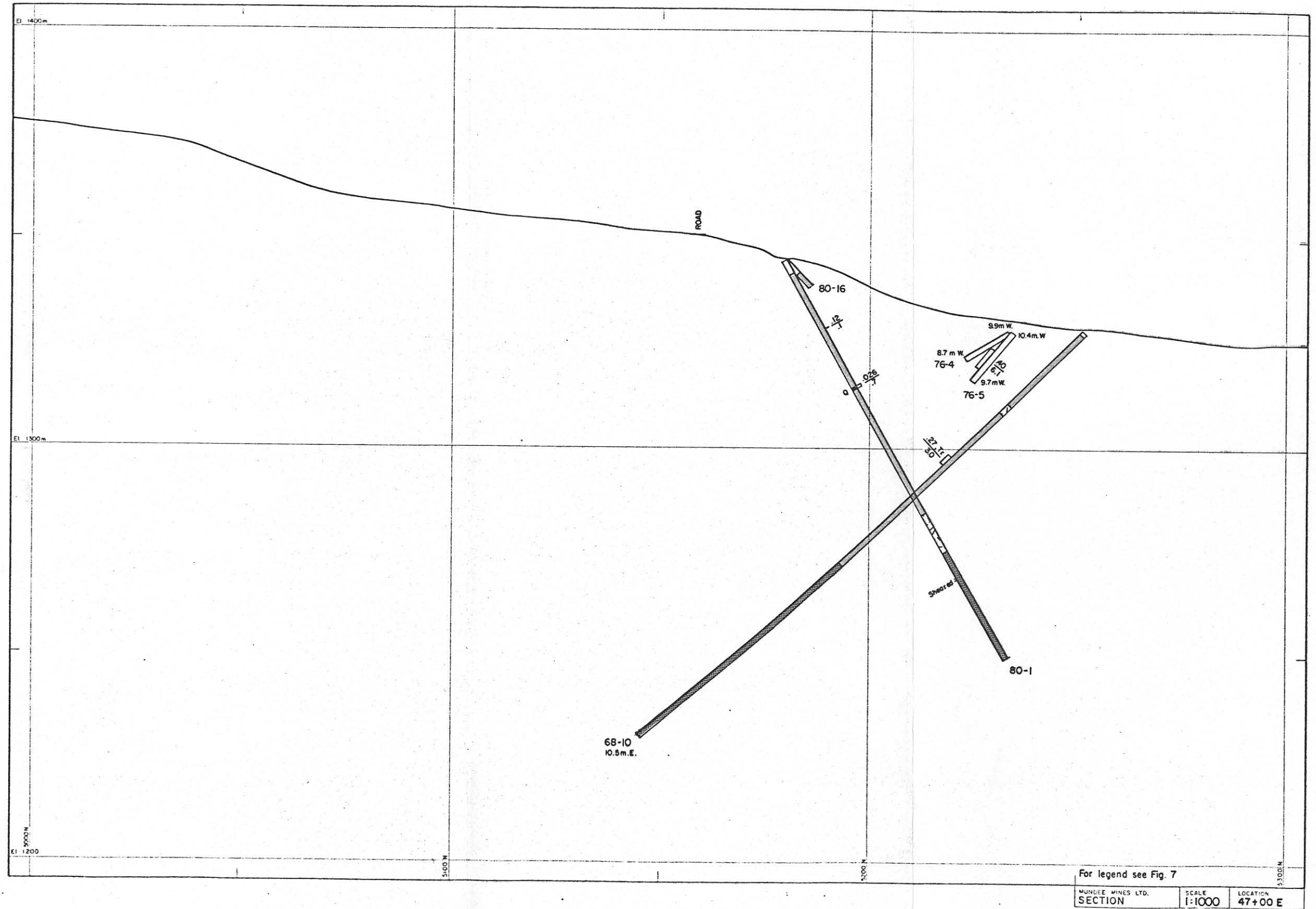


FIGURE 15

the geological mapping, mineralized exposures and old workings were chip sampled. The surface mapping was done at scales of 1:500 and 1:2500 with the 1:500 results later reduced to 1:1000. Eleven chip samples were collected. The assays from the samples, the geological mapping results, and the drill hole locations are shown on Figures 3 and 4.

Diamond drilling was done during two periods in September and October; 653.2 metres in seven holes were drilled during the first period and, after approximately a three-week interval, a further 910.4 metres in nine holes were drilled, bringing the total to 16 holes of 1563.6 metres total length. The core was geologically logged, sampled, and stored in specially constructed racks near the MacArthur shaft. The drill sites were cleaned-up and reseeded. Geological drill logs are appended as are assay certificates for all core, underground chip, and surface chip and grab samples.

Drill hole details are as follows:

Hole No.	Azimuth	Dip	Length (m)
80-1	023°	-60°	110.4
80-2	023°	-45°	130.0
80-3	023°	-62°	109.7
80-4	023°	-46 1/2°	64.4
80-5	023°	-61°	108.9
80-6	023°	-50°	121.3
80-7	023°	-50°	106.1
80-8	023°	-50°	112.2
80-9	023°	-50°	106.1
80-10	023°	-50°	93.8
80-11	023°	-50°	102.4
80-12	023°	-50°	124.5
80-13	023°	-50°	62.3
80-14	023°	-60°	93.9
80-15	023°	-50°	109.1
80-16	023°	-45°	8.5
			<u>1563.6 metres</u>

The surveying and geological work were conducted, initially by J.L. Rotzien, P.Eng. and later by G.M. Keyte, under the direction of C.R. Saunders, P.Eng. Field assistance was provided by I. Wiebe and D. Hairsine. The diamond drilling was done by Bergeron Drilling and Exploration Ltd. employing a BBS-I rig and BQ size down-hole equipment.

The fieldwork and the drilling were conducted as part of a larger exploration project in the Boundary area and, consequently, were done in somewhat intermittent fashion during the 1980 fieldseason.

The bulk of the work, including all of the diamond drilling, was done on the Golden Crown and Winnipeg claims.

## GEOLOGICAL SETTING

### PROPERTY GEOLOGY

The descriptions which follow are derived from the results of surface mapping and diamond drill core logging.

Three major rock types are present on the property, (Figs. 3 and 4). From oldest to youngest they are:

- Andesitic lavas and tuffs (Anarchist Group ?)
- Serpentinite
- Diorite sills (probably of the Nelson Intrusives)

The andesites include both typical flow and tuffaceous textures, but the bulk of the unit is not definitely identifiable as either lava or tuff. It is dominantly fine grained with some medium grained sections where the material is obviously tuffaceous. The rocks have been metamorphosed to lower greenschist facies, displaying pervasive chlorite alteration throughout. Sections of pale grey silica alteration and/or pale green epidote alteration are common and erratically distributed. Fine veinlets of chlorite, calcite, talc or pyrite are also common as are somewhat larger veins (1-10 mm) of quartz and calcite. Sulphides, in the form of pyrite, pyrrhotite and chalcopyrite, occur as irregular patches and veins up to one metre in width. Gold values are associated with some of the sulphide intersections. Approximately 70% of the property is underlain by the andesite unit.

The serpentinite is considered to be older than the diorite on the basis of regional mapping and interpretation by the Geological Survey of Canada; evidence for age relationships were not found on the Golden Crown property. The serpentinite is dark green and generally very fine grained, with local fine to medium grained sections. It consists of completely serpentinitized peridotite containing 1-2% magnetite. In places it is altered to a pale green mixture of serpentine and talc and possibly other unidentified minerals. It is frequently cut by calcite and quartz veinlets.

The diorite is light grey, medium to locally coarse grained and generally lightly altered. It is rich in hornblende which usually results in a 'salt and pepper' texture. Small calcite and quartz veins are present although not common; pyrite occurs as veinlets and as local weak disseminations. The diorite bodies are typically sill-like and 10-40 metres in thickness. Although correlations are uncertain, it appears that the 1980 and earlier drill holes intersected four or five separate bodies.

No evidence of folding, other than perhaps some gentle warping, has been found on the explored portion of the Golden Crown property. Faulting

is evident in the drill core but mostly as small, insignificant structures with little possibility for lateral or depth continuity. Gouge, shearing and brecciation are locally present but generally not in quantities indicative of major structures. Sulphide and associated gold mineralization are rarely present in the faults. One possibly major fault was intersected in drill hole 80-15 where a zone 20.7 metres in thickness was observed in the core. It consists of broken rock, both diorite and serpentinite, with a high portion of clay. It also contains minor pyrrhotite but no gold values. This fault probably strikes in a north-south quadrant, rather than east-west like most of the known mineralization on the property, because it was not intersected in holes drilled only 25 metres to the west.

### GOLDEN CROWN 30 METRE LEVEL

The 30 metre level of the Golden Crown mine comprises 250 metres of drifts and short cross-cuts, four stopes and two winzes. Most of the ore production came from only three of the four stopes, each of which is open and exceeds 20 metres in back height.

Approximately 60% of the level is located within fine grained andesite; the remainder is in fine grained diorite, (Fig. 5). Within the andesite, the drifts follow one main vein or fracture for about half their length and lesser fractures in other places. The main vein is partially mineralized up to 1.5 metres in width with quartz, pyrrhotite and pyrite. Three of the stopes are on this vein. They are inaccessible but the vein is visible up the end walls for more than 10 metres. It generally trends N40° W and dips 70°-75° to the southwest. To the east, the vein material disappears and is replaced by a strong fault. This fault is up to one metre in width and contains some malachite and limonite. Towards the southeast it is offset by cross-fractures and begins to weaken and split into several subparallel fractures.

The main area of mineralization is about 55 metres long and centred near the Golden Crown shaft. The ore-bearing vein, noted above, does not have the appearance of a major shear structure that might be expected to have good lateral continuity, and thus potential for more ore shoots, beyond the limits of the 30 metre level.

The drift backs were sampled across the vein and other fractures at 3-6 metre intervals, (Fig. 6). A total of 56 samples were collected and assayed. The results indicate that gold values are associated only with massive sulphides, although not all massive sulphides are gold-bearing. With rare exceptions, gold values are very low where the vein consists of only 2-5% pyrite-pyrrhotite or pyrite with quartz.

## MINERALIZATION

Four vein minerals, pyrrhotite, pyrite, quartz and chalcopyrite, characteristically occur on the property. They have been found on surface, in drill core, and on the 30 metre level at the Golden Crown mine. They are important because gold is sometimes found in association with them. The character of the mineralization can be classified according to total sulphide content of the rock as follows:

(1) 0 to 2% sulphides

Pyrite is the only sulphide, occurring as tiny veinlets, disseminations and patches. It occurs with a variable but small amount of quartz veining but more often with extensive silicification. No gold values are associated with pyrite alone.

(2) 2 to 5% sulphides

In this range, pyrite and pyrrhotite both occur as small veins, veinlets and patches with variable but small quantities of quartz. Gold values are extremely low or non-existent with this type of mineralization.

(3) 5-20% sulphides

Pyrrhotite is the dominant sulphide with minor pyrite and chalcopyrite and with a variable quartz content which occasionally amounts to greater than 50% of the rock. Some of this quartz and sulphide material forms true veins but more often it occurs in irregular patches over widths typically in the range of 0.3 to 2.0 metres. It is sometimes associated with gold and minor silver values.

(4) 20 to 100% sulphides

This type of mineralization is very similar to No. 3 except that when massive it forms veins and discrete, irregular masses. It is also frequently associated with gold values.

Gold values in trenches, underground workings and diamond drill holes range up to 1 oz./tonne and occasionally higher. Limited continuity of vein has been demonstrated on the 30 metre level of the Golden Crown mine although the continuity of economic mineralization, say greater than 0.15 oz./tonne, appears quite restricted judging by the length of the old stopes. Some continuity is suspected for the Winnipeg mine area because of the amount of ore that was mined (53,318 tonnes). Thus it is somewhat paradoxical that interpretation of the 1980 and earlier drilling results shows a distinct lack of continuity of veins or mineralization more than a few metres in extent. Locally, adjacent intersections are surmised to be on the same zone; rarely, several intersections, although not all of potential ore grade, are considered to be from one zone. Unfortunately, this general lack of continuity exhibited in the interpretation of the drilling is supported by the character of the intersections as determined

during the geological core logging. The mineralization is not associated with strong faults or shear zones, nor with zones of alteration that might be related to pre-mineral structures.

It appears that the sulphide mineralization, which in places can be quite massive and contain appreciable values in gold, has been emplaced along a system of weak and discontinuous fractures which generally trend N70° W and dip steeply to the south. As a result, individual mineralized bodies generally are short, small, and not directly related to nearby bodies. If there are one or more major mineralized structures on the property or in the area, they have not been located by the 1980 exploration program.

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CONCLUSIONS

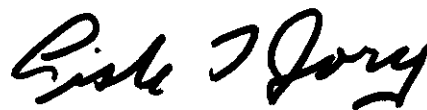
The Golden Crown property has been thoroughly explored by geological mapping and sampling of the 30 metre level of the old Golden Crown Mine, and by diamond drilling in the vicinity of the mine.

Gold values up to 1 oz./tonne and occasionally higher are present, usually in association with massive pyrrhotite (major), pyrite and chalcopyrite (minor). The mineralization does not exhibit continuity along strike or dip but rather occurs as somewhat discrete bodies of uneconomic size (a few tens of metres in maximum direction) which appear to trend N 40° W and dip steeply southwest.

Possibilities for mineralized bodies of sufficient continuity and grade to be economically developed and mined still exist on the property but the exploration risk factor must now be considered to be quite high. However, the areas of some potential are: immediately west of the Golden Crown 30 metre level, and in the vicinity (perhaps to the east) of the old Winnipeg Mine.

Respectfully submitted,

DOLMAGE CAMPBELL & ASSOCIATES (1975) LTD.



for G.M. Keyte



C.R. Saunders, P.Eng.

APPENDIX No. 1

ASSAY CERTIFICATES

AND

SAMPLE RECORD





Mundee Mines Ltd.  
GOLDEN CROWN

# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1  
TELEPHONE: 984-0221  
AREA CODE: 604  
TELEX: 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

## CERTIFICATE OF ASSAY

TO: Dolmage Campbell & Associates Ltd.,  
Ste. 1000 - 1055 W. Hastings St.,  
Vancouver, B.C.  
V6E 2E9

ATTN:

CERTIFICATE NO. 70287

INVOICE NO. 40023

RECEIVED Sept. 29/80

ANALYSED Oct. 29/80

SAMPLE NO. :	% Cu	% Pb	oz/ton Ag	oz/ton Au
3210	0.41	< 0.01	0.25	0.020
3211	0.31		0.13	0.052
3212			0.01	< 0.003
3213	1.69		0.60	0.076
3214	1.05		0.74	0.126
3215	2.92		1.52	0.318
3216			0.04	0.038
3217			0.04	0.020
3218			0.02	0.005
3219	0.25		0.02	0.120
3220			0.03	0.026
3221			0.02	< 0.003
3222	0.16		0.12	0.080
3223	0.41		0.04	0.058



MEMBER  
CANADIAN TESTING

*B. L. Swaites*  
REGISTERED ASSAYER PROVINCE OF BRITISH COLUMBIA



# CHEMEX LABS LTD.

212 BROOKSBANK AVE  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1  
TELEPHONE: (604) 984-0221  
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

T : Dolmage Campbell & Associates Ltd.,

CERT. # : A8010800-001-A  
: # : 40389  
: 12-NOV-80  
: NONE

Mundee Mines Ltd.  
GOLDEN CROWN

3240	207	--	0.02	<0.003	--	--	--
3241	207	--	0.01	<0.003	--	--	--
3242	207	--	0.04	0.005	--	--	--
3243	207	--	0.05	0.018	--	--	--
3244	207	--	0.03	0.012	--	--	--
3245	207	--	0.01	<0.003	--	--	--
3246	207	--	0.01	<0.003	--	--	--
3247	207	0.63	0.28	0.024	--	--	--
3248	207	0.07	0.01	<0.003	--	--	--
3249	207	--	0.01	<0.003	--	--	--
3250	207	--	0.02	<0.003	--	--	--
6901	207	--	0.01	<0.003	--	--	--
6902	207	0.04	0.02	<0.003	--	--	--
6903	207	--	0.08	0.042	--	--	--
6904	207	--	0.04	0.060	--	--	--
6905	207	0.19	0.06	0.102	--	--	--
6906	207	--	0.03	0.005	--	--	--
6907	207	0.10	0.10	0.184	--	--	--
6908	207	1.66	1.05	0.072	--	--	--
6909	207	--	0.04	<0.003	--	--	--
6910	207	4.33	2.30	0.218	--	--	--

*B. L. Swaites*

.....  
Registered Assayer, Province of British Columbia



# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1  
TELEPHONE: (604)984-0221  
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

## CERTIFICATE OF ASSAY

TO : Dolmage Campbell & Associates Ltd.,  
Ste. 1000 - 1055 W. Hastings St.,  
Vancouver, B.C.  
V6E 2Z9

CERT. # : A8011049-001  
INVOICE # : 41036  
DATE : 09-DEC-80  
P.C. # : NONE

Sample description	Prep code	Cu percent	Ni percent	Ag oz/t	Au oz/t		
6911	207	0.43	--	0.09	0.050	--	--
6912	207	--	--	0.11	0.012	--	--
6913	207	0.23	0.09	0.28	0.356	--	--
6914	207	--	--	0.22	0.020	--	--
6915	207	--	--	0.07	0.028	--	--
6916	207	--	--	0.02	0.014	--	--
6917	207	--	--	0.04	0.005	--	--
6918	207	--	<0.01	0.11	0.210	--	--
6919	207	--	--	0.02	0.003	--	--
6920	207	0.09	--	0.10	0.016	--	--
6921	207	0.10	--	0.05	0.010	--	--
6922	207	4.73	--	2.47	0.544	--	--
6923	207	--	--	0.71	1.110	--	--
6924	207	--	--	0.47	0.043	--	--
6925	207	--	0.11	0.12	0.005	--	--
6926	207	--	0.14	0.14	0.003	--	--
6927	207	--	0.17	<0.01	<0.003	--	--



# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
 NORTH VANCOUVER, B.C.  
 CANADA V7J 2C1  
 TELEPHONE: 985-0648  
 AREA CODE: 604  
 TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

## CERTIFICATE OF ASSAY

TO: Dolmage Campbell & Assoc. Ltd.  
 Ste. 1000 - 1055 W. Hastings St.  
 Vancouver, B.C.  
 V6E 2E9  
 ATTN: Mr. C.R. Saunders

CERTIFICATE NO. 68575  
 INVOICE NO. 36665  
 RECEIVED June 18/80  
 ANALYSED July 4/80

SAMPLE NO. :	%	oz/ton	oz/ton
	Cu	Ag	Au
5551		0.17	0.192
5552		0.72	0.140
5553		0.29	0.114
5554		1.47	0.634
5555		0.12	0.062
5556		0.02	0.060
5557	1.08	0.52	0.064
5558			0.080
5559		0.45	0.054
5560			0.090
5561		0.20	0.076
5562		0.48	0.060
5563		0.18	0.078
5564		3.15	0.054
5565			0.003
5566		0.37	0.030
5567		0.01	0.042
5568		0.03	<0.003
5569		0.50	2.044
5570			0.036
5571			0.012
5572		0.06	0.010
5573			0.005
5574		0.03	0.010
5575		0.08	0.014
5576	0.63	0.25	1.114
5577			0.012
5578		0.56	1.222
5579		0.33	0.132
5580		0.23	0.656
5581		0.18	0.400
5582	0.08	0.01	0.010
5583		0.38	0.020
5584		1.44	0.042
5585		0.84	0.024
5586		0.12	0.014
5587		0.10	0.005
5588	0.04	0.02	0.003
5589		0.84	0.054
5590		0.02	0.003



MEMBER  
 CANADIAN TESTING  
 ASSOCIATION

*C.R. Saunders*

REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA



# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1  
TELEPHONE: 985-0648  
AREA CODE: 604  
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

## CERTIFICATE OF ASSAY

TO: Dolmage Campbell & Assoc. Ltd.  
1000 - 1055 W. Hastings St.  
Vancouver, B.C.  
V6E 3W9

ATTN: Mr. C.R. Saunders

CERTIFICATE NO. 68576

INVOICE NO. 36665

RECEIVED June 18/80

ANALYSED July 4/80

SAMPLE NO. :	%	oz/ton	oz/ton
	Cu	Ag	Au
5591		0.08	0.005
5592		0.32	0.260
5593		0.06	0.106
5594		0.10	0.005
5595		0.14	0.005
5596		0.10	0.010
5597		0.12	0.003
5598		0.10	0.005
5599		0.14	0.010
5600	0.25	0.04	0.096
5701		0.01	0.003
5702		0.01	0.030
5703			0.003
5704	0.03		0.010
5705			0.062
5706			0.010



# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
 NORTH VANCOUVER, B.C.  
 CANADA V7J 2C1  
 TELEPHONE: ~~885-0648~~ 984-0221  
 AREA CODE: 604  
 TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

## CERTIFICATE OF ASSAY

TO: Dolmage Campbell & Assoc. Ltd.,  
 1000 - 1055 W. Hastings St.,  
 Vancouver, B.C.  
 V6E 2E9  
 ATTN: C. R. Saunders

CERTIFICATE NO. 68744  
 INVOICE NO. 37016  
 RECEIVED June 28/80  
 ANALYSED July 18/80

SAMPLE NO. :	% Cu	oz/ton Ag	oz/ton Au
5712			0.005
5713		0.02	0.200
5714			0.038
5715	0.26	0.23	0.092
5716			0.016
5717			0.164
5718			0.032
5719			< 0.003
5720			0.274
5721		0.02	0.044
5722		0.62	0.048
Lowertrench calvment claim	0.20	0.08	0.214

*B. J. Swaine*



MEMBER  
 CANADIAN TESTING  
 ASSOCIATION

REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA

**SAMPLE RECORD - DOLMAGE CAMPBELL & ASSOCIATES LTD.**

DATE SEPT. 1980

COMPANY MUNDEE MINES LTD.

PROJECT GOLDEN CROWN

SAMPLE NUMBER	TYPE	LOCATION	Metres		DESCRIPTION	m.	SAMPLE WIDTH	TRUE WIDTH	%T ASSAY			
			FROM	TO					Au	Ag	Cu %	Pb %
3210	Core	DDH 80-3	16.5	17.5	Silicified andesite; py, cpy, po.		1.0		.020	.25	.41	<.01
11	✓	✓	57.2	58.0	✓ ✓ ; ✓, qtz, ✓.		0.8		.052	.13	.31	-
12	✓	✓	58.0	58.8	✓ ✓ ; ✓, po.		0.8	<	.003	.01	-	-
13	✓	✓	58.8	59.8	✓ ✓ ; ✓, cpy, qtz.		1.0		.076	.60	1.69	-
14	✓	✓	59.8	60.7	Massive sulphides; ✓, ✓, ✓, ✓.		0.9		.126	.74	1.05	-
15	✓	✓	60.7	61.6	✓ ✓ ; ✓, ✓, ✓, ✓.		0.9		.318	1.52	2.92	-
16	✓	✓	76.8	77.7	Diorite; 10% py in veins; some qtz.		0.9		.038	.04	-	-
17	✓	DDH 80-2	10.4	12.0	Silicified andesite breccia; 5% py.		1.6		.020	.04	-	-
18	✓	✓	93.0	93.5	✓ ✓ ✓ ; 10-20% sulph.		0.5		.005	.02	-	-
19	✓	DDH 80-1	19.0	19.1	Qtz po cpy vein		0.1		.120	.02	.25	-
3220	✓	✓	34.8	35.5	Fault; andesite (bx) + qtz + py.		0.7		.026	.03	-	-
21	✓	DDH 80-4	6.8	7.5	Andesite + py + po, (sulphides 10%)		0.7	<	.003	.02	-	-
22	✓	DDH 80-5	66.0	66.7	Silicified Andesite, 5% py, trace cpy.		0.7		.080	.12	.16	-
23	✓	DDH 80-6	78.4	78.7	Qtz vein with py, po, cpy.		0.3		.058	.04	.41	-
3240	✓	DDH 80-7	49.8	50.7	Silicified andesite, 5% py veinlets.		0.9	<	.003	.02	-	-
41	✓	✓	50.7	51.7	✓ ✓, 5% py in qtz.		1.0	<	.003	.01	-	-
42	✓	✓	51.7	52.7	✓ ✓, ✓, ✓, ✓.		1.0		.005	.04	-	-
43	✓	✓	52.7	53.6	✓ ✓, ✓, ✓, ✓.		0.9		.018	.05	-	-
44	✓	✓	68.3	69.5	✓ ✓, ✓, ✓.		1.2		.012	.03	-	-
45	✓	✓	69.5	70.6	✓ ✓, ✓, ✓.		1.1	<	.003	.01	-	-
46	✓	✓	79.1	79.6	Andesite, 5% py, po veinlets.		0.5		.003	.01	-	-
47	✓	✓	83.1	84.5	15-20% sulphides - py, po, cpy.		1.4		.024	.28	.63	-
48	✓	✓	84.5	85.5	5% po, py, cpy in andesite		1.0	<	.003	.01	.07	-
49	✓	✓	85.5	86.5	Andesite, 5% py, po.		1.0	<	.003	.01	-	-
3250	✓	✓	93.2	94.0	Massive po.		0.8	<	.003	.02	-	-
6901	✓	✓	94.0	95.4	5% po, py, cpy, as veinlets in andesite.		1.4	<	.003	.01	-	-
02	✓	✓	98.6	99.6	Andesite, 5% po, py, cpy.		1.0	<	.003	.02	.04	-
03	✓	✓	99.6	100.6	✓ ✓, ✓, ✓, ✓.		1.0		.042	.08	-	-
04	✓	DDH 80-8	12.1	12.8	✓ ✓, ✓, ✓, ✓.		0.7		.060	.04	-	-
05	✓	✓	12.8	13.6	50% qtz; 10% po, py, cpy; 40% andesite		0.8		.102	.06	.19	-
06	✓	DDH 80-9	84.9	85.2	Andesite, qtz vein, 10% py.		0.3		.005	.03	-	-
07	✓	DDH 80-10	18.6	19.5	5% py, cpy with qtz in andesite.		0.9		.184	.10	.10	-
08	✓	✓	26.1	26.4	✓ ✓, ✓, ✓, ✓.		0.3		.072	1.05	1.66	-

COMPANY MUNDEE MINES LTD. PROJECT GOLDEN CROWN

SAMPLE RECORD - DOLMAGE CAMPBELL & ASSOCIATES LTD.

DATE SEPT. 1980

COMPANY MUNDEE MINES LTD.

PROJECT GOLDEN CROWN

SAMPLE NUMBER	TYPE	LOCATION	FROM TO		DESCRIPTION	SAMPLE WIDTH	TRUE WIDTH	ASSAY			
			FROM	TO				oz/T Au	oz/T Ag	Cu %	Ni %
6909	Core	DDH 80-10	29.1	30.1	Andesite, 2-3% py in qtz	1.0	<.003	.04	-	-	
6910	✓	✓	30.1	30.8	Massive po, py, cpy, some qtz.	0.7	.218	2.30	4.33	-	
11	✓	DDH 80-11	24.3	24.8	Andesite, qtz veining, 1/2% cpy, po.	0.5	.050	.09	.43	-	
12	✓	✓	31.1	31.6	Diorite, 5% py, qtz.	0.5	.012	.11	-	-	
13	✓	✓	83.3	84.1	Serpentinite, 50% po, cpy	0.8	.357	.28	.23	.09	
14	✓	DDH 80-12	7.1	8.2	70% po, cpy, qtz in andesite	1.1	.020	.22	-	-	
15	✓	✓	95.4	95.7	Massive po	0.3	.028	.07	-	-	
16	✓	✓	95.7	96.4	Andesite, 5% py, po.	0.7	.014	.02	-	-	
17	✓	✓	104.7	105.7	5% po, qtz in andesite	1.0	.005	.04	-	-	
18	✓	✓	105.7	106.0	Massive po, py, qtz	0.3	.210	.11	-	<.01	
19	✓	DDH 80-13	61.2	62.3	Chloritic andesite, 2% py	1.1	.003	.02	-	-	
6920	✓	DDH 80-14	36.4	37.2	Andesite, 20% po, py, qtz.	0.8	.016	.10	.09	-	
21	✓	✓	78.6	79.7	✓, po, py, cpy, total 15%	1.1	.010	.05	.10	-	
22	✓	✓	86.8	87.1	Massive po, 5% cpy	0.3	.544	2.47	4.73	-	
23	✓	DDH 80-15	45.1	46.0	Andesite, po, py (20%)	0.9	1.110	.71	-	-	
24	✓	✓	46.0	46.9	✓, ✓, ✓	0.9	.048	.47	-	-	
25	✓	✓	83.8	89.0	Sheared Serpentinite, 5% po.	1.2	.005	.12	-	.11	
26	✓	✓	89.0	90.2	✓, ✓, ✓, ✓	1.2	.003	.14	-	.14	
27	✓	✓	90.2	91.2	Altered ✓, 2-3% po.	1.0	<.003	<.01	-	.17	

COMPANY MUNDEE MINES LTD. PROJECT GOLDEN CROWN



SAMPLE RECORD - DOLMAGE CAMPBELL & ASSOCIATES LTD.

DATE JUNE 1980

COMPANY MUNDEE MINES LTD.

PROJECT GOLDEN CROWN

SAMPLE NUMBER	TYPE	LOCATION	m		DESCRIPTION	SAMPLE WIDTH	TRUE WIDTH	g/tm ASSAY		
			FROM	TO				Au	Ag	Cu %
5551	Chip	G.C. 30 metre level	Sta 7 +	20.3	Qtz vein with py, po.	1.52		.192	.17	-
52	✓	✓	✓ +	19.7	✓ ✓ ✓ ✓ ✓	0.4		.140	.72	-
53	✓	✓	✓ +	19.7	✓ ✓ ✓ ✓ ✓	0.29		.114	.29	-
54	✓	✓	✓ +	13.4	✓ ✓ ✓ ✓ ✓	0.4		.634	1.47	-
55	✓	✓	E. wall of stope		Two veins as 5551 + andesite; <5% py	0.40		.062	.12	-
56	✓	✓	Sta 7 +	7.1	Qtz vein with py, po.	0.60		.060	.02	-
57	✓	✓	✓ +	5.1	✓ ✓ ✓ ✓ ✓	0.22		.064	.52	1.08
58	✓	✓	✓ +	1.0	H.W., andesite with py.	0.30		.080	-	-
59	✓	✓	✓ +	1.0	As 5557	0.25		.054	.45	-
5560	✓	✓	✓ +	1.0	F.W., andesite with py.	0.30		.090	-	-
61	✓	✓	Sta 7 +	2.0	As 5559	0.14		.076	.20	-
62	✓	✓	✓ +	5.0	✓ ✓	0.32		.060	.48	-
63	✓	✓	Sta 7A		✓ ✓	0.23		.078	.18	-
64	✓	✓	Sta 6 +	4.4	✓ ✓	0.60		.057	3.15	-
65	✓	✓	✓ +	4.4	F.W., andesite with py	0.43		.003	-	-
66	✓	✓	Sta 5 +	10.6	Two veins as 5559 with .025m andesite	0.28		.030	.37	-
67	✓	✓	✓ +	7.6	As 5559	0.38		.042	.01	-
68	✓	✓	✓ +	4.7	H.W., andesite with <5% py	0.25		.003	.03	-
69	✓	✓	✓ +	4.7	As 5559	0.25		2.044	.50	-
5570	✓	✓	✓ +	4.7	F.W., andesite with py	0.30		.036	-	-
71	✓	✓	✓ +	0.6-1.3	Andesite with Qtz filled fractures	0.70		.012	-	-
72	✓	✓	Sta 4 +	5.0	Andesite	0.80		.010	.06	-
73	✓	✓	Sta 3 +	9.7	✓, with py	0.52		.005	-	-
74	✓	✓	✓ +	6.7	Sheared, pyritic andesite	0.27		.010	.03	-
75	✓	✓	✓ +	1.0	✓ ✓ ✓ ✓	0.41		.014	.08	-
76	✓	✓	Sta 2 +	7.4	As 5559	0.42		1.114	.25	.63
77	✓	✓	✓ +	7.4	F.W., andesite	0.34		.012	-	-
78	✓	✓	Sta 1 +	0.4w	Qtz vein with py, po	0.40		1.222	.56	-
79	✓	✓	+	3.2w	As 5578	0.28		.132	.33	-
5580	✓	✓	✓ +	2.0E	Sheared Qtz vein with py, po	0.29		.656	.23	-
81	✓	✓	Sta 9		✓ ✓ ✓ ✓ ✓	0.33		.400	.18	-
82	✓	✓	✓ +	3.0	✓ ✓ ✓ ✓ ✓, malachite	0.80		.010	.01	.08
83	✓	✓	✓ +	6.1	As 5582	0.90		.020	.38	-
84	✓	✓	✓ +	9.7	✓ ✓	0.98		.042	1.44	-
85	✓	✓	Sta 10 +	4.0	✓ ✓	1.04		.024	.84	-

COMPANY MUNDEE MINES LTD. PROJECT GOLDEN CROWN

SAMPLE RECORD - DOLMAGE CAMPBELL & ASSOCIATES LTD.

DATE JUNE 1980 COMPANY MUNDEE MINES LTD. PROJECT GOLDEN CROWN

SAMPLE NUMBER	TYPE	LOCATION	metres		DESCRIPTION	SAMPLE WIDTH	TRUE WIDTH	%T ASSAY		
			FROM	TO				Au	Ag	Cu %
5584	Chip	G.C. 30 metre level	Sta 10 +	10.0	As 5582	0.90		.014	.12	-
87	✓	✓	Sta 11 +	4.3	✓ ✓	-		.005	.10	-
88	✓	✓	✓ +	4.3	F.w., andesite with py	0.45		.003	.02	.04
89	✓	✓	Sta 12 +	0.4	Sheared, altered diorite with py, cpy	1.10		.054	.84	-
5590	✓	✓	✓ +	3.4	As 5589	1.00		.003	.02	-
91	✓	✓	✓ +	9.4	✓ ✓	0.95		.005	.08	-
92	✓	✓	Sta 13 +	0.2	Sheared diorite with py	1.08		.260	.32	-
93	✓	✓	Sta 14 +	1.0	Brecciated diorite	1.72		.106	.06	-
94	✓	✓	✓ +	7.0	Sheared diorite with calcite, py, zcm gouge	0.56		.005	.10	-
95	✓	✓	✓ +	13.0	As 5594	0.50		.005	.14	-
96	✓	✓	Sta 15 +	4.0	Sheared diorite with calcite + dissem. py.	1.58		.010	.10	-
97	✓	✓	Sta 16 +	2.5	As 5596	1.16		.003	.12	-
98	✓	✓	✓ +	5.5	✓ ✓	1.46		.005	.10	-
99	✓	✓	✓ +	8.0	✓ ✓	0.73		.010	.14	-
5600	✓	✓	✓ +	12.8	✓ ✓	0.61		.096	.04	.25
5701	✓	✓	✓ +	12.8	As 5596 + qtz	0.82		.003	.01	-
02	✓	✓	✓ +	5.9-6.8	Brecciated diorite with po	0.84		.030	.01	-
03	✓	✓	✓ +	12.7-13.8	Diorite with po stringers	1.08		.003	-	-
04	✓	✓	✓ +	17.6-18.8	As 5703	1.28		.010	-	.03
05	✓	✓	✓		✓ ✓	1.60		.062	-	-
06	✓	✓	✓ +	6.25-7.15	✓ ✓	0.90		.010	-	-
07	✓	✓	Sta 7 +	16.7	Qtz, py, po vein	0.45		?	?	

COMPANY MUNDEE MINES LTD. PROJECT GOLDEN CROWN



APPENDIX No. 2

DRILL HOLE LOGS

Mundee Mines Ltd.

Coord. 5180 N  
4700 E  
Elev. 1345 m  
Core Size BQ

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.  
Length: 110.4 m Project : GOLDEN CROWN  
Azimuth: 0° (Mine) Location: South of Golden Crown shaft  
Dip: -60° Purpose: Explore Golden Crown vein

Hole No.: 80-1  
Date: Sept., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	3.8	CASING				
3.8	70.0	ANDESITE	<p>Medium green, grey-green and dark green, very hard and competent, very fine-grained (lava) and medium grained fragmental (tuffaceous) textures are present; some jointing, very little faulting. Chloritized, some epidote and silica alteration, quartz, calcite and epidote veinlets, minor pyrite grains and patches. Dominantly lava.</p> <p>(19.0 - 19.1) Hard pyrrhotite, quartz, pyrite veins @ 30°; true width 10 cm.</p> <p>(33.6 - 34.3) Broken, small blocks, hematite stain.</p> <p>(34.8 - 35.5) Broken, hematite staining, some quartz.</p> <p>(35.1 - 35.5) Rubble and gouge, fault.</p> <p>(52.0 - 52.2) Broken, small blocks.</p>			
70.0	80.6	DIORITE	<p>Medium grey, competent, medium to fine grained, poorly jointed; 3-5% pyrite throughout as grains and veinlets, quartz and calcite veinlets; upper contact gradational, lower contact definite.</p> <p>72.3 1 cm quartz vein @ 45°.</p> <p>76.1 0.5 cm quartz-pyrite vein @ 30°.</p>			
80.6	110.4	SERPENTINITE	<p>Dark green, soft, incompetent, fine grained, well jointed with small scale shearing; in places the rock has a healed fragmental texture and also alteration to a pale green serpentine phase with some talc; fine quartz and calcite veinlets, minor pyrrhotite, pyrite veinlets.</p> <p>(87.2 - 87.6) Altered to soft pale green and white sheared material, probably talc and serpentine.</p> <p>(103.5 - 103.9) Pale green (serpentine or amphibole) veinlets criss crossing core.</p>			
110.4		END OF HOLE				
			ASSAYS			
			From To Length	Au (oz./ton)	Ag (oz./ton)	Cu (%)
			19.0 19.1 0.1	0.120	0.02	0.25
			34.8 35.5 0.7	0.026	0.03	--

Project

GOLDEN CROWN

Hole No.

80-1

## Mundee Mines Ltd.

## DRILL RECORD — DOLMAGE, CAMPBELL &amp; ASSOCIATES LTD.

Coord. 5160 N  
4725 E  
Elev. 1350 m  
Core Size BQ

Length: 103.0 m    Project: GOLDEN CROWN  
Azimuth: 0° (Mine)    Location: South of Golden Crown Shaft  
Dip: -49°    Purpose: Explore Golden Crown vein

Hole No.: 80-2  
Date: Sept., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	4.9	CASING				
4.9	78.7	ANDESITE	<p>Medium green, in places dark green or grey-green, colour reflects degree to chloritization; hard and competent, very fine grained, some jointing and faulting. Extensive but strongly localized silica-epidote alteration, veinlets of quartz, calcite and minor pyrite at all angles. Interpreted to be lava with a little tuffaceous material.</p> <p>( 4.9 - 10.4) Very broken and blocky with hematite staining. (10.4 - 12.0) Pale grey silicified andesitic breccia, irregular vuggy quartz and pyrite veins @ 30°. (12.0 - 14.9) As 4.9 - 10.4. (16.9 - 17.0) Gougy material, hematite staining; fault. (44.0 - 44.2) Broken fragments, hematite stain; fault. (55.1 - 58.1) Medium green, medium grained dioritic andesite, contacts indefinite. (54.0 - 54.3) Pyrite, 5-10% as patches and veinlets. (59.0 - 59.3) 5-10% pyrite plus chalcopyrite as veinlets @ 80°; 3 cm quartz vein @ 59.3. (65.0 - 70.3) Fragmental texture, heavy silica-epidote alteration; tuff; contacts indefinite. (72.5 - 75.6) Dark green, heavily chloritized, very fine grained, indefinite contacts. (75.6 - 78.7) As 65.0 - 70.3.</p>			
78.7	87.0	DIORITE	<p>Medium grey, hard, competent, medium grained, minor jointing, quartz and calcite veinlets at all angles; contacts reasonably definite.</p>			
87.0	103.0	ANDESITE	<p>Medium green-grey, competent, generally fine grained, little jointing, heavy silica-epidote alteration. Texture variable but in many places fragmental or wispy (tuffaceous) with the wisps (relict bedding) @ 70°. 2-5% pyrite throughout as patches and veinlets, locally heavy pyrite and pyrrhotite (up to 70%).</p>			

Project

GOLDEN CROWN

Hole No.

80-2

DEPTH		ROCK TYPE	DESCRIPTION	CORE LOSS				
FROM	TO			FROM	TO	LOST		
87.0	103.0	ANDESITE (cont.)	(93.0 - 93.5)	20% pyrite plus pyrrhotite, patches and veinlets.				
			(98.0 - 98.2)	80% pyrite plus pyrrhotite.				
	103.0	END OF HOLE						
<u>ASSAYS</u>								
			<u>From</u>	<u>To</u>	<u>Length</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	
			10.4	12.0	1.6	0.020	0.04	
			93.0	93.5	0.5	0.005	0.02	

MUNDEE MINES LTD.

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Coord. 5160 N  
4725 E

Length: 109.7 m

Project : GOLDEN CROWN

Hole No.: 80-3

Date: Sept., 1980

Elev. 1350.5 (approx.) Azimuth: 0°(Mine)

Location: South of Golden Crown Shaft

Logged By: CRS, G.K.

Core Size BQ

Dip: -62°

Purpose: Explore G.C. vein

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	4.3	CAŠING				
4.3	71.3	ANDESITE	<p>Medium to dark green, some lighter greens and green-greys; hard, competent core (generally), mostly fine grained with locally medium grained sections; minor jointing and fracturing; contains patches of epidote and silica alteration; minor opaque white calcite.</p> <p>( 4.3 - 7.4) Broken and blocky core.</p> <p>( 9.4 - 10.9) Broken, some limonite staining on fractures; 1 cm quartz vein @ 30° @ 10.9, vuggy.</p> <p>(16.5 - 17.5) Pale grey, silicified andesite containing some white quartz veining with pyrite, chalcopyrite and minor galena, veins @ 30°, vuggy; some sections rusty; last 0.1 m broken and rubbly, rusty, possible fault; contacts reasonably definite. This appears to be a fault with related alteration above.</p> <p>(27.5 - 29.0) Pale greyish green, 'dioritic andesite', exhibits a diffuse granular texture, contains a few narrow (2-5 mm) quartz veins @ 20°-45°.</p> <p>(33.1 - 33.7) Epidote and chlorite as tightly-healed crackling, local minor pyrrhotite, trace of chalcopyrite.</p> <p>(38.7 - 40.1) Medium grained, pale greenish grey 'dioritic andesite', contacts very gradational.</p> <p>(45.1 - 47.6) As 38.7-40.1.</p> <p>(52.8 - 53.4) Mixed dark to light greens, contains serpentine, epidote, probably some quartz (near 53.4); appears to be weak shearing @ 30°; minor pyrite and even less chalcopyrite; contacts slightly arbitrary.</p> <p>(54.0 - 54.9) Light grey with very pale greenish tint; primarily quartz (silicification) with some dark green blorite and minor lighter green dpidote; contacts reasonably sharp @ 45°.</p>			

Project

GOLDEN CROWN

Hole No.

80-3



DEPTH		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
4.3	71.3	ANDESITE (cont.)	<p>(56.5 - 62.2) Silicified, mineralized zone in the andesite section, remnant material is andesitic but is only a small portion of this section. General rock color is pale grey, hard, core quite competent.</p> <p>(57.2 - 58.0) Contains 10% pyrite and pyrrhotite except 80% @ 57.7-57.85, trend @ 40°-60°; 3 cm white quartz vein @ 40° @ 57.7; sulphides are medium grained.</p> <p>(58.8 - 59.8) Some fracturing and veining at low angles, veining is sulphide (pyrite and chalcopyrite) and whitish quartz; contacts of zone are somewhat arbitrary.</p> <p>(59.8 - 61.6) Massive sulphides (70%), composed of about equal proportions of pyrite and pyrrhotite and 2-3% chalcopyrite in somewhat local concentrations.</p> <p>(65.1 - 65.8) Heavy silica (whitish) and epidote alteration; rather indefinite contacts.</p>			
71.3	83.8	DIORITE	Medium to pale grey, very competent, hard, diffuse medium grained texture, very little jointing; fine quartz and carbonate stringers and local small patches; medium crystalline pyrite as local patches aggregating approx. 5%. Contact @ 83.8 @ 35°-40°. Possible gougey material @ 83.5.			
83.8	109.7	SERPENTINITE	<p>Dark green, soft, generally broken, very fine grained, typical serpentinite shearing. Locally a few altered feldspar (?) grains.</p> <p>(83.8 - 84.3) Pale green crackled texture; possibly healed fault.</p> <p>(84.3 - 87.9) Less broken, more competent core, a few fine quartz strings, also calcite.</p>			
	109.7	END OF HOLE				

Project GOLDEN CROWN Hole No. 80-3 Page 2

DEPTH		ROCK TYPE	DESCRIPTION						CORE LOSS		
FROM	TO								FROM	TO	LOST
<u>ASSAYS</u>											
			<u>From</u>	<u>To</u>	<u>Length</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	<u>Cu (%)</u>	<u>Pb (%)</u>		
			16.5	17.5	1.0	0.020	0.25	0.41	<0.01		
			57.2	58.0	0.8	0.052	0.13	0.31	--		
			58.0	58.8	0.8	<0.003	0.01	--	--		
			58.8	59.8	1.0	0.076	0.60	1.69	--		
			59.8	60.7	0.9	0.126	0.74	1.05	--		
			60.7	61.6	0.9	0.318	1.52	2.92	--		
			76.8	77.7	0.9	0.038	0.04	--	--		

Mundee Mines Ltd.

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Coord. 5155 N  
4750 E  
Elev. 1350 m  
Core Size BQ

Length: 64.4 m      Project : GOLDEN CROWN  
Azimuth: 0° (Mine)      Location: South of Golden Crown Shaft  
Dip: -47°      Purpose: Explore Golden Crown vein

Hole No.: 80-4  
Date: Sept., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS												
FROM	TO			FROM	TO	LOST										
0	2.7	CASING														
2.7	55.1	ANDESITE	<p>Medium green, with grey-green and pale green sections, hard, competent rock; very fine grained with occasional fragmental (tuffaceous) textures; poorly jointed. Moderately chloritized, silicified in places, patches and veinlets of quartz epidote and calcite, minor pyrite.</p> <p>( 2.7 - 15.7) Very broken and blocky, variable grain size and texture. (6.8 - 7.5) 5% pyrite as patches and veinlets. 13.7 Core loss, up to 0.5 m, fault.</p> <p>(15.7 - 23.0) Moderately broken.</p>													
55.1	56.3	DIORITE	<p>Medium grey, hard, competent, medium grained, poorly jointed with 0.1 m zones of strongly silicified material at either contact.</p>													
56.3	64.4	ANDESITE	<p>As 2.7 - 55.1. (61.9 - 64.4) Heavily veined and altered with chlorite and epidote, minor quartz and calcite. Texture suggestive of a fragmental (tuffaceous) origin.</p>													
	64.4	END OF HOLE														
<p>Note: Hole broke into stope or raise below 30-metre level of Golden Crown mine.</p>																
<p><u>ASSAYS</u></p>																
			<table border="1"> <thead> <tr> <th>From</th> <th>To</th> <th>Length</th> <th>Au (oz./ton)</th> <th>Ag (oz./ton)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">6.8</td> <td style="text-align: center;">7.5</td> <td style="text-align: center;">0.7</td> <td style="text-align: center;">&lt;0.003</td> <td style="text-align: center;">0.02</td> </tr> </tbody> </table>	From	To	Length	Au (oz./ton)	Ag (oz./ton)	6.8	7.5	0.7	<0.003	0.02			
From	To	Length	Au (oz./ton)	Ag (oz./ton)												
6.8	7.5	0.7	<0.003	0.02												

Project

GOLDEN CROWN

Hole No.

80-4

Mundee Mines Ltd.

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Coord. 5155 N  
4750 E  
Elev. 1350 m  
Core Size BQ

Length: 108.9 m Project: GOLDEN CROWN  
Azimuth: 0° (Mine) Location: South of Golden Crown shaft  
Dip: -62° Purpose: Explore Golden Crown vein

Hole No.: 80-5  
Date: Sept., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS														
FROM	TO			FROM	TO	LOST												
0	2.1	CASING																
2.1	75.6	ANDESITE	<p>Medium green, hard, competent, fine grained throughout, some jointing, faulting; well chloritized with abundant silica-epidote-calcite alteration as patches and veinlets, irregular distribution, minor pyrite. Interpreted to be almost entirely lava.</p> <p>( 2.1 - 4.6) Very broken and blocky. (27.0 - 28.1) Very broken and rubbly; fault? (66.0 - 66.7) Heavily silicified plus 5% pyrite in patches, minor chalcopyrite.</p>															
75.6	79.6	DIORITE	<p>Medium grey, hard, competent, medium grained, little jointing, 1-2% pyrite scattered throughout as patches, some quartz-calcite patches; upper contact indefinite, lower contact well defined.</p>															
79.6	83.7	SERPENTINITE	<p>Pale to dark green, soft, broken, fine grained, well jointed, strongly sheared; heavily altered to talc and possibly amphibole plus epidote, criss crossed with veinlets of quartz and calcite. Lower contact gradational.</p>															
83.7	101.4	ANDESITE	<p>Medium green mottled with pale green (epidote) and whitish (feldspar), competent, hard, fine to coarse grained, poorly jointed. Moderately chloritized with a striking mottled and patched texture which is interpreted to be tuffaceous. In places wispy texture @ 30°; this is likely to be relict bedding. Some coarse epidote fragments are present with many coarse hornblende and feldspar grains.</p>															
101.4	108.9	SERPENTINITE	<p>Dark green, very broken, soft, very fine grained, well jointed with minor shear planes, minor quartz and calcite veinlets.</p>															
	108.9	END OF HOLE																
			ASSAYS															
			<table border="0"> <tr> <td style="text-align: center;"><u>From</u></td> <td style="text-align: center;"><u>To</u></td> <td style="text-align: center;"><u>Length</u></td> <td style="text-align: center;"><u>Au (oz./ton)</u></td> <td style="text-align: center;"><u>Ag (oz./ton)</u></td> <td style="text-align: center;"><u>Cu (%)</u></td> </tr> <tr> <td style="text-align: center;">66.0</td> <td style="text-align: center;">66.7</td> <td style="text-align: center;">0.7</td> <td style="text-align: center;">0.080</td> <td style="text-align: center;">0.12</td> <td style="text-align: center;">0.16</td> </tr> </table>	<u>From</u>	<u>To</u>	<u>Length</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	<u>Cu (%)</u>	66.0	66.7	0.7	0.080	0.12	0.16			
<u>From</u>	<u>To</u>	<u>Length</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	<u>Cu (%)</u>													
66.0	66.7	0.7	0.080	0.12	0.16													

Project

GOLDEN CROWN

Hole No

80-5

Mundee Mines Ltd.

Coord. 5132.5 N  
4805.5 E  
Elev. 1358 m  
Core Size BQ

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Length: 121.3 m Project: GOLDEN CROWN  
Azimuth: 0° (Mine) Location: South of Golden Crown Shaft  
Dip: -50° Purpose: Explore Golden Crown Vein

Hole No.: 80-6  
Date: Sept., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	2.4	CASING				
2.4	54.2	ANDESITE	Medium green, locally grey-green, hard, generally competent, fine to medium grained, some jointing, little faulting, dominantly lava with local wispy tuffaceous textures. Some silica-epidote alteration, some quartz, calcite veinlets. (2.4 - 12.3) Moderately broken, blocky. (17.2 - 17.4) Broken and blocky. (52.8 - 54.2) Pale grey, heavily silicified, some quartz veins.			
54.2	65.0	DIORITE	Medium grey, hard, competent, medium grained, locally fine grained. Many quartz and calcite veinlets at all angles, upper contact reasonably well defined, lower contact indefinite. (61.8 - 62.5) Broken and blocky.			
65.0	101.1	ANDESITE	Grey-green and medium green, hard, competent, fine and medium grained lavas and tuffs, little jointing. Textures quite variable, some wispy, some fragmental, some choritic; much silica veining and alteration, some epidote and calcite veinlets, some pyrite as wisps and patches. (71.8 - 77.4) 'Dioritic andesite': fine to medium grained, greenish grey. (78.4 - 78.7) Quartz veining occupies 60% of rock with 10% pyrite plus chalcopryrite. (79.1 - 81.2) As 71.8 - 77.4.			
101.1	107.5	DACITE	Medium grey, grey-green, hard, competent, fine grained, little jointing, generally wispy tuffaceous textures @ 35°; silica-epidote alteration, some quartz and calcite veinlets. Contacts indefinite.			
107.5	121.3	ANDESITE	Medium green to grey-green, hard, competent, fine grained, some jointing, little silica-epidote alteration, some quartz and calcite veinlets.			

Project

GOLDEN CROWN

Hole No.

80-6

DEPTH		ROCK TYPE	DESCRIPTION	CORE LOSS				
FROM	TO			FROM	TO	LOST		
107.5	121.3	ANDESITE (cont.)	(107.5 - 110.9) Wispy tuffaceous textures. (118.0 - 119.3) 'Dioritic andesite': medium green, medium grained, contacts indefinite.					
	121.3	END OF HOLE						
<u>ASSAYS</u>								
			<u>From</u>	<u>To</u>	<u>Length</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	<u>Cu (%)</u>
			78.4	78.7	0.3	0.058	0.04	0.41

Project GOLDEN CROWN Hole No. 80-6 Page 2

Mundee Mines Ltd.

Coord. 5110 N  
4900 E  
Elev. 1359.5 m  
Core Size BQ

**DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.**  
Length: 106.1 Project : GOLDEN CROWN  
Azimuth: 000° (Mine) Location: East of Golden Crown Workings  
Dip: -50° Purpose: Explore extension of Golden Crown

Hole No.: 80-7  
Date: Oct., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	4.3	CASING				
4.3	32.6	ANDESITE	Dark green, light green, grey-green and medium green; hard, competent; fine to medium grained, poorly jointed; tuffaceous with some fragmental and wispy textures. Abundant but localized epidote, chlorite, calcite and quartz alteration and veining. ( 4.3 - 4.9) Very broken. 13.1 Hard, 3 cm quartz-pyrrhotite vein @ 40°. (22.9 - 23.4) Some talc shears.			
32.6	43.2	DIORITE	Medium grey, hard, competent, medium grained, poorly jointed, some calcite veining.			
43.2	106.1	ANDESITE	Medium green-grey, green, hard, competent, fine to medium grained, well jointed. Some silica-epidote alteration, some quartz-calcite veins. Pyrite, pyrrhotite and chalcopyrite as veins, veinlets and patches. (49.8 - 53.6) Silicification and quartz veining with 5% pyrite, as veinlets. (61.4 - 68.3) 2-3% pyrite disseminated and as patches. (68.3 - 70.6) Silicification with 4-5% pyrite as patches. (79.1 - 79.6) 5% sulphides; pyrite and pyrrhotite as patches. (83.1 - 84.5) 15% sulphides as veins and veinlets; pyrrhotite, pyrite and quartz. (84.5 - 89.2) 2-3% pyrite as veinlets, patches; silicification. (93.2 - 94.0) Massive pyrrhotite, minor pyrite, chalcopyrite, quartz @ 60°. (94.0 - 95.4) 5% pyrrhotite, pyrite, chalcopyrite as veins and veinlets. 94.7 10 cm pyrrhotite vein. (98.6 -102.2) 5% pyrrhotite and pyrite as veins, veinlets; silicification. (103.5-106.1) Mottled tuffaceous texture.			
	106.1	END OF HOLE				

Project GOLDEN CROWN  
Hole No. 80-7

DEPTH		ROCK TYPE	DESCRIPTION	CORE LOSS							
FROM	TO			FROM	TO	LOST					
<u>ASSAYS</u>											
			<u>From</u>	<u>To</u>	<u>Width</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	<u>Cu(%)</u>			
			49.8	53.6	3.8	0.006	0.03	--			
			68.3	69.5	1.2	0.006	0.02	--			
			79.1	79.6	0.5	0.003	0.01	--			
			83.1	84.5	1.4	0.024	0.28	0.63			
			84.5	86.5	2.0	<0.003	0.01	--			
			93.2	95.4	2.2	<0.003	0.01	--			
			98.6	99.6	1.0	<0.003	0.02	0.04			
			99.6	100.6	1.0	0.042	0.08	--			



Mundee Mines Ltd.

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Coord. 5160 N  
4900 E  
Elev. 1356 m  
Core Size BQ

Length: 112.2 m    Project : GOLDEN CROWN  
Azimuth: 000° (Mine)    Location: East of MacArthur Shaft  
Dip: -50°    Purpose: Explore SE of Golden Crown

Hole No.: 80-8  
Date: Oct., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS				
FROM	TO			FROM	TO	LOST		
0	4.3	CASING						
4.3	32.4	ANDESITE	Dark green, medium green, grey-green, hard, competent, fine to medium grained, poorly jointed; some silicification and epidote alteration; quartz-sulphide veins and minor calcite veinlets. ( 4.3 - 5.5) Very broken. (12.1 - 12.8) 5% pyrite and pyrrhotite as veinlets, with quartz. (12.8 - 13.6) 50% quartz as veins and patches with 10% sulphides; pyrrhotite, minor pyrite, chalcopyrite as veinlets and patches. (13.4 - 13.8) Massive, pyrrhotite @ 60°. (22.3 - 26.4) Dioritic andesite - medium green, pale green, with white porphyritic feldspar grains.					
32.4	47.1	DIORITE	Medium grey, hard, competent, medium to fine grained, poorly jointed; minor quartz, calcite, pyrite veinlets.					
47.1	112.2	ANDESITE	Medium to dark green, grey-green, hard, competent, fine to medium grained, poorly jointed; widespread but localized epidote alteration, silicification; minor quartz, calcite and talc veinlets; minor pyrite as veinlets; probably tuffaceous in part.					
	112.2	END OF HOLE						
<u>ASSAYS</u>								
			From	To	Width	Au (oz./ton)	Ag (oz./ton)	Cu(%)
			12.1	12.8	0.7	0.060	0.04	--
			12.8	13.6	0.8	0.102	0.06	0.19

Project GOLDEN CROWN

Hole No. 80-8

Mundee Mines Ltd.

Coord. 5223 N  
4901.5 E  
Elev. 1355 m  
Core Size BQ

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.  
Length: 106.1 Project : GOLDEN CROWN  
Azimuth: 000° (Mine) Location: Southeast of Golden Crown  
Dip: -50° Purpose: Exploration

Hole No.: 80-9  
Date: Oct., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS				
FROM	TO			FROM	TO	LOST		
0	1.6	CASING						
1.6	106.1	ANDESITE	<p>Medium green, dark green, grey-green, hard, competent, fine to medium grained, poorly jointed. Some epidote alteration and silicification; some quartz, calcite, pyrite, pyrrhotite veins, veinlets and patches.</p> <p>( 1.6 - 8.5) Broken.</p> <p>(12.4 - 14.7) Pyrite veinlets (1-2 mm) @ 70°.</p> <p>(19.0 - 19.2) Calcite vein @ 40°.</p> <p>(53.3 -106.1) 1-2% pyrite as veinlets.</p> <p>(61.4 - 65.3) Brownish grey dacite; possibly a silicified andesite.</p> <p>67.5 2 cm quartz-pyrite vein @ 35°.</p> <p>72.7 3 cm quartz-pyrite vein @ 35°.</p> <p>(84.9 - 85.1) Quartz, pyrite, minor chalcopyrite as patches.</p> <p>89.3 3 cm patch of pyrite and epidote.</p>					
	106.1	END OF HOLE						
<u>ASSAYS</u>								
			<u>From</u>	<u>To</u>	<u>Width</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	<u>Cu(%)</u>
			84.9	85.2	0.3	0.005	0.03	--

Project

GOLDEN CROWN

Hole No.

80-9

Mundee Mines Ltd.

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Coord. 5062 N  
4895 E  
Elev. 1367.5 m  
Core Size B.Q.

Length: 93.8  
Azimuth: 0° (Mine)  
Dip: -50°  
Project: GOLDEN CROWN  
Location: Between Golden Crown and Winnipeg  
Purpose: General exploration across section  
49+00 E

Hole No.: 80-10  
Date: Oct., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	6.7	CASING				
3.0	16.0	ANDESITE	Dark green, grey-green, pale green; hard, competent, fine to medium grained, poorly jointed. Some silica and epidote alteration, calcite and quartz veinlets. (3.0 - 11.8) Broken.			
16.0	26.5	DIORITE	Medium grey, hard, competent, medium to fine grained, poorly jointed, some silica and epidote alteration, some quartz veining with pyrite and chalcopyrite. Minor calcite veinlets; could possibly be volcanic. Upper contact sheared, probably a fault; lower contact gradational. (18.6 - 19.5) Quartz veining, pyrite and chalcopyrite. (26.1 - 26.4) As 18.6-19.5.			
26.5	56.1	ANDESITE	Grey-green, medium green, hard, competent, fine to medium grained, poorly jointed. Widespread but localised silica and epidote alteration. Quartz, calcite, talc and pyrite (0-2%) veinlets. (26.5 - 32.8) Silicified, brownish hue to rock, 2-3% pyrite with quartz veining. (30.1 - 30.8) Hard, pyrrhotite, pyrite, chalcopyrite vein @ 70°.			
56.1	62.1	DIORITE	Medium grey, light grey, hard, competent, medium grained, poorly jointed. Shadowy texture except in a few places where the texture is granitic. Minor quartz-calcite veinlets.			
62.1	93.8	ANDESITE	Medium to dark green, hard competent, fine to medium grained, poorly jointed. Chloritized, plentiful silica-epidote alteration, some quartz, calcite veinlets. Wispy and fragmental texture, tuffaceous.			
	93.8	END OF HOLE				

Project — GOLDEN CROWN — Hole No. — 80-10

DEPTH		ROCK TYPE	DESCRIPTION				CORE LOSS		
FROM	TO						FROM	TO	LOST
<u>ASSAYS</u>									
			<u>From</u>	<u>To</u>	<u>Width</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	<u>Cu (%)</u>	
			18.6	19.5	0.9	0.184	0.10	0.10	
			26.1	26.4	0.3	0.072	1.05	1.66	
			29.1	30.1	1.0	<0.003	0.04	--	
			30.1	30.8	0.7	0.218	2.30	4.33	

Mundee Mines Ltd.

Coord. 5024 N  
4900 E  
Elev. 1376 m  
Core Size B.Q.

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.  
Length: 102.4 m Project : GOLDEN CROWN  
Azimuth: 0°(Mine) Location: Between Golden Crown and Winnipeg  
Dip: -50° Purpose: General exploration across property

Hole No.: 80-11  
Date: Oct., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	4.0	CASING				
4.0	28.2	ANDESITE	<p>Medium green, soft, fine to medium grained, well-jointed. Plentiful chlorite, epidote, silica alteration and quartz, calcite and pyrite veinlets obscuring the original nature of the rock in some places.</p> <p>( 4.0 - 5.0) Broken. (16.4 - 20.0) (Arbitrary measurements.) Heavily chloritized and very finely laced with calcite and quartz veining, well fractured and heavily stained with hematite. (24.4 - 24.7) (Arbitrary limits) 1% chalcopyrite, minor pyrrhotite in quartz veining. (26.8 - 28.2) Broken, very soft, largely calcite and chlorite.</p>			
28.2	48.1	DIORITE	<p>Medium grey, hard, competent, medium to fine grained, moderately jointed. Contacts definite. Some calcite, quartz, and talc veinlets. Texture shadowy, in places granitic.</p> <p>(28.2 - 30.1) Very fine grained; possibly volcanic but looks like a chilled margin.</p>			
48.1	83.5	ANDESITE	<p>Medium green, hard, competent, fine grained, poorly jointed. Moderately chloritized, minor silicification, minor quartz, calcite, talc and pyrite veinlets.</p> <p>(83.4 - 83.5) 5% disseminated pyrrhotite.</p>			
83.5	102.4	SERPENTINITE	<p>Dark green to light green where altered, soft, incompetent, fine to medium grained, plentiful minor shearing. Locally heavy alteration to pale green serpentine, calcite and talc.</p> <p>(83.5 - 84.0) 60% streaky pyrrhotite, 5% pyrite. (84.0 - 86.6) Extreme alteration to pale green serpentine, calcite and talc.</p>			
	102.4	END OF HOLE				

Project

GOLDEN CROWN

Hole No.

80-11

DEPTH		ROCK TYPE	DESCRIPTION	CORE LOSS								
FROM	TO			FROM	TO	LOST						
<u>ASSAYS</u>												
			<u>From</u>	<u>To</u>	<u>Length</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	<u>Cu(%)</u>	<u>Ni</u>			
			24.3	24.8	0.5	0.050	0.09	0.43	--			
			31.1	31.6	0.5	0.012	0.11	--	--			
			83.3	84.1	0.8	0.357	0.28	0.28	0.09			

Project GOLDEN CROWN Hole No. 80-11 Page 2

Mundee Mines Ltd.

Coord. 5102 N  
4871.5 E  
Elev. 1361 m  
Core Size B.Q.

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.  
Length: 124.5 Project : GOLDEN CROWN  
Azimuth: 0° (Mine) Location: East of MacArthur shaft  
Dip: -50° Purpose: Explore possible vein zone

Hole No.: 80-12  
Date: Oct., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	5.7	CASING				
5.7	16.4	ANDESITE	Medium green, hard, competent, fine to medium grained, poorly jointed. Some silica and epidote alteration, quartz-calcite veinlets and a hard sulphide vein. ( 5.7 - 6.0) Broken. ( 7.1 - 8.2) Hard pyrrhotite-pyrite vein @ 60°, 70% total sulphides, patchy texture.			
16.4	22.2	DIORITE	Medium grey to grey-green, hard, competent, medium grained, moderately jointed. Some calcite, quartz and chlorite veinlets; texture generally shadowy, in places granitic; contacts indefinite.			
22.2	45.8	ANDESITE	Medium green, hard, competent, fine to medium grained, poorly jointed; extensive but localized silica-epidote alteration; calcite and quartz veins and veinlets with minor pyrite.			
45.8	58.8	DIORITE	Medium grey, hard, competent, medium to fine grained. Poorly jointed, some calcite, quartz and minor pyrite veining. Texture granitic, locally shadowy. Contacts definite.			
58.8	65.7	ANDESITE	As 22.2-45.8. (64.6 - 65.0) Diorite.			
65.7	73.0	DIORITE	Medium grey, hard, competent, medium to fine grained, poorly jointed. Some calcite, quartz and minor pyrite veining. Texture granitic in places, shadowy in places. Contacts indefinite. (71.0 - 71.1) Fine grained, andesitic dyke @ 75°.			
73.0	124.5	ANDESITE	Medium green, hard, competent, fine to medium grained, poorly jointed. Moderately chloritized, some silica-epidote alteration. Some calcite, quartz and talc veins. Pyrite and pyrrhotite as patches and veinlets.			

Project

GOLDEN CROWN

Hole No.

80-12

DEPTH		ROCK TYPE	DESCRIPTION	CORE LOSS				
FROM	TO			FROM	TO	LOST		
73.0	124.5	ANDESITE (cont.)	(78.5 - 78.7) Talc veinlets; broken. (93.0 -106.5) 5% pyrite and pyrrhotite as veins and veinlets, minor quartz veinlets and minor silicification. ( 95.4- 95.7) Massive pyrrhotite, minor pyrite, chalcopyrite. (105.7-106.0) As 95.4-95.7. (105.9-106.0) Pyrrhotite, coarse (2-3 mm), lighter in colour.					
	124.5	END OF HOLE						
<u>ASSAYS</u>								
			<u>From</u>	<u>To</u>	<u>Length</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	<u>Ni(%)</u>
			7.1	8.2	1.1	0.020	0.22	--
			95.4	95.7	0.3	0.028	0.07	--
			95.7	96.4	0.7	0.014	0.02	--
			104.7	105.7	1.0	0.005	0.04	--
			105.7	106.0	0.3	0.210	0.11	<0.01



Mundee Mines Ltd.

Coord. 5106 N  
5000 E  
Elev. 1357 m  
Core Size B.Q.

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.  
Length: 62.3 Project : GOLDEN CROWN  
Azimuth: 0°(Mine) Location: South of Winnipeg shaft  
Dip: -50° Purpose: Explore Winnipeg zone

Hole No.: 80-13  
Date: Oct., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS			
FROM	TO			FROM	TO	LOST	
0	3.4	CASING					
3.4	62.3	DIORITE	<p>Pale to medium green, hard, competent, coarse grained with many fine to medium grained sections. Moderately jointed, minor faulting. The rock consists of pale cream feldspars (albite) and euhedral hornblendes, some of which are altered to chlorite and epidote. The proportions of hornblende and feldspar vary greatly; overall the proportions are approximately equal. The texture is quite variable; in colour and alteration the rock is akin to the andesites. Quartz, epidote, chlorite and minor calcite veining, patchy areas of silica and epidote alteration.</p> <p>( 3.4 - 5.3) Broken. (52.0) 0.1 m patch of streaky pyrite. (58.4 - 62.3) 2-3% pyrite as patches and veinlets in a dark green chloritic fine grained rock.</p>				
	62.3	END OF HOLE					
<p>Note: Hole broke into underground working in Winnipeg mine.</p>							
<u>ASSAYS</u>							
			<u>From</u>	<u>To</u>	<u>Length</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>
			61.2	62.3	1.1	0.003	0.02

Project

GOLDEN CROWN

Hole No.

80-13

Mundee Mines Ltd.

Coord. 5129 N  
4852.5 E  
Elev. 1359 m  
Core Size B.Q.

Length: 93.9  
Azimuth: 0°  
Dip: -60°

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Project : GOLDEN CROWN  
Location: South of MacArthur shaft  
Purpose: Explore possible vein zone

Hole No.: 80-14  
Date: Oct., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	5.8	CASING				
5.8	24.3	DIORITE	<p>Medium grey-green, hard, competent, medium grained, locally fine grained, poorly jointed. Shadowy texture throughout, could possibly be volcanic. Little alteration, minor quartz, calcite and sulphide veinlets.</p> <p>( 5.8 - 6.3) Very broken and rubbly. ( 6.3 - 9.8) Broken. (10.1 - 11.8) Andesitic, fine grained, hard.</p>			
24.3	40.5	ANDESITE	<p>Medium green, grey-green, hard, competent, fine to medium grained, poorly jointed. Strong but localized silica-epidote alteration. Plentiful epidote, quartz and calcite veining. Texture variable. Patches and veins of pyrrhotite and pyrite.</p> <p>(36.4 - 37.2) Pyrrhotite, pyrite, quartz and chlorite veining @ 30°. Total sulphides 20% of rock. In places vuggy. True width 0.4 m.</p>			
40.5	45.6	DIORITE	<p>Medium green, medium grey, hard, competent, medium to fine grained, poorly jointed. Texture shadowy to granitic. Little alteration, minor quartz and calcite veinlets.</p> <p>(40.5 - 42.7) Medium green, whitish feldspars, porphyritic. (42.7 - 45.6) Medium grey, shadowy texture.</p>			
45.6	93.9	ANDESITE	<p>Medium green, grey-green, hard, competent, fine to medium grained, poorly jointed. Strong but localized silica-epidote alteration. Plentiful epidote, quartz and calcite veining. Texture variable, in places wispy and tuffaceous. Patches and veins of pyrrhotite and pyrite.</p> <p>(48.1 - 48.2) Patchy pyrrhotite and pyrite, 10% of core. (50.5 - 50.6) Massive, hard pyrrhotite, pyrite and quartz vein @ 45°. (51.3 - 52.5) Dioritic, medium grained, grey.</p>			

Project

GOLDEN CROWN

Hole No.

80-14

DEPTH		ROCK TYPE	DESCRIPTION	CORE LOSS				
FROM	TO			FROM	TO	LOST		
45.6	93.9	ANDESITE (cont.)	(66.4 - 70.0)	Wispy and fragmental tuffaceous texture. Layering @ 70° approximately.				
			(78.6 - 79.7)	Patchy pyrrhotite, pyrite and quartz totalling 15% of core. (78.6-78.7), (79.0-79.2), (79.6-79.7) vein material totals 80% of core.				
			(80.9 - 81.0)	Patchy pyrrhotite and pyrite totalling 20% of core.				
			(86.8 - 87.1)	Massive pyrrhotite, pyrite, chalcopyrite vein @ 60°.				
	93.9	END OF HOLE						
<u>ASSAYS</u>								
			<u>From</u>	<u>To</u>	<u>Length</u>	<u>Au (oz./ton)</u>	<u>Ag (oz./ton)</u>	<u>Cu (%)</u>
			36.4	37.2	0.8	0.016	0.10	0.09
			78.6	79.7	1.1	0.010	0.05	0.10
			86.8	87.1	0.3	0.544	2.47	4.73

Mundee Mines Ltd.

Coord. 5134 N  
4925 E  
Elev. 1356 m  
Core Size B.Q.

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.  
Length: 109.1 Project : GOLDEN CROWN  
Azimuth: 0°(Mine) Location: East of Winnipeg shaft  
Dip: -50° Purpose: Explore for extensions to  
intersection in 80-7

Hole No.: 80-15  
Date: Oct., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	2.1	CASING				
2.1	35.1	ANDESITE	<p>Medium green, grey-green, hard, competent, fine grained, poorly jointed. Strong but localized epidote alteration and veining. Abundant silicification giving the rock a mottled greyish colour. Some quartz and calcite veins, minor pyrite as veinlets and patches.</p> <p>( 2.1 - 2.3) Broken.</p> <p>( 3.5 - 3.8) Epidote alteration, fragmental layered texture @ 60°, tuffaceous.</p> <p>(23.0 - 35.1) Mottled greyish colour due to pervasive silicification, cut by tiny veinlets of chlorite and tiny patches and veinlets of pyrite up to 1%.</p>			
35.1	51.9	DIORITE	<p>Medium grey to grey-green, hard, competent, medium to fine grained, poorly jointed. Quartz, calcite, pyrite and pyrrhotite veins and veinlets, sulphides also as irregular areas. Texture quite variable, in places typically dioritic, elsewhere finer grained or diffuse. Upper contact sharp @ 70°, lower contact indefinite.</p> <p>(35.1 - 41.1) Medium grey, typical diorite.</p> <p>(41.1 - 43.6) Fine grained, andesitic.</p> <p>(45.1 - 46.9) Streaky and patchy pyrite and pyrrhotite totalling 20% of the rock, tending to align @ 45°. Some quartz veining. Host rock looks andesitic but its original texture is obscured.</p> <p>(46.9 - 49.0) Medium grey diorite with shadowy texture.</p>			
51.9	69.7	ANDESITE	<p>Medium green, hard, competent, fine to medium grained, poorly jointed. Some silica, epidote and chlorite alteration, giving the rock in places a striated patchy texture, some quartz, calcite and pyrite veinlets.</p> <p>(68.2 - 68.6) Mud; start of fault zone.</p>			

Project GOLDEN CROWN

Hole No. 80-15

Project GOLDEN CROWN  
Hole No. 80-15  
Page 2

DEPTH		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
69.7	90.3	FAULT ZONE	<p>Medium to dark green rock and pale green mud, soft, incompetent, fine to medium grained andesite and serpentinite fragments, strongly sheared. Approximately 30% mud, fragments of rock display light to severe chlorite-epidote alteration with some quartz and calcite veinlets.</p> <p>(69.7 - 76.0) Lightly to heavily chloritized andesite fragments, pale to dark green, soft, streaky texture in places. Some serpentinite fragments.</p> <p>(76.0 - 87.8) Pale to dark green serpentinite sheared but only a few fragments are heavily altered.</p> <p>(87.8 - 90.3) Pale grey, soft, fine grained, sheared. Talc plus other unidentifiable white minerals, possibly feldspar. 5% pyrrhotite as flattened grains along a streaky sheared texture. Very altered sheared serpentinite, possibly silicified.</p>			
90.3	91.2	SHEARED SERPENTINITE	Pale grey, moderately hard, fine grained, poorly jointed. Talc plus other white minerals, possibly feldspar, streaky texture with epidote and silica veinlets and 2-3% pyrrhotite as flattened grains. Possibly silicified. Contacts completely gradational.			
91.2	92.4	ALTERED SERPENTINITE	Medium to dark grey-green, hard, competent, fine to medium grained, moderately jointed. Consists of serpentine, feldspar and chlorite; both contacts completely gradational.			
92.4	109.1	SERPENTINITE	Dark green, soft, incompetent, fine to medium grained, poorly jointed, some shearing. Some quartz and calcite veining. Streaky, sheared texture in many places.			
	109.1	END OF HOLE				
			<u>ASSAYS</u>			
			<u>From</u> <u>To</u> <u>Length</u> <u>Au (oz./ton)</u> <u>Ag (oz./ton)</u> <u>Ni (%)</u>			
			45.1    46.0    0.9    1.110    0.71    --			
			46.0    46.9    0.9    0.048    0.47    --			
			87.8    89.0    1.2    0.005    0.12    0.11			
			89.0    90.2    1.2    0.003    0.14    0.14			
			90.2    91.2    1.0    <0.003    <0.01    0.17			

Mundee Mines Ltd.

Coord. 5180 N  
4700 E  
Elev.  
Core Size BQ

DRILL RECORD — DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Length: 8.7 m      Project : GOLDEN CROWN  
Azimuth: 0°(Mine)      Location: South of Golden Crown Shaft  
Dip: -45°      Purpose: Explore Golden Crown Vein

Hole No.: 80-16  
Date: Sept., 1980  
Logged By: G.K.

DEPTH (metres)		ROCK TYPE	DESCRIPTION	CORE LOSS		
FROM	TO			FROM	TO	LOST
0	4.6	CASING				
4.6	8.7	ANDESITE	Grey-green, hard, moderately broken, medium to fine grained, some silica, epidote alteration.			
	8.7	END OF HOLE				
			Note: Hole started @ wrong dip; stopped and redrilled at correct dip as 80-1.			
			<u>ASSAYS</u>			
			No values.			

Project GOLDEN CROWN  
Hole No. 80-16

APPENDIX No. 3

QUALIFICATIONS

OF

G.M. KEYTE

STATEMENT OF QUALIFICATIONS

GEOFFREY M. KEYTE

Citizenship - Canadian

Education - Bachelor of Science (Geology), Imperial College, London, England, 1969.

Experience - Field and project geologist for a number of companies, mostly in British Columbia; a partial listing follows:

1968 (Student) - Patino Mining Company, Spain; massive sulphides.

1969-1971 - Teacher, Malawi, Central Africa.

1973 - John S. Vincent Ltd., B.C.; nickel exploration.

1974 - Atled Exploration, B.C., work on gold, copper, lead-zinc properties.

1975 - Serem Ltd., N.W.T.; lead-zinc properties.

1977 - Teck Corp. Ltd., B.C.; coal.

1978-1979 - Tournigan Mining Explorations Ltd., B.C.; work on several properties, gold-silver vein type, volcanogenic copper; also lead, zinc, barite.

1979 - Dolmage Campbell & Assoc. Ltd., B.C.; coal.



APPENDIX No. 4

STATEMENT

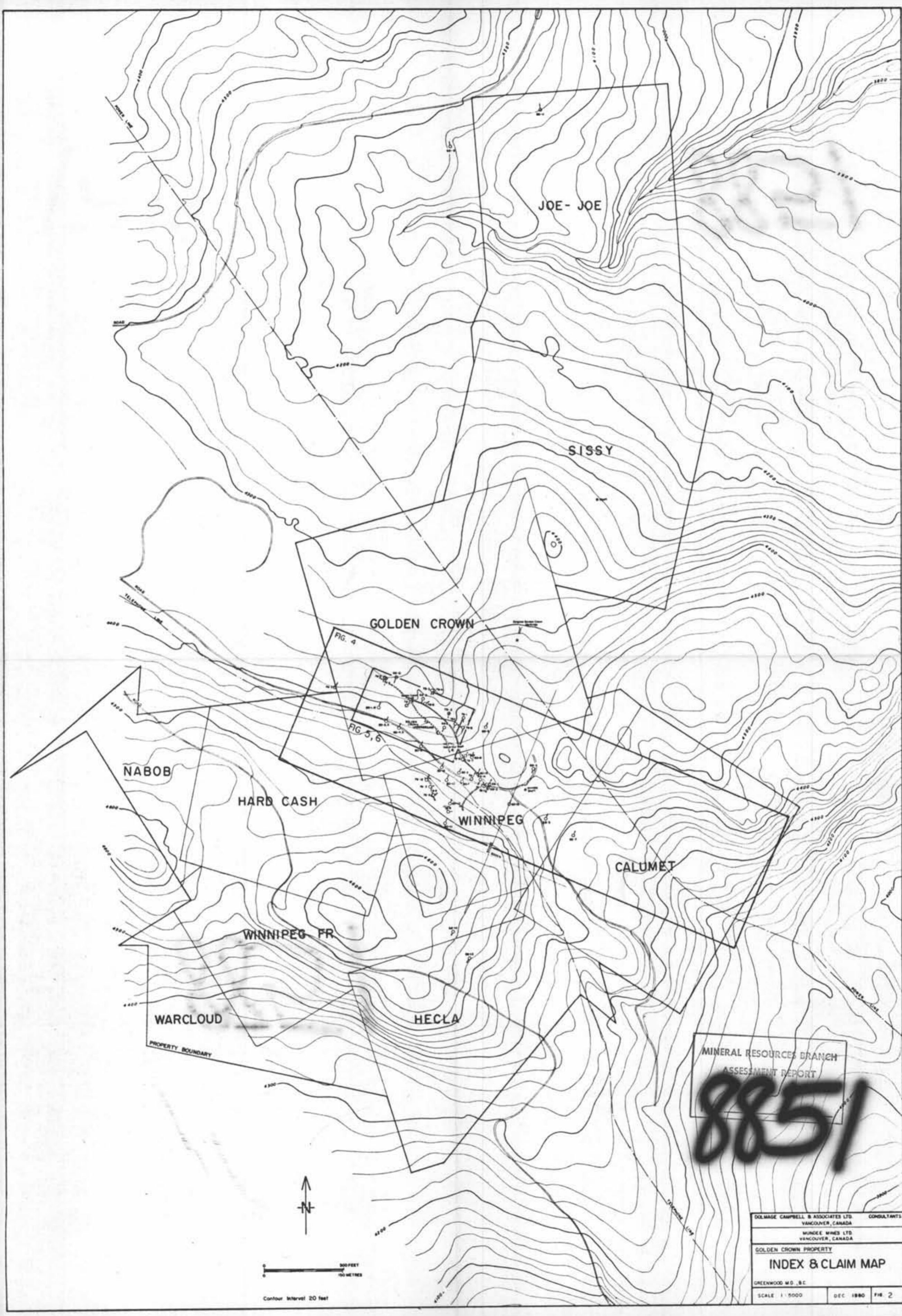
OF

COSTS

STATEMENT OF COSTS - MARCH-DECEMBER, 1980

<u>WAGES</u>			
J.L. Rotzien, Geologist	21 1/2 days @ \$225./day	\$4,837.50	
G. Keyte - Geologist	17 1/2 days @ \$225./day	3,937.50	
I. Wiebe - Helper	21 days @ \$ 80./day	1,680.00	
D. Hairsine - Helper	3 days @ \$ 75./day	<u>225.00</u>	\$10,600.
<u>MAINTENANCE</u>			
48 man days @ \$36./man day		<u>1,728.00</u>	1,700.
<u>TRANSPORTATION</u>			
Blazer - 1 month @ \$338./month		338.00	
4 x 4 - 1 month @ \$875./month		<u>875.00</u>	1,200.
<u>DRILLING, SITE PREPARATION</u>			
16 holes, 1563.6 m		104,323.23	
Site preparation		<u>500.00</u>	104,800.
<u>ASSAYING</u>			
120 samples		<u>1,209.81</u>	1,200.
<u>EQUIPMENT</u>			
Transit Rental, 1 week @ \$125./week		125.00	
Magnetometer Rental, 2 weeks @ \$125./week		<u>250.00</u>	300.
<u>SUPERVISION</u>			
C.R. Saunders, P.Eng. - 9 days @ \$300./day		<u>2,700.00</u>	2,700.
<u>REPORT</u>			
Data compilation, writing, draughting, typing, reproductions etc.		<u>3,800.00</u>	3,800.
<u>ADMINISTRATION</u>			
8% of other costs		<u>10,104.00</u>	<u>10,100.</u>
TOTAL PROJECT COSTS			<u><u>\$136,400.</u></u>

Note: Cost subtotals have been rounded down to nearest \$100.



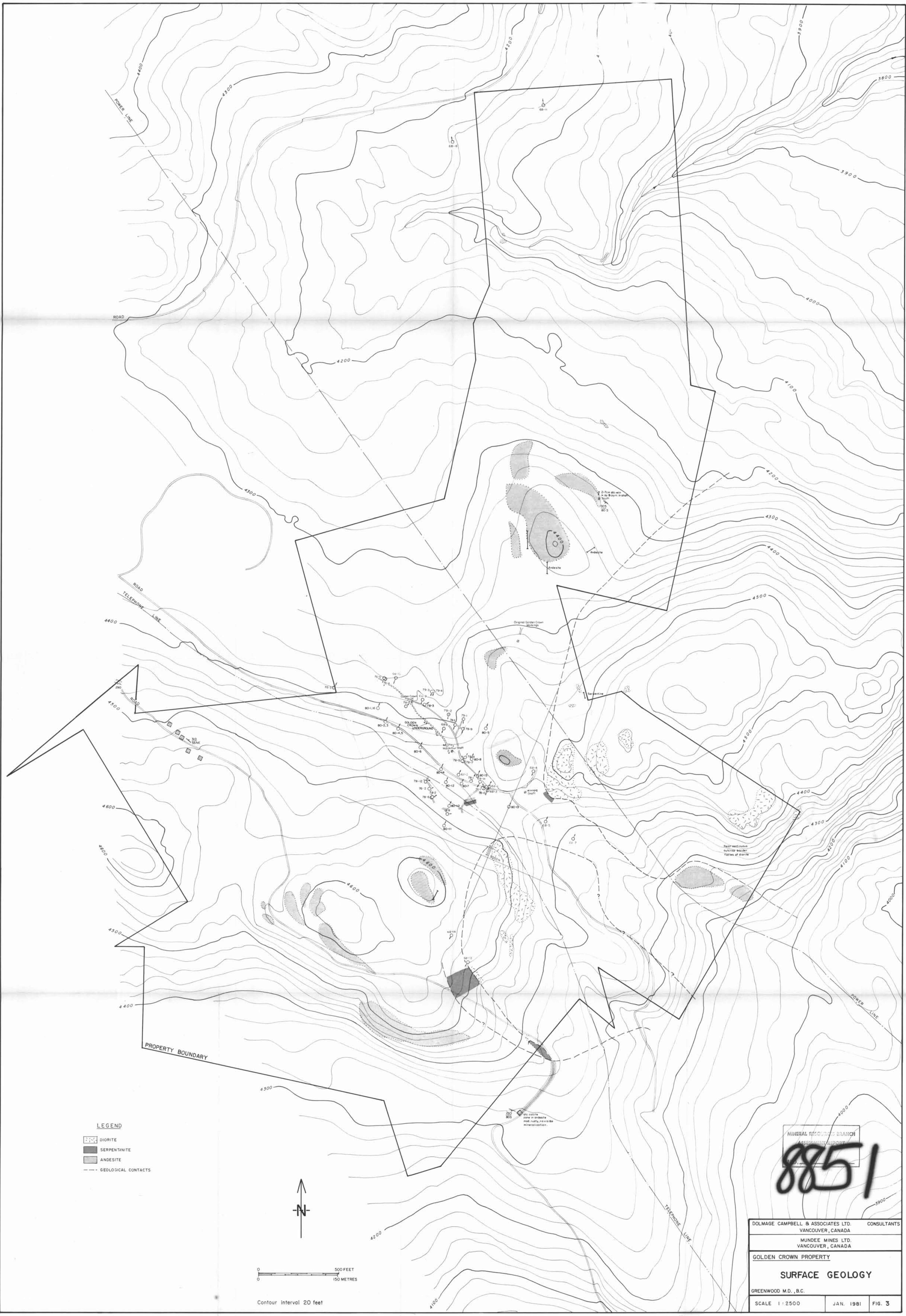
MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

**8851**

DOLMAGE CAMPBELL & ASSOCIATES LTD. VANCOUVER, CANADA		CONSULTANTS
MUNDEE MINES LTD. VANCOUVER, CANADA		
GOLDEN CROWN PROPERTY		
INDEX & CLAIM MAP		
GREENWOOD B.C.		
SCALE 1:5000	DEC 1980	FIG. 2

0 100 FEET  
0 100 METRES

Contour Interval 20 feet



**LEGEND**

- GIORITE
- SERPENTINITE
- ANDESITE
- GEOLOGICAL CONTACTS



0 500 FEET  
0 150 METRES

Contour interval 20 feet

MINERAL RESOURCES BRANCH  
ASSEMBLY/ISSUES  
**8851**

DOLMAGE CAMPBELL & ASSOCIATES LTD. VANCOUVER, CANADA		CONSULTANTS
MUNDEE MINES LTD. VANCOUVER, CANADA		
GOLDEN CROWN PROPERTY		
<b>SURFACE GEOLOGY</b>		
GREENWOOD M.D., B.C.		
SCALE 1:2500	JAN. 1981	FIG. 3