

3051

DAWOOD MINES LIMITED (NPL)

REPORT

ON

GEOLOGICAL SURVEY

Date Claims 1 to 8, 11 to 18

Situated at Aspen Grove,
Nicola Mining Division
British Columbia

Lat. 49°56'N, Long. 120°37'W

92 H / 15 W

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3051 MAP

May 6 to 10, 1971

By

R. W. Stevenson, P. Eng.

May 31, 1971

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3051 MAP

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A Location Map
v Plate No. 1 Geological Map 1" = 200' Pocket



Dawood Mines Limited (S.P.L.)

LOCATION MAP

GEOLOGICAL SURVEY ON DOTE CLAIMS 1 to 8, 11 to 18

Situated at Aspen Grove,
Nicola Mining Division
British Columbia

Scale
1 inch = 2 miles

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3051 MAP #1

INTRODUCTION

The geological survey described in this report covers most of the east half of the Dote property, and encompasses a 4000' x 4800' area east of the Merritt-Princeton Highway at Aspen Grove. The geologic mapping was done by R. W. Stevenson, P.Eng., with the field assistance of G. Davies, C. P. Archibald, and G. Kaine, in the period May 6 to 10, 1971.

The geological survey was a useful aid in the investigation of mineral potential indicated by the soil geochemical survey, magnetometer survey, and V.L.F. electromagnetic survey that had been done previously (Reference 2).

LOCATION AND ACCESS

The Dote property is situated in the Nicola Mining Division, at Latitude 49°56'N, Longitude 120°37'W, and is centered on the settlement of Aspen Grove. The geological survey area was confined to the east half of the property, which is on the east side of the highway passing through Aspen Grove.

This is on the interior plateau, and elevations range from 3500' to 4500' above sea level. Drift cover is extensive at lower elevations, but outcrop is fairly common at higher elevations. In some places, cliff areas give complete exposure over several hundred feet. Vegetation varies from grass at lower elevations to mixed grass and Douglas fir on the hills.

Access to the property was gained via a logging road that leaves Highway No. 5 about one mile north of Aspen Grove (15 miles south of Merritt). Several branch roads reach the north part of the area mapped; however, a 4-wheel drive vehicle equipped with winch was required because of steep grades and several deep mudholes.

GEOLOGICAL SURVEY

Geological Survey Field Work

The area surveyed has mixed grass and forest cover. In a few places, large, distinctively shaped clearings are easily recognizable on air photos; but in much of the survey area, the smaller outcrops are very difficult to locate on photographs. A survey grid with east-west lines 400' apart had already been established in the area to be mapped, for use in geochemical and geophysical surveys. This grid was used to control the geologic mapping. Outcrops close to grid lines were located by pace and compass relative to the nearest grid station. Outcrops between the grid lines were located by chain and compass.

The shape and position of the outcrops are shown by dashed line on the geological map. At lower elevations, the outcrops tend to be small, and are sometimes moss-covered. At higher elevations, there are large areas of complete rock exposure. The margins of some of these are broken by patches of thin soil cover. Where the rock exposure is greater than fifty percent, it is included as outcrop on the geological map.

In April of 1971, twelve percussion holes were drilled on the Dote claims. The lithology indicated by cuttings from these holes is shown on the geological map; although the cost of examining the cuttings is not included in the assessment work.

The geological survey area covers the greater part of 16 Dote mineral claims: No. 1 to 8 and 11 to 18. The extent of the mapping is indicated by the survey grid lines. Only the lines actually traversed are shown on the geologic map. Parts of claims 2, 4, 6, 8, 17, and 18 were not mapped because there seemed little possibility of finding outcrop. Parts of claims 11 and 14 were not mapped because they were beyond the limits of mineralization indicated by prior geochemical and geophysical surveys. Nevertheless, outcrop was found on all 16 of the claims within the survey area.

Geology

Regional Setting

The Dote geological survey area is underlain by Nicola volcanics, a north-south trending group of intermediate to basic

volcanics that extends from south of Princeton to north of Kamloops Lake. There are also minor amounts of associated sediments, but none of these were found in the Dote area. The Nicola Group is Upper Triassic in age. No intrusive rocks were found within the Dote survey area; although intrusive bodies frequently cut the Nicola elsewhere.

The geology of the Nicola Group is described in G. S. C. Memoirs by W.E. Cockfield and H.M.A. Rice (References 1 and 3).

Lithology

Andesite underlies most of the northern third of the map area. It is generally a medium-grained dark green volcanic. Porphyritic textures are not uncommon, with feldspar laths ranging from 1/10" to 1/4"; although the size of phenocrysts tends to be constant within any one outcrop. The porphyritic phases do not occupy any single area, and it would appear that this is a recurring feature in these andesites, rather than a single large flow. A dark grey andesite tuff occupies two restricted areas, one on claim 5, and one on claims 4 and 6. There is no bedding apparent in the tuff. Either magnetite or hematite is commonly present in the andesite and andesite porphyry, up to several percent as fine to medium-grained accessory minerals. They tend to occur separately, but in a few outcrops both minerals are present. In the andesite tuff, hematite is much more common than magnetite.

Basalt occurs in a limited area on the northeast corner of the map area. It is a dark grey-green, fine-grained volcanic. It is usually amygdaloidal in the vicinity of the two shafts on the east half of claim no. 1, but basalt outcropping 500' and 1000' west of this is lacking in amygdules. In the amygdaloidal variety, the vesicles are usually filled with chlorite, or chlorite and calcite, and occasionally with quartz. In the vicinity of mineral showings, the calcite is sometimes replaced by bornite or chalcocite. Hematite is a common accessory mineral in the basalt; magnetite is rare. Thin bands of andesite are intercalated with the basalt, as indicated by the andesite exposed in an open cut at 21+65E, 6+50S, and by the variable magnetic pattern in the same area (Reference 2, figure 3).

Dacite underlies the southern two-thirds of the map area. It is a light green, medium-grained volcanic. Hematite is a common accessory mineral, up to several percent. Magnetite is rare. Flow breccia occupy large areas within the dacite. This breccia is a distinctive rock with numerous reddish angular inclusions. These do not appear to be much different in texture or composition from the green dacite groundmass, but they have been oxidized, presumably upon exposure to the atmosphere at the surface of a blocky, viscous flow.

Structure

Except for one chilled flow contact, no primary structures were seen that could be used to determine the strike and dip of the volcanics. Nevertheless, it is believed that the rocks trend approximately N30°W and dip to the east. The flow breccia contacts are locally very irregular, but on claims 15 and 16 over a distance of 2400', the breccia has a trend of N28°W; and on claims 13 and 15 over a distance of 1200', the breccia contact has a trend of N20°W. On claim 2, at 23+10E, 2+10S, a contact between andesite and basalt is exposed intermittently for about 6' in an old road cut. The strike is N40°W, and the dip of chilled layering in the andesite is 55°NE. It would be absurd to extrapolate a single observation on a flow contact; however, an approximate boundary can be established between basalt and andesite outcrops for 550' to the southeast. This has an apparent trend of N28°W. The hillside has a slope of about 12° to the north, and if the dip is actually 55°NE, then the actual trend of this contact would be N42°W. The andesite in this area is moderately to strongly magnetic. Although individual beds cannot be traced between magnetometer survey lines, the west edge of the anomalous magnetic area has a trend of N40°W over 1000'. Thus the relationship between the various rock types may be as follows. Viscous dacite formed thick flows in the south half of map area. Thinner andesite and basalt flows accumulated in the north half of the map area. Tuff accumulated in local troughs, particularly along the north edge of the dacite mass.

Several strong north, and northeast trending structures appear on air photos. The strongest of these is a north-south linear that is crossed by line 40+00S at 12+00E, and by line 8+00S at 8+00E. The surface trace of this linear suggests that it has a steep dip to the west. Another strong linear branches from this at about the south boundary of the property, and trends N30°E passing just east of claims 1 and 2. A weaker linear is associated with cliffs in the vicinity of 8+00E, 14+00 to 20+00S.

Local areas of moderate jointing are fairly common, as shown on the geological map. There is no well defined regional pattern, but north-south is the most common trend. Two narrow, northwest shear zones were noted, one on claim 1, and one on claim 5. Careful attention was given to mapping jointing because this appears to be an important factor in localizing the higher grade mineralization.

Alteration

The most common alteration mineral is epidote. It generally occurs in disseminated grains, but sometimes forms thin veinlets along fractures. This epidote veining is characteristically associated with

the bornite-chalcocite mineralization; although epidote veining can occur without copper minerals. Three areas of intense epidote veining were noted: on claims 11, 12, and 16, as shown on the geological map. Calcite is much less common than epidote, but is more common in the copper-mineralized areas. Quartz veinlets are relatively rare, but narrow quartz veins in a trench at 12+50E, 1+15S are weakly mineralized with chalcopyrite. Bleaching occurs adjacent to mineralized fractures in basalt taken from the shaft at 22+70E, 6+60S.

Weak chloritic alteration occurs in andesite and andesite tuff in about one-third of the outcrops exposed in a 2000' x 1000' area on claim 3, the west half of claim 4, and the southeast quarter of claim 6. Hornfels alteration occurs in andesite tuff exposed by trenching at 2+10E, 0+70N.

Mineralization

Two distinct types of mineralization occur in the map area; chalcocite-bornite mineralization associated with intersecting fracture zones, and disseminated pyrite-chalcopyrite mineralization.

Chalcocite and minor bornite occur in basalt as disseminated grains, and as partial rims around calcite amygdules on the north half of claim no. 1. The best mineralization is on the dump of an 8' x 12' x 30' shaft at 22+70E, 6+60S, where there are two prominent intersecting joint sets at N15°E, 90°, and N85°E, 65°N, and a weaker joint set at N30°W, 70°NE. A composite of several rocks from the dump assayed 3.5% Cu, 1.5 oz/ton Ag, 0.001 oz/ton Au, trace cobalt. These rocks had somewhat better than average mineralization but were not the best seen. Northwest 220', at 20+85E, 5+50S, interesting mineralization occurs in a 9' x 10' x 6' shaft. There are two prominent joint sets, N05°E, 80°W, and N30°E, 90°. Lesser amounts of chalcocite occur elsewhere in the northeast quarter of the map area. Where mineralization is found, there is generally evidence of very old workings such as a small pit or an old discovery post.

Minor pyrite and malachite occur in andesite along a joint face in an open cut at 25+40E, 2+50S. A sample along 6' assayed 0.20% Cu. Minor bornite and malachite occur in andesite in a trench at 12+70E, 1+30S. About 30' northwest of this, chalcopyrite occurs in narrow quartz veins in a continuation of the same trench.

Pyrite and chalcopyrite occur in andesite tuff in the vicinity of the baseline on claims 4 and 6. Most of the sulphides are disseminated, but some occur along fractures. The mineralization tends to be discontinuous. There is considerable accompanying epidote, and some minor calcite veining. The mineralization appears to be confined to the tuff.

Vancouver, B. C.

May 31, 1971


R. W. Stevenson, P. Eng.

REFERENCES

1. Cockfield, W.E.; Geology and Mineral Deposits of Nicola Map-Area, B.C.; G.S.C. Memoir 249; 1948.
2. Kelley, S.F.; Report on Geochemical-Geophysical Surveys of Dote Mineral Claims; July 15, 1970.
3. Rice, H.M.A.; Geology and Mineral Deposits of the Princeton Map-area, B.C.; G.S.C. Memoir 243; 1947.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of a geological survey done on
the Dote Group of Mineral Claims

I, R.W. Stevenson For Dowood Mines Limited (N.P.L.)
of Merritt

in the Province of British Columbia, do solemnly declare that the costs incurred on a
geological survey as assessment work on the Dote Group
of mineral claims are as follows:

Wages & Board: R.W. Stevenson, May 6-9 @ \$45.00 + \$10.00 =	\$220.00
G. Davies, May 6-10 @ \$35.00 + \$10.00 =	225.00
C. Archibald, May 6-10 @ \$16.00 + \$10.00 =	130.00
G. Kaine, May 6-10 @ \$13.00 + \$10.00 =	115.00
Land Rover rental for use on the property, May 6 to 10 @ \$18/day =	90.00
Drafting & typing of report & map	= 45.00
<u>Total = \$825.00</u>	

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of
the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the Town
of Merritt, in the
Province of British Columbia, this 11
day of May 1971, A.D.

R.W. Stevenson

[Signature]

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

COMMISSIONER FOR TAKING AFFIDAVITS
PROVINCE OF BRITISH COLUMBIA

In the Matter of

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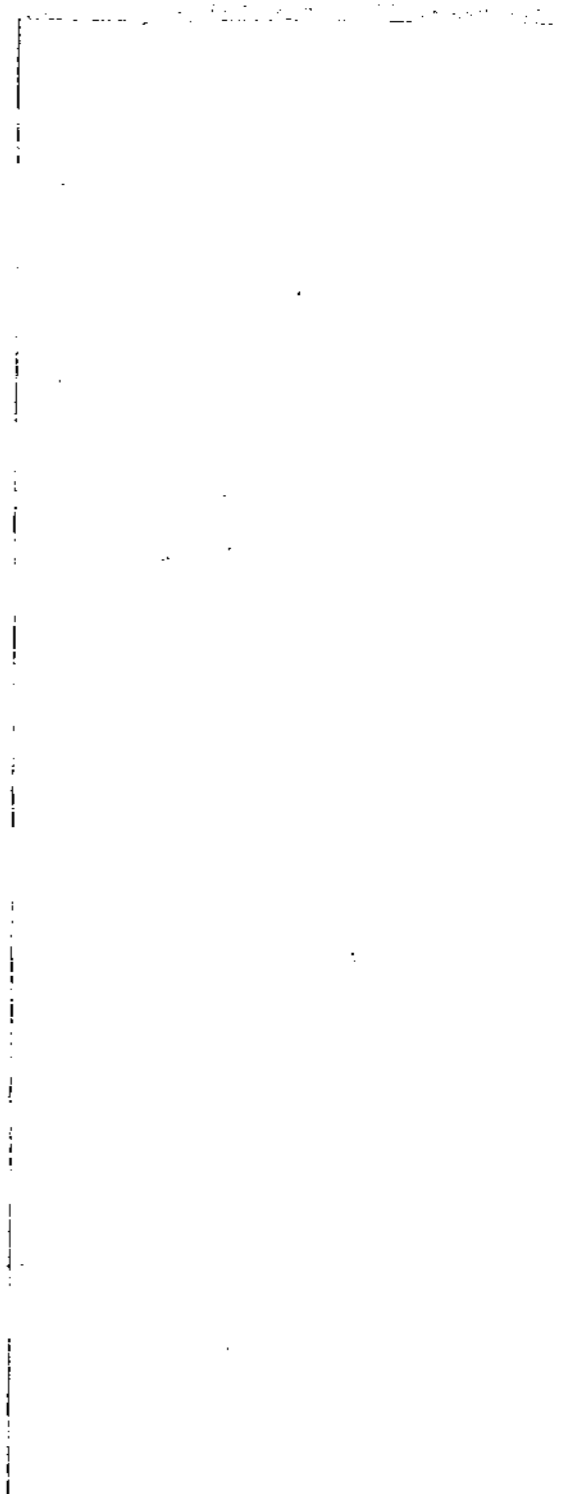
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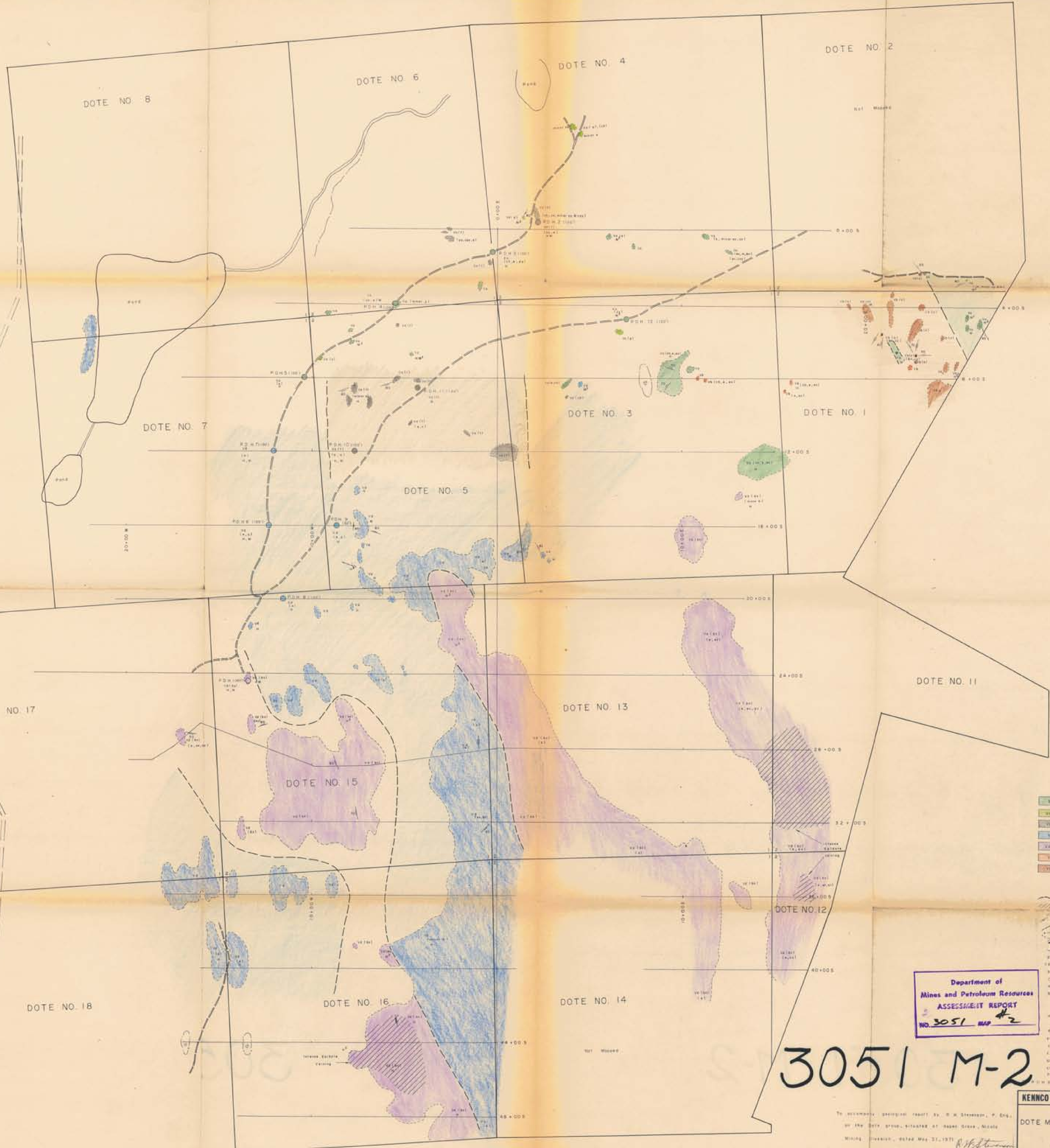
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Statutory Declaration
(CANADA EVIDENCE ACT)

[Faint handwritten notes on the left margin]





LEGEND

Green	Adzeite
Grey	andesite (faded) granitic
Blue	andesite tuff
Light Blue	Diabase
Dark Blue	diorite flow breccia
Orange	Basalt
Yellow	amygdaloid (chlorite, calcite, quartz)

SYMBOLS

- geologic boundary, position approximate
- line of mineral boundary, varying
- flow "contact"
- contour
- stream
- wet or swampy ground
- shaft
- open cut
- pyrite
- pyrrhotite
- barite
- chalcocite
- magnetite
- hematite
- limonite - M' weakly magnetic
- limonite - M' moderately magnetic
- limonite - M' strongly magnetic
- hematite - M'
- quartzite
- quartzite - veining
- calcite
- calcite - veining
- gypsum - veining
- chlorite
- pyrrhotite
- pyrite

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3051 MAP #2

3051 M-2

KENNCO EXPLORATIONS (WESTERN) LIMITED			
DOTE GROUP DOTE MINERAL CLAIMS 1 to 8, 11 to 18 N 10° 10' W, S 1° E			
GEOLOGICAL MAP			
DATA BY: W.S.	DATE: N.T.S. (N 10° 10' W, S 1° E)	PL. NO.: 1	
DRAWN BY:	DATE:	SCALE: 1" = 200'	
TRACED BY: G.S.	DATE: 10/77		
REVISIONS:		FILE NO.	

To accompany geological report by W. M. Stevenson, P. Eng.
for the Dote group, situated at Rapid Creek, Nevada
Mining Division, dated May 31, 1975