1894

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Geochemical-Geophysical Report

~~TOWER GROUP~~

Spike 1-10, and Adjoining Mineral Claims.
(49° 119° NW) West Side Okanagan Lake,
7 miles north of Kelowna, B.C.
for DAWOOD MINES LIMITED
between April 13 - May 2, 1969

W.S. Read, B.Sc., P.Eng.,
June 25, 1969

WAYLAND S. READ, B.SC., P.ENG.

AREA CODE 604—TELEPHONE 922-1347 *Consulting Geologist* 860 YOUNETTE DRIVE, WEST VANCOUVER, B.C., CANADA

June 25, 1969

The Board of Directors,
Dawood Mines Limited,
#410, 355 Burrard Street,
Vancouver 1, B.C.

Gentlemen:

At your request a preliminary program of line cutting, surveying, combined with geochemical-geophysical surveys has been conducted over part of your Tower Group of mineral claims near Kelowna, B.C.

The report and maps for this part of the project is herewith contained.

Yours very truly,

W. S. Read

W.S. Read, P.Eng.

GEOCHEMICAL-GEOPHYSICAL REPORT

TOWER GROUP

Spike 1-10, and Adjoining Mineral Claims

(49° 119° NW)

West Side Okanagan Lake,

7 miles North of Kelowna, B. C.

in the

VERNON MINING DIVISION

Province of

British Columbia, Canada

for

DAWOOD MINES LIMITED

between April 13 - May 2, 1969.

W.S. Read, B.Sc., P.Eng.,
860 Younette Drive,
West Vancouver, B.C.

June 25, 1969

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PURPOSE:

The purpose of the program was to provide grid control over part of the claims group and using this grid take soil samples and magnetometer readings.

Since this survey was in an area of previous work, prospecting and geological mapping were to follow at a later date using the control and data from this preliminary work.

LOCATION:

The Tower Group of 26 recorded mineral claims is located on Jennie Creek, west of Okanagan Lake and about 7 air miles north of the city of Kelowna, B.C. It is in the Vernon Mining Division, British Columbia, Canada, on map sheet 82E/13E of the National Topographic System, approximate coordinates of 49° 59' N, 119° 31' W and with a mean elevation of about 3,000 feet.

ACCESS:

Access is from B.C. Highway 97 at the Westside turnoff about 1 mile west of the Kelowna bridge. The road is paved to Westside, then good gravel road. Reasonably good logging roads span most of the property.

CLAIMS HELD BY COMPANY:

The Company has advised that they hold the 26 claims listed hereunder. The transfer of the claims to the Company has not been checked, as it is believed that the Company has retained counsel to ensure itself of proper title to the ground. The claim corners visited seem to be reasonably well staked.

Claim Name and Number		Record Number	Tag Number	Record Date
Nail	1	8578	689098	May 2, 1966
Nail	2	8579	689099	" "
Nail	3	8580	689101	" "
Nail	4	8581	689100	" "
Nail	5	8582	689096	" "
Nail	6	8583	689097	" "
Spike	1	8584	689139	May 2, 1966
Spike	2	8565	689140	" "
Spike	3	8566	689141	" "
Spike	4	8567	689142	" "
Spike	5	8568	689143	" "
Spike	6	8569	689144	" "
Spike	7	8570	689145	" "
Spike	8	8571	689146	" "
Spike	9	8572	689147	" "
Spike	10	8573	689148	" "
Lid	1	8574	689102	May 2, 1966
Lid	2	8575	689103	" "
Lid	3	8576	689104	" "
Lid	4	8577	689105	" "
Friday	1	8917	710165	June 20, 1966
Friday	2	8918	710166	" "
Friday	3	8919	710167	" "
Friday	4	8920	710168	" "
Friday	5	8921	710169	" "
Friday	6	8922	710170	" "

HISTORY:

The property in part covers the old tunnels and workings of the Blue Hawk mine reported in the B. C. Minister of Mines reports 1933, p. A196; 1934, p. A24, p. D34; 1935, p. D13; 1938, p. D36. At that time the property was being explored on surface and underground for quartz veins carrying values in gold and silver.

GEOLOGY:

Geological mapping and prospecting have not been completed under this program. To give an idea of the geological setting, I quote from the 1933 Minister of Mines report ---

> "Much surface exploration has been done, the work consisting of shallow pits, stripping and short tunnels on a series of faulted quartz veins in severely altered volcanic tuffs, breccias and cherty argillites. This area, about 3,000 feet square, is bounded on the north and south by granite, and in addition is intruded by isolated irregular bodies of dense grey-coloured hornblende rocks. The veins vary from a fracture to 4 feet in width, but seldom persist where uncovered for more than 20 feet on the strike, without displacement and dissipation into the country rocks."

LINE CUTTING:

A baseline had previously been cut following the general direction of the Spike claims location line. A compass bearing of S 21 E across the valley of Jennie Creek was used for azimuth control. Some clearing of new growth and straightening was required. It was found that the existing baseline was not straight and this was recorded

on the map along with the new bearings. All crosslines were cut at right angles to the baseline at the intersection point.

A baseline station 0 + 00 was established at the Spike claim post at the road junction west of the portals. The baseline was surveyed 4, 000 feet north and 1, 600 feet south for a total of 5, 600 feet. Picket crosslines were turned off at 400 foot intervals and driven a total of 10. 21 miles as shown on the accompanying map. The lines have stations marked every 100 feet with slope corrections made between stations so that all distances mentioned are horizontal measure.

Total lengths:

Baseline	1. 06 miles
Picket cross lines	10. 21 "
Total	11. 27 miles

MAGNETOMETER SURVEY:

Type of Magnetometer:

A Sharpe MF. 1 fluxgate magnetometer, serial number 803331, was used for this survey. This is a hand held instrument requiring only coarse levelling and is not significantly affected by orientation.

The magnetometer measures the vertical component of the earth's magnetic field to 5 gammas on the lowest scale range. The full scale ranges vary progressively from a minimum of plus or minus 1,000 gammas to a maximum of plus or minus 100,000 gammas. The values can be read directly from the scale.

Temperature compensations have been built into the instrument and the only necessary correction to the readings is for the diurnal variation. The variation in each survey loop is assumed to be linear and is determined by subtracting the initial and final readings. The correction added to each reading in the loop is the product of the total diurnal variation of the loop and the ratio of time elapsed up to the time of the reading over the total time elapsed for the loop.

Field Procedures:

The instrument was set or seroed for the area and station 40 + 00 N on the baseline given a value of 1,000 gammas. The baseline

was surveyed, corrections in the readings made for diurnal variation and the stations at the junction of the crosslines with the baseline, were used as control points for each survey loop.

Readings were taken at every station on the baseline and every 100 feet on the crosslines. Where further detail to outline anomalous zones was needed, the station interval was closed to 50 feet. Diurnal variation was low and corrections were treated linearly in respect to elapsed time.

GEOCHEMICAL SURVEY:

Soil samples were taken along the crosslines at 100 foot intervals. A mattock was used for digging the sample hole. When possible, the upper part of the "B" soil horizon was sampled.

The samples were collected in brown Kraft soil sample bags arranged in line order and forwarded directly to the assayers, Warnock Hersey International Limited, Vancouver, as soon as each shipment lot was collected. The samples were dried by the assayers at room temperature and assayed for mercury with a Le Mair mercury unit.

The assay results were plotted on the base plan at a scale of 1 inch = 300 feet, colour coded and contoured within ranges as shown on the map.

DISCUSSION OF RESULTS:

Magnetometer Survey:

The readings were plotted on a base map to a scale of 1 inch equals 200 feet, which was used as a base map for all surveys. Readings were plotted as gammas relative to baseline station 40 + 00 N.

The area has quite an extensive cover of light overburden. A general magnetic trend of about NNW crossed the survey area with sharper anomalous zones crossing along a northwest trend. Due to the nature of the mineralization, the significance of the magnetic data will be more apparent after geological mapping and should prove helpful in interpreting geological contacts and fault zones. The area immediately adjoining the portal sites did now show any marked magnetic variation.

Geochemical Survey:

The following concentration ranges for mercury were selected after inspection and analysis of the data.

Range	Hg - ppm
Background	0 - .10
Threshold	.11 - .15
Anomalous	.16 - .25
	+.26

The mean average of all samples was 0.126 parts per million of mercury.

Mercury has a gaseous dispersion pattern and its association in trace amounts with precious and base metal deposits has led to its use in geochemical exploration for these metals. Hawkes and Webb state that, in a porous medium that is not saturated with water, Hg vapour will move as a constituent of the air for relatively great distances from the source. The shape of the resulting Hg anomalies depends on the geometry of the fractures and pore spaces that control the movement of air. Hg vapour, of course, cannot move through impermeable rocks or through permeable material that is saturated with water.

The most anomalous readings were recorded along line 4 + 00 N, to both the east and west. To the west the readings were associated with magnetic anomalies but, to the east, in the area of the old mine workings, the geochemical anomalies did not correspond with magnetic anomalies. Several other anomalous zones extend across the lines and will make targets of particular interest during follow-up work. The significance of ion migration will need further checking as there would appear to be quite a large dispersion pattern down slope from the workings, however, in other areas of the province it has been found that the mercury will often be quite close to the source.

CONCLUSIONS AND RECOMMENDATIONS:

Soil sampling for mercury has outlined several anomalous areas of irregular shape. In two known instances the anomalous zones correspond to known mineralization.

In some instances there is a correspondence between the geochemical and magnetic anomalies but this is not always the case. Enough variation has been found in both surveys to make them useful tools in follow-up work. Due to the nature of the mineralization, additional geological mapping and checking will be necessary to make full use of the surveys.

PERSONAL:

Contract field work between April 13 and May 2, 1969.

Wayland S. Read, P.Eng., Mining and Geological Consultant,
860 Younette Drive,
West Vancouver, B.C.

Marvin W. Crist, Party Chief - Graduate-Mining Technology,
B.C.I.T.,
Employed two years Wayland S. Read
Limited in various mining and exploration
projects,
Box 1160,
Revelstoke, B.C.

Lary Sostad, Field Assistant. Part course mining technology,
plus several years practical field experience.
818 - 510 West Hastings Street,
Vancouver 2, B.C.

L.M. Schram, Line Contractor,
R.R. #1,
Keremeos, B.C.

C. Peterson, Line Contractor,
R.R. #1,
Keremeos, B.C.

BIBLIOGRAPHY:

Annual Reports, Dept. of Mines, B.C.,
1933, p. A196; 1934, p. A24; p. D34;
1935, p. D13; 1938, p. D36.

Hawkes, H.E., and Webb, J.S., Geochemistry In
Mineral Exploration, Harper & Row,
Publishers Inc., New York.

DOMINION OF CANADA:

PROVINCE OF BRITISH COLUMBIA. } **In the Matter of** Geochemical-Geophysical Surveys, Line cutting and surveying Tower Group, Spike 1 - 10 Mineral Claims, etc.

TO WIT:

I, W. S. Read, P.Eng.,

of Wayland S. Read Limited, - Geological Consultant,
860 Younette Drive, West Vancouver, B.C.

in the Province of British Columbia, do solemnly declare that the following supervision and work was done:

- Transit Baseline: 1.06 miles surveying and slashing app. bearing NNW.
- Cutting, surveying and chaining 10.21 miles of picket crosslines.
- Magnetometer survey over 11.27 miles.
- Geochemical survey over 10.21 miles.

Costs:

* Transportation costs	337.37		
- Chain saw rental 2 X $5 X 9	90.00		
- Magnetometer (Sharpe MF1)	231.00		
- Equipment writeoff	150.00		
- Food and supplies	386.96		
- Transits and chains	75.00		
- Engineering supplies -allow	90.00	1360.33	
Personnel:			
M.W.Crist, Party Chief, Apr.14-17, 23-30, May 1 - 3.	511.35		
Crist overtime	204.54		
L.Sostad, Assistant, April 23-30, May 1-3	385.00		
L.M.Schram, Line Contractor, Apr.15-29	650.00		
C.Peterson, Line crew, April 15 - 29			
W.S. Read Apr.6½dyas, May 7½ days, June 8¼ days.	2125.00		
Draughting and printing.	106.94	3982.83	5343.16
Overhead 8%			427.45
			5770.61
Profit app. 19.6%			1129.39
			$6900.00

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 City of Vancouver, in the Province of British Columbia, this 27 day of June 1969, A.D.

W. S. Read

Jill Turner

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

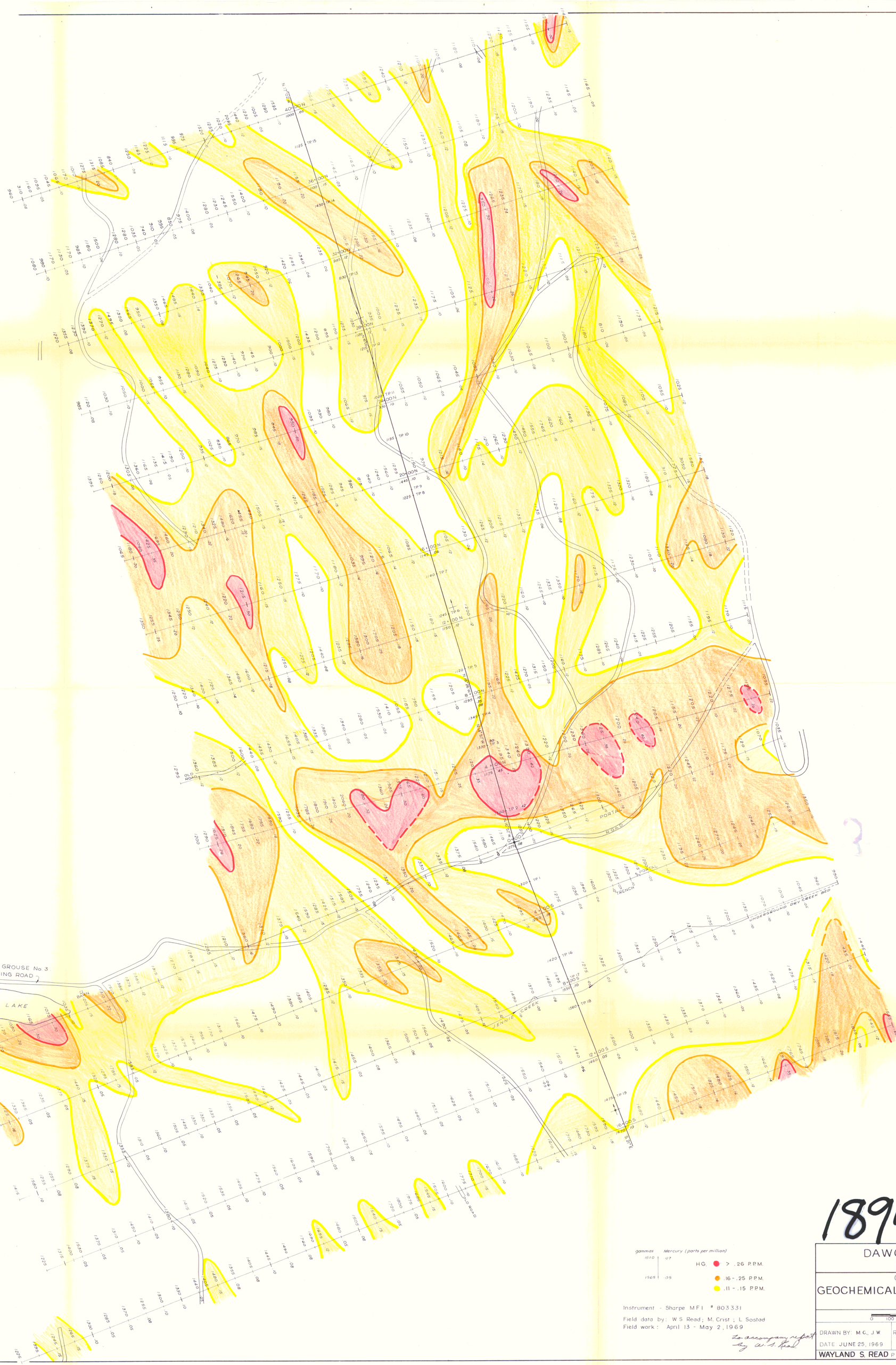
Sub-mining Recorder

★o

In the Matter of

Statutory Declaration

(CANADA EVIDENCE ACT)



gammas | Mercury (parts per million)

1610 | .07 — HG. > .26 P.P.M.

.16 - .25 P.P.M.

1565 | .05 — .11 - .15 P.P.M.

Instrument - Sharpe MFI # 803331

Field data by: W.S. Read; M. Crist; L. Sostad

Field work: April 13 - May 2, 1969

To accompany report by W.S. Read

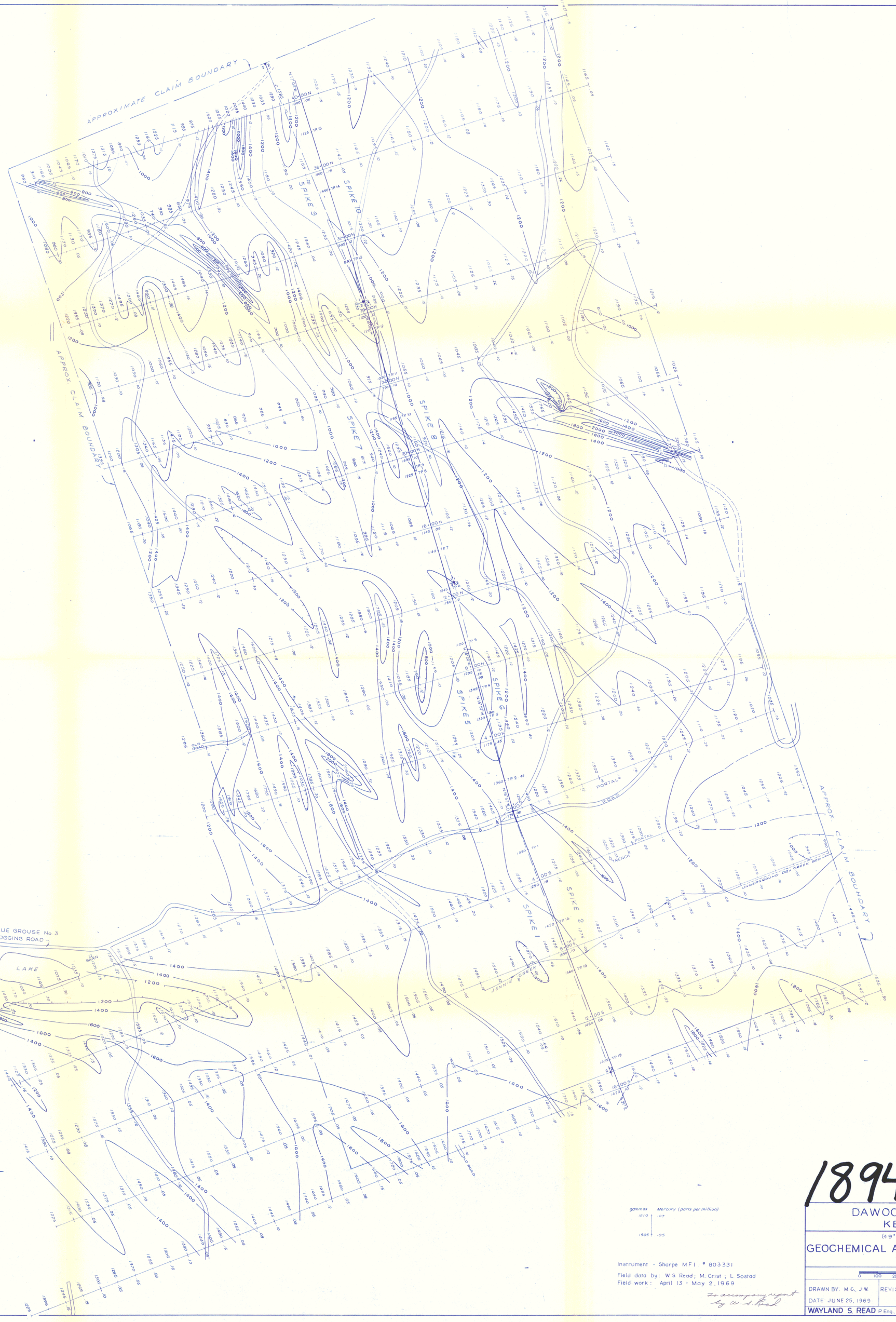
DAWOOD MINES LTD.
KELOWNA, B.C.
(49° 59' N, 119° 31' W.)

GEOCHEMICAL AND MAGNETOMETER SURVEY

SCALE IN FEET
0 100 200 400 800

DRAWN BY: M.G., J.W.
DATE JUNE 25, 1969
REVISED:
No. 1

WAYLAND S. READ P.Eng., Consulting Geologist, West Vancouver, B.C.



Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1894 MAP #2

1894

gammas | Mercury (parts per million)
1510 | .07
1565 | .05

Instrument - Sharpe MF1 # 803331
Field data by: W.S. Read; M. Crist; L. Sostad
Field work: April 13 - May 2, 1969

To accompany report by W.S. Read

DAWOOD MINES LTD.
KELOWNA, B.C.
(49° 59' N., 119° 31' W.)

GEOCHEMICAL AND MAGNETOMETER SURVEY

SCALE IN FEET
0 100 200 400 800

DRAWN BY: M.C., J.W.
DATE: JUNE 25, 1969
REVISED:
No. 1A

WAYLAND S. READ P.Eng., Consulting Geologist, West Vancouver, B.C.