

RECONNAISSANCE GEOCHEMICAL SURVEY

Property

T. Group

T 3 - 8 inclusive	45966 - 45971
T 13 - 20 inclusive	51163 - 51170
T 25	51191
T 27 - 33	51193 - 51199
T 39 - 40	51205 - 51206
T 41 - 42	50965 - 50966
T 43	51207
Ex No. 1	59064
DA 1 - 14 inclusive	59050 - 59063
Dor 1 and 2	63526 - 63527

Location

confluence of Clore and Zymoeta Rivers -
Coordinates 54 128 S.E.

Author

J. B. Prendergast, M.A., P.Eng.

Dates

September 6 - 14 inclusive, 1968
March 21, 1969

Holder

Ardo Mines Limited, N.P.L.

1863

REPORT

ON

RECONNAISSANCE GEOCHEMICAL SURVEY

ON

PROPERTY OF

ARDO MINES LIMITED

"T" GROUP

TERRACE AREA

OMINECA MINING DIVISION

PROVINCE OF BRITISH COLUMBIA

VELOCITY SURVEYS LIMITED
824-602 West Hastings Street
Vancouver 2, B.C.

MARCH 21, 1969

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Pocket

Department of Mines and Petroleum Resources	
<u>ASSESSMENT REPORT</u>	
NO. 1863	MAP

PROPERTY

The property consists of some 44 unpatented contiguous mineral claims situate in the Omineca Mining Division, Province of British Columbia.

The claim group, hereinafter known as the T Group, is comprised of the following mineral claims:

<u>Claims</u>	<u>Record Numbers</u>
T - 3 to 8 inclusive	45966 to 45971
T -13 to 20 "	51163 to 51170
T -25	51191
T -27 to 33 "	51193 to 51199
T -39 and 40	51205 and 51206
T -41 and 42	50965 and 50966
T -43	51207
Ex No. 1	59064
DA 1 to 14 inclusive	59050 to 59063
Dor 1 and 2	63526 and 63527

LOCATION AND ACCESS

The T Group occupies the area of the confluence of the Zymoetz and Clore Rivers. Access is available to Terrace, B.C. some 24 miles to the west/northwest by means of a graded gravel road constructed and maintained by Columbia Cellulose Limited. The town of Terrace is serviced by C.P.A. and by Highway No. 16 making connection with the major centres of British Columbia. Various logging roads traverse the area so that vehicular traffic is practical to most parts of the property.

TOPOGRAPHY AND VEGETATION

The major portion of the property lies between 1,000 feet A.S.L. and 2,500 feet A.S.L. in elevation. The ground surface presented is that of roughly rolling glaciated mountain topography. Locally slopes of 100 percent in grade are common with the average grade of the order of 60 percent. In general the area is heavily forested with commercial fir and cedar and with minor poplar on the lower ground, especially along the rivers. Frequent open areas are present where standing timber has been cut, however salvage operations have not been effectively carried out so that access is frequently impeded due to extensive slash and debris.

GEOLOGY

The area of the claim group is entirely underlain by Mesozoic rocks of the Middle and possibly Lower Jurassic formation, in particular, the Hazelton Group. The observed rocks on the property consist primarily of volcanic lavas, i.e., andesites, basalts and rhyolites. These volcanic rocks are made up of sequential lava flows with intercalated beds of sediments of volcanic derivation, i.e., andesite lavas, autobreccias, tuff beds and minor rhyolites. The lavas are predominantly red to purple in colour due to hematitic staining resulting from late stage fumarolic action. The rocks are frequently vesicular with fillings of epidote, calcite and quartz.

Two main directions of jointing are prevalent on the property, the main set of joints strike ENE with a steep southerly dip of 70 to 80°. The second set of joints strike NW/SE with a westerly dip of 50 to 60°. In general the lava flows strike NNE with easterly dips of 30 to 40°.

METHOD

During the latter part of May and early part of June a line grid was set up over the central portion of the property near the confluence of the Clore and Zymoetz Rivers. This grid was subjected to a geochemical soil sampling program and an electromagnetic survey utilizing the VLF frequencies of powerful radio transmitters as a primary field. The results of this work are described in a report by C.T. Pasioka and J.B. Prendergast dated June 27th, 1968. In view of the encouraging results of the work carried out previously, the grid was extended to the west and the geochemical soil sampling program was extended as well. It is this extension of the geochemical soil sampling programme that is to be discussed herein.

Geochemical soil samples were taken at 100 foot intervals along the N/S grid lines. Specimens were extracted by means of a ship's auger at a depth approximating one foot. In all cases an attempt was made to sample the "B" horizon, that is the soil immediately below the humus layer so that the erratic effects attributed to concentration of metallic ions by humus and vegetable material may be avoided. Individual samples were placed in heavy manila envelopes, labeled

and catalogued and dispatched to Crest Laboratories Limited of Edmonton. Under the supervision of Mr. R. Sawyer, Chemist, the samples were air dried, screened to -80 mesh and thence subjected to cold acid extraction. The extracted samples were then subjected to analysis of copper content using the atomic absorption technique. The analytical values thereby obtained are expressed in parts per million and plotted in their appropriate geographical positions on the accompanying map.

DISCUSSION OF RESULTS

Three distinct anomalous zones are indicated by the extended geochemical survey. The first zone is centred about a point whose co-ordinates are 400⁰N on line 25+00W. The contoured outline represents values of moderate intensity approximately three times background. The shape of the contoured area varies somewhat from the strong linearity running in a northeasterly direction experienced elsewhere on the property. The shape of the outline suggests emanation of solutions from an intersecting joint pattern striking approximately NE and NW. The large interval between lines precludes more effective definition. Further, there is the strong possibility of migration of metallic ions along the Clore River.

The second area of interest indicated centres about the point 7+00S, 30+00W and strikes NE/SW. Peaks within this elongate outline approach values of four times background. The linearity of the anomaly suggests a causative factor related to a structural feature such as extended jointing or a small

fault. Again, the linearity of the geochemical anomaly coincides with one of the major joint directions observed on the property.

The third area of interest is centred about the point 12+00S on line 15+00W. Values of up to five times background are encountered here and similarly the elongation of the contoured outline is parallel to one of the major joint directions observed on the property.

CONCLUSIONS AND RECOMMENDATIONS

Coincident parallelism of the elongation of the contoured geochemical anomalies and one of the major joint directions occurring on the property is considered especially significant. Geological observations made on the property indicate that the joint direction striking from NE/SW to NNE/SSW frequently is associated with copper mineralization. For example, immediately to the west of the bridge crossing the Clore River occurs a shear zone striking approximately NW containing visible barite, chalcopyrite, malachite and azurite over a variable width of a few inches to three feet. Similarly, occurrences of mineralization of similar character and orientation have been observed at several locations within the property boundaries.

In view of the above it is recommended that the previously recommended programme of geological mapping and bulldozer trenching be carried out. The bulldozer stripping and trenching would enable the determination of the causative

factors of the geochemical anomalies and permit bedrock surface sampling of these areas. Detailed geological mapping would facilitate correlation between geological, geochemical and geophysical data so that an economic assessment of the potential of the property may be made.

Estimated costs of the recommended continuing exploration programme are as follows:

Geological Mapping	\$ 4,500
Bulldozer Stripping, 400 hrs. @ \$35. per hour	14,000
Engineering, Supervision and Consulting	2,500
Sampling and Assaying	1,000
Camp Facilities	2,000
Contingency	<u>3,000</u>
TOTAL	<u>\$ 27,000</u>

Respectfully submitted,

VELOCITY SURVEYS LIMITED


J.B. Prendergast, M.A., P.Eng.

CERTIFICATION

I, Joseph Benoit Prendergast, of the City of Calgary, Province of Alberta, hereby certify that:

1. I am a geophysicist-geologist with offices at 1323-48th Avenue, N.E., Calgary, Alberta.
2. I am a graduate of the University of Toronto, B.A. (Physics and Geology), M.A. (Geophysics) 1951.
3. I have been actively and continuously engaged in mineral exploration and development for 18 years.
4. I am a member of the Associations of Professional Engineers of Ontario, Manitoba, Alberta and British Columbia.
5. I have no interest, directly or indirectly, nor in the securities of, nor do I expect to receive any such interest in Ardo Mines Ltd., N.P.L.
6. That this report is based on geochemical data derived from work carried out directly under my supervision on the property and from government publications relevant to the area.

Dated this 19th day of March, 1969, in the City of Calgary, Province of Alberta.



J.B. Prendergast, M.A., P.Eng.

LIST OF PERSONNEL

<u>NAME</u>	<u>DATES WORKED</u>	<u>RATES OF PAY</u>
William Melleure Vancouver, B.C.	September 6-14, 1968 Line Cutter and Sampler	\$ 25.00/day
Clarence Fortin Kamloops, B.C.	September 6-14, 1968 Line Cutter and Sampler	\$ 25.00/day
C. T. Pasieka Vancouver, B.C.	September 9, 10, 1968 Geologist	\$150.00/day
J. B. Prendergast Calgary, Alberta	March 21, 1969 Geophysicist	\$150.00/day

BIBLIOGRAPHY

1. Geology of Terrace Map Area,
British Columbia. Memoir 329, G.S.C.
B. Duffell and J.G.Souther, 1964
2. Property Report, Primac Exploration Services,
T Group - T.D. Wilkinson, August 1967
3. Report on Reconnaissance Electromagnetic
and Geochemical Surveys - T Group.
C.T. Pasioka and J.B. Prendergast, June 1968.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.

In the Matter of

To Wit:

Geochemical Survery on DA Group for Ardo
Mines Limited

I, Clemens T. Pasieka

of Vancouver

in the Province of British Columbia, do solemnly declare that

The following expenses were incurred by, invoiced to,
and paid for by Ardo Mines Limited:

Linecutting - 4.36 miles @ 125.00/mile	545.00
Geochemical sampling - 189 specimens @ 2.50 ea.	472.50
Consulting & supervision - 3 days @ 150.00/day	450.00
Rental 4WD vehicle - 8 days @ 25.00/day	<u>200.00</u>
TOTAL:	\$1667.50

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."

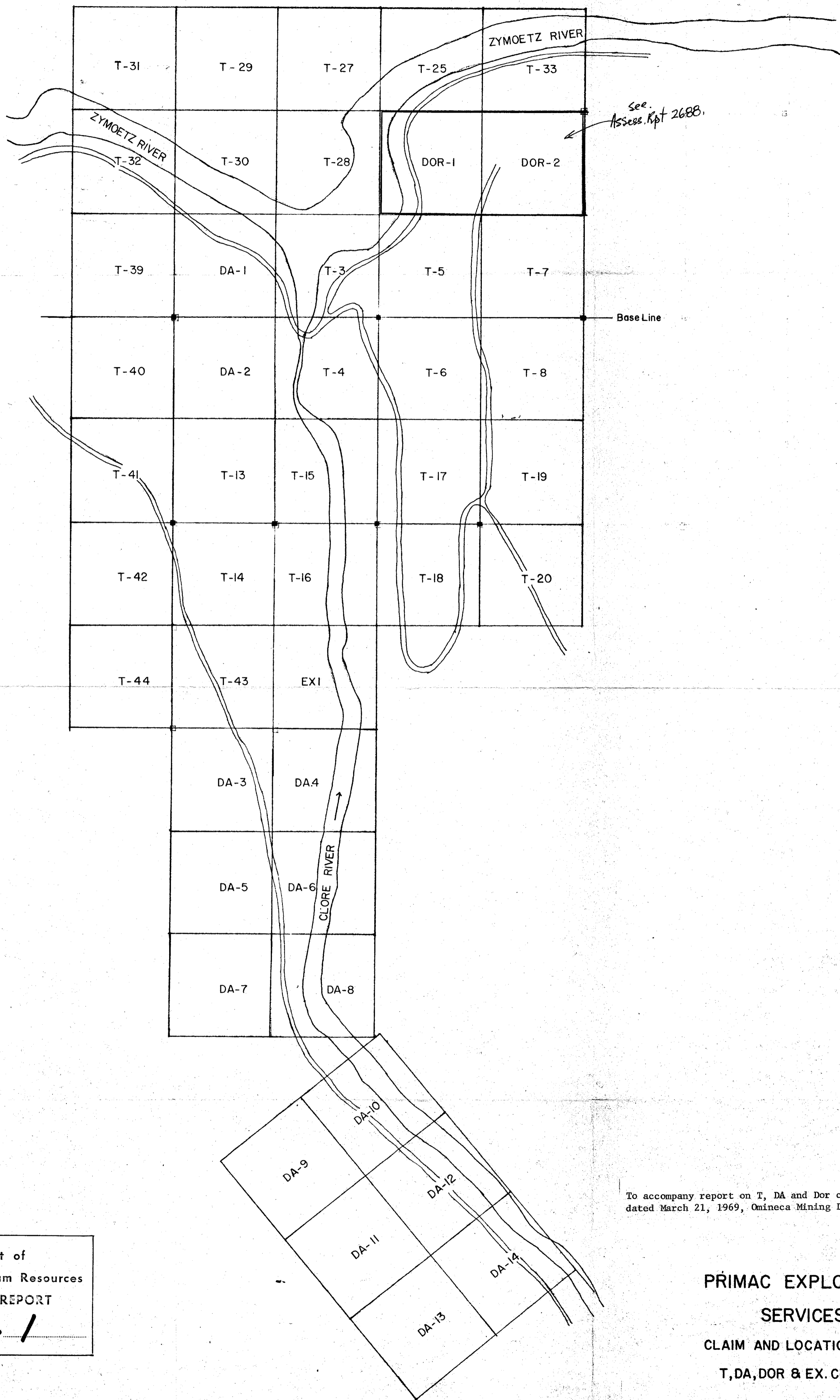
Declared before me at the *City*
of *Vancouver*, in the
Province of British Columbia, this
day of ²³~~22~~ **nd day of May, 1969**, A.D.

Clemens T. Pasieka

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

In the Matter of

Statutory Declaration
(CANADA EVIDENCE ACT)



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **1863** MAP **1**

NOTE - Base Line Located by chain and compass survey.
All other locations approximate

To accompany report on T, DA and Dor claims by J.B. Prendergast dated March 21, 1969, Omineca Mining Division. (Geochemical)

PRIMAC EXPLORATION
SERVICES

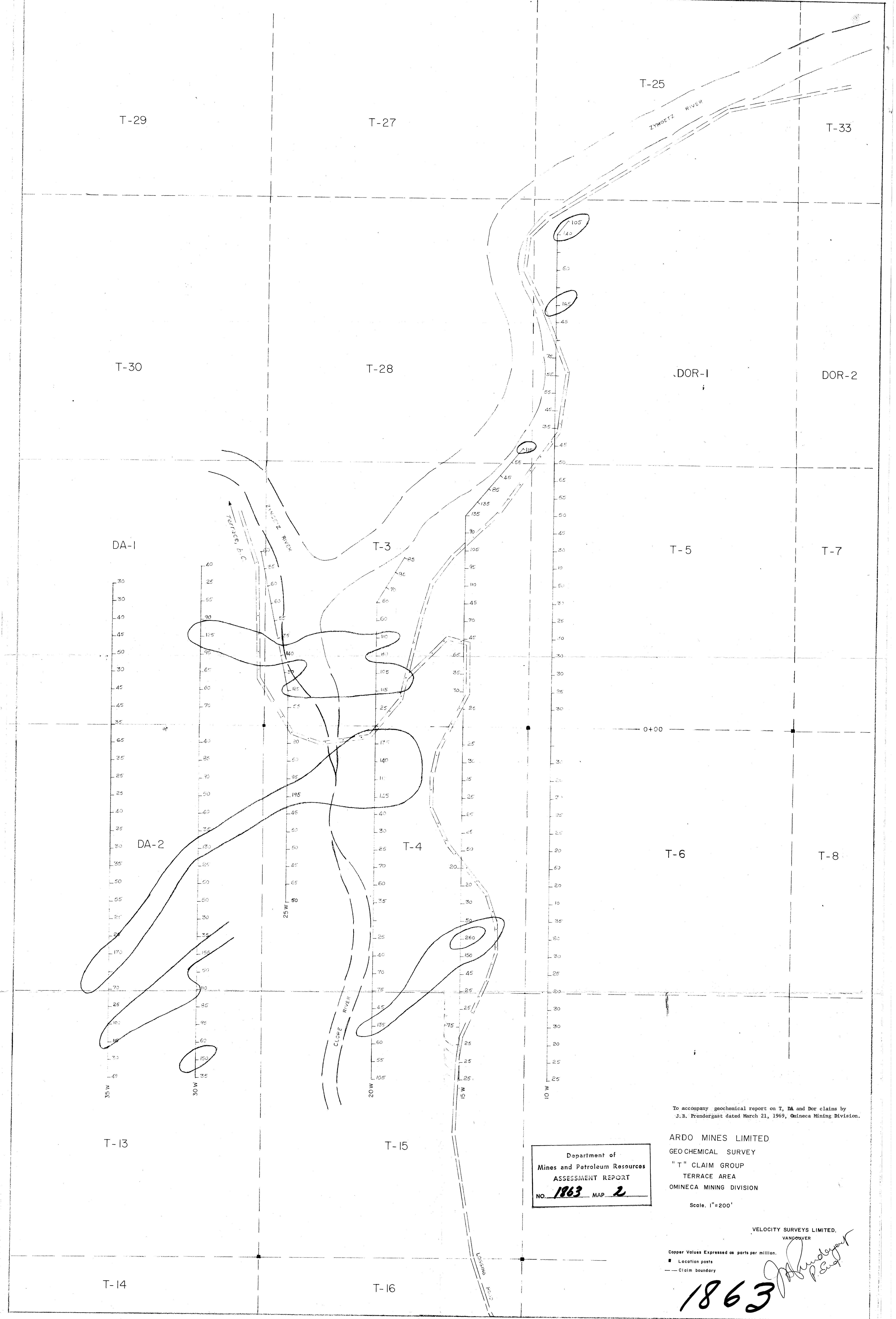
CLAIM AND LOCATION SKETCH
T, DA, DOR & EX. CLAIMS

Scale 1" = 1000'

J.B. Prendergast

1863

Velocity Surveys Ltd. April 1969



To accompany geochemical report on T, DA and Dor claims by J.B. Prendergast dated March 21, 1969, Omineca Mining Division.

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. **1863** MAP **2**

ARDO MINES LIMITED
 GEOCHEMICAL SURVEY
 "T" CLAIM GROUP
 TERRACE AREA
 OMINECA MINING DIVISION

Scale. 1"=200'

VELOCITY SURVEYS LIMITED.
 VANCOUVER

Copper Values Expressed as parts per million.
 ■ Location posts
 --- Claim boundary

J. B. Prendergast
P. Sed
1863