3154

QUALIFYING REPORT

on

LILLOOET PROPERTY

KAMLOOPS MINING DIVISION, BRITISH COLUMBIA

of

CUDA RESOURCES LTD. (N.P.L.)

MARCH 29TH, 1971

by

Edward O. Chisholm, M.A., P.Eng.

Vancouver

British Columbia

/ Mines and Petroleum Resources /

ANADA
PROVINCE OF
BRITISH COLUMBIA

In the Matter of

TO WIT:

J. W. H. Hamilton PRES.

Of Minstead Exploration Co. Ltd. 711 - 475 Howe Street, Vancouver, B.C. do solemnly declare

in the Province of British Columbia

The following contracts were carried out by the above company on the "Linda" and "Judy" claims of Cuda Resources Ltd. (N.P.L.) In the Kamloops Mining Divison, south of Lillooet. Work carried out Dec. 70 to March 71.

36 line miles of line cutting @ \$150.00

per mile \$5400.00

36 line miles of Geochemical survey

@150.00 per mile \$5400.00

25 line miles of Magnetometer Survey

@125.00 per mile \$3125.00

Trenching 10 X 10 X 2 (rock work)

@8.00 cu. ft. \$1600.00

\$15,525.00

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

in the

Province of British Columbia, this

day of

A. D., 19

OWN Hamilton.

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

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Statutory Declaration

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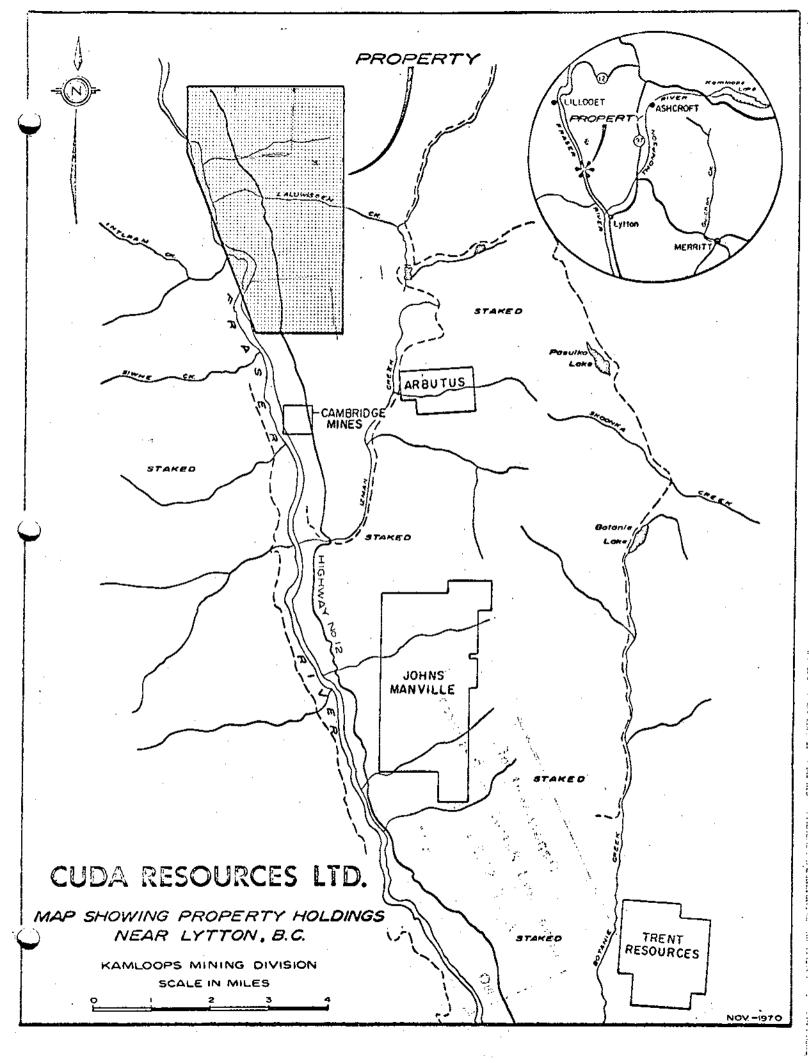
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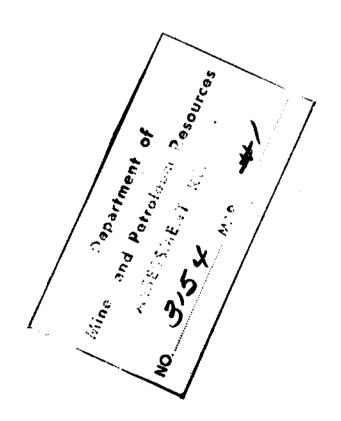
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Park Stationers Ltd. * Law & Commercial Stationers Vancouver, B.C.





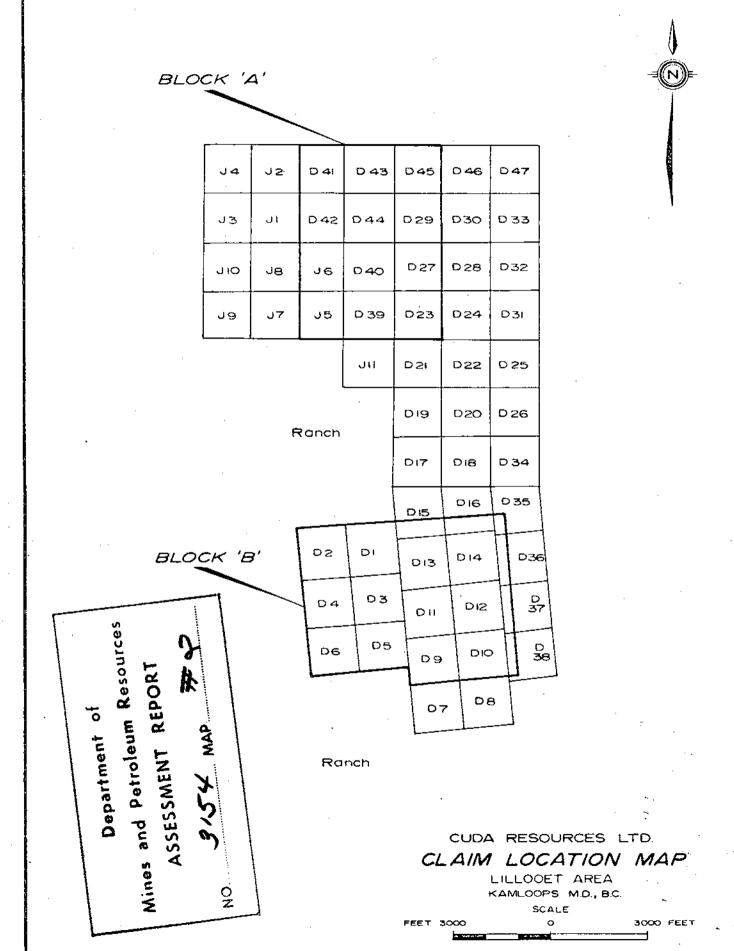


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SUMMARY

The 58 claim block of Cuda Resources Ltd. (N.P.L.) located on Highway 12 near Lillooet, B. C. is underlain by geologically favourable rocks of the Coast Range intrusives and Nicola Volcanics. Preliminary geochemical soil survey has shown the presence of widespread copper mineralization associated with the intrusive and extrusive rocks. Prospecting has discovered copper in place in the intrusives, the lavas and in mineralized float boulders. The claim group is classified as favourable prospecting ground for the occurrence of large low grade copper deposits similar to the Ashcroft Highland Valley Area some 20 miles to the east.

A \$46,000 program of detail exploration to determine the potential of the ground is recommended.

INTRODUCTION

The writer examined the Lillooet property of 58 unpatented mining claims on behalf of Cuda Resources Ltd. of 711-475 Howe Street, Vancouver, B. C., on March 3, 1971. At the time, initial prospecting and 36 miles of geochemical and geophysical exploration had been carried out by the principals.

The conclusions and recommendations in this report are based on surface examination of the geology of the claim group in a four hour visit to the property. Other information is taken from government reports of the general geology of the area (G.S.C. Memoir 262, Ashcroft Map Area, British Columbia 1952 by S. Duffell and K.C. McTaggart). Several of the posts on the claims were inspected and found to be located in accordance with the Mining Regulations of British Columbia. The attached claim map of the ground was prepared by the company and is approximately correct as far as can be judged without an accurate survey.

It is understood that the claims have been staked or are under option to Cuda Resources Ltd. and the further evaluation of any legal aspects of the claims is beyond the scope of this report.

LIST OF CLAIMS

<u>Name</u>	Record Number	Record Date		
Diana 1 to 20 incl.	90063 to 90082 incl.	July 13, 1970		
Diana 21 to 38 incl.	90482 to 90499 incl.	July 31, 1970		
Diana 39 to 47 incl.	90770 to 90778 incl.	August 20, 1970		
Judy 1 to 11 incl.	93171 to 93181 incl.	November 10, 1970		

LOCATION, ACCESS AND TOPOGRAPHY

The mining claims under discussion are located on Highway 12, 20 miles south of Lillooet, B. C. in the Kamloops Mining Division of British Columbia. The central part of the claim group lies at the intersection of Laluwissen Creek and Highway 12 and the length of the group which runs in a north-south direction is readily accessible by vehicular traffic.

The topography on the group rises steeply upward from Highway 12 at 1500 feet elevation to 5000 feet on the east side of the claim group and drops off to the Fraser River at elevation 1000 feet on the west side of the group. The road itself follows a rock bench above the Fraser River channel.

The property lies at the eastern boundary, marked by the Fraser River, of the rugged terrain of the Coast Mountain Ranges. The property lies on the west slope of a 5000 foot mountain rising easterly from the highway. The ground slopes gently for 1500 feet to the west of the highway then drops steeply over a cliff face of 500 feet to the Fraser River flats. Some ranch land occupies the area between the highway and the top of the cliffs. The lower slopes are covered with stands of timber and the upper slopes have considerable rock exposure. The intervening ground is covered with steep talus slides.

The elevation and topography are such that year-round exploration and development can be carried out. The area was extensively glaciated, the

movement being north/southerly along the Fraser River. The group is cut by a mountain stream flowing from east to west named Lalluwissin Creek. A similar stream named McGillivray Creek marks the north boundary of the group.

Climate is relatively moderate with mild summers and short cold winters. Winter conditions can be expected about the first week in November although snow can be expected from September onwards and generally remains after October first. Snowfall of from 6 to 20 feet can be expected above timberline and remains until the middle of May. Geophysical work could be carried out on the lower half of the group during the winter months.

Reference Maps:

- (1) G.S.C. 1014-Ashcroft 4 mi. (Geology)
- (2) N.T.S. 92-I-Ashcroft 4 mi. (Topography)

HISTORY AND ACTIVITY

The general Ashcroft area in which the claims lie is the centre of extensive exploration for large scale porphyry copper deposits similar to those in the Highland Valley belt located 24 miles to the east. The Cuda claims lie in a parallel belt of mixed Coast Range intrusives of Mesozoic age that are separated from the intrusive rocks of the Guichon Batholith of the Highland Valley by a 20 mile wide belt of Mesozoic sediments and lavas. No major deposits have been found in the Coast Range intrusives in the Cuda belt but there are widespread occurrences of mineralization within it.

Early in its history the tributaries and streams of the Fraser River were prospected for gold by the placer miners of the Caribou District and a small amount of gold was won from the gravels there. Lode deposits of antimony, copper and chromium were discovered within the area but none became profitable operations. One such discovery known as the Victory Claim lies on the Cuda Claim Group. It is described by S. Duffell and K. McTaggart as follows:

"The Victory claim, staked by Eric McColl of Lillooet in 1941, lies at the western end of the ridge between Laluwissen and McGillivray Creeks, at an elevation of 5000 feet. Mineralization of interest is in evidence along the fault that cuts the Coast intrusions in this vicinity, the fault zone extending northwest and southeast of the claim for some miles. The rocks at the showings consist largely of what appear to be inclusions in the main intrusive mass. The fault zone here strikes about north 60 degrees west and dips nearly vertically. Along and near the fault the rocks are pyritized and extremely rusty, and at a few points lenses composed almost entirely of fine

⁽¹⁾ Page 102, G.S.C. Memoir 262, Ashcroft Map-Area, British Columbia by S. Duffell and K.C. McTaggart 1952.

grained pyrite occur in the reddish decomposed matter of the fault. A little copper stain was noticed."

Due to snow conditions the Victory claim could not be examined by the writer at the time of this examination. The presence of copper associated with a major fault zone in an intrusive environment is of significance and should be investigated in detail.

The most significant major copper deposit discovered in the area to date is that of the Maggie Mine now under development by Bethlehem Copper Corporation. A multi-million ton open pit porphyry type copper deposit has recently been indicated by diamond drilling. This lies 8 miles north of Cache Creek on the Caribou Highway some 32 miles northeasterly from the Cuda property.

Recent work undertaken on the Cuda property consisted of 36 line miles of geochemical and magnetometer survey.

GENERAL GEOLOGY

The Geological Survey of Canada published the following report on the area under discussion:

"S. Duffell and K.C. McTaggart, 1952 Memoir 262, Ashcroft Map-Area, British Columbia."

The following table of geological formations present in the property area have been adopted from the report:

MESOZOIC

Lower Cretaceous

<u>Jackass Mt. Group</u> (17) Division C: greywacke, argillite, conglomerate; arkose.

Lillooet Group (14) - Argillite, volcanic conglomerate, and tuffaceous sandstone.

Upper Triassic

Nicola Group (11) - Basalt and andesite; tuff and agglomerate.

Triassic or Earlier

(7) Schist and gneiss.

Lower Cretaceous or Earlier

Mount Lytton Batholith (2) - granodiorite, quartz diorite and diorite (with associated inclusions of earlier rocks).

An extensive outcrop of Nicola Volcanics locally sheared chloritized and mineralized with chalcopyrite and pyrite not shown on the government maps was identified on the property in the vicinity of Laluwissen Creek forming a cliff face rising from the bottom land of the Fraser River Falley. The belt of Lower Cretaceous rocks along the Fraser River may be regarded as a series of fault blocks or slices involved in a major zone of faulting along which the

the rocks to the west have been relatively elevated. West of the Fraser River are the Coast Mountains of British Columbia. Batholithic rocks of the Coast intrusion in the area consist mainly of granite, granodiorite, quartz diorite and diorite.

All of the map area was covered by ice during the Pleistocene time except the higher peaks of the Coast Mountains. Pleistocene and recent drift mantles most of the area. Alluvial fans and ice contact and glacial outwash deposits are common and the major valleys such as the Fraser that cut across the west border of the property are lined with marginal terraces of sand, gravel and clay.

LOCAL GEOLOGY

Little is known regarding the detailed geology of the claim group and a complete geological survey is necessary to define favourable areas for mineralization.

From observations on the ground and the government mapping shown on the Ashcroft sheet, the claim block is crossed in a general north/south direction by the Mount Lytton granodiorite Batholith that underlies the east half of the claims to the east of Highway 12. On the upper slopes the granodiorite intrusives are exposed at elevations above 4000 feet. lineation strikes northwesterly. Large inclusive masses of schist and gneiss are reported that represent metamorphosed equivalents of the Cache Creek Group of sediments and lavas. They strike parallel to the regional lineation. lower slopes extending to the road and one claim west are largely covered with Several large blocks of float here show talus. No outcrops were observed. a high content of metamorphic schist and gneiss that indicate the area is underlain by a contact phase of the batholith to the east. west at approximately one claim west of the road, an east/west striking cliff of "greenstone" is exposed. It is comprised of dark green sheared and chloritized andesite. It extends for several claims in a general north/south direction. The exposed width at the top of the cliff is around 100 to 200 The vertical extent exposed in the cliff face is on the order of 300 feet. This rock appears to belong to the Nicola Group of basalts and feet. andesites that are mapped 16 miles to the east in the Ashcroft Area. The

series does not show on the G.S.C. Ashcroft sheet and probably represents a small inlier or roof pendant on the claim group. Its presence is important since the series in general contains a high inherent content of copper mineralization elsewhere in the province (Princeton Area) and is believed by many to be the source rock of copper deposits. This horizon on the claim group contains local concentrations of copper confined mainly to a series of persistent shear zones on the cliff face that strike 330 degrees and dip steeply north. The contact with the intrusive to the east is not exposed however the reconnaissance magnetometer survey indicates it may be traced by this method through the talus.

SHOWINGS

The Victory Mine showing located near the northeast corner of the claim group is described above. It was not visited by the writer due to snow conditions. A copper showing in a small rock trench near the southeast corner of Claim Diana 2 was examined. Disseminated pyrite and chalcopyrite mineralization is exposed in a narrow shear zone in the Nicola Volcanic rocks. The mineralized zone is exposed in a shallow rock trench at the cliff face over a width of 6 to 8 feet and a length of 10 feet. Additional trenching is necessary to determine its extent. The showing strikes 330° and dips 75° north. A representative grab sample of the mineralized rock assayed 0.6% Cu.

Mineralized greenstone is exposed on the walls. Intermittent copper staining was noted in narrow shears along the cliff face in the vicinity for a distance of some two claims in a north/south direction. Other grab samples from this area were reported to assay 0.61% Cu, 0.56% Cu, 0.33% Cu and 0.47% Cu.

The writer observed several pieces of pyritized and silicified diorite with reticulate quartz veining in the talus near the cliff face. The The rock originates higher up the hill in an easterly direction and indicates the presence of a mineralized intrusive somewhere in the area that could be a significant host rock for copper mineralization. The float contained 5 to 10 percent fine pyrite and sparse amounts of fine chalcopyrite. Additional work is warranted to find its source.

W. Hamilton, prospector and a principal of Cuda Resources Ltd. reports similar mineralized outcrops over an extensive area near the mountain top. A piece of float rock in a dry creek on Claim Diana 44 was reported to assay 2.20% copper.

A total of 36 miles of geochemical and magnetometer survey was completed, including 15 miles on Block A and 12 miles on Block B.

Block A consists of claims Diana 39 to 45 inclusive; Diana 23, 27 and 29, Judy 5 and 6.

Block B consists of claims Diana 1 to 6 inclusive, Diana 9 to 14 inclusive,
Diana 37 and 38.

GEOCHEMICAL SURVEY

A geochemical soil survey was conducted over Blocks A and B.

Soil samples were taken at 100 foot intervals on east/west lines spaced approximately 500 feet apart covering the 2 claim blocks. The samples were assayed by the atomic absorption spectograph method for copper content.

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Results:

The statistical background for copper on the claim group is 100 parts per million. A threshold value of 150 parts per million is arbitrarily chosen and all values over 200 p.p.m. are considered anomalous.

BLOCK A - has a considerably higher level of copper content than Block B and contains six well defined anomalies. These are summarized as follows:

Claim	Approximate Size	<u>Values</u>			
Diana 42	800' x 200' range	200 to 300 p.p.m.			
Diana 43 and 45	800' x 300' range	200 to 1360 p.p.m.			
Diana 29 and 27	(a) 1600' x 200' range (b) 800' x 400' range	200 to 262 p.p.m. 200 to 730 p.p.m.			
Diana 27	400' x 400' range	200 to 500 p.p.m.			
Diana 23	1000' x 100' range	200 to 320 p.p.m.			

The anomalies have a general linear north/south trend and appear to indicate copper bearing zones in the underlying intrusive rock. Investigation in detail is warranted.

BLOCK B - has a general geochemical level of about half that of Block A. A higher copper content of the intrusives up slope on the east side of the claim group is indicated. A sizeable anomaly however is indicated on Block B crossing the eastern part of Claims Diana 14 and Diana 12. It is approximately 2400 feet by 600 feet. Values in copper range from 200 to 920 parts per million.

MAGNETOMETER SURVEY

A magnetometer survey employing a Sharp MF-1 type fluxgate magnetometer sensitive to 25 gammas was conducted over Blocks A and B. Readings were taken at 100 foot intervals on cut lines 500 feet apart. Corrections were made for diurnal variations.

Results:

Values above 1000 gammas were chosen as anomalous for the area surveyed.

BLOCK A - Five north/south trending anomalous areas occur widely spread throughout the claim block and all are associated with distinct geochemical copper anomalies. All warrant further detailed investigation.

On Claim Diana 43 two small anomalies occur within a larger geochemical copper anomaly near the southwest corner of the claim. On the east side of the claim, a large magnetic low anomaly some 1500 feet by 300 feet lies on the west flank of a geochemical copper anomaly. Copper bearing intrusive rocks are indicated.

On Claims Diana 27 and 29 on the west side, a small linear 500 ft. by 100 ft. anomaly is coincident with a narrow 2000 ft. long north/south geochemical copper anomaly. It is interpreted as mineralized basic dyke or

inclusion of basic rock in the granitic intrusives. The assembly may follow a faulted zone. The Victory copper discovery occurs in this area. On the east side of Claims Diana 27 and 29 a 1000 ft. by 500 ft. anomaly is coincident with a similar sized geochemical copper anomaly. It indicates copper mineralization associated with a basic intrusive or inclusion.

On the west side of Diana 23 a large anomaly occurs some 1500 ft. in diameter. It encompasses a small linear geochemical copper anomaly.

BLOCK B - Three anomalous areas showing a north/south linear trend were obtained. The most extensive of these occurs on the west end of Claims Diana 6, 4 and 2 for a north/south length of 2500 feet and an east/ west width of about 300 feet. It appears to coincide with the outcrop of Nicola Volcanics along the cliff face of the Fraser River. No geochemical anomaly is associated with it. It may be used to trace the Nicola contact with the intrusive rocks.

A similar north/south linear anomaly occurs on the central part of Claims Diana 14 and 15. It is associated with the west flank of a major geochemical copper anomaly on Claims Diana 14 and Diana 12. Its north/south length is 1000 feet and east/west width 100 feet. It is interpreted as a basic dyke or inclusion.

CONCLUSIONS AND RECOMMENDATIONS

The Lillooet Claim Group of Cuda Resources Ltd. is in the preliminary exploration stage. No economic deposits have yet been found. A preliminary geochemical survey has shown the presence of substantial copper anomalies associated with favourable intrusive rocks of the Mount Lytton Batholith. These rocks are granodiorites, diorites and related rock of Coast Range Mesozoic Intrusives and are considered favourable host rocks for the occurrence of large scale copper deposits in the Ashcroft Copper mineralization has been found in shears in the copper belt. Nicola Volcanics bordering these rocks on the claim group and in intrusive float, as well as in structural fault zones on the old Victory copper discovery. A detailed exploration program totalling \$33,000. comprised of geochemical, geological and magnetometer survey together with bulldozer stripping and prospecting is recommended as follows:

ESTIMATED COSTS - EXPLORATION PROGRAM

Geological Survey

Geologist - 1 month	0	\$1,000.	\$ 1,000
Assistant - 1 month	0	750.	750
Prospector- 1 month	0	750.	750
Transportation	1,000		

\$ 3,500

Geophysical Survey

Line Cutting - 50 mi. @ \$150.	\$ 7,500
Geochem Survey - 50 mi. @ \$150.	7,600
Magnetometer Survey - 50 mi. @ \$100.	5,000
I.P. Follow-Up - 20 mi. @ \$450.	9,000

\$ 29,000

Stripping and Trenching

Bulldozer - 200 hrs. 0 \$40.	\$ 8,000	
Assaying	500	
Transportation	1,000	9,500

Contingencies @ 10%

4,200

TOTAL PROGRAM

\$ 46,200

Say \$ 46,000

Respectfully submitted,

Edward O. Chisholm, P.Eng.

, O, CHISHOLM, M.A., P.ENG

CERTIFICATE

- I, Edward O. Chisholm of the City of Vancouver in the Province of British Columbia, hereby certify that:
- 1. I am a geologist with offices at 821-602 West Hastings Street, Vancouver, B. C.
- 2. I am a graduate of the University of Toronto, Ontario, Master of Arts, 1956.
- I am a member of the Professional Engineers of Ontario and British Columbia.
- 4. I have no direct interest or indirect interest in either the property or securities of Cuda Resources Ltd. (N.P.L.) or its affiliates, nor do I expect to receive any such interest.
- 5. This report is based on an examination of the property on March 3rd, 1971, government reports and exploration data from the company files.

DATED AT VANCOUVER, BRITISH COLUMBIA

MARCH 29TH, 1971

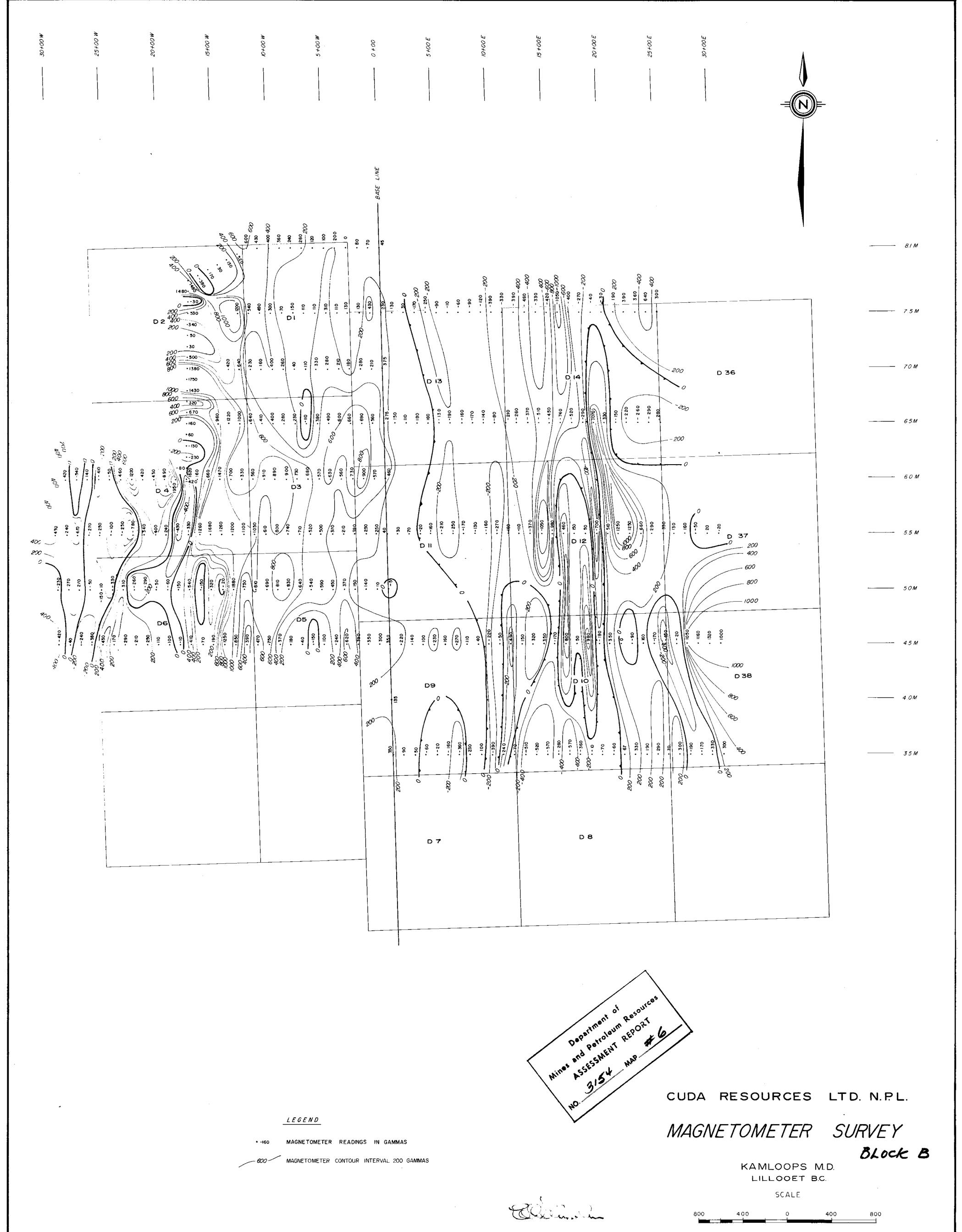
Edward O. Chisholm, P.Eng.

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ALTAIR DRAFTING FEB. 1971

