GEOPHYSICAL AND GEOCHEMICAL REPORT

FOR THE

DOMINION EAST SHOWING, DENY CLAIMS

OMINECA M.D., B.C.

DENY CLAIMS 1 to 4

: 25 km south southwest of Telkwa, B.C., and 33 km. west of Houston, B.C.

: 54° 127° NE

: N.T.S. 93L/6 €

WRITTEN FOR

: Mecca Minerals Ltd. 1102-207 West Hastings St. Vancouver, B.C., V6B 1H7

BY

: Customer Mining Services Ltd. 1102-207 West Hastings St. Vancouver B.C., V6B 1H7

CONSULTANT

: Toru Kikuchi, Ph.D., P.Eng. Consulting Geologist 5375 Quebec Street Vancouver, B.C., Car

V5W 2N4

DATE

: January 25, 1985



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GEOLOGICAL BRANCH ASSESSMENT REPORT

13,191

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APPENDIX II
APPENDIX III

APPENDIX IV

Maps in Pockets		No. of Sheets
Magnetometer survey		No Sheets
Data and Contours	1: 3000	1 (Dominion East 1)
Copper Assays	1: 3000	1 (Dominion East 2)
Lead Assays	1: 3000	1 (Dominion East 3)
Zinc Assays	1: 3000	1 (Dominion East 4)
Silver Assays	1: 3000	1 (Dominion East 5)
Arsenic Assays	1:3000	1 (Dominion East 6)

Map Deny 4 (1981) is set into
Map Pouch --- Geology and location
of 1984 work program

SUMMARY

During the fall of 1984 a combined magnetometer and geochemical survey was completed on the Deny 1-4 claims by Customer Mining Services of Vancouver, B.C. The Deny claims lie within the Dominion Basin, 25 kilometers south west of Telkwa, B.C. The easiest access to the property is a 20 minute helicopter flight from Houston, B.C. The terrain is of moderate steep slopes covered mostly with talus. The purpose of the present survey was to extend the geological knowledge of the East Showing, one of three known mineral showings on the Deny claims, and attempt to identify the dimensions of the mineralized zone.

Previous work on the property consists of a rock sampling program, magnetometer work, a V.L.F., E.M.survey, as well as diamond drilling.

The property is mainly underlain by Jurassic Lower Cretaceous Hazelton Group Volcanics. Copper and silver mineralization has been found to date at three locations: the North, South and East Showings. The rock types of the survey area are mainly andesitic and dacitic ash flow deposits, and basalt lava flows.

The magnetometer readings and soil samples were taken over 30 meters on 30 meter separated east west lines. The data was then diurnally corrected, statistically analyzed, plotted and contoured.

CONCLUSIONS

- 1. The 1984 magnetometer survey has revealed several linear magnetic highs and lows. Other magnetic highs and lows, uncovered in past magnetic surveys on the property, have corresponded with known areas of mineralization. The new magnetic highs and lows could be reflecting sulphide mineralization.
- The geochemical soil sampling program revealed that several areas on the property contain moderate amounts of copper, lead and zinc. The silver and arsenic results revealed isolated highs at single survey points.

RECOMMENDATIONS

No recommendations are made at this time as work discussed in this report is part of a multi-phased work program outlined by Dr. Kikuchi (1981). Additions or alterations to those 1981 recommendations will have to await the completion of more of the proposed projects.

GEOPHYSICAL AND GEOCHEMICAL REPORT FOR THE

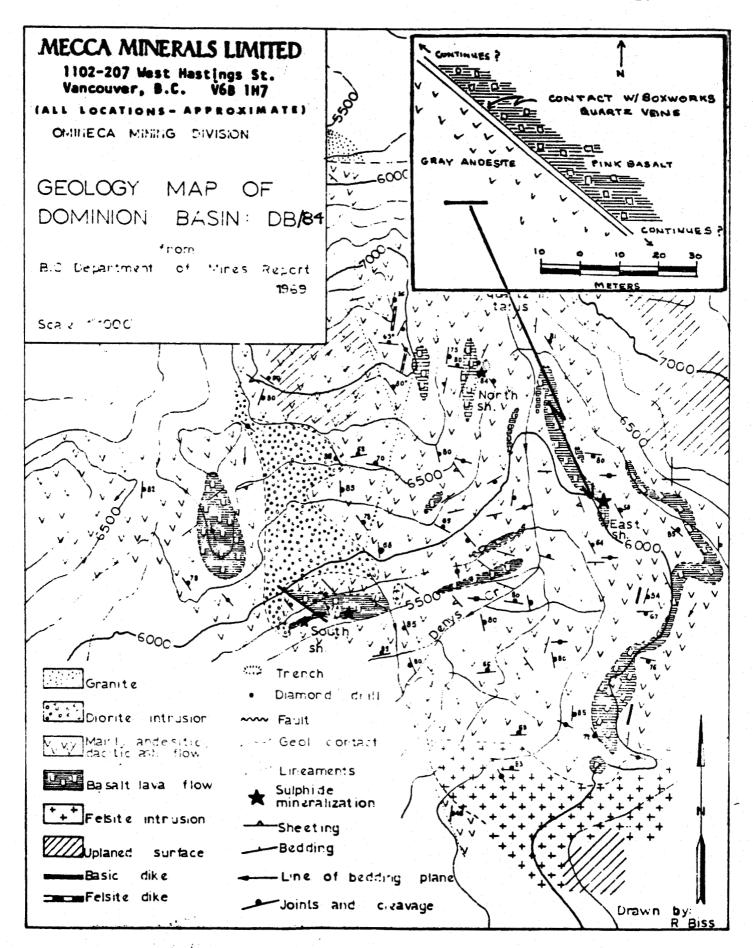
DOMINION EAST SHOWING

DENY CLAIM GROUP

HOUSTON AREA, OMINECA M.D., B.C.

INTRODUCTION AND GENERAL REMARKS

This report discusses the survey method, data compilation and. interpretation of results from Magnetometer Geochemical surveys carried out on the Dominion East Showing, Deny claims. All field work was completed between September 13th and September 19th, 1984 by Customer Mining Services Ltd. of Vancouver, B.C. The work program was under the direction and supervision of James Rutherford, following those recommendations outlined by Dr. Kikuchi (1981). The combined magnetometer and geochemical surveys totalled approximately 2½ kilometers of survey line. There are three known mineralized showings on the property, conveniently called the North, South and East Showings. Refer to Map D3/84 on the following page for location and general geology of showings. The present survey was conducted over the East Showing, using a copper bearing (malachite stained) vein, as



PROPERTY AND OWNERSHIP

The Deny claims were formerly part of the "Dominion Basin Group", held by Mecca Minerals Limited of Vancouver, B.C. This area was restaked the Deny 1 and 2 claims in October 1980, while Deny claims 3 and 4 were staked in June of 1981. The four claims, totalling 24 units, are described below:

Claim Name	Record Number	No. of Units
Deny 1	3362	20 (4 x 5)
Deny 2	3363	2 (2 x 1)
Deny 3	3865	1
Deny 4	3866	1

The property is owned 100 percent by Mecca Minerals Ltd. of Vancouver, B.C.

LOCATION AND ACCESS

The Deny claims lie within the Dominion Basin, 25 kilometers south west of Telkwa, B.C., at the headwaters of Deny Creek. For claim locations please refer to Map 93/L6, page 19 of this report. A four-wheel drive access to the road from Telkwa goes as far as the Old Norcan Camp west of Mooseskin Johnny Lake, and from here one could walk (hike) to the property. However, at present the most convenient route is a 20 minute helicopter flight from Houston, B.C.

The location of the Deny 1 claim post is north latitude 54° 27', west longitude 127° 08'.

TOPOGRAPHY

The Deny claims lie within the physiographic division known as the Nechako Plateau, found between the Skeena and Fraser River systems.

The topography of the Deny claims is generally very steep, at some points greater than 40° . The lowest point on the property is 1500 meters above M.S.L., while the high point (the north-west corner) is approximately 2300 meters above M.S.L.

The majority of the property is above the tree line, with patches of snow remaining on the ground all summer long.

HISTORY OF PREVIOUS WORK

Mineralization was discovered in the Dominion Basin at the turn of the century, with intermittent exploration occurring ever since. McAndrew (1974) had reported that there are numerous rumours about "oldtimers" packing out high-grade gold ore from the area.

In 1953 New Jersey Zinc Exploration Ltd. conducted a brief geological survey in the Dominion Basin, probably to check out the "oldtimers'" reports. Two chip samples from the North Showing assayed (see Appendix II) as follows:

Sample #	Copper %	Zinc %	Lead % Si	lver gm/t	Gold gm/t
1	1.6	13.0	7.2	117.0	3.0
2	3.3	21.0	0.4	156.0	0.3

In 1968-69 Falconbridge Nickel Mines Inc. optioned the Dominion Basin area. In conjunction with work on other claims in the area they completed geological and geochemical mapping. They also diamond drilled several holes north east of the Dominion South Showing. McAndrew has reported (1974) that the last 5 meters of core in one hole assayed 2.72% copper and 25 grams per metric ton of silver.

Falconbridge drilled 3 short pack-sack diamond drill holes (10.8 m, 12.2 m. and 4.6 m.) in their 1968-69 program. The holes covered a horizontal distance of 66 m. and all intersected copper-silver-zinc mineralization Assays for copper, silver and zinc were low. There are no available records of any gold assays, the angle the holes were drilled at, percent core recovery and the precise distance the holes were collared from the known vein.

In 1973 Maharaja Minerals Ltd. of Vancouver conducted a program of geological mapping, trenching and chip sampling on both the Dominion South and North Showings. A limited magnetometer survey was completed over the North Showing (2 kilometers in total length), while drill sites were blasted out of the steep hillside on the South Showing. McAndrew (1974) reports that magnetic highs located in the magnetometer survey matched known areas of mineralization. McAndrew's findings suggested that the magnetometer or V.L.F. EM geophysical techniques would make excellent reconnaissance tools for future exploration programs. It was

this finding, combined with the fact that the footwall of the North Showing is composed of a dense magnetite-rich unit, that led to the exploration work done in 1981.

During the 1973-74 exploration season nine diamond drill holes were completed on the South Showing to test the known zone of mineralization. However, poor core recovery (10 to 40 percent lost) hindered the drawing of conclusions on the size of this mineralized zone.

In 1980 Mecca Minerals conducted a detailed chip sample survey at the North Showing on the "friendly trench". The following discussion of the results comes from Kikuchi (1981).

"This survey ran along the estimated vein extension for 8.5 meters, approximately 150 m. west of the area covered in the 1973 magnetometer survey. Twenty-eight half-meter samples were taken along the vein, while six 0.3 meter samples were taken across the vein. The 34 samples assayed from 0.3 gm/t to 342 gm/t silver and from 0.03 gm/t to 21.6 gm/t of gold. The averages for the samples are 70.2 gm/t of silver and 2.21 gm/t of gold. (Remember that 30 gm/metric ton = 1 oz/ton)."

This 1984 work on the Dominion East Showing is the first on record. The showing was never properly examined prior to 1984.

GEOLOGY

General

The following discussion on the geology of the Deny Creek area comes from Lorimer's 1972 report on the property:

"The claims lie in a region of andesitic to rhyolitic tuffs, breccia and flows. These cocks are prominently coloured in red, purple, green and grey, often in sharply contrasting bands, and carrying intercalated bands of sediments."

"Intrusive into these rocks at the approximate central area is a porphyritic granodiorite or quartz monzonite stock covering an area of about four square miles. Lesser stocks, dykes and sills are common throughout the area."

"The large stock has apparently uplifted the older volcanics with the result that the bedding generally dips outward from it. Much faulting, some of it block-faulting, has occurred with the result that the structure is complicated."

"This stock has apparently governed the metallic deposition since many of the occurrences are located around its perimeter or close to apophyses and dykes from it. The showings are usually associated with fractures and are generally narrow but some dissemination into country rock and minor replacement are to be seen."

"The metals of economic interest are copper and silver. The copper occurs as chalcopyrite, bornite, chalcocite, tetrahedrite and malachite. The silver values are often significant, particularly where bornite is present. Pyrite, magnetite and specular hematite are the common iron minerals."

Local

To date three mineralized zones have been found on the property. The North, South and East Showings can be found by referring to Map Deny-1. Please see maps in pocket.

McAndrew (1974) described the South Showing in the following way:

"The Dominion South Showing is well defined by a strong zone of epidote (HCa₂ (AL, Fe) Si₃O₁₃) alteration approximately 30 m. wide by 95 m. long, in an andesite host rock. Within this zone of alteration occurs bornite, chalcopyrite, chalcocite, local zones rich in specularite, moderate chlorite alteration and some calcite stringers. The copper sulphides occur disseminated, in seams and in host rock and in fractures which generally strike north west and dip steeply to the north east. At surface some of the sulfides have weathered to malachite and azurite. The bright greens and blues of these minerals act as good guides when looking for mineralization ..."

Due west, north west and north of the andesite containing the South Showing is a dark brown, strongly magnetic diorite sill which discordantly cuts the strata in this part of the claim group. The following mineral composition is based on thin-section analysis of three mesocratic diorite samples: plagioclase 63%; amphibole 12%; chlorite 13%; epidote 3%; opaque minerals 5%; quartz 3%; sphene 1%; apatite trace".

The Annual Report of the B.C. Department of Mines and Petroleum Resources for 1969 described the North Showing in

the following manner:

North Showing on the Dominion Basin is the fissure-vein type. A pit near the 1920 m. elevation yielded specimens of chalcopyrite, pyrite, sphalerite, galena, malachite, azurite and bornite in quartz. The vein is about 1 m. wide and appears to dip gently to the west. The hanging wall is composed of a brittle andesite tuff and the footwall is magnetite-rich unit, iron 54.75%, manganese 0.79%, titanium 0.05%. The geographical and setting suggests that the vein may be an extension of the fault-vein system observed in the saddle several hundred meters to the north. The observed shallow dip of the vein is thought to be abnormal and may be the result of the local deflection of the fissure fracture along a bedding plane, the overall dip of the vein probably being steep". (p. 91)

In the 1980 sampling of the North Showing, the "friendly trench" contained significant amounts of limonite boxworks around the vein structure. It is worth quoting Bateman's Economic Mineral Deposits on the subject of these boxworks:

"Field observations disclose, particularly disseminated deposits, that the solutions during oxidation of sulphides effect a pronounced kaolinization of hydrothermally altered country rock. The zone of supergene kaolinization coincides with the zones of oxidation and supergene sulphide enrichment. The degree of kaolinization indicates the intensity and extent of downward migration of sulphate solutions and of possible supergene sulphide enrichment. Thus, if, in copper cappings, intense kaolinization is associated with indigenous limonite, considerable supergene sulphide enrichment may be expected beneath such kaolinized oxidized zone". (p. 263)

The existence and/or extent of such enrichment will have to await future diamond drill programs.

A limonitic boxworks vein structure, similar to the North Showing but much smaller, is found on the Dominion East Showing. Th vein is about 15 cm. wide, strikes N. 40 W. and traceable for 71 meters. The boxworks vein is contained within a contact zone between a pinkish basalt and grey andesite. The contact zone is approximately 20 meters wide and fractured. It has many small veinlets of quartz and sporadically stained with malachite.

INSTRUMENTATION AND THEORY

The magnetometer survey utilized a portable vertical component fluxgate magnetometer, Model 22, manufactured by Sabre Electronic Instruments Ltd. of Burnaby, B.C. This magnetometer uses a digital dial read-out with a range of 100,000 gammas and a reading accuracy of 10 gammas. Specifications of the magnetometer can be found in greater detail in Appendix I.

Magnetite and pyrrhotite are the only commonly occurring strongly magnetic minerals. Magnetic surveys can be used to locate the presence of these two minerals. Different rock types have differing background quantities of magnetite, pyrrhotite or both. Therefore magnetic data can also be used to map geological lithology and structure.

SURVEY PROCEDURE

A grid system was established on the property using flagged stations every 30 meters. Approximately $2\frac{1}{2}$ kilometers of grid system was established. Magnetometer readings were taken over the entire survey area and the diurnal shift was monitored in the field using the closed loop method of a series of base stations. Stations were marked with small rock cairns and flagging, as there are few trees or bushes. Soil samples were taken over approximately $2\frac{1}{2}$ kilometers of the survey area. These samples, taken from the B Horizon, were placed in kraft paper bags, marked, sealed, and analyzed by Acme Analytic Laboratories Limited of Vancouver for copper, lead, zinc, silver and arsenic.

Acme Analytic's geochemical methodology is presented in Appendix III. The complete assay results can be found in Appendix IV.

COMPILATION OF DATA

Magnetometer readings have been plotted on Map DE 1/84 at a scale of 1 cm. = 10 meters. To simplify matters 53,000 gammas have been subtracted from each raw data point before being plotted. The magnetic values were grouped together in equal arithmetic intervals and a cumulative frequency distribution was established. The statistical parameters taken from this distribution and used for map construction are as follows:

- 3,500 gammas Anomalous High Threshold Value
- 3,000 gammas sub-Anomalous High Threshold Value
- 2,500 gammas Mean Background Value
- 2,000 gammas Sub-Anomalous Low Threshold Value
- 1,500 gammas Anomalous Low Threshold Value

The contour interval for the plotted results is 150 gammas. High threshold values have been contoured with a solid line while low threshold values have been contoured with a broken line. Background values, those below 1500 gammas and above 4,000 gammas, have not been contoured.

Assay results for copper, lead, zinc, silver and arsenic have been plotted on maps 2, 3, 4, 5 and 6 respectively. Map 2, which contains the copper assays, has been plotted such

that 1 cm = 10 meters. The contour interval is 10 p.p.m., with assay results below 60 p.p.m. acting as background. Map 3, which contains the lead assays, has been plotted such that 1 cm. = 10 meters. The contour interval is 10 p.p.m., with assay results below 40 p.p.m. acting as background. Map 4, which contains the zinc assays, has been plotted such that 1 cm. = 10 meters. The contour interval is 10 p.p.m., with assay results below 130 p.p.m. acting as background. Map 5, which contains the silver assays, has been plotted such that 1 cm. = 10 meters. The contour interval is 10 p.p.m., with assay results below 7 p.p.m. acting as background. Map 6, which contains the arsenic assays, has been plotted such that 1 cm. 10 meters. The contour interval is 10 p.p.m. with assay results below 40 p.p.m. acting as background.

DISCUSSION OF RESULTS

Magnetometer Survey

The magnetic relief, as is shown on Map Deny-1, is rather high, with values ranging from a low of 450 gammas to a high of 4,000 gammas. This type of magnetic variation is indicative of basalt volcanics. Map DB/84, which gives the geology of the Deny claims, demonstrates that the survey area is underlain by two rock-types: basalt lava flows, and andesitic and/or dacitic ash flow deposits. In comparing the areas of the two rock-types it would appear that magnetic highs correspond closely with areas of basalt lava flows. The four most significant magnetic highs:-

Station 90 East - 90 North

Station 30 East - 120 North

Station 60 East - 90 South

Station 120 East - 30 South

Four smaller anomalous low zones were also located in the survey area. These anomalous lows are centred as follows:

Station 120 West - 60 North

Station 120 West - 30 North

Station 120 West - 60 South

Station 120 West - 90 South

Several small but scattered sub-anomalous zones were located. To date none of these highs nor lows correspond with any known mineralized zones.

can be hypothesized that other anomalous magnetic highs may be extensions of the known mineralized zone, or possibly new areas of mineralization. These magnetic highs were listed above and could be targets for future trenching or diamond drill programs. "Base" station OE, OW, ON, OS is located in the centre of the copper stained boxworks vein and is classified as a station having a "sub-anomalous High Threshold Value." It is unlikely they will be worthwhile drilling, considering the very low assay values in Appendix IV. Although lows cannot be found to match any known mineralized zones, several highly anomalous magnetic lows would certainly warrant future consideration as possible trenching targets. Slight copper staining was observed at Stations 30 East - 120 North and 30 West - 0 North but do not match up with any significant high or low --- the same approximate values as the base station.

Geochemical Survey

Soil samples showing overlaps for lows of copper, lead, zinc and arsenic occur at stations 30 south-90 west and 120 north - 90 east. A magnetic high was located at 90 north - 90 east indicating a possible "copper soil low - magnetic high" correlation in this vicinity.

Overlap highs for copper, lead, zinc and arsenic appeared approximately at 90 north - 150 west. At station 90 south - 90 east highs for copper, lead and zinc occur. High silver and arsenic values were spotty and not extensive.

A magnetic high was located at 90 south - 60 east indicating a possible "copper, lead, zinc and arsenic soil high - magnetic high " correlation at this point.

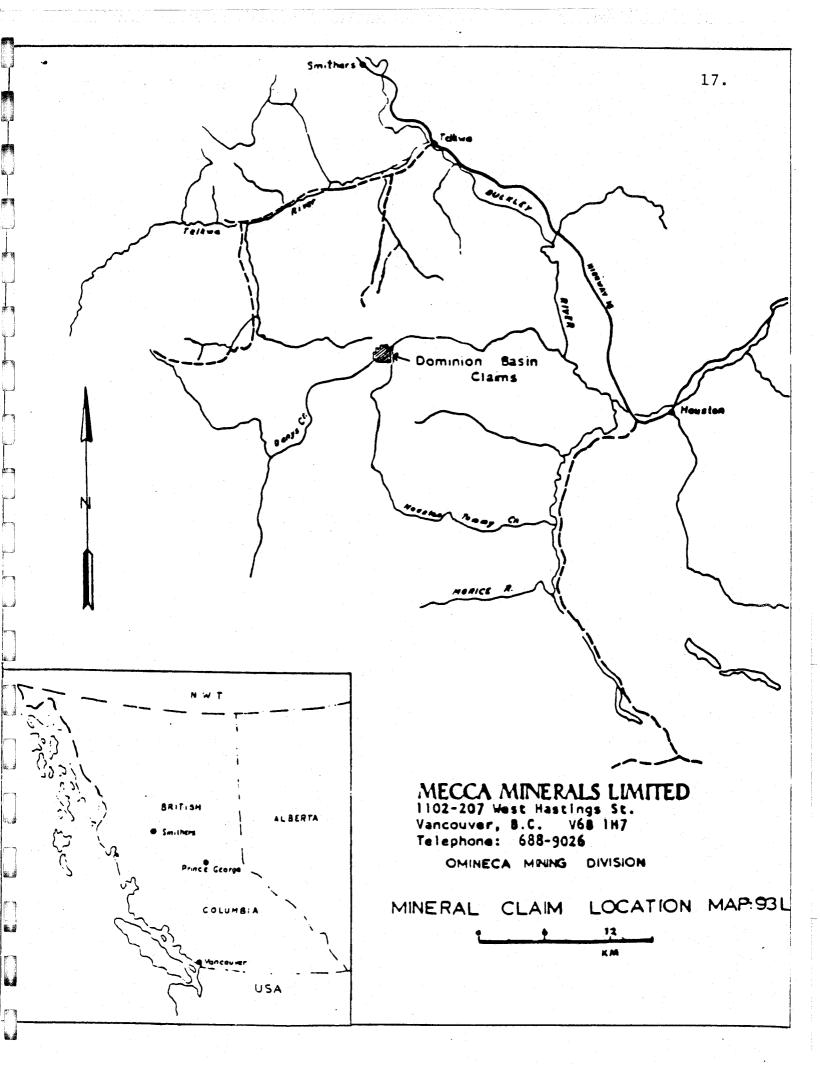
The strongest anomalous high (368 p.p.m.) for copper occurred at station 120 north - 120 east. Another high for copper came in at station 90 south - 90 east. Strong copper lows came in at stations 90 north - 90 east and 60 south - 90 west.

Lead geochemical results indicate strong highs (over 50 p.p.m.) exist at stations 90 south - 90 east, 120 north - 120 east and 90 north - 150 west.

Strong zinc highs (150 p.p.m. and above) were found at stations 120 south - 120 east, 30 north and 90 north - 150 west. Other zinc closure zones were low or moderate. The lows observed are not extensive and are spotty.

Arsenic geochemical results indicate strong highs exist at stations 90 north - 150 west and 30 north - 60 west. Arsenic lows are found to be spotty and not extensive but quite numerous. Silver values were all low - too low to be considered significantly anomalous throughout the survey area.

Any follow-up trenching conducted on geochemical and geophysical anomalies found could uncover some interesting results if the same appear justified in the future. Particularly if copper prices improve. Notwithstanding the known limitations of the method of survey the results appear to warrant closer investigation by other prospecting methods — trenching, drilling and/or other geotechnical surveys or any combination of the same.



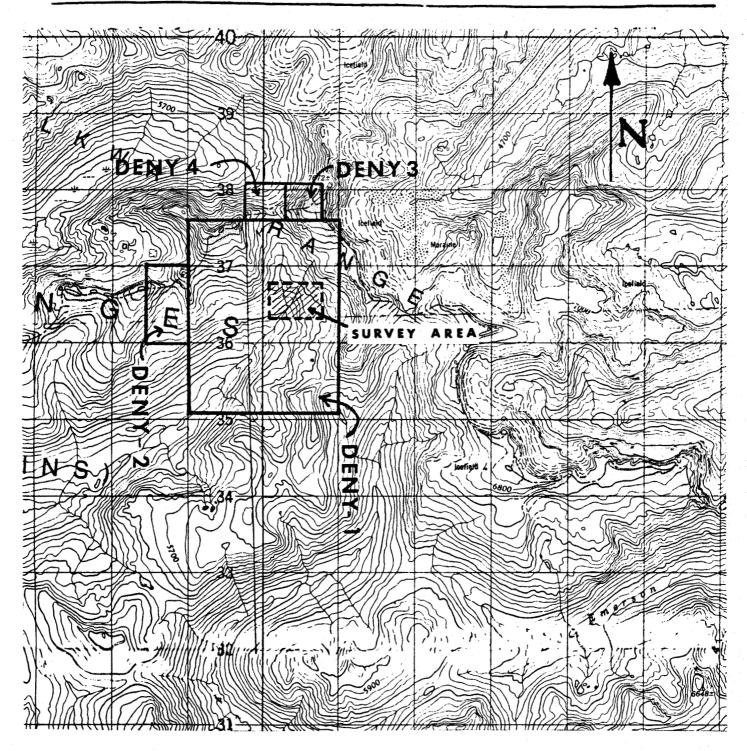
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OMINECA M. D.

P.O. Box 533 Postal Station A Vancouver, B.C. V6C 2N3 18.



DENY CLAIMS - DOMINION BASIN

CLAIM LOCATION

1cm-250m

93 L/6

SELECTED BIBLIOGRAPHY

- MacDonald, R.C., (New Jersey Zinc Explorations Ltd.)
 Letter to T. George Re: Dominion Basin, 1953.
- Bateman, A.M. Economic Mineral Deposits. Second Edition
 New York: John Wiley & Sons Inc. 1954.
- B.C. Department of Mines and Petroleum Resources. <u>Geology</u>, <u>Exploration</u>, and Mining in B.C. 1969.
- Lorimer, M.K. Report on Properties of Maharaja Minerals Ltd.
 N.P.L. in the Telkwa Area. 1972
- McAndrew, J.M. 1973-74 Field Exploration Report, Maharaja Minerals Ltd. N.P.L. 1974.
- Kikuchi, T. Report and Recommendations on the Deny (1-4)
 Claims, Dominion Basin, Omineca M.D., B.C., 1981.

8. 1

Kikuchi, T. <u>Geophysical Report on a Magnetic and Electromagnetic Survey, Deny Claim Group (Dominion Basin)</u>, Houston-Telkwa Area, Omineca M.D., B.C. 1981.

CERTIFICATE

- I, JAMES A. RUTHERFORD, of the City of Vancouver, British Columbia, the author of this report, hereby certify that:-
- 1. I am President and Manager of Customer Mining Services Limited, with offices at 1102 207 West Hastings Street, Vancouver, B.C., V6B 1H7.
- 2. I hold a B.Sc. degree (major geology) from the University of Alberta 1955.
- 3. I hold an M.B.A. degree (major business administration) from the University of Western Ontario 1957.
- 4. I am a Fellow of the Geological Association of Canada.
- 5. I am not a Registered Engineer in the Province of British Columbia or of any province.
- 6. I have worked professionally and as a businessman in the mining and/or oil business for over 30 years.
- 7. As at date I have direct and indirect interest through Customer Mining Services Limited in the securities of Mecca Minerals constituting a position of "shareholder of control".
- 8. This report is based on personal field examination and examination of the data obtained as a result of the survey.

DATED at Vancouver, British Columbia, this John day of January 1985.

James A. Rutherford

B.Sc., M.B.A., FGAC, AFCGS.

STATEMENT OF QUALIFICATIONS

- I, TORU KIKUCHI of the City of Vancouver, B.C. hereby certify that:
- I am a graduate of the Hokkaido University, Japan (B.Sc., Geology and Mineralogy, 1946) and of the Tohoku University, Japan (Ph.D., Economic Geology, 1963).
- 2. I am a "GIJUTSUSHI" (a qualification for a consulting engineer authorized by the Japanese Government) and a member in good standing of the Association of Professional Engineers of the Province of British Columbia.
- I have been practising my profession continuously for the past thirty-five years, and am an independent Consulting Geologist with my office at 5375 Quebec St., Vancouver, B.C., V5W 2N4.
- I have no direct or indirect interest in the property, nor do I anticipate receiving any such interest, nor in the securities of Mecca Minerals Limited.
- 5. I inspected a portion of the work while the program was being carried out. I have read this report and personally endorse the facts and concepts contained in the text.

Toru Kikuchi, P.Eng.

Vancouver, B.C. January }/, 1985

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AFFIDAVIT OF EXPENSES

The magnetic and electromagnetic survey carried out on the Deny Claims, Dominion Basin Area, Omineca, M.D., B.C. September 13 to September 19 1984 was done to the value of the following set in below.

FIELD:

3-man crew, 7 days at \$500.00 per day	\$3,500
Supervision	1,000
<pre>Instrument(s) rental</pre>	200
Board and room	1,200
Survey supplies	200
Mobilization and demobilization (helicopter and air fares from Vancouver.Return)	2,000 8,100
REPORT	
Drafting and printing (binding)	\$ 650
Report typing and compilation	350
	1,000
Grand Total	\$9,100

Respectfully submitted Customer Mining Services Ltd.

James A. Rutherford

President

geophysical industrial instruments and services

SABRE MODEL 22* PORTABLE MAGNETOMETER

The model 22 magnetometer is an accurate and rugged instrument that is simple to operate yet fulfills all the requirements of a first class geophysical exploration instrument.

Specifications

Principle of Operation: Neutralized fluxgate.

Type of Readout: Meter to indicate null and precision digital dial to

indicate value of earth's vertical field directly in gammas.

Range: 0 to 100,000 gammas (without the use of complicated

latitude controls or range switches)

Sensitivity: 20 gammas per division on digital dial. Constant and

linear throughout the entire range.

Operating Temperature Range: -30°C to +85°C.

Temperature Drift: Less than 2 gammas per degree throughout the entire

operating range.

Fluxgate Suspension System: Oil-damped gimbal, self-levelling.

Dimensions: Magnetometer:9 inches high x 7-1/4 in. wide x 4 in. deep.

Battery Case:4-3/4 in. x 4-3/4 in. x 1-1/2 in.

Weight: Magnetometer 4 lbs.

Battery Case 2 lbs. (complete with batteries)

Field Cases: Magnetometer and battery case are both housed in heavy

saddle leather cases with convenient carrying straps.

Batteries: 4 Eveready No. 246 transistor batteries (9 volt), with

service life of approx. 2 months depending on use.

^{*} Specifications for Model G-110 are the same.

J. R. WILLIAMS & SON LTD.

PROVINCIAL ASSAYERS AND CHEMISTS

File #114774/775

Office and Laboratory:

580 Nelson Street, Vancouver 2, B. C.

I Hereby Certify that the following are the results of assays made by me upon samples of O R. E. herein described and received from Messrs. New Jersey Zine July 27th. 19.53.

MARKED	GOLD Ounces Value Per Ton Per Ton		Ounces Value Ounces Value Per Value		ZINC	COPPER	GROSS	TOTAL VALUE	_		
							Per Cent.	Velesk Bacallesk		(2000 Ba.) Per Ton	
		•		•		•		•	•		
			•								
D					•						APP
Pominion Pasin 80. 9654 = 9½ ft. 9655 - 9 ft.	0.10		3.90		7.20		13.00	1.60			APPENDIX
9655 - 16	0.01		5.20		0.40		21.00	3.30		•	
7037 - 718				! !	:	İ					
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Gold calculated at \$

per ounce.

Silver calculated at

cents per ounce.

NOTE-Pulps of Samples retained 2 months from date of Receipt.

at a describer instrument

Calculated at

Calculated

Calculated at

cents per lb. cents per 1b.

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Provincial Assayer.



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ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone: 253 - 3158

GEOCHEMICAL LABORATORY METHODOLOGY - 1984

Sample Preparation

- 1. Soil samples are dried at 60°C and sieved to -80 mesh.
- 2. Rock samples are pulverized to -100 mesh.

Geochemical Analysis (AA and ICP)

- 0.5 gram samples are digested in hot dilute aqua regia in a boiling water bath and diluted to 10 ml with demineralized water. Extracted metals are determined by :
- A. Atomic Absorption (AA)

Ag*, Bi*, Cd*, Co, Cu, Fe, Ga, In, Mn, Mo, Ni, Pb, Sb*, Tl, V, Zn (* denotes with background correction.)

B. Inductively Coupled Argon Plasma (ICP)

Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cu, Cr, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Th, Ti, U, V, W, Zn.

Geochemical Analysis for Au*

10.0 gram samples that have been ignited overnite at 600°C are digested with hot dilute aqua regia, and the clear solution obtained is extracted with Methyl Isobutyl Ketone.

Au is determined in the MIBK extract by Atomic Absorption using background correction (Detection Limit = 5 ppb direct AA and 1 ppb graphite AA.)

Geochemical Analysis for Au**, Pd, Pt, Rh

10.0 - 30.0 gram samples are subjected to Fire Assay preconcentration techniques to produce silver beads.

The silver beads are dissolved and Au, Pd, Pt and Rh are determined in the solution by graphite furnace Atomic Absorption.

Geochemical Analysis for As

0.5 gram samples are digested with hot dilute aqua regia and diluted to 10 ml. As is determined in the solution by Graphite Furnace Atomic Absorption (AA) or by Inductively Coupled Argon Plasma (ICP).

Geochemical Analysis for Barium

 $0.1~\mathrm{gram}$ samples are digested with hot NaOH and EDTA solution, and diluted to 10 ml.

Ba is determined in the solution by Atomic Absorption or ICP.

Geochemical Analysis for Tungsten

1.0 gram samples are fused with KCl, KNO_3 and Na_2CO_3 flux in a test tube, and the fusions are leached with 20 ml water. W in the solution determined by ICP with a detection of 1 ppm.



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ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone: 253 - 3158

Geochemical Analysis for Uranium

0.5 gram samples are digested with hot aqua regia and diluted to 10 ml.

Aliquots of the acid extract are solvent extracted using a salting agent and aliquots of the solvent extract are fused with NaF, $\rm K_2CO_3$ and Na $\rm ^{2}CO_3$ flux in a platinum dish.

The fluorescence of the pellet is determined on the Jarrel Ash Fluorometer. Geochemical Analysis for Fluorine

0.25 gram samples are fused with sodium hydroxide and leached with 10 ml water. The solution is neutralized, buffered, adjusted to pH 7.8 and diluted to 100 ml.

Fluorine is determined by Specific Ion Electrode using an Orion Model 404 meter.

Geochemical Analysis for Tin

1.0 gram samples are fused with ammonium iodide in a test tube. The sublimed iodine is leached with dilute hydrochloric acid.

The solution is extracted with MIBK and tin is determined in the extract by Atomic Absorption.

Geochemical Analysis for Chromium

0.1 gram samples are fused with Na_2O_2 . The melt is leached with HCl and analysed by AA or ICP.

Geochemical Analysis for Hg

0.5 gram samples is digested with aqua regia and diluted with 20% HCl.

Hg in the solution is determined by cold vapour AA using a F & J Scientific Hg assembly. An aliquot of the extract is added to a stannous chloride / hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it is measured by AA.

Geochemical Analysis for Ga & Ge

0.5 gram samples are digested with hot aqua regia with HF in pressure bombs.

Ga and Ge in the solution are determined by graphite furnace AA.

Geochemical Analysis for Tl (Thallium)

0.5 gram samples are digested with 1:1 $\rm HNO_3$. Tl is determined in the extract by graphite AA.

Geochemical Analysis for Te (Tellurium)

0.5 gram samples are digested with hot aqua regia. The Te extracted in MIBK is analysed by AA graphite furnace.

ACME ANALYTICAL LABORATORIES LTD.
852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: JAN 7 1985

DATE REPORT MAILED:

Jan 9/85

PAGE

GEOCHEMICAL ICP ANALYSIS

.500 5RAM SAMPLE IS DIGESTED WITH 3ML 3-1-3 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR Mn.Fe.Ca.P.Cr.Mg.Ba.Ti.B.Al.Na.K.W.Si.Zr.Ce.Sn.Y.Nb and Ta. Au DETECTION LIMIT BY ICP IS 3 pps.
- SAMPLE TYPE: SOILS

ASSAYER: ... DEAN TOYE OR TOM SAUNDRY. CERTIFIED B.C. ASSAYER

MECCA	MINERALS	F	ILE # 8	35-0 027	
SAMPLE#	ppm Cu	Pb	Zn	Ag	As Ppm
DB 120N 120W DB 120N 30W DB 120N 0W DB 120N 60E DB 120N 60EA	27 51 51 12 37	16 35 19 13 12	93 162 111 55 95	.3 .1 .1 .1	6 26 13 6 5
DB 120N 90E DB 90N 120W DB 90N 40W DB 90N 30W DB 90N 30E	10 27 24 16 23	12 17 6 16 13	50 95 22 79 49	.1 .4 .2 .2	13 2 6 2
DB 90N 90E DB 90N 120E DB 60N 0W DB 60N 30E DB 60N 60E	12 30 44 46 45	17 13 21 15	28 64 88 72 121	.1 .2 .1	12 9 6 14 7
DB 30N 120W DB 30N 0W DB 30N 30E DB 30N 60E DB 30S 0W	59 58 11 26 85	22 22 9 13 12	121 160 43 118 78	.2 .1 .1 .3	23 11 3 7 7
DB 60S 0W DB 60S 60E DB 90S 90E DB 90S 120E DB 120S 120W	67 135 364 14 91	15 18 60 10 16	138 168 118 28 117	.3 .2 .1 .2	14 40 7 2 12
DB 120S OW DB 120S 30E DB 120S 40E DB 120S 90E DB 120S 120E	15 70 40 20 33	18 56 16 19 20	30 90 70 44 2 5 0	.1 .9 1.0 .4	7 3 3 6 39
DB ON OS OW OE DB 150W 120N DB 150W 90N DB 150W 60N DB 150W 30N	180 24 89 19	16 16 52 10 15	132 40 199 49 86	.2 .5 .1 .1	9 5 251 13 9
DB 150W ON DB 90W 60N STD C	20 24 56	13 23 40	97 49 124	.1 .6 6.9	13 23 41

PAGE

MECCA	MINERAL	_S	FILE #	85-00	27
SAMPLE#	Cu	РЬ	Zn	Ag	As
	bbw	ppm	bbw	D D W	ppm
DB 90W 30N	65	15	158	.6	91
DB 90W 30S	12	23	46	. 1	7
DB 90W 60S	12	8	22	. 4	2
DB 60W 60N	22	12	86	. 6	20
DB 60M 30N	56	22	134	.2	150
DB SOM ON	44	11	87	.2	19
DB 60W 30S	31	14	104	.3	9
DB 60W 60S	34	15	79	. 1	18
DB 60W 120S	45	12	147	. 1	31
DB 30M 60N	38	41	93	.3	10
DB 30W ON	28	26	47	.3	2
DB 30E ON	16	18	60	. 1	2
DB 30E 30S	28	12	101	.2	11
DB 60E ON	22	16	76	. 1	8
DB 60E 90S	55	15	119	. 1	23
DB 90E ON	27	17	71	.2	25
DB 90E 60S	39	15	84	.3	2
DB 120E 120N	348	52	63	. 1	3
DB 120E 60N	17	14	73	.2	2
DB 120E 60S	22	-6	26	.3	3
STD C	62	42	130	7.2	40

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED JAN 7 1985 952 E. HASTINGS. VANCOUVER B.C.

PH: (604) 253-3158 COMPUTER LINE: 251-1011 DATE REPORTS MAILED Jan 9/85

ASSAY CERTIFICATE

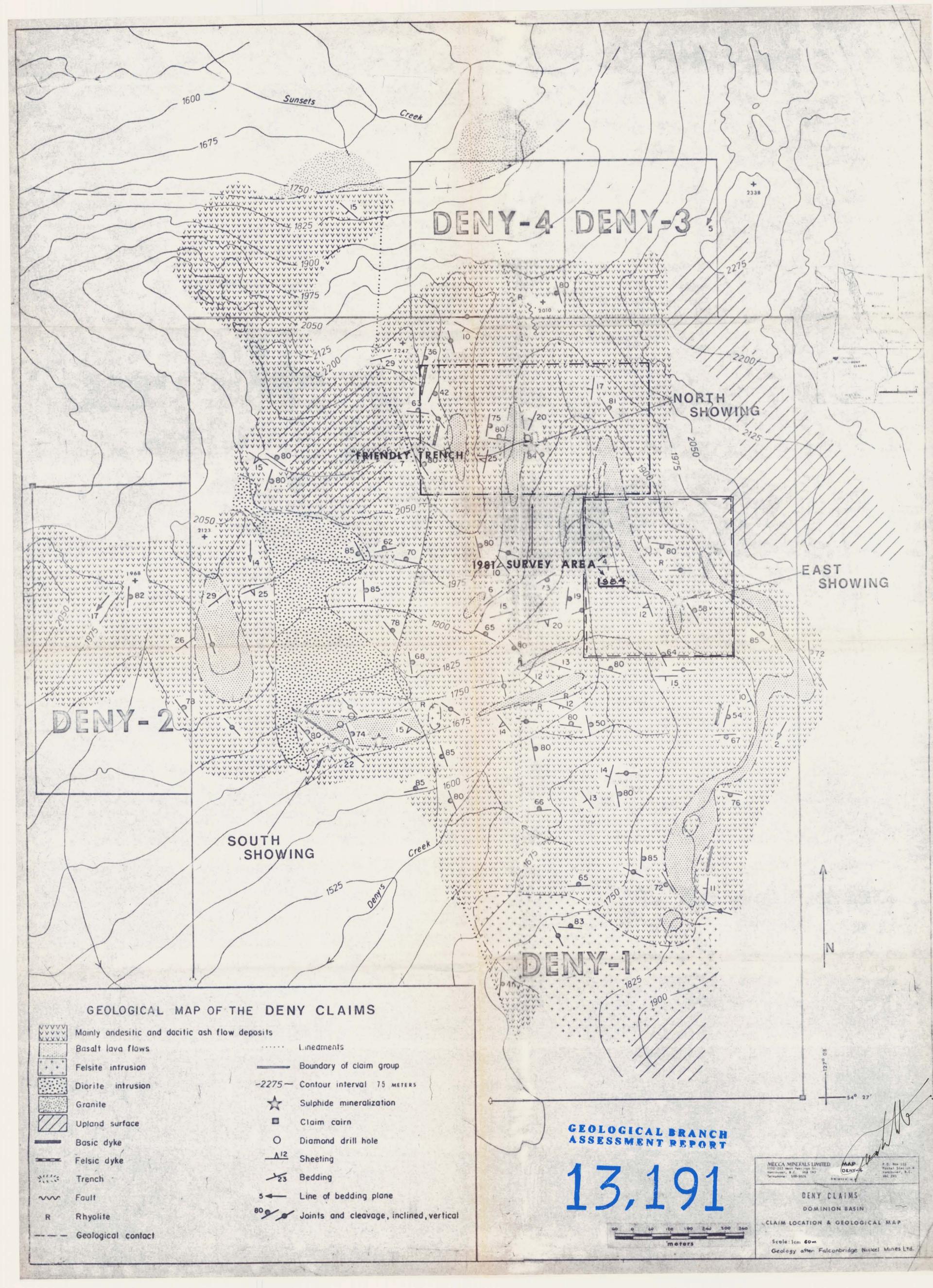
SAMPLE TYPE : ROCK - CRUSHED AND PULVERIZED TO -100 MESH.

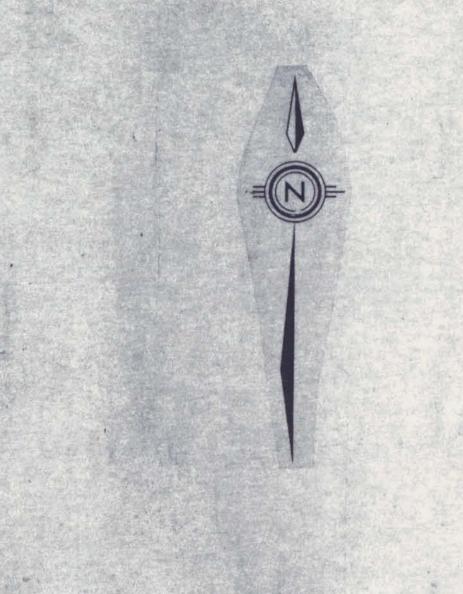
Sufey DEAN TOYE OF TOM SAUNDRY, CERTIFIED B.C. ASSAYER

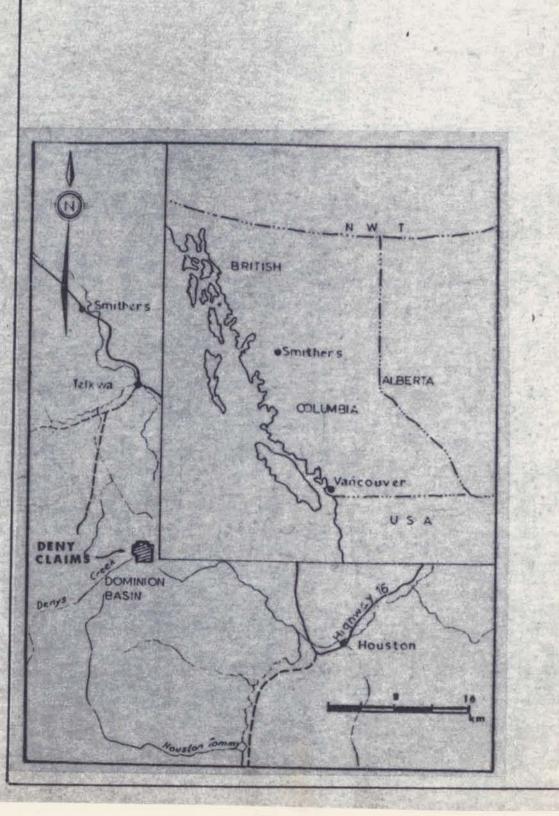
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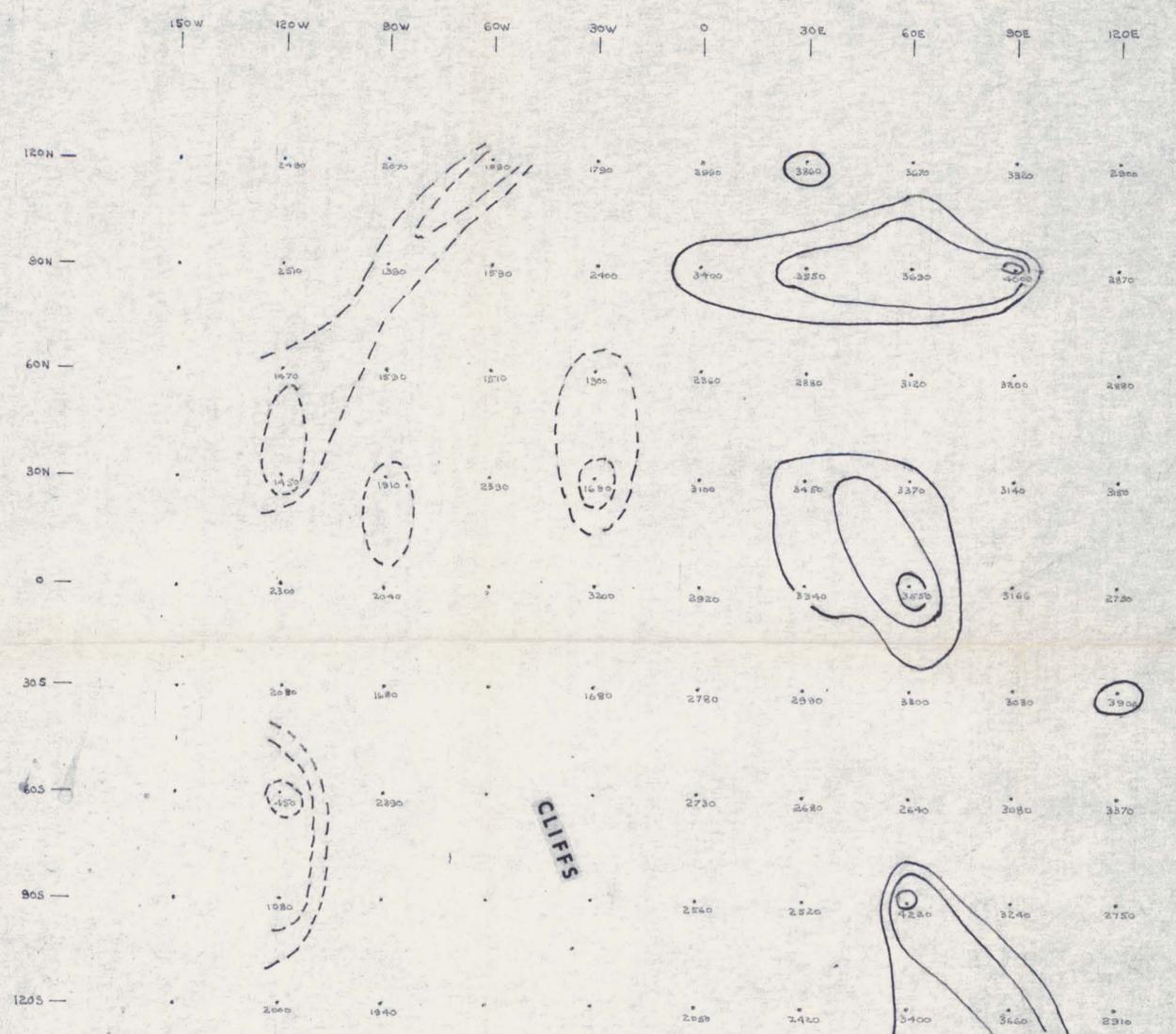
PAGE# 1

SAMPLE	Cu %	РЬ %	Zn %	Ag az/t	Au oz/t	
DB 150W ON	. +60	•	. +430	.01	.001	
DB OW OE ON OS	1.50	.01	.01	.07	.003	
DB 00-120N	1.16	- 01	. 01	. 19	. 100	









CONTOURS

CONTOUR INTERVAL : 150 GAMMAS

1,500 GAMMAS AND HIGHER

1,300 SAMMAS AND LOWER -----

INSTRUMENT: SABRE MODEL G-IIO FLUXGATE MAGNETOMETER

PARAMETERS

3500 GAMMAS ANOMALOUS HIGH THRESHOLD VALUE
3000 GAMMAS SUB ANOMALOUS HIGH THRESHOLD
2500 GAMMAS MEAN BACKGROUND VALUE
2000 GAMMAS SUB ANOMALOUS LOW THRESHOLD VALUE
1500 GAMMAS ANOMALOUS LOW THRESHOLD VALUE

BACKGROUND GAMMAS NOT DRAWN IN . 53,000 GAMMAS SUBTRACTED FROM EACH VALUE



GEOLOGICAL BRANCH ASSESSMENT REPORT

13,191

MECCA MINERALS LTD.

VANCOUVER B.C. VEB INT

DOMINION BASIN - EAST SHOWING

OMINECA MINING DIVISION

MAGNETOMETER SURVEY

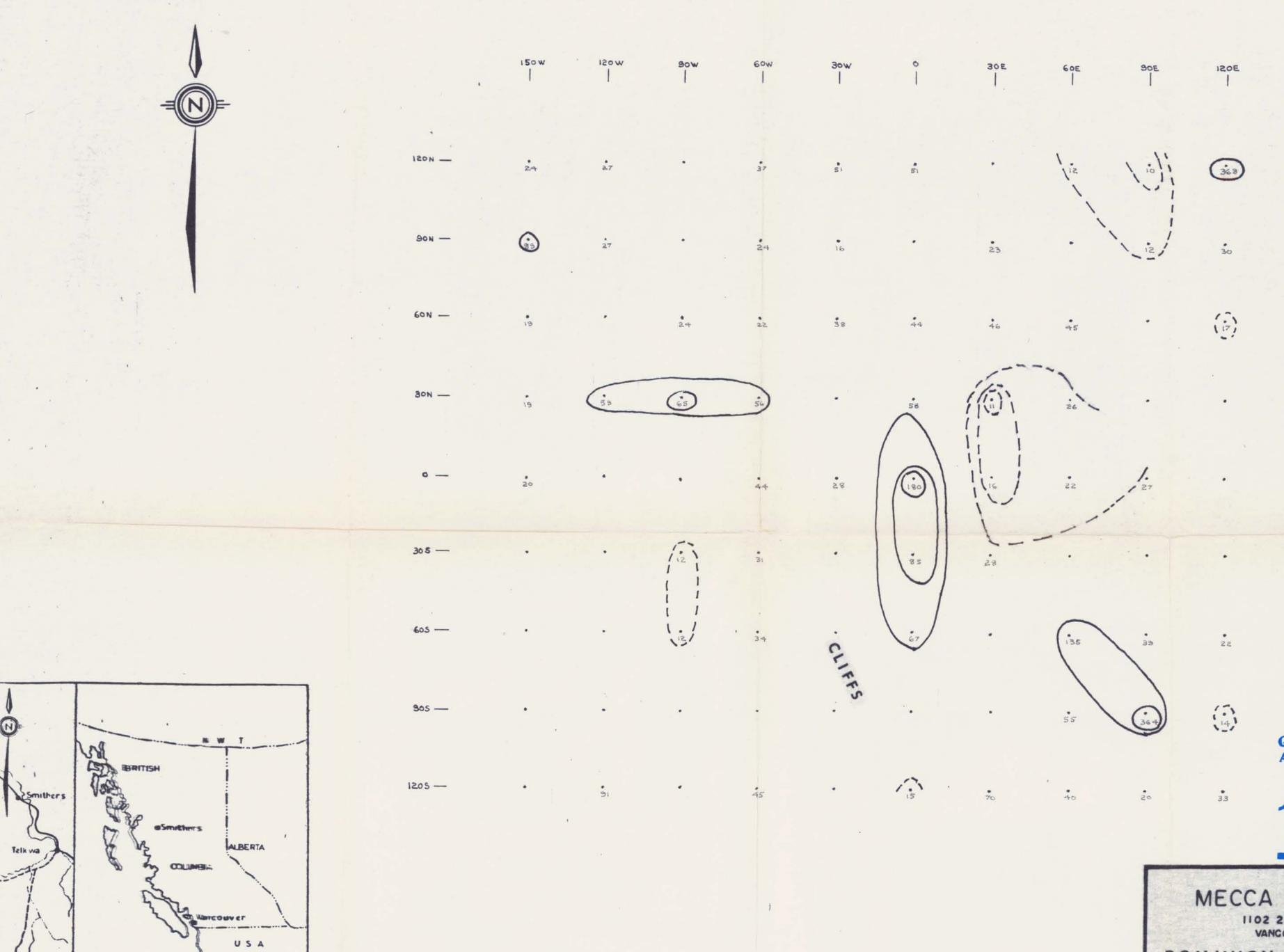
MAP DE 1/84

DATA AND CONTOURS IN

DRAWN BY

DEC. 1984 Waterford

SCALE:



CONTOUR INTERVAL = 10 p.p.m.

BELOW 60 P.R.M. IS BACKGROUND

DOMINION

GEOLOGICAL BRANCH ASSESSMENT REPORT

MECCA MINERALS LTD.

VANCOUVER B.C. VEB IH7

DOMINION BASIN - EAST SHOWING

OMINECA MINING DIVISION

GEOCHEMICAL SURVEY

MAP DE 2/84

COPPER DATA AND CONTOURS

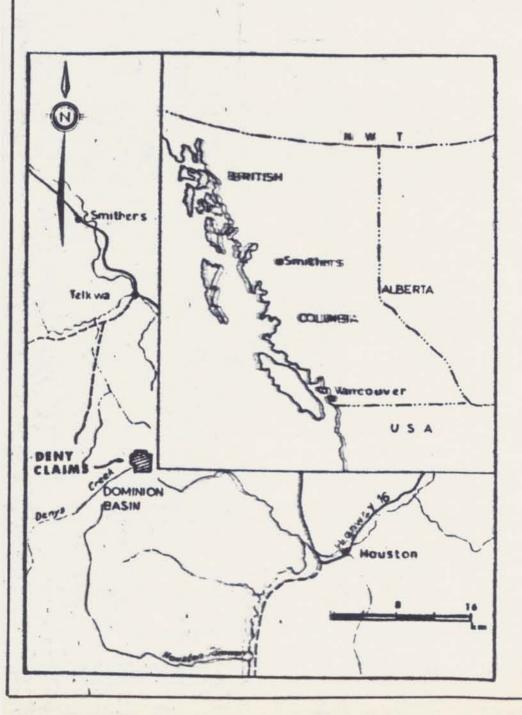
DATE

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SCALE! I CM = 10 METERS







CONTOUR INTERVAL = 10 p.p.m. BELOW 40 P.R. IS BACKGROUND

1205 -



GEOLOGICAL BRANCH ASSESSMENT REPORT

MECCA MINERALS LTD.

VANCOUVER B.C. VEB 147

DOMINION BASIN - EAST SHOWING

OMINECA MINING DIVISION

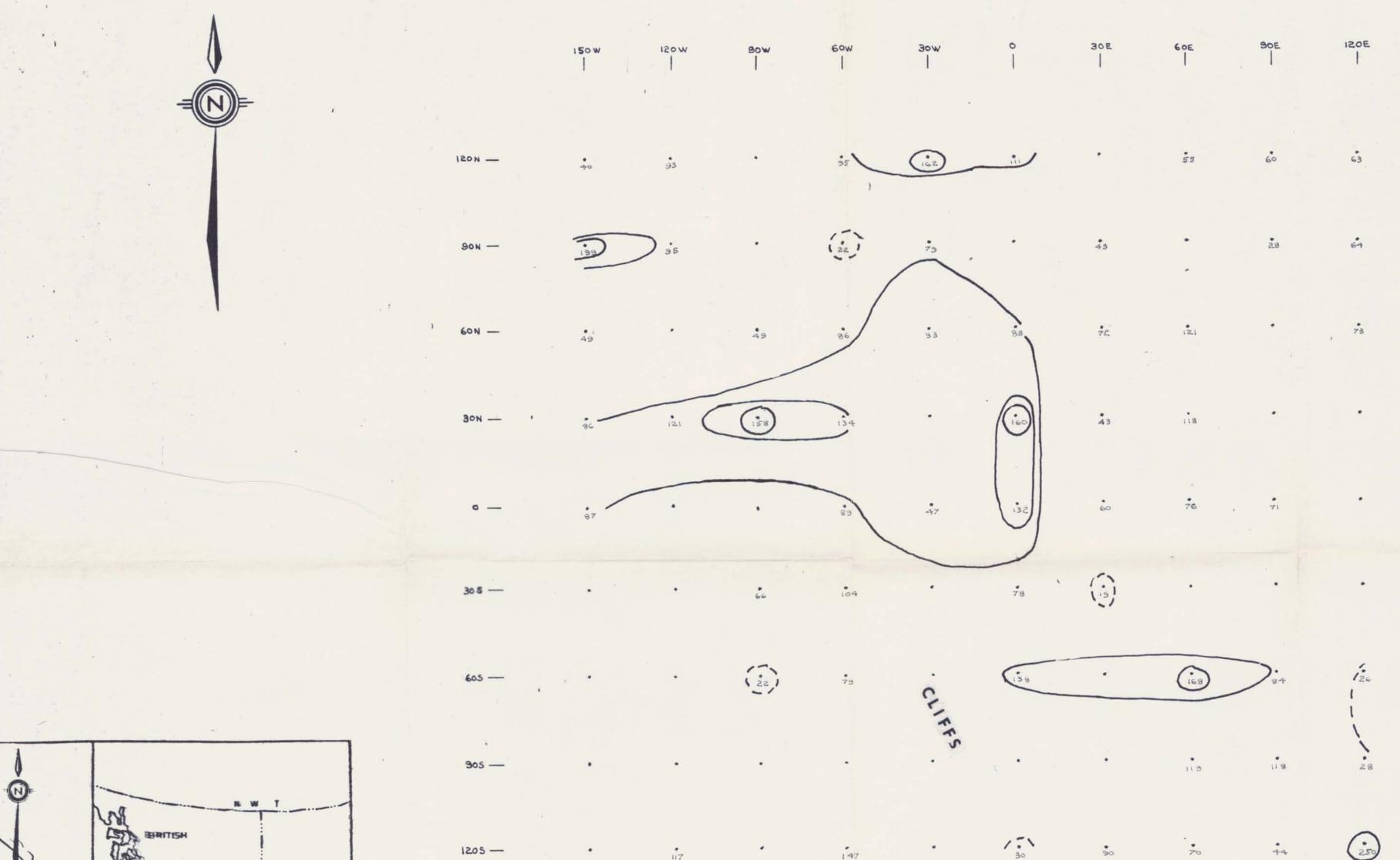
GEOCHEMICAL SURVEY

MAP DE 3/84 LEAD DATA AND CONTOURS

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SCALE: I CM = IOMETERS



ASSESSMENT REPORT

GEOLOGICAL BRANCH

CONTOUR INTERVAL = 10 p.p.m. BELOW 130 P.Rm. 15 BACKGROUND



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DOMINION BASIN - EAST SHOWING

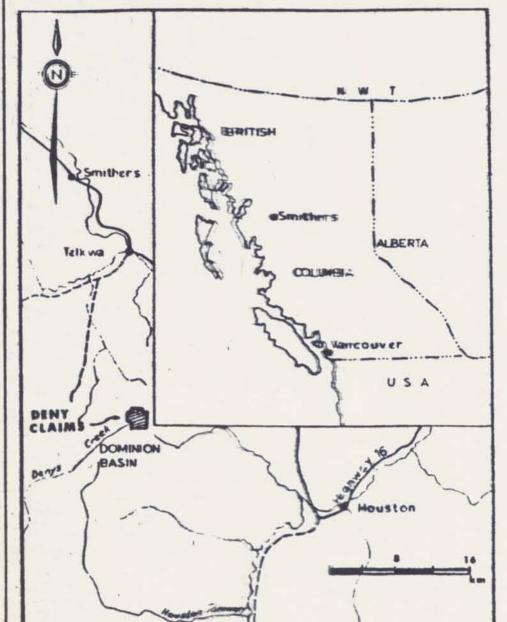
OMINECA MINING DIVISION

GEOCHEMICAL SURVEY

MAP DE 4/84 ZINC DATA AND CONTOURS

CHK. BY

SCALE DEC. 1984 Waterford I CM = IOMETERS







GEOLOGICAL BRANCH ASSESSMENT REPORT

MECCA MINERALS LTD.

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DOMINION BASIN - EAST SHOWING

OMINECA MINING DIVISION

GEOCHEMICAL SURVEY

MAP DE5/84 SILVER DATA AND CONTOURS

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CHK. BY DEC. 1984 Waterford

I CM = TOMETERS

CONTOUR INTERVAL = 10 p.p.m. BELOW 7 P.R. IS BACKGROUND



ALBERTA COLUMBIA USA CLAIMS. DOMINION



	150W	120W	90w	60W	30W	°	30E	60E	SOE	30SI
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90N —	251)	13		(D)	6		(1)		12	9
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Smithers

ALBERTA

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DOMINION
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Houston

CONTOUR INTERVAL = 10 p.p.m.
BELOW 40 P.P.M. IS BACKGROUND

1205 -



GEOLOGICAL BRANCH ASSESSMENT REPORT

13,191

MECCA MINERALS LTD.

VANCOUVER B.C. VEB IH7

DOMINION BASIN - EAST SHOWING

OMINECA MINING DIVISION

GEOCHEMICAL SURVEY

MAP DE 6/84
ARSENIC
DATA AND CONTOURS

J.A.R. DEC. 1984 Waterford

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