

5548

EXPLORAM MINERALS LTD.

1004 - 510 West Hastings Street,
Vancouver, B.C.

93A/6W

GEOCHEMICAL SURVEY ON THE HS-D MINERAL CLAIM GROUP

CARIBOO MINING DIVISION

N.T.S. 93 A-6 W

CLAIM - HS

August 11, 1975

E.D. Cruz, P.Eng.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 5548 MAP

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EXPLORAM MINERALS LTD.

GEOCHEMICAL SURVEY ON THE HS-D MINERAL CLAIM GROUP

INTRODUCTION

On July 14-21, the undersigned, aided by Mr. Mark Griffin, undertook a follow-up geochemical survey on the HS 5, 7, 15, 16, 35, 36, 37, 38, 54, 55, and 47 Fraction mineral claims on behalf of Exploram Minerals Ltd.

The purpose of the survey was to verify possible anomalous soil conditions for copper and gold in an area previously surveyed by Induced Polarization and silt sampling of a reconnaissance nature.

LOCATION AND ACCESS

The mineral claim group is situated near Mica Lake, about 6 miles southeast of Horsefly, B.C., Cariboo Mining Division, at the following geographic position: Latitude 52°15.4' N and Longitude 121°22' W.

Horsefly is joined to Highway 97 at 150 Mile House by 35 miles of mainly gravel surfaced road. Access to the claims is by a company-built 4 x 4 access road that turns off to the east from Starlike Lake roads and leads to Mica Lake. Starlike Lake roads branched off to the south from Horsefly.

PROPERTY

The surveyed area covers a portion of HS-D claim group of 21 contiguous claims owned by Exploram Minerals Ltd. Following are details of the claims:

| <u>Expiry Date</u> | <u>Claim Name</u> | <u>Record No.</u> | <u>Date Recorded</u> |
|--------------------|-------------------|-------------------|----------------------|
| July 6, 1979 | HS 3 | 68942 | July 6, 1973 |
| " | HS 5 | 68944 | " |
| " | HS 6 | 68945 | " |
| " | HS 7 | 68946 | " |
| " | HS 8 | 68947 | " |
| July 6, 1978 | HS 15 | 68954 | " |
| July 6, 1977 | HS 16 | 68955 | " |
| July 6, 1978 | HS 17 | 68956 | " |
| Aug. 10, 1977 | HS 35-38 incl | 69411-69414 | Aug. 10, 1973 |
| Oct. 26, 1976 | HS 50-57 incl. | 70907-70914 | Oct. 26, 1973 |
| Oct. 3, 1978 | HS 47 Fraction | 70134 | Oct. 3, 1973 |

The present geochemical survey covers the following claims: HS 5, 7, 15-16, 35-38, 54-55, and 47 Fraction.

TOPOGRAPHY

The claim group lies in an area of moderate topography with elevations ranging from 3000 to 3200 feet above sea level. The ridges are dry while the valleys are wet and swampy. Deerhorn Creek and its tributaries serve as the main drainage of the area.

GENERAL GEOLOGY

The surveyed claims and the immediate vicinity are largely covered with glacial deposits and recent alluvium representing 80% of the area.

Map 3-1961, Geology of the Quesnel Lake Area, of the GSC showed the area to be underlain by basaltic flows and minor tuff, conglomerate and sandstone of Tertiary age. Intrusive rocks of granodiorite to quartz monzonite composition, possibly of Jurassic to Cretaceous age, were seen outcropping to the south of the surveyed claims and in the vicinity of Station 128E, 98N. Sparse chalcopyrite mineralization occurring as disseminations and fracture filling in quartz monzonite was observed in the vicinity of Station 128E, 98N.

GEOCHEMICAL SURVEY

Survey Grid:

Line 144E, ran along a bearing of N 25° E, established by an I.P. survey crew in September 1974, was used as a base line. From the base line, cross lines were run every 400 feet from Station 96N to Station 60N. The cross lines are marked by orange flaggings and sample stations were established every 200 feet by compass and chain. A total of 5.2 line miles of grid lines were completed.

The soil sampling coverage to the west of the above mentioned grid was previously established by an I.P. survey crew who conducted their survey for Exploram Minerals Ltd. in the summer of 1973. This grid comprised of a base line (100N) ran along a bearing of S 65° E and cross lines perpendicular to the base lines established every 400 feet. Stations every 200 feet are marked along the cross lines.

Soil Profile and Sampling Procedure:

Along some of the ridgetops and slopes where outcrops are dominant in the order of 20%, soil is generally lacking while on the lower areas glacial overburden may go as deep as 30-50 feet.

With the exception of swampy ground where humous cover is up to 2 feet thick, the soil profile consists of 1" - 6" of buff coloured soil (A horizon), 1" - 8" of brown sandy to clayey soil (B horizon)

underlain by buff coloured till containing fragments, pebbles and boulders of different rocks mainly of volcanic composition.

Soil samples are obtained from the B horizon when present, otherwise from the C horizon.

Sampling method consists of digging a hole by mattock every 200-foot station. The hole was made deep enough to reach the B or C horizon. Using a hand trowel, about 200 grams of soil are collected and put in soil sample bags provided by the geochemical laboratory.

A total of 228 soil samples was collected and assayed for copper and gold content.

Analyses:

Samples are sent to Min-En Laboratories Ltd. at 705 West 15th Ave., North Vancouver, and analysed for copper and gold.

The samples are dried overnight at 95° C and sieved through 80-mesh screen. For copper, a 1-gram sample is digested for 6 hours by nitric and perchloric acid mixture. The copper content is determined by atomic absorption.

For gold, a 5-10 gram sample is digested with nitric and perchloric acid mixture and later by aqua regia. Aliquot portion of the resulting solution is taken and the gold extracted with methyl iso-butyl ketone. The gold content is determined by atomic absorption.

Details of the laboratory procedure by Min-En Laboratories Ltd. is attached as Appendix 2 and 3.

INTERPRETATION

The enclosed geochemical map, drawn to a scale of 400 feet to one inch, shows the result of analyses of the samples for copper and gold.

The copper content of the soil ranges from 7 ppm to 450 ppm. Values up to 40 ppm, which represent the estimated background, account for 95% of the total number of samples. Samples with values above 40 ppm are contoured and coloured orange on the geochemical map.

Anomalous occurrences to the east of baseline 144E are erratic and do not indicate any significant trend. Some of these point anomalies could be attributed to the humous soil condition as they coincide near swampy ground. The highest copper reading of 450 ppm with corresponding gold value of .03, and which adjoins three anomalous gold values, could be caused by mineralized shear/fracture zone in volcanics.

A significant coincident copper and gold anomaly to the west of Station 128E, 100N follow an apparent westerly trend and is still open

to the north and west. This anomaly is attributed to copper mineralization evident on the mineralized quartz monzonite outcrop in the vicinity.

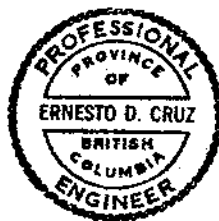
The results of the gold analyses show low average value of .01 to .02 ppm. Anomalous values of .03 to .19 ppm are coloured red on the geochemical map. With the exception of the coincident copper gold anomaly to the west of Station 128E, 100N, the anomalous gold samples are scattered without significant trend.

Respectfully submitted,

Vancouver, B.C.
August 8, 1975.

E. D. Cruz
Ernesto D. Cruz, P.Eng.,
Exploration Geologist.

Attach. Report of Expenditures,
Laboratory procedures

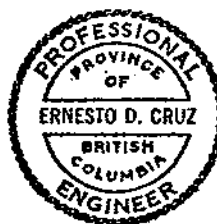


STATEMENT OF QUALIFICATIONS - E.D. CRUZ

I, Ernesto D. Cruz, of 8596 Terrace Drive, Delta, B.C., HEREBY CERTIFY THAT:

- (1) I am a graduate Mining Engineer at Mapua Institute of Technology, Philippines (B.A.Sc. 1960) and University of Washington, Seattle, Washington (M.A.Sc. 1971).
- (2) I am a member of the Association of Professional Engineers of B.C. (Mining Section).
- (3) I have worked in mineral exploration for about eleven years (1960-1967, Philippines; 1967-present, British Columbia).
- (4) I conducted the geochemical soil sampling on the HS-D Mineral Claim Group on behalf of Exploram Minerals Ltd., during the period from July 14 to 21, 1975.
- (5) I have no interest directly or indirectly in the HS Mineral Claims or the securities of Exploram Minerals Ltd., nor do I expect to acquire or receive any.

ERNESTO D. CRUZ, P.ENG.




Ernesto D. Cruz, P.Eng.

DATED at Vancouver, British Columbia,
this 8th day of August, 1975.

REPORT OF EXPENDITURES

| | | |
|--|-----------------------------|-------------------|
| 1. Salaries and Wages: | | |
| E.D. Cruz | 8 days @ \$50.00/day | \$ 400.00 |
| M. Griffin | 8 days @ \$35.00/day | 280.00 |
| 2. Subsistence and Lodging | | 150.00 |
| 3. Transportation: | | |
| Truck Rental: | 8 days @ \$20.00/day | 160.00 |
| Gas | | 50.00 |
| 4. Supplies: | | 30.00 |
| 5. Assaying: | 228 samples @ \$4.85/sample | 1,105.80 |
| 6. Report preparation (includes drafting & typing) | | <u>300.00</u> |
| Total | | <u>\$2,475.80</u> |

GEOCHEMICAL ANALYSIS BY MIN-EN LABORATORIES LTD.

Samples are processed by Min-En Laboratories Ltd. at 705 W. 15th St., North Vancouver Laboratory employing the following procedures:

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by jaw crusher and pulverized by ceramic plated pulverizer.

1.0 gram of the samples are digested for 6 hours with HNO_3 and HClO_4 mixture.

After cooling samples are diluted to standard volume. The solutions are analysed by Atomic Absorption Spectrophotometers.

Copper, lead, zinc, silver, cadmium, cobalt, nickel and manganese are analysed using the CH_2H_2 -Air flame combination but the molybdenum determination is carried out by C_2H_2 - N_2O gas mixture directly or indirectly (depending on the sensitivity and detection limit required) on these sample solutions.

For Arsenic analysis a suitable aliquote is taken from the above 1 gram sample solution and the test is carried out by Gutzeit method using $\text{Ag CS}_2 \text{ N (C}_2\text{H}_5)_2$ as a reagent. The detection limit obtained is 1. ppm.

Fluorine analysis is carried out on a 200 miligram sample. After fusion and suitable dilutions the fluoride ion concentration in rocks or soils samples are measured quantitatively by using fluorine specific ion electrode. Detection limit of this test is 10 ppm F.

Copy of procedure as provided by Min-En Laboratories Ltd.

GOLD GEOCHEMICAL ANALYSIS BY MIN-EN LABORATORIES LTD.

Geochemical samples for Gold processed by Min-En Laboratories Ltd. at 705 W. 15th St., North Vancouver Laboratory employing the following procedures:

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

A suitable sample weight 5.0 or 10.0 grams are pretreated with HNO_3 and HClO_4 mixture.

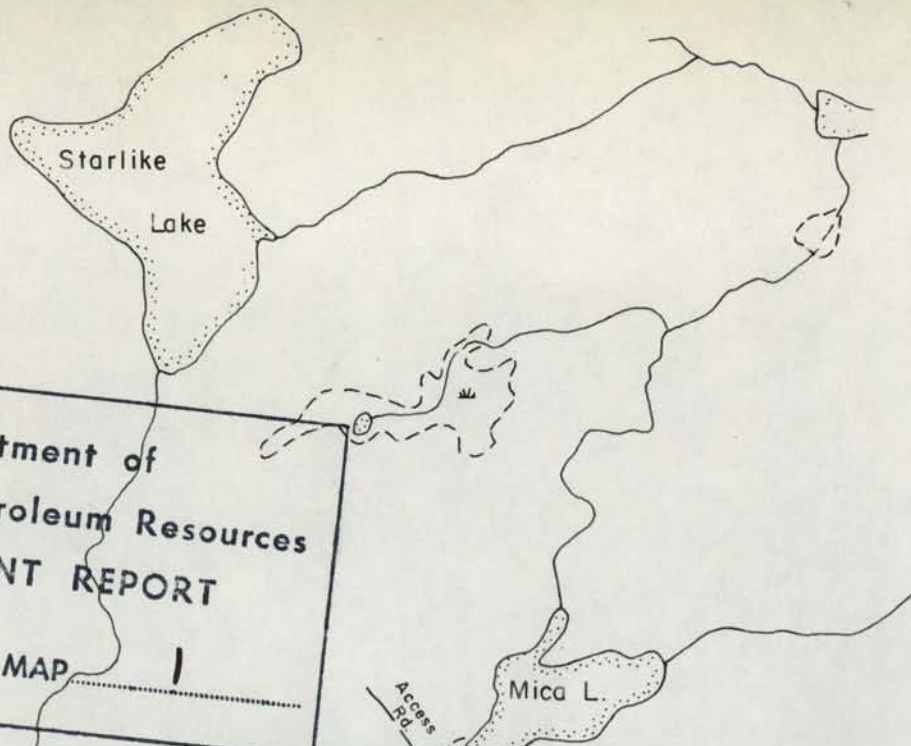
After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

At this stage of the procedure, copper, silver, and zinc can be analysed from suitable aliquote by Atomic Absorption Spectrophotometric procedure.

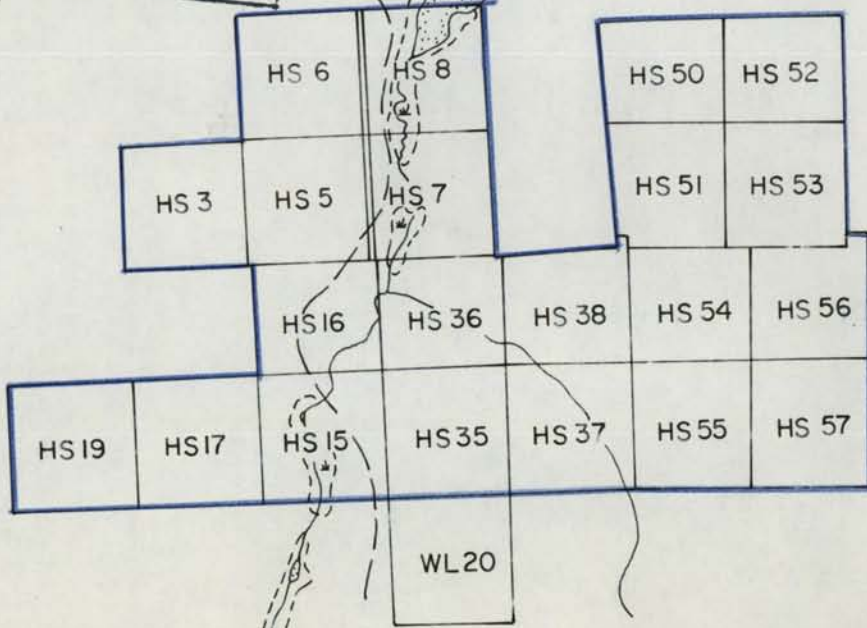
Further oxidation and treatment of least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 0.01 ppm (10 ppb).

Copy of procedure as provided by Min-En Laboratories Ltd.



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 MAP 1

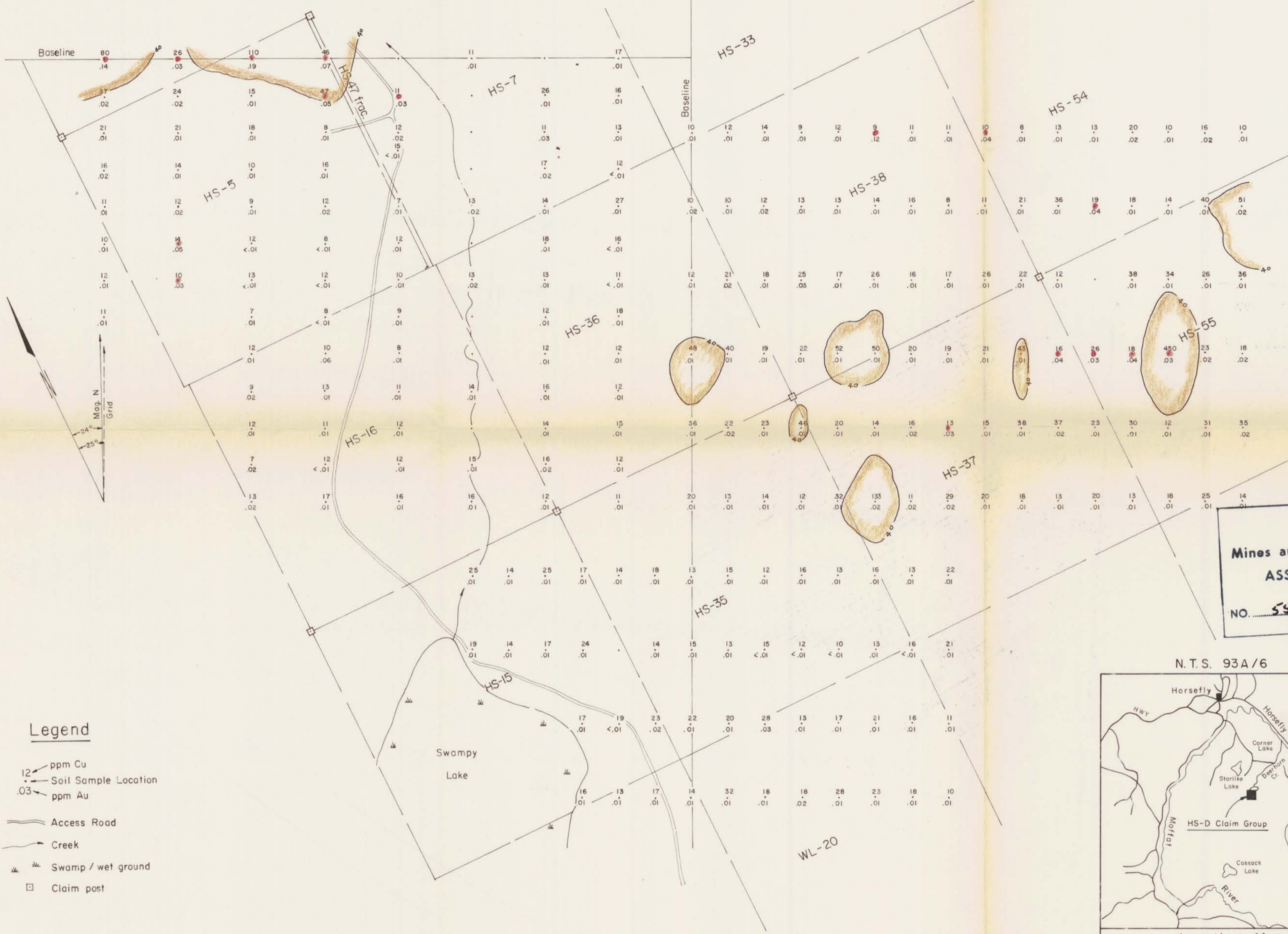
EXPLORAM MINERALS LTD.

| | |
|---------------------|----------------------|
| DRAWN BY- RJE. | DATE- Aug. 7/75 |
| APPROVED BY- | N.T.S. NO.- 93A/6c,d |
| FILE NO.- | DRAWING NO.- |
| SCALE - 0 feet 4500 | |

HS-D CLAIM GROUP
 CARIBOO M.D., B.C.

112E 116E 120E 124E 128E 132E 136E 140E 144E 148E 152E 156E 160E 164E 168E 172E 176E

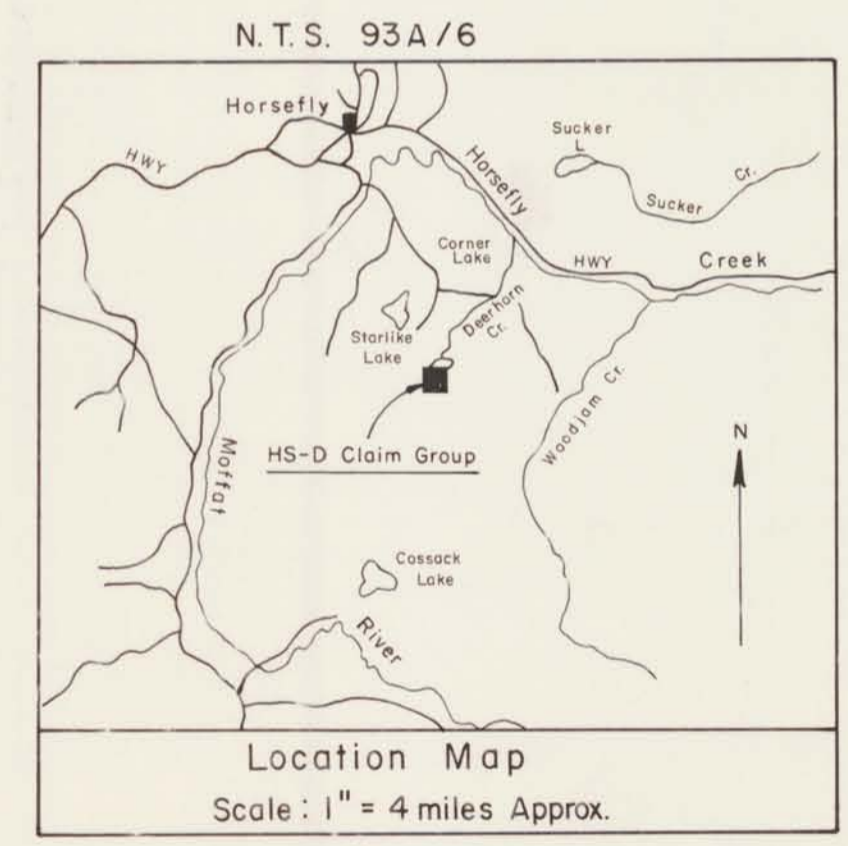
100N
96N
92N
88N
84N
80N
76N
72N
68N
64N
60N



Legend

- 12 ppm Cu
- .03 ppm Au
- Soil Sample Location
- Access Road
- Creek
- Swamp / wet ground
- Claim post

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NO. 5548 MAP 2



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MAP 2

EXPLORAM MINERALS LTD.

| | |
|---------------------|-------------------|
| DRAWN BY- <i>je</i> | DATE - Aug. 7/75 |
| APPROVED BY- | N.T.S. NO.- 93A/6 |
| FILE NO.- | DRAWING NO.- |
| SCALE - 1" = 400' | |

GEOCHEMICAL MAP
HS-D CLAIM GROUP
Cariboo M.D., B.C.

