

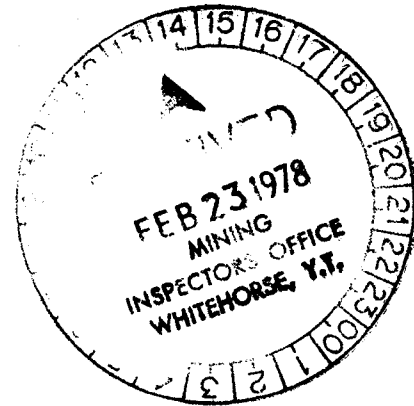
GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT

BID CLAIM GROUP

Watson Lake Mining District
Yukon Territory



N.T.S. 105 F - 10



Latitude: 61° 36' N

Longitude: 132° 40' W



By:

P. Dean

CYPRUS ANVIL MINING CORPORATION

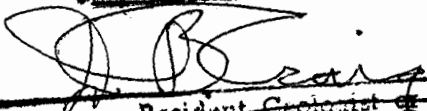
December 22, 1977.

Field Work Done Between the Period July 8/77 - September 5/77.

090279

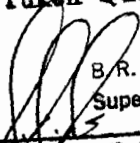
This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$4,200.00



~~Resident Geologist or
Resident Mining Engineer~~

Considered as representation work under
Section 59 (4) Yukon Quartz Mining Act.



B. R. BAXTER
Supervising Mining Recorder

Commissioner of Yukon Territory

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LIST OF CLAIMS

<u>Claims</u>	<u>Grant Nos.</u>	<u>Recording Date</u>	<u>Expiry Date</u>
BID 1 - 24	YA12947 - YA12970	May 19, 1977	May 19, 1978

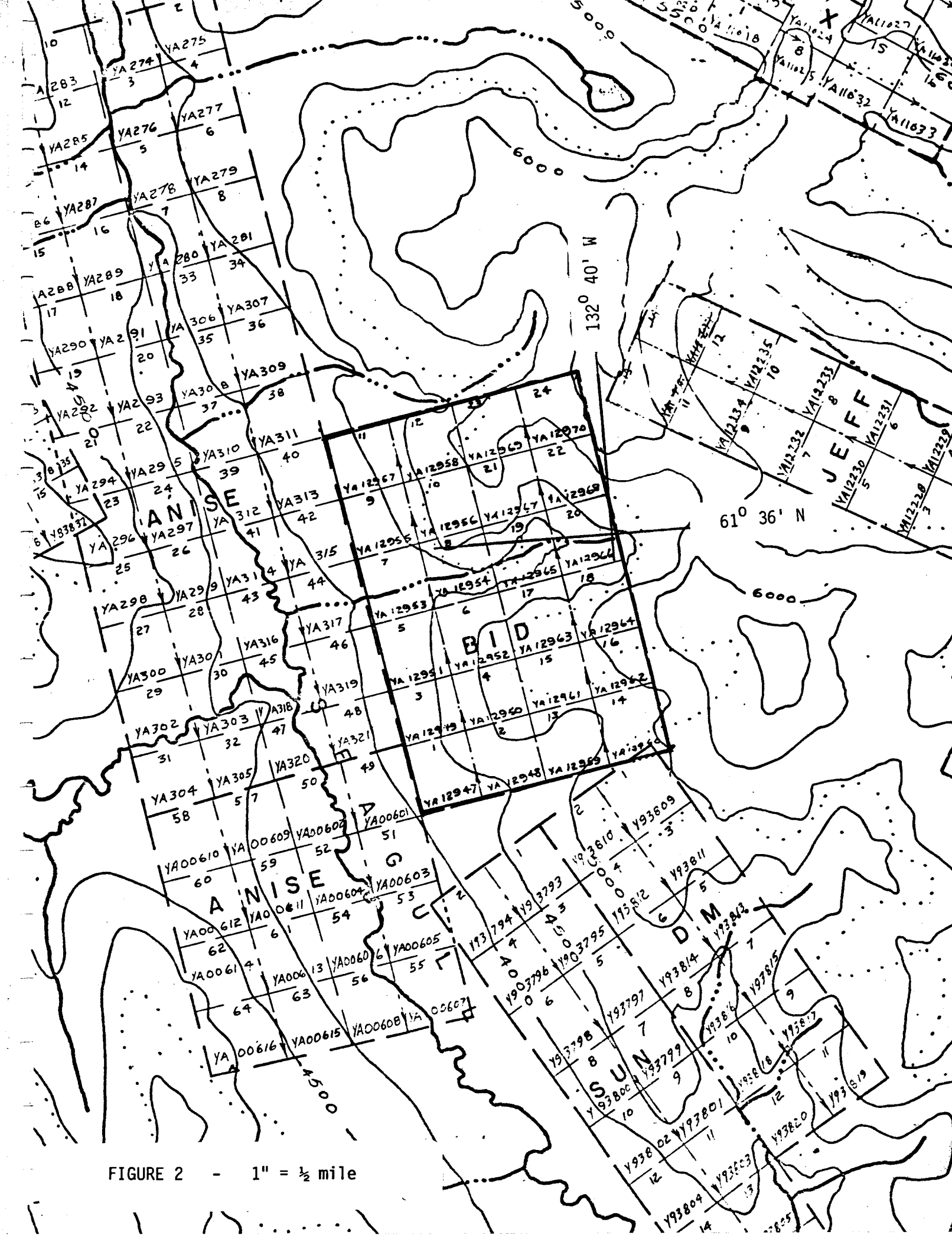


FIGURE 2 - 1" = 1/2 mile

GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT

BID CLAIM GROUP

INTRODUCTION

The BID 1 to 24 mineral claims are located in the Watson Lake Mining District at approximately $61^{\circ}36'N$ x $132^{\circ}40'W$. The claims lie in mountainous terrain on the east side of the valley of Seagull Creek, 3 miles south of Seagull Lakes and 27 miles south of Ross River, the nearest town.

The claims were optioned to Cyprus Anvil Mining Corporation by J.M. Graham, J.B. O'Neill, and J.B. Rolls on the 1st of July, 1977. The exploration of the claim group described in this report was carried out on a joint venture basis by Cyprus Anvil Mining Corporation and Hudson's Bay Oil and Gas, with Cyprus Anvil as the operator.

Access to the claim group is generally possible only by helicopter, although a rough tote road which connects with the South Canal Road is sometimes passable for 4-wheel drive vehicles during the summer.

SUMMARY

Geochemical, magnetic, and electromagnetic surveys, and geologic mapping have been carried out over part of the claim block. This work has failed to locate any targets warranting drilling, and therefore the option agreement should be dropped and the claims returned to the original owners.

GEOLOGY

The claim group is underlain by a heterogeneous sequence of shales and volcanics of Mississippian age, intruded by a syenite stock of closely similar age. The shales and volcanics have suffered at least one phase of deformation, which has resulted in the development of a strong foliation in the more incompetent lithologies.

Only the area of the grid was mapped on the claim group. Within this small area 4 mappable rock units can be distinguished, all of which are of Mississippian age. Lowest stratigraphically, and probably oldest, is a dark grey slate unit. This slate is undoubtedly the same as Unit "uDMs" on the G.S.C. regional geology map (O.F. 486) and presumably overlies platform carbonates and clastics of Silurian to Devonian age, although these do not outcrop within the area that was mapped.

Overlying this slate is Unit 2, consisting of buff coloured chert, finely banded cherty tuffs, and grey coloured lapilli tuffs. This unit contains no pyrite and weathers light buff to greenish-grey. The cherty tuffs appear to be overlain by the coarser grained lapilli tuffs, which are overlain in turn by the dark green flows of mafic composition which make up Unit 3. Both Unit 2 and Unit 3 are included in the G.S.C. Unit "Mva". Talus of magnetite-siderite iron formation originates in Unit 3 but does not outcrop. A prominent magnetic anomaly in Unit 3 indicates the position of these magnetic beds in suboutcrop.

Medium-grained, light grey, greyish-buff weathering syenite intrudes Units 2 and 3, and probably also intrudes Unit 1 at depth. Work elsewhere in these Mississippian formations has indicated a close genetic relationship between these syenite stocks and the volcanic flows and fragmentals which they intrude.

GEOCHEMISTRY

Reconnaissance geochemical sampling on the claim group on a relatively broad scale (Figure 3) was followed up by much more detailed sampling in one area of interest (Figure 5).

A total of 148 samples were taken on the regional survey from the two streams draining the claim group. Samples consisted of silt from the main streams and tributaries, soil and sediment from groundwater seepages, and, where the above materials were not available, soil from slides or creek banks. Sample spacing was about 400 feet, but varied somewhat to take advantage of the best sampling locations.

As the results indicate, only one significant area of anomalous geochemical values was detected by this preliminary survey. This anomaly was explored with detailed, grid-controlled soil geochemistry (Figure 5). An additional 97 samples were taken in this detailed survey.

All geochemical samples were treated in the same manner, regardless of whether they were taken from soil, seeps, or stream sediments. The samples were collected and dried in Kraft paper bags, then sieved to yield a -80 mesh fraction. This fine material was then subjected to a nitric-perchloric acid digestion followed by analysis with an atomic absorption instrument.

As the results indicate, the anomalous values arise from at least three separate areas within the grid, all within Unit 2 cherty tuffs. The geochemical anomalies do not coincide with the magnetite iron formation in Unit 3. Felsenmeer of quartz-carbonate vein material containing galena and sphalerite occurs in the vicinity of the strong geochemical anomaly on lines 92S and 96S. Sulphide float boulders containing sphalerite and galena also occur in the main creek between lines 104S and 108S. Some of this float may have originated from the east bank of the creek where the strongest soil anomaly lies, but most of it is clearly from the west side of the creek. This sulphide float, which is fine-grained and pyritic, could have originated in either a vein or a massive sulphide deposit.

GEOPHYSICS

Magnetic and electromagnetic surveys were carried out on the gridded portion of the claim group.

The magnetic survey was carried out with a Phoenix MV-1 fluxgate magnetometer, which measures the vertical component of the magnetic field. Instrument drift and diurnal drift were checked and corrected for by re-reading base stations on the grid at frequent intervals and by using a base station magnetometer with a Rustrak recorder at the camp. The survey (Figure 6) clearly located the magnetite iron formation, which appears as a very strong anomaly crossing most lines east of the 10E base line. The anomaly appears to terminate against the syenite contact to the north, and has diminished to background at line 108S, about 1600 feet away. Erratic spot highs downslope (west) on the grid probably result from magnetite float boulders in talus.

Radem VLF and C.E.M. horizontal shootback electromagnetic surveys were carried out on the grid. The VLF survey (Figure 9) did not appear to be producing any useful results and was not completed over the entire grid.

The C.E.M. survey was carried out over the entire grid area at a coil spacing of 200 feet (Figure 7) and at this spacing no significant conductors were detected. A very weak response over the shales which outcrop on Line 112S was checked by repeating that part of the survey with the coil spacing at 400 feet. This wider spacing, (Figure 8) gives better depth penetration, and the shales show up as a prominent conductor, fading out upstream as they plunge under Unit 2 and broadening to the south where they outcrop in the creek gully.

No conductors were detected by either the Radem or C.E.M. surveys which have any likelihood of being caused by sulphide bodies.

ECONOMIC GEOLOGY

The main potential of the claim group from the point of view of our company lay in the possibility that a massive sulphide deposit could occur on the claim group. Evidence in favour of such a possibility includes the following:

- 1) Regionally, massive sulphide deposits are known to occur within the shale-volcanic package which underlies the claim group;
- 2) The iron formation and exhalitive cherts and cherty tuffs are reasonable lithological associates of massive sulphide mineral deposits;
- 3) Some of the sulphide float boulders found on the claim group are massive, fine-grained, and pyritic, and contain metal ratios which are consistent with a massive sulphide origin: Sample PG7D-1, for example, assayed 8.60% Pb, 2.20% Zn, and 2.2 oz Ag.

On the negative side, it must be noted that the majority of the sulphide float found on the claims is definitely of vein origin, typically being a coarse-grained assemblage of sphalerite and galena in a quartz-carbonate matrix. One piece of massive galena float assayed 9.60% Zn, 47.6% Pb, and 35.5 oz Ag, indicating a silver to lead ratio higher than that typically found in massive sulphide deposits. The fine-grained pyritic float mentioned above is not clearly bedded, and could also be of vein origin.


The lack of electromagnetic conductors within Unit 2 is also disappointing and argues against the presence of any significant massive sulphide body. The mineralized vein material certainly contains enough sphalerite and galena to account for the geochemical anomalies in soils and stream sediments, and no other source of metals is required. The lack of disseminated pyrite in the volcanics, and the lack of barite beds are also negative considerations, since these are prominently associated with the other massive sulphide occurrences in the Pelly Mountains and in Selwyn Basin.

CONCLUSIONS

The possibility that a massive sulphide deposit may occur on the BID claims has not been conclusively written off, but the weight of evidence accumulated up to now is against it. There is little encouragement therefore for the company to continue into the second year of the option agreement, and the claims should be returned to the owners on or before the 31st of March, 1978, when the next cash payment is due.

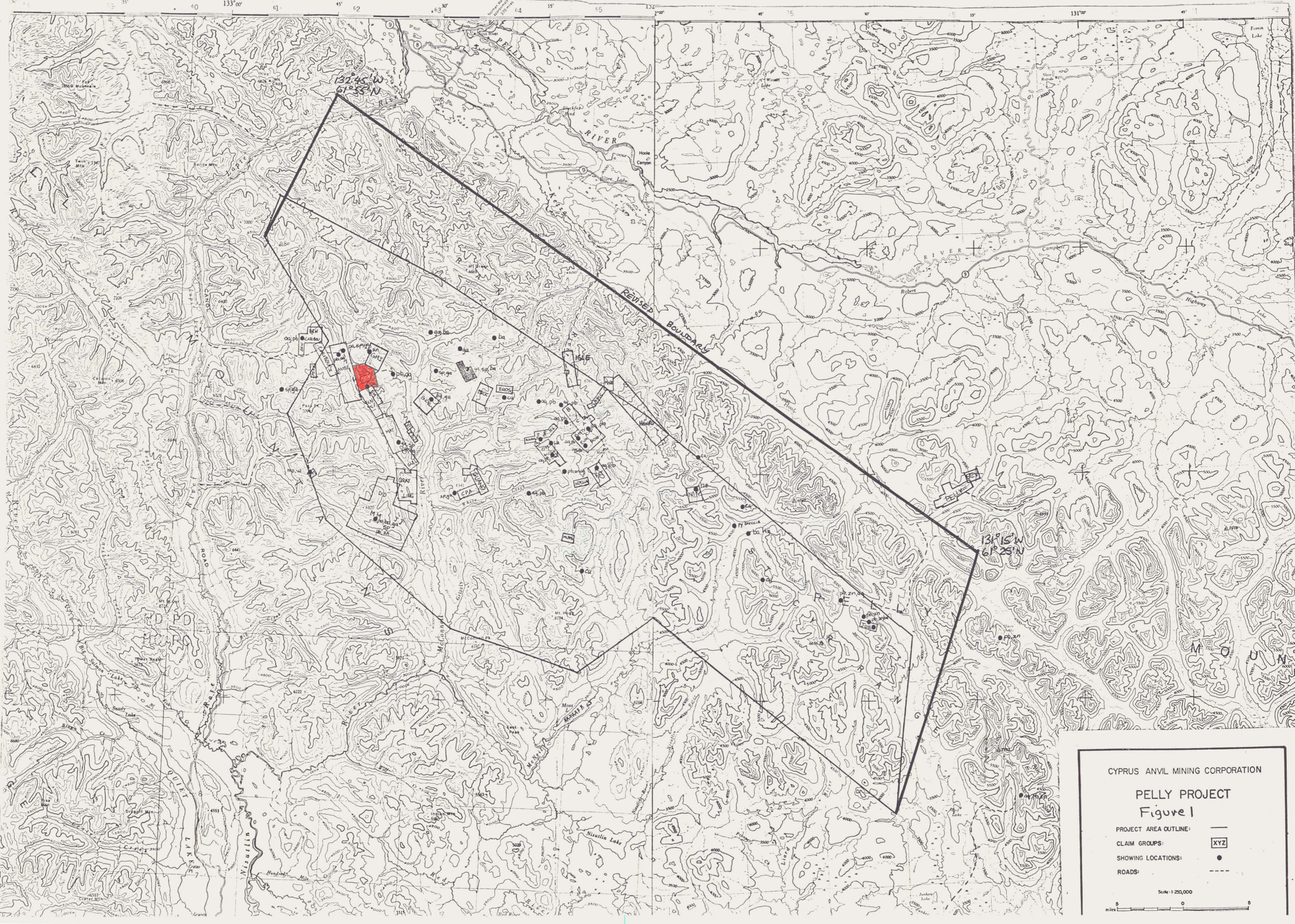
The silver to lead ratio in some of the vein material is quite good, and it may be of interest to the owners to try to locate the source of this float. Our work on the property has not considered the possibilities of these silver-lead veins at all, since the total tonnage is likely to be small. But with the good tote road access to the claims, a small scale silver mining operation could conceivably be profitable. Material such as assay sample PG7D-2 contains \$400 to \$500 per ton in metal values.

Respectfully submitted,



P. M. Dean

December 22, 1977.

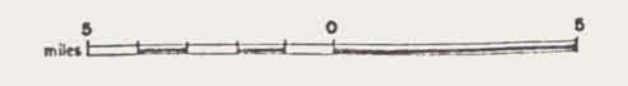


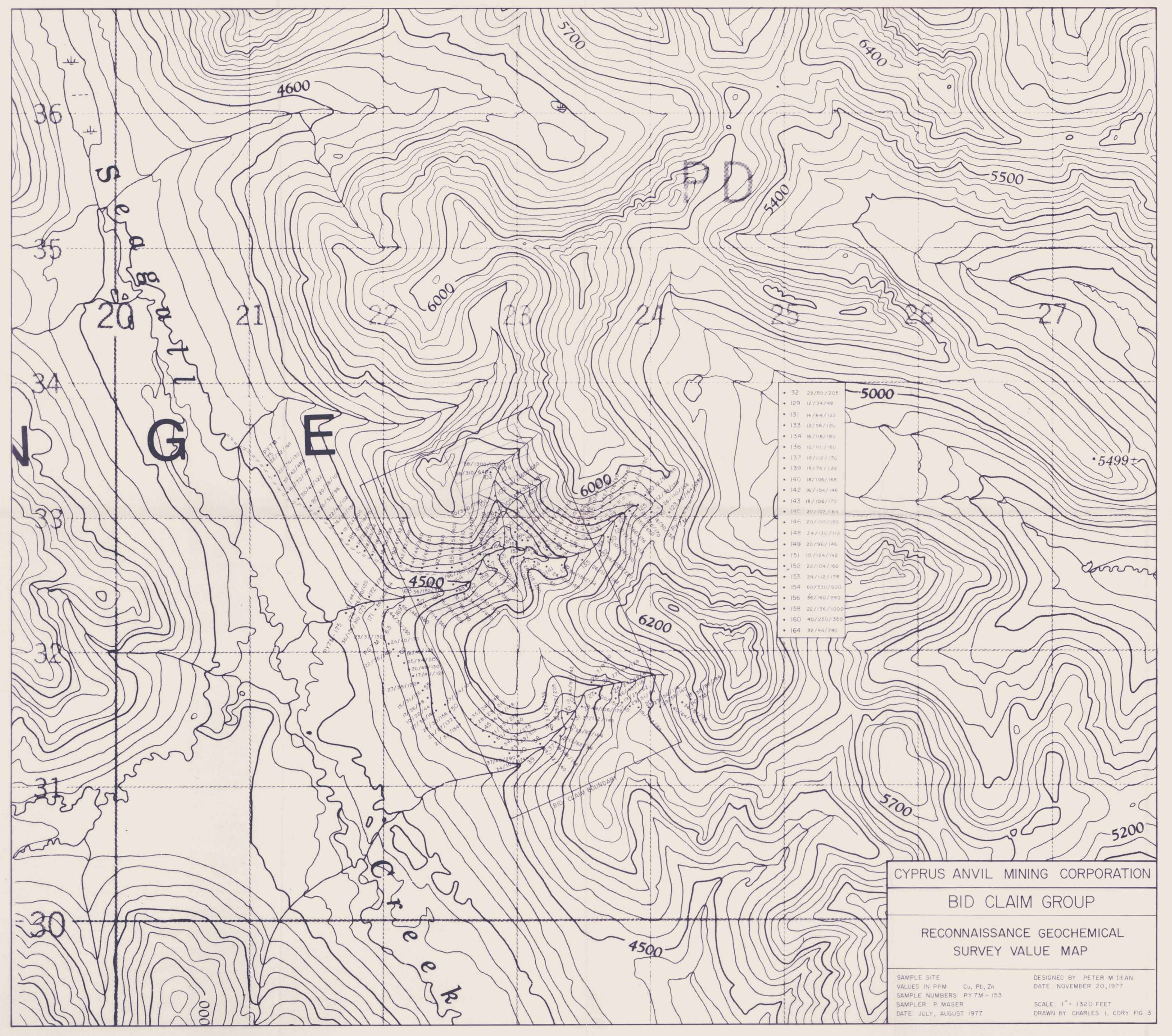
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PELLY PROJECT
Figure 1

- PROJECT AREA OUTLINE: —
- CLAIM GROUPS: XYZ
- SHOWING LOCATIONS: ●
- ROADS: - - -

Scale: 1:200,000





• 32	29/80/205
• 129	12/34/48
• 131	16/64/122
• 133	12/56/120
• 134	16/118/180
• 136	16/110/160
• 137	18/112/170
• 139	18/76/122
• 140	18/106/168
• 142	16/104/146
• 143	18/106/170
• 145	20/102/164
• 146	20/100/150
• 148	34/130/112
• 149	20/96/146
• 151	10/124/142
• 152	22/104/160
• 153	24/112/178
• 154	60/530/600
• 156	36/160/280
• 158	22/136/1000
• 160	40/250/350
• 164	32/94/280

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BID CLAIM GROUP

RECONNAISSANCE GEOCHEMICAL SURVEY VALUE MAP

SAMPLE SITE VALUES IN PPM Cu, Pb, Zn

SAMPLE NUMBERS PY 7M - 153

SAMPLER P MASER

DATE: JULY, AUGUST 1977

DESIGNED BY: PETER M DEAN

DATE: NOVEMBER 20, 1977

SCALE: 1" = 1320 FEET

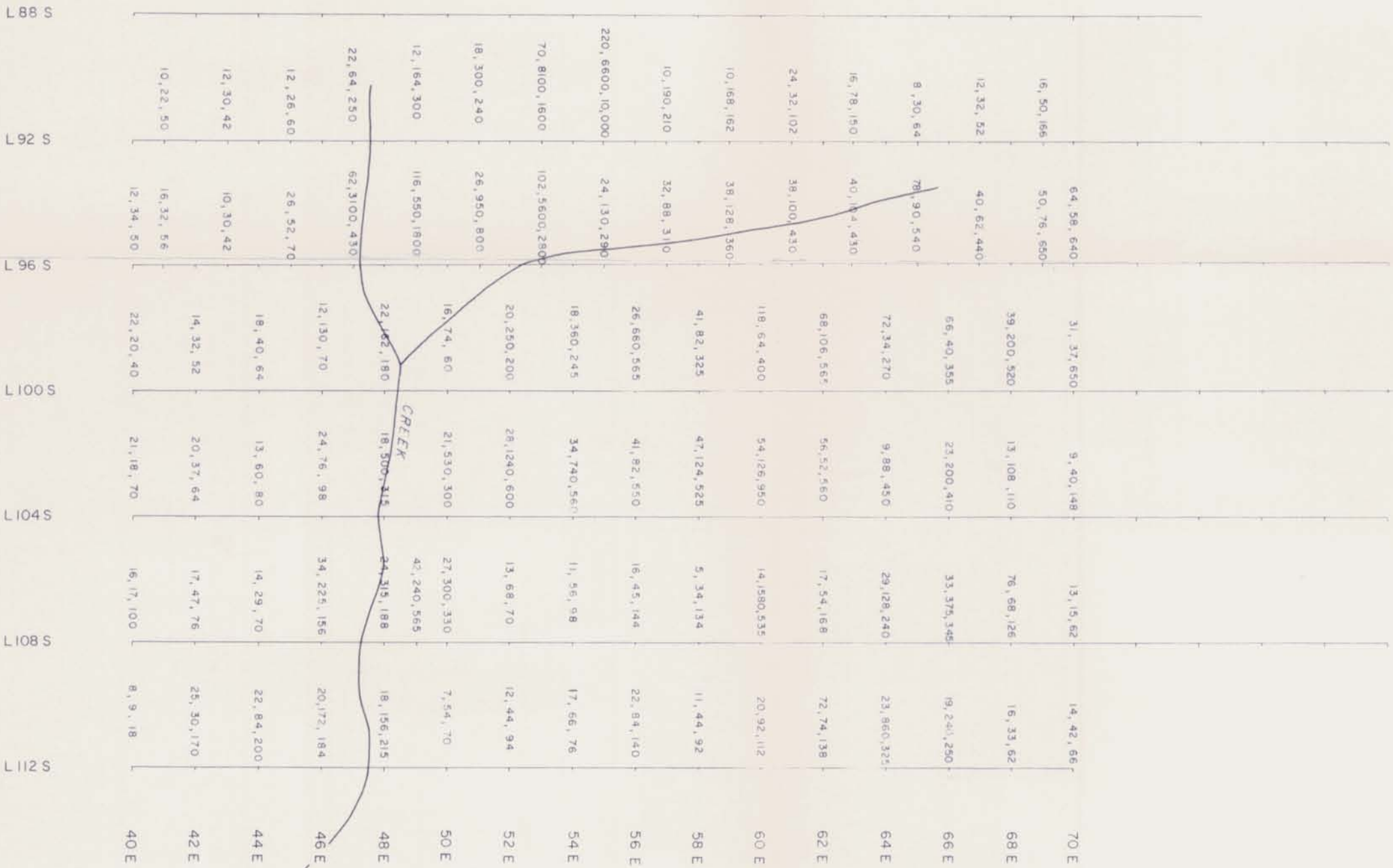
DRAWN BY: CHARLES L. CORY FIG 3

GEOLOGIC LEGEND

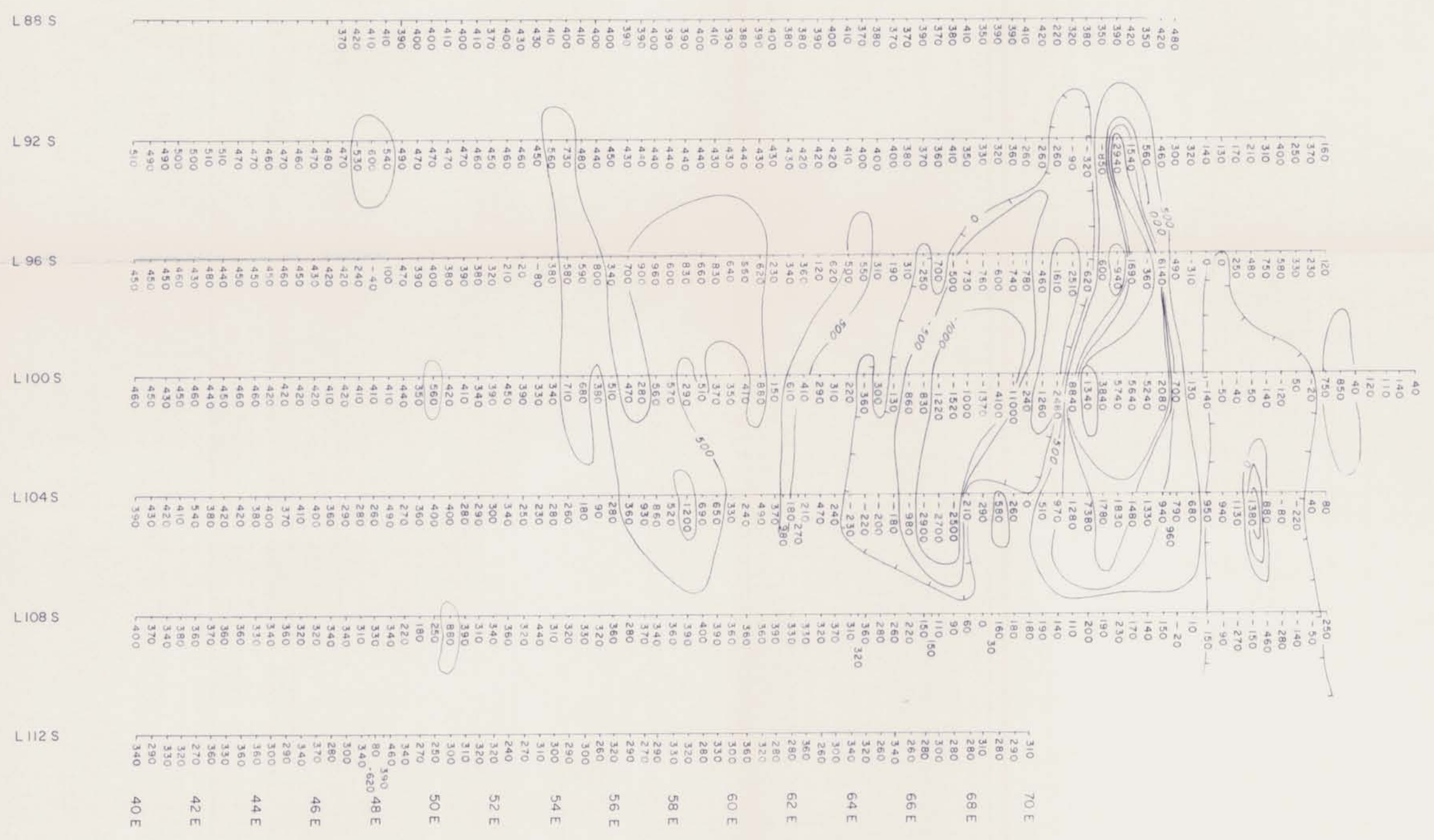
- UNIT 4 Grey medium grained syenite
- UNIT 3 Volcanic flows, dark green blocky weathering, contains beds of magnetite - siderite iron formation.
- UNIT 2 Cherty banded argillites, fine grained tuffs, cherts, lapilli tuff.
- UNIT 1 Dark grey shale



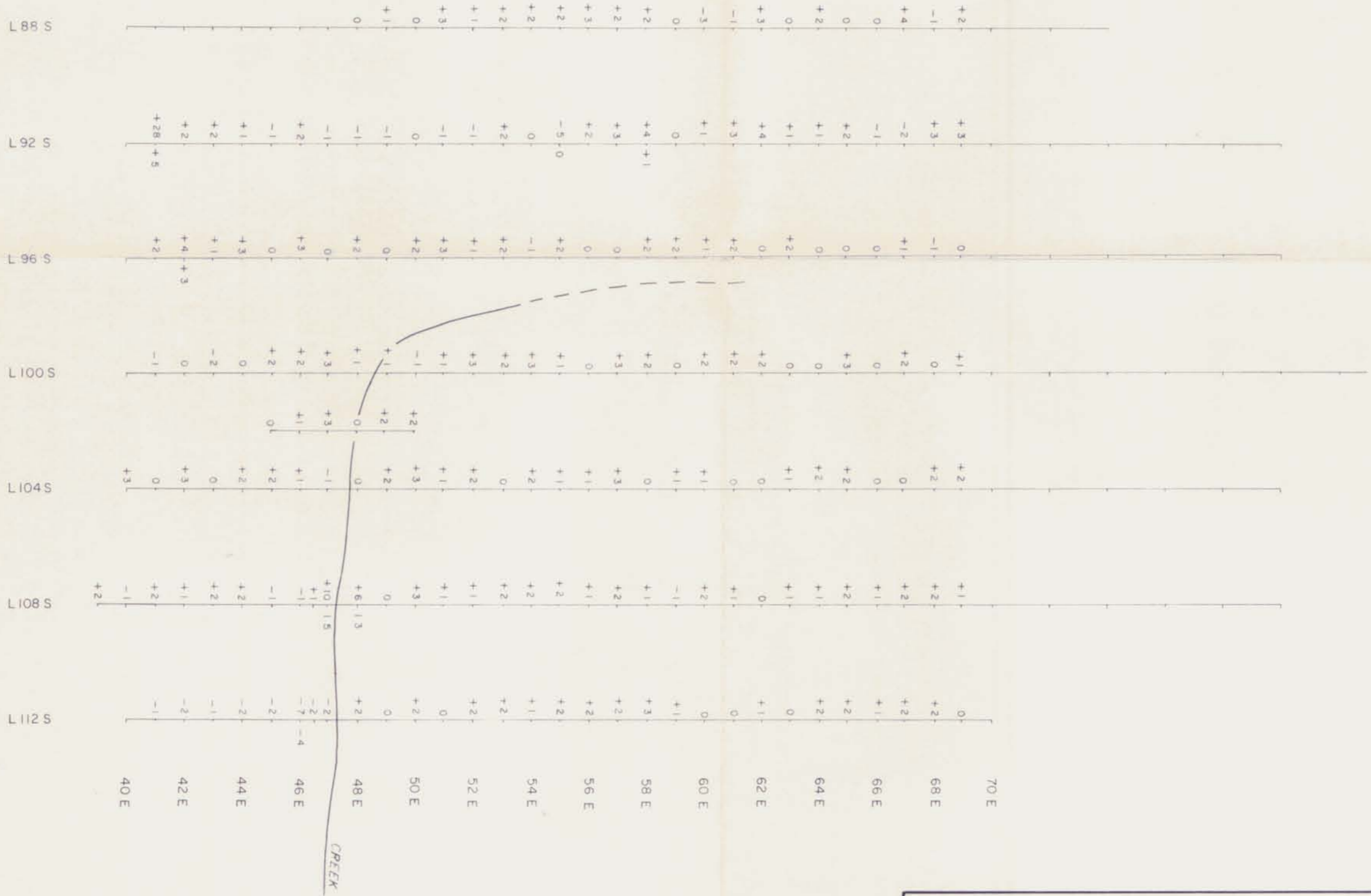
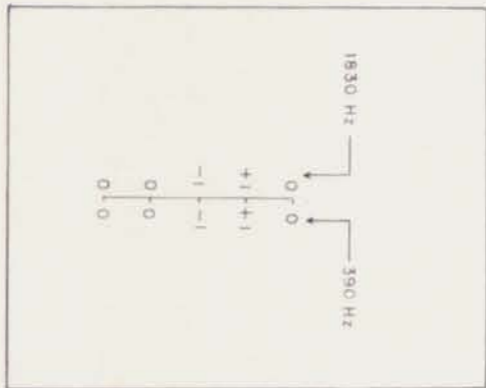
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 BID CLAIM GROUP
 BID CLAIMS 105 F - 10
 GRID GEOLOGY MAP



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 BID CLAIM GROUP
 BID CLAIMS 105F-10
 GEOCHEMICAL VALUES



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 BID CLAIM GROUP
 BID CLAIMS 105 F-10
MAGNETOMETER SURVEY
 CONTOUR INTERVAL - 500 γ



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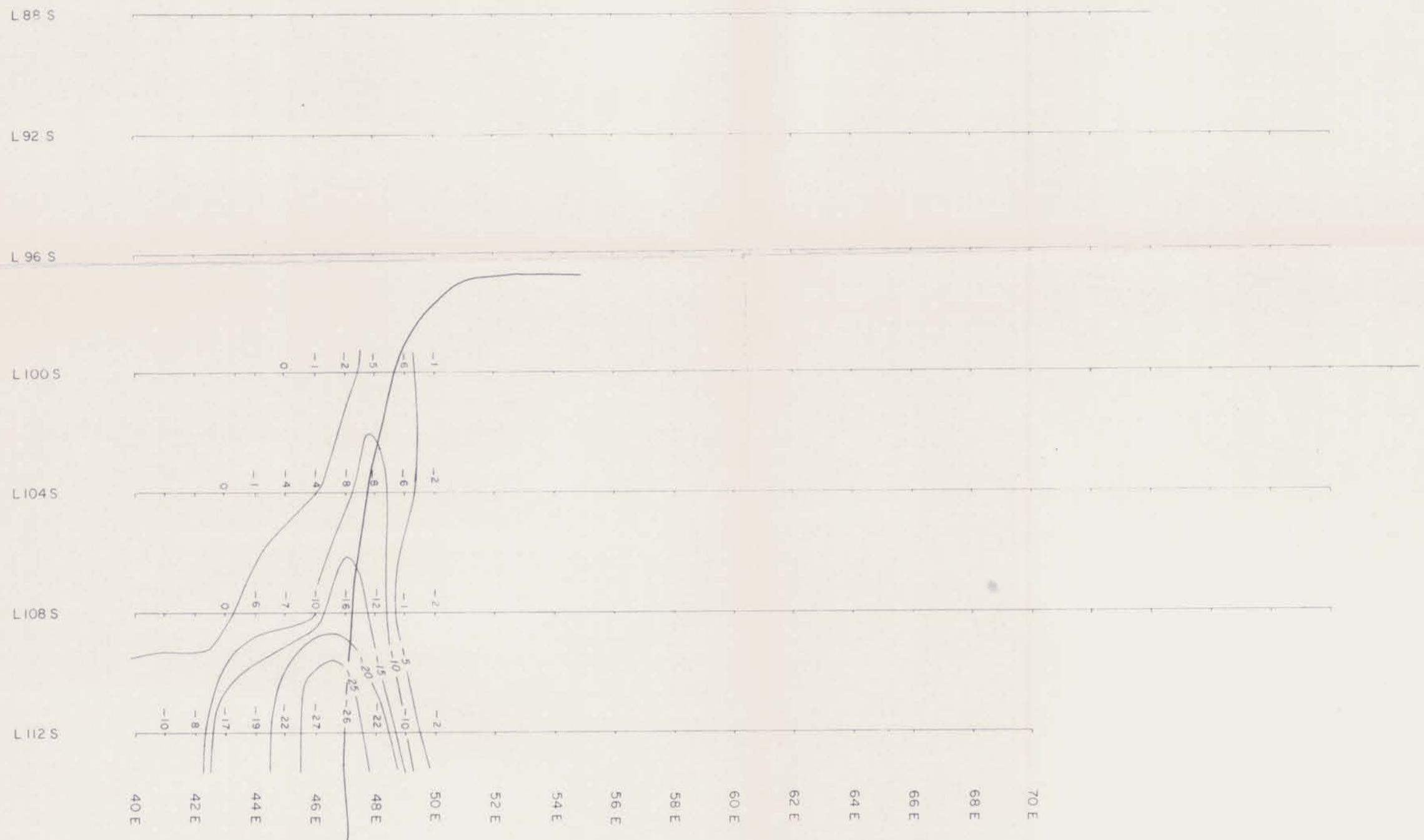
BID CLAIM GROUP

BID CLAIMS 105 F-10

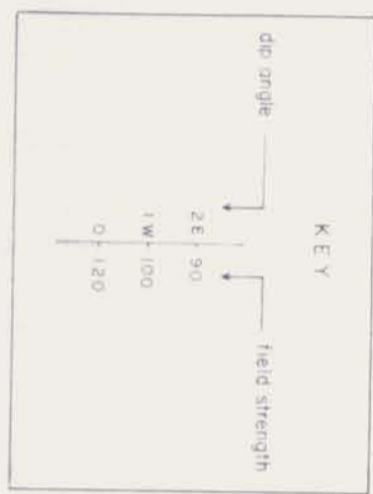
CEM HORIZONTAL SHOOTBACK - VALUES

COIL SPACING - 200 ft.

DATE: NOVEMBER 24, 1977 SCALE 1" = 400' DRAWN BY: C. L. C. FIG. 7



CYPRUS ANVIL MINING CORPORATION
BID CLAIM GROUP
BID CLAIMS 105 F-10
HORIZONTAL SHOOTBACK Freq: 1830 Hz
COIL SPACING - 400 ft.



CYPRUS ANVIL MINING CORPORATION
 BID CLAIM GROUP
 BID CLAIMS 105 F-10
RADEM SURVEY
 STATION: JIM CREEK, WA.