

GEOCHEMICAL REPORT
ON THE
EXTENSION AREAS OF THE
FAIR AND JOE CLAIMS
WHITEHORSE MINING DISTRICT
YUKON TERRITORY

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PREPARED FOR
NEW FAR NORTH EXPLORATIONS LIMITED

PREPARED BY
BARRINGER RESEARCH LIMITED
304 CARLINGVIEW DRIVE
REXDALE, ONTARIO, CANADA

GENERAL

The analytical data for additional soil samples collected on the extension areas of the Joe and Fair Claim Groups, Yukon Territory, have been examined.

The following report summarizes the salient features which have arisen from the study of the data. Provisional conclusions and recommendations are added.

Analysis have been undertaken initially for copper and zinc in order to examine their distribution and to obtain an initial assessment of the significance of these two metals. Additional analysis for lead is recommended on selected samples within certain anomalous zinc areas.

DISCUSSION OF RESULTS

Copper

In comparison with the previous copper results, these data indicate a trend to higher copper values farther east. In this section, a large proportion of the samples are above the background range selected from the previous analytical data. The concentration ranges selected previously however, have again been used in order to permit direct comparison with the earlier interpretation.

These concentration ranges are as follows:

Background Range	0-36 ppm Cu
Threshold Range	37-50 ppm Cu
Anomalous Range	+50 ppm Cu

In the west of Joe 1-8 the copper values are generally within the background range and fit closely the Joe and Fair data adjoining this new area sampled. In the north of Joe 1-8 a large threshold and anomalous area extends across almost the entire southern section adjoining Joe 1-8. The anomaly coincides, to some extent, with a magnetic anomaly. On the basis of the earlier geological investigations by Mr. J. Koski, coincident anomalous copper and magnetic data were found generally to reflect the more basic rocks of the area particularly where those rocks were relatively rich in magnetite. A similar explanation may be indicated in this case although rock exposures are few.

It is recommended that this anomaly should be reviewed when additional geological and drilling information becomes available in the area of anomalous lead, zinc and copper in Joe 1-8. A portion of this area of more detailed investigations shows a coincident copper and magnetic anomaly.

To the east of Joe 1-8 threshold copper values are relatively widespread as noted previously. The anomalous copper values, however, define numerous narrow

elongate zones except in the northeast of this map area where the anomalous area is much larger. In the northeast anomalous copper values extend from line 44W to line 60W and again coincide, in part, with weak magnetic relief. This anomaly, however, does not appear to warrant further investigations at this stage of investigations.

On the west of this map area adjoining Joe 1-8 there is a strong and well defined copper anomaly which again coincides with a strong magnetic anomaly. This anomalous zone is an extension of the anomalous area detected in Joe 1-8 and now being investigated in more detail. This anomaly is associated with an ultrabasic mass. Sheared sericite schist, however, occurs along the northern contact of the ultrabasic. Minor sulphide mineralization has been noted associated with the sheared rocks.

It is recommended that the detailed investigations on Joe 1-8 should be extended to cover the eastward extension of the anomalous area.

The remaining anomalous copper areas outlined in the more recent soil survey may again be reflecting geology rather than sulphide mineralization. At present it is considered that a more detailed examination may be premature. Rather, it is recommended that these anomalous copper areas should be reviewed as more information becomes available from the Cu-Pb-Zn-magnetic and gravity anomaly now being investigated in more detail.

Zinc

The zinc results show higher levels of concentration throughout the areas investigated recently compared to those from the origin Fair and Joe 1-8 claims. This trend parallels that for copper which showed an increasing gradient towards the east. This trend may indicate an approach towards a centre of copper-zinc concentration. It should be noted, however, that there is also an apparent overall increase in zinc values which suggest a slight analytical bias. This bias, however, does not affect interpretation to any major extent. Re-analysis for zinc of selected samples will be undertaken along with the lead determinations recommended below.

In order to aid interpretation of the new zinc data concentration ranges different from those used in the previous survey were selected. The new concentration ranges are as follows:

Background Range	0-70 ppm Zn
Threshold Range	71-100 ppm Zn
Anomalous Range	+100 ppm Zn

To the west of Joe 1-8 few anomalous values occur although many of the data lie within the threshold range and are slightly higher than the zinc data on the west of Joe 1-8.

In the north of Joe 1-8 a number of narrow anomalous zones emerge. These particular anomalies are not considered to warrant further investigations. Of more significance may be the three anomalous areas of larger dimensions. Two of these areas, however, on the eastern side of the map sheet have not been closed. It is recommended that lead determinations should be undertaken on a few selected samples from these three areas prior to consideration of more detailed field investigations.

In the area east of Joe 1-8, abundant zinc anomalies occur. These anomalies, however, are rather weak, somewhat erratic and do not warrant further field investigations at this stage. Rather, it is recommended again that lead determinations be undertaken on a few selected anomalous zinc samples in order to grade these anomalous zinc areas more accurately.

The zinc anomaly on the west side of this map sheet and adjoining the east side of Joe 1-8 is selected particularly, as it represents the extension of the anomalous lead-zinc area now under a more detailed investigation. This particular zinc anomaly continues east, then appears to spread laterally before fingering out near the centre of the map area. As recommended for the copper-magnetic anomaly in this area, the more detailed investigations planned for the anomalous zone in the Joe 1-8 claim area should be extended to cover this zinc anomaly. Lead determinations on the anomalous zinc samples are also recommended.

Previous geochemical work in the Fair and Joe 1-8 claim areas indicated a similar erratic-type distribution of zinc. It was apparent that lead data permitted some discrimination of the anomalous zinc results. As recommended above, therefore, approximately 100 samples should be selected from certain anomalous zinc areas and analyzed for their lead content in order to evaluate the anomalous zinc distribution more accurately.

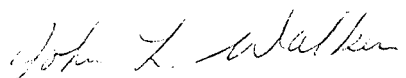
SUMMARY

Copper and zinc results for the areas surveyed recently indicate an increasing metal gradient towards the east.

The anomalous copper-lead-zinc area on the east side of Joe 1-8 extends over 2000 feet further east. It is recommended that the more detailed investigations proposed for the Joe 1-8 area of this anomaly should be extended to cover at least the coincident copper-zinc-magnetic anomalous area.

Other anomalous copper and zinc areas were detected in this recent soil sampling programme. These anomalies appear to be similar to the other anomalies detected in the previous survey. Many of these anomalies probably reflect geology rather than sulphide mineralization. The detailed information which will be available for the anomalous area now being investigated in more detail, will permit a more accurate evaluation of these anomalies. In the meantime it is recommended that lead determinations should be undertaken on selected anomalous zinc samples in order to assess the significance of the zinc anomalies more accurately.

BARRINGER RESEARCH LIMITED



John L. Walker
Consulting Geochemist

JLW:np

Dec.8/67

60W 56W 52W 48W 44W 40W 36W 32W 28W 24W 20W

VANGORDA CREEK AREA - JOE CLAIMS

NEW FAR NORTH ET AL

YUKON TERRITORIES

GEOCHEMICAL SURVEY

ZINC-LEAD DETERMINATIONS

BY BARRINGER RESEARCH LIMITED

76W 72W 68W 64W

Base Line No. 4

Base Line No. 4

20W 16W 12W 8W 4W

4E 8E 12E 16E 20E 24E 28E 32E 36E 40E 44E 48E 52E 56E 60E

76W 72W 68W 64W

Base Line No. 3

Base Line No. 5

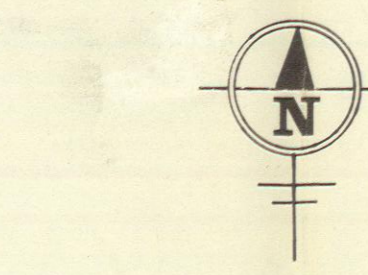
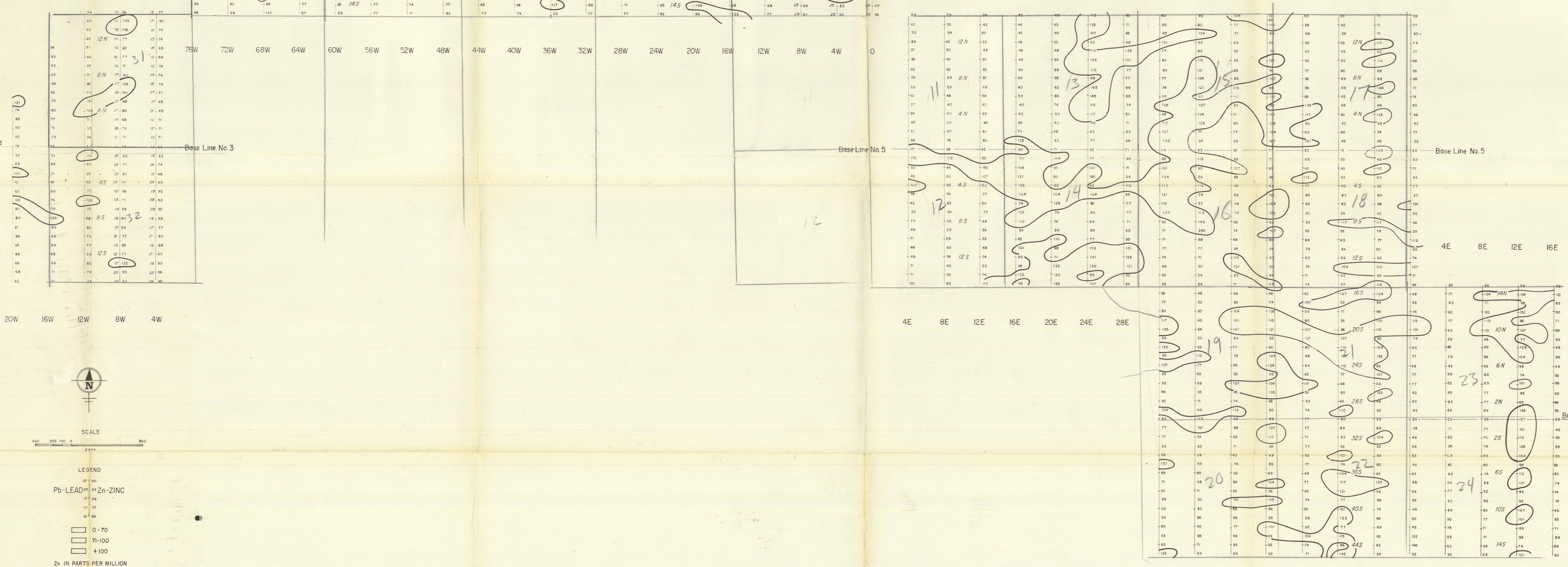
20W 16W 12W 8W 4W

4E 8E 12E 16E 20E 24E 28E

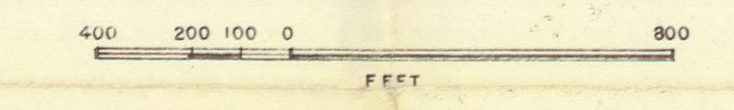
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Base Line No. 6

32E 36E 40E 44E 48E 52E 56E 60E 4E 8E 12E 16E



SCALE



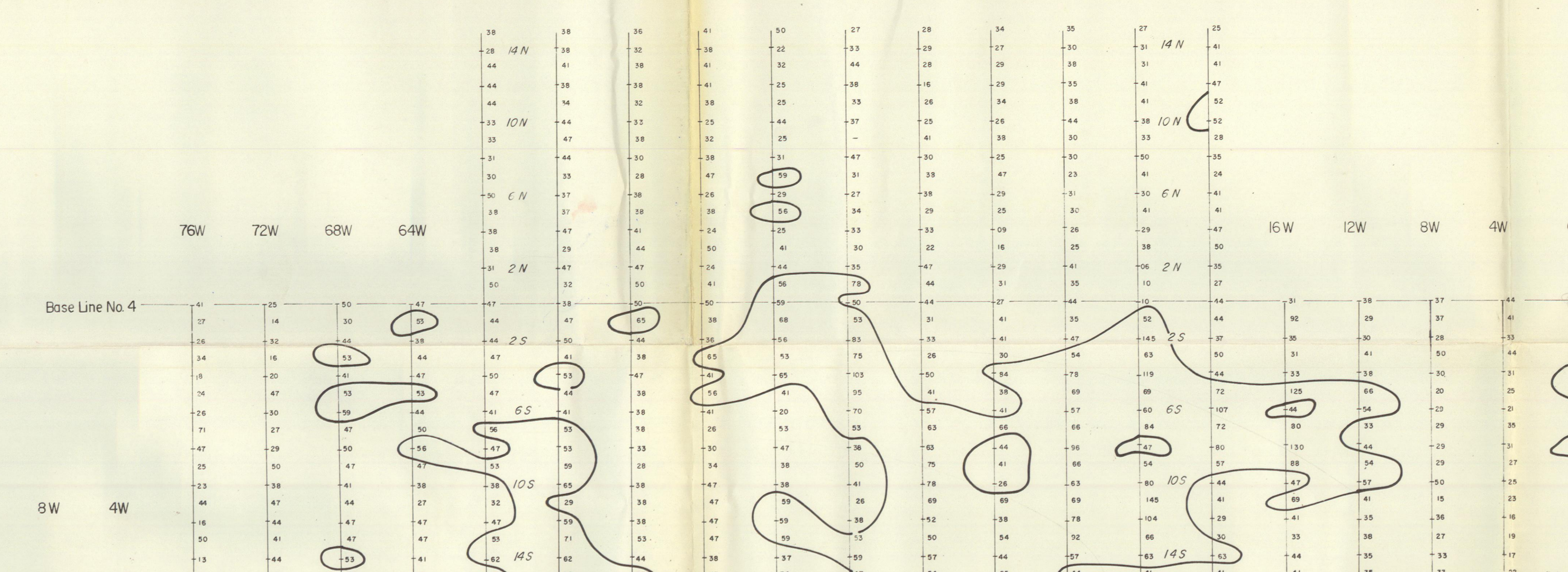
LEGEND

- Pb-LEAD⁹⁹ Zn-ZINC
- 0-70
- 71-100
- +100
- Zn IN PARTS PER MILLION

J. H. PRIEST - DRAFTING AND ILLUSTRATION SERVICES - TORONTO

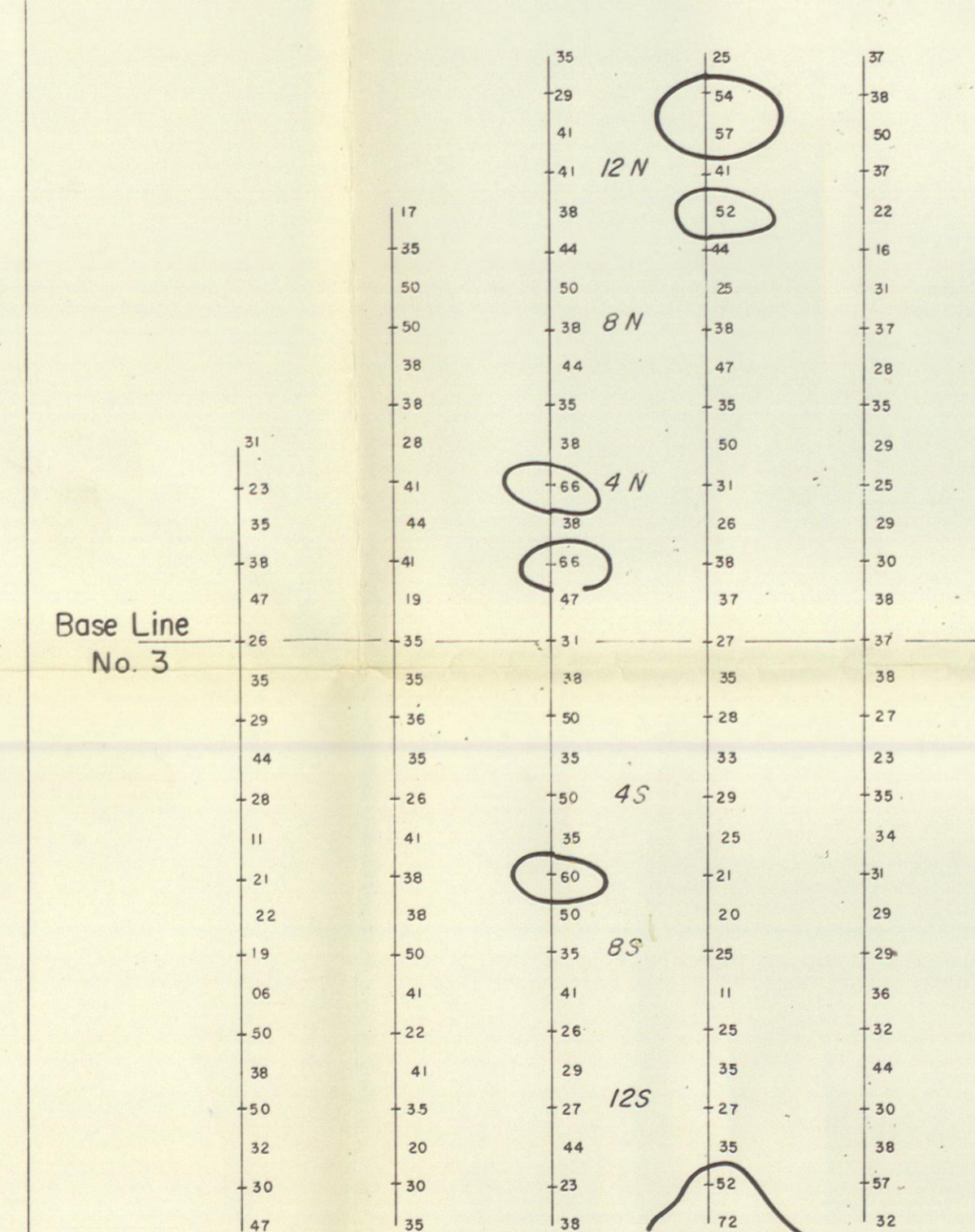
60W 56W 52W 48W 44W 40W 36W 32W 28W 24W 20W

VANGORDA CREEK AREA - JOE CLAIMS
NEW FAR NORTH ET AL
YUKON TERRITORIES
GEOCHEMICAL SURVEY
COPPER - DETERMINATIONS
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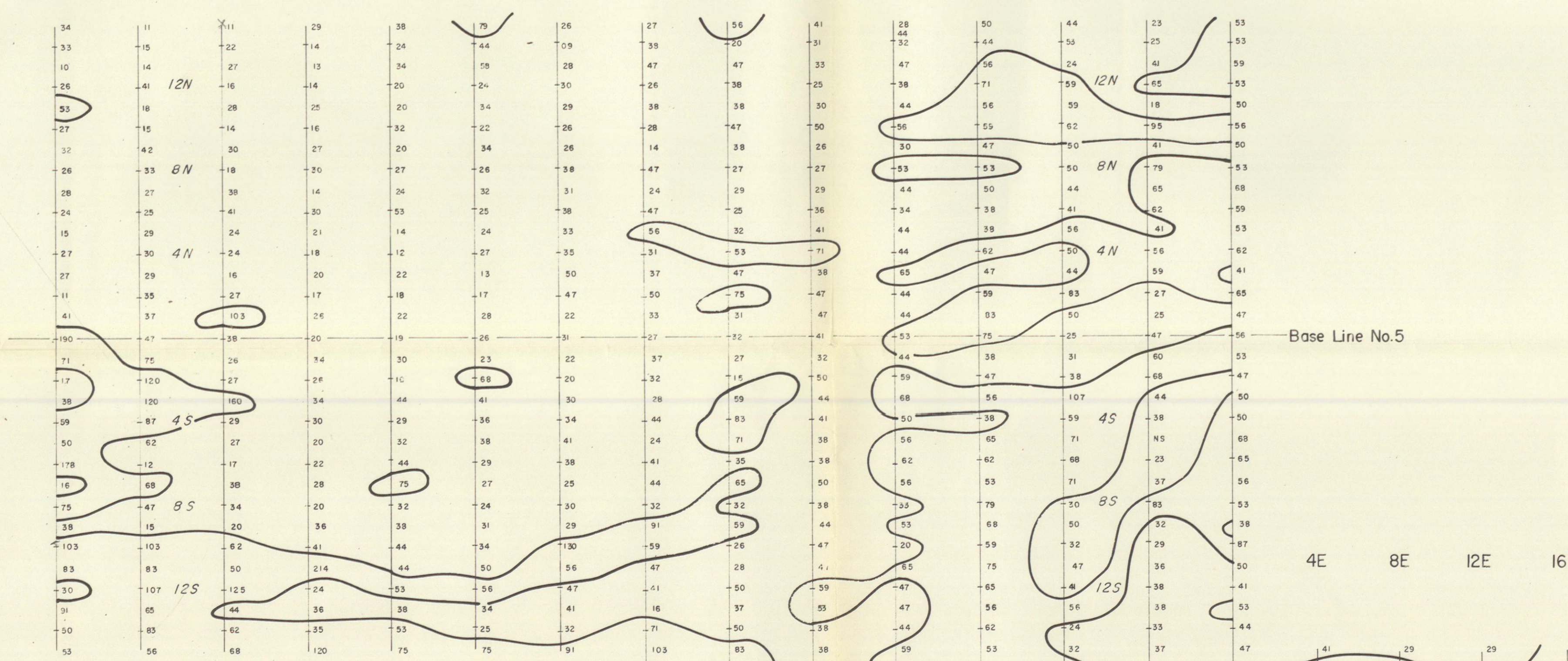


4E 8E 12E 16E 20E 24E 28E 32E 36E 40E 44E 48E 52E 56E 60E

20W 16W 12W 8W 4W

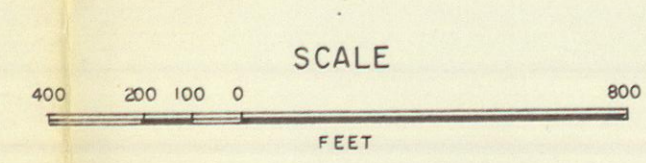
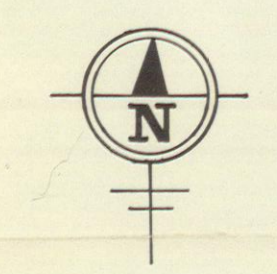


76W 72W 68W 64W 60W 56W 52W 48W 44W 40W 36W 32W 28W 24W 20W 16W 12W 8W 4W 0



20W 16W 12W 8W 4W

4E 8E 12E 16E



LEGEND
0-36
37-50
+ 50
Cu. IN PARTS PER MILLION