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EXTRACTS FROM:

GEOCHEMICAL AND RADIOMETRIC INVESTIGATION, PROSPECTS L1, L2, L3
AND L6, NORTHERN PART OF WOODCUTTERS AREA, RUM JUNGLE EAST
NORTHERN TERRITORY, 1966

by

D.G. Semple

The information contained in this report has been obtained by the Department of National Development, as part of the policy of the Commonwealth Government, to assist in the exploration and development of mineral resources. It may not be published in any form or used in a company prospectus without the permission in writing of the Director, Bureau of Mineral Resources, Geology and Geophysics.

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SUMMARY

Geochemical surveys carried out in the Woodcutters area in 1966 confirmed all but one of the lead anomalies previously outlined in this area. The anomalies are associated with high-order zinc anomalies and with irregularly distributed copper, cobalt and nickel anomalies. Highly anomalous gossans lie within anomaly L1.

Radiometric probing of auger holes confirmed the existence of three areas of anomalous radioactivity, two of which are associated with lead anomalies.

A comparison is made of the geochemical results obtained by different surveys at Woodcutters and it is suggested that more use should be made of mattock sampling in geochemical prospecting.

INTRODUCTION

This report describes the results of a detailed geological, geochemical, and radiometric investigation of part of the Woodcutters area, Rum Jungle East.

Location

The Rum Jungle East area is 60,000 feet long, and extends from the Giant's Reef Fault line, immediately south of Manton Dam, to south of the Batchelor road. The Woodcutters prospects are situated within this area alongside the Stuart Highway, 51 road miles south of Darwin (Plate 1).

The area has little relief; outcrop is sparse, and is restricted to a few very low siliceous rises. Weathering is deep. Drainage to the north is into the Manton River, and to the south into Coomalie Creek.

History

The regional geology of the Rum Jungle East area has been described by Malone (1958) in his report on the Darwin/Adelaide River area.

An airborne radiometric survey in 1957 (Livingstone, 1959) showed two localities of above background radioactivity within the Woodcutters area; these were subsequently investigated by ground parties (Warin, 1959).

The Darwin Uranium Group of the Bureau of Mineral Resources carried out reconnaissance geological, geochemical, and geophysical surveys in the Rum Jungle East area in 1964 (Dodson & Shatwell, 1965; Duckworth, 1966a), and an elongated zone of geochemical anomalies with associated radiometric anomalies was outlined between 24S and 24OS (Rum Jungle East grid). In 1965, the Darwin Uranium Group followed up these discoveries with a more detailed survey, and Shatwell (1966) outlined six well defined lead anomalies (numbered

L1 to L6) with peak values of several thousand ppm, and a number of low-order irregularly distributed copper and radiometric anomalies. In conjunction with the geochemical survey, a geophysical survey was carried out by Duckworth (1966b).

In February 1966, diamond drilling commenced at Woodcutters to test a gossanous zone at the southermost anomaly (L5), and the first hole (D.D.H. 66/1) intersected 12 feet of lode material averaging 8.2% zinc. Further drilling of this anomaly culminated in an intersection of 79 feet of massive pyrite-sphalerite-galena lode in D.D.H. 66/3, which assayed 20.9% Zn, 7.7% Pb, 7.7 oz./ton Ag, and 0.15% Cd.

The work described in this report was carried out concurrently with the diamond drilling, and was designed to facilitate the selection of diamond drill sites at the anomalies to the north of L5, and to geochemically test for zinc as well as for copper and lead. Lead anomalies L1, L2, L3, and L6, copper anomaly C1, and radiometric anomalies R1, R2, and R3 fall within the area covered by this survey.

Methods

The reconnaissance grid surveyed over the Rum Jungle East area in 1964 consisted of traverses 2400 feet apart, pegged at 50-foot intervals. In 1965, additional traverses 400 feet apart were pegged between the original traverse lines. In 1966, still further lines were pegged, resulting in a series of traverses at 200-foot spacing, and auger holes were drilled by a Gemcodrill at intervals of 100 feet along all traverse lines, including those drilled in the earlier surveys.

The purpose of auger drilling was three-fold:

1. to collect samples, preferably of weathered rock, for geochemical analysis
2. to measure radioactivity to moderate depths
3. to provide geological information for mapping concealed geological boundaries.

Drilling commenced on August 8th, and finished on November 4th, 1966. Two drills were employed during the last five weeks, one owned and operated by the B.M.R., the other by the Mines Branch, Northern Territory Administration. A total of 21,987 feet were drilled, 13,122 feet by the B.M.R., and 8,865 feet by the Mines Branch.

In areas of outcrop, samples were collected with a mattock.

All samples were submitted to the Australian Mineral Development Laboratories, Adelaide, for determination of copper, lead, zinc, nickel, and cobalt by atomic absorption spectrophotometer.

Auger holes were tested for radioactivity with a Harwell type 1368A ratemeter; readings were recorded at intervals of one foot.

STRATIGRAPHY

The geological succession in the Rum Jungle East area has been described by Dodson & Shatwell (1965) and Shatwell (1966). They have recorded the following units in order of increasing age:

Superficial Deposits		Quarternary
Laterite		?Tertiary
Acacia Gap Tongue (Masson Fm.)	)	
Golden Dyke Formation	)	
Coomalie Dolomite	)	Lower Proterozoic
Crater Formation	)	

The Woodcutters area (Plates 2, 4) is underlain by rocks of the Golden Dyke Formation, except for a small area of Coomalie Dolomite in the nose of an anticline in the extreme north. Exposures of Acacia Gap Tongue quartzite lie to the east and north-east of the area.

Coomalie Dolomite

No dolomite was encountered, either as outcrop or in auger cuttings, but auger samples were obtained of a light red-brown, well rounded ferruginous quartz sand; similar sand is known to overlie the Coomalie Dolomite elsewhere in the Rum Jungle district. Moreover, within this area, two sink holes confirmed the presence of dolomite.

Golden Dyke Formation

Shatwell (1966) divided the Golden Dyke Formation into a basal purple siltstone series and an overlying black shale series. However, diamond drilling has shown that the "siltstone" is in fact a weathering product of the shale, which is often pyritic and carbonaceous, and that this weathered zone may locally extend to more than 200 feet vertical depth.

Narrow lenses of pyritic quartz sandstone occur in the shale sequence. These lenses are lithologically identical with the Acacia Gap Tongue, but because of their small size and lenticular shape, are included in the Golden Dyke Formation.

Fine-grained quartzites, in places very pyritic, are intercalated with the shale. At anomaly L1 these quartzites are folded into a south-plunging anticline.

Superficial Deposits

Most of the Woodcutters area has a mantle of residual and semi-residual soils, which have been conventionally divided into A, B, and C soil horizons. The A horizon consists of a thin (about one foot) layer of grey-brown soil. The B horizon is brown to red-brown, and is about 20 feet thick; it contains clays, ironstone fragments, and quartz grains. The C horizon is composed of clays and weathered rock, and is generally dark brown or purple-grey, showing the same colour as the weathered rock from which it is derived.

STRUCTURE

The Lower Proterozoic rocks of the Woodcutters area are folded into an anticline which, at least in the northern part of the area, shows a plunge to the south. Although outcrop is sparse, evidence for this interpretation is provided by the following observations:

1. In the vicinity of traverse 72S, the Coomalie Dolomite-Golden Dyke Formation boundary has a arcuate shape consistent with the nose of a south-plunging fold. Dip information shows that it is an anticline.
2. At anomaly L1, a tight south-plunging anticlinal fold is outlined by a good outcrop of pyritic quartzite.
3. At anomaly L5, diamond drilling evidence and observations from costeans indicate that the anomaly is also situated over an anticline, although a reversal of plunge may have occurred in this area.
4. Gravity surveys run across the Woodcutters area indicate a number of small positive anomalies which have axes coinciding reasonably well with the zones of mineralisation indicated by the geochemical results (Duckworth, Farrow and Gardener, in preparation). Although the results are affected by the presence of amphibolite and the Rum Jungle granite, they are consistent with the occurrence of an anticlinal structure in the postulated position.

Several faults have been inferred where apparent displacements of geological boundaries are accompanied by surface evidence, such as brecciation and quartz veins. Turam results agree well with the postulated position of the faults at L3 (Farrow, 1967). Most of the faults trend north-easterly, sub-parallel to the Giant's Reef Fault, which defines the major fault direction in the Rum Jungle East area.

Some of the fault zones are mineralised. At L3 the faults are associated with a gossanous ironstone breccia and with pyrite and manganese mineralisation. At L1, pyritic gossans assaying up to 0.7% Pb are associated with fault traces. Zinc anomalies Z4 and Z5 are offset by a fault which was intersected in D.D.H. 66/13, and anomaly L5 appears to be associated with a shear zone trending due north.

MINERALIZATION

Sulphides are rarely found at the surface in the Woodcutters area; an exception was a costean at L5, which revealed fresh pyrite associated with quartz. However, pyrite casts are common, especially in quartz sandstone and quartzite, and auger cuttings in shale often revealed limonitised pyrite cubes.

Gossans

Scattered surface scree derived from quartz-ironstone-pyrite gossans is widely distributed over the Woodcutters area; this material contains rather erratic base metal values. Typical analyses are (in ppm);

Co-ordinates		Cu	Pb	Zn	Co	Ni
148S	43E	244	55	50	38	120
136S	37E	291	90	3000	180	730
112S	46E	15	75	5	5	5

Higher base metal values are shown by a group of hematitic pyritic gossans outcropping at L1, which contain (in part per million):

Co-ordinates		Cu	Pb	Zn	Co	Ni
118S	36E	1400	7000	1700	95	300
119.5S	36E	190	5500	1800	170	800
120S	36E	110	5100	1700	150	1700
122S	37E	25	1500	45	5	12

The gossan at L5 averaged 2.9% Pb (Wahlan Wirakusumah, 1967) and cerussite is visible. However, no cerussite was noticed at L1.

Evidence from diamond drilling

The results of recent diamond drilling at anomaly L5 may give an indication of the type of mineralization to be expected in other parts of the area. Particularly, this drilling has shown that the lode at L5 contains lead, zinc, silver, cadmium and minor copper, though each of these metals is not everywhere present in recoverable amounts, and that the lode is strongly pyritic, and occurs in a host-rock of calcareous carbonaceous slate.

GEOCHEMICAL AND RADIOMETRIC RESULTS

The geochemical analyses and radiometric results are tabulated in the Appendix.

Statistical Analysis

Copper, lead, zinc, nickel and cobalt values from the auger samples were plotted as cumulative frequency curves on logarithmic probability paper (plate 6). The purpose of the plots was to attempt a division of the values into anomalous and background populations. Table 1 summarizes the estimated background and threshold values.

Table 1

	<u>Background</u>	<u>Threshold</u>
Cu	100 ppm	?300 ppm
Pb	25	100
Zn	60	300
Co	90	?150
Ni	50	100

The threshold values agree well with those obtained for the earlier surveys at Woodcutters.

Geochemical Results

Plates 3 and 5 show the geochemical contours outlining lead anomalies L1, L2, L3, L6, and L7, and the associated zinc, copper, cobalt, and nickel anomalies. The numbering of the lead anomalies corresponds to those used by Shatwell (1966). Anomalies L1, L2, and L6 were confirmed; anomaly L3 was not confirmed, and L7 is one of minor importance not previously outlined.

L1 has a peak value of 8400 ppm at 118S, 37E, and contains a number of gossan outcrops showing anomalous metal values. A pyritic quartzite, folded into a tight south-plunging anticline, also lies within the anomaly area, but is not the cause of the anomaly, as a sample of this contained only 270 ppm lead. At the time of writing (April 1967) this anomaly was being tested by two diamond drill holes (67/5 and 67/6). One drill hole, 67/2, had to be abandoned when it intersected a 26-foot cavity in dolomite before reaching target depth. Another hole, D.D.H. 66/9 was completed at 525 feet because drilling conditions made further progress impracticable. No significant mineralization was intersected in either hole.

L2 is a south-east trending linear anomaly, 2000 feet long, north of L1. It has a peak of 4100 ppm at 90S, 40E, and three subsidiary peaks. The anomaly outline suggests that mineralization may be associated with a favourable sedimentary horizon, and that the peaks represent concentrations controlled by flexures within this horizon.

L3 had a peak of 1950 ppm at 68S, 68E according to previous surveys, and trends south-westerly, but geochemical sampling in 1966, on a grid pegged diagonally to the Rum Jungle East grid, showed a peak value of only 280 ppm.

L6 has a peak of 1350 ppm at 148S, 34E, and a subsidiary peak of 960 ppm at 150S, 34E; this latter peak was tested by D.D.H. 66/13. Very pyritic carbonaceous slate was intersected in this drill hole, but no economic mineralization.

L7 is a low-order anomaly, with a peak value of 960 ppm at 92S, 44E, 400 feet to the south-east of L2. It had not been outlined by the 1965 survey.

Zinc anomalies are intimately associated with several of the lead anomalies. This is to be expected, as sphalerite is a major constituent of the ore-zone beneath L5.

Z1 is 4000 feet long, and has four peaks of almost 2000 ppm. Z2 has a peak of 3200 ppm at 90S, 40E which corresponds to the 4100 ppm lead peak of L2. Z3 is not associated with a lead anomaly, but lies between anomalies L1 and L6.

Z5 with a peak of 880 ppm at 152S, 35E, and Z4 with a peak of 1900 ppm at 160S, 38E, are offset by a north-east trending fault. Copper anomaly C1 coincides with Z4, and D.D.H. 66/10 was designed to test this anomaly before the results of the 1966 survey were obtained. However, this hole intersected no zone of mineralization. D.D.H. 67/1 was sited 400 feet south of D.D.H. 66/10 in what was thought to be a more favourable location, but the only mineralization intersected was minor cerussite along joints.

Anomalous nickel and cobalt values are irregularly associated with some of the lead and zinc anomalies.

Radiometric Results

There are three areas of anomalous radioactivity within the survey area (Plate 2, 4).

R1 has a peak of 0.036 mR/Hr recorded at a depth of 17 feet at 118S, 37E, and is associated with lead anomaly L1. R2 is a surface anomaly lying between L1 and L6; it has a peak of 0.032 mR/Hr at a depth of four feet, and shows a sharp decrease in intensity below this depth. R3 has a peak of 0.070 mR/Hr at a depth of 23 feet at 154S, 34E, and a reading of 0.050 mR/Hr at the bottom of the hole (31 feet). This anomaly is associated with L6 and Z4.

Warin (1959) found that the intensity of the radiometric anomalies in the Woodcutters area generally decreased with depth, and this has been confirmed by the present survey. However, the association of R1 and R3 with lead anomalies is of some interest, though its significance is not yet understood.

Table 2 is a summary of the known anomalies in the Woodcutters area.

Comparisons with earlier surveys

The discovery of sulphide mineralization at L5 has confirmed that the geochemical prospecting method is a suitable technique in the search for ore-bodies in the Rum Jungle area.

A routine has now been established for the survey of a previously untested area; this involves three stages:

1. Reconnaissance geochemical sampling using an auger drill, on traverses spaced 2400 feet apart, to indicate areas to be surveyed in detail.
2. Follow-up work on traverses spaced 400 feet apart to outline individual anomalies.

3. Fill-in surveys on traverses spaced 200 feet apart, or less, in areas of unusual complexity and over individual anomalies.

In the Woodcutters area, stage 2 was represented by the 1965 survey, based on a 400x200-foot grid. The 1966 survey, based on a 200x100-foot grid, did not result in any major changes in the general outlines of the known anomalies other than L3, but, as more samples were analysed from each anomalous area, the peaks of the anomalies changed in both value and position. For example:

Anomaly L1

<u>1965</u>	<u>1966</u>
10,000 ppm Pb at 120S, 36E, at 28'	3,000 ppm Pb at 120S, 36E, at 23'
Not drilled	8,400 ppm Pb at 118S, 37E, at 23'
Not drilled	6,600 ppm Pb at 118S, 38E, at 17'
2,150 ppm Pb at 116S, 36E, at 11'	2,500 ppm Pb at 116S, 36E, at 23'

Anomaly L2

<u>1965</u>	<u>1966</u>
5,000 ppm Pb at 80S, 34E, at 17'	1,400 ppm Pb at 80S, 34E, at 23'
Not drilled	4,100 ppm Pb at 90S, 40E, at 23'
875 ppm Pb at 88S, 38E at 17'	1,800 ppm Pb at 88S, 38E, at 23'
295 ppm Pb at 76S, 34E at 17'	1,500 ppm Pb at 76S, 33E, at 23'

Wahlan Wirakusumah (1967) showed that, in general, there is considerable variation in the metal values of samples from different depths in the same auger hole within an anomaly, though all the values will generally be anomalous. Thus the peak value of an anomaly is of less importance than the occurrence of the anomalous area as such, and no great significance should be attached to the variations between the results of the 1965 and 1966 surveys at the same drill sites, as listed above. What is important is that the contours were more clearly defined and more accurately drawn.

Another comparison that should be mentioned is that between auger samples and mattock samples. In 1965, anomaly L1 was sampled, using a mattock, on a 200x50-foot grid. The anomaly-outline obtained was very similar to those obtained in 1965 and 1966 by auger sampling. For example, some results along traverse 118S are:

<u>1965</u> (mattock samples)		<u>1966</u> (auger samples)
34E	196 ppm Pb	25 ppm Pb
35E	1500	500
36E	1850	2300
37E	1040	8400
38E	2000	6600
39E	950	1200
40E	118	610

The only significant difference is one of intensity, the peak obtained by auger sampling being more marked than that obtained by mattock sampling. This was also shown to be so at anomaly L5 (Wahlan Wirakusumah, 1967).

At Rum Jungle, auger drilling is necessary to obtain a measure of sub-surface radioactivity, and mattock sampling, though a cheap and efficient method of prospecting, could not be used alone. However, it is suggested that for future reconnaissance surveys, auger drilling on 2400-foot spaced traverses be supplemented by mattock sampling on intermediate traverses.

CONCLUSIONS

All but one of the lead anomalies previously outlined by Shatwell (1966) have been confirmed, although the outlines of several have been changed in detail. Associated with these anomalies are high-order zinc anomalies, and sporadically distributed copper, cobalt, and nickel anomalies. The anomalies appear to be related to a favourable bed of dolomitic carbonaceous black shale in which either folds or shear-zones, or both, have localized the major metal concentrations.

REFERENCES

- DODSON, R.G., & SHATWELL, D.O., 1965 - Geochemical and Radiometric Survey, Rum Jungle, Northern Territory, 1964. Bur. Min. Resour. Aust. Rec. 1965/254. (unpubl.)
- DUCKWORTH, K., 1966a - Rum Jungle Area, N.T. Electromagnetic and Radiometric Surveys, 1964. Bur. Min. Resour. Aust. Rec. 1966/98. (unpubl.)
- DUCKWORTH, K., 1966b - Rum Jungle East (Woodcutters and Coomalie Gap West areas) Geophysical Surveys, 1965. Bur. Min. Resour. Aust. Rec. 1966/99. (unpubl.)
- DUCKWORTH, K., FARROW, B.B. & GARDENER, J.E. - Rum Jungle East area, N.T. Test Geophysical Surveys, 1966. Bur. Min. Resour. Aust. Rec.; (in preparation.)
- FARROW, B.B., 1967 - Report on E.M. and I.P. Test Surveys in the Rum Jungle East Area 1966. Bur. Min. Resour. Aust. Rec. (in preparation).
- LIVINGSTONE, D.F., 1959 - Airborne Radiometric Survey of the Rum Jungle Region, Northern Territory, 1957. Bur. Min. Resour. Aust. Rec. 1959/9. (unpubl.)
- MALONE, E.J., 1958 - The Geology of the Darwin-Adelaide River Area, N.T. Bur. Min. Resour. Aust. Rec. 1958/96. (unpubl.)
- SHATWELL, D.O., 1966 - Geochemical and Radiometric Investigations, Rum Jungle East Area, 1965 (Coomalie Gap West and Woodcutters Areas). Bur. Min. Resour. Aust. Rec. 1966/34. (unpubl.)
- WAHLAN WIRAKUSUMAH, 1967 - Geochemical and Radiometric Results from Three Areas, Woodcutters Prospect, Rum Jungle East, Northern Territory. Bur. Min. Resour. Aust. Rec. 1967/5. (unpubl.)
- WARIN, O.N., 1959 - Report of Investigation of Radiometric Anomalies discovered by Auster Aircraft in the Rum Jungle District, Northern Territory. Bur. Min. Resour. Aust. Rec. 1959/18. (unpubl.)

TABLE 2
SUMMARY OF ANOMALIES

./Type	Location	Value	Association	Remarks
L1	106S-124S, 34E-41E	8400 ppm Pb at 118S, 37E 6600 ppm Pb at 118S, 38E 3000 ppm Pb at 120S, 36E 2500 ppm Pb at 116S, 36E	Anomalies Z1, R1 and threshold copper	Centred on anticline of very pyritic quartzite. Contains gossan outcrops with 5500-7000 ppm Pb D.D.H. 66/9, 67/2 inconclusive. D.D.H. 67/5, 67/6 in progress. Drilling conditions difficult.
L2	72S-92S, 32E-41E	4100 ppm Pb at 90S, 40E 1800 ppm Pb at 88S, 38E 1400 ppm Pb at 80S, 34E 1500 ppm Pb at 76S, 33E	Anomalies Z1, Z2, and surface radio- metric anomaly. Peak at 90S, 40E associated with anomalous Cu, Ni, Co.	S.E. trend suggests favour- able sedimentary horizon: Peaks may indicate en- echelon metal concentrations.
L3		Peak of 1950 ppm Pb at 68S, 68E, according to previous surveys. Peak now 280 ppm Pb at 50E, 50N (diagonal grid).	Low order Zn and threshold Cu, Ni, Co. I.P. and Turam anomalies.	High lead values not con- firmed, but the geophysical anomalies may warrant drilling.
L6	142S-152S, 32E-38E	1350 ppm Pb at 148S, 34E.	Anomalies Z5, R3 and anomalous Ni.	D.D.H. 66/13 intersected no significant zone of mineralization.
L7	90S-100S, 43E-49E	960 ppm Pb at 92S, 44E. 880 ppm Pb at 96S, 47E. 830 ppm Pb at 98S, 45E.	Low order surface radioactivity.	Lies to the S.E. of L2. Not previously outlined.
Z1	82S-122S, 30E-42E	1900 ppm Zn at 118S, 37E. 1500 ppm Zn at 102S, 38E. 1800 ppm Zn at 100S, 35E. 1800 ppm Zn at 84S, 32E.	Anomalies L1, L2, R1 and threshold copper.	Intimately associated with lead anomalies.
Z2	82S-92S, 37E-42E	3200 ppm Zn at 90S, 40E	Anomaly L2 and anomalous Cu, Ni, Co.	

No./Type	Location	Value	Association	Remarks
Z3	122S-134S, 31E-41E	1500 ppm Zn at 130S, 36E 1300 ppm Zn at 128S, 33E	Anomalous Ni, Co.	No anomalous lead.
Z4	153S-161S, 37E-39E	1900 ppm Zn at 160S, 38E	Anomaly C1, and anomalous Pb (630 ppm), Ni.	D.D.H. 66/10 and 67/1 intersected no significant zone of mineralization.
Z5	144S-154S 34E-38E	880 ppm Zn at 152S, 35E.	Anomalies L6, R3, and anomalous Ni.	
C1	155S-161S, 37E-39E	520 ppm Cu at 158S, 38E	Anomaly Z4 and anomalous Pb and Ni	
R1	118S-37E	0.036 mR/Hr at 17'	Anomalies L1, Z1.	Probably significant. Restricted in area.
R2	136S-140S, 25E-29E	0.032 mR/Hr at 4' at 138S, 26E.		Surface anomaly. Decreases sharply with depth.
R3	146S-158S, 34E-38E	0.070 mR/Hr at 154S, 34E at 23', 0.050 mR/Hr at 31'.	Anomalies L6, and Z5.	Probably significant.

APPENDIX 2

GEOCHEMICAL ANALYSIS

Geochemical analyses of samples from the Woodcutters area traverses are listed by co-ordinate position and sample number. Samples were analysed at Australian Mineral Development Laboratories by atomic absorption spectrophotometer and all results are in parts per million. A minus sign (-) in front of a number here means "less than".

Mattock samples taken from outcrop or sub-outcrop are marked "M". All others are bottom hole auger samples with depth shown.

Auger holes were probed (Harwell 1368A ratemeter) for radioactivity, the first column showing maximum radioactivity for the A/B soil horizon, the second column that for the C Soil horizon.

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/Bhor. C. hor.	
66121518	162S 37E	35	30	20	11	23	23	.017	.014
517	38E	32	290	46	8	20	23	.012	.012
66121516	162S 39E	90	30	110	14	55	23	.011	.010
66121531	160S 25E	24	25	75	11	44	23	.012	.009
530	27E	28	12	48	8	35	23	.015	.011
529	160S 29E	16	45	18	8	23	23	.014	.010
528	30E	54	65	50	14	40	17	.012	-
527	31E	10	20	7	8	11	23	.012	.010
525	32E	14	15	13	6	17	23	.012	.010
524	33E	18	110	9	6	11	23	.010	.011
523	34E	10	15	5	6	6	23	.013	.012
522	35E	20	15	19	6	11	23	.018	.012
521	36E	12	15	34	6	14	23	.015	.014
520	37E	230	130	960	48	230	23	.018	.014
519	38E	340	630	1900	85	370	23	.019	.019
515	39E	50	20	65	17	40	23	.015	.012
514	40E	80	25	160	17	66	23	.016	.012
513	41E	26	-10	70	11	66	23	.011	.010
512	43E	50	12	50	11	36	23	.013	.010
511	44E	20	20	30	11	30	23	.012	.012
66121532	158S 24E	35	-10	85	11	60	23	.015	.010
533	25E	22	-10	13	11	17	23	.013	.012
534	26E	46	23	50	11	40	23	.011	.010
535	27E	12	12	8	11	50	19	.013	.010
536	28E	32	-10	65	14	26	23	.014	.012
537	29E	16	12	25	8	30	23	.010	.010
538	30E	12	15	11	8	20	23	.012	.010
539	31E	30	25	24	11	20	23	.011	.011
540	32E	18	90	7	8	11	23	.012	.010
541	33E	18	20	11	11	11	23	.012	.012
542	34E	20	15	15	8	14	23	.011	.014
543	35E	16	-10	7	6	20	23	.011	.012
544	36E	50	25	24	8	20	23	.015	.012
545	158S 37E	80	85	44	11	60	23	.021	.020

Sample No.	Co-ordinate Position		Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr)	
									A/B hor.	C hor.
66121546	158S	38E	520	60	550	30	170	29	.014	.014
547		39E	140	40	200	30	64	29	012	009
548		40E	45	25	150	14	56	23	012	009
549		41E	45	-10	85	11	53	23	012	009
550		42E	24	12	28	8	32	23	011	008
551		43E	70	20	480	38	385	23	008	008
552		44E	35	15	75	14	90	23	009	008
66121565	156S	24E	95	12	70	36	140	23	013	012
564		25E	28	20	23	11	25	23	013	008
563		27E	45	-10	50	17	48	23	013	009
562		29E	50	-10	105	17	55	23	014	011
561		31E	16	20	14	8	23	23	012	011
560		33E	42	25	58	11	38	23	013	011
559		35E	32	25	21	11	17	23	016	011
558		37E	35	20	40	11	23	29	014	011
557		38E	300	110	840	30	225	29	012	012
556		39E	42	25	180	11	40	29	011	009
555		40E	28	12	50	8	29	23	012	009
554		41E	60	12	130	11	85	23	012	008
553		43E	40	12	240	36	220	23	01	009
66121566	154S	24E	28	-10	36	11	25	23	012	009
567		25E	28	12	6	11	17	23	012	011
568		26E	34	20	14	11	23	23	014	010
569		27E	37	15	14	11	30	23	015	011
570		28E	32	170	34	11	32	23	016	013
571		29E	30	12	14	11	23	23	016	013
572		30E	22	12	15	8	11	23	013	011
573		31E	20	140	12	8	11	23	013	013
574		32E	14	-10	10	8	8	23	012	014
575		33E	16	25	20	8	14	23	012	013
576		34E	130	40	390	23	30	23	016	034
66122352		34E	100	30	600	20	220	40	036	070
66121577		35E	100	40	30	11	30	29	014	012
578		36E	13	50	19	-6	14	23	015	010
579		37E	60	40	43	11	90	23	013	013
580		38E	110	10	500	65	120	23	017	011
581		39E	26	25	110	17	50	23	011	009
582		40E	26	10	40	8	44	23	012	010
583		41E	95	15	55	8	50	23	010	009
584		42E	55	-10	190	25	130	23	011	011
585		43E	32	15	90	14	80	23	009	012
586		44E	22	-10	46	17	55	23	009	008
66121604	152S	25E	42	25	12	8	26	23	010	010
603		26E	180	35	400	80	170	23	014	012
602		27E	32	25	14	11	30	23	013	012
601		29E	30	45	36	8	23	22	018	011
600		30E	22	85	12	8	11	23	019	013
599		31E	9	35	6	6	8	23	012	011
598		32E	14	15	13	6	8	23	016	012
597		33E	18	170	21	6	20	23	016	013
596		34E	60	80	138	11	38	23	018	010
595		35E	65	140	880	40	310	29	016	009
594		36E	22	180	17	-6	6	29	018	022
593		37E	150	25	63	14	65	23	016	028
66122353	152S	37E	20	20	75	10	55	40	013	011

Sample No.	Co-ordinate Position		Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B, hor. C. hor.	
66121592	152S	38E	60	75	24	8	30	10	011	011
591		39E	20	20	77	8	40	23	011	011
590		42E	320	120	2220	120	1250	23	011	011
589		41E	85	25	240	20	160	23	011	012
588		43E	44	20	540	30	350	23	009	009
587		44E	40	12	53	14	55	23	009	006
66121605	150S	24E	38	15	48	14	48	23	013	008
606		25E	46	25	14	11	30	23	018	008
607		26E	36	25	11	8	36	23	012	007
608		27E	34	30	96	20	66	23	009	009
609		28E	46	20	91	14	26	23	013	010
610		29E	110	60	260	14	100	23	012	009
611		30E	40	390	38	11	26	23	013	009
612		31E	26	110	32	8	26	23	015	013
613		32E	14	60	25	8	14	23	013	013
614		33E	60	600	80	11	36	23	019	014
615		34E	70	960	43	40	38	23	021	013
616		35E	64	120	420	40	137	23	014	011
617		36E	24	180	40	8	50	23	012	012
618		37E	74	300	90	11	35	23	016	014
619		38E	52	35	190	26	63	23	012	008
620		39E	74	25	115	11	40	23	012	010
621		40E	76	25	145	11	56	23	010	013
622		41E	74	25	175	8	75	23	011	013
623		42E	24	25	60	8	30	23	009	011
624		43E	37	25	115	26	90	23	009	010
625		44E	68	25	55	11	38	23	009	009
66121639	148S	25E	30	20	8	23	17	23	011	011
638		27E	24	20	60	8	30	23	012	008
637		28E	24	110	80	48	32	23	011	007
636		29E	95	15	55	26	36	23	009	009
635		31E	180	20	15	8	23	23	014	010
634		33E	18	130	25	8	26	23	016	010
633		34E	14	1350	250	48	110	23	011	012
632		35E	47	35	300	44	148	23	021	008
631		37E	50	40	95	11	40	23	011	008
630		39E	94	25	120	60	82	23	014	010
629		40E	90	25	115	11	50	23	011	011
628		41E	90	70	250	11	65	23	014	013
627		42E	54	40	110	17	44	11	010	011
626B (gossan)		43	244	55	50	38	120	M		
626A	148S	43E	74	20	65	8	38	23	011	009
66121640	146S	24E	75	90	300	38	72	23	010	007
641		25E	35	20	17	17	55	23	021	009
642		26E	44	15	28	26	65	23	012	010
643		27E	100	25	180	38	100	23	014	007
644		28E	47	20	110	23	55	23	012	011
645		29E	26	20	32	8	24	23	012	007
646		30E	52	15	36	11	36	23	014	008
647		31E	70	15	40	8	30	23	013	007
648		32E	110	15	34	8	40	23	016	010
649		33E	32	35	11	14	17	23	106	011
650		34E	11	150	8	6	24	23	015	013
651		35E	40	120	65	14	46	23	014	010
652	146S	36E	85	50	400	75	140	23	020	008

Sample No.	Co-ordinate Position		Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B.hor. C.hor.	
66121653	146S	37E	85	25	94	36	90	23	017	011
654		38E	70	25	60	32	60	23	012	009
655		39E	75	30	140	17	90	23	013	011
656		40E	36	20	24	6	30	23	012	008
657		41E	140	25	250	32	90	23	010	010
658		42E	46	70	100	11	60	23	016	012
659		43E	80	25	90	11	38	23	010	009
66121660		44E	32	25	100	8	30	23	011	009
66121681	144S	24E	36	15	45	36	30	23	011	011
680		25E	55	12	95	32	40	23	011	009
679		26E	40	15	22	30	44	23	012	012
678		27E	65	12	80	26	40	23	010	008
677		28E	46	12	75	20	55	23	010	010
676		29E	36	-10	42	18	48	23	010	010
675		30E	11	12	58	12	26	23	013	012
674		31E	11	25	10	6	6	23	014	010
673		32E	16	140	8	6	6	23	012	009
672		33E	26	130	14	18	20	12	-	008
671		34E	26	70	8	8	12	23	011	008
670		35E	4	75	8	8	6	23	012	012
669		36E	90	650	80	6	46	23	013	014
668		37E	70	40	200	17	80	23	015	010
667		38E	130	65	300	36	80	23	012	011
666		39E	40	25	95	11	46	23	016	008
665		40E	40	250	120	14	44	23	010	007
664		41E	60	35	120	17	70	22	009	011
663		42E	32	75	195	14	66	23	011	009
662		43E	100	25	180	17	75	23	010	013
661		44E	65	20	140	14	65	23	010	010
66121682	142S	24E	30	15	75	30	40	23	009	010
683		25E	50	15	80	14	26	23	015	009
684		26E	42	25	80	55	65	23	015	007
685		27E	100	12	130	26	65	23	015	007
686		28E	44	-10	150	20	75	23	014	009
687		29E	Missing							
688		30E	Missing							
689		31E	Missing							
690		32E	Missing							
691		33E	100	75	190	18	60	23	011	010
692		34E	30	40	30	70	80	23	013	010
693		35E	30	45	35	110	35	23	013	008
694		36E	140	100	95	45	20	23	015	011
695		37E	95	65	55	8	20	6	010	-
696		38E	160	430	170	35	65	11	009	008
697		39E	130	- 5	130	- 5	45	23	013	011
698		40E	310	18	400	25	140	23	011	009
699		41E	220	20	250	40	120	23	011	013
700		42E	160	20	600	8	90	23	011	009
701		43E	140	300	250	75	160	23	010	010
703		44E	35	8	160	-5	40	23	011	009
66121718	140S	25E	38	35	18	20	24	23	015	010
717		26E	44	25	28	30	30	23	017	014
716		27E	32	30	25	8	30	23	015	011
715		28E	75	10	40	14	40	23	017	010
714	140S	29E	40	10	18	12	30	23	014	009

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B.hor. C.hor.		
66121713	140S	31E	9	30	10	6	12	23	016	013
712		32E	46	760	20	-6	12	23	015	012
711		33E	130	25	100	18	38	23	012	011
710		34E	140	25	180	140	140	23	012	009
709		35E	190	30	300	100	120	23	010	010
708		37E	210	40	200	30	50	23	012	010
707		39E	210	30	480	75	160	23	011	010
706		41E	160	30	260	38	80	23	011	011
705		42E	95	20	610	20	160	23	010	012
704		43E	150	35	660	50	210	23	010	010
703		44E	140	210	680	38	160	23	008	011
66121719	138S	24E	70	10	60	55	75	23	012	008
720		25E	22	15	6	8	12	23	013	008
721		26E	22	15	12	8	14	23	032	014
722		27E	34	15	20	12	14	23	022	012
723		28E	70	-10	50	14	40	23	026	014
724		29E	20	-5	8	-5	10	23	023	010
725		30E	25	-5	5	-5	10	23	013	012
726		31E	35	130	140	8	55	23	013	016
727		32E	45	140	140	8	50	23	015	011
728		33E	190	18	200	35	110	23	010	010
729		34E	600	-10	440	450	400	23	012	011
730		35E	60	10	55	14	48	23	010	011
731		36E	120	18	75	8	38	23	009	009
732		37E	140	10	140	8	50	23	012	008
733		38E	90	15	120	26	90	23	010	010
734		39E	70	15	280	8	70	23	010	009
735		40E	100	18	250	18	110	23	011	010
736		41E	80	12	300	20	130	23	010	010
737		42E	50	10	300	40	150	23	009	008
738		43E	20	12	180	10	90	23	010	009
739		44E	120	-10	390	30	160	23	012	011
66121760	136S	24E	60	-10	75	38	65	23	010	009
759		25E	36	15	65	24	36	23	015	012
758		26E	44	35	14	12	20	23	018	010
757		27E	80	25	70	35	70	23	016	018
756		28E	24	-10	11	14	12	23	021	011
755		29E	11	-10	11	24	14	23	019	010
754		30E	13	25	21	8	18	23	020	007
753		31E	9	10	48	8	32	23	020	011
752		32E	40	-10	74	14	50	23	020	010
751		33E	240	15	180	44	110	23	025	012
750		34E	180	15	180	70	110	23	015	009
749		35E	270	40	290	160	200	23	014	010
748		36E	160	18	180	14	90	23	011	011
747A		37E	280	10	400	360	270	23	014	012
747B (Gossan)		37E	291	90	3000	180	730	M	-	-
746		38E	8	10	140	8	55	23	010	011
745		39E	32	-10	130	8	50	23	009	009
744		40E	14	-10	120	20	100	23	009	009
743		41E	34	-10	170	20	120	23	010	-
742		42E	13	-10	100	12	105	23	010	011
741		43E	44	18	530	24	170	23	010	011
740	136S	44E	14	15	65	8	38	23	014	010

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B.hor. C.hor.		
66121761	134S	24E	28	15	140	20	55	23	.009	.008
762		25E	46	25	210	24	85	23	014	009
763		26E	13	25	11	12	20	23	021	010
764		27E	24	10	28	12	26	23	020	013
765		28E	13	-10	11	12	12	23	016	010
766		29E	32	10	58	14	26	23	020	-
767		30E	22	65	170	20	40	23	011	-
768		31E	8	100	90	12	44	23	020	009
769		32E	80	35	105	30	80	23	017	010
770		33E	120	15	130	30	65	23	012	-
771		34E	190	15	220	65	105	23	010	008
772		35E	240	15	640	430	430	23	010	009
773		36E	140	18	260	26	100	23	013	011
774		37E	120	10	220	25	65	23	013	010
775		38E	32	10	200	8	140	23	012	009
776		39E	68	10	250	12	120	23	010	008
777		40E	44	-10	690	26	280	23	009	007
778		41E	13	-10	75	20	60	23	006	006
779		42E	44	10	440	20	120	23	008	007
780		43E	11	10	185	18	100	23	009	008
66121781	132S	44E	18	10	910	24	285	23	008	008
66121782		43E	28	10	690	40	190	23	010	008
783		41E	16	-10	420	30	130	23	007	007
784		39E	32	-10	650	70	200	23	007	007
785		38E	38	-10	60	30	55	23	009	009
786		37E	11	10	540	24	230	23	009	008
787		36E	100	12	750	30	360	23	012	009
788		35E	110	12	1100	80	420	23	012	011
789		34E	100	20	600	25	170	23	011	009
790		33E	120	20	160	35	90	23	009	008
791		32E	120	20	200	160	170	23	012	008
792		31E	25	25	25	5	25	23	015	008
793		30E	35	20	85	- 5	25	23	013	010
794		29E	18	12	50	- 5	35	23	016	009
795		28E	25	18	25	5	20	23	018	013
796		27E	80	90	160	20	50	23	019	011
797		26E	30	25	18	15	20	23	019	011
66121798	132S	25E	30	- 5	15	20	20	23	015	010
66121799	130S	24E	55	40	65	35	35	23	011	010
800		25E	60	20	25	15	20	23	012	009
801		26E	30	30	10	-5	10	23	011	010
802		27E	95	95	20	25	15	23	013	-
803		28E	35	20	12	5	10	23	014	010
804		29E	110	20	75	75	35	23	017	014
805		30E	45	12	30	10	15	23	017	016
806		31E	35	12	200	65	150	23	010	009
807		32E	55	12	500	25	180	23	007	008
808		33E	150	20	1000	40	190	23	008	008
809		34E	70	18	850	85	260	23	008	009
810		35E	55	20	400	40	90	23	009	008
811		36E	75	12	1500	95	360	23	010	008
812		37E	70	20	200	15	50	23	010	009
813		38E	55	20	550	80	160	23	011	009
814		39E	15	12	160	15	20	23	010	-
815		40E	40	18	450	20	150	23	007	005
816		41E	18	20	85	12	60	23	007	007
817		42E	30	20	65	15	50	23	008	006
818		43E	70	25	200	12	70	23	010	009
66121819	130S	44E	320	220	950	650	750	15	008	-

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B.hor. C.hor.	
66121820	128S	44E	45	35	250	30	55	23	.007 .010
821		43E	30	45	200	12	85	23	.008 .008
822		41E	35	20	250	12	85	23	.008 .009
823		39E	85	18	700	190	180	23	.008 .007
824		37E	30	20	250	30	60	23	.009 .010
825		36E	85	18	450	200	180	23	.011 .011
826		35E	65	12	500	120	160	23	.009 .009
827		33E	95	18	1300	40	320	23	.011 .010
828		31E	160	35	350	50	170	23	.010 .009
829		30E	90	50	130	65	120	23	.014 .012
830		29E	65	12	30	5	20	23	.013 .010
831		28E	40	25	15	25	40	M	- -
832		27E	75	35	8	- 5	12	23	.011 -
833		25E	20	18	25	5	20	23	.011 .009
66121834	126S	24E	50	8	40	10	30	23	.009 .008
835		25E	70	18	50	15	20	23	.009 .008
836		26E	30	18	10	- 5	10	23	.013 .010
837		27E	55	50	70	35	45	8	- .007
838		28E	150	50	15	- 5	8	23	.011 .010
839		29E	50	30	30	40	8	9	- .009
840		30E	65	25	25	5	20	23	.009 .014
841		31E	65	8	180	40	90	23	.012 .010
842		32E	60	18	300	25	75	23	.012 .008
843		33E	55	18	190	- 5	60	23	.011 .010
844		34E	35	18	200	75	75	23	.012 .007
845		35E	55	20	80	5	40	23	.010 .008
846		36E	30	15	190	20	85	23	.011 .010
847		37E	45	40	400	15	100	23	.012 .011
848		38E	45	12	300	12	60	23	.011 .008
849		39E	50	15	200	12	45	23	.009 -
850		40E	25	10	500	25	150	23	.008 .007
851		41E	40	12	120	12	100	23	.006 .007
852		42E	30	12	200	25	150	23	.009 .008
853		43E	30	25	300	20	170	23	.008 .009
854		44E	45	25	120	- 5	30	23	.010 .009
66121855	124S	44E	30	35	55	- 5	30	23	.011 .010
856		43E	25	15	70	20	55	23	.010 .008
857		41E	25	20	130	20	110	23	.008 .007
858		39E	40	25	140	5	35	23	.009 .008
859		37E	45	130	500	15	80	23	.009 .009
860		36E	20	95	18	5	15	23	.010 -
861		35E	90	20	85	20	40	23	.009 .008
862		34E	18	12	110	15	35	23	.010 .008
863		33E	70	15	500	25	130	23	.010 .008
864		31E	95	12	190	50	85	23	.009 .010
66121865	122S	30E	260	45	45	5	20	23	.012 .009
866		31E	70	30	55	10	30	23	.011 .012
867		32E	85	20	200	25	100	23	.011 .010
868		33E	35	20	30	5	15	23	.009 .008
869		34E	30	15	10	- 5	18	23	.010 .009
870		35E	40	260	10	12	18	7	.007 -
871		36E	12	60	10	- 5	8	23	.009 .008
872A		37E	35	1300	40	- 5	- 5	23	.008 .009
872B (gossan)		37E	25	1500	45	- 5	12	M	- -
873		38E	25	270	75	5	15	M	- -
874		39E	25	130	300	5	40	23	.010 .009
875	122S	40E	45	25	250	- 5	45	23	.009 .009
876		41E	20	12	160	- 5	45	23	.008 .008
877		42E	45	20	300	10	45	23	.009 .008
878		43E	20	20	60	12	80	23	.008 .008

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr)	
								A/B.hor.	C.hor.
66121876	122S	41E	20	12	160	-5	45	23	.008 .009
877		42E	45	20	300	10	45	23	.009 .008
878		43E	20	20	60	12	80	23	.008 .008
879		44E	55	45	180	30	90	23	.009 .009
880		45E	40	12	110	20	120	23	.007 .008
881		46E	20	12	60	12	70	23	.007 .008
882		47E	30	12	65	15	65	23	.008 .005
883		48E	25	12	110	15	75	23	.008 .005
884		49E	30	12	170	20	50	23	.008 .006
885		50E	45	15	200	35	140	23	.007 .007
886		51E	50	15	200	20	150	23	.006 .006
887		52E	30	15	250	20	170	23	.010 .008
66121888	120S	52E	30	12	250	15	150	23	.011 .016
889		51E	35	12	200	20	140	23	.007 .006
890		50E	40	12	200	20	140	23	.008 .008
891		49E	30	12	170	20	75	23	.006 .007
892		48E	30	15	110	20	70	23	.007 .006
893		47E	45	15	50	12	50	23	.007 -
894		46E	35	12	160	20	140	23	.009 .007
895		45E	35	85	120	25	75	23	.008 .008
896		44E	75	8	130	15	80	23	.008 .007
897		43E	70	20	200	30	100	23	.013 .009
898		42E	45	240	550	50	130	23	.010 .010
899		41E	25	12	150	-5	25	23	.013 .011
900		40E	40	190	400	5	40	23	.010 .010
901		39E	110	1400	1000	75	150	23	.008 .009
902		38E	75	780	300	10	45	23	.013 .014
903		37E	40	1600	250	5	15	23	.015 .011
904A		36E	110	3000	1300	40	95	23	.013 .013
904B (gossan)		36E	110	5100	1700	150	1700	M	- -
904C "		36E	190	5500	1800	170	800	M	- -
905		35E	200	200	300	50	55	23	.008 .008
906		34E	65	50	95	55	50	23	.012 .008
907		33E	50	20	110	30	75	23	.009 .007
908		32E	60	30	80	25	55	23	.011 .010
909		31E	50	20	100	15	45	23	.013 .009
66121910		30E	250	35	450	80	190	23	.013 .011
911	118S	30E	130	40	400	190	180	23	.008 .007
912		31E	50	30	100	50	85	23	.011 -
913		32E	30	30	80	15	65	23	.013 .009
914		33E	30	35	40	15	30	23	.009 .007
915		34E	30	25	180	10	30	23	.009 .007
916		35E	45	500	350	10	20	23	.008 .011
917A		36E	65	2300	750	20	20	7	- .008
917B (gossan)		36E	1400	7000	1700	95	300	M	- -
918A		37E	240	8400	1900	25	20	23	- -
918B		37E	220	7000	1700	20	35	40	.011 .036
919		38E	300	6600	1800	25	20	17	.010 .013
920		39E	95	1200	550	30	40	23	.015 .013
921		40E	180	610	450	25	90	23	.011 .009
922		41E	95	70	550	55	140	23	.013 .013
923		42E	45	220	300	40	70	23	.010 .012
924		43E	80	50	200	85	180	23	.011 .011
925		44E	30	12	85	20	55	23	.009 .009
926		45E	45	30	100	25	80	23	.009 .008
927		46E	75	60	75	35	85	23	.008 .007
928		47E	45	25	55	20	65	23	.007 .006
929	118S	48E	35	18	85	25	90	23	.007 .005

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr)		
								A/B.hor.	C.hor.	
66121930	118S	49E	30	18	180	30	40	23	.006	.006
931		50E	65	20	200	35	120	23	006	006
932		51E	50	25	160	30	100	23	009	006
933		52E	35	18	100	25	95	23	010	-
66121934	116S	52E	25	18	110	35	85	23	009	007
935		51E	30	18	45	20	55	23	009	006
936		50E	20	18	140	50	100	23	009	008
937		49E	55	18	140	25	85	23	008	007
938		47E	75	30	65	45	80	23	011	008
939		46E	70	40	90	30	85	23	010	009
940		45E	30	50	95	25	85	23	009	009
941		44E	40	140	95	35	85	23	012	007
942		43E	55	30	200	15	85	23	011	008
943		42E	70	55	350	35	110	23	012	008
944		41E	50	40	300	12	75	23	010	009
945		40E	50	65	500	20	85	23	013	009
946		39E	40	580	300	10	35	23	012	010
947		38E	50	1500	400	25	40	23	016	010
948		37E	45	810	550	12	30	23	017	013
949		36E	90	2500	950	95	90	23	016	021
950		35E	70	760	650	15	35	23	009	009
951		34E	40	30	130	15	55	23	012	009
952		33E	30	10	65	5	40	23	012	008
953		31E	35	35	30	5	95	23	012	-
954		30E	35	45	35	25	45	23	013	010
66121955	114S	30E	25	55	110	35	95	23	013	010
956		31E	40	12	80	15	60	23	012	011
957		32E	45	12	200	15	40	23	010	008
958		33E	35	18	70	5	25	23	011	008
959		34E	35	20	200	5	25	23	010	007
960		35E	50	55	170	30	60	23	011	008
961		36E	10	55	35	5	5	23	011	-
962		37E	40	500	400	15	35	23	011	010
963		38E	40	460	550	35	75	23	014	010
964		39E	45	320	700	15	60	23	010	007
965		40E	40	30	550	15	70	23	009	007
966		41E	60	40	700	25	75	23	012	009
967		42E	75	330	200	35	75	23	010	008
968		43E	25	18	180	12	60	23	011	008
969		44E	20	100	180	35	150	23	010	007
970		45E	40	18	80	25	65	23	011	008
971		46E	40	18	95	30	55	23	012	009
972		47E	20	65	40	12	25	23	017	009
973		48E	25	45	70	40	60	23	014	010
974		49E	30	18	65	15	65	23	011	009
975		50E	30	12	75	35	75	23	009	007
976		51E	40	18	65	40	110	23	011	010
977		52E	35	12	60	20	60	23	010	010
978	112S	52E	70	18	30	25	55	23	011	008
978		51E	40	20	40	35	50	23	011	009
980		50E	45	20	40	30	45	23	013	011
981		49E	60	12	25	20	50	23	009	009
982	(gossan)	47E	120	70	18	20	20	23	012	006
983A		46E	50	110	12	5	25	23	010	008
983B		46E	15	75	5	-5	5	M	-	-
984		45E	60	45	75	35	70	23	010	007
985	112S	44E	45	35	200	20	140	23	016	009
986		43E	55	90	180	20	90	23	011	009

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B.hor. C.hor.
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66121987	112S	42E	45	45	120	15	70	23	.012	.008
88		41E	25	40	20	- 5	15	23	010	008
89		40E	40	55	600	30	90	23	012	010
90		39E	35	25	550	20	60	23	008	008
91		38E	65	210	600	12	45	23	013	011
92		37E	45	140	550	15	50	23	012	008
93		36E	80	740	1100	20	80	23	011	008
94		35E	40	65	400	10	45	23	011	008
95		33E	30	20	120	10	35	23	009	012
96		31E	40	18	40	12	35	23	008	008
66121997	110S	30E	30	25	35	50	50	23	014	-
98		31E	45	18	100	20	110	23	010	-
99		32E	45	18	110	10	50	23	010	007
66122000		33E	30	35	350	12	45	23	009	008
01		34E	55	130	650	15	45	23	010	009
02		35E	35	70	400	20	50	23	009	-
03		36E	55	480	1100	20	70	23	008	007
04		37E	25	110	180	5	25	23	012	010
05		38E	45	140	450	12	45	23	011	010
06		39E	35	30	600	30	65	23	013	009
07		40E	50	50	500	30	75	23	016	011
08		41E	18	20	15	-5	10	23	017	012
09		42E	25	50	18	-5	15	23	015	011
10	110S	43E	70	270	85	25	35	23	016	014
11		44E	70	560	95	10	35	23	008	007
12		45E	20	50	10	- 5	15	23	009	-
13		46E	18	130	5	- 5	5	23	009	007
14		47E	30	30	8	- 5	25	23	008	006
15		48E	70	330	15	5	35	23	008	006
16		49E	40	25	8	5	20	23	010	009
17		50E	35	25	8	5	20	23	012	007
18		51E	25	25	15	10	20	23	008	-
19		52E	30	15	18	5	25	23	013	-
66122020	108S	51E	35	25	10	-5	12	23	011	010
21		49E	18	30	8	-5	15	23	010	008
22		47E	12	25	5	-5	15	23	008	008
23		46E	35	75	8	-5	15	23	021	012
24		45E	10	60	5	-5	15	23	017	008
25		44E	35	75	15	-5	20	23	016	010
26		43E	40	50	15	-5	15	23	016	012
27		41E	70	30	400	5	25	23	012	009
28		40E	45	35	250	5	50	23	012	009
29		39E	35	25	400	-5	40	23	012	009
30		37E	30	25	500	-5	40	23	009	007
31		35E	40	230	450	12	60	23	014	008
32		34E	35	210	550	10	40	23	014	007
33		33E	40	20	200	-5	35	23	014	008
34		31E	35	20	35	5	40	23	015	-
66122051	106S	52E	30	60	8	-5	15	23	010	006
52		51E	95	25	10	5	25	23	012	-
53		50E	30	60	5	-5	12	23	014	011
54		49E	12	15	3	-5	12	23	014	-
55		48E	30	15	10	-5	10	23	016	-
56		47E	35	25	5	-5	12	23	015	010
57		46E	45	110	10	5	12	23	014	011
58		45E	50	70	60	35	40	7	008	-
59		44E	95	120	30	10	35	23	012	010
60	106S	43E	75	30	30	- 5	20	23	010	011
61		42E	55	40	120	5	40	23	011	011
62		41E	95	35	550	10	60	23	015	011
63		40E	50	35	550	5	55	23	012	008
64		39E	30	55	750	12	60	23	017	011

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity mR/Hr) A/B.hor. C.hor.		
66122061	106S	42E	55	40	120	5	40	23	.011	.011
62		41E	95	35	550	10	60	23	015	011
63		40E	50	35	550	5	55	23	012	008
64		39E	30	55	750	12	60	23	017	011
65		38E	35	40	350	5	40	23	015	012
66		37E	60	55	200	30	35	23	016	-
67		36E	60	30	250	25	40	23	014	-
68		35E	65	35	350	12	50	23	016	-
69		34E	45	130	200	10	40	23	019	011
70		33E	30	60	200	5	35	23	016	013
71		32E	50	40	80	12	55	23	021	011
72		31E	Missing					23	027	014
73		30E	85	35	120	40	130	23	021	-
66122035	104S	31E	50	35	55	40	40	23	010	008
36		33E	30	35	190	25	55	23	011	-
37		35E	40	20	190	20	40	23	008	007
38		37E	40	75	300	20	55	23	011	008
39		39E	35	35	180	15	55	23	014	012
40		41E	60	35	350	-5	45	23	012	008
41		42E	45	25	45	5	25	23	016	010
42		43E	120	45	30	-5	20	23	016	008
43		44E	60	95	18	-5	12	23	017	010
44		45E	50	35	12	-5	15	23	018	014
45		46E	45	40	8	-5	12	23	030	-
46		47E	25	30	3	-5	5	23	023	008
47		48E	25	35	5	-5	10	23	017	-
48		49E	30	25	5	-5	10	23	015	009
49		50E	65	60	5	-5	10	23	013	-
50		51E	20	8	5	-5	5	23	010	007
66122051	102S	52E	60	60	5	-5	5	23	025	-
52		51E	80	45	5	-5	5	23	018	-
53		50E	70	20	3	-5	5	23	011	010
54		49E	30	25	3	-5	-5	23	012	011
55		48E	8	20	5	-5	-5	23	012	010
56		47E	15	80	10	5	-5	23	015	011
57		46E	25	25	5	-5	20	23	017	009
58		45E	55	15	5	-5	10	23	018	-
59		44E	20	8	3	-5	-5	23	025	010
60		43E	18	20	5	-5	-5	23	022	-
61		42E	25	25	10	-5	5	23	019	009
62		41E	25	25	18	-5	5	23	019	-
63		40E	45	20	400	10	40	23	017	-
64		39E	55	25	500	15	70	23	027	009
65		38E	330	40	1500	100	600	23	021	-
66		37E	30	25	350	20	35	23	028	011
67		36E	40	20	600	15	65	23	017	009
68		35E	35	25	400	20	50	23	015	009
69		34E	45	25	250	15	40	23	018	009
70		33E	40	25	200	10	35	23	015	-
71		32E	15	40	65	5	35	23	015	011
72		31E	30	20	45	12	95	23	012	010
66122073	102S	30E	40	20	110	20	75	23	016	010

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B.hor. C.hor.	
66122274	100S	31E	35	45	95	10	55	23	.016 .009
75		32E	45	100	160	5	40	23	014 011
76		33E	45	35	550	20	60	23	010 010
77		34E	75	30	400	25	65	23	017 -
78		35E	60	40	1800	15	110	23	017 -
79		36E	45	35	800	15	90	23	015 010
80		37E	20	60	1100	12	95	23	015 009
81		38E	35	30	1200	20	85	23	018 010
82		39E	70	40	650	12	80	23	024 009
83		40E	20	30	45	25	10	23	018 011
84		41E	18	25	10	- 5	12	23	020 015
85		42E	30	30	15	- 5	12	23	023 014
86		43E	30	25	8	- 5	12	23	023 013
87		44E	90	20	8	- 5	10	23	022 015
88		45E	45	25	8	5	12	23	019 013
89		46E	80	25	5	- 5	12	23	013 008
90		47E	85	75	5	- 5	15	23	011 009
91		48E	140	25	8	- 5	20	23	017 013
92		49E	15	40	3	- 5	5	23	018 012
93		50E	18	15	3	- 5	-5	23	014 015
66122294		51E	15	40	3	- 5	-5	23	023 010
74	98S	30E	40	35	120	15	80	23	017 008
75		31E	15	80	170	55	45	23	014 010
76		32E	40	25	130	20	40	23	015 012
77		33E	70	25	300	15	25	23	012 010
78		34E	65	25	180	20	50	23	013 -
79		35E	45	25	400	15	65	23	013 009
80		36E	45	25	600	12	65	23	018 011
81		37E	60	20	700	20	70	23	018 011
82		38E	70	40	650	25	95	23	030 010
83		39E	20	25	160	- 5	10	23	032 -
84		40E	35	30	85	5	30	23	015 011
85		41E	20	20	10	- 5	-5	23	018 -
86		42E	15	15	5	- 5	-5	23	019 012
87		43E	35	25	8	5	10	23	016 015
88		44E	55	45	8	5	5	23	019 -
89		45E	80	830	10	- 5	5	23	020 010
90		46E	140	680	15	- 5	-5	23	016 010
91		47E	90	30	10	- 5	12	23	020 012
92		48E	65	25	8	- 5	-5	23	013 009
93		49E	80	25	8	- 5	15	23	014 013
94		50E	75	25	5	5	10	23	016 -
95		51E	75	45	12	- 5	20	23	017 013
96		52E	18	90	5	- 5	-5	23	013 009
66122295	96S	52E	35	45	8	- 5	5	23	020 015
96		51E	35	25	5	- 5	5	23	018 012
97		50E	80	45	3	10	15	23	016 -
98		49E	55	25	8	5	12	23	016 013
99		48E	95	410	5	5	12	23	015 014
66122300		47E	60	880	8	- 5	5	23	017 010
01		46E	65	650	10	- 5	10	23	015 -
02		45E	55	45	5	- 5	10	23	017 012
03		44E	40	570	5	- 5	10	23	015 012
04		43E	55	60	650	15	80	23	017 -
05		42E	45	40	20	5	12	23	021 010
06		41E	25	25	15	- 5	-5	23	014 013
66122307	96S	40E	10	25	18	- 5	- 5	23	017 010

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B.hor. C.hor.	
66122308	96S	39E	35	35	40	-5	5	23	.029 .012
09		38E	35	45	65	-5	5	23	018 -
10		37E	30	40	650	12	80	23	020 011
11		36E	45	90	850	35	100	23	020 013
12		35E	30	15	180	15	40	23	016 010
13		34E	20	20	200	25	45	23	015 010
14		33E	50	12	300	15	40	23	013 009
15		32E	65	20	250	25	50	23	014 010
16		31E	60	120	75	5	25	23	012 010
17		30E	40	150	85	15	60	23	015 011
66122097	94S	52E	100	25	10	-5	20	23	023 010
98		51E	80	25	10	-5	20	23	017 010
99		50E	50	45	8	-5	5	23	015 011
66122100		49E	70	25	10	5	15	23	019 014
01		48E	45	20	8	-5	5	23	016 011
02		47E	80	40	15	-5	15	23	019 011
03		46E	35	30	10	-5	10	23	025 -
04		45E	80	150	20	10	20	23	026 015
05		44E	30	290	8	-5	5	23	016 009
06		43E	35	25	8	-5	5	23	018 -
07		42E	35	25	10	-5	5	23	019 009
08		41E	30	20	55	12	40	23	018 011
09		40E	30	20	85	15	50	23	016 010
10		39E	25	15	70	12	40	23	019 -
11		38E	15	20	20	-5	5	23	020 012
12		37E	40	45	400	-5	35	23	019 010
13		36E	45	25	400	15	75	23	018 009
14		35E	35	60	700	10	110	23	016 009
15		34E	40	20	350	15	60	23	015 010
16		33E	35	12	750	12	60	23	014 -
17		32E	35	12	500	20	80	23	012 010
18		31E	35	15	170	-5	25	23	016 011
19		30E	60	30	170	12	50	23	017 011
66122318	92S	31E	40	12	300	10	40	23	011 011
19		33E	30	20	350	-5	30	23	016 012
20		35E	200	40	250	20	5	23	014 014
21		37E	20	18	65	-5	5	23	018 013
22		38E	35	20	250	30	85	23	020 -
23		39E	100	55	90	18	70	23	015 014
24		40E	90	40	400	35	75	23	018 016
25		41E	130	90	75	-5	10	23	028 018
26		42E	45	30	10	-5	5	23	018 -
27		43E	20	20	8	-5	5	23	020 014
28		44E	130	960	25	20	35	23	020 016
29		45E	45	20	10	-5	8	23	018 -
30		47E	45	12	15	10	10	23	014 -
31		48E	85	12	15	10	10	23	016 017
32		49E	90	40	10	-5	8	23	018 -
33		51E	70	55	15	8	10	23	020 010
66122120	90S	30E	35	12	300	-5	35	23	016 009
21		31E	30	12	600	10	55	23	017 010
22		32E	35	18	600	10	55	23	017 007
23		33E	35	25	700	10	85	23	016 -
24		34E	40	30	600	25	90	23	020 -
25		35E	30	80	400	-5	25	23	019 010
26		36E	30	30	350	-5	20	23	019 -
27		37E	25	12	200	-5	20	23	020 -
28		38E	55	65	450	35	120	23	019 012
29	90S	39E	95	160	550	65	120	23	023 -

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B.hor. C.hor.	
66122130	90S	40E	600	4100	3200	490	210	23	.022 .013
31		41E	40	40	130	-5	10	23	019 012
32		42E	15	70	70	-5	- 5	23	018 014
33		43E	30	35	12	-5	- 5	23	017 013
34		44E	35	18	18	10	25	23	016 -
35		45E	50	12	40	20	60	23	016 009
36		46E	100	20	160	20	85	23	015 010
37		47E	70	18	20	8	25	23	020 010
38		48E	45	20	12	8	18	23	018 009
39		49E	95	45	10	-5	18	23	016 010
40		50E	100	55	18	35	18	23	016 013
41		51E	90	70	12	-5	10	23	016 015
42		52E	190	180	20	8	30	23	014 010
66122334	88S	52E	85	30	15	8	20	23	015 014
35		51E	55	20	10	-5	10	23	011 011
36		49E	70	12	18	-5	25	23	012 010
37		47E	55	18	85	18	55	23	016 013
38		45E	70	18	130	30	90	23	012 -
39		44E	130	30	170	30	75	29	013 013
40		43E	65	20	200	55	120	23	015 -
41		42E	80	20	80	50	50	23	019 -
42		41E	40	18	650	10	65	23	018 011
43		40E	40	50	1000	25	90	23	017 013
44		39E	150	55	550	35	90	23	023 -
45		38E	65	1800	400	10	80	23	018 015
46		37E	240	690	300	15	10	23	017 -
47		36E	50	30	130	-5	55	23	023 009
48		35E	25	20	350	-5	20	23	017 012
49		34E	30	30	800	15	90	23	018 -
50		33E	20	20	190	-5	35	23	015 009
51		31E	30	20	400	8	50	23	015 009
66122143	86S	52E	90	35	18	-5	20	23	015 012
44		51E	55	25	8	-5	10	23	016 013
45		50E	80	20	18	-5	25	23	018 -
46		49E	70	25	20	10	30	23	014 010
47		48E	45	20	15	8	20	23	014 010
48		47E	60	40	170	20	110	23	015 011
49		46E	35	20	160	35	75	23	011 011
50		45E	45	25	180	35	100	23	015 014
200		44E	45	20	160	40	70	23	014 -
01		43E	45	18	350	70	140	23	016 011
02		42E	60	20	250	55	130	23	015 014
03		41E	180	70	300	60	140	23	021 012
04		40E	70	25	700	30	85	23	022 011
05		39E	60	70	800	30	55	23	022 -
06		38E	290	600	1000	110	100	23	031 -
07		37E	70	170	50	-5	18	23	026 -
08		36E	100	560	350	10	80	23	025 -
09		35E	120	100	350	30	90	23	017 012
10		34E	60	45	650	30	110	23	024 012
11		33E	35	45	750	20	75	23	027 011
12		32E	40	120	800	30	30	23	022 -
13		31E	35	18	400	18	45	23	025 -
66122214	86S	30E	20	12	140	-5	18	23	023 -

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B.hor. C.hor.
66122215	84S	31E	300	40	1100	45	140	23 .013 .006
16		32E	180	18	1800	70	290	23 .025 .007
17		33E	45	120	180	10	18	23 .026 -
18		34E	65	810	600	20	90	23 .024 -
19		35E	70	540	550	30	140	23 .016 .011
20		36E	50	170	75	-5	10	23 .021 -
21		37E	35	40	190	-5	30	23 .021 .012
22		39E	45	20	500	45	100	23 .026 -
23		41E	45	20	500	60	200	23 .018 .011
24		43E	25	12	400	75	180	23 .015 .012
25		45E	25	30	180	20	120	23 .014 .012
26		47E	55	40	190	18	90	23 .013 .018
27		48E	100	40	500	60	310	23 .015 .023
28		49E	45	30	350	60	270	23 .024 .013
29		51E	35	20	30	-5	10	23 .020 .011
66122240	82S	30E	10	20	25	-5	10	23 .015 -
41		31E	45	50	50	8	18	23 .015 .009
42		32E	30	18	95	-5	20	23 .016 -
43		33E	55	50	170	8	20	23 .017 --
44		34E	60	270	25	-5	18	23 .014 -
45		35E	180	35	170	18	45	23 .018 .010
46		36E	45	75	60	-5	10	23 .018 .010
47		37E	45	120	400	45	210	23 .024 -
48		38E	45	12	350	45	140	23 .023 .012
49		39E	8	10	45	-5	10	23 .020 .009
50		40E	15	30	60	8	10	23 .017 -
66122230	80S	40E	10	20	20	-5	8	23 .021 .011
31		39E	12	20	18	-5	-5	23 .021 -
32		38E	30	25	45	-5	-5	23 .019 .009
33		37E	25	25	10	-5	-5	23 .019 -
34		36E	45	130	25	-5	8	23 .018 .011
35		35E	25	70	18	-5	-5	23 .017 -
36		34E	70	1400	15	-5	-5	23 .017 -
37		33E	10	40	12	-5	-5	23 .018 .013
38		32E	12	30	5	-5	-5	23 .023 -
39		31E	25	30	18	-5	10	23 .012 -
66122151	78S	40E	15	18	10	-5	8	23 .020 .013
52		39E	10	40	5	-5	-5	23 .018 .009
53		38E	20	18	8	-5	-5	23 .016 .010
54		37E	15	300	8	-5	-5	23 .016 .011
55		36E	30	410	8	-5	-5	23 .019 .010
56		35E	25	210	12	-5	-5	23 .021 .007
57		34E	100	140	20	-5	10	23 .020 .013
58		33E	8	25	20	-5	-5	23 .017 .009
59		32E	85	120	25	-5	10	23 .021 -
60		31E	90	30	80	18	60	23 .017 .010
61		30E	90	20	65	-5	30	23 .015 .009
66122162	76S	31E	280	40	150	18	60	23 .019 -
63		33E	100	1500	40	-5	10	23 .021 .015
64		34E	100	160	80	-5	10	23 .015 -
65		35E	15	140	12	-5	-5	23 .015 .010
66		37E	30	50	12	-5	-5	23 .016 .011
67		39E	150	55	8	-5	-5	23 .016 .012
66122168	76S	40E	45	45	5	-5	30	23 .016 .010

Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr)		
								A/B.hor.	C.hor.	
66122169	74S	40E	20	20	95	8	30	23	.016	-
70		39E	45	18	190	8	70	23	.015	.011
71		38E	15	45	8	-5	10	23	015	014
72		37E	40	50	10	-5	8	23	017	012
73		36E	45	25	15	-5	-5	23	018	011
74		35E	38	18	12	-5	8	23	024	-
75		34E	35	30	18	-5	-5	23	018	-
76		33E	35	320	18	-5	18	23	017	-
77		32E	15	18	10	-5	10	23	019	010
78		31E	80	50	110	10	55	23	017	-
79	72S	30E	70	40	120	18	60	23	021	012
66122180		31E	80	45	130	-5	30	23	017	014
81		32E	55	140	45	-5	20	23	016	-
82		33E	45	200	35	-5	-5	23	018	-
83		35E	30	75	8	-5	-5	23	027	-
84		37E	20	25	30	-5	20	23	020	011
85		38E	50	35	250	45	140	23	015	016
66122186		72S	39E	70	40	160	30	75	23	015

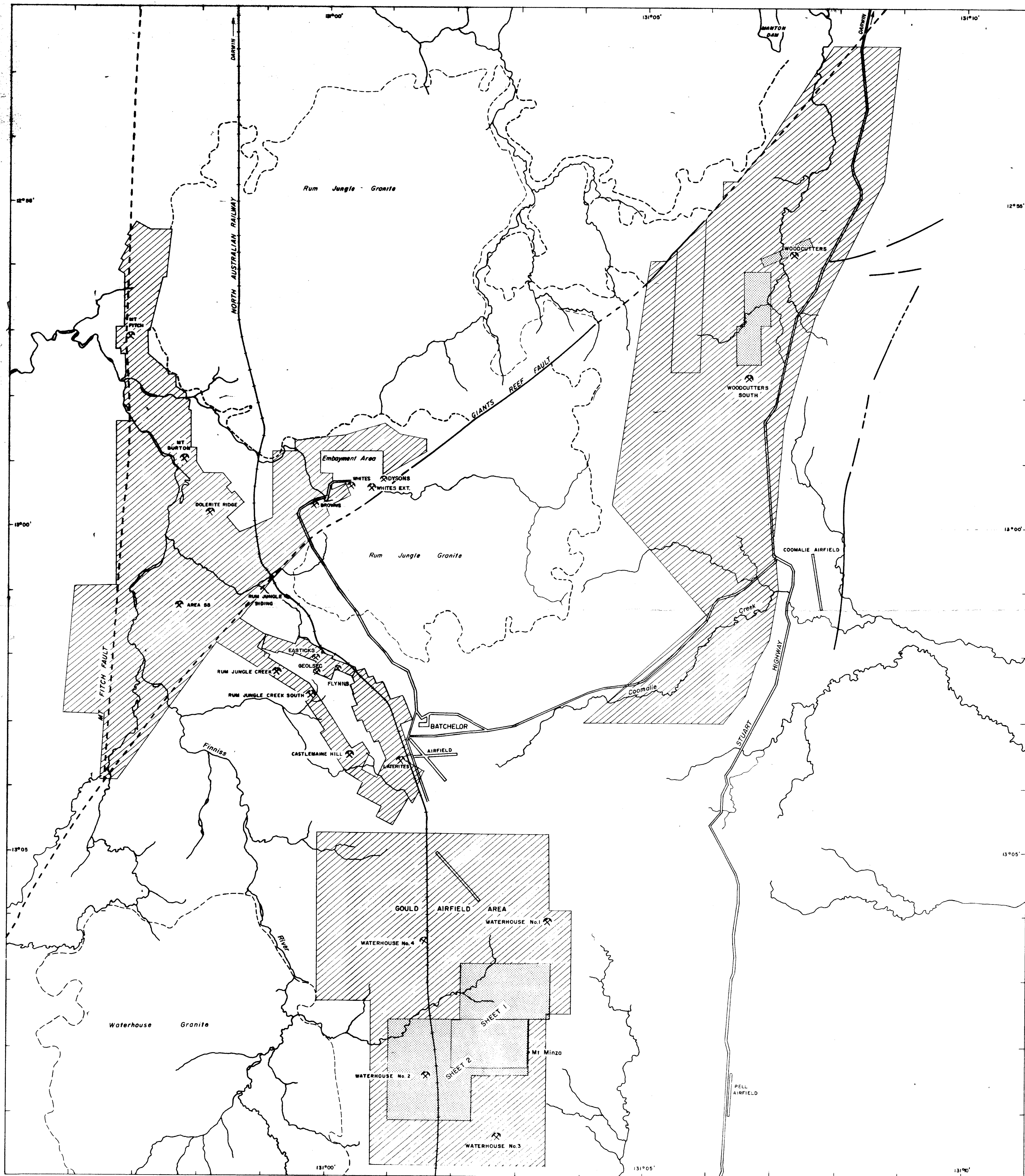
ANOMALY L3

A special grid was established to drill Anomaly L3. From co-ordinate position 72S, 60E on the Rum Jungle East grid, a base line was pegged in a direction 67°2'30" from grid north. The new grid co-ordinates at this point became 50E, 50N. The base line was extended south-westerly to 34E and north-easterly to 78E. Two parallel lines, 200 feet apart, were pegged on both sides of the base line to 54N and 46N.

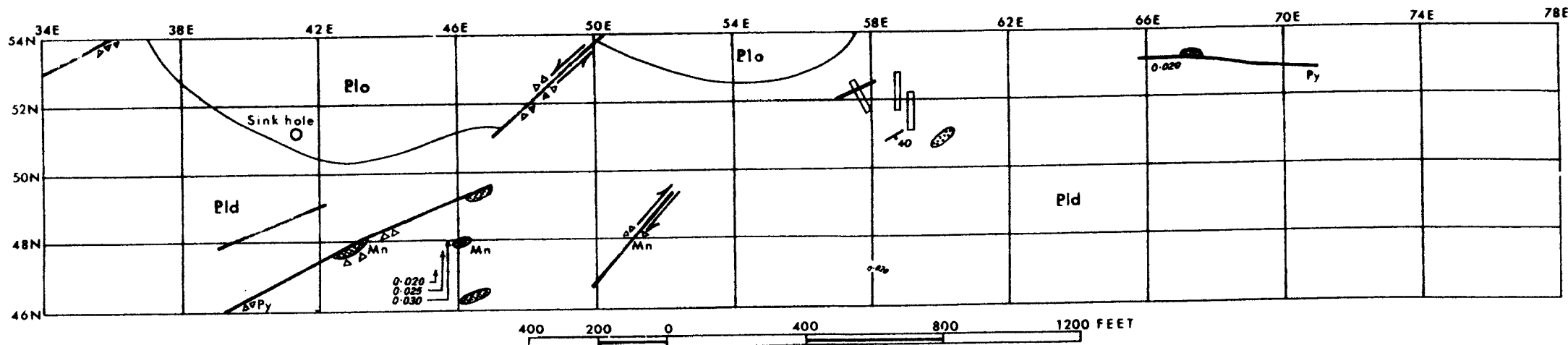
Sample No.	Co-ordinate Position	Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr)	A/B.hor.	C.hor.
66121510	34E	46N	50	12	90	32	90	23	.012	.014
509		47N	24	-10	60	23	56	23	.014	.012
508		48N	28	12	38	17	40	23	.011	.012
507		49N	50	15	95	26	65	23	.011	.012
506		50N	160	45	190	48	120	16	.011	-
505		51N	100	-10	118	30	70	23	.011	.012
504		52N	50	-10	196	40	100	23	.018	.011
503		53N	37	-10	250	65	120	23	.017	-
66121502	34E	54N	28	15	140	26	75	23	.017	.018
66121493	38E	46N	42	12	54	38	90	23	.016	.014
494		47N	50	12	320	180	320	29	.017	.012
495		48N	75	20	190	66	200	17	.013	.013
496		49N	100	30	130	70	130	23	.013	.013
497		50N	32	35	60	20	44	23	.013	.012
498		51N	100	45	175	60	130	23	.017	.012
499		52N	110	25	60	26	60	23	.019	.013
500		53N	8	20	4	8	8	23	.020	.011
66121501	38E	54N	45	35	13	14	30	13	.016	-
66121492	42E	46N	35	-10	85	23	66	23	.012	.013
491		47N	80	30	240	85	220	29	.015	.014
490		48N	35	-10	250	140	170	29	.015	.015
489		49N	32	-10	390	80	210	23	.012	.014
488		50N	50	15	91	32	65	23	.014	.013
487		51N	35	20	20	17	48	17	.012	.011
486		52N	55	25	34	36	100	17	.008	.011
485		53N	55	30	25	36	92	17	.010	.012
66121484	42E	54N	35	30	25	23	38	23	.013	.009
66121474	46E	46N	65	-10	94	36	55	23	.010	.015
476		47N	190	12	180	65	100	23	.017	.019
477		48N	18	-10	450	180	230	35	.018	.030
478		49N	50	85	620	38	270	35	.016	.015
479		50N	35	-10	60	55	44	29	.015	.015
480		51N	32	20	70	32	55	29	.013	.012
481		52N	22	25	18	23	30	18	.012	-
482		53N	30	40	17	38	44	11	.013	.011
66121483	46E	54N	30	35	13	32	35	11	.010	.009
66121473	50E	46N	50	45	320	55	205	23	.013	.012
472		47N	45	25	240	32	120	23	.015	.012
471		48N	45	10	75	17	40	29	.014	.014
470		49N	75	10	136	60	32	29	.012	.014
469	50E	50N	220	280	310	230	270	29	.015	.014

Sample No.	Co-ordinate Position		Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr) A/B.hor. C.hor.	
66121468	50E	51N	58	130	80	23	60	29	.013	.013
467		52N	60	95	80	23	70	29	.012	.012
466		53N	47	30	68	29	80	23	.010	.009
66121465	50E	54N	20	25	12	8	23	11	.010	-
66121456	54E	46N	28	12	7	6	14	23	.014	.013
457		47N	65	15	21	8	29	23	.011	.009
458		48N	44	95	39	11	55	23	.015	.009
459		49N	60	25	155	55	80	29	.012	.012
460		50N	47	10	85	17	50	29	.013	.014
461		51N	44	45	90	14	55	29	.012	.012
462		52N	49	35	100	23	55	23	.010	.010
463		53N	18	19	8	11	26	23	.007	-
66121464	54E	54N	18	30	14	14	29			
66121455	58E	46N	37	45	5	-6	11	23	.015	.010
454		47N	22	19	2	6	8	23	.020	.015
453		48N	85	65	7	6	17	23	.014	.011
452		49N	20	160	5	6	8	29	.013	.011
451B		50N	42	19	13	8	23	29	.012	.015
451A		50N	22	50	7	6	11	29	.012	.015
450		51N	30	25	12	11	17	23	.016	.013
449		52N	40	40	62	20	55	23	.019	.012
448		53N	65	55	250	50	110	23	.014	.009
66121447	58E	54N	55	45	240	50	150	23	.012	.011
66121438	62E	46N	18	30	1	-6	8	23	.011	.011
439		47N	5	95	-1	-6	6	23	.011	.011
440		48N	95	25	8	8	20	23	.018	.013
441		49N	85	30	8	8	17	23	.014	.015
442		50N	46	70	5	6	11	23	.015	.013
443		51N	75	110	5	6	8	23	.016	.011
444		52N	28	15	4	6	8	23	.013	.010
445		53N	32	35	17	11	17	23	.014	.012
446	62E	54N	40	19	35	17	40	23	.018	.013
66121437	66E	46N	11	160	2	-6	6	23	.014	.011
436		47N	70	25	7	8	20	23	.016	.012
435		48N	115	25	10	8	20	23	.016	.010
434		49N	80	60	6	8	14	23	.015	.011
433		50N	22	12	2	6	6	23	.016	.011
432		51N	55	100	3	6	8	23	.015	.011
431		52N	20	20	2	6	6	23	.016	.010
430		53N	30	35	3	6	8	23	.021	.012
66121429	66E	54N	35	15	5	8	11	23	.015	.012
66121420	70E	46N	380	35	270	85	135	23	.012	.007
421		47N	140	30	240	70	145	23	.014	.010
422		48N	13	12	4	8	11	23	.012	.009
423		49N	9	160	2	8	6	23	.012	.010
424		50N	20	100	2	8	8	23	.013	.012
425		51N	60	60	5	8	14	23	.013	.010
426		52N	80	100	7	11	14	23	.014	.014
427		53N	30	35	2	6	6	23	.018	.011
66121428	70E	54N	30	45	3	8	6	23	.011	.011

Sample No.	Co-ordinate Position		Cu	Pb	Zn	Co	Ni	Sample Depth (feet)	Radioactivity (mR/Hr)	
									A/B.hor.	C.hor.
66121419	74E	46N	20	10	14	8	23	23	.012	.008
418		47N	28	40	270	47	130	23	.013	.010
417		48N	20	15	40	14	44	23	.015	.009
416		49N	40	45	125	29	75	11	.015	-
415		50N	11	45	4	6	11	23	.014	.010
414		51N	9	70	2	-6	8	29	.013	.010
413		52N	11	35	2	-6	8	29	.012	.014
412		53N	65	100	20	8	26	29	.014	.010
66121411	74E	54N	70	195	10	6	14	29	.016	.010
66121402	78E	46N	20	20	150	35	80	23	.012	.009
403		47N	13	55	5	6	20	23	.013	.010
404		48N	26	70	5	6	14	23	.015	.009
405		49N	16	20	7	6	17	23	.011	.010
406		50N	16	20	7	6	17	23	.014	.011
407		51N	55	25	120	23	95	23	.016	.010
408		52N	75	25	115	50	75	23	.014	.008
409		53N	22	125	58	11	32	23	.019	.011
66121410	78E	54N	100	50	115	23	80	23	.013	.014

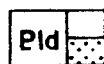


GEOLOGY AND RADIOMETRIC CONTOURS ANOMALY L3 AREA

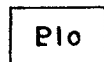


UPPER PROTEROZOIC

Golden Dyke Formation


 Shale
 Quartz sandstone

Coomalie Dolomite



Undifferentiated

————— Geological boundary position accurate

————— Fault position accurate

Strike and dip of strata

Gossan (Outcrop)

Ironstone breccia

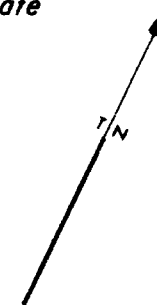
Costean

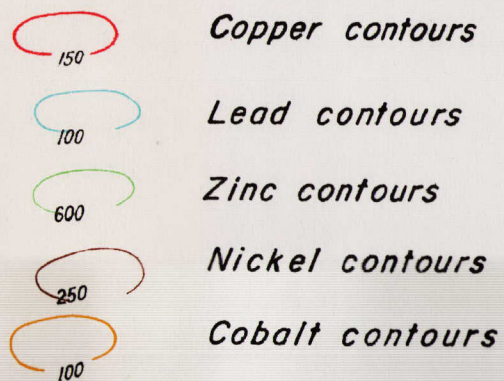
Py Pyrite

Mn Manganese

0.020 AB Horizon Radiometric Contours (mR/Hr)

0.025 C Horizon Radiometric Contours (mR/Hr)





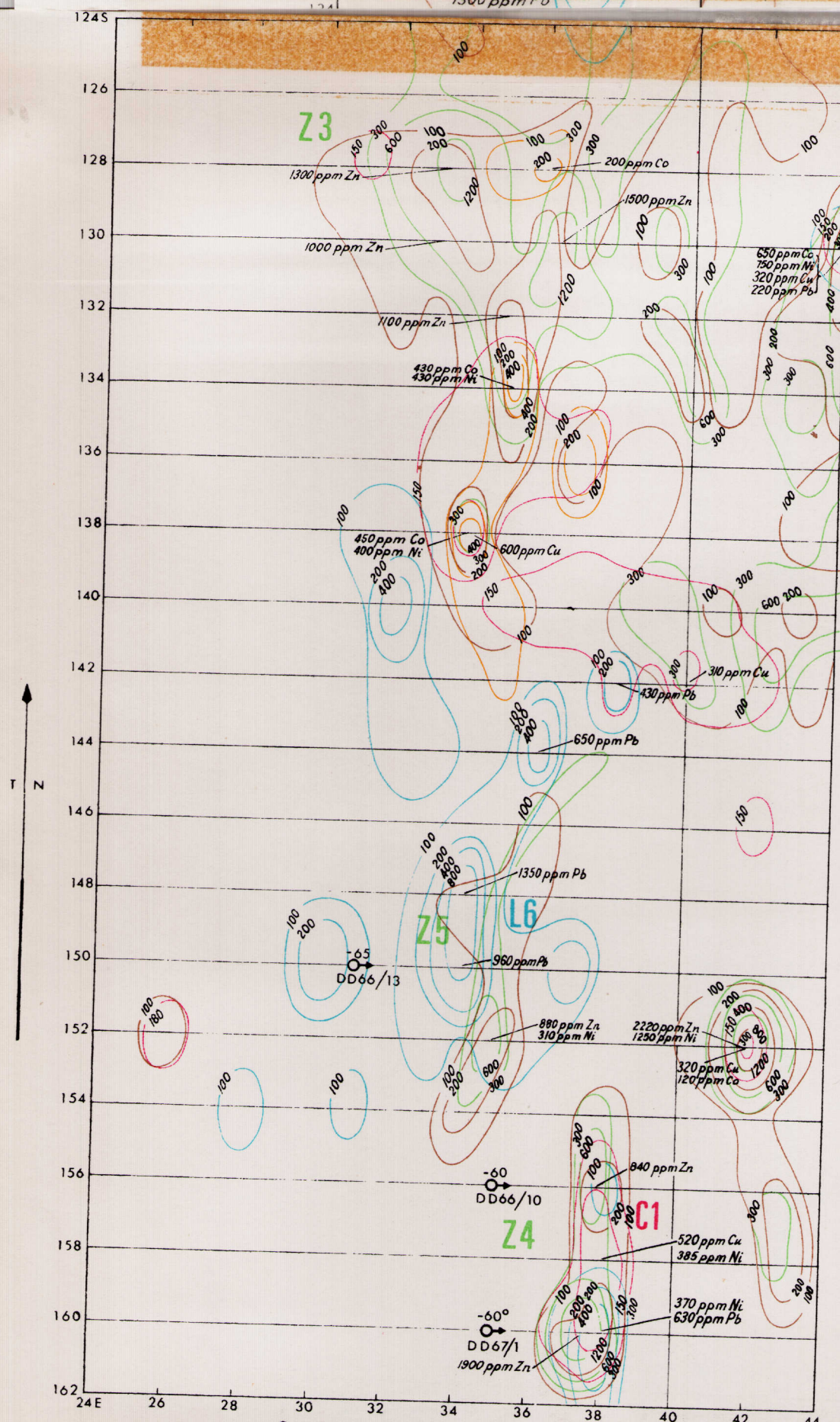
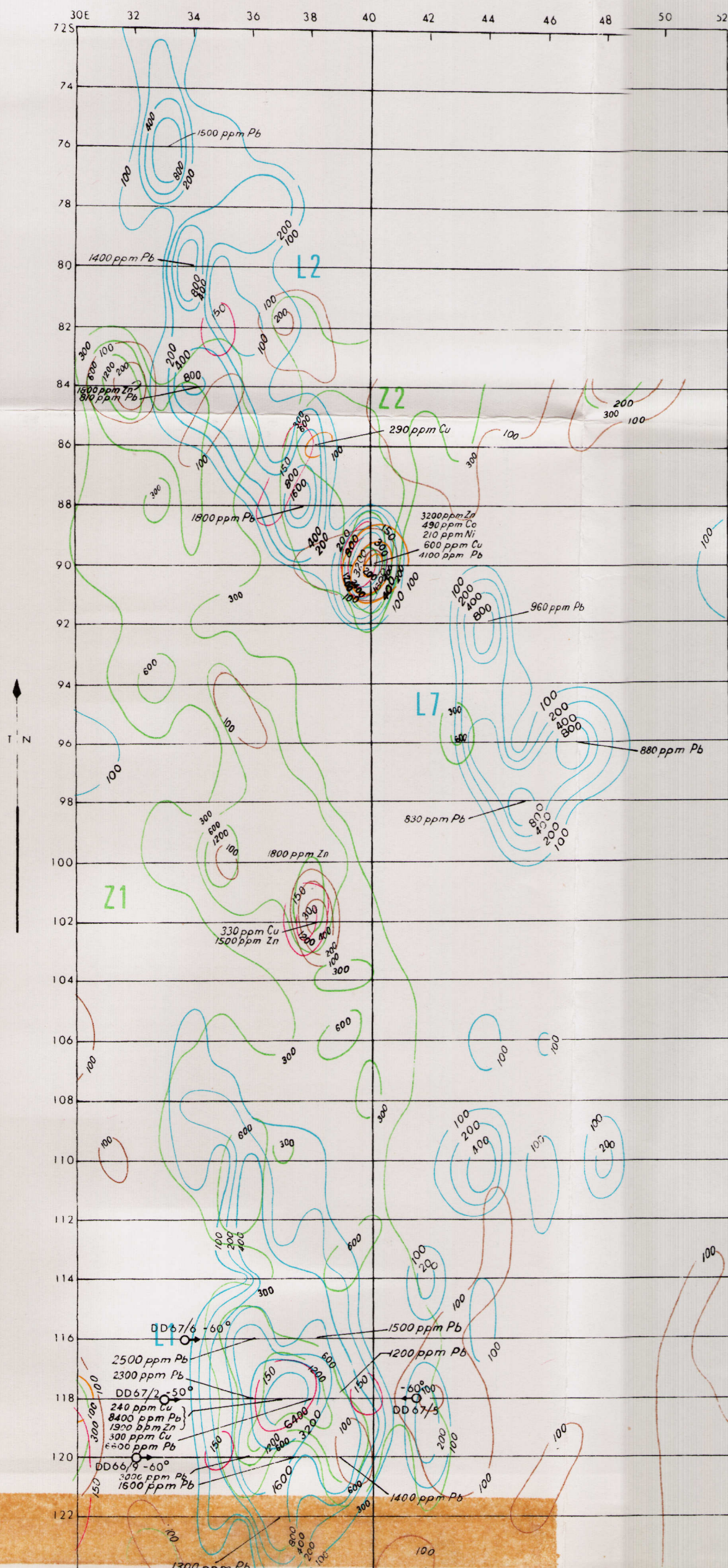
in p. p. m.

	<i>Fault</i>
	<i>Gossan</i>
	<i>Ironstone breccia</i>
Py	<i>Pyrite</i>
Mn	<i>Manganese</i>



GEOCHEMICAL CONTOURS ANOMALY L1, L2, L6 AREAS

400 200 0 400 800 1200 FEET



Contour values (p.p.m.)

- 300 Copper
- 100 Lead
- 600 Zinc
- 200 Nickel
- 400 Cobalt
- 60° Diamond drill hole (Up to April 1967)

