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D of M	A.O.	C.G.	E.O.	D.S.M.E
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GEOPEKO

A DIVISION OF PEKO-WALLSEND OPERATIONS LIMITED

PROGRESS REPORT ON E.L. 10/74

BLACK BLUFF

TASMANIA

JUNE 1981 to JUNE 1982

**82-1880**

J. PEMBERTON  
DEVONPORT  
JULY, 1982

RECEIVED  
16 DEC 1982  
DEPT. OF MINES  
REF. NO: 10 613/82

**OPEN FILE**

**MINED**

**REPRO**

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ORGANISATION: GEOPEKO

PROSPECT: BLACK BLUFF, TASMANIA

TITLE: PROGRESS REPORT ON E.L. 10/74. BLACK BLUFF, TASMANIA 1981/82

REPORT NUMBER:

AUTHOR 1: PEMBERTON INITIALS: J.P.

AUTHOR 2: INITIALS:

IMPRINT: DEVONPORT, JULY 1982

PAGES: 3 APPENDICES, 2 FIGURES, 11 PLANS

SUBJECTS: EXPN/REP COMMODITIES: Au, Cu, Pb, Zn,  
W, Sn, Bi

LOCALITY: BLACK BLUFF MAP REF NO: SK 55-3

MAP REF NAME: BURNIE

ABSTRACT (200 words or less) In the past year four prospects were worked on in the licence. The work included the establishment of grids at Mariners 4,6 and 7. C horizon geochemical samples were taken on these grids using hand and power augers. Mariners 4 and 7 were mapped at 1:2500 while Mariner 6 was mapped at 1:1000. Geophysical work done at Mariner 6 included magnetics, SP and IP while only IP was done at Mariner 7. Interpretation of the gravity survey at Mariner 5 indicated a granite at depth. A drill has been targetted on this information. One diamond drill hole was completed at Mariner 6 to a depth of 96.75 metres with negative results. A forward programme of exploration has been recommended.



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Ulverstone

E.L. 10/74

Que River Prospect

Rosebery

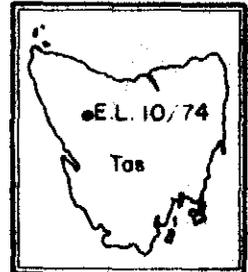
Hercules

Zeehan

Mt. Lyell

Queenstown

Strahan



5 cm

LEGEND

- Significant Basement Mineralization
- ⊖ Read Acid Volcanics
- Read Volcanics / Sediments



DATE  
 SHEET  
 TOWN  
 COUNTY

GEOPEKO  
TASMANIA

Scale 1:500 000

Fig No 1

Location Map  
E.L. 10/74

E.L. 10/74



KEY ⑦ MARINER 7

--- Projected sub outcrop of granite from gravity data.

- Q 19-57 Quaternary alluvium
- Tb 19-40 Tertiary basalt
- Gg 19-38 Gordon? limestone
- e 19-19 Ordovician sandstone and conglomerate
- c 19-6 Cambrian volcanics.

Dighem II Anomaly with associated pb geochemistry  
 Future work:  
 Infill Gridding  
 Magnetics  
 S.P.  
 E.M.

Prospective for tin related to Devonian Dalcoath granite.  
 Gravity data has defined the contact of the granite  
 One drill hole planned to 250m

5 cm

PROSPECT LOCATION MAP  
E.L. 10/74 BLACK BLUFF

Figure 2.

1. INTRODUCTION

The Black Bluff Exploration Licence 10/74 is held in Joint Venture by Geopeko-Aquitane Australia and Union Oil (see E.L. Locality Map - Fig No 1.) An area of 150 square kilometres is covered by the licence. Prior holders of the ground were Pickhands Mather (1968), Tasminex (1973/74) and Union Oil (1974/75).

The licence covers an area of Cambrian aged Mt Reid<sup>a</sup> volcanics which are prospective for Cu, Pb, Zn, Ag and Au mineralization. Unconformably overlying the Mt Reid<sup>a</sup> volcanics are the Ordovician aged Owen conglomerate, Moina Sandstone and Gordon Limestone. These rocks have potential for Sn-W magnetite skarn and Au in pyrite-quartz veins related to late Devonian granites.

Each of the four prospects worked on is discussed with respect to work completed, geology, geochemistry, conclusions and recommendations. The geophysics is discussed in Appendix 1.

2. SUMMARY

In the past year four prospects were worked on in the licence. Three grids were cut at Mariners 4, 6 and 7 (see Prospect Locality Map Fig 2). C horizon geochemical samples were taken using hand and power augers. The grids were mapped at 1:2500 and 1:1000 scales.

Geophysical work completed during the year comprised; magnetics, SP and IP at Mariner 6 and IP at Mariner 7. Interpretation of the gravity survey completed the previous year at Mariner 5 indicated a granite at depth and generated a drill target.

A drill target was generated from the work at Mariner 6 using the position of old workings, a gold anomaly and IP resistivity low. The hole was completed at a depth of 96.75 metres with negative results.

3. RECOMMENDATIONS

Mariner 4            No further work

Mariner 5            Drill 250 metre hole into granite contact area.

Mariner 6            No further work.

Mariner 7            Magnetics and SP to be read over the grid.  
EM survey over Dighem anomaly.  
Geochemical sampling on extensions to grid.  
Drill Scout hole (150m depth).

Mariner 11           Reconnaissance magnetics and mapping.

Kauri Fault          Mapping and panned concentrate stream  
sediment sampling.

4. MARINER 4

## INTRODUCTION

Mariner 4 is located on the northern slope of the Bond Range. Initial interest was generated in this area from anomalous stream sediment geochemistry, two adits with trace copper mineralization in quartz veins and thermally metamorphosed Cambrian volcanics.

## WORK COMPLETED

A reconnaissance grid was cut with three lines of 800 metres length and 200 metres apart. C horizon geochemical samples were taken with a power auger at 25 metre intervals. These samples were assayed for Cu, Pb, Zn, Ag, Sn and W (see plan No 2). The grid was mapped at 1:2500 scale (see plan No 1).

## GEOLOGY AND GEOCHEMISTRY

Poor outcrop and steep slopes make geological mapping difficult. The dominant lithology on the grid is a quartz feldspar biotite porphyry which is pyritic in the vicinity of the old workings. On line 12000N disseminated specular hematite was noted in the porphyry. Two prominent ridges strike north east on 10200E and 10400E. They are composed of thermally metamorphosed siliceous quartz porphyry with small amounts of corundum.

The geochemical results were disappointing with Cu, Pb and Zn presented on Plan No 2. Ag, Sn and W were below detection limits. No highly anomalous values were recorded with the best being 325ppm Pb at 10550E 12200N and 295ppm Zn at 10100E 12200N.

## CONCLUSIONS

No further work is planned at present.

5. MARINER 5

INTRODUCTION

The Mariner 5 prospect is on the Middlesex Plains in an area of Tertiary basalt cover over Cambrian quartz-feldspar-biotite porphyry. During the 1978/79 season highly anomalous Sn, W and Au values were recorded in streams draining the area (see Herrmann, W., 1980). Work on the Mariner 3 prospect 1 km to the west revealed alteration within the porphyry and a zonal sequence of anomalous Pb-Zn-Cu passing eastwards to Mariner 5. This data was used to propose a model of granite intrusion into the Cambrian porphyry at shallow depth with associated stockwork tin-tungsten mineralization below the basalt cover. A gravity survey was completed over the grid during the 1980/81 season (see Pemberton, J., 1981).

WORK COMPLETED

Interpretation of the gravity data is reported on in Appendix 1 by John Sumpton.

CONCLUSION AND RECOMMENDATION

The gravity data indicate a granite contact below the basalt on the Mariner 5 grid. It is recommended that one drill hole be sited to test the porphyry adjacent to the granite when funds become available.

6. MARINER 6

## INTRODUCTION

A magnetic anomaly adjacent to the Kauri Fault and pre - World War 1 mining leases led to this prospect being investigated during the 1980/81 season (see Pemberton, J., 1981). Reconnaissance geology in January, 1981, revealed abundant old workings in Ordovician Owen Conglomerates, overlying bioturbated sandstone and pre-basalt Tertiary grits and clays. Mineralization took the form of pyrite and hematite associated with silicification, brecciation and quartz veining. Grab samples from the dumps assayed up to 68gm/tonne Au, 570ppm Bi, 110ppm Sn, 1050ppm Cu, 440ppm Zn and 675ppm Pb. Tertiary basalt was found to the south of the workings. The Kauri fault is a major structural feature of the licence and forms an 80 metre cliff on the south western side of the prospect.

## WORK COMPLETED

A grid was cut with a north-south baseline of 500 metres with lines of varying length (250 metres to 400 metres) every 50 metres. Hand auger samples were taken where a soil profile had developed and rock chip samples over outcrop. (see Plan No 7 for sample location.) A sample interval of 12.5 metres was used. Samples were assayed for Cu, Pb, Zn, Ag, Au, Sn, W, Bi and Fe (see Plan 5 for Au results and Appendix 2 for the rest of the assays).

Magnetics was read over the grid and is presented in profile form in Appendix 1. A dipole-dipole IP survey was completed on lines 9950N, 10 000N, 10 050N and 9960E with a dipole spacing of 25 metres. A series of trial SP lines were read with negative results. These geophysical surveys are reported on by John Sumpton in Appendix 1.

Grid lines 9950N, 10 000N, 10 050N and 10 100N were extended 100 metres to the east after the initial results were received. Infill lines were also cut from the baseline to the east on lines 9975N, 10 025N and 10 075N. The grid was mapped at 1:1000 scale (see Plan No 4).

During late October, 1981, a drill hole was collared on 10 039N, 10005.3E to intersect a resistivity low and pass below the old workings and a gold soil anomaly (see Plan 5 and Appendix 3). The hole was drilled at an angle of 50° from the horizontal to a depth of 96.75 metres.

#### GEOLOGY AND GEOCHEMISTRY

The interpretation of the geology from the mapping was modified to a degree by the drill hole. A shallow plunging anticline in the Owen Conglomerate had the best development of old workings in its axis (10 000N, 9960E). A drive located just off 10 000N at 9900E had a length of 10 metres. Directly below this at the base of the Kauri Fault scarp a large drive was found which went under the old workings and had a length of 70 metres. One old shaft was located on the bioturbated sandstone at 10 000N, 10 090E. These two areas have controllable gold anomalies associated with them. Peak Au values are 11.4ppm and 450ppb respectively. In the south-west of the grid a further anomaly with a peak of 260ppb was obtained in the sandstone.

Numberous workings in the form of shafts, adits and stopes were located in a sequence of pre-basalt tertiary gravels, grits and clays. Samples taken within an old stope at 9870N, 10150E were not anomalous.

A detailed log of the drill hole is presented in Appendix 3 and the profile in Plan 6. The thick sequence of Tertiary basalt and pre-basalt sediments presented drilling problems because of their unconsolidated nature. This sequence was unexpected and suggests that the outcrops of Owen Conglomerate are bounded by faults. No mineralization was observed in the core although the conglomerate was brecciated and silicified with zones of hematite alteration. Assays of the core had raised levels of Cu, Pb, Zn and Fe in the younger sediments compared to the Owen Conglomerate.

An examination of the geological data available and the observed positions of the old workings suggests two styles of Au mineralization. The first is that found within the silicification and pyrite-hematite quartz veins 'in' the Ordovician lithologies. This mineralization is associated with the faulting and possibly a Devonian granite which is responsible for the Moina magnetite skarn and other gold-bismuth prospects in the area. The gravity survey at Mariner 5 and the corundum bearing siliceous volcanics at Mariner 4 support this interpretation. The second style of mineralization is inferred to be alluvial in the Tertiary sediments and was derived directly from the first type. No anomalous assays were obtained from the tertiary sediments but the numerous workings suggest that there was an alluvial component which was pursued with some vigour.

CONCLUSION

The disappointing results of the first drill hole have downgraded the potential of this prospect. A second hole was planned to intersect a chargeability anomaly (see Appendix 1) centred on 9950E, 10025N. An appraisal of the data obtained from the first drill hole indicates a limited size potential due to faulting in the vicinity of the chargeable zone. After consideration of these results it is recommended that this anomaly should not be drilled.

7. MARINER 7

A grade 4 Dighem II anomaly in the Cambrian volcanics and a stream sediment anomaly (Pb-210ppm) resulted in follow up work in the area. During January, 1981, 13 stream sediment samples were taken with two being anomalous in Pb (180ppm and 370ppm). In May, 1981, reconnaissance geology revealed a zone of altered pyritic acid tuffs and grey tuffaceous siltstones in the area of the Dighem II anomaly (see Pemberton, J., 1981).

Mariner 7 is situated on the northern end of the Bond Range and is an area of rugged relief (see Locality Fig. No. 2).

WORK COMPLETED

A grid of 8.7 line kilometres was cut over the area of the Dighem II anomaly and the stream sediment anomalies. C horizon geochemical samples were taken using a hand held power auger with a sample spacing of 25 metres. The grid line spacing was closed up to 50 metres over the Dighem II anomaly and the sample spacing was 12.5 metres. Samples were assayed by Analabs for Cu, Pb, Zn, Ag, Fe and Mn (see Plans No 9, 10 and 11). The grid was mapped at 1:2500 scale (see Plan No 8).

A Dipole-dipole IP survey was completed over the Dighem II anomaly on lines 10250N, 10 300N and 10350N. This survey is discussed in Appendix 1 by John Sumpton.

GEOLOGY AND GEOCHEMISTRY

The Cambrian volcanics consist of a sequence of steeply dipping, north-easterly striking crystal lithic tuffs and epiclastic sediments. In the area of Dighem II anomaly (approximately 10 300N, 9650E) a variety of chloritic and

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sericitic volcanics outcrop with areas of pyritic boxworks and iron-manganese veining. A grey epiclastic siltstone-sandstone unit with minor pebble beds overlies the altered volcanics. This area was regarded as highly prospective but unfortunately there was no geochemical signature and the IP survey did not have any response over the Dighem II anomaly.

Two areas of anomalous Pb geochemistry are centred at 10 500N, 9975E (950ppm) and 10 600N, 9625E (805ppm). A chloritic quartz feldspar crystal tuff outcrops in these areas and is marked by an increase in Fe values. Lines 10 400N, 10 500N and 10 600N were extended 300 metres to the east to cover the easterly anomaly. These extensions have not yet been mapped or sampled.

The unconformity between the Owen Conglomerate and the volcanics has anomalous Pb associated with it in the south-east and north east of the grid. In the vicinity of 9580E on lines 10 700N and 10 600N the conglomerate is slightly magnetic as is the underlying epiclastic siltstone. This association of the unconformity and magnetite was noted in the airborne magnetics from the Dighem II survey and referred to in the 1981 Annual Report as Mariner 8.

#### CONCLUSION AND RECOMMENDATIONS

The work completed at Mariner 7 to date does not satisfactorily explain the Dighem II anomaly. It is intended that an EM technique be used to locate the anomaly. The grid was not read for magnetics and this plus an SP survey would be included in any future geophysical work.

The extensions to the grid over the Pb anomaly will be sampled by hand held power auger and mapped. This work will allow a final appraisal of this prospect to be made.

8. REFERENCES

Herrmann, W., 1980: Progress Report on E.L. 10/74  
Black Bluff - Tasmania.

Pemberton, J., 1981: Progress Report on E.L. 10/74  
Black Bluff - Tasmania.

APPENDIX 1

Report on Geophysics, Black Bluff, 1981/82 by John Sumpton.

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MARINER 6	Magnetics IP/Resistivity Self Potential
MARINER 7	IP/Resistivity

ACCOMPANYING PLANS

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Plan 3	Mariner 5, Gravity Modelling
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Plan 7 a-f	Mariner 6, Pseudosections of IP/Resistivity
Plan 8	Mariner 6, Interpretation Diagrams
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Plan 10	Mariner 7, DIGHEM II Multipolt
Plan 11	Mariner 7, Profiles of IP/Resistivity

MARINER 5

Gravity

No geophysical field work was conducted at the Mariner 5 prospect during the period covered by this report. However the results of the gravity survey undertaken during the 1980/81 season have been processed and interpreted, and are reported below.

Aim of the Survey

From geological considerations, both regional and from the Mariner 3 area 1km to the west, it was proposed that a contact between the Cambrian porphyry outcropping on the Mariner 3 grid and a potentially tin bearing Devonian granite should lie within the Mariner 5 area. Such a contact, if present, is obscured by Tertiary basalt. It was postulated that if the two rock types had a density contrast between them, a gravity survey may resolve the position, and possibly the attitude, of the contact. Such a contact is considered a favourable site for vein type tin mineralization. Geochemical evidence for such mineralization has been found in streams draining the area (Herrmann, 1980).

Station Positions

A roughly rectangular grid was surveyed as an extension of the Mariner 3 grid (refer plan 1) and gravity stations were occupied along these lines at 100m spacings. In addition traverses were run along roads in the area to assist in regional control. Extra stations were also located on the grid between pegged grid lines to increase the overall station density.

Field Procedure

Two Instruments were used, both <sup>n</sup>Wofsey meters, No. 61 and No 592. The operators were Mr. R. Goodwin and the author. Drift corrections were determined through tying to a permanent base station established at 11800E, 10000N. Elevation control was by optical levelling on pegged lines and by the use of aneroid barometers on road traverses and infill stations on the grid.

Data Processing

Latitude, free air and Bouguer corrections were applied, using a Bouguer density of  $2.67 \text{ gm cm}^{-3}$ . Terrain corrections were not applied. The base station was assigned a Bouguer gravity of  $0.0 \text{ ums}^{-2}$ . It is estimated that on pegged lines the error in Bouguer gravity is generally less than  $\pm 1 \text{ ums}^{-2}$ . On road traverses and other stations whose elevations were measured with barometers the error is somewhat larger. Data from pegged lines was profiled and hand smoothed to eliminate bad data points. These smoothed profiles taken with the road traverses and other supplementary stations were used to compile a Bouguer gravity contour map, presented in plan 2. In order to obtain a profile to aid in detailed interpretation a profile A-B was then constructed from this contour map.

Interpretation

The Bouguer gravity contour map shows a regional slope decreasing from west to east, with a steepening of this slope within the Mariner 5 survey area. This steeper slope, represented in plan by an increase in the density of contours, defines an arcuate zone which is attributed to the contact of the less dense granite with the Cambrian rocks to the west.

Profile A-B, taken normal to this contact, shows the increase in slope attributable to the contact together with a number of responses from nearer surface features superimposed on it. As there is a very small density contrast between the two rock types, ( $0.1 \text{ gm cm}^{-3}$  assumed,  $0.07 \text{ gm cm}^{-3}$  measured on a statistically insignificant number of samples) it is thought that these nearer surface features are not related to the granite contact and have therefore been ignored in subsequent interpretation. Attempts were made to numerically model the contact using a  $10\text{km} \times 10\text{km}$  two dimensional block of material with a density contrast of  $-0.10 \text{ gm cm}^{-3}$ . \* A good match was obtained (see plan 3) with a depth to the top of the "granite" block of  $1\text{m}$  (given the precision of the methods used this figure may be interpreted as implying nothing more accurate than a shallow depth to top) and the contact vertical and positioned at  $12000\text{E}$ ,  $9200\text{N}$ , marked as point C on plan 2. As an illustration of the insensitivity of the interpretation to local scale irregularities in the granite contact attributable to the low density contrast (and hence low anomalous mass) consider plan 4. It shows the result of removing a two dimensional block of granite with a cross sectional area of  $20000\text{m}^2$  from the model. The difference between the original curve and that with the block removed could be resolved on present data.

### Conclusion

A gravity feature which may well be attributable to an arcuate granite contact has been located within the Mariner 5 area. The position and attitude of this contact in the gross sense has been determined. However the insensitivity of the interpretation technique to local changes in the position of the contact make it difficult to confidently site a drill hole to intersect it.

- \* The choice of the size of the "granite" block and the density contrast chosen only affects the base levels over the granite and non granite masses, and hence the slope of gravity profile between them. Therefore as long as the depth to the top of the block is small with respect to the dimensions of the block, the size and density contrast only affect the "vertical scale", but not the form of the curve.

MARINER 6Magnetics

The profiles of total magnetic intensity presented in plans 5 and 6 clearly show that the aeromagnetic anomaly detected during the DIGHEM II survey has as its source a body of outcropping Tertiary basalt.

IP/Resistivity

6 lines of IP/resistivity were surveyed using the dipole-dipole array with a dipole spacing of 25m. Pseudosections of the data are presented on plan 7. A severe logistical problem in the use of the method was the presence of the Kauri fault scarp, which prevented effective coverage using an East-West traverse direction. This scarp may also distort the apparent resistivity data as its presence invalidates the assumption of a homogeneous half space used in the reduction of resistivity data.

A highly chargeable source appears on the east-west line 9950N, centred at around 10 000E, and on the north-south lines 9960E and 10000E at around 9900N and 9950N respectively. The anomaly appears very shallow and depth limited, but not inconsistent with its source being pyritic quartz veins (hopefully carrying gold).

To the north of this zone there is a shallow conductor (resistivity low), also likely to be depth limited which can be seen on east-west lines 10000N (centred 10000E), 10150N (centred 9975E) and 10100N (centred 9950E). These positions are somewhat uncertain as the anomalies are not closed. From subsequent drilling it seems likely that the source of this conductive anomaly is a sequence of unconsolidated pre basalt sediments. Plan 8 shows the inferred surface positions of these zones and the positions of the IP spreads.

There is evidence of a shallow polarisable zone beneath the old workings near 9960E 10012N.

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Self Potential

The SP was measured on lines 9900N to 10150N inclusive and the results in profile form are presented on plan 9. The response is dominated by the topographic effect of the fault scarp with no other significant response.

MARINER 7

Mariner 7 is a low amplitude airborne electromagnetic anomaly detected during the 1980 DIGHEM II survey. A copy of the multiplot from that survey showing the anomaly (220B) is presented in plan 10. The high inphase to quadrature ratio implies that if the anomaly is "real" and not the result of system noise, that it has a high conductance and is therefore an attractive target.

IP/Resistivity

Three lines of IP/resistivity were covered using the pole-dipole array (for logistical reasons) with a receiving dipole length of 25m. The lines were 10250N, 10300N and 10350N. The profiled data is presented in plan 11.

The apparent chargeability shows a contact affect between low chargeabilities to the east and higher chargeabilites to the west. this feature occurs about 9600E and most likely relates to the Cambrian Ordivician unconformity. There is an overall increase in apparent resistivity to the west, however there is no evidence that the airborne E-M anomaly has been located.

Given the small amount of coverage thus far and the imprecision in the flight path recovery of the survey aircraft it cannot be confidently stated that the survey has covered the position of the E-M anomaly. Nevertheless the failure to locate a conductor on this survey may point to the fact that the weak airborne response is attributable to instrumental noise.

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APPENDIX 2

Geochemical Results from Mariner 6.

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MESSAGE TELETYPE

SAMPLE NUMBER	SN PPM.	W PPM.
TS 14501	(5	10
TS 14502	(5	10
TS 14503	(5	10
TS 14504	(5	10
TS 14505	(5	(10
TS 14506	(5	10
TS 14507	(5	10
TS 14508	(5	(10
TS 14509	(5	(10
TS 14510	(5	10
TS 14511	(5	10
TS 14512	(5	10
TS 14513	(5	10
TS 14514	(5	(10
TS 14515	(5	10
TS 14516	(5	(10
TS 14517	(5	10
TS 14518	(5	10
TS 14519	(5	(10
TS 14520	(5	(10
TS 14521	(5	10
TS 14522	(5	20
TS 14523	(5	(10
TS 14524	(5	10
TS 14525	(5	10
TS 14526	(5	10
TS 14527	(5	(10
TS 14528	(5	(10
TS 14529	(5	(10
TS 14530	(5	10
TS 14531	(5	(10
TS 14532	(5	10
TS 14533	(5	(10
TS 14534	10	30
TS 14535	(5	(10
TS 14536	(5	20
TS 14537	(5	(10
TS 14538	(5	(10
TS 14539	(5	(10
TS 14540	(5	10
TS 14541	(5	(10
TS 14542	(5	20
TS 14543	(5	(10
TS 14544	(5	(10

665027

021

GEORGE AA59076

ALSEV AA42344

665028

ATTN: MR. J. PEMBERTON

DATE: 29/07/81

TLX: C325/81

RESULTS YR ORDER NO. KP2650/51 - K467/8 OUR BATCH F147

SAMPLE NUMBER	CU PPM.	PB PPM.	ZN PPM.	AG PPM.	FE %
TS 14501	10	15	70	1	1.24
TS 14502	110	20	30	1	5.60
TS 14503	20	25	70	(1	1.38
TS 14504	10	20	50	(1	0.40
TS 14505	20	40	40	1	0.76
TS 14506	10	25	30	(1	0.50
TS 14507	10	15	40	(1	0.50
TS WQRTPI	QP	TP	EP	Q	QEMY
TS 14509	10	10	30	(1	0.84
TS 14510	10	10	25	(1	0.54
TS 14511	10	50	40	(1	0.76
TS 14512	10	15	20	(1	0.32
TS 14513	10	20	25	(1	0.44
TS 14514	10	80	25	(1	0.32
TS 14515	5	45	20	(1	0.40
TS 14516	10	170	20	(1	0.24
TS 14517	15	140	25	(1	0.44
TS 14518	25	210	30	1	3.68
TS 14519	10	20	35	1	6.00
TS 14520	188	10	25	(1	0.80
TS 14521	5	5	20	(1	0.30
TS 14522	10	10	20	(1	0.58
TS 14523	10	10	20	(1	0.80
TS 14524	10	10	20	(1	0.36
TS 14525	5	10	20	(1	0.20
TS 14526	10	10	20	(1	0.34
TS 14527	15	30	30	1	3.40
TS 14528	25	25	30	1	4.56
TS 14529	10	10	20	(1	1.18
TS 14530	10	10	30	1	2.64
TS 14531	10	30	25	1	2.96
TS 14532	10	10	20	(1	1.84
TS 14533	10	20	20	1	2.76
TS 14534	110	185	50	5	3.00
TS 14535	10	35	20	(1	0.48
TS 14536	10	30	20	1	0.28
TS 14537	25	110	30	(1	1.84
TS 14538	10	15	20	(1	1.40
TS 14539	15	30	30	(1	0.92
TS 14540	10	15	20	(1	0.66
TS 14541	10	10	20	(1	0.72
TS 14542	10	20	30	(1	0.50
TS 14543	15	30	30	(1	0.92
TS 14544	10	20	25	(1	0.40

MESSAGE TELEX MESSAGE TELEX MESSAGE

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665029

MESSAGE TELE MESSAGE TELE

SAMPLE 234  
NUMBER

B1  
PPM.

TS 14501	20
TS 14502	25
TS 14503	10
TS 14504	10
TS 14505	15
TS 14506	10
TS 14507	10
TS 14508	25
TS 14509	5
TS 14510	5
TS 14511	10
TS 14512	10
TS 14513	10
TS 14514	15
TS 14515	10
TS 14516	20
TS 14517	55
TS 14518	40
TS 14519	20
TS 14520	10
TS 14521	10
TS 14522	15
TS 14523	15
TS 14524	10
TS 14525	10
TS 14526	5
TS 14527	20
TS 14528	20
TS 14529	10
TS 14530	15
TS 14531	20
TS 14532	10
TS 14533	15
TS 14534	20
TS 14535	20
TS 14536	15
TS 14537	15
TS 14538	10
TS 14539	10
TS 14540	10
TS 14541	10
TS 14542	10
TS 14543	10
TS 14544	10
TS 14545	40

023

665030

# TELEX MESSAGE TELEX M

SAMPLE NUMBER	CU PPM.	PB PPM.	ZN PPM.	AG PPM.	BI PPM.
TS 13045	(2	10	10	(1	5
TS 13046	10	10	10	(1	5
TS 13047	2	20	10	(1	5
TS 13048	2	30	5	(1	10
TS 13049	2	25	15	(1	5
TS 13150	(2	20	10	(1	5
TS 13151	(2	20	10	(1	10
TS 13152	(2	50	10	(1	10
TS 13153	2	20	10	(1	5
TS 13154	5	30	15	(1	(5
TS 13155	10	20	10	(1	10
TS 13156	2	10	15	(1	10
TS 13157	2	10	10	(1	20
TS 13158	5	20	10	(1	5
TS 13159	(2	15	10	(1	10
TS 13160	(2	10	5	(1	(5
TS 13161	2	15	10	(1	10
TS 13162	(2	10	10	1	10
TS 13163	(2	(5	10	1	10
TS 13164	(2	5	5	(1	5
TS 13165	(2	20	5	1	10
TS 13166	(2	10	10	(1	10
TS 13167	(2	15	10	(1	10
TS 13168	2	20	10	(1	15
TS 13169	(2	10	5	(1	5
TS 13170	2	15	15	(1	15
TS 13171	2	20	10	(1	15
TS 13172	2	30	10	1	10
TS 13173	(2	20	15	(1	5
TS 13174	(2	20	10	(1	15
TS 13175	(2	20	10	(1	15
TS 13176	(2	15	10	(1	10
TS 13177	2	10	10	(1	10
TS 13178	(2	10	10	(1	20
TS 13179	2	10	5	(1	15
TS 13180	2	15	2	(1	15
TS 13181	(2	15	2	(1	10
TS 13182	5	5	5	(1	10
TS 13183	10	10	10	1	10
TS 13184	10	15	5	(1	20
TS 13185	2	10	(2	1	20
TS 13186	5	10	(2	(1	10
TS 13187	10	110	20	1	15
TS 13188	2	10	2	(1	20
TS 13189	2	20	10	1	10
TS 13190	2	10	2	1	10
TS 13191	(2	10	2	(1	10
TS 13192	2	15	5	1	10
TS 13193	5	10	2	1	30
TS 13194	2	15	(2	1	15

030

**TELEX MESSAGE TELI**

665031

SAMPLE NUMBER	FE %	AU PPB.
TS 13045	0.28	3
TS 13046	0.36	3
TS 13047	0.28	(3
TS 13048	0.26	(3
TS 13049	0.42	(3
TS 13150	0.38	(3
TS 13151	0.28	15
TS 13152	0.32	35
TS 13153	0.32	(3
TS 13154	0.38	10
TS 13155	1.20	(3
TS 13156	0.92	(3
TS 13157	0.86	(3
TS 13158	0.58	(3
TS 13159	0.48	(3
TS 13160	0.56	(3
TS 13161	0.80	(3
TS 13162	0.48	10
TS 13163	0.44	5
TS 13164	1.60	5
TS 13165	0.52	5
TS 13166	0.50	5
TS 13167	0.66	3
TS 13168	0.52	3
TS 13169	0.46	3
TS 13170	0.44	5
TS 13171	0.48	10
TS 13172	1.44	3
TS 13173	0.46	(3
TS 13174	1.56	(3
TS 13175	0.50	5
TS 13176	0.56	5
TS 13177	0.68	5
TS 13178	0.60	5
TS 13179	0.48	5
TS 13180	0.78	5
TS 13181	0.56	3
TS 13182	0.48	3
TS 13183	0.58	5
TS 13184	0.68	3
TS 13185	0.76	5
TS 13186	0.56	3
TS 13187	0.52	5
TS 13188	0.56	3
TS 13189	0.64	(3
TS 13190	0.48	15
TS 13191	0.52	5
TS 13192	0.88	5
TS 13193	0.38	5
TS 13194	0.40	5

031  
**TELEX MESSAGE TELE**

SAMPLE NUMBER	SN PPM.	w PPM.
TS 13045	(5	20
TS 13046	(5	10
TS 13047	(5	20
TS 13048	(5	30
TS 13049	(5	20
TS 13150	(5	(10
TS 13151	(5	10
TS 13152	(5	20
TS 13153	(5	20
TS 13154	(5	(10
TS 13155	(5	10
TS 13156	(5	10
TS 13157	(5	10
TS 13158	(5	(10
TS 13159	(5	10
TS 13160	(5	10
TS 13161	(5	10
TS 13162	(5	(10
TS 13163	(5	10
TS 13164	(5	(10
TS 13165	(5	(10
TS 13166	(5	(10
TS 13167	(5	(10
TS 13168	(5	(10
TS 13169	(5	(10
TS 13170	(5	(10
TS 13171	(5	10
TS 13172	(5	(10
TS 13173	(5	10
TS 13174	(5	(10
TS 13175	(5	30
TS 13176	(5	(10
TS 13177	(5	10
TS 13178	(5	(10
TS 13179	(5	20
TS 13180	(5	(10
TS 13181	(5	(10
TS 13182	(5	(10
TS 13183	(5	20
TS 13184	(5	(10
TS 13185	(5	10
TS 13186	(5	(10
TS 13187	(5	20
TS 13188	(5	(10
TS 13189	(5	(10
TS 13190	(5	(10
TS 13191	(5	20
TS 13192	(5	(10
TS 13193	(5	(10
TS 13194	(5	20

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Black Bluff

AUSTRALIAN LABORATORY SERVICES PTY. LTD.

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CONSULTING CHEMISTS & ANALYSTS

OFFICE & LABORATORY

P.O. BOX 44

EVERTON PARK QLD 4053

Ph 07 3525577

TELEX ALSEV 42344

LABORATORY REPORT



Batch No.: J1009

Client: GEOPEKO LIMITED,

Area Contact: DR. ROSS LARGE.

Date Received: 02/09/81

Address: P.O. BOX 217,

Address: P.O. BOX 598,

Date Completed: 16/09/81

GORDON.

DEVONPORT TAS.

7310

N.S.W.

Order No.: K474, KP 2720

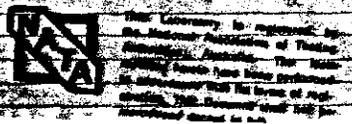
Sample Type: SOIL, ROCK

No. of Samples: 44

SAMPLE NO.	Cu	Pb	Zn	Ag	Bi	Fe	Au	Sn	W	ELEMENTS UNITS METHODS
	m	m	m	m	m	z	b	m	m	
	1	1	1	1	1	1	120-A	XRF 1A	XRF 1A	
TS 13001	5	<5	5	4	<5	0.52	20	<5	20	
TS 13002	2	5	<2	2	10	0.40	5	<5	<10	
TS 13003	5	5	5	<1	10	0.40	25	<5	20	
TS 13004	10	5	<2	<1	5	0.56	5	<5	<10	
TS 13005	5	10	2	1	5	0.44	10	<5	20	
TS 13006	5	10	2	<1	5	0.38	10	<5	<10	
TS 13007	10	60	<2	<1	5	0.40	35	<5	20	
TS 13008	10	20	<2	<1	10	0.42	20	<5	<10	
TS 13009	10	10	<2	<1	5	0.44	3	<5	30	
TS 13010	10	10	10	<1	5	0.60	5	<5	<10	
TS 13011	10	<5	10	1	10	0.36	3	<5	20	
TS 13012	10	5	2	1	10	0.94	<3	<5	<10	
TS 13013	5	25	2	1	5	0.48	3	<5	10	
TS 13014	2	25	2	1	<5	0.56	<3	<5	<10	
TS 13015	2	20	5	1	<5	0.32	<3	<5	10	
TS 13016	10	50	2	1	5	2.00	10	<5	<10	
TS 13017	<2	20	2	1	10	0.40	3	<5	20	
TS 13018	10	30	5	<1	10	0.40	80	<5	<10	
TS 13019	10	35	5	<1	10	0.50	<3	<5	40	
TS 13020	50	30	2	<1	10	0.42	20	<5	20	
TS 13021	70	20	2	1	10	0.40	15	<5	20	
TS 13022	2	20	5	<1	5	0.36	45	<5	30	
TS 13023	2	40	25	<1	5	0.48	5	<5	<10	
TS 13024	5	30	2	<1	10	0.50	3	<5	30	
TS 13025	5	20	10	1	10	0.36	1.3	<5	<10	
TS 13026	<2	15	2	1	10	0.38	40	<5	30	
TS 13027	2	30	10	<1	5	0.44	3	<5	<10	
TS 13028	<2	20	2	<1	5	0.32	<3	<5	20	
TS 13029	<2	20	5	1	5	0.50	5	<5	<10	
TS 13030	<2	20	2	1	10	0.34	10	<5	30	

UNITS LEGEND: m - Parts per million, b - Parts per billion, X - percent, g - Grams, a - Absorbance

Signature: *A. J. Hurlay*



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OFFICE & LABORATORY

P.O. BOX 46

EVERTON PARK QLD 4053

Ph 07 3525577

TELEX ALSEV 42344

LABORATORY REPORT

Batch No.: J009

Client: GEOPEX LIMITED,

Area Contact: DR. ROSS LARGE.

Address: P.O. BOX 217,

Address: P.O. BOX 598,

Date Received 02/09/81

GORDON.

DEVONPORT TAS. 7310

Date Completed 16/09/81

N.S.W.

Order No.: K474, KP 2720

Sample Type: SOIL, ROCK

No. of Samples: 44

SAMPLE NO.	Cu	Pb	Zn	Ag	Bi	Fe	Au	Sn	W	ELEMENTS
	m	m	m	m	m	%	b	m	m	UNITS
	1	1	1	1	1	1	120-A	XRF 1A	XRF 1A	METHODS
TS 13031	2	25	2	1	10	0.32	5	<5	<10	
TS 13032	2	20	<2	<1	10	0.40	<3	<5	20	
TS 13033	5	20	<2	<1	10	0.36	<3	<5	<10	
TS 13034	20	30	2	<1	5	0.92	10	<5	20	
TS 13035	10	25	2	<1	10	1.56	5	<5	<10	
TS 13036	20	40	15	1	10	0.52	5	<5	20	
TS 13037	10	30	2	1	20	0.48	5	<5	<10	
TS 13038	10	30	<2	1	15	0.52	3	<5	20	
TS 13039	10	20	<2	<1	10	0.54	3	<5	<10	
TS 13040	5	20	<2	<1	10	0.40	<3	<5	20	
TS 13041	10	20	5	1	15	0.48	<3	<5	<10	
TS 13042	10	35	10	<1	10	0.52	<3	<5	20	
TS 13043	10	20	10	<1	10	0.54	3	<5	<10	
TS 13044	10	50	10	<1	10	0.60	<3	<5	<10	

UNITS LEGEND --- m - Parts per million    b - Parts per billion    % - percent  
 g - Grams    a - Absorbance

Signature: *A. J. Finlayson*



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OFFICE & LABORATORY  
 P.O. BOX 66  
 EVERTON PARK QLD 4053  
 Ph 07 3525577  
 TELEX ALSEV 42344

LABORATORY REPORT

Batch No.: F013

Client: GEOPKO LIMITED,  
 Address: P.O. BOX 217,  
 GORDON,  
 N.S.W.

Area Contact: DR. ROSS LARGE,  
 Address: P.O. BOX 598,  
 DEVONPORT TAS. 7310

Date Received 01/06/81  
 Date Completed 24/07/81

Order No.: KP 2635, KP 2636

Sample Type: SOIL

No. of Samples: 305

SAMPLE NO.	Cu	Pb	Zn	Ag	Fe	Bi	Au	Sn	W	ELEMENTS UNITS METHODS
	m	m	m	m	%	m	b	m	m	
	1	1	1	1	1	1	120-A	XRF 1A	XRF 1A	
TS 11433	2	25	2	1	0.44	20	5	10	<10	
TS 11434	2	55	10	1	0.48	20	15	10	<10	
TS 11435	5	40	10	1	0.32	20	10	5	<10	
TS 11436	10	45	15	<1	0.44	10	3	5	<10	
TS 11437	2	40	10	1	0.24	20	<3	10	<10	
TS 11438	<2	65	10	<1	0.36	20	3	5	<10	
TS 11439	2	35	10	<1	0.52	20	<3	15	<10	
TS 11440	90	40	15	1	2.52	30	5	10	<10	
TS 11441	10	20	2	<1	0.48	20	5	<5	<10	
TS 11442	5	20	10	<1	0.32	20	<3	15	<10	
TS 11443	30	40	100	2	0.80	40	3	5	<10	
TS 11444	5	20	10	<1	0.44	20	10	<5	<10	
TS 11445	5	15	5	<1	1.16	20	<3	10	<10	
TS 11446	20	40	30	2	7.20	40	<3	15	<10	
TS 11447	20	40	45	2	7.20	40	<3	10	<10	
TS 11448	30	50	60	2	11.20	50	3	5	<10	
TS 11449	45	45	75	2	12.00	50	<3	5	<10	
TS 11450	40	50	75	2	12.00	50	5	10	<10	
TS 11451	60	35	110	3	11.20	50	3	10	<10	
TS 11452	55	40	105	3	15.20	50	<3	5	<10	
TS 11453	75	35	105	3	15.2	50	5	5	<10	
TS 11454	10	30	20	1	1.84	30	3	10	<10	
TS 11455	10	40	40	1	3.92	30	3	10	<10	
TS 11456	5	25	20	1	1.92	30	5	10	<10	
TS 11457	10	45	30	<1	3.44	30	3	5	<10	
TS 11458	2	40	5	<1	0.96	20	3	10	<10	
TS 11459	2	20	5	<1	0.48	20	5	5	<10	
TS 11460	5	20	10	<1	0.64	20	40	<5	<10	
TS 11461	10	20	10	1	1.84	30	10	5	<10	
TS 11462	5	15	5	<1	0.56	20	25	15	<10	

UNITS LEGEND ----- m - Parts per million  
 g - Grams

b - Parts per billion  
 a - Absorbance  
 % - percent

Signature: *A. J. Taylor*

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CONSULTING CHEMISTS & ANALYSTS

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P.O. BOX 66

EVERTON PARK QLD 4053

Ph 07 3525577

TELEX ALSEV 42344

LABORATORY REPORT

Batch No.: F013

Client: GEOPEKO LIMITED,

Area Contact: DR. ROSS LARGE,

Address: P.O. BOX 217,

Address: P.O. BOX 598,

Date Received 01/06/81

GORDON.

DEVONPORT TAS. 7310

Date Completed 24/07/81

N.S.W.

Order No.: KP 2635, KP 2636

Sample Type: SOIL

No. of Samples: 305

SAMPLE NO.	Cu	Pb	Zn	Ag	Fe	Bi	Au	Sn	W	ELEMENTS UNITS METHODS
	M	M	M	M	%	M	b	M	M	
	1	1	1	1	1	1	120-A	XRF 1A	XRF 1A	
TS 11463	80	35	80	3	12.0	50	<3	10	<10	
TS 11464	80	40	110	3	15.2	60	<3	15	<10	
TS 11465	55	35	90	3	12.0	50	<3	5	<10	
TS 11466	50	40	80	3	12.0	50	<3	10	<10	
TS 11467	45	30	80	3	12.0	50	3	5	<10	
TS 11468	45	30	90	2	12.0	50	3	10	<10	
TS 11469	35	35	75	2	15.2	50	5	20	<10	
TS 11470	45	35	75	2	14.4	50	3	5	<10	
TS 11471	45	35	80	2	11.2	50	5	<5	<10	
TS 11472	50	45	105	2	11.2	50	3	10	<10	
TS 11473	30	35	100	3	11.2	50	3	<5	<10	
TS 11474	45	40	115	3	13.6	60	3	<5	<10	
TS 11475	60	45	120	<1	14.4	55	3	<5	<10	
TS 11476	10	15	10	<1	1.20	20	20	<5	<10	
TS 11477	5	10	10	1	0.56	20	<3	5	<10	
TS 11478	10	25	20	1	1.60	25	3	<5	<10	
TS 11479	2	70	25	1	2.24	25	<3	5	<10	
TS 11480	2	35	10	<1	1.92	30	<3	<5	<10	
TS 11481	2	20	10	<1	0.56	20	25	5	<10	
TS 11482	2	15	5	1	0.40	20	3	<5	<10	
TS 11483	15	20	2	<1	1.52	20	<3	5	<10	
TS 11484	2	20	2	<1	0.48	20	3	5	<10	
TS 11485	20	45	40	2	10.4	50	3	<5	<10	
TS 11486	80	40	110	3	10.4	50	3	5	<10	
TS 11487	75	35	120	4	14.4	50	10	5	<10	
TS 11488	50	40	90	3	13.6	55	15	<5	<10	
TS 11489	90	40	130	3	14.4	60	5	<5	<10	
TS 11490	90	40	130	3	13.6	55	<3	10	<10	
TS 11491	55	40	110	2	11.2	50	3	<5	<10	
TS 11492	60	40	120	2	11.2	50	5	<5	<10	

UNITS LEGEND ----- M - Parts per million  
g - Grams

b - Parts per billion  
a - Absorbance

% - percent

Signature: *A. J. Finlayson*

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663036





CONSULTING CHEMISTS & ANALYSTS

OFFICE & LABORATORY  
 P.O. BOX 66  
 EVERTON PARK QLD 4053  
 Ph 07 3525577  
 TELEX ALSEV 42344

LABORATORY REPORT

Batch No.: F013

Client: GEOPEKO LIMITED,  
 Address: P.O. BOX 217,  
 GORDON,  
 N.S.W.

Area Contact: DR. ROSS LARGE,  
 Address: P.O. BOX 598,  
 DEVONPORT TAS.

7310

Date Received 01/06/81  
 Date Completed 24/07/81

Order No.: KP 2635, KP 2636

Sample Type: SOIL

No. of Samples: 305

SAMPLE NO.	Cu	Pb	Zn	Ag	Fe	Bi	Au	Sn	W	ELEMENTS UNITS METHODS
	m	m	m	m	%	m	b	m	m	
	1	1	1	1	1	1	120-A	XRF 1A	XRF 1A	
TS 11627	5	20	10	<1	0.40	15	25	<5	<10	
TS 11628	2	10	5	<1	0.40	15	3	<5	<10	
TS 11629	2	10	5	<1	0.32	10	3	<5	<10	
TS 11630	5	10	2	<1	0.40	20	3	<5	<10	
TS 11631	5	10	2	<1	0.40	15	<3	<5	<10	
TS 11632	5	20	10	<1	0.40	10	30	<5	<10	
TS 11633	2	10	5	<1	0.40	10	30	<5	<10	
TS 11634	10	15	15	<1	0.48	15	30	<5	<10	
TS 11635	2	10	5	<1	0.40	20	<3	<5	10	
TS 11636	5	55	10	<1	0.40	15	3	<5	<10	
TS 11637	15	70	10	1	1.76	25	3	<5	<10	
TS 11638	15	140	10	1	1.20	20	150	<5	20	
TS 11639	10	30	20	<1	0.32	10	40	<5	<10	
TS 11640	2	40	10	<1	0.48	10	30	<5	10	
TS 11641	2	30	15	<1	0.40	10	210	<5	10	
TS 11642	10	35	30	<1	0.32	10	60	<5	<10	
TS 11643	10	40	25	<1	0.32	15	60	<5	<10	
TS 11644	5	35	20	<1	0.16	10	295	<5	10	
TS 11645	10	20	20	<1	0.40	10	360	<5	10	
TS 11646	10	30	15	<1	0.40	10	30	<5	10	
TS 11647	5	25	20	<1	0.48	10	<3	<5	<10	
TS 11648	10	30	20	<1	0.40	15	<3	5	<10	
TS 11649	5	15	10	<1	0.40	15	3	<5	<10	
TS 11650	5	10	10	<1	0.48	20	3	<5	<10	
TS 11651	2	10	5	<1	0.40	15	<3	<5	<10	
TS 11652	10	20	20	<1	0.24	10	<3	<5	<10	
TS 11653	5	10	10	<1	0.32	20	5	<5	<10	
TS 11654	2	10	10	<1	0.40	10	3	<5	<10	
TS 11655	5	30	30	<1	0.32	15	3	<5	<10	
TS 11656	10	40	20	<1	0.24	10	<3	<5	<10	

UNITS LEGEND ----- m - Parts per million  
 g - Grams

b - Parts per billion  
 a - Absorbance  
 % - percent

Signature: *A. F. Finlayson*

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665039



CONSULTING CHEMISTS & ANALYSTS

OFFICE & LABORATORY

P.O. BOX 66  
 EVERTON PARK QLD 4053  
 Ph 07 3525577  
 TELEX ALSEV 42344

LABORATORY REPORT

Batch No.: F013

Client: GEOPEKO LIMITED,  
 Address: P.O. BOX 217,  
 GORDON,  
 N.S.W.

Area Contact: DR. ROSS LARGE,  
 Address: P.O. BOX 598,  
 DEVONPORT TAS.

7310

Date Received 01/06/81  
 Date Completed 24/07/81

Order No.: KP 2635, KP 2636

Sample Type: SOIL

No. of Samples: 305

SAMPLE NO.	Cu	Pb	Zn	Ag	Fe	Bi	Au	Sn	W	ELEMENTS UNITS METHODS
	m	m	m	m	%	m	b	m	m	
	1	1	1	1	1	1	120-A	XRF 1A	XRF 1A	
TS 11687	10	20	20	<1	0.48	10	5	<5	<10	
TS 11688	10	15	15	<1	0.40	10	3	<5	10	
TS 11701	15	20	20	<1	0.80	10	<3	<5	<10	
TS 11702	10	20	25	1	2.96	20	3	<5	10	
TS 11703	10	20	15	<1	0.64	15	<3	<5	<10	
TS 11704	10	20	15	3	0.80	20	3	<5	<10	
TS 11705	20	30	30	1	3.29	20	3	<5	<10	
TS 11706	40	30	85	2	7.20	35	<3	<5	<10	
TS 11707	65	50	120	2	7.20	40	<3	<5	10	
TS 11708	60	30	90	2	8.00	40	<3	<5	<10	
TS 11709	55	35	100	2	7.20	40	3	<5	<10	
TS 11710	55	30	100	2	8.00	30	10	<5	<10	
TS 11711	50	25	70	2	3.60	30	3	<5	<10	
TS 11712	60	30	70	2	8.80	40	<3	<5	<10	
TS 11713	70	20	110	3	9.60	45	<3	<5	<10	
TS 11714	70	30	85	3	8.80	45	3	<5	<10	
TS 11715	70	30	95	2	10.4	40	<3	5	<10	
TS 11716	65	40	80	3	9.60	50	<3	10	<10	
TS 11494	50	30	70	2	10.4	40	3	15	<10	
TS 11495	50	30	75	2	8.80	40	3	<5	<10	
TS 11496	45	25	75	2	8.00	40	3	<5	<10	
TS 11497	45	30	80	2	8.80	40	3	<5	<10	
TS 11498	40	50	80	1	5.60	30	<3	<5	<10	
TS 11499	20	40	45	1	5.60	25	3	<5	<10	
TS 11500	15	40	40	1	4.24	20	3	5	<10	
TS 11502	5	10	15	1	0.48	10	3	<5	<10	
TS 11503	25	55	30	3	8.80	40	3	<5	<10	
TS 11504	10	25	20	<1	1.84	20	5	<5	<10	
TS 11505	5	15	30	<1	0.64	10	3	<5	<10	
TS 11506	5	15	20	<1	0.56	10	3	<5	<10	

UNITS LEGEND ----- m - Parts per million  
 g - Grams

b - Parts per billion  
 a - Absorbance

% - percent

Signature: *A. Heston*

040

665041



CONSULTING CHEMISTS & ANALYSTS

OFFICE & LABORATORY  
 P.O. BOX 66  
 EVERTON PARK QLD 4053  
 Ph 07 3525577  
 TELEX ALSEV 42344

LABORATORY REPORT

Batch No.: F013

Client: GEOPEKO LIMITED,  
 Address: P.O. BOX 217,  
 GORDON,  
 N.S.W.

Area Contact: DR. ROSS LARGE,  
 Address: P.O. BOX 598,  
 DEVONPORT TAS.

7310

Date Received 01/06/81  
 Date Completed 24/07/81

Order No.: KP 2635, KP 2636

Sample Type: SOIL

No. of Samples: 305

SAMPLE NO.	Cu	Pb	Zn	Ag	Fe	Bi	Au	Sn	W	ELEMENTS UNITS METHODS
	M	M	M	M	%	M	b	M	M	
	1	1	1	1	1	1	120-A	XRF 1A	XRF 1A	
TS 11537	5	10	10	1	0.80	15	3	<5	<10	
TS 11538	5	10	10	1	1.12	20	3	<5	<10	
TS 11539	10	15	10	<1	0.72	20	5	<5	<10	
TS 11540	2	10	10	1	0.72	20	3	<5	<10	
TS 11541	5	15	10	<1	0.56	20	3	<5	<10	
TS 11542	5	10	20	<1	0.32	20	5	<5	<10	
TS 11543	5	15	20	<1	0.72	20	3	<5	<10	
TS 11544	5	10	20	<1	0.40	20	3	<5	<10	
TS 11545	N.R.	N.R.	N.R.							
TS 11546	N.R.	N.R.	N.R.							
TS 11547	N.R.	N.R.	N.R.							
TS 11548	N.R.	N.R.	N.R.							
TS 11549	N.R.	N.R.	N.R.							
TS 11550	N.R.	N.R.	N.R.							
TS 11551	5	10	10	1	0.56	10	3	<5	<10	
TS 11552	5	10	10	1	0.40	10	5	<5	<10	
TS 11553	5	15	10	1	0.32	10	3	<5	<10	
TS 11554	5	20	15	1	4.24	30	3	<5	<10	
TS 11555	10	15	15	<1	0.48	15	3	<5	<10	
TS 11556	10	10	10	<1	0.32	15	5	<5	<10	
TS 11557	10	15	10	<1	0.32	10	15	<5	<10	
TS 11558	10	15	10	<1	0.56	15	25	<5	<10	
TS 11559	5	20	10	<1	0.32	20	55	<5	<10	
TS 11560	15	25	10	<1	0.40	20	3	<5	<10	
TS 11561	10	20	10	<1	0.40	20	<3	<5	<10	
TS 11562	2	15	5	1	1.35	10	3	<5	<10	
TS 11563	2	5	5	<1	0.36	5	5	<5	<10	
TS 11564	<2	40	2	1	0.24	5	3	<5	<10	
TS 11565	20	15	25	<1	0.17	5	5	<5	<10	
TS 11566	10	20	15	<1	0.30	<5	10	<5	<10	

UNITS LEGEND ----- m - Parts per million  
 g - Grams

b - Parts per billion  
 a - Absorbance

% - percent

Signature: *B. J. ...*

U42

665043

043

AUSTRALIAN LABORATORY SERVICES PTY. LTD.

PAGE 10 OF 11

CONSULTING CHEMISTS & ANALYSTS

OFFICE & LABORATORY  
P.O. BOX 66  
EVERTON PARK QLD 4053  
Ph 07 3525577  
TELEX ALSEV 42344

LABORATORY REPORT

Batch No.: F013

Client: GEOPEKO LIMITED,  
Address: P.O. BOX 217,  
GORDON,  
N.S.W.

Area Contact: DR. ROSS LARGE.  
Address: P.O. BOX 598,  
DEVONPORT TAS.

7310

Date Received 01/06/81  
Date Completed 24/07/81

Order No.: KP 2635, KP 2636

Sample Type: SOIL

No. of Samples: 305

SAMPLE NO.	Cu	Pb	Zn	Ag	Fe	Bi	Au	Sn	W	ELEMENTS UNITS METHODS
	m	m	m	m	%	m	b	m	m	
	1	1	1	1	1	1	120-A	XRF 1A	XRF 1A	
TS 11567	15	20	40	<1	0.29	<5	15	<5	<10	
TS 11717	5	10	2	<1	0.40	5	5	15	<10	
TS 11718	5	45	2	1	0.14	5	10	<5	<10	
TS 11719	10	10	10	<1	0.30	5	5	<5	<10	
TS 11720	5	5	2	<1	0.30	<5	10	<5	<10	
TS 11721	10	35	5	<1	0.22	10	5	<5	<10	
TS 11722	10	35	2	1	0.38	5	3	<5	<10	
TS 11723	15	15	2	<1	0.93	5	5	<5	<10	
TS 11724	10	25	10	<1	0.60	5	5	<5	<10	
TS 11725	2	5	5	<1	0.30	5	5	<5	<10	
TS 11726	5	20	5	<1	0.48	5	10	<5	<10	
TS 11727	2	5	2	<1	0.32	5	<3	<5	<10	
TS 11728	5	15	15	<1	0.35	5	5	<5	<10	
TS 11729	5	10	2	<1	0.27	<5	10	<5	10	
TS 11730	5	10	2	<1	0.20	5	3	<5	10	
TS 11731	5	5	2	<1	0.27	5	45	<5	<10	
TS 11732	5	5	2	<1	0.24	5	3	<5	<10	
TS 11733	5	30	2	<1	0.31	5	5	<5	<10	
TS 11734	10	130	20	<1	0.43	5	3	<5	<10	
TS 11735	5	10	2	<1	0.24	5	3	<5	<10	
TS 11736	5	15	2	<1	0.31	5	3	<5	<10	
TS 11737	15	10	2	<1	0.52	5	3	<5	<10	
TS 11738	<2	5	2	<1	0.20	5	3	<5	<10	
TS 11739	10	5	2	1	0.23	5	3	<5	<10	
TS 11740	2	10	2	1	0.26	<5	5	<5	<10	
TS 11741	2	15	2	1	0.47	5	3	<5	<10	
TS 11742	2	5	2	1	0.23	<5	3	<5	<10	
TS 11743	<2	15	2	1	0.21	<5	5	<5	<10	
TS 11744	<2	10	5	1	0.58	5	460	<5	<10	
TS 11745	2	5	2	<1	0.27	<5	25	<5	<10	

UNITS LEGEND ----- m - Parts per million  
g - Grams

b - Parts per billion  
a - Absorbance

X - percent

Signature: *A. J. Wilkerson*

665044

044

AUSTRALIAN LABORATORY SERVICES PTY. LTD.

PAGE 11 OF 11

CONSULTING CHEMISTS & ANALYSTS

OFFICE & LABORATORY

P.O. BOX 66  
EVERTON PARK QLD 4053  
Ph 07 3525577  
TELEX ALSEV 42344

LABORATORY REPORT

Batch No.: F013

Client: GEOPEKO LIMITED,  
Address: P.O. BOX 217,  
GORDON,  
N.S.W.

Area Contact: DR. ROSS LARGE.  
Address: P.O. BOX 598,  
DEVONPORT TAS. 7310

Date Received 01/06/81  
Date Completed 24/07/81

Order No.: KP 2635, KP 2636

Sample Type: SOIL

No. of Samples: 305

SAMPLE NO.	Cu	Pb	Zn	Ag	Fe	Bi	Au	Sn	W	ELEMENTS UNITS METHODS
	m	m	m	m	%	m	b	m	m	
	1	1	1	1	1	1	120-A	XRF 1A	XRF 1A	
TS 11746	5	5	5	<1	0.22	5	5	<5	<10	
TS 11747	5	10	2	1	0.26	<5	5	5	<10	
TS 11748	5	5	2	1	0.23	<5	5	<5	<10	
TS 11749	5	10	2	1	0.33	5	90	10	<10	
TS 11750	2	10	5	1	0.30	5	5	<5	<10	

UNITS LEGEND ----- m - Parts per million  
g - Grams

b - Parts per billion  
a - Absorbance

% - percent

Signature: *A. J. Finlayson*

665045

U45

665046

K469. J. Pemberton

# ANALABS

A division of MacDonalid Hamilton & Co. Pty. Ltd.  
82 Murray Road, Welshpool, W.A. 6106 (Reg. Office)

Phone (08) 468 7800

Code No. 82-1-02-24

Division Coke, Tasmania

Phone 316937

Rack No. \_\_\_\_\_

Page No. 3

Order No. KP 245

## RESULT SHEET

TUBE No.	SAMPLE No.	SN	W																		
1	Ts	11462	3	X																	
2		63	7	X																	
3		64	7	X																	
4		65	3	X																	
5		66	10	X																	
6		67	9	X																	
7		68	3	X																	
8		69	6	X																	
9		71	7	X																	
10		72	7	X																	
11		74	8	X																	
12		75	7	X																	
13		76	3	X																	
14		77	3	X																	
15		81	7	X																	
16		82	4	10																	
17		84	X	X																	
18		85	10	X																	
19		86	5	X																	
20	Ts	11487	5	X																	
21		88	7	X																	
22		89	6	X																	
23		91	6	X																	
24		92	5	X																	
25		93	10	X																	
26		94	6	10																	
27		95	9	15																	
28		96	15	X																	
29		97	5	X																	
30	Ts	11499	7	X																	
31																					
32																					
33																					
34																					
35																					
36																					
37																					
38																					
39																					
40																					
Detection																					
Standard																					
Repeat-																					
Repeat-																					
Method																					

RESPONSIBLE OFFICER B. Davis  
1. 8. 81

Results in ppm unless otherwise specified  
T = element present; but concentration too low to measure  
X = element concentration is below detection limit  
- = element not determined

046

665047

APPENDIX 3

Drill Hole Log and Geochemistry from DDH 1 Mariner 6.

# ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.  
52 Murray Road, Welshpool, W.A. 6106 (Reg. Office)

Phone (09) 468 7999

Code No. 83.1 08 347

Division.....

Phone.....

Rack No. R-29

Page No. 1

Order No. KP 2665

## RESULT SHEET

TUBE No.	SAMPLE No.		Cu	Pb	Zn	Ag	Fe(%)	Bi				
1	TS	11462	5	5	10	x	0.52	x				
2		63	70	x	75	0.5	8.2	x				
3		64	75	5	95	1.0	10.5	x				
4		65	65	5	85	0.5	8.7	x				
5		66	60	10	85	x	9.2	x				
6		67	50	5	95	0.5	9.7	x				
7		68	45	5	95	0.5	9.5	5				
8		69	40	20	90	0.5	11.7	x				
9		71	45	15	80	0.5	8.6	x				
10		72	55	5	100	x	8.5	x				
11		73	SAMPLE NOT SUBMITTED									
12		74	55	x	130	0.5	10.1	x				
13		75	65	x	135	0.5	11.3	x				
14		76	10	x	10	x	0.70	x				
15		77	10	x	20	x	0.80	x				
16		81	10	10	10	0.5	0.42	x				
17		82	10	5	10	x	0.58	x				
18		84	10	10	10	x	7.8	x				
19		85	25	35	45	x	9.4	x				
20	TS	11486	90	25	125	x	9.5	x				
21		87	75	20	120	x	9.3	x				
22		88	55	20	95	x	10.2	x				
23		89	100	20	150	x	9.3	x				
24		91	65	25	130	x	9.1	x				
25		92	65	20	130	0.5	7.6	x				
26		93	70	15	105	1.0	7.8	x				
27		94	50	15	115	x	9.2	x				
28		95	70	15	125	x	7.9	x				
29		96	50	15	105	0.5	9.3	x				
30		97	65	10	150	0.5	5.9	x				
31	TS	11499	30	25	60	0.5	5.2	x				
32												
33												
34												
35												
36												
37												
38												
39												
40												
Detection			5	5	5	0.5		5				
Standard	ASS5		435	325	100	0.5	26.0	x				
Repeat--	TS	11462	5	5	10	x	0.55	x				
Repeat--	TS	11486	85	15	120	x	9.8	x				
Method			All									

Results in ppm unless otherwise specified  
T = element present; but concentration too low to measure  
X = element concentration is below detection limit  
- = element not determined

RESPONSIBLE OFFICER.....

041



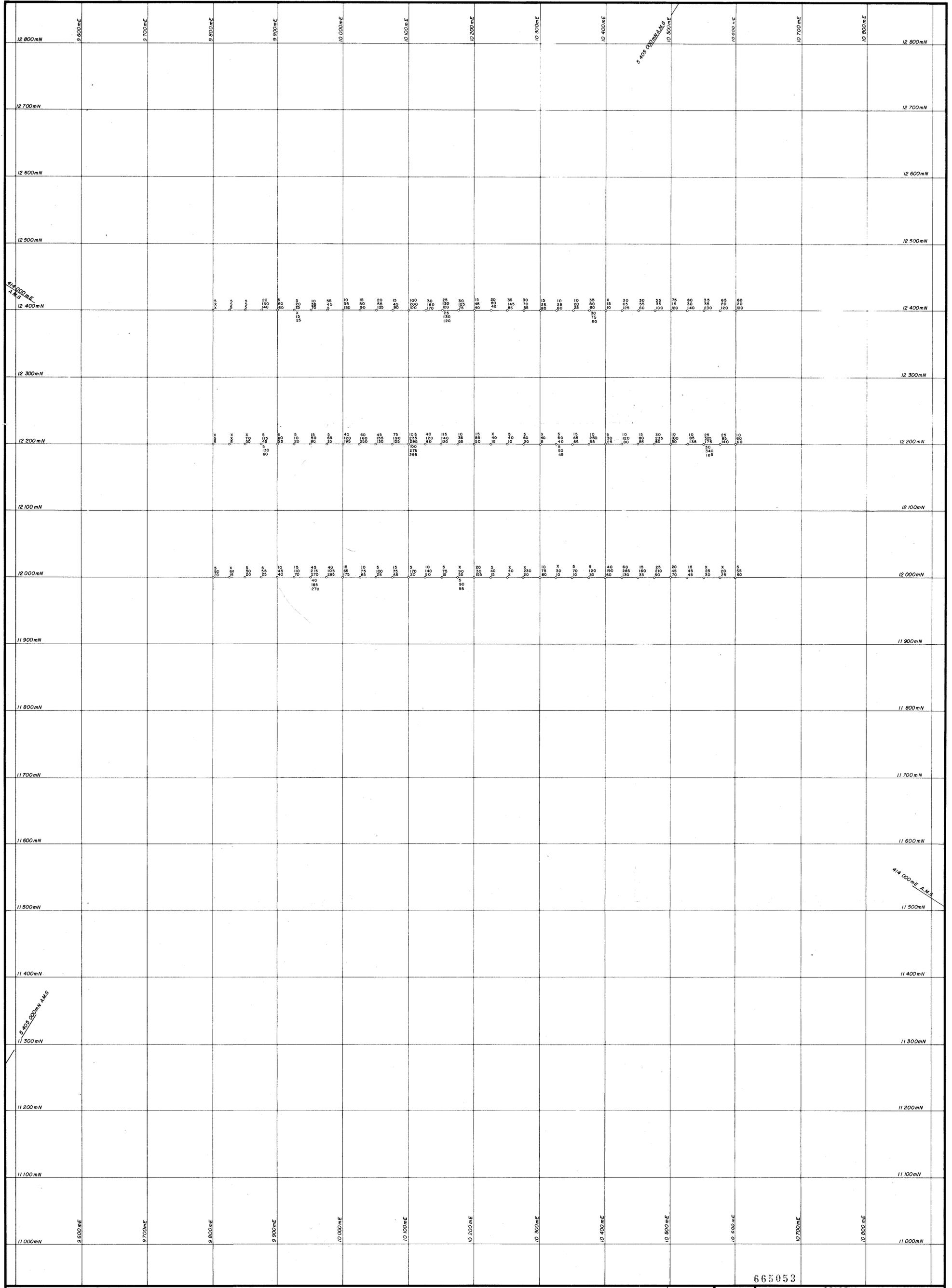
# GEOPEKO TASMANIA DRILL LOG

## Prospect MARINER 6 Hole no. 1

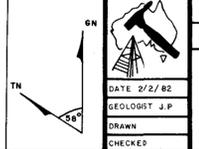
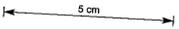
DEPTH (m)		CORRECTION LOG	ANGLE TO CORE AXIS		BIOLOGICAL DESCRIPTION	Alteration	MINERALISATION				Fracturing	Sample No.	From (m)	To (m)	Rec (m)	ASSAYS (Lab: ALS)						
From	To		S <sub>0</sub>	S <sub>1</sub>			py											Ca	AL	Zn	Ag	% Fe
39	40				Azite cementation at 39.6, 40.5 & 41.1m - up to 4cm across - green across bedding.						KR9966	39	40	29	15	15	60	1	2.40	3	15	
40	41										KR9967	40	41	1	50	45	220	1	12.40	43		
41	42										KR9968	41	42	1	55	50	260	1	12.80	5		
42	43										KR9969	42	43	28	45	40	190	1	4.35	43	5	
43	44										KR9970	43	44	1	30	10	115	41	0.39	3	45	
44	45										KR9971	44	45		70	70	245	41	0.56	3		
45	46										KR9972	45	46		75	15	210	41	0.36	3		
46	47				45.7 - Green clay sand with thin silt layers + thin thick from 45.8-46.4m. Orange streaks from 47.2m - 50.50 where seen is orange clay with minor silt component.						KR9973	46	47		55	35	195	1	4.80	43		
47	48										KR9974	47	48		15	45	40	1	0.70	3		
48	49										KR9975	48	49		25	40	50	2	0.90	20		
49	50										KR9976	49	50		40	45	60	1	2.00	70	5	
50	51				50.5-51.5 Tertiary conglomerate of Mt Roland conglomerate - rounded. Orange clay at base & contact with Mt Roland conglomerate.						KR9977	50	51		165	70	100	2	6.60	5	45	
51	52										KR9978	51	52		30	30	20	41	1.70	43		
52	53				51.5-7E.01 Mt Roland conglomerate.						KR9979	52	53		5	15	15	41	0.42			
53	54										KR9980	53	54		2	10	10	41	0.36			
54	55				51.5 - pebble sandstone - pebble brecciated - locally hematite alteration later added conglomerate - jasper + quartzite pebbles with sandy matrix						KR9981	54	55		2	10	5	41	0.40	3		
55	56										KR9982	55	56		12	10	5	41	0.40	43	5	
56	57										KR9983	56	57		12	10	5	41	0.60		45	
57	58										KR9984	57	58		12	10	10	41	0.60			
58	59										KR9985	58	59		12	10	10	41	0.56		5	
59	60										KR9986	59	60		12	10	10	41	0.68	3		
60	61										KR9987	60	61		2	10	10	41	0.72	43	10	
61	62										KR9988	61	62		2	5	25	41	0.68		5	
62	63										KR9989	62	63		2	10	15	41	0.52			
63	64										KR9990	63	64		2	5	10	41	0.76		45	
64	65										KR9991	64	65		2	5	10	41	0.56			
65	66										KR9992	65	66		2	5	10	41	0.62		5	
66	67										KR9993	66	67		2	5	10	41	0.52		45	
67	68										KR9994	67	68		2	5	10	41	1.48			
68	69				High zone of hematite alteration.						KR9995	68	69		5	10	10	1	3.60			
69	70										KR9996	69	70		5	10	40	1	3.40			
70	71										KR9997	70	71		5	10	10	1	4.40		5	
71	72										KR9998	71	72		5	5	10	1	1.38		5	
72	73										KR9999	72	73		2	10	5	41	1.88		45	
73	74				73 hematite jasper vein						KR10000	73	74		5	5	5	1	3.90			
74	75										KR9901	74	75		2	10	5	1	2.40			
75	76										KR9902	75	76		2	10	10	1	3.20		5	
76	77										KR9903	76	77		2	5	10	41	1.30		45	
77	78										KR9904	77	78		5	5	15	41	1.54	3		







LEGEND:  
 ○ Hand auger

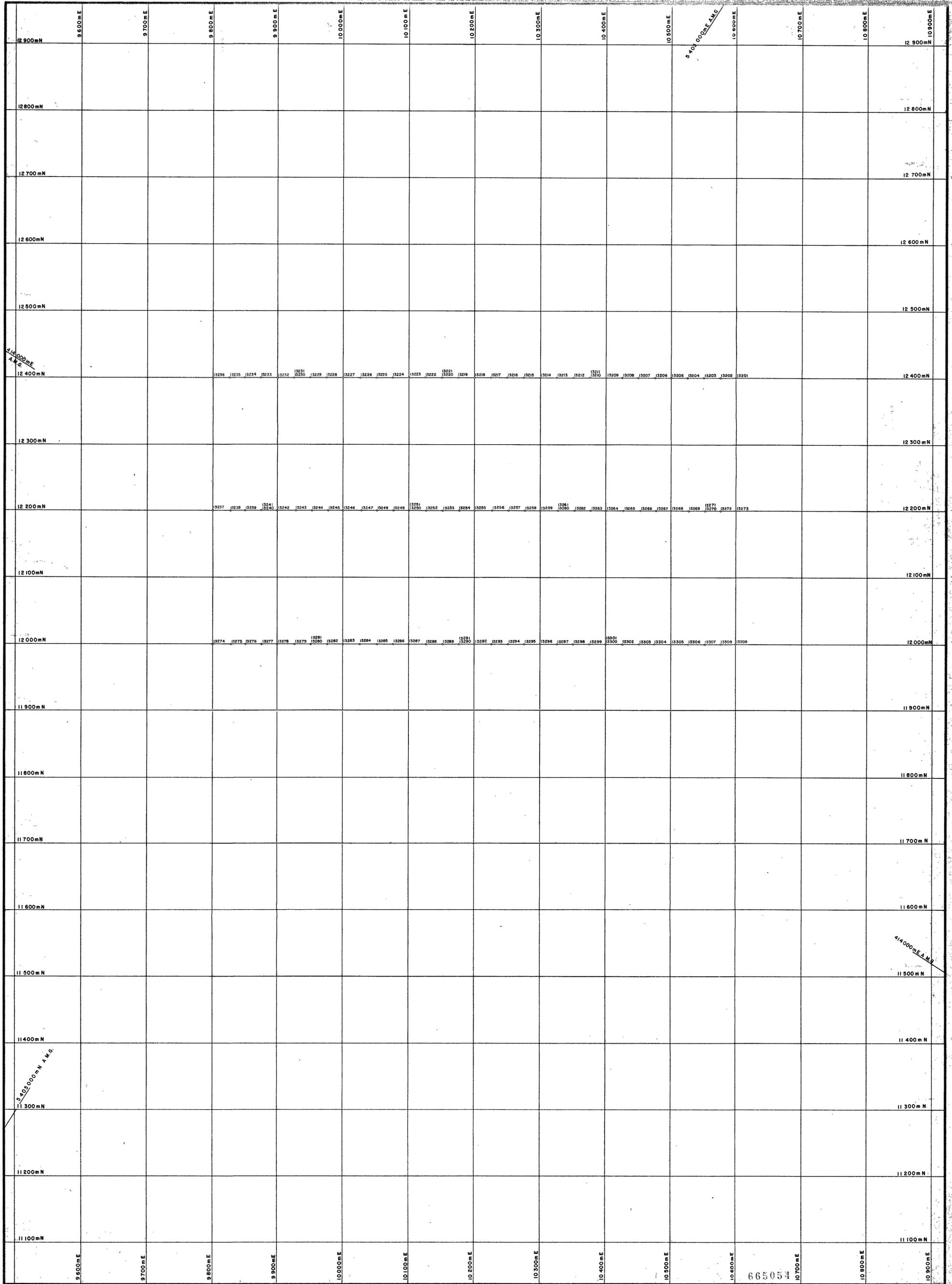


665053

GEOPEKO  
 A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.  
 No. TS10/74-M4-4

**E.L.10/74 BLACK BLUFF**  
**MARINER 4 2437**  
 GEOCHEMICAL RESULTS Cu Pb Zn 2

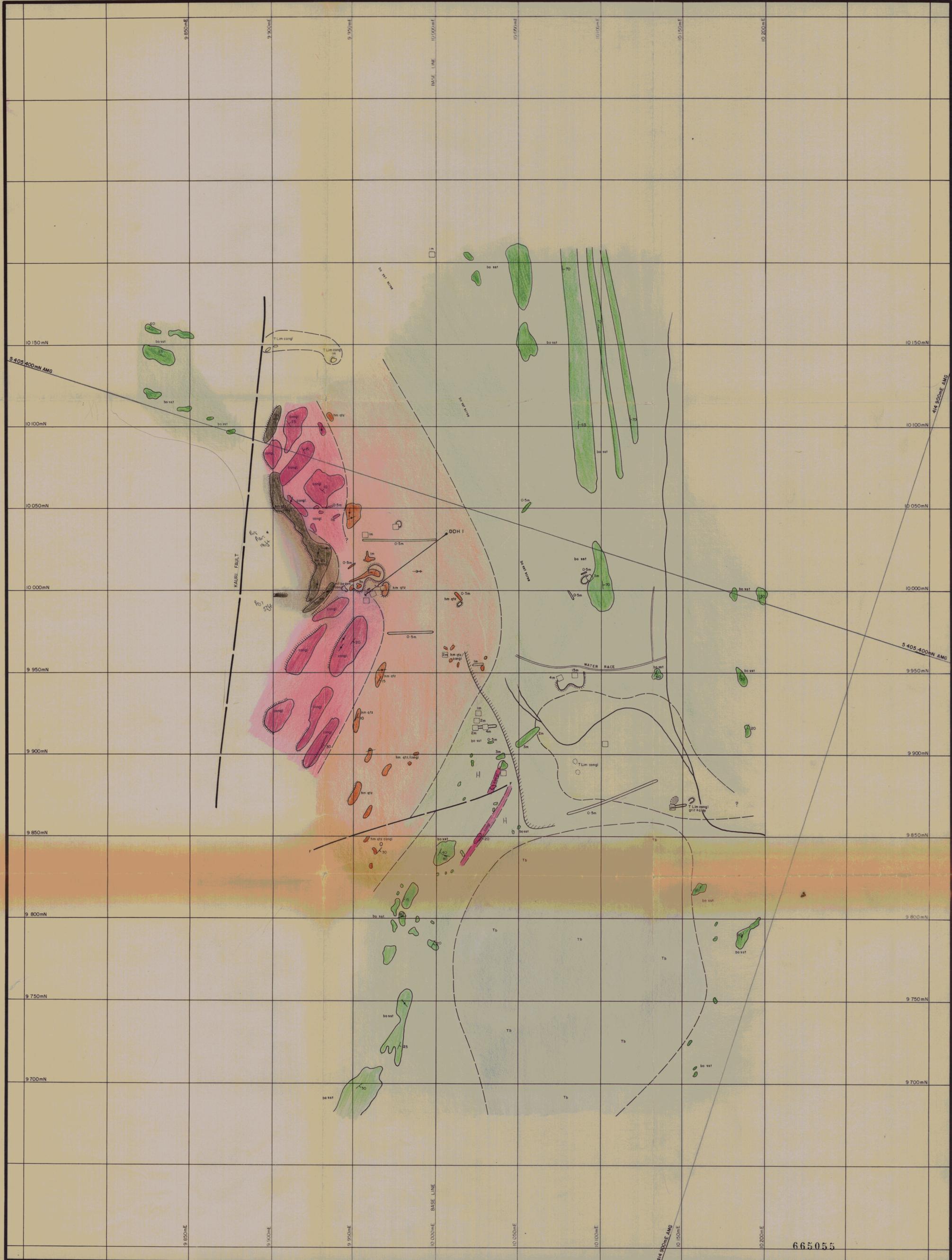
DATE 2/2/82  
 GEOLOGIST J.P.  
 DRAWN  
 CHECKER



**GEOPEKO**  
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.  
 No. TS10/74-M4-3  
**E.L.10/74 BLACK BLUFF**  
**MARINER 4**  
**SAMPLE LOCATIONS 2438**

DATE: FEB 1982  
 GEOLOGIST: J.P.  
 DRAWN: N.V.S.  
 CHECKER:





**LEGEND:**

	bioturbated sandstone		conglomerate
	hematitic quartzite		Tertiary basalt (Tertiary hematitic conglomerate, grit and clays)

**STRUCTURAL:**

	layering		outcrop
	jointing		contact
	vertical jointing		fault
	cliff		major fault
	trench (with depths)		water way
	shaft (with depths)		
	minor anticline		

Scale: 5 cm

Orientation: GN, TN, 18°00'

Scale: 1:10,000

DATE: NOV 81  
 GEOL: J.P.  
 DRAWN: R.T. M.S.S.  
 CHKD:

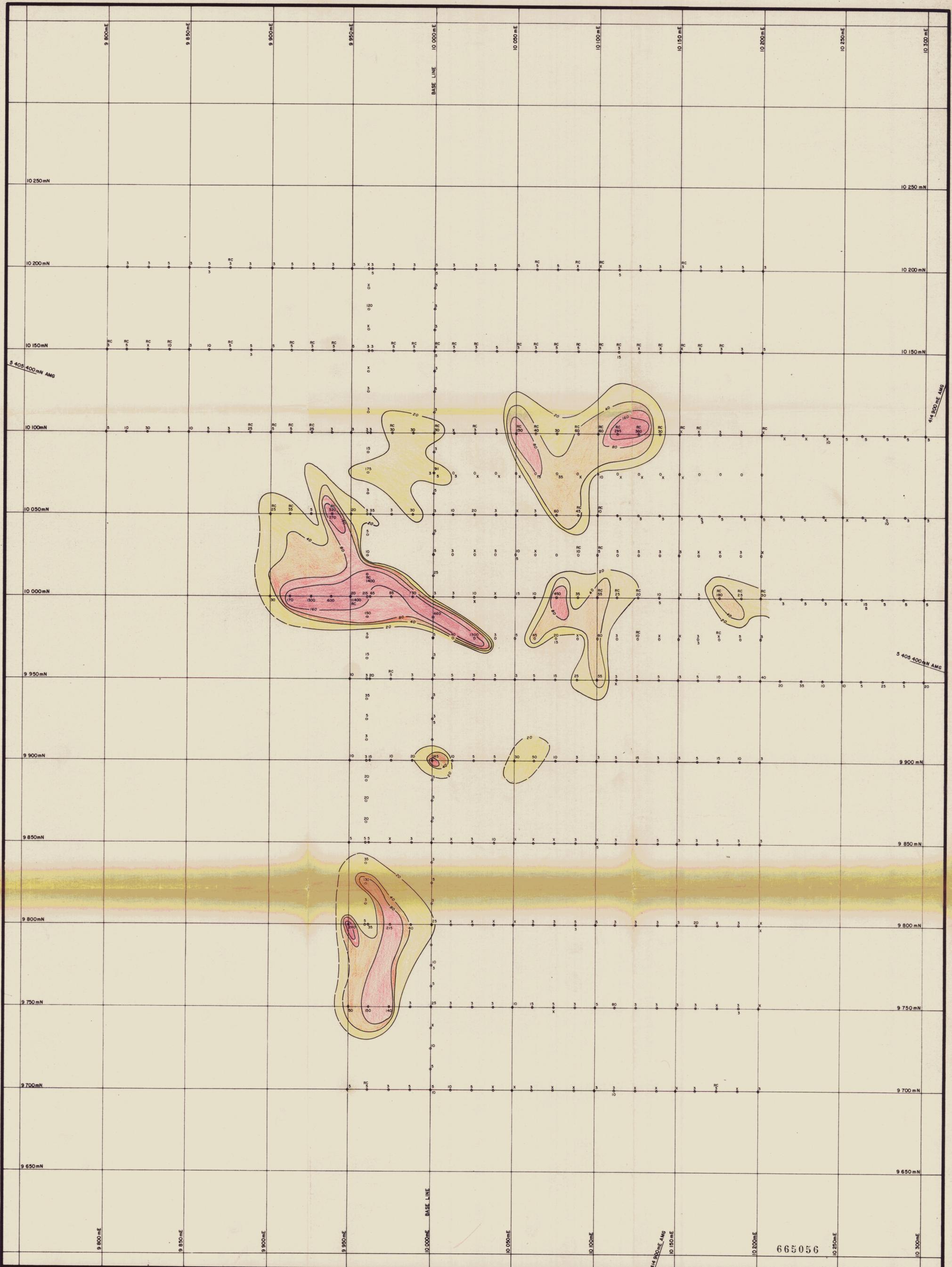
**GEOPEKO**  
 A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

No. TS10/74 M6-2

**E.L. 10/74 BLACK BLUFF**  
**MARINER 6**  
**GEOLOGY**

Plan 4.  
 2439 4

665055



**LEGEND:**

- Hand auger
- SAMPLE POSITION
- DUPLICATE SAMPLE
- X BELOW LEVEL OF DETECTION
- RC ROCK CHIP SAMPLE

**CONTOUR INTERVAL ppb**

19-6	20-39	19-22	180+
19-10	40-79		
19-15	80-159		

Panel No. \_\_\_\_\_

5 cm

663056

**GEOPEKO**  
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

SCALE 1:1000

**No. TS10/74 M6-4**

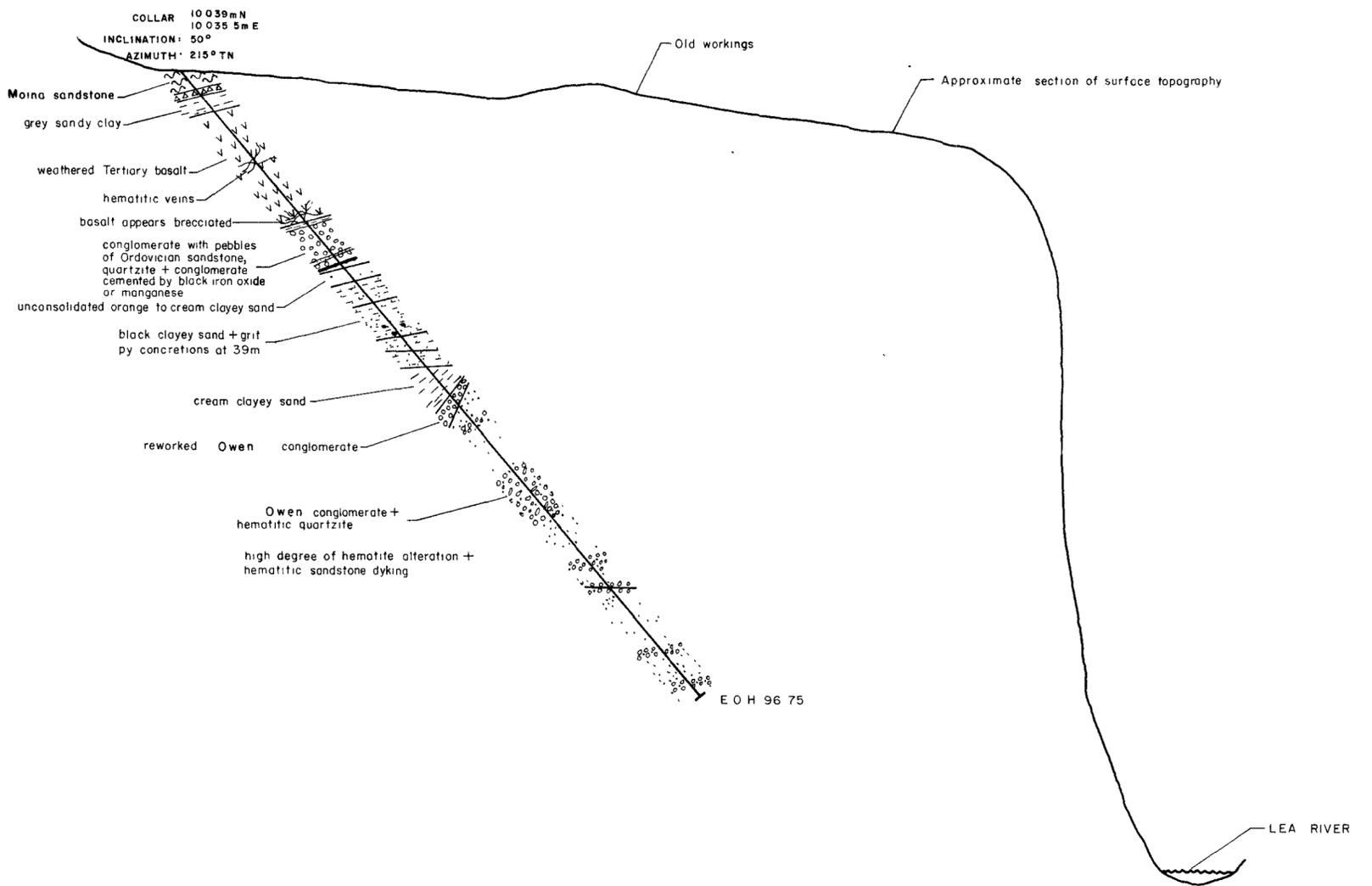
**E.L.10/74 BLACK BLUFF**

**MARINER 6** 2440

**Au Contours** 5

DATE: SEPT. 1981  
GEOLOGIST: J. PEMBERTON  
DRAWN BY: R. TOGSONI  
CHECKED: \_\_\_\_\_

82-1830 Plan 5.



665057

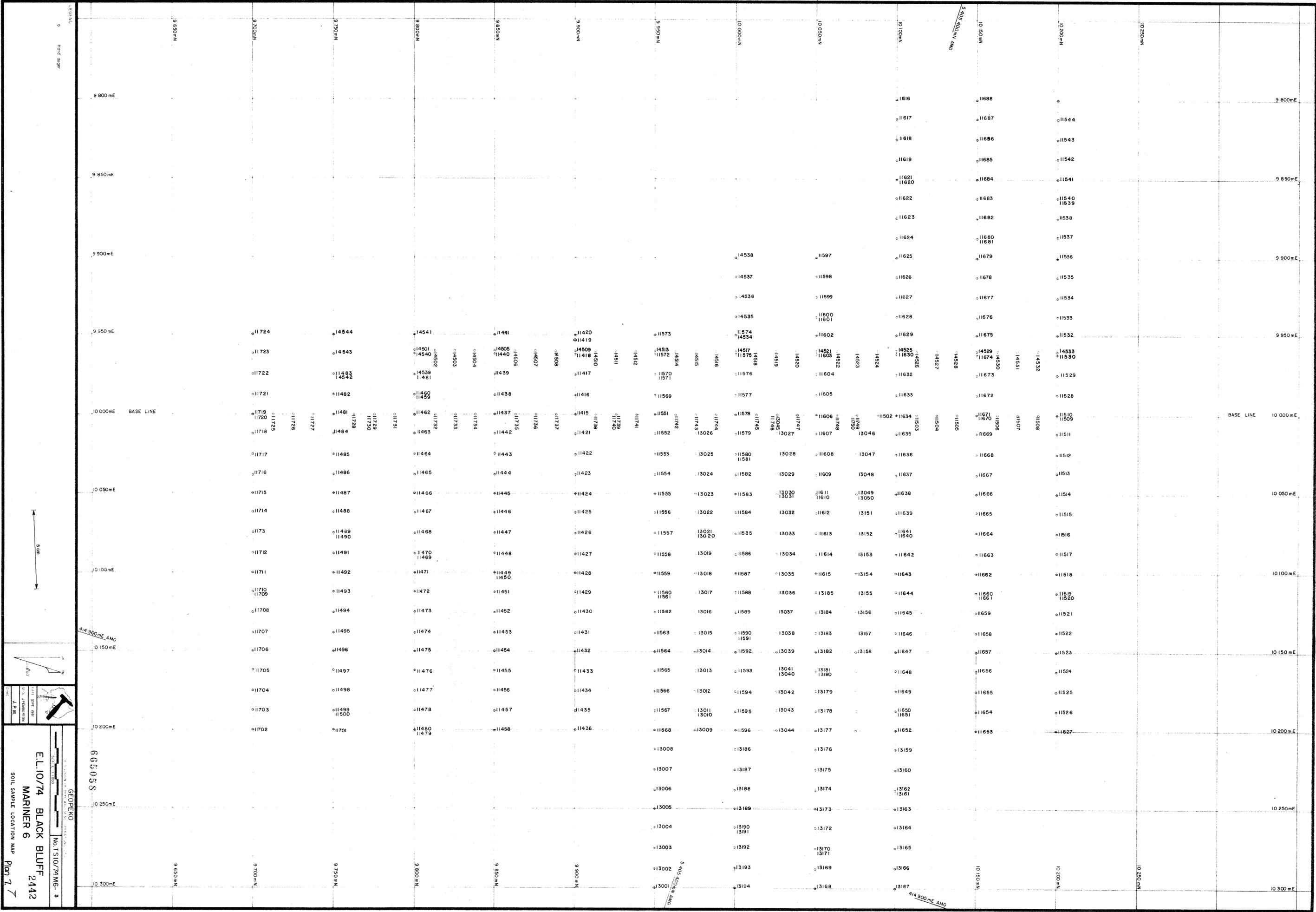


DATE: JULY '82  
GEOLOGIST J P  
DRAWN J P M  
CHECKED

<b>GEOPEKO</b> A DIVISION OF PEKO-WALLSEND OPERATIONS		
SCALE 1:500	No.TS 10/74-M6-5	REP.No.
E.L. 10/74 BLACK BLUFF MARINER 6 DDH I GEOLOGICAL PROFILE 2441 6		

82-1880

Plan 6.



82-1380

E.L.10/74 BLACK BLUFF  
MARINER 6  
2442  
SOIL SAMPLE LOCATION MAP  
Plan 7

GEOFFREY  
No. 1 S10/74 M6-3

665058

9 650mN

9 700mN

9 750mN

9 800mN

9 850mN

9 900mN

9 950mN

10 000mN

10 050mN

10 100mN

10 150mN

10 200mN

10 250mN

10 300mN

9 800mE

9 850mE

9 900mE

9 950mE

10 000mE

10 050mE

10 100mE

10 150mE

10 200mE

10 250mE

10 300mE

9 800mE

9 850mE

9 900mE

9 950mE

10 000mE

10 050mE

10 100mE

10 150mE

10 200mE

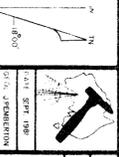
10 250mE

10 300mE

BASE LINE

BASE LINE

5m

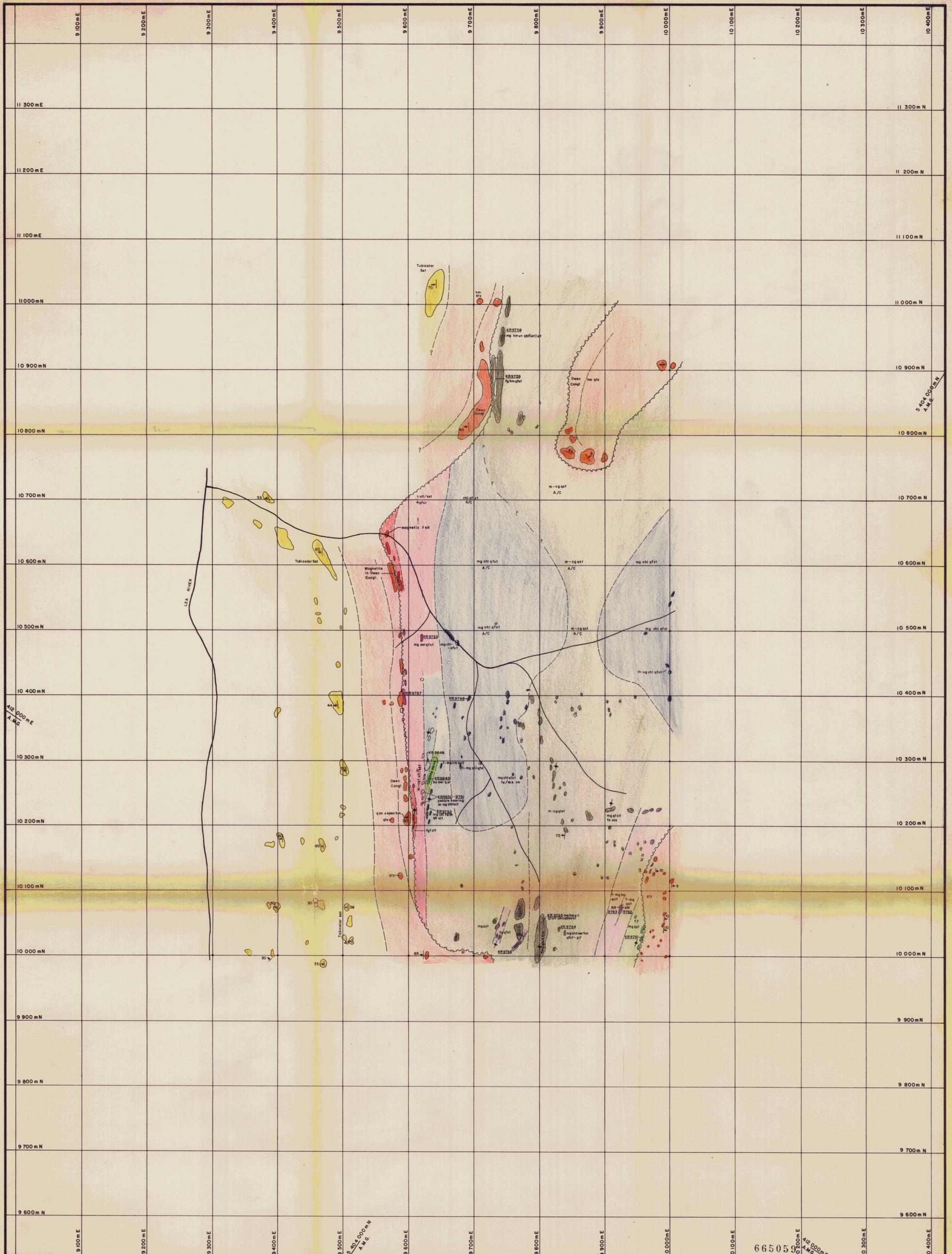


5 405 400mE AMG

4/4 300mE AMG

5 405 400mE AMG

4/4 300mE AMG



**LEGEND**

	Disturbed Tubicolter Sandstone (Mica Set)
	Conglomerate + quartzite (Owen Congl)
	fg tuffaceous siltstone
	m-cg tuffaceous siltstone + sandstone
	f-mg chloritic quartz crystal lithic tuff
	mg quartz porphyritic lava
	mg chloritic quartz biotite crystal lithic tuff
	mg chloritic quartz feldspar crystal tuff
	fg quartz feldspar crystal tuff
	m-cg quartz crystal-lithic component

**STRUCTURAL**

	layering		jointing		vertical jointing		cliff		trench (with depths)		shaft (with depths)		minor gullies		outcrop
	contact		fault		major fault		water way								

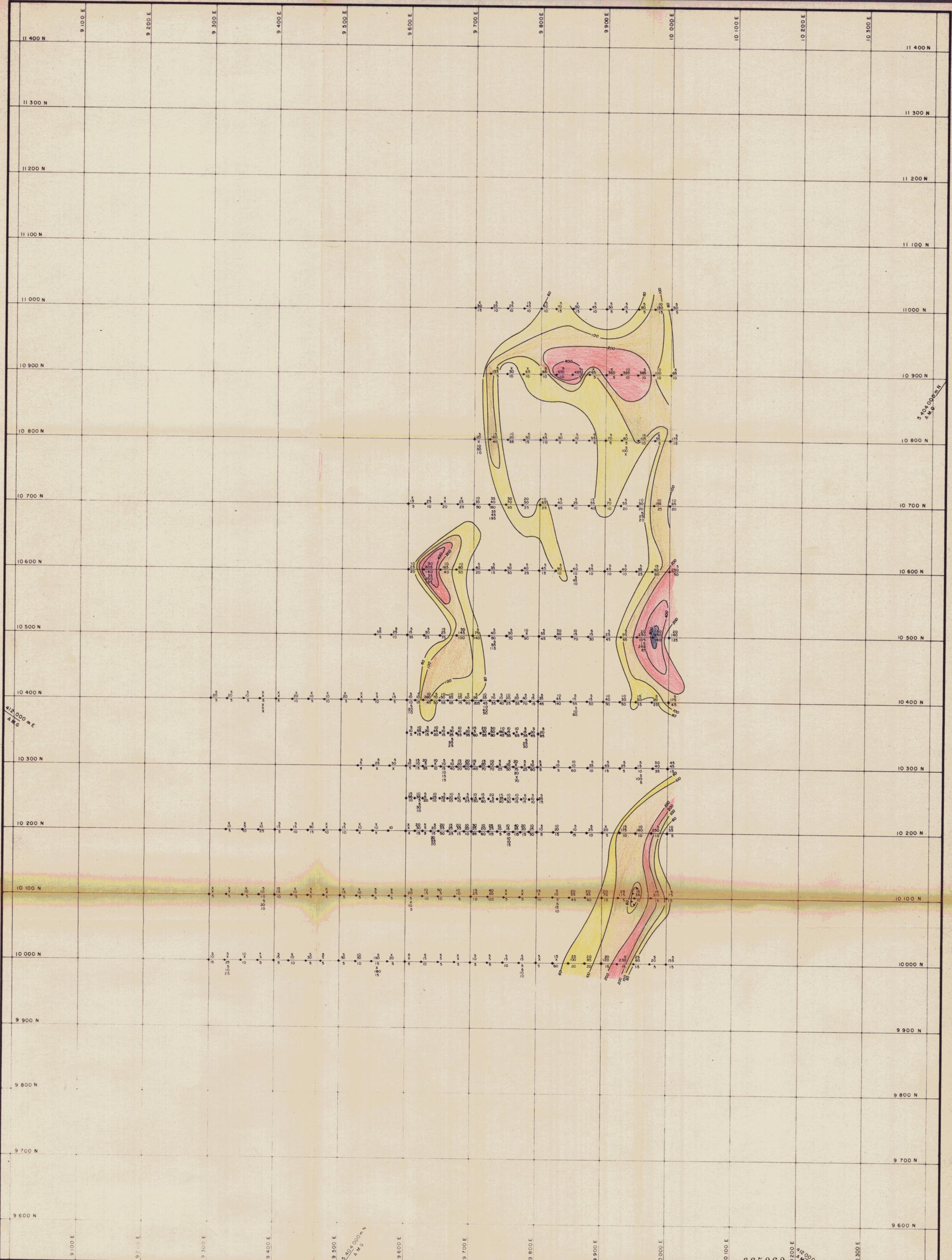
**ORDOVICIAN**

**CAMBRIAN**

665059

DATE 25-1-82  
GEOLOGIST J.P.  
DRAWN M.V.S.  
CHECKED

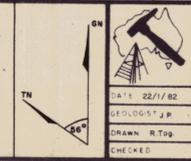
**GEOPEKO**  
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.  
No. TS 10/74 M7-2  
E.L. 10/74 BLACK BLUFF  
MARINER 7  
GEOLOGY  
2443  
Plan 8



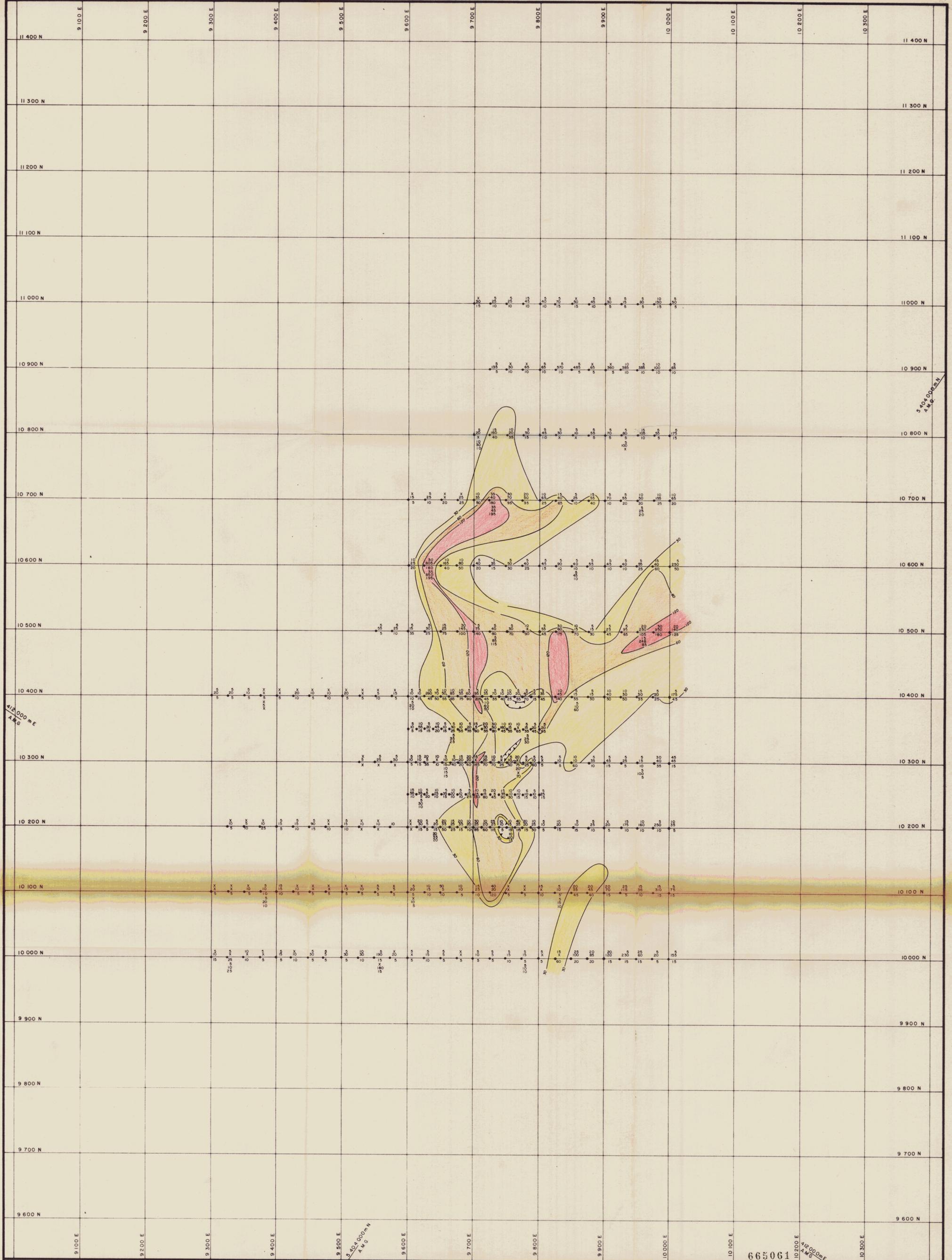
LEGEND  
 Grid position  
 ● Power auger  
 ○ Hand auger  
 ✕ Power hand auger/mate  
 20 Cu ppm  
 15 Pb ppm  
 10 Zn ppm  
 10.1 DUPLICATE SAMPLE  
 NS NO SAMPLE  
 X BELOW LEVEL OF DETECTION

CONTOUR INTERVAL  
 10-59 60-99 100-199 200-399 400-799 800 C  
 2 30.0 100.0 mg  
 4 mg

5 cm



665060  
 412 000 m E  
 10 200 E  
 10 300 E  
 GEOPEKO  
 A DIVISION OF PEAC-WALLSLEY OPERATIONS LTD.  
 No TS10/74 M7-5  
 E.L. 10/74 BLACK BLUFF  
 MARINER 7  
 GEOCHEMISTRY RESULTS  
 Cu [Pb] Zn  
 2444  
 9  
 82-1880  
 Plan 9



11 400 N  
 11 300 N  
 11 200 N  
 11 100 N  
 11 000 N  
 10 900 N  
 10 800 N  
 10 700 N  
 10 600 N  
 10 500 N  
 10 400 N  
 10 300 N  
 10 200 N  
 10 100 N  
 10 000 N  
 9 900 N  
 9 800 N  
 9 700 N  
 9 600 N

9 100 E  
 9 200 E  
 9 300 E  
 9 400 E  
 9 500 E  
 9 600 E  
 9 700 E  
 9 800 E  
 9 900 E  
 10 000 E  
 10 100 E  
 10 200 E  
 10 300 E

11 400 N  
 11 300 N  
 11 200 N  
 11 100 N  
 11 000 N  
 10 900 N  
 10 800 N  
 10 700 N  
 10 600 N  
 10 500 N  
 10 400 N  
 10 300 N  
 10 200 N  
 10 100 N  
 10 000 N  
 9 900 N  
 9 800 N  
 9 700 N  
 9 600 N

9 100 E  
 9 200 E  
 9 300 E  
 9 400 E  
 9 500 E  
 9 600 E  
 9 700 E  
 9 800 E  
 9 900 E  
 10 000 E  
 10 100 E  
 10 200 E  
 10 300 E

665061  
 GEOPEKO  
 A DIVISION OF REO-WALLING OPERATIONS LTD  
 No. TS 10/74 M7-6  
 E.L 10/74 BLACK BLUFF 2445  
 MARINER 7  
 GEOCHEMISTRY RESULTS  
 Cu, Pb Zn  
 DATE 22/1/82  
 GEOLOGIST J.P.  
 DRAWN R.Tog  
 CHECKED  
 5 cm  
 10

CONTOUR INTERVAL

Contour No.	ppm
15-6	30-59
19-10	60-119
19-15	120 <

20 — Cu ppm  
 15 — Pb ppm  
 10 — Zn ppm  
 15 10 — DUPLICATE SAMPLE  
 NS — NO SAMPLE  
 x — BELOW LEVEL OF DETECTION

Grid position  
 Power auger  
 Hand auger  
 Power hand auger/mate

412,000 mE  
AMG

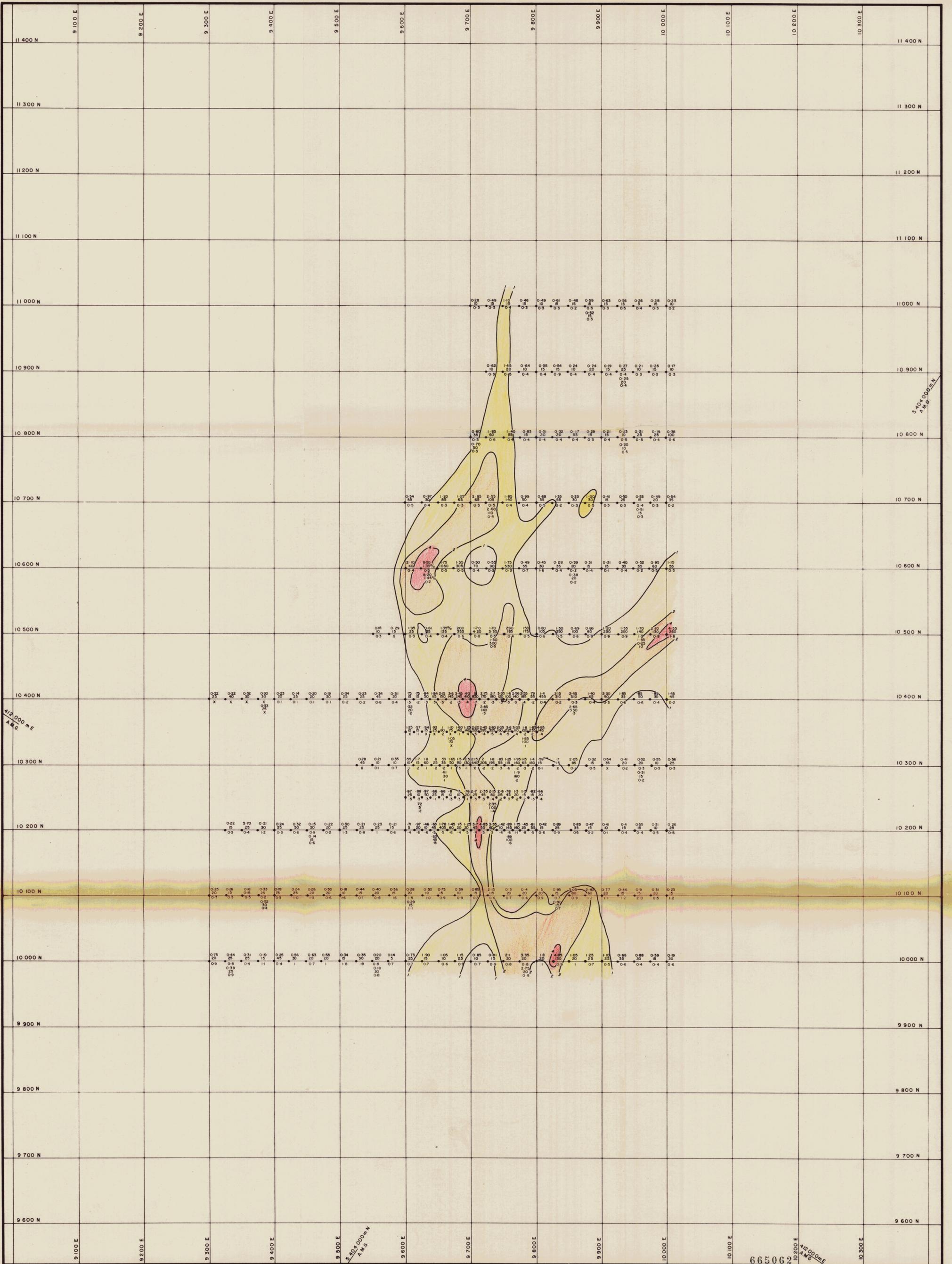
5 40 000 mE  
AMG

665061

GEOPEKO  
 A DIVISION OF REO-WALLING OPERATIONS LTD  
 No. TS 10/74 M7-6  
 E.L 10/74 BLACK BLUFF 2445  
 MARINER 7  
 GEOCHEMISTRY RESULTS  
 Cu, Pb Zn

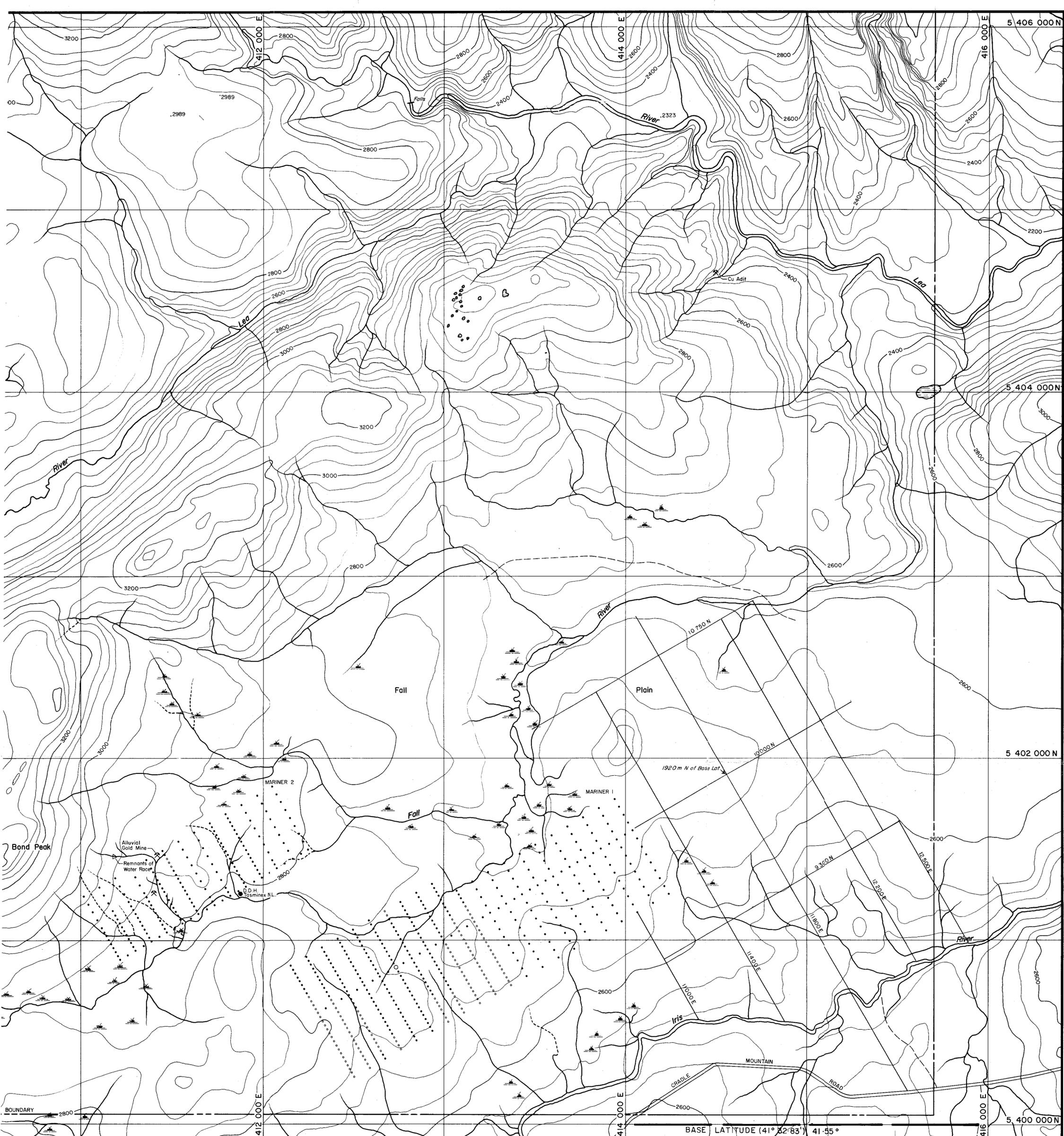
32-1880

Plan 10.



<b>LEGEND:</b> Grid position Power auger Hand auger Power hand auger/mate	0.7 — Fe % 10 — Mn ppm 10 — Ag ppm 0.7 — Duplicate sample 10 — Duplicate sample	NS NO SAMPLE x BELOW LEVEL OF DETECTION	<b>CONTOUR INTERVAL</b> Panel No. 19-6 1% 19-10 2% 19-15 4% 19-22 8%	5 cm		<b>GEOPEKO</b> A DIVISION OF PERD-WALLSEND OPERATIONS LTD. No TS 10/74 M7-8 <b>E.L 10/74 BLACK BLUFF</b> <b>MARINER 7</b> <b>GEOCHEMISTRY RESULTS 2446</b> <b>Fe, Mn, Ag</b>
	DATE 26/1/82 GEOLOGIST J.P. DRAWN M.v.S. CHECKED	665062 10 200 E 10 300 E 10 000 E 10 100 E 10 200 N 10 300 N 10 400 N 10 500 N 10 600 N 10 700 N 10 800 N 10 900 N 11 000 N 11 100 N 11 200 N 11 300 N 11 400 N	9 100 E 9 200 E 9 300 E 9 400 E 9 500 E 9 600 E 9 700 E 9 800 E 9 900 E 10 000 E 10 100 E 10 200 E 10 300 E	9 600 N 9 700 N 9 800 N 9 900 N 10 000 N 10 100 N 10 200 N 10 300 N 10 400 N 10 500 N 10 600 N 10 700 N 10 800 N 10 900 N 11 000 N	32-1880 Plan 11.	





  
 DATE: \_\_\_\_\_  
 GEOLOGIST: \_\_\_\_\_  
 DRAWN: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_

**GEOPEKO**  
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD

SCALE: 1:10,000

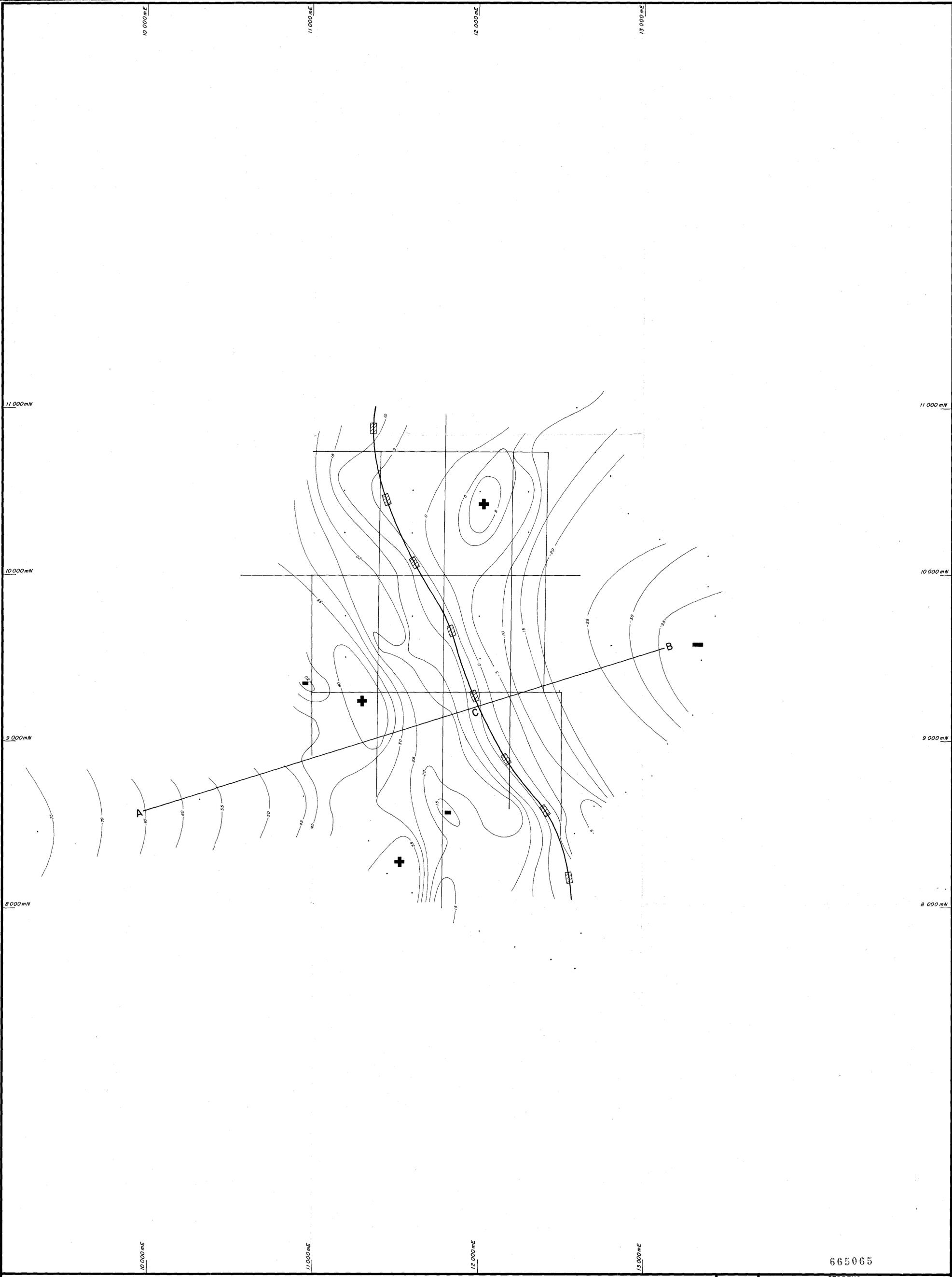
665064

**E.L. 10/74**  
**BLACK BLUFF, TASMANIA**  
MARINER 3/5 GRID PLAN

No. KTIO/74-3

KTIO/74-1	2448
KTIO/74-2	KTIO/74-3

PLAN I

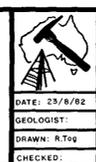


665065

INSTRUMENTS - Worden No. 61  
 Worden No. 592  
 OBSERVERS - J.D.H.S.  
 R.C.S.  
 BASE PEG - 11800E/10000N  
 CONT. INT. - 5mmsec<sup>2</sup>  
 BOUGUER DENSITY - 2.670 kg m<sup>-3</sup>

Profile data manually smoothed before contouring.  
 Not Terrain corrected.  
 — Data collected on profiles  
 • Other stations  
 Station spacing 100m  
 ▭ Inferred Gravity Contact

5 cm

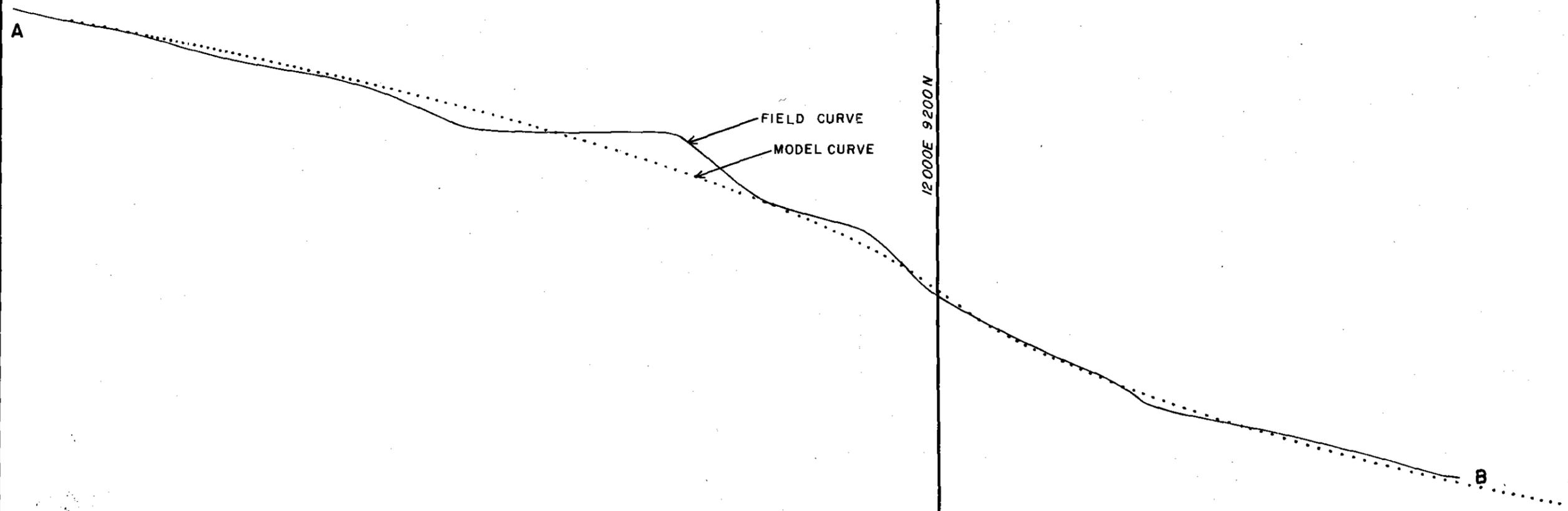
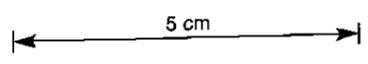


GEOPEKO  
 A DIVISION OF PERU-WALLSEND OPERATIONS LTD.  
 SCALE 1:10 000  
 No.TS 1/77-M5-1 REP.No. 2  
 DATE: 23/8/82  
 GEOLOGIST:  
 DRAWN: R.T.G.  
 CHECKED:  
**E.L.10/77 BLACK BLUFF**  
**MARINER 5**  
**CONTOURS OF BOUGUER GRAVITY**  
**ANOMALY** 2449



BOUGUER GRAVITY

SCALE = 10·000gu/cm



665066

**GEOPEKO**  
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD

DATE NOV 82 DWN J. P. M.  
GEOPH. J. S. CHKD

100 0 100 200 300m

82-1880

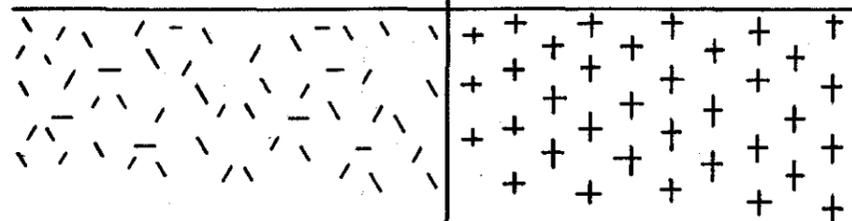
File No. E.L.10/74 M6-2

E.L. 10/74 BLACK BLUFF  
MARINER 5 2450

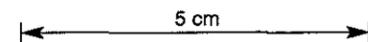
PROFILE A-B  
FIELD AND COMPUTED  
GRAVITY PROFILE

FIG. 3

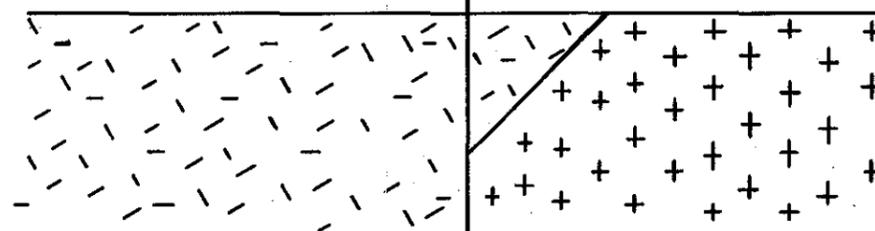
Ⓐ



BOUGUER GRAVITY SCALE = 10·000gu/cm



Ⓑ

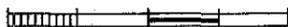


FROM CASE B  
FROM CASE A

665067

**GEOPEKO**  
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD

DATE NOV82 DWN J.P.M.  
GEOPH. J.S. CHKD



82-1880

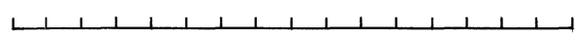
File No. E.L./10/74 M5-3

E.L.10/74 BLACK BLUFF  
MARINER 5 2451  
EFFECT OF LOCAL IRREGULARITIES  
OF CONTACT ON COMPUTED GRAVITY

FIG. 4

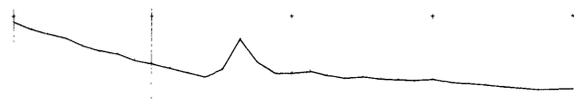
82-1880

62 000 nT



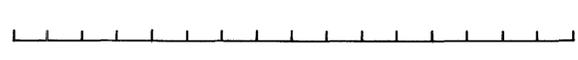
LINE 10200 N

61 500 nT

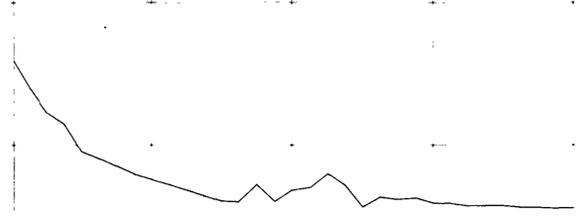


LINE 10150 N

62 000 nT

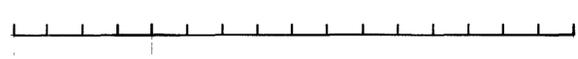


61 500 nT



LINE 10100 N

62 000 nT



61 500 nT



LINE 10050 N

62 000 nT

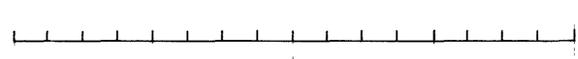


61 500 nT



LINE 10000 N

62 000 nT



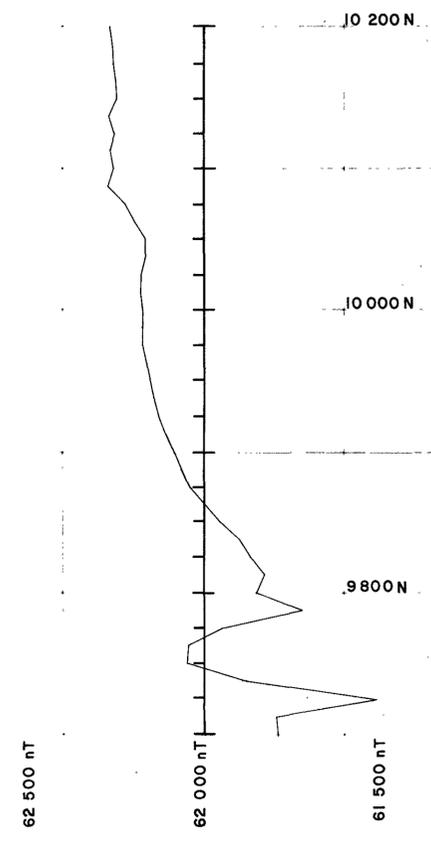
61 500 nT

9 800 N

10 000 N

10 200 N

LINE 10 000 E (Base line)



10 200 N

10 000 N

9 800 N

62 500 nT

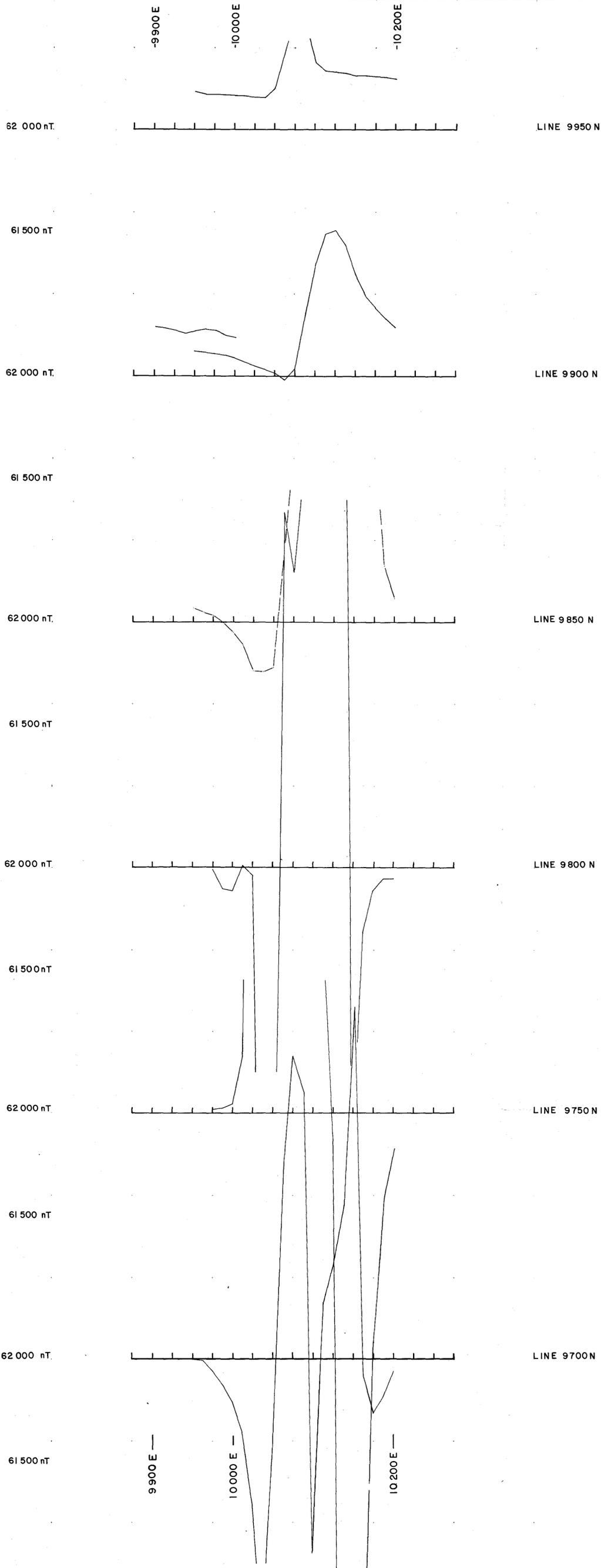
62 000 nT

61 500 nT

665068



GEOPEKO A DIVISION OF PEKO-WALL-SENE OPERATIONS LTD	
SCALE	No TS 10/74-M6-6 PLAN No. 5
E.L. 10/74 BLACK BLUFF 2452 MARINER 6	
MAGNETIC INTENSITY PROFILES	
Sheet 1	



665069

GEOPEKO

No TS 10/74 M6-7 PLAN No 6

E.L. 10/74 BLACK BLUFF 2453  
MARINER 6

MAGNETIC INTENSITY PROFILES

Sheet 2

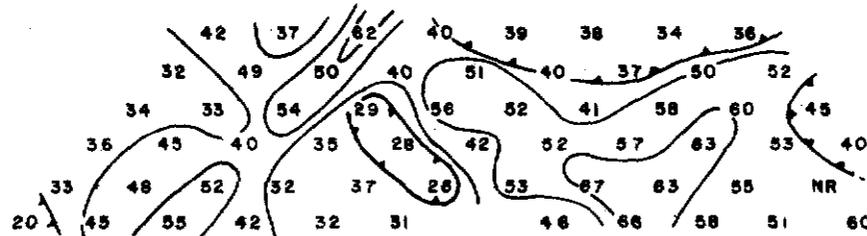


DATE: NOV 82  
GEOPH. J.S.  
J.P.M.

051

BLACK BLUFF PSEUDOSECTION OF DIPOLE-DIPOLE I.P./RES. MARINER 6

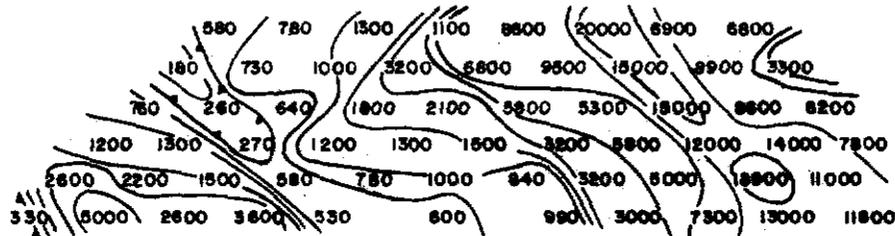
7# 1  
7# 2  
7# 3  
7# 4  
7# 5  
7# 6



APPARENT  
CHARGEABILITY  
mV/V

CONTOUR INT.  
18 mV/V

7# 1  
7# 2  
7# 3  
7# 4  
7# 5  
7# 6



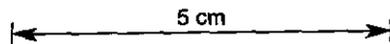
APPARENT  
RESISTIVITY  
Ohm m

CONTOUR INT.  
LOGARITHMIC

7# 1  
7# 2  
7# 3  
7# 4  
7# 5  
7# 6

LINE 10100 N

SCALE 1:2500 Date SEPT. 1981 Re IPR-6 T<sub>sp</sub> 2.5kV Obs I.O. Dipole= 25 m



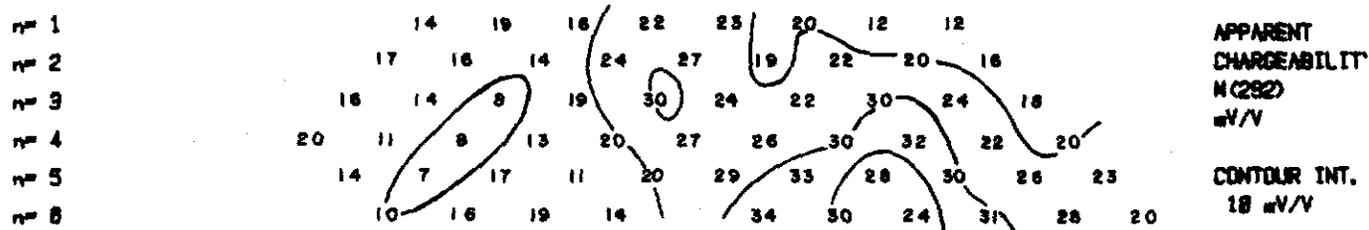
7a

665070

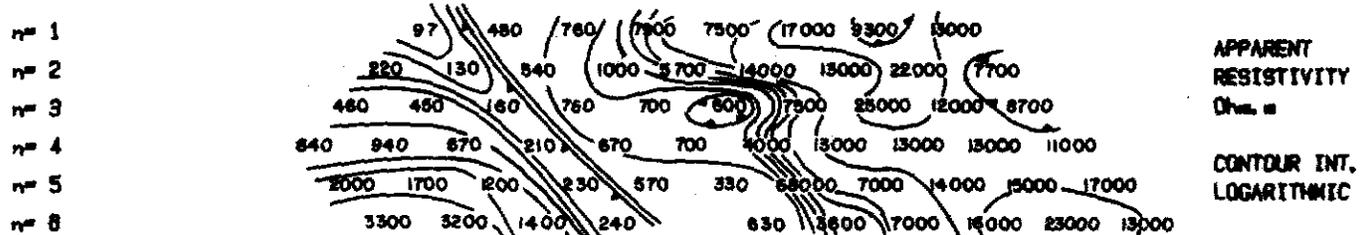
82-1880

052

BLACK BLUFF PSEUDOSECTION OF DIPOLE-DIPOLE I. P. / RES. MARINER 8



APPARENT CHARGEABILITY (nC292) mV/V  
CONTOUR INT. 18 mV/V

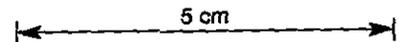


APPARENT RESISTIVITY Ohm.m  
CONTOUR INT. LOGARITHMIC

n=1  
n=2  
n=3  
n=4  
n=5  
n=6

LINE 10050 N

SCALE 1:2500 Date SEPT. 1981 Re IPR-8 T<sub>xy</sub> 2.5kV Obs I.O. Dipole= 25 m



76

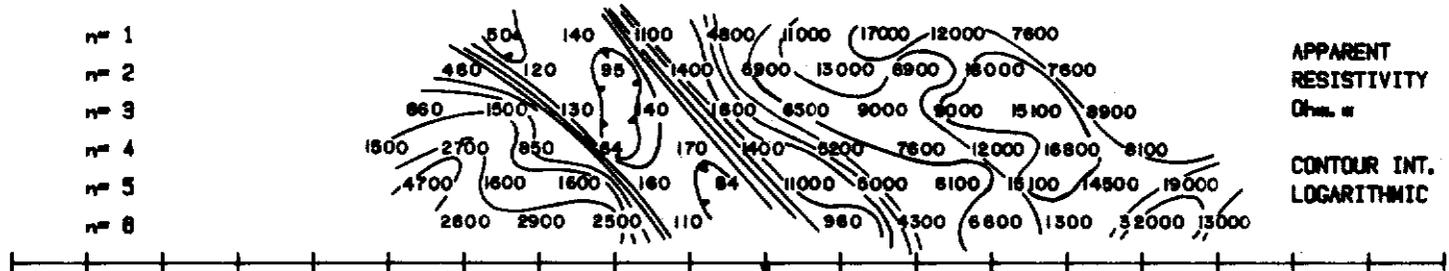
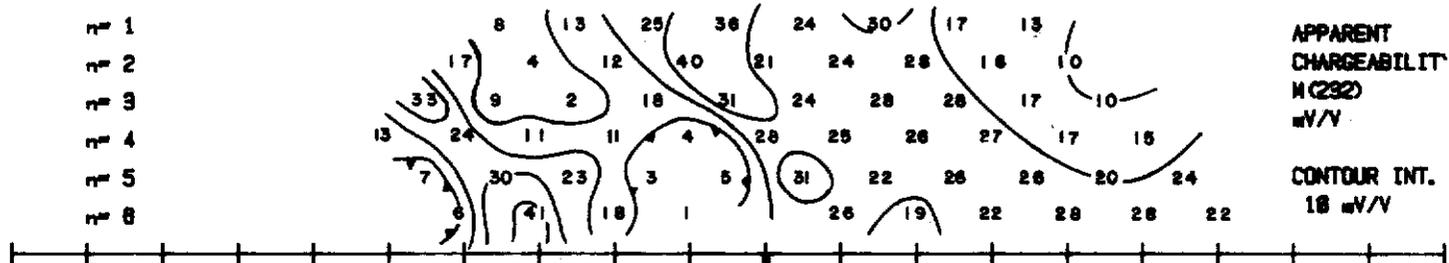
665071

82-1880

053

BLACK BLUFF

PSEUDOSECTION OF DIPOLE-DIPOLE I. P./RES. MARINER 6

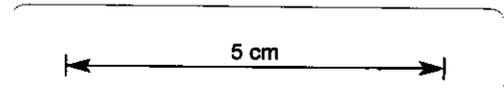


1  
2  
3  
4  
5  
6

LINE 10000 N

SCALE 1:2500 Date SEPT. 1981 Res IPR-8 T<sub>sp</sub> 2.5kV Obs I.O. Dipole= 25 m

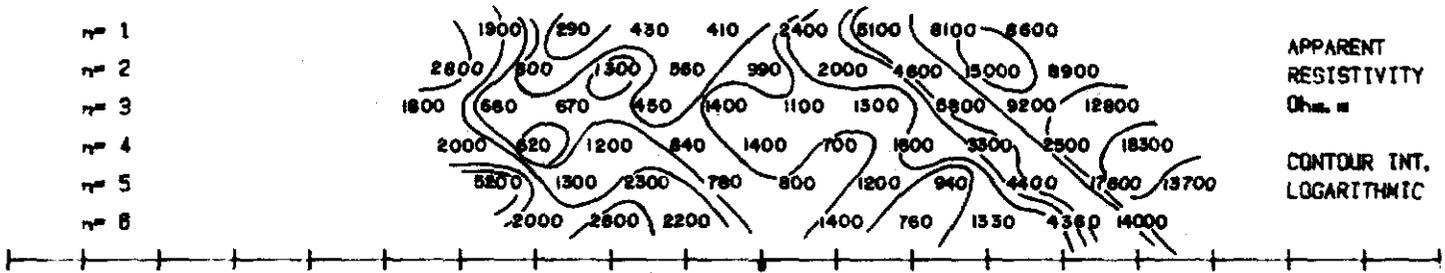
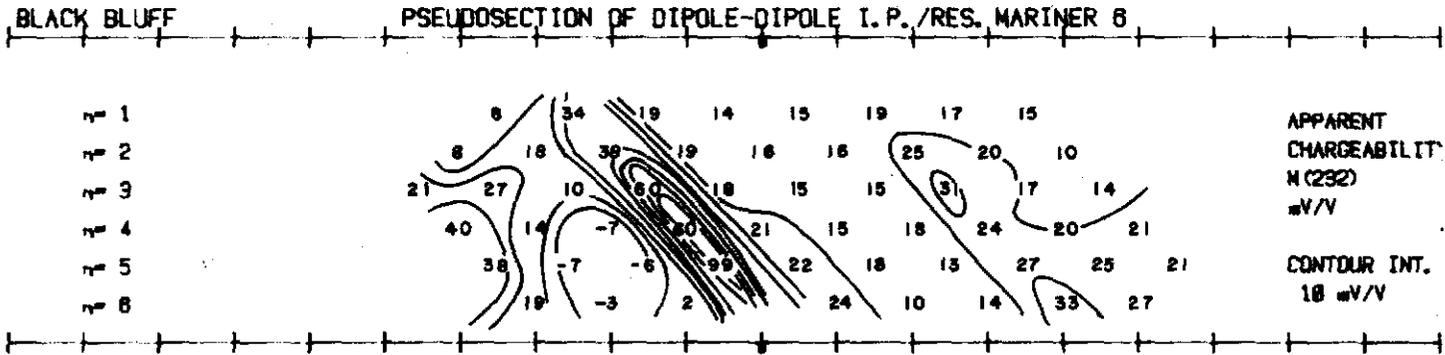
Tc



665072

82-1880

054

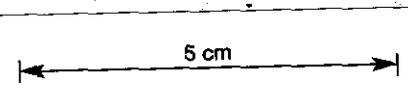


7 1  
7 2  
7 3  
7 4  
7 5  
7 6

LINE 9 950 N

SCALE 1:2500 Date SEPT, 1981 Ra IPR-8 Tap 2.5kV Obs I.O. Dipole= 25 m

7d



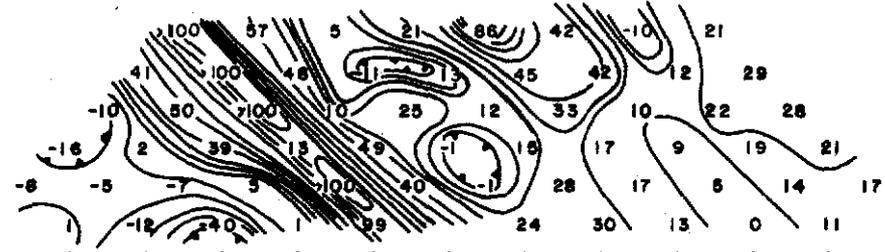
82-1880

665073

055

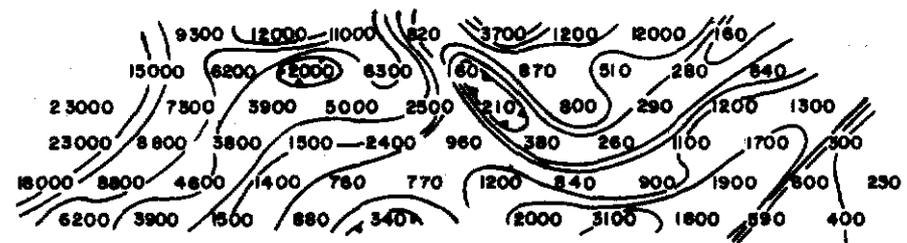
BLACK BLUFF PSEUDOSECTION OF DIPOLE-DIPOLE I.P./RES. MARINER 6

1  
2  
3  
4  
5  
6



APPARENT CHARGEABILITY (282) mV/V  
CONTOUR INT. 10 mV/V

1  
2  
3  
4  
5  
6



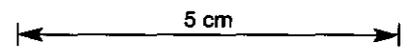
APPARENT RESISTIVITY (Ohm m)  
CONTOUR INT. LOGARITHMIC

1  
2  
3  
4  
5  
6

LINE 9960 E

SCALE 1:2500 Date SEPT. 1981 Re IPR-6 T<sub>sp</sub> 2.5kV Obs I.O. Dipole= 25 m

*Te*



665074

82-1880

058

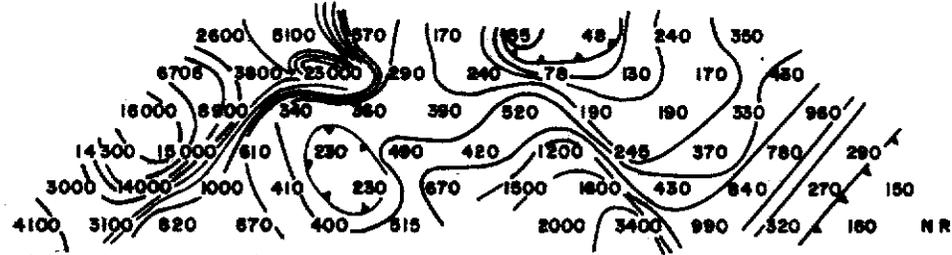
BLACK BLUFF PSEUDOSECTION OF DIPOLE-DIPOLE I.P./RES. MARINER 6

1  
2  
3  
4  
5  
6



APPARENT CHARGEABILITY (282) mV/V  
CONTOUR INT. 18 mV/V

1  
2  
3  
4  
5  
6



APPARENT RESISTIVITY Ohm.m  
CONTOUR INT. LOGARITHMIC

N 9006

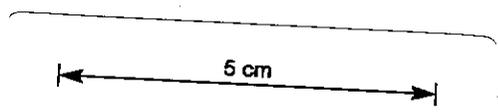
N 10000

N 10101

LINE 10000 E

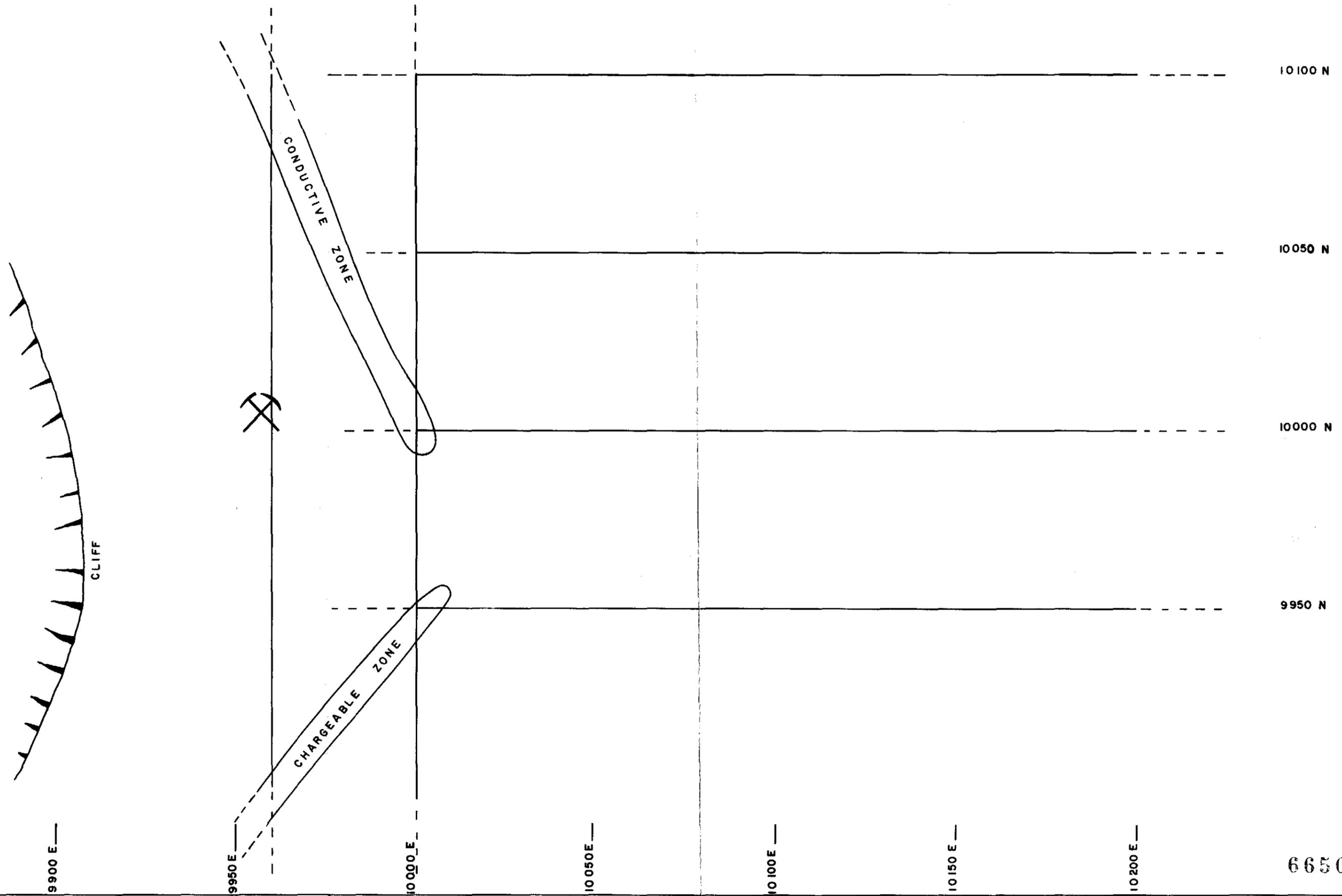
SCALE 1:2500 Date SEPT. 1981 Res IPR-8 T<sub>0</sub> 2.5m Obs I.O. Dipole 25 m

7 F



82-1880

665075



10100 N

10050 N

10000 N

9950 N

9900 E

9950 E

10000 E

10050 E

10100 E

10150 E

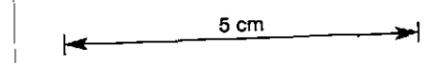
10200 E

665076

**GEOPEKO**  
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD

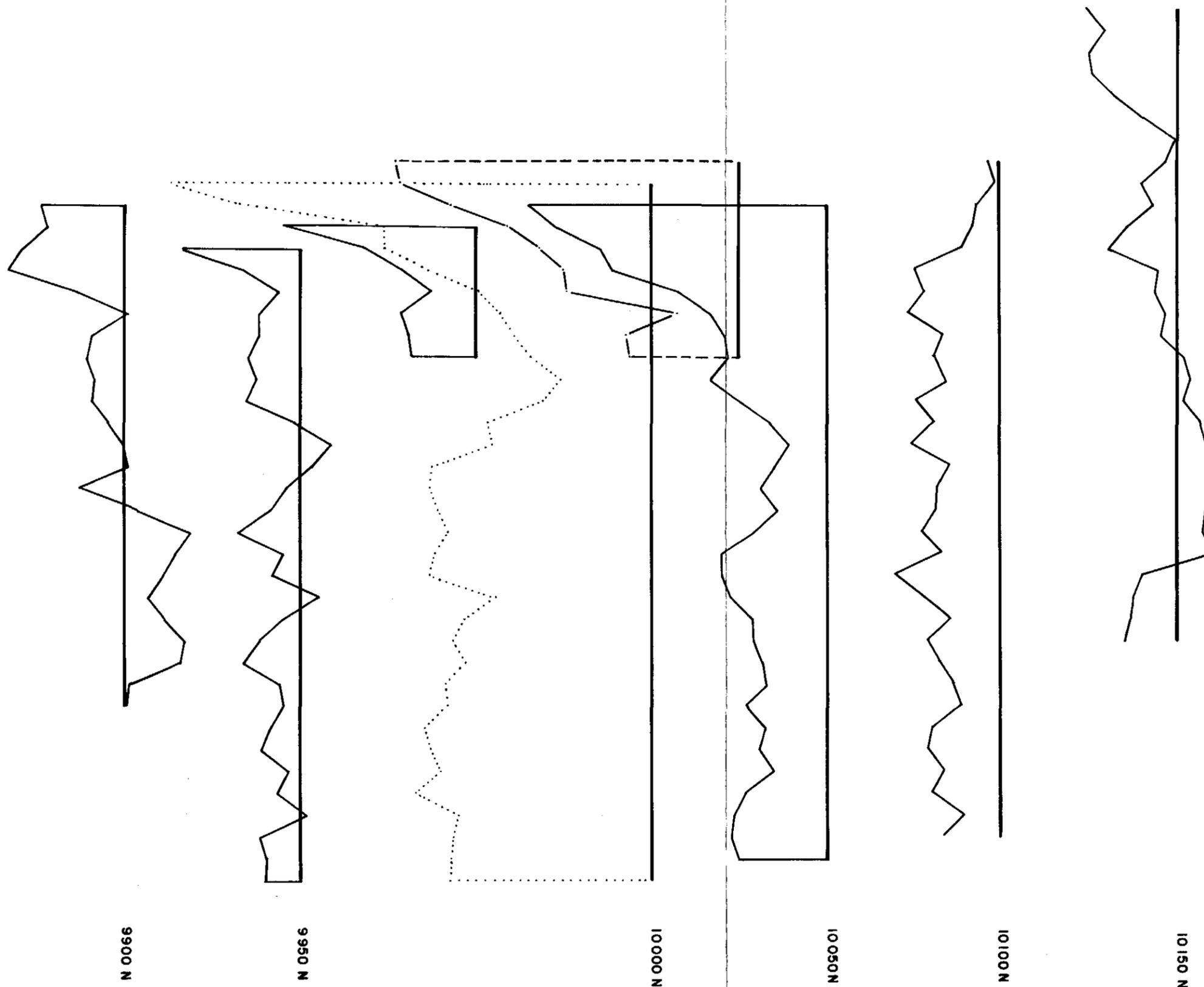
DATE NOV '82 DWN J.P.M.  
GEOPHJ. S CHKD

1:1000



E.L. 10/74 BLACK BLUFF 2454  
MARINER 6  
INTERPRETATION DIAGRAM

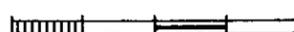
82-1880



665077

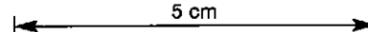
**GEOPEKO**  
A DIVISION OF PEKO-WALLSEND OPERATIONS LTD

DATE NOV '82 DWN J.P.M.  
GEOPH. J.S. CHKD



HORIZ. SCALE : 1cm / 25m  
VERT SCALE : 1cm / 20 mv

5 cm



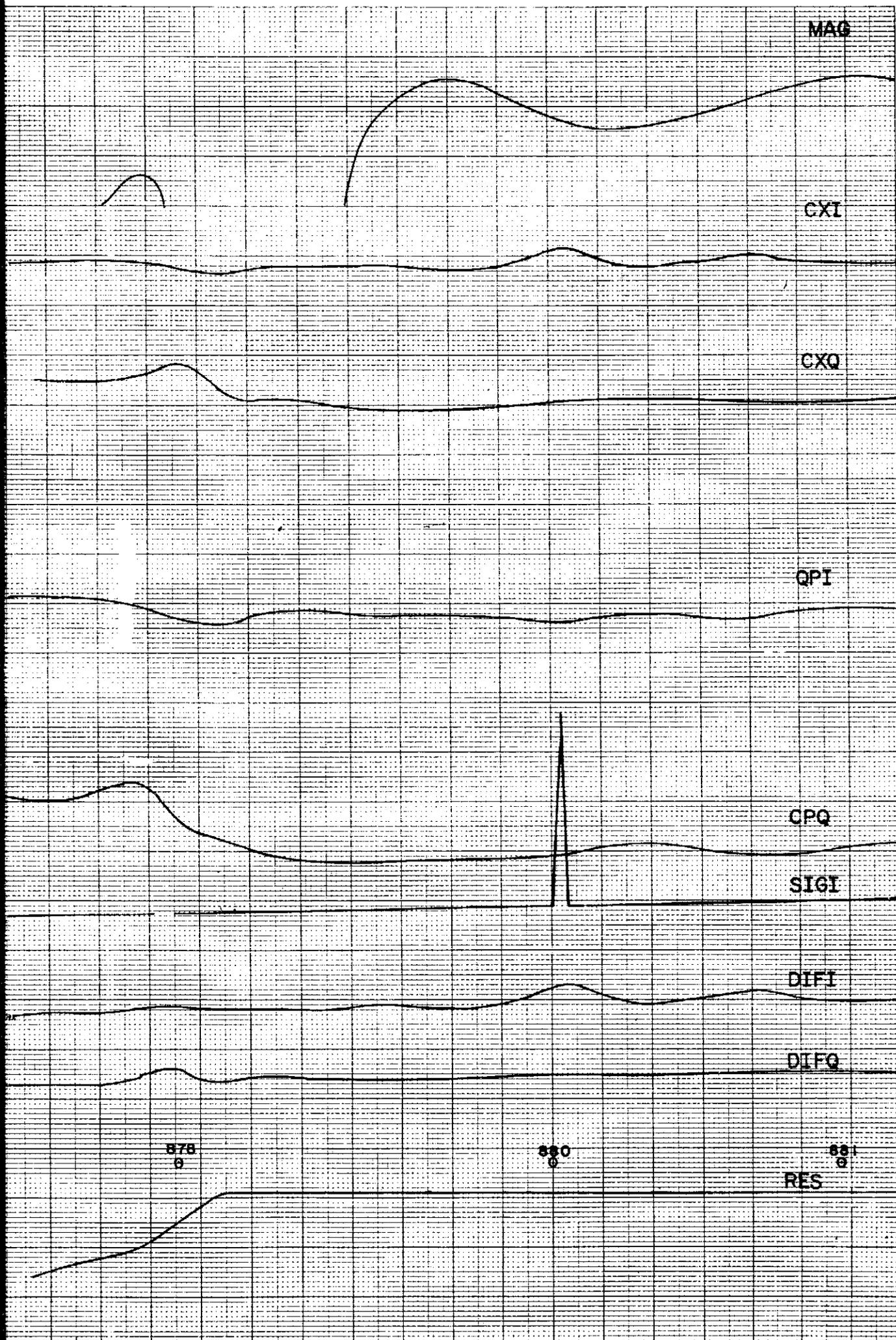
82-1880

E.L.10/74 BLACK BLUFF  
MARINER 6 2455  
PROFILES OF SELF POTENTIAL

FIG. 9

057

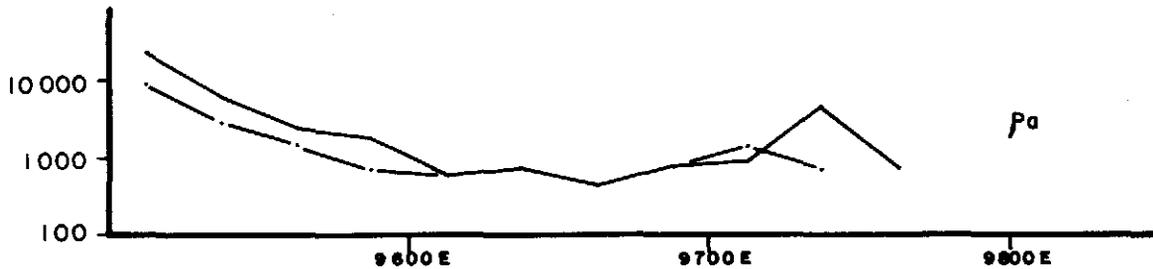
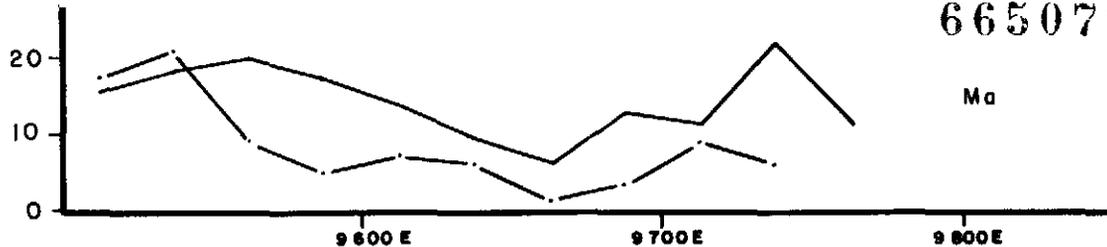
665078



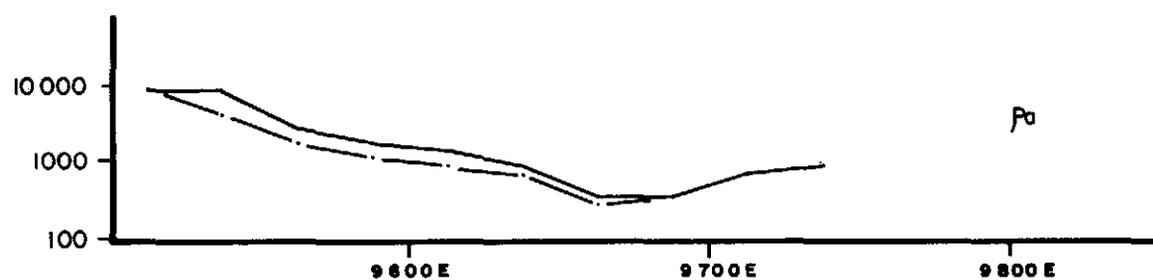
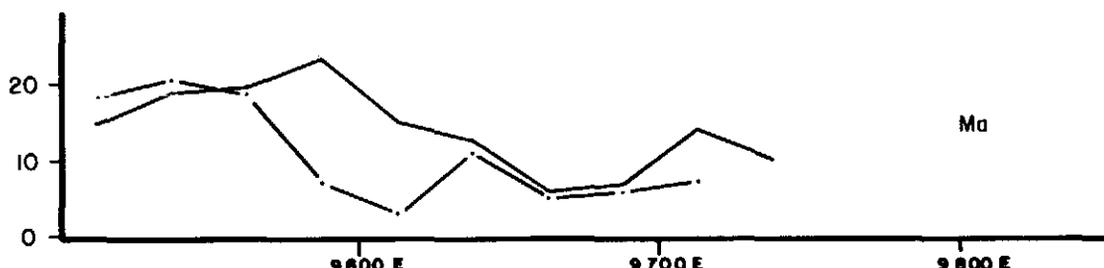
U50

665079

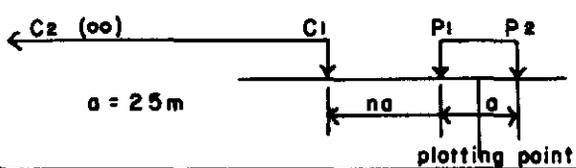
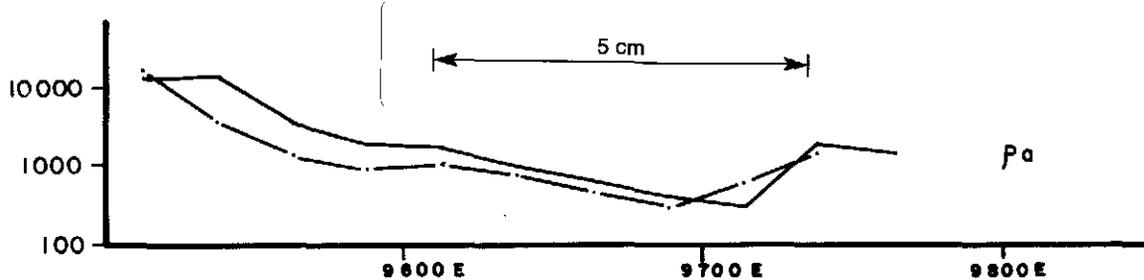
LINE 10350 N



LINE 10300 N



LINE 10250 N



————— n=1  
 - - - - - n=2  
 Note: - Chargeability plotted is slice with mean delay time of 910m<sup>s</sup> (M<sub>232</sub>)

INST: Tx-Huntec 2.5 kw, Rx- Scintrex IPR-8		OBS.: I.O.	DATUM: Ma 0mv/v, pa 100 Ohm m
 A DIVISION OF PEKO-WALLSEND OPERATIONS LTD		E.L. 10/74 BLACK BLUFF MARINER 7	
DATE NOV 82	DWN J.P.M.	HORIZ SCALE 1:2500 VERT SCALE Ma 1cm=10mv/v. Pa-log.	
GEOPH. J.S.	CHKD		PROFILES OF IP/ RESISTIVITY 42-1880
			FIG. 11