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E.L. 2/63 AND E.L. 18/73

**MICROFILMED**

MT. LINDSAY AREA

WESTERN TASMANIA

ANNUAL REPORT  
1976-77

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by: A. ROSS  
GEOLOGIST

May 11th, 1977.

AMG REFERENCE POINTS ADDED

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1. SUMMARY

Exploration by means of diamond drilling continued during 1976-77.

1. E.L. 2/63. Follow-up drilling of the No. 2. Anomaly Zone, S.E. of the Mt. Lindsay Mine, outlined a significant carbonate horizon. Encouraging tin values were obtained from one hole.
2. E.L. 18/73. Diamond drilling of an anomalous zone encountered two carbonate horizons.

Further work, including diamond drilling of the No. 2 Anomaly and the Main Ore Zones, is proposed for 1977-78.

\$152,000 were spent in the area during the year bringing total expenditure since October 1972 to \$590,800

A total budget of \$175,000 is proposed for 1977-1978. Of this \$148,000 is proposed for completion of a 2100m, 4 hole drilling programme on E.L. 2/63; and \$27000 for one hole, 300m, on E.L. 18/73.

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2. INTRODUCTION ( Refer D'wg MLP 23)

E.L. 2/63 (75 sq. km) and E.L. 18/73 (21 sq. km), Western Tasmania, cover a NW trending belt of Cambrian - Pre Cambrian sediments/ultrabasics intruded by stanniferous Devonian Granite.

Economic replacement and/or fault infilled Sn, W, Cu deposits occur in similar geological environments at:

- (a) Renison Bell (Sn). Hydrothermally replaced carbonate horizons and faults.
- (b) Cleveland (Sn, Cu). Hydrothermal replacement of chert, carbonate lenses.
- (c) King Island (W) Metasomatic replacement of limestone horizons(skarns).
- (d) Mt. Bischoff (Sn). From 1891-1921, 60,500 tonnes Sn Concentrates was produced from hydrothermal replacement sulphide ores in faults and carbonate horizons.

Since 1972, Renison Limited has explored for tin replacement deposits in the Pieman River - Mt. Lindsay area.

Prior to 1972, and mainly from 1963 to 1970, Aberfoyle Tin Development Partnership prospected the old Mt. Lindsay Tin Mine - a group of shallow workings from which 120 tonnes of tin in concentrates was produced from 1911 to 1930.

The Mt. Lindsay Lode is a metasomatic replacement deposit within the contact aureole of the Meredith Granite.

This report reviews the results of continued exploration in the Mt. Lindsay Mine environs, carried out from November 1976 to March 1977. Proposals for further work are outlined.

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3. LEASE TENURE

3.1 E.L. 18/73 is held by Renison Limited and is subject to a Joint Venture Agreement between Renison and Consolidated Goldfields of Australia Limited (C.G.F.A)

3.2 E.L. 2/63 is held by Aberfoyle Limited and is subject to a Joint Venture Agreement between Renison, C.G.F.A. and the Abminco Group of companies.

Renison Limited is the operator for both licences.

4. ACCESS

Access to and within the E.L.'s is severely restricted by rugged terrain, high rainfall and the Pieman River. Consequently, annual exploration activity has been confined to the period November through to March.

A 4 W-D track connects Mt. Lindsay area with Renison Bell. During the year, two Government programmes were commenced which will improve regional access in the area:

(a) As part of the Pieman Hydro-Electric Power Scheme a new 46km road will be built along the northern side of the Pieman River. It is anticipated that the H.E.C. Road will progress to the Mt. Lindsay area by the end of summer 1978.

(b) During summer 1976-77, the Argent Dam logging track was widened and upgraded to 2 W-D standard by the Forestry Department.

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5. PREVIOUS WORK (D'wg MLP23, MLP24).

Exploration activity in the area has occurred since the late 1950's and is summarised below. All available reports are listed in the bibliography.

1963-1970 Aberfoyle outlined five anomalous zones at and near the Mt. Lindsay Mine. The Main Ore Zone, No.1. and No.2. anomalies were partially tested by shallow diamond drilling. "Potential reserves" of 208,000 tonnes of 0.83 % Sn were outlined in the Main Ore Zone.

1970-1972 Paringa undertook regional and semi-detailed ground surveys between Mt. Lindsay and Pieman-Wilson River area.

1972-1973 Exploration commenced by Renison. Road access created north of Pieman River. Airborne EM-magnetic survey. Semi-regional mapping of SW part of the area.

1973-1974 Continued access development. Misty Valley and Mt. Lindsay Grids cut over two anomalous areas. Detailed ground surveys commenced.

1974-1975 Continued access development to Mt. Lindsay Mine. Completion of major phase of ground work on Mt. Lindsay Grid.

1975-1976 First diamond drilling programme on Mt. Lindsay Grid by Renison. Encouraging stanniferous skarn mineralisation intersected at Mt. Lindsay Mine and to the S.E. along strike from the No.2. and Main Ore Zone Anomalies.

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6. WORK COMPLETED 1976-1977

6.1 Exploration carried out from November 1976 to March 1977 was confined to the Mt. Lindsay Grid and is detailed as follows:

- (a) Diamond Core Drilling of one hole on E.L. 18/73; D.D.H. 39. Total metres 337.
- (b) Diamond Core Drilling of five holes on E.L. 2/63; D.D.H. 40-44. Total metres 2009.
- (c) Support work included drill site construction and completion of approximately 4km of new access track.
- (d) Surveying. All new tracks and drill hole collars were surveyed by the Renison Survey Section. All data is plotted on the Renison Mine Grid. All drill holes have been surveyed using down-hole camera instruments.

N.B. An error in the surveyed location of D.D.H. 38 was noted in January 1977. The corrected position is 31290N 11460E RL2353m.

(e) Metallurgical Work. Preliminary testwork on D.D.H. 38 core is discussed in Appendix 4 in the report "Laboratory Treatment of Mount Lindsay Drill Core" by R. Devlin.

(f) Minor soil resampling of Anomaly Zone A, N.E. of the Mt. Lindsay Mine. For results see Appendix 5.

6.2 Expenditure. A sum of \$152,000 was spent to April 26th, 1977. For detail see Appendix 1.

6.3 Geological Assessment of Drill Core. The following have been carried out on all drill core by the geologist-in-charge.

(a) Geological logging. For logs see Appendix 3.

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(b)Magnetic susceptibility measurements. Readings are taken at one metre intervals.

(c)Scanning of weakly mineralised intervals with the NUTMAQ Tin Core Analyser.

(d)Core Sampling. Intervals selected for assay are sampled using a diamond saw to cut the core in half. Drill core is sampled in one metre lengths with one half submitted to the Renison Assay Lab. for appropriate assaying. The other half of core is stored in the Renison Core shed.

6.4 Results. Detailed results are included as diamond drill logs, composite profiles and sections, longitudinal projections, geological and line anomaly plans. The reader is referred to these. Results are discussed below.

For details of the Mt. Lindsay geology the reader is referred to the Annual Report 1975-1976.

Results are considered with respect to three sub-areas

ie. (a) E.L. 18/73

(b) E.L. 2/63 Main Ore Zone

(c) E.L. 2/63 South East of Mt. Lindsay Mine.

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7. E.L. 18/73 RESULTS AND DISCUSSION (D'wgs MLP 25,31,32)

D.D.H. 39 was designed to test a geophysical/geochemical anomaly located on Line 12 at 1100-1150m. Significant anomalous responses are present from Line 11 to 13 in this area.

Drilling revealed a steeply dipping sequence of volcaniclastic sediments with several carbonate rich horizons. The sequence is intruded by gabbro. Two strongly magnetic zones are present. The carbonate zones are non-stanniferous yet show minor calc-silicate alteration and traces of sulphide (mainly pyrrhotite).

The surface anomalies may be explained as follows;

- (a) Soil geochemical and IP: Second order arsenic responses may reflect weak sulphide mineralisation associated with barren carbonate from 138 to 180m. The disseminated and veinlet nature of the sulphides would explain the IP response.
- (b) Ground magnetics; The strongly magnetic zone from 220 to 259m would explain the anomaly.

The presence of carbonate rich horizons in this area is considered encouraging as potential hosts for replacement mineralisation. Detailed follow-up for sub-outcropping mineralisation along strike is desirable. Further work should involve re-evaluation of the traverse line data.

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8. E.L. 2/63 MAIN ORE ZONE RESULTS AND DISCUSSION (D'wgs MLP 26,31,33)

D.D.H. 43 was designed to test the Main Ore Zone at approximately 2275 RL. Holes 35 & 36 drilled during 1975-1976 intersected stanniferous skarn mineralisation prior to entering granite.

Hole 43 encountered altered cherts and volcanoclastic sediments (including a strongly magnetic zone) but failed to intersect skarn mineralisation before entering granite.

The results of this hole suggest;

- (a) The granite "topography" is not regular. This may be due to faulting or small scale cusp development on the flank of the main Meredith Granite.
- (b) Stanniferous mineralisation occurs as stratabound replacements above the granite in this area.  
i.e. the granite is unmineralised.

9. E.L. 2/63 SOUTHEAST OF MT. LINDSAY MINE (D'wgs MLP 27-32,34)

9.1 Results

D.D.H.'s 40,41,42,44 were designed to follow-up the 1975-1976 drilling programme, particularly D.D.H. 38.

The summarised results of the 1975-1976 programme are

- (a) D.D.H. 37, testing strike extensions of the No.2. Anomaly Zone, intersected 25m stanniferous skarn and 5m unreplaced carbonate.
- (b) D.D.H. 38, testing an intense arsenic soils and magnetic anomaly, intersected 25m stanniferous "low temperature" skarn in a carbonate rich sequence approximately 100m thick.
- (c) Correlations between D.D.H.'s 38 and 37, and with the known geology at the Mt. Lindsay Mine area, were not resolved.

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The 1976-1977 programme was designed to

- (a) test for extensions of the D.D.H, 37, 38, mineralisation.
- (b) resolve the geological correlations.

9.1.1. Structure

The six Renison holes (D.D.H's 37,38,40,41,42,44) and three Aberfoyle holes (D.D.H.s 2/3,2/4,2/5,) encountered a similar sedimentary sequence - predominantly steeply dipping volcanoclastic sediments and carbonate + chert horizons, sometimes hosting skarn mineralisation.

The large thickness of non "calcareous" sediments are monotonously similar, apart from strongly magnetic zones delineated by magnetic susceptibility measurements. These zones are believed to be sedimentary in origin and unrelated to the phase(s) of skarn mineralisation.

Correlations based upon the relative thickness of the magnetic zones and the carbonate-chert horizons, together with the stratigraphy, indicate that the No.2 Anomaly Horizon has been displaced in the area between D.D.H. 40 and 41.

A fault interpretation is the simplest which explains:

- (a) The large thickness of barren carbonate and mineralisation in D.D.H. 38. This hole appears to have intersected a repeated sequence.
- (b) The uniform thickness (approx 50m) of the barren carbonate in D.D.H.'s 42,40,44.
- (c) The absence of a mineralised horizon in D.D.H. 44.
- (d) The absence of barren carbonate in D.D.H. 41.

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9.1.2. Mineralisation

D.D.H. 41, intersected 44m skarn mineralisation, containing 0.17% Sn including 7m of 0.36% Sn. The mineralogy is similar to that of D.D.H.37i.e. mainly magnetite, actinolite with minor pyrrhotite.

Petrological work has not yet been completed on this intersection. D.D.H's 40,42,44 failed to intersect skarn mineralisation.

The major carbonate horizon in these holes is similar to the barren carbonate in D.D.H. 38 from 252 to 318m, and consists of well bedded carbonate and minor chert with minor calcsilicate alteration and traces of pyrrhotite. Geochemically anomalous tin values are associated with garnet-vesuvianite alteration in D.D.H 44, 38.

The style of mineralisation encountered by diamond drilling in the No. 2. Anomaly and Main Ore Zones is characteristically contact metasomatic or skarn replacement. The replacement horizons are considered prospective for tin, tungsten, copper and possibly magnetite.

9.2 Discussion

The major carbonate horizon hosting the No. 2 Anomaly mineralisation is emerging as a significant exploration target and justifies further diamond drilling.

The horizon has been defined over 1400m along strike and to a depth of 300m. At this stage several factors are apparent which may control mineralisation and/or affect diamond drilling decisions.

9.2.1 Possible Controls to Mineralisation

(a) Depth to granite. The mineralisation appears to replace carbonate rich horizons, cut off by granite at depth.

## (b) Metamorphic Zoning.

Based upon the gangue mineralogy of the skarns as determined by consultants H. Fander and D. Cowan, the distinction can be made between Hornblende Hornfels Facies assemblages of D.D.H.'s 2/3, 2/4, 2/5, 37 (and 41,) and lower temperature/pressure Albite Epidote Hornfels Facies assemblages of D.D.H. 38 mineralisation.

The higher temperature assemblages are characterised by the presence of actinolite - ferrohastingsite, diopside, garnet, biotite. The lower temperature assemblage is mainly carbonate, chlorite, quartz.

The most encouraging intersection is in D.D.H. 38 and it is suggested that the "cooler" contact zones may be conducive to stanniferous mineralisation. It should be noted that cassiterite-sulphide replacement mineralisation at Renison Bell, Mt. Bishoff, Cleveland is "hydrothermal" and not "contact pyrometasomatic".

A study of carbonate-calcsilicate - skarn mineralogy is proposed to determine zoning and alteration patterns.

## (c) Faulting of the No.2 Anomaly Horizon may be significant, i.e.

(i) Faults may provide the "plumbing system" for the introduction of mineralisation. Drilling, however, has so far not intersected mineralised faults of the "Renison Type" in the Mt. Lindsay area.

or (ii) Faulting occurring after mineralisation may have resulted in the downward displacement of the "barren carbonate block". Consequently skarn and granite could be expected at somewhat deeper levels below D.D.H.'s 40 & 42.

or (iii) Faulting occurring before mineralisation may have provided barriers to mineralising solutions emanating

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from a source, for example, below D.D.H.'s 37-38. Consequently mineralisation may not occur south east of the faulted area and in the "barren carbonate block."

9.2.2. Appraisal of Surface Exploration Techniques

The Main Ore and No.2 Anomaly Zones are defined by the following coincident responses.

- (a) Soil geochemical response - particularly Sn, W, Cu, As.
- (b) Magnetic response - magnetite is the dominant Fe mineral in the skarns.
- (c) I.P. response - variable.

The two anomaly zones are well defined along strike away from the granite outcrop to approximately line 10. The absence of strong combined responses to the SE appears to reflect the plunging contact aureole.

Mineralisation at depth in this area is unlikely to be reflected by soil geochemical or IP techniques. Ground magnetic data is expected to be of greater benefit in resolving the geology in cases such as this. Unfortunately magnetic responses in this area are likely from three sources:

- (a) skarn mineralisation
- (b) pyrrhotite in barren carbonate-chert horizons
- (c) strongly magnetic volcanoclastic sediments

A thorough interpretation of the magnetic data in relation to the known geology is proposed. This would assist in "screening" anomalies in other areas.

Sub outcropping mineralisation in other areas should be apparent by the current methods, and exhibit good soil geochemical and magnetic responses. Its detection would be enhanced by IP responses.

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The intense arsenic soils anomaly centred on line 7, 2050m remains unexplained. It may be a leakage anomaly related to the No. 2 Anomaly mineralisation or related to the Main Ore Horizon equivalents. The 25m wide carbonate horizon intersected in D.D.H.'s 40, 42 correlates with the Main Lode.

9.3 Conclusions

1. Sub outcropping skarn mineralisation of the Mt. Lindsay type should be detected by current methods.
2. Deep seated mineralisation may have a magnetic response only. Magnetic responses from other sources may make recognition difficult.
3. A strike length of 1400m of the No.2 Anomaly horizon has been defined by diamond drilling.
4. Extensions to mineralisation within this zone are likely to occur only at depth.
5. The No.2 Anomaly Horizon and other untested carbonate chert horizons have potential for replacement deposits of Sn, W, Cu, Fe.
6. The results of geochemical resampling of Anomaly Zone A are inconclusive (see Appendix 5)

**RENISON LIMITED****10. RECOMMENDATIONS**

It is recommended that:

1. Prospecting and further target generation on areas apart from the Mt. Lindsay Grid should be undertaken after the H.E.C. Road provides improved access (ie) after the 1977-78 field season.
2. Diamond drilling continue on targets within E.L. 2/63 and E.L. 18/73 during summer 1977-78. Details are discussed below.
3. Minor IP surveying be carried out to re-test Zone A.
4. Re-Interpretation of geophysical data, particularly magnetics, be carried out.
5. Petrological work be undertaken on carbonate, calc silicate, skarn core in order to establish zoning and/or alteration trends.

**11. PROPOSED DIAMOND DRILLING PROGRAMME 1977-78**

Details of individual holes are presented on plans MLP 31, 33-39. Proposed access is shown on plan MLP 24.

Comments:

- (a) Drilling to occur between November 1977 and March 1978
- (b) One Drill rig required. Two shifts per day.
- (c) D.D.H.'s 45-48 will test No2. Anomaly at depth.
- (d) D.D.H.'s 45-47 will test "Main Ore Zone" horizon.
- (e) D.D.H. 49 will test combined responses of the Mt. Lindsay type on E.L. 18/73.

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(f) Access required would be approximately 1600m - 700m within E.L. 2/63 and 900m within E.L. 18/73.

(g) Metres drilled would be 300m on E.L. 18/73, 2100m on E.L. 2/63. Total 2400m.

12. BUDGET

Expenditure of \$175,000 is anticipated, comprising \$148,000 on E.L. 2/63 and \$27,000 on E.L. 18/73. Details are shown in Appendix 2.

The budget division would thus be:

	E.L. 2/63	E.L. 18/73	TOTALS
Abminco	59,200	-	59200
C.G.F.A.	44,400	13,500	57900
Renison	44,400	13,500	57900
<b>TOTALS</b>	<b>\$148,000</b>	<b>\$27,000</b>	

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BIBLIOGRAPHY:

1. Stanley River Tin Field. L.L. Waterhouse. Bull. Geol. Surv. Tas. No. 15.  
Osmiridium in Tasmania. A. McIntosh Reid. Bull. Geol. Surv. Tas. No 32.
2. Preliminary report on Mt. Lindsay Tin Mine Tasmania. A. McIntosh Reid 24.5.27  
Unpubl. Rep. Tas. Dept. Mines.
3. Mt. Lindsay Mine - Supplementary Report. A.M. Reid 30.10.27. Unpubl. Rep. Tas.  
Dept. Mines.
4. Mt. Lindsay Mine - Stanley River District - West Coast. J.B. Scott 31.10.29  
Unpubl. Rep. Tas. Dept. Mines.
5. Preliminary Report on the Meredith Range District. Q.J. Henderson 23.4.45 Unpubl.  
Rep. Tas. Dept. Mines.
6. Mineral Prospects of the Pieman River Area. Q.J. Henderson 23.4.45 unpubl. Rep.  
Tas, Dept. Mines.
7. Western Tasmania. Charles Whitlam 1949. Published by Davies Brothers. P. 123.
8. Progress Report on the North Pieman Mineral Area. B.L. Taylor 5.11.54. Unpubl.  
Rep. Tas. Dept. Mines.
9. Stanley River Tin. J. Elliston 29.4.54. Unpubl. Rep. Tas. Dept. Mines.
10. Limestones in Tasmania. T.D. Hughes 1957 Tas., Geol. Surv. Min. Res. No. 10.

COMPANY REPORTS:

11. Geological Rept. on the Mt. Lindsay Tin Deposit, Zeehan, Tasmania. J.L. Morton  
20.3.62. Unpubl. Rept. Aberfoyle Tin Development Partnership A.T.D.P.
12. Study, Estimated Cost, and Schedule of Proposed Diamond Drilling Programme of  
Mt. Lindsay Tin Prospect. J.L. Morton 30.11.62. Unpubl. Rep. A.T.D.P.
13. Progress Report No. 4 on the Mt. Lindsay Tin Prospect. J.L. Morton. Jan. 1963.  
Unpubl. Rep. A.T.D.P.
14. Progress Report No. 7 Mt. Lindsay Tin Prospect. J.L. Morton. 18.4.63. Unpubl.  
Rep. A.T.D.P.
15. Review of Mt. Lindsay Prospect at conclusion of First Diamond Drilling Programme.  
J.L. Morton. 23.4.63. Unpubl. Rep. A.T.D.P.
16. Report on Access Routes to Mt. Lindsay, Tasmania. J.L. Morton. Aug. 1963. Unpubl.  
Rep. A.T.D.P.
17. Progress Report No. 8 on Mt. Lindsay Tin Prospect. J.L. Morton. 11.10.63. Unpubl.  
Rep. A.T.D.P.
18. 1963-64 Schedule of Diamond Drilling Programme for Mt. Lindsay, Tasmania. J.L.  
Morton 25.10.63. Unpubl. Rep. A.T.D.P.
19. Progress Report No. 9 of Mt. Lindsay Tin Prospect, Zeehan, Tasmania, J.L. Morton.  
Dec. 1963. Unpubl. Rep. A.T.D.P.
20. Proposed Geological Reconnaissance Programme for 1964 Schedule 68. Mt. Lindsay  
-Stanley Reward Area. J.L. Morton. Dec., 1963. Unpubl. Rep., A.T.D.P.

**RENISON LIMITED**

020

21. Review of Mt. Lindsay Drilling and Reconnaissance Programme as at 19.3.64. J.L. Morton 19.3.64. Unpubl. Rep. A.T.D.P.
22. Report of Work completed for Stanley Reward Geologic Reconnaissance Programme for 1964 Schedule 68. I.R. Worth 1.5.64. Unpubl. Rep. A.T.D.P.
23. Report 3 - Review of Mt. Lindsay Prospect at completion of Second Diamond Drilling Programme. J.L. Morton & J.K. Couper 29.6.64. Unpubl. Rep. A.T.D.P.
24. Geological Report on Stanley River Area - Mt. Lindsay Prospect - Schedule 68. 1964 J.K. Couper July 1964. Unpubl. Rep. A.T.D.P.
25. Report 4 Review of Mt. Lindsay Prospect at completion of Third Diamond Drilling Programme. J.K. Couper. 1965. Unpubl. Rep. A.T.D.P.
26. Interim Report on Mt. Lindsay Prospect. J.K. Couper March 1965. Unpubl. Rep. A.T.D.P.
27. Interpretation Report of Airborne Magnetometer Survey over Waratah - Zeehan Areas, for Aberfoyle Tin Development Partnership. A Zarauatjian Aug. 1965. Unpubl. Rep.
28. Relationship of Structure to Ore Control in the Mt. Lindsay - Cleveland Prospect Area. T. Hopwood 1965. Unpubl. Rep. A.T.D.P.
29. Mt. Lindsay - Regional Geology Report 1965-66. D.M. Ransom & C.J. Wilson 1966 Unpubl. Rep. A.T.D.P.
30. Supplement to Mt. Lindsay Regional Geology Report. C.J. Wilson Unpubl. Rep. A.T.D.P.
31. Interim Report Mt. Lindsay (Tasmania). K.R. Glasson Jan. 1968. Unpubl. Rep. A.T.D.P.
32. Summary Report on Camp 30 Area. Summer 1967-68 A. Jessup 1968. Unpubl. Rep. A.T.D.P.
33. Supplementary Report on the Mt. Lindsay Area. A. Jessup March 1968. Unpubl. Rep. A.T.D.P.
34. Review of the Summer Exploration Programme Mt. Lindsay E.L. 2/63 - 1967-68. K.R. Glasson April 1968. Unpubl. Rep. A.T.D.P.
35. Petrology of Selected Rocks from Camp 30 - Merton Area 1967-68. B. Chenhall and A. Jessup. A68. Unpubl. Rep. A.T.D.P.
36. Report on Summer Exploration undertaken at Mt. Lindsay 1968-69 A. Jessup, 1969. Unpubl. Rep. A.T.D.P.
37. Report on the Summer Exploration Programme, undertaken at Mt. Lindsay and in the Stanley Reward Area. 1969-70. M. Jordan Unpubl. Rep. Paringa Mining and Exploration Company Ltd.,
38. Geology of the Wilson River Area. Roetz Cameron and Allen 1969. Unpubl. Rep. P.M.E.C.
39. Summary of Exploration Activities undertaken by the Aberfoyle Group from 1962-70. D.K. Tester. Sep. 1970. Unpubl. Rep.
40. E.L. 2/63 End of Project Report - Wilson River C. Krummel. Unpubl. Rep. Cominco Exploration Pty. Ltd.,
41. Literature Survey on E.L. 2/63 to November 1972 R. Schellekens Unpubl. Rep. Renison Ltd.,

RENISON LIMITED

021

42. "E.L. 2/63 Mt. Lindsay Area - Annual Report 1972-73" By R.R. Schellekens and L.A. Newnham, Renison Ltd. Unpubl. Report.
43. Report on Turair, Airborne Em-magnetic survey, Renison Bell - Mt. Lindsay by J.G. Linford, May, 1973. Unpubl. Report.
44. "Final Report on Induced Polarisation Surveys in the Misty Valley Area near Renison Bell, Tasmania, on behalf of Renison Limited" by A.W. Howland - Rose, Scintrex Pty. Ltd., March, 1974, Unpubl. Report.
45. "A Report on Electrical Induced Polarisation Surveys at Mt. Lindsay near Renison Bell, West Coast Tasmania, on behalf of Renison Limited" by A.W. Howland-Rose, Scintrex Pty. Ltd., May 1974, Unpubl. Report.
46. "An Interpretation of a Combined Geophysical Survey - Mt. Lindsay Area Tasmania" by John L. Irvine, Consulting Geophysicist, July, 1974. Unpubl. Report.
47. "E.L. 2/63 and E.L. 18/73. Mt. Lindsay Area, Western Tasmania, Annual Report 1973-74" by R.R. Schellekens and L.A. Newnham, August, 1974, Renison Limited, Unpubl. Report.
48. "A Report on Additional Electrical Induced Polarisation Surveys at Mt. Lindsay, near Renison Bell, West Coast Tasmania on behalf of Renison Limited" by A.W. Howland-Rose for Scintrex, March, 1975, Unpubl. Report.
49. "E.L. 2/63 and E.L. 18/73 Annual Report 1974-75" by L.A. Newnham, August, 1975, Renison Limited, Unpubl. Report.
50. "E.L. 2/63 and E.L. 18/73 Diamond Drilling Proposals Summer 1975-76" by L.A. Newnham October 1975, Renison Limited, Unpubl. Report.
51. "E.L. 2/63 and E.L. 18/73 Mt. Lindsay Area Annual Report 1975-76" by A.F. Ross May 1976, Renison Limited. Unpubl. Report.

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## APPENDIX 1.

EXPENDITURE TO APRIL 26th, 1977.

	E.L. 2/63	E.L. 18/73
SALARIES	16730	6891
DIAMOND DRILLING	93575	12211
ACCESS	9140	716
CONSUMABLES	9157	2759
MISCELLANEOUS	57	193
<hr/>	<hr/>	<hr/>
TOTALS	\$128,659	\$22,770

NOTE: (i) Survey, assay charges to be added  
(ii) Petrological work yet to be completed.

314024

MT. LINDSAY E.L. 2/63 - OPERATING BUDGET 1977-78

PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
SALARIES	500	500	500	1000	2500	3000	3000	3000	2000	1500	1000	500	19000
DIAMOND DRILL.	-	-	-	-	10000	27000	36000	24000	-	-	-	-	97000
ACCESS	-	-	-	-	1000	2000	2000	-	-	-	-	-	5000
CONSUMABLES	-	50	100	500	1000	4000	2000	2000	1500	150	100	100	11500
ASSAYING	-	-	-	-	-	500	1000	1000	-	-	-	-	2500
CONSULTANTS	-	-	-	-	-	-	-	-	500	500	-	-	1000
OPERATING COSTS (surv, Vehicles etc)	50	50	50	50	200	350	500	350	250	50	50	50	2000
CAPITAL ITEMS	-	-	-	-	10000	-	-	-	-	-	-	-	10000
SUB-TOTALS	550	600	650	1550	24700	36850	44500	30350	4250	2200	1150	650	148000

Notes: (i) Drilling assessed at \$45/metre

(ii) Capital items include one vehicle  
and water pump for Pieman CampRENISON SHARE  
30 % \$44400APPENDIX 2 (a)

STANLEY AREA E.L. 18/73 - OPERATING BUDGET 1977-78

024

PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	TOTALS
SALARIES	-	-	-	-	500	1000	1000	1000	500	-	-	-	4000
DIAMOND DRILL.	-	-	-	-	-	-	6000	7000	-	-	-	-	13000
ACCESS	-	-	-	-	-	3000	1000	1000	-	-	-	-	5000
CONSUMABLES	-	-	-	-	-	500	1000	1000	-	-	-	-	2500
ASSAYING	-	-	-	-	-	-	-	-	500	-	-	-	500
OPERATING COSTS (Vehicles, Survey)	-	-	-	-	250	250	250	500	250	-	-	-	1500
CONSULTANTS	-	-	-	-	-	-	-	-	250	250	-	-	500
SUB-TOTALS	-	-	-	-	750	4750	9250	10500	1500	250			27000

RENISON SHARE

50 %

\$13500

APPENDIX 2 (b)

# RENISON LIMITED - DIAMOND DRILL RECORD

HOLE NUMBER	ML 39	SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D. Sin Dip	R.L.	D. Cos Dip	Prog. Total
PURPOSE	To test IP, magnetic and As geochemical anomalies.	0	233	-48½				2407.0		
		12	-	-48	0 - 12	12	8.92	2398.1	8.03	8.0
		24	-	-45	12 - 42	30	21.21	2376.9	21.21	29.2
LOCATION	Mt. Lindsay E.L. 19/73	48	-	-44	42 - 54	12	8.34	2368.5	8.63	37.9
		60	-	-45	54 - 66	12	8.49	2360.0	8.49	46.4
COLLAR R.L.	2407.0	72	234	-44	66 - 78	12	8.34	2351.7	8.63	55.0
		108	234	-43	78 - 114	36	24.55	2327.2	26.33	81.3
CO-ORDINATES	31652.3 N 10262.5 E	120	235	-42½	114-126	12	8.11	2319.0	8.85	90.2
		132	237	-42	126-138	12	6.03	2311.0	8.92	99.1
LENGTH	337.1m	144	-	-41	138-150	12	7.87	2303.1	9.06	108.2
		156	-	-40	150-162	12	7.71	2295.4	9.19	117.3
HOLE SIZE	0-66 NQ 66-337.1 BQ	168	-	-40	162-174	12	7.71	2287.7	9.19	126.5
		180	241	-39	174-186	12	7.55	2280.2	9.33	135.9
COMMENCED	26-11-76	192	-	-39	186-198	12	7.55	2272.6	9.33	145.2
		204	241	-37	198-210	12	7.22	2265.4	9.58	154.8
COMPLETED	5-1-77	216	247	-39	210-222	12	7.55	2257.9	9.33	164.1
		228	-	-38½	222-234	12	7.47	2250.4	9.39	173.5
SIGNIFICANT CORE LOSS ZONES		240	-	-38½	234-246	12	7.47	2242.9	9.39	182.9
		252	-	-39	246-258	12	7.55	2235.4	9.33	192.2
ORE ZONE GROUND CONDITIONS		264	-	-38	258-272	14	8.62	2226.7	11.03	203.2
		276	-	-38	272-337	65	40.0	2186.7	51.22	254.5
LOGGED BY	A. Rues.	337.1	-	-						
COMMENTS	Two carbonate-rich horizons intersected, with traces of pyrrhotite but barren with respect to tin. Strongly magnetic graywacke/siltstone horizon from 219 to 259m probably explains magnetic anomaly. Disseminated pyrrhotite may explain IP anomaly.									

### SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m.)	AVERAGE WEIGHTED ASSAYS					
				Sn.	Cu.	As.	S.	WO <sub>3</sub>	
CARBONATE HORIZON	141.2	165.1	20m (Grus)	<0.1	0.05	<0.01		<0.01	
CARBONATE HORIZON	289.2	313.4	21m (Grus)	<0.1					
				(IN CORE ANALYSES)					

### SUMMARY METALLURGICAL DATA - COMPOSITE SAMPLE

LODE NAME	FROM	TO	Sn.	Cu.	As.	S.	Ca F <sub>2</sub>	Ag.	Bi.		Sn - Rec.	Cu - Rec.	Cont.	Blk.	S.G.

025

314026

DIAMOND DRILL RECORD

HOLE NUMBER M. 39

LOGGED BY A. Ross.

026

INTERVAL (m)		RECOVERY m %	DESCRIPTION	FORMATION	ASSAYS															
FROM	TO				FROM	TO	Sn	S	As	Cu	Pb	Zn	Bi	Ag						
0	61		Clays and weathered rock. Very low recovery.																	
61	75.3	100	Light green, light brown altered well bedded fine grained siltstones and cherts. Hornfelsed. Minor blotchy alteration and veining. Minor carbonate veining. Overall non calcareous. Trace pyrrhotite in one actinolite vein. BCA: 45-50°. Well developed cross bedding indicates "way up" is up the hole. Minor intervals of med. grained tuff grey-wacke with silty layers. At 74.3m weakly developed garnet magnetite skarn (20cms)																	
75.3	141.2	100	Dark grey to black hornfelsed tuff greywacke and siltstone. Generally massive but with minor bedded light grey siltstone layers. BCA's 45-50°. Core strongly magnetic 78-92m. Non magnetic from 92-138.6. Slightly magnetic from 138.6-141.2m due to finely disseminated pyrrhotite. BCA 45° at 139m. Generally unaltered except for minor actinolite and bleached beds around 119m. Quartz actinolite veins at 122m. Mud pellets and bedded siltstones common in lower part of interval. Bleaching and actinolite veining common from 136m with irregular veining of trace pyrrhotite. Minor brown chert.																	
141.2	165.1	100	Interbedded cherts and calc-silicate, carbonate. Overall colours are light cream, grey and green. Well bedded to laminated. BCA's 50-55°. Very minor amount of pyrrhotite, trace chalcopyrite, trace magnetite. Slightly magnetic throughout. Microfractured-faulted throughout with veinlets of actinolite, sulphide. Slumping common. Occasionally cross bedded.		142	143	0.02		0.06	<0.01										<0.01
					143		0.02		0.05											
					144		0.03		0.05											
					145		0.02		0.05											
					146		0.03		0.06											
					147		0.05		0.06											
					148		0.04		0.05											
					149		0.03		0.05											
165.1	205.5	100	Dark grey hornfelsed fine grained sediments. Predominantly massive siltstones with minor bedded zones. BCA 55°. Very minor cherty horizons near start of interval. Minor actinolite veinlets and alteration throughout. Non magnetic veinlets of pyrrhotite common to 180m		150		0.03		0.05											
					151		0.04		0.05											
					152		0.03		0.05											
					153		0.02		0.05											
					154		0.02		0.05											
					155		0.03		0.05											
205.5	211.3	100	Altered gabbro. Contains black spots similar to spotting in M. mine sequence. Non magnetic. Core very broken from 210 to 210.8 with carbonate veinlets. Brecciated fragments at 211.3m		156		0.02		0.05											
					157		0.03		0.06											
					158		0.05		0.06											
					159		0.04		0.07											
211.3	216.6	100	Gabbro. Dark green-grey with coarse pyroxenes. Broken zone 211.5 to 214.8m. Minor carbonate veinlets. Non magnetic. Crude layering CA 45°.		160		0.02		0.06											
					161		0.02		0.05											
					162	163	0.03		0.05											
216.6	219.5	100	Dark grey massive siltstones. Non magnetic. Minor actinolite alteration. Few cms. of brecciation below gabbro unit.																	
219.5	259.4	100	Dark grey hornfelsed siltstone and minor greywacke. Strongly to moderately magnetic. Minor actinolite and carbonate veinlets throughout. Generally massive with minor bedded siltstones BCA 30°. Few spotted zones. At 230m pyrrhotite in carbonate vein. Core very broken from 257 to 264m. Few sparse pyrrhotite veinlets. BCA very low 20° at 250m																	
259.4	271.1	100	Dark grey hornfelsed siltstone and grey wacke. Non magnetic.																	

314027

DIAMOND DRILL RECORD

HOLE NUMBER ML 39

LOGGED BY A. Ross.

INTERVAL (m)		RECOVERY		DESCRIPTION	FORMATION	ASSAYS									
FROM	TO	m	%			FROM	TO	Sn	S	As	Cu	Pb	Zn	Bi	Ag
				Predominantly massive with minor bedded zones. BCA's 30°. Very minor cherty horizons. Actinolite-carbonate alteration from 258 to 262m.											
271.1	271.4		100	Light green massive altered calc silicate and chert. Slumped.											
271.4	271.9		100	Dark brown massive non magnetic siltstone.											
271.9	272.2		100	Brown to light green calc silicate. Garnet, epidote.											
272.2	273.6		100	Dark brown massive non magnetic siltstone. Pyrrhotite-actinolite veinlets.											
273.6	274.3		100	Light green-brown calc-silicate and minor chert. Trace pyrrhotite in garnet-epidote rock. BCA 40°											
274.3	276.1		100	Dark grey-brown well bedded siltstone. Trace pyrrhotite. BCA 40°.											
276.1	276.8		100	Calc-silicate and minor chert. As before. Pelletal texture. Minor pyrrhotite. Trace chalcopryrite.											
276.8	289.4		100	Dark grey massive and well bedded siltstones. BCA 45°. Very rare altered chert beds with trace pyrrhotite. Non magnetic. Several greywacke tuff horizons. Brecciated chert and carbonate veins at 287.9m.											
289.4	313.4		100	Light grey-green carbonate and cherty beds. Slightly altered to calc-silicate in places and with trace pyrrhotite. Well bedded BCA 45°. Secondary carbonate veining with minor brecciation from 299.2m. Overall the carbonate is relatively unaltered.											
313.4	316.3		100	Green, well bedded chert and minor white carbonate layers.											
316.3	317.6		100	Light green to white carbonate. Minor development of calc silicates-garnet. Minor brecciation. Well bedded. Trace sulphide.											
317.6	337.1		100	Predominantly dark grey hornfelsed medium grained crystal tuffs and siltstones with minor carbonate or calc-silicate horizons. Calc-silicate layers are 20cm to 50cm thick. BCA's 45°. Carbonate, calcite veining common. Minor brecciation of beds. From 325.4 to 326m, calc-silicate (garnet) with trace galena, chalcopryrite, pyrrhotite. Other calc-silicate beds have minor to trace amount sulphide. From 325, sediments are massive less well bedded grey tuff siltstones with minor thin carbonate units. Non magnetic											
				End of Hole 337.1m											

314028

# RENISON LIMITED - DIAMOND DRILL RECORD

HOLE NUMBER	ML 40	SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D. Sin Dip	R.L.	D. Cos Dip	Prog. Total
PURPOSE	To test sequence along strike from D.D.N. 38	0	042	-45	0-70	70	49.50	2320.1	49.50	49.50
		140	042	-44	70-167	97	67.38	2203.1	69.78	119.3
LOCATION	MT. LINDSAY EL 2/63	194		-41	167-221	54	35.43	2167.7	40.75	160.0
		248	042	-38	221-275	54	33.25	2134.4	42.55	202.6
COLLAR R.L.	2320.1	302		-35	275-329	54	30.97	2103.5	44.23	246.8
		356		-32½	329-388	54	29.01	2074.5	45.54	292.4
CO-ORDINATES	31053.0 N 11501.0 E	410		-31	383-437	54	27.81	2046.7	46.29	338.6
		464		-28	437-491	54	25.25	2021.3	47.68	386.3
LENGTH	550.1m	502	036	-27½	491-529	38	17.55	2003.8	33.71	420.0
		550	033½	-28	529-550	21	9.86	1993.9	18.54	438.6
HOLE SIZE	0-81.1 NQ 81.1-550.1 BQ	Bearings affected by magnetite								
COMMENCED	11/1/77									
COMPLETED	14/2/77									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	A. ROSS.									
COMMENTS	Intersected major barren carbonate-rich horizon from 418 to 454m. Other carbonate-chert horizons intersected.									

### SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m.)	AVERAGE WEIGHTED ASSAYS						
				Sn.	Cu.	As.	S.			
NO. 2. ANOMALY CARBONATE HOR.	418	454	52 (true)	<0.1						
				(1st CORE ANALYSIS)						
CARBONATE HORIZON	92	124	23 (true)	<0.1						
CARBONATE HORIZON	247	257	10 (true)	<0.1						

### SUMMARY METALLURGICAL DATA - COMPOSITE SAMPLE

LODE NAME	FROM	TO	Sn.	Cu.	As.	S.	Ca F <sub>2</sub>	Ag.	Bi.		in - Res.	Cu - Res.	Carb.	gilt.	S.D.

028

314029

DIAMOND DRILL RECORD

HOLE NUMBER ML 40

LOGGED BY A. ROSS.

0.29

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM.	ANALYSIS										
FROM	TO	m	%			FROM	TO	TOTAL	% Sn	% Cu	% As	% S	% Pb	% Zn	% Bi	g/t Ag
0	2.3	2.2		Brown to grey weathered rock.												
2.3	5.3	0.7		Brown clay.												
5.3	8.3	0.8		Brown to red clay.												
8.3	11.3	0.4		Grey weathered rock and clay.												
11.3	26.3	1.3		Brown-red clay.												
26.3	73.8	2.6		Orange brown clay. No recovery from 44.3-47.3 and from 59.3 to 62.3, 65.3 to 68.3m.												
73.8	78.5			Light grey to cream, and light brown well bedded chert and/or silicified siltstone. Slight actinolite alteration and minor veining. Trace pyrrhotite.												
78.5	86.0			Dark grey hornfelsed massive siltstone. Minor actinolite alteration. Non magnetic.												
86.0	92.0			Brown and grey, cream mottled altered zone of well bedded siltstone. Trace pyrrhotite. BCA's 45°.												
92.0	124.3			Dark grey and brown intensely microfaulted and veined, silicified altered zone. Cherty siltstones. Trace sulphide with actinolite veining. Irregular bedding due to faulting and alteration. Minor quartz veins throughout. Carbonate from 104.7 to 105.2m. Black cherty siltstones common from 108 to 122m with zones of fragmental? silicified rocks. Altered graphitic shales and tuffs? Blebs and veinlets of pyrrhotite throughout. From 122 to 124.3 Brown and green-mottled alteration. Minor disseminated pyrrhotite.												
124.3	159.0			Dark grey hornfelsed massive non magnetic siltstones. Slight actinolite alteration in isolated veins at 135.3, 138.8, 148.9-149.1, 144m. Otherwise featureless interval.												
159.0	164.2			Grades into dark brown, green bedded and altered siltstones with minor slumping and contortion of beds. Zones (-0.1m) of green aoids and angular patches of fine grained green mineral with white alteration rims. (Correlates with ML38 at 92m?). Zones are bedded-diagenetic effect? BCA's 40-45°.												
164.2	181			Grey to light grey siltstones and lesser greywackes. Predominantly massive but with well bedded siltstone intervals (8-10cm). BCA 50°. Minor carbonate veinlets to 170m. Very minor actinolite alteration. Non magnetic.												
181	215			Becoming slightly magnetic. Dark grey unaltered hornfels. Predominantly massive tuff greywacke and minor bedded siltstone. Magnetic to 215m. BCA's av 50°. Very small amount actinolite alteration.												

314030

DIAMOND DRILL RECORD

HOLE NUMBER : ML 40

LOGGED BY : A. ROSS

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM	% SH.											
FROM	TO	m	%			FROM	TO	TOTAL	As	STAN	% Cu	% As	% S	% Pt	% Zn	% Bi	g/t Ag
215	247.2			Non magnetic grey hornfels as before. Minor actinolite alteration with trace sulphide in rare zones (pyrrhotite, chalcopyrite). Carbonate veinlets from 219 to 225m. Core very broken from 239 to 247m. Alteration increased in this zone.													
247.2	257.1			Cream white to light grey well bedded chert, siltstone with disseminated minor pyrrhotite in veinlets throughout BCA's 70°. Altered calc-silicate core. Very minor carbonate veinlets. At base of interval are brown well bedded cherty siltstones. Microfaulting common.													
257.1	318			Grades into dark grey greywackes, (medium grained feldspathic greywacke) and minor siltstone. Non magnetic. Slight alteration adjacent to chert zone. Bedded. BCA's 60-70. Very minor actinolite rich alteration zones. From 230-291m. Very broken zone. Carbonate veinlets as joints and irregular throughout. Minor actinolite.													
318	363			Same siltstone and minor greywacke. BCA's 60-70°. Moderate to strongly magnetic. Predominantly massive. No marked alteration.													
363	402.0			Non magnetic zone of grey siltstones and massive greywacke with increasing alteration towards base of interval. BCA's 45-50°. 363-364.5 Broken zone. 368m start of alteration. Veinlets of tremolite throughout. Minor actinolite. Trace sulphide. Overall colour change to brown-grey. 388-390. Well bedded siltstones. 390-402. Minor zones of actinolite and brecciation with microfracturing are common.													
402.0	418.2			Variously coloured, mottled alteration zone. Colours light to dark brown, light grey, cream to green. Altered siltstones, minor fragmental textures. Rare actinolite sulphide veining. Trace disseminated sulphide. 415.0m. Minor black siltstone with pyrrhotite veinlets. BCA's 50-55, surging to 70-80° at end of interval.													
418.2	453.7			Well bedded grey to light grey-white unaltered barren carbonate. Later stage calcite veinlets. Trace of pyrrhotite. Minor chert. Similar to barren carbonate in DDH 38. BCA 60-70°. Brown garnet and idocrase common from 446 to 453m.													
453.7	462.3			Brown to light green, well bedded chert and minor carbonate. Trace pyrrhotite. BCA av 60°. Slight alteration. Minor chlorite veinlets. Altered sediments-greywacke, siltstone.													
462.3	466.8			Grey to white-brown massive carbonate and bedded chert and calc-silicate. Trace pyrrhotite. Grading to chert.													

030

314031

DIAMOND DRILL RECORD

HOLE NUMBER ML 40

LOGGED BY A. ROSS.

NAPS

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM.	% Sn											
FROM	TO	m	%			FROM	TO	TOTAL	As	STAN	% Cu	% As	% S	% Pb	% Zn	% Bi	gt Ag
466.8	475.7			Variously coloured brown to white chert, altered sediments and minor carbonate, calc-silicate. Well bedded BCA 50-60 Trace pyrrhotite. Curious textures 474.6 to 475.1m.													
475.7	550			Dark brown to black massive tuffaceous siltstones, green-wacke. Unaltered. Non magnetic. Minor coarse zones. Minor green chlorite alteration in veinlets from 512 to 514m increasing down the hole with irregular quartz veining and introduction of green, brown fine grained mineral (tourmaline?) becoming very contorted from 547 to 550m. Spotting common in siltstones. BCA reaches 20° at 54.5m.													
				END OF HOLE 550.1m.													

031

314032

# RENISON LIMITED -- DIAMOND DRILL RECORD

HOLE NUMBER	ML41	SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D. Sin Dip	R.L.	D. Cos Dip	Prog. Total
PURPOSE	<i>To test sequence between D.D.H 37 &amp; D.D.H. 38</i>				0-2	2	1.43	2391.3	1.4018	1.40
LOCATION	MT. LINDSAY EL. 2/63	0	40	-45½	2-16	14	10.16	2379.7	9.6370	11.04
COLLAR P.L.	2391.3	4	-	-46½	16-63	47	34.65	2345.1	31.752	42.79
CO-ORDINATES	31557.4N 11353.3E	36	-	-47½	63-140	77	55.39	2289.7	53.4887	96.28
LENGTH	392m	90	41	-46	140-214	74	52.33	2237.3	52.3259	148.61
HOLE SIZE	0-29 NQ 29-392 BQ	190	-	-45	214-263	49	34.34	2203.0	34.9493	183.56
COMMENCED	26/11/76	238	-	-44½	263-313	50	35.05	2168.0	35.6625	219.22
COMPLETED	20/1/77	288	-	-44½	313-364	51	35.11	2132.8	36.9941	256.21
SIGNIFICANT CORE LOSS ZONES		339	-	-43½	364-392	28	19.10	2113.7	20.4779	276.69
ORE ZONE GROUND CONDITIONS		390	-	-43						
LOGGED BY	A. ROSS.	<i>Bearings affected by magnetite.</i>								
COMMENTS	<i>Intersected magnetite sharn, completely replacing No. 2. Anomaly horizon, from 270.5 to 326.</i>									

### SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m.)	AVERAGE WEIGHTED ASSAYS					
				Sn.	Cu.	As.	S.	WO <sub>3</sub>	TOTAL FE
<i>NO. 2 ANOMALY SHARN HORIZON</i>	<i>270.5</i>	<i>326</i>	<i>55.5 (44 m)</i>	<i>0.17</i>	<i>&lt;0.1</i>	<i>&lt;0.1</i>		<i>&lt;0.01</i>	<i>35</i>
<i>including</i>	<i>291</i>	<i>298</i>	<i>7</i>	<i>0.36</i>					

### SUMMARY METALLURGICAL DATA COMPOSITE SAMPLE

LODE NAME	FROM	TO	Sn.	Cu.	As.	S.	Cu P <sub>2</sub>	Ag.	Bi.	Sn - Res.	Cu - Res.	Comb.	SiO <sub>2</sub>	S.G.

032

314033

DIAMOND DRILL RECORD

HOLE NUMBER ML 41

LOGGED BY A. ROSS

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM	% Sn					% Fe					
FROM	TO	m	%			FROM	TO	TOTAL	As	STAN	% Cu	% As	% S	% Fe	% Zn	% Bi
0	9	6		Clays and weathered rock. Very low recovery. Mainly medium grained feldspathic greywacke.		270.5	271	0.14		<0.05	<0.10	34.3				<0.01
						271		0.20		"	"	38.7				"
						272		0.19		"	"	35.7				"
9	13.8	5		Fresh rock with minor weathered zones. Medium to fine grained dark grey hornfelsed greywacke and siltstone.		273		0.16		"	"	37.5				"
				Well bedded BCA 50°. Nonmagnetic. Fragments coarser grained at approx 12m.		274		0.08		"	"	27.5				"
						275		0.17		"	"	40.1				"
						276		0.26		"	"	30.7				"
13.8	22.5	2		Very low recovery. Brown clay and minor fragments of light grey-blue siltstone. Possibly weathered carbonate horizon.		277		0.30		"	"	37.0				"
						278		0.15		"	"	49.9				"
						279		0.20		"	"	40.7				"
						280		0.16		"	"	30.5				"
						281		0.09		"	"	43.1				"
22.5	36.0	7		Very broken zone. Fresh core. Very poor recovery. Hornfelsed dark massive siltstones and medium grained greywacke (coarse sugary texture). Nonmagnetic.		282		0.29		"	"	42.0				"
						283		0.05		"	"	56.8				"
						284		0.12		"	"	55.4				"
						285		0.15		"	"	42.9				"
36.0	142.3			Predominantly fine grained hornfelsed siltstone with lesser greywacke horizons than interval above. Mainly massive. Moderately magnetic from 39.5 to 55.2m. Otherwise nonmagnetic. Minor zones of actinolite alteration, quartz veining are very rare to non existent. Possible BCA 50°. Core broken to 60m.		286		0.25		"	"	29.2				"
				Minor actinolite alteration-quartz veining from 103 to 111m. Brecciated actinolite rich zone from 122 to 123.5m.		287		0.12		"	"	34.8				"
				Greywacke content greater from 112 to 142m. Minor actinolite alteration throughout.		288		0.07		"	"	52.6				"
						289		0.08		"	"	56.8				"
						290		0.07		"	"	50.5				"
						291		0.22		"	"	45.9				"
						292		0.32		"	"	39.0				"
						293		0.16		"	"	26.6				"
						294		0.76		"	"	38.7				"
						295		0.11		"	"	41.3				"
142.3	252.0			Weak to strongly magnetic unit. Dark fine grained hornfelsed siltstone and minor greywacke. Predominantly massive. BCAs 30-45°. Rhodocrosite veining 151-151.5m. Core very broken 163 to 168m. Spotting common from 163 to 175m, 185 to 198m.		296		0.38		"	"	29.5				0.01
				Altered zone with actinolite veining and shearing from 207 to 207.6m. Qtz veinlet at 208.5m.		297		0.58		"	"	30.6				0.01
				Very broken zones from 212 to 215m, 220 to 220.5m, 229-233m, 238 to 243m. Quartz vein at 233m. BCA 30° at 223m.		298		0.08		0.08	"	26.8				<0.01
						299		0.09		0.07	"	19.6				0.01
						300		0.08		0.07	"	22.3				0.01
						301		0.20		0.06	"	21.1				0.01
						302		0.24		0.14	"	32.4				"
						303		0.15		0.13	"	34.2				"
						304		0.09		0.06	"	24.6				"
						305		0.15		0.13	"	31.5				"
						306		0.12		0.16	"	30.3				"
252	270.5			Light brown to green-white, mottled altered siltstones and cherts. Bedding well developed in places but locally brecciated and microfaulted with actinolite present.		307		0.08		0.08	"	17.7				"
				Nonmagnetic. Minor calcite veins. BCA av 45°. Minor zones of mud pellets in siltstone. Irregularly veined and brecciated throughout.		308		0.18		0.21	"	32.3				"
						309		0.07		0.06	"	9.9				"
						310		0.08		0.19	"	31.9				"
						311		0.17		0.26	"	38.6				"
						312		0.10		0.07	"	19.3				"
						313		0.15		0.20	"	28.4				"
						314		0.14		0.10	"	42.5				"
270.5	326			SKARN HORIZON. Magnetite-actinolite rock. BCA's range from 85 to 45°. Minor pyrrhotite, altered banded chert, late stage carbonate (siderite) veinlets. Trace quartz and flourite. Trace arsenopyrite. Less magnetite from 298 to 310m. This zone is weakly mineralised chert. From 310 to 326, magnetite-sulphide-actinolite rock. More sulphides, pyrrhotite and trace chalcopyrite. Gangue is tremolite rich. Minor diopside? (Similar to Pine Hill-S374).		315		0.14		0.07	"	32.6				"
						316		0.19		0.08	"	26.3				"
						317		0.14		0.09	"	39.9				"
						318		0.38		0.06	"	43.2				"
						319		0.12		0.05	"	18.3				0.09
						320		0.12		0.09	"	24.1				<0.01
						321		0.13		0.06	"	31.0				"
						322		0.12		0.07	"	35.9				"
						323		0.06		0.18	"	43.4				0.07
						324	325	0.12		0.12	"	34.0				<0.03

033

314034

DIAMOND DRILL RECORD

HOLE NUMBER ML 41

LOGGED BY A. ROSS.

034

4.7.59

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM	% Sh.											
FROM	TO	m	%			FROM	TO	TOTAL	As	STAN	% Cu	% As	% S	% Pb	% Zn	% Bi	g/t Ag
326	336			Fine grained altered sediments. Brown to grey siltstones and minor greywacke. Predominantly massive. BCAs 45-60°. Slight mottling and veining by actinolite, trace sulphide. Several large fragments in siltstone-subangular with trace sulphide. Non magnetic.		325	326										
336	392			Non magnetic greywackes and siltstones with very minor amount actinolite veins. Minor spotting of sediments. BCAs 45-60°. Granite vein 353.0 to 353.2m Chilled margin (2mm). Greywacke is major component of this unit with minor bedded siltstone.													
				END OF HOLE 392m.													

314035

# RENISON LIMITED - DIAMOND DRILL RECORD

HOLE NUMBER	ML 42	SURVEY			From - To	Distance	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D. Sin Dip	R.L.	D. Cos Dip	Prog. Total
PURPOSE	To test sequence along strike from D.D.H. 38	0	039½	-44½	0-47	47	32.94	2300.4	2267.5	33.5
		94		-46½	47-118	71	51.50	2216.0	48.87	82.4
LOCATION	MT. LINDSAY EL 2/63	142		-44½	118-169	51	35.75	2180.2	36.38	118.8
		196		-39	169-213	44	27.69	2152.5	34.19	153.0
COLLAR R.L.	2300.4m	250		-36	213-274	61	35.85	2116.7	49.35	202.3
		298		-35	274-325	51	29.25	2087.4	41.78	244.1
CO-ORDINATES	30926.2 N 11648 E	352		-34½	325-379	54	30.59	2056.8	44.50	288.6
		406	035	-34	379-423	44	24.60	2032.2	36.48	325.1
LENGTH	460m	460		-33½	423-460	37	20.42	2011.8	30.85	355.9
HOLE SIZE	0-69 NQ 69-460BQ	Bearings affected by magnetite								
COMMENCED	23-1-77									
COMPLETED	15-2-77									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	A. ROSS									
COMMENTS	Intersected major barren carbonate rich horizon from 348 to 402m. Similar sequence to D.D.H. 40. Other barren carbonate chert horizons intersected.									

### SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m.)	AVERAGE WEIGHTED ASSAYS				
				Sn.	Cu.	As.	S.	
NO. 2. ANOMALY CARBONATE HORIZON	348	402	50 (true)	<0.1				
CARBONATE HORIZON	68	94	26 (true)	<0.1				
CARBONATE HORIZON	193	202	11 (true)	<0.1				

### SUMMARY METALLURGICAL DATA COMPOSITE SAMPLE

LODE NAME	FROM	TO	Sn.	Cu.	As.	S.	Cu P <sub>2</sub>	Ag.	Bi	Sn - Res.	Cu - Res.	Chrt.	S.H.	S.L.

035

314036

## DIAMOND DRILL RECORD

HOLE NUMBER : ML 42

LOGGED BY : A. ROSS.

INTERVAL (m)		RECOVER		DESCRIPTION	FORM	% Sn										
FROM	TO	m	%			FROM	TO	TOTAL	% STAN.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag.
0	54	12		Weathered rock and clays. Very broken-low recovery. Massive tuff sandstones. Grey to brown. Medium to coarse grained fragments.												
54	58			Fresh brown-grey massive coarse greywacke.												
58	68			Grey to light green, well bedded chert. Minor alteration and fracturing. Trace pyrrhotite. BCA's 40°.												
66	74.5			Grey to light grey and cream massive to well bedded carbonate and minor chert. Trace pyrrhotite. BCA'S 40°. Secondary carbonate veinlets. Alteration, veining, fracturing common. Core not broken.												
74.5	78.2			Grades into well bedded chert and black siltstone. Minor carbonate veinlets, otherwise non calcareous. Minor bedded pyrrhotite in black siltstones.												
78.2	84.4			Grey to black slightly slumped or contorted siltstones with minor carbonate veigs. Trace pyrrhotite in cross cutting veinlets. BCA's 50°.												
84.4	87.5			Black calcareous siltstone. Well bedded BCA's 60°. Trace pyrrhotite disseminated throughout. Calcite veinlets and veins. Several slumped layers.												
87.5	94.1			Grey to cream bleached well bedded cherts and altered siltstones. Variably contorted and microfaulted bedding. Rare carbonate veinlets. Trace pyrrhotite. BCA's reach 40° at 92m. Then after 92m, very brecciated, silicified chert with actinolite alteration (highly fractured).												
94.1	108.5			Dark grey to brown massive non magnetic tuff siltstone (50%) and one metre zones of green to cream mottled brecciated chert zones (50%). Chert zones are extremely brecciated and bedding is slumped. Trace pyrrhotite, actinolite, quartz.												
108.5	116.2			Non magnetic black to dark grey massive to thick bedded tuff siltstone. Hornfelsed. Very minor altered chert zones displaying minor brecciation with trace pyrrhotite. Few alteration veinlets. BCA 45°.												
116.2	120.5	1		Highly broken zone with core loss. Fault? 116.2-11.2 only 1 metre. Grey siltstone with green alteration.												
120.5	122.3			Light brown siltstone with minor brecciated chert plus alteration (actinolite veining).												
122.3	125.0			Grey to cream-green carbonate and brecciated chert. Trace pyrrhotite. Carbonate veining. Core broken from 124.2 to 125m. Bedding variable.												
125.0	129.0			Dark grey hornfelsed massive siltstone. Core very broken. Trace carbonate veining. Non magnetic.												

314037

DIAMOND DRILL RECORD

HOLE NUMBER ML 42

LOGGED BY A. ROSS.

037

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM	% SH											
FROM	TO	m	%			FROM	TO	TOTAL	AN	STAN	% Cu	% As	% S	% Pb	% Zn	% Bi	g t Ag
129.0	131.3			Core less broken. Horn-felsed massive siltstone with minor green actinolite alteration. Non magnetic.													
131.3	147.7			Core very broken and moderately magnetic from 132.4 to 147.7m. Dark grey hornfelsed massive siltstone. Minor rhodocrosite? (red) veining at 136m, 140.4m. Minor actinolite alteration.													
147.7	189.9			Non magnetic dark grey hornfelsed massive siltstone. Core not broken. BCA's av 60° in minor bedded siltstone layers. Very minor actinolite alteration. Brecciated chert from 163.4 to 164.0m. BCAs 45° at 165m grading to 40° at 188m. Alteration and veining increasing from 160m. Broken carbonate veins, brecciation and calcite filled voids from 178.6 to 179.2m (similar to hole 44).													
189.9	190.6			Bleached light green to brown well bedded chert with trace pyrrhotite. Slightly brecciated. Altered tuff siltstone.													
190.6	192.9			Dark grey to black massive siltstone. Non magnetic.													
192.9	202.1			Light brown to cream-grey well bedded chert. Partly brecciated with trace pyrrhotite in veinlets. Slightly contorted. BCA's av 60°. Includes altered tuff. Bleached mottled green, brown, grey at base of interval.													
202.1	216.7			Dark grey to black massive to thick bedded siltstone and tuffaceous greywacke. Non magnetic. Rare altered or brecciated zones with traces pyrrhotite.													
216.7	224			Slightly to moderately magnetic siltstone and greywacke. Bedded. Broken core with minor carbonate veinlets from 216.7 to 219.8m. Broken from 221-224m.													
224	233			Non magnetic unbroken dark grey to black siltstones and greywacke. Thick bedded. BCA 60°.													
233	313			Moderately to strongly magnetic dark grey siltstones and greywacke. BCA's approach 80° at 225m and are 90° by 260m. Well bedded zones of dark grey siltstone and thicker layers of greywacke. Minor actinolite-chlorite alteration in veinlets. Otherwise monotonously featureless. Minor slumped zones and layers of mud pellets in coarser fractions (especially at 272m). BCA's 80 to 90° from 275 to 313m. Minor rhodocrosite veinlets at 280.9m.													
313	318.5			Zone of broken core with strong actinolite veinlets throughout and minor rhodocrosite veinlets. Zone of brecciated chert from 316.2 to 316.8m, with minor quartz on joints. Possible fault? although BCA's are unaltered. Nonmagnetic.													
318.5	332.3			Magnetic siltstone and greywacke. BCA's 80-90°.													

314038

DIAMOND DRILL RECORD

HOLE NUMBER ML 42

LOGGED BY A. ROSS.

4.495

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM.	ANALYSIS										
FROM	TO	m	%			FROM	TO	TOTAL	% Sn	% Cu	% As	% S	% Pb	% Zn	% Br	g/t Ag
				Slumping and deformed bedding common from 325m. From 330.5m bedding is slumped with BCA's approx. 75-80°.												
332.3	348.2			Mottled rock. Green-brown alteration and minor well bedded chert. Nonmagnetic. Noncalcareous. Altered siltstone and greywacke prior to carbonate. BCA's 70°. Well bedded towards base of interval. Bleached mottled colour. Minor microfracturing and brecciation. Rare veins of pyrrhotite at 341m. Well laminated chert and black siltstone common at base (from 347 to 348.2m).												
348.2	401.6			Grey to light grey and cream well bedded carbonate and chert. BCA's av 70°. Mainly carbonate with minor chert to 394m. Secondary calcite veins. Rare stylonites. Trace sulphide in places but otherwise barren. From 394m to 401.6m, mainly chert with minor carbonate. Well laminated. BCA's 70° with minor black graphite? siltstone and trace pyrrhotite. Sulphide veinlets common.												
401.6	406			Dark brown to grey altered siltstone and greywacke chert. Mottled colours. Curious angular fragments from 403.2 to 404m.												
406	411			Grey siltstones and greywackes with slumping similar to 325 to 330 interval. Minor actinolite alteration: Non-magnetic.												
411	429			Non magnetic dark grey siltstone with greywacke. Thick bedded. BCA's 70-80°. Little alteration.												
429	460			Grades into strongly magnetic dark grey siltstone and greywacke. BCA's 70-80°. Rare alteration. Small broken zone at 458m. Minor quartz actinolite veinlets in last 2m of core.												
				END OF HOLE 460m.												

038

314039

# RENISON LIMITED - DIAMOND DRILL RECORD

HOLE NUMBER	ML 43	SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D. Sin Dip	R.L.	D. Cos Dip	Prog. Total
PURPOSE	<i>To test Main Lode at old Mt. Lindsay Mine workings.</i>	0	030	-61½	0-40	40	35.2	2443.9 2408.7	18.9	18.9
LOCATION	MT. LINDSAY EL 2/63	83	027½	-61	40-108	68	59.5	2349.2	33.0	51.9
COLLAR R.L.	2443.9	130	023	-58½	108-152	44	37.4	2311.8	23.2	75.1
CO-ORDINATES	31970.1 N 10846.9 E	195	009	-52	152-226	74	58.3	2253.5	45.6	120.7
LENGTH	257m	257	012	-50½	226-257	31	24.0	2229.5	19.6	140.3
HOLE SIZE	0-15 NQ 15-257 BQ									
COMMENCED	17-2-77									
COMPLETED	2-3-77									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	A. RUSS.									
COMMENTS	<i>Failed to intersect mineralisation. Chert horizon with trace pyrrhotite intersected from 15 to 52m.</i>									

### SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m.)	AVERAGE WEIGHTED ASSAYS									
				Sn.	Cu.	As.	S.						

### SUMMARY METALLURGICAL DATA      COMPOSITE SAMPLE

LODE NAME	FROM	TO	Sn.	Cu.	As.	S.	Ca F <sub>2</sub>	Ag.	Bi.		Sn - Rec.	Cu - Rec.	Carb.	Silic.	S.G.

039

314040

## DIAMOND DRILL RECORD

HOLE NUMBER M1 43

LOGGED BY: A. ROSS.

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM	% Sn.												
FROM	TO	m	%			FROM	TO	TOTAL	As	STAN	% Cu	% As	% S	% Pb	% Zn	% Bi	g Ag	WO <sub>3</sub>
0	9	3		Very broken, fresh dark grey hornfels.														
9	15.5			Dark grey hornfelsed siltstone. BCA 30°. Bedded. Slight actinolite veinlets.														
15.5	33			Grades into intensely silicified but dark grey to blue-brown, blotchy, highly brecciated and deformed siltstone. Altered Trace sulphide. Non calcareous.														
33	35.4			Increase in alteration and colour change. Light grey to cream, silicified veined chert siltstone with slumped texture. Trace sulphide (pyrrhotite).														
35.4	38.3			Dark grey chert. Massive with minor actinolite veining.														
38.3	38.6			Large fragments in brecciated chert.														
38.6	41.0			Increase in brown colour. Well bedded, although slumped laminated chert BCA 25°. Trace sulphide.														
41.0	52.2			Very altered and brecciated, veined chert with colour ranging from light cream to grey brown. Greater sulphide content. Minor pyrrhotite in rare bands. Slightly calcareous. Generally contorted.														
52.2	54.4			Very dark grey to black massive chert with irregular swirled veinlets or slumped bedded sulphide. May be altered graphitic bed.														
54.4	54.7			Light coloured silicious bedded zone with trace sulphide. BCA 45°.														
54.7	180.3			Blue grey to brown thick sequence of coarse to medium grey well bedded sandstone-greywacke. Pebbles. Cross bedding common. Very rare alteration. BCA av 40°. Graded bedding indicates way up is down the hole. Cobble sized fragments at 73.5m. After 80m, matrix is not as coarse. Siltstone to greywacke. BCA's 45° at 80m, 50° at 100m, 70° at 135m. Increase in alteration from 85 to 90m with minor quartz veins. From 106m, increase in overall brown colour (formerly a blue grey colour). Slight mottled appearance. Minor spotted zones up to 136m become common from 140 to 150m. Sediments have sugary (sandstone) texture to 155m. After 155m, more siltstones. BCA's 45°. From 164m, mottled colour common. Blue, grey, green, brown. Interval is non calcareous.														
180.3	186	4		Very broken, brecciated, possibly faulted material at contact with granite. Includes banded chert and possible calc silicate. Trace sulphide. Brecciated fragments with mafic matrix. Core loss. Hit water.														

040

314041

DIAMOND DRILL RECORD

HOLE NUMBER ML 43

LOGGED BY A. ROSS.

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM	% Sn.											
FROM	TO	m	%			FROM	TO	TOTAL	As	STAN	% Cu	% As	% S	% Pb	% Zn	% Bi	g/t Ag
186	257			Coarse grained biotite rich <del>actinolite</del> with traces of sulphide. Minor enriched zones of tourmaline.													
				END OF HOLE 257m.													

041

314042

# RENISON LIMITED - DIAMOND DRILL RECORD

HOLE NUMBER	ML 44	SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D. Slo Dip	R.L.	D. Cos Dip	Prog. Total
PURPOSE	<i>To test sequence above D.D.H. 38.</i>	0	040°	-47½	0-50	50	37.0	2322.2	33.6	33.6
		100		-49½	50-126	76	57.6	2227.6	49.6	83.2
LOCATION	MT. LINDSAY EL 2/63	153		-47½	126-176	50	36.7	2190.9	33.9	117.1
		202	040	-45½	176-226	50	35.8	2155.1	34.9	152.0
COLLAR R.L.	2322.2	251		-44½	226-276	50	34.9	2120.2	35.8	187.8
		300		-43½	276-326	50	34.6	2085.6	36.1	223.9
CO-ORDINATES	31436.5 N 11535.0 E	349.4		-42½	326-349	23	15.5	2070.1	17.0	240.9
LENGTH	349.4m	Bearings affected by magnetite								
HOLE SIZE	0-88 NQ 88-349.4 BQ									
COMMENCED	18-2-77									
COMPLETED	8-3-77									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	A. ROSS.									
COMMENTS	<i>Intersected barren carbonate from 43 to 122m; correlated with major barren carbonate horizons previously intersected in D.D.H's 38, 40, 42.</i>									

### SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m.)	AVERAGE WEIGHTED ASSAYS						
				Sn.	Cu.	As.	S.			
<i>NO. 2 ANOMALY CARBONATE HORIZON</i>	<i>43</i>	<i>122</i>	<i>51 (true)</i>	<i>&lt;0.1</i>						

### SUMMARY METALLURGICAL DATA COMPOSITE SAMPLE

LODE NAME	FROM	TO	Sn.	Cu.	As.	S.	Ca F <sub>2</sub>	Ag.	Bi.		Sn - Rec.	Cu - Rec.	Carb.	SiH <sub>4</sub>	S.F.

042

314043

DIAMOND DRILL RECORD

HOLE NUMBER ML 44

LOGGED BY A. ROSS

043

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM	% Sn											
FROM	TO	m	%			FROM	TO	TOTAL	As	STAN.	% Cu	% As	% S	% Pb	% Zn	% Bi	g t Ag
0	34	6		Clays and weathered, semifresh magnetic greywacke.													
34	43	1		Green brown clays and weathered non magnetic greywacke.													
43	67	4		Orange brown clays and weathered carbonate.													
67	122			Fresh grey, barren carbonate. Trace pyrrhotite in altered zone from 86 to 96m. Garnet-vesuvianite alteration from 86 to 96m. BCAs 30° at 70m changing to 45° at 120m. Mainly impure carbonate to 105m, after 105m greater chert, siltstone content. Coarse epidote at 117m. Trace pyrrhotite from 105 to 122m. Vuggy recrystallised calcite from 117 to 117.5m.													
122	349			Dark grey siltstones and greywackes. Varying magnetic response. Core very broken from 132.3 to 134m where water was hit. Less broken to 139m. Slight quartz actinolite alteration. At 135m, narrow quartz-pyrrhotite-chalcopyrite vein. Actinolite veining and slight brecciation from 140 to 146m. BCAs 45° in well bedded siltstones and greywackes. Red rhodocrosite on joints from 152 to 154m. BCA 60° at 155m and av 60° by 180m. Little alteration from 146 to 200m. Increase in actinolite alteration from 200 to 205m. Broken zone from 209 to 210.4m with little alteration.  212.3 to 213.5m. Altered zone with brecciated fragments and irregular veining by chlorite. No sulphides. Minor alteration to 215m. BCAs 30° at 224m. Minor alteration and carbonate veining from 222.6 to 223m.  BCAs 60° at 230m. Minor actinolite, quartz veining. No alteration after 265m to 280m.  Rhodocrosite common on joints from 277 to 299.5m. Core broken from 285 to 299.5. Brecciated fragments from 289.6 to 290.3m. BCAs 60° at 295m.  From 299.5 to 349, monotonous dark grey siltstones, greywackes with minor zones (0.2m) of quartz actinolite alteration. BCAs 60-70°. Several minor broken zones.  END OF HOLE 349m.													

314044

044

REINSON LIMITED

INTRA OFFICE MEMORANDUM

FROM: ASSISTANT METALLURGIST

TO: CHIEF RESEARCH METALLURGIST

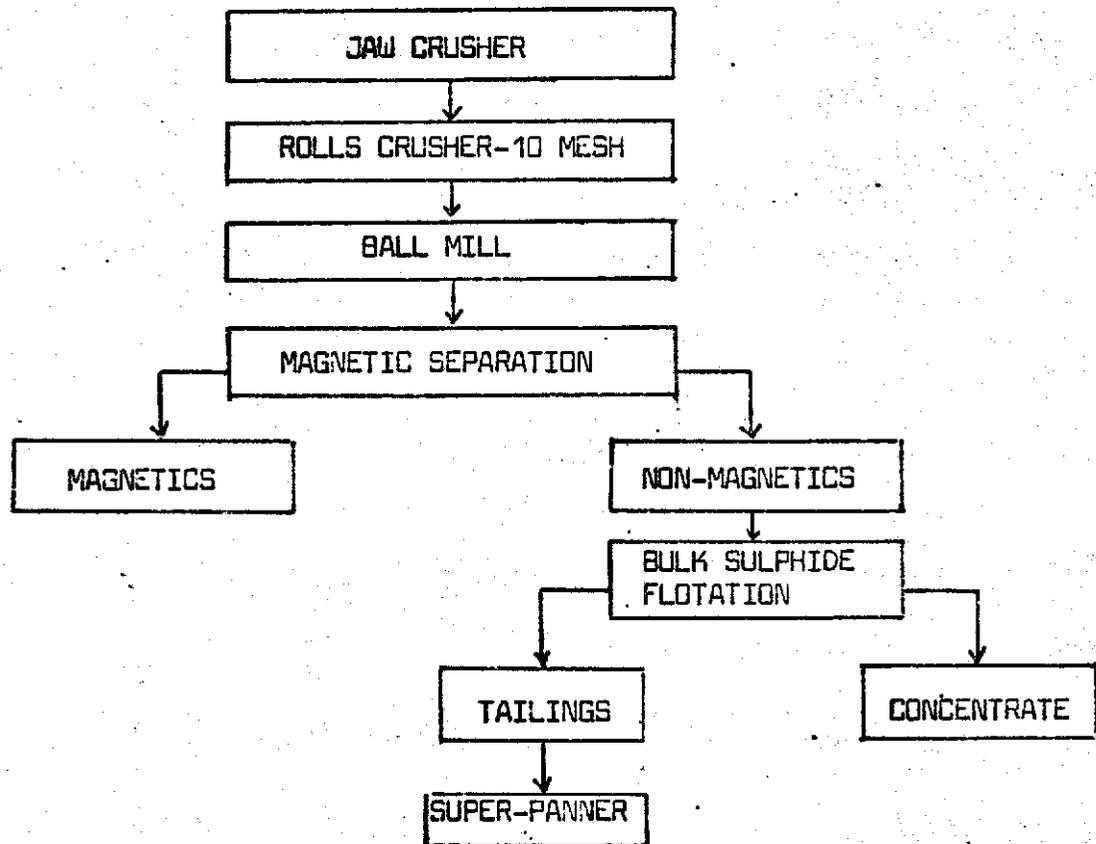
SUBJECT: LABORATORY TREATMENT OF MOUNT LINDSAY DRILL CORE

1.0 INTRODUCTION

From preliminary laboratory testwork of Mount Lindsay core sample M.L.38, the following test procedure is proposed to assess the amenability of Mount Lindsay ore to comminution, pre-concentration by low intensity wet magnetic separation, sulphide flotation and gravity separation.

2.0 TEST PROCEDURE

2.1 Laboratory Treatment Flowsheet



2.2 SAMPLE PREPARATION

Core samples are composited according to the mineralization of each drill hole. Sixteen hundred grams of sample is required for each laboratory assessment; after comminution by jaw crushing, followed by a closed circuit rolls crushing and ten mesh screening.

Approximately one hundred grams of this material is riffled out for an overall head assay with the remaining fifteen hundred grams ready for grinding.

045

2.3 GRINDING

Fifteen hundred grams of sample is placed in a Galligher laboratory ball mill with 750 millilitres of water and ground for fifteen minutes to liberate as much cassiterite as possible while producing minimal cassiterite slimes. Emphasis is placed on grinding sulphide minerals to sizes amenable to sulphide flotation.

2.4 MAGNETIC SEPARATION

After grinding, the pulp is passed through a stainless steel Sala low intensity wet drum magnetic separator where the magnetic fraction is removed, dried, weighed and prepared for assay. The non magnetic material is filtered to remove excess water and placed in a three litre Agitair flotation cell ready for sulphide flotation.

2.5 SULPHIDE FLOTATION

Sulphide minerals are floated in a three litre Agitair flotation cell at 700 R.P.M. using the following procedure.

1. Record the natural ph and reduce to ph 5.8 using 5% sulphuric acid and maintain for five minutes.
2. Add four millilitres of 5% Copper Sulphate and condition for two minutes.
3. Condition for one minute with one millilitre of 10% Sodium Iso-propyl Xanthate.
4. Add four drops of M.I.B.C. frother.
5. Float till barren and record time.
6. Add a further half millilitre of xanthate plus make up water and scavage if required.
7. Filter, Dry, Weigh, concentrate and tail.

2.6 SUPERPANNING

Three hundred grams of sulphide rougher tail is taken and sized at 106+38 . microns, -38+6 microns, and -6 microns. A sample is taken for assay out of the -38 micron material, in order to calculate the assay of the -6 micron material. A standard drill core release analysis superpanning is then performed on the three size fractions with products being assayed for tin.

2.7 ASSAYS

All products are assayed as follows.

PRODUCT	WO <sub>3</sub>	Sn	S	Fe	As	Cu	Ag	Pb	Stannite	Total Insol.
Head Assay	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Magnetics	✓	✓	✓	✓		✓				
Non Magnetics		✓	✓	✓	✓	✓				
Sulph. Flot. Tail		✓	✓	✓	✓	✓		✓		
Sulph. Flot. Core		✓	✓	✓	✓	✓	✓		✓	✓
Superpannings		✓								

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3.0 DISCUSSION

The test procedure outlined in this report gives an estimate of the amenability of the Mount Lindsay drill core to grinding, magnetic separation, sulphide flotation and gravity separation.

Three tests were performed on M.L. 38, to determine a grind suitable for sulphide flotation without producing excess slime cassiterite. The grinding times used were 11, 13 and 15 minutes producing the following size ranges.

Microns	Percent Weight		
	11	13	15
+106	51.9	47.2	35.1
+38	75.6	73.9	66.4
-38	24.4	26.1	33.6

The test using the 15 minute grinding time yielded acceptable levels of slime cassiterite and an overall size range suitable for sulphide flotation.

Test three sample consisted of the richer zones of core mineralization of tests one and two with test three drill core intersections at 353 to 369 metres compared to tests one and two intersections of 353 to 378 metres. (see head assays tables 1,2,3,)

Liberation of cassiterite from the magnetic concentrate was difficult to determine on drill core assessments, owing to the relatively small weight department to magnetics and further testwork on this product should be performed on large bulk samples.

4.0 CONCLUSION

1. Results of Sulphide Flotation tests (table 1.) indicate higher sulphide recoveries without any major mineral in tin loss at a grinding time of 15 minutes. Superpanning recoveries and grade were increased slightly at this grinding time while slime losses were kept at acceptable levels.
2. The main tin losses incurred in all tests were due to cassiterite/magnetite composites reporting to the magnetic concentrate.

5.0 RECOMMENDATIONS

1. The test procedure outlined in 2.1 is recommended on further assessments using conditions as discussed in 4.1 above.
2. Further testwork be performed on the cassiterite/magnetite composite reporting to the magnetic concentrate.
3. As the bulk sulphide flotation concentrate assayed between three and five percent copper, further testwork is recommended on large samples to assess production of a saleable grade copper concentrate.

R.O. DEVLIN.

26th April, 1977.

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TABLE:111 MINUTE GRIND

	%wt	%As	%Sn	Dist.	%Fe	Dist	%S	Dist	%Cu	Dist
Magnetics	23.4		0.79	17.4	45.7	37.6	0.99	10.8	0.047	4.7
Sulphide Conc	3.1	2.82	0.38	1.1	36.2	3.9	20.0	28.9	5.0	65.7
Sulphide Tail	73.5	0.27	1.18	81.5	22.6	58.5	1.76	60.3	0.095	29.6
Head	100.0		1.06	100.0	28.4	100.0	2.15	100.0	0.24	100.0

TABLE:2

13 MINUTE GRIND

	%wt	%As	%Sn	Dist	%Fe	Dist	%S	Dist	%Cu	Dist
Magnetics	22.5	0.02	0.69	14.6	46.3	36.6	0.79	9.7	0.043	4.1
Sulphide Conc	4.3	3.24	0.30	1.2	43.8	6.6	20.5	48.2	4.50	81.4
Sulphide Tail	73.2	0.21	1.22	84.2	22.1	56.8	1.05	42.1	0.047	14.5
Head	100.0	0.30	1.06	100.0	28.5	100.0	1.83	100.0	0.24	100.0

TABLE:3

15 MINUTE GRIND

	%wt	%As	%Sn	Dist	%Fe	Dist	%S	Dist	%Cu	Dist
Magnetics	28.1	0.01	0.90	14.7	49.3	43.6	0.36	7.3	0.020	4.1
Sulphide conc	4.0	4.82	0.74	1.8	39.0	4.9	25.8	74.6	2.95	85.6
Sulphide Tail	67.9	0.14	2.11	83.5	24.1	51.5	0.37	18.1	0.021	10.3
Head	100.0	0.29	1.72	100.0	31.8	100.0	1.38	100.0	0.138	100.0

TABLE:4

SUPERPANNING RESULTSTEST 1 .

Micron size	wt	%wt	%Sn	%Sn Dist.
+106 conc	8.3	2.8	16.4	36.4
+106 Tail	149.0	49.6	0.23	9.0
+106 Head	157.3	52.4	1.09	45.4
+38 conc	3.4	1.1	39.3	34.3
+38 Tail	66.2	22.0	0.15	2.6
+38 Head	69.6	23.1	2.01	36.9
-38 conc	0.9	0.3	49.0	11.7
-38+6 Tail	37.1	12.4	0.15	1.5
-6 Microns	35.5	11.8	0.49	4.5
-38 Head	73.5	24.5	0.91	17.7
<u>TOTAL CONC:</u>	12.6	4.2	24.7	82.4
<u>TOTAL TAIL:</u>	287.8	95.8	0.17	13.1
<u>HEAD:</u>	300.4	100.0	1.26	100.0
<u>-6 MICRONS:</u>	35.5	11.8	0.49	4.5

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TABLE: 5

TEST 2

Micron size	Wt	%Wt	%Sn	%Sn Dist.
+106 conc 1	1.57	0.5	43.9	17.6
+106 conc 2	5.32	1.9	9.83	15.0
+106 Tail	128.20	44.3	0.22	7.8
+106 Head	135.09	46.7	1.08	40.4
+38 conc	2.15	0.7	60.6	34.0
+38 Tail	73.00	25.2	0.22	4.3
+38 Head	75.15	25.9	1.85	32.3
-38 conc	2.67	0.9	23.5	16.9
-38 Tail	40.99	14.2	0.11	1.3
-38 Head	79.36	27.4	0.97	21.3
-6 Microns	35.7	12.3	0.31	3.1
<u>TOTAL CONC 1</u>	6.39	2.1	38.87	68.5
<u>TOTAL CONC 2</u>	5.32	1.9	9.83	15.0
<u>TOTAL TAIL</u>	277.89	96.0	0.22	16.4
<u>HEAD</u>	289.6	100.0	1.25	100.0
<u>-6 Microns</u>	35.7	12.3	0.31	3.1

TABLE: 6

TEST 3

Micron size	Wt	%Wt	%Sn	%Sn Dist.
+106 conc 1	1.8	0.6	51.1	14.5
+106 conc 2	2.3	0.8	10.9	4.2
+106 Tail	90.4	30.6	0.25	3.6
+106 Head	94.5	32.0	1.47	22.3
+38 conc 1	2.5	0.8	68.6	26.0
+38 conc 2	1.6	0.5	50.1	11.9
+38 Tail	90.3	30.5	0.34	4.9
+38 Head	94.4	31.8	2.84	42.8
+38+6 conc	2.3	0.8	68.6	26.0
-38+6 Tail	56.9	19.2	0.43	3.9
-6 Microns	47.8	16.2	0.65	5.0
-38 Head	107.0	36.2	2.04	34.9
<u>TOTAL CONC 1</u>	6.6	2.2	63.8	66.5
<u>TOTAL CONC 2</u>	3.9	1.3	26.0	16.0
<u>TOTAL TAIL</u>	237.6	80.3	0.33	12.5
<u>HEAD</u>	295.9	100.0	2.11	100.0
<u>-6 Microns</u>	47.8	16.2	0.65	5.0

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TABLE: 7

MAGNETIC CONCENTRATE

Microns	<u>TEST 1.</u>			<u>TEST 2</u>			<u>TEST 3.</u>		
	%wt	%Sn	Dist.	%wt	%Sn	Dist.	%wt	%Sn	Dist.
+300							1.2	0.85	1.0
+212							6.4	1.16	7.3
+150	41.1	1.02	56.0	37.1	0.97	51.2	16.9	1.27	21.1
+106	15.0	0.95	19.0	17.5	0.90	22.4	20.6	1.14	23.1
+75	11.8	0.71	11.2	13.9	0.71	14.1	11.9	0.94	11.0
+53							17.2	0.75	12.9
+45	14.6	0.43	8.4	15.6	0.37	8.2	3.5	0.59	2.0
+38							2.9	0.28	0.8
+26							4.1	2.40	9.7
+20							4.9	0.46	2.2
+14	17.5	0.23	5.4	15.9	0.18	4.1	2.1	0.51	1.1
+9							2.9	0.25	0.7
+6							1.4	0.16	0.2
-6							4.0	1.76	6.9
TOTAL -38	17.5	0.23	5.4	15.9	0.18	4.1	19.4	1.09	20.8
A HEAD	100.0	0.79	100.0	100.0	0.69	100.0	100.0	0.90	100.0
C HEAD	100.0	0.75	100.0	100.0	0.70	100.0	100.0	1.02	100.0

TABLE: 8

SULPHIDE ROUGHER TAIL

Microns	<u>TEST 1.</u>			<u>TEST 2</u>			<u>TEST 3</u>		
	%wt	%Sn	Dist	%wt	%Sn	Dist	%wt	%Sn	Dist.
+300							0.8	0.36	0.1
+212							5.0	0.20	0.5
+150	35.2	0.87	24.1	28.9	0.78	19.0	12.9	1.77	11.2
+106	12.2	1.42	13.6	13.2	1.49	16.6	13.9	2.52	17.1
+75	10.7	1.73	14.6	11.0	1.64	15.2	15.4	2.89	21.8
+53							8.9	3.16	13.8
+45	14.3	1.89	21.3	15.3	1.68	21.6	2.4	3.53	4.1
+38							3.2	2.39	3.7
+26							2.1	12.7	13.0
+20							6.6	1.90	6.1
+14	15.5	1.50	18.3				4.1	1.30	2.6
+9				31.6	1.04	27.6	5.9	0.99	2.9
+6							3.8	0.85	1.6
-6	12.1	0.86	8.1				15.0	0.20	1.5
TOTAL -38	27.6	1.22	26.4	31.6	1.04	27.6	37.5	1.51	27.7
A HEAD	100.0	1.18	100.0	100.0	1.22	100.0	100.0	2.11	100.0
C HEAD	100.0	1.27	100.0	100.0	1.19	100.0	100.0	2.05	100.0

TABLE:9SULPHIDE ROUGHER CONCENTRATETEST 1

<u>Microns</u>	<u>%wt</u>	<u>%Sn</u>	<u>Dist.</u>
+150	4.0	0.33	3.3
+106	4.2	0.22	2.3
+75	4.8	0.22	2.6
+38	13.7	0.30	10.2
+6	30.6	0.87	65.8
-6	42.7	0.15	15.8
TOTAL -38	73.3	0.40	81.6
A HEAD	100.0	0.38	100.0
C HEAD	100.0	0.45	100.0

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Part of JURINNA D3/2 SCALE 1:5000 TIN SOIL GEOCHEM.

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5 cm

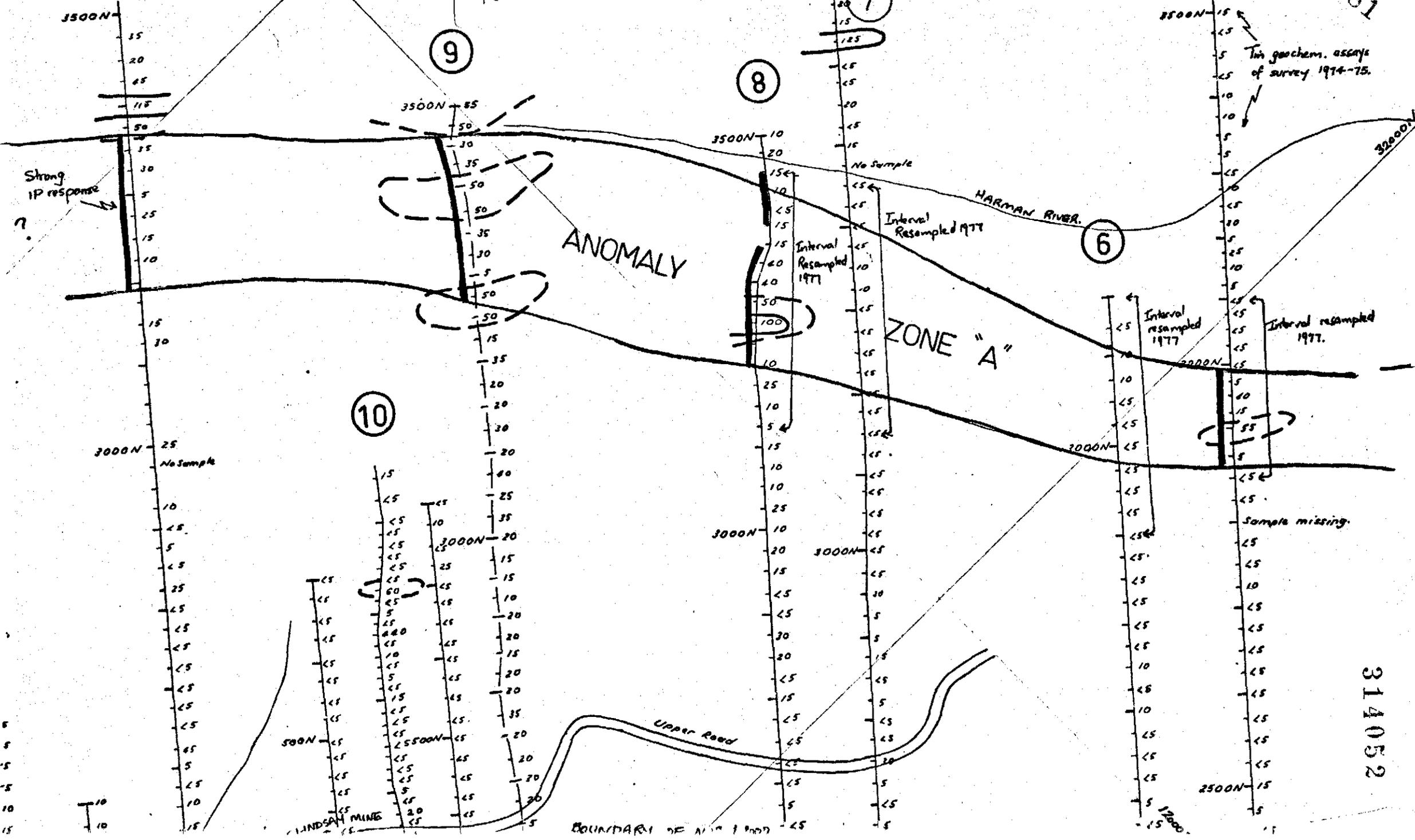
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APPENDIX 5

314053

RENISON LTD

RESAMPLING SHOWN IN BRACKETS.

Sox GEOCHEMISTRY.

Area: MT LINDSAY

Sample Location	Depth(m.)	Horizon	Remarks	ASSAYS (p.p.m.)						
				Sn	Cu	Pb	Zn	As	WO <sub>3</sub>	
M.L. 5 2625mN	0.3	B	Clay	<5	75	25	70	5	<5	
2650mN	"	"	rocky	"	75	25	75	<5	"	C ✓
2675mN	"	"	rocky	"	60	25	90	"	5	
2700mN	"	"	Dk gy clay	"	50	50	90	"	5	
2725mN	"	"	Dk gy clay	10	50	50	55	"	<5	
2750mN	"	"	"	<5	60	50	50	"	"	
2775mN	"	"	"	"	60	70	70	"	"	
2800mN	"	"	Dk gy loam	"	"	"	"	"	"	
2825mN	"	"	Dk gy clay	<5	90	70	60	"	"	
2850mN	(0.35)	"	Choc loam	(50)	(65)	(25)	(145)	(30)	(20)	
2875mN	(0.40)	"	Choc loam	(25)	(50)	(25)	(115)	(20)	"	
2900mN	(0.40)	"	thin soil only	(35)	(70)	(25)	(120)	(35)	"	
2925mN	(0.20)	"	"	(30)	(55)	(25)	(95)	(15)	"	
2950mN	(0.20)	"	Dr Soil on Srrc Slope	(50)	(35)	(20)	(95)	(15)	"	
2975mN	(0.40)	"	Br clay	(10)	(55)	(25)	(95)	(60)	5	C ✓
3000mN	(0.20)	"	Dk br clay near Creek	(20)	(40)	(35)	(85)	(25)	<5	
3025mN	(0.25)	"	Soil	(30)	(50)	(25)	(100)	(15)	"	
3050mN	(0.35)	"	Lt br clay	(60)	(75)	(35)	(135)	(25)	"	
3075mN	(0.40)	"	"	(50)	(45)	(30)	(125)	(25)	"	
3100mN	(0.50)	"	"	(35)	(55)	(30)	(115)	(30)	5	
3125mN	"	"	"	5	40	20	55	35	<5	
3150mN	"	"	Or clay	10	60	20	55	10	"	
3175mN	"	"	Lt Or clay	25	75	20	60	20	5	
3200mN	"	"	Choc-br clay	5	40	20	50	15	5	
3225mN	"	"	Dk br clay	30	70	25	55	20	<5	C ✓
3250mN	"	"	Lt Choc br clay	<5	55	25	70	30	"	
3275mN	"	"	"	10	60	30	65	20	"	
3300mN	"	"	"	<5	40	25	70	15	"	
3325mN	"	"	Br clay	5	50	30	70	10	5	
3350mN	"	"	Br fr. clay	5	45	25	60	30	<5	
3375mN	"	"	Lt br fr. clay	10	50	25	60	<5	<5	
3400mN	"	"	"	10	45	25	60	5	"	
3425mN	"	"	"	<5	45	20	55	15	"	
3450mN	"	"	"	5	65	20	75	20	5	
3475mN	"	"	"	5	80	20	60	20	<5	C ✓

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314054

## RENISON LTD RESAMPLING SHOWN IN BRACKETS

## SOIL GEOCHEMISTRY

Area: MT LINDSAY

Sample Location	Depth(m.)	Horizon	Remarks	ASSAYS (p.p.m.)					
				Sn	Cu	Pb	Zn	As	WO <sub>3</sub>
M.L.6 2625mN	0.3	B	Lt br clay	<5	75	40	95	<5	5
2650mN	"	"	Br clay	"	55	40	85	"	<5
2675mN	"	"	Dk br clay wet	"	75	60	85	"	"
2700mN	"	"	" near creek	10	50	35	70	"	"
2725mN	"	"	Lt br fr clay in creek	<5	55	25	55	"	"
2750mN	"	"	Gr-br soil	10	70	30	70	"	"
2775mN	"	"	Lt br wet fr clay	<5	70	25	80	"	"
2800mN	"	"	gy-br clay	"	65	35	85	"	"
2825mN	"	"	Yell-br clay	"	20	10	25	15	5
2850mN	"	"	lt br-or clay	"	90	25	55	25	<5
2875mN	"	"	Br fr clay	"	75	35	80	<5	5
2900mN	(0.30)	"	gy-br clay near bedrock	(40) <5	(65) 75	(25) 30	(125) 80	(30) 5	(<20) <5
2925mN	(0.75)	"	"	(40) "	(65) 60	(20) 25	(145) 80	(25) <5	"
2950mN	(0.30)	"	Choc-br clay ridge top	(40) "	(45) 55	(30) 30	(115) 70	(25) "	"
2975mN	(0.40)	"	"	(25) "	(35) 30	(15) 35	(110) 75	(25) "	"
3000mN	(0.50)	"	"	(45) "	(60) 35	(20) 30	(120) 70	(<5) "	"
3025mN	(0.30)	"	gy-br fr clay	(45) "	(70) 70	(25) 25	(120) 75	(10) "	"
3050mN	(0.40)	"	"	(35) "	(70) 65	(25) 10	(110) 80	(15) 5	"
3075mN	(0.60)	"	Yell-br clay	(50) 10	(55) 55	(25) 15	(105) 60	(25) <5	"
3100mN	(0.20)	"	Red choc clay	(30) 10	(30) 30	(25) 25	(80) 55	(15) "	"
3125mN	(0.20)	"	Dk br clay	(30) <5	(15) 30	(25) 10	(75) 45	(20) "	"
3150mN	(0.20)	"	"	(45)	(15)	(25)	(70)	(20)	"

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RENISON LTD

RESAMPLING SHOWN IN BRACKETS

SOIL GEOCHEMISTRY

Area: MT LINDSAY

Sample Location	Depth(m.)	Horizon	Remarks	ASSAYS (p.p.m.)						
				Sn.	Cu.	Pb.	Zn.	As.	WO <sub>3</sub>	
M.L.7 2625mN	0.3	B		<5	85	10	90	<5	<5	
2650mN	"	"		"	75	10	85	"	"	
2675mN	"	"		5	60	5	75	"	"	C ✓
2700mN	"	"		<5	65	5	75	"	"	
2725mN	"	"		5	50	<5	70	"	"	
2750mN	"	"		30	35	"	65	"	"	
2775mN	"	"		<5	50	35	70	"	"	
2800mN	"	"		"	50	35	85	"	"	
2825mN	"	"		5	70	45	95	"	"	
2850mN	"	"		<5	65	30	75	45	"	
2875mN	"	"		15	45	35	60	<5	"	
2900mN	"	"		5	50	30	80	"	"	
2925mN	"	"		5	85	40	85	"	"	C ✓
2950mN	"	"		30	50	45	65	"	"	
2975mN	"	"	Lt br soil	<5	60	15	50	5	"	
3000mN	"	"	Br clay	"	60	15	55	5	"	
3025mN	"	"	"	"	75	20	75	15	"	
3050mN	"	"	Lt br fr clay	"	85	20	80	10	"	
3075mN	"	"	Br clay	"	60	15	70	15	"	
3100mN	"	"	DK br fr clay	"	65	20	65	10	"	
3125mN	"	"	Lt br fr clay	"	80	20	65	5	"	
3150mN	(0.45)	"	"	(50)	(18)	(20)	(110)	(40)	(20)	C ✓
3175mN	(0.20)	"	gy-br clay	(35)	(65)	(20)	(105)	(50)	(.7)	
3200mN	(0.40)	"	Br clay	(25)	(65)	(20)	(100)	(50)		
3225mN	(0.30)	"	"	(20)	(55)	(25)	(75)	(60)	<5	
3250mN	(0.20)	"	"	(40)	(55)	(25)	(85)	(40)		
3275mN	(0.40)	"	"	<5	90	20	50	25	5	
3300mN	(0.45)	"	"	(40)	(60)	(20)	(95)	(30)		
3325mN	(0.20)	"	DK br clay	(45)	(60)	(20)	(105)	(35)		
3350mN	(0.40)	"	DK br - yell br clay	"	135	20	55	<5	<5	
3375mN	(0.20)	"	"	(25)	(30)	(20)	(85)	(25)		
3400mN	(0.40)	"	DK br - yell br clay	10	30	15	35	"	"	
3425mN	(0.20)	"	"	(25)	(35)	(20)	(85)	(45)		C ✓
3450mN	(0.40)	"	Yell-br clay	(45)	(55)	(20)	(100)	(25)		
3475mN	(0.25)	"	"	<5	40	20	55	20	5	
3500mN	(0.20)	"	"	(25)	(40)	(15)	(75)	(30)		
3525mN	(0.20)	"	DK br clay	<5	35	20	40	<5	<5	
3550mN	(0.20)	"	"	(25)	(40)	(20)	(80)	(30)		
3575mN	(0.20)	"	DK br clay	"	25	15	45	5	"	
3600mN	(0.20)	"	Br fr clay	(10)	(70)	(20)	(85)	(80)		
3625mN	"	"	No sample Tuff o/c.	"	45	20	60	<5	"	

RENISON LTD

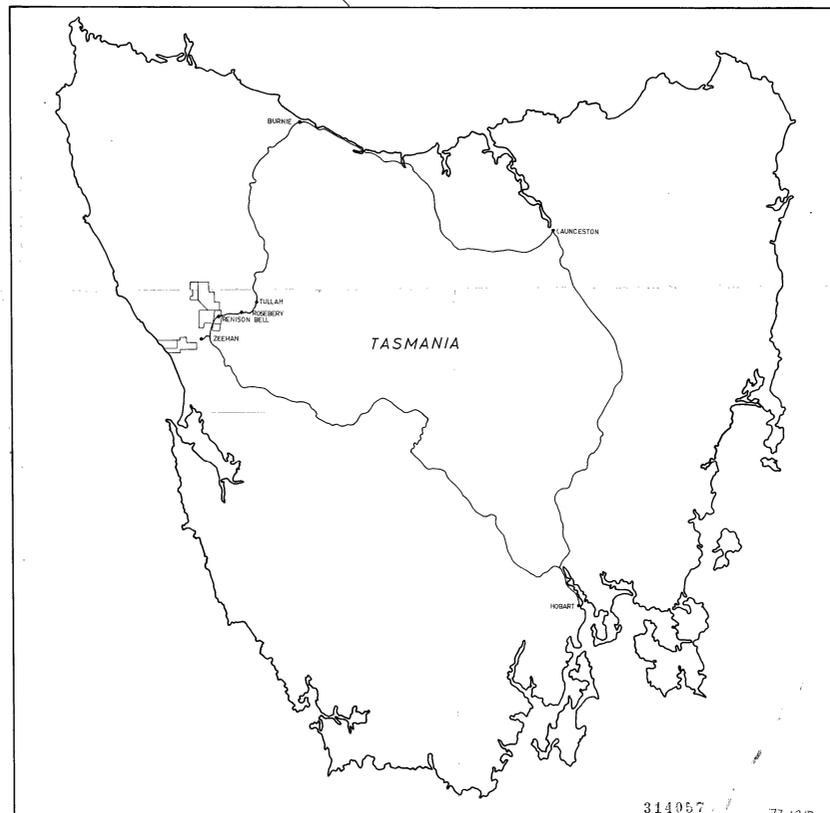
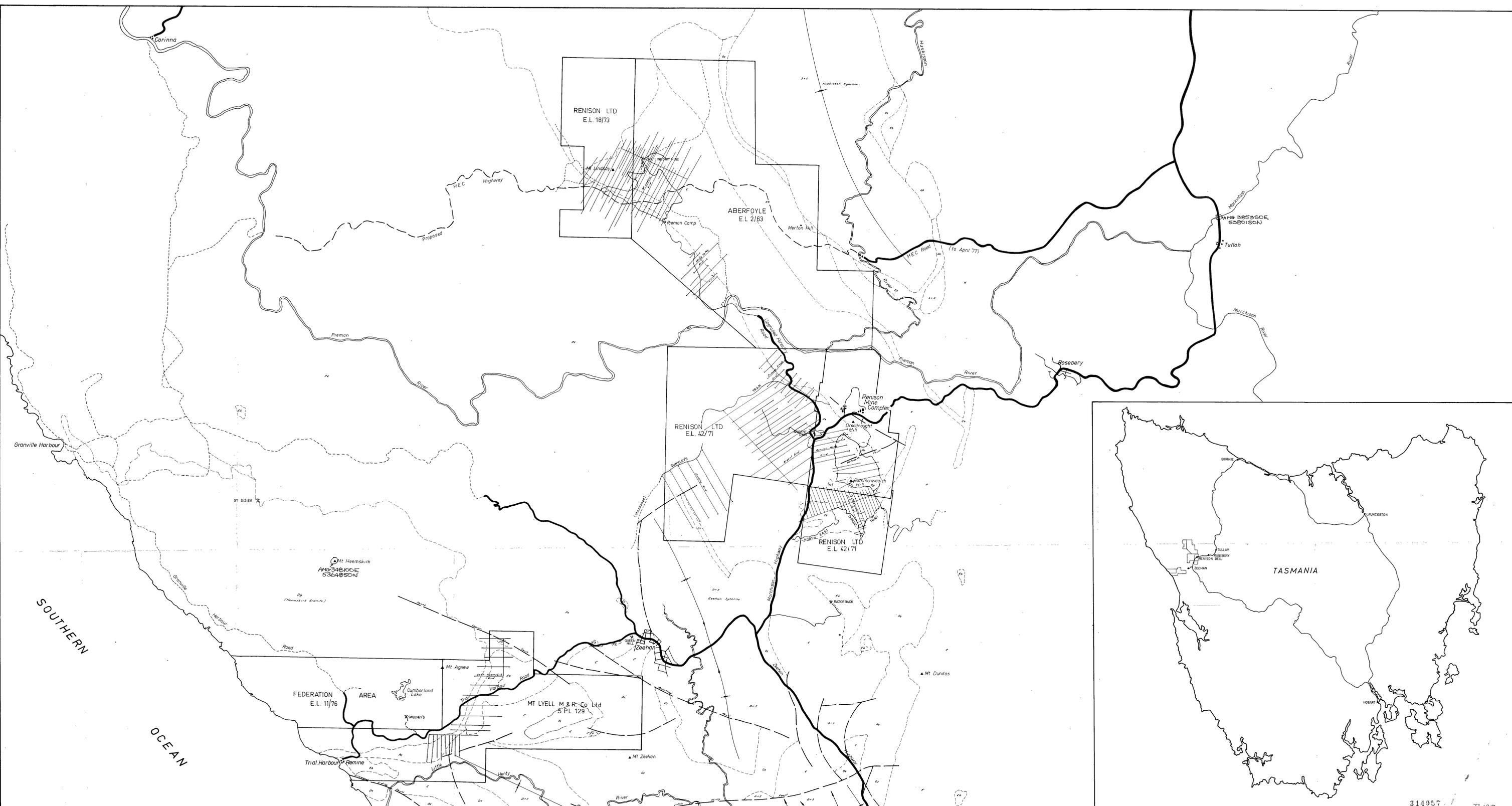
RESAMPLING SHOWN IN BRACKETS.

055

Soil GEOCHEMISTRY

Area: MT LINDSAY

Sample Location	Depth(m.)	Horizon	Remarks	ASSAYS (p.p.m.)					
				Sn	Cu	Pb	Zn	As	WO <sub>3</sub>
M.L.8 2625mN	0.3	B.	choc-br clay	<5	75	10	45	5	<5
2650mN	"	"	hell-br clay	"	95	10	75	10	"
2675mN	"	"	Br clay	5	80	10	65	5	"
2700mN	"	"	"	<5	85	10	75	20	"
2725mN	"	"	Yell-br clay	"	100	5	75	15	"
2750mN	"	"	Dr br clay	"	55	10	40	5	"
2775mN	"	"	Yell-br clay	"	90	10	66	20	"
2800mN	"	"	gritty clay	15	65	20	60	<5	"
2825mN	"	"	Br fr clay	<5	60	20	55	"	"
2850mN	"	"	Lt br fr clay	20	70	20	60	10	"
2875mN	"	"	"	30	70	20	70	15	"
2900mN	"	"	"	<5	55	20	65	<5	"
2925mN	"	"	"	"	90	25	65	45	"
2950mN	"	"	"	15	75	20	70	25	"
2975mN	"	"	"	20	60	20	50	5	"
3000mN	"	"	"	10	100	20	70	15	"
3025mN	"	"	DK br fr clay	25	65	25	95	<5	"
3050mN	"	"	"	10	55	20	50	5	5
3075mN	"	"	Br fr clay	10	40	20	35	<5	<5
3100mN	"	"	"	15	40	20	50	"	"
3125mN	(0.35)	"	Lt br fr clay	(<5)	(25)	(20)	(65)	(60)	(<20)
3150mN	(0.35)	"	Br clay rock at 0.3m	(15)	(50)	(20)	(95)	(15)	"
3175mN	(0.20)	"	"	(20)	(20)	(20)	(80)	(15)	"
3200mN	(0.10) 0.2	"	Small creek	(10)	(35)	(25)	(80)	(50)	"
3225mN	0.1	"	(siltstone) humic rich						
3250mN	(0.15) 0.1	"	(siltstone)	(<5)	(20)	(20)	(70)	(70)	"
3275mN	(0.20) 0.3	"	(siltstone)	(<5)	(35)	(25)	(70)	(70)	"
3300mN	(0.25) 0.15	"	(siltstone)	(5)	(30)	(25)	(70)	(50)	"
3325mN	(0.30) 0.3	"	Br-gy clay	(5)	(40)	(25)	(80)	(60)	"
3350mN	(0.30)	"	"	(<5)	(35)	(20)	(75)	(35)	"
3375mN	(0.30)	"	"	(40)	(30)	(30)	(95)	(30)	"
3400mN	(0.30)	"	Lt br fr clay	(35)	(45)	(25)	(85)	(20)	5
3425mN	(0.25)	"	"	(<5)	(25)	(20)	(80)	(35)	<5
3450mN	(0.3)	"	"	(30)	(30)	(20)	(70)	(60)	5
3475mN	"	"	"	15	60	30	55	<5	5
3500mN	"	"	"	20	55	25	60	"	5
3500mN	"	"	"	10	40	25	65	"	<5



314957 77-12/10

**KEY**

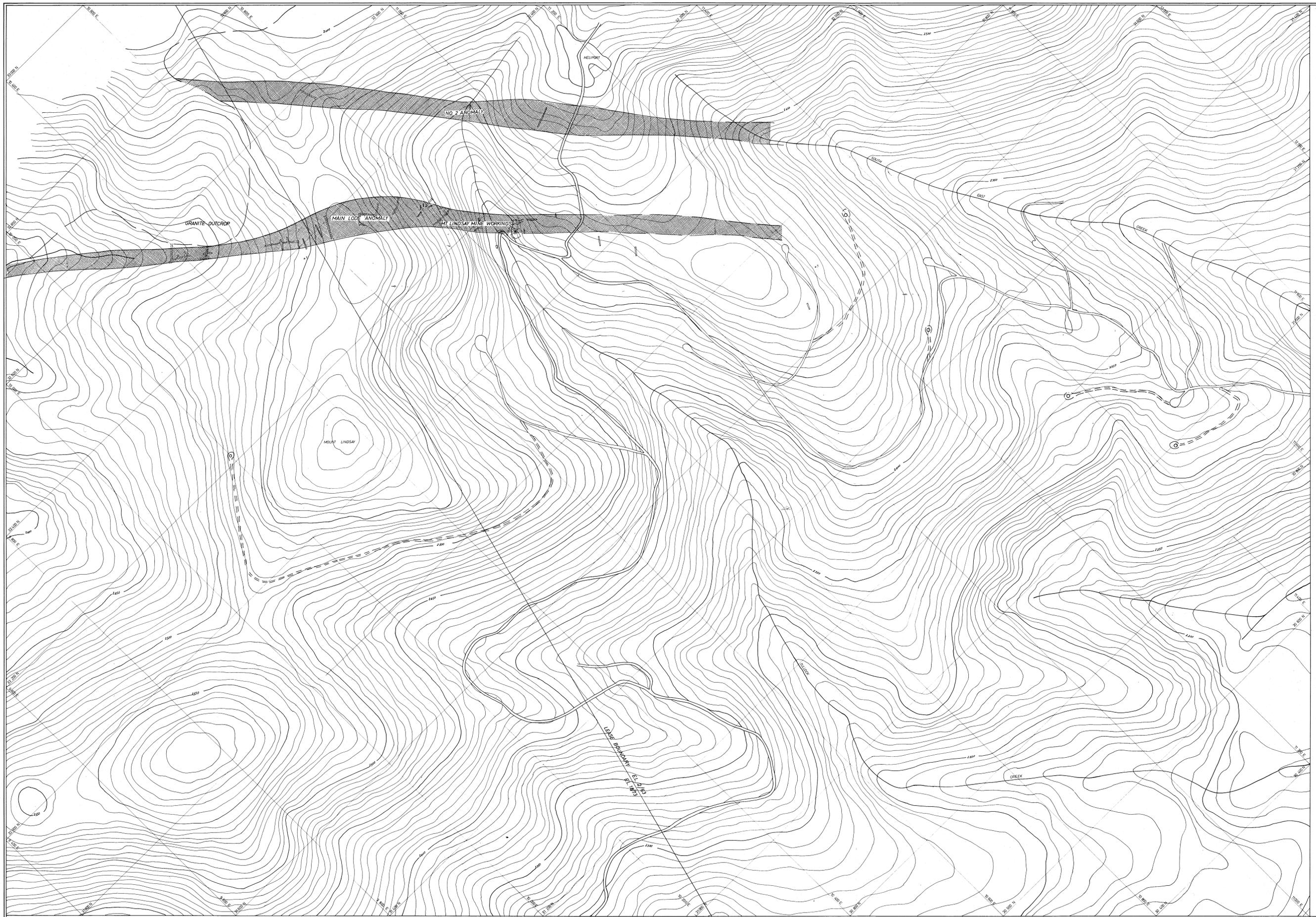

AMG REFERENCE POINTS ADDED

RENISON LIMITED

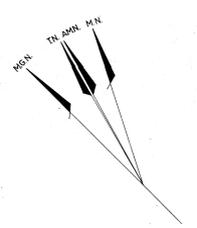
LOCALITY MAP

GEOLOGIST	SCALE 1:50,000 METRES
DRAUGHTSMAN	MAP 1:50,000
DATE	
REVISIONS	DRAWING No.
	MLP 23

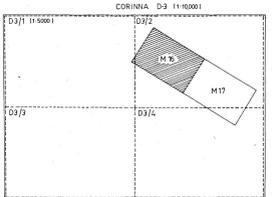
5cm



EXISTING TRACK  
 PROPOSED TRACK & DRILLSITE  
 SEA LEVEL = 2000m



NOTE: Photographs by H.E.C. 1975.  
 Contour interval 5m

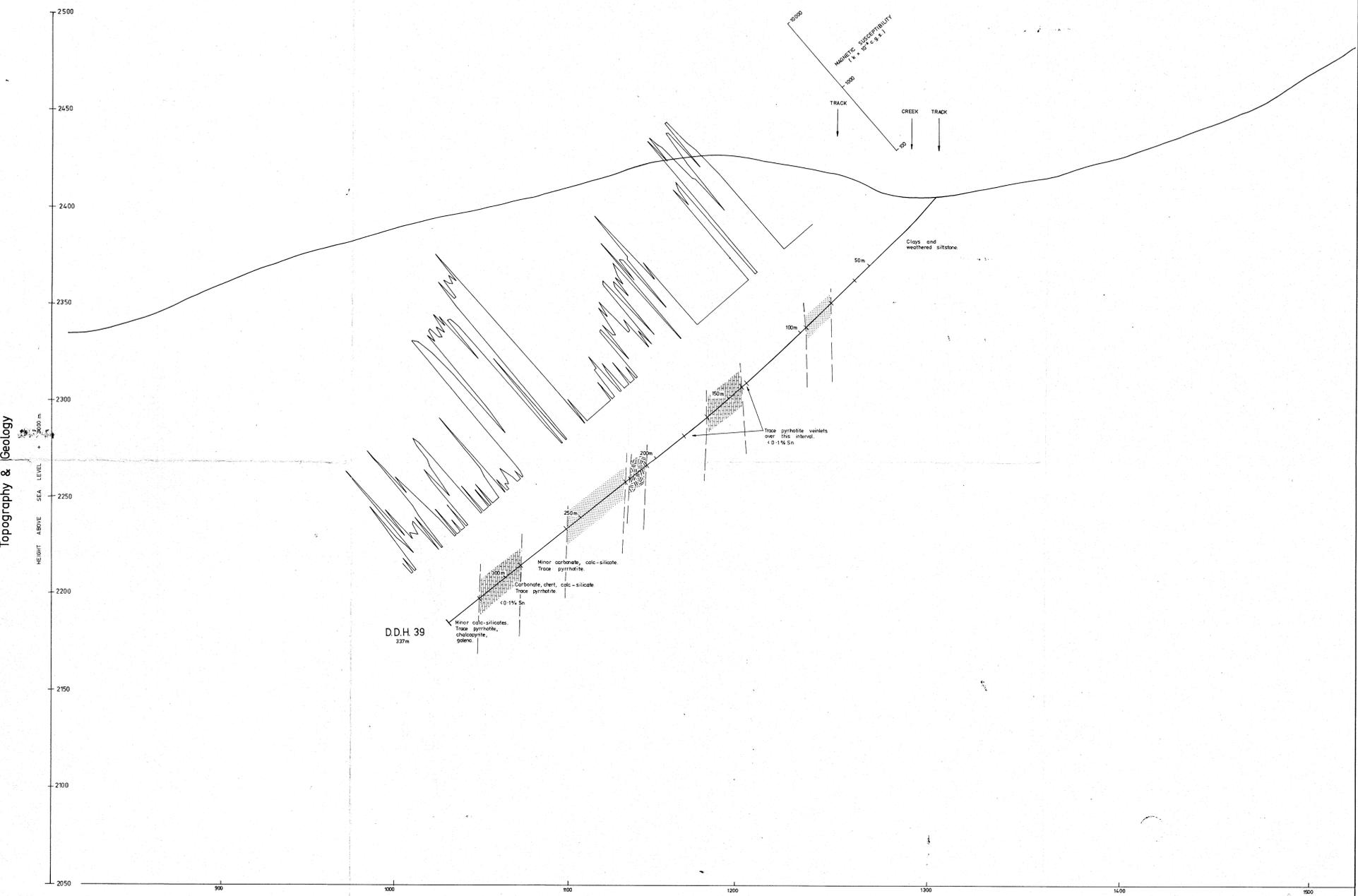
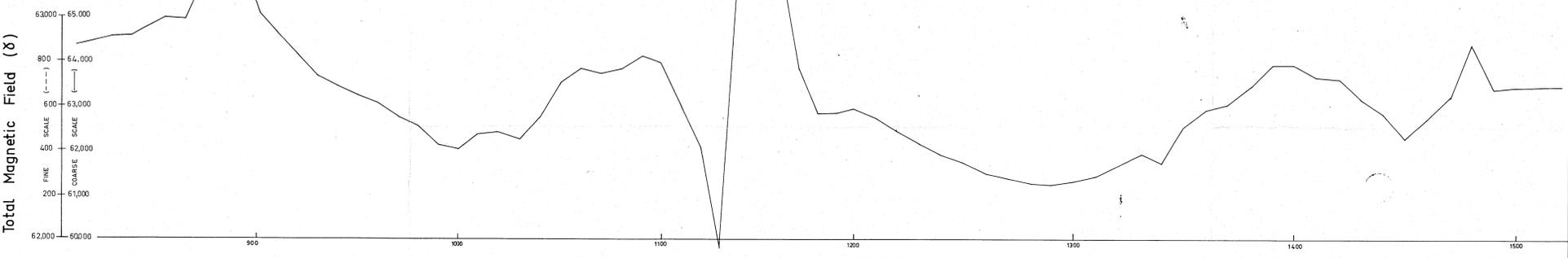
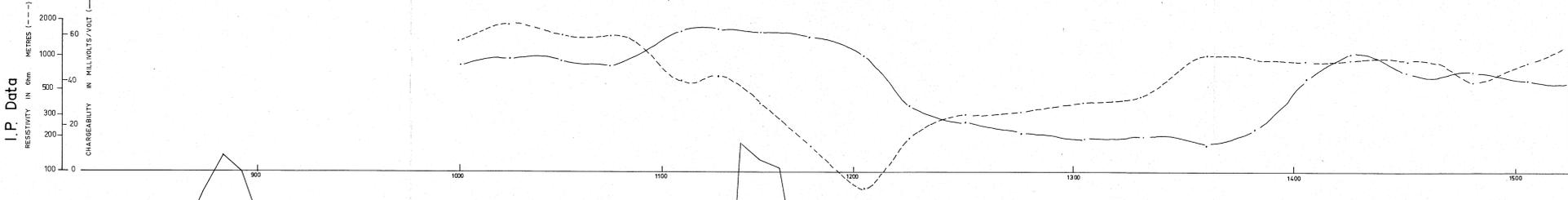
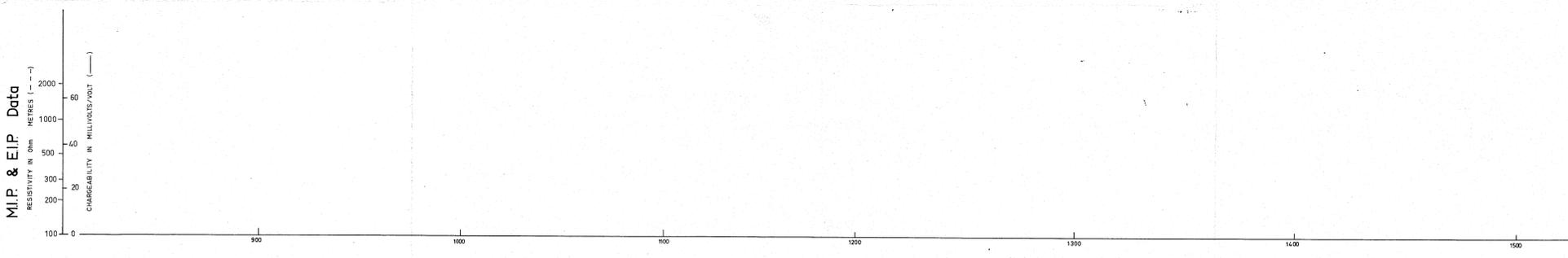
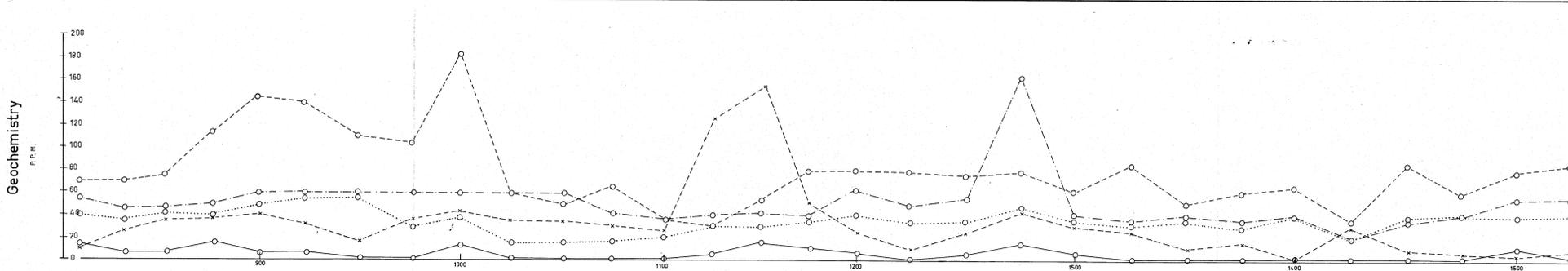


314058 RENISON LIMITED '77-1210

MOUNT LINDSAY M 16  
 PROPOSED ACCESS WORK

GEOLOGIST A. ROSS SCALE 1:2000 METRES  
 DRAUGHTSMAN J.M. MATHEWS  
 DATE APRIL 1977  
 REVISIONS  
 DRAWING No MLP 24





314059

RENISON LIMITED 77-1210

E.L. 18/73  
MT. LINDSAY GRID.  
D.D.H. 39 LINE 12

GEOLOGIST: A. ROSS  
DRAUGHTSMAN: J. MATHEWS  
DATE: MARCH '77

SCALE 1:1000 METRES

REVISIONS: DRAWING No. MLP 25

SECTION LOOKING N.W.

LEGEND

**LP**

- CHARGEABILITY
- RESISTIVITY

**MAGNETICS**

- 5000  $\delta$  SCALE
- 1000  $\delta$  SCALE

**SOIL GEOCHEMISTRY**

- Sn
- Cu
- Pb
- Zn
- As
- W

**VOLCANICLASTIC SEDIMENTS**

- Organic siltstones
- Strongly magnetic zones
- Bedded chert horizons
- Bedded mineral cobble at contact of carbonate horizon

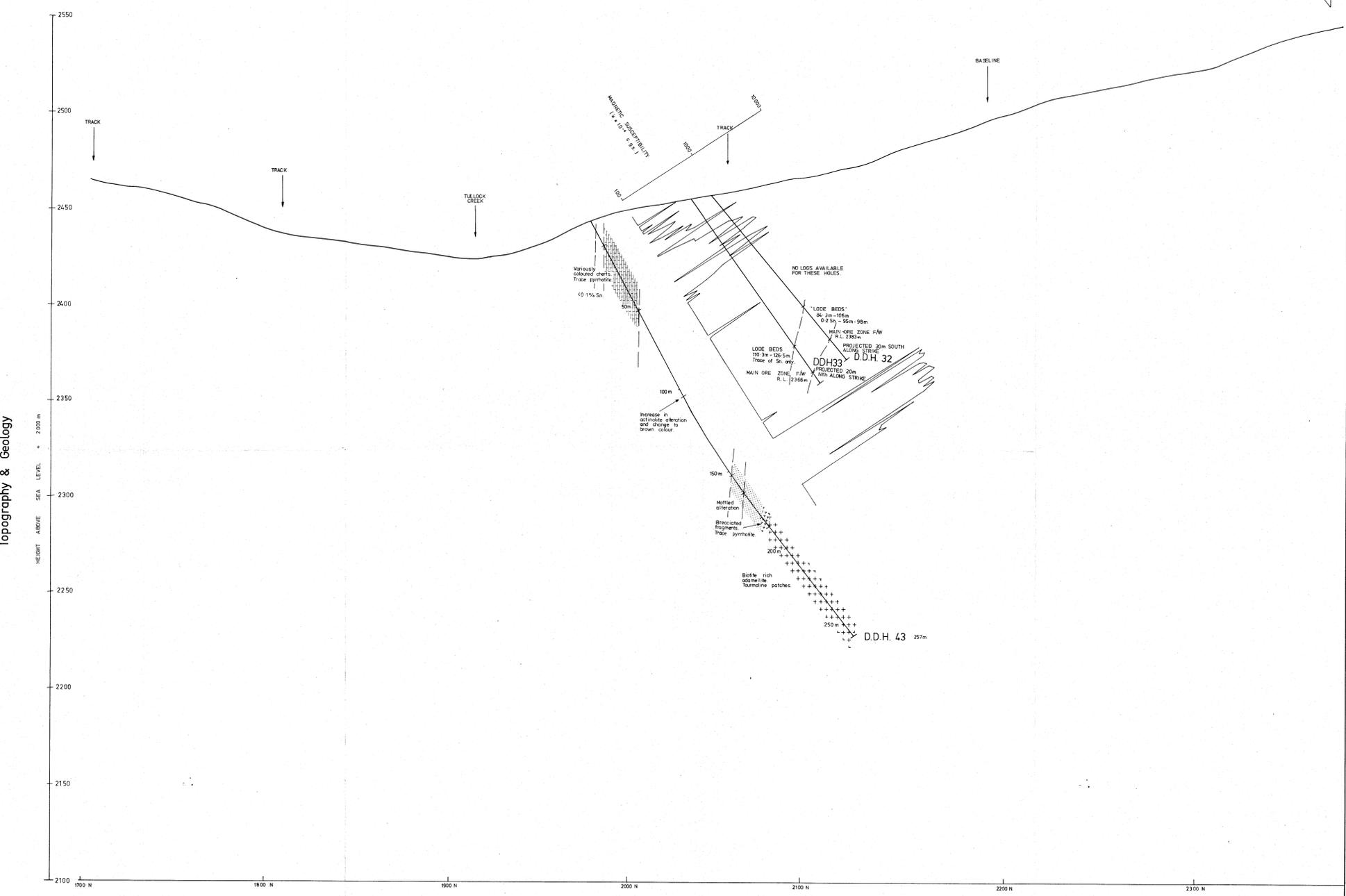
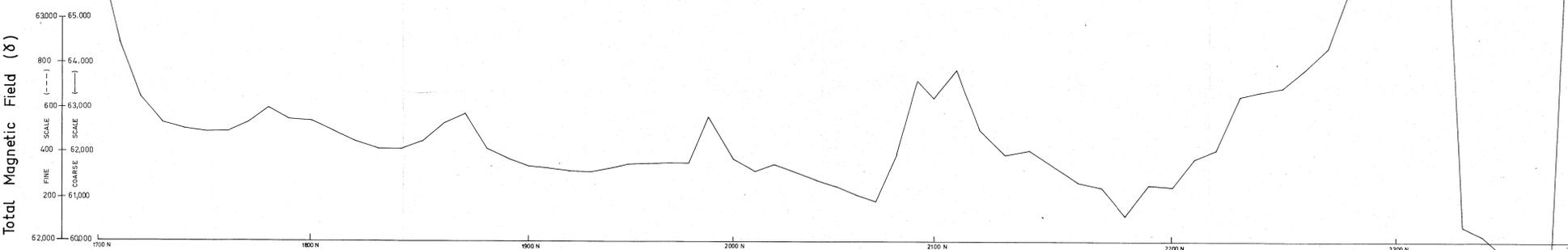
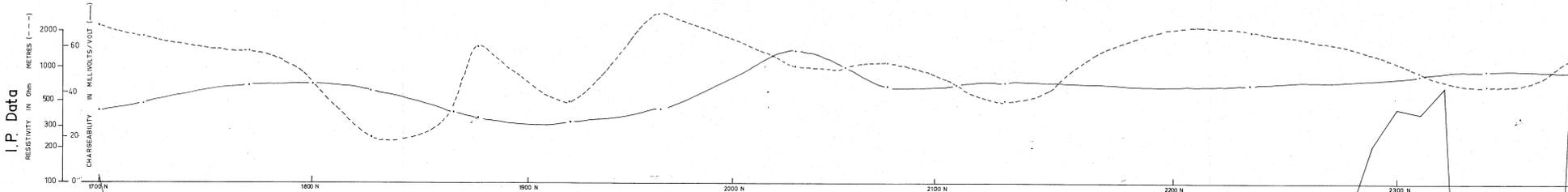
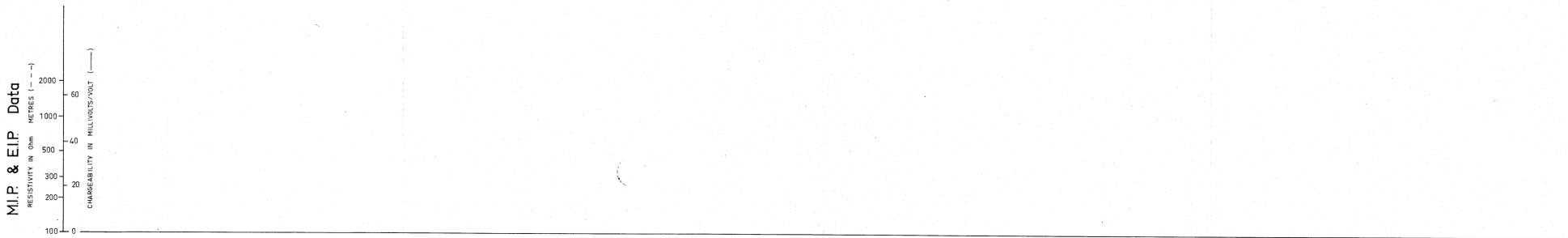
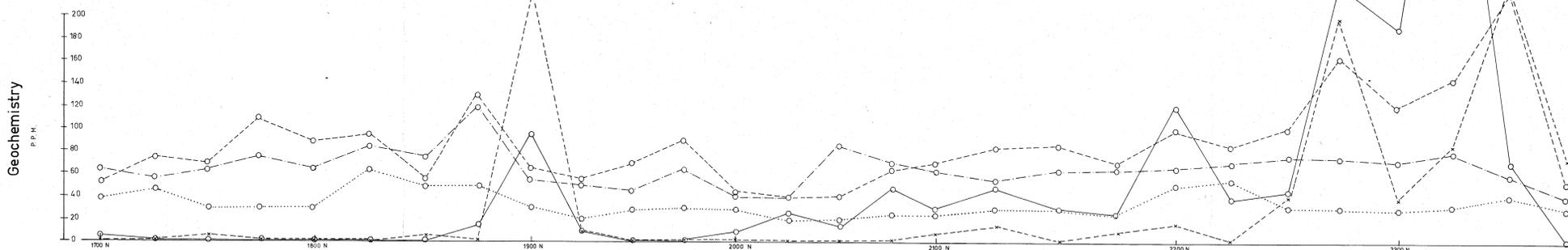
**CARBONATE - CHERT HORIZON**

Minor carbonate, chert, trace calc-silicate alteration and trace pyrrhotite.

**GABRO**

SURVEYED BY SCHNITZER 1973-75.  
GRADIENT ARRAY  
- SURVEY POINT.

GEOMETRICS 006 PROTON MAGNETOMETER  
USED SPACING 5m ALONG LINE.  
SENSOR HEAD 3m ABOVE SURFACE.



314060  
 RENISON LIMITED 77-1210  
 E.L. 2/63  
 MT. LINDSAY GRID.  
 D.D.H. 43 LINE 11

GEOLOGIST: A. ROSS  
 DRAUGHTSMAN: J. MATTHEWS  
 DATE: MARCH '77

SCALE: 1:1000 METRES

REVISIONS: 5cm

DRAWING No. MLP 26

**LEGEND**

**VOLCANICLASTIC SEDIMENTS**

- Greywacke siltstones
- Stony magnetic zones
- Mottled alteration zone
- Bleached mottled colours of contact of carbonate horizon
- CARBONATE - CHERT HORIZON
- Impure carbonate, chert, minor calc-silicate alteration and trace pyrrhotite

**SKARN MINERALISATION**

- Replacing carbonate chert horizon
- Magnetite rich

**GRANITE**

**SECTION LOOKING N.W.**

**IP**

- CHARGEABILITY
- RESISTIVITY

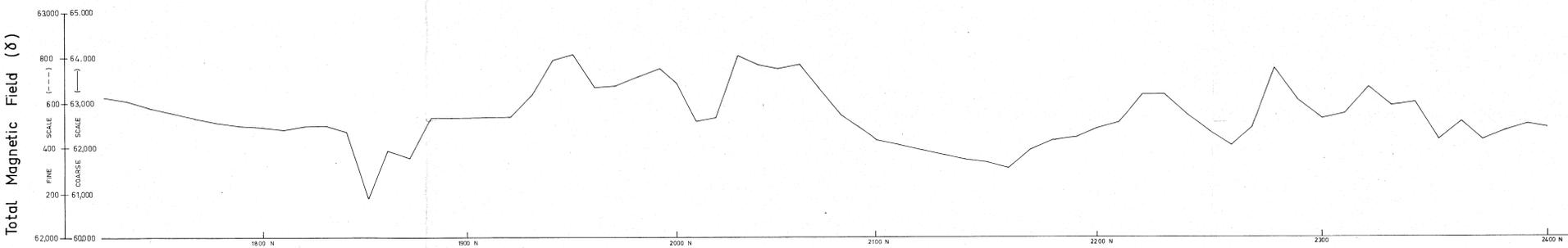
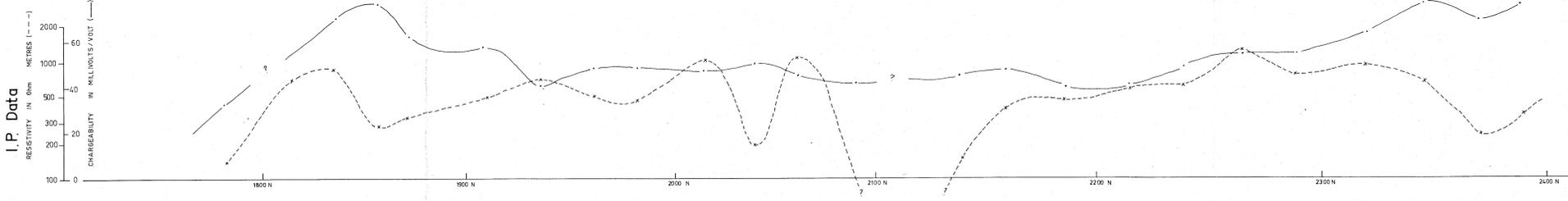
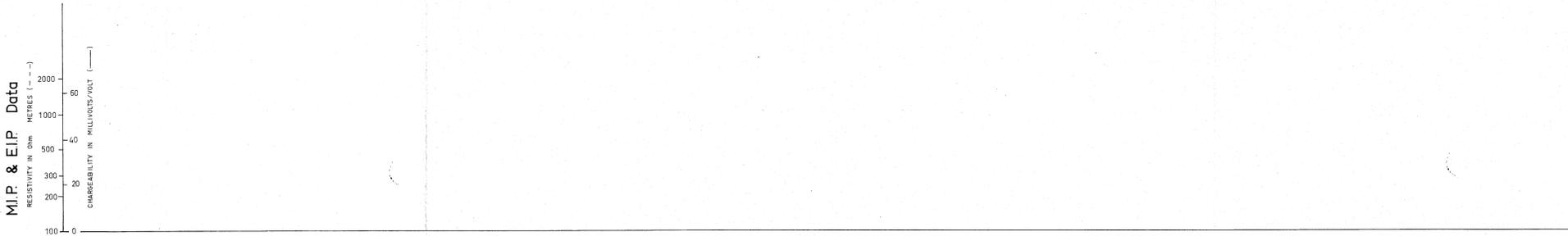
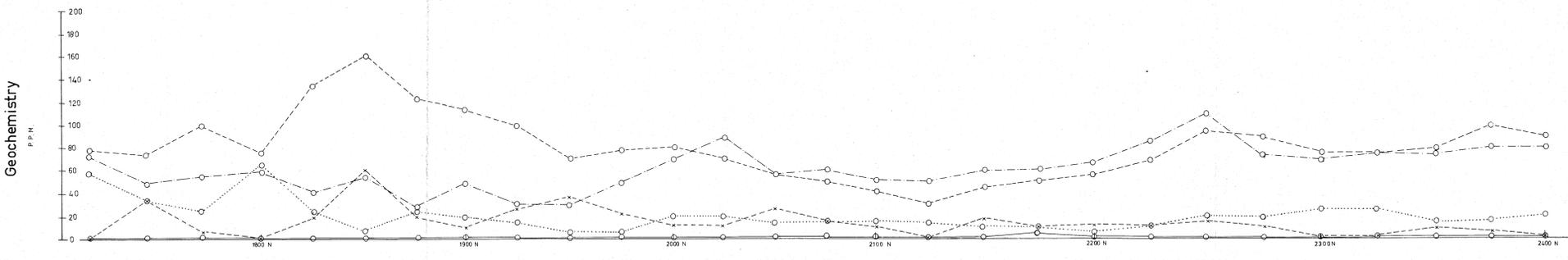
**MAGNETICS**

- 5000  $\delta$  SCALE
- 1000  $\delta$  SCALE

**SOIL GEOCHEMISTRY**

- Sn
- Cu
- Pb
- Zn
- As
- W

**GEOMETRICS** 0.8% PROTON MAGNETOMETER USED. SPACING 10m ALONG LINE. SENSOR HEAD 3m ABOVE SURFACE.



314061

5 cm

RENISON LIMITED 77-12-10

E.L. 2/63  
MT. LINDSAY GRID.  
D.D.H. 40 LINE 6

GEOLOGIST A. ROSS SCALE 1:1000 METRES  
DRAUGHTSMAN J. MATTHEWS  
DATE MARCH '77

REVISIONS

DRAWING No  
MLP 27

SECTION LOOKING N.W.

LEGEND

VOLCANICLASTIC SEDIMENTS  
Greywacke siltstones  
Strongly magnetic zones  
Bleached metted colours at contact of carbonate horizon

CARBONATE - CHERT HORIZON  
Impure carbonate chert, minor calc silicate alteration and trace pyrrhotite

SKARN MINERALISATION  
Replacing carbonate chert horizon  
Magnetic rich

GRANITE

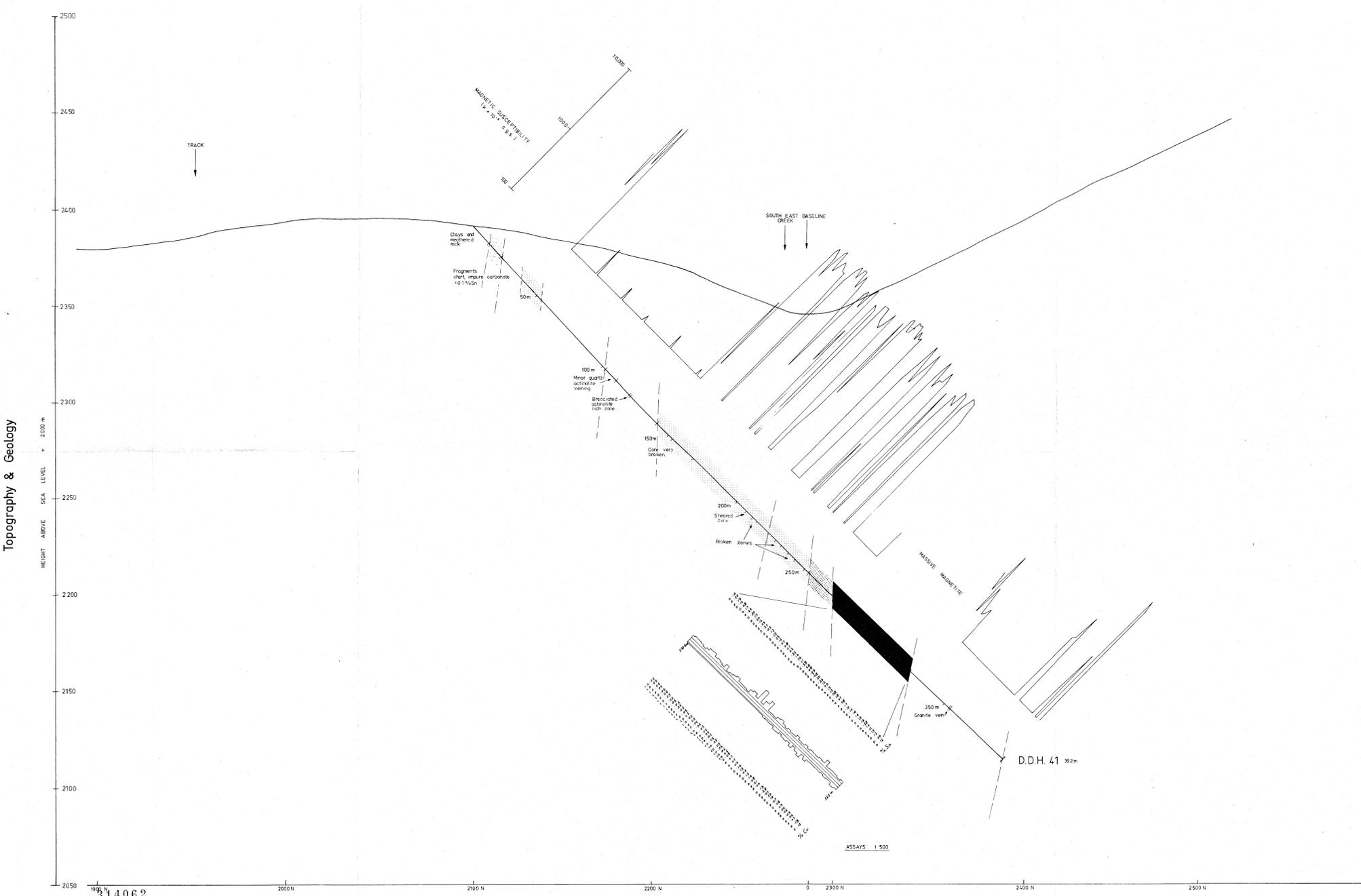
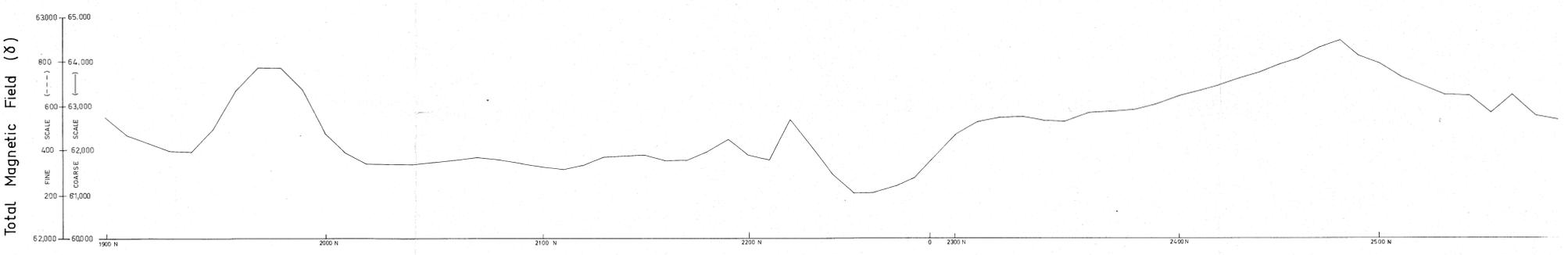
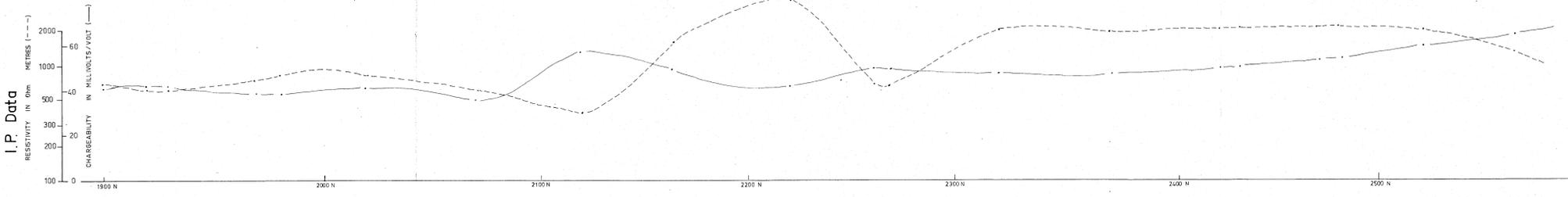
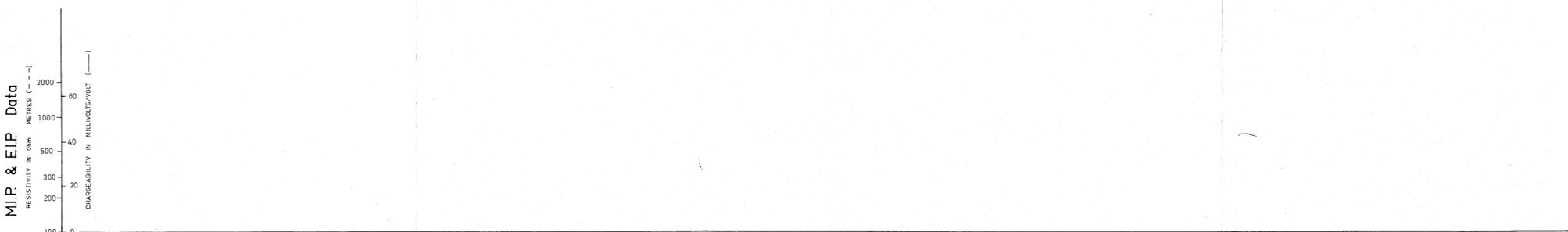
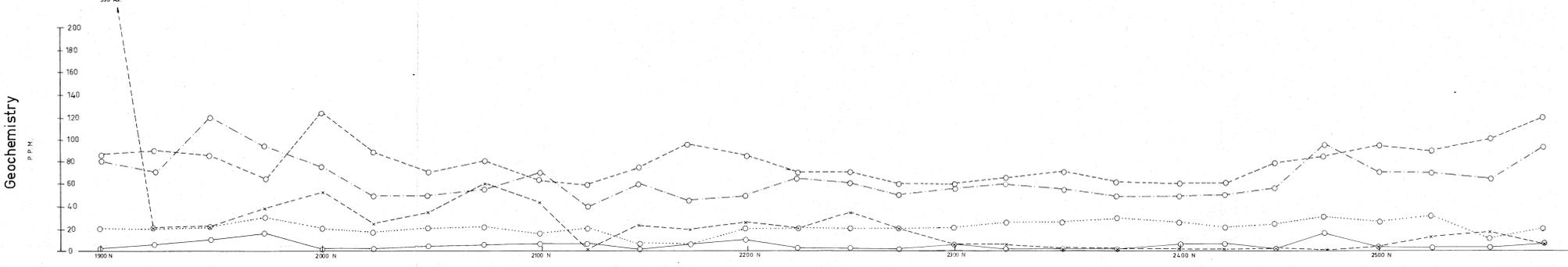
SOIL GEOCHEMISTRY  
Sh  
Cu  
Pb  
Zn  
As  
W

MAGNETICS  
5000  $\delta$  SCALE  
1000  $\delta$  SCALE

I.P.  
CHARGEABILITY  
RESISTIVITY

SURVEYED BY SCINTREX 1973-75  
GRADIENT ARRAY  
SURVEY POINT

GEOMETRICS G816 PROTON MAGNETOMETER  
USED SPACING 10m ALONG LINE  
SENSOR HEAD 2m ABOVE SURFACE.



RENISON LIMITED 77-010

E.L. 2/63  
MT. LINDSAY GRID.  
D.D.H. 41 LINE 8

GEOLOGIST A. ROSS  
DRAUGHTSMAN J. MATTHEWS  
DATE NOVEMBER '76

SCALE 1:1000 METRES

REVISIONS

DRAWING No. MLP 28

1793

**LP**

CHARGEABILITY

RESISTIVITY

**MAGNETICS**

5000  $\delta$  SCALE

1000  $\delta$  SCALE

SURVEYED BY SCINTREX 1973-75  
GRADIENT ARRAY  
SURVEY POINT

GEOMETRICS G-816 PROTON MAGNETOMETER  
USED SPACING 10m ALONG LINE  
SENSOR HEAD 3m ABOVE SURFACE

**SOIL GEOCHEMISTRY**

Sn

Cu

Pb

Zn

As

W

**SECTION LOOKING NW.**

**LEGEND**

**VOLCANICLASTIC SEDIMENTS**

a. Clayey, silty

b. Strongly magnetic zones

c. Mottled oxidation zone

D. Discolored mottled colours at contact of carbonate horizon

**CARBONATE - CHERT HORIZON**

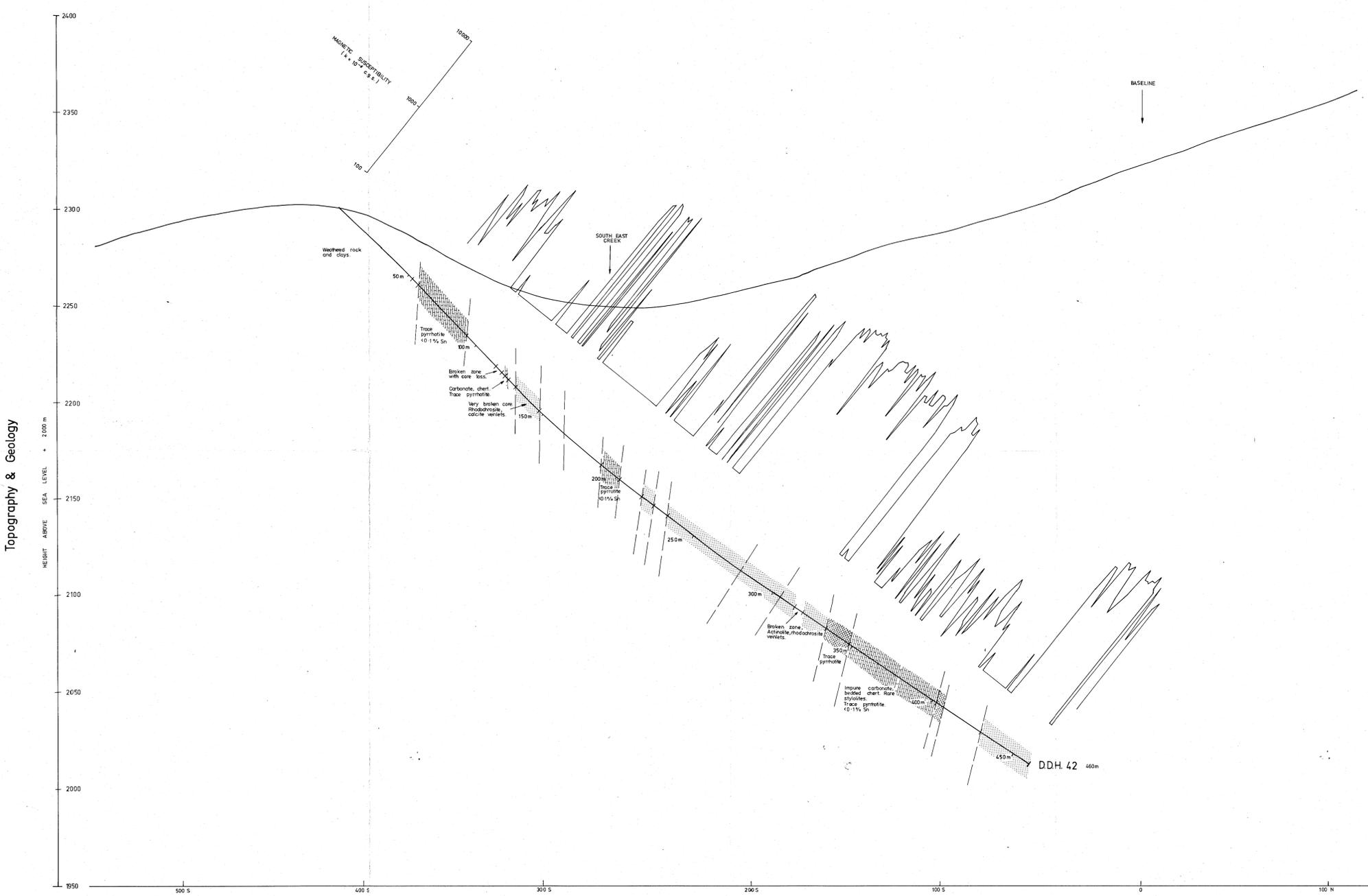
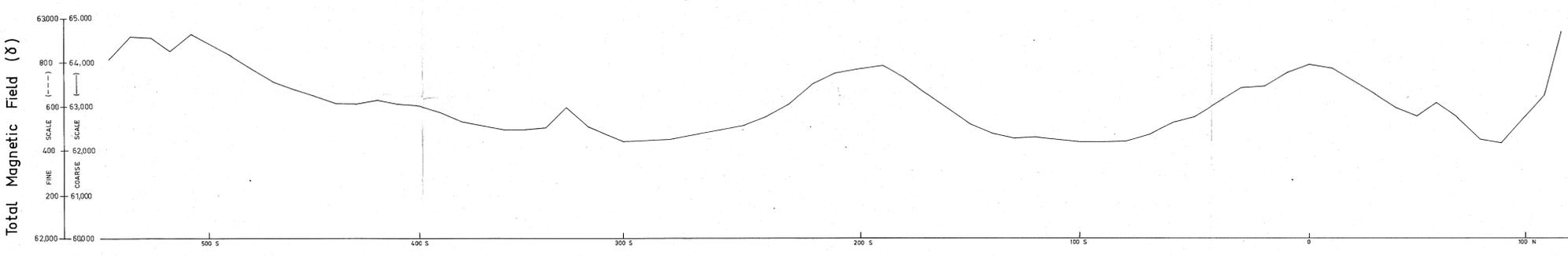
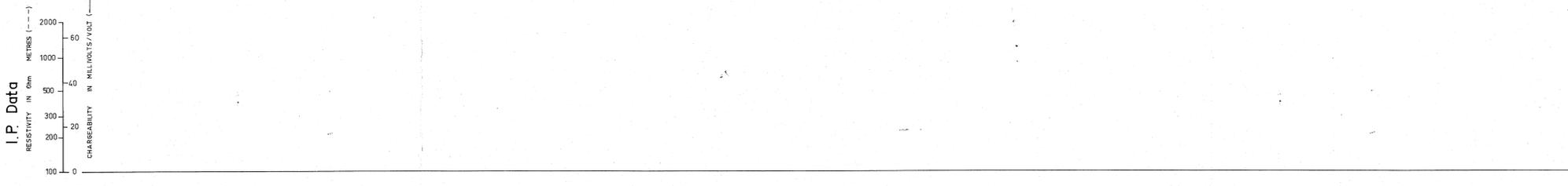
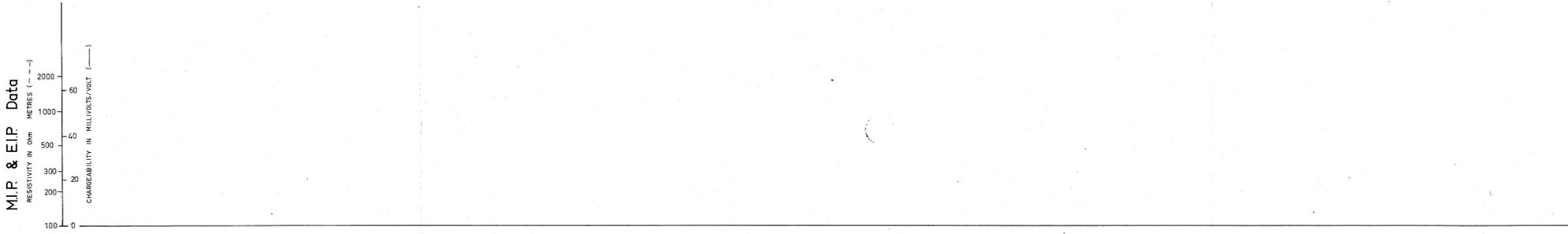
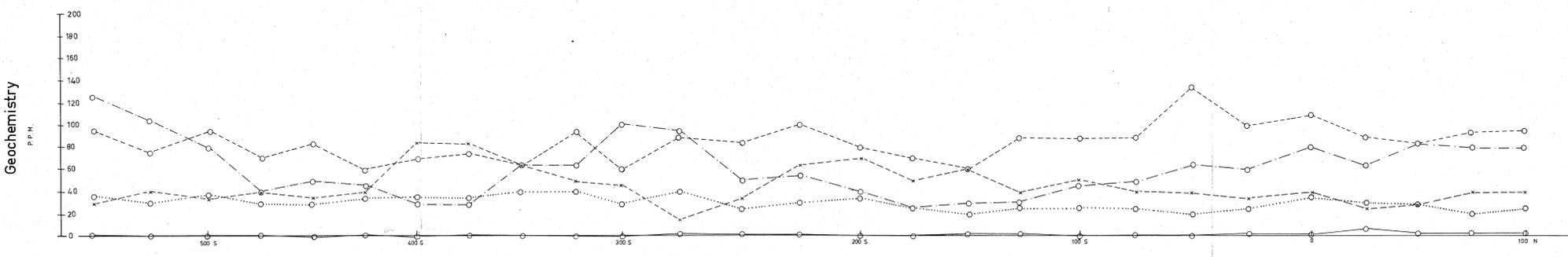
Impure carbonate, chert, minor calc-silicate alteration and trace pyrrhotite.

**SKARN MINERALISATION**

Replacing carbonate chert horizon

Magnetite rich

**GRANITE**



314063

RENISON LIMITED 77-210

E.L. 2/63  
MT. LINDSAY GRID.  
D.D.H. 42 LINE 45

GEOLOGIST: A. ROSS  
DRAUGHTSMAN: J. MATTHEWS  
DATE: MARCH '77

SCALE: 1:1000 METRES

DRAWING No. MLP 29

NO I.P. COVERAGE

MAGNETICS

5000  $\delta$  SCALE

1000  $\delta$  SCALE

SECTION LOOKING N.W.

SOIL GEOCHEMISTRY

Sn

Cu

Pb

Zn

As

W

GEOMETRICS: G8% PROTON MAGNETOMETER USED. SPACING 30m ALONG LINE. SENSOR HEAD 3m ABOVE SURFACE.

LEGEND

VOLCANICLASTIC SEDIMENTS

Greywacke siltstones

Strongly magnetic zones

Mottled alteration zones

Bleached mottled colours of contact of carbonate horizon

CARBONATE - CHERT HORIZON

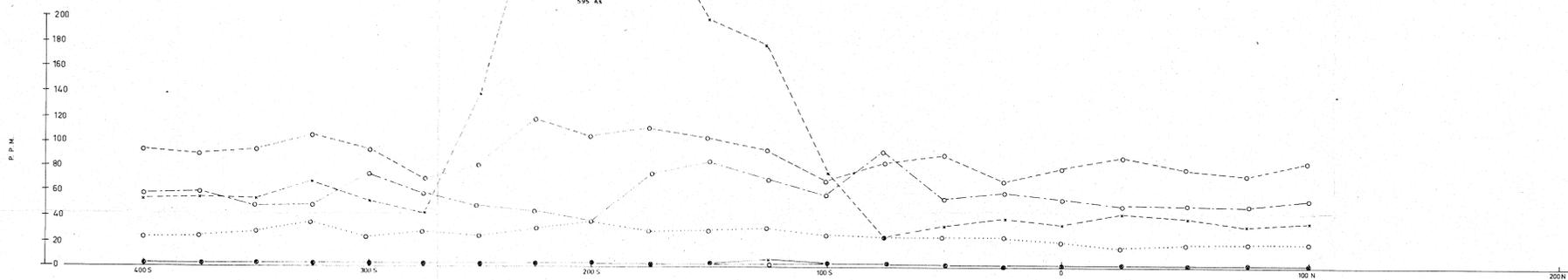
Impure carbonate, chert, minor calc-silicate alteration and trace pyrrhotite

SKARN MINERALISATION

Replacing carbonate chert horizon. Magnetic rich.

GRANITE

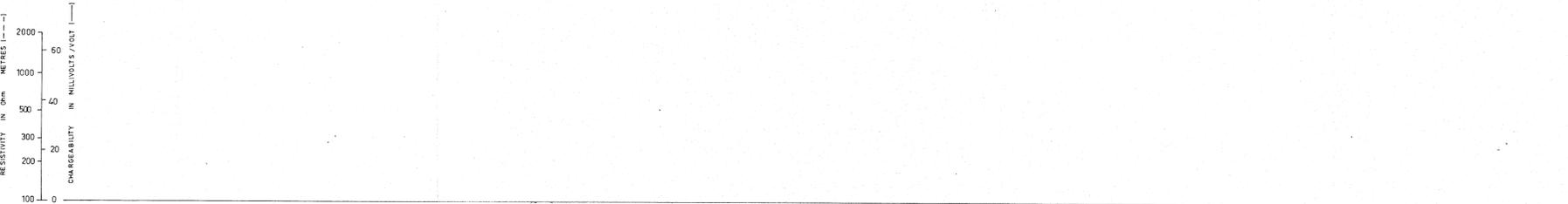
Geochemistry



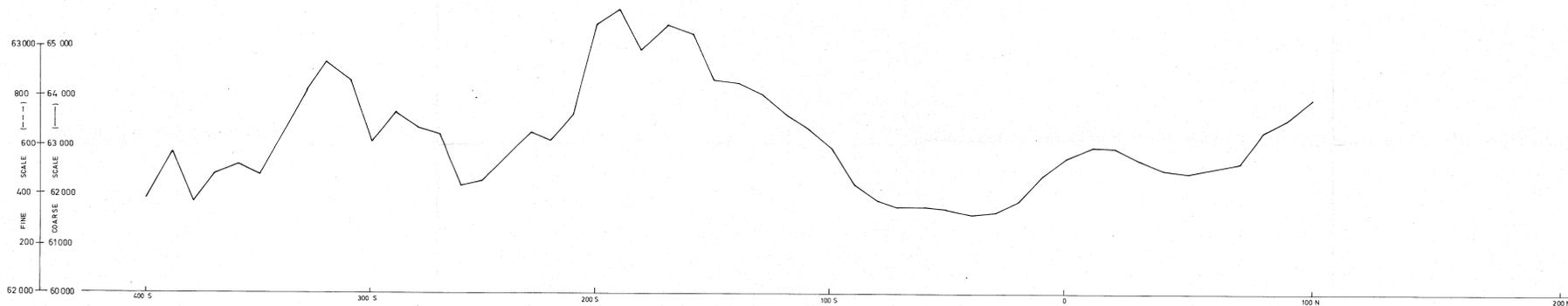
M.I.P. & E.I.P. Data



I.P. Data



Total Magnetic Field (γ)



Topography & Geology



314064

RENISON LIMITED 77-210  
 E.L. 2/63  
 MT. LINDSAY GRID  
 DDH 44,38 LINE 65  
 GEOLOGIST : A. ROSS  
 DRAUGHTSMAN : J. MATTHEWS  
 DATE : APRIL '77  
 SCALE: 1:1000 METRES  
 DRAWING No. MLP 30  
 REVISIONS  
 5cm  
 1795

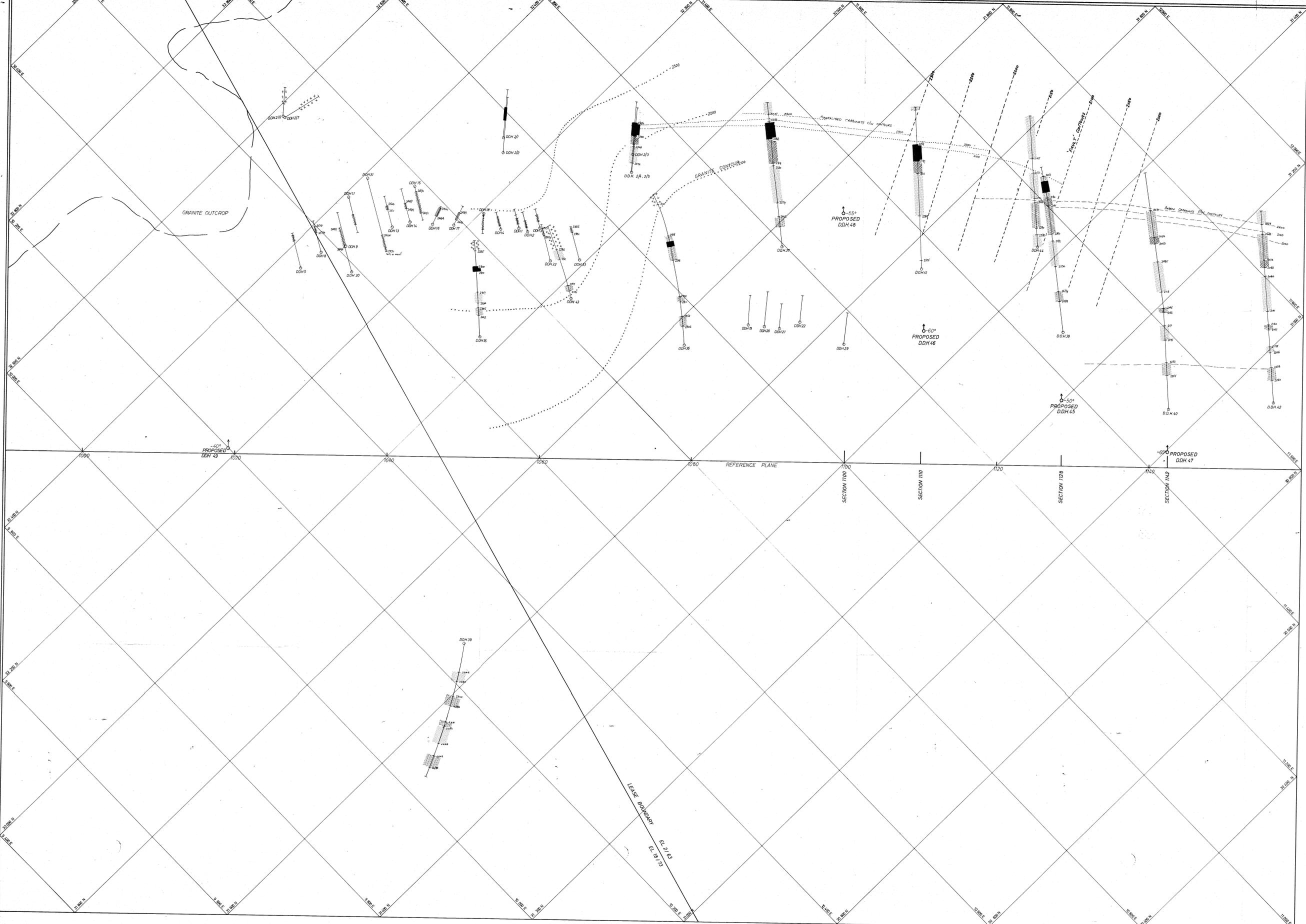
NO I.P. COVERAGE

MAGNETICS  
 5000 γ SCALE  
 1000 γ SCALE  
 GEOMETRICS GAS PROTON MAGNETOMETER  
 USED SPACING 10m ALONG LINE  
 SENSOR HEAD 3m ABOVE SURFACE.

SOIL GEOCHEMISTRY  
 Sn  
 Cu  
 Pb  
 Zn  
 As  
 W

SECTION LOOKING N.W.

LEGEND  
 VOLCANICLASTIC SEDIMENTS  
 Greywacke siltstones  
 Shaly magnetic zones  
 Mottled alteration zones  
 Blackened matrix colours at contact of carbonate horizon  
 CARBONATE - CHERT HORIZON  
 Minor carbonate, chert, minor calc-silicate alteration and trace pyrrhotite  
 SKARN MINERALISATION  
 Replacing carbonate chert horizon  
 Magnetite rich  
 GRANITE



**MINERALISATION**

- TIN SKARN
- LODE BEDS (Aberfoyle term)

**INTRUSIVE ROCKS**

- GRANITE (Devonian)
- BASINS (Cambrian)
- CRIMSON CREEK FORMATION (Cambrian)

**VOLCANIClastic SEDIMENTS**

- Tuffaceous greywacke, siltstone

**Other Features:**

- Strongly magnetic zone
- Mottled zone
- CARBONATE-CHERT HORIZON

**DIAMOND DRILL HOLE PLAN PROJECTION**

AS SHOWN = HEIGHT ABOVE SEA LEVEL + 2000m

○ COLLAR



314065

RENISON LIMITED 77-2-0

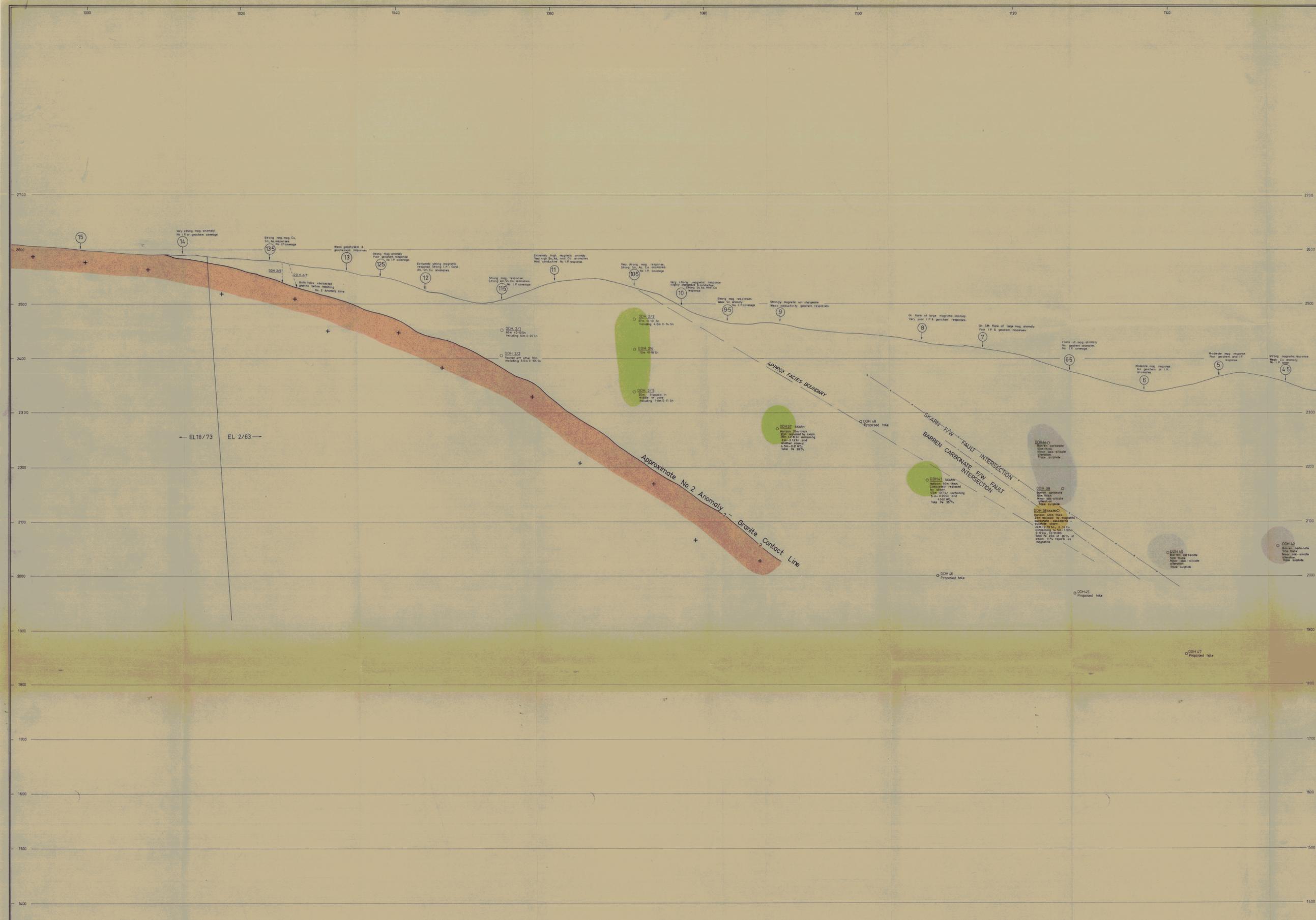
**MOUNT LINDSAY M16**

**GEOLOGICAL PLAN**

GEOLOGIST : A. ROSS	SCALE 1:200 METRES
DRAWN BY : A. R.	DATE : APRIL 1977
REVISIONS :	DRAWING No. MLP 31

1796





- LEGEND**
- ++ GRANITE
  - BARREN CARBONATE
  - ALBITE EPIDOTE HORNFELS FACIES
  - HORNBLENDE HORNFELS FACIES
- 1 SURFACE SHOWN IS PROJECTED OUTCROP POSITION OF No. 2 ANOMALY ZONE
  - 2 POSITIONS WHERE TRAVERSE LINES CROSS OUTCROP ARE SHOWN THIS ○  
GEOLOGICAL & GEOCHEMICAL RESPONSES OBTAINED ON TRAVERSE LINES ACROSS THE OUTCROP POSITION ARE ALSO SHOWN
  - 3 ML 33 ○  
CENTRE OF ORE ZONE DIAMOND DRILL HOLE INTERSECTION POINT  
THICKNESSES SHOWN ARE ESTIMATED TRUE THICKNESSES
  - 4 HOLES DDH 2/1 - 2/7 WERE DRILLED BY ABERFOLLY IN 1968-69  
COMPLETE ASSAYS ARE NOT AVAILABLE

FOR AN OREBODY 30m WIDE  
A SQUARE THIS BIG ON  
THIS PROJECTION WOULD  
REPRESENT  
**2,000,000 tonnes**  
"TONNAGE POTENTIAL" GUIDE

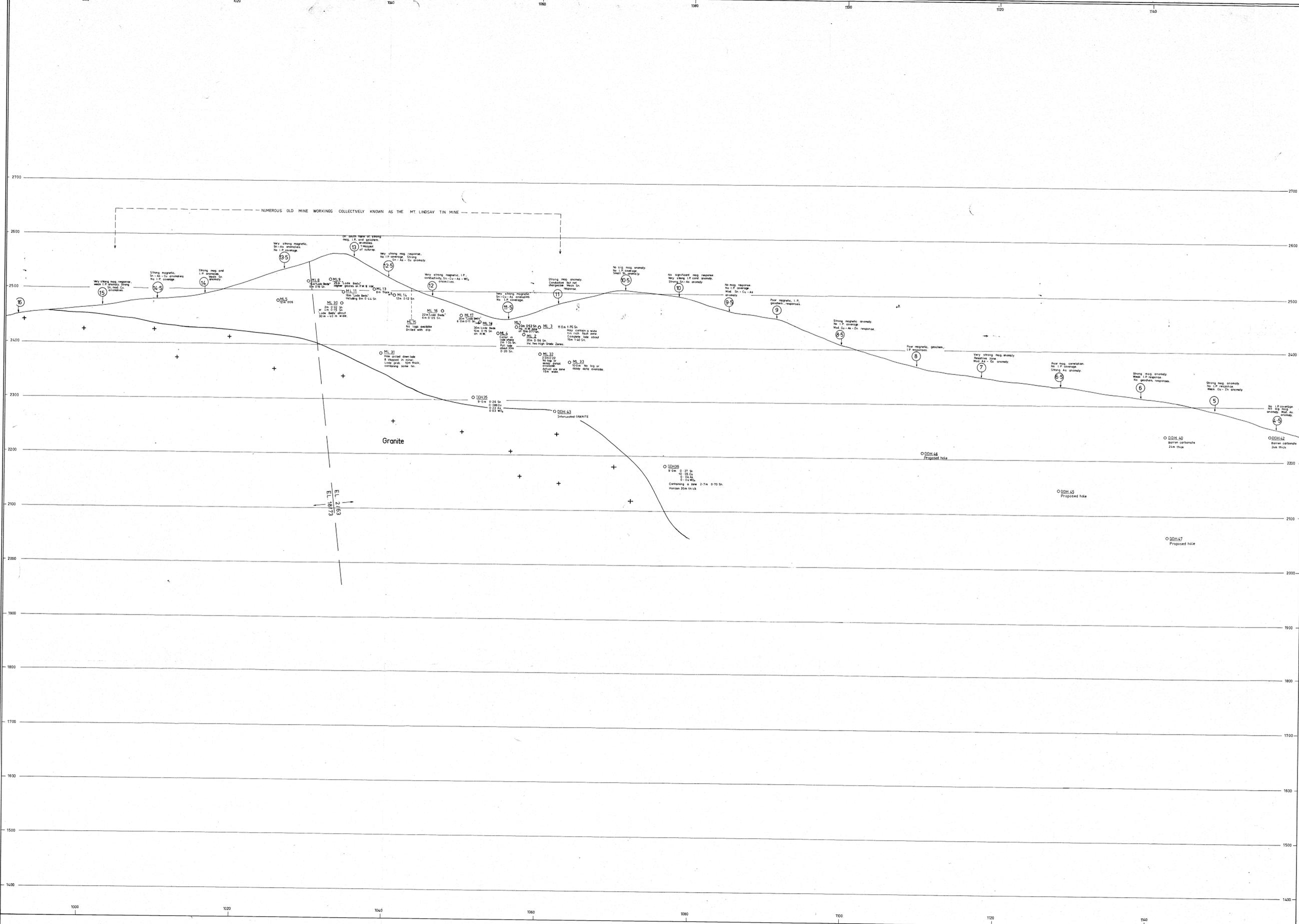
314067  
5m

- 1 PROJECTION PLANE RUNS GRID NW-SE AND LOOKS N.E.
- 2 GRID AND R.L SYSTEMS USED ARE RENISON MINE SYSTEMS.
- 3 PROJECTION LIMITS AND SECTION LINES CORRESPOND TO THOSE OF THE MT LINDSAY 1:2000 BASE PLAN - M.M.

RENISON LIMITED 77-210  
**MT. LINDSAY PROJECT**  
No. 2 ANOMALY  
LONGITUDINAL PROJECTION

GEOLOGIST : A. ROSS	SCALE 1:2000 METRES
DRAUGHTSMAN : J. M. MATTHEWS	10 00
DATE : APRIL 1977	0 50
REVISIONS :	DRAWING No. MLP 33

1798



1. SURFACE SHOWN IS PROJECTED OUTCROP POSITION OF MAIN ORE ZONE.
2. POSITIONS WHERE TRAVERSE LINES CROSS OUTCROP ARE SHOWN THUS: (6)
3. GEOMORPHICAL & GEOCHEMICAL RESPONSES OBTAINED ON TRAVERSE LINES ACROSS THE OUTCROP POSITION ARE ALSO SHOWN.
4. O ML 33 CENTRE OF ORE ZONE DIAMOND DRILL HOLE INTERSECTION POINT. THICKNESSES SHOWN ARE ESTIMATED TRUE THICKNESSES.
5. MLs 1-33 WERE DRILLED BY ABERFOYLE BETWEEN 1962-69 AND ALL DATA RELATING TO THESE HOLES SHOULD BE REGARDED AS APPROXIMATE ONLY.

FOR AN OREBODY 10m WIDE  
 A SQUARE THIS BIG ON THIS  
 PROJECTION WOULD REPRESENT  
**1,000,000 tonnes**

TONNAGE POTENTIAL GUIDE

314068

RENISON LIMITED 77-20

**MT LINDSAV PROJECT**  
**MAIN ORE ZONE**  
**LONGITUDINAL PROJECTION**

GEOLOGIST : A.ROSS  
 DRAUGHTSMAN : J.J. MATHEWS  
 DATE : APRIL, 1977  
 REVISIONS :

SCALE: 1:2000 METRES

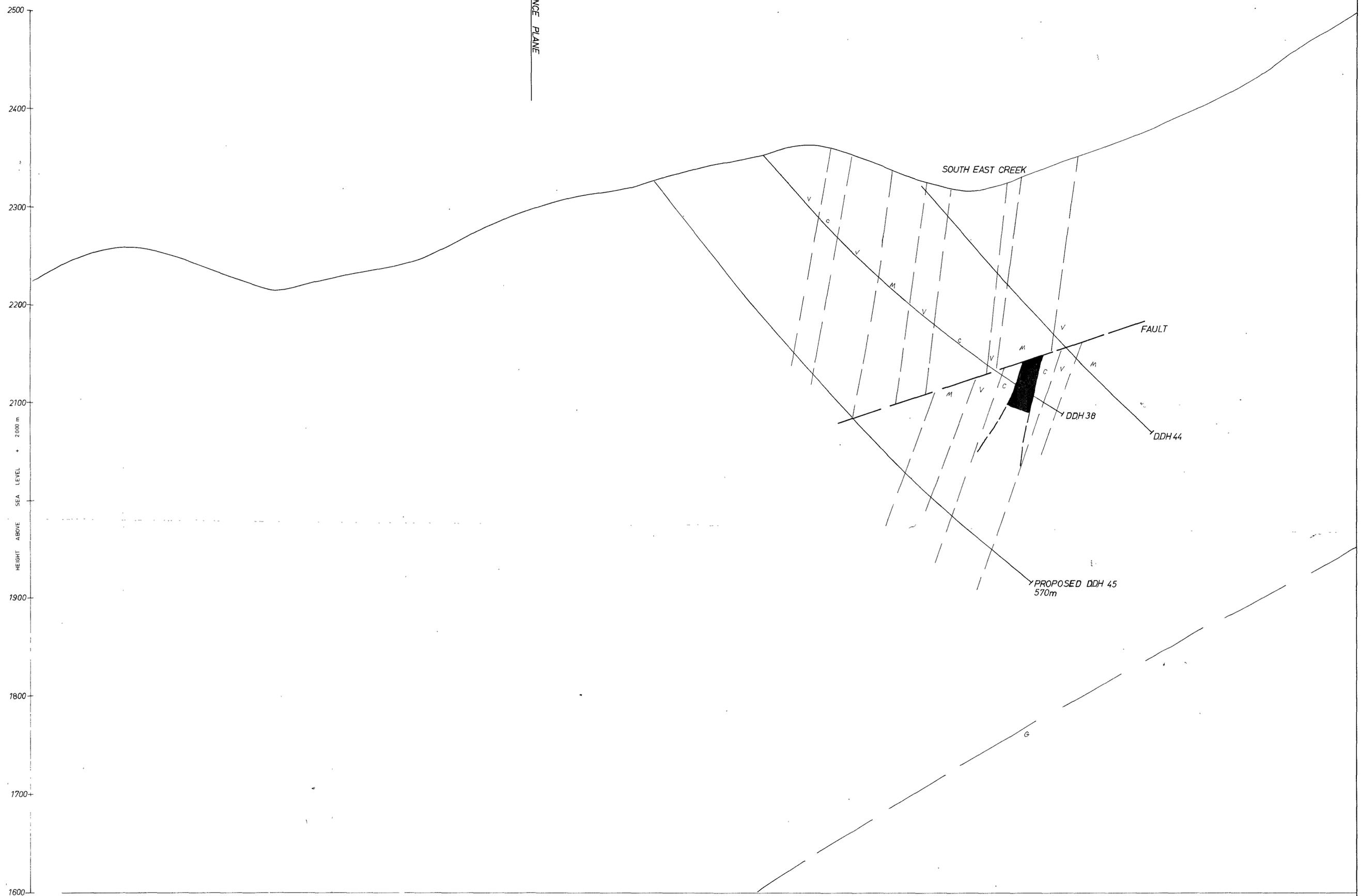
DRAWING NO. MLP 34

1. PROJECTION PLANE RUNS GRID N.W.-S.E. AND LOOKS N.E.
2. GRID AND R.L. SYSTEMS USED ARE RENISON MINE SYSTEMS.
3. PROJECTION LIMITS AND SECTION LINES CORRESPOND TO THOSE OF THE MT LINDSAV 1:2000 BASE PLAN - M16.

1799

Topography & Geology

REFERENCE PLANE



314069

RENISON LIMITED		71-1210	
E.L. 2/63 MT. LINDSAY GRID. SECTION 1128			
GEOLOGIST A ROSS	SCALE 1:2000 METRES		
DRAUGHTSMAN A.R.	40 0 40 80		
DATE APRIL 1977	DRAWING No		
REVISIONS	MLP 35		

SECTION LOOKING NW.

LEGEND

- G GRANITE
- V M VOLCANICLASTIC SEDIMENTS  
Strongly magnetic zones
- C CARBONATE CHERT HORIZON
- SKARN MINERALISATION



1800

Topography & Geology

2500  
2400  
2300  
2200  
2100  
1900  
1800  
1700  
1600

REFERENCE PLANE

SOUTH EAST CREEK

FAULT

D.D.H.41

PROPOSED DDH 46  
580m

314070



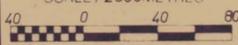
RENISON LIMITED 77-1210

E.L. 2/63  
MT. LINDSAY GRID.  
SECTION 1110

SECTION LOOKING NW.

LEGEND

-  GRANITE
-  VOLCANICLASTIC SEDIMENTS  
Strongly magnetic zones
-  CARBONATE CHERT HORIZON
-  SKARN MINERALISATION

GEOLOGIST A. ROSS	SCALE 1:2000 METRES
DRAUGHTSMAN A.R.	
DATE APRIL 1977	
REVISIONS	DRAWING No MLP 36

Topography & Geology

2500  
2400  
2300  
2200  
2100  
2000 m  
SEA LEVEL  
1900  
1800  
1700  
1600

REFERENCE PLANE

SOUTHEAST CREEK

DDH 40

FAULT

SKARN HORIZON

PROPOSED DDH 47  
650m

314071

RENISON LIMITED 77-210

E.L. 2/63  
MT. LINDSAY GRID.  
SECTION 1142

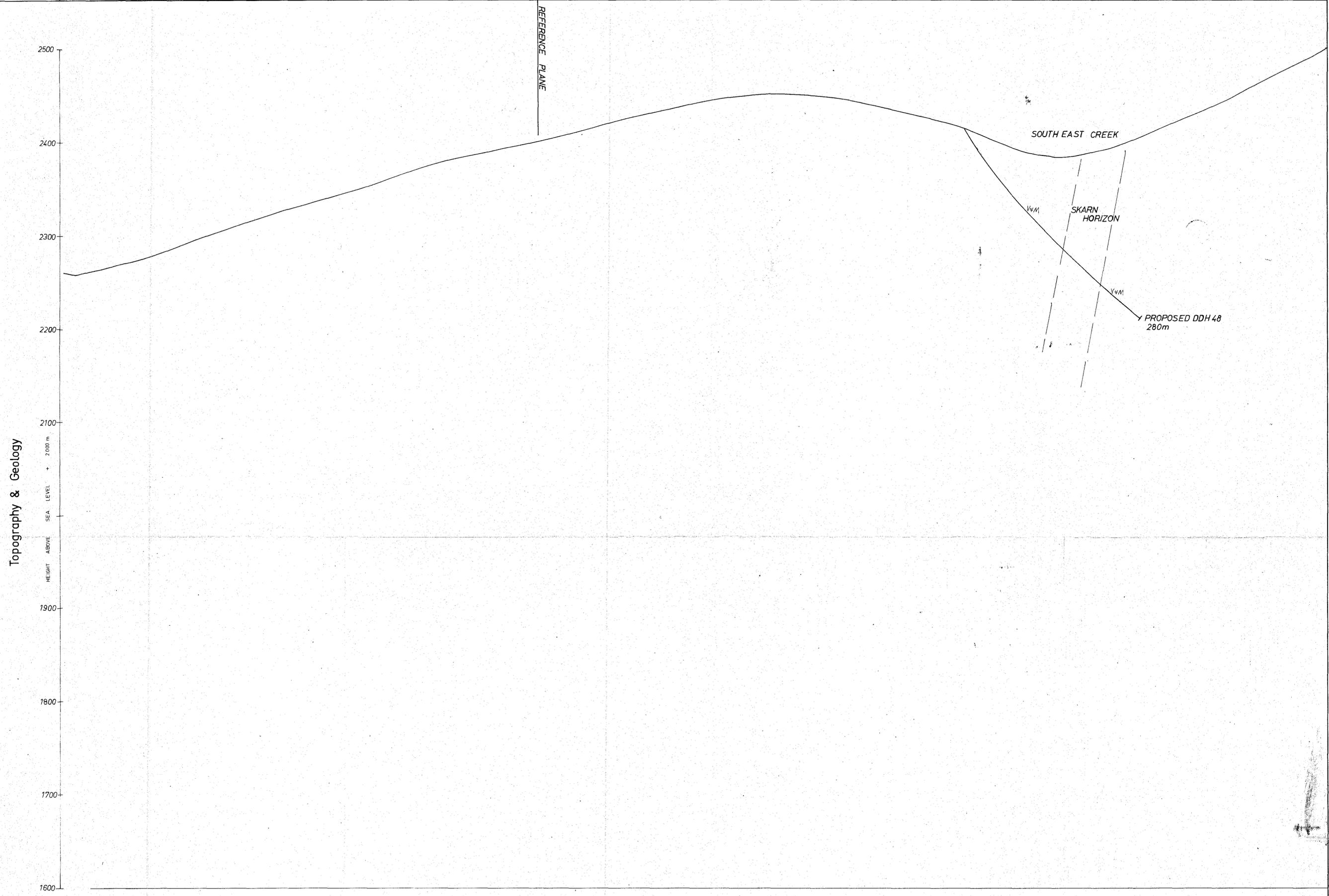
SECTION LOOKING NW.

LEGEND

- G GRANITE
- V VOLCANICLASTIC SEDIMENTS  
Strongly magnetic zones
- C CARBONATE CHERT HORIZON
- SKARN MINERALISATION

GEOLOGIST A. ROSS	SCALE 1:2000 METRES
DRAUGHTSMAN A.R.	40 0 40 80
DATE APRIL 1977	
REVISIONS	DRAWING No <b>MLP 37</b>

5 cm



Topography & Geology

REFERENCE PLANE

SOUTH EAST CREEK

SKARN HORIZON

PROPOSED DDH 48  
280m

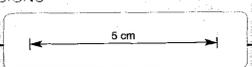
LEGEND

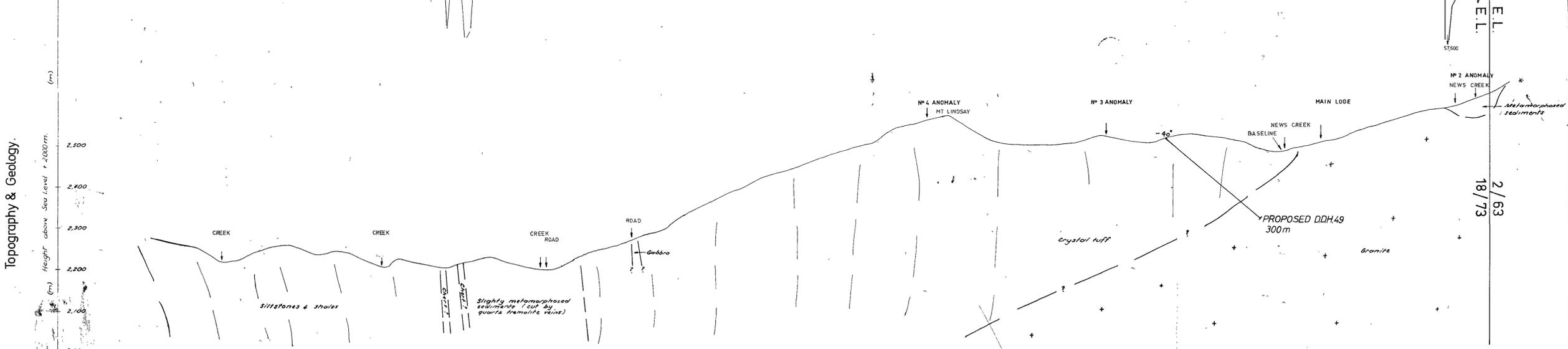
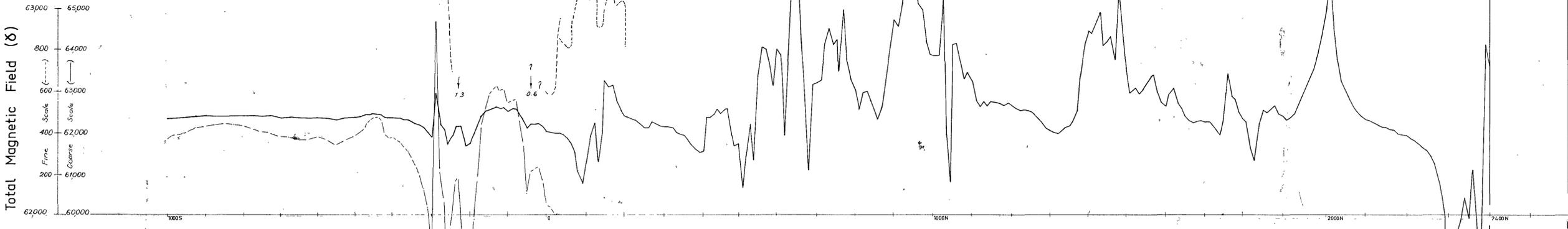
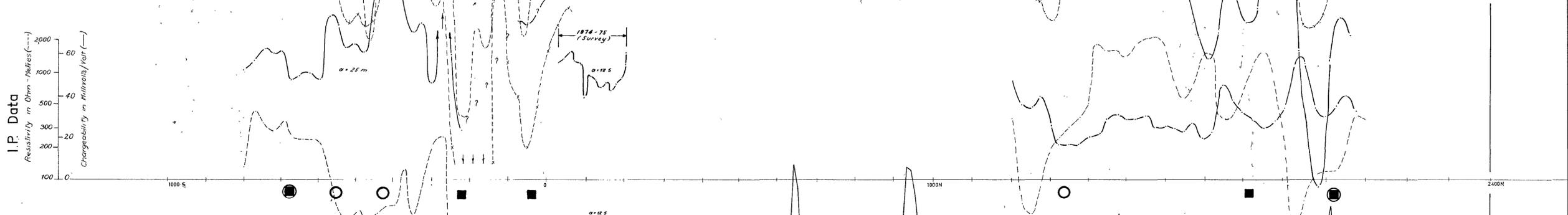
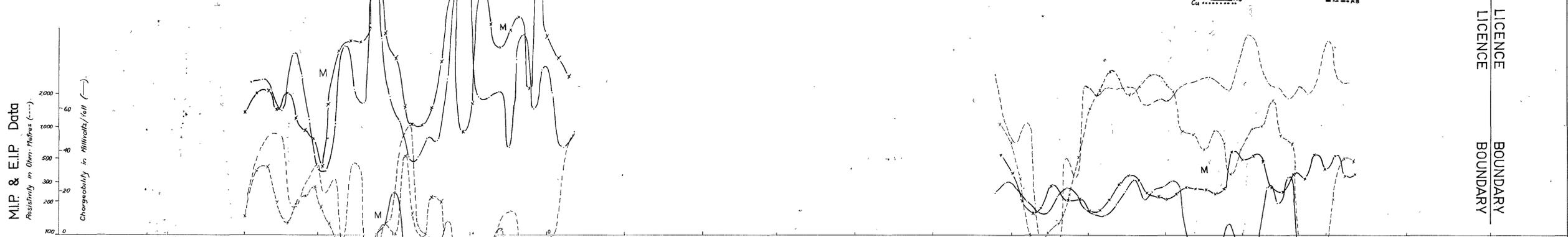
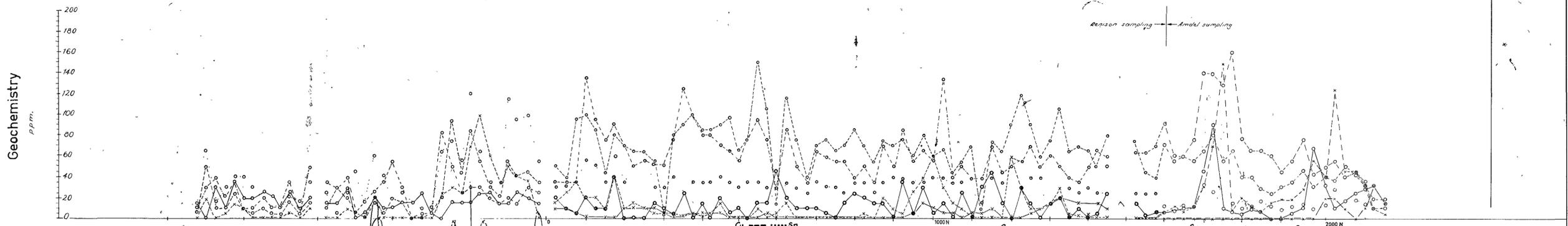
- G GRANITE
- V/M VOLCANICLASTIC SEDIMENTS  
Strongly magnetic zones
- C CARBONATE CHERT HORIZON
- SKARN MINERALISATION

SECTION LOOKING NW

314072

RENISON LIMITED 77-1210	
E.L. 2/63 MT. LINDSAY GRID. SECTION 1100	
GEOLOGIST A. ROSS	SCALE 1:2000 METRES
DRAUGHTSMAN A.R.	40 0 40 80
DATE APRIL 1977	
REVISIONS	DRAWING No <b>MLP 38</b>





314073 RENISON LIMITED 77-120 DRAWN R.K.S. TRACED DATE June '74 SCALE 1:5000 DRAWING No. MLP 39

E.L. 18/73. MT. LINDSAY GRID. LINE M.L. 14. SCALE: 1:5000 METRES.

5 cm

1804 1001

**LEGEND**

**CHARGEABILITY**

5000 & Scale

1000 & Scale

**GEOCHEMISTRY**

○ Sn

○ Cu

○ Pb

○ Zn

○ As

○ W

**GEOCHEMICAL ANOMALIES**

Sn ——— Strong (Element referred to shown beside symbol)

Sn - - - - - Medium

Sn . . . . . Weak

**CHARGEABILITY ANOMALIES**

● Strong

■ Moderate

○ Weak

**SIGNIFICANT ANOMALIES DERIVED BY SONTREX 1973-74 (after HOWARD & COE)**

M = Co-incident Magnetic Response.

G = Gradient

M = Moving Source

LICENCE LICENCE BOUNDARY BOUNDARY

E.L. 18/73 2/63