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FEDERATION AREA

E.L. 11/76

ANNUAL REPORT 1979-80

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July, 1980

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SUMMARY

Seven diamond drill holes were completed on the Federation Plateau. Of these, five encountered significant alteration and mineralization. Follow-up drilling is required in three areas : West Federation, East Federation and Waxman and Westons.

The Federation grid was extended south and west and the extensions covered by I.P. and magnetics. Results were generally disappointing but limited follow-up work is required. Other work consisted of reconnaissance mapping and sampling of areas elsewhere in the E.L.

Work recommended for 1980-81 includes detailed I.P. and magnetics on the Federation grid followed by diamond drilling, preparation of a new cut grid in the south-east portion of the granite followed by geophysical and geochemical surveys thereon, and continuing reconnaissance exploration in other parts of the licence.

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1. INTRODUCTION

E.L. 11/76 is located west of Zeehan adjacent to the West Tasmanian coast (Plan 1). The licence area lies almost entirely within the Heemskirk Granite and covers the greater part of it.

Historically tin mineralization has been exploited from greisen-style alteration dykes within the granite, particularly on the Federation Plateau near Cumberland Lake. In addition, polymetallic tin-bearing sulphide mineralization is present at the old Sweeney Mine (Sweeneys).

Since the E.L. was granted in April 1976 systematic exploration for tin, including 31 diamond drill holes, has been carried out at Sweeneys and on the Federation Plateau. During 1979-80 work has involved diamond drilling at Federation, geophysical surveys of extensions to the Federation grid and reconnaissance mapping and sampling of other areas within the licence.

Expenditure during 1979-80 amounted to $130,558 and total expenditure to date is $422,574. One diamond drill hole, Federation 13, has been completed since June 30th this year. Costs associated with it will appear in the 1980-81 figures.

Work to be undertaken during 1980-81 should involve:

1) Detailed I.P. and magnetic surveys in the vicinity of the Waxman and Westons and East Federation workings.

2) Diamond drilling of targets indicated by the above as well as elsewhere on the Federation Plateau.

3) Preparation of a cut grid in the south-eastern portion of the Heemskirk Granite between Sweeneys and the old Globe mine followed by geophysical and geochemical surveys thereon.

4) Continued evaluation of other areas within the licence including some regional geological mapping.

This work is estimated to cost $130,038.

2. LAND TENURE

E.L. 11/76 covers 88 sq.km. Included within this area are three small mineral leases totalling 26.3 ha. and two prospecting claims covering 50 ha. (Plan 13).

One mineral lease, 90M/47 (2 ha.), which covers part of the West Federation workings, was the subject of an option agreement until June this year when the option price of $8500 was paid out. The lease, which is now held in Renison's name, will be incorporated into the E.L. A second lease, 20M/41 (16.2 ha.) held by E.W. Coleman, is currently covered by an option which is due to expire on August 30th this year. It should be allowed to lapse.

The two prospecting claims are held over the Peripatetic Mine. This property should be examined during 1980-81 and, if the results are encouraging, the holders should be approached with a view to negotiating an option agreement.

3. WORK COMPLETED 1979-80

3.1 Federation Plateau

3.1.1. Geophysics

Following the recommendation of the 1978-79 annual report, the Federation grid was extended south and west for a total of 16.7 line km. (Plan 2). Here, as elsewhere on the grid, line spacing is approximately 100m. with pegs 30m apart.

Gradient array I.P. was carried out over the extensions. Results of this survey are fully described in Scintrex Report Tas-074D to which the reader is referred. Contoured chargeability and resistivity maps (Plans 3 and 4) together with line profiles (Plans 14a, b etc.) are appended. The survey indicated fewer significant anomalies than on the main grid. Follow-up work on infill lines is required on five anomalies; numbers 1, 5, 9 and 10 together with an unlabelled anomaly on the south end of 400W (possibly an end effect). This can be justified as follows:

> Of all the stanniferous mineralization known within the Heemskirk Granite, the outcropping polymetallic sulphide-rich ore at Sweeneys should be the most responsive to I.P. Detailed I.P. over Sweeneys (Scintrex Report Tas-047) showed that pronounced resistivity and chargeability anomalies only occur over a 50m. diameter area. Beyond that the I.P. response is relatively subtle. Obviously a hidden body of Sweeney-type ore would elicit a milder I.P. response. Clearly, therefore, any combined chargeability/resistivity anomalies on lines spaced 100m. apart must be followed up.

The grid extensions were also covered by a ground proton magnetic survey (Plans 5a - c). This showed a substantial increase in magnetic activity on the southern parts of most lines within the 'red' (older) granite.

This probably reflects either an increase in thickness of the 'red' granite or a higher content of accessory magnetite towards the south.

3.1.2. Line mapping - Federation grid extension

The grid extension was mapped in April this year. This work generally confirmed previous mapping with minor modifications. (Plan 6).

3.1.3. Diamond Drilling

Six holes were drilled for a total of 978.0m in January - February 1980 using helicopter support. They were drilled to test the targets recommended in the 1978-79 annual report (Wells, 1979, p.11). Details are as follows:

1) Fed. 7, 98.2m long, was drilled at the inclination of -70° along 340° (magnetic) to test I.P. anomaly M. Intense hematitic sericite alteration was encountered between the surface and 52.1m, largely within the 'red' granite. Tin content was low, the best intersections being 1m of 0.27%Sn at 50.0 - 51.0m and 1.5m of 0.40% Sn at 59.8 - 61.3m (greisen vein).

2) Fed.8, 151.6m long, was drilled at an inclination of -45° along grid south (150° magnetic) to test the East Federation workings which coincide with I.P. anomaly E. Intense pyritic sericite alteration occurred between 35.7 and 100.8m largely within the 'white' granite. Very low grade tin mineralization (0.06%Sn average) was encountered over 21m between 53.7 and 74.7m. with the best intersections being 1m of 0.18% Sn at 61.7 - 62.7m and 1m of 0.20% Sn at 66.7 - 67.7m. Coincident with the tin values was significant sphalerite mineralization including 13m of 0.95%Zn at 57.7 - 70.7m. The alteration and mineralization were quite unexpected as the workings are within a green tourmaline/quartz lode outcropping at the surface.

3) Fed.9, 155.8m long, was drilled at an inclination of -50° along 320° (magnetic) to test beneath the northern end of the Black Face lode coincident with I.P. anomaly I. A zone of tourmaline/quartz intersected between 39.0 and 57.2m contained minor tin with the best grades being 1m of 0.44% at 40.0 - 41.0m and 1m of 0.29% at 53.0 - 54.0m. Beneath 57.2m weakly pyritic greisen was encountered in numerous veins or broad zones. This contained very minor amounts of tin (i.e. ≥0.01%Sn, ≤0.10%Sn).

4) Fed. 10, 139.0m long, was drilled at an inclination of -65° along 225° (magnetic) to test the Cross Lode at the level of the contact between the 'red' and 'white' granites. Intense alteration including zones of massive tourmaline was encountered between 5.0 and 42.4m. Core losses totalling 14.9m within this intersection prevent an accurate estimate of grades but the assays averaged 0.16% Sn and 0.20% Zn, including 1m of 1.91%Sn at 14.0 - 15.0m and 1m of 1.74% Sn at 18.0 - 19.0m, and 8m of sphalerite mineralization averaging 0.62% Zn and 10g/tonne Ag at 29.0 - 37.0m. The alteration is largely within fine grained 'white' (?) granite.

5) Fed. 11, 122.2m long, was drilled at an inclination of -65° along 115° (magnetic) to test if Coleman's "lode" dips north-west. The hole remained in barren coarse grained 'red' granite, intruded by several, thin, fine grained granite dykes, throughout. It now seems that the stanniferous tourmalinized zone intersected in the upper part of Fed. 6 corresponds with the tin-bearing tourmaline-rich rock outcropping around the main workings (Plans 9a,b).

6) Fed. 12, 311.2m long, was drilled at an inclination of -50° along grid north (330° magnetic) to test the alteration and mineralization intersected in Fed.5 at greater depth. Intense pyritic and/or hematitic sericite

alteration was encountered from 130.1 to 185.0m and from 206.5 to 284.3m. Patchy minor tin mineralization occurs within the altered zones to a depth of 230.0m with the best values being 1m of 0.28% Sn at 179.0 - 180.0m and 10m of 0.21% Sn at 217.0 - 227.0m, the latter corresponding to a hematite-rich zone. The alteration affected both 'red' and 'white' granite types.

In July 1980 a further hole, Fed. 13, was drilled near Coleman's workings. This area, in mineral lease 20m/41, is covered by an option agreement which is due to expire at the end of August this year. The hole was drilled to allow a decision to be made on the option. A detailed justification is given in Appendix 6. Fed.13, 70.0m long, was drilled vertically to test for eastern extensions of flat dipping tourmaline-rich lodes exposed in several shallow open cuts. Only coarse grained 'red' granite cut by minor greisen veins was encountered.

3.1.4. Discussion

The 1979-80 drilling program tested four areas previously drilled in 1978-79 and two "new" areas. The following comments are relevant:

1) Coleman's workings. A memorandum detailing exploratory work by Renison and other companies up to June 1980 is appended (Appendix 6). Analysis of the available data indicates that there are two types of mineralization:

(a) irregular, flatly dipping tourmaline-rich lodes which were partly mined by several small shallow open cuts, and

(b) thin, steeply dipping tourmaline/quartz veins which were encountered in the underground workings.

It was thought that type (a) had some economic potential, however the results of Fed.13 show that these lodes are insufficiently persistent to permit an economic tonneage to exist. Type (b) is too limited in both grade and tonneage potential to constitute an attractive target. No further work is recommended here.

2) West Federation. A detailed discussion of exploratory work around these workings is appended (Appendix 5, Plan 10). Part of the area was covered by mineral lease 90M/47 under option to Renison until June this year. The option was then paid out and the M.L. is now held in Renison's name.

Fed.10 intersected "Geason's lode", a body of mineralization which dips shallowly south-east, and was worked in Geason's Trench 11m. north-west of the Fed.10 collar. At the time of drilling the intersection was thought to be the Cross Lode but it is now clear that the Cross Lode was not reached, as it dips steeply south-west. The mineralization is open to the east and north and requires further drill testing.

3) Central Federation. Fed.9 was the third drill hole completed here in recent times; the other two were Fed.1 (drilled in 1979) and THP 123 (drilled by E.Z. in 1966). The latter both intersected the Black Face lode, but Fed.9 apparently encountered an east-trending offshoot (Plan 11), which was also tested earlier this century by two short drill holes collared from the 220ft. level (Keid, 1943). It now seems that the overall tin grade is very low in the tourmaline-rich lode, although high grade shoots may still remain. No further work is recommended here.

The recent drill holes all intersected substantial amounts of 'true' greisen (i.e. quartz/muscovite $\pm$ topaz

assemblages) containing very minor tin as cassiterite (≤0.09%Sn). Although this is a discouraging result in so far as the Black Face is concerned, it is significant for further exploration on E.L.11/76 as it confirms that stanniferous greisen bodies can exist within the Heemskirk Granite.

4) Waxman and Westons. Fed. 5 and 12 have delineated a large zone of sericitic alteration along line 600E (Plan 14v). The surface expression of this zone is a topographic depression extending east under Cumberland Lake. Tin mineralization is very patchy and low grade but it is possible that the alteration haloes a much higher grade orebody. Structural controls over the mineralization are not clear but there may be some relationship with a steeply dipping fault (?) interpreted in the line profile.

Further work is recommended here. It is suggested that detailed I.P. and magnetics should be used to delineate targets for further drilling because of the apparent relationship between higher tin values and concentrations of hematite/magnetite or pyrite.

5) Fed. 7 intersected alteration very similar to that at Waxman and Westons, albeit on a smaller scale. Further geophysics or drilling here should await the results of the Waxman and Westons work which should cast some light on the potential of this alteration style.

6) East Federation. Although the sericitic alteration here is similar to the above it is significantly different in that it contains appreciable zinc but virtually no hematite. Again controls over the mineralization are unclear and further drilling should be preceded by detailed I.P. and magnetics.

Tin mineralization at Coleman's workings, West Federation and Central Federation is associated with tourmaline-rich alteration. In general, this type of mineralization occurs in short, tin-rich shoots which cannot be regarded as attractive exploration targets. However West Federation seems to be an exception. If further drilling confirms this, it would suggest that near-horizontal alteration dykes or fissures were a more effective trap for tin mineralization than the more common near-vertical ones.

It is now clear that large scale sericitic alteration is quite widespread on the Federation Plateau. Petrological work (Appendix 3) indicates that it represents low temperature greisening and has some similarities to the Sweeney-type alteration and mineralization. There seems to be a relationship between granite type and alteration. At Fed.7 the sericitization is hematitic and lies almost completely within 'red' granite. At East Federation alteration has mainly affected 'white' granite and is pyritic. At Waxman and Westons both granite types are altered and the alteration is both pyritic and hematitic. Perhaps this reflects the higher Fe_2O_3 content of the 'red' granite (Klominsky, 1972).

None of the alteration so far observed is consistently confined within the 'white' granite, but there is a general association between alteration and mineralization and the presence of both granite types. This usually takes the form of small intrusions or dykes of fine grained 'white' granite above the main contact rather than at the main contact itself.

3.2 Other Work

3.2.1. Check Mapping

In 1978 Loxton, Hunting and Associates carried out a photogeological study of the Heemskirk Granite for

Renison (Boshier, 1978). Some time was spent examining various areas in the granite to check the validity of the interpreted intra-granite boundaries (Plan 7). This indicated that, although the quality of the photogeological work was good, it was not effective in distinguishing granite types. The previous mapping by Klominsky (1972) is more reliable.

3.2.2. Reconnaissance over old Workings

Most of the workings recorded in the Heemskirk Granite have now been examined (Plan 7 and previous reports). Results have been generally discouraging, primary tin mineralization mostly occurring in small, high grade shoots within steeply dipping quartz/tourmaline alteration dykes or veins. By and large the bulk of high grade material has been entracted in small workings, thereby indicating the limited tonneage potential of this ore type.

Hematitic sericite alteration of the kind described previously (Section 2.1.3) is exposed at Allisons Workings (Plan 7).

3.2.3. Discussion

The Heemskirk Granite contains at least four types of mineralization:

1) Polymetallic sulphide-rich ore e.g. Sweeneys. This is a very attractive exploration target. It has high economic interest and should be responsive to both geophysics and soil geochemistry.

2) Hematitic or pyritic sericite alteration. This is quite widespread within the Heemskirk Granite. It sometimes haloes higher grade material and its main value may be as an exploration guide. The high grade, coarse cassiterite/pyrite mineralization of the pipe-

shaped body at Tributers Workings (West Federation) seems to have been of this type.

3) Quartz/tourmaline/topaz alteration dykes and veins. Although these are often quite extensive, tin mineralization is patchy. They can, however, be exploration targets as individual bodies (e.g. Geasons Lode, West Federation) or as vein swarms - the mineralization present in the underground workings at Colemans seems to be a small example of the latter.

4) True greisen (i.e. quartz/mica $\pm$ topaz $\pm$ tourmaline assemblages) occurs as selvedges around type (3) and in more extensive bodies e.g. Central Federation (although the latter may be regarded as a large greisen selvedge around a large tourmalinized zone).

Clearly the Sweeney-type mineralization is an obvious target and further effort should be directed towards finding more. The old Globe mine (in S.P.L. 129) apparently contained similar polymetallic sulphides and this suggests that the south-east portion of the Heemskirk Granite was a locus for such orebodies.

Exploration for types (3) and (4) orebodies will be difficult. The remaining old workings should be examined but the outlook there is not optimistic except perhaps at the Peripatetic Mine. It is unlikely that significant outcropping mineralization was missed entirely by the early prospectors. The only remaining possibility is a hidden orebody. The following points are relevant:

(1) The Heemskirk Granite is a tin granite closely comparable to tin granites elsewhere in the world particularly those of Eastern Europe (Wells, 1978).

As such it remains prospective for large tonneage, low grade greisen mineralization.

(2) In the South Heemskirk tin field the contact between the granite types was not an effective barrier to hydrothermal fluids. This is not necessarily true everywhere in the granite and there may be areas, particularly where the contact is marked by a continuous semi-pegmatitic zone, where greisen is confined within 'white' granite cupolas. Tin concentration may well be higher there.

(3) Some large lineaments or intersections of lineaments are probably centres of tin mineralization.

(4) A cassiterite orebody hidden by superficial cover may have shed detrital tin. Alluvial workings would be an exploration guide in such cases.

This kind of theoretical approach cannot be tested without good geological information. A compilation map using the available data, has been made (Plan 8) but much more work is required. Problems with the current maps are:

1) The difficulty of distinguishing granite types. The coarse grained 'red' and fine grained 'white' varieties are distinctive but the medium grained granites quite often are not. 'Red' granite is sometimes white in colour and it seems that some 'white' granites have been pervasively pink stained. The granites are very similar petrologically and in some cases have only been distinguished on petrographic grounds (e.g. Klominsky, 1972) but that is an impractical method of mapping large areas. The only effective way of distinguishing the granites is careful mapping along contacts. Where they are sharp both granite types are

usually present, where gradational there is a grain size transition within a single granite type.

2) Klominsky's map shows many quartz-tourmaline veins that are either non-existent or much shorter than shown.

3) Photogeological techniques are not sufficiently sensitive to distinguish the granite types.

4) Dense vegetation in the southern and eastern areas of the granite has obscured most of the geological detail.

4. RECOMMENDATIONS 1980-81

4.1 Federation Grid

4.1.1. Approximately 1.7 line km should be cut and pegged in short infill lines to permit follow-up I.P. around anomalies revealed by the 1979 survey: numbers 1,5,9 and 10, and an unlabelled anomaly on the south end of 400W (Plan 12a).

4.1.2. 1.0 line km should be pegged on the main Federation grid to permit detailed I.P. and magnetics surveys of the areas around Waxman and Westons and East Federation (Plan 12a).

4.1.3. 1000m of diamond drilling has been budgetted for E.L. 11/76 in 1980-81. Of this 70m was used up in Fed. 13. The remainder should be split as follows:

1) West Federation. Three short holes are planned here for a total of 280m. Drilling should be in NQ triple tube to maximize core recovery. Details are:

a) One hole sited at 5359594N 349893E (AMG), oriented at -50° on 045° (mag.) to test for the Cross Lode and down-dip extensions of the Tributers pipe. Estimated length 100m.

b) Two vertical holes to test Geasons Lode, one at 5359650 N 349945 E (AMG) 90m deep and the other at 5359702 N 349974 E (AMG) 90m deep also.

2) Waxman and Westons and East Federation. The remaining 650m should be used here. Details of proposed hole locations, depths and orientations should be

finalized when results of the detailed geophysical surveys (4.1.2.) are known.

It is proposed that the above drilling be carried out using helicopter support. This will obviate the need for environmentally damaging bulldozing, and will permit much greater efficiency of operations in an area of difficult access.

4.2 It is recommended that a new grid be cut and pegged in the area between Sweeneys and the Globe (Plan 12b). The grid should cover the belt of rainforest connecting the two mines and extend south-eastwards almost to the limit of granite outcrop (lines from other grids cover the extreme periphery of the granite). Grid line spacing should be 100m with pegs 30m apart. The proposed grid is oriented at 330° (AMG) and the estimated length (including a cut base line at the northern end) is 43.8 line km. Of this approximately 27.4 line km. lies within E.L. 11/76, the remainder being within S.P.L. 129.

This grid should be covered by gradient array I.P., ground proton magnetics and soil geochemistry.

Soil geochemistry is suggested here because the target mineralization, Sweeney-type sulphides, should release metals into the overlying soils (Zn, As, possibly Sn from stannite?) if there is ore within the zone of weathering. An orientation survey in the vicinity of Sweeneys should be carried out before the main program is due to commence.

Some helicopter support may be required for the I.P. program.

4.3 Examination and sampling of old workings should continue. In particular, a careful evaluation should be made of the Peripatetic mine.

4.4 The Heemskirk Granite, as a whole, is prospective for hidden, large tonneage low grade tin mineralization. Any exploration directed towards finding this type of orebody must start with a good geological map. It is therefore proposed that, over the next three years, the Heemskirk Granite be geologically mapped at 1:25000. Each year, a contract geologist should be engaged for four to six weeks during summer to do this work.

4.5 No recommendations have been made regarding Sweeneys. However a detailed re-evaluation of all the data will be made during 1980-81 with a view to recommending further work in the 1981-82 financial year.

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APPENDIX 1

EXPENDITURE BREAKDOWNS

and

PROPOSED BUDGET 1980-81

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PROPOSED BUDGET 1980-81

ITEM	$ EXPENDITURE	% OF TOTAL EXPENDITURE
Salaries (including loading)	16,023	12
Consumables	3,475	3
Renison Services (Surveying, Assaying, Vehicle maintenance etc.)	7,900	6
Diamond Drilling	51,956	40
Outside Services (grid cutting, geology, geophysics, geochemistry, helicopter etc.)	49,584	38
Lease Payments	1,100	1
TOTAL:	130,038	100

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TOTAL EXPENDITURE 1979-80

ITEM	$ EXPENDITURE	% OF TOTAL EXPENDITURE
Salaries (including loading)	10,554	8
Consumables	3,146	2
Renison Services (Surveying, Assaying, Research, Vehicles)	3,749	3
Travel and Accommodation	600	
Diamond Drilling	52,462	40
Road Construction	1,840	1
Geological Consultants	829	1
Outside Services (Geophysics, Helicopter, Track Cutting etc.)	42,976	33
Lease Payments	14,401	11
Rounding	1	1
TOTAL	130,558	100

TOTAL EXPENDITURE TO DATE (JUNE 1980)

ITEM	$ EXPENDITURE	% OF TOTAL EXPENDITURE
Salaries (including loading)	40,944	10
Consumables	16,641	4
Renison Services	8,259	2
Travel and Accommodation	1,111	
Diamond Drilling	214,929	51
Road Construction	19,056	5
Consultants	2,903	1
Outside Services	104,328	25
Lease Payments	14,401	3
Rounding	2	-1
TOTAL	422,574	100

APPENDIX 2

DIAMOND DRILL LOGS

RENISON LIMITED - DRILL CORE RECORD

HOLE NUMBER	FED 7
PURPOSE	To test IP anomaly "M"
LOCATION	~310 W 660N grid
COLLAR R.L.	371.871
CO-ORDINATES	5359974.758 N 349812.012 E
LENGTH	98.2m
HOLE SIZE	0 - 6.0 HQ 6.0-27.0 NQ 27.0-98.2 BQ
DATE DRILLED	14.1.80 to 18.1.80
SIGNIFICANT CORE LOSS ZONES	1.2m at 8.5-11.5m 0.9m at 23.2-26.3m 1.1m at 47.5-49.8m
ORE ZONE GROUND CONDITIONS	
LOGGED BY	P. Roberts
COMMENTS	The hole was drilled in the hope that IP anomaly "M" would coincide with a mineralized greisen at the contact between the "red" and "white" granite. Intense hematite/clay alteration intersected from the surface to just below the "red"/"white" contact was therefore unexpected. At least 4 different phases of alteration occurred (earliest first): (1) tourmaline/quartz or greisenization (2) hematite/clay (sericite/pinite)/chlorite (3) tourmaline mica/quartz greisen (only one intersection) (4) late stage limonitic veining A possible 5th type is K-feldspar alteration occurring at a time between (1) and (2).

SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
	magnetic							
0m	-	-70°	0-17	17	15.975	355.896	5.814	5.814
35m	340°	-71°	17-50	33	31.202	324.694	10.745	16.559
65m	340°	71	50-80	30	28.365	296.329	9.768	26.327
95m	340°	-71	80-98.2	18.2	17.208	279.121	5.926	32.253

SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				
	6.0	52.1	46.1	0.01	0.01	0.02	< 0.1	0.1	< 0.01	0.04	0.003	0.05	1				
	including:-																
	49.0	51.0	2.0	0.19	0.01	0.03	< 0.1	< 0.1	< 0.01	0.05	0.004	0.02	1				
	58.7	62.5	3.8	0.20	<0.01	0.09	< 0.1	0.5	0.01	0.02	0.004	0.02	1				
	including:-																
	59.8	61.3	1.5	0.40	<0.01	0.13	< 0.1	0.3	0.02	0.03	0.004	0.02	1				

NRPS 27344

526

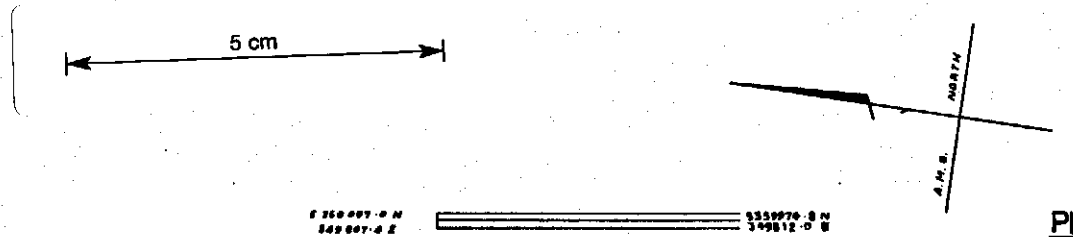
0590027

HOLE No : FED 7

SCALE : 0 10 20 metres

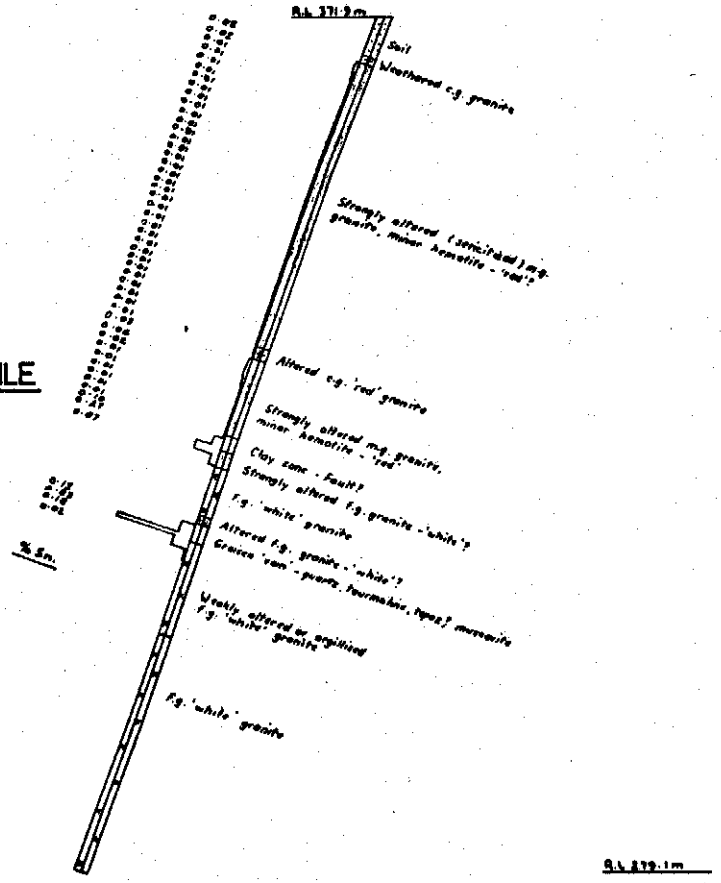
RENISON LIMITED

DIAMOND DRILL HOLE PLOT



PLAN

DIP PROFILE



027
0590028

DIAMOND DRILL RECORD

HOLE NUMBER : Fed 7

LOGGED BY : P. Roberts

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	6.0	-	-	0-6.0 soil and clay, also weathered granite 5.0-6.0m													
6.0	8.5	2.5	100	6.0-8.5 Pale grey-green very altered medium to coarse grained granite. Felspars and quartz replaced by clay (talc?) and mica Small (0.5-2.0mm) clear quartz crystals and soft specular Hematite lining vugs.	"red"	6.0	7.0	0.05	0.01	0.01	< 0.1	< 0.1	< 0.01	0.03	0.002	< 1	0.06
						7.0	8.0	0.02	0.01	0.01	< 0.1	< 0.1	< 0.01	0.02	0.002	< 1	0.06
						8.0	9.0	0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.03	0.004	< 1	0.06
8.5	11.5	1.8	60	8.5-14.6 As above but with only minor mica numerous vugs. Abundant hematite largely lining vugs but occasionally apparently replacing primary minerals. Argillic alteration 10.1-10.3m, probably also in core loss zone 10.3-11.5m. Granitic texture more apparent 13.0-14.6m Thin section 13.9m.	"red"	9.0	10.0	0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.01	0.006	1	0.06
						10.0	11.0	0.01	0.01	0.01	< 0.1	< 0.1	< 0.01	0.01	0.002	1	0.07
						11.0	12.0	0.01	< 0.01	0.02	< 0.1	< 0.1	< 0.01	0.01	0.002	< 1	0.07
						12.0	13.0	< 0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.01	0.001	1	0.07
						13.0	14.0	< 0.01	0.01	0.01	< 0.1	< 0.1	< 0.01	0.02	< 0.001	< 1	0.08
14.5	17.1	2.6	100	14.6-20.2 medium to coarse grained altered granite. Felspars pale yellow stained or replaced by chlorite and yellow-green pinite(?)- latter are probably ex-plagioclase. Total replacement of feldspars 14.8-15.0m, 19.4-19.6m. Quartz generally unaltered. Trace pyrite. Several thin (5mm) quartz/tourmaline veins. Minor hematite 19.0-13.3m and 19.6-20.2m Thin section 15.1m.	"red"?	14.0	15.0	< 0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.02	< 0.001	1	0.07
17.1	20.2	3.1	100			15.0	16.0	0.01	< 0.01	0.01	< 0.1	< 0.1	< 0.01	0.03	< 0.001	1	0.07
						16.0	17.0	< 0.01	< 0.01	0.01	< 0.1	< 0.1	< 0.01	0.02	0.002	1	0.07
						17.0	18.0	< 0.01	< 0.01	0.01	< 0.1	< 0.1	< 0.01	0.03	0.002	2	0.07
						18.0	19.0	< 0.01	< 0.01	0.02	< 0.1	< 0.1	< 0.01	0.03	0.001	1	0.06
						19.0	20.0	< 0.01	< 0.01	0.02	< 0.1	< 0.1	< 0.01	0.03	< 0.001	1	0.07
20.2	23.2	2.6	87	20.2-36.3 Grey-green very strongly altered medium grained granite consisting of a granular aggregate of grey-green clays, chlorite and soft specular hematite. Vuggy in places. Very soft pale yellow clay occes. infilling vugs particularly at 30-30.5m. Locally intensely hematised forming a hematite/chlorite rock. Massive hematite "vein" at 33.8m 3cm thick at 40° to c.a. Less altered, harder 26.1-27.0m - v. pale orange pink felspar phenocrysts in a fine to medium grained altered grey-green groundmass, hematite forming veins or as grains rimmed by quartz, also at 35.5-36.3m	"red"?	20.0	21.0	< 0.01	< 0.01	0.02	< 0.1	< 0.1	< 0.01	0.02	0.002	2	0.08
23.2	26.3	2.2	71			21.0	22.0	< 0.01	< 0.01	0.01	< 0.1	< 0.1	< 0.01	0.01	0.001	2	0.08
26.3	27.0	0.7	100			22.0	23.0	< 0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.02	0.001	2	0.07
27.0	31.0	3.6	90			23.0	24.0	< 0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.04	0.002	1	0.07
31.0	32.5	1.5	100			24.0	25.0	< 0.01	< 0.01	0.01	< 0.1	< 0.1	< 0.01	0.07	0.002	2	0.08
32.5	35.5	3.0	100			25.0	26.0	< 0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.05	0.003	2	0.08
						26.0	27.0	< 0.01	0.01	0.03	< 0.1	< 0.1	< 0.01	0.04	0.002	3	0.08
						27.0	28.0	< 0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.03	0.003	4	0.09
						28.0	29.0	< 0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.04	0.002	2	0.08
						29.0	30.0	< 0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.03	0.002	1	0.08
						30.0	31.0	< 0.01	0.01	0.01	< 0.1	< 0.1	< 0.01	0.05	0.002	1	0.08
35.5	38.5	3.0	100	36.3-38.35 Pink and brown altered medium grained granite consisting of pink kaolinized (?) felspars and soft specular hematite pervasively veined and/or impregnated by brown limonite. Partly vuggy, vugs lined with yellow-brown limonite Chlorite locally replacing feldspars	"red"?	31.0	32.0	< 0.01	0.01	0.03	< 0.1	< 0.1	< 0.01	0.04	0.002	2	0.03
						32.0	33.0	< 0.01	0.01	0.03	< 0.1	< 0.1	< 0.01	0.04	0.010	2	0.04
						33.0	34.0	< 0.01	< 0.01	0.03	< 0.1	< 0.1	< 0.01	0.03	0.007	2	0.06
						34.0	35.0	< 0.01	0.01	0.03	< 0.1	< 0.1	< 0.01	0.02	0.002	1	0.03
				38.35-38.55 Pink microgranite dyke. Consists largely of pink feldspar with lesser amounts of chlorite, white clay and specular hematite. Grain size averages 0.5mm. Upper contact sl. irregular and approx. 20° to c.a. lower contact approx. 30° to c.a.	"red"?	35.0	36.0	< 0.01	0.01	0.03	< 0.1	< 0.1	< 0.01	0.03	0.004	1	0.03
						36.0	37.0	< 0.01	0.01	0.03	< 0.1	< 0.1	< 0.01	0.03	0.005	1	0.04
						37.0	38.0	< 0.01	0.01	0.02	< 0.1	< 0.1	< 0.01	0.02	0.005	2	0.03

028

059029

029

DIAMOND DRILL RECORD

HOLE NUMBER : Red 7

LOGGED BY : P. Roberts

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
38.5	41.5	3.0	100	38.55-38.8 Pink coarse grained granite consisting largely of pink feldspar(?) with lesser clots and veins of specular hematite and minor secondary quartz, chlorite and white clay. Abundance of pink(K-) feldspar(?) suggests that some is secondary. Thin section 38.6m	"red"	38.0	39.0	<0.01	0.01	0.02	<0.1	<0.1	<0.01	0.02	0.002	2	0.02
				38.8-40.0 Medium to coarse grained altered granite consisting of abundant pink feldspars and lesser specular hematite, pervasively veined and impregnated by yellow-brown limonite. Hematite partly hydrated to goethite in places. Chloritised 38.7-40.0m	"red"	39.0	40.0	<0.01	0.01	0.02	<0.1	<0.1	<0.01	0.03	0.003	2	0.04
				40.0-40.7 Hematite/clay/quartz rock. Probably replacement of medium grained granite, remnant feldspars 40.4-40.6m Consists of aggregate of hematite and quartz veined by and interspersed with pale green talcose clay. Core very broken	"red"?	40.0	41.0	0.03	0.02	0.03	<0.1	<0.1	<0.01	0.04	0.005	1	0.05
41.5	44.5	3.0	100	40.7-43.6 Brown altered granite similar to 38.8-40.0m. Goethite filled joint running parallel to c.a. 40.7-43.1m. Soft green clayey alteration 43.2-43.3m	"red"?	41.0	42.0	0.04	0.02	0.03	0.2	<0.1	<0.01	0.06	0.003	1	0.04
						42.0	43.0	0.02	0.01	0.04	<0.1	<0.1	<0.01	0.06	0.004	1	0.04
44.5	47.5	2.8	93	43.6-47.5 Pink and olive green altered granite consisting of pink feldspar(?) and (usually lesser) chlorite, green and grey clays. At 44.6-44.8m the green clays show a preferred orientation at ~35° to c.a. Minor hematite 43.6-43.7 Green clays predominate 45.4- 45.8m. and contain abundant pyrite. Limonite staining 46.8-47.1m. Vuggy	"red"?	43.0	44.0	<0.01	0.01	0.03	<0.1	<0.1	<0.01	0.05	0.004	1	0.03
						44.0	45.0	<0.01	0.01	0.03	<0.1	0.3	0.01	0.07	0.002	1	0.02
						45.0	46.0	<0.01	0.01	0.03	<0.1	2.5	0.01	0.07	0.004	<1	0.03
						46.0	47.0	<0.01	0.01	0.02	<0.1	0.8	0.01	0.07	0.005	2	0.02
						47.0	48.0	<0.01	0.01	0.03	<0.1	<0.1	<0.01	0.05	0.002	1	0.03
				Abundance of pink feldspar(?) suggests that some is secondary.													
47.5	49.8	1.2	52	47.5-48.5 Grey-green very altered medium grained granite comprising chlorite, specular hematite and 47.5-47.9 pink feldspar. Vuggy, vugs becoming finer towards lower contact.	"red"?	48.0	49.0	<0.01	0.01	0.03	<0.1	<0.1	0.01	0.05	0.003	<1	0.03
49.8	52.0	2.2	100	48.5-50.3 Pale grey-green and pale olive green talcose and (?) chloritic (?) clay. Core very broken, 1.1m core loss at 48.5-49.8m. Fault gouge? Thin section 50.1m.	Fault	49.0	50.0	0.10	0.01	0.03	<0.1	0.4	<0.01	0.06	0.003	1	0.03
				50.3-52.1 Pale grey-green and brown extremely altered fine grained granite(?) consisting of partly talcose clays, chlorite and secondary quartz. Brown limonitic staining in parts. Occasional minor sericite. Thin section 51.0m.	"white"	50.0	51.0	0.27	0.01	0.03	<0.1	<0.1	0.01	0.05	0.004	1	0.02
						51.0	52.0	0.07	0.01	0.02	<0.1	<0.1	<0.01	0.03	0.004	2	0.02
						Core analyser results (composites selling 80')											
52.0	53.5	1.5	100	52.1-57.6 Fine grained white and pale yellow fine grained granite. Average grain size 0.5mm. Feldspars partly yellow, kaolinized and at 52.1-52.5 plagioclase feldspars replaced by pinite Abundant grains and clots of black tourmaline up to 1cm, diam,	"white"	52.0	53.0	<0.1									
53.5	56.5	3.0	100			53.0	54.0	<0.1									
56.5	59.5	3.0	100		"white"	54.0	55.0	<0.1									
						55.0	56.0	<0.1									

059030

030

DIAMOND DRILL RECORD

HOLE NUMBER : Fed 7

LOGGED BY : P. Roberts.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Few thin (1cm) quartz-tourmaline veins cut granite at varied ∠'s to		56.0	57.0	<0.1									
				c.a. and are enclosed by a slightly coarser grained "shell"		57.0	58.0	<0.1									
						58.0	58.7	<0.1									
				57.6-58.7 Grey-green altered fine grained granite-feldspars	"white"												
				partly replaced by chlorite/pinite													
59.5	62.5	3.0	100	58.7-60.5 "Vein" of quartz tourmaline and topaz. Abundant pyrite.	"white"	58.7	59.8	0.13	0.01	0.09	<0.1	1.3	0.01	0.01	0.004	2	0.01
				Includes greisen vein of tourmaline/muscovite approximately parallel		59.8	60.3	0.83	<0.01	0.04	<0.1	<0.1	0.01	0.01	0.003	2	0.03
				to c.a. at 59.9-60.1m, enclosed in an irregular siliceous envelope		60.3	61.3	0.18	<0.01	0.17	<0.1	0.5	0.03	0.03	0.004	1	0.02
				from 59.8-60.3m.													
62.5	64.6	2.1	100	60.5-70.9 Fine grained, white granite; feldspars partly kaolinized	"white"	61.3	62.5	0.02	<0.01	0.03	<0.1	<0.1	0.01	0.01	0.003	<1	0.01
64.6	67.7	2.9	94	and yellow, or altered to green clay. Abundant quartz/tourmaline													
67.7	70.8	3.1	100	veins occasionally with coarse cores and fine grained margins. Some													
				very irregular micropegmatite development usually containing													
				abundant tourmaline needles. Few coarse quartz-tourmaline clots.													
70.8	73.8	3.0	100	70.9-81.2 Fine grained white granite comprising quartz	"white"												
73.8	74.5	0.7	100	feldspar and needles of tourmaline. Numerous yellow clay-coated joints													
74.5	77.5	3.0	100	cutting core. Occasional "veins" and clots of quartz/tourmaline													
77.5	79.8	2.3	100	Feldspars partly kaolinized and pale yellow.													
79.8	82.9	3.1	100	81.7-98.2 Fine grained white granite as above but with only rare	"white"												
82.9	86.0	3.1	100	yellow clay-coated fragments. Occasionally medium to coarse grained													
86.0	89.0	3.0	100	micropegmatite developments. Probably partly greisenized to a													
89.0	92.1	3.1	100	quartz/feldspar/topaz/tourmaline rock partic. 94.5-98.2m													
92.1	95.2	3.1	100														
95.2	98.2	3.0	100	Thin section 92.4m													
				End of Hole 98.2m.													

059031

RENISON LIMITED - DRILL CORE RECORD

HOLE NUMBER	FED 8
PURPOSE	TO TEST I.P. ANOMALY "E" WHICH COINCIDES WITH THE EAST FEDERATION WORKINGS.
LOCATION	GRID 705W 335N
COLLAR R.L.	471.002
CO-ORDINATES	5360004.472 N 350826.717 E
LENGTH	151.6m
HOLE SIZE	0 - 3.0m HQ 3.0 - 6.0m NQ 6.0 - 151.6m BQ
DATE DRILLED	31.1.80 - 8.1.80
SIGNIFICANT CORE LOSS ZONES	0.9m loss 58.8 - 61.7m 2.7m loss 64.8 - 76.8m
ORE ZONE GROUND CONDITIONS	
LOGGED BY	P. ROBERTS

SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
M	Magnetic							
0	-	- 45 °	0 - 18	18	12.728	458.274	12.728	12.728
35	150 °	- 46 °	18 - 64	46	33.088	425.186	31.956	44.684
93	148 °	- 47 °	64 - 122	58	42.421	382.765	39.556	84.240
150	149 °	- 48 °	122 - 151.6	29.6	21.996	360.769	19.805	104.045

COMMENTS

Intersected 65 metres of virtually continuous sericitic and chloritic alteration between 35.7 and 100.8m and sporadic alteration below that point. Pyrite mineralisation occurs in most of the altered zone, with a trace present in the unaltered granite below. The Eastern Workings Sn mineralisation was reputedly associated with green tourmaline - none was identified in the core. Possibly the green tourmaline/quarts veining is generally confined to the "red" granite and the sericite/chlorite alteration to the "white" granite.

SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				
	35.7	100.8	65.1	0.02	0.01	0.03	< 0.1	0.8	0.01	0.26	0.005	0.03	2				
	including:																
	60.7	62.7	2.0	015	0.01	0.07	< 0.1	1.7	0.02	1.96	0.005	0.05	3				
	65.7	67.7	2.0	0.16	0.02	0.04	< 0.1	0.2	0.02	0.21	0.006	0.05	2				
	incl.:																
	57.7	70.7	13.0	0.07	0.01					0.95			3				
	132.6	137.6	5.0	<0.01	<0.01	0.02	< 0.1	1.0	0.01	0.05	0.002	0.01	1				

NWPS 27344

031

059032

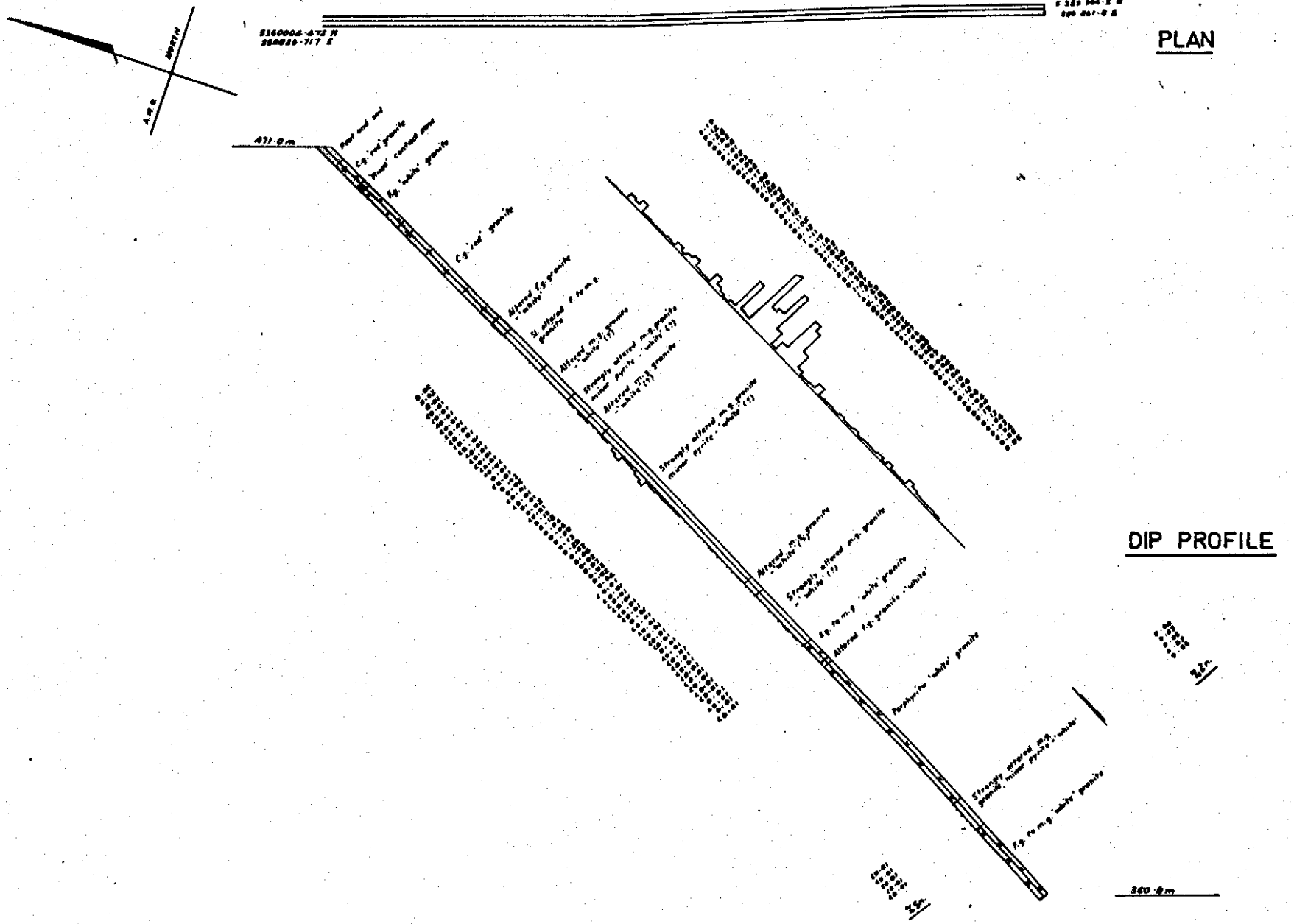
HOLE No : FED 8

SCALE 0 10 20 metres

RENISON LIMITED

DIAMOND DRILL HOLE PLOT

5 cm



032
059033

DIAMOND DRILL RECORD

HOLE NUMBER : FED 8

LOGGED BY : P.R.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	3.7	0.4		0.0 - 3.2 peat and soil													
3.7	6.0	2.3	100	3.2 - 7.7 Red-grey granite, coarse grained, consisting of red	"Red"												
6.0	7.8	1.8	100	K-spar, white or v pale green-yellow plagioclase, grey quartz and ~5% black biotite. Rare clots of black tourmaline ≤ 7mm. diam. Average grainsize ~ 7mm													
7.8	10.8	3.0	100	7.7 - 8.7 "Mixed" contact zone comprising xenoliths and xenocrysts of c.g. "red" granite in a f.g. granitic groundmass. Micropegmatite at 8.1m consisting of quartz, feldspar tourmaline, purple fluorite and a translucent grey-green mineral. Roughly spherical biotite-rich zone 3cm in diam. at 8.6m.	Contact zone												
10.8	13.6	2.8	100	8.7 - 15.9 White granite, fine grained, consisting of grey quartz,	"White"												
13.6	16.7	3.1	100	white and pale yellow feldspar and minor (3-5%) black tourmaline, which is mostly f.g. with few larger clots ≤ 5mm. Few quartz/black tourmaline nodules and veins ≤ 2cm wide. Rare phenocrysts (or xenocrysts ?) of quartz and feldspar. Rare biotite, trace fluorite.													
				Contact marked by grey, pyritic f.g. "greisen".													
16.7	19.8	3.1	100	15.9 - 35.7 Red-grey and yellow-grey granite, coarse grained.	"Red"												
19.8	22.8	3.0	100	Same as at 3.2 - 7.7m. except that feldspars altered in places to													
22.8	25.8	3.0	100	sericite and chlorite. F.g. granitic dyke with irregular contacts													
25.8	28.8	3.0	100	23.5 - 23.7m. Limonite stained within 60cm of lower contact.													
28.8	31.8	3.0	100	Silicified and containing minor disseminations and veinlets of													
31.8	34.8	3.0	100	pyrite within 30cm of lower contact.													
34.8	37.8	3.0	100	Contact sharp at ~ 30° to C.A.													
				35.7 - 38.1 Grey-green altered granite, fine grained, porphyritic,	"White"	35.7	36.7	0.02	<0.01	0.02	<0.1	0.1	0.01	0.19	0.002	1	0.02
				comprising pale grey quartz, grey-green chlorite and yellow-green		36.7	37.7	0.02	<0.01	0.02	<0.1	1.5	0.01	0.12	0.003	< 1	0.02
				sericite or pinite (?). Few phenocrysts of quartz (≤ 1cm) and ex-		37.7	38.1	0.01	<0.01	0.02	<0.1	0.4	0.01	0.28	0.002	< 1	0.02
				feldspar (i.e. chlorite/sericite/pinite - ≤ 7mm). Only weakly altered, pale yellow-grey granite containing minor disseminated tourmaline 36.0 - 36.4m. Minor pyrite as grains and veins 0.5 - 2mm wide 36.4 - 36.6 and 37.7 - 38.1m.		38.1	39.7	<0.01	<0.01	0.02	<0.1	< 0.1	< 0.01	0.03	0.001	< 1	0.01
						39.7	40.7	<0.01	<0.01	0.02	<0.1	< 0.1	0.02	0.04	0.002	< 1	0.02
37.8	40.8	3.0	100	38.1 - 45.5 Pale green-yellow and pink granite, fine to medium	"Red"/"	40.7	41.7	<0.01	<0.01	0.03	<0.1	< 0.1	0.05	0.01	0.002	< 1	0.02
40.8	43.8	3.0	100	grained. Less altered cf above. Feldspars pink, pale yellow		41.7	42.7	<0.01	<0.01	0.02	<0.1	< 0.1	0.05	0.02	0.002	1	0.02
43.8	46.8	3.0	100	or altered to chlorite/ sericite. Few phenocrysts of feldspar,		42.7	43.7	<0.01	< 0.01	0.02	<0.1	< 0.1	0.01	0.02	0.002	1	0.02
				ex-feldspar and quartz ≤ 1cm. Occas. grains of black biotite in		43.7	44.7	<0.01	<0.01	0.02	<0.1	< 0.1	0.01	0.09	0.002	1	0.02
				fresher granite, otherwise probably altered to chlorite. Several		44.7	45.7	<0.01	<0.01	0.02	<0.1	< 0.1	0.01	0.05	0.003	1	0.02
				thin (8mm av.) quartz/black tourmaline veins at ~35° to C.A.													

033

059034

DIAMOND DRILL RECORD

HOLE NUMBER : FED 8

LOGGED BY : P.R.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
46.8	49.8	3.0	100	45.5 - 51.2 Grey-green altered granite, medium grained, comprising	"White"	45.7	46.7	<0.01	<0.01	0.03	<0.1	0.1	0.02	0.17	0.004	2	0.02
49.8	52.8	3.0	100	pale grey quartz, chlorite and sericite. Few phenocrysts of quartz		46.7	47.7	<0.01	<0.01	0.02	<0.1	<0.1	0.01	0.08	0.003	2	0.02
				and ex-feldspar (sericite/chlorite) ≤1cm diam.		47.7	48.7	<0.01	<0.01	0.02	<0.1	<0.1	0.02	0.16	0.004	1	0.01
						48.7	49.7	<0.01	<0.01	0.02	<0.1	0.2	0.01	0.26	0.002	2	0.02
52.8	55.8	3.0	100	51.2 - 55.1 Grey-green extremely altered granite (?) consisting of		49.7	50.7	<0.01	<0.01	0.03	<0.1	<0.1	0.01	0.09	0.003	2	0.02
				sericite, chlorite, pale yellow feldspar (?), relatively subordinate		50.7	51.7	<0.01	<0.01	0.02	<0.1	0.7	0.01	0.08	0.005	<1	0.03
				quartz (c.f. granite above) and ~5% pyrite as grains and clots		51.7	52.7	0.01	<0.01	0.03	<0.1	0.6	0.01	0.07	0.005	1	0.04
				0.5 - 5mm diam. Minor red-brown sphalerite (?) 54.3 - 54.5m.		52.7	53.7	<0.01	<0.01	0.04	<0.1	0.7	0.01	0.37	0.005	2	0.03
						53.7	54.7	0.03	<0.01	0.03	<0.1	1.1	0.02	0.18	0.005	2	0.03
55.8	58.8	3.0	100	55.1 - 58.3 Grey-green altered granite, medium grained. Same as	"White"	54.7	55.7	0.02	<0.01	0.02	<0.1	0.1	<0.01	0.11	0.002	1	0.03
				45.5 - 51.2m. Includes green extremely altered granite (?) same		55.7	56.7	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.05	0.002	2	0.02
				as above at 56.4 - 56.9m.		56.7	57.7	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.12	0.006	<1	0.03
						57.7	58.7	0.01	<0.01	0.03	<0.1	1.1	<0.01	1.11	0.006	2	0.04
58.8	61.7	2.0		58.3 - 65.5 Grey-green extremely altered granite (?) comprising	"White"	58.7	59.7	0.05	<0.01	0.03	<0.1	1.9	0.01	0.19	0.006	3	0.02
61.7	64.8	3.1	100	chlorite, sericite and minor (~5% av.) pyrite as crystals 1-2mm		59.7	60.7	<0.01	<0.01	0.02	<0.1	<0.1	0.01	0.14	0.003	1	0.02
				diam. Relict quartz in less altered granite 62.4 - 63.0m. Vuggy.		60.7	61.7	0.12	0.01	0.09	<0.1	2.3	0.02	3.05	0.006	4	0.06
				Becoming very soft and clayey towards bottom. 1.3m core loss.		61.7	62.7	0.18	0.01	0.04	<0.1	1.1	0.01	0.87	0.004	2	0.03
						62.7	63.7	0.04	0.01	0.04	<0.1	0.9	0.01	0.94	0.004	1	0.03
64.8	67.8	2.4		65.5 - 74.5 Grey-green, yellow-brown, red-brown extremely altered	"White"	63.7	64.7	0.06	0.01	0.05	<0.1	2.0	0.02	1.77	0.006	4	0.04
67.8	70.8	1.9		granite (?) irregularly ferruginized. Comprises clay, sericite,		64.7	65.7	0.09	0.01	0.04	<0.1	0.8	0.01	0.49	0.005	2	0.04
70.8	73.8	2.4		chlorite, patchy minor (relict) quartz and pyrite. Single grain		65.7	66.7	0.12	0.02	0.03	<0.1	0.2	0.01	0.07	0.004	1	0.04
73.8	76.8	2.6		of brown-black sphalerite (?) 0.5 x 0.9 mm. at 69.1m. Partly		66.7	67.7	0.20	0.01	0.05	<0.1	0.2	0.02	0.35	0.007	3	0.05
				limonite veined, impregnated and some red-brown hematite staining		67.7	68.7	0.03	0.01	0.05	<0.1	1.0	0.02	1.47	0.016	7	0.04
				with f.g. specular hematite. Very soft and clayey in patches,		68.7	69.7	0.04	0.02	0.06	<0.1	1.5	0.02	1.26	0.007	3	0.04
				giving rise to 1.9m core loss. Very broken.		69.7	70.7	0.02	0.01	0.10	<0.1	0.3	0.02	0.59	0.014	7	0.06
				Thin section 69.8m.		70.7	71.7	0.07	0.01	0.04	<0.1	<0.1	0.01	0.18	0.003	2	0.06
76.8	79.8	3.0	150	74.5 - 82.2 Grey-green very altered granite (?) same as at 51.2	"White"	71.7	72.7	0.02	0.01	0.04	<0.1	<0.1	0.01	0.05	0.003	3	0.03
79.8	82.8	3.0	100	- 55.1m. but pyrite less abundant, mostly very f.g. Vuggy and		72.7	73.7	0.02	0.01	0.04	<0.1	<0.1	0.01	0.08	0.003	1	0.04
				limonite-stained adjacent to joints 74.5 - 77.5m.		73.7	74.7	0.04	0.01	0.04	<0.1	0.4	0.02	0.08	0.054	3	0.04
						74.7	75.7	<0.01	0.01	0.07	<0.1	0.1	0.01	0.24	0.003	1	0.02
				82.2 - 83.3 As above but with only minor quartz and 10 - 15%	"White"	75.7	76.7	<0.01	0.01	0.03	<0.1	0.8	0.01	0.07	0.003	1	0.03
				pyrite in rounded blebs 2-8mm diam. Minor dark red-brown mineral-		76.7	77.7	<0.01	0.02	0.02	<0.1	0.5	0.01	0.06	0.003	1	0.03
				sphalerite (?)		77.7	78.7	<0.01	0.01	0.03	<0.1	<0.1	0.01	0.07	0.004	1	0.03
						78.7	79.7	<0.01	<0.01	0.03	<0.1	0.9	0.01	0.06	0.008	2	0.04
				Thin section 82.5m.		79.7	80.7	<0.01	<0.01	0.03	<0.1	0.2	<0.01	0.08	0.003	1	0.03
						80.7	81.7	<0.01	<0.01	0.04	<0.1	0.5	<0.01	0.04	0.003	1	0.03
82.8	85.8	3.0	100	83.3 - 88.4 Grey-green extremely altered granite (?) consisting of	"White"	81.7	82.7	<0.01	<0.01	0.03	<0.1	1.2	0.01	0.08	0.006	3	0.04
85.8	88.8	3.0	100	sericite, chlorite, minor pyrite		82.7	83.7	<0.01	<0.01	0.04	<0.1	3.8	0.02	0.09	0.014	4	0.85
						83.7	84.7	<0.01	0.01	0.03	<0.1	0.4	<0.01	0.04	0.002	2	0.03
88.8	91.8	2.0	100	88.4 - 90.7 Grey-green altered granite, medium grained comprising	"White"	84.7	85.7	<0.01	0.01	0.02	<0.1	0.6	<0.01	0.04	0.002	<1	0.03
				sericite/chlorite (after feldspar) and grey quartz. Few veinlets		85.7	86.7	<0.01	<0.01	0.03	<0.1	0.5	0.01	0.04	0.002	1	0.01
				(≤1mm) of quartz/tourmaline at 30° to c.a.		86.7	87.7	0.01	0.01	0.02	<0.1	0.5	<0.01	0.04	0.001	<1	0.01

034

059035

DIAMOND DRILL RECORD

HOLE NUMBER : FED 8

LOGGED BY : P.R.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
91.8	94.8	3.0	100	90.7 - 100.8 Grey-green extremely altered granite (?), medium	"White" (?	87.7	88.7	<0.01	0.01	0.02	<0.1	0.1	<0.01	0.10	0.003	< 1	<0.01
94.8	97.8	3.0	100	grained comprising sericite, chlorite, pale yellow-brown secondary	?)	88.7	89.7	<0.01	0.01	0.02	<0.1	0.1	<0.01	0.04	0.002	< 1	<0.01
97.8	100.8	3.0	100	feldspar (?) with patchy relict quarts. Pyrite throughout, 10-20%		89.7	90.7	<0.01	0.01	0.02	<0.1	<0.1	0.07	0.12	0.001	1	<0.01
				93.6 - 99.8m, minor elsewhere. With abundant red-brown sphalerite		90.7	91.7	<0.01	0.01	0.03	<0.1	0.4	0.03	0.04	0.001	1	0.01
				(?) and magnetite 94.4 - 94.7m. and with red-brown sphalerite (?)		91.7	92.7	<0.01	0.01	0.02	<0.1	0.5	<0.01	0.04	0.004	1	0.01
				only 98.4 - 98.6 and 98.9 - 99.2m. 3cm black tourmaline/quartz vein,		92.7	93.7	<0.01	0.01	0.02	<0.1	0.9	<0.01	0.04	0.004	1	0.01
				60° to c.a. at 100.5m		93.7	94.7	<0.01	0.01	0.04	<0.1	3.7	<0.01	0.19	0.007	1	0.04
						94.7	95.7	<0.01	0.01	0.02	<0.1	2.3	0.01	0.12	0.004	2	0.02
100.8	103.8	3.0	100	100.8 - 104.5 Pale yellow and white granite, fine to medium grained	"White"	95.7	96.7	<0.01	<0.01	0.02	<0.1	2.1	<0.01	0.04	0.002	1	0.01
103.8	106.8	3.0	100	slightly argillized. Consisting of pale yellow or cream feldspars,		96.7	97.7	<0.01	0.01	0.03	<0.1	2.5	<0.01	0.03	0.002	1	0.01
				grey quartz minor sericite/chlorite (after feldspar) and black		97.7	98.7	<0.01	0.01	0.02	<0.1	4.6	<0.01	0.04	0.003	1	0.01
				tourmaline. Few quartz/tourmaline veins (av. 3cm width), veinlets		98.7	99.7	<0.01	0.01	0.02	<0.1	3.3	<0.01	0.05	0.003	1	0.02
				and small (< 2cm) nodules. Grey-green sl. pyritic alteration halo		99.7	100.8	<0.01	<0.01	0.02	<0.1	0.5	<0.01	0.05	0.002	1	0.01
				around thicker veins. Few quartz, feldspar phenocrysts ≤6mm.													
				104.5 - 105.2 Grey-green altered granite, fine grained, consisting	"White"												
				of sericite, chlorite and quartz.													
106.8	109.8	3.0	100	105.2 - 132.6 White, pale yellow granite, porphyritic, comprising	"White"												
109.8	112.8	3.0	100	grey quartz, cream/yellow feldspar phenocrysts (av. 4mm) in a													
112.8	115.8	3.0	100	f.g. groundmass of quartz, feldspars and minor black tourmaline.													
115.8	118.8	3.0	100	Feldspars mostly sl. argillized, occas. sericitized. Quartz/													
118.8	121.8	3.0	100	tourmaline veinlets (1-2mm) common with occas. nodules (1-10cm. diam.)													
121.8	124.8	3.0	100	Becoming more even grained tending m.g. 127.1 - 132.6m. Trace													
124.8	127.8	3.0	100	pyrite.													
127.8	130.8	3.0	100														
130.8	133.8	2.9		132.6 - 137.6 Grey-green very altered granite, medium grained,	"White"	132.6	133.6	<0.01	0.01	0.02	<0.1	0.2	0.01	0.04	0.002	1	<0.01
133.8	136.8	3.0	100	consisting of chlorite, sericite, quartz and 5 - 15% pyrite. Red-		133.6	134.6	<0.01	<0.01	0.03	<0.1	2.1	0.01	0.05	0.003	1	0.01
136.8	139.8	3.0	100	brown sphalerite (?) minor constituent 133.6 - 133.8m, and abundant		134.6	135.6	<0.01	0.01	0.03	<0.1	1.4	<0.01	0.05	0.003	1	0.01
				(≤25%) 134.4- 134.7, 135.4 -135.7m. - generally f.g. but occas.		135.6	136.6	<0.01	0.01	0.02	<0.1	0.7	0.01	0.07	0.002	1	<0.01
				as rounded grains 5mm diam. Micropegmatite vein at 136.4m.,		136.6	137.6	<0.01	<0.01	0.02	<0.1	0.4	0.01	0.06	0.002	< 1	<0 01
				cutting core at 30° to C.A.				(ppm)		(ppm)	(ppm)		(ppm)	(ppm)	(ppm)		(ppm)
						137.6	138.6	15	<0.01	25	5		40	175	25	1	40
139.8	142.8	3.0	100	137.6 - 151.6 Pale yellow, white granite, fine to medium grained,	"White"	138.6	149.6	< 5	<0.01	25	50		120	315	35	< 1	40
142.8	145.8	3.0	100	slightly porphyritic. Consisting of grey quarts, cream, pale yellow		139.6	140.6	< 5	<0.01	30	5		120	475	35	1	40
145.8	148.8	3.0	100	feldspars, minor black tourmaline and sericite (after feldspar).		140.6	141.6	< 5	<0.01	25	55		100	375	25	1	20
148.8	151.6	2.8	100	Trace pyrite throughout, rare arsenopyrite (?). Few veins of siliceous		141.6	142.6	50	<0.01	25	10		50	140	25	1	30
				and pyritic grey-green "greisen" 137.6 - 147.1m. Occas. veinlets		142.6	143.6	< 5	<0.01	20	5		30	145	30	1	40
				(≤1cm) and clots of black tourmaline/quartz.		143.6	145.0	< 5	<0.01	15	< 5		90	495	25	< 1	20
				Thin section 142.2m.													
				END OF HOLE 151.6m.													

035

059036

RIMSON LIMITED - DRILL CORE RECORD

036

HOLE NUMBER	FED 9
PURPOSE	To test the Black Face Lode at N.end where it coincides with IP anomaly "I"
LOCATION	Next to FED 1 collar
COLLAR R.L.	512.296
CO-ORDINATES	5359810.881 N 350398.063 E
LENGTH	155.8m
HOLE SIZE	0-6.0m HQ 6.0-21.0m NQ 21.0-155.8m BQ
DATE DRILLED	28.1.80 - 1.2.80
SIGNIFICANT CORE LOSS ZONES	3.6m loss at 6.0-10.9m 0.9m loss at 58.8-61.3m
ORE ZONE GROUND CONDITIONS	
LOGGED BY	P. Roberts

SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
m.	Magnetic							
0	-	-50°	0-27	27	20.682	491.614	17.356	17.356
53	322°	-48°	27-76	49	36.412	455.202	32.786	50.142
98	323°	-49°	76-126	50	36.735	417.467	32.805	82.947
153	324°	-48°	126-155.8	29.8	22.144	395.323	19.939	102.886

COMMENTS: Intersected an intensely tourmalinized zone at 39.0-57.2m and a pyritic greisenized granite zone at 96.6 - 124.3m., the former corresponding with the Black Face lode, and the latter probably being the down-dip extension of the siliceous sulfide-rich zone outcropping at the Northern end of the lode. Most of the rest is either argillized or "veined" by greisen.

SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				
	39.0	65.0	26.0	0.05	< 0.01	0.03	< 0.1	0.1	0.05	0.04	0.004	0.02	2				
	including																
	40.0	43.0	3.0	0.18	< 0.01	0.04	< 0.1	0.5	0.07	0.05	0.003	0.03	3				
	53.0	54.0	1.0	0.29	< 0.01	0.12	< 0.1	<0.1	0.16	0.12	0.004	0.03	8				
	96.0	124.3	27.7	0.03	0.01	0.04	< 0.1	1.1	<0.01	0.04	0.003	0.02	1				
	130.8	147.8	17.0	<0.01	0.02(?)	0.03	<0.1	0.4	0.01	0.03	0.004	<0.01	<1				

NWPS 27344

050031

HOLE No FED 9

SCALE 0 10 20 metres

RENISON LIMITED

DIAMOND DRILL HOLE PLOT

5 cm

NORTH

PLAN

DIP PROFILE

R.L. 518.3 m

R.L. 398.3 m

DIAMOND DRILL RECORD

HOLE NUMBER : FED 9

LOGGED BY : P. Roberts

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	6.0	0	-	0.0-6.0 soil and granitic sand													
6.0	8.2	0.35		6.0-11.3 White medium grained granite, strongly argillized, including	"red"												
8.2	10.9	0.95		veins of black tourmaline and quartz. Within granite, feldspars completely altered to white or green clays (kaolinite/sericite?)3.6m core loss													
10.9	14.0	3.1	100	11.3-12.0 Pale yellow medium grained granite, argillized but more competent of 6.0-11.3m. Rare feldspar and quartz phenocrysts. Lower contact sharp but xenoliths (?) of this granite included below contact. Minor clots of quartz/black tourmaline.	"red"?												
14.0	17.1	2.8	90	12.0-17.8 Yellow-brown and white fine grained granite, partly limonite stained. Feldspars partly converted to white clays. Average grain size 0.5-1.0mm. Minor quartz/black tourmaline forming clots up to 3cm and thin (<5cm) veins. Limonite staining along joints. Includes xenoliths (?) of coarser grained granite in lower 20cm. of intersection	"White"												
17.1	20.2	3.1	100	17.8-39.0 Pink-grey medium grained granite. Where fresh it comprises	"red"												
20.2	21.0	0.8	100	abundant pink K-spar(?) and white plagioclase (?), the latter occas.													
21.0	23.2	2.1	95	pale green and altered, and grey quartz:5-10% black biotite.Occas													
23.2	26.2	3.0	100	phenocrysts of feldspar and quartz. Minor black tourmaline/quartz in													
26.2	29.2	3.0	100	veins up to 30cm thick and in small clots. Partly argillized and													
29.2	32.2	3.0	100	iron-stained. Strongly argillized 21.1-21.4,33.1-34.5 and 38.5-39.0m.													
32.2	35.2	2.9	97														
35.2	38.2	3.0	100	39.0-57.2 Dark grey-green and black tourmaline, and quartz.	?												
38.2	41.2	3.0	100	Generally medium grained equigranular texture but with occas.possible		39.0	40.0	0.02	<0.01	0.03	<0.1	<0.1	0.02	0.02	0.004	2	0.02
41.2	44.2	2.8	93	brecciated textures, clasts(?) entirely replaced by tourmaline.Where		40.0	41.0	0.44	<0.01	0.06	<0.1	1.2	0.03	0.04	0.004	2	0.03
44.2	47.2	2.9	97	hard and silicified, the tourmaline tends be grey-green; where vuggy		41.0	42.0	0.01	<0.01	0.03	<0.1	<0.1	0.11	0.08	0.002	5	0.03
47.2	50.2	3.0	100	and softer with limonite and clay infilling vugs, the tourmaline tends		42.0	43.0	0.10	<0.01	0.04	<0.1	0.2	0.06	0.03	0.004	3	0.03
50.2	53.2	3.0	100	to be black e.g. 52.3-53.2m. Includes intersections of soft tourmaline/		43.0	44.0	0.02	<0.01	0.03	<0.1	<0.1	0.10	0.04	0.004	2	0.03
53.2	56.2	3.0	100	clay with very abundant pyrite 40.8-41.0 and 42.3-42.6 m, and without		44.0	45.0	<0.01	<0.01	0.04	<0.1	<0.1	0.15	0.07	0.003	6	0.03
				sulfides 45.7-45.8 and 52.4-52.5m. Includes:-		45.0	46.0	<0.01	<0.01	0.03	<0.1	<0.1	0.03	0.07	0.002	1	0.03
				48.2-49.0 pale grey-green medium grained granite, altered,		46.0	47.0	0.01	<0.01	0.02	<0.1	<0.1	0.04	0.07	0.003	2	0.03
				feldspars converted to pale green clays(sericite?) and chlorite.		47.0	48.0	<0.01	<0.01	0.03	<0.1	<0.1	0.02	0.07	0.002	2	0.03
				Trace pyrite. Contacts with tourmaline/quartz at 45° to c.a.		48.0	49.0	0.01	<0.01	0.02	<0.1	<0.1	0.03	0.03	0.003	3	0.02
				Thin section 49.4m		49.0	50.0	0.02	<0.01	0.02	<0.1	<0.1	0.04	0.02	0.002	2	0.02
56.2	58.8	2.2	85	57.2-62.2 Pale yellow-brown and white medium grained granite,	"red"?	50.0	51.0	0.01	<0.01	0.03	<0.1	<0.1	0.05	0.02	0.004	2	0.02
58.8	61.3	1.6	64	argillized. Feldspars replaced by clays, quartz unaltered.Grainsize		51.0	52.0	0.12	<0.01	0.03	<0.1	<0.1	0.09	0.04	0.004	2	0.03
				averages 2-3mm. Varies from moderately competent and limonite		52.0	53.0	0.01	<0.01	0.03	<0.1	<0.1	0.03	0.04	0.003	1	0.03
				impregnated to incompetent and bleached.Few thin quartz/black tourmaline		53.0	54.0	0.29	<0.01	0.12	<0.1	<0.1	0.16	0.12	0.004	8	0.03
				veins (<1cm thick)and one thicker vein 10cm thick, contact 40°to c.a.													

039

DIAMOND DRILL RECORD

HOLE NUMBER · FED 9

LOGGED BY : P. Roberts

NWPS

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.
				Becoming grey-green and chloritized towards lower contact. Very	
				broken core. 0.9m core loss	
64.2	66.2	1.9	95	62.2 - 65.0 Vein of dark grey-green tourmaline and quartz. Fine to	
				medium grained. Broken by limonite coated joints. Upper contact	
				partly obscured by limonite impregnation ~20° to c.a., lower contact	
				obscured by limonite impregnation.	
66.2	68.2	2.0	100	65.0 - 67.6 Medium grained granite, argillized and pale yellow-	"red"?
				brown limonite stained. Feldspars pale pink or altered to white and	
				green clays (kaolinite/sericite?) Quartz unaltered. Tourmaline/quartz	
				forming vein at 66.3-66.4 at 15° to c.a. and few nodules ≤ 4cm. diam.	
68.2	70.7	2.5	100	67.6 - 89.6 Medium grained granite, slightly altered. Feldspars white	"red"
70.7	72.8	2.1	100	or altered to pale green and pale yellow clays (sericite/kaolinite	
72.8	74.2	1.4	100	?) and rarely to chlorite. Dark chlorite? replacing biotite ? Rare	
74.2	77.2	3.0	100	feldspar phenocrysts ≤1cm. Includes abundant green-grey, fine to med.	
77.2	80.2	3.0	100	grained greisen "veins" comprising quartz grains in a green ground-	
80.2	82.9	2.7	100	mass of sericite (?), chlorite, possibly some amorphous green tourmaline	
82.9	86.0	3.1	100	and minor black tourmaline and pyrite-thickness varies 0.5-10 cm.,	
86.0	89.1	3.1	100	contacts vary 40-60° to ca. Also includes quartz/black tourmaline	
				as veins (≤ 25cm thick) and nodules (≤4cm). Includes	
				80.25-82.2 Medium grained granite, argillized and limonite stained	
				similar to 65.0-67.6m.	
				Becoming yellow-grey and moderately argillized 85.0-89.6m. Lower	
				contact obscured by limonite staining but appears sharp at 35° to c.a.	
				Thin Section 88.1m.	
89.1	92.2	3.1	100	89.6-93.3 Pale yellow fine grained granite, slightly altered. Felspars	"white"
92.2	95.2	3.0	100	white or altered to pale yellow clay. Quartz unaltered. Minor	
				disseminated fine grained black tourmaline. Occas. phenocrysts (≤5mm)	
				of quartz and feldspar converted to chlorite. Average grainsize 0.5mm	
				Abundant grey-green greisen "veins" as above with two orientations, the	
				most common at ~40° to c.a., the other ~45° to c.a. and rotated ~160°	
				from the first set. "Vein" thickness varies 0.5-15 cm. Yellow clay	
				coating joints. Includes m.g. granite as at 67.6-89.6 with slightly	
				diffuse contacts at 92.1-92.4m.	

% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% B.	g t Ag	% WO_3
54.0	55.0	0.06	<0.01	0.02	<0.1	<0.1	0.02	0.01	0.00[illegible]	2	0.[illegible]
55.0	56.0	0.05	<0.01	0.03	<0.1	<0.1	0.03	0.01	0.00[illegible]	1	0.01
56.0	57.0	0.06	<0.01	0.02	<0.1	<0.1	0.02	0.01	0.003	<1	0.02
57.0	58.0	0.04	0.01	0.03	<0.1	<0.1	0.03	0.02	0.003	<1	0.[illegible]
58.0	59.0	<0.01	<0.01	0.03	<0.1	<0.1	0.04	0.02	0.005	2	0.[illegible]
59.0	60.0	<0.01	0.01	0.02	<0.1	<0.1	0.02	0.01	0.003	1	0.[illegible]
60.0	61.0	<0.01	<0.01	0.02	<0.1	<0.1	0.01	0.02	0.003	<1	0.01
61.0	62.0	<0.01	0.01	0.03	<0.1	<0.1	0.02	0.03	0.009	1	0.[illegible]
62.0	63.0	0.01	0.01	0.03	<0.1	<0.1	0.01	0.02	0.004	1	0.[illegible]
63.0	64.0	0.02	0.01	0.03	<0.1	<0.1	<0.01	<0.01	0.003	1	0.02
64.0	65.0	0.01	0.01	0.03	<0.1	<0.1	0.01	0.01	0.023	<1	0.[illegible]
Core analyser results (comparator setting 80)											
65.0	66.0	0.10									
	67.0	<0.1									
	68.0	<0.1									
	69.0	0.11									
	70.0	0.11									
	71.0	0.24									
	72.0	<0.1									
	73.0	<0.1									
	74.0	<0.1									
	75.0	0.11									
	76.0	<0.1									
	77.0	<0.1									
	78.0	<0.1									
	79.0	<0.1									
	80.0	0.10									
	81.0	<0.1									
	82.0	0.20									
	83.0	<0.1									
	84.0	<0.1									
	85.0	<0.1									
	86.0	<0.1									
	87.0	<0.1									
	88.0	<0.1									
	89.0	0.14									
	90.0	<0.1									
	91.0	<0.1									
	92.0	0.10									
	93.0	0.13									
	94.0	0.13									
	95.0	0.15									
	96.0	<0.1									

059040

DIAMOND DRILL RECORD

HOLE NUMBER : FED 9

LOGGED BY : P. Roberts.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
95.2	98.2	3.0	100	93.3-96.6 Pale yellow-grey medium grained granite, moderately	"white"	96.6	97.6	0.09	0.01	0.03	0.1	1.2	< 0.01	0.02	0.002	1	0.02
				argillized, as at 85.0-89.5m.		97.6	98.6	0.09	0.02	0.04	0.1	1.2	< 0.01	0.02	0.003	2	0.02
						98.6	99.6	0.04	0.01	0.03	< 0.1	0.5	< 0.01	0.04	0.002	2	0.02
98.2	101.2	3.0	100	96.6-102.1 Grey-green greisenized medium grained granite, similar	"white"	99.6	100.6	0.03	0.01	0.03	< 0.1	0.7	< 0.01	0.04	0.002	< 1	0.02
				to greisen"veins" described previously but granitic texture clearer.		100.6	101.6	0.03	<0.01	0.03	< 0.1	0.7	< 0.01	0.05	0.002	< 1	0.02
				Comprises quartz grains in grey-green matrix of sericite (?), chlorite,													
				possibly amorphous green tourmaline, with ≤5% pyrite disseminated as													
				fine grains and in generally thin (≤1mm) veins. Veins of pyrite and													
				paler green sericite (?) parallel the general trend giving the core													
				a banded appearance. Includes rare clots of black tourmaline/quartz													
				and one tourmaline/quartz vein at 101.3m. Interspersed with yellow													
				moderately argillized m.g. granite 98.2-98.3, 98.6-98.75, 99.1-99.4,													
				99.6-100.1, 1005-101.2m., contacts 40° to c.a.													
101.2	104.2	3.1	100	102.1-114.7 As above but with approx. equal amounts of greisenized	"white"	101.6	102.6	0.04	0.01	0.03	< 0.1	0.4	0.01	0.05	0.001	< 1	0.02
104.2	107.2	3.0	100	and argillized granite. Greisenized granite tending to be more siliceous with		102.6	103.6	0.05	0.01	0.03	< 0.1	0.7	0.01	0.05	0.002	< 1	0.02
107.2	110.2	3.0	100	depth. Contacts average 50° to c.a., and are generally gradational		103.6	104.6	0.03	0.01	0.03	< 0.1	0.6	0.01	0.06	0.002	1	0.02
110.2	113.2	3.0	100	over 0.5-1cm. Pyrite content higher, averaging 5-10%, up to 20% in		104.6	105.6	0.04	0.01	0.03	< 0.1	1.1	0.01	0.04	0.002	1	0.02
				places.		105.6	106.6	0.02	0.01	0.03	< 0.1	0.4	0.01	0.09	0.003	1	0.02
						106.6	107.6	0.03	0.01	0.03	< 0.1	0.9	0.01	0.04	0.002	1	0.02
113.2	116.2	3.0	100	114.7-121.3 Pale yellow medium grained granite, slightly argillized.	"white"	107.6	108.6	0.02	<0.01	0.03	<0.1	0.6	0.01	0.06	0.002	1	0.02
116.2	119.2	3.0	100	Feldspars cream or altered to yellow clay, occas. with yellow-green		108.6	109.6	0.02	<0.01	0.04	<0.1	0.4	0.01	0.04	0.003	<1	0.02
119.2	122.2	3.0	100	(sericitized ?) cores. Quartz grey and unaltered, forming occasional		109.6	110.6	0.02	<0.01	0.04	<0.1	1.4	0.01	0.01	0.003	1	0.02
				phenocrysts ≤ 8mm. Includes few greisenized granite "veins" as		110.6	111.6	0.02	<0.01	0.03	<0.1	1.0	0.01	0.04	0.002	<1	0.02
				above 0.5-10cm. thick.		111.6	112.6	0.05	0.01	0.06	<0.1	2.6	0.01	0.04	0.006	1	0.02
						112.6	113.6	0.03	<0.01	0.07	<0.1	3.2	0.01	0.02	0.006	<1	0.02
122.2	125.2	3.0	100	121.3-124.3 Grey, medium grained, greisenized and silicified granite.	"white"	113.6	114.6	0.04	<0.01	0.04	<0.1	0.6	0.02	0.02	0.003	1	0.02
				As at 96.6-102.1 but more siliceous. No tourmaline seen. Minor		114.6	115.6	0.01	<0.01	0.03	<0.1	0.5	0.01	0.02	0.002	1	0.02
				fluorite. Granitic texture partly obscured by silicification.		115.6	116.6	<0.01	<0.01	0.02	<0.1	0.1	0.01	0.05	0.002	< 1	0.02
						116.6	117.6	<0.01	<0.01	0.02	<0.1	0.1	0.01	0.04	0.002	1	0.02
				Thin section 123.2 m.		117.6	118.6	<0.01	<0.01	0.03	<0.1	<0.1	0.01	0.04	0.001	<1	0.02
						118.6	119.6	<0.01	<0.01	0.03	<0.1	0.2	0.01	0.04	0.002	<1	0.02
125.2	128.2	3.0	100	124.3-130.8 Pale yellow-grey medium grained granite slightly	"red"?	119.6	120.6	<0.01	<0.01	0.03	<0.1	0.2	0.01	0.06	0.003	1	0.02
128.2	131.0	2.8	100	argillized, similar to 114.7-121.3m. Few thin greisen "veins" (one		120.6	121.6	0.02	<0.01	0.03	<0.1	0.6	0.01	0.04	0.001	1	0.02
				10 cm thick) Coarse grained 127.7-128.7. Some feldspars pink		121.6	122.6	0.03	0.01	0.05	<0.1	2.5	0.01	0.01	0.005	1	0.02
				127.1-127.2 (possibly "red" granite ??). Lower contact slightly		122.6	123.6	0.04	0.01	0.07	<0.1	3.3	0.01	0.01	0.006	1	0.02
				diffuse		123.6	124.6	0.03	0.02	0.09	<0.1	3.9	0.01	0.01	0.004	1	0.02
131.0	134.1	3.1	100	130.8-144.9 Pale yellow-grey, fine to medium grained granite,	"white"	130.8	131.8	0.01	<0.01	0.02	<0.1	0.2	0.01	0.04	0.002	< 1	<0.01
134.1	137.2	3.1	100	slightly argillized. Average grain size ~1mm. Abundant grey-green		131.8	132.8	<0.01	< 0.01	0.02	<0.1	<0.1	0.01	0.02	0.002	< 1	<0.01
137.2	140.2	3.0	100	pyritic greisen "veins" comprising ~15% of total intersection-contacts		132.8	133.8	<0.01	< 0.01	0.02	< 0.1	0.2	0.01	0.02	0.002	1	<0.01
140.2	143.2	3.0	100	generally 35-40° to c.a. Contains abundant black tourmaline/quartz		133.8	134.8	<0.01	0.03	0.03	<0.1	0.5	0.01	0.02	0.002	<1	<0.01

040

050071

041

DIAMOND DRILL RECORD

HOLE NUMBER : FED 9

LOGGED BY : P. Roberts

MWPS

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	FROM	TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
						134.8	135.8	< 0.01	0.04	0.03	< 0.1	<0.1	0.07	0.08	0.003	1	0.02
				nodules 1-10cm diameter, greisen and pyrite veins crosscut the		135.8	136.8	< 0.01	0.03	0.03	< 0.1	0.3	< 0.01	0.01	0.002	< 1	<0.01
				nodules indicating a later age. Greisen veins cocas. banded with		136.8	137.8	< 0.01	0.02	0.03	< 0.1	0.1	< 0.01	0.02	0.002	< 1	<0.01
				minor black tourmaline in rel. dark rims and paler green, pyrite-		137.8	138.8	0.01	0.02	0.03	< 0.1	0.3	< 0.01	0.02	0.002	< 1	<0.01
				rich cores. Veins becoming less frequent, pyrite content dropping		138.8	139.8	0.02	0.02	0.04	< 0.1	1.3	< 0.01	0.01	0.003	< 1	<0.01
				towards bottom.		139.8	140.8	0.02	0.02	0.03	< 0.1	1.1	< 0.01	0.01	0.003	< 1	<0.01
						140.8	141.8	< 0.01	0.02	0.03	< 0.1	0.9	< 0.01	0.02	0.002	< 1	<0.01
143.2	146.2	3.0	100	144.9-145.4 Pale yellow-green, altered, fine grained granite.	"White"	141.8	142.8	0.01	0.02	0.03	< 0.1	0.8	< 0.01	0.02	0.002	< 1	0.01
				Feldspars converted to pale green clays (sericite?)		142.8	143.8	< 0.01	0.02	0.02	< 0.1	0.3	< 0.01	0.04	0.002	< 1	<0.01
						143.8	144.8	< 0.01	0.02	0.02	< 0.1	0.4	< 0.01	0.06	0.004	< 1	<0.01
				145.4-146.2 Pale green-grey, altered, fine grained granite, part	"white"	144.8	145.8	< 0.01	0.02	0.03	< 0.1	0.5	< 0.01	0.03	0.004	< 1	<0.01
				greisenized, irregularly ferruginized, last 15 cm. argillized. Rare		145.8	146.8	< 0.01	0.01	0.03	< 0.1	<0.1	0.04	0.06	0.023	1	0.02
				pyrite grains.		146.8	147.8	< 0.01	0.02	0.03	< 0.1	0.6	< 0.01	0.02	0.001	< 1	<0.01
146.2	148.8	2.2	85	146.2-147.9 Pale yellow, yellow-brown mottled clay, partly	?												
				ferruginized (indurated) to red-brown. Containing few grains of													
				black tourmaline/quartz up to 3 mm. diam. 0.4m core loss													
148.8	152.2	3.3	97	147.9-151.1 Pale grey and pale red-brown fine grained granite,	"white"												
				silicified and partly ferruginized. Includes abundant diffuse clots													
				and veins of black tourmaline/quartz. Lower 40 cm. very siliceous.													
152.2	155.2	3.0	100	151.1-155.8 White fine grained granite, comprising grey quarts and	"white"												
155.2	155.8	0.6	100	white feldspars, minor black tourmaline. No biotite seen. Average													
				grain size 0.5-1 mm. Rare pyrite grains. Grey, siliceous, slightly													
				pyritic alteration "veins" at 40° to c.a. up to 20 cm thick generally													
				<2 cm. Second set of thin (1-2mm) "veins" at 30-35° to c.a. rotated													
				~160° from first set. Slightly argillized 151.1-152.3m.													
				End of hole 155.8m													

0590042

RIMSON LIMITED - DRILL CORE RECORD

042

HOLE NUMBER	FED 10	SURVEY Depth	SURVEY Bearing	SURVEY Dip	From – To	Distance D	VERTICAL D.Sin.Dip	VERTICAL R.L.	HORIZONTAL D.Cos.Dip	HORIZONTAL Prog. Total
PURPOSE	To test the Cross Lode (West Federation) at the approximate level of the "red/white" granite contact		Magnetic							
		0		-63°	0-28	28	24.948	401.485	12.712	12.712
		55	226°	-65°	28-76	48	43.502	357.983	20.285	32.997
LOCATION	Grid: 284 W, 349N	97	226°	-65.5°	76-118	42	38.216	319.767	17.415	50.412
		139	228°	-66°	118-139	21	19.184	300.583	8.541	58.953
COLLAR R.L.	426.433									
CO-ORDINATES	5359689.690 N 349912.591 E									
LENGTH	139.0m.									
HOLE SIZE	N.Q 0-45.0m B.Q 45-0-139.0m									
DATE DRILLED	20.1.80 to 25.1.80									
SIGNIFICANT CORE LOSS ZONES	1.6m loss at 8.0-11.0m, 13.25m loss at 16.5-35.0m, 1.1m loss at 47.0-50m									
ORE ZONE GROUND CONDITIONS										
LOGGED BY	P. Roberts									
COMMENTS	Cross lode was assumed to dip vertically; instead it apparently dips shallowly to the east. Large core losses in zones of massive black tourmaline mineralization. Driller reported a cavity at 23.9-29.0m filled with "silt" - this is possibly an old mine working but is some distance away from any of the old workings shown on Mines Department plans; alternatively it may be a large open joint. Any further drilling in the area should use triple tube to increase recovery in the prospective zone (the cross lode). Note: core loss zones may have contained higher grade Sn mineralisation.									

SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				B.C.A.
	5.0	42.4	37.4	0.16	<0.01	0.02	0.1	0.2	0.01	0.20	0.005	0.06	4				
	including:-																
	14.0	15.0	1.0	1.91	<0.01	0.03	0.1	0.3	0.03	0.18	0.003	0.06	6				
	18.0	19.0	1.0	1.74	<0.01	0.02	0.1	0.1	0.01	0.01	0.008	0.07	3				
	29.0	37.0	8.0	0.08	<0.01	0.03	0.1	0.6	0.05	0.62	0.007	0.09	10				

NMPS 27344

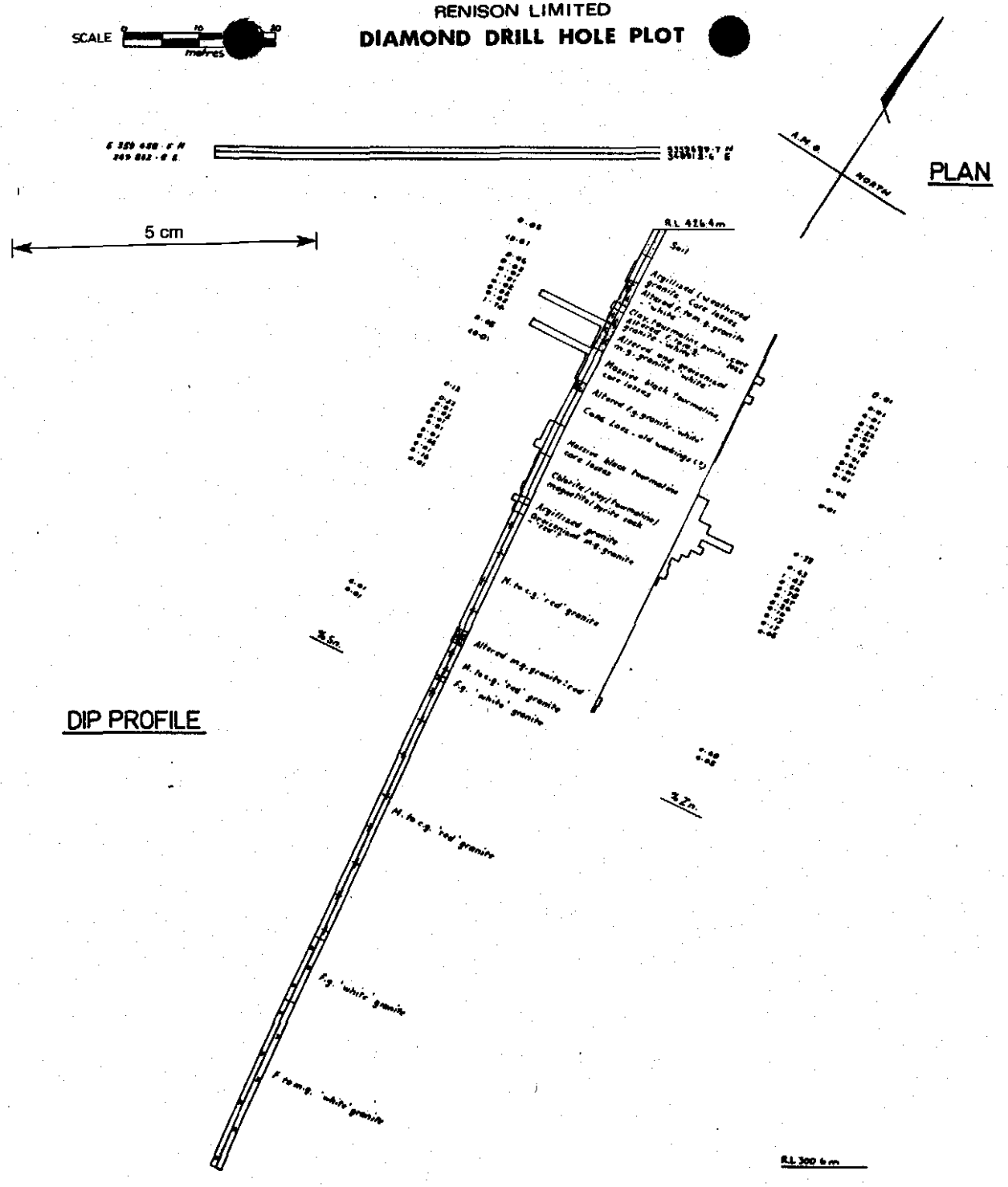
0590043

HOLE No FED 10

SCALE 0 10 20 metres

RENISON LIMITED

DIAMOND DRILL HOLE PLOT



043
059044

044

DIAMOND DRILL RECORD

HOLE NUMBER : FED 10

LOGGED BY : P. Roberts

mwe

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	5.0	0.10	2	0.0-5.0 soil and clay, with some argillized granite 4.0-5.0m.													
5.0	8.0	0.50	17	5.0-7.5 Core loss-probably completely argillized and degraded granite (5cm. recovered)		5.0	8.0	0.05	0.01	0.02	<0.1	<0.1	<0.01	0.01	0.004	5	0.04
				7.5-7.9 Quartz/tourmaline "vein", Lower contact 30° to c.a. Core very broken													
8.0	11.0	1.40	47	7.9-11.0 White altered fine to medium grained granite. Feldspars replaced by pale greenish yellow clays. Some silicification-feldspars pseudomorphed by silica resulting in flat "cleavage" planes being preserved. Occasional quartz/tourmaline nodules. Core very badly broken. 1.6m core loss.	"white"	8.0	9.0	<0.01	0.01	0.01	<0.1	<0.1	<0.01	0.01	0.004	3	0.04
						9.0	10.0	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.007	1	0.04
						10.0	11.0	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.007	1	0.04
11.0	14.0	2.20	73	11.0-11.9 0.8m core loss-probably very soft clay/tourmaline/pyrite pyrite (10cm recovered). Tourmaline very fine grained (0.5mm), pyrite forming crystalline clots up to 1 cm. in diameter	?	11.0	12.0	0.06	<0.01	0.04	<0.1	0.2	<0.01	0.22	0.004	10	0.05
				11.9-14.0 Pale greenish-grey altered fine to medium grained granite. Feldspars replaced by pale green and yellow-green clay. With minor mica 11.9-12.3m. "Vein" of quartz/tourmaline 12.3-12.45, contacts 45° to c.a. Minor pyrite 12.45-12.60. Some silicification (as at 7.9-11.0m)	"white"	12.0	13.0	0.02	0.01	0.04	<0.1	<0.1	<0.01	0.01	0.004	3	0.05
						13.0	14.0	0.01	0.01	0.02	<0.1	<0.1	<0.01	0.01	0.003	1	0.04
14.0	16.5	2.10	84	14.0-14.4 Greisen "vein" comprising a core of black tourmaline with lesser quartz enclosed by a quartz/topaz (tourmaline) "envelope" 5cm. thick on the upper-side & 15 cm. thick on the lower side. Lower contact 40° to c.a. Broken core.	?	14.0	15.0	1.91	<0.01	0.03	<0.1	0.3	0.03	0.18	0.003	6	0.06
16.5	19.5	1.50	50	14.4-17.8 Mixed zone (?) consisting of altered medium grained granite and greisen. Medium grained granite comprises feldspar either white and kaolinized (K-spar?) or converted to pinite/chlorite (plag.?) and unaltered quartz. The greisen consists of quartz, topaz (?), sericite and fine grained pyrite, minor chlorite and tourmaline. Few thin (1-2mm) (and one thicker 5cm). quartz-tourmaline veins Greisen appears to have a finer grained relict texture-possibly intrusive into medium grained granite. Broken core.	"white"	15.0	16.0	0.02	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.003	1	0.04
						16.0	17.0	0.02	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.006	1	0.05
						17.0	18.0	0.02	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.003	2	0.04
				Thin section 14.6m													
19.5	22.7	1.0	31	17.8-22.7m Massive black tourmaline consisting of a mass of small (2-4mm long) tourmaline needles. Porous. Minor crystalline quartz. Minor red-brown and mauve-brown hematitic clay (?). Including 3.6m. core loss.	?	18.0	19.0	1.74	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.008	3	0.07
						19.0	22.7	0.05	<0.01	0.02	<0.1	0.3	<0.01	0.02	0.007	1	0.05
				Thin section 18.1m													

059045

DIAMOND DRILL RECORD

HOLE NUMBER : FED 10

LOGGED BY : P. Roberts.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
22.7	23.9	0.45	38	22.7-23.9 Pale grey green altered fine grained granite. Feldspars altered to pale green clays (sericite?). Veined by pale green clays, mica approx. parallel to c.a. 0.75m core loss.	"white"	22.7	23.9	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.004	1	0.05
23.9	29.0	0	-	CORE LOSS - old workings ?													
29.0	32.0	0.5	17	29.0-33.6 Massive black tourmaline as at 17.8-22.7m, minor clay,	?	29.0	32.0	0.12	<0.01	0.03	<0.1	0.1	<0.01	0.33	0.008	11	0.07
32.0	35.0	1.8	60	secondary quartz and hematite. With topaz (?) and isolated small		32.0	33.0	0.22	0.01	0.02	<0.1	0.3	0.07	0.67	0.007	9	0.13
				steel blue crystals (chalcocite?) 29.05-29.20m. 3.7m. core loss		33.0	34.0	0.01	<0.01	0.02	<0.1	0.6	0.07	1.43	0.006	5	0.10
				Thin section 29.1 m.													
				33.6-35.0 Fine to medium grained aggregate of pale yellow-green and green chlorite/clay, black tourmaline, hematite, magnetite and minor pink kaolinised feldspar and pyrite. Becoming coarse grained 34.9-35.0m	"white"	34.0	35.0	0.02	0.01	0.03	<0.1	0.4	0.05	0.60	0.007	8	0.10
35.0	38.0	3.0	100	35.0-38.0 As above but with chlorite/clay matrix predominating, minor hematite/magnetite	"white"	35.0	36.0	0.01	<0.01	0.04	<0.1	2.5	0.11	0.78	0.006	13	0.09
				-35.0-35.5 Coarse grained with abundant sulfides minor red-brown ferruginous clay. Sulfides in irregular veins.													
				-35.5-38.0 fine grained with minor quartz and sulfides. Tourmaline and feldspar content increasing downwards		36.0	37.0	0.01	<0.01	0.02	<0.1	0.5	0.09	0.47	0.006	12	0.09
						37.0	38.0	0.01	0.01	0.04	<0.1	0.4	0.03	0.30	0.003	5	0.08
				Thin section 35.1 m.													
38.0	41.0	2.5	83	38.0-39.5 Medium grained aggregate of tourmaline, magnetite, chlorite kaolinized feldspars, clays, quartz, and minor hematite.	"red"?	38.0	39.0	0.06	<0.01	0.02	<0.1	<0.1	<0.01	0.10	0.003	2	0.08
				39.5-40.1 Same as 35.5-38.0m	?	39.0	40.0	0.01	<0.01	0.03	<0.1	0.2	<0.01	0.13	0.003	2	0.10
				40.1-40.9 Very soft yellow argillized granite-degraded to soft clay and quartz. Minor tourmaline.	"red"?	40.0	41.0	0.16	<0.01	0.02	<0.1	0.1	0.03	0.17	0.003	2	0.06
41.0	44.0	2.8	93	40.9-42.4 Hard medium grained greisenized granite comprising quartz, topaz(?) and hard green-yellow interstitial material	"red"?	41.0	42.4	0.01	<0.01	0.02	<0.01	0.02	<0.01	0.05	0.001	3	0.05
				Interspersed with soft argillized granite as above and very soft tourmaline/clay. Pyritic 42.2-42.3m. Gradational lower contact.													
				Thin section 41.3 m.													

045

059046

046

DIAMOND DRILL RECORD

HOLE NUMBER : FED 10

LOGGED BY : P. Roberts

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
44.0	45.0	2.0	100	42.4-59.9 Medium to coarse grained yellow-grey and pink-grey	"red"												
45.0	47.0	2.0	100	biotite granite. Quartz grey, feldspars pink, stained yellow (K-spar													
47.0	50.0	1.9	63	or altered to grey-green chlorite (plag.?). Few clots of tourmaline													
50.0	53.0	3.0	100	and tourmaline/quartz decreasing in number downwards													
53.0	56.0	3.0	100	Includes disseminated pyrite in altered granite 47.0-47.1m.													
56.0	59.0	3.0	100	5-10% brown-black biotite. Becoming yellow and argillized. 58.7-													
				59.9m													
59.0	62.0	3.0	100	59.9-61.7 Pale grey-green medium grained greisenized granite	"red"	59.9	60.9	0.01	<0.01	0.04	0.1	0.7	0.01	0.08	0.009	2	0.05
				Feldspars converted to chlorite, sericite and lesser pinite. Silicified		60.9	61.7	0.01	<0.01	0.01	0.01	0.01	0.01	0.05	0.003	2	0.05
				Disseminated pyrite. Minor black tourmaline													
62.0	65.0	3.0	100	61.7-105.4 Medium to coarse grained pale grey and pink-grey	"red"												
65.0	68.0	3.0	100	granite. Feldspars pink or pale green, occas. partly altered to													
68.0	71.0	3.0	100	yellow clay or dark green-grey chlorite. Yellow clay coating some													
71.0	74.0	3.0	100	joints. Rare clots of quartz/tourmaline. Includes:-													
74.0	77.0	3.0	100	66.5-67.2 Fine grained granite dyke. Sharp irregular													
77.0	80.0	3.0	100	intrusive upper contact, Lower contact v. difficult to see-slight													
80.0	83.0	3.0	100	micropegmatitic development													
83.0	86.0	3.0	100														
86.0	89.0	3.0	100	Sharp contact													
89.0	92.0	3.0	100														
92.0	95.0	3.0	100	105.4-115.0 Fine grained white biotite granite. Quartz grey,	"white"												
95.0	98.0	3.0	100	feldspars white or altered pale yellow, abundant brown-black biotite													
98.0	101.0	3.0	100	Grain size 0.5-1mm. Biotite plates preferentially oriented approx.													
101.0	104.0	3.0	100	normal to c.a. within 15cm. of contact. Some micropegmatitic													
104.0	107.0	3.0	100	development within 30cms. of contact. Yellow clay coating some joints.													
107.0	110.0	3.0	100	Very gradational lower "contact"													
110.0	113.0	3.0	100														
113.0	115.5	2.5	100	115.0-139.0 Fine to medium grained pale grey biotite granite	"white"												
115.5	118.0	2.5	100	Quartz grey, feldspars white, pale green or slightly altered to pale													
118.0	121.1	3.1	100	yellow. Abundant biotite characteristically as rel. wide, thin													
121.1	122.0	0.9	100	plates cf more equidimensional biotite in coarser grained													
122.0	125.0	3.0	100	granites. Minor tourmaline generally in quartz/tourmaline clots													
125.0	128.0	3.0	100	and "veins". Few grey quartz/?topaz "veins". Strongly argillized													
128.0	131.0	3.0	100	115.8-116.2m. Some partial recrystallization (?) forming a mixed fine													
128.0	131.0	3.0	100	and medium grained texture. Abundant tourmaline/quartz nodules 1-3													
134.0	137.0	3.0	100	cm. in diameter in slightly argillized pale yellow-grey medium grained													
137.0	139.0	3.0	100	granite 128.0-139.0m.													
				End of Hole 139.0 m.													

059047

RENISON LIMITED - DRILL CORE RECORD

HOLE NUMBER	FED 11
PURPOSE	TO TEST IF COLEMAN'S "LODE" DIPS NORTH-WEST
LOCATION	GRID CO-ORDINATES 694 W - 142 S
COLLAR R.L.	415.388
CO-ORDINATES	5359080.551 N 349679.035 E
LENGTH	122.2m
HOLE SIZE	0 - 18.0NQ 18.0 - 122.2 BQ
DATE DRILLED	11.2.80 - 15.2.80
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	P. ROBERTS

SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
M	Magnetic							
15	-	- 66°	0 - 38	38	34.713	380.675	15.455	15.455
60	116°	- 65°	38 - 88	50	45.315	335.360	21.130	36.585
115	115°	- 64°	88 - 122	34	30.559	304.801	14.906	51.491

COMMENTS

Intersected unaltered "red" granite with rare dykes of "white" granite. Few thin greisen veins, some of which are pyrite-bearing. Coleman's "Lode" was not intersected and therefore probably dips East or South-East. The thin tourmalinized zone in the upper part of Fed 6 was probably part of the "Lode".

SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				

NWPS 27344

04.

059048

HOLE No. FED 11

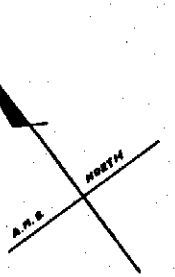
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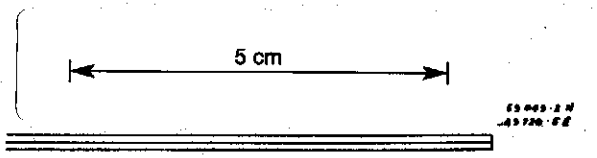
RENISON LIMITED

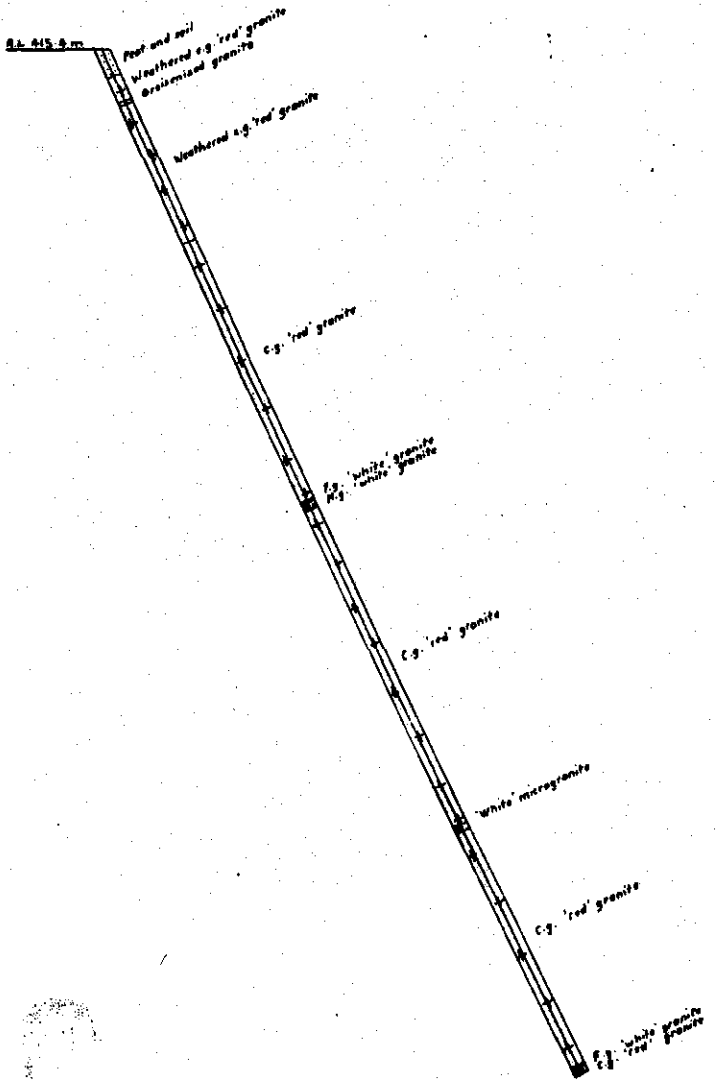
DIAMOND DRILL HOLE PLOT

5 cm

PLAN







DIP PROFILE

048
059049

DIAMOND DRILL RECORD

HOLE NUMBER : FED 11

LOGGED BY : P.R.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	3.5	0.3	8	0.0 - 3.2 peat and soil, minor weathered granite last 1.5m.													
3.5	5.0	1.0	67	3.2 - 6.0 White weathered granite, coarse grained, consisting of grey quartz, white feldspar and yellow-brown clay after feldspar. Minor chlorite-replacing feldspar and biotite - , biotite and tourmaline. Trace pyrite and muscovite. Rubbly 3.5 - 5.0m.	"Red"												
5.0	8.1	3.1	100	6.0 - 6.5 Pale grey-green altered (greisenized) granite. Feldspars chloritized. Silicified, partic. 6.2 - 6.5m, and veined by black tourmaline and pyrite.	"Red"												
8.1	23.7	14.6	94	6.5 - 22.6 White weathered granite, coarse grained. Similar to 3.2 - 6.0 except it contains relatively less chlorite and relatively more disseminated tourmaline. Becoming less weathered with depth. Relatively unaltered white K-spar (?) occas. mantled by clay (after plagioclase). Few thin (3 - 10cm) zones of greisenized granite consisting of quartz, chlorite, muscovite, black tourmaline ± topaz and trace pyrite; ∠ to c.a. averages 20°. Occas. veinlets of black tourmaline. Rubbly 9.8 - 10.6m	"Red"												
23.7	122.2	98.5	100	22.6 - 122.2 Pink-grey or pale yellow-grey granite, coarse grained comprising pink or white K-feldspar, cream or yellow (kaolinized) plagioclase, grey quartz, 5 - 10% bronze - black biotite, minor chlorite (replacing biotite), trace muscovite. Few narrow (usually 5 - 10cm) biotite-rich zones where biotite/chlorite comprises ≤ 40% of total, granite becomes medium grained; diffuse contacts with "normal" granite. Few thin veins of greisen or greisenized granite as in 6.5 - 22.6m but with varying proportions of mineral components, some quartz/muscovite rich, others quartz/chlorite rich generally with vein pyrite ≤ 5% of total; thickness ≤ 20cm, ∠ to c.a. generally 20 - 40°. Below 75m becoming very sparse, thin, and ∠ to c.a. averaging 50°. Towards lower end, some sericitization of plagioclase (pale green). Includes	"Red"												
				53.35 - 53.45 White granite, fine grained. Upper contact ~50° to c.a., lower contact diffuse.	"white"												
				53.45 - 54.3 Pale grey, sl. pinkish grey granite, medium grained. Biotite mostly chloritized.	"white"												

049

050

DIAMOND DRILL RECORD

HOLE NUMBER : FED 11

LOGGED BY : P.R.

	INTERVAL (m)		RECOVERY		DESCRIPTION	FORM.			% Sn.										
	FROM	TO	m	%			FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
					91.9 - 92.6 White microgranite dyke. Minor disseminated black tourmaline. Contacts sharp - upper at 25° to c.a., lower irregular with xenoliths/xenocrysts of c.g. granite included in microgranite matrix.	"white"													
					93.9 3cm microgranite dyke as above, 50° to c.a.	"white"													
					113.45 2cm diameter biotite-rich microgranite nodule ??														
					121.4 - 121.8 White fine grained granite dyke. Upper contact ~60° to c.a., lower contact ~40° to c.a.	"white"													
					END OF HOLE 122.2m.														

050

059051

RENISON LIMITED - DRILL CORE RECORD

HOLE NUMBER	FED 12
PURPOSE	To further explore the alteration and mineralisation intersected in FED 5 at a deeper level
LOCATION	Grid co-ordinates 700W - 180S
COLLAR R.L.	416.838
CO-ORDINATES	5359482.862 N - 350901.082 E
LENGTH	311.2m
HOLE SIZE	0 - 39.0 NQ 39.0 - 311.2 BQ
DATE DRILLED	16/2/80 - 26/2/80
SIGNIFICANT CORE LOSS ZONES	17.6m loss 5.2 - 29.2m (sand) 5.5m loss 245.7 - 274.0m
ORE ZONE GROUND CONDITIONS	
LOGGED BY	P. Roberts

SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
m	magnetic							
0		-52°	0 - 21	21	16.548	400.290	12.930	12.930
41		-53.8°	21 - 56	35	28.242	372.048	20.671	33.601
71	332°	-54.2°	56 - 97	41	33.251	338.797	23.983	57.584
122	336°	-54.2°	97 - 148	51	41.361	297.436	29.833	87.417
173	339°	-54°	148 - 196	48	38.832	258.604	28.214	115.631
218	340°	-53.5°	196 - 241	45	36.171	222.433	26.766	142.397
263	341°	-54.5°	241 - 286	45	36.635	185.798	26.132	168.529
308	342°	-55°	286 - 311.2	25.2	20.644	165.154	14.455	182.984

COMMENTS

Intersected intensely altered granite from 124.4m to 284.3m with minor alteration above and below those points. This hole and FED 5 have exposed a large altered zone with patchy minor tin mineralisation. Further drilling in this area is warranted. The hole was terminated because (a) from the experience with FED 5 the soft clay zones at 256 - 275m would probably have prevented the continuation of drilling after a bit change (b) the helicopter used for shifting the rig could not be retained any longer and (c) given the ground conditions, the rig (a Mindrill F30) was close to its depth limit.

SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				
	124.0	185.0	61.0	0.02	<0.01	0.03	<0.1	0.7	<0.01	0.01	0.019	<0.01	1				
	Including																
	179.0	180.0	1.0	0.28	0.01	0.09	<0.1	1.3	<0.01	0.01	0.064	<0.01	2				
	206.0	285.0	79.0	0.03	0.01	0.03	<0.1	0.9	<0.01	0.03	0.014	0.01	1				
Incl.	217.0	227.0	10.0	0.21	0.04	0.03	<0.1	0.7	<0.01	0.03	0.006	0.03	1				
	302.8	307.2	4.4	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.003	<0.001	1				

NWPB 27244

051

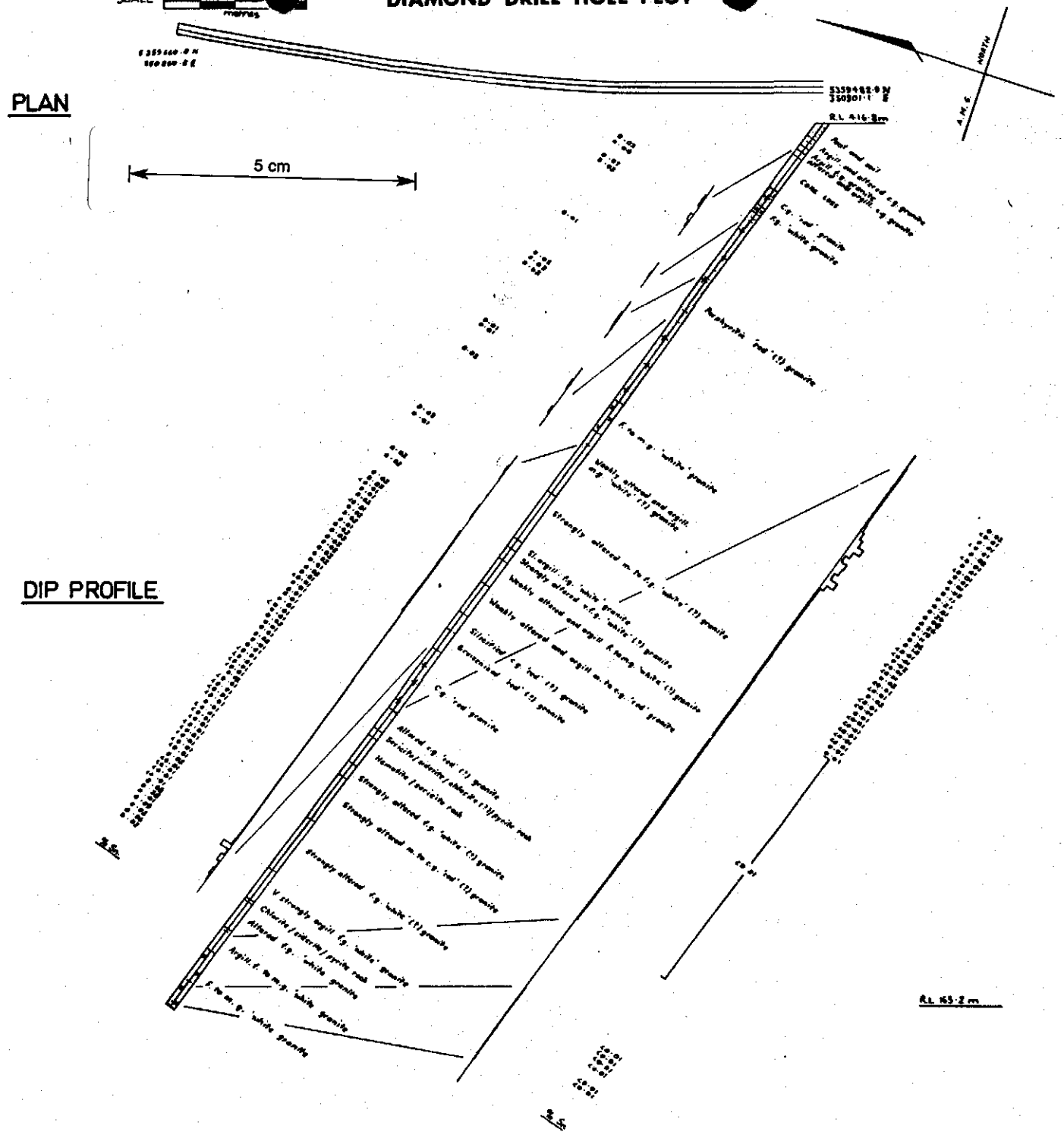
059052

HOLE No FED 12

SCALE 0 20 40 Metres

RENISON LIMITED

DIAMOND DRILL HOLE PLOT



052

059053

DIAMOND DRILL RECORD

HOLE NUMBER : FED 12

LOGGED BY : P. Roberts

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	5.2	0	-	0.0 - 5.2													
				Peat, soil and granitic sand													
5.2	7.0	1.1	61	5.2 - 7.0	"Red"	6.5	7.5	0.03	0.01	0.03	0.1	0.1	<0.01	0.01	0.008	3	<0.01
				Yellow, argillised granite, coarse grained, comprising quartz in a matrix of yellow clay. Silicified, fractured and iron stained 6.7 - 6.9m.													
7.0	8.2	0.9	75	7.0 - 8.2		7.5	8.5	0.04	0.01	0.02	0.1	0.2	<0.01	0.01	0.009	1	<0.01
				Grey-green and white altered granite, coarse grained, silicified and chloritized (?). Broken along limonite - coated joints.	"Red"												
				Contact obscured by core loss													
8.2	11.2	1.0	33	8.2 - 10.0													
				Yellow, argillised granite, fine grained, comprising quartz in a matrix of yellow clay. Limonite stained. 1.5m (approx.) core loss. Lower contact irregular, sharp, at ~45° to C.A.	"White"												
11.2	14.2	0.6	20	10.0 - 11.9	"Red"	10.0	11.0	0.07	0.01	0.02	0.1	<0.1	<0.01	0.01	0.011	1	<0.01
						11.0	12.0	0.02	0.01	0.04	0.1	0.8	<0.01	0.03	0.013	1	<0.01
				Pale grey, pale yellow-grey altered granite, coarse grained, silicified and partly argillized. Totally silicified zone 11.1 - 11.4m contains minor pyrite in veins and disseminated, probably infilling vugs.													
14.2	23.2	0	-	11.9 - 23.2	"Red?"												
				CORE LOSS, probably extremely weathered granite forming a quartz and feldspar sand.													
23.2	29.2	3.0	50	23.2 - 29.0	"Red"												
				Red-grey and yellow granite, coarse grained, comprising red or white K-feldspar, white or yellow (argillized) plagioclase, grey quartz, and abundant biotite, averaging 5% but up to 30% in places (partic. 28.6 - 28.9m). 3.0m core loss, probably sand as above. Lower contact sharp, irregular, at ~40° to c.a.													

1053

059054

DIAMOND DRILL RECORD

HOLE NUMBER : FED 12

LOGGED BY : P. Roberts

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
29.2	30.9	1.7	100	29.0 - 30.8	"White"	?											
				Pink, fine grained granite consisting of pink and yellow (argillized) feldspars, quartz and minor disseminated black tourmaline and biotite. Thin (≤ 5mm) zones of silicification at 40° to c.a. around few joints which are spareely coated with pyrite. Average grain size 0.5mm. Few thin (≤ 2cm) micropegmatite veins												
				30.8 - 31.4													
				White fine grained granite similar to above but feldspars white. Lower contact ~60° to c.a. marked by 4cm zone of silicification containing vein and disseminated pyrite.	"White"												
30.9	98.2	66.8	99	31.4 - 97.9	mixed "Red"& "White"	33.0	34.0	0.01	<0.01	0.02	0.3	0.6	<0.01	0.03	0.003	2	<0.01
				Pale grey, pink-grey porphyritic granite. Consists of pink, yellow and very pale green, rounded feldspar phenocrysts (2-15mm), minor quartz phenocrysts set in a fine grained grey groundmass comprising quartz and feldspar (av. grain size ≤ 0.5mm) with ~ 5% black biotite (av. grain size 1mm) and rare tourmaline. Yellow (argillized) plagioclase (?) commonly forms rims around or inclusions within pink (K-) feldspar phenocrysts. The latter also rarely contains inclusions of biotite and other f.g. dark minerals. Includes few "veins" of grey-green alteration at 30-50° to c.a., which consists of quartz, chlorite/sericite, ~ 5% (average) pyrite ± minor muscovite; pyrite is mostly associated with thin quartz veins; thickness varies 2 - 20cm with thicker "veins" at 33.7 - 34.0, 51.0 - 53.6, 63.2 - 63.5, 69.2 - 69.5, 70.1 - 70.5, and 74.1 - 74.9m. Core broken by yellow clay-coated joints partic. 56.5 - 63.0m. Lower contact sharp at ~ 50° to c.a.		51.0	52.0	0.03	<0.01	0.02	0.1	1.3	<0.01	0.03	0.003	1	<0.01
						52.0	53.0	0.03	<0.01	0.03	0.2	1.5	<0.01	0.04	0.005	2	<0.01
						53.0	54.0	0.02	<0.01	0.02	0.2	0.8	<0.01	0.04	0.007	1	<0.01
						69.0	70.0	0.01	<0.01	0.02	<0.1	0.4	<0.01	0.02	0.002	2	<0.01
						70.0	70.6	0.01	<0.01	0.03	<0.1	0.8	<0.01	0.01	0.003	2	<0.01
						74.0	75.0	0.03	0.01	0.03	0.1	1.5	<0.01	0.01	0.004	2	<0.01
98.2	110.0	11.1	94	97.9 - 108.4	"White"												
				Pale yellow granite, fine to medium grained; feldspars yellow (argillized) or white, minor black tourmaline in small quartz /tourmaline clots and veinlets, or as disseminated grains. Rare pyrite. Sparse irregular micropegmatite veins. Few "veins" of alteration at 20 - 35° to c.a. consisting of vein quartz and pyrite in a yellow-green sericitic (?) central zone within an outer zone of quartz, chlorite and disseminated pyrite.												

054

059055

DIAMOND DRILL RECORD

HOLE NUMBER : FED 12

LOGGED BY : P. Roberts

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
110.0	122.2	12.2	100	108.4 - 124.4	"White"	112.5	113.5	0.03	<0.01	0.03	0.1	1.2	<0.01	0.02	0.005	2	<0.01
						113.5	115.0	0.01	<0.01	0.02	0.1	0.4	<0.01	0.02	0.004	2	<0.01
				Pale grey-green and yellow sl. altered granite, medium grained.													
				Feldspars sericitized or argillized throughout. Alteration		119.5	120.5	0.02	0.01	0.02	0.1	1.4	<0.01	0.01	0.006	2	<0.01
				veins similar to above but thicker and more abundant partic.		120.5	122.0	0.02	0.01	0.02	0.1	0.7	<0.01	0.02	0.005	3	<0.01
				112.5 - 115 and 119.5 - 122m. Lower contact ~15° to c.a.													
122.2	125.2	3.0	100	124.4 - 125.3	"White"	124.0	125.0	0.02	<0.01	0.03	0.1	1.6	<0.01	0.01	0.003	1	<0.01
						125.0	126.0	0.02	0.01	0.03	0.1	0.4	<0.01	0.02	0.003	2	<0.01
				Pale green-grey altered granite, consisting of quartz, chlorite/													
				sericite, minor pyrite and few clots of black tourmaline/quartz.													
				Lower contact ~5° to c.a.													
125.2	131.6	6.0	100	125.3 - 130.1		126.0	127.0	<0.01	0.01	0.01	0.1	<0.1	<0.01	0.01	0.002	2	<0.01
					"White"	127.0	128.0	0.01	0.01	0.01	0.1	<0.1	<0.01	0.01	0.003	1	<0.01
				Pale green-yellow granite, medium grained, slightly argillized,		128.0	129.0	0.02	<0.01	0.02	0.1	0.7	<0.01	0.01	0.002	<1	<0.01
				similar to 97.9 - 108.4m. Feldspars pink 127.0 - 127.5m.		129.0	130.0	<0.01	0.01	0.01	0.1	<0.1	<0.01	0.01	0.002	<1	<0.01
				Gradational lower contact.		130.0	131.0	0.02	0.01	0.02	0.1	0.3	<0.01	0.01	0.004	1	<0.01
						131.0	132.0	0.02	<0.01	0.04	0.1	1.8	<0.01	0.01	0.004	<1	<0.01
131.2	146.2	15.0	100	130.1 - 146.5	"White"	132.0	133.0	0.01	0.01	0.06	0.1	3.8	<0.01	0.01	0.002	1	<0.01
						133.0	134.0	0.02	0.01	0.05	0.1	2.7	<0.01	0.01	0.008	1	<0.01
				Grey, grey-green, greenish white, strongly altered granite, medium		134.0	135.0	0.03	0.01	0.03	0.1	0.9	<0.01	0.01	0.003	1	<0.01
				to fine grained. Variable amounts of quartz, sericite, chlorite. Minor		135.0	136.0	0.03	0.01	0.05	0.1	3.5	<0.01	0.01	0.011	1	<0.01
				pyrite as fine disseminations and thin (1mm) veinlets. Trace		136.0	137.0	0.03	0.01	0.04	0.1	2.2	<0.01	0.01	0.003	<1	<0.01
				black tourmaline. Becomes coarse grained 139.0 - 142.2m. Pale		137.0	138.0	0.03	<0.01	0.04	0.1	2.5	<0.01	0.01	0.003	2	<0.01
				yellow, argillised and chloritised 145.5 - 146.5m. Gradational		138.0	139.0	0.02	<0.01	0.03	0.1	2.1	<0.01	0.01	0.003	2	<0.01
				lower "contact"		139.0	140.0	0.01	<0.01	0.01	0.1	<0.1	<0.01	0.01	0.001	1	<0.01
						140.0	141.0	0.02	<0.01	0.02	0.1	0.6	<0.01	0.01	0.002	2	<0.01
146.2	149.2	3.0	100	146.5 - 149.4	"White"	141.0	142.0	0.01	<0.01	0.01	0.1	<0.1	<0.01	0.01	0.001	2	<0.01
						142.0	143.0	<0.01	<0.01	0.02	0.1	<0.1	<0.01	0.01	0.002	<1	<0.01
				Pale yellow granite, fine grained. Porphyritic 146.5 - 148.7m		143.0	144.0	0.01	0.01	0.01	0.1	<0.1	<0.01	0.01	0.002	1	<0.01
				Feldspars argillized and occas. chloritised. Siliceous, finely		144.0	145.0	0.01	0.01	0.02	0.1	<0.1	<0.01	0.01	0.002	1	<0.01
				pyritic nodule 149.0 - 149.1m. Gradational lower contact.		145.0	146.0	0.01	0.01	0.03	0.1	0.2	<0.01	0.01	0.002	<1	<0.01
						146.0	147.0	0.01	0.01	0.01	0.1	<0.1	<0.01	0.01	0.003	<1	<0.01
149.2	152.2	3.0	100	149.4 - 153.4	"White"	147.0	148.0	<0.01	<0.01	0.02	0.1	<0.1	<0.01	0.01	0.001	<1	<0.01
						148.0	149.0	0.01	0.01	0.02	0.1	<0.1	<0.01	0.01	0.001	1	<0.01
				Dark green-grey, strongly altered granite, very fine grained.		149.0	150.0	0.02	0.01	0.02	0.1	0.1	<0.01	0.04	0.002	2	<0.01
				Comprises quartz, chlorite and sericite (?). Gradational		150.0	151.0	0.01	0.01	0.03	0.1	<0.1	<0.01	0.01	0.002	1	<0.01
				lower contact.		151.0	152.0	0.01	0.01	0.01	0.1	0.3	<0.01	0.01	0.003	<1	<0.01
						152.0	153.0	0.02	0.01	0.02	0.1	0.9	<0.01	0.01	0.002	1	<0.01

055

059056

DIAMOND DRILL RECORD

HOLE NUMBER : FED 12

LOGGED BY : P. Roberts

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
152.2	161.2	9.0	100	153.4 - 162.0	"White"	?153.0	154.0	0.01	0.01	0.03	<0.1	<0.1	0.01	0.01	0.002	1	<0.01
						154.0	155.0	0.01	0.01	0.03	<0.1	<0.1	<0.01	0.02	0.002	1	<0.01
				Pale green-yellow granite, fine to medium grained, partly por-		155.0	156.0	<0.01	<0.01	0.03	<0.1	0.1	<0.01	0.01	0.002	< 1	<0.01
				phyritic. Feldspars yellow (argillized) or converted to		156.0	157.0	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.002	< 1	<0.01
				chlorite/sericite. Trace pyrite. Few thin, hard, yellow clay		157.0	158.0	<0.01	<0.01	0.03	<0.1	0.1	<0.01	0.02	0.003	< 1	<0.01
				veins. Gradational lower contact.		158.0	159.0	<0.01	<0.01	0.03	<0.1	0.1	<0.01	0.01	0.002	1	<0.01
						159.0	160.0	0.02	<0.01	0.04	<0.1	1.5	<0.01	<0.01	0.004	< 1	<0.01
161.2	173.1	11.9	100	162.0 - 172.2	"Red"	160.0	161.0	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.003	< 1	<0.01
						161.0	162.0	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.002	1	<0.01
				Pale yellow and pink granite, medium to coarse grained. Feldspars		162.0	163.0	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.002	1	<0.01
				pink, white, yellow (argillized) or green (chloritized). With		163.0	164.0	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.003	1	<0.01
				minor black biotite where unaltered (pink granite). Lower		164.0	165.0	0.01	<0.01	0.03	<0.1	1.0	<0.01	0.01	0.003	1	<0.01
				contact irregular, almost parallel to c.a.		165.0	166.0	<0.01	<0.01	0.03	<0.1	<0.1	0.01	0.03	0.003	2	<0.01
						166.0	167.0	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.02	0.002	2	<0.01
173.1	179.2	6.1	100	172.2 - 178.4	"Red"	167.0	168.0	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.002	1	<0.01
						168.0	169.0	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.004	1	<0.01
				Pale grey, silicified, granite, coarse grained. Consisting mainly of		169.0	170.0	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.003	1	<0.01
				quartz with minor disseminated black tourmaline, sericite (?)		170.0	171.0	<0.01	<0.01	0.04	<0.1	<0.1	<0.01	0.01	0.002	1	<0.01
				chlorite and disseminated pyrite. Yellow clay, pyrite and purple		171.0	172.0	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.01	0.005	1	<0.01
				fluorite coating numerous joints at 40 - 60° to c.a. Trace	ppm Mo	172.0	173.0	<0.01	<0.01	0.04	<0.1	0.3	0.01	0.01	0.005	2	<0.01
				chalcopyrite and f.g. silvery mineral (molybdenite?). Lower	10	173.0	174.0	0.02	<0.01	0.13	<0.1	3.6	0.01	<0.01	0.099	3	0.01
				contact marked by a 20cm zone of chloritized and sericitized	10	174.0	175.0	<0.01	<0.01	0.06	<0.1	<0.1	0.01	<0.01	0.114	3	0.02
				granite at ~20° to c.a.	10	175.0	176.0	<0.01	0.01	0.11	<0.1	0.1	0.01	<0.01	0.136	< 1	0.01
					15	176.0	177.0	<0.01	<0.01	0.05	<0.1	0.1	0.02	<0.01	0.234	< 1	0.02
				Thin section 178.2m	15	177.0	178.0	<0.01	0.01	0.03	<0.1	0.1	0.02	<0.01	0.190	1	0.01
					15	178.0	179.0	0.03	0.01	0.04	<0.1	0.5	<0.01	0.01	0.011	1	<0.01
179.2	185.2	6.0	100	178.4 - 185.0	"Red"?												
					ppm Mo												
				Green-grey and grey greisenised granite interspersed with lesser	20	179.0	180.0	0.28	0.01	0.09	<0.1	1.3	<0.01	0.01	0.064	2	<0.01
				yellow, argillized and chloritized granite. Greisenised granite	20	180.0	181.0	0.01	<0.01	0.08	<0.1	2.0	0.01	0.01	0.172	1	0.23
				comprises quartz, muscovite, chlorite/sericite and dissem.	20	181.0	182.0	0.09	<0.01	0.05	<0.1	1.6	<0.01	0.01	0.005	1	<0.01
				pyrite. Two irregular 2cm veins next to one another consist	20	182.0	183.0	0.02	<0.01	0.03	<0.1	1.4	<0.01	0.01	0.008	1	<0.01
				of coarse black tourmaline, quartz, pyrite and minor soft silvery	25	183.0	184.0	0.06	0.01	0.04	<0.1	2.0	<0.01	<0.01	0.006	1	<0.01
				mineral (molybdenite?), ∠ to c.a. of 5 - 15°.	25	184.0	185.0	0.02	<0.01	0.04	<0.1	3.1	<0.01	<0.01	0.009	1	<0.01
185.2	206.2	21.0	100	185.0 - 206.5	"RED"												
				Pink-grey granite, coarse grained consisting of pink and white													
				K-feldspar, yellow (argillized) and pale green (sericitized)													
				plagioclase (?), grey quartz and abundant (> 5%) black biotite.													
				Chlorite locally replacing feldspars and biotite													

056

059057

DIAMOND DRILL RECORD

HOLE NUMBER : FED 12

LOGGED BY : P. Roberts

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	FROM	TO	% Sn. TOTAL	% Sn. ACID SOL	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Includes rare, thin (≤ 3cm) "veins" of pyritic quartz/sericite		206.0	207.0	0.02	0.01	0.02	<0.1	<0.1	<0.01	0.02	0.004	1	<0.01
				alteration, and vein quartz. Gradational lower contact.		207.0	208.0	<0.01	0.01	0.03	<0.1	<0.1	<0.01	0.03	0.005	1	<0.01
						208.0	209.0	0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.02	0.003	1	<0.01
206.2	212.2	6.0	100	206.5 - 213.4	"Red"?	209.0	210.0	<0.01	0.01	0.03	<0.1	0.6	<0.01	0.02	0.004	1	<0.01
						210.0	211.0	0.02	0.01	0.03	<0.1	0.1	<0.01	0.01	0.005	1	<0.01
				Grey-green altered granite, coarse grained. Feldspars converted		211.0	212.0	<0.01	0.01	0.02	<0.1	0.1	<0.01	0.01	0.005	1	<0.01
				to chlorite and sericite. Minor disseminated and veinlet		212.0	213.0	0.01	0.01	0.02	<0.1	0.3	<0.01	0.02	0.006	1	<0.01
				pyrite. Quartz preserved. Lower contact almost sharp, marked		213.0	214.0	<0.01	0.01	0.03	<0.1	1.3	<0.01	0.03	0.008	1	<0.01
				by clay seam at 50° to CA.													
212.2	215.2	3.0	100	213.4 - 215.9	?	214.0	215.0	0.01	0.01	0.02	<0.1	1.0	<0.01	0.03	0.004	1	<0.01
						215.0	216.0	0.01	0.01	0.03	<0.1	2.0	<0.01	0.04	0.009	2	0.04
				Green sericite/ chlorite(?)/clay/pyrite/carbonate rock with abundant													
				brown sphalerite (?) intermixed with ferruginous clay. Pyrite		216.0	217.0	0.05	0.02	0.05	<0.1	0.8	0.03	0.03	0.064	2	0.02
				present as coarse (1-4mm) crystals. Gradational lower margin.		217.0	218.0	0.11	0.03	0.03	<0.1	0.1	<0.01	0.03	0.014	1	0.04
						218.0	219.0	0 21	0.06	0.04	<0.1	<0.1	<0.01	0.04	0.009	1	0.05
				Thin section 215.0m		219.0	220.0	0.41	0 07	0.04	<0.1	<0.1	<0.01	0.03	0.010	1	0.04
						220.0	221.0	0.20	0.05	0.03	<0.1	<0.1	<0.01	0.03	0.002	1	0.05
215.2	224.2	8.6	96	215.9 - 225.4	?	221.0	222.0	0.08	0.03	0.04	<0.1	<0.1	<0.01	0.01	0.004	1	0.07
						222.0	223.0	0.26	0.10	0.03	<0.1	<0.1	<0.01	0.01	0.005	2	0.02
				Hematite/clay/sericite (?) rock. Hematite silver-black and		223.0	224.0	0.19	0.05	0.03	<0.1	0.6	<0.01	0.02	0.002	1	0.02
				specular or red-brown and ochreous. Predominantly hematite		224.0	225.0	0.11	0.03	0.03	<0.1	4.1	<0.01	0.04	0.004	1	0.02
				219.3 - 225.4 with some secondary quartz and f.g. black tourm-		225.0	226.0	0.36	0.02	0.03	<0.1	2.5	<0.01	0.04	0.004	1	0.02
				aline. Massive hematite in places. Minor pyrite generally in		226.0	227.0	0.14	<0.01	0.02	<0 1	<0.1	<0.01	0.03	0.002	<1	<0.01
				clayey zones.		227.0	228.0	<0.01	<0.01	0.03	<0.1	0.5	<0.01	0.02	0.002	<1	<0.01
						228.0	229.0	<0.01	<0.01	0.02	<0.1	0.1	<0.01	0.03	0.002	1	<0.01
				Thin section 219.2m		229.0	230.0	0.03	<0.01	0.03	<0.1	1.3	<0.01	0.03	0.003	<1	<0.01
						230.0	231.0	<0.01	<0.01	0.03	<0.1	2.4	<0.01	0.05	0.003	<1	0.01
224.2	230.2	6.0	100	225.4 - 230.0	"White"	231.0	232.0	<0.01	<0.01	0.03	<0.1	1.6	<0.01	0.05	0.002	<1	0.01
						232.0	233.0	0.02	<0.01	0.04	<0.1	1.7	<0.01	0.03	0.001	1	0.01
				Pale grey-green strongly altered granite, fine grained.		233.0	234.0	<0.01	<0.01	0.03	<0.1	0.6	0.01	0.05	0.035	2	0.02
				Consisting of quartz, sericite/chlorite, clay, pyrite and patchy		234.0	235.0	<0.01	0.01	0.03	<0.1	0.4	<0.01	0.06	0.003	1	0.02
				minor tourmaline including one 10cm "vein" of green tourmaline/		235.0	236.0	0.02	0.01	0.03	<0.1	0.7	<0.01	0.02	0.005	1	0.02
				quartz at 229.2m crossing core at 50° to c.a. This "vein"		236.0	237.0	<0.01	0.01	0.03	<0.1	0.2	<0.01	0.02	0.002	1	<0.01
				appears to have been affected by the alteration and therefore		237.0	238.0	<0.01	0.01	0.02	<0.1	0.1	<0.01	0.02	0.013	<1	<0.01
				preceded it.		238.0	239.0	0.01	0 01	0.03	<0.1	0.1	<0.01	0.01	0.003	<1	<0.01
						239.0	240.0	<0.01	0.01	0.02	<0.1	0.5	0.02	0.02	0.115	<1	0.01
230.2	245.2	14.9	99	230.0 - 245.1	"Red"?	240.0	241.0	<0.01	0.01	0.03	<0.1	0.1	0.01	0.02	0.034	1	<0.01
						241.0	242.0	<0.01	<0.01	0.03	<0.1	0.2	<0.01	0.02	0.009	<1	<0.01
				Grey-green extremely altered granite, medium to coarse grained.		242.0	243.0	<0.01	0.01	0.02	<0.1	0.4	<0.01	0.03	0.002	<1	<0.01
				Comprising variable amounts of sericite, chlorite, clay, quartz,		243.0	244.0	<0.01	0.01	0.03	<0.1	1.1	<0.01	0.04	0.002	<1	0.02
				hematite and pyrite. Minor pale yellow siderite (?) 243 - 245.1m		244.0	245.0	0.01	0.01	0.04	<0.1	0.8	<0.01	0.05	0.015	2	0.02
				Sharp lower contact at ~30° to c.a.													

057

059058

DIAMOND DRILL RECORD

HOLE NUMBER : FED 12

LOGGED BY : P. Roberts

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.
				Thin section 232.2m	
				245.1 - 245.7	
				Very fine grained grey quartz/clay vein (?). Contains minor	?
				veinlets and crystals of pyrite. Includes at 245.4 - 245.55m	
				massive specular hematite zone containing coarse pyrite crystals	
				and siderite (?)	
245.2	263.2	15.7	87	245.7 - 263.2	"White"
				Green-grey, grey-green, strongly altered granite, fine grained.	
				Consists of quartz, sericite/chlorite and clay. Minor diasem-	
				inated and vein pyrite. Occasional veins and clots of black	
				tourmaline and quartz. Patchy minor diasem, hematite.	
				245.7 - 255m. Minor yellow brown siderite (?). Very soft clay-	
				rich zones containing abundant pyrite crystals at 256.7 - 256.8m,	
				258.8 - 258.9m. 2.3m core loss probably in soft clay zones.	
263.2	275.2	8.8	73	263.2 - 274.0	"White"
				Pale green and yellow, extremely argillized fine grained	
				granite (?), consisting largely of very soft talcy and chloritic	
				clay interspersed with altered granite as above. 3.2m core loss.	
				274.0 - 274.8	
				Chlorite/siderite (?)/pyrite rock. Chlorite grey-green and	?
				visibly platy; siderite (?) pale yellow, in coarse (5 - 10mm)	
				patches; pyrite disseminated throughout.	
275.2	284.2	9.0	100	274.8 - 284.3	"White"
				Grey-green altered granite, fine grained. Consists of quartz,	
				chlorite/sericite, muscovite. Trace pyrite. Occas. clots and	
				small (≤ 2cm) nodules of quartz/black tourmaline. Pale yellow	
				and partly argillized 282.6 - 283.0, 283.3 - 283.9m.	
284.2	293.2	8.7	97	284.3 - 292.4	"White"
				Pale yellow argillized granite, fine to medium grained. Comprises	
				quartz, yellow, argillized feldspars and minor black tourmaline	
				as scattered grains and in small (≤ 3cm) tourmaline/quartz	
				nodules.	

FROM	TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
245.0	246.0	0.01	0.01	0.03	< 0.1	1.1	<0.01	0.05	0.011	2	0.02
246.0	247.0	<0.01	0.01	0.03	< 0.1	0.7	<0.01	0.04	0.008	3	0.01
247.0	248.0	<0.01	0.01	0.03	<0.1	0.8	<0.01	0.04	0.005	1	0.01
248.0	249.0	<0.01	<0.01	0.03	<0.1	0.5	<0.01	0.04	0.008	3	0.02
249.0	250.0	<0.01	<0.01	0.03	<0.1	0.2	<0.01	0.02	0.015	1	<0.01
250.0	251.0	<0.01	<0.01	0.03	<0.1	0.2	<0.01	0.01	0.008	2	<0.01
251.0	252.0	<0.01	<0.01	0.03	< 0.1	0.3	<0.01	0.03	0.006	2	<0.01
252.0	253.0	<0.01	<0.01	0.03	<0.1	0.2	0.01	0.05	0.044	2	<0.01
253.0	254.0	<0.01	<0.01	0.03	<0.1	0.1	0.02	0.04	0.080	2	0.01
254.0	255.0	<0.01	<0.01	0.05	<0.1	0.4	0.09	0.03	0.411	3	0.01
255.0	256.0	<0.01	<0.01	0.03	<0.1	0.2	<0.01	0.05	0.005	2	0.02
256 0	257.0	<0.01	<0.01	0.03	<0.1	0.2	<0.01	0.03	0.002	2	<0.01
257.0	258.0	<0.01	<0.01	0.03	<0.1	0.5	<0.01	0.02	0.002	1	<0.01
258.0	259.0	<0.01	<0.01	0.02	<0.1	0.2	<0.01	0.02	0.002	1	<0.01
259 0	260.0	<0.01	<0.01	0.03	<0.1	0.2	<0.01	0.02	0.001	2	<0.01
260.0	261.0	<0.01	<0.01	0.03	<0.1	0.3	<0.01	0.02	0.002	2	<0.01
261.0	262.0	<0.01	<0.01	0.03	<0.1	0.1	<0.01	0.02	0.001	3	<0.01
262.0	263.0	<0.01	<0.01	0.02	<0.1	0.2	<0.01	0.01	0.002	2	<0.01
263.0	266.0	<0.01	<0.01	0.03	<0.1	1.6	<0.01	0.06	0.002	2	0.01
266.0	267.0	<0.01	<0.01	0.03	<0.1	2.0	<0.01	0.07	0.002	2	0.02
267.0	268.0	<0.01	0.01	0.03	<0.1	2.3	<0.01	0.07	0.002	2	0.02
268.0	269.0	<0.01	0.01	0.04	< 0.1	2.5	<0.01	0.09	0.001	2	0.02
269.0	270.0	<0.01	0.01	0.03	0.1	2.9	<0.01	0.06	0.001	2	0.01
270.0	271.0	<0.01	0.01	0.03	<0.1	0.4	<0.01	0.03	0.001	1	<0.01
271.0	272.0	<0.01	0.01	0.04	<0.1	2.3	<0 01	0.07	0.001	2	0.01
272.0	273.0	<0.01	0.01	0.03	<0.1	2.9	<0.01	0.06	0.001	2	0.01
273.0	274.0	<0.01	0.01	0.04	<0.1	3.3	<0.01	0.09	0.001	3	0.01
274.0	275.0	<0.01	0.01	0.03	<0,1	2.6	<0 01	0.05	0.003	1	0.01
275.0	276.0	<0.01	0.01	0.02	<0.1	<0.1	<0.01	0.02	0.002	1	<0.01
276.0	277.0	<0.01	0.01	0.03	<0.1	<0.1	<0.01	0.02	0.002	1	<0.01
277.0	278.0	<0.01	0.01	0.04	<0.1	0.3	<0.01	0.02	0.002	1	<0.01
278.0	279.0	<0.01	0.01	0.03	<0.1	0.5	<0.01	0.01	0.003	1	<0.01
279.0	280.0	<0.01	0.01	0.04	<0.1	0.3	<0.01	0.02	0.002	1	<0.01
280.0	281.0	<0.01	0.01	0.03	<0.1	0.1	<0.01	0.03	0.002	1	<0.01
281.0	282.0	<0.01	0.01	0.03	<0.1	<0.1	0.01	0.07	0.002	2	<0.01
282.0	283.0	<0.01	0.01	0.03	<0.1	<0.1	<0.01	0.06	0.002	2	<0.01
283.0	284.0	<0.01	0.01	0.03	<0.1	<0.1	<0.01	0.05	0.001	1	<0.01
284.0	285.0	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.04	0.002	1	<0.01

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059059

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DIAMOND DRILL RECORD

HOLE NUMBER : FED 12

LOGGED BY : P. Roberts

	INTERVAL (m)		RECOVERY		DESCRIPTION	FORM.			% Sn.										
	FROM	TO	m	%			FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
					Yellow clay coating few joints.		302.8	303.8	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.004	1	<0.01
							303.8	304.8	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.001	1	<0.01
	293.2	311.2	18.0	100	292.4 - 311.2	"White"	304.8	305.8	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.003	1	<0.01
							305.8	307.2	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.003	1	<0.01
					Very pale yellow to white granite, fine to medium grained,													
					similar to above but feldspars less argillized, tourmaline		308.6	309.6	<0.01	<0.01	0.02	<0.1	0.2	<0.01	0.02	0.002	1	<0.01
					more abundant. Feldspars pink 305.6 - 306.8m. Includes green-		309.6	310.2	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.002	1	<0.01
					grey altered zones consisting of quartz, chlorite/sericite,													
					minor muscovite and tourmaline, and trace pyrite, particularly													
					at 302.8 - 307.2m (zones ≤40cm thick) and at 308.6 - 310.2m.													
					(single zone)													
					End of hole 311.2m													

059060

RENISON LIMITED - DRILL CORE RECORD

060

HOLE NUMBER	FED. 13
PURPOSE	To test for Eastern extensions of stanniferous tourmaline-rich lode(s) exposed in several shallow open-cuts.
LOCATION	Coleman's Workings
COLLAR R.L.	425.55
CO-ORDINATES	5359067.11N 349809.94E
LENGTH	70.0m
HOLE SIZE	0.0 - 3.0m HQ 3.0 - 9.1m NQ 9.1 - 70.0m BQ
DATE DRILLED	11.7.80 - 18.7.80
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	P. ROBERTS
COMMENTS	The hole intersected coarse grained 'red' granite with minor tin-barren greisen veins. The low angle to c.a. contacts of the latter indicate steep dips; they are unlikely, therefore, to be related to the known mineralization. This hole demonstrated that the shallow-dipping tourmaline-rich lodes at Coleman's Workings are too small and/or discontinuous to constitute an attractive exploration target.

SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
(m)	Magnetic							
Collar	-	90°	0.0-34.0	34.0	34.0	391.55	0	0
68.0	204°	89.5	34.0-70.0	36.0	36.0	355.55	0.32	0.32

SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				

NWPS 27344

059061

RENISON LIMITED

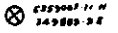
HOLE No. FED 13 SCALE 0 10 20 metres

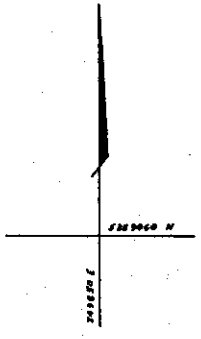
DIAMOND DRILL HOLE PLOT

261

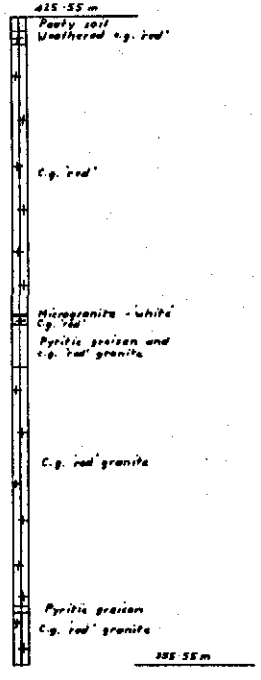
5 cm

PLAN





DIP PROFILE



059062

DIAMOND DRILL RECORD

HOLE NUMBER : FED.13

LOGGED BY : P.ROBERTS

NWPB

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.
0.0	3.0	0.30	10	0 - 1.5 PEATY SOIL	
				1.5 - 3.0 WEATHERED COARSE GRAINED GRANITE & COARSE GRAINED QUARTZ/TOURMALINE ROCK, possibly coarse rubble. Only 20cm recovered.	'Red'
3.0	70.0	66.4	99	3.0 - 70.0 COARSE GRAINED GRANITE, consisting of white or (less commonly) pink K-feldspar, white to pale yellow or green-yellow plagioclase and abundant (≥5%) fresh black biotite. Includes:	'Red'
				13.0 3cm thick biotite rich zone - segregation?	
				18.2 - 20.4 Thin (0.5 - 1.0cm) vein of grey, green-grey greisen parallel to c.a.	
				23.1 - 29.8 Several thin (0.5 - 3.0cm true thickness) veins of green-grey greisen alteration with trace pyrite cutting granite at ~10° to c.a.	
				32.0 - 32.1 White microgranite dyke. Contacts slightly irregular, approx. 70° to c.a.	
				33.0 - 37.7 Several thick zones of grey or green-grey pyritic greisen alteration interspersed with coarse grained granite.	
				52.80 - 52.85 Green-grey pyritic greisen alteration cutting granite at 30° to c.a.	
				54.6 - 54.8 As above.	
				63.6 - 64.3 As above. Minor chloritization of biotite below 64.3m.	
				END OF HOLE 70.0m.	

Analyser results (comparator setting 80)

% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
29.0	30.0	<0.1									
30.0	31.0	<0.1									
31.0	32.0	<0.1									
32.0	33.0	<0.1									
33.0	34.0	<0.1									
34.0	35.0	<0.1									
35.0	36.0	<0.1									
36.0	37.0	<0.1									
37.0	38.0	<0.1									
52.8	53.0	<0.1									
53.0	54.0	<0.1									
54.0	55.0	<0.1									
55.0	56.0	0.11(?)									
63.6	64.6	<0.1									
64.6	65.4	<0.1									

062

059063

APPENDIX 3

PETROGRAPHIC DESCRIPTIONS

064

059065

Central Mineralogical Services

231 Magill Road
Maylands, S.A. 5069
Telephone 42 5659

RENISON LIMITED
File No. 3250

	Act.	Inf.
GEN. MGR.		
CONTROLLER		
MINE SUPT.		
MILL SUPT.		
CH. GEOL.		

8 APR 1980

CH. ENGR.		
CH. PR. ENGR.		
INDUST. OFFR.		
PERSNL. OFFR.		
SUPPLY OFFR.		
CH. ACCT.		
PAYMASTER		

Mr. L.A. Newnham
Chief Geologist
Renison Limited
P.O. Box 20
ZEEHAN / TAS. 7469

3rd April, 1980

REPORT CMS 80/3/32

YOUR REFERENCE:	Letter dated 24.3.1980 PAR/wm/3250
DATE RECEIVED:	27th March, 1980
SAMPLE NOS.:	FED 7 - 6 samples FED 8 - 3 samples FED 9 - 3 samples FED 10 - 5 samples FED 12 - 4 samples
SUBMITTED BY:	L.A. Newnham
WORK REQUESTED:	Petrology

H.W. Fander, M. Sc.

REPORT CMS 80/3/32

Federation (Mt. Heemskirk) Drill Cores

Twenty-one drillhole intersections from FED 7, FED 8, FED 9, FED 10 and FED 12 were received for preparation and petrological examination. The thin-sections are described in the accompanying tables; observations on hand specimens under the stereobinocular microscope are also incorporated.

Summary

The rocks comprise mostly altered or greisenised granites (in the broad sense) and igneous-related vein-material. The distinction is made between "altered" and "sericitised" on the one hand, with "greisenised" on the other, to broadly categorise low-temperature alteration somewhere between argillisation and greisening, and pneumatolysis.

Tourmaline seems to span the two types of alteration, being associated with both; multiple alteration also occurs (e.g. FED 7/15.1 m, where topaz is partly sericitised). The "sericite" (a convenient sink term) in all the rocks is actually hydromuscovite; illite occurs in addition in some samples and may represent degraded hydromuscovite, and has the distinction of a "soapy" feel like talc.

Some of the rocks are composed almost entirely of alteration minerals in two or three generations, and it is no longer possible to determine whether they represent completely replaced igneous rocks, or whether they constitute veins or other transcurrent bodies. Others show progressive alteration, in zonal fashion.

A few rocks are reasonably fresh; two types can be distinguished, namely coarse, even-grained granites, and granophyres; they are genetically related, but must have had different modes of formation.

As far as alteration is concerned, whilst there is evidence in a few rocks that high-temperature pneumatolysis (topaz formation) was followed by sericitisation, much of the alteration/pneumatolysis may have been contemporaneous, but zonal. The range and style of alteration closely resembles that at Sweeney's (see reports CMS 77/7/7, 77/8/1, 77/8/24, 77/10/17)

The Sn mineralisation is in the form of cassiterite; in at least two rocks the cassiterite is closely associated with limonite-goethite patches, believed to be derived from the oxidation of siderite, but the evidence is not definite; however, many unmineralised rocks contain abundant siderite. Cassiterite does not show any preferential association with tourmaline, topaz, hematite, pyrite or hydromuscovite and, at this stage, its paragenesis is uncertain because of

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059067

meagre observations on too few mineralised rocks. It almost seems as if the cassiterite was introduced as a separate phase (probably with quartz) independently of all other introduced/new minerals, ?pre-dating tourmaline.

The occurrence of monazite with tourmaline is interesting and unusual; if a genetic connection between tourmaline and cassiterite could be established, even on a broad basis, perhaps the plotting of radiometric anomalies could give useful indications or guides. Due to accessory xenotime in the granite, the background is very probably anomalous in any case and it would be necessary to detect areas of enhanced radioactivity. However, this is very tenuous; if any information is available on the radiometrics of the area, it may be worth studying; alternatively, radiometric logging of the core may produce a correlation with tin mineralisation.

H.W. Fander, M. Sc.

Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Central Mineralogical Services Comments
FED 7 9.9 m (T.S. 31269)	Sericitised Granite. Sericite (hydromuscovite) aggregates pseudomorphing subhedral feldspar and biotite; relict quartz, stressed and partly recrystallized.	Quite well-preserved, coarse granitic fabric and relict textures.	Micaceous hematite associated with sericite. Leucoxene in altered biotite. ?Xenotime.	Low-temperature greisening transitional to argillic alteration; pervasive and intense.
15.1 m	Altered Granite/Quartz-Topaz Vein. Coarse granite with partly sericitised, chloritised K-feldspar, pervaded by coarse quartz-topaz (partly altered) vein; scattered, zoned tourmaline.	Coarse granitic fabric; vein also coarse-grained, probably replacive.	Trace xenotime in vein. Topaz largely replaced by yellow mica ("gilbertite").	Decreasing alteration away from vein. Alteration of topaz postdates vein formation; contacts diffuse, vein ?replacive.
38.6 m	Granite. Dominantly coarse subhedral orthoclase crystals, scattered small quartz patches; spotty replacive hydromuscovite aggregates.	Coarse granitic fabric; primary textures, no evidence of feldspathisation.	Minor micaceous hematite. Fine chlorite, fine tourmaline needles.	Regarded as feldspathic segregation or feldspar-rich phase of granite, incipiently sericitised.
50.1 m	Mineralised Sericite-Pyrite Rock. Small random matted hydromuscovite flakes, finer illite-sericite matrix; scattered euhedral pyrite, veinlike ultrafine semi-opaque ?cassiterite.	No relict textures recognisable; no shearing. Could be a ?vein or fault-filling.	Small semi-opaque crystals of ?zircon.	Absence of shearing or other dynamic effects or of relict textures suggests vein? Soapy feel due to illite; ?cassiterite may have formed from hydrocassiterite.
51.0 m	Quartz-Sericite Rock (?Microgranite). Intergrowths of mosaic quartz, random hydromuscovite aggregates, interstitial illite, fine micaceous hematite.	Medium-grained; few, if any, recognisable relict textures.	Ultrafine whitish semi-opaque mineral dispersed through sericite. Sulphides.	Whitish mineral may be leucoxene or poorly developed cassiterite. No clearly recognisable cassiterite seen. Traces chalcopyrite, pyrite.
92.4 m	Granophyre. Graphic intergrowths of quartz and incipiently argillised perthitic orthoclase, with laths of albite, chloritised biotite flakes.	Typical granophyric fabric, medium- to coarsely crystalline.	Primary accessory zircon, xenotime. Traces fluorite in chlorite.	Distinctive rock compared with the granites, with significant albite; no greisening; fluorite ?primary.
FED 8 66.8 m	Mineralised, Sericitised Granite. Quartz-sericite pseudomorphs after coarse feldspar; relict primary quartz. Euhedral pyrite, patches of very pale sphalerite.	Good relict textures in places, but mostly obscured by fine sericite.	Fine micaceous hematite. Altered primary biotite. ?Leucoxene.	Cloudy "leucoxene" may well be cryptocrystalline cassiterite, formed under very low-temperature conditions.
82.5 m	Pyrite-Sericite-Siderite Rock. Porphyroblasts of pyrite and siderite set in a matted mass of hydromuscovite flakes and ragged quartz patches.	Vague relict textures suggest former coarse granite. Fine-grained.	Inclusions of hematite, ?MnO_2 in siderite. Pyrite contains siderite.	Paragenesis suggests low-temperature greisening of ?granite, followed by siderite, followed by pyrite development.
142.2 m	Granophyre with Tourmaline. Graphically intergrown quartz/perthitic orthoclase; prismatic albite-oligoclase. Replacive zoned brown-blue-green tourmaline.	Partial graphic, partial granitic fabric; medium to coarse crystallinity.	Sericitised biotite flakes, patchy sericitic alteration. Traces of pyrite, fluorite.	Very similar to FED 7/92.4 m, though graphic fabric less pronounced. Tourmaline is pneumatolytic, replacive.

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Central Mineralogical Services

Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Comments
FED 9 40.4 m	Quartz-Schorl (Mineralised). Radiating-acicular dark blue-green tourmaline, completely limonitised ?siderite with associated cassiterite, set in vein-type quartz.	Vague relict features suggest possible former granite. Recrystallized.	Minor hematite. Goethite veins, distinct from limonite-goethite patches.	Similar to FED 6/23.2 m. Good cassiterite (3-4 %) 5-100 μ crystals, with granular clusters up to 1 mm. Closely associated with ?siderite rather than tourmaline.
88.1 m	Granite/Greisen Zone. Partly muscovitised, tourmalinised coarse granite, cut by zone of complete muscovitisation (of feldspar) with pyrite, cassiterite, fluorite patches.	Granitic fabric preserved in greisenised zone. Coarse-grained.	Cassiterite (granular patches, up to 200 μ) associated with goethite (?altered siderite).	Same association of cassiterite with goethite as at 40.4 m. Greisening is replacive. Also a minor pyrite/cassiterite association.
123.2 m	Greisenised Granite. Quartz-Feldspar assemblage with selective replacement of feldspar by fine topaz, muscovite, quartz, minor tourmaline, and granular pyrite.	Relict textures and fabric preserved; homogeneous, coarse-grained.	Accessory xenotime. Traces of chalcopyrite, chalcocite.	Classical pneumatolysis of granite, with medium- to high-temperature assemblage.
FED 10 14.6 m	Quartz-Cassiterite-Tourmaline Vein. Coarse zoned vein-quartz with embedded euhedral dark brown-red cassiterite, stubby schorl crystals.	Vague relict features suggest completely silicified ?granite.	Small sericite patches and cavity-linings.	Cassiterite is unusual, distinctive dark-red colour; euhedral crystals 20-300μ, veins, and aggregates up to 2mm. 5 % of thin-section is cassiterite.
18.1 m	Tourmaline Rock. Virtually entirely composed of radiating-acicular crystals of very dark blue-green tourmaline (schorl), with interstitial voids.	Coarse radiating "sunburst" textures.	Occasional euhedral monazite crystals up to 0.3 mm.	No cassiterite detected in T.S. or hand specimen; very probably a sampling problem (cp. 14.6 m, containing far more cassiterite than assay).
29.1 m	Quartz-Tourmaline-Hematite Rock. Mostly coarse, clear vein-quartz, with scattered dark zoned schorl, earthy to micaceous hematite patches; pale sphalerite.	Zoned euhedral quartz, zoned tourmaline. Medium/coarse vein fabric.	Rare euhedral monazite crystals. Sericite patches.	No cassiterite detected. Sphalerite is very pale, as in FED 8/66.8 m. Rock appears to be vein material.
35.1m	Mineralised Siderite-Illite Rock. Dominantly pale brown porphyroblastic siderite intergrown with illite. Hematite and pyrite masses, pale sphalerite crystals.	Coarse siderite (2-5 mm crystals); no relict textures.	Minor prismatic schorl, euhedral monazite. Micaceous hematite.	Could have been granite which underwent multiple alteration, but no textural evidence. No cassiterite seen.
41.3 m	Greisenised Granite. Coarse granite in which all feldspar replaced by intergrowths of fine topaz, quartz, muscovite; overgrowths on primary quartz.	Granitic fabric well-preserved; some porphyritic quartz.	Small zircon, xenotime and semi-opaque ?rutile grains throughout.	Very simi-lar to FED 9/123.2 m, but pyrite and tourmaline absent. No mineralisation detected.
FED 12 178.2 m	Altered Granite. All feldspar and micas replaced by fine quartz-hydromuscovite aggregates with associated pyrite, small purple fluorite patches.	Coarse granitic fabric preserved; porphyritic quartz.	Fine rutile in altered biotite. Accessory zircon, ?xenotime. Tourmaline "sunbursts".	Low-temperature greisening, but pervasive and thorough. Tourmaline is pale green variety and gives green colour to parts of rock; hydromuscovite is yellow.

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Central Mineralogical Services

Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Comments
215.0 m	Sericite-Siderite Rock. Dominantly fine felted hydromuscovite flakes; patches of siderite, with micaceous hematite; coarser, crumpled muscovite.	No relict features; shapeless mica masses, random siderite.	Small chlorite patches, minor trace of fine pyrite.	Origin not known, because relict textures/minerals are absent. No sphalerite detected.
219.2 m	Sericite-Hematite-Siderite Rock. Haphazard siderite aggregates, relatively coarse, fibrous hydromuscovite, abundant random fine micaceous hematite. No cassiterite seen.	Structureless, confused mineral intergrowths, fine- to medium-grained.	------	Similar to 215.0 m, with more hematite; origin not known, but very low-temperature hydrothermal formation.
223.2 m (T.S. 31289)	Tourmaline-Quartz-Hematite Rock. Large, radiating schorl masses, zoned quartz, rosettes of fine muscovite; random micaceous hematite; trace cassiterite.	No relict textures suggestive of origin. Coarse tourmaline.	Occasional pyrite crystals, small siderite patches.	Granular cassiterite, 5μ - 80 μ, dispersed through tourmaline and in muscovite. ?Vein-type rock.

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APPENDIX 4

ROCK CHIP SAMPLE ASSAYS

SAMPLE NO.	LOCATION (PLAN NO.)	DESCRIPTION	ASSAYS (%)							
			Sn	Acid Sol. Sn	Cu	As	Pb	Zn	WO_3	Ag g/t
Fed 80/1 a	Central Federation (11)	Ferruginous matrix of breccia	<0.01	0.01	0.07	0.6	0.56	0.26	0.07	16
b		Green tourmaline/quartz - breccia fragment	0.03	0.02	0.03	<0.1	<0.01	<0.01	0.03	1
/2	Central Federation (11)	Quartz/topaz rock containing disseminated pyrite	0.30	0.04	0.03	<0.1	0.01	<0.01	0.02	1
/3 a	Central Federation (11)	Friable massive black tourmaline - vein filling	0.14	<0.01	0.03	<0.1	0.01	<0.01	0.02	1
b		Green tourmaline/quartz/topaz(?) rock	0.02	0.01	0.03	<0.1	0.15	<0.01	0.02	<1
/4 a	Central Federation (11)	Very soft, black, tourmaline-rich material	0.38	0.01	0.04	<0.1	<0.01	0.01	0.03	1
b		Massive F.g. black tourmaline	0.08	0.01	0.03	<0.1	0.01	<0.01	0.02	<1
c		Very soft, yellow, argillized granite	<0.01	0.02	0.02	<0.1	0.05	0.01	0.01	1
/5	Central Federation (11)	Green-black tourmaline/quartz rock	0.10	0.01	0.03	<0.1	<0.01	<0.01	0.01	<1
/6	Central Federation (11)	Amorphous green tourmaline(?) /quartz rock	0.02	0.01	0.03	<0.1	0.01	<0.01	0.02	1
/7 a	Central Federation (11)	Very soft green-black, tourmaline-rich material - breccia	0.04	0.01	0.03	<0.1	<0.01	0.01	0.02	1
b		Very soft green-black tourmaline-rich material - breccia	0.03	0.01	0.03	<0.1	0.04	0.01	0.03	1
/8	Central Federation (11)	Green and black tourmaline/quartz rock	<0.01	<0.01	0.03	<0.1	0.01	<0.01	0.01	<1
/9	Central Federation (11)	Amorphous to finely acicular green, black tourmaline/quartz	0.01	0.01	0.03	<0.1	0.03	<0.01	0.02	<1
/10a	Central Federation (11)	Soft, argillized and tourmalinized m.g. granite	0.03	0.01	0.04	<0.1	0.34	0.01	0.02	1
b		Green-black tourmaline-quartz-'jostle' breccia	0.05	0.01	0.03	<0.1	0.01	<0.01	0.02	1
c		f.to m. g. quartz/tourmaline(?) chlorite(?) rock - 'jostle' breccia	<0.01	0.01	0.03	<0.1	0.07	<0.01	0.01	<1

039072

SAMPLE NO.	LOCATION (PLAN NO.)	DESCRIPTION	ASSAYS (%)							
			Sn	Acid Sol. Sn	Cu	As	Pb	Zn	WO_3	Ag g/t
Fed 80/11	Central Federation (11)	Dark green amorphous tourmaline(?) /quartz rock	0.20	0.01	0.03	<0.1	0.01	<0.01	0.01	<1
/12	Central Federation (11)	Green tourmaline/quartz/topaz(?) - 'pod' in argillized granite	0.03	<0.01	0.02	<0.1	0.01	<0.01	0.01	1
/13	Central Federation (11)	Siliceous altered granite with pyrite, arsenopyrite	0.08	0.01	0.05	2.9	0.01	<0.01	0.05	2
/14	West Federation (10)	Massive f.g. black tourmaline - spoil	4.95	0.02	0.04	<0.1	0.03	0.01	0.06	1
/15	West Federation (10)	Amorphous grey-green tourmaline/quartz -scree	<0.01	0.01	0.02	<0.1	<0.01	<0.01	0.02	<1
/16	West Federation (10)	Pale grey-green greisenized m.g. granite - spoil	0.15	<0.01	0.03	<0.1	<0.01	<0.01	0.02	2
/17a	West Federation (10)	Argillized m.g. granite	<0.01	0.01	0.03	<0.1	<0.01	0.01	0.01	1
b		M.g. black tourmaline/quartz rock	0.02	0.01	0.02	<0.01	<0.01	0.01	0.02	1
/18	~30m. S of d.d.h Fed.7 (7)	Sericitized green-brown granite	<0.01	0.01	0.02	<0.1	0.01	0.02	0.02	1
/19	- (7)	Sericite/hematite/quartz rock - altered granite	0.01	0.01	0.02	<0.1	<0.01	0.05	0.03	2
/20	- (7)	Sericite/hematite/quartz rock - alteration veins in granite	0.01	<0.01	0.02	<0.1	<0.01	<0.01	0.03	2
/22	- (7)	Limonite stained quartzite (Oonah Quartzite)	<0.01	0.01	0.02	<0.1	<0.01	0.01	0.01	2
/23	- (7)	Black tourmaline/quartz nodule	0.01	0.01	0.02	<0.1	<0.01	0.01	0.02	1
/25	Prince George workings (7)	Massive green-black tourmaline - spoil	0.01	0.01	0.03	<0.1	<0.01	<0.01	1.33	<1

050073

SAMPLE NO.	LOCATION (PLAN NO.)	DESCRIPTION	ASSAYS (%)							
			Sn	Acid Sol. Sn	Cu	As	Pb	Zn	WO_3	Ag g/t
Fed 80/26a	Prince George workings (7)	Dark brown weathered/argillized granite	<0.01	0.01	0.02	<0.1	0.01	<0.01	0.02	1
b		Quartz/black tourmaline rock - scree	<0.01	<0.01	0.02	<0.1	<0.01	<0.01	0.02	<1
/27a	N. of Colemans (7)	F.g. quartz/mica greisen - scree	<0.01	<0.01	0.02	<0.1	<0.01	<0.01	0.03	<1
b		C.g. quartz/mica/black tourmaline greisen - scree	0.17	<0.01	0.02	<0.1	<0.01	<0.01	0.02	<1
/28	Waxman and Westons (7)	Grey-green sericite minor hematite rock	0.10	0.03	0.02	<0.1	0.01	0.01	0.03	<1
/29a	- (7)	F.g. black tourmaline/quartz rock - spoil	<0.01	<0.01	0.03	<0.1	<0.01	0.01	0.01	<1
b		Argillized and sericitized m.g. granite - spoil	<0.01	<0.01	0.03	<0.1	<0.01	0.01	0.02	<1
/30a	- (7)	Siliceous greisen with disseminated pyrite - spoil	0.13	0.01	0.09	0.8	0.02	<0.01	0.04	4
b		Argillized, silicified F.g. granite, minor disseminated pyrite	0.01	<0.01	0.02	<0.01	0.01	<0.01	0.02	4
c		Tourmaline/quartz rock - spoil	0.41	<0.01	0.02	<0.1	0.01	<0.01	0.02	<1
d		C.g. greisen - quartz/sericite/clay/mica + small tourmaline/quartz nodules - spoil	0.08	<0.01	0.02	<0.1	<0.01	<0.01	0.02	<1
/31a	- (7)	Tourmaline/quartz rock, lesser tourmaline/quartz nodules	0.07	<0.01	0.02	<0.1	<0.01	<0.01	0.02	<1
b		F.g. siliceous greisen (?), minor limonite after pyrite	0.18	<0.01	0.02	<0.1	<0.01	<0.01	0.02	<1
/32a	Longs Iron Blow (7)	Black tourmaline/hematite rock	0.01	<0.01	0.03	<0.1	<0.01	<0.01	0.04	<1
b		Green-black strongly altered (sericitized) granite	0.01	<0.01	0.02	<0.1	<0.01	<0.01	0.04	<1
c		F.g. sericitized granite	0.14	<0.01	0.02	<0.1	<0.01	<0.01	0.02	<1
d		Massive black tourmaline/hematite rock	0.01	<0.01	0.03	<0.1	<0.01	<0.01	0.07	1

050074

SAMPLE NO.	LOCATION (PLAN NO.)	DESCRIPTION	ASSAYS (%)							
			Sn	Acid Sol. Sn	Cu	As	Pb	Zn	WO_3	Ag g/t
			←				P.P.M.		→	
Fed 80/33a	Fischer & Smith Section (7)	F.g. acicular green tourmaline, and c.g. quartz/tourmaline	270	<100	5	< 5	20	10	< 20	1
b		F.g. black tourmaline/quartz rock	105	<100	5	< 5	20	5	30	1
c		F.g. black tourmaline/quartz rock	310	<100	5	< 5	10	< 5	< 20	1
d		Sericitized m.g. granite	65	<100	10	< 5	30	< 5	< 20	< 1
e		Green tourmaline/quartz rock minor pyrite	80	<100	40	60	120	15	20	5
/34	- (7)	Massive hematite - hematite/black tourmaline vein	< 5	<100	10	< 5	10	40	60	3
/35	- (7)	Massive black tourmaline/hematite - vein filling	110	100	25	< 5	20	45	150	3
			←				%		→	
/37	West Federation (10)	Quartz/topaz - Cross Lode	0.01	0.01					< 0.01	2
/38	West Federation (10)	Quartz/tourmaline/hematite - Cross Lode	0.02	0.01					0.02	2
/39	West Federation (10)	Yellow clay minor tourmaline - argillized zone near Cross Lode	0.06	0.01					0.02	5
/40	West Federation (10)	Quartz/topaz - Cross Lode	<0.01	0.01					< 0.01	1
/41	West Federation (10)	Quartz/topaz - Cross Lode	0.13	0.01					< 0.01	1
/42	West Federation (10)	Quartz/tourmaline - Cross Lode	0.25	0.01					< 0.01	1
/43	West Federation (10)	Quartz/topaz minor tourmaline	<0.01	<0.01					< 0.01	1
/44	West Federation (10)	Quartz/tourmaline veined altered (weathered?) granite	0.01	<0.01					< 0.01	1

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SAMPLE NO.	LOCATION (PLAN NO.)	DESCRIPTION	ASSAYS (%)							
			Sn	Acid Sol. Sn	Cu	As	Pb	Zn	WO_3	Ag g/t
Fed 80/45	West Federation (10)	Sericitic material with very minor visible cassiterite	0.34	0.01					<0.01	1
/47a	Allisons Workings (7)	Argillized pegmatite (contact 'red'/'white' granites)	<0.01	<0.01					<0.01	1
b		Argillized F.g. granite + few quartz/tourmaline nodules	<0.01	0.01					<0.01	1
c		Argillized and sericitized m.g. granite	<0.01	0.01					<0.01	<1
/48a	Allisons Workings (7)	Micaceous hematite/sericite/clay rock	<0.01	0.01					0.03	1
b		Yellow-brown limonitic clay/mica/hematite rock	<0.01	0.01					0.03	2
/49	Allisons Workings (7)	Sericitized granite including greisen veins	0.01	0.01					<0.01	<1
/50	Allisons Workings (7)	Massive black, green-black tourmaline, minor mica - spoil	0.05	<0.01					0.02	1
/52a	- (7)	Sugary quartz/topaz(?) minor black tourmaline	<0.01	<0.01					<0.01	<1
b		Quartz/topaz(?)/tourmaline rocks	0.01	<0.01					<0.01	<1
c		Quartz/topaz(?)/tourmaline minor clay	<0.01	<0.01					<0.01	<1
d		Greisen including nodules/segregations of tourmaline/quartz	0.04	<0.01					<0.01	<1
/53a	Woodings Workings (7)	Siliceous greisen minor tourmaline, pyrite	0.02	0.01		0.4			<0.01	1
b		Quartz/tourmaline rock	<0.01	<0.01					<0.01	<1
c		Vuggy quartz/topaz(?) rock	0.02	<0.01					<0.01	<1
/54a	Spencer Brothers Workings (7)	Green amorphous tourmaline(?)/quartz rock - spoil	0.01	<0.01					<0.01	<1
b		Sulphide-stained altered granite - spoil	<0.01	<0.01		<0.1			<0.01	1
c		Quartz/tourmaline - spoil	<0.01	<0.01					<0.01	<1

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APPENDIX 5

EVALUATION OF WEST FEDERATION

E.L. 11/76

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NOTE

The appendices and plan referred to in this memorandum are located elsewhere in the report:

(a) For 'Appendix 1' (rock chip assays) see Appendix 4.

(b) For 'Appendix 2' (diamond drill logs) see Appendix 2.

(c) For 'Plan 1' see Plan 10.

073

059079

RENISON LIMITED

INTRA-OFFICE MEMORANDUM

TO: SENIOR EXPLORATION GEOLOGIST

FROM: EXPLORATION GEOLOGIST

DATE: 10th JUNE, 1980

SUBJECT: EVALUATION OF WEST FEDERATION AREA, E.L. 11/76

1. SUMMARY

Exploration work over the West Federation area is described. Evaluation of the available data indicates that further work is justified. Diamond drilling of at least three more holes is recommended. These proposed holes all lie within M.L. 90M/47, which is covered by an option agreement due to expire on 11th November, 1980. It is not considered practicable to complete the drilling and evaluate the results before the expiry date, and therefore the option should be paid out.

2. INTRODUCTION

The West Federation workings are located one kilometre West of Lake Cumberland on the Federation Plateau (Figure 1). The area is partly covered by a two hectare mine lease (90M/47) held by Carden, Warren and Burgess. This lease is covered by an option agreement which expires on 11th November, this year. The cost of paying out the option is $8,500.00.

3. WORK COMPLETED

Renison has carried out the following work over this area:

(a) Geological Mapping. K. Wells mapped the area in detail (1:500 scale).

(b) Rock chip sampling. Location of samples is shown on Plan 1. Assay results, where available, are appended.

(c) Diamond drilling. Two holes were drilled, Fed. 2 in 1979 and Fed. 10 in 1980, for a total of 276.8 metres. Location, plan and section views of the drillholes are shown on Plan 1.

4. GEOLOGY

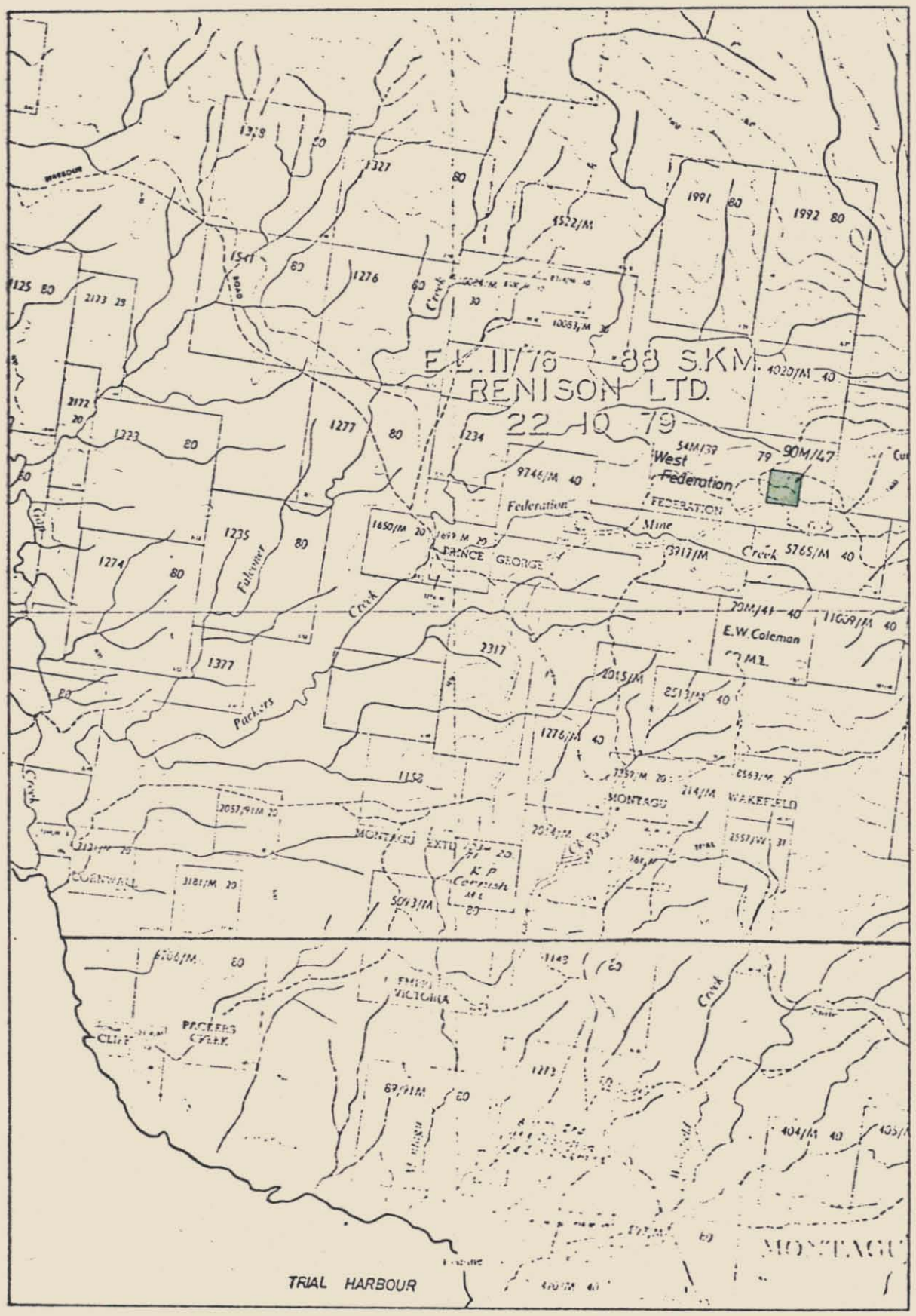
The workings were described in detail by Waterhouse (1916, pp 243 - 270). Tin mineralisation is associated with the junction of a number of quartz/topaz/tourmaline alteration 'dykes' - the so-called 'white dykes' - enveloped within a zone of argillically altered coarse grained (older) red granite. Three major 'white dykes' were mined for tin:

(a) The Cross Lode. This strikes at about 305° and dips steeply South-West. Waterhouse reported grades of 0.5% Sn in places, and, at one location, 3.76% Bi. Rock chip sampling and the extent of workings indicate that significant tin grades only occur in small 'shoots'.

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FIG 1



LOCATION MAP

5 cm

MILES
0·5 0 0·5
25 0 25 50
CHAINS

(b) Quartz/tourmaline 'vein' which strikes about 060° on the South side of the Cross Lode. Dip is steep to the North. No. 4 Adit followed this 'vein' for 113 metres. Grades of up to 1% Sn were recorded (Waterhouse quotes the Mine Manager as saying that the average tin content along the length exposed was 1% but this is quite unlikely given the amount of mining completed and the results of our diamond drilling). This 'vein' was intersected in Fed. 2 where it was completely barren of tin.

(c) Geason's Lode. This is an irregular tourmaline/quartz 'vein' which strikes at about 035° and dips very shallowly South East. Known workings are limited to Geason's Trench and a trench and shaft North-West of there. A large void intersected in Fed. 10 may also represent workings, in which case some development has gone on unrecorded. The lode was intersected in Fed. 10 between 5 - 42.4m, where it consists of massive black tourmaline interspersed with variously (and intensely) altered sulphide-bearing granite. Tin grades of up to 1.91% over a 1m interval were recorded but the overall grade appeared to be low, the higher grade section of the lode averaging 0.30% Sn over 19m (14 - 33m). Assay results must be treated with caution, however, as there were substantial core losses (12.8m loss over the above interval).

Within the argillised halo, several other 'lodes' were mined, including:

(a) Fowler and Dunn's workings. According to Waterhouse, two lodes were worked here, one nearly above the other. Each contained approximately 1,000 tons of ore with an average grade of 5 - 6% Sn. The ore was reputedly clayey and limonitic (after pyrite ?). The lower ore zone terminated upwards on a flat lying fissure, and the upper one included some horizontal quartz/tourmaline veins.

(b) Tributers' workings. The major source of tin here was an irregular, pyrite-bearing, sericitic (?) pipe which carried abundant coarse cassiterite, grainsize varying from <0.8mm to 12.5mm, and grade varying from 5 to 18% Sn. The pipe dipped at an average of 33° along 323° for at least 35m with an average cross-sectional area of 0.8m^2, tapering towards the bottom. The pipe was associated with 'veins' and selvedges of quartz/tourmaline, and was enclosed in altered fine grained ('white') granite.

Both diamond drillholes intersected the finer grained 'white' granite at depth, but only limited, tin-barren alteration was seen in one of the holes (Fed. 2).

5. DISCUSSION

The following observations are significant:

(a) Tin mineralisation occurs in three rock types, namely: quartz/tourmaline; pyrite-bearing (or limonitic) clayey material; and sericitic pyrite-bearing material of the Tributers' pipe. The latter two are spatially associated with 'veins' of tourmaline/quartz.

(b) All of the 'lodes' so far exploited are small and clearly uneconomic by today's standards.

(c) Tin grades tend to be higher in the clayey or sericitic material relative to the quartz/tourmaline 'lodes'.

(d) A clear spatial association between tin mineralisation and intruded 'white' (younger) granite is not generally seen. Thus the location of 'white' granite is not a particularly useful exploration guide here.

(e) The most favourable site for mineralisation is near or within flat dipping quartz/tourmaline veins.

It appears that, in common with the rest of the Federation tin field, cassiterite-bearing shoots within steeply dipping quartz/tourmaline 'veins' are small. This probably reflects the lack of suitable trap sites for long-lived precipitation of tin from upward moving fluids. Tin enrichment associated with near-horizontal 'veins' tends to confirm this view, which suggests that they are better exploration targets than the near-vertical 'veins'.

The economic potential of this area is thought to be as follows:

(1) South-West of the Cross Lode. Three small bodies of relatively high grade mineralisation were mined here - the two at Fowler and Dunn's, and one at the Whip Shaft workings (Plan 1). All three bodies were of clayey and pyritic/limonitic material, and it seems likely there are more within the argillised zone. Fed. 2 indicated that argillisation is limited at depth. Given that the dimensions of the altered zone are roughly 70 x 40 x 40m^3 and that it contains sufficient high grade 'pods', there is potential for about 250,000 tonnes of (overall) low grade mineralisation.

(2) The Cross Lode. This contains patchy low grade tin in small shoots. Its position suggests that it may have been the main conduit for hydrothermal fluids. It may contain higher grade mineralisation at depth, although this seems unlikely.

(3) Tributers' workings. The main interest here is the pipe. Clearly a large body of this type would be very attractive, but the likelihood of this is small.

(4) Geason's Lode. The higher grade section in Fed. 10 mentioned previously represents 0.30% Sn (or perhaps more) over a true thickness of about 16m. Good grade mineralisation seems to persist along strike for at least 80m (note, sample Fed80/14 contained 4.95% Sn). Assuming an s.g. of 2.5 for the mineralised zone, a mineralised sheet of 16m thickness, 100m square, would contain 400,000 tonnes. This, then, is the most prospective part of the West Federation area.

Areas (3) and (4) lie entirely within 90M/47. Note that diamond drill testing of area (1) is likely to be difficult because of the pronounced 'nugget effect', i.e. high grade 'pods' within a subeconomic matrix.

6. RECOMMENDATIONS

6.1. Geason's Lode should be further tested by diamond drilling at least two short vertical holes. NQ triple tube coring is recommended to maximise core recovery in the prospective zone.

6.2. One angle hole should be drilled North-East into the Eastern end of the Cross Lode, near the Tributers' Workings to test for Tributers-type mineralisation and to intersect the Cross Lode at depth.

6.3. Given the limited potential of the area South-West of the Cross Lode, diamond drilling there should only be contemplated if the other drilling results are encouraging.

6.4. As the above work cannot be practically completed and evaluated before the expiry date of the option over 90M/47, the option should be paid out.

P.A. ROBERTS

REFERENCES

Waterhouse, L.L. (1916): "The South Heemskirk Tin Field". Tasmanian Dept. of Mines, Geological Survey Bull. No. 21

Wells, K. (1978): "Geology and Mineralisation in the South Heemskirk Tinfield, West Tasmania". James Cook University. Unpubl. M.Sc. thesis.

APPENDIX 6

EVALUATION OF COLEMANS WORKINGS

E.L. 11/76

NOTE

The appendix and plans referred to in this memorandum are located elsewhere in the report:

(a) For "Appendix" (diamond drill logs) see Appendix 2 (Renison drill holes) and Appendix 7 (E.Z. drill holes)

(b) For "Plans 2 and 3" see Plans 9a and 9b.

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RENISON LIMITED

INTRA-OFFICE MEMORANDUM

TO: SENIOR EXPLORATION GEOLOGIST

FROM: EXPLORATION GEOLOGIST

DATE: 24th JUNE, 1980

SUBJECT: EVALUATION OF COLEMAN'S WORKINGS, E.L. 11/76

1. SUMMARY

Exploration work over the area surrounding Coleman's Workings is described. This property is covered by an Option Agreement due to expire on 30th August, 1980. Seven diamond drill holes have been completed by three companies, with generally disappointing results. Tin mineralization occurs in two or more shallowly dipping tourmaline-rich 'lodes', and in thin, steeply dipping quartz/tourmaline veins. Evaluation of the data indicates that a further diamond drill hole should be completed before the Option expiry date. If the results of this hole are negative, the Option should be dropped.

2. INTRODUCTION

Coleman's Workings are located approximately 1 km West of Lake Cumberland on the Western slopes of the Federation Plateau (Figure 1). The area is covered by a 16.2 ha mine lease (20M/41) held by E.W. Coleman. This lease is covered by an Option Agreement which expires on 30th August, 1980. The cost of paying out the Option is $6,000.

3. WORK COMPLETED

Mt Lyell examined the workings in 1945 (Hudspeth, 1945, a, b). Following some preliminary sampling, the main adit was cleaned out and extended (Plan 1). In 1965/66 the E.Z. Company diamond drilled three holes, THP 115, 117 and 119, with disappointing results (Bainbridge, 1966). In 1970, Pacific Copper completed a further two holes, also with discouraging results (Wells, 1973).

Renison has held an Option over the property since 1977. During this time the following work has been done:

(a) The area immediately surrounding the workings has been geologically mapped at 1:500 scale (Plans 2 and 3).

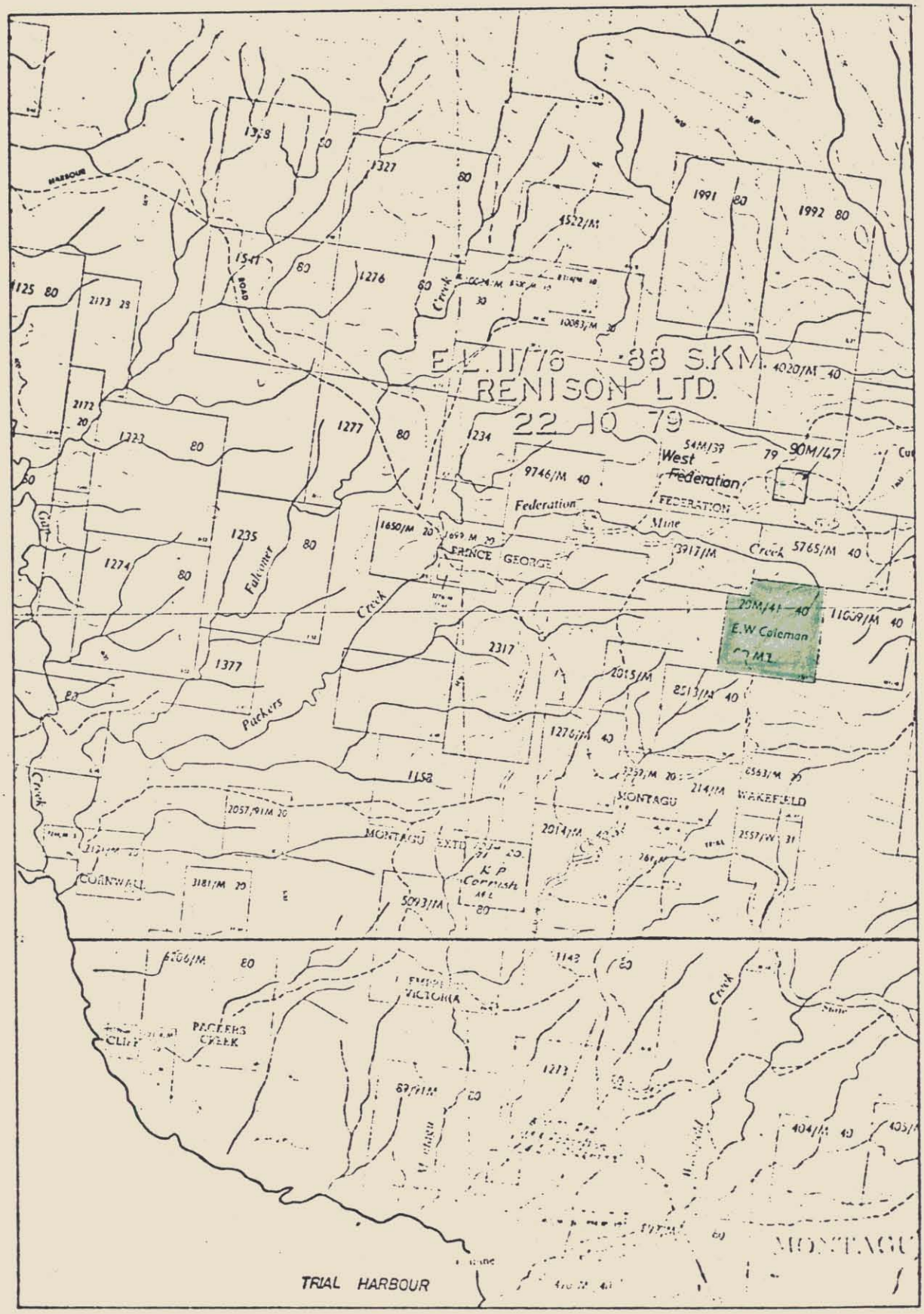
(b) The Federation Grid, pegged in 1978, covers the area. I.P. and magnetics were carried out along the grid lines (Scintrex, 1978).

(c) Diamond drilling. Two holes were drilled, Fed. 6 in 1979 and Fed. 11 in 1980 (Plan 2).

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FIG 1



LOCATION MAP

5 cm

MILES
0·5 0 0·5
25 0 25 50
CHAINS

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4. GEOLOGY

The workings were described by Keid (1943). Tin is generally associated with tourmaline and occurs in the following types of mineralization:

(a) Irregular tourmaline-rich lodes. Keid noted two, both flatly dipping, one exposed at the top of No. 1 Winze, and the other exposed in the open cut on the East side of the prospect. Mt Lyell's sampling in 1945 showed that the first body averages about 0.5% Sn, and the second varies between 0.56 and 24.30% Sn (channel samples over >0.6m).

(b) Thin quartz/tourmaline veins. These apparently bear much of the tin recorded in the main adit and cross-cuts (Plan 1). They are generally steeply dipping and strike at roughly 020° (magnetic).

(c) Tin-bearing tourmaline nodules, carrying up to 17% Sn, were extracted from No. 3 Winze. These are not sufficiently abundant to form an attractive exploration target.

(d) 'Green alteration' (pinitoid alteration of Keid) consists of sericite or clay minerals replacing feldspars and (where intense) quartz. Tin, when present, is patchy and low grade (≤0.5% Sn).

All of the above is enclosed by a halo of argillically altered granite which merges outwards into coarse grained 'red' (older) granite.

Plans 2 and 3 summarize the known geology. Outcrop within the mineralized/argillized area is poor and therefore the interpreted extent of tourmaline-rich material is quite conjectural.

5. DIAMOND DRILLING RESULTS

5.1. E.Z. Company

Three holes were drilled for a total of 286.2m. I have briefly examined and re-logged the core. The original logs, together with my versions, are appended. The tin assays are considered unreliable (T. Conradi, pers. comm.). Details are as follows:

(i) THP 115 was drilled to 115.5m at an inclination of -30° on a bearing of 150° (magnetic). Essentially unaltered coarse grained 'red' granite was encountered throughout. Numerous dykes or 'intrusions' of fine grained granite occur between 103.6 and 111.8m, possibly indicating proximity to the finer grained 'white' (younger) granite.

(ii) THP 117 was drilled to 94.2m at an inclination of -35° on a bearing of 330° (magnetic). Quartz/tourmaline mineralization was intersected between 20.1 and 24.7m. 'Green alteration' and argillization are present throughout the rest of the hole.

(iii) THP 119 was drilled to 76.5m at an inclination of -65° on a bearing of 330° (magnetic) from the same site as THP 117. Slightly argillized coarse grained granite is present throughout except for 'green alteration' between 54.9 and 70.7m.

5.2. Pacific Copper

Two holes were drilled. The only available information (from Wells, 1973) is that the highest tin assay recorded (over a 3m interval) was 0.15%. One collar was found (Plan 2) with an inclination of about -50° and direction of 015° (magnetic).

5.3. Renison

Two holes were completed for a total of 308.7m. The logs are appended. Details are as follows:

(i) Fed. 6 was drilled to 186.5m at an inclination of -45° on a bearing of 290° (magnetic). Tourmaline, chlorite and clay were intersected between 20.0 - 26.2m (averaging 0.27% Sn, including 1.02% Sn over 1m) within a halo of 'green alteration' and argillization extending down to 113.6m. Coarse grained 'red' granite with minor dykes of fine grained granite were intersected below that point.

(ii) Fed. 11 was drilled to 122.2m at an inclination of -65° on a bearing of 115° (magnetic). Essentially unaltered coarse grained 'red' granite with rare fine grained granitic dykes were encountered throughout.

6. DISCUSSION

In this area there are no obvious structural controls over the mineralization. It is therefore possible that an irregular body of tin mineralization could extend in virtually any direction. Nevertheless the available data indicates that the potential for economic mineralization is limited to the following:

(a) One or more irregular but roughly tabloid-shaped tourmaline-rich bodies dipping shallowly Eastwards. The section interpretations on Plan 2 show one tabular body extending from the main workings. The actual ore configuration is probably less regular,

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and there may be a series of discrete lenses. If the latter is correct, the absence of mineralization in the upper part of THP 119 does not necessarily signify its Eastern limit along section A - A' (as interpreted).

(b) Low grade tin mineralization in a series of steeply dipping quartz/tourmaline veins extending below the workings. Drill holes Fed. 6 and Fed. 11 showed that the depth extent of these veins is limited, and therefore their tonneage potential is limited also. Averaging the tin assays recorded by Mt Lyell in the main adit and crosscuts indicates an overall grade of 0.2% Sn. Assuming that the tin-bearing veins all strike at 020°, this value roughly represents the tin content of an area 65 x 35 m^2. Given a depth limit of 40m (which is optimistic), this represents a potential tonneage of ~225,000 tonnes. Extensions of this area can only exist to the South and East (because unaltered granite crops out directly to the North and West) but the sampling suggested that grades declined in both those directions. It is highly improbable that further drilling would outline a tonneage of more than 500,000 tonnes even at 0.2% Sn, and therefore this mineralization is only of secondary interest.

A vertical drill hole placed as shown on Plan 2 should indicate whether this property has economic potential. If the hole fails to intersect one or more tin-bearing tourmaline-rich zones, the possible volume of "tabular-type" material is probably less than 100 x 7 x 70 m^3 or 49,000 m^3 (this assumes that such a body is restricted in a North-South sense by THP 115 and THP 119 respectively).

7. RECOMMENDATIONS

7.1. One vertical hole is proposed at A.M.G. co-ordinates 5359070N, 349810E, with a planned depth of 70 metres. It should be completed before the Option expiry date.

7.2. If the results of the proposed hole are negative, the Option should be dropped. Conversely, if the results are encouraging the Option should be paid out.

Paul Roberts

P.A. ROBERTS

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REFERENCES

Bainbridge, G.M., 1966: "Tin Investigation of the Heemskirk Granite". E.Z. Co. of Australia Ltd. Unpubl. Report.

Hudspeth, G.F., 1945 a: "Report on Coleman's Tin Prospect, South Heemskirk". Mt Lyell Co. Unpubl. Report.

Hudspeth, G.F., 1945 b: "Heemskirk Prospecting". Mt Lyell Co. Unpubl. Report.

Scintrex, 1978: "A Report on a Gradient Array Electrical Induced Polarization Survey over the Federation Grid". Scintrex Report Tas 052.

Wells, 1973: "A Report on South Heemskirk". Mt Lyell Co. Unpubl. Report.

APPENDIX 7

E.Z. DIAMOND DRILL LOGS

1. Original logs - E.Z. drill holes THP 115, 117, 119, 123

2. Re-logging by Renison - E.Z. drill holes THP 115, 117, 119, 123.

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NOTE

The four E.Z. diamond drill holes were briefly re-logged by the writer on 20.3.80. T.Conradi (pers. comm.) indicated that the E.Z. assays were unreliable. Consequently some of the core was obtained from E.Z., re-split and assayed. The new assays are shown in the Renison logs (vs. the old assays in the E.Z. logs).

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DIAMOND DRILL CORE RECORD

PLOTTED	SUMMARY		SURVEY DATA			
	OBJECT	RESULT	Footage	Direction	Angle	
40 Plan 40 Sect L.P. 100 Plan 100 Sect	To determine whether economic tin ore is present beneath Coleman's surface workings.	No economic tin was intersected.				Mine: Coleman's Lease-Trial Hard Location: Coords: R.L.: Direction: S30°E Angle: -30° Total Depth: 379 ft. Hole Size: BX Date Commenced: 29/11/65 Date Completed: 7/1/66 Logged by: G.H.B.

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	FROM	TO	FEET	CORE RECD	ASSAY DATA Pb %	Zn %	Cu %	Ag Oz./Ton	Au dwts.	Fe %	Sn%			DIPS FOOTAGE	DIPS ANGLE
0	5	Overburden.															
5	379	Grey porphyritic granite (adamellite) orthoclase plagioclase and quartz sub-hedral phenocrysts in a coarse grained groundmass. Many of the plagioclase feldspar crystals are in various stages of alteration to epidote and sauricite accessory minerals are apatite, tourmaline and zircon.	5	10	5	5							Nil				
			10	15	5	5							"				
			15	20	5	2¼							"				
			20	25	5	2¾							"				
			25	30	5	4¼							"				
			30	35	5	5							0.05				
			35	40	5	5							Nil				
			40	45	5	5							"				
		Very broken core from 5 to 15 ft. Fine grained pyrite mineralisation 7 to 8 ft. along a fracture.	45	50	5	5							0.05				
			50	55	5	5							Nil				
			55	60	5	5							"				
		Core recovery 15 to 19, 1½ ft. 19 to 29, 6½ ft.	60	65	5	5							"				
			65	70	5	5							"				
		Plagioclase extremely altered from 39 to 43 ft. quarter inch vein of tourmaline at 56 ft. several narrow tourmaline veinlets 50½ to 54 ft. ground core at 47 ft. 76½ to 81½ highlyfractured with a well weathered appearance.	70	75	5	4½							"				
			75	80	5	4¼							"				
			80	85	5	3¾							0.05				
			85	90	5	3½							Nil				
			90	95	5	5							"				
			95	100	5	5							0.05				
		Fine grained greisened granite with tourmaline, fluorite and disseminated pyrite. Narrow fluorite veinlet at 88½ ft. and trace of pyrite from 95 to 96 ft. 108 to 109 well weathered appearance, blob of pyrite at 143½ ft.	100	105	5	3½							Nil				
			105	110	5	3							"				
			110	115	5	5							"				
			115	120	5	5							"				
			120	125	5	5							"				
			125	130	5	5							"				
			130	135	5	5							"				
		155 to 157 ft.) Highly fractured and weathered granite.	135	140	5	5							"				
		168½ " 176 ")	140	145	5	5							"				
		197½ " 201 ")	145	150	5	5							"				
			150	155	5	5							"				
		178½ to 181 Medium grained aplite dyke, at 194 1½ inch wide vein of smoky quartz, with a stringer of tourmaline.	155	160	5	5							"				
			160	165	5	5							"				
			165	170	5	5							"				
			170	175	5	4¾							"				
		At 223 ft. stringers of pyrite at 229 ft. 4 inch wide vein of greisened granite with blebs of pyrite, 231 to 238 greisened granite with a stringer of pyrite.	175	180	5	5							"				
			180	185	5	5							"				
			185	190	5	5							"				
			190	195	5	5							0.06				
			195	200	5	5							Nil				
			200	205	5	5							"				
249½	253	Coarse grained grey granite with slightly altered felspar and frequent patches of tourmaline, with traces of pyrite. Numerous fractures containing fluorite from 249/ to 251 ft.	205	210	5	5							Nil				
			210	215	5	5							"				
			215	220	5	5							"				
			220	225	5	5							"				
			225	230	5	5							"				
		Biotite in appreciable amounts starting at 260 ft. amount and degree of feldspar alteration considerable decreased from 300 ft.	230	235	5	5							"				
			235	240	5	5							"				
			240	245	5	5							"				
			245	250	5	5							"				
			250	255	5	5							"				

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DIAMOND DRILL CORE RECORD

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	FROM	TO	FEET	CORE REC'D	ASSAY DATA Pb %	Zn %	Cu %	Ag Oz./Ton	Au dwt.	Fe %	Sn%			DIPS FOOTAGE	DIPS ANGLE
300	302½	Contact zone between grey biotite granite and coarse grained greisen dyke, pyrite along a fracture from 300 to 301 ft.	255	260	5	5							Nil				
			260	265	5	5							"				
			265	270	5	5							"				
			270	275	5	5							"				
340	367	Numerous granite facies changes between coarse grained grey granite to fine grained grey granite. Medium grained greisened granite	275	280	5	5							Nil				
			280	285	5	5							"				
			285	290	5	5							"				
			290	295	5	5							"				
			295	300	5	5							"				
			300	305	5	5							"				
			305	310	5	4½							"				
			310	315	5	5							"				
			315	320	5	5							"				
			320	325	5	5							"				
			325	330	5	5							"				
			330	335	5	5							"				
			335	340	5	5							"				
			340	345	5	5							"				
			345	350	5	5							"				
			350	355	5	5							"				
			355	360	5	4½							"				
			360	365	5	5							"				
			365	370	5	5							"				
			370	375	5	5							"				
			375	379	4	4							"				

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DIAMOND DRILL CORE RECORD

PLOTTED	SUMMARY		SURVEY DATA			
	OBJECT	RESULT	Footage	Direction	Angle	
40 Plan 40 Sect L.P. 100 Plan 100 Sect			100' 200' 250'		-35½° -40½° -40¾°	Mine: Triel Harbour Prospect Location: Coleman's workings Coords: R.L.: Direction: 330° Magnetic Angle: -35° Total Depth: 309ft. Hole Size: BX. Date Commenced: 24/1/66. Date Completed: 4/3/66. Logged by: GMB/RSB. Typed 6/12/66.

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	FROM	TO	FEET	CORE RECD	ASSAY DATA Pb %	Zn %	Cu %	Ag Oz./Ton	Au dwts.	Fe %	SN%			DIPS FOOTAGE	DIPS ANGLE
0	43	No core. " Overburden ".															
43	64	Grey porphyritic granite (adamellite) orthoclase, plagioclase and quarts phenocrysts in a coarse grained groundmass, many plagioclase feldspar crystals are in various stages of alteration to epidote. Accessory minerals are tourmaline and biotite.															
44	47	Sludge sample comprised of subhedral quarts and feldspar grains with some grains of tourmaline. Facies change to fine grained 55 to 55½ft, 58½ to 59, and 60 to 61ft.	47 52 57 62	52 57 62 66	5 5 5 4	5 5 5 4							Nil. Nil. Nil. Nil.				
		Stringers of black tourmaline at 50ft, 55ft, and 61ft. Black patch of tourmaline at 62ft.															
64	199	Light to dark green coloured porphyritic granite. The plagioclase crystals are in a high degree of alteration to epidote, resulting in the greenish colour. Accessory minerals are tourmaline and pyrite, core has a somewhat pitted appearance.	66	69	3	1¼							0.11				
66	72	Heavy concentrations of black tourmaline together with grey feldspar. Reddish coloured blebs and stringers in grey feldspar suggestive of haematite at 66 to 69ft.	69 72	72 79	3 5	¾ 2½							0.06 Nil.				
79	81	Heavy concentrations of black tourmaline together with grey feldspar.	79	81	2	2							Nil.				
81	89	Massive red haematite occurs with blebs of green epidote. Core is somewhat pitted.	81 89 91 93 95 100 105 110 115 120 125 130 135 140	89 91 Sludge 95 100 105 110 115 120 125 130 135 140 145	8 4 sample 2 5 5 5 5 5 5 5 5 5 5	2¼ 3 2 3½ 5 5 3 2½ 5 5 5 5 5							Nil. 0.06 Nil. Nil. Nil. Nil. Nil. Nil. 0.06 Nil. Nil. Nil. Nil.				

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DIAMOND DRILL CORE RECORD

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION
125	259	Coarse grained grey granite, many plagioclase feldspar crystals are in a high degree of alteration to epidote. 127 to 129 ft.) 133 to 135 ft.) greenish highly altered granite. 139 to 143 ft.) Black veins and patches of tourmaline at 127, 128 and 133ft., facies change to fine grained at 163 to 164ft., dark grey greisened vein at 168, 170 and 198ft., trace of fluorite at 168ft, narrow band of pyrite at 170ft. Pink feldspar prominent at 188 to 190ft and 227 to 234ft, greisened vein at 245 to 246ft and at 254ft.
259	269	Highly weathered medium grained granite, core is badly broken.
269	279	No core.
279	285	Very soft light brown " puggy " material.
285	297	Highly altered coarse grained grey granite. Weathering indicated by pitted core.
297	309	Coarse grained grey porphyritic granite in which many plagioclase feldspar crystals are in various stages of alteration to epidote. Tourmaline and biotite present in small amounts. Repetition of core. 285 to 297ft due to the drill seeking a new path on the far side of the zone of caving 259 to 279ft. Core recovery. 47 to 54ft. - 8ft. 54 to 64ft. - 10ft. 64 to 66ft. - 1½ft. 66 to 69ft. - 1ft. 69 to 79ft. - 5ft. 79 to 81ft. - 1½ft. 81 to 89ft. - 2ft. 89 to 94ft. - 4ft. 94 to 99ft. - 4½ft. 99 to 106ft. - 7ft. 106 to 114ft. - 8ft. 114 to 116ft. - 2ft. 119 to 129ft. - 10ft. 129 to 134ft. - 5ft. 134 to 144ft. - 10ft. 144 to 150ft. - 6ft. 150 to 159ft. - 9ft. 159 to 164ft. - 5ft. 164 to 170ft. - 6ft. 170 to 179ft. - 8ft. 179 to 188ft. - 9ft. 188 to 198ft. - 10ft. 198 to 205ft. - 7ft. 205 to 210ft. - 5ft. 210 to 217ft. - 7ft. 217 to 223ft. - 6½ft. 227 to 237ft. - 10ft. 237 to 245ft. - 8ft. 245 to 254ft. - 4ft. 254 to 259ft. - 1ft. 259 to 260ft. - 1ft. 269 to 279ft. - Nil. 279 to 285ft. - 2ft. 285 to 294ft. - 5½ft. 294 to 304ft. - 9ft. 304 to 389ft. - 5ft.

CORE RECD	ASSAY DATA Pb %	Zn %	Cu %	Ag Oz/Ton	Au dwts.	Fe %	DIPS FOOTAGE	ANGLE

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DIAMOND DRILL CORE RECORD

PLOTTED	SUMMARY		SURVEY DATA			
40 Plan 40 Sect L.P. 100 Plan 100 Sect	OBJECT	RESULT	Footage	Direction	Angle	Mine: Trial Harbour Prospect Location: Coleman's Workings Co-ords: R.L.: Direction: 330° Magnetic Angle: -65½° Total Depth: 251ft. Hole Size: BX Date Commenced: 8/9/66. Date Completed: 20/9/66. Logged by: GVB/PRE. Typed 5/12/66.
			100'		-64½°	
			200'		-64½°	

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	FROM	TO	FEET	CORE RECD	ASSAY DATA Pb %	Zn %	Cu %	Ag Oz/Ton	Au dwts.	Fe %				TYPE FOOTAGE	TYPE ANGLE
0	180	Grey porphyritic granite, (adamellite), orthoclase plagioclase and quartz phenocrysts in a coarse grained groundmass. Many plagioclase feldspar crystals are in various stages of alteration to epidote and sauricite accessory minerals are tourmaline and biotite. Extremely weathered and broken core from 5 to 31ft., facies change to fine grained from 61 to 63ft., one inch vein of quartz and tourmaline at 76ft., facies change to fine grained from 156 to 157ft.															
180	232	Light to dark green coloured porphyritic granite. The plagioclase crystals are in a high degree of alteration to epidote resulting in the greenish colour.															
232	251	Coarse grained grey granite, many plagioclase feldspar crystals are in varying degrees of alteration to epidote. Accessory minerals are tourmaline and biotite.															
		Core Recovery.															
		5 to 20ft - 4ft. of core															
		20 to 31ft - 4ft. of core															
		31 to 41ft - 8½ft. of core															
		41 to 51ft - 10ft. of core															
		51 to 61ft - 7ft. of core															
		61 to 71ft - 10ft. of core															
		71 to 81ft - 10ft. of core															
		81 to 91ft - 7ft. of core															
		91 to 97ft - 6ft. of core															
		97 to 106ft - 9ft. of core															
		106 to 116ft - 10ft. of core															
		116 to 126ft - 10ft. of core															
		126 to 136ft - 10ft. of core															
		136 to 146ft - 10ft. of core															
		146 to 156ft - 10ft. of core															
		156 to 166ft - 10ft. of core															
		166 to 171ft - 5ft. of core															
		171 to 181ft - 10ft. of core															
		181 to 191ft. - 2ft. of core															
		191 to 201ft. - 7ft. of core															
		201 to 211ft - 6½ft. of core															
		211 to 221ft - 2ft. of core															
		221 to 231ft - 5ft. of core															
		231 to 233ft - 1ft. of core															
		233 to 241ft - 7ft. of core															
		241 to 251ft - 10ft. of core															

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DIAMOND DRILL CORE RECORD

PLOTTED	SUMMARY		SURVEY DATA			
	OBJECT	RESULT	Footage	Direction	Angle	
40 Plan 40 Sect L.P. 100 Plan 100 Sect	To test for mineralisation, principally tin below the Black Face or Central Workings of the South Heemskirk Tin Field.	No economic mineralisation was intersected	100 200 300		-45½° -45½° -46½°	Mine: Trial Harbour Prospect. Location: Co-ords: R.L.: Direction: 212° Magnetic Angle: -30° Total Depth: 415ft. Hole Size: BX Date Commenced: 13/7/66. Date Completed: 6/9/66. Logged by: GLB/EJB. Typed 9/12/66.

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	FROM	TO	FEET	CORE RECD	ASSAY DATA Pb %	Zn %	Cu %	Ag Oz/Ton	Au dwts.	Fe %	SN%	WO3%	DIPS FOOTAGE	DIPS ANGLE
0	185	Medium grained white granite containing an abundance of quarts, has biotite and augite as accessory minerals. Yellowish badly weathered granite from 2 to 43ft. Fine grained dark grey remobilised granite containing tourmaline from 76½ to 77ft, three inches at 94ft, four inches at 153ft. Fine grained dark grey remobilised granite with tourmaline and disseminated pyrite, two inches at 144ft and from 173 to 177ft. Yellowish weathered granite from 124 to 126ft.		397	Sludge sample.								Nil			
185	199	Fine grained dark grey granite containing tourmaline and disseminated pyrite.	185 188 191	188 191 194	3 3 3	3 3 3							Nil Nil Nil	Nil. Nil. Nil.		
199	223	Medium grained white granite.	194 197	197 199	3 2	3 2							Nil 0.06	Nil. Nil.		
223	281	Fine grained dark grey remobilised granite containing quarts, tourmaline and disseminated pyrite with intermittent short lengths of medium grained white granite.	223 226 229 232 235 238	226 229 232 235 238 241	3 3 3 3 3 3	3 2¾ 3 3 3 2¾							Nil 0.06 Nil Nil 0.06 Nil	Nil. Nil. Nil. Nil. Nil. Nil.		
281	350	Medium grained white granite with intermittent patches of fine grained dark grey remobilised granite containing quarts, tourmaline and traces of pyrite.	241 244 247 250 253 256	244 247 250 253 256 259	3 3 3 3 3 3	3 2¾ 3 2¾ 2¾ 2¾							Nil Nil Nil Nil 0.06 Nil	Nil Nil. Nil. Nil. Nil. Nil.		
350	364	Medium grained white granite	259	262	3	2½							Nil	Nil.		
364	371	Dark grey quarts containing a significant amount of black tourmaline	262 265 268	265 268 271	3 3 3	2¾ 2¾ 2¾							Nil Nil 0.06	Nil. Nil. Nil.		
371	380	Grey quarts containing several small veins and patches of black tourmaline.	271 274 277	274 277 281	3 3 4	3 3 2¾							0.11 0.17 Nil	Nil. Nil. Nil.		
380	392	Black massive ferruginour quarts and tourmaline.	378	392	Sludge sample								Nil	Nil.		
392	400	Grey quarts containing a significant amount of black tourmaline	364 367 380	367 371 392	3 4 12	2¾ 3¾ 2¾							0.11 Nil Nil	Nil. Nil. Nil.		
400	415	Medium grained white granite with intermittent patches of fine grained dark grey remobilised granite, containing quarts, tourmaline and several pyrite bands	392 395	395 400	3 5	2¾ 2							Nil Nil	Nil. Nil.		

0599099

DIAMOND DRILL CORE RECORD

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	FROM	TO	FEET	CORE RECD	ASSAY DATA Pb %	Zn %	Cu %	Ag Oz./Ton	Au dwts.	Fe %				DIPS FOOTAGE	DIPS ANGLE
		Core recovery.															
		215 to 225ft. = 10ft. of core															
		225 to 232ft. = 5ft. of core															
		232 to 240ft. = 8ft. of core															
		240 to 255ft. = 15ft. of core															
		255 to 270ft. = 13ft. of core															
		270 to 280ft. = 10ft. of core															
		280 to 290ft. = 10ft. of core															
		290 to 300ft. = 10ft. of core															
		300 to 310ft. = 10ft. of core															
		310 to 320ft. = 5ft. of core															
		320 to 330ft. = 10ft. of core															
		330 to 340ft. = 9ft. of core															
		340 to 350ft. = 7ft. of core															
		350 to 359ft. = 9ft. of core															
		359 to 365ft. = 4ft. of core															
		365 to 368ft. = 3ft. of core															
		368 to 375ft. = 4ft. of core															
		375 to 380ft. = 3ft. of core															
		380 to 390ft. = 1½ft. of core															
		390 to 393ft. = 2½ft. of core															
		393 to 400ft. = 3ft. of core															
		400 to 406ft. = 3ft. of core															
		406 to 415ft. = 9ft. of core															

059100

[R]ENISON LIMITED - DRILL CORE R[E]ORD

100

HOLE NUMBER	THP 115 (E.Z.)
PURPOSE	
LOCATION	COLEMAN'S WORKINGS, FEDERATION AREA E.L11/76
COLLAR R.L.	409.8
CO-ORDINATES (OF ANCHOR PIN)	S 359 147.5 N 349 783.7 E
LENGTH	115.5m
HOLE SIZE	BX
DATE DRILLED	29.11.65 - 7.1.66
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	P. ROBERTS/G.M. BAINBRIDGE
COMMENTS	Briefly examined by P.R. 20/3/80

SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
Collar	150°(mag.)	– 30°	0.0 –115.5	115.5	57.75	352.1	100.0	100.0

SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				

NWPS 27244

101

DIAMOND DRILL RECORD

HOLE NUMBER : THP 115

LOGGED BY : P.R.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	1.5	-	0	0.0 - 1.5 'Overburden'													
1.5	115.5	109.5	96	1.5 - 115.5 Coarse grained granite, generally unaltered throughout. Rare greisen and tourmaline veinlets. Includes:													
				25.3 - 27.4 greisenized granite.													
				103.6-111.9 numerous small dykes or 'intrusions' of fine grained granite.													
				END OF HOLE 115.5m.													

059102

RENISON LIMITED - DRILL CORE RECORD

HOLE NUMBER	THP 117 (E.Z.)
PURPOSE	
LOCATION	COLEMAN'S WORKINGS. FEDERATION AREA E.L. 11/76
COLLAR R.L.	410.1
CO-ORDINATES (OF ANCHOR PIN)	S 359 000.5 N 349 773.4 E
LENGTH	94.2m
HOLE SIZE	BX
DATE DRILLED	24.1.66 - 4.3.66
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	P. ROBERTS/G.M. BAIN BRIDGE
COMMENTS	Briefly examined by P.R. 20/3/80

SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
(m)								
Collar	330° (mag.)	- 30°	0.0 - 15.3	15.3	7.65	402.5	13.25	13.25
30.5	-	- 35.5°	15.2-45.8	30.5	17.71	384.7	24.83	38.08
61.0	-	- 40.8°	45.8-68.6	22.8	14.90	369.8	17.26	55.34
76.2	-	- 40.8°	68.6-94.2	25.6	16.73	353.1	19.38	74.72

SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				
	18.9	38.1	19.2	0.03	<0.01	0.08	<0.1	<0.1	<0.01	0.08	0.001	0.02	<1				
	Including:																
	18.9	20.4	1.5	0.11													
	36.0	38.1	2.1	0.13													
	85.0	94.6	4.6	<0.01	<0.01	0.03	<0.1	0.1	<0.01	0.17	0.002	0.03	<1				

NWPS 27244

0203

103

DIAMOND DRILL RECORD

HOLE NUMBER : THP 117

LOGGED BY :

MWPS

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	13.1	-	0	0.0 - 13.1 No core.													
13.1	14.3	?	?	13.1 - 14.3 Sludge sample - quartz, feldspar, minor tourmaline sand, after weathered granite.	'red'												
14.3	18.9	4.5	100	14.3 - 18.7 Coarse grained granite, weakly argillized. Includes fine grained granite dykes at 16.8 - 16.9m, 17.8 - 18.0m, and 18.3 - 18.6m.	'red'												
18.9	20.1	1.2	100	18.7 - 19.5 Tourmalinized coarse grained granite.	'red'	18.9	20.4	0.11	0.01	0.03	<0.1	<0.1	<0.01	0.02	0.001	<1	0.01
				19.5 - 20.1 'Green alteration'. Sericitized (?) granite, grey-green	'red'												
20.1	21.9	1.1	59	20.1 - 21.9 Black tourmaline/quartz rock.		20.4	21.9	0.02	<0.01	0.03	<0.1	<0.1	<0.01	<0.01	0.001	<1	<0.01
21.9	24.1	0.7	32	21.9 - 24.1 'Green alteration' Sericite(?)/chlorite(?)/hematite/mica rock. No quartz.		21.9	23.5	0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.02	0.001	<1	0.01
24.1	24.7	0.6	100	24.1 - 24.7 Black tourmaline/quartz rock.		23.5	25.0	0.06	<0.01	0.03	<0.1	<0.1	<0.01	0.01	0.001	<1	0.01
						25.0	26.5	0.01	0.01	0.03	<0.1	<0.1	<0.01	0.04	0.002	<1	0.04
24.7	27.1	0.7	29	24.7 - 27.1 Massive hematite minor chlorite/sericite(?).		26.5	28.0	<0.01	0.01	0.04	<0.1	<0.1	<0.01	0.05	0.001	1	0.02
						28.0	29.6	0.01	0.01	0.03	<0.1	0.1	<0.01	0.04	0.001	<1	0.02
27.1	35.1	6.6	83	27.1 - 34.7 'Green alteration.'	'red'	29.6	31.4	<0.01	<0.01	0.04	<0.1	<0.1	<0.01	0.04	0.002	1	0.02
						31.4	32.9	0.02	<0.01	0.02	<0.1	<0.1	<0.01	0.05	0.002	<1	0.03
35.1	38.1	2.4	80	34.7 - 38.1 'Green alteration' as at 19.5 - 20.1m. Minor quartz, trace chalcopyrite.	'red'	32.9	34.4	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.07	0.002	<1	0.02
						34.4	36.0	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.03	0.001	<1	0.01
						36.0	38.1	0.13	<0.01	0.02	<0.1	<0.1	<0.01	0.04	0.001	<1	0.02
38.1	77.4	36.4	93	38.1 - 77.4 Moderately argillized coarse grained granite, minor chlorite. Few dykes or very small 'intrusions' of fine grained granite.	'red'												
77.4	82.0	0.6	13	77.4 - 82.0 Strongly argillized (altered) medium grained granite, quartz present. Includes fractured fine to medium grained granite 4m. core loss.													
82.0	85.0	-	0	82.0 - 85.0 CORE LOSS. FAULT?													
85.0	86.9	0.6	32	85.0 - 86.0 Puggy cream clay.		85.0	86.9	<0.01	<0.01	0.04	<0.1	0.1	<0.01	0.04	0.003	<1	0.02
						86.9	89.6	<0.01	<0.01	0.03	<0.1	0.1	<0.01	0.26	0.002	<1	0.03
86.9	89.6	1.1	40	86.9 - 89.6 Extremely altered coarse grained granite, consisting of sericite(?) clay, ferruginous clay (?), chlorite. No quartz.	'red'												

059104

DIAMOND DRILL RECORD

HOLE NUMBER : THP 117

LOGGED BY :

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
89.6	94.2	4.2	93	89.6 - 94.2 Argillized coarse grained granite, minor chlorite after biotite and plagioclase (?)	'red'												
				END OF HOLE 94.2m.													

104

059105

DENISON LIMITED - DRILL CORE RECORD

105

HOLE NUMBER	THP 119 (E.Z.)
PURPOSE	
LOCATION	COLEMAN'S WORKINGS, FEDERATION AREA E.L. 11/76
COLLAR R.L.	410.1
CO-ORDINATES (OF ANCHOR PIN)	S 359 000.5 N 349,373.4 E
LENGTH	76.5m
HOLE SIZE	BX
DATE DRILLED	8.3.66 - 20.3.66
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	P. ROBERTS/G.M. BAINBRIDGE
COMMENTS	Briefly examined by P.R. 20.3.80

SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
(m)								
Collar	330° (mag.)	- 65.5°	0.0 - 15.3	15.3	13.92	396.2	6.34	6.34
30.5	-	- 64.7°	15.3-45.8	30.5	27.60	368.6	12.99	19.33
61.0	-	- 64.3°	45.8-76.5	30.7	27.66	340.9	13.31	32.64

SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				
	54.9	70.7	15.8	<0.01	<0.01	0.03	<0.1	0.1	<0.01	0.03	0.001	0.01	<1				

NWPS 27344

DIAMOND DRILL RECORD

HOLE NUMBER : THP 119

LOGGED BY :

NWPS

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	1.5	-	0	0.0 - 1.5 'Overburden'													
1.5	55.2	45.9	85	1.5 - 54.9 Coarse grained granite, weakly argillized. Includes dykes or small 'intrusions' of fine grained granite at 18.6 - 19.2m and 47.5 - 47.8m.	'red'												
55.2	70.4	6.9	45	54.9 - 70.7 'Green alteration'		54.9	58.2	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.02	0.002	<1	0.01
						58.2	59.7	<0.01	<0.01	0.03	<0.1	<0.1	<0.01	0.02	0.002	<1	0.01
70.4	76.5	5.5	90	70.7 - 76.5 Coarse grained granite, weakly argillised	'red'	59.7	61.3	<0.01	<0.01	0.03	<0.1	0.1	<0.01	0.02	0.001	<1	0.01
						61.3	62.8	<0.01	<0.01	0.03	<0.1	0.1	<0.01	0.03	0.001	<1	0.01
				END OF HOLE AT 76.5m.		62.8	64.3	<0.01	<0.01	0.02	<0.1	<0.1	<0.01	0.02	0.001	<1	0.01
						64.3	67.7	<0.01	0.01	0.03	<0.1	0.3	<0.01	0.02	0.001	<1	0.01
						67.7	70.7	<0.01	<0.01	0.03	<0.1	0.2	<0.01	0.03	0.001	<1	0.01

106

059107

RENISON LIMITED - DRILL CORE RECORD

HOLE NUMBER	T.H.P.123
PURPOSE	To test for mineralization beneath the Black Face Workings
LOCATION	
COLLAR R.L.	approx. 474.0
CO-ORDINATES	
LENGTH	126.5m
HOLE SIZE	BX
DATE DRILLED	13.7.66 to 6.9.66
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	P.ROBERTS/G.M. BAINBRIDGE
COMMENTS	Briefly examined by P.R. on 20.3.80

SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
(m)						(approx.)		
Collar	212° (mag.)	-30°	0.0 – 15.3	15.3	7.65	466.4	13.25	13.25
30.5	-	-45.3°	15.3-45.8	30.5	21.68	444.7	21.45	34.70
61.0	-	-45.3°	45.8-76.2	30.4	21.61	423.1	21.38	56.08
91.4	-	46.3°	76.2-126.5	50.3	36.36	386.7	34.75	90.83

SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t				
	73.5	86.0	12.5	0.06	<0.01	0.04	<0.1	1.0	<0.01	0.03	0.002	0.01	<1				
	including:																
	82.3	84.4	2.1	0.18	<0.01												
Black Face lode	110.9	121.9	11.0	0.01	<0.01	0.02	<0.1	<0.1	0.07	0.03	0.002	0.01	<1				

NMPS 27344

05.01.08

DIAMOND DRILL RECORD

HOLE NUMBER : THP 123

LOGGED BY : P.R.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION
0.0	56.4	?	?	0 -13.1 WEATHERED GRANITE, yellow, medium grained.
				13.1 - 56.4 GRANITE white, medium grained, with few vein-like green-grey siliceous greisen zones (slightly pyritic) cutting core at 60° to c.a. Rare quartz/tourmaline veinlets.
56.4	60.7	4.3	100	56.4 - 60.7 ALTERED GRANITE, siliceous, minor black tourmaline trace pyrite.
60.7	68.0	?	?	60.7 - 68.0 GRANITE similar to 13.1 - 56.4, vein-like alteration at 40 - 60° to c.a.
68.0	85.6	15.7	89	68.0 - 86.0 PARTLY ALTERED GRANITE consisting of medium grained, weakly argillized granite interspersed with zones of grey-green siliceous alterations containing minor disseminated pyrite.
85.6	111.3	22.3	87	86.0 - 110.9 GRANITE, weakly argillized, similar to 13.1 - 56.4m, vein-like alteration at 30° and 40° to c.a., one set being rotated ~180° around from the other.
111.3	121.9	5.2	49	110.9 - 121.9 QUARTZ/TOURMALINE ROCK, limonite stained..
121.9	126.5	3.7	80	121.9 - 126.5 GRANITE, same as 86.0 - 110.9m.
				END OF HOLE 126.5 metres

FORM. FROM	TO	% Sn. TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
73.5	74.4	0.02	0.01	0.06	<0.1	3.4	<0.01	0.01	0.004	1	0.02
74.4	74.2	0.03	<0.01	0.04	<0.1	0.5	<0.01	0.02	0.001	<1	0.01
74.2	77.7	0.03	<0.01	0.02	<0.1	0.2	<0.01	0.05	0.001	<1	0.01
77.7	78.9	0.03	0.01	0.03	<0.1	0.4	<0.01	0.06	0.001	<1	0.01
78.9	80.2	0.04	<0.01	0.03	<0.1	1.1	<0.01	0.03	0.003	<1	0.01
80.2	82.3	0.01	<0.01	0.03	<0.1	0.5	<0.01	0.04	0.001	<1	<0.01
82.3	83.5	0.15	<0.01	0.03	<0.1	1.6	<0.01	0.03	0.002	<1	0.01
83.5	84.4	0.22	<0.01	0.04	<0.1	1.4	<0.01	0.01	0.003	1	0.01
84.4	86.0	0.09	<0.01	0.04	0.1	1.4	<0.01	0.01	0.003	1	0.01
110.9	112.2	0.02	0.01	0.02	<0.1	<0.1	0.01	0.01	0.001	1	0.01
112.2	113.1	0.03	<0.01	0.02	<0.1	<0.1	0.06	0.10	0.001	1	0.02
113.1	114.3	<0.01	<0.01	0.02	<0.1	<0.1	0.04	0.01	0.001	<1	<0.01
114.3	115.8	<0.01	<0.01	0.01	<0.1	<0.1	0.01	0.01	0.002	<1	<0.01
115.8	121.9	0.01	<0.01	0.03	<0.1	<0.1	0.11	0.04	0.003	<1	0.02

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050109

2922

2922

RENISON LTD.
E.L. 17/77

RENISON LTD.
E.L. 18/73

ABERFOYLE
E.L. 2/63

Area to be transferred to E.L. 2/63

RENISON LTD
E.L. 42/71

RENISON LTD
E.L. 42/71

FEDERATION AREA
E.L. 11/76

MT. LYELL MG & RLY Co Ltd.
S.P.L. 129

Corinna

Granville Harbour

St. Dizier Leases

Mt. Heemskirk

Mt. Agnew

Mt. Zeehan

Mt. Dundas

Trial Harbour

Remine

Zeehan

Rosebery

Tullah

Renison Bell

Renison Mine & Concentrator

Pieman River

Murchison River

Henty River

Arthur River

Corinna Road

Murchison Highway

Pieman Road

Granville Harbour Road

Trial Harbour Road

Zeehan Highway

Rosebery Highway

Tullah Road

Mt. Lindsay

Mt. Read Volcanics

Mt. Owen Volcanics

Mt. Jukes Volcanics

Zeehan Syncline

Meredith Granite

Pieman Granite

Heemskirk Granite

Pieman Gneiss

Sedimentary units

Cambrian Basic & Ultrabasic intrusives

Precambrian Undifferentiated

Precambrian Gneiss Undifferentiated

Zeehan Dolomite & Limestone

Precambrian Gneiss Undifferentiated

RENISON LIMITED

059110

LOCALITY MAP

2922

GEOLOGIST :

DRAUGHTSMAN : K. A. Colton

DATE :

REVISIONS

SCALE 1:50 000 METRES

5 cm

DRAWING No.

FIG 1

TASMANIA

BURNIE

LAUNCESTON

TULLAH

ROSEBERY

ZEEHAN

HOBART

80-466 Vol 1

PLAN 1

2923

348000mE

352000mE

5361500mN

5361500mN

LAKE CUMBERLAND

5357000mN

5357000mN

348000mE

352000mE

5 cm

COMPILATION NOTE

This sheet is a composite of photo grammetric contours superimposed on a half tone reproduction of compiled orthophotos from aerial photography dated 12.12.77

Orthophoto base mapping and photogrammetric contours by Australian Aerial Mapping Pty Ltd

Aerial photography	Wild RC8
Aerial triangulation	Wild A8
Contouring	Wild B8
Orthophotos	Zeiss Topocart

REFERENCE

- Contours
- Depressions
- 505 Spot Heights
- RL 503.98 Control
- N.B. Broken lines indicate lower reliability
- Contour interval 10 metres
- Spot heights to 0.5 metres
- Reduced levels to Australian Height Datum
- Co-ordinates Australian Map Grid
- Grid interval 500 metres

SHEET LOCATION

348000mE

MT AGNEW

5357000mN

TRIAL HARBOUR

Stanley

RENISON LIMITED

HEEMSKIRK AREA 2923

FEDERATION AND SWEENEY GRIDS

GEOLOGIST	K Wells
DRAUGHTSMAN	T.G.D.S
DATE	June 1979
REVISIONS	June 1980

SCALE 1:5000 METRES

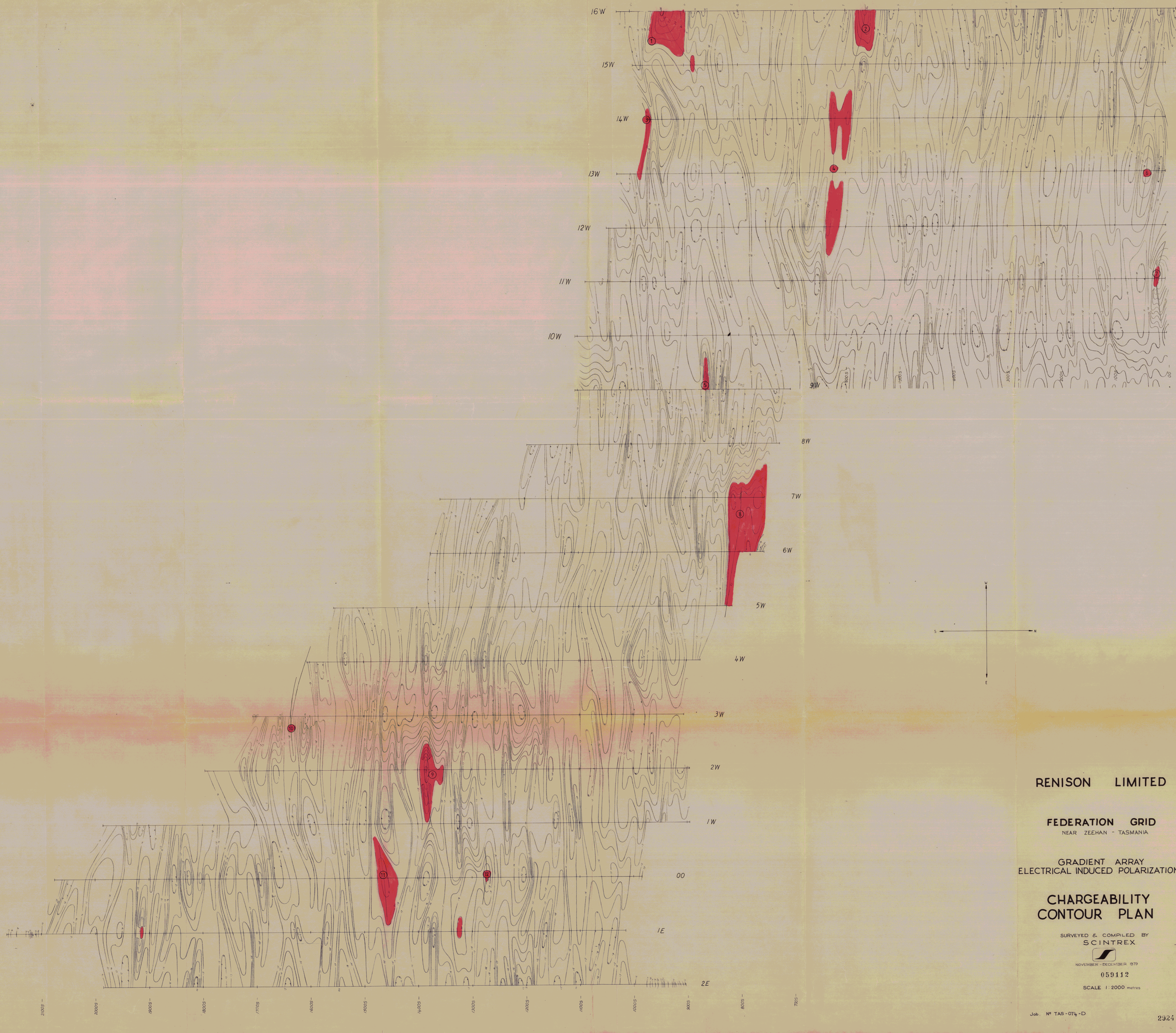
100 0 100 200

059111

DRAWING NO. PLAN 2.

80-1466 Vol. 1.

2924



RENISON LIMITED

FEDERATION GRID

NEAR ZEEHAN - TASMANIA

GRADIENT ARRAY
ELECTRICAL INDUCED POLARIZATION

CHARGEABILITY CONTOUR PLAN

SURVEYED & COMPILED BY
SCINTREX
NOVEMBER - DECEMBER 1979

059112

SCALE 1:2000 metres

Job. N° TAS-074-D

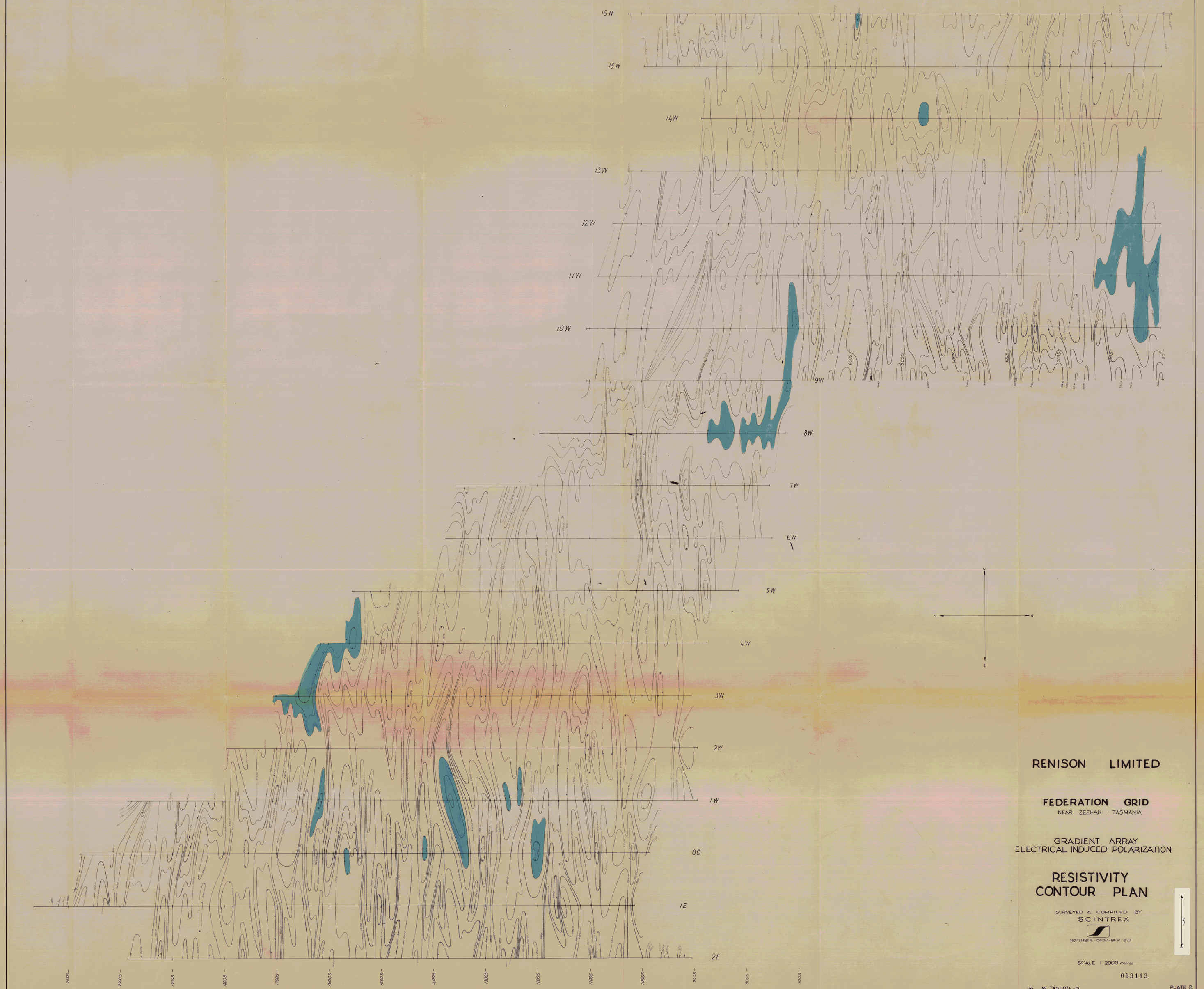
PLATE 1.

2924

80-1486 Vol 1. PLAN 3

2925

2925



RENISON LIMITED

FEDERATION GRID

NEAR ZEEHAN - TASMANIA

GRADIENT ARRAY
ELECTRICAL INDUCED POLARIZATION

RESISTIVITY CONTOUR PLAN

SURVEYED & COMPILED BY
SCINTREX
NOVEMBER - DECEMBER 1979

1 cm

SCALE 1:2000 metres

059113

Job Nº TAS-074-D

PLATE 2

2925

80-1266 Vol 1.

PLAN 4

2926

2926

348000mE
5360000mN

350000mE
5360000mN

5358500mN
348000mE

5358500mN
350000mE

TRIAL HARBOUR ROAD

CRANBOURNE

900 W

850 W

550 W

500 W

450 W

COMPILATION NOTE

This sheet is a composite of photo grammetric contours superimposed on a half tone reproduction of compiled orthophotos from aerial photography dated 12 12 77

Orthophoto base mapping and photogrammetric contours by Aust Aerial Mapping

Aerial photography	Wild RC8
Aerial triangulation	Wild A8
Contouring	Wild B8
Orthophotos	Zeiss Topocart

REFERENCE

- Contours
- Depressions
- Spot Heights
- Control
  N B Broken lines indicate lower reliability
- Contour interval 5 metres
- Spot heights to 0 5 metres
- REDUCED LEVELS TO AUST HEIGHT DATUM
- CO ORDINATES AUST MAP GRID
- Grid interval 200 metres

SHEET AND INDEX LOCATION

348000mE
5360000mN
5358500mN
TRIAL HARBOUR
Penne
MT ALAREW
SHEET 1
SHEET 2
SHEET 3
SHEET 4
SHEET 5
SHEET 6

059114

RENISON LIMITED

FEDERATION GRID

MAGNETICS (TOTAL FIELD)

2926

GEOLOGIST	P ROBERTS
DRAUGHTSMAN	P COLTON
DATE	JUNE 1980
REVISIONS	

SCALE 1 2000 METRES
40 0 40 80
5 cm

DRAWING NO.
PLAN 5a

80-1466 Vol 1

2927

348000mE
5358500mN

350000mE
5358500mN

TRAIL HARBOUR ROAD

5357000mN
348000mE

5357000mN
350000mE

COMPILATION NOTE

This sheet is a composite of photo grammetric contours superimposed on a half tone reproduction of compiled orthophotos from aerial photography dated 12 12 77

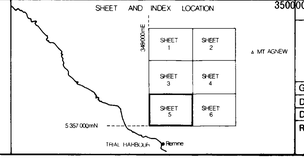
Orthophoto base mapping and photogrammetric contours by Aust Aerial Mapping

Aerial photography	Wild RC8
Aerial triangulation	Wild A8
Contouring	Wild B8
Orthophotos	Zeiss Topocart

REFERENCE

- Contours
- Depressions
- Spot Heights
- Control
- N B Broken lines indicate lower reliability
- Contour interval 5 metres
- Spot heights to 0 5 metres
- REDUCED LEVELS TO AUST HEIGHT DATUM
- CO ORDINATES AUST MAP GRID
- Grid interval 200 metres

SHEET AND INDEX LOCATION



RENISON LIMITED

059115

FEDERATION GRID

MAGNETICS (TOTAL FIELD)

2927

GEOLOGIST	P ROBERTS
DRAUGHTSMAN	F COLTON
DATE	JUNE 1978
REVISIONS	

SCALE 1:2000 METRES

40 0 40 80

5 cm

DRAWING NO

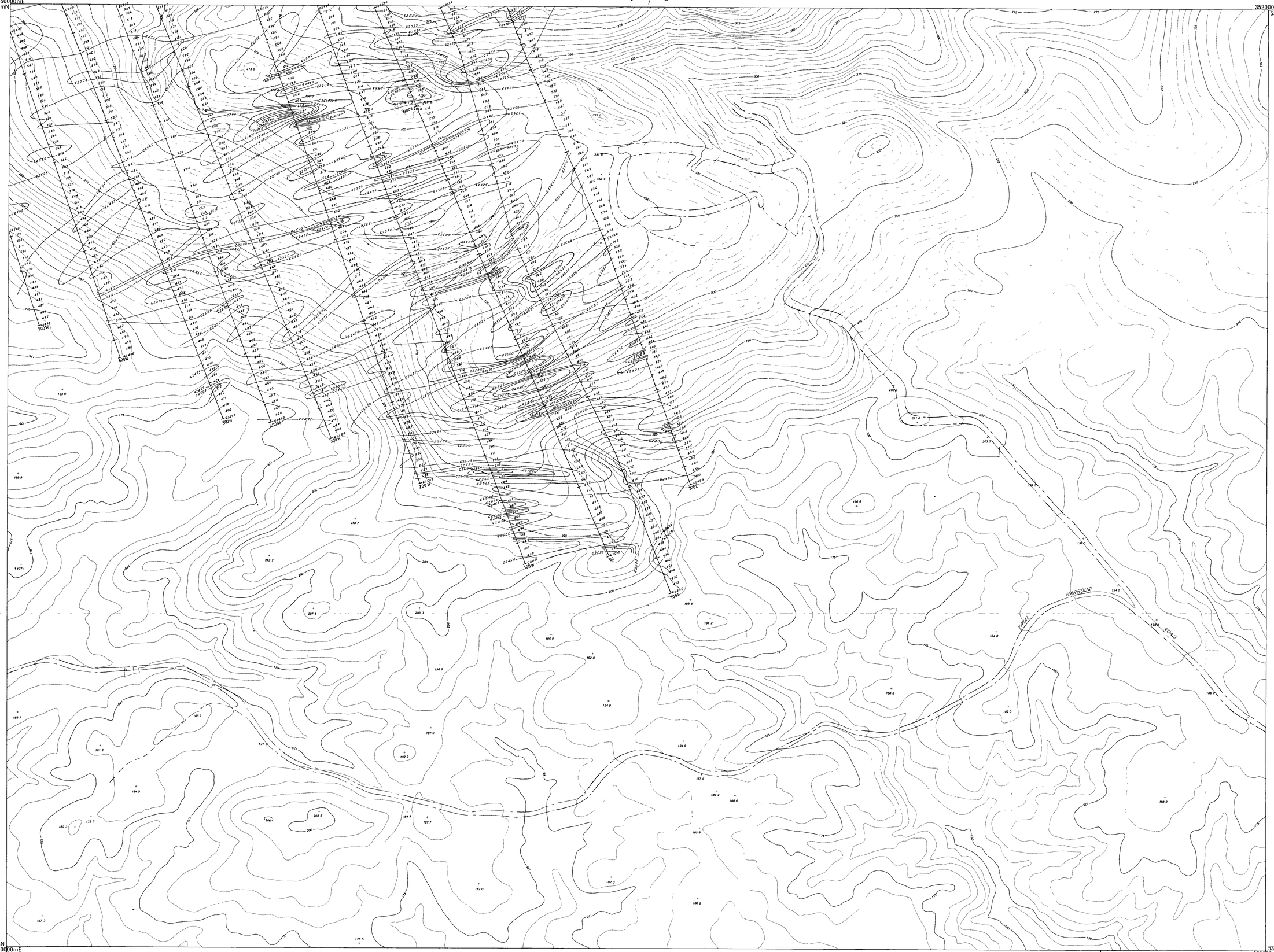
PLAN 56

80-1446 VOL 1

2928

350000mE
5358500mN

352000mE
5358500mN



5357000mN
350000mE

5357000mN
352000mE

659116

COMPILATION NOTE

This sheet is a composite of photo grammetric contours superimposed on a half tone reproduction of compiled orthophotos from aerial photography dated 12 12 77

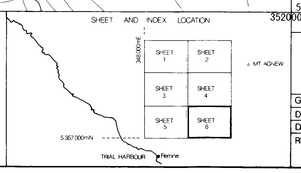
Orthophoto base mapping and photogrammetric contours by Aust Aerial Mapping

Aerial photography	Wild RC8
Aerial triangulation	Wild A8
Contouring	Wild B8
Orthophotos	Zeiss Topocart

REFERENCE

- 200 — Contours
- Depressions
- 60 5 — Spot Heights
- 503 98 — Control
  N B Broken lines indicate lower reliability
  Contour interval 5 metres
  Spot heights to 0 5 metres
  REDUCED LEVELS TO AUST HEIGHT DATUM
  CO-ORDINATES AUST MAP GRID
  Grid interval 200 metres

SHEET AND INDEX LOCATION



RENISON LIMITED

FEDERATION GRID

MAGNETICS (TOTAL FIELD) 2928

GEOLOGIST	P ROBERTS
DRAUGHTSMAN	P COLLINS
DATE	JUNE 1980
REVISIONS	

SCALE 1 2000 METRES
40 0 40 80

5 cm

DRAWING NO
PLAN 5c

80-1466 vol 1

2929

348000mE

352000mN

5361500mN

5357000mN

LAKE CUMBERLAND

EASTERN WORKINGS

CENTRAL FEDERATION

WEST FEDERATION

HAMMAN & WESTONS

LONG ADIT

PHAR LAP

COLEMAN'S

MONTAGUE

WAKEFIELD

SWEENEY'S

Numerous small mic granite nfrus ons

LEGEND

ALTERATION

- Argillic Alteration
- Quartz and Topaz and/or Tourmaline
- Total tourmalin sation occurs onally with hematite
- Hydrothermal Breccias
- Eclipse

(White alteration Dykes (Granite Veins)

- Quartz mica greisen
- Area of Tourmaline nodules

ROCK TYPES

- Fine grained
- Medium grained

White younger granite

- Medium grained usually porphyritic
- Coarse grained

Red older granite

- Major Lineament
- Joint with dip
- Joint vertical
- Foliation
- Definite
- Approximate

Geological Boundaries

- Inferred
- Old mine or prospect
- Chargeability axis/anomaly and symbol (1977 survey)
- Chargeability axis/anomaly and number (1979 survey)
- FED 2 Diamond drill hole

N

5 cm

059117

COMPILATION NOTE

This sheet is a composite of photogrammetric contours superimposed on a half tone reproduction of compiled orthophotos from aerial photography dated 12 12 77

Orthophoto base mapping and photogrammetric contours by Australian Aerial Mapping Pty Ltd

Aerial photography	Wild RC8
Aerial triangulation	Wild A8
Contouring	Wild B8
Orthophotos	Zeiss Topocart

REFERENCE

- Contours
- Depressions
- Spot Heights
- Control

N B Broken lines indicate lower reliability
Contour interval 10 metres
Spot heights to 0 5 metres
Reduced levels to Australian Height Datum
Co ordinates Australian Map Grid
Grid interval 500 metres

SHEET LOCATION

348000mE

5357000m N

TRIAL HARBOUR

Rennie

& MT AGNEW

RENISON LIMITED

HEEMSKIRK AREA 2929

GEOLOGICAL INTERPRETATION

GEOPHYSICAL AXES + DIAMOND DRILL HOLES

GEOLOGIST	K Wells
DRAUGHTSMAN	F Colson
DATE	June 1979
REVISIONS	F Colson May 1980; F Colson Aug 1980

SCALE 1 5000 METRES

100 0 100 200

DRAWING NO PLAN 6

80-1486 Vol 1

2930

Hayle Creek

Duck Creek

PIEMAN RIVER

GRANVILLE HARBOUR

Rocky Creek

Donnellys Lookout

Heemskirk River

Tasman River

Forsyth Creek

no br dge

Iron Blow

Dempsey Creek

Grant Creek

Mt Heemskirk

South Cape Creek

Federal on

Cumberland Lake

Sweeneys

Bird Creek

Mt Agnew

TRIAL HARBOUR

Remine

INDIAN OCEAN

REFERENCE

PROTEROZOIC

Buo — Donah Quartzite and Slate

DEVONIAN GRANITE

Dgw (Younger Granite)
- Dgw f — Fine grained or aplitic granite
- Dgw mf — Medium to fine grained granite
- Dgw c — Coarse grained granite
- Dgw p — Porphyritic granite

Dg (Older Granite)
- Dg mf — Medium to fine grained granite
- Dg — Coarse grained granite
- Dg p — Porphyritic granite

Quartz / tourmaline nodules

—— Geological boundary position accurate

-- Geological boundary position approximate

F —— F Fault position accurate

F -- F Fault position approximate

80 Vein or banding with dip

Vein or banding vertically dipping

Geological traverse

Fld 80/51 Rock chip sample locality

Old workings

Z 0261 Photo centre. Aerial photography by Australian Aerial Mapping December 1977

059118

SANDY CAPE 7815	ARTHUR RIVER 7915	HELLYER 8015
CONICAL ROCKS 7814	PIEMAN 7914	SOPHIA 8014

41°00 — 41°30 — 42°00 — 144°30 — 145°00 — 145°30 — 146°00

RENISON LIMITED

HEEMSKIRK AREA

FACTUAL GEOLOGY 2930

GEOLOGIST	P ROBERTS
DRAUGHTSMAN	K COLSON
DATE	July 1980
REVISIONS	

SCALE 1 25000 METRES

500 0 500 1000

5 cm

DRAWING No PLAN 7

80-1666 Vol 2

2931

Hazle Creek

Duck Creek

PIEMAN RIVER

GRANVILLE HARBOUR

INDIAN OCEAN

Mt Heemskirk

Agnew

Cumberland Lake

TRIAL HARBOUR

Remne

TEMPUS NEGLIGENTIA FAULT

REFERENCE

QUATERNARY	Qra	Alluvium
	Qrg	Gravels
	Qrs	Older alluvium marsh deposits etc
TERTIARY	Tg	Gravels
	Ts	Sand silt and clay
CAMBRIAN	Cc	Crimson Creek Formation
PROTEROZOIC	Puo	Oonah Quartzite and Slate

IGNEOUS ROCKS

Tb	TERTIARY Basalt
Jd	JURASSIC Dolerite
DEVONIAN MIXED GRANITE Dgm f	Fine grained or aplitic granite
Dgm mf	Medium to fine grained granite
Dgm c	Coarse grained granite
Dgm p	Porphyritic granite
RED GRANITE Dgr mf	Medium to fine grained granite
Dgr c	Coarse grained granite
Dgr p	Porphyritic granite
CAMBRIAN Eg	Mc Ivor Hill Gabbro
Es	Serpentinite

Geological boundary position defined

Geological boundary position inferred

Fault position defined

Fault position inferred

Lineament - possible fault

Old Workings

Photo centre Aerial photography by A A M Dec 1977

SOURCE DIAGRAM

1 Granite outline Inclusions and seams not shown 2 by E Stevenson Hunting Mineral Exploration Pty Ltd minor additions by P Roberts
2 K Wells minor additions by P Roberts
3 R East
4 R H Lees
5 K Wills

41°00	SANDY CAPE 7815	ARTHUR RIVER 7915	HELLYER 8015
41°30	CONICAL ROCKS 7814	PIEMAN 7914	SOPHIA 8014
42°00			
	144°30	145°00	145°30

059119

RENISON LIMITED

HEEMSKIRK AREA

GEOLOGICAL MAP

GEOLOGIST	P ROBERTS
DRAUGHTSMAN	F COLSON
DATE	July 1980
REVISIONS	

SCALE 1 25000 METRES

500 0 500 1000

5 cm

DRAWING No PLAN 8

50-1466 VOL 2

2931

2932

A → ← A'

FED. 11 (proj. 35m S.)

FED. 6

400 Om R.L.

400 Om R.L.

THP 117 (proj. 10m N.)

THP 115 (proj. 10m N.)

No 1 Winze (position)

No 2 cross-cut

No 3 cross-cut

Main adit

Tin mineralization in steeply dipping ? quartz/tourmaline veins, striking 030° (A.M.G.)

'green alteration'

c.g granite

argillised c.g granite

(proj. 10m S.)

(proj. 8m S.)

300 Om R.L.

300 Om R.L.

(proj. 8m N.)

B → ← B'

FED 13 (proj. 6m S.)

massive tourmalinization

No 2 Winze (position) proj. 1m N

No 1 Winze (position) proj. 2m S

proj. 1 Em S.

proj. 3m S.

No 2 cross-cut

Main adit

No 3 cross-cut

400 Om R.L.

400 Om R.L.

argillised c.g granite

c.g granite

v. minor green veins

THP 117 (proj. 10m N.)

c.g med. argill.

77.2 m strongly argill. coaly clay

Co at 74.2

'green alteration'

(proj. 10m S.)

(proj. 10m S.)

FED 6 (proj. 10m N.)

FED. 11 (proj. 10m S.)

c.g granite

(proj. 10m S.)

(proj. 15m N.)

300 Om R.L.

300 Om R.L.

345 600 E

345 700 E

345 800 E

345 900 E

350 000 E

S 359 100 N

S 359 000 N

AM 558

AM 774

AM 320

AM 611

AM 685

FED 11 615.4

FED 6

FED 13 (vertical)

THP 117

THP 113

THP 115

MAIN ADIT

CROSS-CUT

TUNNEL

FENCE

quartz/tourmaline veined argillised granite

quartz/tourmaline

argillised c.g granite spoil

tourmaline/quartz (spoil)

altered, tourmalinised c.g granite

tourmaline rich rock

quartz/topaz 'dyke'

argillised granite

argillised c.g granite

weakly argillised c.g granite

c.g granite boulder

(inclination ~ 60°) drillhole location Pacific Copper ?

'green alteration'

tourmaline/quartz

7000ft 2105

400ft 120.5

E.W. COLEMAN

20 M 41

40 ac. (16·2 ha.)

coarse grained granite

tourmaline microgranite (boundary locations approximate - taken from 1:2000 factual geology map)

059120

TE4 | TE5 | TE6

TF4 | TF5 | TF6

RENISON LIMITED

COLEMAN'S WORKINGS

Factual geology and diamond drilling.

GEOLOGIST P. ROBERTS

DRAUGHTSMAN F. COLSON

DATE JUNE 1980

SCALE 1 500 METRES (10 0 10 20)

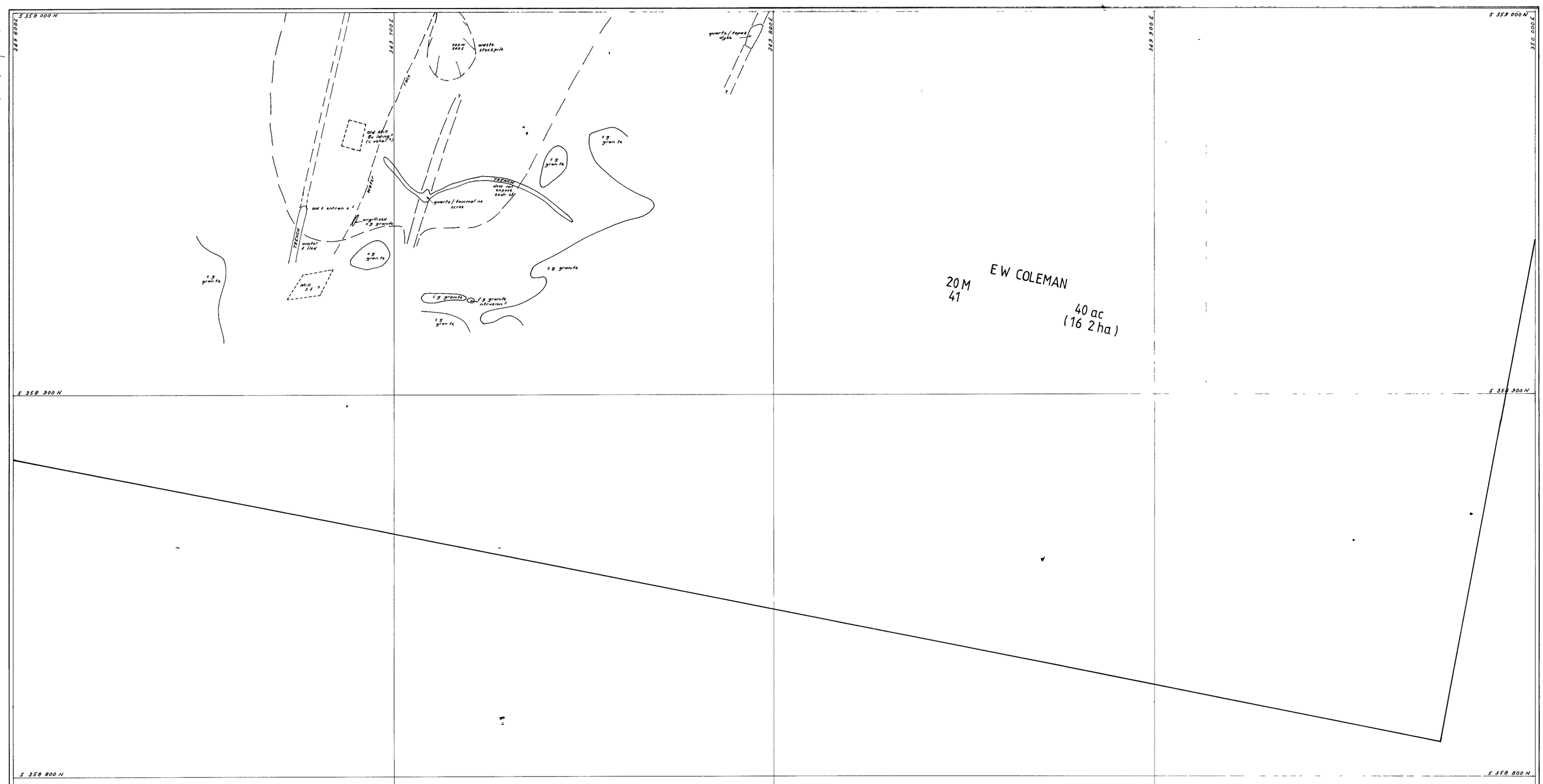
REVISIONS

5 cm

DRAWING No TE 5

80-1466 Vol 2. 2932 PLAN 9a

2933



TE4	TE5	TE6
TF4	TF5	TF6

059121

RENISON LIMITED

COLEMAN'S WORKINGS

GEOLOGY FACT PLAN

2933

GEOLOGIST P ROBERTS	SCALE 1 500 METRES
DRAUGHTSMAN " F COLSON	10 5 0 10 20
DATE MAY 1980	
REVISIONS	DRAWING No TF 5

5 cm

80-1466 Vol 2

PLAN 96

2934

A — A'

B — B'

FED 2

FED 10

GEASON'S LODE

CROSS LODE

South End Fowler & Dunn's Open Cut

300 0m R.L

Eastern End South Face Geasons Workings Scale 1:100

5 359 800 N

5 359 700 N

5 359 600 N

E 349 600

E 349 700

E 349 800

E 350 000

WHIP SHAFT WORKINGS

TRIBUTERS WORKINGS

FINGLER & DUNN'S CUT

WEST FEDERATION WORKINGS

GEASONS LODE

FED 10

CARDEN, WARREN & BURGESS
90M
47

5ac
(2ha)

059122

5 cm

ALTERATION

- Argillic Alteration
- Quartz and Topaz and/or Tourmaline
- Total tourmalination accompanied with hematite
- Hydrothermal breccias
- Collapse breccias

White alteration Dykes (2 in W.F.)

Quartz mica greisen

Area of Tourmaline nodules

ROCK TYPES

- Fine grained
- Medium grained } White younger granite
- Medium grained usually porphyritic
- Coarse grained } Red older granite

Major Lineament
Joint with dip
Joint vertical
Foliation

Definite
Approximate
Inferred } Geological Boundaries

Old mine or prospect

TD4	TD5	TD6
TE4	TE5	TE6

RENISON LIMITED 2934

WEST FEDERATION WORKINGS

GEOLOGY INTERPRETATION, DIAMOND DRILL HOLES AND ROCK CHIP SAMPLING

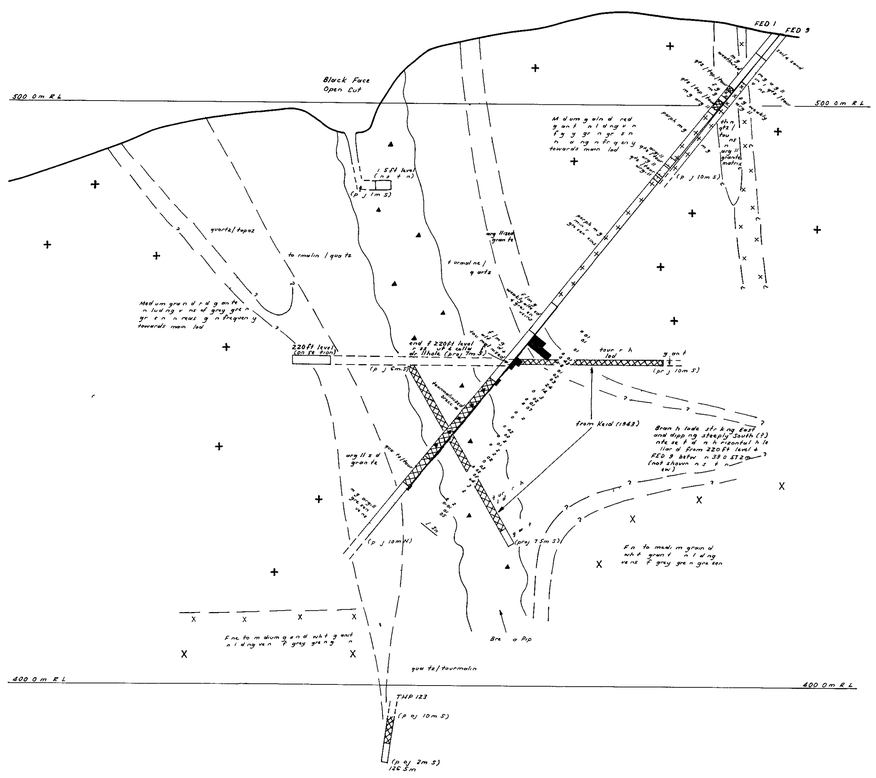
SCALE 1 500 METRES

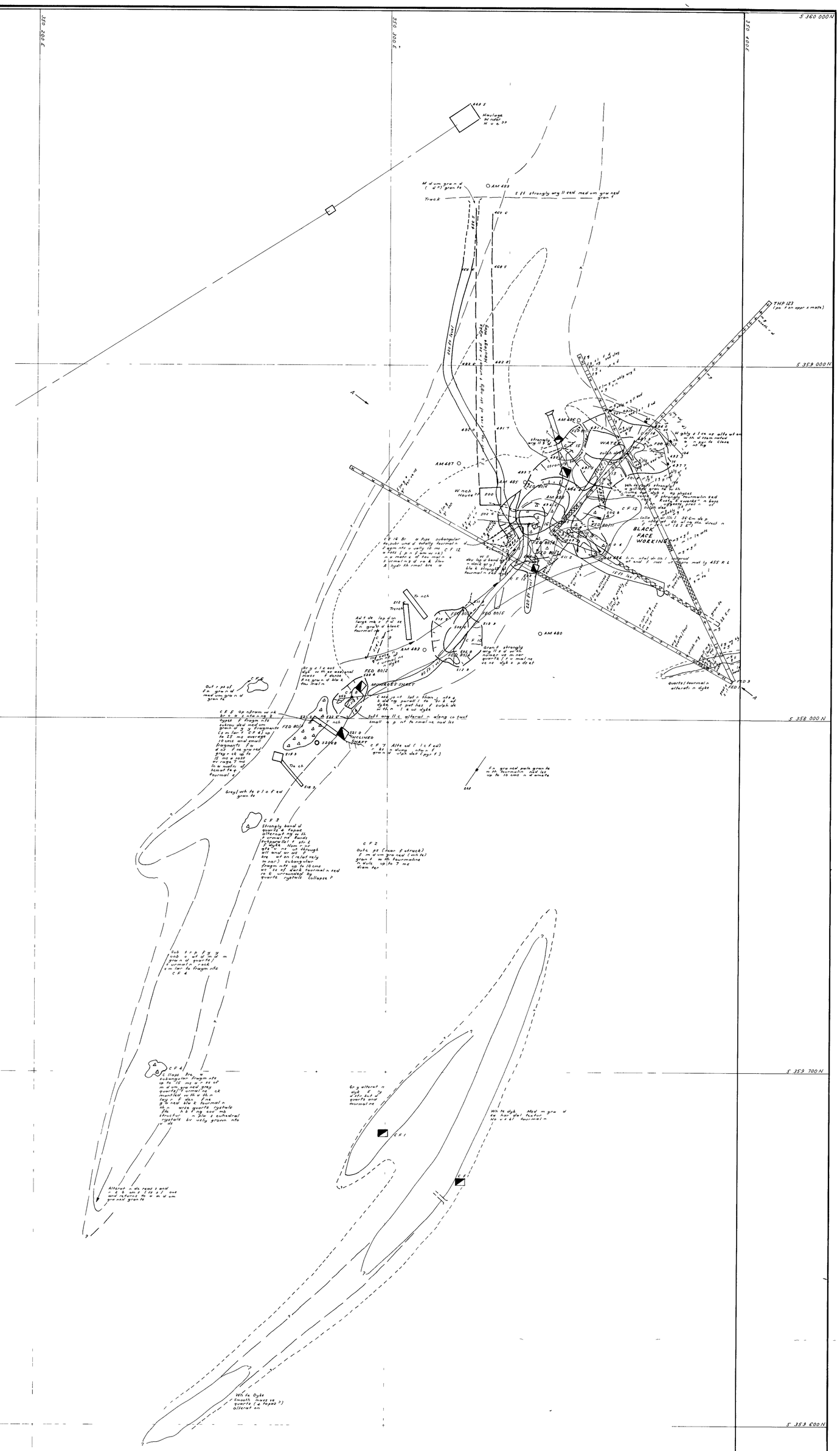
DRAWN	K. WELLS / P. ROBERTS
TRACED	F. COLSON
DATE	June 1980
SCALE	1/500
DRAWING No	TD 5

80-1466 Vol2

PLAN 10

2935





059123

5 cm

TD4	TD5	TD6
TE4	TE5	TE6

RENISON LIMITED

CENTRAL FEDERATION WORKINGS

GEOLOGY, DIAMOND DRILLING AND ROCK CHIP SAMPLES

SCALE 1 500 METRES

DRAWN	K Wolfe & P Roberts
TRACED	F A Colton
DATE	Aug 1980
SCALE	1 500
DRAWING No.	TD 6

2935

PLAN 11

80-1460 Vol 2

2936

348000mE

352000mN

5361500mN

5357000mN

WEST FEDERATION
200 metres diamond drilling

Detailed I.P. and magnetic survey followed by 635 metres diamond drilling

Follow-up I.P.

LAKE CUMBERLAND

059124

5 cm

COMPILATION NOTE

This sheet is a composite of photogrammetric contours superimposed on a half tone reproduction of compiled orthophotos from aerial photography dated 12-12-77

Orthophoto base mapping and photogrammetric contours by Australian Aerial Mapping Pty. Ltd.

Aerial photography	Wild RC8
Aerial triangulation	Wild A8
Contouring	Wild B8
Orthophotos	Zeiss Topocart

REFERENCE

- Contours
- Depressions
- Spot Heights
- Control

N.B. Broken lines indicate lower reliability
Contour interval 10 metres
Spot heights to 0.5 metres
Reduced levels to Australian Height Datum
Co-ordinates Australian Map Grid
Grid interval 500 metres

SHEET LOCATION

TRIAL HARBOUR

RENISON LIMITED

HEEMSKIRK AREA 2936

WORK PROPOSED 1980-81

GEOLOGIST:	K. Wells
DRAUGHTSMAN:	T.G.D.S.
DATE:	June 1979
REVISIONS	June 1980 Aug. 1980

SCALE 1:5000 METRES

100 0 100 200

DRAWING NO. PLAN 12a

80-1466 Vol 2

2937

PIEMAN RIVER

GRANVILLE HARBOUR

INDIAN OCEAN

E.L. 47/71

E.L. 11/76

E.L. 47/71

S.P.L. 129

S.P.L. 129

TRIAL HARBOUR

Mt Heemskirk

Cumberland Lake

Agnew

Remine

FEDERATION GRID
see Plan 12a for details of work proposed

OTHER WORK : (1) 1:25,000 scale regional mapping program (4 to 6 weeks during summer)
(2) Examination and sampling of old workings

New grid of 43·8 line km. (including cut baseline); 27·4 km. within E.L. 11/76, 16·4 km. within S.P.L. 129. To be covered by I.P., ground proton magnetics and soil geochemistry.

TROTTER ARSENIC FAULT

REFERENCE

QUATERNARY	Qra	Alluvium
	Qrg	Gravels
	Qrs	Older alluvium, marsh deposits etc.
TERTIARY	Tg	Gravels
	Ts	Sand, silt and clay
CAMBRIAN	Ec	Crimson Creek Formation
PROTEROZOIC	Puo	Donah Quartzite and Slate

IGNEOUS ROCKS

Tb	TERTIARY Basalt
Jd	JURASSIC Dolerite
DEVONIAN — HEEMSKIRK GRANITE	
Dgm-f	Fine grained or aplite granite
Dgm-mf	Medium to fine grained granite
Dgm-c	Coarse grained granite
Dgm-p	Porphyritic granite
DEVONIAN — REMEMBER GRANITE	
Dgr-mf	Medium to fine grained granite
Dgr-c	Coarse grained granite
Dgr-p	Porphyritic granite
CAMBRIAN	
Eg	Mt Ivor Hill Gabbro
Es	Serpentinite

Geological boundary - position defined
Geological boundary - position inferred
Fault - position defined
Fault - position inferred
Lineament - possible Fault
Old Workings
Photo centre. Aerial photography by A.A.M. Dec. 1977

SOURCE DIAGRAM

1 Granite outline, lineaments and sediment boundaries by Easton - Hunting, infra-granite boundaries by J. Kleminsky, minor additions by P. Roberts
2 K. Wells, minor additions by P. Roberts
3 A. Reid
4 R.N. Lees
5 K. Wells

SANDY CAPE 7815	ARTHUR RIVER 7915	HELLYER 8015
CONICAL ROCKS 7814	PIEMAN 7914	SOPHIA 8014

41°00' 41°30' 42°00' 144°30' 145°00' 145°30' 146°00'

059125

5 cm

RENISON LIMITED 2937

HEEMSKIRK AREA

E.L. 11/76 WORK PROPOSED 1980-81

GEOLOGIST	P. ROBERTS
DRAUGHTSMAN	F. COLSON
DATE	July 1980
REVISIONS	Aug. 1980

SCALE 1 25000 METRES (500 0 500 1000)

DRAWING No PLAN 12b

80-1466 Vol 2

GRANVILLE HARBOUR

GRANITE CONTACT

ROCKY CREEK

RIVER

EUREKA CREEK

EUREKA RIVER

HEEMSKIRK

MACDONALD CREEK

TREASURE ISLE CREEK

GRANITE CONTACT

LE FEVRE CREEK

YARMAH

E L 11/76 LICENCE BOUNDARY

CREEK

FOSTER CREEK

25ha Prospecting Claim
H Bennett
Perpetetic

25ha Prospecting Claim
L Bennett

AMY CREEK

MT HEEMSKIRK

GRANITE CONTACT

SOUTHERN OCEAN

CAP PEAK CREEK

CLEVE CREEK

GRANITE CREEK

E L 11/76

OLD LICENCE BOUNDARY

MT AENEW

Central Federation

Eastern Workings

Western Workings

90M/13 S Renison Ltd

CUMBERLAND LAKE

HAMILTON CREEK

HAMILTON CONTACT

ROSEBERY CREEK

CONFLUENCE CREEK

20M/12 40 E.W. Coleman M.L.

Montague

Sweeneys

103M 30 71 K.F. Carnish M.L.

E L 11/76 LICENCE BOUNDARY

GRANITE CONTACT

TRIAL HARBOUR

059126

RENISON LIMITED 2938	
EL 11/76 LAND TENURE	
GEOLOGIST K Wells	SCALE 1 20 000 METRES
DRAUGHTSMAN F Colson	400 0 400 800
DATE July 1979	
REVISIONS: 5 cm	DRAWING No

80-1h66 Vol 2

PLAN 13

2939

Geochemistry
PPM

I.P. Data
CHARGEBILITY IN MILLIVOLTS/VOLT (——)
RESISTIVITY IN Ohm-METERS (– – –)

Total Magnetic Field (γ)

Topography & Geology
HEIGHT ABOVE SEA LEVEL-(METRES)

059127

5 cm

RENISON LIMITED

FEDERATION GRID E.L. 11/76
LINE 200 E
SECTION LOOKING W.

SCALE 1:2000 METRES

DRAWN	P.A.R. & K.W.
TRACED	R.V.& J.M.M.
DATE	MAY 1980
SCALE	1:2000
DRAWING No.	PLAN 14a

I P DATA
CHARGEABILITY & RESISTIVITY
——— Gradient Array
H Anomaly letter
4 Anomaly number

MAGNETICS

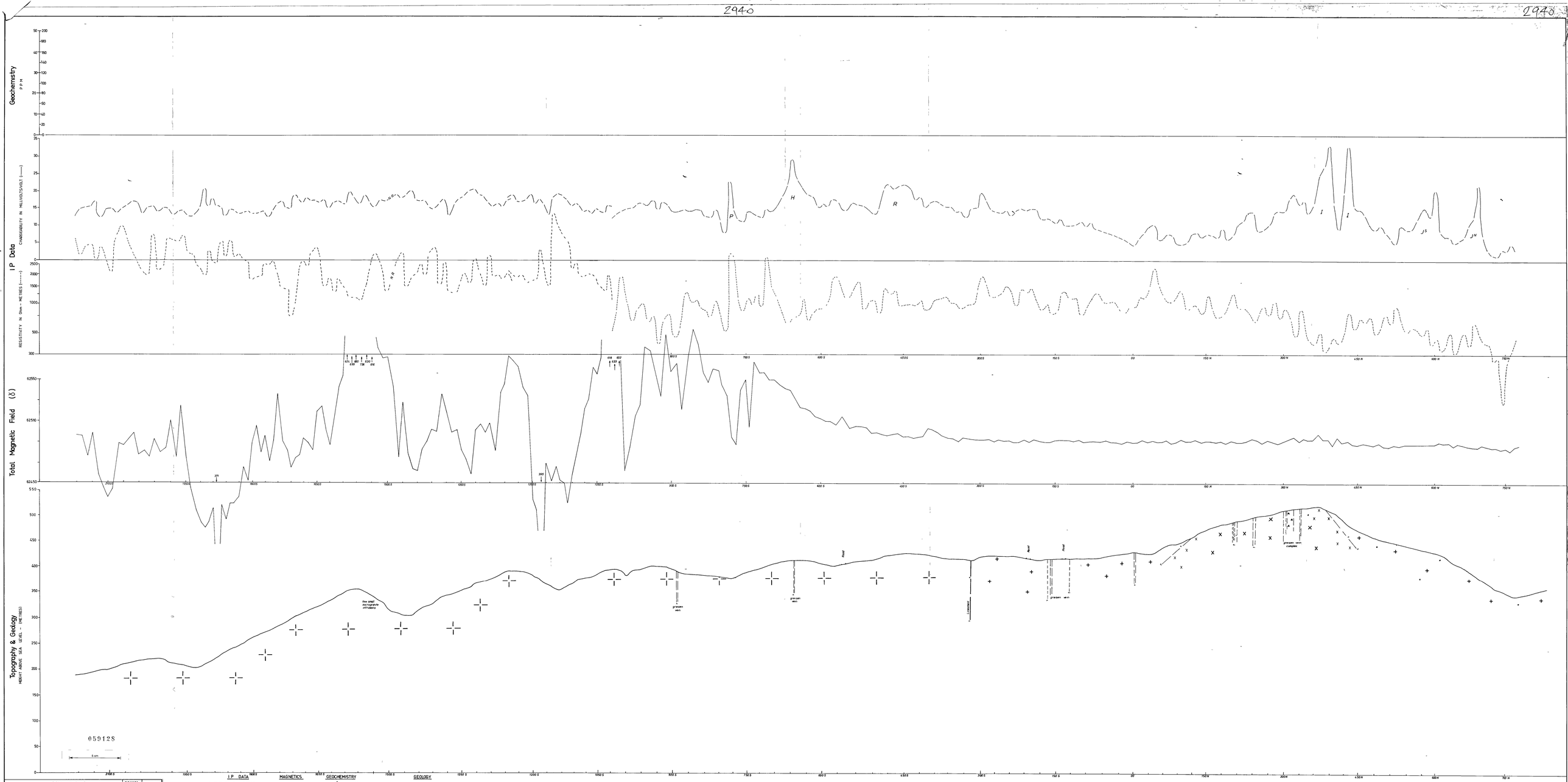
GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
Geology as on geological map

North of 1000 S I P completed in Dec '79, magnetics in Dec '78, geology from 1/2000 mapping (P.W.)
South of 1000 E I P completed in Dec '79, magnetics in Oct '78, geology from line mapping (P.R.)

diamond drillhole
intersection containing >0.1% Sn

2940 2940



RENISON LIMITED

FEDERATION GRID E L. 11/76
LINE 100 E
SECTION LOOKING W

SCALE 1:2000 METRES

DRAWN	P.A.R. & K.W.
TRACED	K.V. & J.M.H.
DATE	MAY 1980
SCALE	1:2000
DRAWING No	PLAN 146

I.P DATA
CHARGEABILITY & RESISTIVITY
—— Gradient Array
R Anomaly Letter
5 Anomaly number

MAGNETICS

GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
Geology as on geological map

North of 1600 S I.P completed in Dec. 77 magnetics in Dec. 78 geology from 1/2000 mapping (T.N.W.)
South of 1600 S I.P completed in Dec. 79 magnet. + in Oct. 79 geology from line mapping (T.N.W.)

50-466 Vol 8 2940

2941

2941

RENISON LIMITED

FEDERATION GRID E L 11/76

LINE 00

SECTION LOOKING W

SCALE 1 2000 METRES

DRAWN	P.H.R. & K.W.
TRACED	K.Y. & J.H.W.
DATE	MAY 1980
SCALE	1 2000
DRAWING No	PLAN 14c

North of 950 S I P completed on Dec 77 magnetics on Jan 78 geology from 1:2000 mapping (K.W.)
South of 950 S I P completed in Dec 79 magnetics in Oct 79 geology from line mapping (P.H.)

I P DATA

CHARGEABILITY & RESISTIVITY

——— Gradient Array

P Anomaly letter

? Anomaly number

MAGNETICS

GEOCHEMISTRY

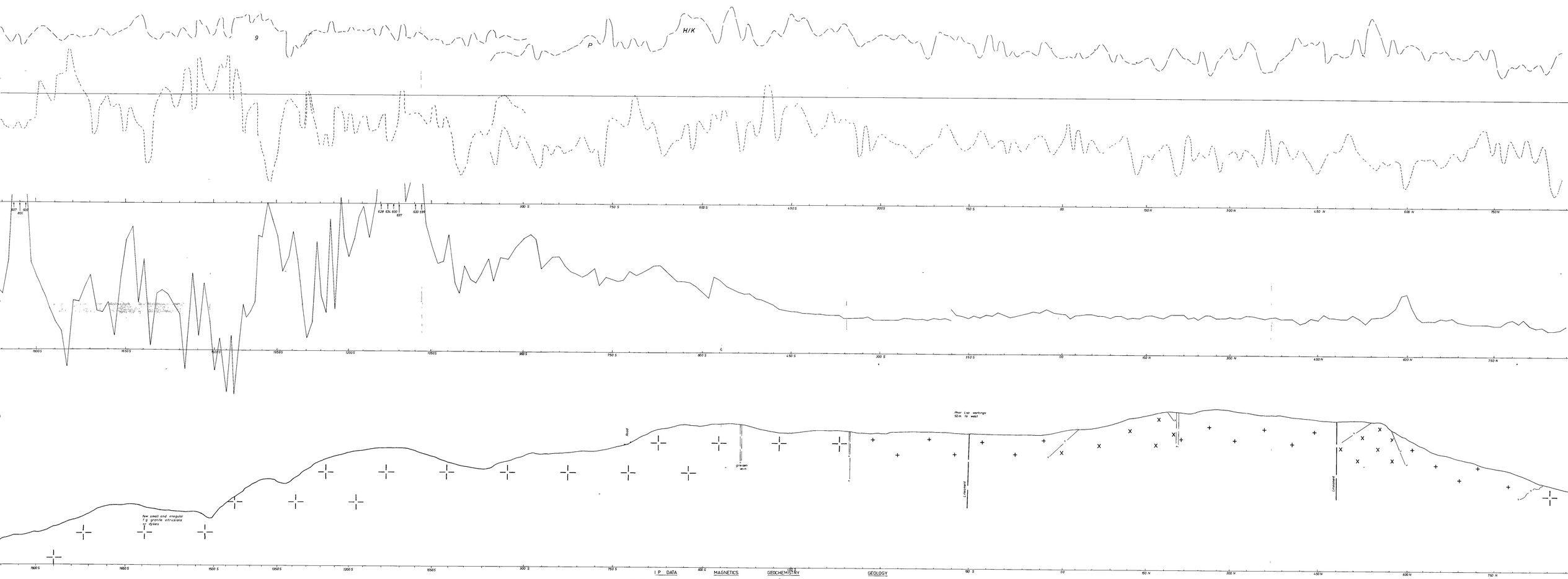
Sn
Cu
Pb
Zn
As
W

GEOLOGY

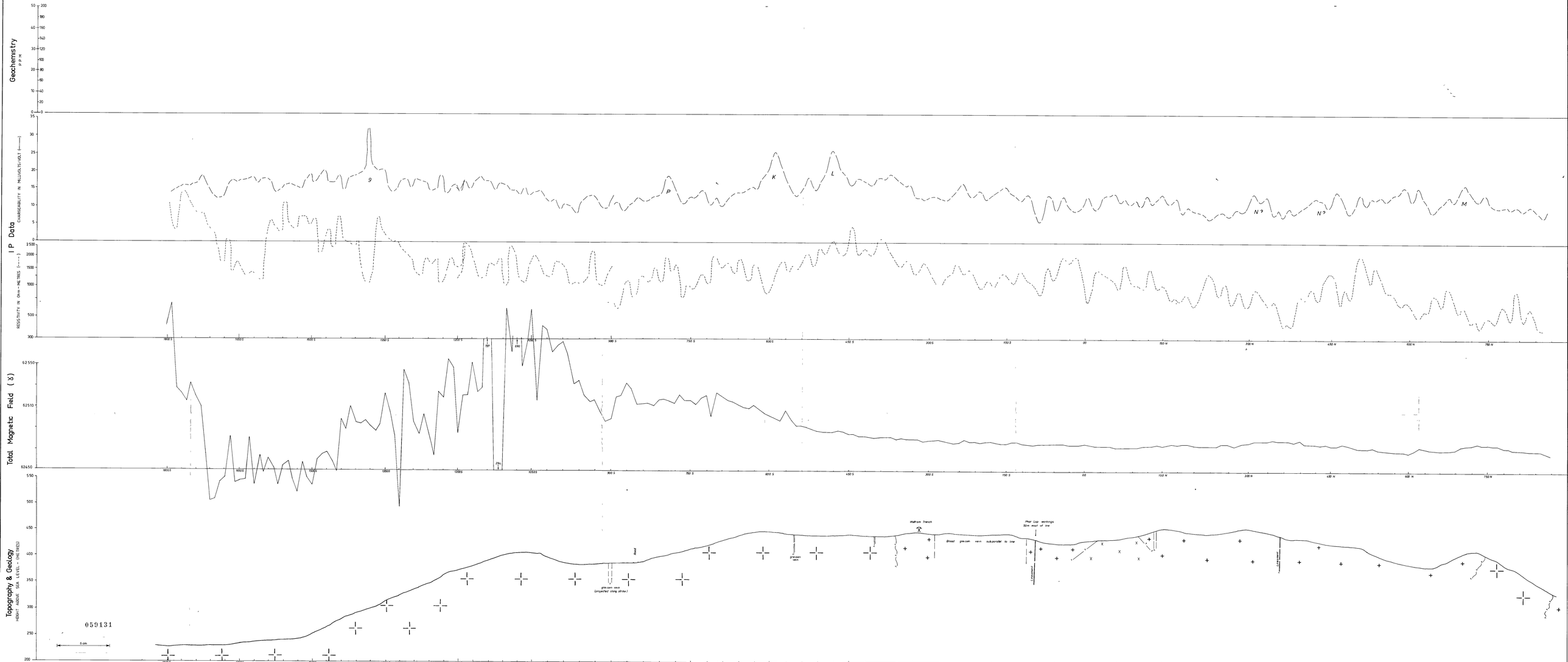
Geology as shown on geological map

80-1966 Vol 2 2941

2942


g
P
H/K
807
806
628
626
625
627
633
599
1900 S
1750 S
1600 S
1450 S
1300 S
1150 S
1000 S
850 S
700 S
550 S
400 S
250 S
100 S
50 N
200 N
350 N
500 N
650 N
800 N
950 N
1100 N
1250 N
1400 N
1550 N
1700 N
1850 N
2000 N
2150 N
2300 N
2450 N
2600 N
2750 N
2900 N

2943



RENISON LIMITED 2943	
FEDERATION GRID E L 11/76	
LINE 200W	
SECTION LOOKING W	
SCALE 1 2000 METRES	
DRAWN	PA & K W
TRACED	E Y & J H N
DATE	NOV 1980
SCALE	1 2000
DRAWING No	PLAN 14e

North of 300 S IP completed in Dec 77 magnetics in Jan 78 geology from 12000 mapping (P.A.W.)
South of 300 S IP completed in Oct 79 magnetics in Oct 79 geology from 1:m mapping (P.A.)

I P DATA
CHARGEABILITY & RESISTIVITY
Gradient Array
P Anomaly letter
5 Anomaly number

MAGNETICS

GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
Geology as on Geological map

Z-944

2944

Geochemistry PPM

IP Data

CHARGEABILITY IN MILLIVOLTS/VOLT (——)

RESISTIVITY IN Ohm - METRES (- - -)

Total Magnetic Field (γ)

Topography & Geology

HEIGHT ABOVE SEA LEVEL - (METRES)

10

K

L

M

N

1650 S 1500 S 1350 S 1200 S 1050 S 900 S 750 S 600 S 450 S 300 S 150 S 00 150 N 300 N 450 N 600 N 750 N 870 N

Metallic Rubbish

Metallic Rubbish

few small irregular microgranite dykes

grensen vein

Lineament

West Federation Workings

Tributors Workings

Grass cut

FED 10 (proj. 50m W.)

Geevons Workings

Fed 7 (proj. 9mE)

Sericite and hematite alteration

Fed 7 (proj. 6m E.)

059132

5 cm

RENISON LIMITED 2944

FEDERATION GRID E L 11/76

LINE 300 W

SECTION LOOKING W

SCALE 1 2000 METRES

DRAWN	P.A.R. & K.W.
TRACED	K.V. & J.M.M.
DATE	MAY 1990
SCALE	1 2000
DRAWING No	PLAN 14f

No IP of 900 S. I.P. completed on Dec 77 magnet. s on Jan 78 geology from 12000 mapping (R.W.) South of 900 S. I.P. completed in Oct 78 magnetics + Oct 78 geology from line mapping (P.R.)

I P DATA

CHARGEABILITY & RESISTIVITY

——— Gradient Array

H Anomaly letter

6 Anomaly number

MAGNETICS

GEOCHEMISTRY

Sn

Cu

Pb

Zn

As

W

GEOLOGY

Geology as on geological map

diamond drillhole intersection containing >0.1% Sn

350 - 11466 Vol 3

2945

2945

Geochemistry
P P M

I P Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)
RESISTIVITY IN Ohm - METRES (- - - -)

Total Magnetic Field (γ)

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

K
L
N

West Federation Mines

Road
green vein
Underground
Crosscut
Winze
FED 2
Cross Lode
177 Ra (m.r.) 5 m E)

059133

5 cm

RENISON LIMITED 2945

FEDERATION GRID E L 11/76

LINE 400 W

SECTION LOOKING W

SCALE 1 2000 METRES

DRAWN	PARKW
TRACED	EVEJMN
DATE	MAY 1982
SCALE	1 2000
DRAWING No	PLAN 14g

North of 830 S IP completed in 2m ?? regout & in 2m ?? geology from 1/2000 mapping (R.W.)
South of 870S IP completed in 2m ?? magnets in Out ?? geology from line mapping (P.R.)

I.P DATA
CHARGEABILITY & RESISTIVITY
——— Gradient Array
H Anomaly letter
9 Anomaly number

MAGNETICS

GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
Geology as on geological map

90-1466 Vol 3

2946

2946

Geochemistry
P.P.M.

IP Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)

RESISTIVITY IN Ohm - METRES (- - - -)

Total Magnetic Field (γ)

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

Metal dump adjacent old Federation Site

West Federation

Cross Lode

Lookout

Head

green vein

059134

5 cm

RENISON LIMITED 2946	DRAWN PAR&KW
FEDERATION GRID E L 11/76	TRACED EV & J MM
LINE 500W	DATE MAY 1980
SECTION LOOKING W	SCALE 1 2000
SCALE 1 2000 METRES	DRAWING No PLAN 14h

IP DATA
CHARGEABILITY & RESISTIVITY
——— Gradient Array
H Anomaly Letter
7 Anomaly number

MAGNETICS

GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
Geology as on geological map

North of 800 S I.P completed in Dec 77 magnetics in Dec 77 geology from 1/2000 mapping (K.W.)
South of 800 S I.P. completed in Dec 79 magnetics in Oct 79 geology from line mapping (P.R.)

#0-1466 Vol 3

2947

2947

Geochemistry
PPM

I P Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)
RESISTIVITY IN Ohm-METRES (----)

Total Magnetic Field (γ)

Topography & Geology
HEIGHT ABOVE SEA LEVEL (METRES)

Metallic rubbish adjacent to old Federation Mill Site

Road

Limestone

greisen vein

Calcrete

Tourmal-inisation

Argillic alteration

Hillridge

Tourmaline

Nodules

059135

5 cm

RENISON LIMITED 2947	DRAWN KW & PAR
	TRACED EV & J MM
FEDERATION GRID EL 11/76	DATE MAY 1980
LINE 600 W	SCALE 1 2000
SECTION LOOKING W	DRAWING No
SCALE 1 2000 METRES	PLAN 14c

I P DATA
CHARGEABILITY & RESISTIVITY
——— Gradient Array
H Anomaly letter
6 Anomaly number

MAGNETICS

GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
Geology as on geological map

North of 7800 S I P completed in 04 77 magnet'ics in 04 77 geology from line mapping (RMJ)
South of 7800 S I P completed in Dec 79 magnetics in Oct 79 geology from line mapping (PRJ)

SD- 1466 Vol 3

2948

2948

Geochemistry
P P M

IP Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)
RESISTIVITY IN Ohm-METRES (- - - -)

Magnetic Field (γ)
Total Magnetic

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

Calemans
Grisen Ven
Kapelrijt
Kapelrijt

059136

5 cm

Metallic debris
around old
Federation Initiate

North of 750 S. I P completed in Dec 77 magnetics in Dec 77 geology from 1:2000 mapping (N W).
South of 750 S. I P completed in Dec 79, magnetics in Oct 79 geology from line mapping (P R).

IP DATA
CHARGEABILITY & RESISTIVITY
——— Gradient Array
H Anomaly letter
7 Anomaly number

MAGNETICS

GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
As on geological map

RENISON LIMITED 2948

FEDERATION GRID E L 11/76
LINE 700W
SECTION LOOKING W

SCALE 1 2000 METRES
40 0 40 80 120

DRAWN	P.A.R. & K.W.
TRACED	E.V. & J.M.M.
DATE	MAY 1980
SCALE	1 2000
DRAWING No	PLAN 14J

80-1486 Vol 3

2949

2949

Geochemistry
PPM

50 200
180
40 160
140
30 120
100
20 80
60
10 40
20
0 0

600 S 450 S 300 S 150 S 00 150 N 300 N 450 N 600 N 750 N

I P Data

CHARGEABILITY IN MILLIVOLTS/VOLT (———)

35
30
25
20
15
10
5
0

REGISTIVITY IN Ohm - METRES (------)

5000
4000
3000
2000
1000
600

7200 S 1050 S 900 S 750 S 600 S 450 S 300 S 150 S 00 150 N 300 N 450 N 600 N 750 N

Total Magnetic Field (γ)

62 550
62 510
62 450

Metallic Debris

1200 S 1050 S 900 S 750 S 600 S 450 S 300 S 150 S 00 150 N 300 N 450 N 600 N 750 N

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

550
500
450
400
350
300
250
200
150
100
50
0

Colemans Mullock Heaps
Lineament crosses line at a very low angle
Greisen vein
Greisen vein
Greisen vein
Greisen vein
Road
Lineament
Road
Lineament

059137

5 cm

1200 S 1050 S 900 S 750 S 600 S 450 S 300 S 150 S 00 150 N 300 N 450 N 600 N 750 N

IP DATA

CHARGEABILITY & RESISTIVITY

——— Gradient Array

0 Anomaly letter

6 Anomaly number

MAGNETICS

GEOCHEMISTRY

Sn
Cu
Pb
Zn
As
W

GEOLOGY

As on geological map

North of 7200 S IP completed in Dec 77 magnetics in Dec 77 geology from 1:2000 mapping (K.W.)
South of 7200 S IP completed in Dec 79 magnetics in Oct 79 geology from line mapping (P.R.)

RENISON LIMITED 2949

FEDERATION GRID E L 11/76

LINE 800W

SECTION LOOKING W

SCALE 1 2000 METRES

0 40 80 120

DRAWN	P A R & K W
TRACED	E V & J M M
DATE	MAY 1980
SCALE	1 2000
DRAWING No	PLAN 14k

80-1466 Vol 3

2950

2950

Geochemistry
PPM

50 200
180
40 160
140
30 120
100
20 80
60
10 40
20
0 0

I P. Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)

35
30
25
20
15
10
5
0

RESISTIVITY IN Ohm-METRES (- - - -)

5000
4000
3000
2000
1000
600

1100 S 1042 S 890 S 742 S 600 S 450 S 300 S 150 S 00 150 N 300 N 450 N 600 N 750 N

Total Magnetic Field (X)

62550
62510
62450

1100S 1042S 890S 742S 600 S 450 S 300 S 150 S 00 150 N 300N 450 N 600 N 750 N

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

550
500
450
400
350
300
250
200
150
100
50
0

Road
Creek West
Gradient Vein
Road
Creek
Road

059138

5 cm

1100S 1042S 890 S 742S 710S 600S 450S 300 S 150 S 00 150 N 300N 450 N 600N 750N

IP DATA

CHARGEABILITY & RESISTIVITY

——— Gradient Array

P Anomaly letter
S Anomaly number

MAGNETICS

GEOCHEMISTRY

Sn
Cu
Pb
Zn
As
W

GEOLOGY

As on geological map

North of 710 S IP completed in Dec 77
magnetics in Dec 77 geology from 1:2000 mapping (K W)
South of 710 S IP completed in Dec 79
magnetics in Oct 79 geology from line mapping (P R)

RENISON LIMITED 2950	
DRAWN	P A R & K W
TRACED	E V & J M M
DATE	MAY 1980
SCALE	1 2000
DRAWING No	PLAN 14L

FEDERATION GRID E L 11/76
LINE 900W
SECTION LOOKING W

SCALE 1 2000 METRES
40 0 40 80 120

80-1466 Vol 3

Geochemistry
PPM

50 200
180
40 160
140
30 120
100
20 80
60
10 40
20
0 0

I P Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)

35
30
25
20
15
10
5
0

RESISTIVITY IN Ohm-METRES (– – –)

5000
4000
3000
2000
1000
600

1110 S 1050S 900 S 750 S 600 S 450 S 300 S 150 S 00

Total Magnetic Field (γ)

62 550
62 510
62 450

1050S 900S 750S 600S 450S 300S 150S 00

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

350
300
250
200
150
100
50
0

greisen vein
greisen vein
Lineament ?
contact greisen ?

059139

5 cm

1110 S 1050S 900 S 750 S 600 S 450S 300 S 150 S 00

RENISON LIMITED 2951	DRAWN PAR
FEDERATION GRID EL 11/76	TRACED EV
LINE 1000 W	DATE July 1980
SECTION LOOKING W	SCALE 1 2000
SCALE 1 2000 METRES 40 0 40 80 120	DRAWING No PLAN 14 m

I P DATA

CHARGEABILITY & RESISTIVITY

—— Gradient Array

S Anomaly letter

3 Anomaly number

MAGNETICS

GEOCHEMISTRY

Sn
Cu
Pb
Zn
As
W

GEOLOGY

Geology as on geological map

IP completed in Dec 79 magnetics in Oct 79 geology from line mapping (PR)

80-1466 Vol 3

2957

2957

Geochemistry
P P M

50 200
180
40 160
140
30 120
100
20 80
60
10 40
20
0 0

I P Data

CHARGEABILITY IN MILLIVOLTS/VOLT (——)

35
30
25
20
15
10
5
0

4 4 7

RESISTIVITY IN Ohm - METRES (- - - -)

5000
4000
3000
2000
1000
600

1050S 900S 750S 600S 450S 300S 150S 00

Total Magnetic Field (γ)

62 550
62 510
62 450

1050S 900S 750S 600S 450S 300S 150S 00

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

350
300
250
200
150
100
50
0

greisen veins

Lineament

059140

5 cm

1050 S 900S 750S 600S 450 S 300S 150S 00

RENISON LIMITED

FEDERATION GRID E L 11/76

LINE 1100 W

SECTION LOOKING W

2952

SCALE 1 2000 METRES

40 0 40 80 120

DRAWN	P A R
TRACED	E V
DATE	July 1980
SCALE	1 2000
DRAWING No	

PLAN 14n

I P DATA

CHARGEABILITY & RESISTIVITY

——— Gradient Array

S Anomaly letter

4 Anomaly number

MAGNETICS

GEOCHEMISTRY

Sn
Cu
Pb
Zn
As
W

GEOLOGY

Geology as on geological map

IP completed in Dec 79 magnetics in Oct 79 geology from line mapping (P.R.)

80-1466 Vol 3

2953

Geochemistry
P P M

50 200
180
40 160
140
30 120
100
20 80
60
10 40
20
0 0

I P Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)

35
30
25
20
15
10
5
0

4

RESISTIVITY IN Ohm - METRES (- - - -)

5000
4000
3000
2000
1000
600

NR

1050 S 900 S 750 S 600 S 450 S 300 S 150 S 00

Total Magnetic Field (γ)

62 550
62 510
62 450

1050S 900S 750S 600S 450S 300S 150S 00

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

350
300
250
200
150
100
50
0

gneisen vein?

Lineament?

059141

5 cm

1050 S 900 S 750 S 600 S 450 S 300 S 150S 00

RENISON LIMITED	DRAWN P A R
FEDERATION GRID E L 11/76	TRACED E V
LINE 1200 W 2953	DATE July 1980
SECTION LOOKING W	SCALE 1 2000
SCALE 1 2000 METRES 40 0 40 80 120	DRAWING No PLAN 14o

I P DATA

CHARGEABILITY & RESISTIVITY

——— Gradient Array

S Anomaly letter

6 Anomaly number

MAGNETICS

GEOCHEMISTRY

Sn
Cu
Pb
Zn
As
W

GEOLOGY

Geology as on geological map

I P completed in Dec 79 magnetics in Oct 79 geology from line mapping (P R)

80-1466 Vol 3

2954

Geochemistry
P P M

I P Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)

RESISTIVITY IN Ohm - METRES (- - - -)

Total Magnetic Field (γ)

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

thin greisen veins

Lineament ?

greisen vein

greisen vein

greisen vein

059142

5 cm

RENISON LIMITED 2954

FEDERATION GRID E L 11/76

LINE 1300 W

SECTION LOOKING W

SCALE 1 2000 METRES

DRAWN	P A R
TRACED	E V
DATE	July 1980
SCALE	1 2000
DRAWING No	PLAN 14P

I P DATA

CHARGEABILITY & RESISTIVITY

—— Gradient Array

S Anomaly Letter

6 Anomaly number

MAGNETICS

GEOCHEMISTRY

Sn
Cu
Pb
Zn
As
W

GEOLOGY

Geology as on geological map

I P completed in Dec 79 magnetics in Oct 79 geology from line mapping (P R)

80-1466 Vol 3

2955

Geochemistry
PPM
50 40 30 20 10 0
200 180 160 140 120 100 80 60 40 20 0

I P Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)
35 30 25 20 15 10 5 0
3

RESISTIVITY IN Ohm-METRES (- - - -)
5000 4000 3000 2000 1000 600

960S 900S 750S 600S 450S 300S 150S 00

Total Magnetic Field (γ)
62 550
62 510
62 450

960S 900S 750S 600S 450S 300S 150S 00

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)
350 300 250 200 150 100 50 0

Montague Workings to East and West of line
greisen vein
greisen vein
greisen vein
greisen vein
greisen vein
Lineament

059143

5 cm

960S 900S 750S 600S 450S 300S 150S 00

RENISON LIMITED 2955

FEDERATION GRID EL 11/76

LINE 1400 W

SECTION LOOKING W

SCALE 1 2000 METRES
40 0 40 80 120

DRAWN	P A R
TRACED	E V
DATE	July 1980
SCALE	1 2000
DRAWING No	PLAN 14 q

I P DATA

CHARGEABILITY & RESISTIVITY

——— Gradient Array

S Anomaly letter

7 Anomaly number

MAGNETICS

GEOCHEMISTRY

Sn
Cu
Pb
Zn
As
W

GEOLOGY

Geology as on geological map

(IP completed in Dec 79 magnetics in Oct 79 geology from line mapping (P.R.)

80-1466 Vol 3

2956

Geochemistry
PPM
50 200
180
40 160
140
30 120
100
20 80
60
10 40
20
0 0

I P Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)
35
30
25
20
15
10
5
0
1

RESISTIVITY IN Ohm - METRES (- - - -)
5000
4000
3000
2000
1000
600

990 S 900 S 750 S 600 S 450 S 300 S 150 S 00

Total Magnetic Field (γ)
62 550
62 510
62 450

990 S 900 S 750 S 600 S 450 S 300 S 150 S 00

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)
350
300
250
200
150
100
50
0

greisen veins
greisen vein
Lineament ?
greisen vein
greisen vein

990 S 900 S 750 S 600 S 450 S 300 S 150 S 00

059144

5 cm

RENISON LIMITED 2956	DRAWN P A R
FEDERATION GRID E L 11/76	TRACED E V
LINE 1500 W	DATE July 1980
SECTION LOOKING W	SCALE 1 2000
SCALE 1 2000 METRES 40 0 40 80 120	DRAWING No PLAN 14r

I P DATA
CHARGEABILITY & RESISTIVITY
——— Gradient Array
S Anomaly Letter
6 Anomaly number

MAGNETICS

GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
Geology as on geological map

I P completed in Dec 79 magnetics in Oct 79 geology from line mapping (P.R.)

80-1466 Vol 3

2957

Geochemistry
P P M

50 200
180
40 160
140
30 120
100
20 80
60
10 40
20
0 0

I P Data

CHARGEABILITY IN MILLIVOLTS/VOLT (——)

35
30
25
20
15
10
5
0

1 2

RESISTIVITY IN Ohm - METRES (- - - -)

5000
4000
3000
2000
1000
600

1020 S 900 S 750 S 600 S 450 S 300 S 150 S 00

Total Magnetic Field (γ)

62 550
62 510
62 450

1020S 900S 750S 600S 450S 300S 150S 00

Topography & Geology

HEIGHT ABOVE SEA LEVEL - (METRES)

350
300
250
200
150
100
50
0

micropegmatite at contact
greisen vein
greisen vein
Lineament
greisen vein
greisen vein

059145

5 cm

1020 S 900S 750S 600S 450S 300S 150S 00

RENISON LIMITED 2957	
FEDERATION GRID EL 11/76	
LINE 1600 W	
SECTION LOOKING W	
SCALE 1 2000 METRES	
40 0 40 80 120	
DRAWN	P A R
TRACED	E V
DATE	July 1980
SCALE	1 2000
DRAWING No	PLAN 14s

I P DATA

CHARGEABILITY & RESISTIVITY

——— Gradient Array

S Anomaly Letter

6 Anomaly number

MAGNETICS

GEOCHEMISTRY

Sn
Cu
Pb
Zn
As
W

GEOLOGY

Geology as on geological map

I.P completed in Dec 79 magnetics in Oct 79 geology from line mapping (P.R.)

80-1466 Vol 3

2958

Geochemistry
PPM

50 — 200
180
40 — 160
140
30 — 120
100
20 — 80
60
10 — 40
20
0 — 0

300N 450N 600N

IP Data
CHARGEABILITY IN MILLIVOLTS/VOLT (——)

35
30
25
20
15
10
5
0

300N 450N 600N

RESISTIVITY IN Ohm-METRES (- - - -)

5000
4000
3000
2000
1000
600

300N 450N 600N

Total Magnetic Field (γ)

62 550
62 510
62450

300N 450N 600N

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

550
500
450
400
350
300
250
200

FED 9 (proj 3m E)
Eastern end of Block Face lode
(proj 10m E)

059146

5 cm

300N 450N 600N

RENISON LIMITED 2958

FEDERATION GRID EL 11/76

LINE 250E

SECTION LOOKING W

SCALE 1 2000 METRES

40 0 40 80 120

DRAWN	PAR
TRACED	E V
DATE	MAY 1980
SCALE	1 2000
DRAWING No	PLAN 14t

80-1466 V013

I P DATA

CHARGEABILITY & RESISTIVITY

——— Gradient Array

S Anomaly letter number

MAGNETICS

GEOCHEMISTRY

Sn
Cu
Pb
Zn
As
W

GEOLOGY

Geology as an geological map

diamond drillhole intersection containing >0.1% Sn

Geochemistry
PPM

I P Data
(Ma) CHARGEABILITY IN MILLIVOLTS/VOLT (——)
RESISTIVITY IN Ohm - METRES (----)

Total Magnetic Field (δ)

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

059147

5 cm

RENISON LIMITED 2959

FEDERATION GRID E.L. 11/76
LINE 400 E.

SECTION LOOKING WEST

SCALE 1 2000 METRES
40 0 40 80 120

DRAWN	K W
TRACED	T G D S
DATE	May 80
SCALE	1 2000
DRAWING No	

I P DATA
CHARGEABILITY & RESISTIVITY
——— Gradient Array
Q Anomaly Letter Number

MAGNETICS

GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
For key refer to geology map

Diamond drillhole intersection containing > 0.1% Sn

80-1466 vol 3

PLAN 14 u

2960

Geochemistry
PPM

I P Data
(ms) CHARGEABILITY IN MILLIVOLTS/VOLT (——)
RESISTIVITY IN Ohm - METRES (----)

Total Magnetic Field (δ)

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

059148

5 cm

Grid pegs on perimeter should all be numbered 60m further North, i.e. 6605 - 5705

Lake
Lake
Escarpment
Grosen Vein (white dyke) Complex
FED 12
FED 5
Track
Waxman + Westons
Track
Grosen Vein
FAULT
201.5m (only 6m w.)
311.2m (? 30m w.)

RENISON LIMITED 2960

FEDERATION GRID E.L. 11/76
LINE 600E.

SECTION LOOKING WEST

SCALE 1 2000 METRES
60 0 60 120

DRAWN	K W
TRACED	T G O S
DATE	May 80
SCALE	1 2000
DRAWING No	

I P DATA
CHARGEABILITY & RESISTIVITY
——— Gradient Array
G Anomaly Letter Number

MAGNETICS

GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
For key refer to geology map

Diamond drillhole intersection containing >0.1Sn

80-1466 V013

PLAN 14v

2961

Geochemistry
PPM

I P Data
(M1) CHARGEABILITY IN MILLIVOLTS/VOLT (——)
RESISTIVITY IN Ohm - METRES (- - - -)

Total Magnetic Field (γ)

Topography & Geology
HEIGHT ABOVE SEA LEVEL - (METRES)

1050 S 900 S 750 S 150 S 00 150 N 300 N 450 N

059149

5 cm

Lake
? Lineament
Gneiss Vein Complex
Eastern Workings
FED B (Tr. 1 on E.)
151.6m (Proj. 1m E.)

RENISON LIMITED 2961	
FEDERATION GRID E.L. 11/76	DRAWN K W
LINE 700 E.	TRACED T O D S
SECTION LOOKING WEST	DATE May 80
SCALE 1 2000 METRES	SCALE 1 2000
40 0 40 80 120	DRAWING No
	PLAN 14 W

I P DATA
CHARGEABILITY & RESISTIVITY
——— Gradient Array
F Anomaly Letter Number

MAGNETICS

GEOCHEMISTRY
Sn
Cu
Pb
Zn
As
W

GEOLOGY
For key refer to geology map

Diamond drillhole intersection containing >0.1 Sn

80-1466 Vol 3