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SPECIAL PROSPECTING LICENCE 806

REPORT FOR SIX MONTHS ENDED 10TH SEPTEMBER,  
1981.

E.Z. Report No. 138.

J. Nyvlt

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ELECTROLYTIC ZINC COMPANY OF AUSTRALASIA LIMITED  
West Coast Mines

SPECIAL PROSPECTING LICENCE 800

REPORT FOR SIX MONTHS ENDED  
10TH SEPTEMBER, 1981.

Report No. 138

J. Nyvlt,  
Geologist.

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1. INTRODUCTION

As part of a long term interest in the West Coast of Tasmania, E.Z. has broadened its exploration outlook in the area to determine the potential for other mineralisation types and non-base metal commodities. It is considered that the rocks in SPL 806 have potential for three differing types of mineralisation, namely:

- i) Vein type tin mineralisation of the Queen Hill type.
- ii) Disseminated bulk low grade gold mineralisation of the Carlin type.
- iii) Mississippi Valley type base metal mineralisation.

These three exploration targets represent hitherto unknown and untested styles of mineralisation in the area, an area which has been relatively unexplored.

The exploration programme undertaken is at a "grass roots" level and is primarily aimed at locating areas of interest where further detailing may be warranted.

The programme involves:-

- i) Office study into exploration work carried out on the area by other companies, research of Mines Department records and compilation of all relevant data.
- ii) A photo-geological interpretation of the area and preliminary mapping.
- iii) A landsat linear study.
- iv) An aerial magnetic study.
- v) A geological mapping and stream sediment sampling programme.

- vi) Detailed gridding to follow up magnetic and stream geochemistry anomalies.

During the period of reporting (10th March to 10th September, 1981) winter weather limited work on the licence so that only about one third of this programme was completed.

2. LAND TENURE

Special Prospecting Licence 806 was granted to Trikon International Pty. Ltd., on the 10th March, 1981. This licence is included in a Joint Venture between E.Z. and Trikon International Pty. Ltd.. E.Z. is manager of the Joint Venture and directs field operations from its base at Rosebery. The location of the licence and co-ordinates of the corners of the licence can be found in Fig. 2.1. and Table 2.2., respectively. The licence covers 56.5 sq. kms.

3. ACCESS.

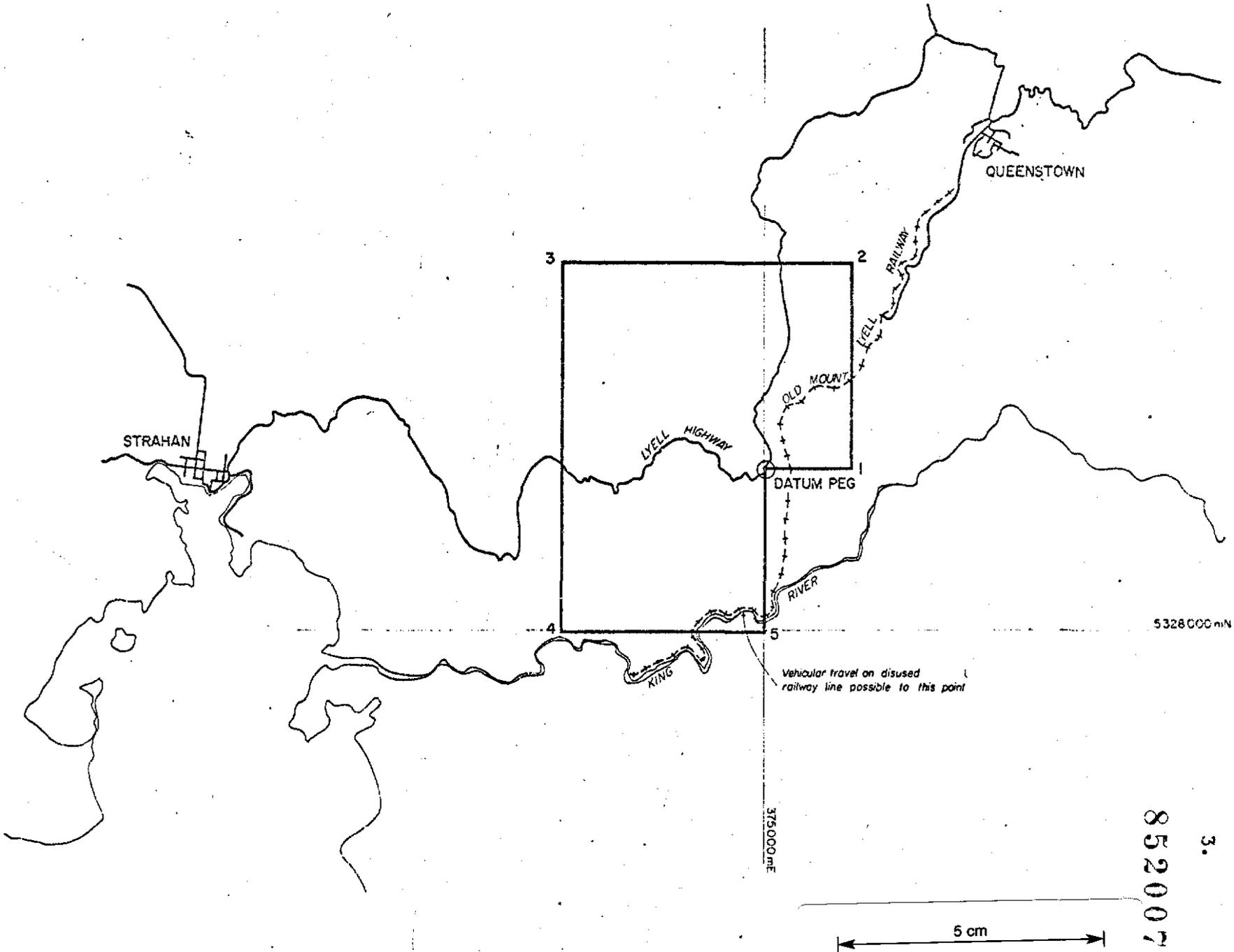
3.1. Existing Access

Main access is provided by the Lyell Highway and the old Mt. Lyell Railway. The highway is a sealed, all weather road, it enters the licence in the mid north and exits the licence in the mid west. The disused railway provides access to the east and southern sides of the licence. On the railway, vehicular travel is possible to approximately A.M.G. 5,328,600N 374,600E, after which a fallen bridge necessitates foot access.

In the north-west and mid south of the licence there are networks of disused logging tracks that branch off the Lyell Highway. Unfortunately, these tracks are largely unsuitable for conventional 4 wheel drive vehicles. Finally, there is a system of tracks which serve the power lines to Strahan. This system essentially parallels the Lyell

FIGURE 2.1  
Scale 1:150 000

PLAN SHOWING THE BOUNDARIES OF  
SPECIAL PROSPECTING LICENCE 806



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TABLE 2.2. - LICENCE BOUNDARY CO-ORDINATES

(Refer to Figure 2.1. for the location of the numbered corners.)

<u>Corner No.</u>	<u>Northing A.M.G.</u>	<u>Easting A.M.G.</u>
Datum Peg	5,332,050	375,000
1	5,332,050	377,100
2	5,337,000	377,100
3	5,337,000	370,000
4	5,328,000	370,000
5	5,328,000	375,000

highway and has been washed out in many places, making it amenable only to foot access.

3.2. Line Cutting

13.4 km of creek and access line cutting were completed by contractors.

4. TOPOGRAPHIC BASE PLANS

4.1. Standard Plans

The licence is covered by three of a set of eight A0 size 1:10,000 standard E.Z. topographic plans, which cover both SPL 806 and the adjoining E.L. 51/80 (held by E.Z.). The area covered and layout of the sheets is shown in Figure 4.1.. The plans were prepared from enlargements of the 1:15,840 and 1:20,000 scale Lands Department topographic maps. In addition, these plans have been modified for use as stream sediment plans and limited topographic plans (scale 1:10,000).

4.2. Special Maps

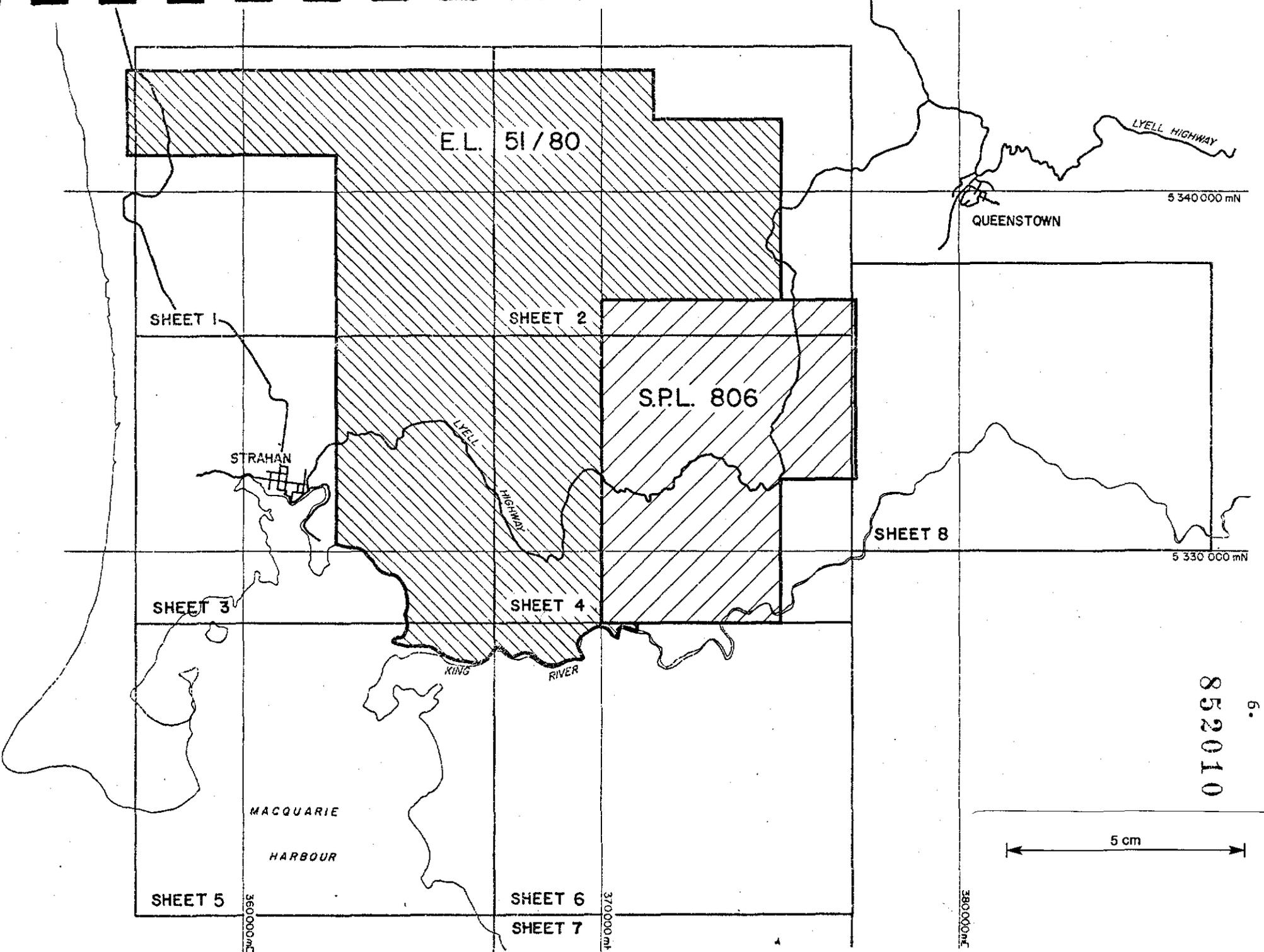
To conveniently cover the licence in one sheet, a 1:50,000 topographic map was prepared from an enlargement of the 1:100,00 Lands Department topographic maps. As was the case for the 1:10,000 topographic maps, the 1:50,000 topographic map covers both SPL 806 and E.L. 51/80.

5. GEOLOGY

The initial "first pass" mapping of creeks and access remains incomplete, largely because of adverse weather conditions.

FIGURE 4.1  
Scale 1:150 000

LAYOUT OF STANDARD 1:10000 SCALE  
TOPOGRAPHIC PLANS  
COVERING S.P.L. 806 & E.L. 51/80



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19 line kms were mapped.

Maps detailing geological work performed in the licence will be incorporate into the next six monthly report by which time the first pass mapping programme will be completed.

SPL 806 covers the south-east portion of a 15-20 km wide structural basin. The basin contains rocks of the Eldon Group Correlate which range in age from Ordovician to Devonian.

The licence area is typically rugged and deeply incised except for the north-west corner which grades into relatively flat button grass topography. Drainage is strongly controlled by regional strike trends.

## 6. GEOCHEMISTRY

In the course of geological mapping, 156 rock chip, 30 stream sediment and 7 tailings samples were collected. A comprehensive report on the geochemical programme will be included in the next report, by which time the first pass sampling programme will be completed, however, a brief summary of the results received to date is as follows.

### 6.1. Rock Chip Geochemistry (Refer to Appendix B)

In general, results were low, Cu was mostly below 60 ppm, Pb and Zn mainly below 100 ppm, Mn and As mainly below 50 ppm with Ag, Au, Sb, Bi, Sn and W below the detection limit in most cases. Only Fe showed much variation, but the bulk of samples were less than 2%. Maximum values returned were:-

<u>Element</u>	<u>Maximum Value ppm</u> <u>(unless specified)</u>
Cu	955
Pb	350
Zn	810
Fe	21.5%
Mn	3,900
Ag	1.5
Au	0.032
Sb	14
Bi	15
As	220
Sn	12
W	10

6.2. Stream Sediment Geochemistry (Refer to Appendix C)

Except for W, the results are all low. W values present something of an enigma, although they are fairly low (15 of the 30 values being below the detection limit of 10 ppm), W appears to be much more abundant than the other trace elements. This is difficult to reconcile as the rock geochemistry was singularly devoid of W values (maximum 10 ppm). It could be due to mechanical concentration of scheelite or wolframite but if this were the case, then one would expect Sn values to show a similar trend as Sn values in the rock samples were similar to W. All stream sediment Sn values were below the level of detection.

Maximum values returned for stream sediment samples.

<u>Element</u>	<u>Highest Value</u>	<u>No. Samples below Detection Limit</u>	<u>Detection Limit</u>
Cu	25 ppm	22	10 ppm
Pb	-	30	20 "
Zn	35 ppm	22	10 "
Fe	2.2%	20	0.5%
Mn	200 ppm	22	40 ppm
Ag	-	30	2 "
Au	35 ppb	16	10 ppb
Sb	-	30	20 ppm
Bi	-	30	20 "
As	10 ppm	29	5 "
Sn	-	30	10 "
W	90 ppm	15	10 "

### 3.3. Tailings Geochemistry

Seven samples of pyritic tailing were collected from dumps lying alongside the Lyell Highway. Maximum values returned:-

<u>Element</u>	<u>Maximum Value ppm (unless specified)</u>
Cu	2600
Pb	205
Zn	195
Fe	26.5%
Mn	30
Ag	4.0
Au	0.72
Sb	3
Bi	25
As	380
Sn	10
W	Below detection limit.

It is not known how the tailings got there. Possibly, the Lyell Highway has been built over old workings or alternatively, the tailings have been dumped there, either from a local or distant source. The other interesting fact about these dumps is that lying around some of them, and nowhere else, are unusual fine grained dark green-grey rocks containing minor pyrite mineralisation. Petrological reports described these as intensively altered porphyritic igneous rocks and altered pyroclastics or reworked tuffs, all of acid composition.

7. GEOPHYSICS

No work carried out during this reporting period.

8. FUTURE EXPLORATION

Future exploration of the licence will be aimed at completing the work programme outlined in Section 1. Completion of the first pass geochemical sampling and geological mapping programme will have top priority. A detailed photo-geological study is currently being conducted by a consulting group.

Negotiations have been made with the Tasmanian Mines Department so that access may be gained to data from their regional aerial magnetics survey of the West Coast of Tasmania when it becomes available. This data will be assessed and if necessary, some in-fill lines will be flown.

APPENDIX A:

Petrological reports of 11 rock samples from SPL 806.

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JOHN F. GILFILLAN & ASSOCIATES PTY. LIMITED

MINERAL EXPLORATION AND GEOLOGICAL CONSULTANTS  
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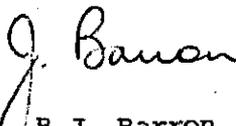
PETROGRAPHIC EXAMINATION OF FIVE ROCK  
SAMPLES FROM TASMANIA.

*S.P.L. 806 Rock samples.*

Report No. : E3/81/76

17th July, 1981.

For: Electrolytic Zinc Company of Australasia Ltd.

  
Dr. B.J. Barron,  
Petrologist.

Sample No. 46151

Rock Type Substantially altered, foliated and weakly mineralised, fragmental (?pyroclastic) lithology, of fairly acidic igneous derivation.

Hand Specimen This is a greenish grey coloured rock which is rather weakly foliated, and contains irregular shaped, pale grey coloured ?porphyritic lithic fragments. Sparse fine grained patches of pyritic mineralisation occur throughout the rock, and staining for K-feldspar proved negative.

Thin Section This sample has a rather variable texture and grain size, and it includes large, vaguely defined, irregular shaped lithic fragments up to about 1.5 cm across. These comprise about 25% of the rock and although the rock is substantially altered, and foliated, recognisable relict phenocrysts of quartz and some former mafic crystal sites, are clearly preserved. The scattered quartz crystals have strongly magmatically corroded and embayed to subhedral grain shapes, indicating that the rock is partly derived from a fairly acidic igneous parent. However, no original mafic phenocrysts remain and instead, in the mafic crystal sites, is a mat of green chlorite flakes, minor irregular secondary quartz patches, irregular shaped to skeletal opaque oxide grains and in some sites carbonate ± irregular patchy sulphides. Several poorly defined prismatic sites filled with a fine, birefringent layer silicate probably represent former feldspar phenocryst sites, and zircon is an accessory primary phase.

Alteration of the rock is extensive, as exemplified by the barely recognisable former mafic crystal sites and in the former matrix of the fragments, as well as in the host lithology, however, no clear relict textures remain and slight changes in grain size and mineralogy mark the fragment boundaries. Most of the matrix thus comprises a mosaic of irregular shaped granular quartz, most of which is strained, with scattered irregular shaped to wispy foliated chlorite patches and equally wispy fine grained, irregular shaped patchy sericite also drawn out parallel to the rather poorly defined foliation. Very minor small aggregates of secondary carbonate are accessory. The sulphide mineralisation is also only accessory and occurs selectively in several chlorite-altered mafic crystal sites in the thin section.

The rock has been extensively altered by a low grade, probably hydrothermal assemblage which possibly accompanied the development of a weak foliation. It has a relict fragmental texture with scattered quartz phenocrysts clearly indicating a fairly acid igneous (possibly volcanic) parent. The rock may be classed as a substantially altered, foliated and weakly mineralised, fragmental (?pyroclastic) lithology, of fairly acidic igneous derivation.

Sample No.

46170

Rock Type

Slaty banded siltstone/claystone

Hand Specimen

A pale grey coloured, well foliated, very fine grained pelitic rock, with a fine primary layering cutting across the sample at a shallow angle to the foliation. Staining for K-feldspar proved negative.

Thin Section

The clastic texture of this rock is clearly preserved and reflects that of a banded siltstone/claystone with an average grain size for most of the detritus of about 0.03 mm across, but with repeated narrow finer grained bands. Most bands contain about 30% of highly angular quartz detritus, together with subordinate plagioclase and scattered deformed and degraded mica flakes, with accessory detrital grains of apatite, olive green tourmaline, sphene, carbonaceous matter and zircon. All this debris is set amongst extremely fine grained, low birefringent clay and sericite. The latter is concentrated in the finer grained, somewhat discontinuous lensed layers where it defines a rather good foliation and comprises up to about 70% of these layers. Also concentrated in these narrow, lensed, finer grained layers, mainly along rather wavy foliation planes, are trails of fine, black carbonaceous dust.

One fine silty band about 8 mm wide is represented in the thin section and clearly deflects the penetrative sericite foliation where narrow, branching, lensed, subparallel foliation planes are developed up to about 2 mm apart.

This is a reasonably well sorted, banded, fine grained sediment, that is well foliated and contains significant fine carbonaceous matter now concentrated along certain cleavage surfaces. Minor

red-brown limonitic staining is also directed along certain discontinuous cleavage planes, but the rock does not contain any significant sulphide mineralisation. The rock may be classed as a slaty, banded siltstone/claystone.

Sample No. 46181

Rock Type Weakly banded and foliated carbonaceous and fossiliferous siltstone/claystone.

Hand Specimen A very fine grained slaty, mid-grey coloured rock with some bands containing patches of flattened crinoid fossil debris. K-feldspar staining proved negative.

Thin Section This rock is extremely similar to the previous sample (46179), except for the presence of sparse small groups of weathered out fossil material. It is a very weakly banded and foliated silty sediment. The primary banding is rather discontinuous, and developed on a scale of about 1.5 to 3 mm across, and this is defined by relatively different proportions of silt-sized and clay-sized detrital material in adjacent bands. Most of the silty detritus has an average grain size of approximately 0.03 mm across and as in the previous sample, again mostly consists of angular quartz with subordinate plagioclase and scattered, deformed and degraded micas. The accessory detrital phases include olive green and brown tourmaline, zircon, apatite, sphene and carbonaceous particles. All the detrital fraction is set in an abundant argillic matrix containing mainly a microcrystalline low birefringent argillic phase with abundant well oriented, wispy sericite. In the finer grained lensed and discontinuous bands, the well oriented sericite and carbonaceous matter significantly predominates over the sparse, silt sized angular quartz rich fraction.

The overall silty, weakly banded, carbonaceous and crinoid-bearing nature of the rock indicates a rather quiet, shallow, possibly marine environment of deposition for this weakly banded and weakly foliated rock which may be classed as a siltstone/claystone.

Sample No. 46314

Rock Type Veined and weakly mineralised, weakly foliated, very fine grained carbonaceous arenite.

Hand Specimen A mottled and irregularly banded, mid-grey coloured, fine grained rock with numerous, irregular, crosscutting narrow white veins, some of which have completely weathered out leaving elongate voids partly lined with small crystals of quartz and sparse pyritic sulphides. K-feldspar staining was negative.

Thin Section This sample is a fine grained silty sediment with a rather patchy distribution of carbonaceous matter and sericite. It contains approximately 45% of angular quartz detritus with an average grain size of about 0.08 mm across; that of a very fine grained arenite. Also present in the detrital fraction are subordinate, bent flakes of degraded micas (now mostly sericite) and accessory yellow-brown to colourless pleochroic tourmaline, quite large grains of subrounded zircon, clouded sphene, opaque oxides and irregular clumps of opaque carbonaceous matter. The matrix of the rock consists very largely of microcrystalline patches of low birefringent argillic material, together with partly oriented sericite and carbon dust. Several irregular shaped patches and bands of finer grained material carry relatively more sericite and carbonaceous dust, and in these bands the narrow, dense, black wavy trails of carbonaceous dust bend around the small detrital quartz grains. This is also the case for fine sericite, both phases of which define a rather poor foliation in the rock.

A system of quite substantial, irregular quartz veins and patches cut across the rock, and comprise up to about 12% of the total sample. These contain elongate prismatic to irregular shaped quartz with an average grain size of about 0.25 mm across. These contain sparse, very irregular patches of pyritic sulphides, together with subordinate opaque oxides. The total sulphide content of the rock however, is less than 0.2%.

The texture and grain size of this sample is that of a strongly veined, very fine grained arenite, with poorly defined, irregular shaped areas and bands of finer grained carbonaceous, sericitic material. It may be classed as a veined and weakly mineralised, weakly foliated, carbonaceous very fine grained arenite.

Sample No.

46316

Rock Type

Weakly foliated carbonaceous siltstone, with abundant lensed, very fine grained arenite bands and minor lithic debris.

Hand Specimen

A very fine grained, distinctly foliated mid-grey coloured sediment with patchy red-brown limonitic staining and white argillic alteration patches. It also contains common narrow dark grey carbonaceous lenses and layers, and common fine arenaceous lenses as well as several arenaceous fragments. K-feldspar staining proved negative.

Thin Section

This is a fine grained arenaceous rock with a clearly clastic texture. It is reasonably well sorted, but contains common lenses and even several small lithic inclusions of coarser material in amongst the finer material. The lenses generally reach 1 cm long but only about 5 mm wide, and the sparse subrounded lithic inclusions reach up to about 5 mm across. The latter are a similar lithology to that of the coarser fraction of the enclosing rock. This type includes about 45% of an angular detrital fraction which contains mostly quartz with subordinate albitic plagioclase, bent, degraded mica flakes, some of which still retain a pale brown biotite colouration, and accessory zircon, epidote, olive green tourmaline, sphene and rather minor clumps of carbonaceous matter.

In the distinctly finer grained zones that enclose the coarser lenses and minor lithic debris, a foliation is distinctly marked by very narrow trails of black carbonaceous matter and birefringent sericite that bend around the silt and very fine grained arenite-sized debris.

Also in this rock are occasional, rather irregular shaped carbonate grains that probably represent sparse fossil debris, although several accessory patches of clearly secondary carbonate are also present.

The rock is primarily a very fine grained sediment with lenses containing very fine grained arenite-sized debris and several small lithic detrital (or fragmental) inclusions of a similar lithology, all enclosed by foliated, finer grained silty carbonaceous material. Minor red-brown limonitic staining persists along cleavage traces in one section of the rock, but these are just a surficial weathering effect and are not associated

with mineralisation. The rock may be classed as a weakly foliated, carbonaceous siltstone, with abundant lensed, very fine grained arenite bands and minor lithic debris.

SUMMARY AND COMPARISON WITH ROCKS DESCRIBED IN THE PREVIOUS REPORTE3/81/73, 13TH JULY, 1981.

This group of rocks is very similar to the previous group (described in the report No. E3/81/73, 13th July, 1981). The fragmental lithology of the present group 46151, is a low grade hydrothermally altered rock of acidic derivation and compares fairly closely with the sample 46115 of the previous group, which is similarly altered and also contains scattered relict quartz phenocrysts.

The remaining four sedimentary rock samples are also similar to the sediments of the previous group, both in size and sorting of the clastic grains, with the exception of 46141 which has a greater maximum average grain size for the quartz-rich clastic debris (about 0.2 mm across), and which actually represents a slightly different, more quartz-rich lithology than all the other sediments, and it contains a relatively meagre matrix fraction with no significant carbonaceous material.

The following samples 46113, 46125, 46127, 46314 and 46316, are quite similar petrographically and represent weakly foliated, very fine grained carbonaceous arenite/siltstones. The samples 46170 and 46181 are finer grained sediments than the former group and are weakly banded, and weakly foliated carbonaceous siltstone/claystone rock types, with crinoid debris in 46181 and fossils in 46113 of the previous group, possibly indicating a fairly shallow water, perhaps marine environment of deposition for both groups.

In the second group of rocks of the present report, the foliation is apparently slightly less pronounced than that of the previously submitted samples, but this may well reflect the angles at which some of the thin sections were cut rather than an absolute lessening of the degree of the overall weak foliation.

Nearly all of the samples are very little mineralised, but with some pyritic mineralisation in the low grade hydrothermally altered volcanically derived rocks, 46114, 46115 and 46151, and in the hydrothermal crosscutting quartz veins of the very fine grained arenite 46314. There is no visible gold in any of the hand specimens or thin sections of either group.

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PETROGRAPHIC EXAMINATION OF SIX ROCK SAMPLES  
FROM TASMANIA.

SPL. 806 Rock Samples.

Report No. E3/81/73

13th July, 1981.

For: Electrolytic Zinc Company of Australasia Ltd.

*J. Barron.*  
Dr. B.J. Barron,  
Petrologist.

Sample No. 46113

Rock Type ?Fossiliferous, very fine grained quartz arenite.

Hand Specimen A light grey coloured, fine grained rock with numerous small voids that may represent weathered out, former ?fossil debris. A few of these voids retain structures similar to hinge areas on shells. Staining for K-feldspar proved negative.

Thin Section The sample is a fine grained arenaceous sediment, which is fairly well sorted. The detritus has an average grain size of about 0.06 mm across, and this fraction occupies approximately 65% of the rock with the remainder as a somewhat sparse argillic matrix. The detritus consists almost entirely of angular, to irregular shaped quartz grains, with rare grains of bent and deformed, partly degraded micas and accessory angular detrital grains of olive green to nearly colourless tourmaline, sphene, ?cassiterite, zircon and apatite. The matrix of the rock is extremely fine grained, containing patches of a microcrystalline, low birefringent clay but with very abundant fine birefringent ?illite (or sericite), poorly defining a partial wavy direction of compaction or incipient foliation. There is virtually no carbonaceous material present.

The texture of this sample is clearly clastic, with scattered small voids probably representing weathered out fossil shell debris, and its grain size, together with its abundant quartz detritus suggests that the rock may be classed as a ?fossiliferous, very fine grained, quartz arenite.

Sample No. 46114

Rock Type Completely altered, veined, and weakly mineralised, former vesicular, porphyritic igneous rock of rather acidic composition.

Hand Specimen A dark green-grey coloured, rather fine grained rock, which is weakly foliated and distinctly veined. It contains sparse, disseminated pyritic sulphide mineralisation, and staining for K-feldspar proved negative.

Thin Section

This is a remarkable lithology in that it is completely altered to a low grade secondary assemblage, and yet quite good relict textures are preserved of a sparsely porphyritic, igneous parent. The relict textures indicate the original lithology once contained scattered large, phenocrysts comprising about 8% of the rock, and reaching up to about 2 mm across. The shapes of these are invariably subhedral, with a larger fraction possibly representing former feldspar sites, and a smaller, slightly less abundant fraction represented by subhedral to clearly magmatically corroded and embayed quartz. The former groundmass of the rock is completely altered, however, and relict structures in this component are more difficult to recognise accurately. At least some of these vaguely defined structures possibly represent a smaller fraction of stumpy prismatic phenocrysts, but more numerous are somewhat rounded structures with an average size of about 0.5 mm across, and which possibly represent former vesicles.

Alteration of the rock is extreme, with quartz and a weakly pleochroic, green to pale yellowish-brown chlorite comprising nearly all of the rock, with about 1.5% of disseminated pyritic sulphides. Where the quartz occurs in relict phenocryst sites, it is clear of inclusions, however the remainder of the secondary quartz is distinctly clouded by fine argillic dust. The dense patches of chlorite possibly represent a former volcanic ?glass, and the elongate ragged patches of this phase reflect a poorly defined foliation direction. Very minor patches of fine, secondary accessory opaque oxides and ?zircons are present in the chlorite. A remarkable system of very narrow, discontinuous sub-parallel quartz veins cross the rock at a high angle to the "foliation" direction and several wider veins carry incipiently recrystallised and strained, narrow prismatic quartz domains, with c-axes distinctly normal to the length of the veins. The larger of these veins also carries large patches of elongate carbonate.

Although the rock is very substantially altered, probably by hydrothermal effects, a clear relict texture remains of a porphyritic and vesicular parent of fairly acidic composition. The rock may be classed as a completely altered, veined and weakly mineralised, former vesicular, porphyritic acidic igneous rock.

Sample No. 46115

Rock Type Substantially altered, foliated, veined and mineralised pyroclastic or partly reworked tuffaceous type, of acid volcanic derivation.

Hand Specimen A greenish grey to light yellow-brown, to pink coloured mottled, ?fragmental, fine grained rock with disseminated fine grained pyritic sulphide mineralisation. Staining for K-feldspar proved negative.

Thin Section This is a considerably altered and partly foliated lithology, with a rather variable texture. The grain size is also variable, ranging up to about 0.8 mm across. Relict textures in the rock are rather poorly preserved due to the distinct flattening and foliation, but at least some primary lithic fragments are present up to about 8 mm across. The latter probably comprise about 25% of the rock, although this is difficult to estimate due to the diffuse boundaries of these clasts. Other primary relict grains include subhedral to magmatically corroded quartz grains, clearly from an acid igneous source. Also, recrystallised clusters of quartz grains occur in aggregates that have subhedral relict shapes. In still other siliceous fine grained types, rounded structures may represent former vesicles, but these are now filled with recrystallised quartz. Accessory grains include subhedral zircon and minor apatite.

For the most part however, the rock consists of a secondary assemblage including about 60% of irregular medium grained granular quartz patches, and elongate areas of microcrystalline quartz, set within equally irregular shaped anastomosing, partly foliated areas and wispy trails of a very fine grained birefringent layer silicate (probably illite or even pyrophyllite), while in other areas wispy patches of fine, oriented chlorite flakes comprise most of the matrix. In some areas, these fine grained secondary matrix phases are absent and the patches contain instead only irregular granular quartz-rich aggregates. Disseminated pyrite cubes make up about 1% of the total rock and range in size up to about 0.5 mm across. The larger of these grains are clearly associated with the coarser grained quartz patches, and minor irregular shaped clusters of alunite.

This is a substantially altered sample which also has

been foliated, veined, and mineralised. Relict textures are difficult to recognise, but at least some lithic and crystal material is derived from a quartz porphyritic volcanic source. The rock thus possibly represents a substantially altered, foliated, veined and mineralised, pyroclastic or partly reworked tuffaceous type of acidic derivation.

<u>Sample No.</u>	46125
<u>Rock Type</u>	Weakly foliated carbonaceous siltstone, with narrow, lensed layers of a very fine grained quartz arenite.
<u>Hand Specimen</u>	A somewhat friable, weakly foliated light grey, very fine grained sediment, with sparse, narrow, lensed, discontinuous layers of a lighter grey coloured, slightly coarser grained fraction. Staining for K-feldspar proved negative.
<u>Thin Section</u>	This is a very fine grained silty sediment, with sparse lensed layers of very fine grained arenite with a maximum width of about 1 mm across. In the majority of the rock the sparse detritus ranges up to a maximum of about 0.03 mm across, but most of the sample contains very well oriented, fine grained sericite, with dusty carbonaceous material concentrated in the wavy narrow foliation planes. The sparse angular detritus comprises mainly quartz with a little irregular carbonaceous debris also up to about 0.03 mm across, with accessory zircon, sphene and yellow-brown tourmaline.

In the coarser fraction angular quartz again comprises most of the detritus with an average grain size of about 0.08 mm across. This is set in a fine grained chloritic and sericitic matrix similar to the finer grained host lithology, but essentially lacking the abundant fine grained carbonaceous material. Accessory detritus in these coarser grained bands includes blue to brown tourmaline and partly degraded and deformed biotite flakes, now largely represented by trails of sphene dust parallel to the cleavage surfaces set in secondary sericite.

At least a few of the smaller lensed patches and layers of slightly coarser grained arenite sized detritus may represent worm burrowings, or even narrow slumped layers, within the finer grained,

voluminous silty fraction. The sample can be described as a weakly foliated, carbonaceous siltstone with narrow, lensed layers of very fine grained, quartz arenite.

Sample No. 46127

Rock Type Weakly foliated argillic siltstone, with rare, lensed patches of very fine grained quartz arenite.

Hand Specimen A rather argillic, weakly foliated, very fine grained mid brownish-grey pelitic rock. Staining for K-feldspar proved negative.

Thin Section This is an extremely fine grained pelitic sediment, which clearly contains very little fine grained carbonaceous matter (in contrast with the previous sample, 46125.). There is a very weak, poorly marked primary layering, defined by lensed, discontinuous bands containing slightly coarser grained, very fine grained arenite sized detritus, which are crossed at a shallow angle by the weak penetrative foliation.

The vast majority of the rock comprises about 10% of sparsely disseminated, fine, silt-sized detritus, with an average grain size of less than 0.05 mm across. This detritus is mainly angular quartz, common deformed very fine, partly degraded micas, minor carbonaceous matter and accessory grains of green chlorite, pale brown tourmaline, and zircon. The extremely fine matrix in which this material is set contains mainly a well oriented, birefringent layer silicate which is probably illite defining the distinct foliation. Also present in the matrix fraction are common, microcrystalline aggregates of a low birefringent argillic phase and a light dusting of carbonaceous matter.

The rock clearly retains a primary clastic texture in spite of its extremely fine grain size, and penetrative foliation defined mainly by argillic layer silicates. The discontinuous, lensed, vaguely defined primary layering is disrupted by the weak foliation which is developed at a low angle to the former. The rock may be classed as a weakly foliated argillic siltstone, with rare, small lensed patches of very fine grained quartz arenite.

Sample No. 46141

Rock Type Veined and weakly recrystallised, extremely quartz-rich, fine grained arenite or quartzite.

Hand Specimen A light grey coloured, rather massive, siliceous medium to fine grained rock cut by fairly narrow, straight, branching veins in several different directions. Staining for K-feldspar proved negative.

Thin Section The sample is a well sorted medium grained sediment, containing about 75% of detritus, with an average grain size of about 0.2 mm across, (or fine sand size). The detritus comprises very largely angular quartz, many grains of which show sutured grain boundaries with adjacent quartz grains, and most of which show very distinct strain shadows, while some grains show distinct marginal epitaxial addition of quartz in optical continuity with the detrital grain. Scattered grains which may represent sites of former feldspathic detritus are now a decussate mass of extremely fine birefringent argillic layer silicates, (mainly ?illite), while accessory detrital grains include olive green to nearly colourless, pleochroic, sub-rounded, tourmaline grains, subrounded zircon grains, irregular shaped opaque oxides, partly degraded and bent former detrital ?biotite, (now marked by patches of opaque oxide dust set in secondary sericite), and several elongate, prismatic grains of rutile. The extremely meagre matrix of the rock is dominated by wispy illite (or sericite) developed mainly in grain boundary sites, with extremely small patches of a microgranular low birefringent argillic phase.

The rock is cut by several narrow quartz veins ranging up to 2 mm across, in which the quartz probably once had a narrow prismatic habit, with c-axes normal to the length of the veins. However, now the quartz is partly recrystallised producing a highly variable grain size, with very distinct strain shadows developed in the coarser relict grains which generally range up to about 0.6 mm in long dimension. These veins are essentially monomineralic and unmineralised.

The sample has a clearly clastic texture and is affected by a weak regional deformation. Since the primary lithology is rather coarse grained compared with the previous sedimentary samples, the weak foliation is not readily apparent, however in a major, crosscutting

hydrothermal quartz vein, strain shadows and minor recrystallisation effects are manifest. The rock may be classed as a veined and weakly recrystallised, extremely quartz-rich, fine grained arenite or quartzite.

COMPARISON OF THE THREE SAMPLES 46113, 46127 and 46141

These three samples essentially represent three size ranges of sedimentary material in this group. The sample 46127 represents the finest grained material, and as an essentially unaltered fine siltstone, it is little affected by metamorphism except for the development of a weak, but penetrative foliation marked by very well aligned sericitic and carbonaceous matter.

In the sample 46113, the slightly greater detrital grain size for this sample and very abundant detrital fraction, essentially precludes development of the marked weak foliation of sample 46127, but even so, weak alignment of the relatively less abundant fine grained, birefringent layer silicates of the matrix is manifest in the rock. Also in this rock the shapes of at least some of the voids probably suggest the former presence of readily recognisable shelly fossil material.

In the coarsest grained arenite, 46141, the metamorphic, (or rather foliation) effects are essentially masked by the relatively greater abundance and coarser grain size of the quartz rich detrital fraction. Some effects of weak recrystallisation are manifest in the narrow quartz veins, and distinct strain shadows present in most detrital quartz grains. Note that also these weak recrystallisation effects, post dating the hydrothermal quartz veining is well demonstrated in the heavily veined, and altered, former vesicular and porphyritic acidic igneous rock represented by 46114.

In summary, the whole suite of rocks represent only weakly metamorphosed samples, several of which have suffered relatively more pronounced effects of hydrothermal alteration and veining than others, but most of which reflect a weak penetrative foliation.

APPENDIX B:

Analyses of Rock Samples.

A

PROJECT				CO-ORDINATES				SAMPLED BY				MATERIAL				ROCK #	
SPL 806-				LINE: TRAVERSE W/ELLHWAY				J. A. NSBP.				TAILINGS.				SHEET #	
MISERY FLATS, TV				FROM:				DATE				DEPTH				JOB #	
				TO:				JUNE 81.									
SAMPLE NUMBER	CO-ORDINATES		INTERVAL	Cu	Pb	Zn	Ag	Fe	Mn	Bi	Au.	As	Sn.	DESCRIPTION			
N/S	E/W.	+/-															
43503	337550	375370		1850	60	20	20	26.5%	15	20	0.460	380		X			
43504	336390	375400		840	60	40	30	24.0%	15	25	0.717	280		6			
43505	331700	374680		2600	55	35	20	24.0%	15	20	0.317	250		13			
43506	332570	372720		610	35	15	30	20.5%	10	15	0.609	170		8			
43507	332470	372520		1550	205	195	40	24.0%	20	25	0.700	310		10			
43508	332100	372230		740	170	175	35	25.0%	20	15	0.358	210		7			
43509	332130	369950		2100	75	35	30	24.0%	30	X	0.700	340		10			

852055

SPK 806. MISERY FLAT. J.V.				CO-ORDINATES				SAMPLED BY				MATERIAL				BOOK #			
				LINE: TRAVERSE - LYRAL HWAY				J.A.N. S.B.P.				TAILINGS.				SHEET #			
				FROM:				DATE				DEPTH				JOB #			
				TO:				JUNE '81.											
SAMPLE NUMBER		CO-ORDINATES		INFORM		TO:										DESCRIPTION			
		N/S E/W		-/-		Sb W													
43503						X X													
43504						X X													
43505						X X													
43506						X X													
43507						3 X													
43508						3 X													
43509						2 X													

IN P.P.M. UNLESS SPECIFIED.

PROJECT				CO-ORDINATES				SAMPLED BY				MATERIAL			BOOK NO
SPL 806-MISERY FLAT J.V.				LINE: TRAVERSE LYELL H'WAY.				J.A.N. S.B.P.				ROCK			SHEET NO
1/2				FROM: START T(1).				DATE				DEPTH			JOB NO
SAMPLE NUMBER	CO-ORDINATES		INFORM	TO: START T(2).				JUNE '81.				SURFACE			DESCRIPTION
	N/S	E/W	+/-	Cu	Pb	Zn	Ag	Fe	Mn.	Si	Al	AS	Sn		
46101	332370	373400		10	50	25	X	3550	30	5	X	9	X	Section	
46102	332370	373660		20	30	30	X	50%	20	X	X	23	X	Section	
46103	332240	373970		10	40	20	X	4600	10	5	X	17	5	Section	

852035

D.

PROJECT: SPL. 806-MISERY FLAT JV.				CO-ORDINATES				SAMPLED BY				MATERIAL				BLOCK #			
2/2				LINE #												SHEET #			
				FROM:				DATE				DEPTH				JOB #			
SAMPLE NUMBER		CO-ORDINATES		Interval		TO:										DESCRIPTION			
		N/S E/W		+/-		Sb W													
1/6/101						X X													
1/6/102						X 110													
1/6/103						X X													

852036

E.

IN P.P.M. UNLESS SPECIFIED.

PROJECT: SPL 806: MISERY FLAT J.V.				CO-ORDINATES				SAMPLED BY			MATERIAL			BOOK NO
				LINE: TRAVERSE ①				J.A.N.S.B.P.			ROCK			SHEET NO
				FROM: 0				DATE			DEPTH			JOB NO
				TO: 124				JUNE '81			SURFACE			
SAMPLE NUMBER	CO-ORDINATES		Incr	Cu	Pb	Zn	Ag	Fe	Mn	B	Au	As	Sn	DESCRIPTION
46104	332	350	37	20	10	20	N X	3250	10	5	X	3	12	ub sh

852037

PROJECT: SPL 806 - MISERY TRAT J.V.				CO-ORDINATES				SAMPLED BY				MATERIAL				SOCK #																																																																																			
2/2				LINE:												SHEET #																																																																																			
				FROM:				DATE				DEPTH				JOB #																																																																																			
SAMPLE NUMBER		CO-ORDINATES		Increm.	TO:										DESCRIPTION																																																																																				
H/S		E/W		+/-	Sb.		W.																																																																																												
116104					4		X																																																																																												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

In P.P.M. UNLESS SPECIFIED

PROJECT		CO-ORDINATES				SAMPLED BY		MATERIAL		BOOK #					
SPL-806- MISERY FLATS J.V.		LINE: TRAVERSE 2				J.A.N.S.B.P.		Rock		SHEET #					
1/2		FROM: 0				DATE		DEPTH		#33 #					
		TO: 650M				JUNE '81		SURFACE							
SAMPLE NUMBER	CO-ORDINATES		Interval +/-	TO:				Fe	Mn	Bi	Au	As	Sn	DESCRIPTION	
	N/S	E/W		Cu	Pb	Zn	Ag								
46105	332050	274060			X	20	15	X	2500	10		10		X	Spec. (10)
46106	331940	274220			5	10	10	X	2500	5		X		X	Spec. (10)
46107	331830	274420			5	20	10	X	2050	10		X		X	Spec. (10)

H

PROJECT		SAL 906 - MISERY FLAT 3. V.										CO-ORDINATES		SAMPLED BY		MATERIAL		SOCK #	
												LINE #						SHEET #	
7/2												FROM:		DATE		DEPTH		JOB #	
SAMPLE NUMBER		CO-ORDINATES		INCREAS		TO:												DESCRIPTION	
		N/S		E/W		+/-		Sb		W.									
46105								X		X									
46106								X		X									
46107								X		X									

852040

IN P.P.M. UNLESS SPECIFIED.

TABLE 1		CO-ORDINATES										SAMPLED BY		MATERIAL			ROCK #		
SPL 806 - MISERY FLAT J.V.		LINE: TRAVERSE - HELL H'WAY										J.A.N. S.B.P.		Rock			SHEET #		
1/2.		FROM: C TOWN - STRAHAN.										DATE		DEPTH			ISS #		
		TO:										JUNE 81		SURFACE					
SAMPLE NUMBER	CO-ORDINATES		INTEVAL +/-	ELEMENTS										DESCRIPTION					
	N/S	E/W		Cu	Pb	Zn	Ag	Fe	Mn	Bi	Au	As	Sn						
46108	337960	375200			10		10		20		X	2700	10		X	X	X	X	coll sh.
46109	337920	375325			5		35		15		X	1950	25		5		X	X	coll sh.
46110	337790	375370			5		35		15		X	2850	10		X		X	X	coll sh.
46111	337650	375400			X		145		810		X	2500	20		10	0.008		X	coll sh.
46112	337610	375400			X		20		35		X	3300	15		X		X	X	coll sh.
46113	337520	375420			10		30		10		X	3600	20		X		X	X	coll sh.
46114	337110	375420			X		10		10		X	1650	5		10		X	X	coll sh.
46115	337090	375350				905		25	130		X	6880	3900		10	0.032		32	X
46116	336920	375360				65		10	15		X	3950	40		5	0.016		X	coll sh.
46117	336480	375390				15		20	10		X	238	20		10	0.016		40	X
46118	336320	375400				X		60	265		X	2050	15		X	0.024		1	X
46119	336350	375340				X		10	20		X	1800	5		5	0.008		X	coll sh.
46120	336300	375370				5		15	15		X	958	10		X	0.005		34	X
46121	336270	375350				5		15	10		X	4600	20		5	0.008		3	X
46122	336260	375350				5		10	10		X	462	10		X	0.016		37	X
46123	336200	375360				X		10	20		X	132	20		X		X	9	X
46124	336210	375360				10		20	30		X	1218	10		X		X	220	X
46125	336040	375430				10		70	45		X	148	55		X		X	12	X
46126	335760	375490				15		25	20		X	518	15		15		X	50	X
46127	335220	375530				10		35	55		X	298	120		X		X	5	X
46128	335000	375520				X		100	30		X	728	30		5		X	11	X
46129	334550	375370				10		55	20		X	8000	25		X		X	7	X
46130	334440	375290				80		45	20		X	218	5		10		X	60	X
46131	334230	375200				10		40	20		X	5250	20		X		X	2	X
46132	334130	375160				X		15	10		X	3900	5		5		X	X	2

PROJECT		CO-ORDINATES				SAMPLED BY		MATERIAL		BOOK NO
SAL 806. MISERY FLAT J.V.		LINE:				DATE		DEPTH		SHEET NO
		FROM:								JOB NO
2/2		CO-ORDINATES		INFORM	TO:					
SAMPLE NUMBER	N/S	E/W	+/-	Sb	W					DESCRIPTION
46108					X	10				
46109					X	X				
46110					X	X				
46111					X	X				
46112					X	X				
46113					X	X				
46114					X	X				
46115					X	X				
46116					X	X				
46117					4	X				
46118					X	X				
46119					X	X				
46120					6	X				
46121					X	X				
46122					X	X				
46123					X	X				
46124					X	X				
46125					X	X				
46126					X	X				
46127					X	X				
46128					X	X				
46129					X	X				
46130					X	X				
46131					X	X				
46132					X	X				

K

IN P.P.M. UNLESS SPECIFIED.

SPL 806 - MISERY FLATS J.V.		CO-ORDINATES		INTRA	TO: STRAHAN				SAMPLED BY: J.A.N.S.B.P.			MATERIAL: ROCK			BOOK #
1/2		LINE: TRAVERSE-LYELL H'WAY			FROM: C'TOWN				DATE: JUNE '81			DEPTH: SURFACE			SHEET #
SAMPLE NUMBER	CO-ORDINATES N/S	CO-ORDINATES E/W	Intra +/-	Cu	Pb	Zn	Ag	Fe	Mn	B	Au	AS	Sn	DESCRIPTION	
46133	334070	375110				70	20				X		34	X cad (resid)	
46134	333940	375050			15	35	10				X		77	X gnd (resid)	
46135	333570	375060			X	10	10				X		12	X gnd	
46136	333500	375010			X	100	10				X		9	X gnd	
46137	333650	374860			15	170	15				X		8	X gnd (resid)	
46138	3330470	374750			X	25	20				X		10	X gnd (resid)	
46139	333200	374720			5	350	20				X		X	X gnd (resid)	
46140	333200	374730			10	25	10				X		5	Z gnd (resid)	
46141	333070	374820			5	15	10				X		4	Z gnd	
46142	332640	375020			X	15	10				X		2	X gnd	
46143	332310	375080			10	15	5				X		X	X gnd (resid)	
46144	332220	375090			5	15	10				X		3	X gnd (resid)	
46145	332110	375010			5	15	5				X		X	X gnd (resid)	
46146	331970	374990			20	35	75				X		17	X salt (resid)	
46147	331920	374970			5	15	25				X		9	X salt	
46148	331860	374930			5	15	15				X		7	X gnd (resid)	
46149	331860	374810			5	10	10				X		6	X gnd (resid)	
46150	331930	374820			X	X	5				X		4	X gnd (resid)	
46151	331730	374740			955	X	105				X		5	X salt (resid)	
46152	331710	374680			25	X	10				X		9	X gnd (resid)	
46153	331700	374540			X	5	20				X		8	X gnd (resid)	
46154	331900	374480			10	5	10				X		34	X gnd (resid)	
46155	331780	374400			20	5	15				X		17	X gnd (resid)	
46156	331740	374280			10	5	40				X		19	X gnd (resid)	
46157	331700	374180			10	25	10				X		25	X gnd (resid)	

SPR 806 - MISERY FLAT J.V.

3/2

CO-ORDINATES

LINE #

FROM:

TO:

SAMPLED BY

MATERIAL

BOOK #

SHEET #

DATE

DEPTH

JOB #

SAMPLE NUMBER	CO-ORDINATES		Invert +/-	TO:		SAMPLED BY	MATERIAL	DEPTH	BOOK #	SHEET #	JOB #	DESCRIPTION
	N/S	E/W		Sb.	W							
46/133												
46/134												
46/135												
46/136												
46/137												
46/138												
46/139												
46/140												
46/141												
46/142												
46/143												
46/144												
46/145												
46/146												
46/147												
46/148												
46/149												
46/150												
46/151												
46/152												
46/153												
46/154												
46/155												
46/156												
46/157												

IN P.P.M. UNLESS SPECIFIED.

PROJECT		CO-ORDINATES				SAMPLED BY				MATERIAL			BOOK #		
SPL 806 - MISERY FLAT J.V.		LINE: TRAVERSE KYELL H'WAY				J.A.N.'S.B.P.				ROCK			SHEET #		
1/2		FROM: Q'TOWN				DATE: JUNE '81				DEPTH: SURFACE			JOB #		
SAMPLE NUMBER	CO-ORDINATES		Incr	TO: STRAHAN.	Cu	Pb	Zn	Ag	Fe	Mn	Bi	Au	As	Sn	DESCRIPTION
	N/B	E/W													
46158	33	1740	37	130	5	70	5		49%	15	X	X	130	X	Shale (red)
46159	33	1850	27	980	20	65	10		105%	25	X	X	56	X	Shale (red)
46160	33	2080	37	800	30	30	40		35%	10	X	X	120	X	Shale (red)
46161	33	2420	37	500	45	265	45		70%	20	X	0008	59	X	Shale (red)
46162	33	2570	37	3160	15	50	50		21%	15	X	X	11	X	Shale
46163	33	2600	37	3260	25	15	35		23%	20	X	X	9	X	Shale (red)
46164	33	2640	37	3060	15	10	20		25%	10	X	X	7	X	Shale (red)
46165	33	2720	37	3040	10	35	15		6150	10	X	X	14	X	Shale
46166	33	2740	37	3010	5	25	30		235%	55	X	X	14	X	Shale (red)
46167	33	2740	37	2970	20	X	25		25%	25	X	X	12	X	Shale (red)
46168	33	2730	37	2930	5	X	15		9300	55	X	X	8	X	Shale (red)
46169	33	2730	37	2950	10	50	60		23%	85	X	X	9	X	Shale (red)
46170	33	2700	37	2790	15	15	25		235%	20	X	X	11	X	Shale (red)
46171	33	2570	37	2760	10	150	55		19%	65	X	X	12	X	Shale (red)
46172	33	2550	37	2750	20	5	10		8000	40	X	X	6	X	Shale (red)
46173	33	2530	37	2700	5	X	30		16%	100	X	X	2	X	Shale
46174	33	2500	37	2530	10	X	30		6050	65	X	0008	8	X	Shale (red)
46175	33	2450	37	2450	10	40	35		16%	80	X	X	7	X	Shale (red)
46176	33	2300	37	2330	15	70	20		4650	20	X	0008	9	X	Shale (red)
46177	33	2190	37	2230	25	15	20		185%	15	X	0008	14	X	Shale
46178	33	2150	37	2240	15	50	55		14%	45	X	X	7	X	Shale (red)
46179	33	2040	37	2020	25	25	50		375%	30	X	X	12	X	Shale (red)
46180	33	1920	37	2010	10	10	50		225%	90	X	X	9	X	Shale
46181	33	1700	37	2000	25	15	35		27%	50	X	0025	4	X	Shale (red)
46182	33	1760	37	1630	20	35	40		165%	50	X	X	8	X	Shale

N

SP2 806-M BERY FLATS J.V.

CO-ORDINATES LINE:	SAMPLED BY	MATERIAL	SOCK #
FROM:	DATE	DEPTH	SHEET #
TO:			JOB #

2/2

SAMPLE NUMBER	CO-ORDINATES			Inches +/-	70:		DESCRIPTION
	N/S	E/W			Sp.	W.	
46158					6	X	
46159					X	X	
46160					X	X	
46161					X	X	
46162					X	X	
46163					X	X	
46164					X	X	
46165					X	X	
46166					X	X	
46167					X	X	
46168					X	X	
46169					X	X	
46170					X	X	
46171					X	X	
46172					X	X	
46173					X	X	
46174					X	X	
46175					X	X	
46176					X	X	
46177					X	X	
46178					X	X	
46179					X	X	
46180					X	X	
46181					X	X	
46182					X	X	

852046

PROJECT				CO-ORDINATES					SAMPLED BY			MATERIAL			BOOK NO
SPL 806 - MISERY FLAT J.V.				LINE: TRAVERSE LYELL 11' W					J.A.N. S.B.P.			Rock			SHEET NO
1/2				FROM: Q TOWN					DATE: JUNE '81			DEPTH: SURFACE			JOB NO
SAMPLE NUMBER	CO-ORDINATES		Interval	TO: STRAHAN	Cu	Pb	Zn	Ag	Fe	Mn	Bi	Au	As	Sn	DESCRIPTION
	N/Y	E/W													
46183	331600	371660			5	X	15	X	11%	20	X	X	4	X	Chalk (S)
46184	331570	371340			10	25	40	X	22.5%	20	X	0008	8	X	Chalk (S)
46185	331400	371390			X	2	20	X	6500	20	5	X	5	X	Chalk (S)
46186	331430	371290			5	45	10	10	5350	15	5	X	8	X	Chalk (S)
46187	331520	371210			15	15	10	0.5	9700	10	5	X	6	X	Chalk (S)
46188	331580	371120			20	10	10	0.5	105%	10	5	X	X	X	Chalk (S)
46189	331590	370970			10	25	25	0.5	105%	25	10	X	11	X	Chalk (S)
46190	331670	370800			10	20	30	1.5	15%	50	5	X	6	X	Chalk (S)
46191	331710	370660			15	10	15	1.0	205%	20	X	X	10	X	Chalk (S)
46192	331670	370580			10	10	10	X	10%	20	5	X	10	X	Chalk (S)
46193	331750	370400			X	5	X	1.0	1550	15	X	X	1		Chalk (S)
46194	331850	370210			X	20	5	X	1900	10	10	0008	1	X	Chalk (S)
46195	331960	370060			X	10	X	X	1400	5	X	X	2	X	Chalk (S)

592806 - MISERY FLAT J.V.

2/2

CO-ORDINATES		SAMPLED BY	MATERIAL	BOOK N°
LINE:				SHEET N°
FROM:		DATE	DEPTH	JOB N°
TO:				

SAMPLE NUMBER	CO-ORDINATES		INTERVAL	TO:		DESCRIPTION
	N/S	E/W		Sb	W	
46183				X	✓	
46184				X	X	
46185				X	✓	
46186				X	X	
46187				X	X	
46188				X	X	
46189				X	X	
46190				X	X	
46191				X	X	
46192				X	X	
46193				3	X	
46194				5	X	
46195				X	X	

Q

PROJECT				CO-ORDINATES				SAMPLED BY				MATERIAL				BODY #	
SPL 806				LINE: TRAVERSE (3)				J.A.N.:S.B.P.				ROCK				SHEET #	
1/2 MISERY FLATS T.V.				FROM: LYELL H'WAY				DATE: 22 JUNE '81				DEPTH: SURFACE				JOB #	
SAMPLE NUMBER	CO-ORDINATES		INVERT	TO:	Ca	Pb	Zn	Ag	Fe	Mn	Bi	Au	As	Sb	DESCRIPTION		
	N/E	E/E															
46196	337212	375280			X	X	X	X	1350	10	X	X	2	X	10% (100)		
46197	337260	375040			X	5	5	X	152	15	X	X	7	X	10% (100)		
46198	337280	375000			X	5	X	X	6600	10	X	X	3	X	10% (100)		
46199	337340	374810			15	20	10	X	3000	15	X	X	4	X	10% (100)		
46200	337390	374660			25	25	5	05	3800	10	X	X	X	X	10% (100)		
46301	337300	374500			20	20	15	05	7250	10	10	X	12	X	6% (100)		
46302	337350	374540			X	X	10	05	3700	10	X	X	X	X	10% (100)		
46303	337400	374420			5	15	10	05	6550	10	X	X	2	X	10% (100)		
46304	337400	374300			X	X	25	X	141%	35	X	X	X	X	10% (100)		
46305	337340	374160			X	5	45	05	1485%	75	5	X	X	X	10% (100)		
46306	337330	374070			15	20	35	05	7700	30	X	X	9	X	10% (100)		
46307	337410	374000			15	25	50	10	16%	40	X	X	8	X	10% (100)		
46308	337460	373920			15	30	40	05	149%	40	10	X	5	X	10% (100)		



S

PROJECT		CO-ORDINATES				SAMPLED BY			MATERIAL			BOOK #		
SPL 806 - MISERY FLATS JV.		LINE: TRAVERSE (D)				J.A.N.S.B.P			ROCK			SHEET #		
1/2		FROM: L'JELL H'WAY.				DATE: 23-JUNE '81			DEPTH: SURFACE			JOB #		
SAMPLE NUMBER	CO-ORDINATES		TO:				Fe	Mn	Bi	Au	As	Sn	DESCRIPTION	
	N/	E/	Cu	Pb	Zn	Ag								
46310	337	210	275	330	X	5	10	X	1000	5	X	7	4	1000
46311	337	270	275	420	X	10	5	X	1200	5	X	4	X	
46312	337	220	375	580	5	X	5	X	2000	20	5	0008	4	X
46313	337	390	375	100	X	X	10	X	1450	10	X	0017	6	X
46314	337	161	215	620	X	5	5	X	2250	15	5	0003	2	X
46315	337	481	375	710	40	80	105	X	6050	15	X	X	8	10
46316	337	510	375	770	5	10	55	X	15%	30	X	X	7	X
46317	337	540	375	820	10	15	55	X	20%	35	10	X	3	X

852051



PROJECT		CO-ORDINATES				SAMPLED BY			MATERIAL			BLOCK #	
SPL 806 - MISERY FLATS J.V.		LINE: TRAVERSE (5)				J.A.N. S.B.P.			Rock			SHEET #	
12		FROM: L'ELLE 11' WAY				DATE: 24-JUNE '81			DEPTH: SURFACE			JOB #	
SAMPLE NUMBER	CO-ORDINATES		Cu	Pb	Zn	Ag	Fe	Mn	Bi	Au	As	Sn	DESCRIPTION
	N/	E/											
46317	225370	375340	5	x	30	x	14%	15	x	COOR	1	x	1st best
46318	335490	375210	5	x	5	x	90%	25	x	x	1	x	1st best
46319	335520	375100	5	S	15	x	54%	30	x	x	2	2	2nd best
46320	335550	375050	5	S	10	x	16%	45	x	x	5	2	2nd best
46321	335690	374900	5	x	5	x	33%	25	x	x	x	10	1st best
46322	336060	374140	10	70	30	x	61%	10	x	CR25	4	2	2nd best
46323	336100	374110	5	S	5	x	21%	5	x	COOR	x	x	1st best
46324	336110	374070	5	35	165	x	78%	180	x	x	95	x	1st best
46325	336130	374050	5	10	10	x	69%	10	x	x	1	x	1st best
46326	336170	373960	5	15	60	x	23%	10	x	x	1	x	1st best
46327	336240	373920	5	10	55	x	25%	105	x	x	x	4	1st best
46328	336420	373870	5	10	45	x	25%	65	10	x	6	x	1st best
46329	336620	373960	5	5	15	x	32%	50	x	x	4	2	1st best

CO-ORDINATES				SAMPLED BY		MATERIAL		BLOCK N°	
LINE 1								SHEET N°	
FROM:				DATE		DEPTH		JOB N°	
TO:								DESCRIPTION	
SAMPLE NUMBER	CO-ORDINATES		Interval +/-	Sp.	W.				
	N/S	E/W							
46317				X	X				
46318				X	X				
46319				X	X				
46320				X	X				
46321				X	X				
46322				X	X				
46323				X	X				
46324				X	X				
46325				X	X				
46326				X	X				
46327				X	X				
46328				X	X				
46329				X	X				

PROJECT				CO-ORDINATES				SAMPLED BY			MATERIAL			BLOCK #
SPL. 906 - MISERY FLAT J.V.				LINE: A-BT TRAMWAY / OUTSIDE LEASE				J.A.N. S.B.P.			ROCK			SHEET #
1/2				FROM: Q TOWN				DATE: 25 JUNE '81			DEPTH: SURFACE + QUARRY			JOB #
				TO: STRAHAN.										
SAMPLE NUMBER	CO-ORDINATES		INTRA	C.	Pb.	Zn	Ag	Fe	Mn	Bi	Au.	As	Sb	DESCRIPTION
	N/S	E/W												
46330	335620	377870		5	30	45	X	1850	15	X	X	X		4
46331	334720	377200		30	115	1800	X	4750	310	X	X	10		2
46332	334650	377140		5	70	105	X	3350	385	X	X	13		X
46333	334620	377340		10	1250	9250	1.5	5500	325	X	X	24		4
46334	334620	377340		255	30%	245%	400	3700	915	X	X	27		X

X

PROJECT <u>SPL 806- MISERY FLAT J.V.</u>				CO-ORDINATES		SAMPLED BY		MATERIAL		BLOCK #	
				LINE #						SHEET #	
7/2				FROM:		DATE		DEPTH		JOB #	
				TO:							
SAMPLE NUMBER	CO-ORDINATES		Interval	Sb.	W.						DESCRIPTION
46330				X	X						
46331				X	X						
46332				X	X						
46333				X	X						
46334				X	X						

852056

SPL 806 - MISERY FLATS J.V.				CO-ORDINATES				SAMPLED BY				MATERIAL				BOOK #
1/2				LINE: <u>ABT TRAMWAY</u>				J. A. N. S. B. P				ROCK				SHEET #
				FROM: <u>Q TOWN</u>				DATE: <u>25 JUNE '81</u>				DEPTH: <u>SURFACE</u>				JOB #
				TO: <u>STRAHAN</u>												
SAMPLE NUMBER	CO-ORDINATES		Inches	Cu	Pb	Zn	Ag	Fe	Mn	Pi	Au	As	Sn	DESCRIPTION		
N/E	E/W	N/S														
46335	333770	376430		10	110	370	05	5150	855	X	X	X		2 cl. silt		
46336	332930	376220		50	105	300	X	47%	400	X	X	11		X silt (1-2)		
46337	333850	376120		40	50	150	X	55%	40	X	X	19		X silt		
46338	333870	376040		35	65	45	X	25%	50	X	COOLB	17		X silt		
46339	333630	375760		30	35	95	X	34%	70	X	X	17		X silt		
46340	333570	375550		25	35	145	X	39%	80	X	X	6		X silt		
46341	333400	375470		20	60	145	X	36%	440	X	X	8		X silt		
46342	333090	375360		30	45	170	X	33%	45	X	X	7		X silt		
46343	332780	375430		40	25	105	X	37%	40	X	COOLB	4		X silt		
46344	332510	375470		10	10	15	X	6200	95	X	COOLB	5		X silt		
46345	332320	375520		45	35	20	X	43%	590	X	X	99		X silt		
46346	332260	375550		45	25	60	X	35%	160	X	X	45		X silt		
46347	332170	375580		10	10	105	X	37%	95	X	X	11		X silt		
46348	332100	375590		5	15	45	X	24%	135	X	X	5		X silt		
46349	3320570	374500		15	20	75	05	235%	70	X	X	10		X silt		
46350	3328530	374780		15	5	50	05	145%	100	X	X	4		X silt		
46351	332430	375030		10	20	40	X	103%	110	X	COOLB	23		X silt		
46352	3320550	375590		105	30	20	05	130%	15	X	X	15		X silt		

SPL. 806 - MISERY FLAT J.V.				CO-ORDINATES		SAMPLED BY		MATERIAL		BOOK #	
				LINE #						SHEET #	
42				FROM:		DATE		DEPTH		PES	
				TO:						DISPOSITION	
SAMPLE NUMBER	CO-ORDINATES		Interval +/-	Sb.		W.					
	N/S	E/W									
46335				X		X					
46336				X		X					
46337				X		X					
46338				X		X					
46339				X		X					
46340				X		X					
46341				X		X					
46342				X		X					
46343				X		X					
46344				X		X					
46345				X		X					
46346				X		X					
46347				X		X					
46348				X		X					
46349				X		X					
46350				X		X					
46351				X		X					
46352				X		X					

PROJECT				CO-ORDINATES				SAMPLED BY			MATERIAL			BOCK N°	
SAL806 MISERY FRATS IV.				LINE: TRAVERSE (6)				J.A.N.S.B.P.			ROCK			SHEET N°	
FROM: H'WAY				TO:				DATE			DEPTH			JOB N°	
								26 JUNE 81			SURFACE				
SAMPLE NUMBER		CO-ORDINATES		Cu	Pb	Zn	Hg	Fe	Mn	Bi	As	Sb	DESCRIPTION		
N	E														
46353	331185	0372930		25	10	15	05	128	5		X	X	10	X	red clay shale
46354	331174	0372940		15	35	20	05	7250	55		X	X	11	11	light soil
46355	331168	0372920		10	30	35	Y	3700	35		X	X	4		yellow soil
46356	331162	0372910		20	20	35	05	7750	95		X	Y	9		shale

852059

SPLE06. MISERY FLAT J.V.				CO-ORDINATES				SAMPLED BY				MATERIAL				BOOK #		
				LINE #												SHEET #		
3/2				FROM :				DATE				DEPTH				JOB #		
TO :																		
SAMPLE NUMBER	CO-ORDINATES			Sb	W													DESCRIPTION
	N/S	E/W	+/-															
46353				X	X													
46354				X	X													
46355				X	X													
46356				X	X													
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80																		

APPENDIX C:

Stream Sediment Data Sheets.



Electrolytic Zinc Co. of Asia Ltd.

GEOCHEMICAL DATA SHEET

PROJECT:   
 LOCALITY:

MATERIAL :   
 SAMPLED BY :

Line   
 FROM:   
 TO:   
 DATE

SAMPLE NO.	CO-ORDINATES		Metal Content (p.p.m. unless specified)				Sample Type	Soil Parameters		Sample Composition				Local Geology		Stream Parameters	
	N	E	Pb	As	Cd	W		Depth	Colour	Moisture	Sand	Clay	Organic	Other	Other	Other	Other
435216			<20	<5	<10	<10											
27			<20	<5	<10	20											
28			<20	<5	<10	<10											
29			<20	<5	<10	60											
30			<20	<5	<10	<10											
31			<20	<5	<10	30											
32			<20	<5	<10	<10											
33			<20	<5	<10	50											
34			<20	<5	<10	<10											
35			<20	<5	<10	30											
36			<20	<5	<10	<10											
43537			<20	<5	<10	70											

Electrolytic Zinc Co. of Asia Ltd. **GEOCHEMICAL DATA SHEET**

Wessberg, Tas.

PROJECT: SPL 506 - MISERY FLATS IV MATERIAL: BANK STREET SEDIMENT

LOCALITY: SAMPLED BY: J.A.N. S.B.P. DATE: JUNE '81

Line FROM: TO:

SAMPLE NUMBER	CO-ORDINATES		Metal Content (p.p.m. unless specified)								Soil Parameters		Sample Composition			Local Geology		Stream Parameters		
	N	E	Cu	Pb	Zn	Fe %	Mn	Au ppb	Ag	Sb	Depth	Colour	Moisture	Sand	Clay	Organic	Gravel	Concentration	Depth	Direction
43501	332120	374050	<10	<20	<10	0.35	35	20	<2	<20			✓	✓	✓					
43502	331890	374310	25	<20	10	0.34	20	20	<2	<20			✓	✓	✓					
43503	TALLINGS SAMPLES																			
43504	"	"																		
43505	"	"																		
43506	"	"																		
43507	"	"																		
43508	"	"																		
43509	"	"																		
43510	337390	375610	<10	<20	<10	0.30	25	35	<2	<20			✓	✓	✓					
43511	337220	374100	15	<20	<10	0.54	20	<10	<2	<20										
43512	337460	373900	20	<20	15	1.50	100	<10	<2	<20			✓	✓	✓					
43513	337550	373880	<10	<20	<10	0.44	15	15	<2	<20			✓	✓	✓					05
43514	337540	373860	10	<20	<10	1.20	110	15	<2	<20			✓	✓	✓					05
43515	337260	375440	<10	<20	<10	0.34	20	15	<2	<20			✓	✓						03
43516	337260	375530	20	<20	<10	2.20	200	15	<2	<20			✓	✓	✓					
43517	337340	375580	<10	<20	<10	0.14	10	<10	<2	<20			✓	✓	✓					
43518	337360	375580	<10	<20	<10	0.62	55	15	<2	<20			✓	✓						
43519	337450	375670	<10	<20	<10	0.44	15	15	<2	<20			✓	✓						10
43520	337460	375680	15	<20	<10	0.58	50	<10	<2	<20										02
43521	335320	375440	<10	<20	35	0.54	30	<10	<2	<20				✓						
43522	335330	375410	<10	<20	15	0.85	50	<10	<2	<20			✓	✓						08
43523	335480	375250	<10	<20	10	0.16	15	<10	<2	<20			✓	✓						04
43524	335510	375180	<10	<20	<10	0.15	15	<10	<2	<20			✓	✓	✓					
43525	335460	375150	<10	<20	<10	0.07	<10	<10	<2	<20										

Electrolytic Zinc Co. of Asia Ltd. Newbery, Tas.		GEOCHEMICAL DATA SHEET						Line		Soil Parameters		Sample Composition		Local Geology		Stream Parameters						
PROJECT:		MATERIAL:		DATE:		FROM:		TO:		Depth	Colour	Rock Frag.	Sand	Clay	Organic Matter	Moisture	pH	Conductivity	Order	Width	Direction	
LOCALITY:		SAMPLED BY:																				
SAMPLE NUMBER	CO-ORDINATES		Metal Content (p.p.m. unless specified)																			
	N	E	Bi	As	Sn	W																
A3 S10 1			<20	<5	<10	<10																
02			<20	<5	<10	25																
03																						
04																						
05																						
06																						
07																						
08																						
09																						
A3 S10 10			<20	<5	<10																	
11			<20	<5	<10	90																
12			<20	10	<10	<10																
13			<20	<5	<10	80																
14			<20	<5	<10	<10																
15			<20	<5	<10	40																
16			<20	<5	<10	<10																
17			<20	<5	<10	30																
18			<20	<5	<10	<10																
19			<20	<5	<10	45																
A3 S12 0			<20	<5	<10	<10																
21			<20	<5	<10	65																
22			<20	<5	<10	<10																
23			<20	<5	<10	40																
24			<20	<5	<10	<10																
A3 S25			<20	<5	<10	35																