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CRA EXPLORATION PTY. LIMITED
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ZEEHAN No. 1 EL 28/88. REPORT ON EXPLORATION FOR THE SIXTH YEAR OF TENURE, 9/11/93 TO 9/11/94.

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1. SUMMARY

CRA Exploration Pty. Limited (CRAE) is exploring EL 28/88 principally for stratabound Zn-Pb carbonate-hosted deposits in the Ordovician Gordon Limestone and surficial deposits derived by decomposition of mineralised limestone. Secondary targets include shale-hosted Zn-Pb deposits in the Proterozoic Oonah Formation, Ni mineralisation in ultramafic bodies, and skarn-type Zn-Pb deposits peripheral to the Heemskirk Granite.

Three targets were selected for work during 1994; Avebury, Myrtle and Pyramid.

Air-core drilling of near-surface decomposed limestone at Myrtle has intersected significant thicknesses and grades of residual Zn mineralisation. Thirty-one holes returned better than 2m @ 1% Zn. Best results include (1% Zn cut-off):-

ZM69	3.0m to 9.0m	6.0m	@	4.6% Zn
ZM76	9.0m to 18.0m	9.0m	@	6.0% Zn
ZM83	6.0m to 15.0m	9.0m	@	3.6% Zn
ZM87	9.0m to 18.0m	9.0m	@	7.9% Zn
ZM88	6.0m to 21.0m	15.0m	@	1.7% Zn
ZM92	0.0m to 27.9m EOH	27.9m	@	4.8% Zn
ZM93	3.0m to 12.0m	9.0m	@	2.6% Zn
ZM94	3.0m to 13.2m EOH	10.2m	@	2.4% Zn
ZM128	18.0m to 23.6m EOH	5.6m	@	6.4% Zn
ZM158	2.0m to 7.1m EOH	5.1m	@	4.2% Zn
ZM181	22.0m to 28.1m EOH	6.1m	@	4.0% Zn

Whilst individual results are impressive, the intersections do not substantially expand the areas of mineralisation defined in 1993. Rather, the mineralisation appears patchy and discontinuous. It is likely the mineralisation intersected by air-core drilling is occurring as narrow sub-vertical veins. Widths given above are therefore not true thicknesses.

Siderite alteration containing minor Zn was intersected at the Gordon Limestone - Moina Sandstone contact in one hole at Pyramid. The remainder of the limestone sequence at Pyramid has failed to reveal substantial mineralisation. Diamond drilling of the siderite zone is required to complete testing of this prospect.

Magnetic modelling of the Avebury (skarn?) prospect suggests the cause could be a 350m body approximately 140m below surface. One possible geological interpretation is that the magnetic body is a thick skarn in the stratigraphically lowermost part of the Gordon Limestone beneath an overthrust Cambrian sequence. Additional magnetic traverses are needed to reliably position a diamond hole.

Zinc mineralisation within the Gordon Limestone may be pre-Devonian in age, and therefore unrelated to the Tabberabberan Orogeny. Thickness variations of Ordovician clastic sequences underlying the limestone may represent stratigraphic pinchouts, or syn-sedimentary faults, that could be controlling the locations of ore.

Five targets are recognised for the carbonate-hosted Zn mineralisation in Gordon Limestone at Zeehan, subdivided by the stratigraphic interval in which they are hosted.

- stratabound at the lower limestone-sandstone contact
- stratabound at the upper limestone-quartzite contact
- stratabound within a sub-unit in the middle of the limestone sequence
- structurally controlled discordant mineralisation
- surficial "clay-hosted" accumulations developed above primary mineralisation

Presently the lower limestone-sandstone contact is considered most prospective. The major focus for exploration in 1995 will be directed toward identifying primary sulphide mineralisation in this stratigraphic position.

2. INTRODUCTION

Zeehan 1, EL 28/88 covers 65 sqkm located near Zeehan on the Tasmanian W coast (Plan Tv 629). EL 28/88 was granted to "His Grace, The Most Noble, The Duke of Avram" on 9th December 1988, and transferred to Major Mining Ltd on the 23rd November 1989. CRA Exploration Pty. Limited entered into a joint venture agreement with Major to explore EL 28/88, commencing on 23rd April 1991. Major Mining Ltd divested its interest in the joint venture to Allegiance Mining NL, with the exploration tenements transferred to CRAE (90%) and Allegiance (10%) as tenants in common on 22nd January 1994.

In line with statutory requirements EL 28/88 was reduced from 129 sqkm to 65 sqkm on 9/12/93, at the end of the fifth year of tenure.

During the period under review, the sixth year of tenure, CRAE has a statutory obligation to expend $65000. This report details all exploration activities conducted within EL 28/88 by CRAE during 1994.

CRAE's principal commodity of interest in the Zeehan area is Zn. Ordovician Gordon Limestone is prospective for carbonate-hosted Zn-Pb, and secondary deposits derived from the decomposition of the carbonate. During 1994, these styles of mineralisation dominated the exploration focus and will continue to do so during 1995. The Zeehan area shows some similarities with the Lawn Hill area of NW Qld, where the Century Zn-Pb discovery is situated. On this basis, CRAE believes EL 28/88 holds potential for discovery of a stratabound shale-hosted Zn-Pb deposit.

Secondary targets include Ni mineralisation in ultramafic bodies, and skarn-type Zn-Pb deposits peripheral to the Heemskirk Granite.

Three targets were selected for work during 1994; Avebury, Myrtle and Pyramid (Plan Tv 443). Activities included literature studies and open-file data compilation, soil, rock and wacker geochemical sampling, and diamond and air-core drilling.

3. CONCLUSIONS

Zinc mineralisation intersected in air-core holes at Myrtle is patchy and discontinuous. It is likely the mineralisation currently identified at Myrtle is late-stage, possibly remobilised from a nearby stratabound accumulation.

Zinc-anomalous siderite alteration intersected at the lower limestone-sandstone contact at Pyramid may represent the fringe to a mineralised system not yet defined. The remainder of the sequence in this area is currently not considered prospective.

Innovative interpretation of the geology in the Avebury prospect area raises the possibility that the magnetic feature could be a skarn within Gordon Limestone adjacent to the Heemskirk Granite. Magnetic modelling does not rule out this scenario.

Exploration and research activities in the Zeehan area have indicated that Zn-Pb mineralisation within the Gordon Limestone may be pre-Devonian in age, and therefore unrelated to the Tabberabberan Orogeny. On this basis, it is possible that carbonate-hosted Zn-Pb mineralisation may be more widespread than that presently under evaluation at Zeehan. Thickness variations of Ordovician clastic sequences underlying the limestone may represent stratigraphic pinchouts, or syn-sedimentary faults, that could be controlling the locations of ore.

Five targets are recognised for the carbonate-hosted Zn mineralisation in Gordon Limestone at Zeehan, subdivided by the stratigraphic interval in which they are hosted:-

- stratabound at the lower limestone-sandstone contact
- stratabound at the upper limestone-quartzite contact
- stratabound within a sub-unit in the middle of the limestone sequence
- structurally controlled discordant mineralisation
- surficial "clay-hosted" accumulations developed above primary mineralisation

Currently the lower limestone-sandstone contact is considered the most prospective for orebodies meeting CRA objectives.

4. RECOMMENDATIONS

Positive results for CRAE's carbonate-hosted Zn exploration activities in the Zeehan area demand an increased effort during 1995. Exploration should emphasise drilling as there are numerous quality targets requiring testing. Specifically the following actions are required.

At Myrtle prospect, additional diamond drilling is required at the Moina Sandstone - Gordon Limestone contact to identify whether significant stratabound mineralisation is developed near Professor Fault in this position. Also, a diamond hole is required to test the upper contact where it is accessible from the old railway formation.

Two diamond holes at Pyramid are required to test the Gordon Limestone - Moina Sandstone contact for mineralisation within the siderite zone.

Avebury prospect requires an additional one or two N-S magnetometer traverses to cover the central portion of the magnetic anomaly. Two diamond holes are proposed to test whether the magnetic body is a mineralised skarn.

Dependent on results from exploration in the Firewood Siding area within EL 34/88, diamond drilling may be required at Firewood Siding N. Drilling in this area will need to be helicopter-supported.

In addition to the clear objectives above, some consideration should be given to generation of new targets. These should include investigation of:-

- the Sassafrass, MacLean Creek and Fen Creek limestone areas for carbonate-hosted Zn mineralisation
- the magnetic anomaly W of the Avebury feature for buried skarns
- Proterozoic and Devonian shale sequences for stratiform Zn deposits.

5. REGIONAL GEOLOGY

A description of the regional geology is given in Parkinson (1993). A new Zeehan 1:50000 geological map has been published during the year which highlights the importance of thrust tectonics in the Zeehan area.

6. MINERALISATION

See Parkinson (1993).

7. PREVIOUS EXPLORATION BY COMPETITORS

See Parkinson (1993).

8. EXPLORATION BY MAJOR MINING LTD / CRAE PRIOR TO 9/11/93

Year 1, Year 2: Activities by Major Mining prior to CRAE's involvement are detailed in the relevant statutary reports. Field activities included a gradient array IP survey covering a small area between the South Comstock and Tasmanian workings.

Year 3: Exploration by CRAE on EL 28/88 prior to 9/11/91 focussed on an extensive compilation and review of existing open-file data (Summons, 1991). Analysis of the structural controls to historical mineralisation suggested the Devonian NNW-trending shear/fracture controlled mineralistion to possibly overprint an earlier (Precambrian?) ENE-trending mineralised corridor.

Statistical evaluation of Ag:Pb ratios indicated a decline in Ag:Pb from Proterozoic to Ordovician deposits. Considering the ratio as a vector, areas of high Ag:Pb could be close to a postulated Precambrian "Mother Lode". On this basis, the Spray, Montana No. 2 and Junction deposits are the "closest to source".

Year 4: CRAE's exploration strategy in 1992 aimed to test these two models (Parkinson, 1992). Dipole-dipole IP surveys at Stonehenge defined a chargeable conductor exceeding 1km strike length, coicident with mapped black shale. Soil and wacker sampling indicated this horizon to be anomalous in Zn and Pb. Previous drilling by RGC (hole TH12) intersected several metres of percent-level Zn in the area of interest. Diamond drilling to test stratigraphic and structural targets within the envelope of anomalous geophysics and geochemistry were proposed for 1992/93.

Soil sampling at the Avebury stream sediment anomaly detected Zn-Pb-Cu-As anomalism, in an area of poor outcrop within either Cambrian or Proterozoic lithologies. Infill soil sampling was proposed.

Open-file literature reviews revealed the presence of significant surface enrichment of Zn within residual black clays developed over Ordovician Gordon Limestone. Air-core drilling traverses were recommended for Myrtle and Pyramid prospects.

Systematical soil/rock sampling of dunite at Trial Harbour was recommended to determine whether the body was capable of hosting a bulk low-grade Ni sulphide resource.

Year 5: (Parkinson, 1993). Three diamond holes were drilled at Stonehenge testing stratigraphic and structural targets within the black shale package. Low grade Zn mineralisation was intersected in Devonian age structures, not considered to be economically significant. An air-core traverse across the shale is recommended as diamond drill recoveries were poor near surface.

Infill soil sampling at the Avebury showed the central area to be characterised by high background Zn-Pb-Fe. High Fe is suggestive of skarn-rel ated mineralisation. Further investigations are required.

Air-core drilling of near-surface decomposed limestone at Myrtle intersected significant Zn mineralisation in several holes (best hole ZM18 - 36m @ 4.3% Zn). The Zn is present as clean monomineralic grains of low Fe sphalerite, apparently easily liberated from the unconsolidated pug. Additional air-core and diamond drilling is warranted.

Air-core drilling of near-surface decomposed limestone at Pyramid showed patchy weak mineralisation was developed in several holes. Further air-core drilling is required closer to the Limestone - Moina Sandstone contact.

Wacker sampling of limestone at the N end of Firewood Siding prospect returned strongly elevated Zn values near the contact with the Crotty Quartzite. Air-core drilling is recommended.

Soil/rock sampling at Trial Harbour outlined a large area of elevated Ni. Nickel sulphides in olivine orthocumulates were observed in the adit, and a 50m wide unit of olivine orthocumulate was mapped within the body. Drilling beneath the adit intersected weak pyrrhotite mineralisation only, and the intercumulus phases within the main olivine orthocumulate were dominated by magnetite and chromite. Elevated Ni in soil/rock samples is due to a thin skin of secondary Ni-rich serpentinite. No further work is required.

93? 94?

9. EXPLORATION ACTIVITIES FOR THE PERIOD 9/11/92 TO 9/11/93

9.1 Exploration Philosophy

CRAE's principal commodity of interest in the Zeehan area is Zn. Ordovician Gordon Limestone is prospective for carbonate-hosted Zn-Pb, and secondary deposits derived from the decomposition of the carbonate. During 1994, these styles of mineralisation dominated the exploration focus and will continue to do so during 1995. The Zeehan area shows some similarities with the Lawn Hill area of NW Qld, where the Century Zn-Pb discovery is situated. On this basis, CRAE believes EL 28/88 holds potential for discovery of a stratabound shale-hosted Zn-Pb deposit.

Secondary targets include Ni mineralisation in ultramafic bodies, and skarn-type Zn-Pb deposits peripheral to the Heemskirk Granite.

Three targets were selected for work during 1994; Avebury, Myrtle and Pyramid.

9.3 Avebury Prospect

9.3.1 Introduction

A review of CRAE and competitors' regional stream sediment database indicated several small creeks draining an unexplored area between McLean and Comstock Creeks to be strongly anomalous in Zn and Pb. Six anomalous samples draining a tightly constrained 1500m x 500m area produced a maximum response of 1280 ppm Zn and 580 ppm Pb (Plan Tv 472). The anomaly, detected and noted by RGC was not followed up by them as there was no associated Sn response. The anomaly is in an area of no historical mining activity and the catchments are not contaminated by mine spoil.

Reconnaissance soil sampling during 1992 identified a 400m x 300m zone in the centre of the grid with elevated Zn-Pb-Cu-As values up to 450ppm Cu, 1300ppm Pb, 1150ppm Zn and 210ppm As. Infill soil sampling to 50m x 25m in 1993 showed the central area to be characterised by high background Zn-Pb-Fe. Within this high background there is a NNW-trending zone of Zn-Pb values exceeding 1000ppm , up to 1900ppm Zn and 1700ppm Pb. Iron is elevated above 10% throughout the sampled area.

During 1994, a single 2km N-S line was cut over the prospect to enable a ground magnetometer traverse to be completed over the magnetic anomaly. Soil samples were collected along the magnetometer traverse.

9.3.2 Geology

Outcrop on the grid is generally poor to non-existant, except on the steep topography to the south. The majority of the prospect appears to be underlain by mafic rocks, either gabbro or basalt, mantled by a sticky yellow-orange clay. The steep southern slopes are Owen conglomerate. A white sugary silicified rock is locally present. It's appearance is that of Oonah Fm siltstone, however it would seem to stratigraphically overlie the gabbro/basalt. The prospect may therefore be another exposure of the sub-horizontal Tenth Legion Thrust.

Coarse magnetite fragments were noted from the N of the grid during soil sampling, suggesting the possibility of a magnetite skarn in the area. High Fe in soil samples further advance this possibility.

Abundant chromite grains were recovered in one soil sample from the S of the grid, although it is not clear whether this was from weathering of an in-situ chromitiferous body, or detrital accumulations in Owen Conglomerate.

South of the prospect the magnetometer traverse line drops into a steep valley thought to be floored by Gordon Limestone. Crotty Quartzite forms the ridge S of this valley at the end of the traverse.

Marcus McClenaghan (pers. comm.) of MRT has advanced the possibility that the Cambrian and Proterozoic formations have been thrust over the Eldon Group rocks in this general area. Whilst no direct evidence has yet been seen for thrusting at Avebury, the peculiar contacts of the Eldon Group with the Cambrian and Proterozoic in the MacLean Creek - Comstock Creek area are best explained by low-angle faulting.

If this is so, then it is possible that Gordon Limestone will lie beneath the Cambrian and Proterozoic in the Avebury area. This places the limestone in close proximity, perhaps even in direct contact, with the Heemskirk Granite, and therefore would be highly susceptible to being altered to skarn.

Geology of the Avebury area is shown on Plan Tv 472, and an interpretive section is shown on Plan Tv 877.

9.3.3 Soil Geochemistry

Hand-augered C-horizon soil sampling was completed at 25m intervals along the magnetometer traverse. Samples were assayed at Analabs Burnie by AAS (aqua regia-perchloric acid digest) for Ag-As-Cu-Pb-Zn-Fe-Mn. A total of 67 samples were collected (Appendix 1). Geochemical stacked profiles for Cu-Pb-Zn-Fe-As as well as togography, geology and magnetic profile along line 356000E are plotted on Plan Tv 877.

Profiles for Cu-Pb-Zn-Fe-As all show a similar trend of very low values over Crotty Quartzite, Gordon Limestone and Owen Conglomerate. There is a sharp increase in values within the Cambrian lithologies, which then tail away in amplitude to the N. Thrust outliers of Oonah Formation show reduced response in Cu-Pb-Zn-Fe-As.

It cannot be concluded with any certainty whether the elevated geochemistry is originating within the Cambrian lithologies, or is leaking upwards from the postulated buried skarn.

9.3.4 Ground magnetometer traverse

The geophysicist's report is presented in Appendix 2, and magnetic contours and profiles are shown on Plans Tv 853 and Tv 847. In summary, results show traverse line 356000E is about 500m too far E of the main anomaly position. None-the-less it was still possible to model the result. Modelling shows the body to be best approximated by a 350m wide "dyke" with the top of the body some 140m below surface. Susceptibility values applied to the model lie at the upper range for ultramafic rocks, and at the lower range for magnetite skarns.

The geological section on Plan Tv 877 shows the modelled magnetic body in the context of the thrust model proposed by Marcus McClenaghan (pers. comm.). Magnetic results do not contradict the thrust model . However, it also would be possible to draw a section omitting the thrust, and placing a buried magnetic ultramafic body within the Cambrian sequence at the required depth.

9.3.5 Proposed Exploration during 1994

An additional one or two N-S magnetometer traverses are required to cover the central portion of the magnetic anomaly. Two diamond holes are then required to test whether the magnetic body is a mineralised skarn.

9.4 Myrtle Prospect

9.4.1 Introduction

Myrtle prospect is a carbonate-hosted Zn target within Ordovician Gordon Limestone, 10km S of Zeehan on the Zeehan-Strahan road.

Extensive exploration by Amoco and EZ of the Gordon Limestone at Myrtle identified substantial Zn anomalism from wacker and costean sampling. Results included 8m @ 6.9% Zn from costean 50500N in black clay. Drilling beneath the costean anomalies failed to detect significant primary limestone-hosted mineralisation, although a best result of 11.3m @ 2.1% Zn was intersected in clays in ZWM15. Recoveries from diamond drilling in the clay zone were poor, and often nil.
Air-core drilling by CRAE in 1993 intersected significant thicknesses and grades of residual Zn mineralisation in several holes (best hole ZM18 - 36m @ 4.3% Zn).

The Zn is present as clean monomineralic grains of low Fe sphalerite, apparently easily liberated from the unconsolidated pug.

Work completed in 1994 included air-core and diamond drilling, rock sampling of the main road cutting, resampling of selected EZ drill core and wacker sampling.

9.4.2 Geology

Geology of the Myrtle area is essentially unrevised from that described in Parkinson (1993).

The author believes the NW trending Professor Fault that separates the Gordon Limestone from the Owen Conglomerate along the Professor Range could be crucial in controlling the location of mineralisation in the Myrtle - Professor Range area (Plan Tv 714).

There is a marked change in thickness of Ordovician clastics from the Grieves - Myrtle side of the Professor Fault to the Amber Creek side from about 1000m down to perhaps a less than 100m. This suggests that the Professor Range area was a Cambrian basement high due to either simple topographic variation, or by growth faulting on the syn-sedimentary Professor Fault. In either event the result is the same - a Cambrian basement high against which the Ordovician clastics pinched out. Mineralisation may have been introduced along these Ordovician syn-sedimentary faults, or forced into the pinchouts by basin dewatering.

This scenario is analogous to the geometry of the Viburnum Trend in Missouri, USA, where resources of the order of 500MT @ 5% Pb are developed over 60km strike length in Bonneterre Formation carbonates overlying pinchouts of the Lamotte Sandstone.

9.4.3 Air-core Drilling

One hundred and twenty-one reverse-circulation air-core drillholes totalling 1876m were completed in Feb 1994 by Wallis Drilling from Western Australia. The rig used is a small system mounted on a Bombardier Muskeg snowmobile. The fully operational rig has a total weight of eight tonnes, with a ground pressure of less than 4psi, slightly greater than a human footprint. Air-core drilling relies on compressed air to return drill cuttings to the surface. No water (except natural groundwater) or muds are circulated and all cuttings are collected via a cyclone into bags. This rig and drilling system are ideal for testing soft formations in areas where vegetation is sensitive to disturbance.

Cuttings were collected at 2m or 3m intervals, with a wet 1-2kg sample "snatched" by hand for analysis. Samples were assayed at Analabs Burnie by AAS (aqua regia-perchloric acid digest) for Ag-Cu-Pb-Zn-Fe-Mn. Over-range values (0.5% Pb-Zn, 5% Fe) were reanalysed by AAS (aqua regia-perchloric-hydroflouric acid digest). For samples with over 1% Zn, S was determined by Leco furnace.

Drilling aimed to infill around mineralised holes from the 1993 program. Hole locations are shown on Plan Tv 714. Zn-Fe assays for sections 49900N to 50600N are presented on Plans Tv 740 to Tv 750. Drill logs and assays are presented in Appendix 3.

Thirty-one holes returned better than 2m @ 1% Zn. Best results include (1% Zn cut-off):-

ZM69	3.0m to 9.0m	6.0m	@	4.6% Zn
ZM76	9.0m to 18.0m	9.0m	@	6.0% Zn
ZM83	6.0m to 15.0m	9.0m	@	3.6% Zn
ZM87	9.0m to 18.0m	9.0m	@	7.9% Zn
ZM88	6.0m to 21.0m	15.0m	@	1.7% Zn
ZM92	0.0m to 27.9m EOH	27.9m	@	4.8% Zn
ZM93	3.0m to 12.0m	9.0m	@	2.6% Zn
ZM94	3.0m to 13.2m EOH	10.2m	@	2.4% Zn
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ZM158	2.0m to 7.1m EOH	5.1m	@	4.2% Zn
ZM181	22.0m to 28.1m EOH	6.1m	@	4.0% Zn

Whilst individual results are impressive, the intersections do not substantially expand the areas of mineralisation defined in February 1993. Rather, the mineralisation appears patchy and discontinuous. It is likely the mineralisation intersected by air-core drilling is occurring as narrow sub-vertical veins. Widths given above are therefore not true thicknessess.

The veins intersected are unlikely to form a deposit of sufficient size to interest CRAE, but they may be an indicator of more substantial mineralisation nearby. There are two possible origins for the veins. Firstly they could be a concentration of structurally controlled Devonian remobilisation from a nearby underlying source, or they may be pre-Devonian "stringers" related to a more substantial stratabound accumulation. Both possibilities lead to the conclusion that a larger concentration of mineralisation may exist in the immediate area, but at a different stratigraphic level to that tested.

9.4.4 Air-core Bottom-of-Hole Sampling

Where possible, a sample of the formation at the bottom of each air-core hole was collected for description and multi-element analysis. Two samples of approximately 50g each were collected for description and analysis. Samples were assayed at Analabs Perth by ICP-OES (aqua regia-perchloric-hydroflouric acid digest) for Ag-Al-As-Ba-Ca-Cu-Fe-K-Mg-Mn-Pb-Zn. For samples with over 0.5% Zn, S was determined by Leco furnace.

Samples were logged by Tim Moody, seconded from CRAE Mount Isa. Only the 1994 portion of the air-core program was observed and analysed, and no detailed synthesis of Myrtle results was compiled. Moody's report, sample descriptions and assays are presented in Appendix 4.

To complement the logging program, lithological discrimination was attempted using multi-element geochemistry. The following classifications were made:-

- siderite	>10% Fe	
- limestone	>20% Ca	<4% Mg
- dolomite	>12% Ca	>4% Mg
- impure carbonate	12-20% Ca	<4% Mg
- pelite (siltstone)	<12% Ca	>4% Al
- sandstone	<12% Ca	<4% Al

Scatterplots of Ca% vs Mg%, Ca% vs Al% and Al% vs K% with the lithological subdivisions are shown in Appendix 4 together with a statistical summary of the geochemistry of each lithological group for all CRAE air-core holes in the Zeehan area.

Results show this simple discriminant function effectively identifies the major lithologies and alteration trends within the limestone throughout the Zeehan area. For Myrtle, the major result is the clear mapping of the upper siltstone sub-unit (Plan Tv 714).

9.4.5 Diamond Drilling

Three diamond drillholes totalling 361.4m were drilled in May 1994 using a skid-mounted Longyear 38 by Diamond Drilling Tasmania, based in Zeehan. Selected intervals showing alteration or visible mineralisation were halved for analysis. Samples were assayed at Analabs Perth by ICP-OES (aqua regia-perchloric-hydroflouric acid digest) for Ag-Al-As-Ba-Ca-Cu-Fe-K-Mg-Mn-Pb-Zn. For samples with over 0.5% Zn, S was determined by Leco furnace. Logs and assays are presented in Appendix 5.

Hole ZM185 targetted subcropping coarse grained sphalerite intersected in air-core hole ZM58 near line 50000N (6m @ 5.2% Zn). Drilling intersected a sequence of carbonaceous siltstone to 64.3m, followed by relatively clean, fine to medium grained limestones. Between 74.8m and 75.4m a breccia zone was intersected. The breccia, at low angle to core-axis, contained fill of carbonaceous matter, calcite and 30% sphalerite. Traces of disseminated and breccia-hosted sphalerite were also observed from 75.4m to 82.75m and 114.85m to 117.3m. The sphalerite intersected was as coarse grained (3mm to 10mm) euhedral crystals, light brown and colour zoned. No alteration is associated with the mineralisation.

Holes ZM186 and ZM187 were a scissor pair drilled beneath air-core hole ZM18 (36m @ 4.3% Zn). Both holes intersected a sequence of limestone before encountering a fault zone about 5m wide containing fractured, sheared, veined and leached limestone. A pyrite zone 200mm wide was intersected within the fault in hole ZM186. The fault lies vertically beneath ZM18, and it is interpreted that this hole drilled down the structure. Mineralisation developed in ZM18 does not extend to ZM186 and ZM187, and perhaps is erratically developed in the fault.

9.4.6 Relogging of EZ core

Pasminco have retained all EZ drill core from Myrtle prospect at their Tullah core shed, and were kind enough to allow CRAE to make use of their facilities to relog and sample selected portions of this core.
Selected sections from drillholes were relogged by Tim Moody, seconded from CRAE Mount Isa. Any altered, mineralised or clay zones not effectively sampled by EZ were resampled (Appendix 6).

Most striking from this exercise was the frugal approach to assaying. Clay zones were generally not assayed and observed sphalerite in hole ZWM18 was not quantified by analysis.

Old core from winkie hole ZWM18, previously not assayed, returned:-

ZWM18	6.85m to 13.9m	7.05m @	2.4% Zn

Apart from the above result, no new zones of >1% Zn were detected.

9.4.7 Mineralogical Studies

No mineralogical studies were undertaken on Myrtle samples during 1994. Sulphur analyses for mineralised intervals from air-core drilling suggest Zn is present as sphalerite. Mineralisation intersected in diamond hole ZM185 is coarse-grained light to mid-brown (low Fe?) sphalerite. No siderite has been identified at Myrtle in the areas drilled.

9.4.8 Rockchip and Wacker Sampling

A small number of rockchip and wacker samples were collected within the EL during the past year (Appendix 7). Samples were assayed at Analabs Burnie by AAS (aqua regia-perchloric acid digest) for Ag-Cu-Pb-Zn-Fe-Mn.

Ten rockchip samples were collected from the black pugs exposed in the road cutting immediately E of Myrtle prospect. Only one sample is anomalous in Zn (798ppm), the remainder less than 50ppm Zn. This would suggest that these pugs are not the decomposition products of a mineralised carbonate.

Forty wacker samples were collected at 200m x 25m spacing from over the Moina Sandstone - Gordon Limestone contact in an effort to identify any siderite alteration and associated Zn mineralisation. elevated Fe-Zn-As was detected on line 49250N and 49400N, and Fe-As is recorded on line 50000N. Line 50200N did not return anomalous values, however sampling could not penetrate to bedrock.

Diamond drilling is the only reliable way to confirm whether siderite alteration is present.

9.4.9 Proposed Exploration During 1994

Sufficient drilling on the central portion of the stratigraphy and Myrtle has been completed to indicate that the mineralisation developed there is discordant, patchy and discontinuous. Additional diamond drilling is required at the Moina Sandstone - Gordon Limestone contact to identify whether significant stratabound mineralisation is developed near Professor Fault in this position. Also, a diamond hole is required to test the upper contact where it is accessible from the old railway formation.

9.5 Pyramid Prospect

9.5.1 Introduction

Pyramid prospect is a carbonate-hosted Zn-Pb target within Ordovician Gordon Limestone, 5km S of Zeehan on the Zeehan-Strahan road, and 2km SE of Oceana carbonate-hosted Zn-Pb deposit. Mineralisation is regarded as similar to Myrtle, although the prospect is likely to be smaller.

Exploration by Amoco and EZ of the Gordon Limestone at Pyramid identified Zn-Pb anomalism from wacker and costean sampling. Results included 6m @ 2.1% Zn, 7.2% Pb from costean 1750N. Drilling beneath the costean anomalies failed to detect significant primary limestone-hosted mineralisation, although a best result of 0.4m @ 5.2% Zn, 5.0% Pb was intersected in ZWP27.

Air-core drilling traverses by CRAE in 1993 failed to identify any significant mineralisation. Additional air-core drilling was recommeded to test the Gordon Limestone - Moina Sandstone contact.

9.5.2 Geology

Geology is described in Parkinson (1993).

9.5.3 Air-core Drilling

Thirty-two reverse-circulation air-core drillholes totalling 348m were completed in Feb 1994. Cuttings were collected at 3m intervals, with a 1-2kg sample "snatched" by hand for analysis. Samples were assayed at Analabs Burnie by AAS (aqua regia-perchloric acid digest) for Ag-Cu-Pb-Zn-Fe-Mn. Over-range values (0.5% Pb-Zn, 5% Fe) were reanalysed by AAS (aqua regia-perchloric-hydroflouric acid digest). For samples with over 1% Zn, S was determined by Leco furnace.

Hole locations are shown on Plan Tv 715 and sections showing Zn-Fe geochemistry and geology are shown on Plans Tv 774 to Tv 777. Drill logs and assays are presented in Appendix 8.

Hole ZP43, drilled at the Gordon Limestone - Moina Sandstone contact, intersected Zn-anomalous siderite alteration, up to 0.45% Zn and 39% Fe. Holes drilled at the contact 100m, 200m and 300m grid N failed to intersect any alteration or elevated Zn, although it is unclear whether these holes actually reached the contact. No other significant results were recorded.

9.5.4 Air-core Bottom-of-Hole Sampling

Where possible, a sample of the formation at the bottom of each air-core hole was collected for description and multi-element analysis. Two samples of approximately 50g each were collected for description and analysis. Samples were assayed at Analabs Perth by ICP-OES (aqua regia-perchloric-hydroflouric acid digest) for Ag-Al-As-Ba-Ca-Cu-Fe-K-Mg-Mn-Pb-Zn. For samples with over 0.5% Zn, S was determined by Leco furnace. Assays are presented in Appendix 4.

To date, samples have not been logged. Lithological discrimination was attempted using multi-element geochemistry. Lithological classifications are as given in section 9.4.4.

Scatterplots of Ca% vs Mg%, Ca% vs Al% and Al% vs K% with the lithological subdivisions are shown in Appendix 4 together with a statistical summary of the geochemistry of each lithological group for all CRAE air-core holes in the Zeehan area.

Results show this simple discriminant function effectively identifies the major lithologies and alteration trends within the limestone throughout the Zeehan area. At Pyramid there is insufficient information to allow detailed mapping.

9.5.5 Proposed Exploration During 1994

Results to date at Pyramid are not encouraging. Two diamond holes are required to test the Gordon Limestone - Moina Sandstone contact for mineralisation within the siderite zone.

9.6 Zinc Mineralisation in the Gordon Limestone

CRAE's exploration and research activities directed at locating carbonate-hosted Zn-Pb mineralisation within Gordon Limestone at Zeehan have led to a number of mineralisation styles being recognised. The following discussion is a synthesis of CRAE's current level of knowledge, gained from work throughout the Zeehan area.

CRAE's exploration activities in the Zeehan area have indicated that Zn-Pb mineralisation within the Gordon Limestone may be pre-Devonian in age, and therefore unrelated to the Tabberabberan Orogeny. On this basis, it is possible that carbonate-hosted Zn-Pb mineralisation may be more widespread than that presently under evaluation at Zeehan.

The Gordon Limestone originally occupied a large area, deposited at the close of a major period of tectonic activity that produced the metal-rich Mount Read Volcanics. During and immediately before carbonate deposition the tectonic regime was still unstable, evidenced by rapid changes in stratigraphic thickness of Ordovician strata. Hydrothermal systems may have continued to emit metals into this system, focussed by basement irregularities and syn-sedimentary faults.

The present Gordon Limestone exposure is a vestige of Devonian deformation. Ordovician mineralisation may have a distribution totally independent of the well-documented Devonian systems.

Five targets are recognised for the carbonate-hosted Zn mineralisation in Gordon Limestone at Zeehan, subdivided by the stratigraphic interval in which they are hosted (Figure):-

- stratabound at the lower limestone-sandstone contact
- stratabound at the upper limestone-quartzite contact
- stratabound within a sub-unit in the middle of the limestone sequence
- structurally controlled discordant mineralisation
- surficial "clay-hosted" accumulations developed above primary mineralisation

Stratabound at the lower limestone-sandstone contact

Mineralisation at Grieves and Mariposa falls into this category. Alteration located at Blackjacks, Pyramid and Professor Range may also belong to this deposit type.

This position is characterised by carbonaceous and/or ferruginous clays resting on the Moina Sandstone, in turn overlain by a massive siderite zone. The siderite zone passes stratigraphically upward either gradationally or abruptly into unaltered and unmineralised limestone. The clay layer may be up to 50m thick and the siderite zone up to 25m thick. Both may contain Zn mineralisation up to several percent. The clay and siderite zone are laterally quite uniform and it may be that the mineralisation is actually stratiform.

Mineralisation of this style has an alteration halo that is both visually and geochemically distinct. This halo, characterised by vuggy, broken or massive recrystallised Fe-carbonate and Fe-rich clays, may extend laterally hundreds of metres beyond the main Zn mineralisation, and thus presents a considerably larger target than the mineralised core. Lateral alteration geochemistry is reflected by Fe-Mn-As-Zn. Stratigraphically above the mineralised core is a weaker halo of elevated Zn ($\pm$ As).

Ore mineralogy, based on work at Grieves, is complex with a mixture of zincian siderite and minor sphalerite in the siderite zone, and a Zn-clay with minor to moderate amounts of sphalerite in the clay zone. It is not known whether this is a regional characteristic of this position.

The stratiform character, replacive style of alteration/mineralisation, intense Fe-Mn alteration, and reasonably predictable geometry suggest similarities to Navan or Reocin.

Stratabound at the upper limestone-quartzite contact
Low-grade but widely anomalous zones from Firewood Siding, Grieves, Professor Range, Sunny Corner, and Mariposa are examples of this type.

Upper zone mineralisation occurs near the contact between the limestone and overlying Crotty Quartzite. Mineralisation is not closely bound to the upper quartzite contact, but may "wander" up to 100m stratigraphically below the contact.

Mineralisation appears characterised by widespread but low-level Zn in the 0.1% to 2% Zn range. None of the prospects tested has revealed a higher-grade core, although given the limited drilling it is entirely possible high-grade cores may exist. Limited mineralogy suggests all Zn to be as sphalerite.

Air-core drilling shows the mineralised zones to be comprised of clays and decomposed carbonate. Rare fresher material is usually a granular recrystallised dolomite, and can be ferroan. Intense siderite alteration is absent. A detailed geochemical study of the alteration has not been completed.

The upper zone style may be occurring within karstic structures formed by Ordovician weathering before deposition of the Crotty Quartzite. This setting is analogous to Bleiberg or Cracow-Silesia.

Stratabound in a middle sub-unit of the limestone sequence
Currently two occurrences fall into this grouping, Grieves middle zone, and Oceana. Apart from their stratigraphic concurrence, these two deposits may not share many other similarities.

The mineralised middle sub-unit is equidistant from the upper and lower contacts, although facies variations may affect the location at other prospects. Mineralisation is breccia hosted, and in the case of Grieves has a linear aspect. For Grieves there is very little indication of proximity to mineralisation as there is virtually no alteration outside the breccia zone itself.

Mineralogy at Grieves is a mixture of zincian siderite and sphalerite. Oceana is dominated by galena with subordinate (?) sphalerite. There is also intense siderite alteration at Oceana, presumably containing Zn?

Zinc grades at both prospects are high, locally forming massive sulphide.

There has been insufficient work completed at Grieves middle zone to suggest any controlling mechanisms.

Structurally controlled discordant mineralisation
Most mineralisation in the Zeehan area is structurally controlled. Mineralisation at the historic Mariposa mine, and at Myrtle belong to this type. Possibly some of the mineralisation at Oceana is also structurally controlled.

Structurally controlled mineralisation may occur at any stratigraphic level. It appears to be late-stage filling of brittle fractures. Alteration of wall-rocks is absent, and the gangue to mineralisation may be pure calcite. Mineralisation within the structures is patchily distributed. Ore minerals are coarse-grained sulphides.

Devonian deformation is the likely cause of the fracturing and mineralisation. Potential deposit size is small, although the presence of discordant mineralisation may indicate a nearby stratabound source. Late-strage structurally controlled deposits *per se* are not currently considered a valid CRAE target.

Surficial "clay-hosted" accumulations developed above primary mineralisation
Surficial Zn accumulations within decomposed carbonate was CRAE's original target for carbonate exploration at Zeehan. All currently tested prospects were selected due to the presence of known surficial mineralisation.

It has now been conclusively demonstrated that the surficial mineralisation occupies the surface trace of underlying stratabound mineralisation. Geometry of the surficial deposits are therefore dependent on the shape and extent of this underlying mineralisation. Depth extent of the Zn-rich clays and decomposed carbonates averages 10m to 20m, but have been reported to be over 100m at Oceana.

A thin layer of decomposed carbonate exists over large areas of limestone, but this layer only thickens and becomes substantially Zn-rich as "basement" mineralisation is approached. Areas of +0.1% Zn in the clay layer are regionally extensive, indicating substantial dispersions from the primary zone. Clay thickness and Zn grade may be useful vectors toward primary zones. Geochemically inert peat and gravels up to 5m thick obscure the clays and limestone over virtually the entire trace of the Gordon Limestone.

Zinc ore mineralogy is dominantly to exclusively sphalerite.

Because of their restriction to the surface zone, the potential size of the surficial deposits is somewhat limited. They are probably unlikely to be a CRA target in themselves. Their main attraction is their usefulness as an indicator of the underlying primary mineralisation. If a large primary deposit suitable to CRAE's requirements can be identified, then the surficial deposits would possibly be an easy way to generate stort-term cash-flow whilst the major deposit was being developed.

Zinc-rich clay deposits overlying primary carbonate mineralisation have been described at Tynagh and Silvermines.

10. ENVIRONMENT AND REHABILITATION

A number of activities conducted during 1994 have impacted on the environment. These include:-

- diamond drilling at Myrtle
- air-core drilling at Myrtle
- air-core drilling at Pyramid
- grid line cutting at Avebury

Rehabilitation of disturbance included:-

- refilling of diamond drill sumps
- capping of diamond drill hole collars
- raking of drill sites
- recovering sites with the cleared vegetation
- filling air-core holes
- removing excess air-core cuttings from sites

Drill sites and grid lines will naturally revegetate. No permanent new access tracks were created. Where possible, low-impact technologies were employed in exploration.

One problem area may be Myrtle prospect where severe gorse infestations along access tracks put in by previous explorers have got beyond control by chemical means. This illustrates the importance of not removing the natural vegetation cover where weeds can be a problem.

11. REFERENCES

PARKINSON R.G.	1992b:	Zeehan No. 1 EL 28/88, Tasmania. Report on exploration for the fourth year of tenure, 9/11/91 TO 9/10/92. *CRAE Report No.* 18355.
PARKINSON R.G.	1993:	Zeehan No. 1 EL 28/88. Report on exploration for the fifth year of tenure, 9/11/92 TO 9/11/93. *CRAE Report No.* 19284.
SUMMONS T.G.	1991:	EL 28/88 Zeehan, Tasmania. Statutory progress report for the period ending 9th November 1991. *CRAE Report No.* 17636.

12. KEYWORDS

TASMANIA, ORDOVICIAN, GORDON LIMESTONE, SOIL SAMPLING, ROCKCHIP SAMPLING, WACKER SAMPLING, GROUND MAGNETICS, DIAMOND DRILLING, AIR-CORE DRILLING, ZINC.

13. LOCATION

QUEENSTOWN	SK55-5	1:250000
PIEMAN	7914	1:100000
ZEEHAN	7914-S	1:50000

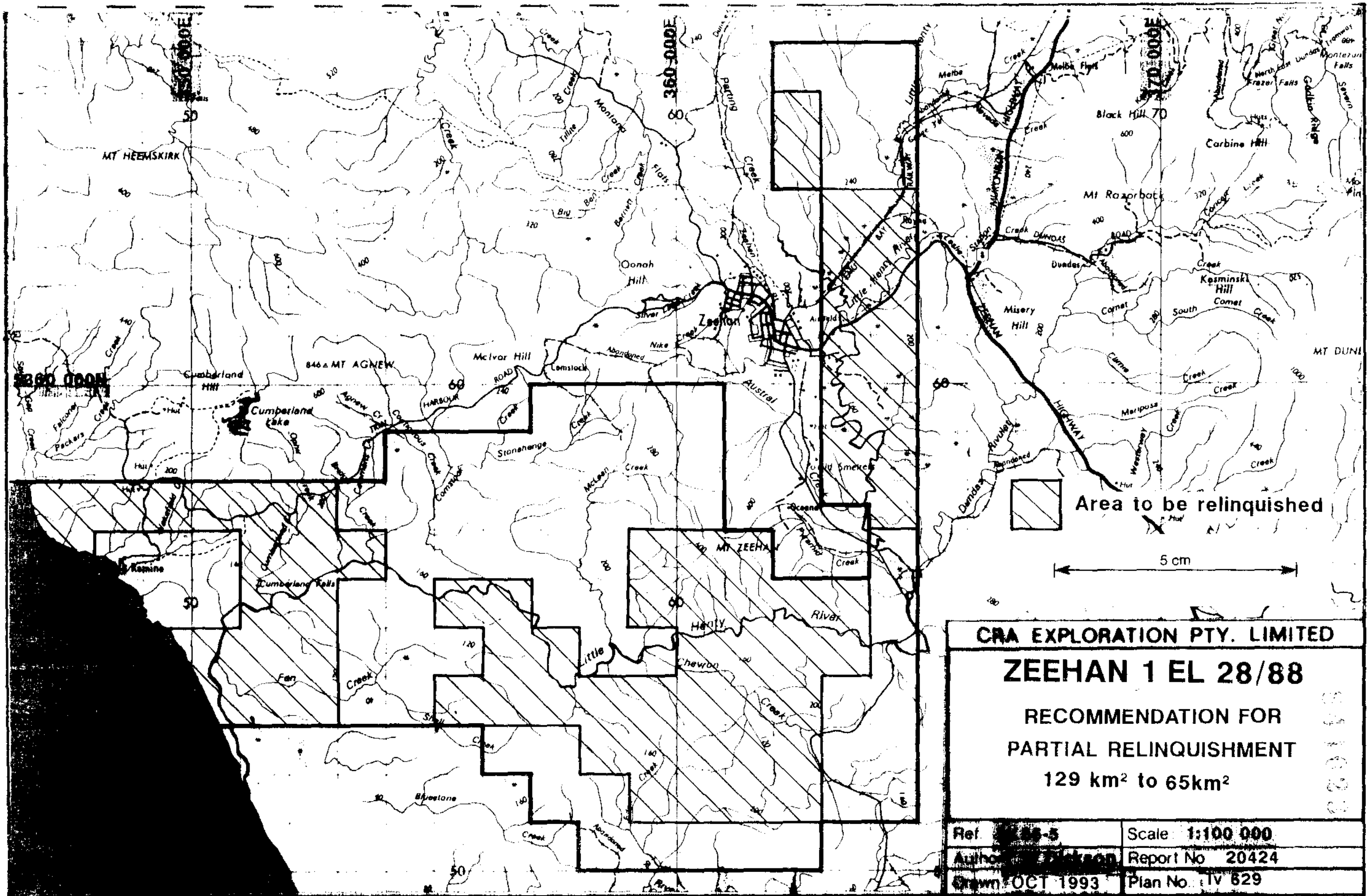
14. LIST OF DPOs

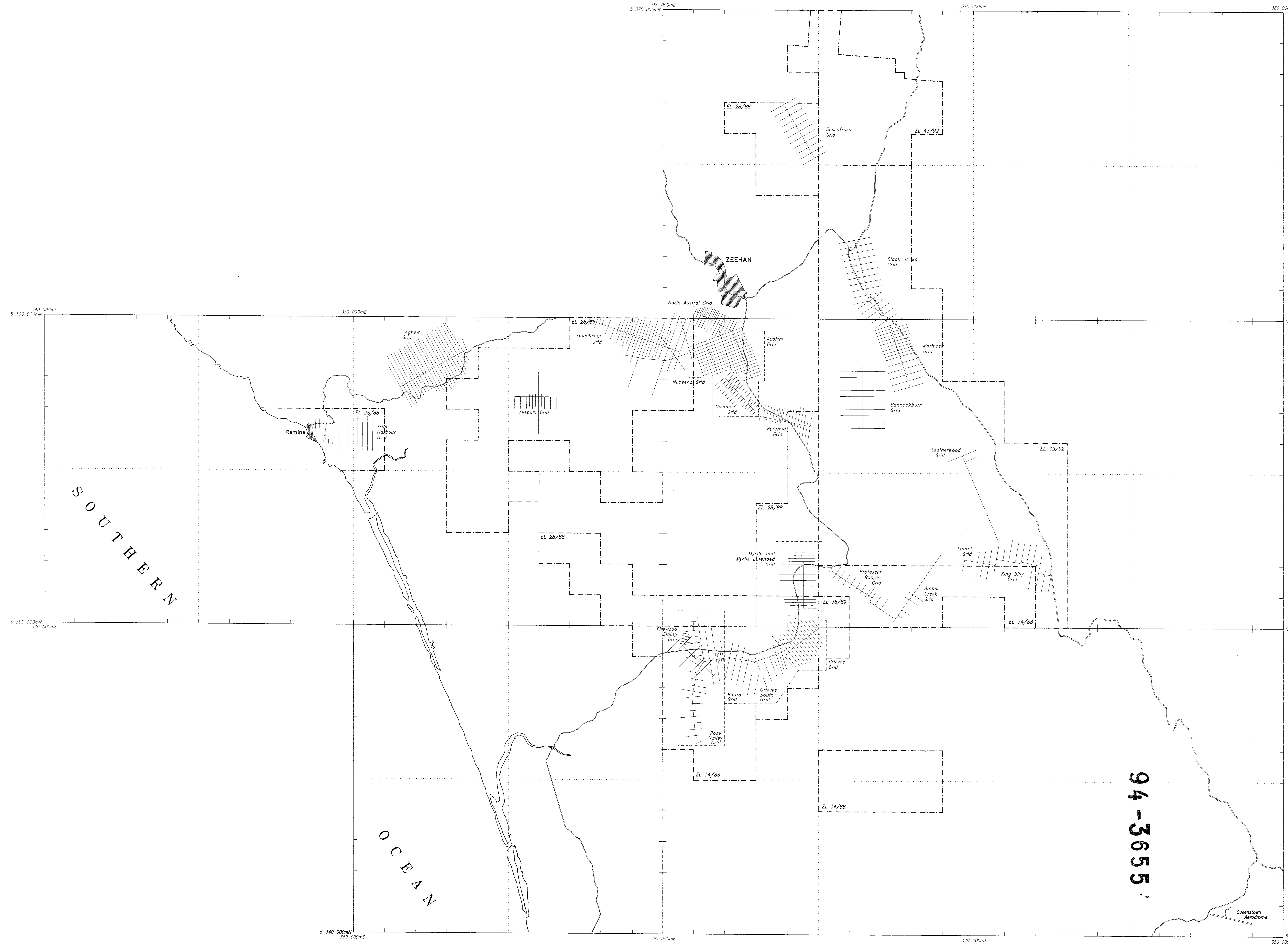
77120,	77146,	77147,	77149,	77653,	77654,
77659,	77664,	77673			

LIST OF APPENDICES

LIST OF PLANS

Tv 743	Zeehan No. 1 El28/88 Myrtle Prospect - Section 50,050N Iron and Zinc Geochemistry.	1:500
Tv 744	Zeehan No. 1 El28/88 Myrtle Prospect - Section 50,100N Iron and Zinc Geochemistry.	1:500
Tv 745	Zeehan No. 1 El28/88 Myrtle Prospect - Section 50,200N Iron and Zinc Geochemistry.	1:500
Tv 746	Zeehan No. 1 El28/88 Myrtle Prospect - Section 50,300N Iron and Zinc Geochemistry.	1:500
Tv 747	Zeehan No. 1 El28/88 Myrtle Prospect - Section 50,450N Iron and Zinc Geochemistry.	1:500
Tv 748	Zeehan No. 1 El28/88 Myrtle Prospect - Section 50,500N Iron and Zinc Geochemistry.	1:500
Tv 749	Zeehan No. 1 El28/88 Myrtle Prospect - Section 50,550N Iron and Zinc Geochemistry.	1:500
Tv 750	Zeehan No. 1 El28/88 Myrtle Prospect - Section 50,600N Iron and Zinc Geochemistry.	1:500
Tv 715	Zeehan No. 1 EL28/88 Pyramid Prospect - Drillhole Location Plan.	1:2500
Tv 774	Zeehan No. 1 Pyramid Prospect - Section 1000N Iron and Zinc Geochemistry.	1:500
Tv 775	Zeehan No. 1 Pyramid Prospect - Section 1100N Iron and Zinc Geochemistry.	1:500
Tv 776	Zeehan No. 1 Pyramid Prospect - Section 1200N Iron and Zinc Geochemistry.	1:500
Tv 777	Zeehan No. 1 Pyramid Prospect - Section 1300N Iron and Zinc Geochemistry.	1:500


CRA EXPLORATION PTY. LIMITED
ZEEHAN 1 EL 28/88
RECOMMENDATION FOR
PARTIAL RELINQUISHMENT
129 km² to 65km²
Ref [redacted]-5
Scale 1:100 000
Author [redacted] Dickson
Report No 20424
Drawn OCT 1993
Plan No. TV 629
Area to be relinquished
5 cm
360 000E
370 000E
5360 000N
MT HEEMSKIRK
Cumberland Hill
846 ▲ MT AGNEW
Cumberland Lake
McIvor Hill
Oonah Hill
Zeehan
Stonehenge
MT ZEEHAN
Henty River
Little Henty River
Black Hill
Carbine Hill
Mt Razorback
Dundas
Kosminski Hill
Misery Hill
Cumberland Falls
MT DUNDAS
Melba Flats
Comet Creek
Mariposa Creek
Chewon Creek
Bluestone
Fen Creek
Montana Flats
Big Bend
Austral
Oceana
Comstock
Silver Creek
Nike Creek
Barnett Creek
Parting Creek
HIGHWAY
HARBOUR ROAD
DUNDAS ROAD



844024

5 cm

** NOTE **
Contiguous grids are internally consistent, however the relative position of groups of grids may vary.

0 1 2 3 4kilometres

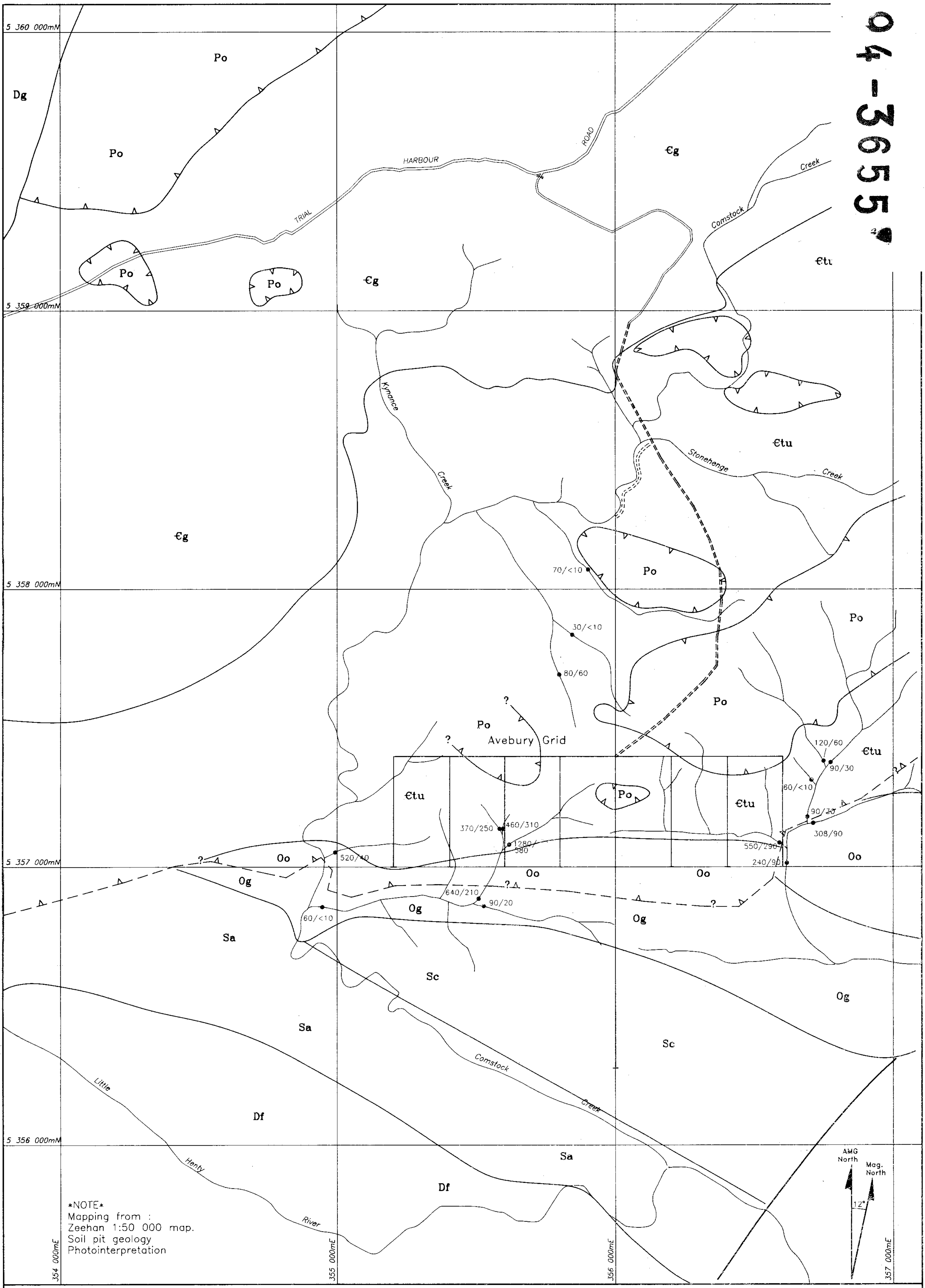
North

CRA EXPLORATION PTY. LIMITED

ZEEHAN AREA
Western Tasmania
Grid & Prospect Location Plan

Ref.: SK55 - 5	File: ZEEHAN\443
Scale: 1 : 50,000	Date: November 1994
Author: R. Parkinson	Report No.: **20424**
Drawn: R. Travierso	Plan No.: Tv 443

04-3655



DEVONIAN :

Dg	Heemskirk Granite
Df	Florence Quartzite

SILURIAN :

Sa	Amber Formation
Sc	Crotty Quartzite

ORDOVICIAN :

Og	Gordon Limestone
Oo	Owen Conglomerate

CAMBRIAN :

Cg	Gabbro / basalt
Ctu	Dundas Group corelates

PROTEROZOIC :

Po	Oonah Formation

- Road
- Walking Track
- Creek
- Grid Line
- Lithological contact
- Fault
- Thrust fault – teeth on upper plate
- Interpreted thrust fault
- RGC –80# SS sample location with Zn/Pb assays (only relevant samples shown) (90/60)

5 cm

0 200 400 600 800

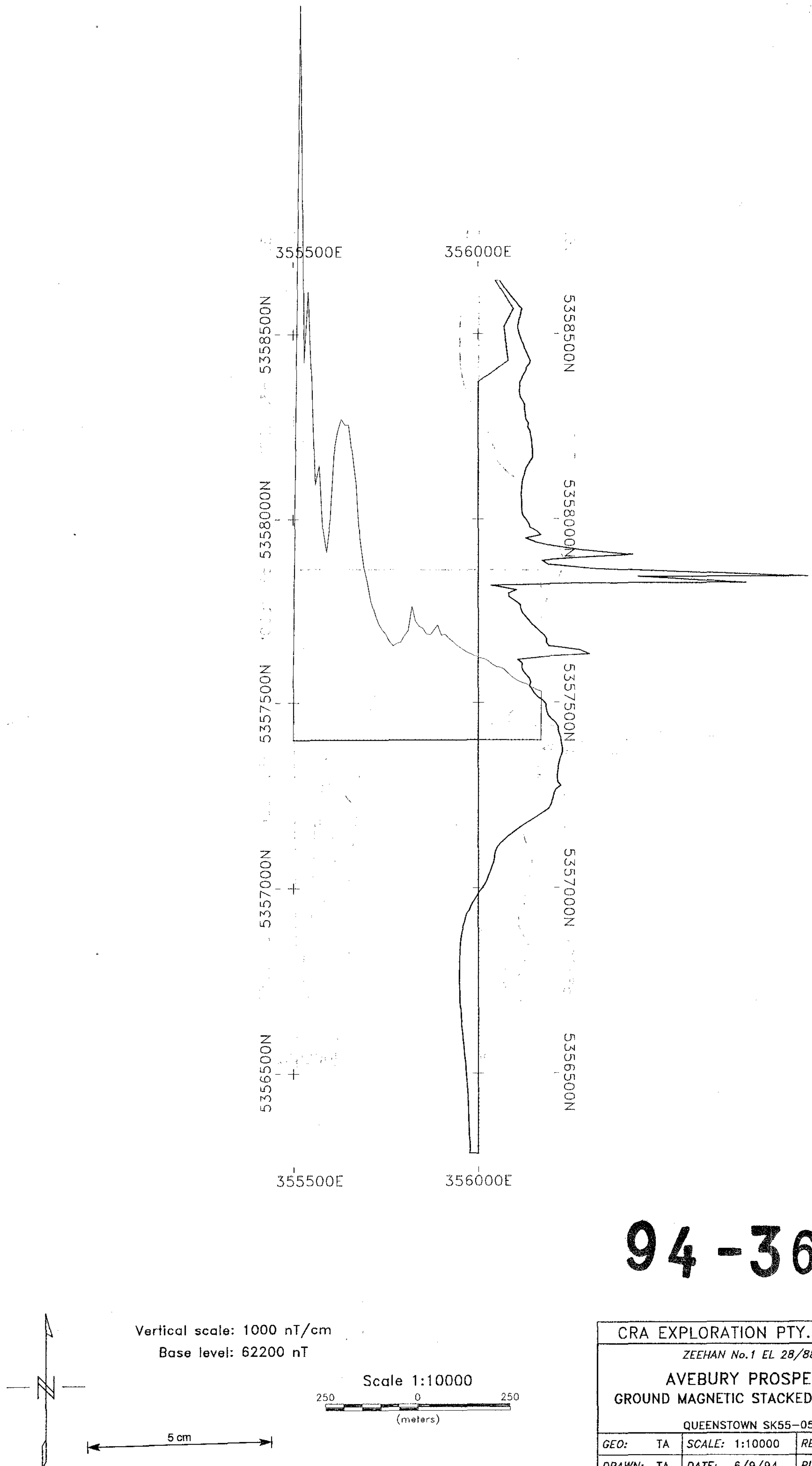
metres

844025

CRA EXPLORATION PTY. LIMITED

ZEEHAN No.1 EL 28/88
Avebury Prospect
Geological Plan

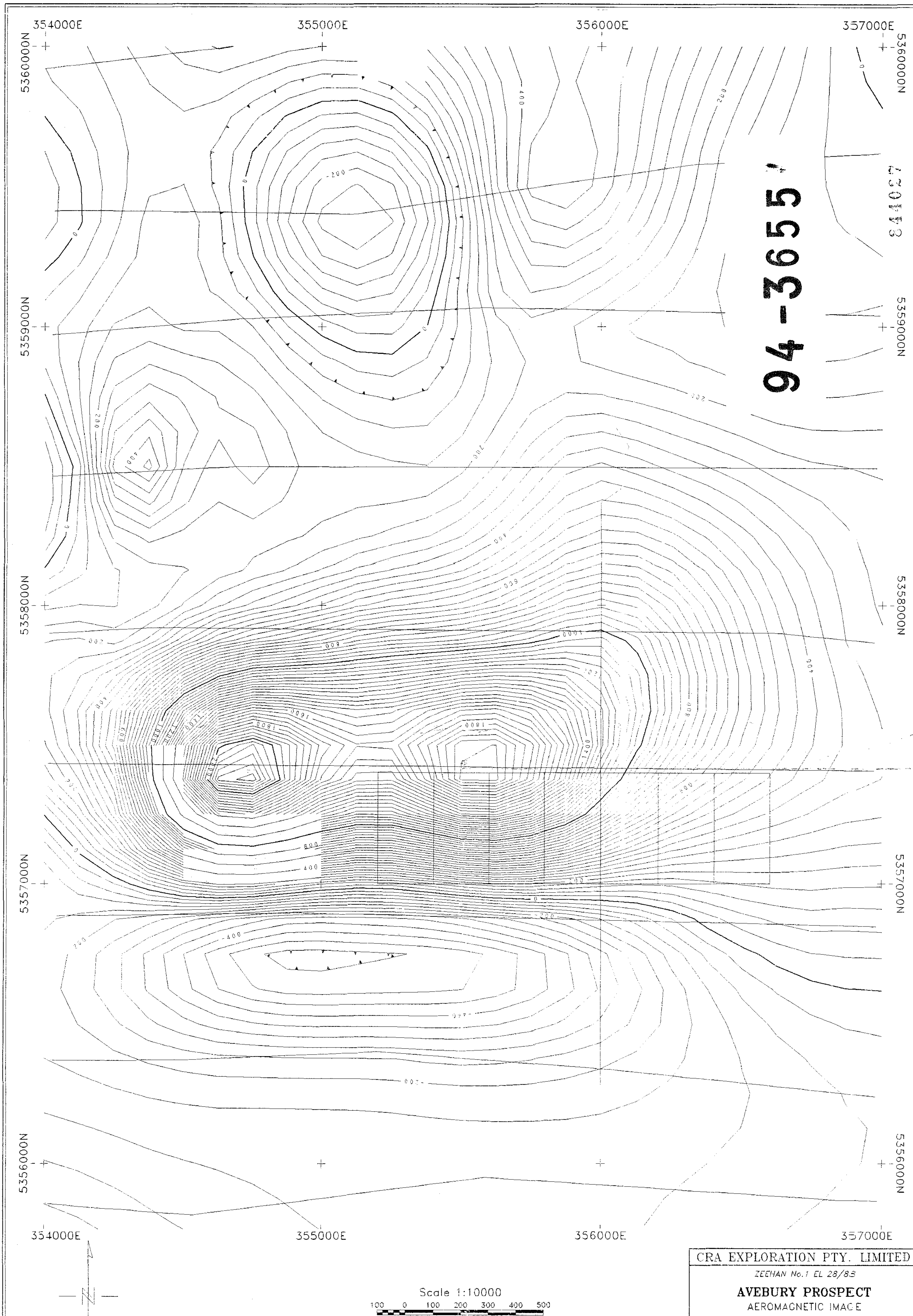
Ref.:	Queenstown SK55 – 5	File:	Tv472s
Scale:	1 : 10000	Date:	October, 1994
Author:	ROB PARKINSON	Report No.:	**20424**
Drawn:	Rocco Travierso	Plan No.:	Tv 472



844026

94-3655

CRA EXPLORATION PTY. LIMITED		
ZEEHAN No.1 EL 28/88		
AVEBURY PROSPECT GROUND MAGNETIC STACKED PROFILES		
QUEENSTOWN SK55-05		
GEO: TA	*SCALE:* 1:10000	*REPORT:* 20424
DRAWN: TA	*DATE:* 6/9/94	*PLAN:* Tv 847



CRA EXPLORATION PTY. LIMITED

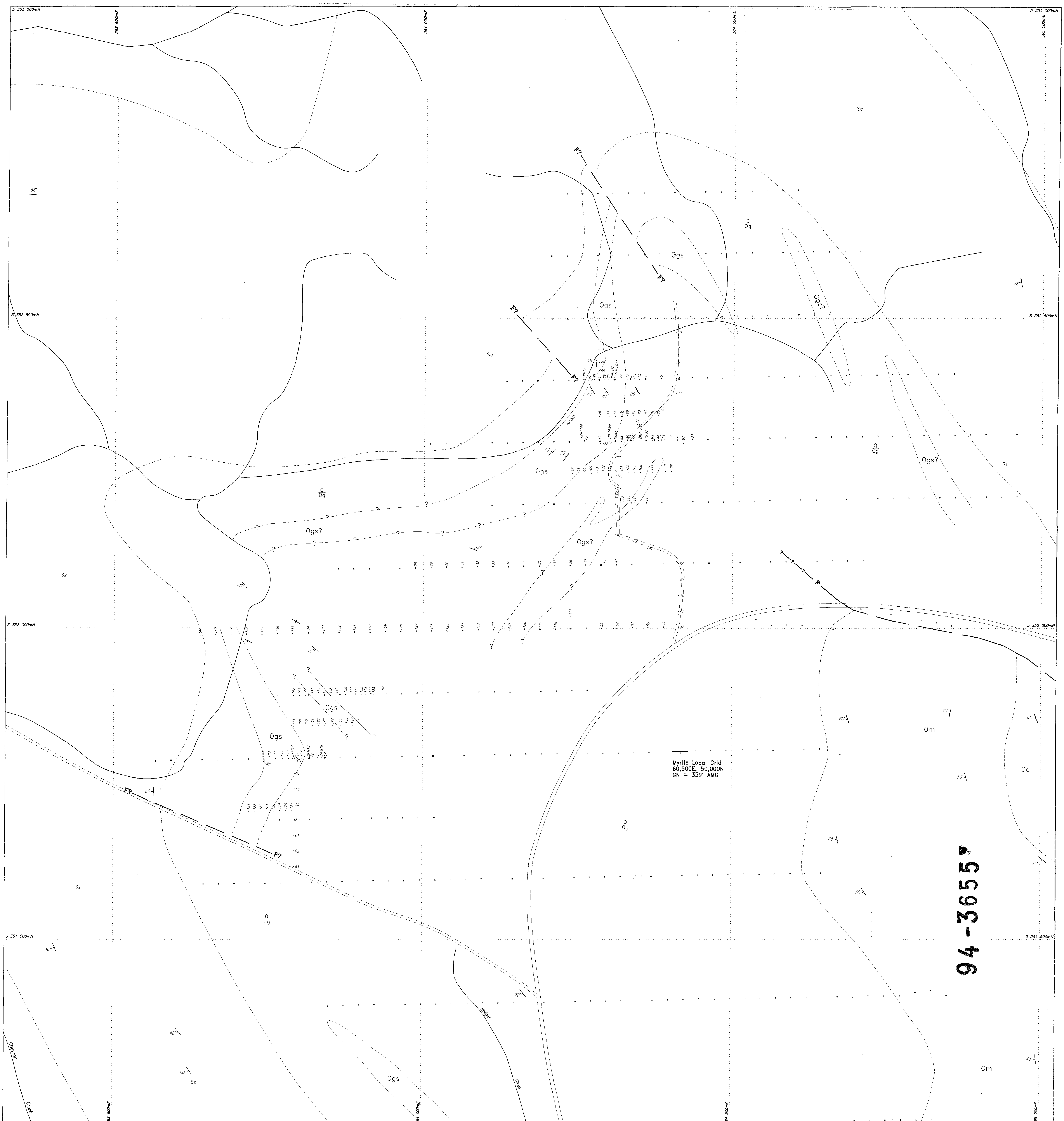
ZEEHAN No.1 EL 28/83

AVEBURY PROSPECT

AEROMAGNETIC IMAGE

QUEENSTOWN SK55-05

GEO:	TA	SCALE:	1:10000	REPORT:	20424
DRAWN:	TA	DATE:	6/9/94	PLAN:	Tv853



Q	Quaternary Cover
Sc	Silurian Crotty Quartzite
Og	Ordovician Gordon Limestone
Ogs	Ordovician Siltstone subunit
Om	Ordovician Moina Sandstone
Oo	Ordovician Owen Conglomerate

60° Dip of Cleavage

60° Dip of Bedding

Road, Track

Creek

Lithological Boundary

Aircore Drillholes (hole prefix ZM___)

Rockchip or Wacker Bedrock Sample <0.1% Zn

Rockchip or Wacker Bedrock Sample >0.1% Zn

** NOTE **
Detailed Mapping Revised from EZ report TCR 86-2547

AMG North
Mag. North
12°

0 50 100 150 200
metres

5 cm

844028

CRA EXPLORATION PTY. LIMITED

ZEEHAN No. 1 EL 28/88
MYRTLE PROSPECT
DRILLHOLE LOCATION PLAN

Ref.: SK 55-5	File: Tv714R
Scale: 1 : 2,500	Date: October 1994
Author: R.G. Parkinson	Report No.: 20424
Drawn: R. Travierso	Plan No.: Tv 714

94-3655

844029

5 cm

Drillhole Collar Location

DM10

Zinc Geochemistry results in ppm

0 10 20 30 40

metres

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88

Myrtle Prospect

Section 49,900 North

Zinc Geochemistry

Ref.: Queenstown Sk 55-05	File: Tv740s
Scale: 1 : 500	Date: November, 1994
Author: R.G. Parkinson	Report No.: **20424**
Drawn: R. Travierso	Plan No.: Tv 740

844030

94-3655

Drillhole Collar Location

DM10

500 Zinc Geochemistry results in ppm

5 cm

0 10 20 30 40

metres

CRA EXPLORATION PTY. LIMITED	
ZEEHAN 1 EL 28/88 **Myrtle Prospect** Section 49,950 North Zinc Geochemistry	
Ref.: Queenstown Sk 55-05	File: Tv741s
Scale: 1 : 500	Date: November, 1994
Author: R.G. Parkinson	Report No.: **20424**
Drawn: R. Travierso	Plan No.: Tv 741

94-36551

844031

Drillhole Collar Location

DM10

Zinc Geochemistry results in ppm

5 cm

0 10 20 30 40

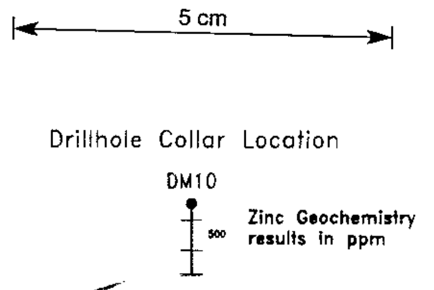
metres

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Myrtle Prospect
Section 50,000 North
Zinc Geochemistry

Ref.: Queenstown Sk 55-05	File: Tv742s
Scale: 1 : 500	Date: November, 1994
Author: R.G. Parkinson	Report No.: 20424
Drawn: R. Travierso	Plan No.: Tv 742

844032



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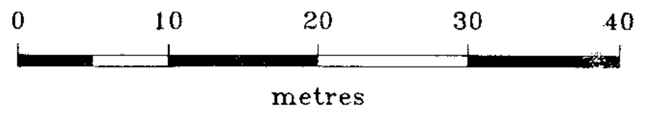


CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Myrtle Prospect
Section 50,050 North
Zinc Geochemistry

Ref.: Queenstown Sk 55-05	File: Tv743s
Scale: 1 : 500	Date: November, 1994
Author: R.G. Parkinson	Report No.: **20424**
Drawn: R. Travierso	Plan No.: Tv 743

94-3655

844033

Drillhole Collar Location

DM10

Zinc Geochemistry results in ppm

5 cm

0 10 20 30 40

metres

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Myrtle Prospect
Section 50,100 North
Zinc Geochemistry

Ref.: Queenstown Sk 55-05	File: Tv744s
Scale: 1 : 500	Date: November, 1994
Author: R.G. Parkinson	Report No.: **20424**
Drawn: R. Travierso	Plan No.: Tv 744

94-3655

844034

Drillhole Collar Location

DM10

Zinc Geochemistry results in ppm

5 cm

0 20 40 60 80

metres

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88

Myrtle Prospect

Section 50,200 North

Zinc Geochemistry

Ref.:	Queenstown Sk 55-05	File:	IV745s
Scale:	1 : 1000	Date:	November, 1994
Author:	R.G. Parkinson	Report No.:	20424
Drawn:	R. Traverse	Plan No.:	Iv 745

94-3655

844085

Drillhole Collar Location

Zinc Geochemistry results in ppm

5 cm

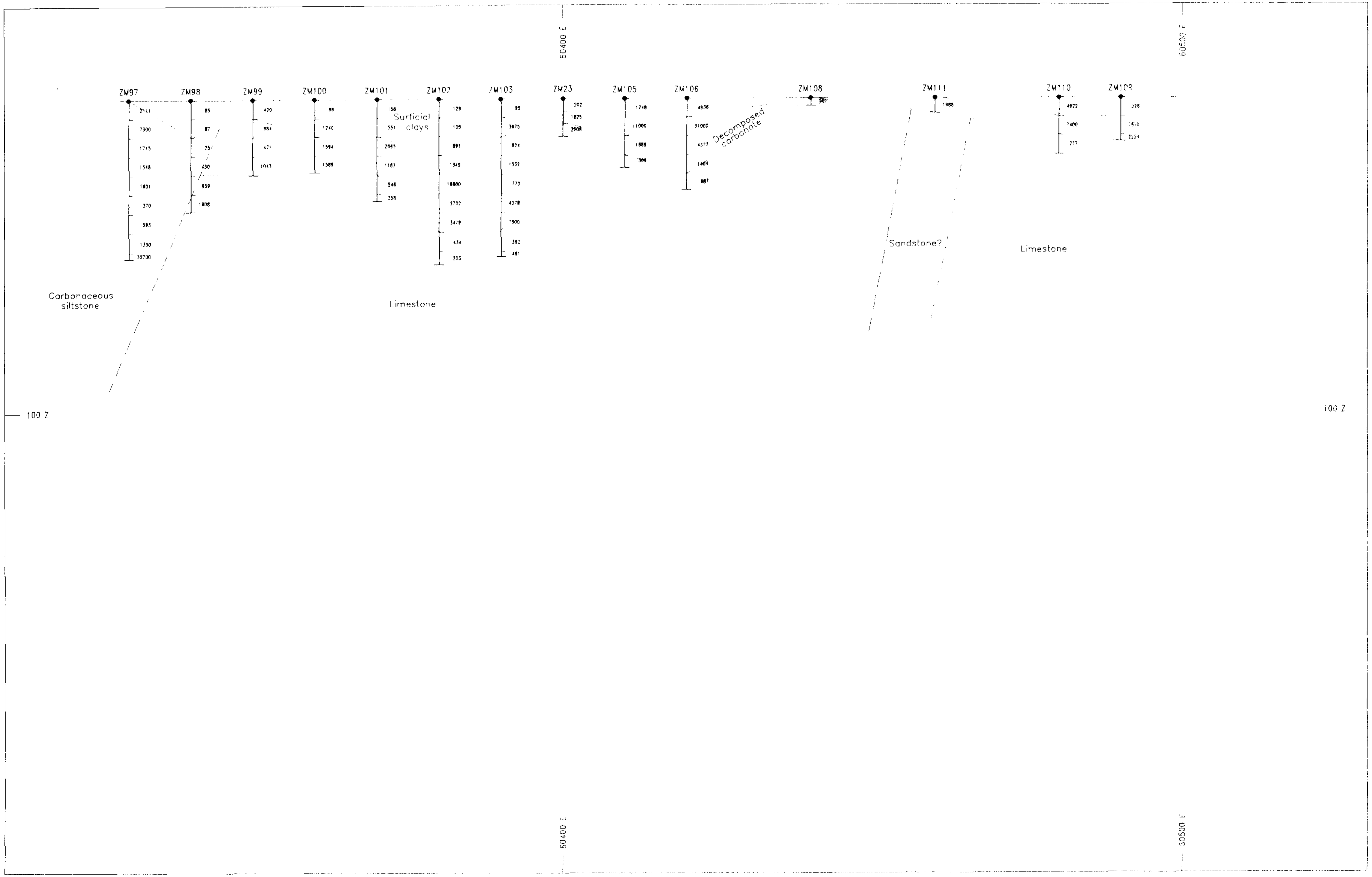
0 20 40 60 80

metres

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Myrtle Prospect
Section 50,300 North
Zinc Geochemistry

Ref.: Queenstown Sk 55-05	File: Tv746s
Scale: 1 : 1000	Date: November, 1994
Author: R.G. Parkinson	Report No.: 20624
Drawn: R. Traviersc	Plan No.: Tv 746



844036

94 - 3655

5 cm

Drillhole Collar Location

DM10

Zinc Geochemistry results in ppm

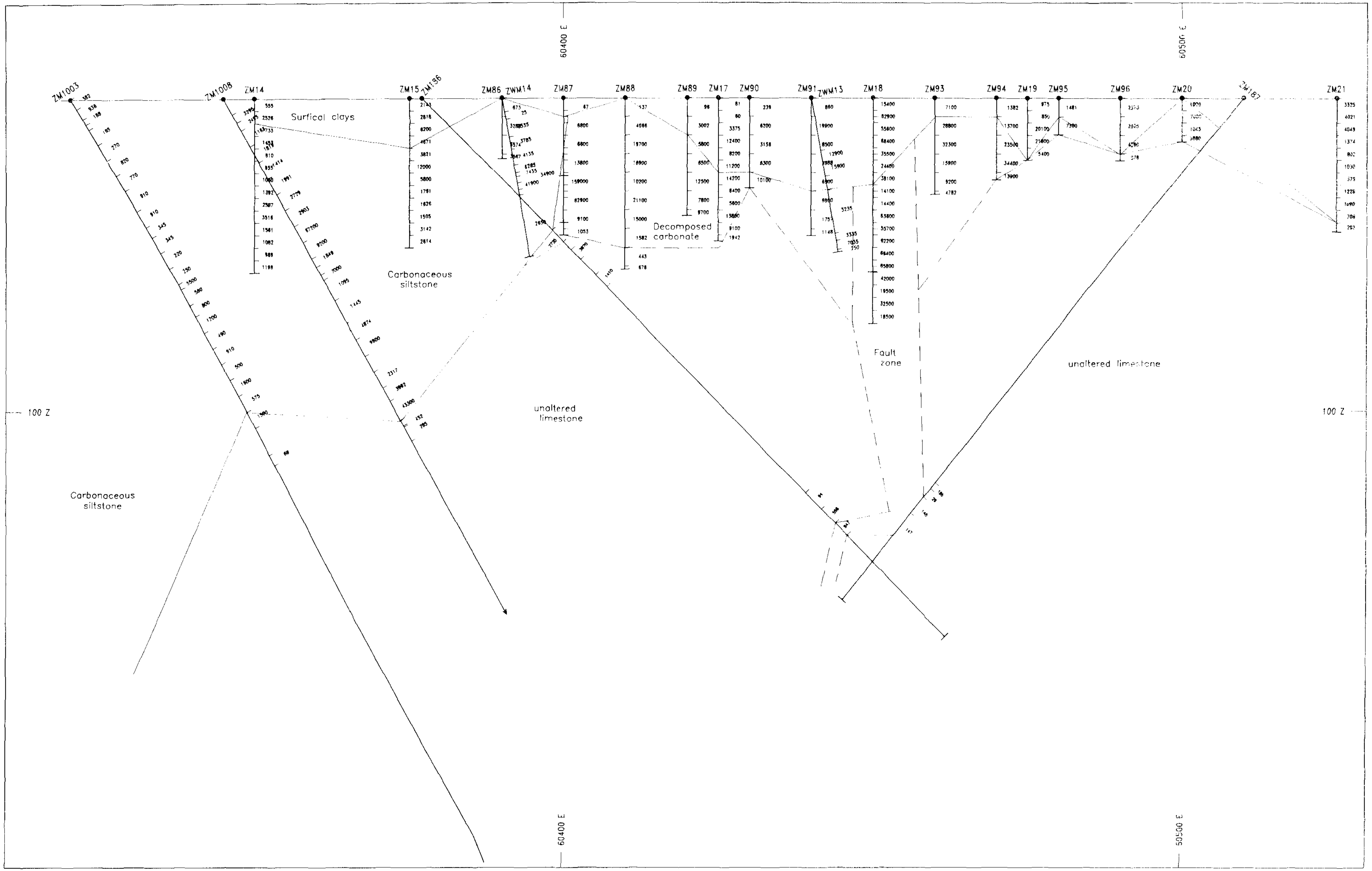
0 10 20 30 40

metres

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Myrtle Prospect
Section 50,450 North
Zinc Geochemistry

Ref.: Queenstown Sk 55-05	File: Tv747s
Scale: 1 : 500	Date: November, 1994
Author: R.G. Parkinson	Report No.: 20424
Drawn: [illegible]	Plan No.: Tv 747



844037

94-3655

Drillhole Collar Location

DM10

Zinc Geochemistry results in ppm

5 cm

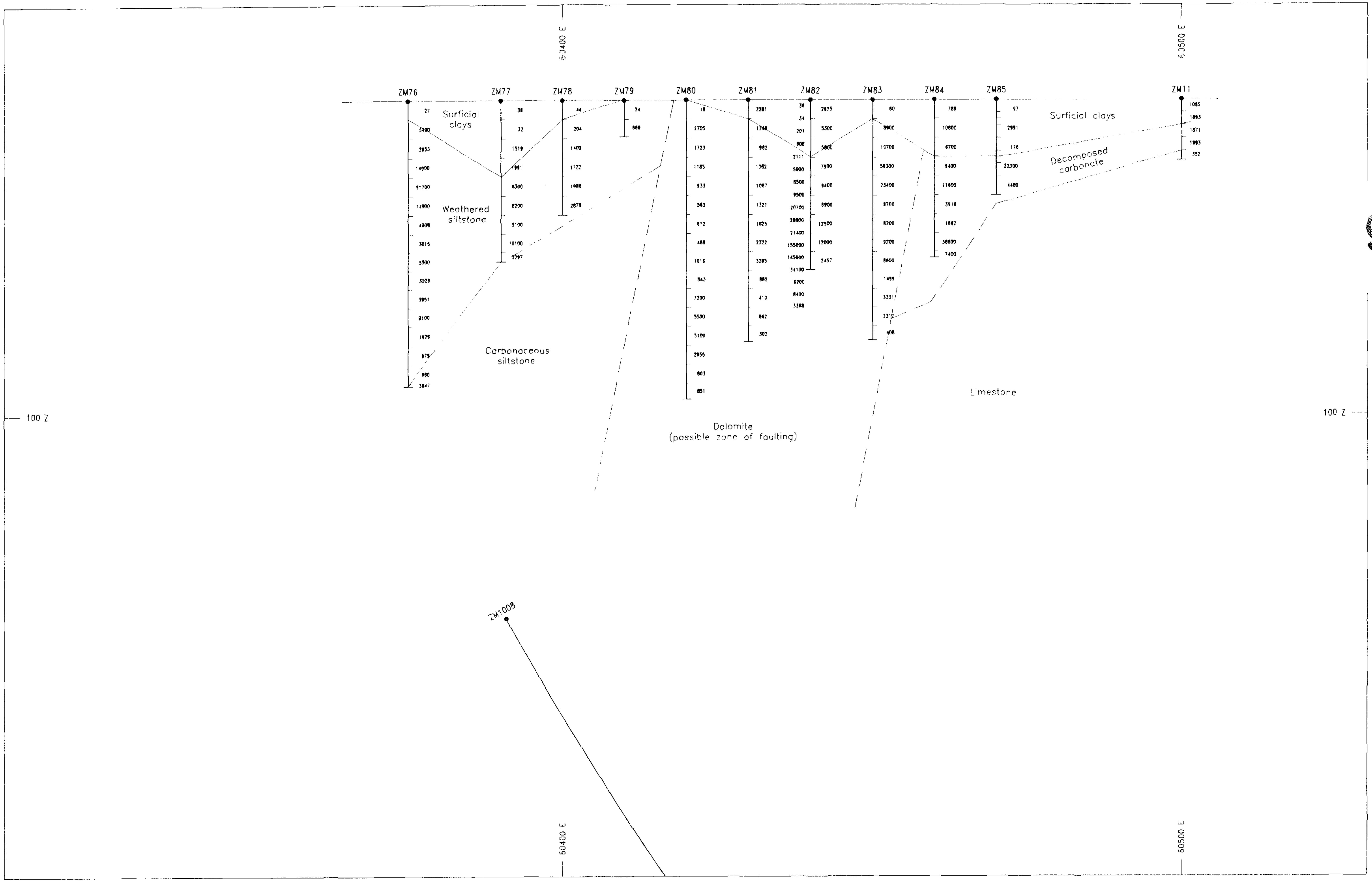
0 10 20 30 40

metres

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Myrtle Prospect
Section 50,500 North
Zinc Geochemistry

Ref.:	Queenstown Sk 55-05	File:	Tv748a
Scale:	1 : 500	Date:	November, 1994
Author:	R.G. Parkinson	Report No.:	**20424**
Drawn:	R. Travierso	Plan No.:	Tv 748



94-3655

84403S

Drillhole Collar Location

DM10

Zinc Geochemistry results in ppm

5 cm

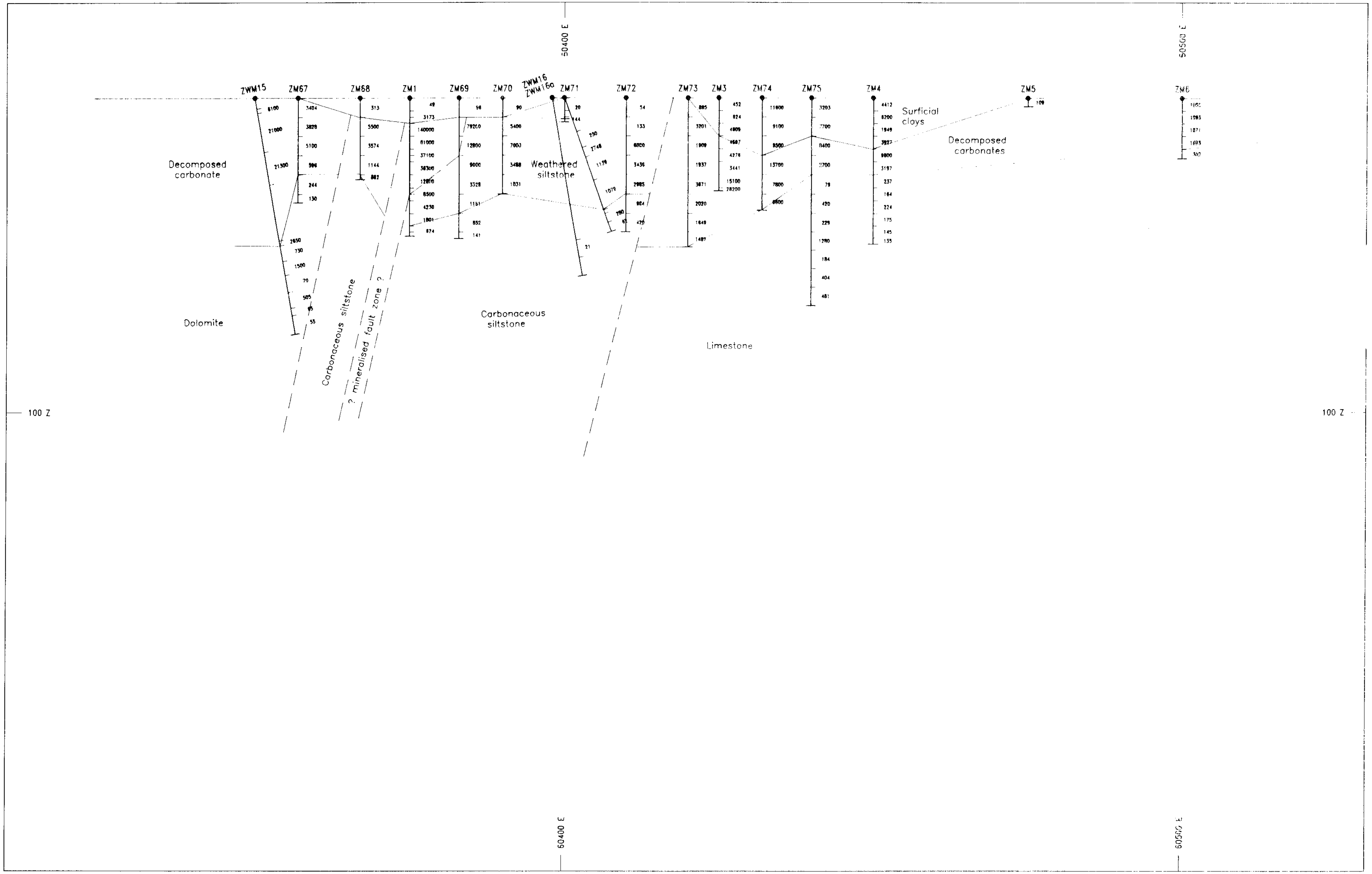
0 10 20 30 40

metres

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Myrtle Prospect
Section 50,550 North
Zinc Geochemistry

Ref.: Queenstown Sk 55-05	File: Tv749s
Scale: 1 : 500	Date: November, 1994
Author: R.G. Parkinson	Report No.: **20424**
Drawn: R. Travierso	Plan No.: Tv 749



94-3655

844039

5 cm

Drillhole Collar Location

DM10

Zinc Geochemistry results in ppm

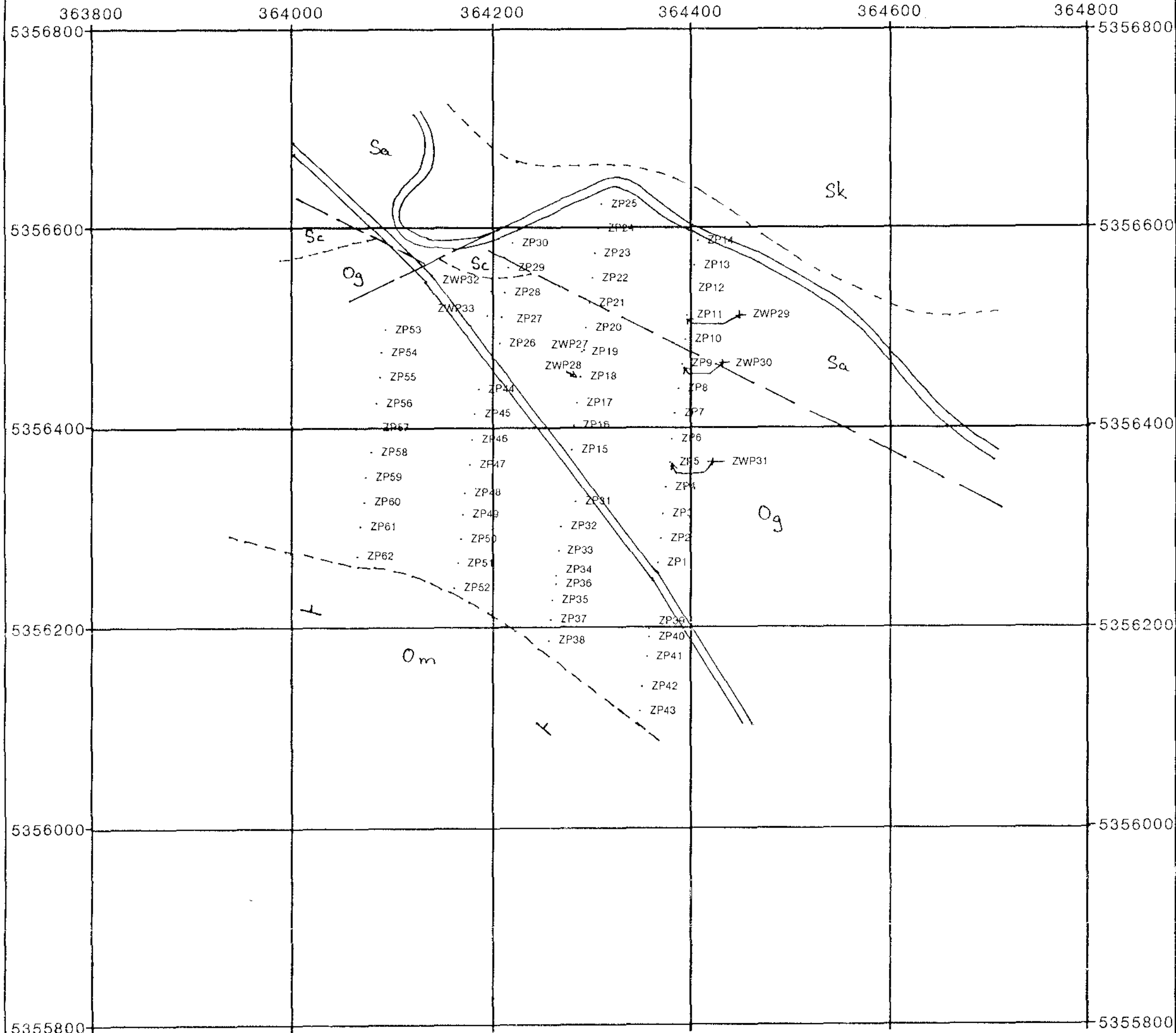
0 10 20 30 40

metres

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Myrtle Prospect
Section 50,600 North
Zinc Geochemistry

Ref.:	Queenstown Sk 55-05	File:	Tv750a
Scale:	1 : 500	Date:	November, 1994
Author:	R.G. Parkinson	Report No.:	**20424**
Drawn:	R Travierso	Plan No.:	Tv 750



CRA Exploration Pty Limited

ZEEHAN 1 EL28/88 - PYRAMID PROSPECT

DRILL HOLE LOCATION PLAN

Geol: RGP	Scale: 1:5000	Report: 20424
Drawn: RGP	Date: 27/9/1994	Plan: Tv 715

CRAE and EZ holes

jmap

04-3695

03440

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Pyramid Prospect
Section 1000 North
Iron and Zinc Geochemistry

Ref:	SK 55-05	File:	Zeehan1\774
Scale:	1 : 500	Date:	July 1994
Author:	R.G. Parkinson	Report No.:	20424
Drawn:	R. Traviarso	Plan No.:	Tv 774

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Pyramid Prospect
Section 1100 North
Iron and Zinc Geochemistry

Ref.: SK 55-05	File: Zeehan1\775
Scale: 1 : 500	Date: July 1994
Author: R.G. Parkinson	Report No.: **20424**
Drawn: R Travierso	Plan No.: Tv 775

94-3655

844643

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Pyramid Prospect
Section 1200 North
Iron and Zinc Geochemistry

Ref.: SK 55-05	File: Zeehan1\776
Scale: 1 : 500	Date: July 1994
Author: R.G. Parkinson	Report No.: **20424**
Drawn: R. Travierso	Plan No.: Tv 776

94-3655

844044

5 cm

Fe % : on Left Hand Side
Zn ppm : on Right Hand Side

CRA EXPLORATION PTY. LIMITED

ZEEHAN 1 EL 28/88
Pyramid Prospect
Section 1300 North
Iron and Zinc Geochemistry

Ref.: SK 55-05	File: Zeehan1\777
Scale: 1 : 500	Date: July 1994
Author: R.G. Parkinson	Report No.: **20424**
Drawn: R. Traviersc	Plan No.: Tv 777

APPENDIX 1:

Avebury prospect soil sampling ledgers and geochemistry.

844046

ROCKCHIP AND DRILLING CODES 22/2/1994

BMRLITH

Rock code as per published geological map
For time designation use:-

Q	Quaternary	M	Permian	P	Proterozoic
T	Tertiary	C	Carboniferous	A	Archaean
		S	Silurian		
K	Cretaceous	D	Devonian		
R	Triassic	O	Ordovician		
J	Jurassic	E	Cambrian		

FIELD ID

Field term for rock type
Broad groupings are:-

S	Sedimentary	I	*Intrusive*	C	*Surficial*
M	Metamorphic	E	Extrusive	O	Others

SEDIMENTARY

Scg	Conglomerate	Sls	Limestone	Sw	Wacke
Sss	Sandstone	Sdl	Dolomite	Sag	Agglomerate/mixtite
Ssi	Siltstone				
Ssh	Shale	Sch	*Chert*	Sbx	*Breccia*
Sbs	Black shale	Sif	BIF		

METAMORPHIC

Msl	Slate	Mq	Quartzite	Mmg	Migmatite
Mph	Phyllite	Mm	Marble		
Msc	Schist	Ma	Amphibolite		
Mbs	Graphitic schist	Mcs	Calcsilicate	Msk	Skarn
Mgn	Gneiss	Mh	Hornfels		

INTRUSIVE IGNEOUS

If	Felsic undiff.	Ii	Intermed undiff.	Iu	Ultramafic
Ifp	Felsic porphyry	Iip	Intermed porph	Ius	Serpentinite
Iap	Aplite	Im	Mafic undiff.		
Igr	Granite	Ido	Dolerite	Ipg	Pegmatite
Igd	Granodiorite	Igb	Gabbro		

EXTRUSIVE IGNEOUS

Ery	Rhyolite	Ean	Andesite	Et	Tuff undiff
Edc	Dacite	Eb	Basalt	Eft	Felsic tuff
				Emt	Mafic tuff

SURFICIAL (COVER) MATERIAL

Ca	Alluvium	Clt	Laterite	Csg	Gossan
Cco	Colluvium	Csp	Pisolites		
Cs	Sand	Csf	Ironstone	Ccy	Clay
Cbs	Black soil	Csi	Silcrete		
Cg	Gravel	Cd	Calcrete	Cv	Vegetation/peat

OTHERS

Ovq	Vein quartz	Omy	Mylonite	Oms	Massive sulphide
Ovc	Vein carbonate	Obx	Breccia	Oxc	Contamination
Ovs	Vein sulphide	Of	Fault gouge	Ox	Unknown

TEXTURAL CODES

WEATHERING/SURFICIAL FEATURES

We	Weathered	Fe	Ferruginous
Bl	Bleached	Fo	Fe ox in tract
Le	Leached		

MINERALISATION/ALTERATION FEATURES

Gs	Gossanous	*Vs*	*Vein sulphide*	*Al*	*Altered*
Vn	Veined	Ds	Dissem sulph	Si	Silicified
Vc	Vein carbonate	Fs	Fracture sulph		
Vq	Vein quartz	Bs	Banded sulph	Di	Disseminated

GEOLOGICAL FEATURES

Bd	Bedded	Fr	Fractured	Po	Porphyritic
Bn	*Banded*	*Ib*	*Interbedded*	Sc	Schistose
Bx	Brecciated	Lm	Laminated	Sh	Sheared
Fi	Fissile (slatey)	Ma	Massive	Vu	Vuggy

DIAGNOSTIC MINERALOGY

PRIMARY MINERALISATION

Ga	Galena	Py	Pyrite	Ni	Ni sulphides
Sp	Sphalerite	Po	Pyrrhotite		
Cp	Chalcopyrite	Su	Unknown sulph		

SECONDARY MINERALISATION

Ls	Lead secondaries	Cs	Copper sec.	Ni	Ni secondaries
Zs	Zinc "	Us	Uranium "		

ALTERATION/DIAGNOSTIC MINERALS

Cy	Clay	He	Haematite	Gt	Garnet
Ep	Epidote	Mt	Magnetite	Ky	Kyanite
Cc	Carbonate	Js	Jarosite	To	Tourmaline
Sd	Siderite/Ankerite	Mn	Manganese mins	Cl	Chlorite
Dl	Dolomite				

COLOUR CODES

L	Light	A	Banded	M	Mottled
D	Dark				
N	Black	P	Purple	V	Green
G	Grey	R	Red	K	Pink
B	Brown	O	Orange	E	Blue
W	White	Y	Yellow	S	Silver

Appendix 1: Avebury prospect, line 356000E. Soil sampling ledger

DPO 71505 and 77103 reported previously

Sampno	DPO	AMGE	AMGN	RL	Horizon	Depth	MRTLith	FieldID	Colour	Comments	Ag ppm	As ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	Zn ppm
3989201	77664	356000	5356278	193.7	A	0.5	Sc	Sss	DB	Outcrop: very poorly sorted quartzarenite, weakly hematitic.	-1	1	14	0.3	25	5	22
3989202	77664	356000	5356290	203.0	A/B	0.4	Sc	Cg	DB	Organic-rich soil containing rounded quartzite gravel.	-1	1	12	0.39	24	-3	18
3989203	77664	356000	5356300	202.8	A	0.7	Sc	CgCbs	DB	Organic-rich soil/gravel.	-1	0.5	13	0.26	18	-3	14
3989204	77664	356000	5356325	197.9	A/B	0.5	Sc	Sss	DB/LG	Dark brown clayey soil/silt-fine sand rich clay.	-1	0.5	13	0.25	18	-3	15
3989205	77664	356000	5356350	194.9	A/B	0.6	Sc	Sss	LB/W	Pale, fine-grained quartz sand.	-1	0.5	9	0.17	9	-3	10
3989206	77664	356000	5356375	192.2	A/B	0.2	Sc	Sss	LB/W	Sandy clay and part. rounded gravel.	-1	1	9	0.32	21	-3	10
3989207	77664	356000	5356400	189.2	C	1.1	Sc	Sss	W	Clean white quartz sand, f.gr. quartzarenite frags.	-1	0.5	7	0.13	8	-3	10
3989208	77664	356000	5356425	184.3	B	0.6	Sc	Sss	DB/W	Mixed clay and sandy soil, minor quartzarenite frags.	-1	1	11	0.34	21	3	13
3989209	77664	356000	5356450	179.0	A	0.5	Sc	Sss	LB/W	Mixed fine-grained sand/brown organic soil.	-1	1	12	0.2	12	3	12
3989210	77664	356000	5356475	174.1	B	0.4	Sc	Sss	RB/W	Mixed sandy-clay soil, minor organic matter present.	-1	1	14	0.26	13	-3	13
3989211	77664	356000	5356500	166.5	B	0.4	Sc	Sss	DB	*Dark brown clayey soil, high organic content.*	-1	1.5	14	0.19	9	3	14
3989212	77664	356000	5356525	152.1	B	0.6	Sc	SssCcy	DB/W	Med. gr. mature quartzarenite, lesser DB Ccy	-1	1	11	0.28	12	-3	11
3989213	77664	356000	5356550	135.2	A/B	0.7	Sc	CbsCg	DB/W	Organic-rich soil, lesser quartzarenite gravel (bedrock?).	-1	1	6	0.18	7	3	8
3989214	77664	356000	5356575	125.1	A/B	0.4	Sc	CbsSss	DB/W	Organic-rich clayey soil, quartzarenite frags.	-1	1.5	7	0.23	10	155	12
3989215	77664	356000	5356600	112.4	B/C	0.7	Sc	Sss	GW	Clean, f-m.gr. quartz sand/quartzarenite.	-1	0.5	5	0.14	7	74	9
3989216	77664	356000	5356625	100.7	C	1.8	Sc	SssCcy	LG/W	Decomposed f-m.gr. quartzarenite, lesser peaty clay	-1	1	8	0.22	10	67	14
3989217	77664	356000	5356650	98.5	C	0.2	Sc	SssOvq	LG/W	part. We Sss, dilational 0.5-1.0cm QV (in outcrop).	-1	1	8	0.28	17	49	13
3989218	77664	356000	5356675	93.2	B	0.4	Sc	CbsSss	DB/W	Organic-rich clayey soil, Sss frags.	-1	1	13	0.2	9	39	12
3989219	77664	356000	5356700	91.9	B/C	0.3	Sc	SssCcy	LB/W	Sss-rich sandy soil, lesser LB Ccy.	-1	0.5	7	0.18	7	13	8
3989220	77664	356000	5356725	93.6	B	1.2	Sc	SssCcy	LB/W	Unconsol. sand/minor Ccy.	-1	1.6	6	0.13	6	17	8
3989221	77664	356000	5356750	92.3	TRANS?	0.6	Og?	SssCco	LG/W	Unconsol. sand/M.gr. Sss (part. We).	-1	0.5	6	0.15	5	12	9
3989222	77664	356000	5356775	94.5	TRANS?	0.4	Og?	SssCco	LG/W	Part. We quartz-veined Sss.	-1	0.5	6	0.14	5	19	8
3989223	77664	356000	5356800	97.1	TRANS?	0.8	Og?	SssCcy	LG/W	M.gr.-f.gr. Sss/minor LB Ccy.	-1	2.5	7	0.19	6	10	8
3989224	77664	356000	5356825	100.7	B	0.7	Og	CcoCcy	LB/DB	Black clay presumably derived from limestone.	-1	1	12	0.25	9	16	15
3989225	77664	356000	5356850	104.2	B	0.8	Og	CgCcy	RB/W	Sub-rounded gravels at top of hole.	-1	1	4	0.13	8	7	8
3989226	77664	356000	5356875	109.9	C	0.5	Oz	Scg	LG/W	Weakly-hematitic, part. We conglom, lesser unconsol. sand.	-1	0.5	3	0.12	9	10	8
3989227	77664	356000	5356900	120.6	C	0.4	Oz	Scg	K/W	Weakly-hematitic, part. We conglom.	-1	0.5	3	0.15	9	10	7
3989228	77664	356000	5356925	134.4	C	0.4	Oz	Scg	LK/W	Weakly-hematitic, part. We conglom, interstitial pale clays.	-1	0.6	4	0.51	11	6	9
3989229	77664	356000	5356950	148.3	C	0.3	Oz	Scg	LK/W	part. We conglom.	-1	1	6	0.37	9	6	10
3989230	77664	356000	5356975	162.1	Outcrop	0.1	Oz	ScgOvq	LK/W	Quartz-veined conglom.	-1	0.5	4	0.31	10	7	9
3191493	71505	356000	5357000	178.4	Outcrop	0	Oo	Scg		Owen conglom	-1	3	6			16	26
3191494	71505	356000	5357025	190.6	A/C	0.5	Oo	Scg	DB	Owen conglom & humus. Ridge top.	-1	4	11			10	21
3191495	71505	356000	5357050	178.4	C	0.3	Oo	Scg	W	Owen congl. OR Oonah sst	-1	2	5			5	3
3191496	71505	356000	5357075	171.7	C	0.6	Ed	Eb	V	Cambrian mafic (gabbro or basalt)	1	3	72			31	315
3191497	71505	356000	5357100	169.0	Outcrop	0	Ed	Eb	YO	Weathered mafic volc.	-1	4	150			275	105
3191498	71505	356000	5357125	173.0	B/C?	0.9	Ed	Eb	YO	After Camb. volc. Valley floor.	-1	18	94			250	220
3191499	71505	356000	5357150	176.5	B/C?	0.9			YO		-1	97	68			370	145
3191500	71505	356000	5357175	180.9	C	1	Ed	Eb	YV	After mafic?	-1	100	24			320	105
3191501	71505	356000	5357200	188.1	Outcrop	0	Puo	Ssi?	W	Silicified rock. Oonah Fm?	-1	8	17			10	76
3191502	71505	356000	5357225	194.3	Outcrop	0	Puo	Ssi?	W	Silicified rock.	-1	-1	23			384	115
3191503	71505	356000	5357250	199.2	C	0.2	Puo	Ssi?	WLB	Silicified rock	-1	23	8			9	53
3191504	71505	356000	5357275	203.6	Outcrop	0	Puo	Ssi?	W	Silicified rock with minor gn mineral (skarn)?	-1	7	8			15	75
3191505	71505	356000	5357300	197.8	B/C?	0.7	Puo	Ssi?	YV	Some qtzose frags	-1	11	49			87	100
3191506	71505	356000	5357325	197.4	C	0.9	Ed	Eb	YO	After mafic?	-1	7	84			160	120
3191507	71505	356000	5357350	197.8	C?	0.9			YV	Broad flat valley	-1	11	55			256	125
3191508	71505	356000	5357375	199.1	C	0.8	Ed	Eb	OV	After weathered mafic	-1	3	70			170	270
3191509	71505	356000	5357400	200.0	C	0.6	Ed	Eb	OV	After mafic	-1	6	80			140	90
3753443	77103	356000	5357425	201.7	C	1.4			ROGB		-1	42	158	20.2	138	400	198

Sampno	DPO	AMGE	AMGN	RL	Horizon	Depth	MRTLith	FieldID	Colour	Comments	Ag ppm	As ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	Zn ppm
3753444	77103	356000	5357450	201.7	C	1.7			ROGB		-1	4	275	16.5	136	586	123
3753445	77103	356000	5357475	200.4	C	1.8			KRO		-1	28	178	29.7	43	299	45
3753446	77103	356000	5357500	199.1	C	0.8			OLB		-1	5	60	16	308	206	76
3753447	77103	356000	5357525	196.9	C	1.7			OLB		-1	6	126	20.5	239	178	144
3753448	77103	356000	5357550	194.3	C	1.8			WLO		-1	2	43	2.05	192	175	114
3753449	77103	356000	5357575	189.5	B	0.2			G	QTZITE GRAVELS	-1	-1	5	0.31	18	8	7
3753450	77103	356000	5357600	188.6	C	0.4			GR		-1	-1	45	9.52	755	178	158
3989231	77664	356000	5357625	188.1	C	0.3		Ssi	VB	Weakly silicified chloritic siltstone, ferrug fractures.	-1	19	11	20.6	412	23	130
3989232	77664	356000	5357650	188.6	B/C	0.9		SsiCcy	YB	We LGV siltstone/YB limonitic clay.	-1	5	45	10.4	440	144	55
3989233	77664	356000	5357675	192.5	C	0.6		SsiCcy	YB/LV	We LGV siltstone/YB limonitic clay.	-1	13	59	11.3	347	89	60
3989234	77664	356000	5357700	191.7	B	0.3		SsiCcy	YB/LV	LGV siltstone/YB limonitic clay.	-1	1.5	32	9.6	516	67	116
3989235	77664	356000	5357725	192.5	B	1		Ccy	YB	Clay contains hematitic c-gr. grit.	-1	5	92	14.2	1267	85	153
3989236	77664	356000	5357750	194.7	B	1.7		Ccy	OY/B	Limonite-marbled clay.	-1	11	159	13.7	512	89	118
3989237	77664	356000	5357775	198.7	B	0.5		CcyEb	YB	Clayey soil containing basalt? frags.	-1	4	19	9.2	734	13	73
3989238	77664	356000	5357800	198.3	B	0.4		CbsSsi	DB	Organic soil containing siltstone? frags.	-1	3.5	11	6.6	129	25	32
3989239	77664	356000	5357825	194.3	Outcrop	0		Eb	LG/V	Weakly chlorite-altered basalt, ferrug veinlets (after pyrite).	-1	3.5	7	6.8	631	19	65
3989240	77664	356000	5357850	189.0	Outcrop	0		Ssi	DG/V	Finely laminated siltstone.	-1	3.5	13	9.4	1317	49	81
3989241	77664	356000	5357875	185.9	B	0.3		Ccy	VY/B	Siltstone float nearby.	-1	3.5	4	8.6	559	104	47
3989242	77664	356000	5357900	182.4	B	0.3		CcySsi	LO/B		-1	10.5	21	16.4	342	57	63
3989243	77664	356000	5357925	178.9	B	0.4		Sss	LG	Decomposed f-gr. sandstone.	4	3	21	0.54	149	596	61
3989244	77664	356000	5357950	180.6	B	1.2		Ccy	OB	Limonitic clay	-1	23	127	6.5	1290	1233	106
3989245	77664	356000	5357975	181.9	B	0.3		CgCbs	G		-1	4	12	0.35	139	16	20
3989246	77664	356000	5358000	185.9	B	0.3		SssCg	GB		-1	4	11	0.49	118	43	33
3989247	77664	356000	5358025	187.6	C	0.6		SssCcy	GB	Quartzarenite fragments.	-1	1.5	10	0.23	77	6	20
3989248	77664	356000	5358050	188.1	C	0.5		Sss	G	As above.	-1	6	20	0.35	55	34	17
3989249	77664	356000	5358075	189.0	B	0.7		Ccy	OB	Compacted clay.	-1	7.5	21	1.87	70	123	17
3989250	77664	356000	5358100	185.4	B	1.1		Ccy	OB/W	Firm, compacted clay.	-1	4	33	1.71	83	159	43
3989251	77664	356000	5358125	181.0	B	0.7		Ccy	O/V	Gritty clay.	-1	5	50	6.5	508	75	85
3989252	77664	356000	5358150	173.4	B	0.4		Sss	G	Quartzarenite fragments.	-1	2.5	6	0.28	57	8	9
3989253	77664	356000	5358175	180.6	B	0.5		SssOvq	LGB	Quartzarenite, quartz fragments.	-1	1	11	0.59	149	10	30
3989254	77664	356000	5358200	186.8	B	0.2		CbsCcy	B		-1	1.5	11	0.4	134	12	22
3989255	77664	356000	5358225	187.7	TRANS.	0.2		Sss	LG/B	Rounded quartzarenite R.F.'s	-1	1	14	0.44	150	5	25
3989256	77664	356000	5358250	180.5	B/C	0.2		Sss	B	Quartzarenite R.F.'s	-1	0.5	13	0.2	89	3	13
3989257	77664	356000	5358262	172.0	C	0.3		Sss	LG/W	As above	-1	1.5	10	0.3	35	-3	12
3989258	77664	356000	5358275	165.5	Outcrop	0		Sss	LG/W	Medium-grained mature quartzarenite.	-1	2	11	1.25	107	10	16
3989259	77664	355983	5358308	165.0	B	0.3		Sss	LG/W	Decomposed quartzarenite	-1	1.5	9	0.37	133	-3	15
3989260	77664	355990	5358337	165.5	Outcrop	0		Eb	DG/V	Weakly pyritic basalt.	-1	12	17	2.94	551	41	82
3989261	77664	355996	5358366	166.0	B/C	0.6		SssCcy	LG/W	Fine-grained quartzarenite, sandy clay.	-1	1.5	8	0.29	124	-3	12
3989262	77664	356025	5358378	166.5	TRANS.	0.4		CgCcy	G/B	Polymict gravels, clay.	-1	28	9	2.92	220	25	23
3989263	77664	356025	5358418	167.0	C	0.2		CcySss	LG	Quartzarenite R.F.'s	-1	2.5	10	0.27	165	-3	11
3989264	77664	356005	5358461	167.5	C?	0.3		SssCcy	G	Quartzarenite R.F.'s	-1	3.5	12	0.42	192	19	21
3989265	77664	356020	5358516	168.0	C	0.2		Sss	LG/W	As above.	-1	2.5	10	0.19	56	-3	12
3989266	77664	355989	5358551	168.5	TRANS.	1.5		Cg	LG/B	Transported alluvium.	-1	8	14	3.47	823	99	100
3989267	77664	355976	5358599	169.0	TRANS.	1.5		Cg		Mixed gravels: basalt, siltstone, quartzarenite.	-1	10.5	36	2.6	378	57	66

APPENDIX 2:

Avebury prospect, T. Aravanis memo - ground magnetic survey.

HPPENDIX 2.

844030

CRA EXPLORATION PTY. LIMITED

ACN 000 057 125

UNIT 1/23 BELL STREET, PRESTON, VICTORIA 3072, AUSTRALIA

P.O. BOX 8093
NORTHLAND CENTRE 3072
TELEPHONE: (03) 480 1866
FAX: (03) 484 1375

7th September 1994

Memo to: R G Parkinson

From: T Aravanis

Re: Avebury Prospect - Magnetic modelling results

A prominent E/W aeromagnetic feature associated with anomalous Zn/Pb stream sediment geochemistry lies near the margin of the Proterozoic Crimson Creek Formation and overlying Ordovician - Devonian sediments. During 1992, modelling of the West Coast Tasmanian aeromagnetic survey data indicated that source of the Avebury magnetic feature is a 1000 x 600 x 400 m tabular body, between 80 - 120 m depth. Modelled magnetic susceptibilities were between 12,000 - 22,000 x 10^{-5} SI. The modelling was made difficult due to the E/W oriented, 500m spaced survey lines.

In early 1994, a 2 km N/S line was cut over the Avebury magnetic feature, centred on an existing geochemistry grid (Parkinson, 1993; Plan Tv 472). The geochemistry grid lies on the south-eastern portion of the aeromagnetic anomaly (Fig. 1). Ground magnetic data was collected on lines 356 000E and 5357 400N, during April 1994 (Fig. 2).

Modelling of the 356 000E traverse has indicated that the broad magnetic feature (centred near 5357 400N) is due to 1600 x 360 m body extending to great depth (Figs 3 & 4). The upper limit of magnetic susceptibilities for the model was constrained to ~16,300 x 10^{-5} SI. This susceptibility value is positioned near the upper limit of the "common" range for ultramafic rock types and near the lower limit of the "common" range for magnetite skarn (Fig. 5 after Clark *et. al.*, 1992).

The modelled depth to magnetic source of 140m represents the shallowest depth possible given the susceptibility constraint, (i.e. high susceptibilities would give rise to a deeper source). Models with shallower depths to the top of the source resulted in poorer fits with the observed data.

Further modelling of the Avebury magnetic feature would require additional line cutting over 355 600E, preferably between 5356 300N and 5358 300N.

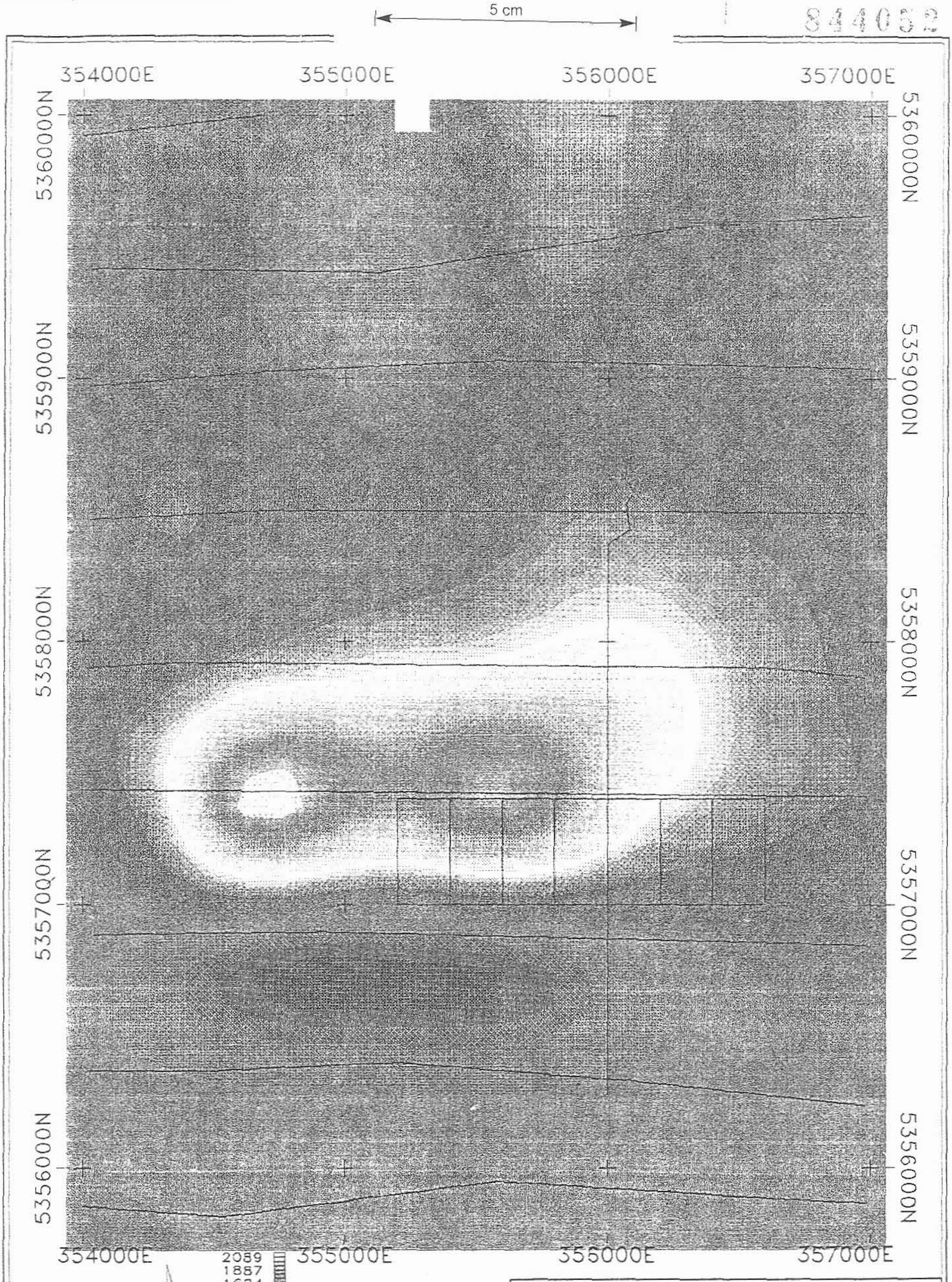
Features at 5357 630N and 5357 850N represent very shallow (< 10m) magnetic sources, and as such should give appreciable soil geochemical anomalies if associated with economic mineralisation.

T Aravanis

Clark, D.A. *et. al.*, 1992 *Rock magnetism and magnetic petrology applied to geological interpretation of magnetic surveys*. CSIRO report 303R - AMIRA project P96C.

Parkinson, R.G., 1993 *Zeehan No. 1 EL 28/88. Report on Exploration for the fifth year of tenure. 9/11/92 to 9/11/93.* CRA Exploration Pty. Limited/Allegiance Mining NL. CRAE Report No. 19284.

844052



CRA EXPLORATION PTY. LIMITED

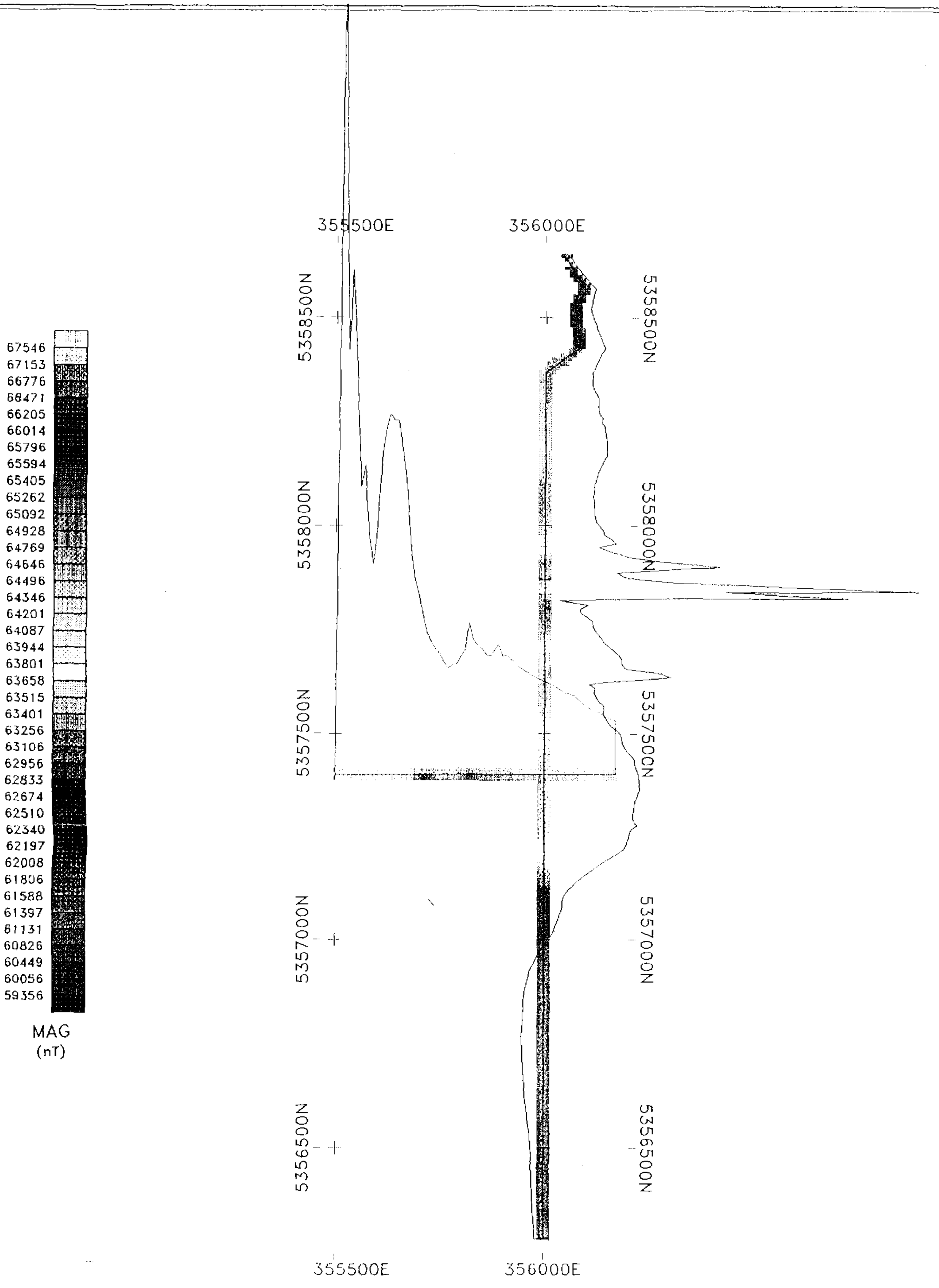
ZEEHAN No.1 EL 28/88

AVEBURY PROSPECT

AEROMAGNETIC IMAGE

QUEENSTOWN SK55-05

GEO:	TA	SCALE:	1:10000	REPORT:
DRAWN:	TA	DATE:	6/9/94	Fig. 1



Vertical scale: 1000 nT/cm

Base level: 62200 nT

Scale 1:10000

250 0 250

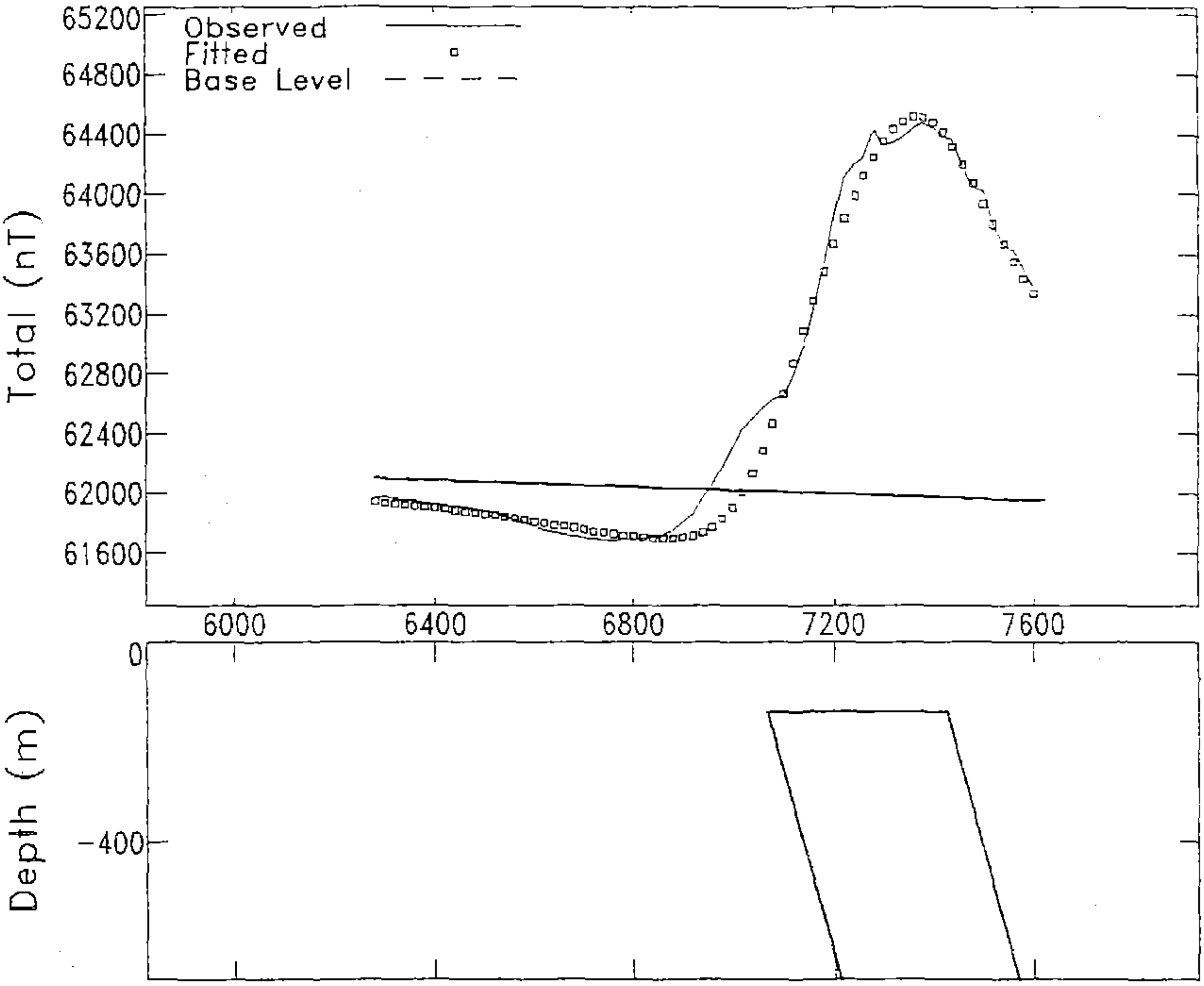
(meters)

5 cm

CRA EXPLORATION PTY. LIMITED		
ZEEHAN No.1 EL 28/88		
AVEBURY PROSPECT GROUND MAGNETIC STACKED PROFILES		
QUEENSTOWN SK55-05		
GEO: TA	*SCALE:* 1:10000	*REPORT:*
DRAWN: TA	*DATE:* 6/9/94	Fig. 2

AVEBURY PROSPECT 844055 844054

LINE 356000E



MODEL PARAMETERS:

Model Type		Tabular2
Depth	F	137 m
Half Width	F	179 m
Half Length	X	800 m
Offset	X	500 m
Dip	F	75 deg
Thickness	X	8000 m
Susceptibility	L	0.0130 emu
Remnance Ratio	X	0
Remnance Incl	X	0 deg
Remnance Decl	X	0 deg
Main Position	F	7245.857 m
Cross Position	X	6000 m
Base Level	F	61992.04 nT
Base Slope	X	-.11 nT/m
Base Curvature	X	0 nT/m2

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

Field Strength	62200 nT
Inclination	-73 deg
Declination	12 deg

COORDINATES:

Sensor Height	2 m
Strike Perp	355 deg
Line Direction	0 deg
Main Direction	0 deg
Main Offset	5350000 m
Cross Direction	90 deg
Cross Offset	350000 m

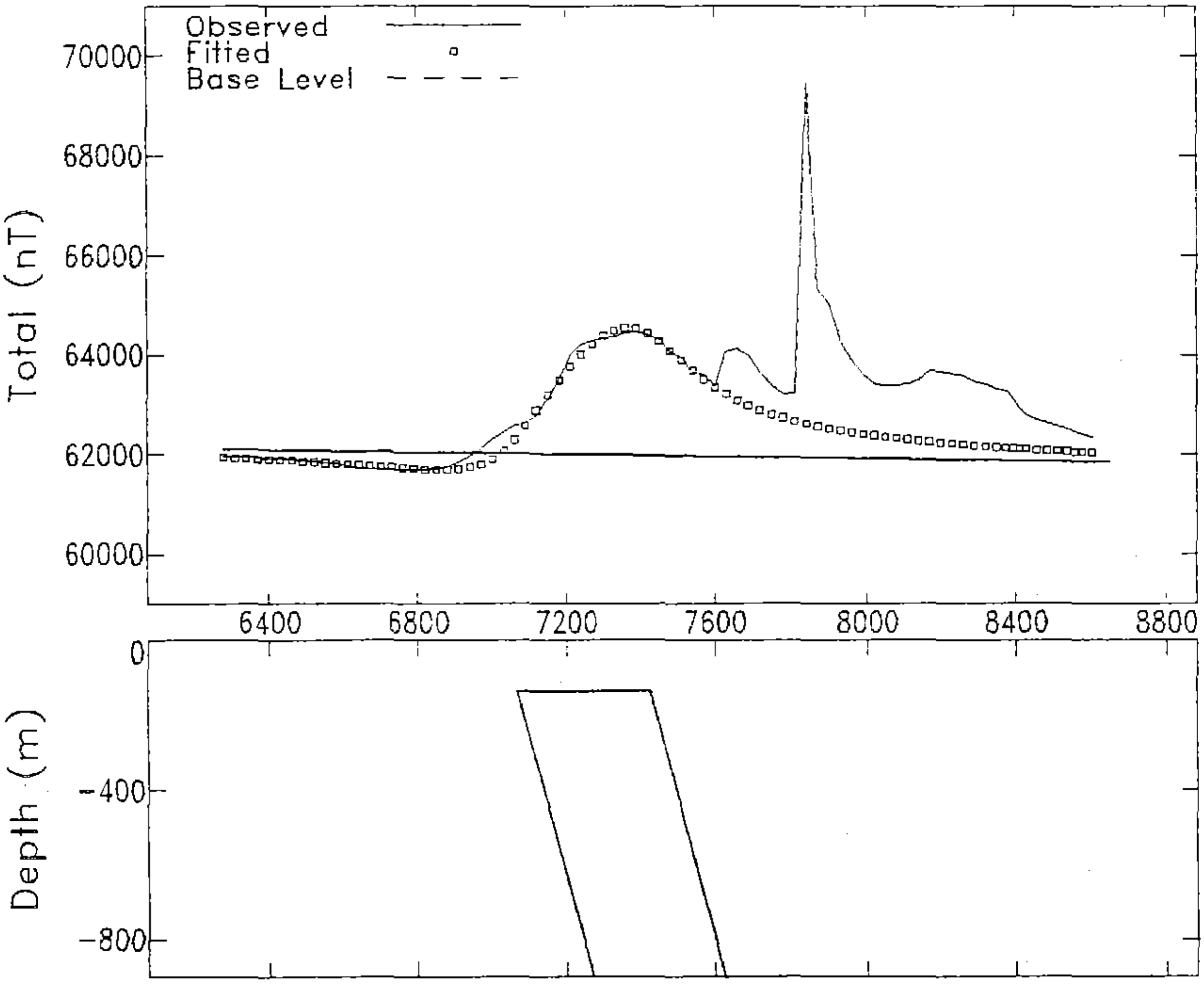
Geosoft MAGMOD-3 Modeling Result 94/09/07

Fig. 3

844056

AVEBURY PROSPECT

LINE 356000E



MODEL PARAMETERS:

Model Type		Tabular2
Depth	X	137 m
Half Width	X	179 m
Half Length	X	800 m
Offset	X	500 m
Dip	X	75 deg
Thickness	X	8000 m
Susceptibility	X	0.0130 emu
Remnance Ratio	X	0
Remnance Incl	X	0 deg
Remnance Decl	X	0 deg
Main Position	X	7245 m
Cross Position	X	6030.646 m
Base Level	X	61995 nT
Base Slope	X	-.11 nT/m
Base Curvature	X	0 nT/m2

(F-fitted, X-fixed, L-limit)

GEOMAGNETIC FIELD:

Field Strength	62200 nT
Inclination	-73 deg
Declination	12 deg

COORDINATES:

Sensor Height	2 m
Strike Perp	355 deg
Line Direction	2 deg
Main Direction	0 deg
Main Offset	5350000 m
Cross Direction	90 deg
Cross Offset	350000 m

Geosoft MAGMOD-3 Modeling Result 94/09/07

Fig. 4

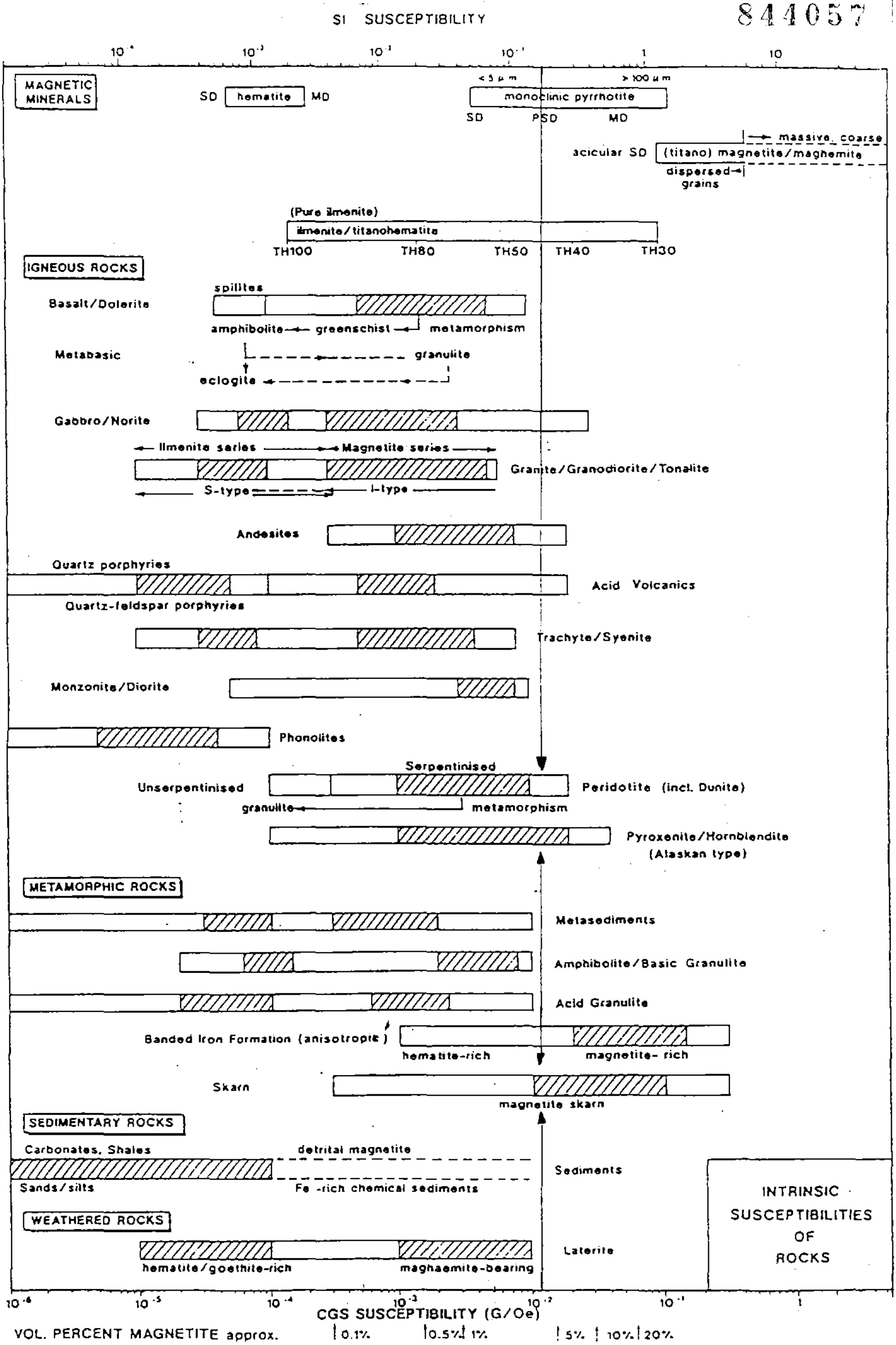

SI SUSCEPTIBILITY
MAGNETIC MINERALS
SD hematite MD
monoclinic pyrrhotite
SD PSD MD
massive, coarse
acicular SD (titano) magnetite/maghemite
dispersed grains
(Pure ilmenite)
ilmenite/titanohematite
TH100 TH80 TH50 TH40 TH30
IGNEOUS ROCKS
spilites
Basalt/Dolerite
amphibolite greenschist metamorphism
Metabasic
granulite
eclogite
Gabbro/Norite
Ilmenite series
Magnetite series
Granite/Granodiorite/Tonalite
S-type
I-type
Andesites
Quartz porphyries
Acid Volcanics
Quartz-feldspar porphyries
Trachyte/Syenite
Monzonite/Diorite
Phonolites
Serpentinised
Unserpentinised
Peridotite (incl. Dunite)
granulite
metamorphism
Pyroxenite/Hornblendite (Alaskan type)
METAMORPHIC ROCKS
Metasediments
Amphibolite/Basic Granulite
Acid Granulite
Banded Iron Formation (anisotropic)
hematite-rich
magnetite-rich
Skarn
magnetite skarn
SEDIMENTARY ROCKS
Carbonates, Shales
detrital magnetite
Sediments
Sands/silts
Fe-rich chemical sediments
WEATHERED ROCKS
Laterite
hematite/goethite-rich
maghaemite-bearing
INTRINSIC SUSCEPTIBILITIES OF ROCKS
CGS SUSCEPTIBILITY (G/Oe)
VOL. PERCENT MAGNETITE approx.
0.1%
0.5%
1%
5%
10%
20%

Fig. 5

APPENDIX 3:

Myrtle prospect air-core drill logs and geochemistry.

APPENDIX 3: Myrtle prospect. Drillhole collar database

APPENDIX 3 : MYRTLE PROSPECT. DRILLHOLE LOCATION DATABASE													
Hole	Full Name	EL	Company	Report	AMG E	AMG N	Local E	Local N	RL	Depth	Azim AMG	Inclin.	DH surveys?
ZM1003	ZM1003	EL4/78	EZ	85-2440	364229	5352323	60320.4	50524.5	139.7	303.0	120	-55	YES
ZM1008	ZM1008	EL4/78	EZ	86-2547	364254	5352305	60345	50506		299.0	67	-59	YES
ZWM13	ZWM13	EL4/78	EZ	86-2547	364349	5352301	60440	50500		25.2	90	-80	
ZWM14	ZWM14	EL4/78	EZ	86-2547	364299	5352300	60390	50500		25.9	90	-80	
ZWM15	ZWM15	EL4/78	EZ	86-2547	364257	5352399	60350	50600		38.1	90	-80	
ZWM16	ZWM16	EL4/78	EZ	86-2547	364307	5352400	60400	50600		22.3	90	-70	
ZWM16a	ZWM16a	EL4/78	EZ	86-2547	364305	5352400	60398	50600		28.6	90	-80	
ZWM17	ZWM17	EL4/78	EZ	86-2547	363790	5351791	59872	50000		16.9	90	-80	
ZWM18	ZWM18	EL4/78	EZ	86-2547	363816	5351791	59898	50000		31.3	90	-80	
ZWM19	ZWM19	EL4/78	EZ	86-2547	363837	5351792	59919	50000		24.7	90	-80	
ZM1	AC93ZM1	EL28/88	CRAE	19284	364282	5352400	60375	50600		21.7	0	-90	
ZM2	AC93ZM2	EL28/88	CRAE	19284	364307	5352400	60400	50600		3.3	0	-90	
ZM3	AC93ZM3	EL28/88	CRAE	19284	364332	5352401	60425	50600		14.5	0	-90	
ZM4	AC93ZM4	EL28/88	CRAE	19284	364357	5352401	60450	50600		23.0	0	-90	
ZM5	AC93ZM5	EL28/88	CRAE	19284	364382	5352402	60475	50600		1.3	0	-90	
ZM6	AC93ZM6	EL28/88	CRAE	19284	364407	5352402	60500	50600		0.5	0	-90	
ZM7	AC93ZM7	EL28/88	CRAE	19284	364406	5352427	60500	50625		0.8	0	-90	
ZM8	AC93ZM8	EL28/88	CRAE	19284	364406	5352452	60500	50650		0.5	0	-90	
ZM9	AC93ZM9	EL28/88	CRAE	19284	364405	5352502	60500	50700		0.7	0	-90	
ZM10	AC93ZM10	EL28/88	CRAE	19284	364406	5352477	60500	50675		0.6	0	-90	
ZM11	AC93ZM11	EL28/88	CRAE	19284	364407	5352377	60500	50575		9.5	0	-90	
ZM12	AC93ZM12	EL28/88	CRAE	19284	364379	5352352	60470	50550		16.4	0	-90	
ZM13	AC93ZM13	EL28/88	CRAE	19284	364344	5352327	60435	50525		33.7	0	-90	
ZM14	AC93ZM14	EL28/88	CRAE	19284	364259	5352300	60350	50500		28.0	0	-90	
ZM15	AC93ZM15	EL28/88	CRAE	19284	364284	5352300	60375	50500		24.0	0	-90	
ZM16	AC93ZM16	EL28/88	CRAE	19284	364309	5352300	60400	50500		12.5	0	-90	
ZM17	AC93ZM17	EL28/88	CRAE	19284	364334	5352301	60425	50500		23.0	0	-90	
ZM18	AC93ZM18	EL28/88	CRAE	19284	364359	5352301	60450	50500		36.0	0	-90	
ZM19	AC93ZM19	EL28/88	CRAE	19284	364384	5352302	60475	50500		10.0	0	-90	
ZM20	AC93ZM20	EL28/88	CRAE	19284	364409	5352302	60500	50500		7.0	0	-90	
ZM21	AC93ZM21	EL28/88	CRAE	19284	364434	5352303	60525	50500		21.5	0	-90	
ZM22	AC93ZM22	EL28/88	CRAE	19284	364309	5352275	60400	50475		20.0	0	-90	

ZM23	AC93ZM23	EL28/88	CRAE	19284	364309	5352250	60400	50450		6.0	0	-90	
ZM24	AC93ZM24	EL28/88	CRAE	19284	364309	5352225	60400	50425		6.6	0	-90	
ZM25	AC93ZM25	EL28/88	CRAE	19284	364310	5352200	60400	50400		8.7	0	-90	
ZM26	AC93ZM26	EL28/88	CRAE	19284	364310	5352175	60400	50375		28.0	0	-90	
ZM27	AC93ZM27	EL28/88	CRAE	19284	364310	5352150	60400	50350		25.2	0	-90	
ZM28	AC93ZM28	EL28/88	CRAE	19284	363987	5352095	60075	50300		18.7	0	-90	
ZM29	AC93ZM29	EL28/88	CRAE	19284	364012	5352095	60100	50300		21.5	0	-90	
ZM30	AC93ZM30	EL28/88	CRAE	19284	364037	5352096	60125	50300		26.5	0	-90	
ZM31	AC93ZM31	EL28/88	CRAE	19284	364062	5352096	60150	50300		19.6	0	-90	
ZM32	AC93ZM32	EL28/88	CRAE	19284	364087	5352097	60175	50300		17.8	0	-90	
ZM33	AC93ZM33	EL28/88	CRAE	19284	364112	5352097	60200	50300		9.2	0	-90	
ZM34	AC93ZM34	EL28/88	CRAE	19284	364137	5352097	60225	50300		13.0	0	-90	
ZM35	AC93ZM35	EL28/88	CRAE	19284	364162	5352098	60250	50300		19.2	0	-90	
ZM36	AC93ZM36	EL28/88	CRAE	19284	364187	5352098	60275	50300		15.3	0	-90	
ZM37	AC93ZM37	EL28/88	CRAE	19284	364212	5352099	60300	50300		7.4	0	-90	
ZM38	AC93ZM38	EL28/88	CRAE	19284	364237	5352099	60325	50300		34.6	0	-90	
ZM39	AC93ZM39	EL28/88	CRAE	19284	364262	5352100	60350	50300		21.2	0	-90	
ZM40	AC93ZM40	EL28/88	CRAE	19284	364292	5352100	60380	50300		10.8	0	-90	
ZM41	AC93ZM41	EL28/88	CRAE	19284	364312	5352101	60400	50300		16.0	0	-90	
ZM42	AC93ZM42	EL28/88	CRAE	19284	364337	5352140	60425	50340		7.3	0	-90	
ZM43	AC93ZM43	EL28/88	CRAE	19284	364362	5352127	60450	50325		5.2	0	-90	
ZM44	AC93ZM44	EL28/88	CRAE	19284	364412	5352102	60500	50300		4.7	0	-90	
ZM45	AC93ZM45	EL28/88	CRAE	19284	364412	5352077	60500	50275		13.0	0	-90	
ZM46	AC93ZM46	EL28/88	CRAE	19284	364413	5352052	60500	50250		18.0	0	-90	
ZM47	AC93ZM47	EL28/88	CRAE	19284	364413	5352027	60500	50225		28.2	0	-90	
ZM48	AC93ZM48	EL28/88	CRAE	19284	364414	5352002	60500	50200		12.3	0	-90	
ZM49	AC93ZM49	EL28/88	CRAE	19284	364389	5352002	60475	50200		7.5	0	-90	
ZM50	AC93ZM50	EL28/88	CRAE	19284	364364	5352001	60450	50200		5.3	0	-90	
ZM51	AC93ZM51	EL28/88	CRAE	19284	364339	5352001	60425	50200		1.2	0	-90	
ZM52	AC93ZM52	EL28/88	CRAE	19284	364314	5352001	60400	50200		16.8	0	-90	
ZM53	AC93ZM53	EL28/88	CRAE	19284	364289	5352000	60375	50200		13.8	0	-90	
ZM54	AC93ZM54	EL28/88	CRAE	19284	363843	5351792	59925	50000		5.7	0	-90	
ZM55	AC93ZM55	EL28/88	CRAE	19284	363818	5351792	59900	50000		15.3	0	-90	
ZM56	AC93ZM56	EL28/88	CRAE	19284	363793	5351791	59875	50000		30.0	0	-90	
ZM57	AC93ZM57	EL28/88	CRAE	19284	363793	5351766	59875	49975		37.4	0	-90	
ZM58	AC93ZM58	EL28/88	CRAE	19284	363793	5351741	59875	49950		6.6	0	-90	

APPENDIX 3: Myrtle prospect. Drillhole collar database

ZM59	AC93ZM59	EL28/88	CRAE	19284	363793	5351716	59875	49925		6.8	0	-90	
ZM60	AC93ZM60	EL28/88	CRAE	19284	363793	5351691	59875	49900		2.4	0	-90	
ZM61	AC93ZM61	EL28/88	CRAE	19284	363793	5351666	59875	49875		2.0	0	-90	
ZM62	AC93ZM62	EL28/88	CRAE	19284	363793	5351641	59875	49850		0.5	0	-90	
ZM63	AC93ZM63	EL28/88	CRAE	19284	363793	5351616	59875	49825		0.2	0	-90	
ZM64	AC94ZM64	EL28/88	CRAE		364281	5352450	60375	50650		1.5	0	-90	
ZM65	AC94ZM65	EL28/88	CRAE		364281	5352428	60375	50628		6.5	0	-90	
ZM66	AC94ZM66	EL28/88	CRAE		364282	5352415	60375	50615		50.4	0	-90	
ZM67	AC94ZM67	EL28/88	CRAE		364264	5352399	60357	50600		16.3	0	-90	
ZM68	AC94ZM68	EL28/88	CRAE		364274	5352400	60367	50600		12.7	0	-90	
ZM69	AC94ZM69	EL28/88	CRAE		364290	5352400	60383	50600		22.1	0	-90	
ZM70	AC94ZM70	EL28/88	CRAE		364297	5352400	60390	50600		15.0	0	-90	
ZM71	AC94ZM71	EL28/88	CRAE		364307	5352400	60400	50600		3.8	0	-90	
ZM72	AC94ZM72	EL28/88	CRAE		364317	5352400	60410	50600		21.0	0	-90	
ZM73	AC94ZM73	EL28/88	CRAE		364327	5352400	60420	50600		23.5	0	-90	
ZM74	AC94ZM74	EL28/88	CRAE		364339	5352401	60432	50600		17.5	0	-90	
ZM75	AC94ZM75	EL28/88	CRAE		364347	5352401	60440	50600		33.0	0	-90	
ZM76	AC94ZM76	EL28/88	CRAE		364283	5352340	60375	50540		45.4	0	-90	
ZM77	AC94ZM77	EL28/88	CRAE		364298	5352340	60390	50540		25.5	0	-90	
ZM78	AC94ZM78	EL28/88	CRAE		364308	5352340	60400	50540		18.0	0	-90	
ZM79	AC94ZM79	EL28/88	CRAE		364318	5352340	60410	50540		5.7	0	-90	
ZM80	AC94ZM80	EL28/88	CRAE		364328	5352341	60420	50540		47.5	0	-90	
ZM81	AC94ZM81	EL28/88	CRAE		364338	5352341	60430	50540		38.5	0	-90	
ZM82	AC94ZM82	EL28/88	CRAE		364348	5352341	60440	50540		26.9	0	-90	
ZM83	AC94ZM83	EL28/88	CRAE		364358	5352341	60450	50540		38.2	0	-90	
ZM84	AC94ZM84	EL28/88	CRAE		364368	5352341	60460	50540		25.0	0	-90	
ZM85	AC94ZM85	EL28/88	CRAE		364378	5352341	60470	50540		15.0	0	-90	
ZM86	AC94ZM86	EL28/88	CRAE		364299	5352300	60390	50500		9.8	0	-90	
ZM87	AC94ZM87	EL28/88	CRAE		364309	5352300	60400	50500		22.0	0	-90	
ZM88	AC94ZM88	EL28/88	CRAE		364319	5352300	60410	50500		27.5	0	-90	
ZM89	AC94ZM89	EL28/88	CRAE		364329	5352301	60420	50500		18.9	0	-90	
ZM90	AC94ZM90	EL28/88	CRAE		364339	5352301	60430	50500		14.5	0	-90	
ZM91	AC94ZM91	EL28/88	CRAE		364349	5352301	60440	50500		22.1	0	-90	
ZM92	AC94ZM92	EL28/88	CRAE		364359	5352301	60450	50500		27.9	0	-90	
ZM93	AC94ZM93	EL28/88	CRAE		364369	5352301	60460	50500		15.5		-90	
ZM94	AC94ZM94	EL28/88	CRAE		364379	5352301	60470	50500		13.2		-90	

ZM95	AC94ZM95	EL28/88	CRAE		364389	5352302	60480	50500		5.9	0	-90	
ZM96	AC94ZM96	EL28/88	CRAE		364399	5352302	60490	50500		10.1	0	-90	
ZM97	AC94ZM97	EL28/88	CRAE		364240	5352249	60330	50450		25.0	0	-90	
ZM98	AC94ZM98	EL28/88	CRAE		364250	5352249	60340	50450		17.7	0	-90	
ZM99	AC94ZM99	EL28/88	CRAE		364260	5352249	60350	50450		12.0	0	-90	
ZM100	AC94ZM100	EL28/88	CRAE		364270	5352249	60360	50450		11.6	0	-90	
ZM101	AC94ZM101	EL28/88	CRAE		364280	5352250	60370	50450		16.1	0	-90	
ZM102	AC94ZM102	EL28/88	CRAE		364290	5352250	60380	50450		26.1	0	-90	
ZM103	AC94ZM103	EL28/88	CRAE		364300	5352250	60390	50450		24.8	0	-90	
ZM104	AC94ZM104	EL28/88	CRAE		364310	5352250	60400	50450		10.8	0	-90	
ZM105	AC94ZM105	EL28/88	CRAE		364320	5352250	60410	50450		11.0	0	-90	
ZM106	AC94ZM106	EL28/88	CRAE		364330	5352251	60420	50450		14.5	0	-90	
ZM107	AC94ZM107	EL28/88	CRAE		364340	5352251	60430	50450		1.0	0	-90	
ZM108	AC94ZM108	EL28/88	CRAE		364350	5352251	60440	50450		1.2	0	-90	
ZM109	AC94ZM109	EL28/88	CRAE		364400	5352252	60490	50450		7.0	0	-90	
ZM110	AC94ZM110	EL28/88	CRAE		364390	5352252	60480	50450		9.0	0	-90	
ZM111	AC94ZM111	EL28/88	CRAE		364370	5352251	60460	50450		2.4	0	-90	
ZM112	AC94ZM112	EL28/88	CRAE		364310	5352200	60400	50400		22.6	0	-90	
ZM113	AC94ZM113	EL28/88	CRAE		364320	5352200	60410	50400		26.6	0	-90	
ZM114	AC94ZM114	EL28/88	CRAE		364330	5352201	60420	50400		25.0	0	-90	
ZM115	AC94ZM115	EL28/88	CRAE		364340	5352201	60430	50400		1.1	0	-90	
ZM116	AC94ZM116	EL28/88	CRAE		364360	5352201	60450	50400		8.0	0	-90	
ZM117	AC94ZM117	EL28/88	CRAE		364239	5352019	60325	50220		6.3	0	-90	
ZM118	AC94ZM118	EL28/88	CRAE		364214	5351998	60300	50200		15.5	0	-90	
ZM119	AC94ZM119	EL28/88	CRAE		364189	5351998	60275	50200		4.5	0	-90	
ZM120	AC94ZM120	EL28/88	CRAE		364164	5351998	60250	50200		36.6	0	-90	
ZM121	AC94ZM121	EL28/88	CRAE		364139	5351997	60225	50200		31.0	0	-90	
ZM122	AC94ZM122	EL28/88	CRAE		364114	5351997	60200	50200		26.3	0	-90	
ZM123	AC94ZM123	EL28/88	CRAE		364089	5351996	60175	50200		13.6	0	-90	
ZM124	AC94ZM124	EL28/88	CRAE		364064	5351996	60150	50200		13.1	0	-90	
ZM125	AC94ZM125	EL28/88	CRAE		364039	5351995	60125	50200		14.5	0	-90	
ZM126	AC94ZM126	EL28/88	CRAE		364014	5351995	60100	50200		6.4	0	-90	
ZM127	AC94ZM127	EL28/88	CRAE		363989	5351995	60075	50200		37.1	0	-90	
ZM128	AC94ZM128	EL28/88	CRAE		363964	5351994	60050	50200		23.6	0	-90	
ZM129	AC94ZM129	EL28/88	CRAE		363939	5351994	60025	50200		17.5	0	-85	
ZM130	AC94ZM130	EL28/88	CRAE		363914	5351993	60000	50200		12.4	0	-90	

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ZM131	AC94ZM131	EL28/88	CRAE		363889	5351993	59975	50200		19.1	0	-90	
ZM132	AC94ZM132	EL28/88	CRAE		363864	5351992	59950	50200		14.0	0	-90	
ZM133	AC94ZM133	EL28/88	CRAE		363839	5351992	59925	50200		1.3	0	-90	
ZM134	AC94ZM134	EL28/88	CRAE		363814	5351991	59900	50200		1.5	0	-90	
ZM135	AC94ZM135	EL28/88	CRAE		363789	5351991	59875	50200		1.0	0	-90	
ZM136	AC94ZM136	EL28/88	CRAE		363764	5351991	59850	50200		0.9	0	-90	
ZM137	AC94ZM137	EL28/88	CRAE		363739	5351990	59825	50200		0.8	0	-90	
ZM138	AC94ZM138	EL28/88	CRAE		363714	5351990	59800	50200		0.8	0	-90	
ZM139	AC94ZM139	EL28/88	CRAE		363689	5351989	59775	50200		2.0	0	-90	
ZM140	AC94ZM140	EL28/88	CRAE		363664	5351989	59750	50200		9.4	0	-90	
ZM141	AC94ZM141	EL28/88	CRAE		363639	5351988	59725	50200		5.0	0	-90	
ZM142	AC94ZM142	EL28/88	CRAE		363791	5351891	59875	50100		0.8	0	-90	
ZM143	AC94ZM143	EL28/88	CRAE		363801	5351891	59885	50100		3.6	0	-90	
ZM144	AC94ZM144	EL28/88	CRAE		363811	5351891	59895	50100		18.6	0	-90	
ZM145	AC94ZM145	EL28/88	CRAE		363821	5351892	59905	50100		13.9	0	-90	
ZM146	AC94ZM146	EL28/88	CRAE		363831	5351892	59915	50100		10.1	0	-90	
ZM147	AC94ZM147	EL28/88	CRAE		363841	5351892	59925	50100		12.6	0	-90	
ZM148	AC94ZM148	EL28/88	CRAE		363851	5351892	59935	50100		10.1	0	-90	
ZM149	AC94ZM149	EL28/88	CRAE		363861	5351892	59945	50100		9.5	0	-90	
ZM150	AC94ZM150	EL28/88	CRAE		363875	5351893	59959	50100		8.6	0	-90	
ZM151	AC94ZM151	EL28/88	CRAE		363884	5351893	59968	50100		9.9	0	-90	
ZM152	AC94ZM152	EL28/88	CRAE		363892	5351893	59976	50100		10.1	0	-90	
ZM153	AC94ZM153	EL28/88	CRAE		363901	5351893	59985	50100		4.4	0	-90	
ZM154	AC94ZM154	EL28/88	CRAE		363908	5351893	59992	50100		6.0	0	-90	
ZM155	AC94ZM155	EL28/88	CRAE		363915	5351893	59999	50100		6.5	0	-90	
ZM156	AC94ZM156	EL28/88	CRAE		363921	5351893	60005	50100		14.4	0	-90	
ZM157	AC94ZM157	EL28/88	CRAE		363936	5351894	60020	50100		11.8	0	-90	
ZM158	AC94ZM158	EL28/88	CRAE		363792	5351841	59875	50050		7.1	0	-90	
ZM159	AC94ZM159	EL28/88	CRAE		363802	5351841	59885	50050		3.4	0	-90	
ZM160	AC94ZM160	EL28/88	CRAE		363812	5351841	59895	50050		1.1	0	-90	
ZM161	AC94ZM161	EL28/88	CRAE		363822	5351842	59905	50050		4.6	0	-90	
ZM162	AC94ZM162	EL28/88	CRAE		363832	5351842	59915	50050		2.0	0	-90	
ZM163	AC94ZM163	EL28/88	CRAE		363842	5351842	59925	50050		9.9	0	-90	
ZM164	AC94ZM164	EL28/88	CRAE		363855	5351842	59938	50050		25.0	0	-90	
ZM165	AC94ZM165	EL28/88	CRAE		363867	5351842	59950	50050		1.0	0	-90	
ZM166	AC94ZM166	EL28/88	CRAE		363877	5351843	59960	50050		3.0	0	-90	

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ZM167	AC94ZM167	EL28/88	CRAE		363887	5351843	59970	50050		2.9	0	-90	
ZM168	AC94ZM168	EL28/88	CRAE		363896	5351843	59979	50050		8.8	0	-90	
ZM169	AC94ZM169	EL28/88	CRAE		363793	5351791	59875	50000		15.0	0	-90	
ZM170	AC94ZM170	EL28/88	CRAE		363783	5351791	59865	50000		37.8	0	-90	
ZM171	AC94ZM171	EL28/88	CRAE		363773	5351791	59855	50000		44.8	0	-90	
ZM172	AC94ZM172	EL28/88	CRAE		363763	5351791	59845	50000		54.0	0	-90	
ZM173	AC94ZM173	EL28/88	CRAE		363753	5351790	59835	50000		45.0	0	-90	
ZM174	AC94ZM174	EL28/88	CRAE		363743	5351790	59825	50000		1.8	0	-90	
ZM175	AC94ZM175	EL28/88	CRAE		363805	5351791	59887.5	50000		38.0	0	-90	
ZM176	AC94ZM176	EL28/88	CRAE		363830	5351792	59912.5	50000		11.2	0	-90	
ZM177	AC94ZM177	EL28/88	CRAE		363789	5351706	59870	49915		3.9	0	-90	
ZM178	AC94ZM178	EL28/88	CRAE		363779	5351706	59860	49915		2.0	0	-90	
ZM179	AC94ZM179	EL28/88	CRAE		363769	5351706	59850	49915		8.7	0	-90	
ZM180	AC94ZM180	EL28/88	CRAE		363759	5351705	59840	49915		16.0	0	-90	
ZM181	AC94ZM181	EL28/88	CRAE		363749	5351705	59830	49915		28.1	0	-90	
ZM182	AC94ZM182	EL28/88	CRAE		363739	5351705	59820	49915		3.2	0	-90	
ZM183	AC94ZM183	EL28/88	CRAE		363729	5351705	59810	49915		30.1	0	-90	
ZM184	AC94ZM184	EL28/88	CRAE		363719	5351705	59800	49915		32.3	0	-90	
ZM185	DD94ZM185	EL28/88	CRAE		363743	5351786	59825	49996		137.0	118	-45	YES
ZM186	DD94ZM186	EL28/88	CRAE		364285	5352296	60377	50496		120.9	90	-45	YES
ZM187	DD94ZM187	EL28/88	CRAE		364419	5352296	60510	50494		103.5	269	-50	YES

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ROCKCHIP AND DRILLING CODES 22/2/1994

BMRLITH

Rock code as per published geological map
For time designation use:-

Q	Quaternary	M	Permian	P	Proterozoic
T	Tertiary	C	Carboniferous	A	Archaean
		S	Silurian		
K	Cretaceous	D	Devonian		
R	Triassic	O	Ordovician		
J	Jurassic	E	Cambrian		

FIELD ID

Field term for rock type
Broad groupings are:-

S	Sedimentary	I	Intrusive	C	Surficial
M	Metamorphic	E	Extrusive	O	Others

SEDIMENTARY

Scg	Conglomerate	Sls	Limestone	Sw	Wacke
Sss	Sandstone	Sdl	Dolomite	Sag	Agglomerate/mixtite
Ssi	Siltstone				
Ssh	Shale	Sch	Chert	Sbx	Breccia
Sbs	Black shale	Sif	BIF		

METAMORPHIC

Msl	Slate	Mq	Quartzite	Mmg	Migmatite
Mph	Phyllite	Mm	Marble		
Msc	Schist	Ma	Amphibolite		
Mbs	Graphitic schist	Mcs	Calcsilicate	Msk	Skarn
Mgn	Gneiss	Mh	Hornfels		

INTRUSIVE IGNEOUS

If	Felsic undiff.	Ii	Intermed undiff.	Iu	Ultramafic
Ifp	Felsic porphyry	Iip	Intermed porph	Ius	Serpentinite
Iap	Aplite	Im	Mafic undiff.		
Igr	Granite	Ido	Dolerite	Ipg	Pegmatite
Igd	Granodiorite	Igb	Gabbro		

EXTRUSIVE IGNEOUS

Ery	Rhyolite	Ean	Andesite	Et	Tuff undiff
Edc	Dacite	Eb	Basalt	Eft	Felsic tuff
				Emt	Mafic tuff

SURFICIAL (COVER) MATERIAL

Ca	Alluvium	Clt	Laterite	Csg	Gossan
Cco	Colluvium	Cap	Pisolites		
Cs	Sand	Cst	Ironstone	Ccy	Clay
Cbs	Black soil	Csi	Silcrete		
Cg	Gravel	Ccl	Calcrete	Cv	Vegetation/peat

OTHERS

Ovq	Vein quartz	Omy	Mylonite	Oms	Massive sulphide
Ovc	Vein carbonate	Obx	Breccia	Oxc	Contamination
Ovs	Vein sulphide	Of	Fault gouge	Ox	Unknown

TEXTURAL CODES

WEATHERING/SURFICIAL FEATURES

We	Weathered	Fe	Ferruginous		
Bl	Bleached	Fo	Fe ox in fract		
Le	Leached				

MINERALISATION/ALTERATION FEATURES

Gs	Gossanous	Vs	Vein sulphide	Al	Altered
Vn	Veined	Ds	Dissem sulph	Si	Silicified
Vc	Vein carbonate	Fs	Fracture sulph		
Vq	Vein quartz	Bs	Banded sulph	Di	Disseminated

GEOLOGICAL FEATURES

Bd	Bedded	Fr	Fractured	Po	Porphyritic
Bn	Banded	Ib	Interbedded	Sc	Schistose
Bx	Brecciated	Lm	Laminated	Sh	Sheared
Fi	Fissile (slatey)	Ma	Massive	Vu	Vuggy

DIAGNOSTIC MINERALOGY

PRIMARY MINERALISATION

Ga	Galena	Py	Pyrite	Ni	Ni sulphides
Sp	Sphalerite	Po	Pyrrhotite		
Cp	Chalcopyrite	Su	Unknown sulph		

SECONDARY MINERALISATION

Ls	Lead secondaries	Cs	Copper sec.	Ni	Ni secondaries
Zs	Zinc "	Us	Uranium "		

ALTERATION/DIAGNOSTIC MINERALS

Cy	Clay	He	Haematite	Gt	Garnet
Ep	Epidote	Mt	Magnetite	Ky	Kyanite
Cc	Carbonate	Js	Jarosite	To	Tourmaline
Sd	Siderite/Ankerite	Mn	Manganese mins	Cl	Chlorite
Dl	Dolomite				

COLOUR CODES

L	Light	A	Banded	M	Mottled
D	Dark				
N	Black	P	Purple	V	Green
G	Grey	R	Red	K	Pink
B	Brown	O	Orange	E	Blue
W	White	Y	Yellow	S	Silver

APPENDIX : Myrtle prospect. 1994 air-core drillhole logs and geochemistry.																
DPO 77146																
Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM64	0.0	1.5	3917218	Og	Sls		Py	DG	trace of dissem. pyr.	-1	11	1.27	140	158		82
ZM65	0.0	3.0	3917219	Og	SlsCcy			DG		-1	8	2.44	138	120		2922
ZM65	3.0	6.0	3917220	Og	SlsOvc	Bx		G+LG		-1	7	2.39	158	313		2476
ZM65	6.0	6.5		Og	OvcOvq	VcVs	Ga	DG	quartz-calcite vein + galena.							
ZM66	0.0	3.0	3917221	Og	CcyCbs			LGB		1	27	1.59	12	182		109
ZM66	3.0	6.0	3917222	Og	Ccy			LGB		1	123	1.19	26	1213		667
ZM66	6.0	9.0	3917223	Og	Ccy			LG		-1	65	1.02	11	628		2041
ZM66	9.0	12.0	3917224	Og	CcySls			G		-1	15	0.52	12	132		637
ZM66	12.0	15.0	3917225	Og	Ccy			LG+DG		-1	15	1.57	20	76		1084
ZM66	15.0	18.0	3917226	Og	CcySls	We		LG		-1	16	0.97	12	69		750
ZM66	18.0	21.0	3917227	Og	Ccy			DG		-1	16	2.07	19	206		869
ZM66	21.0	24.0	3917228	Og	CcySls	Lm		DG		-1	21	2.23	31	128		1360
ZM66	24.0	27.0	3917229	Og	SlsCcyOvc			DG		-1	14	2.52	57	112		1329
ZM66	27.0	30.0	3917230	Og	Sls		Py	DG	trace pyr.	-1	5	1.19	139	26		235
ZM66	30.0	33.0	3917231	Og	Sls	VuWe		DG		-1	8	1.32	128	23		513
ZM66	33.0	36.0	3917232	Og	Sls		Sp	DG	trace of sphalerite fragments visible.	-1	10	1.71	147	79		3944
ZM66	36.0	39.0	3917233	Og	SlsOvc	BxFi		G+DG	abundant Ovc	-1	6	1.63	180	37		492
ZM66	39.0	42.0	3917234	Og	Sls		Py	DG	~1% dissem. pyr. present.	-1	9	2.17	227	45		773
ZM66	42.0	45.0	3917235	Og	Sls		Py	DG	trace pyr.	-1	7	1.78	240	26		616
ZM66	45.0	48.0	3917236	Og	Sls	Ma	Py	DG	trace pyr.	-1	7	1.62	212	22		193
ZM66	48.0	50.4	3917237	Og	SlsOvc			DG	abundant 0.5-1.0cm calcite veining.	-1	9	1.96	204	28		329
ZM67	0.0	3.0	3917238	Og	Sls		Py	DG	porous, graphitic and weakly pyritic shaley Sls	-1	27	3.58	57	38		3404
ZM67	3.0	6.0	3917239	Og	Sls	Fi		DG		-1	20	2.95	50	56		3828
ZM67	6.0	9.0	3917240	Og	Sls			DG	porous and graphitic	-1	21	2.15	54	626		5100
ZM67	9.0	12.0	3917241	Og	Sls		Py	DG	mod. pyritic and graphitic	-1	18	3.76	67	883		1596
ZM67	12.0	15.0	3917242	Og	Sls		Py	N	as above	-1	19	5.62	53	109		244
ZM67	15.0	16.3	3917243	Og	Sls		Py	DG	mod. pyr.	-1	12	3.51	163	60		130
ZM68	0.0	3.0	3917244	Og	CcySls			LG+WB		-1	13	0.77	18	99		313
ZM68	3.0	6.0	3917245	Og	Sls			DG+N		-1	77	4.96	41	1089		5500
ZM68	6.0	9.0	3917246	Og	Sls		Py	DG	mod. pyritic and graphitic, porous.	-1	15	8.47	20	256		3574
ZM68	9.0	12.0	3917247	Og	SlsOvcOvq		Py	DG	as above.	-1	19	2.52	41	98		1144
ZM68	12.0	12.7	3917248	Og	Sls	Fi	Py	DG	mod. pyritic and graphitic, sheared.	-1	17	2.75	64	93		882
ZM69	0.0	3.0	3917249	Og	CcyCbs			GB		2	22	0.46	20	300		96
ZM69	3.0	6.0	3917250	Og	Sls			N	graphitic and porous	19	142	0.96	14	1742	5.20	79200
ZM69	6.0	9.0	3917251	Og	Sls			DG	as above	1	26	1.90	21	536	2.80	12800
ZM69	9.0	12.0	3917252	Og	Sls			DG	as above	-1	16	3.26	23	127		9000
ZM69	12.0	15.0	3917253	Og	Sls		Py	DG	highly pyritic	-1	19	3.58	25	71		3328
ZM69	15.0	18.0	3917254	Og	Sls	Fi		DG		-1	21	1.71	23	90		1161
ZM69	18.0	21.0	3917255	Og	Sls	Fi		DG		-1	18	1.95	31	40		852
ZM69	21.0	22.1	3917256	Og	Sls	Fi		DG		-1	21	1.99	81	23		141

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM70	0.0	3.0	3917257	Og	CcyCg			B+N		-1	38	0.45	13	84		90
ZM70	3.0	6.0	3917258	Og	Sls	Fi		G	shaley ls	-1	29	2.30	16	2033		5400
ZM70	6.0	9.0	3917259	Og	Sls			GY		-1	17	1.86	15	1040		7000
ZM70	9.0	12.0	3917260	Og	Ccy			LG		-1	13	4.62	10	810		3488
ZM70	12.0	14.9	3917261	Og	Sls	La		G		-1	12	1.26	12	126		1031
ZM71	0.0	3.0	3917262	Og	Sls	La		LG+G		-1	7	0.37	8	41		20
ZM71	3.0	3.8	3917263	Og	Sls	La		LG+W	finely laminated ls	-1	10	0.71	10	149		144
ZM72	0.0	3.0	3917264	Og	Sls			G		-1	54	0.65	11	22		54
ZM72	3.0	6.0	3917265	Og	CcySls			LY+G		-1	51	0.47	9	61		133
ZM72	6.0	9.0	3917266	Og	Sls	La		LG	jasper fragments (minor).	-1	38	0.96	14	1285		6000
ZM72	9.0	12.0	3917267	Og	Sls			G		-1	24	2.74	29	284		3436
ZM72	12.0	15.0	3917268	Og	SlsCcy		Py	DG+N	moderately pyr.	-1	22	5.12	31	96		2985
ZM72	15.0	18.0	3917269	Og	Sls			DG		-1	21	3.35	30	103		984
ZM72	18.0	21.0	3917270	Og	Sls			DG		-1	16	2.06	108	71		420
ZM73	0.0	3.0	3917271	Og	Sls		Py	DG	trace pyr.	-1	22	0.52	13	350		895
ZM73	3.0	6.0	3917272	Og	Sls			G+DG		-1	30	2.03	25	294		3201
ZM73	6.0	9.0	3917273	Og	Ccy			DG		-1	21	3.43	29	448		1909
ZM73	9.0	12.0	3917274	Og	Ccy		Py	DG	pyr. aggregates to 2cm.	-1	20	4.20	24	252		1937
ZM73	12.0	15.0	3917275	Og	Sls		Py	DG	weakly pyr.	1	14	19.70	18	1088		3671
ZM73	15.0	18.0	3917276	Og	Sls		Py	DG	mod. pyr.	-1	12	3.03	141	178		2020
ZM73	18.0	21.0	3917277	Og	SlsOvc		Py	DG	mod. pyr.	-1	11	4.19	174	200		1649
ZM73	21.0	23.5	3917278	Og	Sls			DG		-1	12	3.12	162	128		1487
ZM74	0.0	3.0	3917279	Og	SlsCcy	We		GV	white clay near top of interval.	-1	15	2.36	19	814	3.65	11600
ZM74	3.0	6.0	3917280	Og	Ccy			VG	minor W/B clay interbeds.	-1	21	3.62	20	412		9100
ZM74	6.0	9.0	3917281	Og	Ccy		Py	DG	minor dissem. pyr. present.	-1	21	5.85	23	126		9500
ZM74	9.0	12.0	3917282	Og	CcySlsOvc	We		DG		-1	20	6.74	22	271	7.95	13700
ZM74	12.0	15.0	3917283	Og	SlsOvc	La	Py	DG	weakly pyr.	1	21	6.42	24	215		7800
ZM74	15.0	17.5	3917284	Og	Sls		Py	LGDG	"wispy" graphitic ls, 2-3mm pyrite clots.	-1	21	3.62	51	83		6600
ZM75	0.0	3.0	3917285	Og	Ccy	Fe		M	limonitic clay	-1	25	2.66	10	406		3203
ZM75	3.0	6.0	3917286	Og	Ccy			G		-1	19	4.27	18	125		7700
ZM75	6.0	9.0	3917287	Og	SlsCcy		Sp	DG	sphalerite 1-2%, minor light brown clay.	-1	12	3.26	13	73		8400
ZM75	9.0	12.0	3917288	Og	Sls		Sp	DG	trace of sphalerite.	-1	12	3.89	36	162		2700
ZM75	12.0	15.0	3917289	Og	Sls			DG		-1	5	0.92	120	14		79
ZM75	15.0	18.0	3917290	Og	Sls	Ma		DG		-1	5	1.09	128	19		420
ZM75	18.0	21.0	3917291	Og	Sls			DG	porous lime mud-siltstone.	-1	5	1.16	139	18		229
ZM75	21.0	24.0	3917292	Og	SlsOvc			DG		-1	14	5.23	87	56		1280
ZM75	24.0	27.0	3917293	Og	Sls			DG		-1	9	1.64	154	20		184
ZM75	27.0	30.0	3917294	Og	OvcSls			DG	coarse gr. milky calcite vein.	-1	10	6.77	145	16		404
ZM75	30.0	33.0	3917295	Og	SlsOvc			DG	abundant vein calcite present, 1mm-1cm.	-1	14	2.58	126	29		481

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM76	0.0	3.0	3917296	Og	CcySls			LG	sandy clay.	-1	4	0.28	13	33		27
ZM76	3.0	6.0	3917297	Og	Sls	Fe		G+DG	limonitic coatings.	-1	35	0.58	17	526		5400
ZM76	6.0	9.0	3917298	Og	Sls			G+V		-1	68	0.77	21	968		2953
ZM76	9.0	12.0	3917299	Og	SlsCcy			DG	minor limonitic clay.	-1	53	1.22	22	1421	2.20	14900
ZM76	12.0	15.0	3917300	Og	Sls		Sp	DG	trace of sphalerite	3	35	1.11	16	1309	5.30	91700
ZM76	15.0	18.0	3917301	Og	Ccy	Fe		LG	minor limonitic clay	3	36	1.18	18	937	5.05	74900
ZM76	18.0	21.0	3917302	Og	Ccy		Py	LG		-1	19	1.04	19	81		4608
ZM76	21.0	24.0	3917303	Og	Ssi	We		DG	porous	-1	15	1.13	24	43		3016
ZM76	24.0	27.0	3917304	Og	Ssi	We		DG	minor coral fragments	-1	21	1.97	34	33		5500
ZM76	27.0	30.0	3917305	Og	SshSls	We		DG	porous	-1	21	1.49	38	23		3026
ZM76	30.0	33.0	3917306	Og	SshSls	Fe		DG	minor limonite	-1	42	2.04	35	27		3951
ZM76	33.0	36.0	3917307	Og	SshSss			DG	minor limonitic quartz	-1	18	1.92	29	50		8100
ZM76	36.0	39.0	3917308	Og	Ssi		SpPy	G	2mm sized Sp grains	-1	24	1.33	19	37		1926
ZM76	39.0	42.0	3917309	Og	SshSss			LG		-1	19	1.18	12	83		979
ZM76	42.0	45.0	3917310	Og	SshSss			DG	minor pale grey clay	-1	16	1.38	24	21		660
ZM76	45.0	45.4	3917311	Og	SshSss			G	fine grained	-1	22	1.89	89	41		3647
ZM77	0.0	3.0	3917312	Og	Ccy			LG		-1	7	0.75	10	62		36
ZM77	3.0	6.0	3917313	Og	CcySls	We		LG+Y	graphitic sls	-1	18	1.21	8	140		32
ZM77	6.0	9.0	3917314	Og	CcySshsls	We		MDG		-1	32	0.87	19	785		1519
ZM77	9.0	12.0	3917315	Og	Ccy			MY+W+B		-1	34	0.93	14	1199		1991
ZM77	12.0	15.0	3917316	Og	Ssi			DG	carbonaceous	-1	22	1.49	28	523		6300
ZM77	15.0	18.0	3917317	Og	SshSls			DG		-1	19	2.19	33	551		8200
ZM77	18.0	21.0	3917318	Og	Ssi			DG	carbonaceous, minor shell frags	-1	21	1.22	37	129		5100
ZM77	21.0	24.0	3917319	Og	Ssi			G	carbonaceous	-1	34	1.42	20	384	2.10	10100
ZM77	24.0	25.5	3917320	Og	Ssi			G	carbonaceous	-1	20	1.29	18	378		3297
ZM78	0.0	3.0	3917321	Og	Ccy			MGV		-1	4	0.82	10	152		44
ZM78	3.0	6.0	3917322	Og	Ssh			DG	graphitic	-1	13	0.51	13	509		204
ZM78	6.0	9.0	3917323	Og	CcySsh			DG	gritty	-1	18	1.12	27	1111		1409
ZM78	9.0	12.0	3917324	Og	CcySsh			DG		-1	20	1.50	35	85		1722
ZM78	12.0	15.0	3917325	Og	SshSsi		Py	LG	fine pyrite veins	-1	25	1.51	28	148		1986
ZM78	15.0	18.0	3917326	Og	Ssi		Py	G	fine pyrite veins	-1	24	1.06	12	477		2879
ZM79	0.0	3.0	3917327	Og	Ssi			MLGV		-1	5	0.62	7	37		24
ZM79	3.0	5.7	3917328	Og	Sls			G	shell fossils	-1	16	0.54	9	202		666

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Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM80	0.0	3.0	3917329	Og	SsiSsh			GV	gritty	-1	4	0.25	7	15		18
ZM80	3.0	6.0	3917330	Og	SsiSsh			GV		-1	14	1.31	20	18		2705
ZM80	6.0	9.0	3917331	Og	Ssh			DG	carbonaceous	-1	10	1.28	21	14		1723
ZM80	9.0	12.0	3917332	Og	Ssh	Dl	Py	DG	small Py chips	-1	14	1.37	23	15		1185
ZM80	12.0	15.0	3917333	Og	CcySsh			DG	carbonaceous	-1	21	2.26	27	31		933
ZM80	15.0	18.0	3917334	Og	CcySsh			DG	carbonaceous	-1	14	1.48	21	17		563
ZM80	18.0	21.0	3917335	Og	CcySsh			DG	carbonaceous	-1	18	1.78	18	38		612
ZM80	21.0	24.0	3917336	Og	Sshsls		Py	DG	small fossils, porous ls	-1	18	1.74	18	134		468
ZM80	24.0	27.0	3917337	Og	CcySsiSsh			DG	gritty	-1	13	2.30	178	36		1016
ZM80	27.0	30.0	3917338	Og	SsiSsh		Py	DG	minor Py	-1	14	1.88	161	40		843
ZM80	30.0	33.0	3917339	Og	CcySsiSls			DG	fossils, sticky clay	5	23	3.42	152	314		7200
ZM80	33.0	36.0	3917340	Og	SsiSsh			DGN		4	17	2.44	209	9200		5500
ZM80	36.0	39.0	3917341	Og	Ssi			DG		1	10	2.24	302	110		5100
ZM80	39.0	42.0	3917342	Og	CcySsl			DG	gritty	1	12	2.37	288	221		2955
ZM80	42.0	45.0	3917343	Og	OvcCcy			DG	calcite veins	-1	8	1.53	289	80		603
ZM80	45.0	47.5	3917344	Og	SsiOvc		PyCp	DG		-1	8	1.72	250	117		851
ZM81	0.0	3.0	3917345	Og	Ccy			DGV	silty clay	-1	21	1.75	41	84		2281
ZM81	3.0	6.0	3917346	Og	CcySsh			DGV		-1	22	1.82	43	37		1248
ZM81	6.0	9.0	3917347	Og	SsiCcy			DG	carbonaceous	-1	26	1.58	24	21		962
ZM81	9.0	12.0	3917348	Og	CcySsiSsh			DG	carbonaceous	-1	22	1.82	35	22		1062
ZM81	12.0	15.0	3917349	Og	Ccy			DG	sticky clay	-1	21	3.06	27	39		1067
ZM81	15.0	18.0	3917350	Og	CcySsi			DG	sticky clay	-1	19	2.45	32	32		1321
ZM81	18.0	21.0	3917351	Og	CcySsi			DG	sticky clay	-1	21	3.08	20	45		1825
ZM81	21.0	24.0	3917352	Og	CcySslsls		Py	DG	porous ls	-1	19	3.05	97	120		2322
ZM81	24.0	27.0	3917353	Og	CcySsh	Vn	Py	DG		-1	20	2.74	29	1487		3285
ZM81	27.0	30.0	3917354	Og	CcySsi		Py	DG	minor Py, gritty clay	-1	11	2.27	103	117		882
ZM81	30.0	33.0	3917355	Og	Ssl		Py	DG	abundant Py	-1	8	1.35	166	50		410
ZM81	33.0	36.0	3917356	Og	Ssl		Py	DG	abundant Py	-1	7	1.20	159	66		662
ZM81	36.0	38.5	3917357	Og	SsiSls		Py	DG	minor Py	-1	7	1.30	164	26		302
ZM82	0.0	3.0	3917358	Og	Ssh	We		GV		-1	46	1.68	18	177		2625
ZM82	3.0	6.0	3917359	Og	Ccy			GV	plastic gritty clay	-1	47	2.41	19	270		5300
ZM82	6.0	9.0	3917360	Og	Ccy			G	plastic gritty clay	-1	19	6.29	29	99		5800
ZM82	9.0	12.0	3917361	Og	CcySss/Sls			VG	gritty, coarse sls/sss	-1	15	7.61	23	157		7900
ZM82	12.0	15.0	3917362	Og	CcySsi	Fe	Sp	VG		-1	19	10.40	25	152		9400
ZM82	15.0	18.0	3917363	Og	Ssi		PySp	DG	minor Sp	-1	20	9.84	16	129		6900
ZM82	18.0	21.0	3917364	Og	Ssi	Bs?	Py	DG		5	25	5.27	23	17900	6.65	12500
ZM82	21.0	24.0	3917365	Og	SsiSsh		Py	DG	graphitic shale	3	20	5.99	18	3712	6.90	12000
ZM82	24.0	26.9	3917366	Og	CcySls			DG	gritty clay	1	11	2.42	82	521		2457

APPENDIX : Myrtle prospect. 1994 air-core drillhole logs and assays.

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM83	0.0	3.0	3917367	Og	Cg	Fe		GB		-1	23	0.33	10	56		60
ZM83	3.0	6.0	3917368	Og	SssCcy	Fe		G		3	52	2.00	20	1000		8900
ZM83	6.0	9.0	3917369	Og	CcySss/Sls			G	gritty clay	4	52	2.94	16	2146	4.50	16700
ZM83	9.0	12.0	3917370	Og	SlsOvc	Fe		DGV	sandy limestone	22	58	3.50	22	20900	7.15	56300
ZM83	12.0	15.0	3917371	Og	SlsCcy	Fe		DG	med-coarse grained	8	25	4.37	18	6400	6.30	23400
ZM83	15.0	18.0	3917372	Og	CcySls			DG	as above	3	16	4.82	23	170		9700
ZM83	18.0	21.0	3917373	Og	SslCcy			DG	gritty	3	17	4.71	19	157		8200
ZM83	21.0	24.0	3917374	Og	Sls		Py	DG	calcite grains	1	13	6.00	27	119		9200
ZM83	24.0	27.0	3917375	Og	Ssl		Py	DG	fine grained	1	19	3.36	20	82		8600
ZM83	27.0	30.0	3917376	Og	SshSsl	Vc	Py	DG		1	38	4.63	41	103		1499
ZM83	30.0	33.0	3917377	Og	SshSsl	Vc	PySp	DG	coarse grained	-1	13	6.60	20	54		3331
ZM83	33.0	36.0	3917378	Og	SshSsl	Vc	PySp	DG	coarse grained	-1	14	2.00	31	59		2317
ZM83	36.0	38.2	3917379	Og	SshSslOvc		Py	DG		-1	8	1.34	150	47		408
ZM84	0.0	3.0	3917380	Og	CvCcy		Sd	MGV	orn ankerite?	-1	31	1.74	15	1342		789
ZM84	3.0	6.0	3917381	Og	Ccy			DGN	carbonaceous	-1	16	3.27	16	586	4.45	10600
ZM84	6.0	9.0	3917382	Og	Ccy			DGN	slightly gritty, carbonaceous	1	19	6.36	22	139		6700
ZM84	9.0	12.0	3917383	Og	CcySsl			DG	carbonaceous	-1	16	3.26	19	283		9400
ZM84	12.0	15.0	3917384	Og	CcySsl			DG	carbonaceous, gritty	-1	13	5.32	21	292	6.75	11600
ZM84	15.0	18.0	3917385	Og	SlsSslCcy			DG	gritty	1	15	3.08	30	76		3916
ZM84	18.0	21.0	3917386	Og	SslSls	Fe		DG	minor limonite	-1	8	1.49	162	54		1862
ZM84	21.0	24.0	3917387	Og	Sls		Sd	DG	ankerite	19	25	1.43	30	65000	4.45	38600
ZM84	24.0	25.0	3917388	Og	SslSls		Py	DG	minor Py	3	11	1.17	109	10000		7400
ZM85	0.0	3.0	3917389	Og	Ccy			MLGV	gritty clay	1	63	1.95	10	396		97
ZM85	3.0	6.0	3917390	Og	CcySls			LGV	as above	3	59	2.88	17	4151		2991
ZM85	6.0	9.0	3917391	Og	CcySls	Vc		LG	plastic clay	2	16	0.38	10	514		176
ZM85	9.0	12.0	3917392	Og	CcySls			DGN		2	26	2.91	22	983	4.65	22300
ZM85	12.0	15.0	3917393	Og	SlsOvcCcy	Vc		LG		1	22	1.54	15	470		4480
ZM86	0.0	3.0	3917394	Og	SshCcy			LGB	suboutcrop of shale adj.	-1	19	0.82	16	90		673
ZM86	3.0	6.0	3917395	Og	SslCcy			GV		-1	21	1.07	23	68		3288
ZM86	6.0	9.0	3917396	Og	CcySsl			G	gritty	-1	19	1.83	30	59		3574
ZM86	9.0	9.8	3917397	Og	SslSls	Fe		DGV		-1	56	1.38	19	458		3567
ZM87	0.0	3.0	3917398	Og	Ccy			MLGVO	gritty	-1	8	0.80	10	189		67
ZM87	3.0	6.0	3917399	Og	Ssl			DG		-1	74	1.17	25	1779		6800
ZM87	6.0	9.0	3917400	Og	Ssl	Fe		DGV	minor clay	-1	47	2.83	26	1649		6600
ZM87	9.0	12.0	3917401	Og	SlsCcy	Fe	Sp?	G		2	50	1.47	24	3500	2.40	13800
ZM87	12.0	15.0	3917402	Og	SlsOvc		PySp	DG+N	Py assoc. with calcite veins	9	117	1.68	17	19000	10.70	159000
ZM87	15.0	18.0	3917403	Og	CcySls	Vc	Sp	DG		3	54	2.09	15	6400	5.50	62900
ZM87	18.0	21.0	3917404	Og	SlsOvc		PySdSp	DG	fossils, Py on calcite veins	-1	22	2.25	43	424		9100
ZM87	21.0	22.0	3917405	Og	SlsSslOvc	Vc	Sp	LG		-1	4	0.53	92	107		1053

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM88	0.0	3.0	3917406	Og	SlsOvc			LB	silt no clay	3	8	0.21	8	1154		137
ZM88	3.0	6.0	3917407	Og	CcySls	FeVc		LB		3	25	0.81	7	904		4066
ZM88	6.0	9.0	3917408	Og	SshSls		PySp	DG		2	20	2.30	14	4000	4.00	19700
ZM88	9.0	12.0	3917409	Og	SshSls		PySp	DG		1	18	2.79	15	1644	4.35	16900
ZM88	12.0	15.0	3917410	Og	CcySlsOvc	Vc		DG		-1	20	2.44	14	812	3.40	10200
ZM88	15.0	18.0	3917411	Og	CcySsi			DG		-1	21	2.20	20	453	3.55	21100
ZM88	18.0	21.0	3917412	Og	Sls			LG+DG		1	23	1.91	13	3500	3.10	15000
ZM88	21.0	24.0	3917413	Og	Sls	Vc		DG		-1	7	1.27	140	121		1582
ZM88	24.0	27.0	3917414	Og	SlsOvc	Vc	Py	DG		-1	4	0.86	128	32		443
ZM88	27.0	27.5	3917415	Og	SlsSsiOvc	Vc		DG		-1	6	0.90	134	40		676
ZM89	0.0	3.0	3917416	Og	Ccy			MLGB	plastic	-1	3	0.26	12	1511		96
ZM89	3.0	6.0	3917417	Og	Ccy			MD+LG	gritty	1	10	1.39	11	2060		3002
ZM89	6.0	9.0	3917418	Og	CcySsl			DG		4	154	1.71	11	8700		5800
ZM89	9.0	12.0	3917419	Og	SlsCcy			DGV		2	50	3.64	17	3800		6500
ZM89	12.0	15.0	3917420	Og	SlsOvsSsh	Di	Py	DG	graphitic shale,	-1	17	2.34	15	312	3.75	12500
ZM89	15.0	18.0	3917421	Og	CcySls	Vc		DG		-1	17	2.13	21	143		7800
ZM89	18.0	18.9	3917422	Og	SlsOvc			DG	calcite vein (>20mm)	-1	11	1.56	95	159		9700
ZM90	0.0	3.0	3917423	Og	Ccy			MOYB	plastic, silty	-1	32	1.79	17	387		239
ZM90	3.0	6.0	3917424	Og	Ccy			MOBG		-1	23	3.25	17	1304		6200
ZM90	6.0	9.0	3917425	Og	CcySsh			N+DG	plastic, carbonaceous	-1	17	2.17	25	169		3156
ZM90	9.0	12.0	3917426	Og	CcySsh			N+DG	plastic, carbonaceous	-1	19	2.24	21	646		6300
ZM90	12.0	14.5	3917427	Og	SshSsiCcy			DG	sticky	-1	21	3.23	29	1212	4.10	10100
ZM91	0.0	3.0	3917428	Og	CvSsi			GB	5m S Py scree - o/c	84	386	0.31	14	1460		860
ZM91	3.0	6.0	3917429	Og	CcySsl		Py	DGV	gritty soil	22	139	1.92	21	7100	3.70	19900
ZM91	6.0	9.0	3917430	Og	CcySsi		Py	DG	gritty, carbonaceous	4	49	2.54	31	1795		8500
ZM91	9.0	12.0	3917431	Og	CcySsl			DGN	gritty, carbonaceous	3	46	2.92	34	1260		4988
ZM91	12.0	15.0	3917432	Og	CcySsl	Vc		DGN		2	30	2.56	27	621		6900
ZM91	15.0	18.0	3917433	Og	CcySlsOvc	Vc		L+DG		2	30	3.43	27	673		6900
ZM91	18.0	21.0	3917434	Og	SlsSsh			DG	minor clay	1	21	2.56	22	135		1757
ZM91	21.0	22.1	3917435	Og	SlsOvc	Vc	PySd	L+DG	ankerite	2	15	1.58	65	204		1148
ZM92	0.0	3.0	3917436	Og	Cv		Py	DG+N	costine	80	110	17.10	12	4000	29.60	96300
ZM92	3.0	6.0	3917437	Og	Ccy	Fe	Sp?	DVB	sticky	23	55	6.76	28	8100	11.80	81700
ZM92	6.0	9.0	3917438	Og	Sls		Py	VB	free Py	15	55	4.30	24	7200	9.40	76000
ZM92	9.0	12.0	3917439	Og	Ox		PySp?	O	FeCO3?, cryptoXine, banded, earthy jasper-like	4	21	3.94	15	521	6.80	30400
ZM92	12.0	15.0	3917440	Og	SsiOx			YO+G	as above	3	23	3.20	20	653	5.15	21500
ZM92	15.0	18.0	3917441	Og	Sls		Py	DG	free Py	3	30	14.70	32	4700	18.20	30500
ZM92	18.0	21.0	3917442	Og	Ccy		Py	DG	grit in clay is all Py	1	19	8.52	49	1012	10.50	21800
ZM92	21.0	24.0	3917443	Og	CcySsh		Py	DG		2	17	8.55	30	1244	11.13	31200
ZM92	24.0	27.0	3917444	Og	CcySsh	Vc	Py	DG		1	20	5.60	26	806	7.00	20800
ZM92	27.0	27.9	3917445	Og	SshOvc	Vc	Py	L+DG		5	28	8.53	52	1774	17.00	126000

APPENDIX : Myrtle prospect. 1994 air-core drillhole logs and assays.

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM93	0.0	3.0	3917446	Og	CcySls	Vc		DGB		2	27	3.04	28	5200		7100
ZM93	3.0	6.0	3917447	Og	Ssi	FeDi	PySd?	DGV+O	orn Ox, chert looking	1	15	5.67	28	1550	8.00	28800
ZM93	6.0	9.0	3917448	Og	Sls		PySp?	DGV		1	14	4.46	54	1342	7.10	32300
ZM93	9.0	12.0	3917450	Og	Ssi	FeVc	Sp?	DGB		1	13	4.14	35	384	5.10	15900
ZM93	12.0	15.0	3917451	Og	CcySls	Vc	Py	G		2	24	4.69	34	418		9200
ZM93	15.0	15.5	3917452	Og	SlsSshOvc	Vc	PySp?	LG		2	20	2.82	39	123		4782
ZM94	0.0	3.0	3917453	Og	Ccy	Fe		MOBG		6	36	2.30	14	1455		1382
ZM94	3.0	6.0	3917454	Og	Ssi			GV		7	172	11.20	10	11800	13.80	13700
ZM94	6.0	9.0	3917455	Og	Ccy	Di	Py	GV	abund Py as grit in clay	3	70	12.30	12	10900	15.80	23500
ZM94	9.0	12.0	3917456	Og	Sls	VuVc	PySp?	LG+G		4	51	7.58	109	8600	9.90	34400
ZM94	12.0	13.2	3917457	Og	SlsOvc	Bn	Sd?	LG+O	ankerite?, calcite(>20 - <1mm)	2	8	2.01	139	239	3.05	13900
ZM95	*0.0*	*3.0*	*3917458*	*Og*	*CvCcy*	Fe		YOB	*limonite, vege*	10	66	3.55	16	1435		1481
ZM95	3.0	5.9	3917459	Og	SlsOvc	Vc		LG+G		5	53	3.91	20	3900		7300
ZM96	0.0	3.0	3917460	Og	Ccy			YOB	minor grit	5	30	1.92	21	1059		2376
ZM96	3.0	6.0	3917461	Og	CcySls	Di	Py	LG+DG		16	66	2.86	22	2511		2065
ZM96	6.0	9.0	3917462	Og	Ccy			DG	gritty, carbonaceous	5	36	3.75	28	1994		4390
ZM96	9.0	10.1	3917463	Og	SlsSsi	Vc	Py	DG		-1	5	0.83	111	495		578
ZM97	0.0	3.0	3917464	Og	CcySsi	Vc		DG		-1	30	1.46	22	851		2111
ZM97	3.0	6.0	3917465	Og	CcySsi			DG		-1	22	2.99	31	450		7300
ZM97	6.0	9.0	3917466	Og	CcySsi	Vc	Py	DG		-1	113	1.40	29	57		1715
ZM97	9.0	12.0	3917467	Og	Sls	Vc	Py	DG		-1	83	1.74	25	48		1548
ZM97	12.0	15.0	3917468	Og	SlsCcy			DG		-1	27	2.01	71	38		1601
ZM97	15.0	18.0	3917469	Og	SlsOvc			LG		-1	6	1.16	226	16		370
ZM97	18.0	21.0	3917470	Og	SlsOvc		Py	DG		-1	10	1.95	255	20		593
ZM97	21.0	24.0	3917471	Og	SlsOvc		Py	DG		-1	10	1.90	344	147		1330
ZM97	24.0	25.0	3917472	Og	SlsOvc	Fr	PySp	DG		1	19	1.71	247	263	2.80	30700
ZM98	0.0	3.0	3917473	Og	CcyCv	BlVc		LGV		-1	60	0.55	9	105		85
ZM98	3.0	6.0	3917474	Og	Ccy			LGW	plastic, minor grit	-1	27	0.36	8	40		87
ZM98	6.0	9.0	3917475	Og	SshCcy	Fe		LG	shale is altered -yellowish	-1	10	0.46	6	17		25
ZM98	9.0	12.0	3917476	Og	SlsOvcSsh	Fe		LG		-1	17	1.08	11	22		430
ZM98	12.0	15.0	3917477	Og	SlsSsh	Vc		G		-1	15	1.25	40	207		939
ZM98	15.0	17.7	3917478	Og	SlsOvc	Vc		DGW		-1	7	2.19	451	341		1908
ZM99	*0.0*	*3.0*	*3917479*	*Og*	*Ccy*			MG+YO	*gritty*	-1	19	1.19	23	461		420
ZM99	3.0	6.0	3917480	Og	CcySls			VG	shell fossils	-1	33	1.54	39	462		984
ZM99	6.0	9.0	3917481	Og	SlsOvc	Vc		G	hard compact	-1	5	0.54	147	81		471
ZM99	9.0	12.0	3917482	Og	SlsCcy	Vn		DG	carbonaceous clay, finely veined limestone	-1	17	2.91	370	255		1043
ZM100	0.0	3.0	3917483	Og	CvCcy			YG		-1	17	0.45	9	259		98
ZM100	3.0	6.0	3917484	Og	Ccy	Fe		OVB	sticky, limonite chips	1	27	4.03	37	948		1240
ZM100	6.0	9.0	3917485	Og	SlsCcy			DG	med-fine grained	1	21	2.63	39	1524		1594
ZM100	9.0	11.6	3917486	Og	SlsOvc		Sd?	G	ankerite?	-1	33	1.34	49	126		1589

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM101	0.0	3.0	3917487	Og	CvCcy			LG+O		-1	18	0.29	9	82		158
ZM101	3.0	6.0	3917488	Og	Ccy	Le		YVG		-1	22	1.19	17	897		551
ZM101	6.0	9.0	3917489	Og	Sls			DG	fossils	-1	17	2.00	79	109		2665
ZM101	9.0	12.0	3917490	Og	SlsCcy			DG	fossils	-1	16	2.51	100	126		1187
ZM101	12.0	15.0	3917491	Og	SlsCcy			DG	fossils	-1	8	1.67	90	28		546
ZM101	15.0	16.1	3917492	Og	Sls	Vc	Py	DG	free Py	-1	7	1.50	120	18		258
ZM102	0.0	3.0	3917493	Og	CvCcy			LBG		-1	25	0.35	9	2368		129
ZM102	3.0	6.0	3917494	Og	Ccy			DG+B	carbonaceous clay	2	81	0.54	10	1015		105
ZM102	6.0	9.0	3917495	Og	Ccy			DG+B	minor grit	1	29	1.20	15	261		891
ZM102	9.0	12.0	3917496	Og	SlsCcy	Vn	Py	DG	Py in limestone	1	24	0.96	14	157		1349
ZM102	12.0	15.0	3917497	Og	Sls	Fe	Sp?	DG		-1	10	1.39	22	27	2.50	16600
ZM102	15.0	18.0	3917498	Og	Sls	Vc	Sp?	DG		-1	12	1.85	23	25		2702
ZM102	18.0	21.0	3917499	Og	Sls		Sd?	DG+YO	ankerite?	-1	17	2.47	31	40		3479
ZM102	21.0	24.0	3917500	Og	Sls			DG		-1	6	1.57	192	15		434
ZM102	24.0	26.1	3983501	Og	SlsOvc		Py	LG+G	porous, Py on calcite veins	-1	9	1.07	139	10		203
ZM103	0.0	3.0	3983502	Og	Ccy	Fe		MDG		1	51	1.27	11	886		95
ZM103	3.0	6.0	3983503	Og	Ccy	Vc		DG+N	gritty	1	81	1.31	15	1022		3675
ZM103	6.0	9.0	3983504	Og	SlsCcy	Vc		DG+N		1	21	1.22	30	150		924
ZM103	9.0	12.0	3983505	Og	SlsCcy			DG		1	13	1.77	78	171		1332
ZM103	12.0	15.0	3983506	Og	SlsCcy			DG		-1	28	0.83	44	254		770
ZM103	15.0	18.0	3983507	Og	SlsOvc		Py	DG		1	22	3.15	57	94		4378
ZM103	18.0	21.0	3983508	Og	Sls		Py	DG		-1	18	3.01	73	199		7500
ZM103	21.0	24.0	3983509	Og	SlsSsi	Vc		DG		-1	16	1.63	158	29		392
ZM103	24.0	24.8	3983510	Og	SlsOvc	Vn	Py	LG		-1	13	2.29	133	49		481
ZM104	0.0	3.0	3983511	Og	Ccy			LG+O	minor Sls chips	3	147	1.86	17	4219		4574
ZM104	3.0	6.0	3983512	Og	CcySls			DG		1	86	1.44	18	2900		7400
ZM104	6.0	9.0	3983513	Og	Sls	VuVc	Sd?	DG	ankerite?	-1	46	1.32	20	1145		4592
ZM104	9.0	10.8	3983514	Og	Sls			LG	minor Fe carbonate	-1	12	1.21	70	49		887
ZM105	0.0	3.0	3983515	Og	CcySsh			LG+DG		-1	22	0.54	13	2581		1248
ZM105	3.0	6.0	3983516	Og	Ccy			DG	minor Sls	-1	19	1.97	24	741	2.70	11000
ZM105	6.0	9.0	3983517	Og	SlsOvc		Py	LG+G	Py on fracture surfaces	-1	8	1.21	78	184		1689
ZM105	9.0	11.0	3983518	Og	SlsOvc	Vc		LG		-1	3	0.56	83	44		309
ZM106	0.0	3.0	3983519	Og	CvCcy			GV		-1	65	1.54	21	1576		4936
ZM106	3.0	6.0	3983520	Og	SlsCcy	Fe		G		-1	25	2.71	23	389	4.60	31000
ZM106	6.0	9.0	3983521	Og	Sls	Fe	Py	G	Py in limestone	-1	23	3.65	16	346		4372
ZM106	9.0	12.0	3983522	Og	SsiSls	DiVn	Py	DG	fine Py veins <0.5mm	-1	15	1.86	62	120		1404
ZM106	12.0	14.5	3983523	Og	SlsOvc	Vc	Py	G	Py occurs with calcite veins	-1	4	0.83	88	32		687
ZM107	0.0	1.0	3983524	Og	Sls	Vc		DG	Air hammer sample	-1	7	0.60	36	108		725
ZM108	0.0	1.2	3983525	Og	Sls	Vc		DG		-1	7	0.44	30	96		382
ZM109	0.0	3.0	3983526	Og	Ccy			DG+B	gritty	1	10	0.63	30	319		326
ZM109	3.0	6.0	3983527	Og	CcySls			DG		1	18	4.21	30	610		2610
ZM109	6.0	7.0	3983528	Og	Sls	FeVc		DG	dense sls	-1	17	4.05	56	505		2224

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM110	0.0	3.0	3983529	Og	Ccy			DGV		1	21	2.53	20	4961		4922
ZM110	3.0	6.0	3983530	Og	Sls		Py	DG		-1	16	4.06	48	800		7400
ZM110	6.0	9.0	3983531	Og	Sls			LG+G	porous	-1	10	1.75	92	43		277
ZM111	0.0	2.4	3983532	Og	CcySls	DiVc	Py	DG		1	11	1.80	24	230		1988
ZM112	0.0	3.0	3983533	Og	CcySls	WeFe		MGVO	gritty	-1	35	4.02	66	231		502
ZM112	3.0	6.0	3983534	Og	CcySls			G		-1	24	4.19	29	93		3693
ZM112	6.0	9.0	3983535	Og	Ccy			G	gritty	-1	22	2.83	50	62		1018
ZM112	9.0	12.0	3983536	Og	Ccy			DG	gritty	-1	22	2.99	35	93		1208
ZM112	12.0	15.0	3983537	Og	SlsCcy			DG	coarse grained	-1	19	1.50	39	41		563
ZM112	15.0	18.0	3983538	Og	Ssh		Py	DG		-1	19	3.09	49	36		281
ZM112	18.0	21.0	3983539	Og	Ssh	Vc	Py	DG+B		-1	21	5.77	62	44		231
ZM112	21.0	22.6	3983540	Og	SlsSsh	Vc	Py	G		-1	12	11.50	93	58		730
ZM113	0.0	3.0	3983541	Og	CvCcy			LG+O		-1	30	5.49	42	129		1054
ZM113	3.0	6.0	3983542	Og	SlsCcy			GV		-1	98	1.73	16	1370		3550
ZM113	6.0	9.0	3983543	Og	Ccy			DG	minor grit	-1	26	3.27	39	125		1669
ZM113	9.0	12.0	3983544	Og	CcySls			DG	minor graphite	-1	23	4.42	35	106		2023
ZM113	12.0	15.0	3983545	Og	Sls	Vc		DG		-1	25	3.12	40	102		264
ZM113	15.0	18.0	3983546	Og	Sls	Vc		DG		-1	21	3.33	57	55		861
ZM113	18.0	21.0	3983547	Og	SshCcy			DG		-1	23	5.98	43	114		543
ZM113	21.0	24.0	3983548	Og	Ssh	Vc	Py	DG+B		-1	32	4.39	14	62		1349
ZM113	24.0	26.6	3983549	Og	SsiSsh	DiVc	Py	DG		-1	13	2.19	125	23		401
AC9ZM1	0.0	3.0	3983550	Og	CvCcy			DGV		-1	29	0.71	27	59		92
AC9ZM1	3.0	6.0	3983551	Og	SlsCcy	We		DG		-1	75	1.52	30	1067		1734
AC9ZM1	6.0	9.0	3983552	Og	SlsCcy	We		DG		-1	24	2.54	45	84		543
AC9ZM1	9.0	12.0	3983553	Og	SsiSsh	Vn	Py	DG	carbonaceous	-1	23	2.26	54	78		202
AC9ZM1	12.0	15.0	3983554	Og	SsiSsh	Vc	PySd	DGV	ankerite?	-1	18	4.25	38	59		593
AC9ZM1	15.0	18.0	3983555	Og	SslSsh	FeVq	Py	DG	minor clay	-1	22	3.60	63	92		1413
AC9ZM1	18.0	21.0	3983556	Og	Ssh		Py	DG+B		-1	24	5.93	62	136		1645
AC9ZM1	21.0	24.0	3983557	Og	Ssh	VcFe	Py	DG	vein Py with calcite	-1	34	4.63	13	60		692
AC9ZM1	24.0	25.0	3983558	Og	SlsSsh	DiVc	Py	DG	calcite veined, shale is Py host	-1	19	1.99	83	25		85
ZM115	0.0	1.1	3983559	Og	SlsCv	VuVc		DG	creamy mineral?	-1	15	1.10	92	24		138
ZM116	0.0	3.0	3983560	Og	CcyOvc	Vc		DG		-1	19	1.65	79	46		4268
ZM116	3.0	6.0	3983561	Og	Ccy			DG		-1	17	1.50	96	41		3838
ZM116	6.0	8.0	3983562	Og	SsiSsh			G	carbonaceous	-1	9	1.15	140	21		541
ZM117	0.0	3.0	3983563	Og	Ccy	Bl		MGW	gritty	-1	34	0.36	22	71		55
ZM117	3.0	6.3	3983564	Og	CcySls	Fe		GV	med grained, limonite	-1	246	2.79	27	591		1069
ZM118	0.0	3.0	3983565	Og	Ccy			LG+B+DG		-1	28	1.53	17	835		2126
ZM118	3.0	6.0	3983566	Og	CcyOvc		Py	DG		1	26	5.54	76	195		3227
ZM118	6.0	9.0	3983567	Og	SlsOvc	Vc	Py	LG	white & sparry calcite	-1	9	1.53	206	20		165
ZM118	9.0	12.0	3983568	Og	SlsOvc	Vc	Py	LG	Py assoc. with calcite veining	-1	6	0.97	211	12		76
ZM118	12.0	15.0	3983569	Og	SlsOvc	Vc		DG	intense calcite veining	-1	10	1.50	201	17		163
ZM118	15.0	15.5	3983570	Og	SlsbxOvc	Bx	Py	D+LG+W	Py assoc. with darker CO3	-1	8	1.72	218	20		153
ZM119	0.0	3.0	3983571	Og	CvCcy			GV		-1	51	3.03	26	791		6900
ZM119	3.0	4.5	3983572	Og	SlsOvc	Vc		G	coarse grained	1	32	3.32	51	962		6300

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM120	0.0	3.0	3983573	Og	Ccy			DB		-1	5	0.29	19	9		18
ZM120	3.0	6.0	3983574	Og	Ccy			GV+B	silty	1	164	1.77	17	2015		3668
ZM120	6.0	9.0	3983575	Og	CcySls	Vc		GV		1	34	3.59	17	2290	4.50	12000
ZM120	9.0	12.0	3983576	Og	Ccy			DG+B	carbonaceous	-1	24	2.38	24	175		2377
ZM120	12.0	15.0	3983577	Og	CcySls	Vn	Py	GV		-1	16	4.60	17	153		3445
ZM120	15.0	18.0	3983578	Og	SlsSsh	Fe		GVB		-1	21	3.24	13	104		2324
ZM120	18.0	21.0	3983579	Og	SlsSsi	Fe	Py	GB		-1	19	6.29	19	80		4254
ZM120	21.0	24.0	3983580	Og	Sls	Fe	Py	GV		-1	23	7.67	28	1157		3068
ZM120	24.0	27.0	3983581	Og	Sls	Fe	Py	DG+V	Py slightly green	-1	18	11.30	18	1372		2926
ZM120	27.0	30.0	3983582	Og	CcySsi	Fe	Py	DG	med grained	-1	24	7.69	26	587		7700
ZM120	30.0	33.0	3983583	Og	Ccy			G	gritty, stiff, carbonaceous	-1	25	5.44	31	161	6.40	13800
ZM120	33.0	36.0	3983584	Og	SlsCcy	Vn	Py	DG	massive Py	-1	32	6.86	28	159	8.15	14800
ZM120	36.0	36.6	3983585	Og	SlsOvc		Py	DG		-1	26	3.45	55	83		2032
ZM121	0.0	3.0	3983586	Og	CcySlsCv			LBW		-1	6	0.37	16	21		59
ZM121	3.0	6.0	3983587	Og	CcyOvcSls			BW		-1	9	0.24	12	40		25
ZM121	6.0	9.0	3983588	Og	Ccy			LGV+DG	gritty	4	199	0.54	11	2226		126
ZM121	9.0	12.0	3983589	Og	Sls	Fe	PY	DG+B		2	114	1.84	13	8600		2400
ZM121	12.0	15.0	3983590	Og	Sls	Fe	Py	DG+B		-1	27	4.44	24	715		1807
ZM121	15.0	18.0	3983591	Og	CcyOvq			DG	carbonaceous	-1	23	4.82	28	72		927
ZM121	18.0	21.0	3983592	Og	Ccy	DiFe	PySp	DG		-1	22	5.42	22	84		989
ZM121	21.0	24.0	3983593	Og	Ccy			DG	carbonaceous	-1	26	4.42	30	68		2877
ZM121	24.0	27.0	3983594	Og	Ccy	Vc		DG		-1	40	4.64	31	853		4122
ZM121	27.0	30.0	3983595	Og	Sbs	Vn	Py	DG+B	carbonaceous	-1	19	4.39	41	77		615
ZM121	30.0	31.0	3983596	Og	Sbs	Vc	Py	DG+B		-1	17	4.56	101	32		434
ZM122	0.0	3.0	3983597	Og	CcySls			LB+W	buff sls	-1	6	0.35	24	11		17
ZM122	3.0	6.0	3983598	Og	Ccy	Bl		LG+W		-1	7	0.27	10	52		15
ZM122	6.0	9.0	3983599	Og	Ccy	Bl		LG+W	smooth, plastic	-1	11	0.25	10	61		10
ZM122	9.0	12.0	3983600	Og	CcySls			LG	minor sls	-1	27	0.23	9	41		10
ZM122	12.0	15.0	3983601	Og	Ccy			DGV+N	carbonaceous	-1	71	1.22	12	91		2413
ZM122	15.0	18.0	3983602	Og	CcyScg	Fe	Py	GV	rounded pebbles	-1	25	1.51	7	73		4333
ZM122	18.0	21.0	3983603	Og	CcySls	Fe	Sd?	GV	ankerite?	-1	19	1.96	10	122		1387
ZM122	21.0	24.0	3983604	Og	CcySls			DG+N	minor sls	-1	24	3.58	14	69		3945
ZM122	24.0	26.3	3983605	Og	CcySlsOvc		Py	DG+N		-1	27	3.24	40	65		4211
ZM123	0.0	3.0	3983606	Og	CgCcy	Fe		LB+W	rounded pebbles	-1	21	0.65	30	32		29
ZM123	3.0	6.0	3983607	Og	Ccy	Vq		G+W		-1	39	0.66	23	26		11
ZM123	6.0	9.0	3983608	Og	Ccy			MOBDGLG	stiff plastic	-1	50	0.97	11	167		44
ZM123	9.0	12.0	3983609	Og	Ccy			DG+N	carbonaceous	-1	37	0.92	10	123		1104
ZM123	12.0	13.6	3983610	Og	SlsOvc	DiFe	Py	DG		-1	25	1.37	13	88		792
ZM124	0.0	3.0	3983611	Og	CcyCv			MOY		-1	63	9.68	6	358		48
ZM124	3.0	6.0	3983612	Og	CcySls	Fe		MLB		-1	38	3.15	24	192		292
ZM124	6.0	9.0	3983613	Og	CcySls	Vu		YB	skeletal sls	-1	50	3.78	44	78		521
ZM124	9.0	12.0	3983614	Og	SlsCcy			DG+O		1	56	1.94	26	69		473
ZM124	12.0	13.1	3983615	Og	CcySlsOvc		Py	LG+G	minor Py	1	47	0.96	17	62		474

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM125	0.0	3.0	3983616	Og	CcySls			LOY	plastic, stiff	-1	29	6.48	107	61		511
ZM125	3.0	6.0	3983617	Og	Ccy			O	plastic	-1	31	4.76	136	52		474
ZM125	6.0	9.0	3983618	Og	CcySls	We		O	black silicified sls?	-1	34	6.66	107	83		567
ZM125	9.0	12.0	3983619	Og	Ccy	Fe		DOW	claystone or FeCO3 chips	-1	38	15.03	122	81		1303
ZM125	12.0	14.5	3983620	Og	CcySlsOvc			DG+O	cream dolomite?	-1	27	4.27	45	65		769
ZM126	0.0	3.0	3983621	Og	CcySls			LGV		1	19	0.24	9	120		73
ZM126	3.0	6.0	3983622	Og	CcySls	Vc		DG+LG		1	59	0.80	12	107		1479
ZM126	6.0	6.4	3983623	Og	SlsOvc	Di	Py	G		-1	39	1.54	35	74		1818
ZM127	0.0	3.0	3983624	Og	Ccy			LG+BW		-1	8	0.68	8	48		92
ZM127	3.0	6.0	3983625	Og	CcySls			BW	minor sls	-1	30	0.34	12	23		63
ZM127	6.0	9.0	3983626	Og	CcySls			LG	gritty	-1	25	0.26	7	26		274
ZM127	9.0	12.0	3983627	Og	SlsCcy			LG	med-grained sls	-1	21	0.21	7	27		241
ZM127	12.0	15.0	3983628	Og	CcySls			LB+G		-1	33	6.42	91	1600		1567
ZM127	15.0	18.0	3983629	Og	CcySls			LB+G		1	28	3.63	54	2340		925
ZM127	18.0	21.0	3983630	Og	CcySlsOvc			MDG+LB		1	30	2.16	37	822		830
ZM127	21.0	24.0	3983631	Og	Sls	Vc	Py	DG		-1	22	2.08	166	373		1050
ZM127	24.0	27.0	3983632	Og	Sls	Di	Py	DG		-1	10	3.28	221	90		1297
ZM127	27.0	30.0	3983633	Og	Sls		Py	DG	Cavity hit, small sample	-1	21	3.31	227	42		7600
ZM127	30.0	33.0	3983634	Og	SlsOvc		Py	DG		-1	6	1.54	242	13		865
ZM127	33.0	36.0	3983635	Og	SlsOvc	Vc	Py	DG	sparry calcite	-1	5	1.63	254	17		712
ZM127	36.0	37.1	3983636	Og	SlsOvc	Vu	Py	DG		-1	5	1.33	172	10		420
ZM128	0.0	3.0	3983637	Og	Ccy			MLYW		-1	27	1.74	8	14		78
ZM128	3.0	6.0	3983638	Og	Ccy			MLB+Y	minor grit	-1	65	1.09	6	16		23
ZM128	6.0	9.0	3983639	Og	Ccy			MLB+O+G		1	80	1.05	6	33		33
ZM128	9.0	12.0	3983640	Og	Ccy			MGV+LB	minor grit	1	64	2.03	10	38		746
ZM128	12.0	15.0	3983641	Og	CcySls	Fe	Sd?	LYB+LO	ankerite	-1	32	1.26	8	38		125
ZM128	15.0	18.0	3983642	Og	CcySls	Fe		LG		-1	20	1.38	13	50		200
ZM128	18.0	21.0	3983643	Og	SlsCcy	Fe		GV	dolomite?	4	128	2.07	23	9700	1.05	15600
ZM128	21.0	23.6	3983644	Og	Sls	FeVu	SpSd?	DG	ankerite?	7	151	4.30	14	11500	11.70	121000
ZM129	0.0	3.0	3983645	Og	Ccy			LYO		-1	27	3.14	12	44		101
ZM129	3.0	6.0	3983646	Og	Ccy			MLY+G		-1	17	1.03	8	60		38
ZM129	6.0	9.0	3983647	Og	SlsCcy		Sd	LG	ankerite	-1	10	0.38	6	139		66
ZM129	9.0	12.0	3983648	Og	CcySsh	Fe		D+LG	chloritic looking shale	-1	20	3.22	14	240		1940
ZM129	12.0	15.0	3983649	Og	OxcCcySsl	FeVq	Sd	DG	carb. breccia,	-1	21	4.22	133	211	4.90	13700
ZM129	15.0	17.5	3983650	Og	SlsOvc		SpPySd	DG		-1	7	1.07	245	20		397
ZM130	0.0	3.0	3983651	Og	CvCcy	FeLe		MY+O+WB		-1	33	0.76	9	84		66
ZM130	3.0	6.0	3983652	Og	Ccy	Le		LG+W		1	47	1.73	7	352		126
ZM130	6.0	9.0	3983653	Og	Ccy			LBW+BO	grit	-1	27	0.49	9	1381		125
ZM130	9.0	12.0	3983654	Og	CcySls			DG+N	hard silicified? sls	1	42	1.11	15	271		4214
ZM130	12.0	12.4	3983655	Og	SlsOvc		SdSpPy	G	fossils	-1	17	1.71	96	108		4768

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM131	0.0	3.0	3983656	Og	CcySls	Fe		LY+O		-1	44	2.60	10	32		79
ZM131	3.0	6.0	3983657	Og	Ccy			LY+O		-1	14	0.84	9	195		49
ZM131	6.0	9.0	3983658	Og	Ccy			MO+GV+L(	gritty	-1	31	1.76	8	159		134
ZM131	9.0	12.0	3983659	Og	CcySls			LY+LG		-1	24	2.14	18	144		276
ZM131	12.0	15.0	3983660	Og	CcyOvq			GV+N	hard silicified? sls	-1	32	1.83	16	199		470
ZM131	15.0	18.0	3983661	Og	Sls		Py	N		-1	17	1.73	68	51		940
ZM131	18.0	19.1	3983662	Og	SlsOvc		PySpSd	DG+N		-1	17	3.23	176	108		4244
ZM132	0.0	3.0	3983663	Og	CcySls	Fe		MLGV+O		-1	24	0.80	15	37		23
ZM132	3.0	6.0	3983664	Og	CcySls			LB+Y		-1	39	0.53	7	102		56
ZM132	6.0	9.0	3983665	Og	Sls		SdSp?	LGV		-1	47	0.98	13	314		103
ZM132	9.0	12.0	3983666	Og	CcySls			DGO		-1	46	2.37	27	543		490
ZM132	12.0	14.0	3983667	Og	Sls	Vu	Sd	DG+N		-1	42	1.91	63	309		516
ZM133	0.0	1.3	3983668	Og	CvCcySls			DG+LG	silicified sls	-1	19	0.44	21	158		79
ZM134	0.0	1.5	3983669	Og	SlsCv			DG		-1	41	0.82	38	580		800
ZM135	0.0	1.0	3983670	Og	CvSls	Vc		DG+W	creamy alteration?	-1	32	0.53	23	113		185
ZM136	0.0	0.9	3983671	Og	MqCv		Py	G	silicifed	-1	18	1.78	48	158		315
ZM137	0.0	0.8	3983672	Og	CvMq/Sls		Py	B+G		-1	14	0.68	30	77		134
ZM138	0.0	0.8	3983673	Og	CvMq/Sls	Vq		B+G		-1	18	0.70	68	87		153
ZM139	0.0	2.0	3983674	Og	OvcCvSls			WY+K	swamp, cream calcite?	-1	12	0.44	38	62		251
ZM140	0.0	3.0	3983675	Og	CcyCv	Fe		DGV	Ferrug qtz pebbles- swamp	-1	24	1.35	26	438		2155
ZM140	3.0	6.0	3983676	Og	Ccy			DG		-1	21	2.61	25	306		9000
ZM140	6.0	9.0	3983677	Og	Sls	Vc		G		-1	9	1.55	215	28		1944
ZM140	9.0	9.4	3983678	Og	Sls	Vc	SdPy	DG		-1	19	1.69	333	30		1519
ZM141	0.0	3.0	3983679	Og	CvCcy			LBG	gritty	-1	23	0.26	14	141		112
ZM141	3.0	5.0	3983680	Og	SlsSsh	Vc	PySd	DG+O		-1	25	1.51	44	343		422
ZM142	0.0	0.8		Og	Ovq			W								
ZM143	0.0	3.0	3983681	Og	CvCcy			DB		-1	3	0.30	13	17		19
ZM143	3.0	3.8	3983682	Og	CgSls	FeVc		DG		-1	5	1.22	43	21		110
ZM144	0.0	3.0	3983683	Og	CvCcy			DB	gritty	-1	4	0.38	18	14		23
ZM144	3.0	6.0	3983684	Og	CcySls	FeVu		DBV		-1	12	0.56	21	53		53
ZM144	6.0	9.0	3983685	Og	SlsCcy	Fevc	Py	G+DG		-1	44	2.87	26	193		765
ZM144	9.0	12.0	3983686	Og	Ccy			DG		-1	21	3.26	27	60		273
ZM144	12.0	15.0	3983687	Og	CcySls			N+W	cream sls?	-1	13	3.58	25	33		374
ZM144	15.0	18.0	3983688	Og	CcyOvc			N+W	cream mins	-1	12	3.06	44	23		271
ZM144	18.0	18.6	3983689	Og	SlsOvcCcy		PySd	DG+W		-1	9	2.97	63	23		71
ZM145	0.0	3.0	3983690	Og	CvCcy			DG	carbonaceous	-1	10	1.85	25	54		177
ZM145	3.0	6.0	3983691	Og	CcySls		Py	DG+N	gritty	-1	15	2.68	24	43		255
ZM145	6.0	9.0	3983692	Og	CcySls			DG+N	cream sls	-1	27	2.56	30	134		206
ZM145	9.0	12.0	3983693	Og	Sls	Fe	Py	G+W	cream sls	-1	15	2.79	24	46		835
ZM145	12.0	13.9	3983694	Og	SlsSsh		PySd	DG+N		-1	12	2.08	20	42		1379
ZM146	0.0	3.0	3983695	Og	CcyOvq			GB		-1	127	0.41	8	384		243
ZM146	3.0	6.0	3983696	Og	Ccy			GV		-1	23	2.48	28	91		1042
ZM146	6.0	9.0	3983697	Og	CcySls	Vn	Py	DG+N		-1	14	5.64	24	68		259
ZM146	9.0	10.1	3983698	Og	SlsCcy	FeVc	PySd	DG+N	cream sls	-1	18	3.36	22	42		472

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM147	0.0	3.0	3983699	Og	CvCcy	Vq		DBO	rounded qtz	-1	5	0.37	17	19		43
ZM147	3.0	6.0	3983700	Og	Ccy			DG	gritty	-1	23	5.50	22	70		714
ZM147	6.0	9.0	3983701	Og	CcySls	Fe		DG	creamy sls	-1	40	5.99	24	62		745
ZM147	9.0	12.0	3983702	Og	CcySls	Vc		DG	minor sls	-1	16	3.54	40	30		296
ZM147	12.0	12.6	3983703	Og	SlsOvc		SpSd	G		-1	18	3.81	40	45		650
ZM148	0.0	3.0	3983704	Og	CvSlsCcy		Py	DGV	creamy sls	-1	18	3.58	35	28		720
ZM148	3.0	6.0	3983705	Og	Ccy			DG+N	carbonaceous	-1	38	2.80	16	118		337
ZM148	6.0	9.0	3983706	Og	Ccy			DG	carbonaceous	-1	28	3.83	39	74		947
ZM148	9.0	10.1	3983707	Og	OvcSls	Vc	PySd	DG		-1	21	2.49	49	125		978
ZM149	0.0	3.0	3983708	Og	CgCcy			VB		-1	110	1.44	21	239		579
ZM149	3.0	6.0	3983709	Og	Ccy			VB+G		-1	40	2.67	11	83		1810
ZM149	6.0	9.0	3983710	Og	CcySls	Lm		DG	L/D wavy banding	-1	40	2.99	46	48		731
ZM149	9.0	9.5	3983711	Og	SlsOvc		Py	DG		-1	9	1.16	48	18		366
ZM150	0.0	3.0	3983712	Og	CvCcy	Fe		VG		-1	23	2.64	22	29		704
ZM150	3.0	6.0	3983713	Og	CcySsh			DVG	graphitic	-1	20	4.36	24	28		299
ZM150	6.0	8.6	3983714	Og	SlsOvcSsh		Py	DG		-1	18	3.13	48	42		281
ZM151	0.0	3.0	3983715	Og	CvCcy			DGV		-1	29	2.62	30	34		363
ZM151	3.0	6.0	3983716	Og	CCySls		Py	DG	creamy mineral	-1	39	3.43	24	47		155
ZM151	6.0	9.0	3983717	Og	CcySls			DG	creamy mineral	-1	24	2.10	20	34		246
ZM151	9.0	9.9	3983718	Og	SlsOvcCcy		PySd	G		-1	21	2.46	38	41		470
ZM152	0.0	3.0	3983719	Og	CvCcy			DG	carbonaceous	-1	23	3.77	26	48		666
ZM152	3.0	6.0	3983720	Og	CcySsl			DG+N	carbonaceous	-1	26	5.79	29	43		487
ZM152	6.0	9.0	3983721	Og	CcySsl			DG+N	carbonaceous	-1	34	3.74	27	45		365
ZM152	9.0	10.1	3983722	Og	Sls		Py	DG+N	graphitic	-1	30	3.27	44	37		280
ZM153	0.0	3.0	3983723	Og	Cv			DGV		-1	26	3.42	28	40		499
ZM153	3.0	4.4	3983724	Og	SshSls	Vc	PySp	DG+N	graphitic	-1	21	2.65	37	29		309
ZM154	0.0	3.0	3983725	Og	CcySls			DG		-1	22	3.65	23	28		615
ZM154	3.0	6.0	3983726	Og	SlsOvcCcy		Py	DG	gritty	-1	19	3.18	37	26		567
ZM155	0.0	3.0	3983727	Og	CvCcy			MVB+VY		-1	100	0.42	10	78		373
ZM155	3.0	6.0	3983728	Og	CcySls			DG		-1	22	3.14	29	87		2010
ZM155	6.0	6.5	3983729	Og	SbsSls		Sd	DG+N	fossils	-1	18	2.97	37	27		600
ZM156	0.0	3.0	3983730	Og	Ccy			MVG+LB		-1	59	0.37	18	77		125
ZM156	3.0	6.0	3983731	Og	Ccy	Fe		DG	gritty	-1	97	0.62	11	137		642
ZM156	6.0	9.0	3983732	Og	Ccy			DG+N	plastic	-1	49	3.94	29	56		609
ZM156	9.0	12.0	3983733	Og	CcySbs		Py	DG+N	plastic	-1	15	5.84	31	24		265
ZM156	12.0	14.4	3983734	Og	SlsOvc	Di	Py	DG	carbonaceous	-1	12	4.21	49	20		363
ZM157	0.0	2.0	3983735	Og	CvCcy			DG		-1	160	2.01	17	180		133
ZM157	2.0	4.0	3983736	Og	Ccy			DG		-1	80	1.42	36	75		341
ZM157	4.0	6.0	3983737	Og	Sls	Fe		DG		-1	44	1.33	26	45		676
ZM157	6.0	8.0	3983738	Og	Ccy			DG	gritty, carbonaceous	-1	28	2.21	36	36		960
ZM157	8.0	10.0	3983739	Og	CcyOvc			DG	carbonaceous	-1	29	1.89	33	33		310
ZM157	10.0	11.8	3983740	Og	Sls	Vc	Py	DG	graphitic	-1	19	1.76	39	29		298

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM158	0.0	2.0	3983741	Og	CvCcy			DG		1	31	0.35	13	211		185
ZM158	2.0	4.0	3983742	Og	Sls			DGV		1	33	2.30	20	1733	4.25	22500
ZM158	4.0	6.0	3983743	Og	Ccy	Vc		DG	gritty	-1	30	1.97	16	679	3.15	17300
ZM158	6.0	7.1	3983744	Og	SshSls	Fe	SpPy	DG	fossils, some cave in	1	87	1.51	62	165	8.15	122000
ZM159	0.0	2.0	3983745	Og	CvCcy			GB		-1	8	0.42	18	54		212
ZM159	2.0	3.4	3983746	Og	CcyOvcSls		PySd?	VBG	sls bottom	-1	24	2.04	79	181		936
ZM160	0.0	1.1	3983747	Og	CvSls	Vn		B+G		-1	22	0.72	41	115		193
ZM161	0.0	2.0	3983748	Og	CvOvc	Vc		DG		-1	22	0.54	35	120		844
ZM161	2.0	4.0	3983749	Og	SlsOvc			DG		-1	12	1.43	44	88		1060
ZM161	4.0	4.6	3983750	Og	Sls		Py	LG+DG		-1	15	1.22	101	30		596
ZM162	0.0	2.0	3983751	Og	CcyCvSls			MB+G	graphitic chips	-1	8	0.38	36	32		70
ZM163	0.0	2.0	3983752	Og	CvCcy			VG		-1	28	0.23	15	149		42
ZM163	2.0	4.0	3983753	Og	Sls	Fe	PySp?	DG		-1	27	0.58	26	610		516
ZM163	4.0	6.0	3983754	Og	Sls	Fe	PySp	DG		-1	20	1.91	38	579		2804
ZM163	6.0	8.0	3983755	Og	Sls		Sp	DG	cream alteration?	-1	16	3.42	38	193		2694
ZM163	8.0	9.9	3983756	Og	SlsCcy	FeVc	PySp?	DG		-1	14	4.04	65	111		1380
ZM164	0.0	2.0	3983757	Og	CvSls	Fe	Sp	DV		-1	37	0.38	19	71		59
ZM164	2.0	4.0	3983758	Og	Ccy			DV	gritty	-1	32	0.90	25	107		121
ZM164	4.0	6.0	3983759	Og	Sls	Fe		DV		-1	15	5.83	40	42		548
ZM164	6.0	8.0	3983760	Og	SlsCcy	Fe		DG		-1	19	3.98	31	31		57
ZM164	8.0	10.0	3983761	Og	Sls			DG	graphitic	-1	24	2.25	23	23		92
ZM164	10.0	12.0	3983762	Og	SshSls	FeVc		DG+N	graphitic	-1	19	2.25	21	22		44
ZM164	12.0	14.0	3983763	Og	CcySsh(Sl	Fe		DG		-1	25	2.43	29	28		118
ZM164	14.0	16.0	3983764	Og	Ssh(Sls)C	Fe	Sp	DG		-1	46	1.67	18	194		174
ZM164	16.0	18.0	3983765	Og	SlsCcy			DG	med-grained	-1	28	1.64	29	282		420
ZM164	18.0	20.0	3983766	Og	CcySls	FeVc	Sp	DG+B		-1	27	3.27	23	128		708
ZM164	20.0	22.0	3983767	Og	SlsOvc		Py	DG	graphitic	-1	5	1.13	123	16		148
ZM164	22.0	24.0	3983768	Og	SlsOvc		PySp	DG		-1	11	2.12	161	37		384
ZM164	24.0	25.0	3983769	Og	Sls	Vn	Py	LG+DG	graphitic	-1	12	2.01	67	29		55
ZM165	0.0	1.0	3983770	Og	CvMq			LG+W	hard silicifed, steep hill	-1	2	0.14	17	4		36
ZM166	0.0	2.0	3983771	Og	Sls			LG	silicifed sls	-1	2	0.12	8	4		12
ZM166	2.0	3.0	3983772	Og	Sls			LG	silty soil, silicifed sls	-1	2	0.13	13	5		14
ZM167	0.0	2.0	3983773	Og	Cv			LB	silty soil	-1	-2	0.14	7	5		7
ZM167	2.0	2.9	3983774	Og	Mq			G		-1	2	0.14	10	9		11
ZM168	0.0	2.0	3983775	Og	CvSls	Vu		LB+DG		-1	-2	0.13	6	5		6
ZM168	2.0	4.0	3983776	Og	Sls	Fe	Sd	LB	silt, some alteration	-1	2	0.24	10	17		9
ZM168	4.0	6.0	3983777	Og	SlsOvcCcy	Fe	Sd?	OB+DG	creamy alteration?	-1	8	0.16	8	85		13
ZM168	6.0	8.0	3983778	Og	SlsOvc		Sp	DG		-1	54	2.12	21	850		1684
ZM168	8.0	8.8	3983779	Og	SlsOvc		SpPySd	DG	coarse-grained	-1	34	1.74	17	1344		1625

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM169	0.0	2.0	3983780	Og	CvCcy			OY		-1	7	0.28	14	16		18
ZM169	2.0	4.0	3983781	Og	Ccy			LBY		-1	23	0.29	12	34		38
ZM169	4.0	6.0	3983782	Og	CcySls	Fe		GV	ferrug sls	-1	13	1.41	35	28		1316
ZM169	6.0	8.0	3983783	Og	Sls			G		-1	65	3.72	30	141		1896
ZM169	8.0	10.0	3983784	Og	Sls			DG		-1	20	2.06	37	24		2064
ZM169	10.0	12.0	3983785	Og	CcySls			DG		-1	18	3.96	33	37		2358
ZM169	12.0	14.0	3983786	Og	Ccy			SG+LG		-1	23	2.13	33	52		1220
ZM169	14.0	15.0	3983787	Og	OvqSls	FeVn	PySd	O+G		-1	18	2.27	27	69		4299
ZM170	0.0	2.0	3983788	Og	Ccy			LB		-1	10	0.26	14	15		33
ZM170	2.0	4.0	3983789	Og	CcySls	Fe		VG		-1	11	1.44	21	91		144
ZM170	4.0	6.0	3983790	Og	CcySls	Fe		VG		-1	15	2.07	31	61		278
ZM170	6.0	8.0	3983791	Og	CcySls			DSG		-1	9	2.09	20	24		359
ZM170	8.0	10.0	3983792	Og	SlsSsh	Vc		DG	shaley sls	-1	9	2.43	23	25		386
ZM170	10.0	12.0	3983793	Og	Ssh			DG		-1	13	2.51	32	35		408
ZM170	12.0	14.0	3983794	Og	CcySls			DG		-1	11	2.05	26	37		542
ZM170	14.0	16.0	3983795	Og	Ccy			DG+N	gritty, carbonaceous	-1	12	5.76	23	37		1071
ZM170	16.0	18.0	3983796	Og	Ccy			DG+N	gritty, carbonaceous	-1	19	2.31	29	26		902
ZM170	18.0	20.0	3983797	Og	SshCcy	Di	Py	LG		-1	16	1.86	23	13		661
ZM170	20.0	22.0	3983798	Og	SshCcy	DiVn	Py	LG		-1	14	1.89	19	11		421
ZM170	22.0	24.0	3983799	Og	SshCcy			DG	graphitic	-1	10	1.49	17	8		794
ZM170	24.0	26.0	3983800	Og	Ssh			DG	graphitic	-1	9	0.91	15	7		795
ZM170	26.0	28.0	3983901	Og	SshSls	Vc		DG		-1	17	1.62	20	20		1000
ZM170	28.0	30.0	3983902	Og	OvcSls	Vc	Py	G	Py on calcite veins	-1	13	1.26	21	8		830
ZM170	30.0	32.0	3983903	Og	SlsOvc	Vn	Py	G+W		-1	15	1.72	17	10		418
ZM170	32.0	34.0	3983904	Og	Sls	Vc	Py	DG	grn on calcite	-1	13	1.44	19	6		721
ZM170	34.0	36.0	3983905	Og	SshOvq	Vn	Py	DG		-1	14	1.29	16	4		495
ZM170	36.0	37.8	3983906	Og	SshOvq	Vn	PySd	DG		-1	18	1.36	22	9		609

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM171	0.0	2.0	3983907	Og	Ccy			LG+B		-1	26	0.31	10	27		14
ZM171	2.0	4.0	3983908	Og	Ccy			LVG		-1	19	1.85	13	37		54
ZM171	4.0	6.0	3983909	Og	Ccy			LVG		-1	19	1.96	16	22		136
ZM171	6.0	8.0	3983910	Og	CvCcy			LG+B	some cave in	-1	12	1.99	11	13		82
ZM171	8.0	10.0	3983911	Og	CcySls			LG		-1	16	2.73	15	19		131
ZM171	10.0	12.0	3983912	Og	SlsCcy			LG		-1	16	2.31	12	11		175
ZM171	12.0	14.0	3983913	Og	SlsCcy		Py	DG+W	cream sls & grey	-1	8	2.99	16	13		243
ZM171	14.0	16.0	3983914	Og	SlsSsh		Py	LG		-1	7	1.74	14	11		167
ZM171	16.0	18.0	3983915	Og	Sls		Py	DG		-1	9	1.18	18	15		289
ZM171	18.0	20.0	3983916	Og	Sls		Py	DG		-1	9	1.44	22	25		437
ZM171	20.0	22.0	3983917	Og	SlsOvc			DG		-1	13	2.04	24	16		402
ZM171	22.0	24.0	3983918	Og	SlsCcy			DG		-1	11	2.59	25	19		618
ZM171	24.0	26.0	3983919	Og	SshSls	Vc	PySd	DG		-1	11	1.46	27	17		299
ZM171	26.0	28.0	3983920	Og	SshOvcCcy		Py	G		-1	13	2.04	28	21		532
ZM171	28.0	30.0	3983921	Og	CcySlsSsh			DG	carbonaceous	-1	15	2.19	28	27		720
ZM171	30.0	32.0	3983922	Og	SshCcy	Vn	Py	DG		-1	14	4.46	24	26		1283
ZM171	32.0	34.0	3983923	Og	SlsOvq		Py	DG		-1	18	1.99	25	24		915
ZM171	34.0	36.0	3983924	Og	Ssh		Py	DG	graphitic	-1	12	1.35	17	6		547
ZM171	36.0	38.0	3983925	Og	SshSsl	Vn	Py	DG	graphitic, abund Py	-1	13	1.98	22	11		341
ZM171	38.0	40.0	3983926	Og	OvqSlsSsh		PySd	DG+V		-1	14	1.87	17	12		231
ZM171	40.0	42.0	3983927	Og	OvqSsh	Vu	Py	DG		-1	13	1.69	18	13		264
ZM171	42.0	44.0	3983928	Og	SlsOvq		PySd	DG		-1	11	1.18	22	8		156
ZM171	44.0	44.8	3983929	Og	SshOvq		PySd	DG		-1	12	1.41	17	9		455
ZM172	0.0	2.0	3983930	Og	CvCcy			VB		-1	22	1.40	40	150		42
ZM172	2.0	4.0	3983931	Og	CcySls			GV		-1	47	1.94	32	128		114
ZM172	4.0	6.0	3983932	Og	Sls	Fe		GV		-1	49	2.13	29	88		169
ZM172	6.0	8.0	3983933	Og	Sls	Fe	PySd	DG		-1	28	1.98	31	50		325
ZM172	8.0	10.0	3983934	Og	Sls	Fe	PySd	DG		-1	17	1.37	44	30		709
ZM172	10.0	12.0	3983935	Og	Sls	Fe	PySd	DG		-1	14	1.37	33	22		856
ZM172	12.0	14.0	3983936	Og	Sls	Fe	Sp?	DG	limonite on fractures	-1	12	1.46	33	14		725
ZM172	14.0	16.0	3983937	Og	Sls	Fe	Sd	DG		-1	12	2.49	33	15		778
ZM172	16.0	18.0	3983938	Og	Sls	Fe	Py	DG+YG	cream alteration	-1	13	1.59	32	18		641
ZM172	18.0	20.0	3983939	Og	Sls	FeVq	Py	DG	Fe stained qtz	-1	18	2.40	25	26		259
ZM172	20.0	22.0	3983940	Og	SshSls	Fe	Py	G		-1	14	1.84	20	21		333
ZM172	22.0	24.0	3983941	Og	SshSls	Fe	Py	G		-1	11	1.35	16	14		333
ZM172	24.0	26.0	3983942	Og	SshSls	Fe	Py	DG	creamy sls & grey	-1	14	1.23	26	20		387
ZM172	26.0	28.0	3983943	Og	SshSsi		PySd	DG	graphitic	-1	13	1.22	20	19		255
ZM172	28.0	30.0	3983944	Og	Ssl	Fe	PySd	DG		-1	12	1.27	22	17		401
ZM172	30.0	32.0	3983945	Og	Sls			DG	coarse-grained	-1	10	1.26	23	14		205
ZM172	32.0	34.0	3983946	Og	Sls			DG	coarse-grained	-1	15	1.40	27	27		856
ZM172	34.0	36.0	3983947	Og	Sls	Vq	Py	DG		-1	14	2.56	38	25		1049
ZM172	36.0	38.0	3983948	Og	SshSsi		PySp?	DG	graphitic	-1	11	1.47	28	28		502
ZM172	38.0	40.0	3983949	Og	SshSsl		Py	DG	graphitic	-1	10	1.15	27	23		437
ZM172	40.0	42.0	3983950	Og	SshSlsOvq	Fe		DG	graphitic	-1	14	1.70	27	29		772

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM172	42.0	44.0	3983951	Og	SlsOvq		Py	DG+LG		-1	14	2.96	29	77		2575
ZM172	44.0	46.0	3983952	Og	SshOvq			DG	graphitic	-1	15	1.69	33	26		680
ZM172	46.0	48.0	3983953	Og	SlsSshOvq			DG+LG		-1	14	1.49	26	22		516
ZM172	48.0	50.0	3983954	Og	SlsSshOvq		Py	DG		-1	15	1.69	32	30		507
ZM172	50.0	52.0	3983955	Og	SlsOvq		Py	ADG+LG		-1	13	1.01	26	14		264
ZM172	52.0	54.0	3983956	Og	SlsOvq			ADG+LG	Ran out of rods	-1	10	1.07	21	12		438
ZM173	0.0	2.0	3983957	Og	CvCcySls	Fe		GV		-1	14	2.87	41	46		528
ZM173	2.0	4.0	3983958	Og	Sls	Fe	Py	DG	limonite on fractures	-1	14	4.59	36	18		521
ZM173	4.0	6.0	3983959	Og	Sls	Fe	Py	DG+O	abund Fe	-1	14	3.89	41	18		631
ZM173	6.0	8.0	3983960	Og	SlsOvq	Fe	Py	DG		-1	13	3.92	31	16		786
ZM173	8.0	10.0	3983961	Og	SlsSsi	Fe		DG		-1	13	3.98	31	15		751
ZM173	10.0	12.0	3983962	Og	SlsSsi	Fe		DG		-1	19	3.05	42	20		440
ZM173	12.0	14.0	3983963	Og	SlsSsh	FeDi	Py	SDG		-1	13	1.42	42	17		172
ZM173	14.0	16.0	3983964	Og	SlsSshOvq			DG	graphitic	-1	18	1.49	43	17		1129
ZM173	16.0	18.0	3983965	Og	SshSls			DG	graphitic	-1	19	1.92	42	20		429
ZM173	18.0	20.0	3983966	Og	SshSls			DG	graphitic	-1	16	1.89	31	21		525
ZM173	20.0	22.0	3983967	Og	SshSls	Vq	Py	DG	graphitic	-1	18	2.39	44	18		902
ZM173	22.0	24.0	3983968	Og	SshSls	Vq	Py	DG	graphitic	-1	18	1.91	35	16		533
ZM173	24.0	26.0	3983969	Og	Ssh	Vq	Py	DG	graphitic	-1	14	1.44	42	17		764
ZM173	26.0	28.0	3983970	Og	Ssh	Vq	Py	DG	graphitic	-1	11	2.01	31	14		226
ZM173	28.0	30.0	3983971	Og	Ssh			DG	graphitic, minor clay	-1	11	1.27	18	12		210
ZM173	30.0	32.0	3983972	Og	SshSsl	Vq	Py	DG+LG	graphitic	-1	14	1.68	21	16		318
ZM173	32.0	34.0	3983973	Og	SshSsl			DG+LG	graphitic	-1	14	1.62	20	15		221
ZM173	34.0	36.0	3983974	Og	SshSsl			DG+LG	graphitic	-1	19	1.29	31	18		127
ZM173	36.0	38.0	3983975	Og	SsiSsh			G	graphitic	-1	17	1.22	29	15		92
ZM173	38.0	40.0	3983976	Og	SsiSsh			DG+G		-1	12	1.22	28	13		128
ZM173	40.0	42.0	3983977	Og	SsiSsh		Py	DG+G		-1	10	2.27	33	13		300
ZM173	42.0	44.0	3983978	Og	SshSsi	Vq	Py	G		-1	11	2.44	25	16		586
ZM173	44.0	45.0	3983979	Og	SshSsl	Vq	Py	G		-1	17	3.15	21	23		1224
ZM174	0.0	1.8	3983980	Og	CvOvqSsi	Fe	Sd	VB	cream alteration, Ferrug qtz	-1	7	0.87	36	26		75
ZM175	0.0	2.0	3983981	Og	CcyCv			MG+B		-1	23	1.20	15	39		439
ZM175	2.0	4.0	3983982	Og	Ccy			DG	carbonaceous	-1	26	1.44	21	154		2987
ZM175	4.0	6.0	3983983	Og	CcySsl			DG		-1	20	1.97	24	342		3873
ZM175	6.0	8.0	3983984	Og	Ccy			DG	silty	-1	25	1.49	31	131		2859
ZM175	8.0	10.0	3983985	Og	CcySls			LG		-1	19	1.22	19	87		2656
ZM175	10.0	12.0	3983986	Og	CcySsi/Ssh			LG		-1	13	1.15	15	136		3600
ZM175	12.0	14.0	3983987	Og	SshSlsCcy			LG		-1	12	1.03	17	104		3305
ZM175	14.0	16.0	3983988	Og	Ccy			LG	minor grit	-1	12	1.05	13	64		3773
ZM175	16.0	18.0	3983989	Og	SshCcy			LG		-1	13	1.19	15	44		6100
ZM175	18.0	20.0	3983990	Og	SshCcy			G	graphitic	-1	16	1.02	17	8		1606
ZM175	20.0	22.0	3983991	Og	SshCcy			G	graphitic	-1	21	1.21	17	6		2761
ZM175	22.0	24.0	3983992	Og	CcySsh			LG+G		-1	20	1.85	18	12	2.20	13300
ZM175	24.0	26.0	3983993	Og	Ccy	Fe		SG		-1	20	1.76	29	29	2.50	13400
ZM175	26.0	28.0	3983994	Og	SshCcy			G		-1	19	1.94	40	28		9000

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM175	28.0	30.0	3983995	Og	Ssh		Py	G		-1	19	1.85	45	32		2253
ZM175	30.0	32.0	3983996	Og	SshOvq		Py	G		-1	22	1.87	45	43		1333
ZM175	32.0	34.0	3983997	Og	Ssh		Py	G		-1	21	2.41	33	114		3069
ZM175	34.0	36.0	3983998	Og	CcySsh			G	graphitic	-1	21	1.81	31	82		3057
ZM175	36.0	38.0	3983999	Og	SshSls		PySd	DG+LG	cream alteration	-1	16	1.98	151	45		1436
ZM176	0.0	2.0	3984000	Og	Ccy			MO+B+G		-1	125	2.55	8	39		182
ZM176	2.0	4.0	3983801	Og	CcyCv			MO+G		-1	53	1.35	9	40		144
ZM176	4.0	6.0	3983802	Og	Ccy			DG+N	gritty	-1	50	5.22	16	3400	3.80	11200
ZM176	6.0	8.0	3983803	Og	CcySls			DG+N	carbonaceous	-1	29	3.88	20	1340	5.75	26700
ZM176	8.0	10.0	3983804	Og	Ccy			DG+N	carbonaceous	-1	23	6.18	23	516	7.60	25400
ZM176	10.0	11.2	3983805	Og	CcySls			LG+DG+B		-1	32	3.02	28	3100	5.00	19800
ZM177	0.0	2.0	3983806	Og	Cg	Vq		BG	abund qtz pebbles	-1	5	0.52	36	45		207
ZM177	2.0	3.9	3983807	Og	SlsCcy	Vq		DG		-1	14	2.51	27	838	4.55	20400
ZM178	0.0	2.0	3983808	Og	CvCcySls		Sp	LGB		-1	14	0.76	32	142		671
ZM179	0.0	2.0	3983809	Og	CcyCv			B		-1	7	0.48	30	56		208
ZM179	2.0	4.0	3983810	Og	CcyOvq			GB	rounded pebbles	-1	27	2.20	25	211		374
ZM179	4.0	6.0	3983811	Og	CcySls			DG+K	oolitic	3	24	1.98	24	347		845
ZM179	6.0	8.0	3983812	Og	CcySls	Fe	Sp	DG		2	141	1.09	75	3900	1.40	13100
ZM179	8.0	8.7	3983813	Og	SlsSsi	VcVq	Sd	DG		-1	12	1.19	110	242		1140
ZM180	0.0	2.0	3983814	Og	CcyCv			BO		-1	23	0.49	17	706		93
ZM180	2.0	4.0	3983815	Og	Ccy			B		-1	14	0.50	16	484		350
ZM180	4.0	6.0	3983816	Og	Ccy	Vq		DG		-1	19	1.74	28	367		3537
ZM180	6.0	8.0	3983817	Og	Ccy			DG		-1	37	6.06	33	738	6.80	12400
ZM180	8.0	10.0	3983818	Og	SlsSsh	Vq		DG		-1	22	1.40	22	1167		2199
ZM180	10.0	12.0	3983819	Og	SshSls	VqFe	Py	DG		1	44	4.15	23	2116		4192
ZM180	12.0	14.0	3983820	Og	SlsSsh	Vq	Py	DG		1	64	5.29	61	1263		1656
ZM180	14.0	16.0	3983821	Og	Sls	Vc	Py	DG		-1	7	1.85	285	141		390
ZM181	0.0	2.0	3983822	Og	CcyCv			LG+B		-1	9	0.40	16	15		16
ZM181	2.0	4.0	3983823	Og	Ccy			VB	gritty	-1	18	0.52	13	29		61
ZM181	4.0	6.0	3983824	Og	Ccy			DG	carbonaceous	-1	29	2.70	29	90		2606
ZM181	6.0	8.0	3983825	Og	SsiSsh	Fe		G		-1	22	2.14	35	61		2300
ZM181	8.0	10.0	3983826	Og	SshSsi	Fe		DG	limonite	-1	16	1.79	40	37		1819
ZM181	10.0	12.0	3983827	Og	SshSsi	Fe		DG	limonite	-1	10	2.49	33	25		2083
ZM181	12.0	14.0	3983828	Og	SshSsi	Fe		DG	limonite	-1	13	2.51	26	30		2853
ZM181	14.0	16.0	3983829	Og	SshSsi	Fe		DG	limonite	-1	15	3.96	25	49		4325
ZM181	16.0	18.0	3983830	Og	Ssh			DG	graphitic	-1	19	3.66	27	61		2413
ZM181	18.0	20.0	3983831	Og	SshCcy		Py	DG+G	graphitic	-1	21	1.73	37	83		595
ZM181	20.0	22.0	3983832	Og	SshCcy		Py	DG+G	graphitic	-1	29	2.35	55	297		1798
ZM181	22.0	24.0	3983833	Og	Ssh	FeVn	PySp	DG	>50% Py	1	31	14.80	34	217	18.90	67100
ZM181	24.0	26.0	3983834	Og	Ssh	FeVn	PySp	DG	>50% Py	-1	26	6.28	35	408	8.30	31600
ZM181	26.0	28.1	3983835	Og	Ssh	FeVqVn	PySp	DG	Fe on fractures	1	48	5.86	246	696	8.80	21300
ZM182	0.0	2.0	3983836	Og	CgCcy			GV		-1	37	1.22	17	36		193
ZM182	2.0	3.2	3983837	Og	Sls	Fe	Py	G	limonite on fracture's	-1	47	5.84	19	58		820

Hole	DFrom	DTo	Sampno	MRTLIth	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM183	0.0	2.0	3983838	Og	CgCcy	Fe		LB	Fe on gravels	-1	13	1.02	15	17		200
ZM183	2.0	4.0	3983839	Og	SsiSls	Fe	Py	DG		-1	12	1.34	18	27		325
ZM183	4.0	6.0	3983840	Og	Sls	Fe		DG		-1	16	1.87	21	36		661
ZM183	6.0	8.0	3983841	Og	SsiSsh	VcFe	Py	DG		-1	16	4.41	23	33		622
ZM183	8.0	10.0	3983842	Og	Sbs	VcFe		DG+N	graphitic	-1	16	2.32	29	36		522
ZM183	10.0	12.0	3983843	Og	Sbs	VcFe		DG+N	graphitic	-1	16	1.61	26	30		289
ZM183	12.0	14.0	3983844	Og	SsiSsh		Py	DG		-1	12	1.49	34	27		159
ZM183	14.0	16.0	3983845	Og	SshSsi		Py	DG+N		-1	13	1.57	32	25		143
ZM183	16.0	18.0	3983846	Og	Sbs		Py	DG+N	abund Py	-1	12	1.72	37	23		569
ZM183	18.0	20.0	3983847	Og	Sbs		Py	DG+N	abund Py	-1	12	1.51	33	20		78
ZM183	20.0	22.0	3983848	Og	SbsCcy	Vc	Py	DG+N	abund Py	-1	16	1.80	35	22		398
ZM183	22.0	24.0	3983849	Og	SbsCcy	Vc	Py	DG+N	abund Py	-1	15	1.69	39	24		192
ZM183	24.0	26.0	3983850	Og	SshCcy		Py	DG		-1	18	1.77	45	27		239
ZM183	26.0	28.0	3983851	Og	SshCcy	Vc	Py	DG		-1	18	1.64	44	27		161
ZM183	28.0	30.1	3983852	Og	Ssh	Fe	Py	DG	graphitic	-1	17	1.78	48	27		228
ZM184	0.0	2.0	3983853	Og	CvCcy			MG+B		-1	9	0.28	12	7		19
ZM184	2.0	4.0	3983854	Og	Ccy	Vq		DG		-1	12	4.39	19	39		158
ZM184	4.0	6.0	3983855	Og	SshSsi	Fe		G	limonite	-1	16	2.16	26	35		675
ZM184	6.0	8.0	3983856	Og	SsiSsh	Fe		G+YB	limonite	-1	12	1.73	19	9		637
ZM184	8.0	10.0	3983857	Og	Ssh	Fe		G+YB	abund limonite	-1	13	2.41	16	14		668
ZM184	10.0	12.0	3983858	Og	Ssh	Fe		G+YB	limonite	-1	72	2.09	24	12		1304
ZM184	12.0	14.0	3983859	Og	Ssh	Fe		G+YB	limonite	-1	13	2.17	25	23		879
ZM184	14.0	16.0	3983860	Og	CcySls	Fe	Py	DG	carbonaceous	-1	17	2.67	30	39		844
ZM184	16.0	18.0	3983861	Og	SshCcy	Fe	Py	DG	graphitic	-1	17	3.37	28	39		1367
ZM184	18.0	20.0	3983862	Og	SshCcy	Fe	Py	DG	limonite	-1	17	1.61	37	36		70
ZM184	20.0	22.0	3983863	Og	Ssh		Py	DG	graphitic	-1	18	2.21	30	38		641
ZM184	22.0	24.0	3983864	Og	Ssh		Py	LG	graphitic	-1	18	2.56	31	49		2170
ZM184	24.0	26.0	3983865	Og	Ssh		Py	LG	graphitic	-1	13	1.24	25	15		431
ZM184	26.0	28.0	3983866	Og	Ssh	Vc	Py	G	graphitic	-1	13	0.99	25	9		92
ZM184	28.0	30.0	3983867	Og	Ssh	Vq	Py	LG+G	graphitic	-1	13	1.78	26	17		109
ZM184	30.0	32.0	3983868	Og	Sbs		Py	N	graphitic	-1	22	2.35	51	42		181
ZM184	32.0	32.3	3983869	Og	Sbs		PySpSd	N		-1	20	2.48	97	37		358

APPENDIX 4:

T. Moody report - alteration patterns. Myrtle and Pyramid air-core end- of-hole sample descriptions and geochemistry.

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October 1994

Memorandum to : R.G. Parkinson
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D. Morris
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ZEEHAN CARBONATE-HOSTED Zn-(Pb-Ag) MINERALISATION & ALTERATION PATTERNS

Summary:

A zoned hydrothermal alteration pattern is associated with carbonate-hosted zinc mineralisation in the Zeehan area, Tasmania. The characterisation of the alteration pattern provides a vector for potentially locating high-grade Zn-(Pb-Ag) mineralisation within a broader assemblage of altered limestones.

Alteration characteristics include:

- Zonation from unaltered or "calcite-dominated" limestones to altered "dolomitised" limestones which include an outer dolomite zone (weak alteration), ankerite-dolomite zone (moderate alteration) and siderite-ankerite zone (intense alteration) associated with increasing Zn-Pb-Ag mineralisation.

- Disseminated or pervasive carbonate mineral species become more Zn, Mg, Fe and Mn rich as alteration intensifies.

- Hydrothermal maturation of organic material to pyrobitumen and/or mobilisation of hydrocarbon material is associated with alteration and mineralisation.

- Disseminated, vein and replacement style zinc, lead, silver, iron and rare copper sulphides and barite mineralisation increase with increasing alteration.

Areas of silicification have also been identified, although not as useful as an indicator of proximity to zinc mineralisation. Character of the alteration varies according to primary lithology, porosity and limestone facies distribution.

There is potentially a close spatial relationship of zinc mineralisation in the Gordon Limestone to basement relief or flanks of basement highs in the underlying Moina Sandstone (e.g. as indicated at the Grieves Prospect). There is also some suggestion that faulting and possibly folding/transpression may have influenced mineralisation as indicated at the Sunny Corner and Bannockburn Prospects. Sulphide-pyrobitumen bearing stylolites are also interpreted to indicate some mobilisation of sulphide with hydrocarbon material during deformation.

The alteration style and mineralisation characteristics appear more similar to the Irish-type zinc ore deposits than classic MVT type mineralisation. Petrographic and XRD analyses support this conclusion.

Alteration and mineralisation logged in some EZ and Amoco core appears to belong to the peripheral alteration assemblage and occasionally intersected significant mineralisation. Systematic logging of limestone facies and alteration types in all these drill holes is warranted, to possibly determine vectors to blind base metal mineralisation.

Introduction:

This report details the results of an examination of alteration associated with Ordovician Gordon Limestone-hosted zinc-mineralisation in Western Tasmania at the Grieves, Sunny Corner, Firewood Siding, Mariposa, Myrtle, Bannockburn and Pyramid Prospects. This has involved detailed examination of air core end-of-hole samples, logging recent CRAE diamond drill holes, minor re-logging and sampling diamond drill holes completed by EZ and Amoco and minor field checking. Ledgers for the end-of-hole sample descriptions are provided [redacted].

[redacted]

The aim of this report is to describe the alteration styles and spatial distribution of the alteration at some of the prospects from which the data was collected. [redacted].

Alteration Characteristics:

An alteration pattern is recognised associated with zinc mineralisation at each of the CRAE zinc-carbonate prospects examined. The Oceana Deposit in the same district exhibits similar alteration characteristics.

The pattern of increasing alteration and Zn-Pb-Ag mineralisation includes:

- Un-mineralised limestones typically display weak dolomitisation and diagenetic silica alteration. Organic matter is less thermally mature than in altered limestones associated with zinc mineralisation.

- *Dolomite zone.* Involves subtle fine grained pervasive dolomitisation and re crystallisation characterised by weak/slow reactivity to dilute HCl. This process may have involved some introduction of carbonate into some less carbonatic facies, rare vein/fracture-hosted Zn-Pb mineralisation and possibly an increase in bituminous stylolites (?due to calcite dissolution);

- *Ankerite-Dolomite zone.* This includes increased and coarser recrystallised dolomite alteration and introduction of fine-medium grained sparry ferroan dolomite and ankerite. Dolomite and ankerite veining and brecciation increase approaching high grade base metal mineralisation. This zone is associated occasionally with development of saddle dolomite lined voids, destruction of primary textures or fabrics and minor disseminated and vein-hosted pyrite±galena±sphalerite±chalcopyrite±marcasite. In the ankerite-dolomite and dolomite zones, field discrimination between ankerite and dolomite is not precise. Visual indicators for this pervasive dolomite ankerite mineralisation include bone or cream coloured veins and/or oxidation of exposed limestones or cut surfaces to a cream colour. In fresh samples the altered limestones in this zone become inert or very weakly reactive to dilute HCl, specific gravity and veining/fracturing increase, and blocky rhombs of bone/opaque ankerite or dolomite can be observed under 10x and 25x magnification.;

- *Siderite-Ankerite zone.* Characterised by intense pervasive iron-carbonate (siderite and ankerite±dolomite) alteration and replacement (completely obliterating primary textures), local intense solution and fracture-controlled brecciation, colloform banded carbonate replacement, sparry colourless calcite, rare barite veining, pervasive and vein/open-space sphalerite-galena-(pyrite) mineralisation. Limestones in this zone may also decompose to a poorly consolidated puggy carbonaceous material (yellow or brownish when zinc mineralised). This alteration is most obvious in the silty-sandy clastic and oolitic limestone facies. In black lutites or "black matrix breccias"/ wackestones the alteration and very fine grained *high-grade zinc carbonate & sulphide mineralisation may be very difficult to identify* with the naked eye [redacted] Higher grade mineralisation is indicated by inertness to dilute HCl, breccia texture in some samples and oxidation of core or chips to a chocolate brown colour on exposed surfaces.

[redacted]

Organic material/bituminous material in fractures and brown organic staining is more common immediately peripheral to the iron-carbonate alteration zones. Thermal alteration of organic material to pyrobitumen is intimately associated with zinc carbonate and sulphide mineralisation. At least two generations of stylolite development are present with an early set developed along bedding and later "post" stylolite steeply cross cutting the earlier set. The post stylolites contain pyrobitumen and locally traces of pyrite and sphalerite suggesting later deformation linked timing of some of the sphalerite mineralisation.

The petrographic and electron microprobe data highlight the following:

- The limestones are dominantly composed of clastic material often containing preserved fossil fragments and a dark pigmentation due to organic material.

- Almost all mineralised samples submitted have been pervasively altered to dolomite/ferroan dolomite-ankerite assemblages.

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- High grade zinc-lead mineralisation is spatially associated with intense hydrothermal zincian-manganoan-magnesian siderite, ankerite and local illite-sericite alteration, and volume decrease creating void space.

- Ore-related sulphide mineralisation generally partially succeeds Zn-Mn-Mg-Fe carbonate mineralisation but may partly overlap with a later phase of sparry sulphide-free iron carbonate and calcite mineralisation.

- Sulphide mineralisation is often intimately associated with pyrobitumen aggregates.

- The sulphide mineralisation probably accompanied increased sulfur fugacity, copper activity and salinity during replacement of earlier Zn, Mg, Mn carbonates.

- Sphalerite is generally a pale-coloured, transparent, low-Fe species or has a dark colour due to chalcopyrite disease in the most intensely altered limestones (consistent with Sedex or Irish type mineralisation).

- The most sulphide rich samples also contain traces of marcasite, tetrahedrite and chalcopyrite.

- Some pyrite may have a biogenic or diagenetic origin and was subsequently recrystallised during alteration and ore-related mineralisation.

- Finer grained-silty limestone facies are apparently more susceptible to alteration and mineralisation [redacted].

- There is some evidence for migration of organic material coincident with sulphide mineralisation [redacted].

- There is potential for significant silver credits with zinc mineralisation in zones of intense alteration.

Distribution of Alteration:

The strongest alteration is most common immediately above the Moina Sandstone and immediately beneath the Crotty Quartzite, but may occur at several levels in the stratigraphy. The alteration is apparently asymmetric and may correspond to an alteration-mineralising front/migration pathway. Boundaries between the alteration zones may also be sharp. The intense alteration and associated base metal mineralisation is often associated with basin margin facies near reef, slope and back-reef mud facies immediately overlying apparent irregularities in the underlying Moina Sandstone and higher in the stratigraphy. This may reflect preparation of limestones by early porosity associated with dolomitisation, limestone composition (finer grained facies more susceptible to alteration), primary and solution porosity, faults and basement architecture (indicated by limestone facies distribution).

The Moina Sandstone is locally haematitic and oxidised (e.g. Pyramid Prospect), and often weathered near the contact with the overlying Gordon Limestone sequence (e.g. Grieves Prospect). The sandstones are a possible source of iron and oxidised fluids potentially important in the ore mineralisation process. The porous nature of the altered, often oolitic, limestone near the base of the Gordon Limestone may have facilitated deep weathering or ground water activity. This may be responsible for development of soft limestone pug to considerable depth.

The association of hydrothermal maturation of organic matter to pyrobitumen observed both in core and thin section, demonstrate alteration and zinc-lead-silver mineralisation are associated with a thermal anomalism. This may be verified by vitrinite reflectance studies and hydrocarbon maturation indices.

Comparison with Irish Carbonate-hosted Base metal Deposits:

The Zeehan carbonate-hosted deposits have many similarities with the Irish Zn-Pb-Ag mineralisation, including:

- Mineralisation is hosted by basin margin marine facies deposited during a marine transgression, including platform muds and mixed shallow-water carbonate facies - micritic, oolitic, argillaceous;
- Blanket bogs overlie some of the deposits in Ireland and Zeehan which are also locally mineralised;
- Tectonism and alteration are probably coincident with basin subsidence/deformation as indicated by similar matrix material in both cavity- and fracture-fill material, and in the altered host;
- Proximity to thermal anomalies;
- Stronger similarities with Sedex class deposits than MVT, indicated by significant silver and minor copper, structural control on ore distribution, and absence of fluorite;
- Similar metal zonation and enrichment characteristics, including high Fe, S, Mn, As, Ba, Zn, Pb, Ag ± Cu associated with most intense alteration;
- Black matrix breccias have been described at Lisheen and Silvermines.

These similarities suggest a similar exploration rationale may be applied.

Discussion and Recommendations:

Zinc mineralisation at Zeehan is associated with well developed hydrothermal alteration systems. The limestone facies are a mix of impure clastic limestones variably endowed with organic material in reef, back reef, fore reef and slope facies. Distribution of the various facies is related to morphology of the underlying Moina Sandstone and basement architecture.

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The limestones hosting the zinc-lead mineralisation have been regionally dolomitised and overprinted by ankerite-ferroan dolomite alteration with Zn-Mn-Mg rich siderite, dolomite and ankerite closer to sulphide mineralisation. Sulphide and sparry carbonate mineralisation replace the limestones and overprint earlier zinc carbonate mineralisation in zones of most intense alteration, probably associated with increasing salinity of hydrothermal brines and sulfur activity. Hydrothermal maturation of organic material has accompanied ore related mineralisation and alteration. Some sulphide mineralisation has probably accompanied deformation associated with intense fracturing, post-stylolite development, folding and at least local hydrocarbon migration. Some mineralisation may have accumulated in brine/hydrocarbon trap sites such as fold hinges and pinch-out structures.

Genesis of the deposits is most akin to the Irish type and Sedex class deposits, hence similar exploration rationale for these deposits are valid at Zeehan.

The maps compiled from end-of-hole air core sample information and minor field reconnaissance provide only an approximate guide to the two dimensional distribution of alteration associated with zinc-lead mineralisation at the various prospects examined. The maps are highly interpretive and could be greatly improved with more detailed mapping, incorporation of diamond drill hole information and more detailed air core drilling.

There is room for a large high-grade carbonate-hosted Zn-Pb deposit within the region. With the wealth of information available in diamond drill holes, it is possible to piece together facies variation and alteration pattern, distribution of Pb-Zn mineralisation and limestone facies on a regional scale. New targets for bedrock carbonate-hosted Zn deposits or extensions to known mineralisation in the Zeehan region may arise from a broader view of the region stepping away from the known mineralisation (e.g. wide spaced air-core drill traverses), applying some of the knowledge exposed in this report and guides provided in a previous report by D. Taylor (CRAE Report 14590). Detailed logging of the facies and alteration types of the EZ and Amoco drill holes is recommended.

Interpretation of the alteration mineralogy and discrimination between calcite, dolomite and siderite may be assisted in the field by using dilute HCl and staining samples with Alizarin Red S. Features such as destruction of primary limestone texture, inert or weak reactivity to dilute HCl, increased specific gravity, veining, brecciation and sulphide mineralisation are obvious field criteria for identifying potential zinc mineralisation.

It is possible that not all the zinc resources have been identified at the Oceana Carbonate-hosted Pb-Zn deposit

T.C. Moody
Project Geologist

ROCKCHIP AND DRILLING CODES 22/2/1994

BMRLITH

Rock code as per published geological map
For time designation use:-

Q	Quaternary	M	Permian	P	Proterozoic
T	Tertiary	C	Carboniferous	A	Archaean
		S	Silurian		
K	Cretaceous	D	Devonian		
R	Triassic	O	Ordovician		
J	Jurassic	E	Cambrian		

FIELD ID

Field term for rock type
Broad groupings are:-

S	Sedimentary	I	Intrusive	C	Surficial
M	Metamorphic	E	Extrusive	O	Others

SEDIMENTARY

Scg	Conglomerate	Sls	Limestone	Sw	Wacke
Sss	Sandstone	Sdl	Dolomite	Sag	Agglomerate/mixtite
Ssi	Siltstone				
Ssh	Shale	Sch	Chert	Sbx	Breccia
Sbs	Black shale	Sif	BIF		

METAMORPHIC

Msl	Slate	Mq	Quartzite	Mmg	Migmatite
Mph	Phyllite	Mm	Marble		
Msc	Schist	Ma	Amphibolite		
Mbs	Graphitic schist	Mcs	Calcsilicate	Msk	Skarn
Mgn	Gneiss	Mh	Hornfels		

INTRUSIVE IGNEOUS

If	Felsic undiff.	Ii	Intermed undiff.	Iu	Ultramafic
Ifp	Felsic porphyry	Iip	Intermed porph	Ius	Serpentinite
Iap	Aplite	Im	Mafic undiff.		
Igr	Granite	Ido	Dolerite	Ipg	Pegmatite
Igd	Granodiorite	Igb	Gabbro		

EXTRUSIVE IGNEOUS

Ery	Rhyolite	Ean	Andesite	Et	Tuff undiff
Edc	Dacite	Eb	Basalt	Eft	Felsic tuff
				Emt	Mafic tuff

SURFICIAL (COVER) MATERIAL

Ca	Alluvium	Clt	Laterite	Csg	Gossan
Cco	Colluvium	Cso	Pisolites		
Cs	Sand	Cst	Ironstone	Ccy	Clay
Cbs	Black soil	Csi	Silcrete		
Cg	Gravel	Ccl	Calcrete	Cv	Vegetation/peat

OTHERS

Ovq	Vein quartz	Omy	Mylonite	Oms	Massive sulphide
Ovc	Vein carbonate	Obx	Breccia	Oxc	Contamination
Ovs	Vein sulphide	Of	Fault gouge	Ox	Unknown

TEXTURAL CODES

WEATHERING/SURFICAL FEATURES

We	Weathered	Fe	Ferruginous
Bl	Bleached	Fo	Fe ox in fract
Le	Leached		

MINERALISATION/ALTERATION FEATURES

Gs	Gossanous	Vs	Vein sulphide	Al	Altered
Vn	Veined	Ds	Dissem sulph	Si	Silicified
Vc	Vein carbonate	Fs	Fracture sulph		
Vq	Vein quartz	Bs	Banded sulph	Di	Disseminated

GEOLOGICAL FEATURES

Bd	Bedded	Fr	Fractured	Po	Porphyritic
Bn	Banded	Ib	Interbedded	Sc	Schistose
Bx	Brecciated	Lm	Laminated	Sh	Sheared
Fi	Fissile (slatey)	Ma	Massive	Vu	Vuggy

DIAGNOSTIC MINERALOGY

PRIMARY MINERALISATION

Ga	Galena	Py	Pyrite	Ni	Ni sulphides
Sp	Sphalerite	Po	Pyrrhotite		
Cp	Chalcopyrite	Su	Unknown sulph		

SECONDARY MINERALISATION

Ls	Lead secondaries	Cs	Copper sec.	Ni	Ni secondaries
Zs	Zinc "	Us	Uranium "		

ALTERATION/DIAGNOSTIC MINERALS

Cy	Clay	He	Haematite	Gt	Garnet
Ep	Epidote	Mt	Magnetite	Ky	Kyanite
Cc	Carbonate	Js	Jarosite	To	Tourmaline
Sd	Siderite/Ankerite	Mn	Manganese mins	Cl	Chlorite
Dl	Dolomite				

COLOUR CODES

L	Light	A	Banded	M	Mottled
D	Dark				
N	Black	P	Purple	V	Green
G	Grey	R	Red	K	Pink
B	Brown	O	Orange	E	Blue
W	White	Y	Yellow	S	Silver

APPENDIX 4: Myrtle prospect. Air-core EOH sample ledger.									
HOLE	No	GSOLITH	FIELDID	TEXTURE	ALTMIN	COLOUR	COMMENTS		
ZM	64	Og	Sls	Vn	Cc	DG	Crse. g. calc-siltite, weakly calcareous		
ZM	65	Og	SlsOvc	Fr		MG-DG	40% calc-siltite, 60% white calcite vein		
ZM	66	Og	Sls	BxVn	Cc	MG-DG	calc-siltite		
ZM	67	Og	SdlSls	MaFs	Py	G	V.f.g. dol-arenite-crse.g. siltite; tr. graphite on Fr		
ZM	68	Og	SdlSls	MaFs	Py	G	V.f.g. dol-arenite-crse.g. siltite; Cleavage 00 deg-C.A		
ZM	69	Og	SdlSls	Vn	Cc	GDG	vfg. dol/calc-arenite w Cc streaks; DG carbonaceous Sl		
ZM	70	Og	Sss	Ma		G	Foliated arenite, cleavage 05-10deg to C.A.		
ZM	71	Og	SssSsi			G	Fr/Cleavage 05deg-C.A.; tr. black pyrobitumen? Fr		
ZM	72	Og	SssSsl	VnVs	QzPy	G-DG			
ZM	73	Og	Sls			G-DG	Calc-siltite and v.crse. calc-arenite/bioclastites		
ZM	74	Og	SlsSsl		Py	G-DG	DG graphitic Sl; G intraclastic? streaky limestone; tr.Py		
ZM	75	Og	Sls	FrVn	Cc	DG	Calc-siltite-lutite; abundant Cc veinlets		
ZM	76	Og	Ssi	Ma		G-DG	foliated siltstone		
ZM	77	Og	Ssi	Ma		G			
ZM	78	Og	SlsSss	Ma		G	crse siltstone -vfg. sandstone		
ZM	79	Og	Ssi	We?		G	Soft-clayey siltstone-mudstone		
ZM	80	Og	Sls	AlBxVnDs	CcSdPySp	DG	Calc-siltite with calcite intraclasts, wk ankerite altn		
ZM	81	Og	Sls			DG	Crse. calc-siltite-arenite; minor fossil (brachipod) frag.		
ZM	82	Og	SlsOvq	Vn?	Py	DG	Crse. calc-siltite-arenite; abundant fossil (brachipod) frag.		
ZM	83	Og	SlsOvc	Vn	CcPy	DG	Crse. calc-siltite-arenite; abundant fossil fragments		
ZM	84	Og	SlsOvcOvq	Al	GaPySp	DG	Crse. calc-siltite-arenite; abundant fossil fragments;		
							1-2% Ga, trace Py, rare Sp; trace ankerite alteration.		
ZM	85	Og	Sls			LG	Calc-lutite, abundant v.fine graphitic cleavages		
ZM	86	Og	SslSss	MaAlDs	Py	G	minor v.fine pervasive LB-Y ankerite altn.; B org. residue		
							on some fractures with tr. v.fine fibrous ?cerussite		
ZM	87	Og	Sls	FrVn	Cc	G	V.f.g. calc-arenite		
ZM	88	Og	Sls	Vn	Cc	G-DG	Calc-siltite-v.f.g. arenite, ?brocken fossil debris		
ZM	89	Og	SlsOvc		CcSp?	DG	Calc-siltite, minor v.crse calc-arenite; 30% Cc Vn; rare Sp?		
ZM	90	Og	Sls			GDG	G calc-arenite, DG calc-siltite		
ZM	91	Og	SlsSdl	Vn	CcQz	GLG	Calc/dol-lutite; rare brachiopod fossils; minor Py, rare Sp		
ZM	92	Og	SdlOvcOvq	Al	PyGaSp	G	20% Py; 80% dol/non dolomitic-siltite; mod. pervasive		
							v.fine ankeritic alteration; rare Sp,Ga		
ZM	93	Og	SdlOvcOvq	Al	SdPyGaSp	G	weak-non dolomitic-siltite (weak ankerite altered?); 30-		
							40% Ovc-q; 5% Py, rare Ga, ?Sp		
ZM	94	Og	SlsSdlOvc		PySp	LG	Stylolitic calc/dol-lutite; 20% crse. calcite; tr Py, RB Sp?		
ZM	95	Og	Sls	Vn	Cc	LG	calc-arenite, tr. transparent calcite		
ZM	96	Og	Sls	VnDs	CcPy	G	Calc-siltite-v.f.g. arenite; tr. Vn Cc; tr. Ds Py		
ZM	97	Og	Sdl	AlVnFsDs	SdPySp	G-DG	Dol-siltite; mod.-strong pervasive LB-LY ankerite altn. & Vn;		
							abundant-1% dissem. red-brown transparent Sphalerite		

Appendix 4: Myrtle and pyramid prospects. Air-core EOH sample ledger

HOLE No	GSOLITH	FIELDID	TEXTURE	ALTMIN	COLOUR	COMMENTS
ZM 98	Og	Sls			G	Calc-siltite; minor calcite chips.
ZM 99	Og	Sls			DGLG	60% DG calc-lutite-siltite; 40% LG calc-siltite; minor Cc,Sd
ZM 100	Og	Sls	Vn	Cc	MDG-G	*calc-siltite-v.f.g. arenite*
ZM 101	Og	Sls	Fs	Py	DG	weakly calcareous crse.g. calc-siltite-(v.f.g. calc-arenite)
ZM 102	Og	Sls	Vn	Cc	GDG	G-LG calc-arenite; DG calc-siltite
ZM 103	Og	Sls		Py	LGDG	LG f.g. calc-arenite and calc-lutite; DGcalc-siltite
ZM 104	Og	Sls			LG	Calc-lutite (clayey in-part)
ZM 105	Og	Sls			LG	*Calc-lutite (clayey in-part)*
ZM 106	Og	Sls			LGDG	LG calc-arenite; DG crse.g. calc-siltite; possible coral fossil
ZM 107	Og	Sls	?AlSi	Py	DG	Calc-siltite;v.weakly altered?-silicified in part
ZM 108	Og	Sdl			DG	Dol-siltite
ZM 109	Og	SlsSdl	Ds	Py	GDG	DG weakly dolomitic siltite-lutite; G crse.g. calc-siltite
ZM 110	Og	SdlSss			DG	*Porous kerogenous/carbonaceous vfg.arenite, wk.dol-ss*
ZM 111	Og	SlsSdl	Sl?		DG-G	DG calc/dol-lutite-siltite; G calc-siltite; coralite fragment?
ZM 112	Og	Sdl		Py	DG-G	Mixed G dol-arenite-siltite & DG dol-siltite; wk. dolomitised
ZM 113	Og	Sdl	Al?Ma	Py	DG	Dol-siltite, weak pervasive recrystallisation/altn dol/ank?
ZM 114	Og	SlsSdl			DG	dolomitic/weakly calcareous silitite; carbonaceous
ZM 115	Og	Sls			DG	Calc-siltite; minor shell/coral fossil fragments
ZM 116	Og	SdlSls			DG-G	Calc-dol-siltite
ZM 117	Og	Sls			DG	Crse.g. calc-siltite; tr. G-LG calc-arenite
ZM 118	Og	SlsOvc			MG-DG	Calc-siltite; 50% white calcite/ankerite vein/breccia fill.
ZM 119	Og	Sls	Fr		G	Crse.g. calc-arenite; minor irregular graphitic fractures
ZM 120	Og	Sls			DG	*F.g. calc-siltite; v.weakly mottled/altered*
ZM 121	Og	Ssh		Py	DG	Graphitic/carbonaceous Sh (local wk dolomitic); 10% Py
ZM 122	Og	Sls	Vn	Cc	D-DG	Crse.g. calc-siltite-v.f.g. arenitic in-part
ZM 123	Og	Sls	Fs	Py	D-DG	Crse.g. calc-siltite-v.f.g. arenitic in-part
ZM 124	Og	Sls	Vn	Cc	G-LG	Calc-lutite with minor crse. calcite sand grains
ZM 125	Og	Sls?		Py	DG	Decarbonated? siltite-lutite; abundant fossil fragments;
						tr. Py; minor unidentified nodular LY secondary mineral
ZM 126	Og	Sls	Vn	Cc	DG	Calc-siltite; patchy-weak recrystallised/altered
ZM 127	Og	Sls	Vn	Cc	DGLG	Weakly calcareous irreg. interspersed LG-G calc-arenite &
						DG calc-siltite-arenite; minor white and colourless Cc Vn
ZM 128	Og	Sdl		QzSpGn	DG	Dol-siltite, 1 2cm piece of massive Sp-Ga, 1 piece Vn Qtz
ZM 129	Og	Sls	Vn	CcSdPy	DGG	Irreg interspersed DG calc-siltite & G grainy calc-lutite
ZM 130	Og	SlsSdl	Vn	QzCcSdSp	DGLG	As above; abund. sandy textured mod. altd. ?ankeritic-
						siltite; rare fossil fragments; minor crse. sphalerite
ZM 131	Og	Sdl	VnDs?	CcPy	DG	Porous-vughy sandy textured ankerite altered dol-siltite;
						minor colourless crse calcite Vn?
ZM 132	Og	Sdl			DG	Porous-vughy sandy textured ankerite altered dol-siltite
ZM 133	Og	Sls	Si		G-LG	Calc-lutite/micrite; weakly silicified?; strongly cleaved
ZM 134	Og	Sls			G	Calc-lutite-siltite with abundant poorly std. sand grains
ZM 135	Og	SlsOvcOvc	Vn	CcQzSd	G-LG	Calc-lutite-siltite

HOLE No		GSOLITH	FIELDID	TEXTURE	ALTMIN	COLOUR	COMMENTS		
ZM	136	Og	Sls			G	Calc-lutite-siltite		
ZM	137	Og	Sls			G	Calc-lutite-siltite		
ZM	138	Og	Sls	Vn	Qz	G	*Calc-lutite-siltite; abundant Qtz Vn chips*		
ZM	139	Og	Sdl	Vn	Qz	DG	<70% dol-siltite; 30% Qtz+calcite ?Vn chips		
ZM	140	Og	SdlSls	Vn	CcQz	DG	Porous-vughy weakly calcareous-dolomitic siltite; minor		
							fossil fragments (inc. colonial coral); patchy sandy ank Al		
ZM	141	Og	Ssh		Py	G	Shaley-fissile lutite; minor Py chips		
ZM	142	D?	Ovq				Coarse quartz		
ZM	143	Og	Sls			G	Calc-lutite-siltite		
ZM	144	Og	Sls	Fs	Py	DG	Graphitic calc-lutite-siltite		
ZM	145	Og	Ssl			DG	Graphitic f.f.siltite; rare fossil frag (?solitary coralite)		
ZM	146	Og	SslSsh	?VuVn	Qz	N-DG	Graphitic siltstone-shale; abundant crusty Qtz; 1% Py		
ZM	147	Og	Ssi	Ds?	Py	N-DG	Graphitic siltstone; minor crse Qtz clasts; minor Py		
ZM	148	Og	SsiOvc	Vn	CcQz	DG	5% DG graphitic siltst./dol-siltstone; 95% Calcite; minor Qtz		
ZM	149	Og	Sls	BxVn	Cc	G	F.g. calc-arenite, ?soln Bx with abund. calcite fragments		
ZM	150	Og	Sls			G	Crse. calc-siltite; abundant shell (brachipod) fragments		
ZM	151	Og	Sls			DG	Calc-siltite		
ZM	152	Og	Sls			DG	Calc-siltite; graphitic/carbonaceous		
ZM	153	Og	Ssh	DsFs	PyQz	N-DG	Fissile graphitic shale; tr. Py		
ZM	154	Og	Ssl			N-DG	Str. graphitic siltite, shaley in part; minor Py & Qtz		
ZM	155	Og	Ssh			N-DG	Str. graphitic Sh; minor fossil fragments (coralite?), Py & Qtz		
ZM	156	Og	Sls	Vn	Cc	G	Irreg. interspersed calc-siltite & bioclastic-calcarenite		
ZM	157	Og	Sls			DG	Calc-siltite & v.crse. porous shell+corallite debris bioclastite		
ZM	158	Og	Sls	AlVnDs	SdQzSpGa	G-DG	Mod. altd. dol/calc-siltite; abundant fossil fragments;		
							5% crse. Sp, rare Ga; tr. Sd-Qtz Vn; patchy ankerite altn.		
ZM	159	Og	SlsSdl	Vn	SdQz	G	Calc-arenite & siltite; weak pervasive ankerite altn.		
ZM	160	Og	Sls			G	Graphitic strongly cleaved/shaley calc-lutite		
ZM	161	Og	Sls			LG-DG	Irreg. interspersed/slumped calc-lutite & calc-siltite		
ZM	162	Og	SlsSss	Vn	PyQz	G	Porous calc-qtz-arenite & calc-siltite; rare Py; tr Qtz Vn		
ZM	163	Og	Ssl			N-DG	Graphitic siltstone; rare fossil casts & fragments		
ZM	164	Og	Sls			DG	Stylolitic calc-lutite-siltite		
ZM	165	Og	Ssl			LG	Siliceous siltstone-quartzite		
ZM	166	Og	SssSsi	Bx		LG	Sandy quartzite & cherty siliceous siltite; Bx in-part		
ZM	167	Og	SOx			G-DG	Cherty silicified rock		
ZM	168	Og	Ssl			DG-BG	Silicified cherty siltstone, Bx in-part; ropey dirty brown Qtz.;		
							tr. Py; brown organic residue common.		
ZM	169	Og	OvqSsi			W	Massive Qtz. Vn; minor G siltstone clasts		
ZM	170	Og	SsiOvq	Ma		G	Massive silstone; abundant qtz chips		
ZM	171	Og	SsiOvq	Ma		G	Massive silstone; 5-10% qtz chips		
ZM	172	Og	SssSsl			G	Soft f.-m.g. sandstone & siltstone; minor Qtz chips		
ZM	173	Og	SssSsl			G	F.g. sandstone-siltstone; minor fossil? fragments		

HOLE No		GSOLITH	FIELDID	TEXTURE	ALTMIN	COLOUR	COMMENTS		
ZM	174	Og	Sdl	AlVnDs	SdQzPy	DG	Dol-siltite + sandy textured pervasive mod-str. ankerite		
							altered/replaced siltite; tr. Py; minor Qtz-Sd vein		
ZM	175	Og	Sls	Ds?	Py	G	Calc-siltite & crse.g. calc-arenite *(minor fossil frag.); tr. Py*		
ZM	176	Og	Sls	We?		G-LG	Weakly weathered-clayey calc-lutite		
ZM	177	Og	Sls	Vn	Cc	DG	Calc-siltite; tr. Cc Vn		
ZM	178	Og	Sls			G	Calc-lutite		
ZM	179	Og	SdlSls	Vn	Qz	DG	F.g. calc-arenite-crse. siltite		
ZM	180	Og	SdlSls	AlVnDs	QzPy	DG	F.g. calc-arenite-crse. siltite; weakly altered; minor Py		
ZM	181	Og	SsiSdl	DsAlVs	PySp	G	50% shaley siltstone; 50% mod. altered. dol-siltite-arenite;		
							abundant Ds Py; minor Sd-Cc-crse. Sp Vn		
ZM	182	Og	Ssl	WeAl?Ds	Py	DG-YG	Heavy weakly We siltstone; minor Py/FeOx clots; altered?		
ZM	183	Og	Ssh	DsFs	Py	G	Graphitic shale; minor Py		
ZM	184	Og	SsiSsh	DsFs?	Py	G	Graphitic siltstone; minor shale; minor fossil fragments		

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APPENDIX 4: Pyramid prospect. Air-core EOH sample ledger.

HOLE	No	GSOLITH	FIELDID	TEXTURE	ALTMIN	COLOUR	COMMENTS		
ZP	1						not logged		
ZP	2						not logged		
ZP	3						not logged		
ZP	4						not logged		
ZP	5						not logged		
ZP	6						not logged		
ZP	7						not logged		
ZP	8						not logged		
ZP	9						not logged		
ZP	10						not logged		
ZP	11						not logged		
ZP	12						not logged		
ZP	13						not logged		
ZP	14						not logged		
ZP	15						not logged		
ZP	16						not logged		
ZP	17						not logged		
ZP	18						not logged		
ZP	19						not logged		
ZP	20						not logged		
ZP	21						not logged		
ZP	22						not logged		
ZP	23						not logged		
ZP	24						not logged		
ZP	25						not logged		
ZP	26						not logged		
ZP	27						not logged		
ZP	28						not logged		
ZP	29						not logged		
ZP	30						not logged		
ZP	31	Og	Sls	Ma		G-DG	Calc-siltite		
ZP	32	Og	Sls			G-DG	DG calc-siltite; lesser G calc-siltite; abund. coralite frags.		
ZP	33	Og	Sls			DG	Calc-siltite		
ZP	34	Og	Sls						
ZP	35	Og	Sls			DGLG	DG calc-siltite & lesser LG calc-siltite		
ZP	36	Og	Sls			LG	Stylolitic calc-siltite		
ZP	37	Og	Sls			G-DG	Calc-arenite-siltite		
ZP	38	Og	Sls			G-DG	Calc-arenite-siltite		

APPENDIX 4: Myrtle prospect. Multi-element geochemistry of air-core EOH samples.

APPENDIX : Myrtle prospect. Multi-element geochemistry of air-core bottom-of-hole samples

DPO 77149

Lithology is calculated from analyses

Siderite	>10% Fe	
Limestone	>20% Ca	<4% Mg
Dolomite	>12% Ca	>4% Mg
Impure carb.	12 - 20% Ca	<4% Mg
Pelite	<12% Ca	>4% Al
Sandstone	<12% Ca	<4% Al

Hole No.	Sample	east	north	Lithology	Ag	Al%	As	Ba	Ca%	Cu	Fe%	K%	Mg%	Mn	Pb	Zn	S%
ZM64	3984438	364281	5352450	dolomite	-5	1.67	-25	1110	21.40	19	0.94	0.72	8.13	142	-50	15	
ZM65	3984439	364281	5352428	limestone	-5	0.10	-25	14	35.90	26	0.16	0.05	0.83	110	-50	46	
ZM66	3984440	364282	5352415	dolomite	-5	3.83	-25	220	15.90	18	1.45	1.73	4.84	220	-50	112	
ZM67	3984441	364264	5352399	dolomite	-5	3.75	-25	276	14.70	18	1.37	1.45	5.16	249	-50	41	
ZM68	3984442	364274	5352400	pelites	-5	6.79	22	739	4.18	22	1.75	2.74	2.53	121	-50	179	
ZM69	3984443	364290	5352400	pelites	-5	7.63	-25	617	3.23	28	2.08	3.37	1.38	78	-50	114	
ZM70	3984444	364297	5352400	pelites	-5	7.99	-25	616	0.23	12	1.17	3.17	0.50	15	-50	97	
ZM71	3984445	364307	5352400	pelites	-5	8.78	-25	680	0.10	7	0.69	3.60	0.44	-15	76	12	
ZM72	3984446	364317	5352400	pelites	-5	7.11	52	233	3.53	26	2.34	3.26	1.70	105	78	900	
ZM73	3984447	364327	5352400	limestone	-5	1.03	-25	207	25.40	20	1.28	0.36	6.76	199	-50	319	
ZM74	3984448	364339	5352401	dolomite	-5	4.29	-25	1090	13.40	19	1.21	1.66	7.08	169	-50	1270	
ZM75	3984449	364347	5352401	limestone	-5	1.21	-25	70	32.60	32	0.96	0.54	0.63	131	-50	28	
ZM76	3984450	364283	5352340	pelites	-5	6.91	-25	688	3.27	21	1.96	3.03	1.73	153	-50	67	
ZM77	3984451	364298	5352340	pelites	-5	9.83	-25	749	0.10	13	1.21	3.10	0.39	17	-50	694	
ZM78	3984452	364308	5352340	pelites	-5	11.10	-25	943	0.05	12	1.27	3.59	0.41	15	-50	1050	
ZM79	3984453	364318	5352340	pelites	-5	12.10	-25	1150	0.02	16	0.86	3.58	0.36	-15	242	1790	
ZM80	3984454	364328	5352340	dolomite	-5	2.04	28	528	18.90	20	1.77	0.71	5.25	295	619	5990	1.50
ZM81	3984455	364338	5352341	dolomite	-5	0.79	-25	83	22.00	17	1.25	0.33	8.53	178	-50	167	
ZM82	3984456	364348	5352341	dolomite	-5	0.95	-25	94	22.20	17	0.69	0.35	6.57	137	-50	150	
ZM83	3984457	364358	5352341	dolomite	-5	2.09	-25	566	15.00	15	1.04	0.86	6.62	171	-50	208	
ZM84	3984458	364368	5352341	impure carbonate	-5	1.41	21	831	13.40	22	0.89	0.53	3.28	138	30000	9970	1.65
ZM85	3984459	364378	5352341	limestone	-5	2.05	-25	184	27.70	25	0.46	0.74	0.75	96	-50	86	
ZM86	3984460	364299	5352300	pelites	-5	10.70	23	764	0.04	88	1.26	3.20	0.37	18	758	2940	
ZM87	3984461	364309	5352300	limestone	-5	0.59	-25	95	30.70	22	0.43	0.26	2.46	79	-50	56	
ZM88	3984462	364319	5352300	dolomite	-5	1.58	-25	114	20.40	17	0.86	0.70	7.41	136	-50	198	
ZM89	3984463	364329	5352300	dolomite	-5	0.98	-25	97	22.60	19	0.56	0.43	5.12	123	-50	1480	
ZM90	3984464	364339	5352301	limestone	-5	0.72	-25	76	32.80	25	0.49	0.29	0.56	87	-50	340	
ZM91	3984465	364349	5352301	pelites	-5	5.21	23	507	9.64	22	1.70	2.03	1.46	70	1110	1190	
ZM92	3984466	364359	5352301	siderite	-5	5.26	311	28	3.29	28	12.10	1.60	1.72	57	2670	70000	16.00
ZM93	3984467	364369	5352301	sandstones	-5	3.89	104	68	2.66	32	5.52	1.48	1.08	46	288	4630	
ZM94	3984468	364379	5352301	limestone	-5	0.55	-25	70	35.50	25	0.26	0.16	0.37	139	-50	671	
ZM95	3984469	364389	5352302	limestone	-5	0.51	-25	29	32.30	23	0.20	0.17	1.52	50	78	179	
ZM96	3984470	364399	5352302	limestone	-5	0.66	-25	29	25.40	14	0.71	0.22	6.72	134	100	176	
ZM97	3984471	364240	5352249	sandstones	-5	1.68	-25	423	11.20	24	1.43	0.62	2.38	259	161	16900	2.25

APPENDIX 4 Myrtle prospect. Multi-element geochemistry of air-core EOH samples.

Hole No.	Sample	east	north	Lithology	Ag	Al%	As	Ba	Ca%	Cu	Fe%	K%	Mg%	Mn	Pb	Zn	S%
ZM98	3984472	364250	5352249	impure carbonate	-5	2.52	-25	772	15.70	53	1.29	0.91	3.56	227	329	2780	
ZM99	3984473	364260	5352249	limestone	-5	1.60	-25	340	27.80	20	1.67	0.63	0.85	338	-50	257	
ZM100	3984474	364270	5352249	limestone	-5	0.82	-25	74	28.90	18	0.78	0.31	4.20	143	-50	55	
ZM101	3984475	364280	5352250	dolomite	-5	1.74	-25	107	19.20	12	1.24	0.70	7.70	137	-50	156	
ZM102	3984476	364290	5352250	limestone	-5	0.90	21	51	32.10	28	1.19	0.36	1.51	97	-50	62	
ZM103	3984477	364300	5352250	limestone	-5	3.20	-25	172	22.90	27	1.53	1.23	1.46	117	-50	209	
ZM104	3984478	364310	5352250	limestone	-5	1.17	-25	82	32.40	23	0.14	0.44	0.31	72	-50	75	
ZM106	3984480	364330	5352250	limestone	-5	0.25	-25	24	32.70	22	0.29	0.06	3.08	94	-50	100	
ZM107	3984481	364340	5352251	limestone	-5	0.31	-25	18	32.60	31	0.36	0.08	3.59	95	-50	57	
ZM108	3984482	364350	5352251	dolomite	-5	0.48	-25	26	21.50	17	0.48	0.15	9.66	99	-50	59	
ZM109	3984483	364400	5352252	impure carbonate	-5	3.61	-25	220	19.90	20	1.11	1.58	3.98	130	-50	14	
ZM110	3984484	364390	5352252	dolomite	-5	3.91	-25	256	14.10	15	1.43	1.74	6.26	164	-50	23	
ZM111	3984485	364370	5352251	sandstones	-5	1.59	-25	93	9.06	10	0.73	0.55	2.62	56	-50	175	
ZM112	3984486	364310	5352200	limestone	-5	1.79	-25	93	26.00	24	2.84	0.81	2.13	160	-50	29	
ZM113	3984487	364320	5352200	impure carbonate	-5	3.92	-25	170	13.90	22	2.15	1.68	3.66	161	-50	64	
ZM114	3984488	364330	5352200	impure carbonate	-5	3.80	-25	168	15.20	26	2.22	1.62	2.79	135	-50	32	
ZM115	3984489	364340	5352201	sandstones	-5	1.98	-25	106	5.00	15	0.52	0.82	0.72	46	-50	87	
ZM116	3984490	364360	5352201	impure carbonate	-5	2.99	-25	139	17.90	21	1.56	1.27	3.53	198	-50	374	
ZM117	3984491	364239	5352019	dolomite	-5	5.05	101	203	14.40	128	2.15	1.54	4.73	183	227	386	
ZM118	3984492	364214	5351998	dolomite	-5	2.77	59	123	20.90	23	2.81	1.12	4.18	253	-50	56	
ZM119	3984493	364189	5351998	limestone	-5	1.27	-25	75	33.20	29	0.59	0.58	0.57	112	-50	16	
ZM120	3984494	364164	5351998	pelites	-5	7.55	82	380	2.67	34	3.74	3.57	1.21	46	209	1380	
ZM121	3984495	364139	5351997	siderite	-5	7.74	514	154	4.35	18	11.10	3.18	1.40	77	-50	220	
ZM122	3984496	364114	5351997	dolomite	-5	0.97	-25	43	22.80	21	1.37	0.43	6.66	286	-50	74	
ZM123	3984497	364089	5351996	limestone	-5	0.10	-25	7	43.80	29	0.13	-0.05	0.59	45	-50	14	
ZM124	3984498	364064	5351996	limestone	-5	0.77	-25	41	33.10	30	0.27	0.33	0.39	87	-50	12	
ZM125	3984499	364039	5351995	sandstones	-5	2.68	21	137	0.49	16	1.36	1.11	0.28	17	-50	311	
ZM126	3984500	364014	5351995	limestone	-5	0.35	-25	20	34.30	26	0.20	0.16	1.05	62	-50	49	
ZM127	3984287	363989	5351994	limestone	-5	1.07	-25	51	27.40	17	0.82	0.48	5.76	176	-50	59	
ZM128	3984288	363964	5351994	limestone	-5	1.00	-25	52	30.00	26	0.74	0.42	1.12	82	447	2010	
ZM129	3984289	363939	5351994	limestone	-5	1.13	-25	54	30.20	20	0.81	0.52	2.92	244	-50	169	
ZM130	3984290	363914	5351993	limestone	-5	1.75	-25	77	24.50	22	0.96	0.71	3.57	105	56	2960	
ZM131	3984291	363889	5351993	dolomite	-5	3.18	29	144	13.50	28	3.10	1.41	6.10	185	199	3560	
ZM132	3984292	363864	5351992	dolomite	-5	2.75	-25	128	16.70	17	1.34	1.23	7.90	143	-50	268	
ZM133	3984293	363839	5351992	limestone	-5	2.73	-25	104	27.60	27	0.45	1.14	0.54	65	-50	26	
ZM134	3984294	363814	5351991	impure carbonate	-5	3.38	55	87	19.30	39	1.04	0.86	3.40	79	340	889	
ZM135	3984295	363789	5351991	limestone	-5	0.42	-25	19	23.50	17	0.24	0.16	0.33	75	-50	24	
ZM136	3984296	363764	5351991	limestone	-5	1.14	-25	46	31.10	25	0.54	0.49	1.16	88	-50	27	
ZM137	3984297	363739	5351990	limestone	-5	0.63	-25	27	31.70	23	0.24	0.24	0.82	72	-50	28	
ZM138	3984298	363714	5351990	limestone	-5	0.89	-25	44	26.90	42	0.28	0.40	0.44	70	-50	39	
ZM139	3984299	363689	5351989	sandstones	-5	1.56	21	61	6.14	23	0.83	0.63	0.65	78	-50	2590	
ZM140	3984300	363664	5351989	dolomite	-5	1.37	-25	58	18.20	18	1.75	0.64	8.08	400	-50	1530	
ZM141	3984351	363639	5351988	pelites	-5	10.60	-25	500	3.23	31	2.10	4.69	1.79	45	287	245	
ZM142	3984352	363791	5351891	sandstones	-5	0.11	-25	9	1.07	18	0.33	0.05	0.10	19	-50	22	
ZM143	3984353	363801	5351891	dolomite	-5	2.32	-25	103	21.50	23	1.07	1.06	4.59	106	-50	18	

APPENDIX 4 Myrtle prospect. Multi-element geochemistry of air-core EOH samples.

Hole No.	Sample	east	north	Lithology	Ag	Al%	As	Ba	Ca%	Cu	Fe%	K%	Mg%	Mn	Pb	Zn	S%
ZM144	3984354	363811	5351891	limestone	-5	1.50	-25	66	31.60	25	0.66	0.70	1.08	76	-50	13	
ZM145	3984355	363821	5351892	sandstones	-5	1.33	-25	96	0.07	9	0.63	0.56	0.09	-15	-50	13	
ZM146	3984356	363831	5351892	sandstones	-5	2.83	35	136	0.40	11	6.08	1.04	0.21	-15	-50	126	
ZM147	3984357	363841	5351892	pelites	-5	5.11	-25	254	8.42	35	1.79	2.21	3.96	72	115	2460	
ZM148	3984358	363851	5351892	limestone	-5	0.33	-25	18	31.00	22	0.33	0.13	0.29	68	-50	284	
ZM149	3984359	363861	5351892	limestone	-5	0.70	-25	38	22.90	17	0.60	0.31	2.13	62	-50	229	
ZM150	3984360	363875	5351892	limestone	-5	0.73	-25	43	32.80	23	0.49	0.31	2.13	63	-50	10	
ZM151	3984361	363884	5351893	limestone	-5	0.48	-25	32	35.60	26	0.28	0.19	0.85	52	-50	63	
ZM152	3984362	363892	5351893	limestone	-5	1.05	-25	72	35.20	26	0.48	0.45	1.03	72	-50	44	
ZM153	3984363	363901	5351893	pelites	-5	5.77	51	321	4.13	20	3.02	2.45	0.85	25	-50	1070	
ZM154	3984364	363908	5351893	limestone	-5	1.59	36	102	26.60	25	2.37	0.62	0.87	34	-50	13500	3.70
ZM155	3984365	363915	5351893	pelites	-5	5.50	63	219	4.99	20	5.15	2.03	0.76	33	-50	784	
ZM156	3984366	363921	5351893	limestone	-5	0.68	-25	46	35.30	25	0.38	0.29	0.90	99	-50	19	
ZM157	3984367	363936	5351894	limestone	-5	1.75	-25	86	23.40	19	0.68	0.67	2.83	64	-50	15	
ZM158	3984368	363792	5351841	•	-5	2.22	49	75	2.18	146	1.35	0.84	0.97	52	201	182000	9.80
ZM159	3984369	363802	5351841	impure carbonate	-5	1.61	29	60	16.80	21	9.22	0.67	2.27	722	-50	889	
ZM160	3984370	363812	5351841	limestone	-5	1.08	-25	43	33.70	25	0.39	0.53	0.55	79	-50	66	
ZM161	3984371	363822	5351842	impure carbonate	-5	2.52	-25	96	17.80	16	0.55	1.15	1.21	79	-50	54	
ZM162	3984372	363832	5351842	dolomite	-5	0.99	-25	38	14.50	18	0.88	0.38	4.41	86	-50	101	
ZM163	3984373	363842	5351842	pelites	-5	8.26	24	469	3.52	18	2.17	4.10	1.63	84	-50	317	
ZM164	3984374	363855	5351842	limestone	-5	2.87	-25	130	24.90	23	0.96	1.37	0.76	120	-50	18	
ZM165	3984375	363867	5351842	sandstones	-5	1.95	-25	140	0.26	-5	0.09	0.94	0.16	-15	-50	7	
ZM166	3984376	363877	5351843	sandstones	-5	2.89	-25	170	0.06	-5	0.13	1.24	0.22	-15	-50	14	
ZM167	3984377	363887	5351843	sandstones	-5	2.33	-25	150	0.06	7	0.17	1.07	0.17	-15	-50	10	
ZM168	3984378	363896	5351843	sandstones	-5	1.27	50	79	0.11	35	1.63	0.45	0.08	24	1060	2010	
ZM169	3984379	363792	5351791	sandstones	-5	0.97	20	42	0.01	8	1.43	0.34	0.06	-15	57	1940	
ZM170	3984380	363782	5351791	pelites	-5	7.80	-25	500	2.36	16	1.78	3.91	1.42	115	-50	196	
ZM171	3984381	363772	5351791	pelites	-5	4.37	-25	289	0.17	8	0.96	2.29	0.47	17	-50	203	
ZM172	3984382	363762	5351791	pelites	-5	9.30	-25	472	0.39	12	1.12	3.89	0.65	23	-50	586	
ZM173	3984383	363752	5351790	pelites	-5	7.70	20	383	0.36	17	1.81	3.03	0.53	20	-50	390	
ZM174	3984384	363742	5351790	dolomite	-5	2.33	-25	111	22.30	21	1.49	1.04	5.72	271	-50	763	
ZM175	3984385	363805	5351791	pelites	-5	8.15	-25	483	7.50	31	2.32	3.96	2.62	134	-50	271	
ZM176	3984386	363830	5351792	limestone	-5	2.30	-25	126	28.50	32	0.62	1.07	0.94	127	-50	353	
ZM177	3984387	363789	5351706	pelites	-5	6.45	-25	270	7.32	22	2.86	2.49	3.18	46	1670	7860	3.50
ZM178	3984388	363779	5351706	dolomite	-5	5.11	-25	674	13.30	28	1.22	2.11	4.50	106	316	963	
ZM179	3984389	363769	5351706	dolomite	-5	0.76	-25	38	15.20	27	0.87	0.32	6.50	87	-50	1010	
ZM180	3984390	363759	5351705	dolomite	-5	0.31	-25	15	22.70	20	1.43	0.14	10.50	313	-50	353	
ZM181	3984391	363749	5351705	pelites	-5	6.24	192	192	7.09	68	8.82	2.93	3.03	269	732	15900	9.60
ZM182	3984392	363739	5351705	pelites	-5	11.20	-25	529	0.05	15	1.60	4.02	0.74	25	-50	650	
ZM183	3984393	363729	5351705	pelites	-5	11.70	34	502	1.37	22	2.15	4.69	0.88	51	-50	434	
ZM184	3984394	363719	5351705	pelites	-5	6.54	41	308	3.87	19	2.38	2.68	1.71	76	-50	214	

APPENDIX 4 Pyramid prospect. Multi-element geochemistry of air-core EOH samples.

APPENDIX : Pyramid prospect. Multi-element geochemistry of air-core bottom-of-hole samples																	
DPO 77659																	
Lithology is calculated from analyses																	
	Siderite	>10% Fe															
	Limestone	>20% Ca	<4% Mg														
	Dolomite	>12% Ca	>4% Mg														
	Impure carb.	12 - 20% Ca	<4% Mg														
	Pelite	<12% Ca	>4% Al														
	Sandstone	<12% Ca	<4% Al														
Hole No.	**Sample**	**east**	**north**	**Lithology**	**Ag**	**Al%**	**As**	**Ba**	**Ca%**	**Cu**	**Fe%**	**K%**	**Mg%**	**Mn**	**Pb**	**Zn**	**S%**
ZP31	3986062	364282.9	5356324.8	dolomite	-5	4.43	-25	230	13.20	19	2.12	2.14	4.30	232	-50	18	
ZP32	3986063	364269.9	5356301.2	dolomite	-5	2.02	-25	93	22.00	21	1.72	0.99	4.12	275	-50	26	
ZP33	3986064	364266.8	5356276.4	dolomite	-5	1.16	-25	51	20.70	15	1.53	0.52	7.85	397	-50	29	
ZP35	3986065	364260.7	5356226.8	pelites	-5	5.98	-25	286	6.52	60	2.87	3.01	2.22	138	-50	29	
ZP36	3986066	364262.6	5356241.7	limestone	-5	1.70	-25	93	25.20	11	4.77	0.88	1.73	179	-50	66	
ZP37	3986067	364258.3	5356206.9	dolomite	-5	1.49	-25	71	16.50	13	1.60	0.60	5.14	263	-50	55	
ZP38	3986068	364255.9	5356187.1	dolomite	-5	1.11	-25	58	23.50	16	1.45	0.53	6.49	390	-50	-5	
ZP41	3986069	364354.5	5356169.9	limestone	-5	0.42	-25	37	33.20	23	0.19	0.20	0.25	277	-50	96	
ZP42	3986070	364350.9	5356140.1	dolomite	-5	2.48	-25	138	17.90	16	2.02	1.21	5.41	599	328	1220	
ZP43	3986071	364347.8	5356115.3	siderite	-5	1.06	-25	69	2.14	-5	42.20	0.49	0.13	17000	167	2450	
ZP44	3986072	364185.9	5356437.5	limestone	-5	1.19	-25	68	30.70	22	0.96	0.65	1.36	371	-50	-5	
ZP45	3986073	364182.8	5356412.6	pelites	-5	5.35	-25	292	4.48	18	2.36	3.03	2.55	225	86	124	
ZP46	3986074	364179.8	5356387.8	dolomite	-5	4.18	-25	222	12.80	18	2.56	1.97	4.93	206	-50	10	
ZP47	3986075	364176.7	5356363.0	limestone	-5	1.11	-25	54	29.60	20	0.64	0.58	1.28	196	-50	-5	
ZP48	3986076	364173.3	5356335.2	dolomite	-5	1.93	-25	79	20.10	17	2.29	0.99	4.84	233	72	6	
ZP49	3986077	364170.6	5356313.4	limestone	-5	0.87	-25	41	23.80	17	0.83	0.44	3.01	181	-50	119	
ZP50	3986078	364167.6	5356288.6	limestone	-5	2.48	-25	113	23.60	17	0.75	1.26	1.05	120	-50	-5	
ZP51	3986079	364164.5	5356263.8	impure carbonate	-5	2.69	-25	94	18.70	11	3.19	0.99	2.94	279	-50	130	
ZP52	3986080	364161.5	5356239.0	limestone	-5	0.69	-25	38	31.40	20	0.76	0.33	1.32	93	-50	23	
ZP53	3986081	364092.7	5356499.3	dolomite	-5	3.58	-25	234	13.50	14	1.00	1.86	7.62	266	94	100	
ZP54	3986082	364089.7	5356474.5	impure carbonate	-5	3.42	-25	174	18.60	19	1.25	1.84	3.15	201	-50	-5	
ZP55	3986083	364086.6	5356449.6	dolomite	-5	2.45	-25	104	17.80	17	1.64	1.24	5.30	364	67	329	
ZP56	3986084	364083.6	5356424.8	limestone	-5	1.40	-25	55	23.00	17	1.50	0.57	1.94	98	-50	40	
ZP57	3986085	364080.5	5356400.0	limestone	-5	2.13	-25	108	24.90	20	1.18	1.06	2.03	152	-50	11	
ZP58	3986086	364077.5	5356375.2	sandstones	-5	0.77	-25	38	7.27	8	1.14	0.36	1.82	104	1240	257	
ZP59	3986087	364074.4	5356350.4	limestone	-5	0.86	-25	42	27.70	20	1.17	0.42	3.03	242	-50	27	
ZP60	3986088	364071.4	5356325.6	limestone	-5	0.73	-25	46	33.70	22	0.31	0.40	0.50	101	-50	-5	
ZP61	3986089	364068.3	5356300.8	limestone	-5	0.45	-25	33	31.90	20	1.47	0.22	1.29	764	88	955	
ZP62	3986090	364064.7	5356271.0	limestone	-5	1.43	-25	81	27.10	20	1.25	0.68	1.53	195	116	739	

APPENDIX 5:

Myrtle prospect diamond drill logs and geochemistry.

844103

ROCKCHIP AND DRILLING CODES 22/2/1994

BMRLITH

Rock code as per published geological map
For time designation use:-

Q	Quaternary	M	Permian	P	Proterozoic
T	Tertiary	C	Carboniferous	A	Archaean
		S	Silurian		
K	Cretaceous	D	Devonian		
R	Triassic	O	Ordovician		
J	Jurassic	E	Cambrian		

FIELD ID

Field term for rock type
Broad groupings are:-

S	Sedimentary	I	Intrusive	C	Surficial
M	Metamorphic	E	Extrusive	O	Others

SEDIMENTARY

Scg	Conglomerate	Sls	Limestone	Sw	Wacke
Sss	Sandstone	Sd	Dolomite	Sag	Agglomerate/mixtite
Ssi	Siltstone				
Ssh	Shale	Sch	Chert	Sbx	Breccia
Sbs	Black shale	Sif	BIF		

METAMORPHIC

Msl	Slate	Mq	Quartzite	Mmg	Migmatite
Mph	Phyllite	Mm	Marble		
Msc	Schist	Ma	Amphibolite		
Mbs	Graphitic schist	Mcs	Calcsilicate	Msk	Skarn
Mgn	Gneiss	Mh	Hornfels		

INTRUSIVE IGNEOUS

If	Felsic undiff.	Ii	Intermed undiff.	Iu	Ultramafic
Ifp	Felsic porphyry	Iip	Intermed porph	Ius	Serpentinite
Iap	Aplite	Im	Mafic undiff.		
Igr	Granite	Ido	Dolerite	Ipg	Pegmatite
Igd	Granodiorite	Igb	Gabbro		

EXTRUSIVE IGNEOUS

Ery	Rhyolite	Ean	Andesite	Et	Tuff undiff
Edc	Dacite	Eb	Basalt	Eft	Felsic tuff
				Emt	Mafic tuff

SURFICIAL (COVER) MATERIAL

Ca	Alluvium	Clt	Laterite	Csg	Gossan
Cco	Colluvium	Csp	Pisolites		
Cs	Sand	Csf	Ironstone	Ccy	Clay
Cbs	Black soil	Csi	Silcrete		
Cg	Gravel	Ccl	Calcrete	Cv	Vegetation/peat

OTHERS

Ovq	Vein quartz	Omy	Mylonite	Oms	Massive sulphide
Ovc	Vein carbonate	Obx	Breccia	Oxc	Contamination
Ovs	Vein sulphide	Of	Fault gouge	Ox	Unknown

TEXTURAL CODES

WEATHERING/SURFICIAL FEATURES

We	Weathered	Fe	Ferruginous
Bl	Bleached	Fo	Fe ox in fract
Le	Leached		

MINERALISATION/ALTERATION FEATURES

Gs	Gossanous	Vs	Vein sulphide	Al	Altered
Vn	Veined	Ds	Dissem sulph	Si	Silicified
Vc	Vein carbonate	Fs	Fracture sulph		
Vq	Vein quartz	Bs	Banded sulph	Di	Disseminated

GEOLOGICAL FEATURES

Bd	Bedded	Fr	Fractured	Po	Porphyritic
Bn	Banded	Ib	Interbedded	Sc	Schistose
Bx	Brecciated	Lm	Laminated	Sh	Sheared
Fi	Fissile (slatey)	Ma	Massive	Vu	Vuggy

DIAGNOSTIC MINERALOGY

PRIMARY MINERALISATION

Ga	Galena	Py	Pyrite	Ni	Ni sulphides
Sp	Sphalerite	Po	Pyrrhotite		
Cp	Chalcopyrite	Su	Unknown sulph		

SECONDARY MINERALISATION

Ls	Lead secondaries	Cs	Copper sec.	Ni	Ni secondaries
Zs	Zinc "	Us	Uranium "		

ALTERATION/DIAGNOSTIC MINERALS

Cy	Clay	He	Haematite	Gt	Garnet
Ep	Epidote	Mt	Magnetite	Ky	Kyanite
Cc	Carbonate	Js	Jarosite	To	Tourmaline
Sd	Siderite/Ankerite	Mn	Manganese mins	Cl	Chlorite
Dl	Dolomite				

COLOUR CODES

L	*Light*	A	*Banded*	M	*Mottled*
D	Dark				
N	Black	P	Purple	V	Green
G	Grey	R	Red	K	Pink
B	Brown	O	Orange	E	Blue
W	White	Y	Yellow	S	Silver

844104

APPENDIX 5: Myrtle prospect. 1994 [redacted] Diamond drillhole logs and geochemistry.									
DPO 77653									
Hole	**DFrom**	**DTo**	**Sampno**	**MRTLith**	**FieldID**	**Texture**	**Alt/Min**	**Colour**	**Comments**
ZM185	0.00	8.00		Og?	Ssi?				Precollar - no core
ZM185	8.00	17.80		Og	Ssi	WeFo		DG	Carbonaceous siltstone
ZM185	17.80	29.60		Og	Ssi	WeLe?		DGN	Carbonaceous siltstone
ZM185	29.60	33.30	3985984	Og	Ssi	WeLe?		DGN	Carbonaceous siltstone
ZM185	33.30	35.10			Ox				No rec.
ZM185	35.10	40.50	3985985		Of			GDG	Fault
ZM185	40.50	46.00	3985986		Of			GDG	Fault
ZM185	46.00	49.70		Og	Ssi	WeLe?		DGN	Carbonaceous siltstone
ZM185	49.70	55.40		Og	Sls			LG	Soft sed deformed limestone
ZM185	55.40	57.30			Of			G	Fault
ZM185	57.30	64.30		Og	Ssi	Sh?		G	Siltstone
ZM185	64.30	73.60		Og	SsiSls	IbBn		ALGDG	Interbedded limestone and siltstone
ZM185	73.60	74.80		Og	SsiSls	IbBnVcBx		ALGDG	Interbedded limestone and siltstone
ZM185	74.80	75.40	3985987	Og	SlsSbx	Ds	Sp	G	Limestone breccia with 15% Sphalerite
ZM185	75.40	79.00	3985988	Og	Sls	VcDs	Sp	G	Cc veined Limestone with <0.5% Sphalerite
ZM185	79.00	82.75	3985989	Og	Sls	VcDs	Sp	G	Cc veined Limestone with <0.5% Sphalerite
ZM185	82.75	107.50		Og	Sls	VcDs	Sp	LG	Cc veined Limestone with <0.1% Sphalerite
ZM185	107.50	114.85		Og	Sls			LG	Limestone
ZM185	114.85	117.30	3985990	Og	SlsSbx	Ds	Sp	G	Limestone breccia with 2% Sphalerite
ZM185	117.30	121.50		Og	SlsSbx			LG	Limestone and limestone breccia
ZM185	121.50	137.00		Og	Sls			LG	Limestone
ZM186	0.00	30.00			Ox				Precollar - no core
ZM186	30.00	32.60	3985991	Og	Ccy			DG	Clay
ZM186	32.60	34.50		Og	Sls	Bn		ALGDG	Lime mudstone
ZM186	34.50	36.70	3985992	Og	Ccy			DG	Puggy clay
ZM186	36.70	40.20		Og	Sls	Bn		ALGDG	Lime mudstone
ZM186	40.20	42.85	3985993	Og	Ccy			DG	Puggy clay
ZM186	42.85	50.20		Og	Sls	Bn		ALGDG	Lime mudstone
ZM186	50.20	60.00		Og	Sls	Lm		LG	Stylolaminated limestone
ZM186	60.00	64.20		Og	Sls	BnVc		AGDG	Lime mudstone
ZM186	64.20	72.50		Og	Sls			G	Calcarenite with ovoids
ZM186	72.50	88.80		Og	Sls	Lm		LG	Stylolaminated limestone
ZM186	88.80	92.60	3985994	Og	Sls	LmVc		LG	Veined stylo-laminated limestone
ZM186	92.60	96.05	3985995	Og	Sls	LmVc		LG	Veined stylo-laminated limestone
ZM186	96.05	98.20	3985996	Og	SlsSbx	VcBs	Py	GDG	Veined limestone breccia.
ZM186	98.20	120.90		Og	SlsSbx			GDG	Heterogeneous lst and lst breccia
ZM187	0.00	17.70		Og	Ox				Precollar - no core
ZM187	17.70	79.30		Og	Sls			G	Burrowed limestone
ZM187	79.30	80.65	3985997	Og	Sls	VcVuLe		G	Vuggy leached limestone
ZM187	80.65	82.30	3985998	Og	Sls	Lm		LG	Stylolaminated limestone
ZM187	82.30	85.50	3985999	Og	Of			G	Fault
ZM187	85.50	89.80	3988000	Og	Of			G	Fault
ZM187	89.80	103.50		Og	Sls	Vc		G	Burrowed limestone

844105

APPENDIX 5 Myrtle prospect. 1994 Diamond [redacted] drillhole logs and geochemistry.																
DPO 77653																
Hole	DFrom	DTo	Sampno	Ag ppm	Al%	As ppm	Ba ppm	Ca%	Cu ppm	Fe%	K%	Mg%	Mn ppm	Pb ppm	S%	Zn ppm
ZM185	0.00	8.00														
ZM185	8.00	17.80														
ZM185	17.80	29.60														
ZM185	29.60	33.30	3985984	-5	5.78	33	328	0.08	12	1.74	3.22	0.49	28	-50		530
ZM185	33.30	35.10														
ZM185	35.10	40.50	3985985	-5	6.19	30	196	0.10	14	2.65	3.10	0.51	22	-50		868
ZM185	40.50	46.00	3985986	-5	7.87	25	432	0.20	14	1.77	3.93	0.60	28	-50		919
ZM185	46.00	49.70														
ZM185	49.70	55.40														
ZM185	55.40	57.30														
ZM185	57.30	64.30														
ZM185	64.30	73.60														
ZM185	73.60	74.80														
ZM185	74.80	75.40	3985987	6	0.80	47	44	22.00	185	1.01	0.39	1.85	275	293	7.85	149000
ZM185	75.40	79.00	3985988	-5	0.43	-20	24	27.10	25	0.68	0.20	2.85	211	140	0.57	6240
ZM185	79.00	82.75	3985989	-5	0.73	-20	40	30.40	21	0.28	0.37	0.80	106	52		282
ZM185	82.75	107.50														
ZM185	107.50	114.85														
ZM185	114.85	117.30	3985990	-5	0.74	-20	32	29.40	21	0.27	0.37	0.63	125	-50		1590
ZM185	117.30	121.50														
ZM185	121.50	137.00														
ZM186	0.00	30.00														
ZM186	30.00	32.60	3985991	-5	1.24	-20	294	23.70	15	1.20	0.53	4.00	125	61		2720
ZM186	32.60	34.50														
ZM186	34.50	36.70	3985992	-5	1.42	-20	159	20.40	13	1.24	0.62	6.18	126	274		3670
ZM186	36.70	40.20														
ZM186	40.20	42.85	3985993	-5	1.37	-20	130	24.00	16	0.79	0.61	4.51	119	-50		1410
ZM186	42.85	50.20														
ZM186	50.20	60.00														
ZM186	60.00	64.20														
ZM186	64.20	72.50														
ZM186	72.50	88.80														
ZM186	88.80	92.60	3985994	-5	0.83	-20	125	30.90	18	0.41	0.28	1.40	149	-50		94
ZM186	92.60	96.05	3985995	-5	0.95	-20	128	30.60	20	0.70	0.35	1.21	211	-50		556
ZM186	96.05	98.20	3985996	-5	0.90	42	95	27.20	23	2.64	0.30	2.78	215	123		847
ZM186	98.20	120.90														
ZM187	0.00	17.70														
ZM187	17.70	79.30														
ZM187	79.30	80.65	3985997	-5	0.49	-20	42	32.20	21	0.65	0.17	1.20	677	-50		195
ZM187	80.65	82.30	3985998	-5	0.57	-20	43	32.10	19	0.28	0.23	1.24	141	-50		29
ZM187	82.30	85.50	3985999	-5	0.58	28	38	30.50	19	0.63	0.20	2.36	185	-50		145
ZM187	85.50	89.80	3986000	-5	0.53	20	84	31.30	17	0.63	0.18	1.66	211	-50		147
ZM187	89.80	103.50														

844106

CRA EXPLORATION PTY. LIMITED

DRILL-HOLE SUMMARY LOG

EL NAME: ZEEHAN I
EL NUMBER: EL28/88
DATE DRILLED: APR 1994
LOGGED BY: RGP

HOLE NAME: DD94 ZM185
PROSPECT: MYRTLE

AMG EAST: 363748.5
AMG NORTH: 5351804
RL:

GRID EAST: 59825
GRID NORTH: 49996
TOTAL DEPTH: 137.0

DEPTH	AZIM. (~~MAG~~) AMG	INCLIN.
0	118	-45
70	136	-49
137	137	-46.5

OBJECTIVES OF HOLE: To test for suspected stratabound mineralisation intersected in air-core holes ZM55, ZM57, ZM58 (ZM 58 6m @ 5.2% Zn).

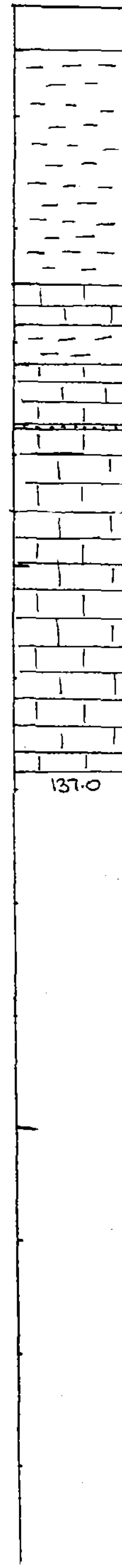
LITHOLOGICAL SUMMARY:

DFROM	DTO	COMMENTS
0	8.0	PRECOLLAR
8.0	49.7	CARBONACEOUS SILTSTONE
49.7	57.3	LIMESTONE
57.3	64.3	SILTSTONE
64.3	74.8	LIMESTONE
74.8	75.4	CARBONATE BRECCIA WITH 15% SPHALERITE
75.4	82.75	LIMESTONE WITH TRACE SPHAL
82.75	114.85	LIMESTONE
114.85	117.3	LIMESTONE WITH TRACE SPHAL
117.3	137.0	LIMESTONE

MINERALISATION SUMMARY:

DFROM	DTO	COMMENTS
74.8	75.4	0.6m @ 14.9% Zn

CONCLUSIONS: Uncertain if sphalerite at 74.8-75.4 is depth extension of shallow minerals intersected by air-core holes.
Intersection is late-stage, infilling a breccia with calcite cement. No alteration of carbonate. Additional shallow drilling required.



363748.5
5351804

844107 MYRTLE

C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. 1 of 4
TENEMENT NAME ZEEHAN 1 No. EL28/88
PLAN – MAP REFERENCE

CO-ORDINATES 59825E 49996N AZIMUTH 118 AMG DRILLERS DD TAS COMMENCED 26/4/94 DEPTH 137.0 m HOLE No. 0094ZM185
RL COLLAR INCLINATION -45° DRILL TYPE LY 38 COMPLETED 4/5/94 CASING LEFT DPO No(s) 77653

Depth From (M)	Depth To (M)	Core Rec. (M)	Core Size	Graphic Log RQ	Core Description	Special Features (Weath, Alteration, Fracturing, Veining, Mineralization)	Sample No.	From (M)	To (M)	Rec (M)
0	8.0	–	–		PRECOLLAR - No core					
8	17.8		HQ	4C	WEATHERED CARBONACEOUS SILTSTONE Dark grey fine grained carbonaceous siltstone. Strongly cleaved. Minor Fe oxides on cleavage partings					
17.8	33.3		HQ	4C	CARBONACEOUS SILTSTONE (WEATHERED?) Dark grey to black strongly carbonaceous siltstone. Strongly cleaved. Core has fine spongey appearance as if partly leached 26.0 cleavage ∠ - C.A. 60°		3985984	29.6	33.3	
33.3	46.0		HQ	5X	FAULT ZONE Grey to dark grey puggy clay and carbonaceous siltstone fragments. No recovery 33.3 - 35.1 m.		985	35.1	40.5	
							986	40.5	46.0	
46.0	49.7		HQ	4C	CARBONACEOUS SILTSTONE (WEATHERED?) As for 17.8 - 33.3 m.					
49.7	55.4		HQ	4C/3C	DISRUPTED LIMESTONE Light grey fine grained lime mud, dismembered and distorted in a matrix of grey med g/s crystalline carbonate. Not really a breccia as the deformation looks soft and prelithification.					
55.4	57.3		HQ	5X	FAULT ZONE Grey puggy clay with limestone + siltstone fragments.					

ASSAY VALUES (Analysed by ...) — DRILL RUNS

FR	TO	REC	RQ
0	8.0	–	–
	10.4	2.4	4C
	12.0	1.6	
	13.5	1.5	
	15.2	1.7	
	16.5	1.3	
	17.8	1.3	5C
	19.5	1.5	4C
	22.5	1.3	5X
	23.6	0.4	
	24.6	0.5	
	25.5	0.8	4C
	26.6	1.0	
	27.3	0.8	
	28.5	0.5	
	29.6	0.5	
	30.8	1.0	5C
	32.1	0.9	
	33.3	1.0	
	35.1	–	–
	36.0	0.45	5X
	36.9	0.5	
	38.6	0.2	
	39.4	0.55	
	40.5	0.7	
	41.5	0.2	
	43.5	1.4	
	45.0	0.9	
	46.6	1.4	
	47.8	0.8	5C
	49.25	1.2	4C

844108

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 2..4

TENEMENT NAME .... No. ....

PLAN – MAP REFERENCE ....

CO-ORDINATES .... AZIMUTH .... DRILLERS .... COMMENCED .... DEPTH .... HOLE No. 2M185

RL COLLAR .... INCLINATION .... DRILL TYPE .... COMPLETED .... CASING LEFT .... DPO No(s) ....

Depth From (M)	Depth To (M)	Core Rec. (M)	Core Size	Graphic Log RQ	Core Description	Special Features (Weath, Alteration, Fracturing, Veining, Mineralization)	Sample No.	From (M)	To (M)	Rec (M)
57.3	64.3		HQ	2S	FOLIATED SILTSTONE Grey strongly foliated (sheared?) siltstone. Weakly calcareous, mostly quartz with minor carbonaceous material. May be fresh equivalent of 8-33.3m? Very strong foliation, locally shows anastomosing shear fabric around distorted and ~~sheared~~ teased carbonate augen. 62.3 – cleavage/shearing ∡-CA 32° 63.8 " 42°					
64.3	74.8		HQ	1S	STRONGLY FOLIATED INTERBEDDED LIMESTONE/SILTSTONE Light grey med g/s limestone, locally with sorol + mollusc fossils. Strongly banded, with 1-5mm carbonaceous siltstone bands increasing to 50mm width with increasing depth. Foliation becomes low ∡ to c.A. with increasing depth, + bedding becomes transposed along cleavage, eg 70.7m  Carbonate veined and brecciated 73.6–74.8 67.2 cleavage? ∡-CA 28° 70.7 " 20°					

ASSAY VALUES (Analysed by ....)

DRILL RUNS

Fr	To	Rec.	RQ
49.25	52.5	3.0	1V
	55.5	2.4	3C
	56.6	–	–
	58.3	1.5	5/2C
	60.2	1.6	2S
	61.0	0.75	3S
	62.3	1.25	2S
	64.5	2.1	|
	67.3	2.4	|
	69.7	2.5	1S
	72.7	2.95	1S
	75.9	3.1	1F
	79.0	3.0	2F
	80.2	1.1	1F

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

844109

SHEET No. 3 of 4

TENEMENT NAME .... No. ....

PLAN – MAP REFERENCE ....

CO-ORDINATES .... AZIMUTH .... DRILLERS .... COMMENCED .... DEPTH .... HOLE No. Zm185

RL COLLAR .... INCLINATION .... DRILL TYPE .... COMPLETED .... CASING LEFT .... DPO No(s) ....

Depth From (M)	Depth To (M)	Core Rec. (M)	Core Size	Graphic Log / Rec	Core Description	Special Features (Weath, Alteration, Fracturing, Veining, Mineralization)	Sample No.	From (M)	To (M)	Rec (M)	Zn%
74.8	75.4	0.6	HQ	1F	CARBONATE BRECCIA WITH SPHALERITE. Grey limestone mosiac breccia with matrix of dark grey silt and white calcite cement. Coarse (2-10mm) euhedral zoned sphalerite, 15% of interval. Sph is pale brown.		3985987	74.8	75.4		14.9
75.4	82.75		HQ	1F	LIME MUDSTONE WITH TRACE SPHALERITE. Grey fine g/s lime mud with common but minor fossil fragments. Minor irregular patches of med g/s crystalline carbonate, infilling voids? Also 2-20mm black carbonaceous bands. Core is locally brecciated with white calcite cement. Traces of coarse pale brown sphalerite in cc cement, <0.5% of interval. Strongly calcite veined.		988	75.4	79.0		0.6
							989	79.0	82.75		0.03
82.75	114.85		HQ	1F	LIMESTONE + LIMESTONE BRECCIA. Light grey med g/s lst, mostly massive, but with some irregular grey to dark grey med g/s crystalline carbonate. Some irregular carbonate stylolites. Minor zones of mosaic breccias - angular lst frags in dark grey silty matrix. Look like sedimentary breccias (e.g. 118.9-117.8). Very strong calcite veining to 107.5m with trace sphalerite (<0.1% overall). 110.5 So? ∡-CA 50°						
114.85	117.3		HQ	1F	LIMESTONE + LIMESTONE BRECCIA WITH MINOR SPHALERITE. As for 82.75-114.85 but with 2% pale brown sphalerite in white calcite as cement of lst breccia (silty matrix to breccia).		990	114.85	117.3		

Drill Runs

Fr	TO	Rec	Rec
80.2	82.5	2.2	1F
	85.5	3.0	
	88.5		
	91.5		
	94.5		
	97.5		
	100.5		
	103.5		
	106.5	2.9	
	109.5	3.1	
	112.5	3.0	
	115.5	3.0	
	118.5	3.0	

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

844110

SHEET No. 1 of 1

TENEMENT NAME.................... No. ....

PLAN – MAP REFERENCE....................

CO-ORDINATES.................... AZIMUTH.................... DRILLERS.................... COMMENCED.................... DEPTH.................... HOLE No. ZM185

RL COLLAR.................... INCLINATION.................... DRILL TYPE.................... COMPLETED.................... CASING LEFT.................... DPO No(s)....................

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log RQ	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)
117.3	121.5		HQ	IF	LIMESTONE + LIMESTONE BRECCIA.					
					As for 82.75 – 114.85	No vis sphal.				
					Breccia zones appear to be at very low ∡ to core axis, possibly ∥ to C.A?					
121.5	137.0		HQ	IF	LIME MUDSTONE					
					Similar to 75.4 – 82.75					
					Light grey fine g/s lime mud with minor irregular wisps + bands of med g/s crystalline carbonate up to 50mm thick near 121.5, but decreasing to 5-10mm at 137.0 m.					
					2% calcite veins	barren				
					126.5 So ∡-CA	60°				
					DH SURVEYS					
					0m −45° → 118 AMG					
					70m −49° → 136 AMG					
					137m −46.5° → 137 AMG					

ASSAY VALUES (Analysed by....................)

DRILL RUNS

Fr	To	Rec	RQ
118.5	121.5	3.0	IF
	124.5	2.9	↓
	127.5	3.1	↓
	130.5	2.9	↓
	133.5	3.0	↓
	136.5	3.0	↓
	~~[illegible]~~		↓
	137.0	0.5	↓

844111

CRA EXPLORATION PTY. LIMITED

DRILL-HOLE SUMMARY LOG

EL NAME: ZEEHAN 1 HOLE NAME: DD94ZM186
EL NUMBER: EL28/88 PROSPECT: MYRTLE
DATE DRILLED: MAY 1994
LOGGED BY: RGP

AMG EAST: 364291 GRID EAST: 60377
AMG NORTH: 5352354 GRID NORTH: 50496
RL: TOTAL DEPTH: 120.9

DEPTH	AZIM. (~~MAG~~ AMG)	INCLIN.
0	090	-45°
50	091	-45.5

OBJECTIVES OF HOLE: To test depth extension of mineralisation intersected in costean and in air-core hole ZM18 (36m @ 4.3% Zn).

LITHOLOGICAL SUMMARY:

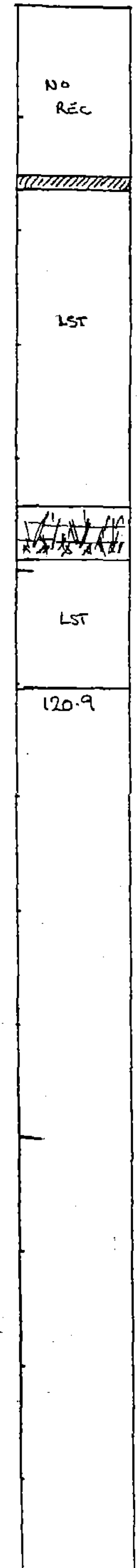
DFROM	DTO	COMMENTS
0	30.0	PRECOLLAR - NO CORE
30.0	50.2	LIME MUDSTONE
50.2	60.0	STYLOLAMINATED LIMESTONE
60.0	64.2	LIME MUDSTONE
64.2	72.5	CALCARENITE
72.5	88.8	STYLOLAMINATED LIMESTONE
88.8	96.05	ditto + 10% Cc+dol VEINS
96.05	98.2	LIMESTONE BRECCIA + 20% Cc VEINS. PY BAND AT 96.1-96.3.
98.2	120.9	HETEROGENEOUS LIMESTONE

MINERALISATION SUMMARY:

DFROM	DTO	COMMENTS

CONCLUSIONS: No significant alteration or mineralisation observed. Zone of 10-20% Cc-dol veining between 88.8 - 98.2m may be down-dip extension of shallow mineralisation ⇒ late-stage, not stratabound. May be patchy and irregular.

Additional shallow drilling needed to determine if Zn-rich portion has a plunge.



364291E
5352354N

844112 MYRTLE

C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. 1 of 3
TENEMENT NAME .... No. ....
PLAN – MAP REFERENCE ....

CO-ORDINATES 60377E 50496N   AZIMUTH -45°   DRILLERS DD TAS   COMMENCED 6/5/94   DEPTH 120.9 m   HOLE No DD94ZM186
RL COLLAR ....   INCLINATION 090 AMG   DRILL TYPE LY38   COMPLETED 10/5/94   CASING LEFT ....   DPO No(s) 77653

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log RQ	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)
0	30.0				PRECOLLAR - No core.						
30.0	32.6		HQ	5	PUGGY CLAY Dark grey.		3985991	30.0	32.6		
32.6	50.2		HQ	2	IRREGULARLY BANDED LIME MUDSTONE Banded light and dark grey. Light grey fine g/s lime mud containing coral and mollusc fragments. Dark grey irregular bands + patches of med g/s crystalline CO_3, possibly recrystallising within CO_3 mud. Dark grey pug zones at 34.5 – 36.7, 40.2 – 42.85		992 993	34.5 40.2	36.7 42.85		
50.2	60.0		NQ	2F	STYLOLAMINATED LIMESTONE Light grey very fine g/s lst, almost cryptocrystalline. Fine network of stylolites that define bedding + possibly cleavage. 51.2 S_0 – C.A ∠ 38° " cleavage ∠ 30° S_0 – cleavage ∠ ±115° Reduce to NQ 50.7 m.						
60.0	64.2		NQ	2F	IRREGULARLY BANDED LIME MUDSTONE Grey fine to med g/s lst, with dark grey fine g/s lst bands, plastically distorted. 5% 5-30mm calcite veins. 63.9 m S_0 – C.A. ∠ 50°						

DRILL RUNS

Fr	To	REC	RQ
0	30.0	–	–
	31.5	0.2	5
	32.6	0.4	5
	34.5	1.45	5/2F
	37.5	1.45	2F
	40.5	2.8	2F
	42.7	0.25	5
	43.5	0.85	5/2V
	45.6	2.05	2V
	46.5	0.9	2S
	49.5	2.95	1F
	50.7	1.15	2F
REDUCE TO NQ			
50.7	51.4	0.65	2F
	54.6	2.95	2F
	57.75	3.05	2F
	60.0	2.1	3F
	61.5	1.55	3F
	64.5	3.0	2F

844113

C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. 2 of 3
TENEMENT NAME .... No. ....
PLAN – MAP REFERENCE ....

CO-ORDINATES .... AZIMUTH .... DRILLERS .... COMMENCED .... DEPTH .... HOLE No. ZM186
RL COLLAR .... INCLINATION .... DRILL TYPE .... COMPLETED .... CASING LEFT .... DPO No(s) ....

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log RQ	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)
64.2	72.5		NQ	2F	FOSSILIFEROUS CALCARENITE WITH OVOIDS Grey unusual calcarenite with circular, ovoid to lensoid muddy? "clasts" some showing concentric layering. Possibly flattened during compaction. "clasts" 5-20mm diameter. Very fossiliferous, with mollusc + crinoid? fragments. Minor soft sed breccia, generally only 50mm wide. Irregular stylobanded contact at 72.5m 67.6 S_0 (elongation of ovoids) - C.A ∡ 48°						
72.5	88.8		NQ	2F	STYLOLAMINATED LIMESTONE Similar to 50.2 - 60.0. Light grey fine g/s lst with well developed planar, wavy fine stylolaminations, 3-10mm apart. Similar to 50.2-60.0 but no stylos forming cleavage. 75.7 S_0 - C.A ∡ 26° 83.7 S_0 ∡ 26° 85.5 S_0 ∡ 29°						
88.8	96.05		NQ	4F	VEINED STYLOLAMINATED LIMESTONE As for 72.5 - 88.8 but with 10% of cream dolomite veins + white calcite veins, 5-300mm thick. 94.4 S_0 - C.A ∡ 38° 93.5 S_0 ∡ 50°		3985994 995	88.8 92.6	92.6 96.05		

DRILL RUNS

FR	TO	REC	RQ
64.5	67.5	3.05	1F
	70.5	3.0	2F
	73.3	2.75	2F
	75.7	2.25	2S
	78.7	3.0	1S
	81.8	3.1	2F
	84.9	3.0	2F
	87.2	2.3	2F
	89.45	2.0	2F
	91.5	2.0	4F
	94.0	2.3	3F
	94.8	0.65	4X
	96.6	1.7	3F

844114

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 3 of 3

TENEMENT NAME .... No. ....

PLAN – MAP REFERENCE ....

CO-ORDINATES .... AZIMUTH .... DRILLERS .... COMMENCED .... DEPTH .... HOLE No. Zm 186

RL COLLAR .... INCLINATION .... DRILL TYPE .... COMPLETED .... CASING LEFT .... DPO No(s) ....

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log RQ	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)				DRILL RUNS FR	TO	REC	RQ
96.05	98.2		NQ		VEINED LIMESTONE BRECCIA. As for 98.2-120.9 but with 20% calcite veins and breccia cement up to 200mm thick. 200mm of 50% py at 96.1-96.3 within breccia matrix.		3985996	96.05	98.2						96.6	99.7	3.05	1F
																102.6	2.8	|
																105.65	3.1	|
																108.7	3.0	|
																111.8	3.05	11
																114.8	3.0	15
98.2	120.9		NQ		HETEROGENEOUS DISRUPTED LIMESTONE + BRECCIA. Grey and dark grey highly variable limestone, from fine g/s lime mud to calcarenite. Bands show abundant soft sed ~~deformation~~ distortion progressing through to chaotic slumping + brecciation, all prelithification. Minor fossil fragments, mostly corals.											117.85	3.05	11
					EOH 120.9m.											120.9	3.05	2

DH SURVEYS

0m	-45°	090 AMG
50m	-45.5°	→ 091 AMG

844115

CRA EXPLORATION PTY. LIMITED

DRILL-HOLE SUMMARY LOG

EL NAME: ZEEHAN 1　　HOLE NAME: DD94 Zm187
EL NUMBER: EL28/88　　PROSPECT: MYRTLE
DATE DRILLED: MAY 1994
LOGGED BY: RGP

AMG EAST: 364424.7　　GRID EAST: 60510
AMG NORTH: 5352314.4　　GRID NORTH: 50494
RL:　　TOTAL DEPTH: 103.5

DEPTH	AZIM. (AMG)	INCLIN.
0	269	-50
50	258	-51
103	262	-51

OBJECTIVES OF HOLE: To intersect depth extension of mineralisation in air-core hole Zm18 (36m @ 4.3% Zn). Scissor hole to Zm186.

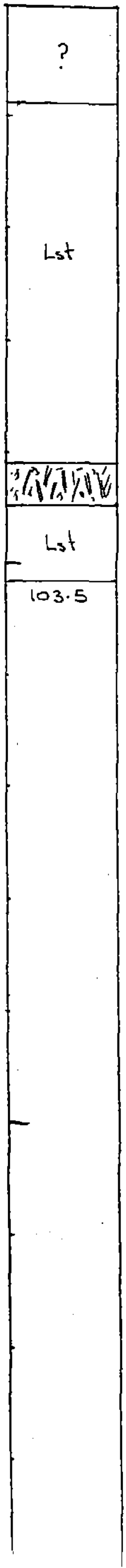
LITHOLOGICAL SUMMARY:

DFROM	DTO	COMMENTS
0	17.7	PRECOLLAR - NO CORE
17.7	79.3	BURROWED LIMESTONE
79.3	80.65	STRONGLY VEINED LIMESTONE
80.65	82.3	STYLOLAMINATED LIMESTONE
82.3	89.8	FAULT ZONE
89.8	103.5	BURROWED LIMESTONE

MINERALISATION SUMMARY:

DFROM	DTO	COMMENTS

CONCLUSIONS: No significant alteration or mineralisation observed. Fault zone between 82.3 - 89.8 may be depth extension of shallow Zn mineralisation.



364424·7
5352314·4

844116 MYRTLE

C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

S[redacted] No.[redacted]2
TENEMENT NAME ZEEHAN 1 No. 28/88
PLAN – MAP REFERENCE

CO-ORDINATES 60510E 50494N AZIMUTH 269° AMG DRILLERS DD TAS COMMENCED 11/5/94 DEPTH 103·5 HOLE No DD94ZM187
RL COLLAR INCLINATION -50° DRILL TYPE LY38 COMPLETED 14/5/94 CASING LEFT DPO No(s) 77653

Depth From (M)	Depth To (M)	Core Rec. (M)	Core Size	Geotech Log RQ	Core Description	Special Features (Weath, Alteration, Fracturing, Veining, Mineralization)	Sample No.	From (M)	To (M)	Rec (M)
0	17·7				PRECOLLAR – no core.					
17·7	79·3		HQ NQ	2F	FOSSILIFEROUS + BURROWED LIMESTONE. Grey quite heterogeneous limestone. Fine to med grainsize with common fossil fragments incl gastropods (e.g. 42·5) branching corals (e.g. 35·0). Tubular structures 2mm diameter infilled with white calcite very common throughout (e.g. 55·2) – possibly worm burrows? Some zones of sedimentary breccias, e.g. 26·4m. Core is disrupted so no clear bedding is preserved. Core is parting along irregular carbonaceous seams (stylos?) that are commonly orientated 20-40° to C.A. This may be bedding? At 75·75 is 50mm of 5% sphalerite replacing calcite in "burrows". Reduce to NQ at 26·35.					
~~79·3~~ ~~80·65~~										
79·3	80·65		NQ	3X	STRONGLY CALCITE VEINED LIMESTONE. Grey vuggy, strongly leached limestone. Strong fabric defined by fine planar calcite veins <0·5mm wide, with some coarser calcite + dolomite veins. 79·8 calcite veins – C.A ∡ 17°		3985997	79·3	80·65	
80·65	82·3		NQ	3X	STYLOLAMINATED LIMESTONE. Light grey very fine g/s lst with numerous planar stylolites, possibly defining bedding? Unit is massive! 82·0 stylolites (S_0?) ∡ 30°		998	80·65	82·3	

ASSAY VALUES (Analysed by) – DRILL RUNS

FR	TO	REC	RQ
0	17·7	–	–
	19·5	1·7	1F
	22·5	2·2	2F
	25·3	2·2	1F
	26·35	1·05	2F
REDUCE TO NQ			
26·35	28·45	1·7	3F
	30·4	2·05	↓
	32·35	2·05	
	34·25	1·9	↓
	35·0	0·6	4F
	37·5	1·9	3F
	40·1	2·4	3S
	41·9	1·85	3F
	43·8	1·9	3F
	46·5	2·7	2F
	49·5	3·0	1F
	52·5	3·0	1F
	55·5	3·0	2F
	58·5	2·9	1F
	61·5	3·0	1F
	64·5	3·0	↓
	67·5	2·85	
	70·5	3·15	
	73·5	3·0	
	76·5	3·0	↓
	79·5	3·0	2F
	82·5	2·8	3X

844117

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 2 of 2

TENEMENT NAME .... No. ....

PLAN – MAP REFERENCE ....

CO-ORDINATES .... AZIMUTH .... DRILLERS .... COMMENCED .... DEPTH .... HOLE No. ZM187

RL COLLAR .... INCLINATION .... DRILL TYPE .... COMPLETED .... CASING LEFT .... DPO No(s) ....

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log RQ	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....) DRILL RUNS FR	TO	REC	RQ
82.3	89.8		NQ	5X	FAULT ZONE		3985999	82.3	85.5		82.5	85.5	0.8	4X
					Gray. Zone of strongly broken limestone,		3986000	85.5	89.8			88.1	2.2	4X
					calcite r dolomite veins ± vein rubble, r leached							88.8	0.6	5X
					limestone similar to 79.3 – 80.65.							91.5	2.4	5X/2F
					Cavity at approx 83.5 – 85.5.							94.5	2.95	2F
					82.7 S₀? (leached stylos) – C.A ∡ 33°							96.7	2.2	2F
												99.7	3.0	3F
												100.5	0.8	3F
89.8	103.5		NQ	3F	BURROWED LIMESTONE							103.5	3.05	2F
	EOH				Similar to 17.7 – 79.3.									
					Grey fine-med g/s limestone with minor									
					tubular structures filled with white calcite									
					– burrows? No other fossils visible.									
					5% irregular calcite veins 0.5 – 5 mm wide.									
					103.5 m END OF HOLE									
					DH SURVEYS									
					0 m –50° 269 AMG									
					50 m –51° 258 AMG									
					103 m –51° 262 AMG									

844118

APPENDIX 6:

Myrtle prospect relogged EZ diamond drill logs and geochemistry.

Appendix 6 Myrtle prospect. EZ diamond drillhole logs and assays.

844119

APPENDIX 6 Myrtle prospect. EZ diamond drillhole logs and geochemistry.

Hole	DFrom	DTo	Sampno	DPO	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Ba ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM1003	0.00	2.00	3984226	77147	Og	Ccy			N		-1		12	2.31	53	36		382
ZM1003	2.00	4.00	3984227	77147	Og	Ccy			N		-1		10	0.99	33	29		936
ZM1003	4.00	5.00	3984228	77147	Og	Ccy			N		-1		10	1.26	29	31		188
ZM1003	5.00	6.00		EZ		Ox				No rec.								
ZM1003	6.00	9.00	61305	EZ	Og	Ccy				No rec. Sludge assays	-0.5		30	2.95	30	25		165
ZM1003	9.00	12.00	61306	EZ	Og	Ccy				No rec. Sludge assays	-0.5		35	4.60	40	50		270
ZM1003	12.00	15.00	61307	EZ	Og	Ccy				No rec. Sludge assays	-0.5		40	3.25	55	70		820
ZM1003	15.00	18.00	61308	EZ	Og	Ccy				No rec. Sludge assays	-0.5		35	4.35	45	75		770
ZM1003	18.00	22.00	61321	EZ	Og	Ccy			DGN		-0.5	502	25	3.35	35	75		910
ZM1003	22.00	25.00	61322	EZ	Og	CcySsi	We		N	Poor rec	-0.5	570	30	0.98	40	45		910
ZM1003	25.00	27.00	61311	EZ	Og	CcySsi	We		N	No rec. Sludge assays	-0.5		30	2.05	40	50		345
ZM1003	27.00	30.00	61312	EZ	Og	CcySsi	We		N	No rec. Sludge assays	-0.5		30	1.40	35	45		345
ZM1003	30.00	33.00	61313	EZ	Og	CcySsi	We		N	No rec. Sludge assays	-0.5		30	1.85	30	50		220
ZM1003	33.00	36.00	61314	EZ	Og	CcySsi	We		N	No rec. Sludge assays	-0.5		30	1.40	40	50		250
ZM1003	36.00	37.00	61324	EZ	Og	CcySsi	We		N	Poor rec	-0.5	425	25	1.50	30	55		5500
ZM1003	37.00	40.00	61323	EZ	Og	CcySsi	We		N	Poor rec	-0.5	534	20	0.78	30	45		580
ZM1003	40.00	42.00	61316	EZ	Og	CcySsi	We		N	No rec. Sludge assays	-0.5		30	1.85	40	50		800
ZM1003	42.00	45.00	61317	EZ	Og	CcySsi	We		N	No rec. Sludge assays	-0.5		25	2.75	40	60		1200
ZM1003	45.00	48.00	61318	EZ	Og	CcySsi	We		N	No rec. Sludge assays	-0.5		20	1.75	30	45		490
ZM1003	48.00	51.00	61319	EZ	Og	CcySsi	We		N	No rec. Sludge assays	-0.5		50	2.80	50	60		910
ZM1003	51.00	54.00	61320	EZ	Og	CcySsi	We		N	No rec. Sludge assays	-0.5		20	1.65	35	60		500
ZM1003	54.00	57.00	61325	EZ	Og	CcySsi	We		N	Poor rec	-0.5	691	25	1.55	25	40		1600
ZM1003	57.00	60.00	61326	EZ	Og	SsiCcy	We		N		-0.5	1570	20	0.95	35	45		575
ZM1003	60.00	63.00	61327	EZ	Og	Ccy	Ds	Py	N		-0.5	1470	30	2.55	80	105		1500
ZM1003	63.00	68.00		EZ		Ox				Cavity								
ZM1003	68.00	70.00	3984229	77147	Og	Sdl			LGB		-1		3	0.37	156	11		68
ZM1003	70.00	99.00		EZ	Og	Sls	Bn		G									
ZM1003	99.00	186.00		EZ	Og	Sls												
ZM1003	186.00	188.00	62509	EZ	Og	Sls	BnSh		GDG		-0.5	26	15	1.45	250	50		65
ZM1003	188.00	190.00	62510	EZ	Og	SsiSls			DGN		-0.5	22	15	0.77	225	50		85
ZM1003	190.00	192.00	62511	EZ	Og	SsiSls			DGN		-0.5	17	15	0.49	280	70		100
ZM1003	192.00	194.00	62512	EZ	Og	SsiSls			DGN		-0.5	41	15	0.89	385	55		60
ZM1003	194.00	196.00	62513	EZ	Og	SsiSls			DGN		-0.5	15	10	0.35	205	65		45
ZM1003	196.00	198.00	62514	EZ	Og	SsiSls			DGN		-0.5	43	15	0.57	240	40		50
ZM1003	198.00	199.00	62515	EZ	Og	SsiSls			DGN		-0.5	16	10	0.65	250	45		60
ZM1003	199.00	201.00	62516	EZ	Og	SsiSls			DGN		-0.5	22	10	0.64	260	75		140
ZM1003	201.00	202.00	62517	EZ	Og	Sls			GDG		2	X	20	1.20	220	65		8400
ZM1003	202.00	203.00	62518	EZ	Og	Sls			GDG		-0.5	X	15	0.70	220	50		195
ZM1003	203.00	204.00	62519	EZ	Og	Sls			GDG		-0.5	15	10	0.59	280	50		150
ZM1003	204.00	206.00	62520	EZ	Og	Sls			GDG		-0.5	11	10	0.35	220	50		55
ZM1003	206.00	208.00	62521	EZ	Og	Sls			GDG		-0.5	X	10	0.30	190	95		45

844120

Appendix 6 Myrtle prospect. EZ diamond drillhole logs and assays.

Hole	DFrom	DTo	Sampno	DPO	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Ba ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZM1003	208.00	210.00	62522	EZ	Og	Sls			GDG		-0.5	X	10	0.40	240	45		65
ZM1003	210.00	211.90		EZ	Og	Sls			GDG									
ZM1003	211.90	212.80		EZ	Og	Ccy			Y									
ZM1003	212.80	218.00		EZ	Og	Sls	Sh		G									
ZM1003	218.00	223.40		EZ	Og	Sdl			G									
ZM1003	223.40	226.40		EZ	Og	OvqOvc												
ZM1003	226.40	256.00		EZ	Og	Sls												
ZM1003	256.00	268.00		EZ		Ox				Cavity								
ZM1003	268.00	303.00		EZ	Og	Sls												
ZM1008	0.00	3.00		EZ		Ox				Precollar								
ZM1008	3.00	4.50	61973	EZ	Og	SsiCcy	We		BG			430	10	1.94	20	35		3295
ZM1008	4.50	6.00	61974	EZ	Og	Ccy	Ds	Py	DG			400	10	3.14	15	30		2495
ZM1008	6.00	9.00	3984230	77147	Og	Ccy	Ds	Py	MYG		-1		15	1.49	57	21		1163
ZM1008	9.00	12.00	3984231	77147	Og	Ccy	Ds	Py	MYG		-1		17	1.36	28	19		1819
ZM1008	12.00	15.00	3984232	77147	Og	Sls?	AlBx		G		-1		13	1.62	29	30		1414
ZM1008	15.00	18.00	3984233	77147	Og	Sls?	AlBx		G		-1		12	2.37	31	45		1991
ZM1008	18.00	21.00	3984234	77147	Og	Ccy	Ds	Py	DG		-1		17	5.06	38	147		2729
ZM1008	21.00	24.00	3984235	77147	Og	Sdl			GDG		-1		11	4.89	23	157		2903
ZM1008	24.00	27.00	3984236	77147	Og	Sdl			GDG		1		12	2.93	27	187	7.1	67200
ZM1008	27.00	30.00	3984237	77147	Og	Sdl			GDG		-1		12	2.86	21	59		9200
ZM1008	30.00	31.60	3984238	77147	Og	Sdl			GDG		-1		15	1.81	24	34		1849
ZM1008	31.60	33.00		EZ		Ox				No rec								
ZM1008	33.00	34.00	3984239	77147	Og	Sdl			GDG		-1		28	2.27	34	29		7000
ZM1008	34.00	37.90	61983	EZ	Og	Ssi	VuWe		G			740	25	1.54	10	15		1095
ZM1008	37.90	41.90	61984	EZ	Og	Ssi	VuWe		G			730	10	1.74	10	15		1445
ZM1008	41.90	44.90	3984240	77147	Og	Sdl			GLG		-1		19	1.73	25	18		4874
ZM1008	44.90	48.00	3984241	77147	Og	Ccy	FeAl	SdSu?	NYG		-1		15	2.28	37	33		9800
ZM1008	48.00	51.00		EZ						No rec								
ZM1008	51.00	54.00	3984242	77147	Og	Ccy	FeAl	SdSu?	NYG		-1		12	1.38	32	87		2317
ZM1008	54.00	56.40	3984243	77147	Og	Ccy	FeAl	SdSu?	NYG		-1		16	1.63	27	237		3962
ZM1008	56.40	60.00	3984244	77147	Og	SlsSsi	VuLeDs	GaSpPy			12		32	1.38	21	28900	4.35	43300
ZM1008	60.00	61.00		EZ		Ox				Cavity								
ZM1008	61.00	61.20	3984245	77147	Og	Sls			DG		-1		4	0.74	186	91		452
ZM1008	61.20	63.80	61990	EZ	Og	Sls	Vc		G			2200	5	0.49	135	35		285
ZM1008	63.80	116.50		EZ	Og	Sls												
ZM1008	116.50	122.50		EZ	Og	SlsOf	VcShBx	Py										
ZM1008	122.50	172.70		EZ	Og	Sls												
ZM1008	172.70	205.00		EZ	Og	Sls	Vc											
ZM1008	205.00	208.30		EZ	Og	SlsOf	Vc											
ZM1008	208.30	299.00		EZ	Og	Sls												

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Appendix 6 Myrtle prospect. EZ diamond drillhole logs and assays.

Hole	DFrom	DTo	Sampno	DPO	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Ba ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZWM13	0.00	8.55		EZ		Ox				Precollar								
ZWM13	8.55	10.50	65227	EZ	Og	SsiSbx?	WeFs	Py	BG				20	2.51	35	305		12900
ZWM13	10.50	12.80	65228	EZ	Og	SsiSbx?	WeFs	Py	BG				15	4.11	25	210		15900
ZWM13	12.80	15.10		EZ	Og	Ox?Ccy?				No rec								
ZWM13	15.10	22.10	65229	EZ	Og	Ox?Ccy?							15	1.81	180	935		5235
ZWM13	22.10	23.30	65230	EZ	Og	Ssi	Sh		G				15	1.61	290	190		3335
ZWM13	23.30	24.75	65231	EZ	Og	Ssi	Sh		G				15	1.51	280	110		7035
ZWM13	24.75	25.15	65232	EZ	Og	SsiSdl	Sh		LG				5	0.40	175	35		250
ZWM14	0.00	2.30		EZ		Ox				Precollar								
ZWM14	2.30	3.50	65233	EZ	Og	Ssi	We		LG				5	0.48	10	70		25
ZWM14	3.50	6.40	65234	EZ	Og	Ssi	We	Py	DG				15	1.66	20	460		3535
ZWM14	6.40	8.35	65235	EZ	Og	Ssi	We	Py	DG				20	1.31	30	820		3785
ZWM14	8.35	10.95	65236	EZ	Og	Ssi			DG				15	1.21	20	650		4135
ZWM14	10.95	12.20	65237	EZ	Og	Ssi	Fr		DG		0.5		20	1.16	15	3370		6285
ZWM14	12.20	12.85	65238	EZ	Og	Ssi	We		DG		1		25	1.76	20	1320		7435
ZWM14	12.85	13.85	65239	EZ	Og	Ssi	VuLeDs	SpPy	DG		6		40	1.81	15	17400		34900
ZWM14	13.85	14.95	65240	EZ	Og	Ssi	VuLeDs	SpPy	DG		4		35	2.11	10	14400		41900
ZWM14	14.95	15.85		EZ		Ox				No rec								
ZWM14	15.85	25.90	65241	EZ	Og	Ssi	VuLeDs	PySp	N		3		45	2.40	-12	7900		2650
ZWM15	0.00	1.70		EZ		Ox				Precollar								
ZWM15	1.70	2.40	65242	EZ	Og	Ssi	WeLe		DRG				25	1.58	25	125		6100
ZWM15	2.40	8.60	65243	EZ	Og	Ssi?	VuLe		N				35	2.33	25	135		21000
ZWM15	8.60	13.70	65244	EZ	Og	Ssi?	VuLe		N				25	2.17	25	535		21300
ZWM15	13.70	22.80		EZ	Og	Ssi?	VuLe		N									
ZWM15	22.80	23.60	65245	EZ	Og	SdlSbx			N				10	2.40	270	100		2650
ZWM15	23.60	26.20	65246	EZ	Og	SdlSbx			N				10	1.50	310	45		730
ZWM15	26.20	28.50	65247	EZ	Og	Sdl			DG				5	1.40	275	35		1500
ZWM15	28.50	31.30	65248	EZ	Og	SdlSsl			DG				15	1.50	140	50		70
ZWM15	31.30	33.90	65249	EZ	Og	SdlSbx			DG				10	1.50	190	40		505
ZWM15	33.90	35.10	65250	EZ	Og	SdlSsl							15	2.00	190	40		65
ZWM15	35.10	38.10	65251	EZ	Og	SdlSsl							10	1.90	180	50		55
ZWM16	0.00	5.70		EZ		Ox				Precollar								
ZWM16	5.70	8.35	3984246	77147	Og	Ssi?	WeFrLe		DG		-1		38	0.67	11	88		230
ZWM16	8.35	9.90	3984247	77147	Og	Ssi?Ccy	WeFe	Sd	BG		-1		217	1.30	20	1826		2748
ZWM16	9.90	13.70	3984248	77147	Og	SlsSsi	FeFrAl?		G		-1		48	0.81	17	280		1139
ZWM16	13.70	18.60	3984249	77147	Og	SlsSsi	FeFrAl?		G		-1		20	1.49	55	94		1079
ZWM16	18.60	19.20		EZ		Ox				No rec.								
ZWM16	19.20	20.70	3984250	77147	Og	SlsSsl	WeFrAl?		GDG		-1		17	1.67	43	75		280
ZWM16	20.70	22.30	3984251	77147	Og	SlsSsl	WeVu		G		-1		12	1.55	197	28		62

844122

Appendix 6 Myrtle prospect. EZ diamond drillhole logs and assays.

Hole	DFrom	DTo	Sampno	DPO	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Ba ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZWM16a	0.00	18.00		EZ		Ox				Precollar								
ZWM16a	18.00	18.60		EZ	Og	CcySsi			DG									
ZWM16a	18.60	22.70		EZ	Og	Sls			G									
ZWM16a	22.70	25.60	3984252	77147	Og	Sdl			DG		-1		7	1.43	234	13		21
ZWM16a	25.60	28.60		EZ	Og	Sls			G									
ZWM17	0.00	6.10		EZ		Ox				Precollar								
ZWM17	6.10	8.80	3984254	77147	Og	Ssi	WeFr		DBG		-1		18	1.55	43	48		1512
ZWM17	8.80	9.80	3984255	77147	Og	Ssi	WeFr		DBG		-1		16	4.41	42	49		4531
ZWM17	9.80	11.60	3984256	77147	Og	Ssi	WeFrFe	Sd?	BG		-1		16	1.49	34	49		2242
ZWM17	11.60	12.50		EZ		Ox				Cavity								
ZWM17	12.50	14.00	3984257	77147	Og	Ccy			LYG		-1		23	2.05	44	58		1304
ZWM17	14.00	15.25	3984258	77147	Og	Ssl	We		LG		-1		18	2.13	24	27		1927
ZWM17	15.25	16.90	3984259	77147		Ovq	Vs	Py			-1		5	1.70	54	21		610
ZWM18	0.00	6.85		EZ		Ox				Precollar								
ZWM18	6.85	13.90	3984260	77147	Og	Sls?	LeWeFe		RN		-1		26	3.94	84	8200	3.5	23700
ZWM18	13.90	14.90	3984261	77147	Og	Sls	Ds	Sp	G		-1		5	0.37	139	115		977
ZWM18	14.90	17.85	3984262	77147	Og	Sls			G		-1		3	0.36	131	731		97
ZWM18	17.85	20.90	3984263	77147	Og	Sls			G		-1		4	0.24	124	250		74
ZWM18	20.90	24.00	3984264	77147	Og	Sls			G		-1		3	0.22	81	53		12
ZWM18	24.00	26.50	3984265	77147	Og	Sls			G		-1		4	0.28	98	9		10
ZWM18	26.50	28.40	3984266	77147	Og	Sls			G		-1		5	0.38	100	12		12
ZWM18	28.40	29.00	3984267	77147	Og	Sls			G		-1		8	0.19	96	11	0.75	11700
ZWM18	29.00	31.30	3984268	77147	Og	Sls	Ds	Sp	G		-1		4	0.27	79	9		31
ZWM19	0.00	11.25		EZ		Sls?	WeLeFeDs	Sp		Precollar. Poor rec								
ZWM19	11.25	14.00	3984269	77147	Og	Sls			G		-1		4	0.26	136	11		15
ZWM19	14.00	18.60		EZ	Og	Sls			G									
ZWM19	18.60	21.00	3984270	77147	Og	Sls			G		-1		5	0.21	98	10		11
ZWM19	21.00	23.20	3984271	77147	Og	Sls			G		-1		2	0.12	120	6		5
ZWM19	23.20	24.70		EZ	Og	Sls			LG									
ZWM19a	0.00	1.50		EZ		Ox				Precollar								
ZWM19a	1.50	5.20	3984272	77147	Og	Sls?	WeFrVsDs	Sp			1		48	1.33	24	222		4612
ZWM19a	5.20	10.10	3984272	77147	Og	Ccy	Ds?	Sp			1		48	1.33	24	222		4612
ZWM19a	10.10	11.25	3984272	77147	Og	Sls			LG		1		48	1.33	24	222		4612
ZWM19a	11.25	11.60		EZ	Og	Sls			LG									

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

E2 DDH ZM 1003

844123

SHEET No. ....

TENEMENT NAME .... No. ....

PLAN – MAP REFERENCE ....

CO-ORDINATES 603704E/5052451N AZIMUTH 120° AMG DRILLERS .... COMMENCED 3.5.84 DEPTH 303.0m. HOLE No. ZM 1003

RL COLLAR .... INCLINATION -55° DRILL TYPE .... COMPLETED 16.5.84 CASING LEFT .... DPO No(s) 77147

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)
					ZM 1003						
0	5				CLAY						
					*NB: LOGS SAY NO RECOVERY.	Decarbonated – none reacts	3984226	0	2		
					HOWEVER A TRAY OF MATERIAL	to dil. HCl (10%). Decomposed	227	2	4		
					FROM TOP OF HOLE IS SUPPLIED.	limestone.	228	4	5		
					Mostly poorly indurated black						
					carbonaceous clays, locally						
					brownish; and mid-dark						
					grey clay siltst mudst.						
68	70.				DOL-LUTITE						
					Cream/beige recrystallised -		3984229	68	70.		
					altered stylolitic dolomitic						
					with irregular bands of						
					dark grey carbonaceous						
					material.						

NB: MUCH OF HOLE SHOWS WEAK PERVASIVE RECRYSTALLISATION AND DEVELOPMENT OF CREAM ANKERITE – VARIABLY DOLOMITISED.

EZ DDH ZM1008 844124

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 1 of 2

TENEMENT NAME .... No. ....

PLAN – MAP REFERENCE ....

CO-ORDINATES 10,345E/50,506N AZIMUTH 067° AMG DRILLERS .... COMMENCED 26·11·85 DEPTH 299m HOLE No. ZM 1008

RL COLLAR .... INCLINATION -59° DRILL TYPE .... COMPLETED 4·12·85 CASING LEFT .... DPO No(s) ....

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)
3	4				CLAY + LIMESTONE.						
					Black + minor pale grey						
					Strongly carbonaceous –						
					heterogeneous clay + limestone;	PREVIOUS SAMPLING OF THIS HOLE BY EZ ONLY					
					locally brownish with minor	COLLECT SMALL PORTIONS SPACED REGULARLY					
					angular white calcite clasts.	AND ARE NOT NECCESSARILY REPRESENTATIVE					
4	12				RUBBLE-CLAY	OF SAMPLE INTERVALS REFERED TO IN EZ LOGS.					
					Massive mid grey mottled –	HENCE THE HOLE HAS BEEN RE-SAMPLED.					
					locally yellowish clay; weakly						
					sulphidic; Non-weakly dolomitic.		3984230	6	9		
12	18.5				ALTERED LIMESTONE		231	9	12		
					Decarbonated/non reactive to		232	12	15		
					HCl(10%). Massive + locally		233	15	18		
					brecciated mid grey siltish		234	18	21		
					friable – locally greenish stained.		235	21	24		
18.5	21.5				CLAY		236	24	27		
					Dark grey-brownish grey		237	27	30		
					poorly indurated-friable clay +		238	30	31.6		
					Mudstone. Strongly pyritic –		239	33	34		
					Carbonaceous.		3984240	42	44.9		
21.5	34				DOL-LUTITE		241	44.9	48		
					Mid-dk grey featureless –		242	51	54		
					poorly indurated-locally sulphidic clay.		243	54	56.4		
34	44				DOL-LUTITE		244	56.4	60		
					Mid grey-cream mottled-altered	finely mass pervasive	245	61	61.2		
					weakly sulphidic.	ankerite flooding.					
44	56				CLAY-PUG.						
					Black + yellowish grey ferruginous	local former limestone					
					sideritic-sulphidic clay; friable	clasts are ankerite altered					
					locally well indurated and mottled.						

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

844125

SHEET No. 2 of 2

TENEMENT NAME .... No. ....

PLAN – MAP REFERENCE ....

CO-ORDINATES .... AZIMUTH .... DRILLERS .... COMMENCED .... DEPTH .... HOLE No. ZM 1008

RL COLLAR .... INCLINATION .... DRILL TYPE .... COMPLETED .... CASING LEFT .... DPO No(s) ....

Depth From (M)	Depth To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)
56	60				ALTERED LIMESTONE. Probably a calc-schist - now cavernous, brecciated leached and porous-spongy rock; carbonaceous	Poor recovery. Contains Yellow-white barite vein and minor disseminated brown sph altering to clay.					
60	61				CAVITY						
61	61.2				CALC-LUTITE. Dark grey calcareous, strongly carbonaceous mudstone.						
61.2	78.				CALC SILTITE-LUTITE. Mottled calcareous dark grey limestone, locally recrystallised ? recrystallised f-m.g. fossil debris. Locally irregularly interbedded/interspersed with dark grey silty limestone (also occur between stylolite boundaries).	Weak calcite veining + pervasive sporadic cream Anhydite alteration - locally dolomitised.					

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

EZ DDH ZWM 16, ZWM 16 A. 844126

SHEET No. ....

TENEMENT NAME.............................. No. ....

PLAN – MAP REFERENCE..............................

CO-ORDINATES.............. AZIMUTH.............. DRILLERS.............. COMMENCED.............. DEPTH.............. HOLE No. ZWM 16, 16

RL COLLAR.............. INCLINATION.............. DRILL TYPE.............. COMPLETED.............. CASING LEFT.............. DPO No(s)..............

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by..........)
					ZWM - 16 60,400E/50,600N INCLINED 70° TO 090° AMG.		T.D. 22.3.				
5.7	8.0				ALTERED SILTY LIMESTONE						
					Mid grey strongly brocken/	Weathered.	3984246	5.7	8.35		
					fractured silty limestone –		247	8.35	9.9		
					decarbonated.		248	9.9	13.7		
8.0	10.0				CLAY - ALTERED SILTY LIMESTONE.		249	13.7	18.6		
					Friable brown-grey weakly ferruginous - sideritic clay -		250	19.2	20.7		
					siltstone; weakly sulphidic? in part		251	20.7	22.3		
10.0	18.6				ALTERED SILTY LIMESTONE.						
					Mid grey partly decomposed siltstone; strongly fractured -						
					brocken; locally weakly ferruginous/sulphidic.						
18.6	19.2.				No RECOVERY						
19.2	20.7				DECOMPOSED/ALTERED LIMESTONE.						
					Grey-dark grey strongly fractured - brocken decarbonated						
					silty limestone; friable; weakly sulphidic with minor						
					white calcite / Ankerite fragments.						
20.7	22.3				ALTERED LIMESTONE.						
	EOH.				Mid grey, locally porous massive soft - weakly weathered						
					decarbonated silty limestone.						
					ZWM-16 A 60,398E/50,600N INCLINED 80° TO 090° AMG. T.D.		28.6m.				
22.7	28.6				DOL-CALC SILTITE'		3984252	22.7	25.6		
	EOH.				Massive mid-dark grey dolomitic - weakly calcareous limestone -						
					locally arenitic and stylolitic - minor white carbonate						
					veins; weak brownish mottling + pervasive fine g.						
					cream ankerite alteration (weak - patchy).						

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

SHEET No. 1

EZ DDH ZWM-17. 844127

TENEMENT NAME .... No. ....

PLAN – MAP REFERENCE ....

CO-ORDINATES 59,872E/50,000N AZIMUTH 090° DRILLERS .... COMMENCED .... DEPTH 16.9m HOLE No. ZWM-17

RL COLLAR .... INCLINATION -80° DRILL TYPE .... COMPLETED .... CASING LEFT .... DPO No(s) ....

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)
6.1	8.8				SILTSTONE-MUDSTONE						
					Non-calcareous mid grey, variably yellow stained,		3984254	6.1	8.8		
					fractured; weakly pyritic?; partly decomposed;		255	8.8	9.8		
					cleavage/fracture 80-90° to C.A.		256	9.8	11.6		
8.8	9.8				SILTSTONE.		257	12.5	14		
					Brown-grey siltstone; strongly fractured and locally		258	14	15.25		
					decomposed - friable; carbonaceous - sulphidic?		259	15.25	16.85		
9.8	11.6				SILTSTONE.						
					Brown-grey partly decomposed, fractured; weakly						
					sideritic/ferruginous; weakly sulphidic.						
11.6	12.5				CAVITY.						
12.5	14				CLAY						
					Pale grey - weakly yellow stained decomposed - friable						
					clay - mud.						
14	15.25				SILTSTONE-MUDSTONE						
					Pale grey - weakly yellow stained - bleached? weakly weathered.						
15.25	16.85				QUARTZ VEIN.						
	EOH.				Massive quartz vein with minor oxidised pyrite + minor pyrite.						

EZ DDH ZWM-18 MYRTLE 844128

C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

SHEET No. ....

TENEMENT NAME .... No. ....

PLAN – MAP REFERENCE ....

CO-ORDINATES 59898E/50,000N AZIMUTH 090° AMG DRILLERS .... COMMENCED .... DEPTH 31.3 HOLE No. ZWM-18

RL COLLAR .... INCLINATION -80° DRILL TYPE .... COMPLETED .... CASING LEFT .... DPO No(s) ....

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)
6.8	13.9				SILT-CLAY/ALTERED LIMESTONE.						
					Dark grey-brown; porous rubbly carbonaceous;		3984260	6.85	13.9		
					Strongly weathered/altered + leached limestone.		261	13.9	14.9		
13.9	19				CALC SILTITE		262	14.9	17.85		
					Mid grey deeply stylotised locally filled with carbonaceous		263	17.85	20.9		
					-graphitic material and locally sheared; minor		264	20.9	24.0		
					milky quartz-carbonate veins; locally mottled and		265	24.0	26.5		
					weakly dolomitised. Traces/patches of brown		266	26.5	28.4		
					sphalerite in stylolite areas (14.45 – 14.5m).		267	28.4	29.0		
19	22.4				CALC ARENITE		268	29.0	31.30		
					Med grey, fine grained with minor stylolites commonly						
					filled with carbonaceous/graphitic material. Minor						
					Quartz veins and Quartz-calcite filled burrows.						
22.4	31.3				CALC SILTITE						
	EOH.				Mid-pale grey, massive, stylolitic (strongly). minor Quartz-						
					carbonate vein with spherical patches of SPHALERITE;						
					lesser Quartz-Carbonate filling stylolites with minor						
					cream-brown SPHALERITE. (29.6m); minor pyrite in						
					stylolites.						

[redacted]

C.R.A. EXPLORATION PTY. LIMITED

DRILL CORE LOG

EZ DDH ZWM-19, 19A. MYRTLE.

SHEET No. ....

TENEMENT NAME .... No. ....

PLAN – MAP REFERENCE ....

CO-ORDINATES .... AZIMUTH .... DRILLERS .... COMMENCED .... DEPTH .... HOLE No. ....

RL COLLAR .... INCLINATION .... DRILL TYPE .... COMPLETED .... CASING LEFT .... DPO No(s) ....

DEPTH From (M)	DEPTH To (M)	Core Rec. (M)	Core Size	Graphic Log	CORE DESCRIPTION	SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization	Sample No.	From (M)	To (M)	Rec (M)	ASSAY VALUES (Analysed by ....)
					ZWM-19 59,919E/50,000N	INCLINED 80° TO 090° AMG T.D. 24.7m.					
0	11.25				ALTERED LIMESTONE RUBBLE.						
					Dark grey rubbly porous-leached, decalbonated silty limestone - strongly ferruginous, cavernous. Rubble includes coarse brown Sphalerite. V. POOR RECOVERY (<10%).						
11.25	18.6				CALC SILTITE.						
					Mid grey massive - featureless, with abundant fine stylolites; minor quartz-carbonate veins.		3984269	11.25	14		
							270	18.6	21		
18.6	24.7. EOH.				CALC. SILTITE - ARENITE.		271	21	23.2		
					Mid grey, bioturbated and recrystallised with minor quartz-calcite filled burrows; moderately stylolitic; minor cream Ankerite alteration/recrystallisation.						
					ZWM-19A. 59,918E/50,000N	INCLINED 80° TO 090° AMG T.D. 11.6m.					
1.5	11.6				ALTERED LIMESTONE RUBBLE						
					As per ZWM-19 above - contains coarse sphalerite. (Very poor recovery) - <10%		3984272	1.5	11.25		

APPENDIX 7:

Myrtle prospect rockchip and wacker sampling ledgers and geochemistry.

APPENDIX 7: Myrtle prospect. Rockchip and wacker bedrock sampling ledger and geochemistry.													
DPO 77120 are ROCK samples													
DPO 77673 are WACKER samples													
Sampno	**DPO**	**LocalE**	**LocalN**	**AMGE**	**AMGN**	**Depth**	**Bedrock?**	**MRTLith**	**FieldID**	**Texture**	**Alt/Min**	**Colour**	**Comments**
3908219	77120			364660	5352040			Og	Ccy			DGN	Road cutting
3908220	77120			364685	5352036			Og	Ccy			DGN	Road cutting
3908221	77120			364709	5352031			Og	Ccy			DGN	Road cutting
3908222	77120			364734	5352027			Og	Ccy			DGN	Road cutting
3908223	77120			364758	5352022			Og	Ccy			DGN	Road cutting
3908224	77120			364783	5352018			Og	Ccy			DGN	Road cutting
3908225	77120			364807	5352013			Og	Ccy			DGN	Road cutting
3908226	77120			364832	5352009			Og	Ccy			DGN	Road cutting
3908227	77120			364856	5352004			Og	Ccy			DGN	Road cutting
3908228	77120			364881	5352000			Og	Ccy			DGN	Road cutting

APPENDIX 7: Myrtle prospect. Rockchip and wacker bedrock sampling ledger and geochemistry.										
DPO 77120 are ROCK samples										
DPO 77673 are WACKER samples										
Sampno	AMGE	AMGN	FieldID	Ag ppm	As ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	Zn ppm
3908219	364660	5352040	Ccy	-1		130	1.20	25	69	18
3908220	364685	5352036	Ccy	-1		27	0.98	31	97	22
3908221	364709	5352031	Ccy	-1		54	1.08	42	33	34
3908222	364734	5352027	Ccy	-1		53	1.85	78	22	29
3908223	364758	5352022	Ccy	-1		9	1.13	18	128	17
3908224	364783	5352018	Ccy	1		9	1.63	44	59	798
3908225	364807	5352013	Ccy	-1		20	2.56	23	136	74
3908226	364832	5352009	Ccy	-1		3	0.75	19	55	15
3908227	364856	5352004	Ccy	-1		10	1.65	21	100	21
3908228	364881	5352000	Ccy	-1		17	2.16	26	55	30

Appendix 7: Myrtle prospect. Rockchip and wacker sample ledger and geochemistry.

Sampno	DPO	LocalE	LocalN	AMGE	AMGN	Depth	Bedrock?	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments
3989271	77673	60750	49250	364681	5351056	3.5	Y	Og	CcyOvq			DG	Very hard basement. Ccy sample possible only.
3989272	77673	60777	49245	364708	5351052	3.0	Y	Og	Sls	We		DB/N	Peaty Sls, lesser sandy bands, former oolite-rich co3?
3989273	77673	60800	49250	364731	5351057	11.5	N	Og	Ccy			DG	Plastic clay, very hard basement.
3989274	77673	60825	49250	364756	5351058	1.9	Y	*Og*	*Sls*	*Fe*		*RBDB/N*	*Ferrug Sls containing fine gr. sand. Former oolitic co3?*
3989275	77673	60850	49250	364781	5351058	1.3	Y	Om	Sss			W	Medium-grained quartzarenite.
3989276	77673	60650	49400	364578	5351204	5.7	Y	Og	Sls	Lm		DB/DG	Fine lam calcilutite, minor graphitic surfaces.
3989277	77673	60675	49400	364603	5351205	10.0	Y	Og	CcySls	We		DG/N	Peaty, carbonaceous clay, str-We Sls.
3989278	77673	60700	49400	364628	5351205	8.3	N	*Og*	*CcyCg*			*DB/N*	*Cavity? encountered, contained Sss gravels.*
3989279	77673	60725	49400	364653	5351206	7.3	Y	Og	SlsOvc			LG/W	Unaltered limestone, minor calcite veining.
3989280	77673	60750	49400	364678	5351206	2.9	Y	Og	Sls	Al	Hm	LK/W	Moderate, pervasive hematite altered oolitic carbonate.
3989281	77673	60775	49400	364703	5351207	1.1	Y?	Og	CcySls			DG	Hard basement 1m below swampy ground=> poor sample.
3989282	77673	60800	49400	364728	5351207	2.2	Y	*Og*	*SlsOvc*	*We*		*DG/W*	*Minor oolite sand content.*
3989283	77673	60825	49400	364753	5351208	2.0	Y?	Og	CcySls			DG	Minor indurated Sls frags present, very hard basement.
3989284	77673	60850	49400	364778	5351208	5.5	Y	Og	Sls	WeAl	Sd	DG/GB	Weak patchy sid altd Sls.
3989285	77673	60875	49400	364803	5351208	5.0	Y	Og	Sls	Lm		DG/LG	Laminated, friable Sls.
3989286	77673	60900	49400	364828	5351209	1.5	Y	*Om*	*Sss*	*Fe*		*DB*	*Ferruginous quartzarenite.*
3989287	77673	60825	49600	364750	5351408	4.5	Y	Og	Sls	Fe		DB/N	Carbonaceous, peaty Sls with sand grains: former oolites?
3989288	77673	60850	49600	364775	5351408	5.0	Y	Og	SlsSss	Lm		DG/LB	Lesser sandy interbeds: gradational contact with Moina Sss
3989289	77673	60875	49606	364800	5351414	4.4	Y	Og	SlsSss			DB/DG	Lesser sandy interbeds, minor graphitic shear surfaces
3989290	77673	60900	49608	364824	5351417	1.5	Y	*Og*	*SlsCcy*	*Bn*		*DG/LB*	*Lesser black peaty We Sls.*
3989291	77673	60925	49600	364850	5351409	1.0	Y	Om	SssCcy			DB/LB	Sandy Ccy, weathered product of Sss near surface.
3989292	77673	60625	49800	364546	5351604	5.7	Y	Og	Sls	LmFe		DB/LB/N	Weakly ferrug. Sls.
3989293	77673	60650	49800	364571	5351604	6.6	Y	Og	Sls		He	LM	Weakly hematitic recrystallised dolomitic-oolitic? CO3.
3989294	77673	60675	49800	364596	5351605	1.5	N	*Og*	*CcySss*			*DB/LB*	*Sandy Ccy, lesser black Ccy, near grad. contact with Om.*
3989295	77673	60700	49800	364621	5351605	2.5	Y	Om	Sss			W	Medium gr. quartzarenite.
3989296	77673	60725	49800	364646	5351606	1.3	Y	Om	Sss	Fe		LB/W	Weakly ferrug. quartzarenite.
3989297	77673	60600	50000	364518	5351804	2.5	Y	Og	Sls			DG/MG	Unaltered carbonaceous calcilutite.
3989298	77673	60625	50000	364543	5351804	6.5	Y	Og	SlsCcy		Py	DG/B/W	Weakly mottled Sls and clay, trace f.gr. pyrite.
3989299	77673	60650	50000	364568	5351804	12.2	Y	Om	Sss	We		DB/LB/W	Strongly We quartzarenite, trace DG Ccy.
3989300	77673	60675	50000	364593	5351805	6.5	N	Og	Ccy			DGM	Compacted clay containing white kaolin specks.
3992437	77673	60700	50000	364618	5351805	5.5	Y	Og	Sls	WeFe		DG/N	Carbonaceous 'peaty' Sls.
3992438	77673	60725	50000	364643	5351806	4.2	Y	Og	Sls	Al	Sd	DG	Trace of weak patchy ank. alt.
3992439	77673	60758	49992	364676	5351798	2.0	Y	Om	Sss	We		LB/W	Medium gr. quartzarenite.
3992440	77673	60750	50192	364664	5351998	2.1	Y	Om	CcySssSog			LB/W	Clay with lesser weathered sandstone and conglomerate.
3992441	77673	60725	50200	364639	5352006	7.3	N	Og	Ccy			LGY	Compacted clay (hand-held wacker).
3992442	77673	60700	50200	364614	5352005	12.0	N	Og	Ccy			LGBM	As above.
3992443	77673	60675	50200	364589	5352005	4.5	N	Og	CcyCg			M	Compacted clay containing imbedded rounded Sss pebbles.
3992444	77673	60650	50200	364564	5352004	2.0	N	Og	SssSogCcy	Fe		DB	Ferrug pebbly sand, minor DB Ccy, very thick cover
3992445	77673	60625	50210	364539	5352014	6.1	Y	Og	Sls	AlFe	Sd	DG/YG	Weak, patchy siderite altered Sls, ferruginous fractures.
3992446	77673	60600	50203	364514	5352006	12.0	N	Og	Ccy			DG/DBM	Compacted clay, last hole on 50200N, highway cuts line.

Appendix 7: Myrtle prospect. Rockchip and wacker sample ledger and geochemistry.

Sampno	AMGE	AMGN	FieldID	Ag ppm	As ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	Zn ppm
3989271	364681	5351056	CcyOvq	-1	24	-2	1.76	526	33	51
3989272	364708	5351052	Sls	-1	130	12	6.70	28	94	336
3989273	364731	5351057	Ccy	-1	60	27	2.21	57	470	1054
3989274	364756	5351058	Sls	-1	65	6	2.54	26	87	310
3989275	364781	5351058	Sss	-1	1.5	-2	0.30	13	8	35
3989276	364578	5351204	Sls	-1	45	20	2.19	33	51	67
3989277	364603	5351205	CcySls	-1	38.5	15	1.99	21	48	70
3989278	364628	5351205	CcyCg	-1	24	-2	1.17	24	22	91
3989279	364653	5351206	SlsOvc	-1	11	-2	0.39	185	37	39
3989280	364678	5351206	Sls	-1	6.5	8	2.69	331	59	136
3989281	364703	5351207	CcySls	-1	6.5	7	0.94	190	96	277
3989282	364728	5351207	SlsOvc	-1	20.5	21	2.20	529	55	176
3989283	364753	5351208	CcySls	-1	12	14	0.84	85	61	141
3989284	364778	5351208	Sls	-1	250	20	7.80	21	181	1765
3989285	364803	5351208	Sls	-1	50	9	1.75	18	41	85
3989286	364828	5351209	Sss	-1	6	-2	0.33	14	6	42
3989287	364750	5351408	Sls	-1	5	8	0.30	16	28	37
3989288	364775	5351408	SlsSss	-1	66	50	1.80	24	56	115
3989289	364800	5351414	SlsSss	-1	4	3	0.44	17	17	43
3989290	364824	5351417	SlsCcy	-1	8.5	14	0.57	19	24	38
3989291	364850	5351409	SssCcy	-1	2.5	-2	0.29	17	21	37
3989292	364546	5351604	Sls	-1	21	-2	5.00	35	30	66
3989293	364571	5351604	Sls	-1	7.5	-2	1.04	45	19	83
3989294	364596	5351605	CcySss	-1	5	-2	0.47	17	13	34
3989295	364621	5351605	Sss	-1	2	-2	0.37	20	7	33
3989296	364646	5351606	Sss	-1	1.5	-2	0.47	20	15	37
3989297	364518	5351804	Sls	-1	530	10	4.01	25	32	106
3989298	364543	5351804	SlsCcy	-1	10	5	1.15	17	23	71
3989299	364568	5351804	Sss	-1	8.5	17	0.63	20	22	118
3989300	364593	5351805	Ccy	-1	38.5	20	4.73	35	29	82
3992437	364618	5351805	Sls	-1	210	13	6.80	22	67	171
3992438	364643	5351806	Sls	-1	200	13	2.52	34	55	309
3992439	364676	5351798	Sss	-1	32	-2	0.43	15	17	38
3992440	364664	5351998	CcySssScg	-1	8	92	0.68	66	20	51
3992441	364639	5352006	Ccy	-1	12	100	1.33	78	20	202
3992442	364614	5352005	Ccy	-1	11	41	1.99	75	89	88
3992443	364589	5352005	CcyCg	-1	34	23	1.42	30	18	104
3992444	364564	5352004	SssScgCcy	-1	2.5	-2	0.43	20	8	43
3992445	364539	5352014	Sls	-1	27	114	0.16	7	126	40
3992446	364514	5352006	Ccy	-1	41.5	17	2.05	32	48	68

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APPENDIX 8:

Pyramid prospect air-core drill logs and geochemistry.

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CRA

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28th September 1994

MEMO TO: R.G. PARKINSON

FROM: L. VESKA

PYRAMID PROSPECT - AIR-CORE DRILLING 1993/94

Aircore drilling at the Pyramid prospect during the 1993/1994 field season totalled 32 holes, and was concentrated in the extreme southwest of the Gordon Limestone at this locality, the Henty Road forming the northern margin of the area under investigation. The topographically-high outcrop of the Mt. Zeehan conglomerate, Moina Sandstone and associated talus slopes formed the southern extent of accessable drillpad locations. Accumulations of surface gravels hindered, and in some cases, caused the abandonment of neighbouring drillholes. This resulted in a wider spacing of drillholes than desired in areas overlain by thick and extensive sheets of gravel.

Drillhole ZP43 intersected the only significant zone, a 15m interval containing elevated zinc (0.1-0.5% Zn) with associated intense, pervasive siderite alteration. Intense Fe-alteration produced a highly indurated, dense grey-green limestone, preventing further drill penetration. As a result, this zone was not fully tested by the drillhole in question, which is even more significant given the proximity to the prospective lower contact of the Gordon Limestone.

APPENDIX 8: *Pyramid prospect. Drillhole collar database*

APPENDIX 8: PYRAMID PROSPECT. DRILLHOLE LOCATION DATABASE												
Hole	**Full Name**	**EL**	**Company**	**Report**	**AMG E**	**AMG N**	**Local E**	**Local N**	**RL**	**Depth**	**Azim AMG**	**Inclin.**
ZWP27	ZWP27	EL4/78	EZ	86-2547	364291	5356475	1600	1100	145	10.1	0	-90
ZWP28	ZWP28	EL4/78	EZ	86-2547	364292	5356478	1603.5	1100	145	8.0	0	-90
ZWP29	ZWP29	EL4/78	EZ	86-2547	364397	5356512	1650	1000	145	16.7	0	-90
ZWP30	ZWP30	EL4/78	EZ	86-2547	364391	5356463	1600	1000	145	18.6	0	-90
ZWP31	ZWP31	EL4/78	EZ	86-2547	364378	5356364	1500	1000	144	11.6	0	-90
ZWP32	ZWP32	EL4/78	EZ	86-2547	364198	5356537	1650	1200	151	27.4	0	-90
ZWP33	ZWP33	EL4/78	EZ	86-2547	364195	5356512	1625	1200		13.0	0	-90
ZP1	AC93ZP1	EL28/88	CRAE	19284	364366	5356264	1400	1000		3.7	0	-90
ZP2	AC93ZP2	EL28/88	CRAE	19284	364369	5356289	1425	1000		11.0	0	-90
ZP3	AC93ZP3	EL28/88	CRAE	19284	364372	5356314	1450	1000		7.5	0	-90
ZP4	AC93ZP4	EL28/88	CRAE	19284	364375	5356339	1475	1000		4.0	0	-90
ZP5	AC93ZP5	EL28/88	CRAE	19284	364378	5356364	1500	1000		6.7	0	-90
ZP6	AC93ZP6	EL28/88	CRAE	19284	364381	5356388	1525	1000		8.5	0	-90
ZP7	AC93ZP7	EL28/88	CRAE	19284	364384	5356413	1550	1000		4.9	0	-90
ZP8	AC93ZP8	EL28/88	CRAE	19284	364387	5356438	1575	1000		7.3	0	-90
ZP9	AC93ZP9	EL28/88	CRAE	19284	364391	5356463	1600	1000		14.6	0	-90
ZP10	AC93ZP10	EL28/88	CRAE	19284	364394	5356488	1625	1000		7.6	0	-90
ZP11	AC93ZP11	EL28/88	CRAE	19284	364397	5356512	1650	1000		2.8	0	-90
ZP12	AC93ZP12	EL28/88	CRAE	19284	364400	5356537	1675	1000		29.2	0	-90
ZP13	AC93ZP13	EL28/88	CRAE	19284	364403	5356562	1700	1000		12.0	0	-90
ZP14	AC93ZP14	EL28/88	CRAE	19284	364406	5356587	1725	1000		15.0	0	-90
ZP15	AC93ZP15	EL28/88	CRAE	19284	364279	5356376	1500	1100		8.5	0	-90
ZP16	AC93ZP16	EL28/88	CRAE	19284	364282	5356401	1525	1100		15.1	0	-90
ZP17	AC93ZP17	EL28/88	CRAE	19284	364285	5356425	1550	1100		4.5	0	-90
ZP18	AC93ZP18	EL28/88	CRAE	19284	364288	5356450	1575	1100		6.3	0	-90
ZP19	AC93ZP19	EL28/88	CRAE	19284	364291	5356475	1600	1100		12.5	0	-90
ZP20	AC93ZP20	EL28/88	CRAE	19284	364294	5356500	1625	1100		13.6	0	-90
ZP21	AC93ZP21	EL28/88	CRAE	19284	364297	5356525	1650	1100		18.0	0	-90
ZP22	AC93ZP22	EL28/88	CRAE	19284	364300	5356549	1675	1100		12.0	0	-90
ZP23	AC93ZP23	EL28/88	CRAE	19284	364303	5356574	1700	1100		8.0	0	-90
ZP24	AC93ZP24	EL28/88	CRAE	19284	364306	5356599	1725	1100		10.0	0	-90
ZP25	AC93ZP25	EL28/88	CRAE	19284	364310	5356624	1750	1100		10.0	0	-90
ZP26	AC93ZP26	EL28/88	CRAE	19284	364207	5356485	1600	1185		9.0	0	-90

ZP27	AC93ZP27	EL28/88	CRAE	19284	364210	5356510	1625	1185		5.5	0	-90
ZP28	AC93ZP28	EL28/88	CRAE	19284	364213	5356535	1650	1185		21.0	0	-90
ZP29	AC93ZP29	EL28/88	CRAE	19284	364216	5356560	1675	1185		33.6	0	-90
ZP30	AC93ZP30	EL28/88	CRAE	19284	364219	5356585	1700	1185		10.0	0	-90
ZP31	AC94ZP31	EL28/88	CRAE		364283	5356325	1450	1090		5.5	0	-90
ZP32	AC94ZP32	EL28/88	CRAE		364270	5356301	1425	1100		7.1	0	-90
ZP33	AC94ZP33	EL28/88	CRAE		364267	5356276	1400	1100		14.7	0	-90
ZP34	AC94ZP34	EL28/88	CRAE		364264	5356252	1375	1100		4.0	0	-90
ZP35	AC94ZP35	EL28/88	CRAE		364261	5356227	1350	1100		12.0	0	-90
ZP36	AC94ZP36	EL28/88	CRAE		364263	5356242	1365	1100		16.5	0	-90
ZP37	AC94ZP37	EL28/88	CRAE		364258	5356207	1330	1100		8.8	0	-90
ZP38	AC94ZP38	EL28/88	CRAE		364256	5356187	1310	1100		17.0	0	-90
ZP39	AC94ZP39	EL28/88	CRAE		364358	5356199	1334	1000		4.8	0	-90
ZP40	AC94ZP40	EL28/88	CRAE		364357	5356190	1325	1000		5.1	0	-90
ZP41	AC94ZP41	EL28/88	CRAE		364355	5356170	1305	1000		11.7	0	-90
ZP42	AC94ZP42	EL28/88	CRAE		364351	5356140	1275	1000		11.7	0	-90
ZP43	AC94ZP43	EL28/88	CRAE		364348	5356115	1250	1000		25.8	0	-90
ZP44	AC94ZP44	EL28/88	CRAE		364186	5356438	1550	1200		6.1	0	-90
ZP45	AC94ZP45	EL28/88	CRAE		364183	5356413	1525	1200		9.3	0	-90
ZP46	AC94ZP46	EL28/88	CRAE		364180	5356388	1500	1200		6.9	0	-90
ZP47	AC94ZP47	EL28/88	CRAE		364177	5356363	1475	1200		11.0	0	-90
ZP48	AC94ZP48	EL28/88	CRAE		364173	5356335	1447	1200		10.6	0	-90
ZP49	AC94ZP49	EL28/88	CRAE		364171	5356313	1425	1200		17.0	0	-90
ZP50	AC94ZP50	EL28/88	CRAE		364168	5356289	1400	1200		5.7	0	-90
ZP51	AC94ZP51	EL28/88	CRAE		364165	5356264	1375	1200		3.6	0	-90
ZP52	AC94ZP52	EL28/88	CRAE		364162	5356239	1350	1200		9.5	0	-90
ZP53	AC94ZP53	EL28/88	CRAE		364093	5356499	1600	1300		2.8	0	-90
ZP54	AC94ZP54	EL28/88	CRAE		364090	5356475	1575	1300		8.3	0	-90
ZP55	AC94ZP55	EL28/88	CRAE		364087	5356450	1550	1300		9.1	0	-90
ZP56	AC94ZP56	EL28/88	CRAE		364084	5356425	1525	1300		9.9	0	-90
ZP57	AC94ZP57	EL28/88	CRAE		364081	5356400	1500	1300		10.0	0	-90
ZP58	AC94ZP58	EL28/88	CRAE		364078	5356375	1475	1300		35.5	0	-90
ZP59	AC94ZP59	EL28/88	CRAE		364074	5356350	1450	1300		11.1	0	-90
ZP60	AC94ZP60	EL28/88	CRAE		364071	5356326	1425	1300		3.7	0	-90
ZP61	AC94ZP61	EL28/88	CRAE		364068	5356301	1400	1300		7.5	0	-90
ZP62	AC94ZP62	EL28/88	CRAE		364065	5356271	1370	1300		25.4	0	-90

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ROCKCHIP AND DRILLING CODES 22/2/1994

SMRLITH

Rock code as per published geological map
For time designation use:-

Q	Quaternary	M	Permian	P	Proterozoic
T	Tertiary	C	Carboniferous	A	Archaean
		S	Silurian		
K	Cretaceous	D	Devonian		
R	Triassic	O	Ordovician		
J	Jurassic	E	Cambrian		

FIELD ID

Field term for rock type
Broad groupings are:-

S	Sedimentary	I	Intrusive	C	Surficial
M	Metamorphic	E	Extrusive	O	Others

SEDIMENTARY

Scg	Conglomerate	Sls	Limestone	Sw	Wacke
Sss	Sandstone	Sdl	Dolomite	Sag	Agglomerate/mixtite
Ssi	Siltstone				
Ssh	Shale	Sch	Chert	Sbx	Breccia
Sbs	Black shale	Sif	BIF		

METAMORPHIC

Msl	Slate	Mq	Quartzite	Mmg	Migmatite
Mph	Phyllite	Mm	Marble		
Msc	Schist	Ma	Amphibolite		
Mbs	Graphitic schist	Mcs	Calcsilicate	Msk	Skarn
Mgn	Gneiss	Mh	Hornfels		

INTRUSIVE IGNEOUS

If	Felsic undiff.	Ii	Intermed undiff.	Iu	Ultramafic
Ifp	Felsic porphyry	Iip	Intermed porph	Ius	Serpentinite
Iap	Aplite	Im	Mafic undiff.		
Igr	Granite	Ido	Dolerite	Ipg	Pegmatite
Igd	Granodiorite	Igb	Gabbro		

EXTRUSIVE IGNEOUS

Ery	Rhyolite	Ean	Andesite	Et	Tuff undiff
Edc	Dacite	Eb	Basalt	Eft	Felsic tuff
				Emt	Mafic tuff

SURFICIAL (COVER) MATERIAL

Ca	Alluvium	Clt	Laterite	Csg	Gossan
Cco	Colluvium	Csp	Pisolites		
Cs	Sand	Csf	Ironstone	Ccy	Clay
Cbs	Black soil	Csi	Silcrete		
Cg	Gravel	Cca	Calcrete	Cv	Vegetation/peat

OTHERS

Ovq	Vein quartz	Omy	Mylonite	Oms	Massive sulphide
Ovc	Vein carbonate	Obx	Breccia	Oxc	Contamination
Ovs	Vein sulphide	Of	Fault gouge	Ox	Unknown

TEXTURAL CODES

WEATHERING/SURFICIAL FEATURES

We	Weathered	Fe	Ferruginous
Bl	Bleached	Fo	Fe ox in fract
Le	Leached		

MINERALISATION/ALTERATION FEATURES

Gs	Gossanous	Vs	Vein sulphide	Al	Altered
Vn	Veined	Ds	Dissem sulph	Si	Silicified
Vc	Vein carbonate	Fs	Fracture sulph		
Vq	Vein quartz	Bs	Banded sulph	Di	Disseminated

GEOLOGICAL FEATURES

Bd	Bedded	Fr	Fractured	Po	Porphyritic
Bn	Banded	Ib	Interbedded	Sc	Schistose
Bx	Brecciated	Lm	Laminated	Sh	Sheared
Fi	Fissile (slatey)	Ma	Massive	Vu	Vuggy

DIAGNOSTIC MINERALOGY

PRIMARY MINERALISATION

Ga	Galena	Py	Pyrite	Ni	Ni sulphides
Sp	Sphalerite	Po	Pyrrhotite		
Cp	Chalcopyrite	Su	Unknown sulph		

SECONDARY MINERALISATION

Ls	Lead secondaries	Cs	Copper sec.	Ni	Ni secondaries
Zs	Zinc "	Us	Uranium "		

ALTERATION/DIAGNOSTIC MINERALS

Cy	Clay	He	Haematite	Gt	Garnet
Ep	Epidote	Mt	Magnetite	Ky	Kyanite
Cc	Carbonate	Js	Jarosite	To	Tourmaline
Sd	Siderite/Ankerite	Mn	Manganese mins	Cl	Chlorite
Dl	Dolomite				

COLOUR CODES

L	Light	A	Banded	M	Mottled
D	Dark				
N	Black	P	Purple	V	Green
G	Grey	R	Red	K	Pink
B	Brown	O	Orange	E	Blue
W	White	Y	Yellow	S	Silver

APPENDIX 8 Pyramid prospect. 1994 air-core drill logs and assays.

APPENDIX : Pyramid prospect. 1994 air-core drill logs and assays																
DPO 77654																
Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZP31	0.0	3.0	3985369	OgQha	CcyCbs			DVG		13	4	0.20	9	12		16
ZP31	3.0	5.5	3985370	Og	Sls			DG		-1	19	1.57	100	66		131
ZP32	0.0	3.0	3985371	OgQha	CcyCbs			DG		1	17	0.41	28	83		57
ZP32	3.0	6.0	3985372	Og	SlsOvc			G		-1	9	1.52	242	44		53
ZP32	6.0	7.1	3985373	Og	SlsOvc			DG+G		-1	8	1.82	327	19		42
ZP33	0.0	3.0	3985374	OgQha	CcyCbs			DB+N		-1	18	0.51	15	89		101
ZP33	3.0	6.0	3985375	Og	Sls			LG+G	"wispy" laminated Sls	-1	6	1.14	291	24		60
ZP33	6.0	9.0	3985376	Og	SlsOvc			LG+G		-1	7	1.26	347	19		76
ZP33	9.0	12.0	3985377	Og	Sls			G		-1	7	3.76	996	16		30
ZP33	12.0	14.7	3985378	Og	Sls		PySp	G	mod. pyr., trace sphalerite	-1	4	1.43	360	16		103
ZP34	0.0	3.0		Qha	CgCbs											
ZP34	3.0	4.5		OgQha	CbsCg				hole abandoned -could not penetrate gravels.							
ZP34	0.0	4.0	3985379	Qha	CgCbs				hole abandoned, could not penerate gravels.	-1	6	0.33	21	44		36
ZP35	0.0	3.0		Qha	Cg											
ZP35	3.0	6.0	3985380	OgQha	CcyCg			DB+N	minor We DG Sls	-1	16	1.99	43	89		55
ZP35	6.0	9.0	3985381	Og	CcySls	We		LGB		-1	12	3.68	19	69		177
ZP35	9.0	12.0	3985382	Og	SlsOvq		Sp	DG+G	1-2% sphalerite, could not drill further.	-1	43	3.22	169	49		48
ZP36	0.0	3.0		Qha	CgCbs											
ZP36	3.0	6.0	3985383	QhaOg	CgCcy			G		-1	28	3.02	31	79		190
ZP36	6.0	9.0	3985384	Og	CcySls	We		G		-1	22	6.04	69	134		548
ZP36	9.0	12.0	3985385	Og	SlsOvqCcy			W+LG	marbled, graphitic Sls.	-1	11	3.15	242	53		296
ZP36	12.0	15.0	3985386	Og	SlsOvc			W+LG	marbled, graphitic Sls.	-1	4	1.62	209	21		125
ZP36	15.0	16.5	3985387	Og	SlsOvc			W+G	as above	-1	4	4.92	199	33		119
ZP37	0.0	3.0		Qha	Cg											
ZP37	3.0	6.0	3985388	Og	Ccy			DB+N		-1	23	1.82	27	153		399
ZP37	6.0	8.8	3985389	Og	SlsOvq			DG+G	marbled graphitic Sls	-1	17	2.53	96	112		225
ZP38	0.0	1.2		Qha	Cg				hole abandoned, could not penetrate gravel.							
ZP38	0.0	3.0		Qha	Cg				ZP38 re-drill.							
ZP38	3.0	6.0	3985390	Og	Sls	We				-1	16	4.80	42	638		406
ZP38	6.0	9.0	3985391	Og	Sls			DG+G		-1	4	2.20	269	86		117
ZP38	9.0	12.0	3985392	Og	Sls			DG+G		-1	5	2.04	217	22		28
ZP38	12.0	15.0	3985393	Og	SlsOvc			G		-1	7	1.22	345	12		26
ZP38	15.0	17.0	3985394	Og	Sls			DG		-1	4	1.57	252	59		64
ZP39	0.0	3.8		Qha	Cg				hole abandoned, could not penetrate gravel.							
ZP39	0.0	4.8		Qha	Cg				hole abandoned, could not penetrate gravel.							
ZP40	0.0	3.0		Qha	Cg											
ZP40	3.0	5.1	3985395	QhaOg	CgCcy			DB	hole abd, could not penetrate gravel, no EOH sample	-1	8	0.73	47	42		43
ZP41	0.0	3.0		Qha	Cg											
ZP41	3.0	6.0	3985396	OgQha	CcyCg			LG		-1	12	1.80	24	148		1080
ZP41	6.0	9.0	3985397	Og	SlsOvcCcy	Al	Sd	LG	ankerite altered, patchy, weak.	-1	6	1.35	710	173		769
ZP41	9.0	11.7	3985398	Og	SlsOvc	Al	Sd	W+LG	ankerite altered -minor, patchy, weakly graphitic.	-1	7	0.62	418	107		405

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZP42	0.0	3.0		QhaOg	CgCbsCcy			DB+G								
ZP42	3.0	6.0	3985399	OgQha	CcyCg		Py	DM	minor pyrite fragments.	1	29	6.76	215	821		3310
ZP42	6.0	9.0	3985400	Og	SlsOvc			DG		-1	6	3.36	567	152		598
ZP42	9.0	11.7	3985401	Og	Sls			DG		-1	8	3.84	893	271		1224
ZP43	0.0	3.0	3985402	QhaOg	CgCcy			DB		-1	17	0.55	36	67		97
ZP43	3.0	6.0	3985403	OgQha	CcyCg			DM		1	20	4.98	769	674		2725
ZP43	6.0	9.0	3985404	Og	SlsCcy	VuAl	Sd	DG	minor patchy ank. altn.	-1	6	10.50	3648	215		941
ZP43	9.0	12.0	3985405	Og	SlsOvc	Al	Sd	G+LG	weak pervasive ank. allteration.	-1	4	12.10	4754	193		778
ZP43	12.0	15.0	3985406	Og	Sls	Al	Sd	DG+YG	mod – strong patchy ankerite altn.	-1	5	19.00	9900	132		1112
ZP43	15.0	18.0	3985407	Og	Sls	Al	Sd	DG	minor ank. frags.	1	8	19.80	8800	380		2045
ZP43	18.0	21.0	3985408	Og	Sls			DG+LG		2	15	15.20	5700	377		4464
ZP43	21.0	24.0	3985409	Og	SlsCcy	Al	Sd	YG+G	strong pervasive ankerite altn & veining, dense.	1	9	34.60	14500	746		4081
ZP43	24.0	25.8	3985410	Og	Sls	Al	Sd	DG+YG	moderate, patchy ank. altn.	1	6	39.40	15700	234		2683
ZP44	0.0	3.0	3985411	OgQha	CbsCgCcy			DB		-1	4	0.48	90	44		42
ZP44	3.0	6.0	3985412	Og	CcySls			DB+N		-1	14	2.19	157	60		388
ZP44	6.0	6.1		Og	Sls			DG+G	"wispy" graphitic lams.							
ZP45	0.0	3.0		Qha	Cg											
ZP45	3.0	6.0	3985413	OgQha	SlsCgCcy	We		DG		-1	15	1.18	32	161		387
ZP45	6.0	9.3	3985414	Og	Sls			DG		-1	13	1.40	25	68		215
ZP46	0.0	3.0		Qha	Cg											
ZP46	3.0	6.0	3985415	Og	Ccy			LB+W		-1	10	0.58	21	47		76
ZP46	6.0	6.9	3985416	Og	Sls		Py	DG	granular Sls, weakly pyritic.	-1	19	4.61	74	89		164
ZP47	0.0	3.0		QhaOg	CgCcy											
ZP47	3.0	6.0	3985417	QhaOg	CgSls	We		DG		-1	9	0.35	20	46		43
ZP47	6.0	9.0	3985418	QhaOg	CgSls			DG		-1	14	1.32	95	45		67
ZP47	9.0	11.0	3985419	Og	OvcSls			LG+DG	"wispy" graphitic lams.	-1	6	0.87	220	17		55
ZP48	0.0	3.0	3985420	OgQha	CcyCg			DG		1	33	0.38	13	135		43
ZP48	3.0	6.0	3985421	Og	Ccy			DB+N		-1	23	0.42	21	130		6300
ZP48	6.0	9.0	3985422	Og	SlsOvqCcy	We		DG+G		-1	11	1.75	145	80		338
ZP48	9.0	10.6	3985423	Og	SlsOvc			G		-1	7	1.99	225	100		50
ZP49	0.0	3.0	3985424	Og	Ccy			M		-1	3	0.57	43	17		32
ZP49	3.0	6.0	3985425	Og	Ccy			DM		1	25	1.58	31	189		54
ZP49	6.0	9.0	3985426	Og	Ccy			DM		-1	13	2.05	22	107		144
ZP49	9.0	12.0	3985427	Og	Ccy			LB+DB		-1	9	1.55	26	41		62
ZP49	12.0	15.0	3985428	Og	Ccy			B	brown slurry.	-1	10	1.95	31	31		67
ZP49	15.0	17.0	3985429	Og	SlsOvc	Bx		DG+G	"wispy" graphitic lams, some brecc textures.	-1	7	1.53	200	32		139
ZP50	0.0	3.0	3985430	OgQha	CbsCcy			DB		-1	22	0.53	16	68		65
ZP50	3.0	5.7	3985431	Og	SlsOvc	Lm		W+LG	"wispy" graphitic lams, *abundant calcite stringers.*	-1	4	0.59	94	9		27
ZP51	0.0	3.0	3985432	OgQha	CbsCcy			DB		-1	13	0.44	29	76		56
ZP51	3.0	3.6	3985433	Og	SlsOvc			LG+W	graphitic lams.	-1	12	2.39	54	45		1411
ZP52	0.0	3.0		Og	Sss		He	KW								
ZP52	3.0	6.0	3985434	Og	Ccy			DM		-1	20	3.44	21	262		489
ZP52	6.0	9.0	3985435	Og	Ccy		Py	DVG	weakly pyritic clay.	-1	15	4.01	38	122		386
ZP52	9.0	9.5	3985436	Og	Sls			G+LG	"wispy" graphitic Sls.	-1	11	3.29	59	87		260

APPENDIX 8 Pyramid prospect. 1994 air-core drill logs and assays.

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZP53	0.0	2.6	3985437	Og	Ccy			LB+G		1	10	0.42	26	117		49
ZP53	2.6	2.8		Og	Sls			G+DG								
ZP54	0.0	3.0		Qha	Cg											
ZP54	3.0	6.0	3985438	Og	Ccy			G		-1	14	1.79	31	41		106
ZP54	6.0	8.3	3985439	Og	Sls			DG		-1	8	2.32	620	14		31
ZP55	0.0	3.0	3985440	Og	Ccy			DM		-1	12	0.46	39	42		85
ZP55	3.0	6.0	3985441	Og	Ccy			DB+NM		-1	21	5.00	35	248		2022
ZP55	6.0	9.0	3985442	Og	Ccy			DM		-1	15	6.79	125	198		1173
ZP55	9.0	9.1		Og	Sls			DG								
ZP56	0.0	3.0	3985443	OgQha	CcyCbs			LB		-1	3	0.37	17	13		32
ZP56	3.0	6.0	3985444	Og	Ccy			DB+N		1	33	2.51	30	254		262
ZP56	6.0	9.0	3985445	Og	Ccy			DG		-1	20	3.75	39	42		260
ZP56	9.0	9.9	3985446	Og	Sls			G	"wispy" graphitic lams.	-1	6	1.82	111	24		54
ZP57	0.0	3.0	3985447	OgQha	CcyCg			LM		-1	8	0.32	15	11		17
ZP57	3.0	6.0	3985448	Og	Ccy			G		-1	20	4.35	24	34		63
ZP57	6.0	9.0	3985449	Og	Ccy			G		-1	25	4.90	51	57		112
ZP57	9.0	10.0	3985450	Og	SlsOvc	Bx		G	abundant vein calcite, brecciation evident.	-1	10	1.65	168	35		69
ZP58	0.0	3.0	3985451	OgQha	CcyCg			LB+DB		-1	8	0.31	14	24		18
ZP58	3.0	6.0	3985452	Og	Ccy			DBN		-1	20	3.69	15	73		76
ZP58	6.0	9.0	3985453	Og	Ccy			DBN		-1	15	1.49	15	43		79
ZP58	9.0	12.0	3985454	Og	Ccy			M		-1	19	1.80	16	48		126
ZP58	12.0	15.0	3985455	Og	Ccy			M		-1	20	2.27	54	76		293
ZP58	15.0	18.0	3985456	Og	Ccy			GB		1	19	2.37	33	87		196
ZP58	18.0	21.0	3985457	Og	Ccy			DM		1	21	2.59	35	128		248
ZP58	21.0	24.0	3985458	Og	Ccy			DM		1	19	4.12	54	112		259
ZP58	24.0	27.0	3985459	Og	SlsCcy			DG		1	14	2.29	164	79		197
ZP58	27.0	30.0	3985460	Og	CcySls			BG+DG		-1	16	3.26	163	103		155
ZP58	30.0	33.0	3985461	Og	SlsCcy			DG		-1	10	1.99	334	34		36
ZP58	33.0	35.5	3985462	OgQha	SlsCg			LG+DG	"wispy" graphitic lams, abundant rdd qtzite pebbles	-1	16	2.93	57	142		427
ZP59	0.0	3.0	3985463	Og	Ccy			DG		1	37	0.75	20	249		108
ZP59	3.0	6.0	3985464	Og	Ccy			DV+G		-1	20	3.84	21	135		385
ZP59	6.0	9.0	3985465	Og	CcySls	We		DM		1	21	4.66	28	304		350
ZP59	9.0	11.0	3985466	Og	Ccy			G		-1	19	6.48	69	180		245
ZP59	11.0	11.1		Og	Sls	Lm		DG+G	graphitic lams							
ZP60	0.0	3.0	3985467	OgQha	CbsCcy			DB		-1	8	0.54	20	63		175
ZP60	3.0	3.7	3985468	Og	SlsOvc	Al		G	highly indurated, silicified?Sls	-1	3	0.36	119	8		25
ZP61	0.0	3.0	3985469	Og	SlsOvc			LG	minor Ovc and calcite blebs.	-1	4	0.55	98	22		90
ZP61	3.0	6.0	3985470	Og	Sls	Lm		LG+W	minor graphitic lam.	-1	4	0.88	100	29		65
ZP61	6.0	7.5	3985471	Og	Sls	Al	Sd	LG+W	patchy weak ank. altn, minor graphitic lams.	-1	4	1.14	532	73		659

APPENDIX 8 Pyramid prospect. 1994 air-core drill logs and assays.

Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZP62	0.0	3.0	3985472	Og	Ccy			DG		-1	17	4.95	45	94		627
ZP62	3.0	6.0	3985473	Og	Ccy			DB+N		-1	18	4.90	89	102		237
ZP62	6.0	9.0	3985474	Og	CcySls			GW	minor GY-WH graphitic Sls.	-1	15	5.89	149	86		270
ZP62	9.0	12.0	3985475	Og	SlsOvc	Lm	Py	LG+W	graphite banded, pyrite blebs.	-1	5	0.94	169	9		42
ZP62	12.0	15.0	3985476	Og	SlsOvc	Lm		LG+G	graphite lam., fossiliferous (brachiopods).	-1	5	0.86	162	10		71
ZP62	15.0	18.0	3985477	Og	SlsOvc	Lm		G+LG	graphite laminated.	-1	6	1.16	245	11		38
ZP62	18.0	21.0	3985478	Og	SlsOvc	Lm		G+LG	as above, trace dissem. py, gal.	-1	5	1.48	149	24		79
ZP62	21.0	24.0	3985479	Og	SlsOvc			G+DG		-1	8	4.24	152	165		781
ZP62	24.0	25.4	3985480	Og	SlsOvc	We		G+DG	abundant vein calcite.	-1	6	1.60	213	155		659

APPENDIX 8: Pyramid prospect. EZ "winkie" diamond drill logs and assays.

APPENDIX : Pyramid prospect. EZ "winkie" diamond drill logs and assays																
Hole	DFrom	DTo	Sampno	MRTLith	FieldID	Texture	Alt/Min	Colour	Comments	Ag ppm	Cu ppm	Fe%	Mn ppm	Pb ppm	S%	Zn ppm
ZWP27	0.0	5.7							Precollar, no core.							
ZWP27	5.7	8.2	65268	Og	Sls	Le		G	Dolomitised?		15	1.01	670	170		1250
ZWP27	8.2	9.1	65269	Og	Sls	Le		G	Dolomitised?		10	1.56	1100	210		1300
ZWP27	9.1	9.5	65270	Og	Sls	Ds?	GaSp		Silty limestone rubble	28	145	1.76	1400	49900		52000
ZWP27	9.5	10.1	65271	Og	Sls				Silty limestone rubble		15	1.71	1200	1885		11500
ZWP28	0.0	5.8							Precollar, no core.							
ZWP28	5.8	8.0		Og	Sls			LG	Silty limestone rubble		15	1.01	670	170		1250
ZWP29	0.0	3.8							Precollar, no core.							
ZWP29	3.8	4.4		Sa?	Sss	Sl		G								
ZWP29	4.4	9.6		Sa?	SsiSss			G								
ZWP29	9.6	12.6	65272	Sa?	SsiSss			G			20	1.31	45	125		770
ZWP29	12.6	14.8		Sa?	SsiSss			G								
ZWP29	14.8	16.7		Sa?	Sss	We		B								
ZWP30	0.0	6.4							Precollar, no core.							
ZWP30	14.4	17.6	65273	Og	Sls	WeLe		DG			10	0.96	505	75		195
ZWP30	17.6	18.2			Ox				No recovery							
ZWP30	18.2	18.6	65274	Og	Sls	Le		GDG			10	1.61	710	35		110
ZWP31	0.0	8.2							Precollar, no core.							
ZWP31	8.2	11.6		Og	Sls											
ZWP32	0.0	5.3							Precollar, no core.							
ZWP32	5.3	10.5		SaSc?	Ssi	We										
ZWP32	10.5	24.9		SaSc?	Ssi			G								
ZWP32	24.9	27.4		SaSc?	SsiCcy											
ZWP33	0.0	7.6							Precollar, no core.							
ZWP33	7.6	10.1	65275	Og	Sdl	Vu		G	Recrystallised Dolomite		10	1.96	1500	195		405
ZWP33	10.1	10.5		Og	Sdl	Vc	DlSd	G								
ZWP33	10.5	13.0	65276	Og	Sdl	Vu		G	Recrystallised Dolomite		10	1.76	1350	80		545