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E.L. 20/96 - Elliott Bay,

Southwestern Tasmania.

Annual Report 12/4/99 – 11/4/00

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Annual Report - EL20/96 - Elliott Bay - SW Tasmania

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EL20/96

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SUMMARY

E.L. 20/96 - Elliott Bay lies at the southern end of Tasmania's Mt Read Volcanics and it covers a sequence of Cambrian calc-alkaline felsic to mafic volcanics. The region has potential for V.H.M.S. and/or gold deposits.

A reasonable amount of exploration has been conducted in the area and it tends to preclude the existence of a major, near surface polymetallic orebody. Gold orebodies have not been systematically explored for in any detail.

Data review was undertaken during the term, however, this has not, as yet, led to the production of any new reports / plans.

ELA 21/99 was lodged jointly by Exploration & Management Consultants Pty Ltd and McNeil Associates Pty Ltd to obtain a dominant ground position in the underexplored SW of Tasmania. All the prospective Mt Read Volcanics between Low Rocky Point and Maquarie Harbour (44 linear km strike length) are now packaged for joint venture or financing opportunities as the 'Wanderer' Project (EL 20/96 + ELA 21/99).

Billiton Exploration Australia undertook (in late March 2000) to re-process the existing aertomagnetic data and evaluate it using proprietary EMFLOW software, to search for and enhance any deep or subtle anomalies that were not discerned historically or were overlooked. Results of their work are not yet to hand.

Future work will probably require a commitment to undertaking a new generation aeromagnetic / E.M. survey, followed by target follow up (geophysical, geological and geochemical) and extensive drilling.

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1.0 INTRODUCTION

E.L. 20/96 covers 13 square kilometres (reduced from 180 sq. km) in discrete two blocks and is located on and near Tasmania's southwest coast (Figure 1). The license is accessible by the four wheel drive (??) Low Rocky Point track from Birch Inlet on Macquarie Harbour to the un-manned low Rocky Point Lighthouse, by boat to Cowrie Beach and by helicopter.

Access within the tenement is relatively easy by foot, 4wd motorcycle or ATV. The prospective rocks in the license are generally poorly outcropping and are often covered by short heath and thin (to 1m) Tertiary gravels.

Certain sectors of the south-west of Tasmania are World Heritage listed. The outcrops of Mt Read Volcanics at Elliott Bay (and some Eo-cambrian tholeiitic volcanics on the Sorell Peninsula) were excluded from the World Heritage areas on the basis of their mineral prospectivity (and lesser wilderness values).

2.0 EXPLORATION PHILOSOPHY

EMC P/Ls exploration philosophy with respect to the general Elliott Bay region emphasises the necessity for a serious commitment to additional aerial geophysics and drilling. Targets ideally would have *coincident geochemical and geophysical responses*.

The potential sources of gold in the existing EL 20/96 area can be summarised as being the following:

- V.H.M.S. deposits
- Quartz-pyrite-chlorite-tourmaline alteration zones related to shears
- Quartz-gossanous zones associated with magnetite-chlorite alteration at granite margins.
- Stratabound replacement of coarse pyroclastics.
- Quartz veins
- Tertiary gravels

A number of conclusions have been reached regarding gold exploration and they are similar to concerns conclusions noted by previous explorers, being:

- Gold is erratically distributed in soil samples and C horizon samples appear to be the best indicator of its presence or absence
- Detailed panning in creeks to locate the entry point of gold may be the best way to initially track it to source
- If C horizon sampling is utilised the sample should be obtained using a purpose built power auger. Post hole diggers are ineffective if the soil cover is > approximately 0.5 m
- Additional exploration in the region, specifically for gold, is still warranted

3.0 EXPLORATION HISTORY

3.1 *Introduction*

The Elliott Bay area lies at the extreme southern end of the Mount Read Volcanics. The area saw some prospecting around the turn of the century with T.B. Moore visiting the area. In 1955, the B.M.R. conducted an Airborne Scintillometer Survey over the southwest of Tasmania. The first EL, which included the Elliott Bay area, was that of Mt.Lyell-E.Z (L.E.E. joint venture) in 1957, which covered a vast area of south-western Tasmania.

3.2 Old Workings

Old workings are visible at V2 (hereafter Voyager is abbreviated to V - i.e. Voyager 2 becomes V2), Lewis River, and V3. These workings date back to 1890-1910, however, the area south of Macquarie Harbour did not see the level of prospecting activity which characterised the rest of the west coast. This was largely due to difficulty of access.

3.3 L.E.E./B.H.P.

The L.E.E. joint venture (between the Mt. Lyell and E.Z. companies, operators of the Mt. Lyell and Rosebery mines, respectively) carried out an airborne EM., magnetics and scintillometer survey over the vast "Gordon Concession" covering much of Tasmania's south-west. Ground inspections of old workings were made at V3 and Lewis River with mapping and rock-chip sampling of the latter. Results of this work are poorly reported and have been superseded by later more detailed work. No data from their work is included in this report.

B.H.P explored the south-west from 1965 -1975 as part of the large EL 13/65. Initial work involved an aeromagnetic survey including the northern part of Elliott Bay, followed by an airborne scintillometer survey. Ground work consisted of a stream sediment geochemical survey over most of the volcanics with some limited soil sampling. In 1975, B.H.P contracted Geoex Pty Ltd to fly a McPhar H-400 EM survey over the Elliott Bay area. The McPhar H-400 EM survey has been superseded by later airborne EM surveys in the area.

3.4 Geopeko (1976-1985)

Geopeko extensively summarised all of their work in their 1985 relinquishment report (Herrmann 1985). Their work defined 36 prospects given the prefix Voyager. A brief summary of exploration conducted annually by Geopeko follows.

1976-77
Exploration (over a 3 week period in March/April) consisted largely of reconnaissance mapping and rock sampling and the collection of -80# stream sediments over a significant of the area of Mt. Read Volcanics. EM anomalies defined by the McPhar H-400 survey V3 and relinquished V4 and aeromagnetic anomalies from the same survey over other relinquished Voyager prospects.

1977-78
Griding, soil sampling and geophysical surveys (dipole-dipole IP, VLF-EM and SP) were conducted over some of the prospects defined in the previous years work (V 2 and 3). The V 3, zone in the south-eastern part of the area was recognised as having potential for V.H.M.S. style mineralisation with anomalous streams, soils and IP responses.

1978-79
The regional work commenced in 1976/77 was extended to cover the area north of the Lewis River, with further mapping, rock sampling and -80# stream sediment sampling conducted. Some of this work was directed towards assessing further EM anomalies from the McPhar H-400 survey. In general inconclusive results were obtained from following up the EM anomalies.

Detailed work was conducted over V2 and 3. This work involved further griding, soil sampling and geophysics (including magnetics, IP, SP, TURAM and VLF-EM). The first drilling (All Jacro AQ holes) was conducted in this season with 2 short holes (for 61.2 metres) at V3.

Geochemical and geophysical anomalies at V2 were attributed to minor "erratic" lenses of mineralisation. Those at V3 remained unexplained by drilling, though the occurrence of sulphides (including Cu, Pb and Zn) in fine sediments was considered encouraging.

1979-80
Work was conducted over a five month field season from December through April. The regional reconnaissance work was extended to cover much of the remainder of the Mt. Read Volcanics in the Elliott Bay area, with -80# stream sediment sampling and geological mapping. By this stage 26 Voyager prospects had been defined. At the end of the season Large (1981) defined six styles of mineralisation with economic potential in the Elliott Bay area. These were:

(1) Cu (Pb-Zn) mineralisation (analogous to Mt Lyell) in pyritic alteration in the western part of the Elliott Bay area.
(2) Stratabound gold in volcanics .
(3) Rosebery type V.H.M.S. deposits in the V2-V3 area in the south
(4) Epigenetic gold-base metal mineralisation related to the contacts with the Elliott Point Porphyry.
(5) Copper-tungsten mineralisation associated with thin magnetite-pyrite-chlorite-siderite exhalatites (?) at V2 + V3.

(6) Syngenetic copper mineralisation in dolomitic horizons in the tholeiitic
(7) Mainwaring River Volcanics to the west of the Mt. Read Volcanics at Elliott Bay.

Priority (for exploration follow up) was assigned to styles 1 to 3.

Detailed work was conducted over a number of prospects (griding, magnetics, VLF-EM and TURAM).

1980-81
Field work concentrated on areas of alteration defined by previous work at V3, and also on a number of other prospects/ reconnaissance work in the Mainwaring River Volcanics.

More significant exploration included the following: at V3 (further mapping, limited IP and drilling of a single 201.1 m DDH - V3/3),

At V3 DDH V3/3 intersected felsic volcaniclastics with disseminated pyrite and minor local zinc mineralisation (8 metres @ 0.37% Zn).

Results from work on other prospects included the discovery of Ag-Au-As anomalous in pyrite-galena-sphalerite veins along the Copper Creek Fault (V31). Low order gold stream anomalies were defined in reconnaissance work in the Mainwaring River volcanics.

1981-82

Work was conducted over prospects in the north-eastern part of the area of Mt. Read Volcanics on now relinquished prospects. Work included griding, soil sampling and stream sediment sampling (including panned concentrates), VLF-EM and magnetics.

Felsic volcaniclastics were intersected on one of the relinquished prospects with interbedded fine sediments including pyritic black shales interpreted to indicate a favourable ore-forming environment. Magnetics indicated the presence of a large magnetic body at ~ 500 metres depth. Mapping at V31 confirmed that the sulphides are located in quartz veins along a geological contact.

1982-83
Aquitaine Australia Minerals Ltd joint ventured into the project in 1982, but withdrew in 1983.

Extensive dipole-dipole IP survey was completed over the volcanics on either side of the Mt. Osmund syncline from V33 on the western side to relinquished V34 on the eastern. 100 line kilometres (totalling ~ 25 square kilometres) was read using 50 metres dipoles on east-west lines spaced 200 metres apart. As part of this systematic work C-horizon soil sampling was completed over the same area along with detailed mapping/re-mapping. Magnetics was read over lines in the southern part of the survey area and infill soil sampling and IP conducted in areas where anomalous responses were recorded. Other work in the season was the extension of panned concentrate stream sampling on the eastern side of the Stony Creek Microgranite and a lead isotope study of occurrences of lead mineralisation.

The IP anomalies defined by the survey were only of subtle character, however, after consideration of other geological, geochemical and geophysical data, three were selected as priority targets for drilling in the following season with a further eight recommended for further infill IP or geochemical sampling. The stream sampling defined a zone of anomalous alluvial tin and extended the area of the gold anomalous zone (V24/V30 lie to the west of the Stony Creek Microgranite). The lead isotope study showed that Cambrian mineralisation could be distinguished from Devonian (less prospective) mineralisation.

1983-84
The recommended drilling was not carried out. Instead a smaller programme (apparently designed to obtain encouraging enough results to carry on) was completed. In the V9 area this work consisted of a fixed loop UTEM III survey (four loops for ~ 4 line kilometres).

Geopeko decided to withdraw from exploration in Tasmania in early -1984, however, a J.V. partner could not be found and the ground was dropped in mid -1985.

4.5 Cyprus (Arimco)-Poseidon (1985-1990)

Cyprus were the licence holders of EL 40/85 from 1985 until late-1994 when the ground was compulsorily relinquished in spite of Cyprus's efforts to extend the E.L. It is believed that Cyprus and Poseidon maintained a 50:50 J.V. until Aberfoyle farmed in in 1990, with the split ~ 33% each from then on. Cyprus managed the property until 1989. In 1990 Aberfoyle began farming into and managing the EL, pulling out in 1993.

The following is a summary of exploration conducted by Cyprus from 1985 to 1990.

1985-96
Work Carried Out
Field work in the six months from January to June, 1986 consisted of the following:

- Helicopter borne Dighem-magnetic survey in early January including 500 line km with 150 metre line spacing
- Ground follow-up of ten anomalous areas involving.
  - 14 lines totalling 19.25 km
  - Max-min EM survey and magnetics surveys over all lines
  - 455 C horizon soil samples on lines 1 to 12 and 14
  - 14 rock chip samples
  - reconnaissance geological mapping
  - 10 thin sections.

Results
A number of anomalies were recognised in the DIGHEM survey. Bishop (1986) recommended follow-up of 10 of these anomalies. Fourteen reconnaissance lines were completed over these anomalies. The prospects were relinquished in 1999.

Geologically the rocks were considered to become more altered to the south.

1986-87
Regional:
Work Carried Out

- Evaluation of all previous geophysical work by Mitre Geophysics (Bishop, 1987)
- Compilation of 1:10000 prospect mapping at 1:25000
- Regional Stream geochemical sampling using -80# and panned concentrates (Cu, Pb, Zn, As and Au).
- Rockchip sampling
- Air photo interpretation of structures.

Results

- Bishop (1987) recommended follow-up of a number of DIGHEM anomalies, DHEM on all holes at V19, compilation of all previous work at 1:25000 and regional gradient array IP over areas not covered by previous IP surveys.
- The stream geochemical sampling results along with subsequent years work are compiled at 1:10000.

Prospect evaluation was prioritised according to the following:

- follow-up of Dighem anomalies
- evaluation of old prospects
- follow-up of air magnetic anomalies
- follow-up of geological and geochemical anomalies determined from Cyprus stream and rock-chip sampling program.

Prospects are detailed below:

Regional
Work carried out

- Compilation of all previous geophysics (Bishop, 1988).
- Interpretation of air photographs and magnetic lineaments.

Results

- Bishop's (1988) report focussed on Geopeko's Voyager prospects with further work recommended for 22 of the 36 Voyager prospects.

Further geophysics was recommended in a number of areas:

- further follow-up of aeromagnetic anomalies
- gradient array IP over areas not covered in regional dipole-dipole survey, in particular the V3-V12 zone.
- dipole-dipole IP may provide drill targets in gold prospects eg V30.
- the extension of the resistivity high at V24 should be tested.
- UTEM survey over the V2-V12 area.
- DHEM at V12 prospect.
- completion of regional gravity to confirm two possible anomalies near V19 and further evaluate gravity at V9 and V29 in the light of drilling.
- carry out an integrated interpretation of aeromagnetic and gravity data to help define structure and deformation in the V19 area.

Bishops compilation also included a complete compilation of previous surveys, geology etc for the area at 1:25000 scale.

1988-89
Work Carried Out
None in the relinquished area

4.5 Aberfoyle-Arimco (Cyprus)-Poseidon (1990-1993)

In 1989-1990 Aberfoyle began farming into the EL and no work was carried out in this season. At the same time Aberfoyle relinquished the outer parts of EL 40/85, much of which lay within EL 5/94 (until September, 1996).

1991-92
Aberfoyle flew a QUESTEM airborne EM survey over the prospective rocks. Nine anomalies were recognised from the survey.

1992-93
Ground follow-up was carried out at all nine anomalies. This involved ground EM and soil surveys over some of the anomalies. A single hole was planned to test the EB-1 anomaly. This hole was abandoned at shallow depth due to difficult drilling. A second hole was also abandoned short of the target depth. DHEM on this latter hole did not locate any conductors below the hole.

4.5 Plutonic (1994-95)

Plutonic were successful in tendering for the Elliott Bay area against three other companies. Their work consisted almost entirely of reviews in the V19 area, but included the re-logging of core and outcrop at V3, as well as geophysical surveys in the V3 area, moving loop SIROTEM (9.7 kilometres). Plutonic's work essentially repeated that completed by previous explorers.

3.0 PROSPECTS

A large number of prospects have been identified by Geopeko, Cyprus and Aberfoyle's work. Other prospects, particularly gold, are recognised in this report from anomalous results which have not been followed up. Those prospects considered to have good to very good potential for economic base metal and/or gold mineralisation are summarised below.

V34

V34 lies to the north, along strike from V22. By 1981-1982 the prospect consisted of combined Pb-Zn soil anomalies up to 4,450 ppm Pb and 3,550 Zn. V34 also lies on the eastern limb of the Mt Osmund syncline. The prospect was covered by the 1982-1983 IP survey and remapped.

Voyager 3 - Trend in South-East

The zone running N-N-E from V3/Drake Creek/Cowrie Beach in the south through Lewis River, V2/Old Lewis River and V12/North Lewis to the Elliott Point Porphyry contact consists of a linear trend of the above prospects. The zone has potential for V.H.M.S. and/or gold mineralisation

The zone contains a large number of anomalous panned concentrate gold and -80# gold and arsenic in stream sediments.

V3 (Drake Creek or Cowrie Beach)

This prospect lies near the coast at Elliott Bay. It was previously defined by the presence of old workings on chalcopyrite-malachite veins. It was drilled by Aberfoyle in order to test an airborne/ground EM anomaly. Recent work by Herrmann and Close (1995) described the prospect as a zone of sericitic alteration on the coast.

Soil sampling by Geopeko produced anomalies up to 0.47% Pb and 1.0% Zn . VLF-EM and dipole-dipole IP surveys were conducted over the grid. A north-east trending zone of anomalous soils and VLF-EM was drill tested by DDH's V3/1 and V3/2 whilst the best IP anomaly, with coincident anomalous soils was tested by V3/3. It is apparent from core to bedding that V3/3 was drilled down-dip. Wilson (1981) states that the hole penetrated the eastern limb of a syncline with its axis to the west. The IP anomaly is 'explained' by 1-3% disseminated pyrite (Wilson, 1980).

Aberfoyle's' airborne EM survey located a north-north-west trending anomaly to the west of the V3 grid. Fixed loop EM confirmed this anomaly, which was subsequently drill tested by EB-1. The first attempt was abandoned due to ground conditions with the second attempt terminated short of the target depth. DHEM on this hole did not reveal any anomalies due to conductive sulphides. Prior to drilling, Aberfoyle conducted a C-horizon soil sampling survey on grid lines west of the V3 grid. Where the two grids overlap it is clear that the Aberfoyle results are an order of magnitude lower than Geopeko's. Geopeko's sampling was generally carried out using a JACRO 200 Auger rig on the back of a Muskeg Bombardier. In inaccessible locations hand augering was used. Aberfoyle's sampling would have been done with a hand held power auger. Aberfoyle's ground EM survey covered the southern two-thirds of the V3 grid, with no anomalies detected.

Gold Prospects in north-eastern Elliott Bay

The eastern side of the Elliott Bay tenement contains a large number of steams with anomalous gold in panned concentrates. The V3-V12 zone discussed earlier is one of these. Spatially, the large zone parallels and broadly corresponds to the contact between the Elliott Point Porphyry and the volcanics to the east.

A number of these anomalous creeks drain aeromagnetic anomalies and prospects. The anomalies/prospects will be discussed from north to south.

Northern Central

These four anomalous creeks are particularly prospective, as two drain into the Hudson River from the west, the other two from the east. It also corresponds roughly with aeromagnetic Anomaly 5, though the single soil traverse conducted over aeromagnetic Anomaly 5 lies 200 metres to the north-west of the anomalous creeks. Creeks returned 37.7 and 89.3 ppm Au and 456.1 and 4.24 ppm Au . All soils in the traverse were below detection limit (i.e <0.01 ppm), however, as noted this line was not correctly positioned.

Southern

The area in the south-eastern corner of former EL 5/94 has quite good coverage by Cyprus' stream geochemical survey. There are scattered discretely anomalous streams (predominantly in -80# Au of As) in the very south-eastern corner, however, the best zone is the four anomalous pan concentrates (51.7, 39.3, 34.8 and 30.3 ppm) and the single 51.5 ppm pan concentrate.

Porphyry Dolerite Contact

A single pan concentrate of 230 ppm was obtained from a creek draining Jurassic dolerite near its contact with the porphyry. A single soil traverse was conducted, but around 400 metres to the south? All results

were B.D.L., but the survey results are worthless. It is possible that this gold was shed from Tertiary gravels underlying a hill at the headwaters of the creek.

Conclusions

There are a large number of streams with anomalous gold which have seen little or ineffective (single traverse) follow-up (the single traverses were generally undertaken to follow-up DIGHEM anomalies). The source of the gold is unknown and there is potential to discover a gold deposit in this sector of the Elliott Bay license.

4.0 EXPLORATION COMPLETED

A data review was undertaken and Summary Report compiled during the first year of the Elliott Bay – 20/96 license. A joint venture was later finalised with Fimiston Mining N.L., who drilled 2 holes at the Wart Hill (sulphide outcrop) prospect.

The beginning of a digital database has been established and consists of geology, topography, creeks, tracks and geophysics. The digitising of geology over a significant proportion of the tenement has been completed with boundaries and rock types similar to that published by the Geol Survey of Tasmania, 1:25,000 Elliott Bay map sheet. Areas of significant vegetation (often associated with dominantly sedimentary lithologies) have been digitsed from the 1:25,000 topographic sheets.

The geophysics was reprocessed by Fimiston and overlaid with a variety of geochemical and geological data sets (largely collected by previous workers).

During the present term, a review of the various data compilations was initiated and attempts were made to locate another joint venture partner to fund exploration on the the license. The 'Wanderer' – EL21/99 tenement was applied for in late 1999, in conjunction with McNeil Associates Pty Ltd, to cover all the prospective Mt Read volcanics between Low Rocky Point and Maquarie Harbour, encapsulate EL20/96 and enhance our regional ground position.

Billiton Exploration Australia undertook to re-process the existing aeromagnetic data in late-March 2000, prior to making a commitment to a JV on both tenements. No results have been returned from this work as yet.

5.0 CONCLUSIONS

The Elliott Bay area covers a prospective and under explored part of the Mt Read Volcanics. The large quantity of exploration that has been completed within E20/96 has included systematic and comprehensive geological mapping, geophysics and geochemistry.

The sulphide occurrences at Wart Hill / Voyager 19 have not been traced to their source, however, this and the other prospective areas (V2, 3, 12, 17, 24, 29, 29W, 30, 31 and 33) have been retained as part of EL 20/96.

6.0 EXPENDITURE STATEMENT

Statement of Expenditure for EL 20/96
12/4/99 – 11/4/2000
Elliott Bay

Remote Sensing & Airbourne Surveys	
Aeromag Survey	
GIS Applications	
Data Processing	
Overheads	
Administration Costs	$ 1,350
Legal Fees	
Office Charges	
Report Preparation	$ 250
Stamp Duty	
Telephone Expenses	
Other Costs	
Computing	
Consulting	
Geologist – Data Review	$15,250
Drafting	
Land Management/Rent	
Travel & Accomodation	
Exploration Expenditure	**$16,850**

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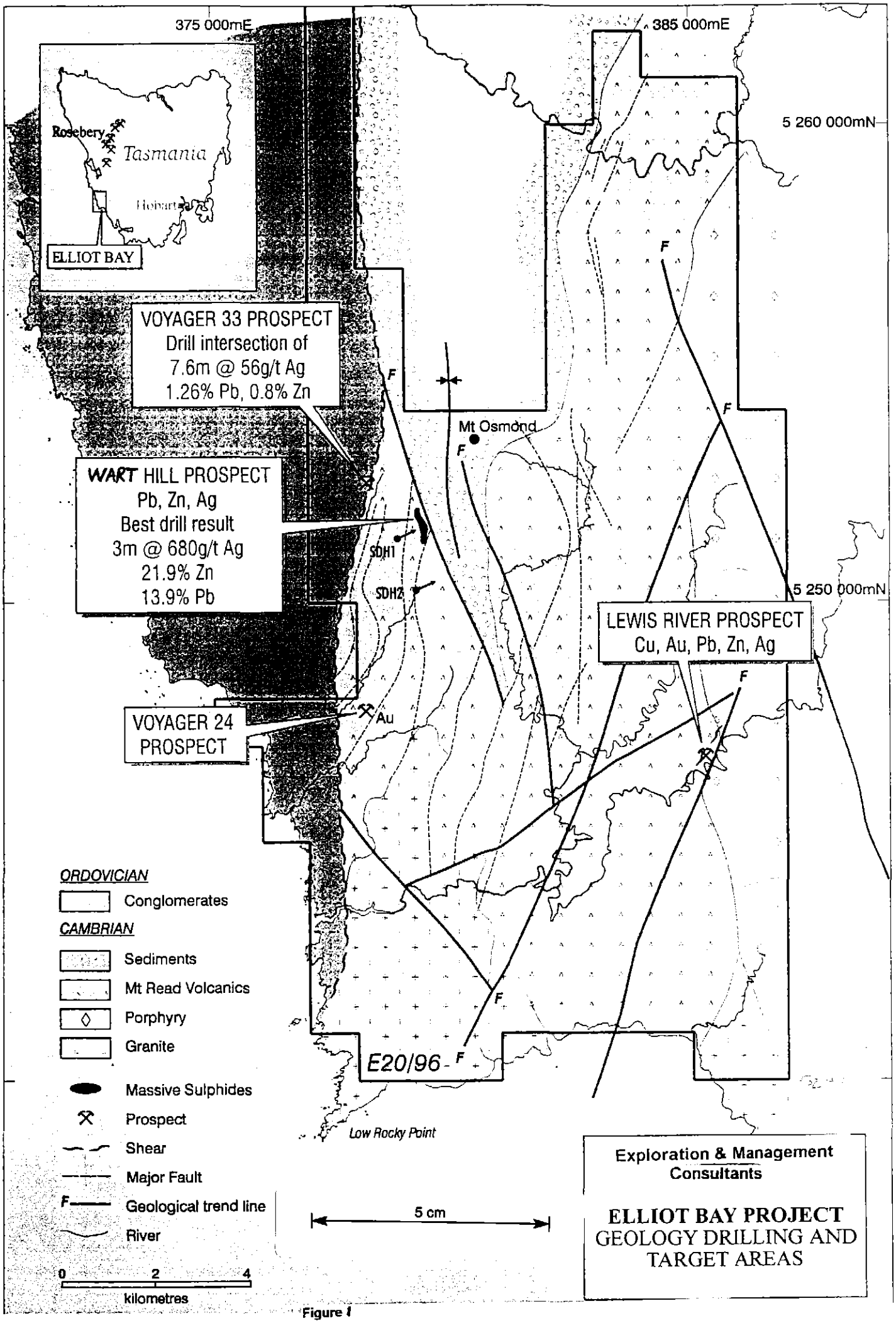

Figure 1