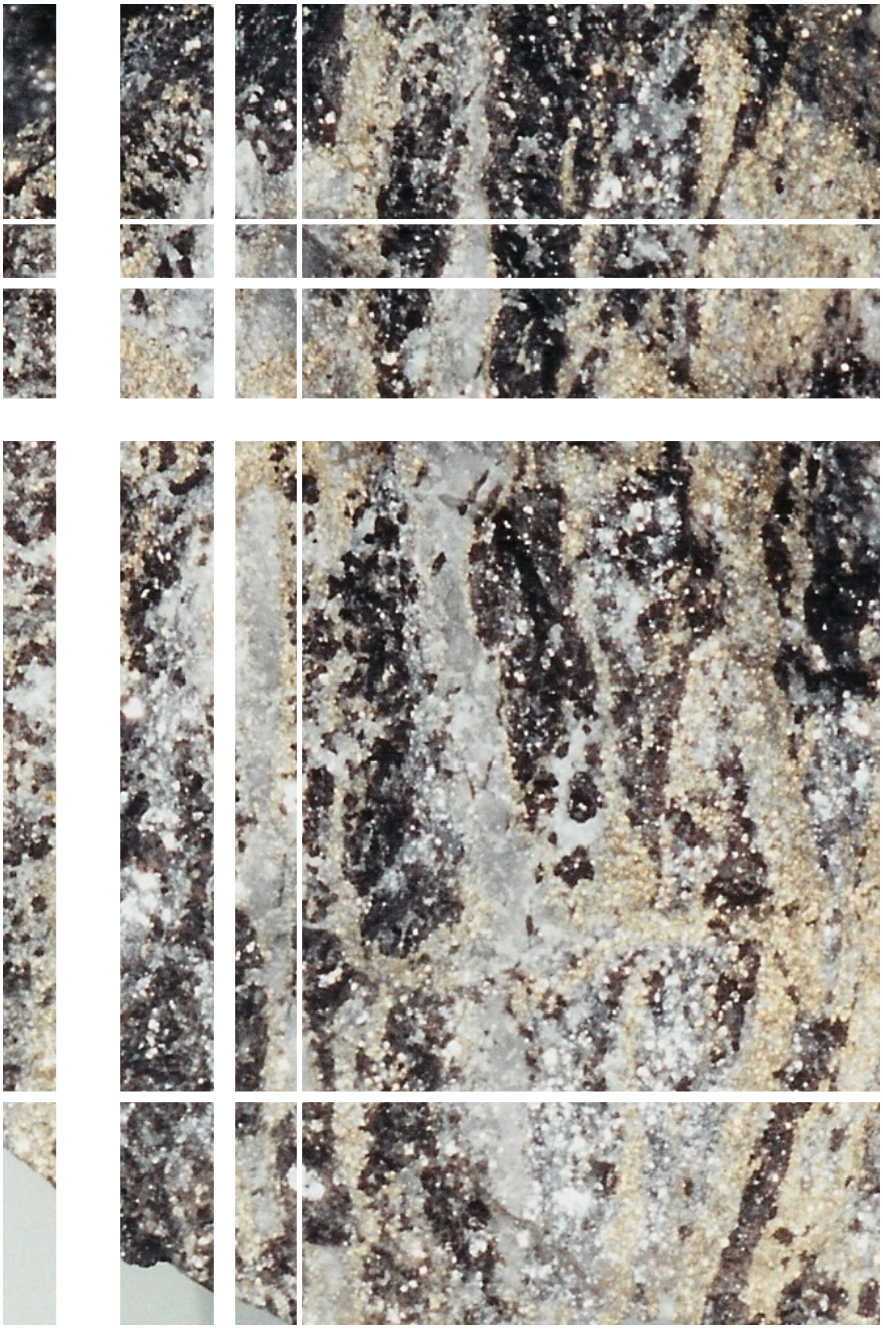
Geological Interpretation for the Allison's and Oceana Deposits

October 2005

Prepared for :

Oceania Tasmania Pty Ltd



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Coordinates are AMG in AGD66 Zone 55

1. INTRODUCTION

Oceania Tasmania Pty Limited, in association with their sister company Zeehan Zinc Pty Limited, requested a 3-D geological interpretation in Surpac of resources contained within their Zeehan mine leases (held by Oceania Tasmania) and exploration licences (held by Zeehan Zinc).

The prospect areas with resources to be geologically modelled are:-

- On the Mine Lease 123M/47
  - Allison's Lode
  - West Lode
- On the Exploration Lease 20/2002
  - Oceana

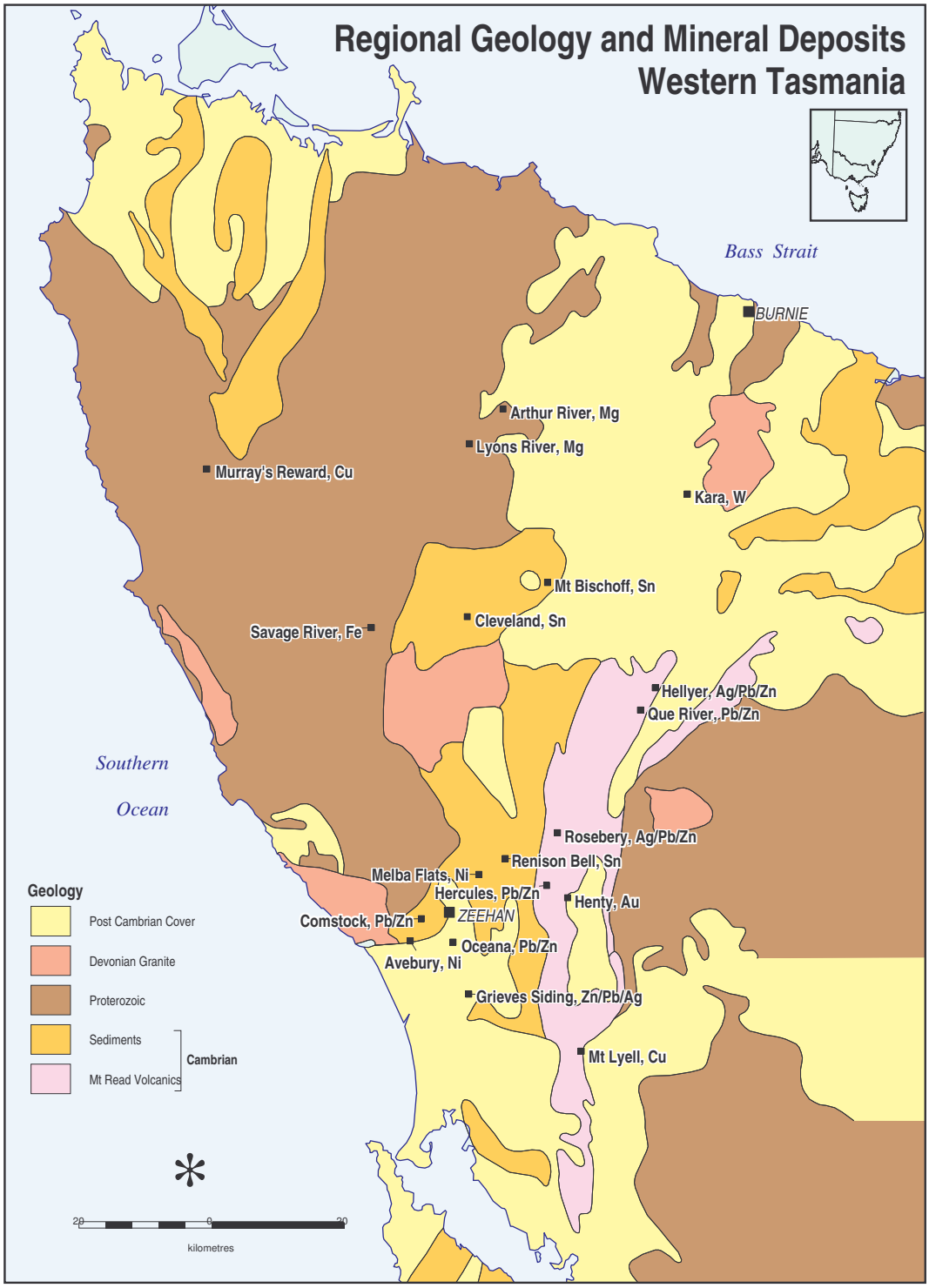
The licences are located within a 4km radius of the west coast town of Zeehan, West Tasmania (Figure 1). The commodities involved are a combination of lead/zinc with lead dominant at Oceana and zinc dominant at Allison's and West Lodes.

The purpose of this report is to document the parameters used in the creation of the drilling databases and the design of the 3-D solids.

2. WORK COMPLETED

The work reported here includes an update of the drillhole databases for both areas including some validation, and a geological interpretation from the drilling and limited surface mapping. The products of this work are two Access drillhole databases for the two areas, a suite of 3D geological and old infrastructure solids generated in Surpac including attempts at delineating old workings, a series of hardcopy plans and sections and this report.

Figure 1
Location Map (Tear 2005)



3. DATABASES

Digital data for the drilling, topography and geological mapping was supplied by Oceania Tasmania in the form of excel spreadsheets, a dxf file and MapInfo tables respectively. All of this data was used in the recent geological report by Tear (2005). Minor validation of the data has been undertaken for this report.

The two Access databases are called:

- Comstock.mdb and,
- Oceana_pit.mdb.

The Comstock database contains all the Mine Lease drilling including the recent Oceania Tasmania diamond and aircore drilling and the RGC diamond drilling work of the early 1990's. Also included are some underground diamond holes from EZ's work in the 1940's. The accuracy of the collars of this last set of drillholes is dependant on the accuracy of the maps detailing the old underground workings.

In addition 4 channel sample traverses completed during the initial excavations of the Allison's Lode (1999/2000) by Oceania Tasmania are also included (Heath 2000).

Collar data is based on an AMG grid. Other consultants have used a truncated AMG grid which is not recommended as the eastings and northings are very similar in range about the Comstock general area. Assay results below detection limits were substituted with values half the lowest detection limit for each element. Some modifications have been made to some of the RGC lithological interpretations based on recent observations of old core.

The Oceana pit database comprises all the diamond underground and surface holes north of 3500N plus one or two other relevant holes. The holes into the resource south of the Oceana Mine Fault were not included as it is inferred from the longitudinal map of Jack (dated 1960), that the resource has been mined out. Also included are the recent aircore holes completed by Zeehan Zinc and the results of several surface trenches completed by both Zeehan Zinc and previous explorers.

Collar location data is based on the Oceana Local Grid (Amoco/Pasminco) which still exists on the ground. All the underground holes drilled by North Broken Hill were in their own local grid which has been converted to the Oceana Local Grid. The Oceana Grid has a baseline bearing of 138^{o} with the Number 6 Shaft at 1400E and 3500N. For ease of geological interpretation local grid orthogonal cross sections were used rather than AMG based section lines. The old logging sheets were used to interpret lithologies based on the CRAE geological code for the Gordon Limestone around the Zeehan area (Appendix 1).

Assay results below detection limits were substituted with values half the lowest detection limit for each element. Note that in some of the recent aircore drilling, that the reported sulphur values for some of the samples did not correlate with the zinc and lead assay numbers possibly indicating secondary lead and zinc minerals. This is not an uncommon feature in the Gordon Limestone around Zeehan.

4. GEOLOGICAL INTERPRETATION

Allison's and West Lodes

Following on from Tear's (2005) geological report, the geology of the Allison's and the West Lodes comprises a sub-vertical sulphide vein system cutting through sub-horizontally bedded dolomites of the Late Pre-Cambrian Oonah Formation (Figure 2). This vein zone persists in the phyllite unit beneath the carbonate but is much narrower. It appears that there is some additional host-rock replacement particularly towards the base of the carbonate unit (Figure 3 and Figure 4) making the mineralised zone much wider than in the underlying phyllite. The sulphide material itself is very poddy but mapping by Tear (2001) appears to show some continuity to the actual quartz sulphide veins within the vein system. There is a peripheral talc alteration zone associated with the carbonates that host the lode. (red text refers to digital files)

- Geological solids
  - Ore Zone
  - allisonore510.dtm & westlodeorezone510.dtm

  These solids are based on a combination of zinc and lead assay grades (notionally a 1% Zn cut off) and geology; the mineral vein zone usually comprises massive sulphide in the form of coarse grained pyrite, sphalerite and galena.

  The ore zone for Allison's has been extended above the post mining topography surface so as to allow for the incorporation of the channel sampling data. The latter data needs some statistical work in order to confirm its compatibility with the aircore work so that it can be used in any resource calculation.

  - Feeder zone
  - allisonfeeder501.dtm

  This solid comprises anomalous zinc zones (notional 0.5%Zn) representing the vein in the underlying phyllite. It is a much narrower zone than that in the overlying dolomite and has some correlation with the SY021 and SY022 diamond drillholes. There is a question over the location of EZ drillhole CP47 as the feeder lode has been intersected in core but 8m west of the main zone. Therefore it is possible that either the drillhole location is out by 8m in its easting or there is a second lode in the hanging wall of the main Allison's Lode. The drill log for CP47 reports that "penetrated commercial mineralisation lies west of the Road Stopes [Allison's] but east of any other workings" which seems to indicate the latter.

Figure 2
Geology of the Allison's Lode (Tear 2005)

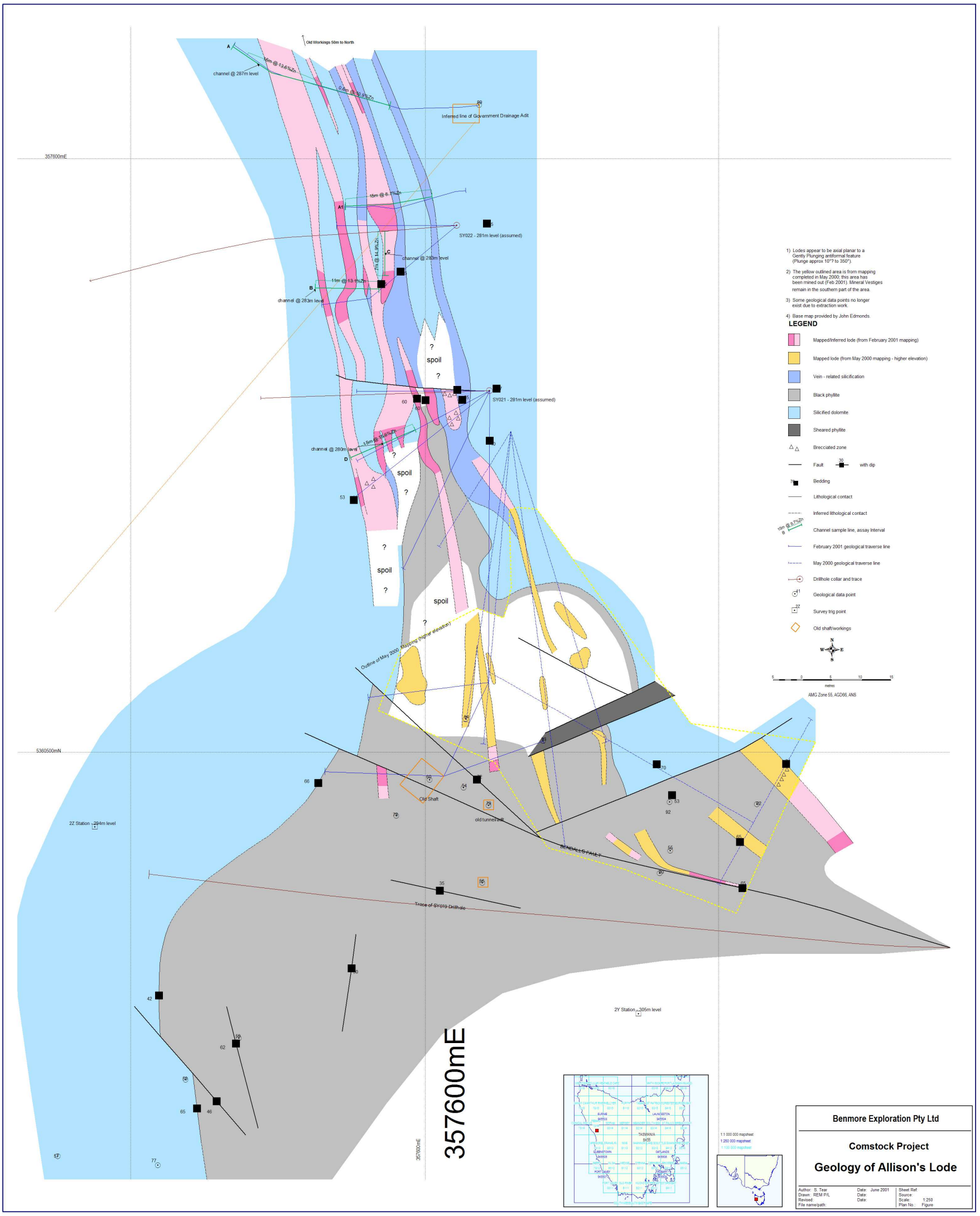


Figure 3
Bedded Dolomite with Silica Replacement Bands (in situ)

Figure 4
Sphalerite, Galena and Pyrite Replacement of Bedded Dolomite (note silica replacement bands remain)

No 'feeder' zone was designed for the West Lode due to a lack of information.

- Carbonate Contact
- allisoncarbcontact510.dtm & westlodeuppcarb510.dtm

These solids represent a DTM surface based on the lower contact of the flat-lying, ore-hosting, carbonate unit with the underlying phyllite unit (Figure 5). There are some undulations in this shape which may indicate effects of later folding and/or faulting.

- Bendall's Fault
- cmkfltbendalls.dtm

This DTM surface was generated from its surface trace in the geological mapping draped over the post-mining topography and projected 500m downdip. There is some diamond drillhole evidence for this fault projection to have validity e.g. drillhole SY019. This fault provides a southern boundary to the Allison's Lode mineralisation.

There is some mineralisation associated with the footwall of Bendall's Fault but it has not been modelled here due to insufficient information. The mineral is thought to be related to Allison's but has been rotated by sinistral shearing on Bendall's Fault (see Tear's reports 2000a, 2000b, 2001 & 2005).

- Balstrup Fault
- cmkfltbalstrup.dtm

This DTM surface was generated from its interpreted surface trace in the geological mapping draped over the pre-mining topography and projected 1000m down dip. There is diamond drill hole evidence for this fault projection to have validity, although this data has not yet been incorporated into the fault's interpretation. This fault provides a northern boundary to the Allison's Lode mineralisation. The dimensions and style of the fault are likely to be of a complex fault zone rather than a discrete plane.

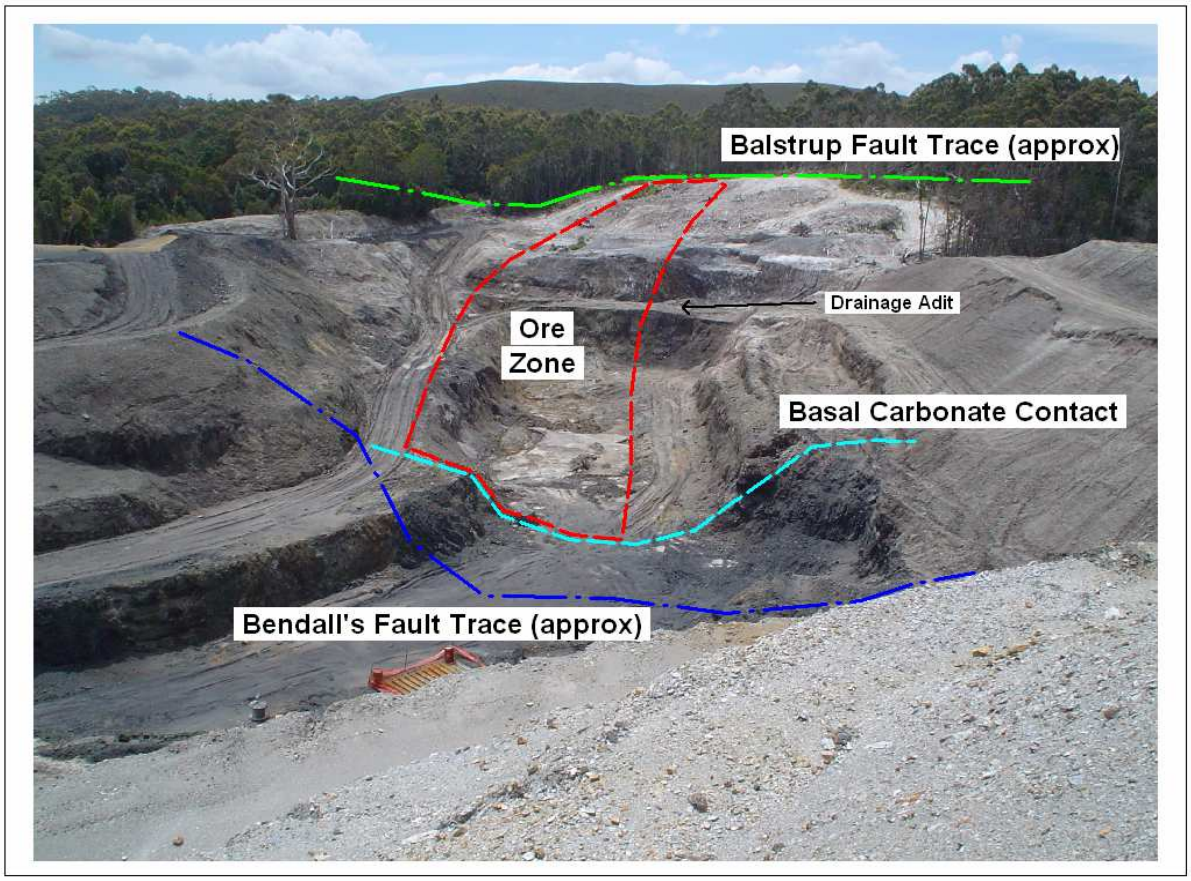
- Tenth Legion Fault
- cmkflttenthlegion.dtm

This DTM surface was generated from its surface trace in the geological mapping draped over the pre-mining topography and projected 1,000m downdip. There is some diamond drillhole evidence for this fault projection to have validity, although this data has not yet been incorporated into its interpretation.

- Weathering Zone
- allisonweather.dtm

This surface occurs in the northern half of Allison's Lode resource over an area relatively untouched by recent mining and indicated from the recent aircore drilling.

Figure 5
Allison's Open Pit (looking north)



- Old Workings

  - oldallisonworkings510.dtm & allisoncavity510.dtm

  Old workings comprise shafts and levels completed by previous miners, some date back to the 19th century. Digitising of these workings for this study consisted of scanning the relevant hardcopy maps and georegistering the image with known points that had been surveyed in by Oceania Tasmania e.g. Summons (1983). Some of the images are 'sketch maps' (Blake, 1936) and their spatial accuracy is uncertain. There are discrepancies with the naming of shafts and a best fit was applied to the data. However it is anticipated that the maximum relative error for parts of the old workings at Allison's is in the order of +/-3m in both lateral and vertical senses. In creating the solids it was assumed that the vertical height of the drives was 1.5m, based on the width of the drives.

  The Allison's North workings appear to be marginally out of line with the newly identified resource. This is likely to be a function of the inaccuracies of the old maps and their geo-registering. It is recommended that all the old shafts be located on the ground and have their position confirmed by survey.

  The positional agreement between the old workings dtm and the collar positions for the EZ underground drillholes CP47, CP49 and CP58 is poor (as stated previously) and for this reason these holes have been ignored for interpretive purposes. The

collar positions are out relative to the inferred position of the old workings, too high by 17m and too far east by 15m.

Small cavities were identified in the recent aircore drilling by Oceania Tasmania and a solid of the main cavity has been created. This solid roughly coincides with the reported stope extraction for the northern part of Allison's which contains some collapsed stopes. One hole intersected a small cavity at the south end of the resource, but has been omitted from the shape construction.

- Topography

  - cmkpostminetopo509.dtm & cmkpreminetopo509.dtm

  Two topographic surfaces were created namely a pre-recent mining shape and a post-recent mining shape. The former was created from the gravity survey conducted in 1999 by Oceania Tasmania and the latter based on recent survey data. The zeemaster8.dxf file supplied to SMG Consultants requires considerable cleaning of the strings as there is multiple duplication of points, with some points having no elevation recorded.

  For the sections and plans it should be noted that the assay value closest to the drillhole trace is the zinc value in %.

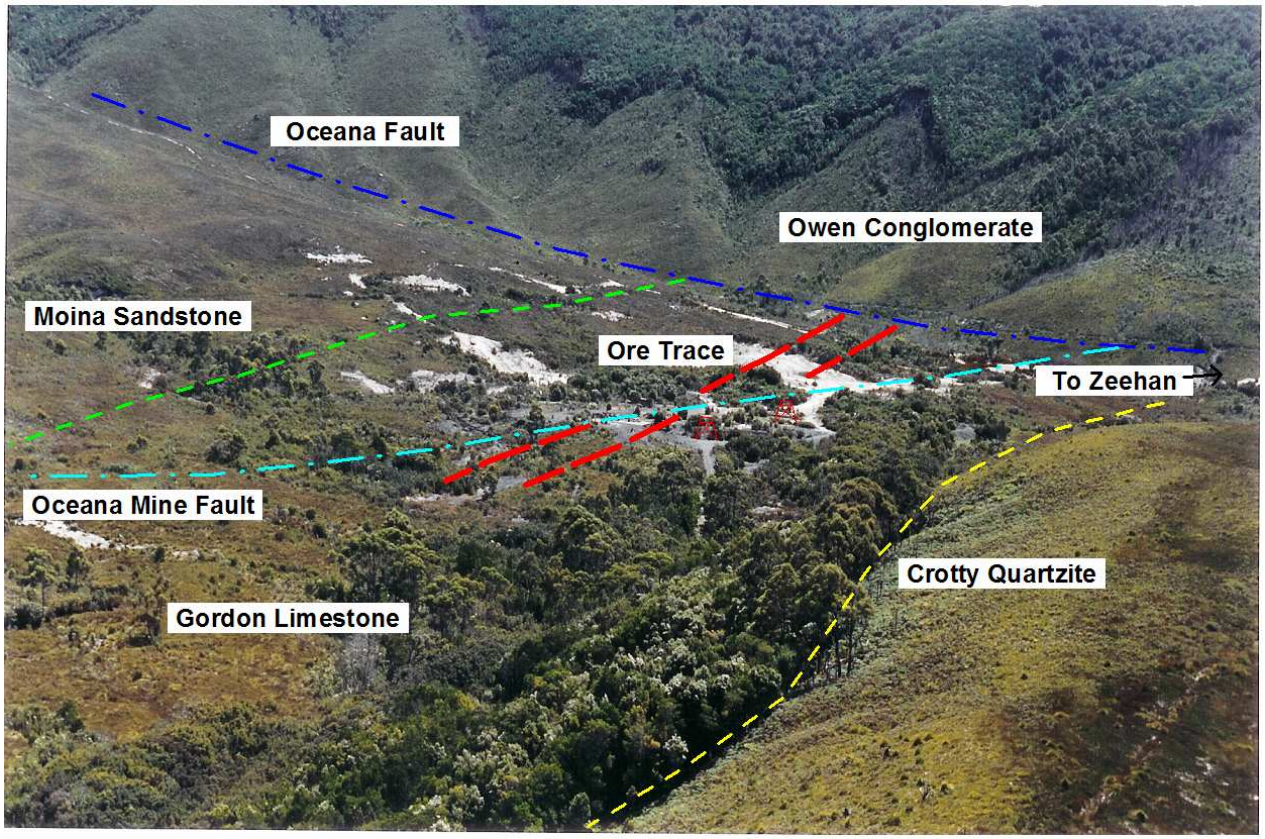
Oceana

The geology for the Oceana deposit consists of a stratabound massive sulphide body hosted by steeply dipping calcsiltites and calcarenites of the Ordovician-aged Gordon Limestone. Similarities have been inferred to the Irish-type of lead/zinc deposits. The mineralisation is split into two sections by the cross cutting Oceana Mine Fault with the northern limit of mineralisation truncated by the cross cutting Oceana Fault (Figure 5). The deposit itself consists of two parallel bodies of galena/sphalerite mineralisation, generally more lead dominant with localised massive pyrite. There are areas of substantial siderite alteration attributed to the mineral system. There are also zones in the drill core and at surface of dark grey/black clays which are likely to be residual weathering deposits of both the limestone and the sulphide bodies.

A quick review of the drillhole data indicated that there was insufficient drilling to confidently delineate geological units other than the ore.

Interpretation was undertaken with all the data in local grid coordinates as there was believed greater confidence in these locations rather than with the AMG data. Also most maps used in constructing the faults and old workings were in local grid coordinates.

Figure 6
The Oceana Deposit (looking west)



- Geological Solids
  - High grade ore zone
  - pitorehg510.dtm

This solid is based on a combination of zinc and lead assay grade (notional 1%Pb cut off) and geology. There are instances where only high grade material was assayed in the drill core, usually massive sulphide in the form of pyrite, galena and sphalerite and thus low grade material was unassayed. Siderite alteration and dark grey clays are commonly associated with ore and helped to design the ore shape in the absence of other data.

- Low grade ore zone
- pitorelg.dtm

This was defined as material above 0.2%Pb peripheral to the main ore zones.

- Oceana Fault
- oceana fault510.dtm

This surface was designed from scanned data from level plans in Curtis's 1981 report (Appendix 1 Jones (1981)) and interpretation from surface traces and drillhole data.

- Oceana Mine Fault
- oceana mine fault510.dtm

This solid was designed from scanned data from level plans in Curtis's 1981 report with slight modifications made from drilling data.

- Old Workings
- oceanpituglevels510.dtm

Using scanned images of the 25m spaced level plans from Curtis's 1981 report, reconstruction of the old workings was completed for the levels north of the Oceana Mine Fault. A height of 3m was assumed for the workings which is equal to the width of the drives as measured on the scanned images. 3D solids for the shafts for the whole deposit were also created.

- Topography
  - oceanatopolocal510.dtm

  A single topographic surface was created from a gravity survey completed by previous explorers. There appears to be some discrepancies over the accuracy of the data location in particular between the mine local grid and the AMG grid. The Mines Dept has corrected the data for AMG purposes. It remained for Zeehan Zinc to establish the relative agreement between the AMG data and the local grid. As a consequence 1 day was spent in the field collecting local grid coordinates (grid pegs in the ground) and matching them with AMG points read from a hand-held GPS. The accuracy of the GPS was measured to a maximum of +/-2m. The AMG-created topographic surface from the gravity data was then transformed to the Oceana Local Grid using a Surpac grid transformation procedure.

There is the possibility that the newly created local topographic surface is vertically out by 1m based on drill collar information. However it is possible that drill pads were created for the duration of the drilling and hence there is a possible reason for the height discrepancy. No correction for this has been made to the topographic surface.

For the sections and plans it should be noted that the assay value closest to the drillhole trace is the lead value in %.

5. SUMMARY

Two Access drillhole databases have been created for Oceania Tasmania/Zeehan Zinc, one for the Comstock Zn/Pb Project and one for the Oceana Pb/Zn Project.

A suite of 3D solid shapes in Surpac have been created for both projects. This has included a geological interpretation with potential ore definition, creation of old workings and the generation of topographic surfaces.

A series of hardcopy plans and sections have been produced.

This report documents the parameters used in the database creation, the geological interpretation, the design of the old workings and the generation of the topographic surfaces.

Respectfully Submitted,

Simon Tear

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6. REFERENCES

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