

EL 20/94 SALISBURY HILL
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Drilling B52 Salisbury Hill

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1.0 Summary

The first diamond drill hole into the Middle Arm Gorge prospect on EL 20/94 "Salisbury Hill" commenced on 15th December, 2005.

The hole was targeted on the east-northeast to north-northeast striking structure believed responsible for (or associated with):

- The topographic feature Middle Arm Gorge. The gorge has been created by preferential erosion across this section of the Salisbury Hill - Cabbage Tree Hill strike ridge of Denison Group siliclastics. This preferential erosion is reflecting some weakness in the rocks, probably structural and likely to be a fault with a favourable east-northeast to north-northeast strike (c.f. Tasmania Reef).
- A sulphide and copper dominant reef is reported from the old (inaccessible) Rising Sun workings as well as outcropping veins assaying up to 1.07g/t Au.
- Alluvial gold is found in Middle Arm Creek the eastern end of the gorge below this point of its junction with Eaglehawk Gully, and there is also alluvial gold in Eaglehawk Gully itself.

From 156.1m to 156.7m the hole intersected an ankerite + pyrite + quartz reef. Although there was significant core loss though the rubbly fragments are considered essentially representative. The reef assayed,

155.1m to 156.2m, 1.45m (down hole) @ 0.07g/t Au, <1ppm Ag, 31ppm As, 15ppm Cu, 13ppm Pb, 77ppm Zn, 7.41% S and 13.74% Fe

The hole was collared in the upper part of the Eaglehawk Gully Formation. Between 134.0m and 188.8m the hole intersected three discrete sill-like intrusive bodies of mafic volcanic down dip from outcropping basaltic andesite in the gorge.

The rest of the rocks intersected in B52 define a very similar stratigraphic sequence to that of host rocks to the +2Moz Tasmania Reef, exposed in mine development and intersected diamond drilling at the Beaconsfield Gold Mine, ~2.5km north along strike.

Two episodes of dropped drill rods whilst the hole was at a depth of 540.5m, still in the target zone and passing through the 2SC unit of the Salisbury Hill Formation, saw the abandonment of the hole.

The hole was recommenced as B52a, a daughter hole wedged off B52 at 300.6m.

B52a ran essentially parallel to B52 and mirrored the geology. At a depth of 567.2m to 568.65m the hole intersected the first of two incipient reef-like faults. The second was intersected from 587.95m to 592.75m.

The former incipient reef-like fault cuts through the 2SC unit and assayed,

1.45m (down hole) @ 0.13g/t Au, <1ppm Ag, 131ppm As, 16ppm Cu, 109ppm Pb, 2743ppm Zn, 1.22% S and 2.06% Fe;

whilst the second cuts through the upper part of a relatively thin Cabbage Tree Conglomerate (CTC) near to the contact with the underlying Blyths Creek Formation and assayed,

4.8m (down hole) @ 0.20g/t Au, <1ppm Ag, 196ppm As, 25ppm Cu, 69ppm Pb, 838ppm Zn, 2.29% S and 3.35% Fe.

Tension veins immediately up hole from this lower reef assayed,

0.8m (down hole) @ 4.40g/t Au, <1ppm Ag, 906ppm As, 84ppm Cu, 26ppm Pb, 880ppm Zn, 5.19% S and 6.95% Fe.

The hole was stopped at a depth of 652.5m in increasingly sheared and puggy shales and sandstones suggesting the proximity of the Cabbage Tree Thrust fault.

A second daughter hole was wedged off B52 at 148.0m as B52b in order to attempt a better recovered intersection of the reef intersected in the upper part of B52 using NQ3. Unfortunately core loss was almost identical. The B52b intersection remains unassayed.

B53 commenced on 13th September, 2006, and at time of writing this report was at depth of 77m. The hole is targeted on the two incipient reef-like faults intersected in B52a and is being drilled from the ridge to the west of Eaglehawk Gully.

2.0 Introduction

2.1 Location and Access

EL 20/94 covers an area of 13 square kilometres in northern Tasmania, just south of Beaconsfield and the +2Moz Tasmania Reef (see figure 1). EL 20/94 extends along Salisbury Hill and the northern part of Cabbage Tree Hill and takes in over 8km's of strike of the highly prospective Cabbage Tree Thrust slice.

Access to the licence is excellent being transected by the bitumen Flowery Gully Road (through Middle Arm Gorge) ~1km from its junction with the West Tamar Highway. Access within the licence is of moderate ease with the prospective country lying on the generally more gentle eastern slopes but also on the ridgeline and the steeper western slope. There are old tracks which can and have been exploited.

2.2 Tenure

The licence was granted to Allstate Prospecting Pty. Ltd. on behalf of the B.M.J.V. on 28th October 1994. The B.M.J.V. managed exploration over the licence from that date until 30th September, 2002, when an agreement was signed with Diamond Ventures N.L. who managed exploration until 8th November 2004 when responsibility for exploration on EL 20/94 was returned to BMJV with Diamond Ventures decision to pull out of this commercial arrangement.

The licence was extended on 28th October 2004 and an active work programme commenced as soon as a drill rig became available. The initial focus of this drilling has been the Middle Arm Gorge prospect at the northern end of the licence.

Diamond drill hole B52 was almost completed at the time of the accident/rescue at the Beaconsfield Mine on the 25th April, 2006. After a hiatus due to the accident and its aftermath, drilling recommenced with the hole continued as B52A and a smaller wedged B52B.

At the time of writing this report, a second hole, B53, had commenced on an adjacent ridge west of B52 and was at a depth of 134m. Hole B53 is designed to test for the extent of an encouraging mineralised intersection obtained in B52A. An application for extension of tenure on EL20/94 has been made as a result of the B52A success. However, to date no material information has been gained from B53 and it is not discussed further in the following text.

2.3 Topography, Vegetation and Land Use

The licence focuses on the strike ridge of Salisbury Hill, Middle Arm Gorge and the southern part of Cabbage Tree Hill.

The licence area consists largely of state forest consisting of dry sclerophyll bush along Salisbury Hill, the southern part of Cabbage Tree Hill and in the intervening Middle Arm Gorge.

Part of the licence area includes small rural lowlands used for hobby farms or grazing. In the north of the licence is an active silica quarry operated by Boral for Temco.

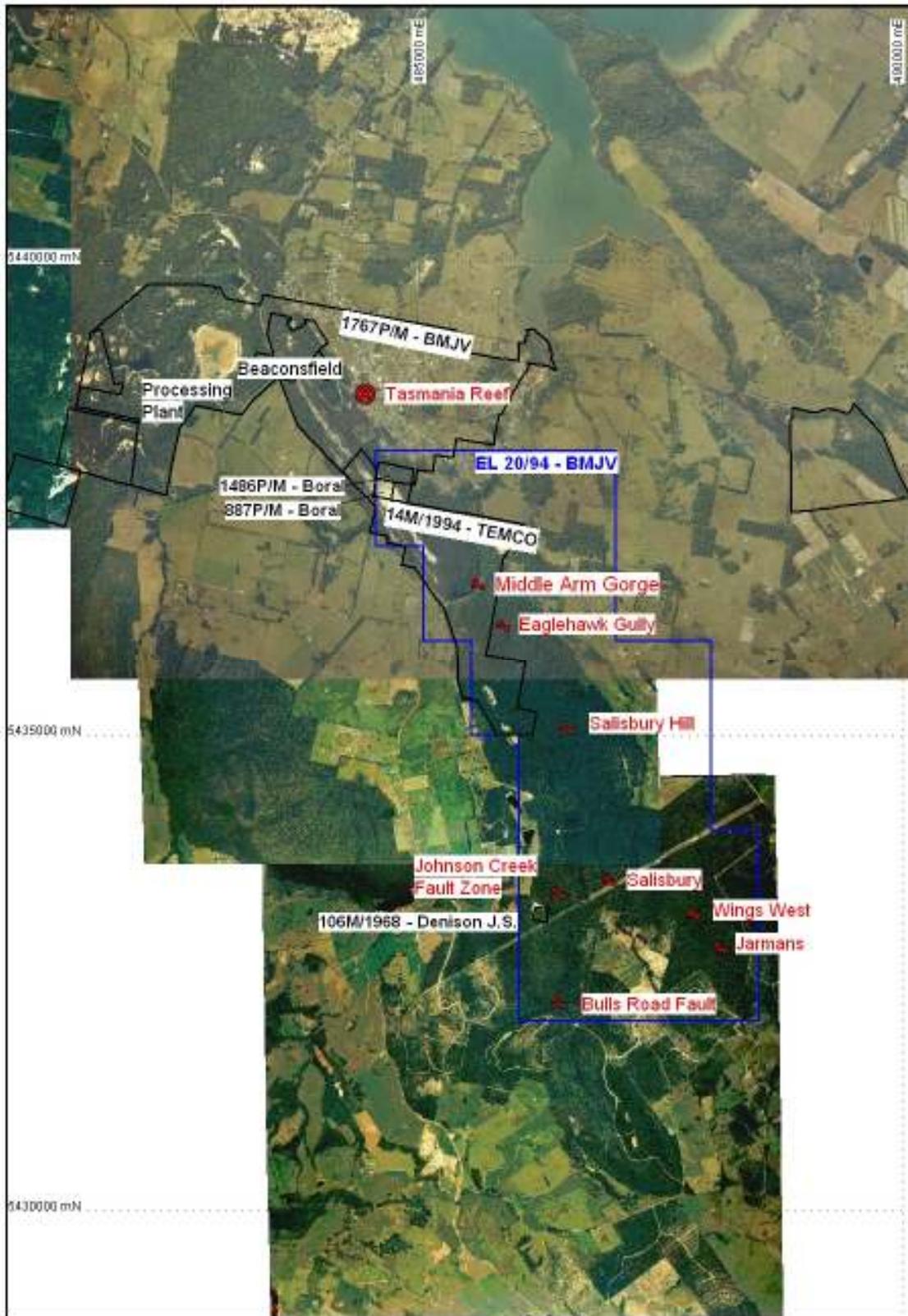


Figure 1; EL 20/94 "Salisbury Hill" Location Plan

3.0 Exploration Philosophy

The BMJV has operated the Beaconsfield Gold Mine on the Tasmania Reef since the mid-1990's. Since production recommenced in September 1999 the mine has produced approximately 663,500 ounces from 1,450,000 tonnes at an average grade of 15.7g/t Au and a process recovery of 90%.

The Tasmania Reef and its host rocks have become well understood by BMJV geologists with an effective working understanding of the structural and hydrothermal history of the Tasmania Reef gained from both routine mine geological work supplemented with some academic studies

With an operating gold mine on the Tasmania Reef and an operating mill treating its ore exploration by the BMJV is clearly focussed on finding further gold deposits in the region.

The target models used for exploration are largely empirically based on direct knowledge of the Tasmania Reef though room has been allowed for more conceptual variants to these models using knowledge of mesothermal gold deposits elsewhere and structurally hosted orebodies in general.

Essentially the Tasmania Reef is a quartz + ankerite + sulphide (pyrite + arsenopyrite > chalcopyrite > sphalerite + galena > gold) reef of mesothermal/orogenic gold/lode gold type. It was created by the precipitation of vein mineralisation, by ascending (arguably) metamorphically derived (though possibly granite related) hydrothermal fluids, into relative dilational sites on structures such as faults and associated tensional openings. These structures formed under a dextral wrench fault regime, with gold precipitation probably due to pressure reduction.

The Tasmania Reef occupies a transfer fault which cross-cuts the north-northwest striking Cabbage Tree Hill thrust slice. The Tasmania Reef Fault structure is effectively bound by and essentially sub-orthogonal to the Cabbage Tree and Cobblestone Creek Thrust faults.

Within the immediate mine environment and to the north-northwest and south-southeast of the mine the Cabbage Tree Hill thrust slice is cross-cut by numerous faults sub-parallel to the Tasmania Reef (i.e. northeast striking) with sub-economic reef development known on some of these. In plan these faults define a north-northwest trending en-echelon array. The spatial distribution of these reefs argues for a role for the Cabbage Tree Thrust fault as a fluid conduit for ascending auriferous hydrothermal fluids. Alteration along the thrust in places supports this argument.

A similar trending en-echelon array of sub-parallel reefs characterises the Lefroy goldfield to the east of the Tamar. Whilst the host rocks at Lefroy differ somewhat to those at Beaconsfield and the orientation of reefs at Lefroy more sub-vertically dipping and east-northeasterly striking, the reefs have formed at the same time and under the same tectonic regime and so the similar en-echelon pattern is considered as supporting the potential for further sub-parallel reefs in the Cabbage Tree Thrust slice.

Further, within the Tasmania Reef Fault economic mineralisation in the form of quartz + ankerite + sulphide + gold vein mineralisation is almost invariably only found where the fault transects the harder siliciclastics of the Denison Group.

More particularly it appears broadly that the relative competencies of the more conglomeratic units of the Salisbury Hill Formation (which make up the lower ~2/5 of the Denison Group) has meant that during deformation these units behaved in such a way as to either directly control or more remotely influence the creation of dilational sites (flexures in strike, splay intersection nodes, offsetting structures, tension veins etc.) in the Tasmania Reef and adjacent structures.

Thus the principle empirical target model pursued is sub-vertical to southeast dipping, northeast to east-northeast striking faults cross-cutting the Cabbage Tree Hill Thrust slice with reef mineralisation more probably developed where the faults cross-cut Denison Group rocks and more particularly the upper part of the Salisbury Hill Formation.

Defining the presence and position of such faults is difficult. Topographic lows, particularly linears such as creeks and gullies, often reflect the presence of faults. In many cases however, faults have no surface expression.

To date work has focussed largely on the Salisbury prospect, which lies on and adjacent to the Johnson Creek Fault zone, with the current programme shifting the focus to the Middle Arm Gorge prospect.

The Johnson Creek Fault zone is recognisable by the significant offset of stratigraphic units, mirrored by topography. The potential for gold mineralisation is expressed in narrow (<0.1m thick) +10g/t Au veins exposed in old workings immediately adjacent.

Middle Arm Gorge is the only place a creek has successfully cut through the Denison Group rocks along the Cabbage Tree Hill/Salisbury Hill ridgeline, inferring the existence of some structural plane of weakness exploited by the creek. Old workings and alluvial gold in the creek provide evidence of the potential for associated gold mineralisation.

Conversely the Tasmania Reef Fault is not expressed by any obvious topographic features and so the rest of the ridgeline away from topographic anomalies is equally prospective.

Use is being made of the fixed wing aeromagnetics (flown in 1989) to interpret possible structures. A detailed knowledge of the stratigraphic sequence may allow offsets to be recognised from outcrop or initial drilling.

The economically mineralised parts of such structures should see some expression of anomalous Au, As and Cu (and less significantly Pb or Zn) in overlying soils. The regional soil sampling programme (with detailed infill in parts) carried out by Diamond Ventures is being used to prioritise drilling elsewhere along the thrust slice.

Whilst pursuing this optimal model consideration is also given to the existence of economic mineralisation in other structural orientations/settings in the Cabbage Tree Thrust slice. Gold mineralisation at Salisbury at the southern end of the Salisbury

strike ridge is hosted in shallow southwest dipping tension veins in the immediate hangingwall to a thrust. Mineralisation on the Moonlight-cum-Wonder trend (north of the Tasmania Reef) occurs as stringers in the synclinal fold hinge of a north-northwest trending fold.

The potential for gold mineralisation in adjacent thrust slices is not discounted in exploration. Whilst almost all evidence of gold mineralisation in the district is found in the Cabbage Tree Thrust slice this may well be partly an artefact of the area of outcrop of these other slices. The Wings West (ex Wings West North) and Jarmans (ex Wings West South) prospects lie in the Cobblestone Creek Thrust slice. These two prospects were discovered by grid based soil sampling/mapping targeting all pre-Middle Devonian aged rocks.

4.0 Previous Exploration

Previous exploration on EL 20/94 has been summarised in MacDonald (2000). More recent work by Diamond Ventures is summarised in Bucknell (2003).

The Middle Arm Gorge area was the subject to considerable prospecting activity for periods in the latter part of the 19th century with the Rising Sun perhaps the most significant old working in the gorge. That working, which was probably only active in the years 1882 and 1883 consists of an adit (now closed off) into the northern side of the gorge with an internal winze on a Cu-rich "mundic" lode.

Other smaller workings in the form of shallow prospecting shaft and pits can be found to the north and south of the gorge though not to the intensity which characterises the area of the Tasmania Reef/Moonlight-cum-Wonder workings on the northern end of Cabbage Tree Hill. More substantial shafts and adits can be found ~700m up Eaglehawk Gully to the south and 1700m to the north along Cabbage Tree Hill.

Alluvial wash was worked from the ephemeral Eaglehawk Gully during the depression with the small sample bottle of alluvial gold on display in the museum from here at this time.

Modern exploration commenced in the Beaconsfield region in the late 1960's but Middle Arm Gorge only saw reconnaissance work until in 1988 the area was covered by the regional fixed-wing aeromagnetism survey flown by Austirex (Hicks, 1989) with structures interpreted by Dr J Bishop (Bishop, 1988). A stream sediment survey also included the Middle Arm Gorge area (Hicks, 1989).

In the summer of 2002/2003 Diamond Ventures grid based soil sampling programme covered the area on a 100m x 50m pattern (Bucknell, 2003) as part of a larger programme.

Whilst the drill collar pipe of the RAB hole B8 (FG1), 102m deep, is exposed a few metres off the southern verge of the road through the gorge just west of the main bend the hole was drilled as a piezometer hole (no logs or other details are available). Other than this hole no drilling for gold has taken place in the area prior to B52.

5.0 Geology

The geology of EL 20/94 is summarised in the figure 2 (plan) and figure 3 (stratigraphic column determined for Middle Arm Gorge contrasted with that from the mine environment).

Most up to date and thorough descriptions of the regional geology and that of the Tasmania Reef can be found in Jones (2001), Hills et. al. (2001), MacDonald et. al. (2001) and MacDonald (2004). The latter work preceded the discovery of the "South Trevor" syncline and "Middle East Trevor" anticline fold pair, a significant change from the lack of folding which had characterised the Denison Group in the upper part of the mine.

Significant departures from the geology outlined in these references are summarised below.

Structural evidence as well as a pronounced partitioning of gold content in the Tasmania Reef across these fold hinges indicates that most folding occurred prior to the formation of the Tasmania Reef and that changes in the orientation of the reef corresponding with the fold hinge lines are due to refraction of the structure. Somewhat tighter interfold angles for the anticline and syncline in the hangingwall with respect to those in the footwall suggest that some tightening of the folds has occurred post reef formation with this tightening partitioned across the reef fault.

A number of recent time-space diagrams have shown the contact between the Blyths Creek Formation and Denison Group to be an unconformity and the Eaglehawk Gully Basalt to lie on the contact between the Salisbury Hill and Eaglehawk Gully Formations of the Denison Group e.g. Reed (2001) and Taheri & Keele (2004). The following argument has been presented in part elsewhere (MacDonald, 2004), however, the drilling of B52 and B52a has provided more compelling evidence. In particular the very similar stratigraphic sequence intersected in the drilling at Middle Arm Gorge with that known in detail around the mine make it very clear that the Eaglehawk Gully Basalt has intruded into the lower part of 1SL unit of the Eaglehawk Gully Formation and about 1/3rd of the way up sequence from the contact with the Salisbury Hill Formation. It clearly does not lie on the formation boundary.

The contact between the Blyths Creek Formation and overlying Denison Group is essentially conformable (though in places it is possible that it may be partly erosional). The Blyths Creek Formation intersected in B52a shows a lower sequence of sandstone and shales with a marked change (moving up sequence) at 623.6m with the first occurrence of quartz pebble conglomerate. Similar conglomerates are found throughout the Blyths Creek Formation from here up sequence to the contact with the overlying Cabbage Tree Conglomerate (basal) unit of the Denison Group. These conglomerates occur as coarser grained bases to recognisably graded fining upwards cycles indicative of higher energy deposition

Parallel bedding, the lack of any equivocal evidence of an extra deformation event in the Blyths Creek Formation rocks, and a recognisable trend in the evolution of the sedimentary facies being deposited all support a conformable relationship between the Blyths Creek formation and Denison Group.

6.0 Work Completed, 2005 - 2006

6.1 Introduction

BMJV's work programme flagged the drilling of a number of holes at both Middle Arm Gorge and south at Salisbury as well as assessing other targets such as Wings West and Eaglehawk Gully. That work has commenced with drilling at Middle Arm Gorge. To date a total of 980.7m has been drilled in two surface holes B52 (540.4m) and B53 (77.0m), a long wedge B52a (351.9m) and shorter wedge B52b (11.4m).

It must be noted that the reporting year has been a particularly eventful for the Beaconsfield Mine Joint Venture with circumstances meaning that somewhat less focus has been placed on exploration than was intended.

6.2 Drill site and access

B52 (and subsequent wedges B52a and B52b) was collared at 485770.92mE 5436411.67mN (AMG) on the edge of a recently felled logging coupe in the eastern flank of the northern end of Salisbury Hill (see figure 4). The rig on site is shown on the coverpiece of this report.

Access to the site for the rig and rod sloop was towing by excavator across the coupe utilising existing log-skidders tracks.

Daily access for 4WD vehicles was along an existing bush track along the ridgeline.

Water was obtained from the small weir at the western end of the gorge with poly pipe up to the site.

The site has been cleaned but not yet rehabilitated as there remains a possibility that we may wish to reuse it.

The current drill hole B53 is being drilled from a new site on the ridge to the west of Eaglehawk Gully, perched just above the gorge. Access to this site is by existing formed track and an existing dozer scrape. The drill site required the clearing of some she-oaks but has not impacted on any eucalypts.

6.3 Drilling

B52 was collared on 15th December, 2005, and drilled to a depth of 540.4m on 3rd April, 2006, (0m to 307.4m HQ, with NQ2 to 540.4m), at which point two rod strings were dropped down the hole effectively stopping the hole. As the original proposal was for a hole of 650m's to fully cross the target zone it was decided to continue the hole to the original depth by wedging off the hole above the dropped rods and running essentially parallel to the original hole. A casing wedge was used.

B52a wedged off B52 at a depth of 300.6m (first whole core at 301.45m) on 12th April, 2006 with the hole stopped at a depth of 652.5m on 6th July, 2006.

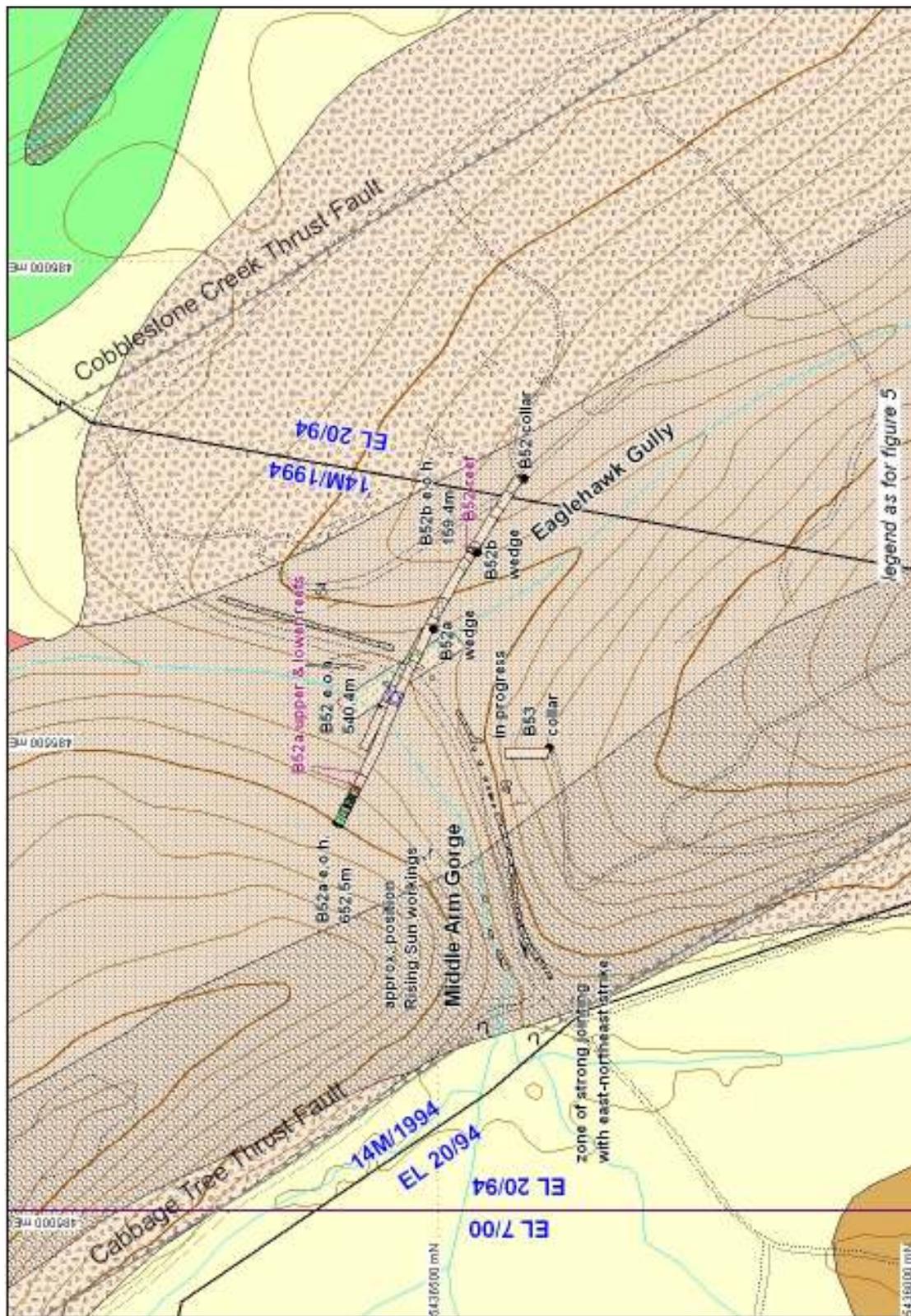


Figure 4; Middle Arm Gorge prospect geology

Due to poor core recovery of the reef structure intersected between 155.1m and 156.7m in B52 it was decided to attempt a wedged repeat intersection in order to obtain a more representative sample.

B52b was wedged off B52 at a depth of 148.0m (first whole core at 152.9m) on 14th July, 2006, and drilled to 157.6m using triple tube (NQ3), finishing on the 18th July, 2006. The reef was intersected between 155.9m and 157.65m but unfortunately core was still lost. Due to the again poor recovery this repeat intersection has not been assayed as it is felt that the first intersection has provided as good a representative assay.

All holes have been logged with logs appended in appendix A.

6.4 Assaying

Four whole-core samples (samples numbered 302871 to 302874, AMDEL job number 6AD1112) were submitted for assay from B52. These samples were screen fire-assayed for Au (to 0.01ppm) and assayed for Ag, As, Cu, Pb, Zn, Fe and S using ICP by AMDEL in Adelaide.

22 half-core samples (numbered 302875 to 302896, AMDEL job numbers 6AD2153 and 6AD2645) were submitted for assay from B52a. All samples were simply fire-assayed for Au (to 0.01ppm) and ICP for Ag, As, Cu, Pb, Zn, Fe and S by AMDEL in Adelaide.

Assay result sheets are appended in appendix B. Sample intervals and numbers are listed in the drill logs.

7.0 Results of Work Completed, 2005 - 2006

7.1 Introduction

Apart from the obvious aim to intersect mineralised reef structures, other aims of the drilling have been to help to establish the nature of the Denison Group sequence, to map out the distribution of alteration associated with gold mineralisation and to help define the geological structure of the Middle Arm Gorge prospect.

The results of the drilling are summarised in the drill section (figure 5).

7.2 Reef Structures

The three holes B52, B52a and B52b, intersected three, mineralised structures or zones.

The upper structure is particularly discrete and consists of a pyrite + ankerite + quartz reef intersected in B52 between 155.1m and 156.7m and repeated in the wedge B52b between 155.9m and 157.65m. Referred herein as the "B52 reef".

The second zone is focussed on an incipient reef-like fault structure between 567.2m to 568.65m but probably commences ~533m in B52a with an increase in the frequency of tension veins. The frequency of these becomes more marked again between an in-situ quartz autobreccia at 544.2m and the incipient reef-like fault between 567.2m and 568.65m with this fault structure arguably controlling these veins (i.e. they are tension veins leading away from the footwall or hangingwall of the fault) with the quartz autobreccia also possibly playing a bounding role. This incipient reef-like fault is herein referred to as the "B52a upper reef".

From 587.95m to 592.75m the hole intersected another incipient reef-like fault structure similar in appearance to that between 567.2m and 568.65m. This incipient reef-like fault is herein referred to as "B52a lower reef". This reef-like structure has tension veins on the uphole side of the intersection but only over a relatively (c.f. the B52a upper reef) short distance.

Both of these incipient reef-like structures are expressed as short section(s) of puggy sheared shale/lode slate adjacent to non-texturally destructive weak/moderately altered wallrock with discrete but common pyrite slickensided (\pm slickenlines) surfaces and associated quartz + ankerite + sulphide tension veins oriented broadly sub-orthogonal to the shear orientation. Neither contain any thick bodies of pervasive vein mineralisation though the alteration in both cases allows both structures to be called incipient reefs.

The rocks between these two like structures contain almost no tension veins and are thus not obviously linked though this may still be the case.

Apart from the three reef/reef-like structures intersected and the tension vein array associated with the B52a upper reef both holes also intersected a number of relatively

thin (<0.05m), favourable looking laminated S₀ conformable, but unfortunately sulphide poor quartz veins.

7.2.1 B52 Reef

B52a intersected a pyrite + ankerite + quartz reef between 155.1m and 156.7m. The intersection is summarised in figure 6.

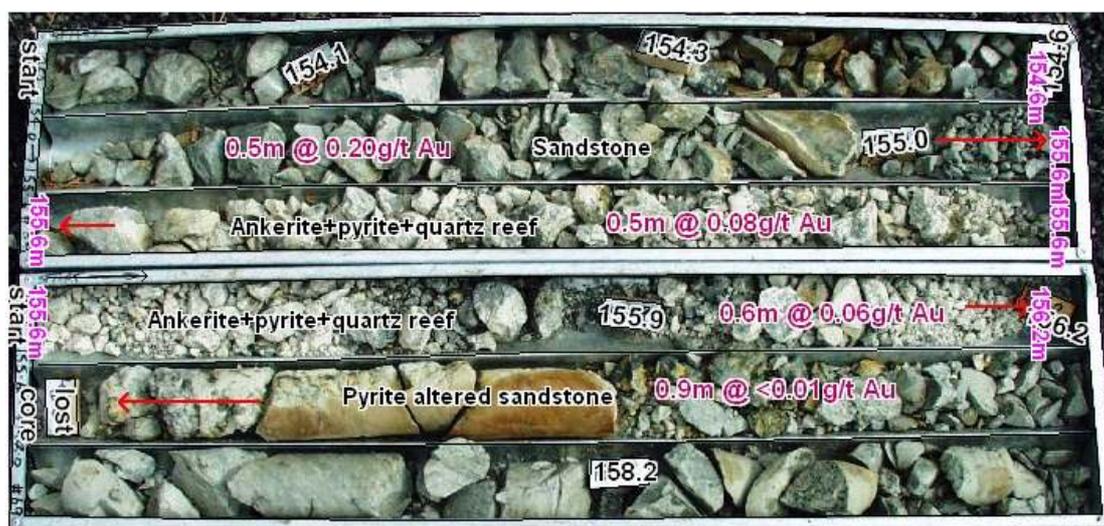


Figure 6; B52 Reef drill core with down hole depth, assay result and geology overlaid

The host rocks are essentially weathered sandstones and clays. Recovery of this intersection was poor with the lower contact in a section between core blocks with 0.8m/2.0m core loss. This loss has been proportionately distributed between reef and wallrock with the depth of 156.7m the best solution, i.e. there has been 0.5m core loss within the 1.6m wide (down hole) reef. The upper contact coincides with a core block and is well defined. The wallrock assayed;

154.6m to 155.1m, 0.5m (down hole) @ 0.02g/t Au, <1ppm Ag, 24ppm As, 30ppm Cu, 78ppm Pb, 82ppm Zn, 0.505% S and 5.190% Fe

The reef consists entirely of fragments of euhedrally intergrown ankerite > quartz with pyrite as euhedral grains or in later cross-cutting veinlets. There are no other sulphides than pyrite. There is no internal shear fabric and no suggestion of shearing from the adjacent wallrocks. The reef assayed,

155.1m to 156.2m, 1.45m (down hole) @ 0.07g/t Au, <1ppm Ag, 31ppm As, 15ppm Cu, 13ppm Pb, 77ppm Zn, 7.41% S and 13.74% Fe

Sandstones down hole (and immediately up hole) contain fine grained pyrite in linear fractures and elongate blebs commonly parallel to or sub-orthogonal to bedding. Wallrock immediately adjacent to the reef assayed,

157.0m to 157.9m, 0.9m (down hole) @ <0.01g/t Au, <1ppm Ag, 18ppm As, 110ppm Cu, 125ppm Pb, 155ppm Zn, 5.53% S and 9.8% Fe

A decision was made to attempt a wedged repeat intersection once B52 had reached final depth in order to obtain a more representative sample. The intersection in B52 was whole-core assayed by AMDEL in Adelaide for Au, As, Cu, Pb, Zn, Fe and S.

The repeated intersection in B52b was drilled using NQ3 in order to minimise core loss. In spite of this and considerable care and attention the drillers managed to lose 0.9m of core from the reef. Due to the core loss and the result that even a whole core assay of this intersection would be no more representative than B52's a decision was made to hold this repeat intersection for the present.

There is little information regarding the nature of this structure as much of the reef has been lost with drilling. The ankerite + pyrite + quartz vein material resembles quite closely textures seen in the Tasmania Reef at its north-eastern end where it transects similar units of the Eaglehawk Gully Formation.

Apart from the pyrite alteration in the immediate wallrocks there is little evidence of the reef, in the form of veining, until it is intersected though the sericite + ankerite alteration seen in the Eaglehawk Gully Formation rocks may be an alteration halo around this reef.

Joining the dots between B52's and B52b's intersections is a little problematic given the uncertainty regarding the exact contacts and down hole survey reliability, however, the points are more consistent with a north to north-westerly strike.

7.2.2 B52a Upper Reef

As noted above the B52a Upper Reef is only an incipient reef-like structure and has no strongly developed quartz ± ankerite ± sulphide reef.

The B52a upper reef has been logged as being intersected between 567.2m to 568.65m. The intersection is summarised in figure 7.

The main focus of the structure is between 568.4m and 568.65m with a puggy, sheared quartz + ankerite ± pyrite veining with ~50% puggy fault gouge material. There is a slickensided pyritic surface in sandstone 20mm below the lower edge of this fault.

Immediately up hole from the fault is a short section of relatively unaltered sandstone between 568.0m and 568.4m.

At 568.4m is another slickensided pyritic surface. Between this surface and another similar surface at 567.2m is a quartz ± minor ankerite tension veining in coarse grained sandstone and conglomerate.

The structure is interpreted to be defined by the upper and lower slickensided pyritic surfaces.

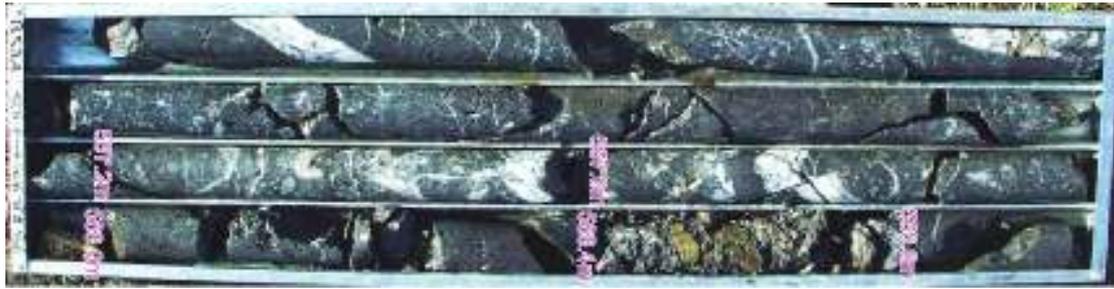


Figure 7a; B52a Upper Reef drill core with down hole depth overlain

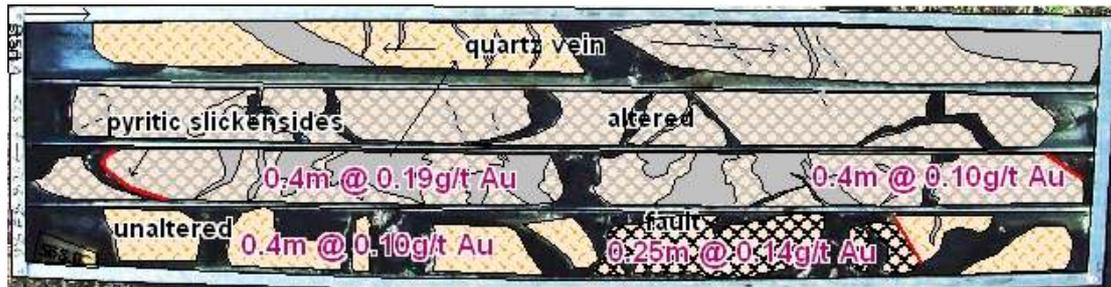


Figure 7b; B52a Upper Reef geology with assay results

Only the reef has been sampled and assayed (no wallrock samples were taken) and it assayed,

567.2m to 568.65m, 1.45m (down hole) @ 0.13g/t Au, <1ppm Ag, 131ppm As, 16ppm Cu, 109ppm Pb, 2743ppm Zn, 1.22% S and 2.06% Fe

Slickensided pyritic surfaces and puggy shears are oriented at 25°-40° to core axis, consistent with a moderately steeply southeast dipping structure.

7.2.3 B52a Lower Reef

The B52a Lower Reef is very similar to the Upper Reef with slickensided pyritic surfaces, puggy sections and tension veining also characterising this reef structure.

Again the intersection is only an incipient reef-like structure with no pervasive quartz ± ankerite ± sulphide vein mineralisation. The intersection is summarised in figure 8.

The extent of this structure has been defined as lying between a strongly brecciated quartz vein with internal slickensided pyritic surface at 587.95m and a puggy section adjacent to the lowermost planar shear surface at 592.75m.

Immediately up hole from the upper contact of the shear at 587.95m is a section of quartz + ankerite + pyrite tension veining without any bounding shear surfaces. This veining has been interpreted to be in the wallrocks to the structure.

Between 587.95m and 589.9m the intersection is characterised by slickensided pyritic surfaces cross-cutting CTC type quartz pebble conglomerate. Between 589.9m and

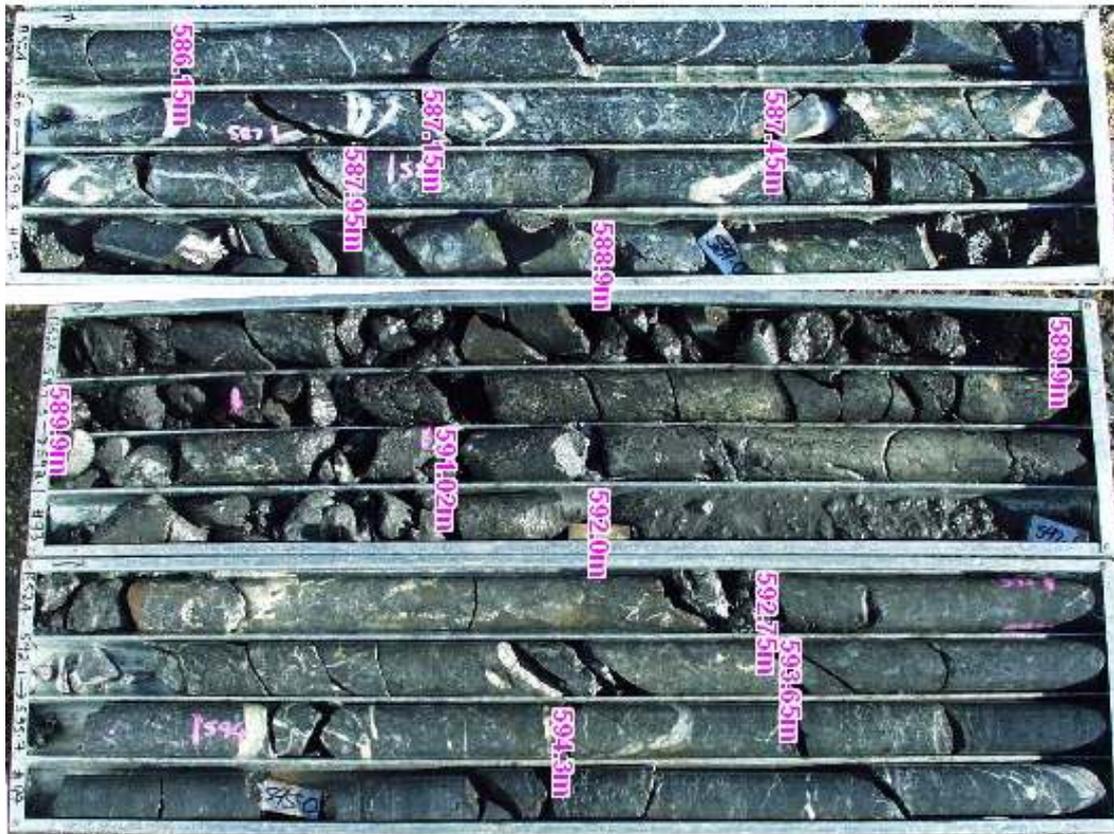


Figure 8a; B52a Lower Reef drill core with down hole depth overlaid

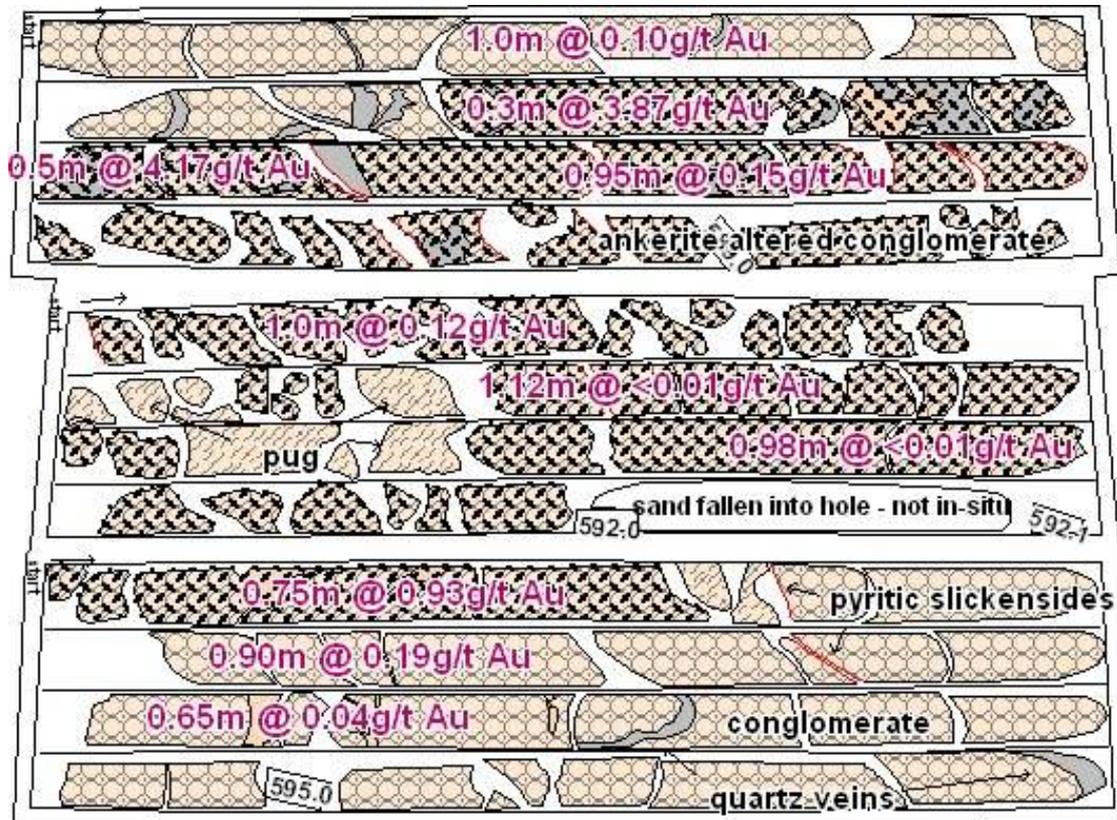


Figure 8b; B52a Lower Reef geology with assay results

592.75m the intersection is characterised by puggy shears (similarly oriented to slickensided surfaces) cross-cutting CTC type quartz pebble conglomerate. The whole structure assayed

587.95m to 592.75m; 4.8m (down hole) @ 0.20g/t Au, <1ppm Ag, 196ppm As, 25ppm Cu, 69ppm Pb, 838ppm Zn, 2.29% S and 3.35% Fe.

Tension veins immediately up hole from this lower reef assayed,

0.8m (down hole) @ 4.40g/t Au, <1ppm Ag, 906ppm As, 84ppm Cu, 26ppm Pb, 880ppm Zn, 5.19% S and 6.95% Fe.

Slickensided pyritic surfaces and puggy shears are oriented 40°-60° to core axis. These are consistent with a moderately steeply south east dipping structure.

7.3 Other Veins

Apart from the three more major structures the holes also intersected a number of smaller veins, predominantly tensional but with some interesting S_0 conformable veining as well.

7.3.1 Tension vein arrays

Drilling intersected only very occasional quartz ± ankerite ± (rarely) sulphide tension veins throughout the Eaglehawk Gully Formation as well as the upper part of the Salisbury Hill Formation. The frequency of such tension veins increases below ~527m in the 1SC unit with the greatest frequency between a quartz autobreccia at 544.2m and the B52a Upper Reef at 567.2m (see figure 5). The tension vein array between ~527m and the B52a Upper Reef structure are bounded and controlled by this upper incipient reef-like structure.

Immediately down hole from the B52a Upper Reef the hole intersected only very rare tension veins down to ~586m where tension veins increase in frequency and size until the upper contact of the B52a Lower Reef contact. These tension veins are bounded and controlled by this lower incipient reef-like structure.

The orientation of these veins can be reasonably approximated by using the apparent consistency of bedding dip and strike to orient the core. A number of tension veins have been measured and all dip between 70° and 80° towards the south, consistent with those seen in the footwall, and to lesser degree in the hangingwall, to the Tasmania Reef and supporting a similar structural history for the two lower B52a structures i.e. dextral strike-slip movement.

Other than the tension veins immediately adjacent to the B52a lower reef these tension veins remain to be sampled and assayed. These tension veins assayed

587.15m to 587.95m, 0.8m @ 4.40g/t Au, <1ppm Ag, 906ppm As, 84ppm Cu, 26ppm Pb, 880ppm Zn, 5.19% S and 6.95% Fe.

There are essentially no discrete tension veins in the Blyths Creek Formation rocks intersected in B52a.

7.3.2 Laminated Quartz Veins

Both holes intersected a number of broadly homogenous laminated quartz veins, generally <0.05m thick, in the Salisbury Hill Formation.

In all cases where bedding is recognisable these can be shown to be bedding conformable and are commonly (invariably?) located either within, or immediately against one contact of, beds of relatively finer grained sediment amongst coarser grained sediment.

The laminae in these veins are defined by thin, somewhat anastomosing or wavy and stylolitic septa of wallrock. In the darker rocks these septa are very dark grey. These are classic mesothermal laminated quartz reef textures, however, unfortunately sulphides are uncommon.

Given the stratigraphic control on the position of these veins an attempt was made to correlate these veins between B52 and B52a. In the majority of cases this is possible but there are a significant number of cases where it is not.

A number of examples of these laminated S_0 conformable veins were sampled from B52a (half cored) and assayed. Assays results were as follows:

481.05m to 481.15m, 0.1m @ 0.06g/t Au, <1ppm Ag, 70ppm As, 6ppm Cu, 8ppm Pb, 42ppm Zn, 0.13% S and 6.35% Fe.

506.35m to 506.4m, 0.05m @ 0.02g/t Au, <1ppm Ag, 30ppm As, 32ppm Cu, <2ppm Pb, 76ppm Zn, 0.10% S and 0.635% Fe.

531.70m to 531.75m, 0.05m @ <0.01g/t Au, <1ppm Ag, 22ppm As, 8ppm Cu, <2ppm Pb, ppm Zn, 0.245% S and 0.865% Fe.

533.05m to 533.1m, 0.05m @ 0.04g/t Au, <1ppm Ag, 460ppm As, 10ppm Cu, <2ppm Pb, 9ppm Zn, 0.855% S and 2.79% Fe.

537.5m to 537.6m, 0.1m @ 0.01g/t Au, <1ppm Ag, 115ppm As, ppm Cu, 11ppm Pb, <2ppm Zn, 0.40% S and 0.106% Fe.

A laminated quartz vein hosted in folded Blyths Creek Formation shales was sampled with three samples of which 621.35m to 621.95m contains the greatest volume of vein material assayed,

621.35m to 621.95m, 0.6m @ 0.2g/t Au, <1ppm Ag, 10ppm As, 48ppm Cu, 500ppm Pb, 37ppm Zn, 0.185% S and 1.74% Fe.

7.4 Alteration

Further work is being carried out regarding the styles and distribution of hydrothermal alteration and will be detailed in subsequent reporting.

The Denison Group and Blyths Creek Formation rocks intersected in the holes show evidence in parts for hydrothermal alteration of a range of styles.

"Bleaching" alteration typical of that commonly associated with mesothermal reefs is seen (variably) in the Eaglehawk Gully Formation, Salisbury Hill Formation and Blyths Creek Formation rocks intersected in the drilling. This bleaching is due to ankerite \pm sericite. In the Eaglehawk Gully Formation and to a some what lesser degree the Blyths Creek Formation this ankerite + sericite alteration is pervasive and extensive. In the Salisbury Hill Formation bleaching is less extensive with ankerite alteration occurring in stratiform zones as well as discrete spots and circular domains (to ~15mm in diameter).

The morphology of individual ankerite "spots" and both circular and more irregular domains of ankerite alteration is replicated in a number of instances by fine grained pyrite. Although the distribution of this pyrite alteration mirrors that of ankerite to some degree overall its distribution does not show a one-to-one relationship with that of ankerite.

Sections of the Salisbury Hill Formation show evidence of silicification with such alteration commonly associated with and emanating from discrete quartz tension veins.

7.4.1 Sericite (\pm clay) + ankerite alteration in Eaglehawk Gully Formation

The sedimentary units of the Eaglehawk Gully Formation units intersected in the upper part of B52 are moderately intensely but pervasively sericite + ankerite altered down to just below the lowermost basalt at a depth of 192.3m. Spatially this alteration is essentially symmetrical about the reef intersected between 155.1m and 156.7m with similar alteration zonation seen around similar reef intersections in the Eaglehawk Gully Formation in drilling around the Tasmania Reef. The sole fold hinge intersected at 79.6m is associated with strong iron oxide development probably after weathered ankerite autobreccia. Similar folds are associated with broad sericite + ankerite alteration halos in drill intersections around the Tasmania Reef. It is also reasonably possible that at least some of the sericite + ankerite alteration is associated with this folding.

From 192.3m to the contact with the 3LS correlate at 249.7m there are smaller discrete zones of sericite + ankerite alteration between broader zones of chloritic "unaltered" rocks.

The precise reasons for these smaller zones are unclear. They do not reflect the presence of veining or structures and may represent lobes of alteration between unaltered rock. From 249.7m to 286.8m the 3LS correlate appears to have escaped significant alteration as is also commonly the case in drill intersections around the Tasmania Reef (though the leached porous nature of this intersection makes this

somewhat uncertain). The rocks in the upper part of the 2SL correlate immediately below the 3LS are similarly chloritic and unaltered down to 290.9m.

From 290.9m to the upper contact of the PEB unit at 305.3 the rocks are sericite + ankerite altered.

These intersections of sericite + ankerite alteration (and other similar intersections of sericite + ankerite alteration in near mine drilling) have boundaries broadly coincident with lithological boundaries indicating that there is at least some lithological control on the distribution of sericite + ankerite alteration.

The PEB unit is essentially unaltered.

7.4.2 Bleaching alteration in basaltic andesite

The upper two basalt intersections are relatively unaltered though the lower thicker intersection has sericite + ankerite (?) + epidote (?) alteration, a pistachio green/yellow colouration or bleaching with respect to dark green unaltered andesite, three zones apparently associated with veining (ankerite + quartz, epidote, carbonate) and shearing.

This alteration is considered to be cogenetic with the sericite + ankerite alteration seen in adjacent sediments with the somewhat different mineralogy reflecting the different mineralogy of the precursor (i.e. basalt instead of sandstone).

7.4.3 Ankerite alteration in the Salisbury Hill Formation

The units of the Salisbury Hill Formation are almost all ankerite altered in a range of styles.

Siltstone and finer grained sandstones at the top of graded beds in the 1SC and 2SC are commonly pervasively ankerite altered. This alteration is commonly stratabound but also extends across bedding surfaces.

Medium dark grey sandstone facies, coarse grained sandstone facies and grit facies are occasionally pervasively ankerite altered in the same way to the finer grained sandstones and siltstones. These coarser grained darker coloured rocks also show carbonate alteration as both pervasive "carbonate spotting" and in spherical domains or "blotches" generally ~5mm-15mm in diameter. This domainal style is mimicked by pyrite in a few places (and seen in drilling in the mine) arguably tying the two styles of alteration.

The 1SC and 2SC units in particular are characterised by pervasive "carbonate spotting" alteration with 0.5mm - 2mm tabular ankerite (?) evenly distributed though the density of the spotting varies throughout the unit with no obvious control by any particular structure.

This "blotchy" spherical domainal alteration is also occasionally seen in the more conglomeratic bases to graded beds.

The WET, 2CG and to a lesser degree CTC conglomerate units have variable ankerite alteration associated with pyrite in their matrices though only to a weak to moderate intensity. The CTC has a more siliceous matrix.

There is nothing to suggest here or in the mine environment that the pervasive "carbonate spotting" alteration is necessarily related to either of the gold mineralising phases. It is hypothesised that this alteration is more likely related to diagenetic processes or perhaps a more distal, regionally extensive, alteration envelope around the mesothermal system. The similar mineralogy to the sericite + ankerite alteration in the Eaglehawk Gully Formation suggests coevality.

7.4.4 Pyrite ± quartz alteration in Salisbury Hill Formation

Disseminated pyrite is almost ubiquitous in the Salisbury Hill Formation to varying degrees with only the WET conglomerate not containing significant pyrite alteration. Disseminated pyrite occurs evenly distributed throughout medium dark grey sandstone, coarse grained sandstone and grit facies and in the matrices to pebbles in conglomeratic facies.

As noted earlier the morphology of pyrite alteration mimics that of ankerite with pyrite spotting as well as a few occurrences of circular domains to (~15mm).

The intensity of this alteration appears to increase broadly down hole with a maximum at 587.45m to 587.6m where there is a distinctive zone with blebby to lenticular stringer veins of semi-massive pyrite. This more intense pyritic alteration is also seen in the B52a lower reef structure between 592.55m and 592.7m.

The leached fractures in B52a's intersection of 2SC between the two deeper reefs are considered to have been remnant after fine grained pyrite in a style also seen around the B52 reef where the pyrite is retained.

In this section between the B52a Upper and Lower reefs pyrite alteration is associated spatially with moderate silicification.

7.5 Stratigraphy/Sedimentology

7.5.1 Eaglehawk Gully Formation

The stratigraphic sequence intersected by the holes is very similar to that seen in the immediate environment of the Tasmania Reef with a few significant but explicable variations. The down hole depths of contacts and bedding to core angles of these contacts has been used to determine approximate true thickness. These are contrasted with the stratigraphic column for the mine area in figure 3.

PEB Unit

The PEB unit is quite distinctive and essentially retains the threefold sub-division defined by Lewis (1998) (although some refinement of the original facies assemblages is warranted). The upper pebble marker is defined clearly by a ~70mm true thickness

band of almost clast supported pebbly conglomerate. The unit is ~30m thick (c.f. ~26m in the mine).

2SL and 3LS Units

Immediately overlying the PEB unit is a ~13m unit of sandstones overlain in turn by a ~27m thick unit of leached and porous sandstones, calcareous sandstones and weathered limestones. The latter unit is correlated with the 3LS unit (~21m thick in the mine) and the former sandstone unit with the 2SL unit (~30m thick in the mine).

The neat almost layer cake correlation between the sequence in Middle Arm Gorge and that in the mine in this lower part of the Eaglehawk Gully Formation and carried on into the Salisbury Hill Formation (see below) provides argument for carrying this correlation up sequence into the more weathered and geologically diverse rocks intersected in the upper part of B52.

1SL Unit

Immediately overlying the 3LS unit and up to 81.7m in B52 is a sequence of sandstones with thin wispy shale interbeds with three basalt intrusions as well as a reef structure (B52 Reef). The total thickness of the sediments (removing the basalt) is ~93m though this does not consider what any offset (unknown) on the B52 Reef structure may have done.

Mafic Intrusive - Basaltic Andesite (?)

The mafic volcanic intersections lie down dip from outcropping peperitic (in part) and coherent (in part) mafic volcanic and associated hyaloclastically derived sandstone which both whole rock and trace element petrology have shown to be basaltic andesite.

In all three intersections the coherent basaltic andesite has recognisable amphibole and occasional olivine phenocrysts in a dark green matrix. There is some internal zonation in the lowermost intersection but all intersections are of recognisably the same rock.

On the basis of both peperitic and sharp bedding conformable contacts with sandstones seen in drill core and the peperitic, hyaloclastic and/or coherent nature of volcanic seen in outcrop the basaltic andesite unit is interpreted to be emplaced as a shallow sub-seafloor intrusive sill with the hyaloclastically derived basaltic andesite sandstone outcropping in the creek indicating that part of the intrusive was exposed to the seafloor.

The upper intersection of basaltic andesite (134.0m to 144.7m) has a peperitic upper contact with tongue-like lobes of coherent basaltic andesite or discrete bleached (quenched?) clasts enclosed by fine grained sediment. The lower contact is conformable to immediate bedding surfaces at 70° to core axis but this angle differs from the orientation of bedding away from the contact indicating some soft-sediment slumping/folding of the sandstones associated or postdating intrusion. The basaltic andesite is ~7.3m thick (perpendicular to the orientation of bedding - which is also quite probably the actual thickness of this sill-like intrusive).

The middle intersection of basaltic andesite (144.7m to 148.1m) is the thinnest (~0.4m thick) of the three. The upper contact is conformable with immediate bedding at 15° to core axis though this differs from the orientation of bedding away from the contact again arguing for some soft-sediment deformation syn- or immediately post- intrusion. The basal contact of this middle intersection is peperitic though broadly sub-conformable to bedding in the adjacent sediments.

The lowermost intersection of basaltic andesite (169.7m to 188.8m) is the thickest of the three intersections (~13m thick). Both the upper and lower contacts are sharp and conformable to both immediate bedding as well as the orientation of bedding away from the contact.

As noted above the third intersection of basaltic andesite lies below the reef structure intersected between 155.1m and 156.7m.

Whilst it is quite possible that the two basaltic andesite intersections above the reef structure are correlates of that intersection below the reef, there is no evidence for this and it is equally possible that the three intersections are of discrete lenses (though quite probably connected in some way). However, in order to produce a fault offset repeated intersection the movement on this reef structure (assuming broadly strike slip movement) would need to be sinistral, the opposite sense of movement to that which characterises northeast (AMG) striking reefs/faults on Salisbury and Cabbage Tree Hills.

The total thickness of the three basaltic andesite sills is ~21m which added to the ~97m thickness of the 1SL sandstones (with thin wispy shale interbeds) is ~114m which is markedly thicker than the ~78m thickness seen in the mine environment.

2LS, HLS and 1LS Units

The rocks overlying the 1SL unit are predominantly thinly bedded sandstones, siltstones and shales with clay after weathered limestone. There are some shorter sections of more massive sandstones as well as bioturbated sandstones. On the basis of prominent haematite staining of discrete clay (after limestone) beds between 32.5m and 62.0m this section has been correlated with the HLS unit (in the mine environment this unit is ~28m thick whilst here the thickness is ~19m). The weathered clayey (after limestone) sediments between this HLS unit and the 1SL unit further down hole are from the 2LS unit. In the mine environment this unit is ~40m thick, however, here it is only ~13m thick.

These relationships are illustrated in figure 3. Significantly the overall thickness of the sequence from the base of the PEB unit to the top of the HLS unit (i.e. ~223m) is the same at Middle Arm Gorge as it is in the mine environment. The thicker sequence of 1SL with basaltic andesite sills at Middle Arm Gorge is compensated for by a markedly thinner overlying 2LS unit.

Whilst such a relationship suggests that intrusion took place post-1SL deposition and pre-2LS deposition with the basalt uplifting the overlying ~34m thickness of unconsolidated sediment producing a relative topographic high with subsequent 2SL

onlapping this high. The presence of hyaloclastically derived sandstone at broadly the same stratigraphic position outcropping in the creek provides some argument against a post-1LS timing for intrusion with the seafloor closer than ~34m to enable some volcanic to be exposed.

7.5.2 Salisbury Hill Formation

The stratigraphic similarities between the stratigraphic sequence at the mine and at Middle Arm Gorge continue into the Salisbury Hill Formation. Here the marked change is in the thickness of 2SC (thicker) and apparent thickness of CTC (thinner) with respect to that seen in the mine.

WET Unit

The WET unit of conglomerate and lesser sandstone is essentially identical to the same unit in the mine environment with conglomerate as generally massive beds of oligomictic (~85%-95% quartzose pebbles, ~15%-5% dark shale clasts), pebbly conglomerate, clast supported, with generally sub-rounded clasts in the range 2mm-5mm but up to 15mm and sandstones as generally gritty to coarse grained. The unit contains a section of dominantly sandstone in the lower half of the intersection as well as smaller sandstone sections in the upper half. Both occurrences mirror that seen in the mine. The WET unit at Middle Arm Gorge as well as the mine has a thickness of ~20-21m.

1SC Unit

The 1SC unit consists of predominantly quartz sandstone with lesser siltstone and pebbly conglomerate as a series of fining upwards graded beds. The 1SC unit has a thickness at Middle Arm Gorge of ~34m whilst in the mine this thickness is ~25m.

2CG Unit

The 2CG unit of conglomerate and lesser sandstone is also very similar to the 2CG in the mine. Sedimentologically the major difference with the unit in the mine is the lack of significant amounts of larger, more poorly sorted clasts at Middle Arm Gorge where the grain size is generally 2mm-5mm. The conglomerate is oligomictic (~95% quartzose pebbles, ~5% dark shale and/or lighter grey siltstone), clast supported, pebbly conglomerate. It has weak but pervasive ankerite ± pyrite alteration of the matrix to the conglomerate. The other major difference is the units thickness with the unit ~35m thick in the mine whilst at Middle Arm Gorge it is ~16m thick.

2SC Unit

Like the 1SC unit the 2SC unit also consists of predominantly quartz sandstone with lesser siltstone and pebbly conglomerate as a series of fining upwards graded beds. In the mine the 2SC unit has a thickness of ~48m.

From the base of the 2CG at 449.0m in B52A the hole passes through a coherent sequence of 2SC rocks down to at least the B52a Upper Reef fault structure

intersected at 567.2m, a thickness of ~88m markedly thicker than the 2SC unit in the mine.

The fault between 567.2m and 568.65m occurs within 2SC rocks. It is unclear as to whether there has been any significant offset on the fault at 567.2m (under dextral strike-slip movement this should remove stratigraphy on the other side of the fault).

If stratigraphically contiguous these 2SC rocks in the fault would have a true thickness of ~1.1m.

Below 568.65m to 585.3m the hole continues in the 2SC unit, a true thickness of ~12m.

If the B52a Upper Reef has not removed stratigraphy the total thickness of 2SC rocks is ~101m, markedly more than the ~48m in the mine. If the B52a Upper Reef fault has removed part of the sequence this thickness would be greater.

Alternatively there may be a structural explanation for this thickening, however, when this anomalous thickness is considered in the light of the CTC (see below) and the overall stratigraphic sequence (see figure 3) this greater thickness is quite reasonable (see discussion below).

CTC Unit

From 585.3m (just before passing into the reef structure between 587.95m and 592.75m) to the Blyths Creek Formation contact at 596.35m the hole passes through a sequence of quartz pebble conglomerate. The conglomerate is murky with indistinct clast margins due to resorption. In the mine environment these textures are seen in the CTC unit but also in the thick beds of conglomerate in the lowermost part of the 2SC unit. In the mine the upper contact of the CTC is defined by the change from massive conglomerate (CTC) to conglomerate with interbedded sandstones (2SC). It is very probable that the CTC starts at 587.15m, however, it is also possible that the dextral offset (acts to remove part of the stratigraphic sequence) on the fault structure immediately down hole has juxtaposed basal 2SC against CTC in which case the upper contact of the CTC has been removed.

The former interpretation is favoured and the conglomerate above the structure has been placed in the CTC unit.

If this is the case there is ~2.2m true thickness of CTC above the reef structure, ~3.6m within the reef structure and ~2.7m below the reef structure, a total thickness of ~8.5m. In the mine environment this thickness is ~57m.

The relatively thin CTC was not unexpected. In the Middle Arm Gorge road cut the CTC units upper contact is well defined and marks the start of a ~10m thick sequence of conglomerate. The base of this conglomerate outcrop is marked by a shear with finer grained rocks immediately down hole. Beyond this the weathered outcrop contains conglomeratic rocks in parts, shales and siltstones in others, i.e. akin to the Blyths Creek Formation rocks intersected in drilling.

Comparable thicknesses between the CTC in outcrop and that intersected in B52a suggest that little (if any) stratigraphic thickness has been removed by movement on the B52a Lower Reef structure.

The combined thickness of the 2SC and CTC units in B52a is ~110m (~101m + ~8.5m) whilst the combined 2SC and CTC units in the mine have a thickness of ~105m, quite similar. It is interpreted that the CTC unit existed as a relatively thick body in the area of the mine with relatively thin 2SC whilst at Middle Arm Gorge the CTC unit was relatively thin with a thicker sequence of 2SC rocks deposited in this relative low.

7.5.3 Dundas Group correlates - Blyths Creek Formation

Considerable attention has been paid to the stratigraphy, sedimentology and structure of the Blyths Creek Formation. Much of that work is in progress and will be reported in subsequent reporting.

The Blyths Creek Formation is intersected in B52A from 596.35m to the end of hole at 652.5m. The rocks intersected consist of a folded sequence of interbedded shale and sandstones with minor quartz pebble conglomerate down to 623.6m. The fold geometry is consistent with the folding seen in Denison Group rocks nearer the mine and is discussed further below. It is difficult to accurately measure the thickness of these sub-units due to the degree of folding.

The rocks can be divided into two facies associations. The lower part of the unit, from the end of hole up to 623.6m, is characterised by bedded shales, siltstones and variably calcareous sandstones. Whilst these rocks have been subsequently folded and sheared they preserve evidence of earlier soft-sediment deformation also, possibly related to the change in facies seen at 623.6m.

The upper part of the unit intersected from 623.6m up to 596.35m consists of similar shales and sandstone, though generally not calcareous, with beds of quartz pebble conglomerate. Upwardly fining graded conglomerate-sandstone-shale cycles in this latter part show evidence of high energy deposition and are interpreted as discrete mass flows in most instances. The first quartz pebble bed at 623.6m thus marks a significant change in sedimentary facies.

The change in facies at 623.6m with the addition of conglomeratic rocks marks a change in the sediment source, transport and/or depositional regimes. Clasts in these conglomeratic rocks consist of vein quartz and quartzite and are indistinguishable from clasts in the Cabbage Tree Conglomerate, the basal unit of the Blyths Creek Formation.

Much of the geological reporting of the region describes the contact between the Blyths Creek Formation and the basal Cabbage Tree Conglomerate unit of the Salisbury Hill Formation as an unconformity. This is not the case. The quartz pebble conglomeratic rocks in the upper part of the Blyths Creek Formation represent a partial shift in source, transport or depositional regime which is carried to completion with the introduction of the Cabbage Tree Conglomerate. Bedding in the Blyths Creek Formation shale immediately against the Cabbage Tree Conglomerate is parallel to the contact though somewhat sheared. In drilling around the mine this conformability is

indisputable. There is no evidence for any extra deformation event in the Blyths Creek Formation and presence of conglomeratic rocks in the upper part of the Blyths Creek Formation all indicate a contiguous sequence.

7.6 Structure

7.6.1 Introduction

Much of the structural geological work will be influenced by the rocks intersected in B53 and so only limited interpretative work has been conducted at this stage. The following discussion details a number of the major conclusions drawn to date.

Aside from testing for reef structures the holes have all provided information regarding a number of other important elements of the geological structure of the Middle Arm Gorge area.

In particular bedding to core axis measurements supplemented by a few strategic core-oriented measurements of bedding surfaces (a spear with a red chinagraph pencil tip was the orientation tool used) have allowed the dip and strike of bedding and the nature and orientation of folding to be understood.

7.6.2 Bedding Orientation

Bedding to core axis angles remain largely unchanged at between 40° and 50° to core axis throughout the Denison Group except for the section around 79.6m where bedding is 0° to core axis (i.e. parallel to core). Oriented readings around the upper contact of the WET unit in B52 support a ~50° to ~070° orientation. The consistency of bedding to core axis angles in the rest of the Denison Group intersections indicates that bedding largely retains this dip and strike.

In the Blyths Creek Formation bedding to core axis varies ranging from 0° up to 70° due to folding (described below). Based upon evidence from the mine the strike of bedding in the Blyths Creek Formation is considered to be consistent with bedding in the Denison Group rocks.

7.6.3 Folding in Eaglehawk Gully Formation

There is only one fold, ~79.5m, intersected in the Eaglehawk Gully Formation by drilling. The fold is of the same style as the smaller scale (order of metres) scale parasitic z folds seen in these rocks in the mine environment. The fold occurs in weathered rocks and is associated with significant iron staining. The iron is probably due to oxidised ankerite autobreccia veining and alteration, again consistent with that autobrecciation and veining seen in these rocks in the mine environment.

This fold is only of small scale and has little effect on the orientation of bedding beyond a few metres either side of its closure.

7.6.4 Folding in Blyths Creek Formation

As noted above the Blyths Creek Formation intersection is characterised by variations in bedding to core axis angles due to folding. These variations can be shown to define parasitic z folds. The folds are sub-horizontal and strike north-northwest, consistent with folding seen in the mine environment. Further work is being done on the structure of the Blyths Creek Formation rocks and will be reported in subsequent reporting.

The fact that folding is only seen to any significant degree in these Blyths Creek Formations is considered to be due to their relative ductility and not to a deformation event which occurred between Blyths Creek Formation and Denison Group deposition. As stated earlier field evidence strongly supports a conformable relationship between these two.

7.6.5 Cabbage Tree Thrust

The increase in deformation intensity and the occurrence of puggy fault rock with some heterogeneity of clasts suggests that the Cabbage Tree Thrust fault is close to the end of the hole.

8.0 Recommendations

The clear recommendation arising from the results of B52, B52a and B52b was to drill B53. The results of B53 will influence greatly the recommendations for post B53 work.

EL 20/94 contains a number of other prospects ready for drilling if/when the focus moves from Middle Arm Gorge (see figure 2).

In particular the following prospects should be tested.

- Bulls Road Fault - southernmost of 5 locations where there is topographic evidence of a break in the Cabbage Tree Thrust strike ridge. This is a topographic feature only with no supporting geochemistry though the terrain is not favourable for soil geochemistry.
- Johnson Creek Fault west of the Salisbury goldfield where the structure has Denison Group quartz sandstones on both sides. This enigmatic fault zone must be tested in this empirically favourable setting (Denison Group host rocks in the hangingwall to the Cabbage Tree Thrust). A fence of shallow RC holes may be a better first pass approach though important structural information will require diamond drilling.
- Both Wings West (a quartz blow with associated anomalous soil geochemistry previously known as Wings West North) and the adjacent Jarmans prospect (defined by anomalous soil geochemistry associated with more recent scratchings on silica \pm fuchsite altered coarse grained sandstones and previously known as Wings West South) need to be drill tested. These are more conceptual targets that are best initially tested with shallow RC drilling.
- The Salisbury Hill - Cabbage Tree Hill strike ridge needs to be tested along its extent with fences of overlapping holes.

9.0 EXPENDITURE

9.1 2005-06 EXPENDITURE

Expenditure during 2005-06 was predominantly related to drilling B52, B52A & B52B although some 83m of current drill hole B53 had been completed when the account was closed as at 30th September 2006. Management fees include an estimate of costs incurred in the establishment of an Exploration Agreement with TEMCO over access to mining lease ML 14M/1994.

A total of 984.9m of drilling was completed during the course of 2005-06 although 249.4m was to the Contractors account after equipment malfunction led to the loss of a portion of the parent hole.

Costs are summarised as follows:

Drilling Contractor	\$261,124.88
Assaying	\$922.00
Geology	\$13,000.00
Management	\$10,000.00
Labour	\$3,115.88
Total	\$288,162.76

9.2 FUTURE EXPENDITURE

Based on the results obtained from drill hole B52A, application to extend the tenure of the licence was submitted during September 2006. Subsequently, drilling commenced on drill hole B53, and had reached a depth of 83m by 30th September 2006. It is anticipated that drill hole B53 will continue to a depth approaching 500m. On that basis, minimum expenditure on EL 20/94 for 2006-07 shall be in the order of \$150,000. Further expenditure will depend upon results obtained to some degree.

10.0 References

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Appendices

BEACONSFIELD MINE JOINT VENTURE

Diamond Drill Core Log

Hole No. : B52

Date Started : 15 December 2005

Drilled by : Boart Longyear

Date Completed : 3 April 2006

Logged by : Grant MacDonald

Collar	AMG GRID	MINE GRID	Hole Details
Northing :	5436411.665	2502.47	Final Depth :
Easting :	485770.918	1899.05	Hole Length :
R.L. :	76.14	76.14	Core Size :
Dip :	-49.80	-49.80	0 307.4 HQ
Bearing :	305.94	353.44	307.4 540.2 NQ

Purpose

Test for possible mineralisation at Middle Arm Gorge.

Summary Results

From	To	Length	Description	Au	Ag	Cu	Pb	Zn	As	S (%)	Fe (%)
155.1	157.0	1.9	(Inc. 0.8m void) Reef	0.07	<1	15	13	77	31	7.41	13.7

BEACONSFIELD MINE JOINT VENTURE

Diamond Drill Core Log - Down Hole Survey Data (AMG Grid)

Hole Number B52

Depth	Dip	Brg	From	To	Length	Sin.Dip	Vertical	R.L.	Cos.Dip	Horizontal	Cos.Brg	Diff.	Northing	Sin.Brg	Diff.	Easting
		(AMG)					Difference			Difference		N			E	
Collar								76.14					5436411.67			485770.92
0	-49.8	305.94	0	6	6	-0.76	-4.58	71.55	0.65	3.87	0.59	2.27	5436413.94	-0.81	-3.14	485767.78
12	-51.0	300.55	6	29	23	-0.78	-17.87	53.68	0.63	14.47	0.51	7.36	5436421.30	-0.86	-12.47	485755.32
46	-52.0	302.05	29	70	41	-0.79	-32.31	21.37	0.62	25.24	0.53	13.39	5436434.69	-0.85	-21.39	485733.92
94	-52.0	302.05	70	112	42	-0.79	-33.10	-11.73	0.62	25.86	0.53	13.72	5436448.41	-0.85	-21.92	485712.01
130	-53.0	302.05	112	145	33	-0.80	-26.35	-38.08	0.60	19.86	0.53	10.54	5436458.95	-0.85	-16.83	485695.17
160	-54.0	301.05	145	175	30	-0.81	-24.27	-62.35	0.59	17.63	0.52	9.10	5436468.05	-0.86	-15.11	485680.07
190	-54.0	300.05	175	208	33	-0.81	-26.70	-89.05	0.59	19.40	0.50	9.71	5436477.76	-0.87	-16.79	485663.28
226	-54.0	299.05	208	242.5	34.5	-0.81	-27.91	-116.96	0.59	20.28	0.49	9.85	5436487.61	-0.87	-17.73	485645.55
259	-53.0	299.05	242.5	274	31.5	-0.80	-25.16	-142.12	0.60	18.96	0.49	9.21	5436496.81	-0.87	-16.57	485628.98
289	-53.0	299.05	274	304.5	30.5	-0.80	-24.36	-166.48	0.60	18.36	0.49	8.91	5436505.72	-0.87	-16.05	485612.93
320	-52.5	300.05	304.5	335	30.5	-0.79	-24.20	-190.67	0.61	18.57	0.50	9.30	5436515.02	-0.87	-16.07	485596.86
350	-52.5	299.55	335	365	30	-0.79	-23.80	-214.47	0.61	18.26	0.49	9.01	5436524.03	-0.87	-15.89	485580.97
380	-52.5	299.55	365	395	30	-0.79	-23.80	-238.28	0.61	18.26	0.49	9.01	5436533.04	-0.87	-15.89	485565.08
410	-52.0	299.55	395	425	30	-0.79	-23.64	-261.92	0.62	18.47	0.49	9.11	5436542.14	-0.87	-16.07	485549.02
440	-50.0	298.05	425	455	30	-0.77	-22.98	-284.90	0.64	19.28	0.47	9.07	5436551.21	-0.88	-17.02	485532.00
470	-50.0	294.55	455	485	30	-0.77	-22.98	-307.88	0.64	19.28	0.42	8.01	5436559.22	-0.91	-17.54	485514.46
500	-49.0	295.05	485	540.2	55.2	-0.75	-41.66	-349.54	0.66	36.21	0.42	15.33	5436574.56	-0.91	-32.81	485481.65

B52

0.0 - 32.5 Oxidised, sericite (\pm clay?) + ankerite altered, generally thinly interbedded sandstones, siltstones, shales and clay (after limestone) OEG 1LS

Variably orange/greenish grey to light greenish grey, oxidised, sericite (\pm clay) + ankerite altered, generally thinly interbedded sandstones, siltstones, shales and clay (after limestone). Thinly bedded facies.

Generally good core recovery but most of intersection is in moderately broken core with breaks on weathered bedding surfaces and joints.

Whilst groundwater leaching is partly responsible for this lighter colour, fine sericitic flecks on cleavage surfaces and fine-grained ankerite spots indicate that these rocks had been sericite (itself weathered to clay in part)+ankerite altered and thus were a "bleached" greenish grey colour prior to any colour changes made by groundwater.

The sediments are variably oxidized throughout with limonite on oxidized fracture surfaces and in occasional fine wispy shears. The iron being oxidized is apparently derived from the iron in ankerite, and from the iron in pyrite in rare instances. Predominantly weak to moderately oxidized from 0m to 32.5m.

There are a number of clayey zones (i.e. 26.5m to 26.7m and 32.1m to 32.2m), most probably after limestone.

Bedding is 40° to core axis at 10m, 38° @ 15m and 38° @ 25m.

32.5 - 62.0 Oxidised, sericite (\pm clay?) + ankerite altered, generally thinly interbedded sandstones, siltstones, shales and clay (after limestone) with rusty staining in parts OEG HLS

Variably orange/greenish grey to light greenish grey, oxidised, sericite (\pm clay) + ankerite altered, generally thinly interbedded sandstones, siltstones, shales and clay (after limestone). Thinly bedded facies down to 59.5m bioturbated facies 59.5m to 62.0m.

Generally good core recovery but most of intersection is in moderately broken core (except for more coherent section from 54.5m to 62.0m) with breaks on weathered bedding surfaces and joints.

Again, while groundwater leaching is partly responsible for this lighter colour, fine sericitic flecks on cleavage surfaces and fine-grained ankerite spots indicate that these rocks had been sericite (itself weathered to clay in part) + ankerite altered and thus were a "bleached" greenish grey colour prior to any colour changes made by groundwater.

The sediments are variably oxidized throughout with limonite on oxidized fracture surfaces and in occasional fine wispy shears. The iron being oxidized is apparently derived from the

iron in ankerite, and from the iron in pyrite in rare instances. Weakly oxidized from 32.5m to 39.6m, moderately from 39.6m to 47.0m and weak to moderately from 47.0m to 62.0m.

There are numerous clayey zones (i.e. 35.8m to 36.2m, 43.6m to 43.9m, 47.4m to 47.5m, 52.2m to 52.4m and 59.0m to 59.3m), most probably after limestone.

Bedding is 40° to core axis at 35m, 42° @ 37.5m, 30° @ 45m, 36° @ 50m, 40° @ 52m and 40° @ 55m.

62.0 - 81.7 Oxidised, sericite (± clay?) + ankerite altered, generally thinly interbedded sandstones, siltstones, shales and clay (after limestone) OEG 2LS

Variably orange/greenish grey to light greenish grey, oxidised, sericite (± clay) + ankerite altered, generally thinly interbedded sandstones, siltstones, shales and clay (after limestone). Thinly bedded facies.

Generally good core recovery but most of intersection is in moderately broken core (except for more coherent section from 62.0m to 65.5m) with breaks on weathered bedding surfaces and joints.

Whilst groundwater leaching is partly responsible for this lighter colour, fine sericitic flecks on cleavage surfaces and fine-grained ankerite spots indicate that these rocks had been sericite (itself weathered to clay in part)+ankerite altered and thus were a "bleached" greenish grey colour prior to any colour changes made by groundwater.

Thinly bedded facies dominates the intersection with a section of bioturbated facies between 62.0m to 66.5m and short section of predominantly massive or thickly bedded facies between 76.0m and 78.8m.

The sediments are variably oxidized throughout with limonite on oxidized fracture surfaces and in occasional fine wispy shears. The iron being oxidized is apparently derived from the iron in ankerite, and from the iron in pyrite in rare instances. Predominantly weak to moderately oxidized from 62.0m to 67.0m, strong from 67.0m to 81.7m. The zone of stronger oxidation from 67.0m to 81.7m is apparently associated with the fold whose hinge is intersected around 79.6m. In such a case the increase in iron is probably due the ankerite autobreccia veining and alteration commonly seen in such fold hinge zones in the mine.

There are a number of clayey zones (i.e. 66.9m to 67.4m, 69.8m to 70.0m and 74.0m to 74.3m), most probably after limestone.

Bedding is 40° to core axis at 63m, 41° @ 72m and 0° (fold hinge) @ 79.6m. This latter fold hinge is open and without a pair. It is the only fold seen in the hole.

81.7 - 134.0 Sericite (\pm clay?) + ankerite altered sandstone, variably carbonate bearing, with wispy thin shale interbeds OEG 1SL

Generally thinly interbedded sericite (\pm clay) + ankerite altered carbonate bearing sandstones with wispy thin sericite (\pm clay) altered shale interbeds. Continuation of unit from 0m to 81.7m but now essentially unoxidised. There is some weak patchy oxidation down to 83.1m, rare oxidized fragments 83.1m to 99.4m, unoxidised below 99.4m. Good recovery but still moderately broken core with breaks along (commonly shaley) bedding planes.

Light greenish grey in colour throughout due to moderate but pervasive sericite (\pm clay?) + ankerite alteration (bleaching) with perhaps some enhancement by groundwater leaching. The unit was probably originally calcareous with carbonate now altered to fine-grained pale yellow ankerite spots. A remnant fragment of dark green chlorite at 190.1m confirms that these rocks were dark green and chloritic and have been sericite + ankerite altered throughout.

The intersection is quite homogenous consisting predominantly of wispy shale in sandstone facies with only minor massive to thickly bedded facies at the base of the section below 126.5m. This wispy shale in sandstone facies is quite distinct and consists of fine, generally 1-5mm thick, curvi-planar wisps of clay and/or sericite altered shale to a few millimeters in thickness between generally 1-20cm thick beds of sericite altered sandstone. The shale wisps range from discrete and distinct to less distinct and perhaps compositionally gradational with sandstone. In parts the rock looks grossly similar to bioturbated facies and there are definite sections with bioturbation but in general the cyclicity of the shale-sandstone beds suggests repetition of either sediment influx or change in depositional environment. The textures are more suggestive of turbid deposition than bioturbation. Sandstone beds occasionally contain fractures/joints/leached veinlets sub-orthogonal to the orientation of bedding i.e. dipping moderately westerly, as en-echelon arrays bound by less competent shale interbeds.

The lowermost 0.3m adjacent to the basalt consists of a dark green coarser grained sandstone with fine-grained ankerite? carbonate spots and fine (<1mm) patches/domains dark green chlorite (or biotite?) due to contact metasomatism and later lighter green sericite alteration. Thin, 1-2mm thick, ankerite? carbonate rich bands define bedding in this latter section.

Bedding is 31° to core axis at 86.8m, 33° @ 94m, 31° @ 100m, 40° @ 108m, 46° @ 112m, 39° @ 117.5m, 42° @ 122m and 35° @ 128m.

134.0 - 144.7 Basalt OEG BLT

Greyish green volcanic rock. First of three basalt intersections in this hole. Dark green phenocrysts are generally tabular in shape and 0.5mm to 1mm long and are probably an amphibole. A few dark green phenocrysts have cross-sectional shapes indicative of olivine.

On the basis of a peperitic upper contact the volcanic rock is interpreted to have been an intrusion into unconsolidated sediment a relatively short distance below the seafloor.

The unit can be broken into three sections.

134.0m to 134.5m Peperitic contact between basalt and fine grained dark green sediment. The sediment shows evidence for metasomatism (see above). Predominantly basalt with lesser sediment. The upper contact is in broken core but a number of fragments show tongue-like lobes or discrete clasts of basalt surrounded by fine grained sediment, i.e. peperite. Clasts are lighter coloured than the enclosing sediment suggestive of quenching. Thus the contact is an intrusive contact but occurring only a relatively short distance below the seafloor where basalt is intruding into wet unconsolidated sediments.

134.5m to 143.8m Coherent basalt. Grayish green with evenly distributed phenocrysts throughout. In moderately broken core down to 142.8m, strongly broken below this.

143.8m to 144.7m Bleached clay after weathered basalt. Light greenish grey in colour with the 0.1m adjacent to the underlying siltstone a little lighter. Sharp lower contact looks to be conformable to bedding at 70° to core axis.

144.7 - 148.1 Sericite (± clay?) + ankerite altered sandstone and minor wispy shale OEG 1SL

Short interval of variably calcareous sandstone and minor wispy shale. Essentially identical to sediments above the basalt i.e. between 81.7m and 134.0m, and is probably a continuation of that unit with the basalt a later intrusive. Bedding is 50° to core axis at 145.5m, 45° @ 146.0m, 45° @ 147.5m, 50° @ 147.9m and 15° @ 148.1m.

The contact with the basalt down hole is conformable to bedding at 15° to core axis. This contact is thus at ~30° to the horizontal.

The intersection is greenish grey in colour due to sericite + ankerite alteration throughout. Some oxidation of shaley surfaces.

The sandstone immediately adjacent to the basalt is a pale green with fine darker and lighter green mottling suggestive of weak? metasomatism.

148.1 - 148.7 Basalt OEG BLT

Second basalt intersection in this hole, this being a short intersection only a short distance below the first.

Greyish green in colour throughout. Sharp intrusive upper contact and more classic peperitic basal contact. Has faintly recognisable porphyritic texture with similar dark green phenocrysts to the other two basalt intersections.

Upper contact is at ~ 15° to core axis and is conformable with bedding in the immediately adjacent sandstone. As shown from bedding to core axis data from the sandstone up hole from this contact, the contact is actually at ~30° to the horizontal at time of deposition indicating that either the basalt was partially cross-cutting or that there has been some soft sediment slumping following intrusion.

The lower 0.25m of the intersection contains ~5% thin (<10mm thick) vein-like tongues of green sediment between rounded clasts of basalt and is a peperite. The base of this peperite is partly sub-conformable, partly irregular with respect to the orientation of bedding in the underlying sandstone.

Although the somewhat discordant nature of the margins of the basalt with respect to bedding would support the idea that this basalt is a feeder dyke to the basalt unit intersected up hole, it is more likely that this unit is a separate sill-like intrusion.

148.7 - 155.1 Sericite (± clay?) + ankerite altered sandstone with minor wispy shale interbeds OEG 1SL

Sandstone with minor wispy shale interbeds. Essentially identical to sediments up hole between 81.7m and 134.0m and between 144.7m and 148.1m, i.e. is wispy shale in sandstone facies.

Most of intersection and particularly lower part is in broken core. The 0.1m adjacent to the reef is in rubble.

Sericite + ankerite altered throughout. Sulphide poor ankerite veining/alteration below 152.5m becoming somewhat stronger and more common down hole to the contact with the reef down hole. Only very minor disseminated pyrite in sandstone immediately adjacent to reef.

Bedding is 35° to core axis at 149.4m, 50° @ 151.3m and 40° @ 152.3m.

155.1 - 156.7 Ankerite + pyrite + quartz reef DVN UNA

Very rubbly broken core intersection of ankerite > quartz + sulphide reef with 0.8m core loss around the lower contact.

The upper contact is well defined with ~0.1m rubbly material immediately below core block at 155.0m which agrees with core block at 155.9m.

Upper edge at 155.1m is 30-50mm true thickness clayey fault gouge with fragments of wallrock sandstone with some minor disseminated pyrite and no distinct vein clasts suggesting that the fault gouge accompanied the movement when mineralization was introduced. The fault gouge has no internal fabric and there is no equivocal evidence for the orientation of this contact though it is likely to be at moderate to high angle to core axis.

The reef mineralization proper is in broken core throughout but is clearly homogenous and consists of euhedral intergrowth of ankerite and pyrite and lesser quartz. There are some semi-massive patches of pyrite to 20mm across and overall the reef contains ~5% pyrite. There is no recognizable fabric in any of the fragments. Probably ~70% creamy yellow ankerite, 5% pyrite and 25% quartz.

There are occasional murky dark grey patches with sharp angular outlines indicating that they are altered wallrock fragments.

There is 0.8m core loss between the core block at 156.2m and the clayey pyritic ankerite altered sandstone down hole. This loss has been attributed to the reef as the rubbly material which makes up the reef is most likely to cause problems in the tube than the sandstone.

Assays										
Sample	From	To	Au	Ag	As	Cu	Pb	Zn	S	Fe
302871	154.6	155.1	0.02	<1	24	30	78	82	0.505	5.19
302872	155.1	155.6	0.08	<1	32	10	14	72	6.28	13.3
302873	155.6	156.2	0.07	<1	30	20	12	82	8.36	14.1
302874	157.0	157.9	<0.01	<1	18	110	125	155	5.53	9.80

156.7 - 169.7 Sericite (\pm clay?) + ankerite altered sandstone with minor wispy shale interbeds OEG 1SL

Sandstone with minor wispy thin shale interbeds. Greenish grey to light greenish grey throughout. More light yellowish greenish grey from reef contact down to ~159.7m due to ankerite alteration. This ankerite altered section contains irregular masses and elongate discontinuous veins of pyrite, commonly partly conformable to bedding, down to ~159.7m.

Bedding is 40° to core axis at 157.0m, 50° @ 159.5m, 50° @ 160.0m, 45 @ 161m, 55° @ 163m, 45° @ 165.5m, 42° @ 168.5m, 42° @ 169m and 40° @ 169.5m.

The sandstone in the 0.1-0.2m immediately adjacent to the contact with underlying basalt has ankerite? carbonate spots and trails (conformable to bedding) and a darker green colour (biotite? chlorite?) i.e. has undergone some contact metasomatism.

169.7 - 188.8 Basalt OEG BLT

Lowermost and thickest basalt intersection. Similar in appearance to other two intersections though this is more clearly porphyritic and also contains rounded vesicle (now calcite \pm chlorite filled). Dark green and greenish grey for most of the upper half of the intersection, lighter greenish grey in parts of the lower half associated with ankerite veining.

The unit has sharp upper and lower contacts and is coherent (no peperite) throughout. The uppermost part of the unit can be divided into lithologically discrete zones.

169.7m to 170.6m Dark greenish grey chloritic section with some large (to 20mm) patches of lighter green (tremolite?). Still porphyritic but difficult to see due to dark green colour of matrix. Has sharp essentially conformable upper contact with overlying sandstone.

170.6m to 171.6m More greenish grey section of coherent basalt with a weak fabric and flow aligned tabular amphibole phenocrysts, both at ~45° to core axis. Contains calcite alteration as pervasive finer grained disseminations and in occasional discrete veins (to 20mm thick) and vesicle infilling. In places these vesicles are elongate in the direction of flow defined by adjacent to phenocrysts. This is flow banding near the top of the intrusive.

171.6m to 175.2m More coherent section of dark greenish grey porphyritic basalt with randomly oriented phenocrysts. Some coarser vesicles to 8mm, rounded, with chlorite ± calcite ± unknown pale pink silicate mineral infill. Also vuggy clots of fine fibrous light green mineral. Some dusky red haematite patches particularly on occasional shear surfaces.

175.2m to 175.25m 10mm-15mm thick shear at 45° to core axis with schistose and puggy infill including greenish grey material as well as dusky red haematite.

175.95m More coherent section of dark greenish grey porphyritic basalt with randomly oriented phenocrysts. Some coarser vesicles to 8mm, rounded, with chlorite ± calcite ± unknown pale pink silicate mineral infill. Also vuggy clots of fine fibrous light green mineral. Some dusky red haematite patches particularly on occasional shear surfaces.

175.95m to 176.05m Ankerite? + quartz vein cross-cutting basalt at 15° to core axis. Mostly euhedral intergrowth (~1-2mm crystals) with some ankerite adjacent to the lower contact with a fibrous texture parallel to vein walls. Tensional vein. In places the basalt on the upper side of the vein is bleached (ankerite + sericite alteration?) for up to ~20mm with a relatively abrupt but gradational boundary. Ankerite? is a pale yellowish grey colour.

176.05m to 177.2m Both dark greenish grey and bleached (ankerite + sericite? altered) light greenish grey basalt with the lighter section running sub-parallel to core axis suggesting the presence of another ankerite + quartz vein similar to the between 175.95m and 176.05m just beyond the edge of the core. The basalt contains a widely spread but recognizable trail like zone of olivine crystals (now chloritised?)

177.2m to 178.0m Dark greenish grey section of massive basalt.

178.0m to 178.45m Greenish grey to light greenish grey (bleaching ankerite + sericite? alteration) basalt up hole from a discrete 2mm-4mm thick epidote vein at 25° to core axis. The alteration is broadly spatially associated but there is actually more intense 0.1m-0.2m up hole from the vein.

178.45m to 179.5m More greenish grey (less bleached) section of basalt.

179.5m to 181.1m Intriguing predominantly light greenish grey section of basalt cross-cut by two generations of carbonate veining/autobrecciation.

Fine pale ankerite? carbonate? veinlets commonly ~1mm thick at 55° to core axis (7 between 179.6m and 180.2m) have 0-3mm, occasionally up to 15mm, thick strongly chloritic selvages with sharp contacts with surrounding bleached basalt. This is an intriguing relationship as this style of bleaching alteration is associated with the carbonate veining, yet the strongly chloritic selvages to these veinlets argues that the chlorite has been added by the veining rather than being altered.

The autobreccia between 180.1m and 180.15m consists of pale carbonate autobreccia extending out from a central fracture fill vein, at ~50° to core axis, which consists predominantly of a pale green mineral in the centre and a relatively thin margin of pale carbonate. In part the carbonate autobreccia has a chloritic selvedge as for the more discrete veinlets.

A few fine hair-like ankerite? (more orange than earlier veinlet generation) veinlets cross-cut these earlier paler carbonate veinlets sub-orthogonal at ~20° to core axis.

Below 180.7m the intersection is in broken core with puggy material associated with fragments of ankerite + quartz veinlets.

181.1m to 183.7m More massive section of more darker greenish grey basalt without veining.

183.7m to 188.0m Lighter greenish grey section of bleached (ankerite + sericite altered) basalt in broken core and puggy weathered material. The puggy sections and occasional discrete shear surfaces with haematite ± carbonate lineations suggest that this section represents a zone of shearing within the basalt or perhaps a more discrete fault structure.

Puggy sections are at 184.0m, 186.4m and 186.8m.

Thin dark green chlorite shears between 184.6m and 184.8m to 2mm thick are at 50° to core axis, similar shears between 184.2m to 184.4m have a ladder-array of chlorite filled fractures between the shears.

188.0m to 188.8m Basal section of unit which consists of massive dark greenish grey basalt with sharp, unsheared contact conformable to bedding.

188.8 - 191.95 Variably sericite (± clay) + ankerite altered sandstone with thin wispy shales OEG 1SL

Variably altered sandstones with thin wispy shale interbeds. Apart from contact metasomatised sandstone immediately adjacent to the basalt the sandstone is ankerite + sericite altered throughout. The reason for this alteration is unclear with no structures other than the vein material "intersected" at 191.95m but this is not considered to be in-situ (see below). This alteration may well be associated with the basalt (as discussed for the altered sandstones up hole). Only occasionally weakly calcareous.

This unit is considered to continue below the vein material "intersected" immediately down hole, i.e. the unit is actually from 188.8m to (305.3m).

188.8m to 189.0m Pale red purple sandstone. Siliceous with extensive carbonate spotting due to metasomatism. (Is pale pink colour due to biotite? c.f. Plutonic). Carbonate spots also enhance and help define bedding at ~45° to core axis.

189.0m to 191.95m Yellowish grey ankerite + sericite altered sandstone with thin shale interbeds of sandstone with wispy shale interbeds. Bedding is 45° to core axis at 190.3m.

Core is very rubbly with evidence of redrilling.

191.95 - 192.0 Sulphide rich rubbly vein material DVN UNA

Problematic section with 7 fragments of semi-massive pyrite from marble to golf ball size showing evidence for redrilling and sitting amongst similarly redrilled sandstone fragments. Vein material looks completely out of place. Redrilled fragments of altered are seen amongst predominantly dark greenish grey chloritic sandstones in subsequent runs indicating that they have fallen out of the holes wall further up hole. It is not clear from where these fragments have fallen but the only sulphidic vein of sufficient width intersected in the hole is that between 155.1m and 156.7m. At this stage it is interpreted that this material has fallen from that reef though this is by no means definite. Some altered sandstone fragments with the sulphide fragments have pyrite on fracture surfaces and in irregular veinlets similar to the pyritic sandstone seen immediately down hole from the vein between 155.1m and 156.7m.

Fragments are rounded and redrilled. The larger fragment has a concave curved surface of same diameter as the hole suggesting it has fallen directly from the hole wall. The semi-massive cubic pyrite masses which make up the fragments are cross-cut by leached and oxidized quartz + carbonate (? - now oxidized and leached) veining.

192.0 - 249.7 Sandstone with thin shale interbeds, variably calcareous and variably altered OEG 1SL

Sandstone with wispy thin shale interbeds, weak to moderately calcareous in parts. Most of the section is only weakly altered with the colour midway between dark greenish grey and greenish grey, i.e. ankerite + sericite alteration is present and pervasive but only weakly. These weakly altered zones are separated by relatively narrow zones of stronger alteration, i.e. from 191.95m (i.e. in section above sulphide "intersection") to 192.2m, 197.7m to 199.3m and 210.9m to 212.5m.

Sedimentologically the section consists predominantly of the sandstone with wispy thin shale interbed facies with some minor massive sandstone facies.

192.0m to 192.2m Yellowish greenish grey sandstone with thin wispy shale interbeds. Some of this material has evidence of redrilling but some larger pieces of core are clearly in-situ.

This sandstone has been ankerite + sericite altered and is in-situ. Sandstone with wispy shale interbeds facies.

192.2m to 197.7m Darker greenish grey, chloritic sandstone, with some zones with quite strong spotty ankerite alteration, and wispy thin shale interbeds. Sandstone with wispy thin shale interbed facies.

197.7m to 199.3m Greenish grey to light greenish grey, ankerite + sericite altered sandstone. Massive sandstone facies.

199.3m to 210.9m Somewhere between dark greenish grey and greenish grey. Still some suggestion of chlorite though predominantly moderately sericite + ankerite altered. Some sandstone beds more massive sandstone facies but in general is sandstone with wispy thin shale interbed facies.

210.9m to 211.5m Yellowish grey ankerite + sericite altered. Sharp alteration boundaries. Sandstone with wispy thin shale interbed facies.

211.5m to 211.6m Shear with schistose sericitic pug after shale?. Definite shear but looks to be intraformational shearing on shaley bedding surface.

211.6m to 212.5m Yellowish grey ankerite + sericite altered. Sharp lower alteration boundary. Contains a small zone of unaltered chloritic sandstone at 211.6m. Massive sandstone facies.

212.5m to 221.6m Darkish greenish grey with sharp upper boundary and very subtle and gradational lower boundary. Chloritic with variable weak to moderate ankerite + sericite alteration which must increase gradually down hole and trend into the altered section below (boundary not distinct). Sandstone with thin wispy shale interbed facies below 214.8m, massive sandstone facies above 214.8m.

221.6m to 236.0m Sandstone with wispy thin shale interbed facies. Bedding is 45° to core axis at 225.0m, 45° @ 230.0m and 43° @ 235.0m.

236.0m to 241.2m Medium light grey and yellowish grey sandstone with some thin shale interbeds in part. Massive sandstone facies down to 239.2m, sandstone with wispy thin shale interbed facies below 239.2m. Sharp bedding surface lower contact with some alteration extending into upper part of underlying unit such that the boundary looks to be a primary lithological change to dark precursor sandstone down hole. Bedding is 42° to core axis at 240.0m.

241.2m to 243.8m Predominantly medium dark grey sandstone with some minor light grey zones in the upper part of intersection. Bedding is 45° to core axis at 243.0m

243.8m to 247.8m Medium grey sandstone. Massive sandstone facies.

247.8m to 249.7m Yellowish grey to greenish ankerite + sericite altered sandstone. Massive sandstone facies. Can see some remnant dark green chlorite patches indicating that precursor was dark green chloritic.

249.7 - 286.8 Interbedded sandstone, shale and leached calcareous sandstone/limestone OEG 3LS

Sandstones, shales and porous sandstone after leached limestone and calcareous sandstone. Distinctly different from sandstones and thin shale interbeds up hole but looks very like leached and weathered version of 3LS unit. Thinner bedded (beds 1mm to ~50mm thick) facies down to 268.3m, thicker sandstone and calcareous sandstone below 268.3m with bioturbated sandstone becoming more prominent below 282.4m.

These rocks would have been originally calcareous but calcite has been largely completely leached out. The leaching is seen as very porous sandstone (<1mm pits after calcite flecks), friable chloritic sandstone with calcite leached out, sandy clay.

Colour ranges from greenish grey to darkish greenish grey with light brown staining particularly in the upper part of the unit. This brown stain is due to oxidisation of iron in carbonate.

Difficult to place the upper and lower contacts precisely. Upper contact has been placed at top of sandy clay bed at 249.7m (after limestone?) marking change from massive sandstone facies up hole and thinly bedded facies down hole.

Lower contact is placed at point where calcareous? bioturbated sandstone facies changes to massive sandstone facies.

Bedding is 45° to core axis at 251.0m, 47° @ 254.3m, 48° @ 260.3m, 45° @ 264.0m, 48° @ 268.0m, 46° @ 274.5m, 46° @ 280.0m and 46° @ 285.0m.

286.8 - 305.3 Sandstones OEG 2SL

Sandstones with very minor wispy shale interbeds in the upper part of this intersection. This unit is in two parts. The upper part is more akin to sandstones in the 3LS unit up hole, the lower part more akin to the sedimentary facies of the unit down hole but without pebbles.

286.8m to 290.9m Dark greenish grey (chloritic) sandstone of massive sandstone facies with a very minor amount of wispy thin shale interbed facies.

290.9m to 305.3m Yellowish grey to light olive grey ankerite + sericite altered massive sandstones. Predominantly bioturbated facies with some calcareous sandstones. Upper alteration boundary is gradational.

Only two minor quartz + ankerite tension veinlets, else no veining or mineralization.

Bedding is 46° to core axis at 287.0m, 50° @ 295.0m, 45° @ 300.0m and 47° @ 305.0m.

305.3 - 347.55 Sandstone with occasional pebbles OEG PEB

Sandstones, either bioturbated and light grey, or medium dark grey and more massive, with occasional discrete quartz pebbles and quartz pebble bands.

The lower contact with the WET conglomerate unit down hole is sharp and discrete with no significant conglomerate beds in the sandstones immediately above the conglomerate.

Bioturbated facies with quartz pebble facies down to 322.7m, mixed medium dark grey sandstone facies, bioturbated sandstone facies and quartz pebble facies 322.7m to 336.8m, medium dark grey sandstone facies and quartz pebble facies 336.8m to 347.55m.

Upper contact is placed at uppermost pebble band even though this point does not correspond with the change in sedimentary facies.

Bedding is 48° to core axis at 309.0m, 46° @ 317.5m, 47° @ 321.0m, 50° @ 328.5m, 50° @ 330.5m, 49° @ 334.5m and 43° @ 342.0m.

~70mm thick band scattered pebbles 305.3m, few pebbles at 307.1m, two ~50mm thick bands scattered pebbles 309.3m to 309.6m, few pebbles at 313.4m, few scattered pebbles 320.9m to 321.1m, 50mm thick band scattered pebbles at 324.3m, scattered pebbles from 325.8m to 325.9m, few scattered pebbles 329.6m to 329.7m, few scattered pebbles 330.0m to 330.1m, ~50mm thick band pebbles 333.8m, few pebbles 333.6m and ~50mm thick band pebbles at 338.75m.

339.5m and 342.5m ~10 quartz + sulphide (pyrite + chalcopyrite) ± ankerite tension veinlets 5mm to 10mm thick at 35° to 50°. This tension vein array cuts an earlier 10mm thick quartz + sulphide tension vein parallel to core axis between 340.6m and 341.0m.

347.55 - 376.35 Conglomerate OSH WET

Sequence of generally medium light grey (due to weak/moderate ankerite alteration of matrix) oligomictic (~85%-95% quartz pebbles & ~15%-5% dark shale clasts) largely pebbly (clasts generally 2mm-5mm and sub-rounded but also up to 15mm and sub-angular) conglomerate and lesser coarse grained/gritty sandstone. Contains occasional quartz ± trace sulphide tension veins to 15mm thick at moderate angles to core axis.

361.9m S₀ conformable 15mm thick quartz + pug (after sheared ankerite altered sandstone) sheared vein at 50° to core axis probably represents a small bedding parallel shear.

365.55m 10mm-20mm thick laminated quartz + sulphide vein at 40°-45° to core axis looks to be S₀ conformable but occurs within massive sandstone and not on a shaley bedding surface.

374.2m 20mm thick massive quartz vein S₀ parallel to shaley bed at 45° to core axis.

Overall throughout the whole unit there are perhaps 6 quartz veins to 20mm thick both S_0 conformable and orthogonal to bedding.

Upper contact is sharp and discrete and at 47° to core axis. Lower contact is a little equivocal with some small sections of WET-like pebbly conglomerate below 376.35m but has been placed at base of lowermost thick section of pebbly conglomerate.

347.55m to 350.8m Medium light grey to light grey (ankerite altered matrix) oligomictic (~90% quartz pebbles & ~10% dark shaley clasts) clast supported, well sorted pebbly conglomerate (clasts generally 2mm to 5mm and sub-rounded).

350.8m to 352.35m Brownish grey (ankerite altered matrix) coarse grained gritty sandstone (with a section of conglomeratic sandstone 351.4m and 351.55m). Bedding is indistinct but is at moderate angles to core axis.

352.35m to 356.5m Medium light grey to light grey (ankerite altered matrix) oligomictic (~90% quartz pebbles & ~10% dark shaley clasts) clast supported, well sorted pebbly conglomerate (clasts generally 2mm to 5mm and sub-rounded).

356.5m to 357.0m Relatively thin interval of medium grey coarse grained sandstone and minor pebbly conglomeratic sandstone. Bedding is 45° to core axis.

357.0m to 358.3m Medium light grey (generally unaltered matrix) oligomictic (~85%-95% quartz pebbles & ~15%-5% dark shale clasts) largely clast supported pebbly conglomerate. Differs from pebbly conglomerates up hole in that clasts are more sub-angular and have a greater size range 2mm - 15mm and thus are more poorly sorted.

358.3m to 363.2m Brownish grey (ankerite altered matrix) coarse grained to gritty sandstone with occasional sections of pebbly conglomeratic sandstone. Bedded with coarser grained sections as more poorly sorted beds. Bedding is 40° to core axis at 359.0m, 55° @ 361.0m, 50° @ 361.7m and 40° - 50° @ 362.0m.

363.2m to 365.55m Medium grey (negligible ankerite alteration of matrix) oligomictic (~85%-95% quartz pebbles & ~15%-5% dark shaley clasts) clast supported pebbly (clasts generally 2mm - 5mm) conglomerate.

365.55m to 367.75m Medium grey sandstone to gritty sandstone. Some discrete spotty ankerite alteration. Generally massive with indistinct bedding though bedding is at moderate angles to core axis.

367.75m to 372.9m Medium grey pebbly conglomerate. Patches of ankerite alteration of matrix.

372.9m to 373.4m Medium grey sandstone.

373.4m to 376.35m Medium grey (occasional weak ankerite alteration of matrix) oligomictic (~95% quartz pebbles & ~5% dark shaley clasts) clast supported pebbly (clasts generally 2mm-5mm and sub-rounded) conglomerate.

376.35 - 425.7 Sandstone, grit and conglomerate OSH 15C

Predominantly quartz sandstone but with a significant component of siltstone and (unusually) polymictic pebble conglomerate. Essentially a sequence of upwardly fining graded beds with relatively thin conglomerate bases overlain by a relatively thicker section of massive quartz sandstone in turn overlain by finer sandstone or siltstone. This unit has been described in more detail and broken down into both sediment type (i.e. sandstone, conglomerate etc.) and graded beds in B52A.

Generally medium dark grey but also with significant patches of ankerite alteration particularly as strataform alteration of finer grained sandstone/siltstone tops to what are commonly graded beds also occurs in irregular patches in massive medium dark grey sandstone.

391.0m to 398.5m 4 quartz > ankerite tension veins at ~5°- 10° to core axis.

394.4m 25mm true thickness S_0 conformable brecciated early quartz later ankerite vein

400.85m In broken core but quartz vein and pug in siltstone and looks to be S_0 conformable

402.45m 25mm true thickness S_0 conformable quartz vein in siltstone.

406.8m to 411.2m 6 quartz + ankerite + pyrite (~10% pyrite in some veins) tension veins to 30mm thick at ~30° - 40° to core axis.

411.9m 10mm true thickness S_0 conformable laminated quartz vein in ankerite altered sandstone.

414.7m to 418.9m 8 quartz tension veins to 50mm true thickness at ~50° to core axis.

418.9m to 425.7m 3 tension veins.

419.1m 25mm true thickness S_0 conformable laminated quartz vein S_0 conformable in sandstone.

421.35m 10mm true thickness S_0 conformable laminated quartz vein in siltstone.

425.7 - 451.6 Conglomerate OSH 2CG

Generally medium grey oligomictic (95% quartz 5% shale and siltstone), sub-rounded (to sub-angular in parts), clast supported, pebbly (2mm-5mm) conglomerate with interbedded commonly weak to moderately ankerite altered sandstone and siltstone. This unit has been

described in more detail in the log of B52A and broken down into sediment type (i.e. conglomerate, sandstone, etc.).

Only occasional quartz tension veins <15mm true thickness and at ~25° to core axis. From 445.0m to 445.5m are three quartz tension veins at moderate to high angles to core axis.

451.6 - 463.8 Sandstone, grit and conglomerate OSH 2SC

Predominantly quartz sandstone but with a significant component of siltstone and pebble conglomerate. Essentially a sequence of upwardly fining graded beds with relatively thin conglomerate bases overlain by a relatively thicker section of massive quartz sandstone in turn overlain by finer sandstone or siltstone.

Finer sandstone/siltstone tops are commonly weakly ankerite altered and olive greenish grey to brownish grey in colour. Sandstones, coarse grained sandstones and conglomerate are predominantly medium grey to medium dark grey in colour except where occasionally ankerite altered. This unit has been broken down into both sediment type (i.e. sandstone, conglomerate etc.) and graded beds in B52A.

From 460.2m to 461.0m are 12 quartz ± ankerite tension veins to 10mm true thickness and at ~50°- 60° to core axis.

463.8 - 464.2 Fault DFZ FLT

Healed fault breccia in ankerite altered sandstone with raft-like fragments of shale and folded and boudinaged quartz veining in ankerite healed matrix.

463.8m to 464.15m Fault brecciated shale

464.15m to 464.2m Pug

464.2 - 511.05 Sandstone, grit and conglomerate OSH 2SC

Description as for 451.6m to 463.8m.

473.0m to 415.3m ~5 quartz ± ankerite tension veins to 20mm thick at ~35° to core axis.

482.2m to 493.5m ~25 quartz ± minor ankerite tension veins to 15mm thick at 25° - 45° to core axis.

493.5m to 503.0m ~6 quartz tension veins to 5mm at moderate angles to core axis.

503.0m to 511.05m ~20 quartz tension veins to 25mm thick at ~50° to core axis.

511.05 - 511.25 Quartz vein DVN UNA

Bland quartz vein with wallrock septa against upper contact. Puggy upper contact at 40° to core axis. Lower contact is sharp and unshered at ~35° to core axis.

511.25 - 533.1 Sandstone, grit and conglomerate OSH 2SC

Description as for 451.6m to 463.8m.

511.25m to 513.8m 2 quartz tension veins.

513.8m to 529.3m ~30 quartz ± minor ankerite + pyrite tension veins to 10mm true thickness at ~30° to core axis.

527.8m S₀ conformable laminated quartz vein

527.9m S₀ conformable laminated quartz vein

529.3m to 533.1m ~40 quartz ± ankerite ± pyrite tension veins to 20mm thick at 40° - 50° to core axis.

533.1 - 533.25 Quartz vein DVN UNA

Laminated quartz vein.

533.25 - 540.4 Sandstone, grit and conglomerate OSH 2SC

Description as for 451.6m to 463.8m.

533.25m to 539.0m ~25 dominantly quartz ± minor ankerite ± trace pyrite tension veins to 10mm at ~45° to core axis.

539.75m Thin S₀ conformable quartz vein in siltstone

539.9m Thin S₀ conformable quartz vein in siltstone

540.4 End of hole

B52 was abandoned at a depth of 540.4m after two dropped rod strings (first ~12m, second ~250m) blocked the hole.

BEACONSFIELD MINE JOINT VENTURE

Diamond Drill Core Log

Hole No. : B52A

Date Started : 12 April 2006

Drilled by : Boart Longyear

Date Completed : 6 July 2005

Logged by : Grant MacDonald

Collar	AMG GRID	MINE GRID	Hole Details	
Northing :	5436411.665	2502.47	Final Depth :	652.5
Easting :	485770.918	1899.05	Hole Length :	351.9
R.L. :	76.14	76.14	Core Size :	NQ
Dip :	-49.80	-49.80		
Bearing :	305.94	353.44		

Purpose

Continuation of B52 to target depth at Middle Arm Gorge

Summary Results

From	To	Length	Description	Au	Ag	Cu	Pb	Zn	As	S (%)	Fe (%)
587.15	587.95	0.8	Wall Rocks	4.39	<1	84	26	880	906	5.23	6.95
587.95	592.75	4.8	Reef-like Shear	0.20	<1	25	69	838	196	2.29	3.35

BEACONSFIELD MINE JOINT VENTURE

Diamond Drill Core Log - Down Hole Survey Data (AMG Grid)

Hole Number B52A

Depth	Dip	Brg (AMG)	From	To	Length	Sin.Dip	Vertical Difference	R.L.	Cos.Dip	Horizontal Difference	Cos.Brg	Diff. N	Northing	Sin.Brg	Diff. E	Easting
Collar								76.14					5436411.67			485770.92
0	-49.8	305.94	0	6	6	-0.76	-4.58	71.55	0.65	3.87	0.59	2.27	5436413.94	-0.81	-3.14	485767.78
12	-51.0	300.55	6	29	23	-0.78	-17.87	53.68	0.63	14.47	0.51	7.36	5436421.30	-0.86	-12.47	485755.32
46	-52.0	302.05	29	70	41	-0.79	-32.31	21.37	0.62	25.24	0.53	13.39	5436434.69	-0.85	-21.39	485733.92
94	-52.0	302.05	70	112	42	-0.79	-33.10	-11.73	0.62	25.86	0.53	13.72	5436448.41	-0.85	-21.92	485712.01
130	-53.0	302.05	112	145	33	-0.80	-26.35	-38.08	0.60	19.86	0.53	10.54	5436458.95	-0.85	-16.83	485695.17
160	-54.0	301.05	145	175	30	-0.81	-24.27	-62.35	0.59	17.63	0.52	9.10	5436468.05	-0.86	-15.11	485680.07
190	-54.0	300.05	175	208	33	-0.81	-26.70	-89.05	0.59	19.40	0.50	9.71	5436477.76	-0.87	-16.79	485663.28
226	-54.0	299.05	208	242.5	34.5	-0.81	-27.91	-116.96	0.59	20.28	0.49	9.85	5436487.61	-0.87	-17.73	485645.55
259	-53.0	299.05	242.5	274	31.5	-0.80	-25.16	-142.12	0.60	18.96	0.49	9.21	5436496.81	-0.87	-16.57	485628.98
289	-53.0	299.05	274	304.5	30.5	-0.80	-24.36	-166.48	0.60	18.36	0.49	8.91	5436505.72	-0.87	-16.05	485612.93
320	-51.0	291.05	304.5	335	30.5	-0.78	-23.70	-190.18	0.63	19.19	0.36	6.89	5436512.62	-0.93	-17.91	485595.02
350	-51.0	295.55	335	365	30	-0.78	-23.31	-213.49	0.63	18.88	0.43	8.14	5436520.76	-0.90	-17.03	485577.98
380	-50.0	294	365	395	30	-0.77	-22.98	-236.48	0.64	19.28	0.41	7.84	5436528.60	-0.91	-17.62	485560.37
410	-50.0	294	395	425	30	-0.77	-22.98	-259.46	0.64	19.28	0.41	7.84	5436536.45	-0.91	-17.62	485542.75
440	-50.0	292.5	425	455	30	-0.77	-22.98	-282.44	0.64	19.28	0.38	7.38	5436543.83	-0.92	-17.82	485524.93
470	-49.0	292.5	455	485	30	-0.75	-22.64	-305.08	0.66	19.68	0.38	7.53	5436551.36	-0.92	-18.18	485506.75
500	-47.5	292.5	485	515	30	-0.74	-22.12	-327.20	0.68	20.27	0.38	7.76	5436559.11	-0.92	-18.72	485488.03
530	-47.5	293	515	545	30	-0.74	-22.12	-349.32	0.68	20.27	0.39	7.92	5436567.03	-0.92	-18.66	485469.37
560	-46.0	297	545	575	30	-0.72	-21.58	-370.90	0.69	20.84	0.45	9.46	5436576.50	-0.89	-18.57	485450.80
590	-46.0	297.5	575	605	30	-0.72	-21.58	-392.48	0.69	20.84	0.46	9.62	5436586.12	-0.89	-18.49	485432.32
620	-45.0	296.5	605	635	30	-0.71	-21.21	-413.69	0.71	21.21	0.45	9.47	5436595.58	-0.89	-18.98	485413.33
650	-43.5	295	635	652.5	17.5	-0.69	-12.05	-425.74	0.73	12.69	0.42	5.36	5436600.95	-0.91	-11.50	485401.83

B52A

Wedged off B52 at 300.6m with the hole cutting full core at a depth of 301.45m.

301.45 - 306.5 Sandstones OEG 2SL

Yellowish grey to light olive grey ankerite + sericite altered sandstones. Predominantly bioturbated facies with some calcareous sandstones.

306.5 - 349.1 Sandstone with occasional pebbles OEG PEB

Sandstones, either bioturbated and light grey, or medium dark grey and more massive, with occasional discrete quartz pebbles and quartz pebble bands.

The lower contact with the WET conglomerate unit down hole is sharp and discrete with no significant conglomerate beds in the sandstones immediately above the conglomerate.

Bioturbated facies with quartz pebble facies down to 324.0m, mixed medium dark grey sandstone facies, bioturbated sandstone facies and quartz pebble facies 324.0m to 338.05m, medium dark grey sandstone facies and quartz pebble facies 338.05m to 349.1m.

The upper contact is determined by reference to B52 where the PEB units upper contact is defined by a ~70mm thick pebble band. The first pebbles intersected in the hole are at 306.5m. Other pebble bands also correlate correspondingly down hole confirming this.

Bedding is 48° to core axis at 305m, 45° @ 310m, 42° @ 317m, 48° @ 320m, 45° @ 329m, 45° @ 331m, 48 @ 336m. 40° @ 342m, 48° @ 348.5m & 50° @ 349.0m.

~70mm thick band scattered pebbles at 306.5m, few pebbles at 308.5m, ~100mm thick band scattered pebbles 310.6m, 40mm band of scattered pebbles at 314.45m, few scattered pebbles at 314.8m, 40mm thick band scattered pebbles at 322.4m, 40mm band pebbles at 325.7m, few scattered pebbles 327.0m and 327.4m, 30mm band pebbles at 331.3m, ~40mm thick band pebbles at 335.1m, few pebbles at 336.1m and ~50mm thick band pebbles at 340.45m.

332.8m and 338.2m Occasional 10mm thick quartz tension veins at 25° to core axis.

Below 346.0m Few quartz + ankerite tension veins at ~25°-35° to core axis.

349.1 - 378.25 Conglomerate and minor sandstone OSH WET

Sequence of generally medium light grey (due to weak/moderate ankerite alteration of matrix) oligomictic (~85%-95% quartz pebbles & ~15%-5% dark shale clasts) largely pebbly (clasts generally 2mm-5mm and sub-rounded but also up to 15mm and sub-angular) conglomerate and lesser coarse grained/gritty sandstone. Contains occasional quartz (trace sulphides) tension veins to 15mm thick at moderate angles to core axis.

375.8m 15mm thick massive quartz vein S_0 parallel to shaley bed at $\sim 55^\circ$ to core axis.

363.75m Shaley shear surface at $\sim 35^\circ$ to core axis.

364.9m to 366.0m 4 quartz > ankerite tension veins <15mm thick at $\sim 30^\circ$ to core axis. Between 353.3m and 356.9m are ~ 6 quartz tension veins <10mm thick at moderate angles to core axis.

368.0m to 368.1m Incipient quartz sulphide reef structure at 35° to core axis. Polished pyritic surface at 368.0m at 28° to core axis with slickenlines at 55° clockwise with respect to the long axis of the ellipsoid defined by the surface. This surface lies against 30mm true thickness sandstone followed by 10mm strongly pyrite altered sandstone then 10mm sandstone then 25mm of incipient quartz veining, largely the product of pervasive texturally destructive silicification.

371.2m to 374.0m Occasional quartz \pm ankerite \pm minor pyrite tension veins.

Upper contact is sharp and discrete and at 45° to core axis. Lower contact is a little equivocal with some small sections of WET-like pebbly conglomerate below 378.25m but has been placed at base of lowermost thick section of pebbly conglomerate.

349.1m to 352.7m Medium light grey to light grey (ankerite altered matrix) oligomictic ($\sim 90\%$ quartz pebbles & $\sim 10\%$ dark shaley clasts) clast supported, well sorted pebbly conglomerate (clasts generally 2mm to 5mm and sub-rounded).

352.7m to 354.0m Brownish grey (ankerite altered matrix) coarse grained gritty sandstone (with a section of conglomeratic sandstone 351.4m and 351.55m). Bedding is indistinct but is at moderate angles to core axis.

354.0m to 358.15m Medium light grey to light grey (ankerite altered matrix) oligomictic ($\sim 90\%$ quartz pebbles & $\sim 10\%$ dark shaley clasts) clast supported, well sorted pebbly conglomerate (clasts generally 2mm to 5mm and sub-rounded).

358.15m to 358.95m Relatively thin interval of medium grey coarse grained sandstone and minor pebbly conglomeratic sandstone. Bedding is $\sim 45^\circ$ to core axis.

358.95m to 359.75m Medium light grey (generally unaltered matrix) oligomictic ($\sim 85\%$ - 95% quartz pebbles & $\sim 15\%$ - 5% dark shale clasts) largely clast supported pebbly conglomerate. Differs from pebbly conglomerates up hole in that clasts are more sub-angular and have a greater size range 2mm - 15mm and thus are more poorly sorted.

359.75m to 363.45m Brownish grey (ankerite altered matrix) coarse grained to gritty sandstone with occasional sections of pebbly conglomeratic sandstone. Bedded with coarser grained sections as more poorly sorted beds. Bedding is 40° to core axis at 360.2m, 60° @ 362.1m and 55° @ 363.0m.

363.45m to 366.7m Diffusely interbedded sequence of predominantly (~70%) medium grey (negligible ankerite alteration of matrix) oligomictic (~95% quartz pebbles & ~5% dark shaley clasts) clast supported pebbly (clasts generally 2mm - 5mm, up to 10mm) conglomerate and lesser (~30%) medium dark grey sandstone.

366.7m to 369.7m Medium grey sandstone to gritty sandstone. Some discrete spotty ankerite alteration. Generally massive with indistinct bedding though bedding is at moderate angles to core axis.

369.7m to 374.8m Medium grey gritty coarse grained sandstone to finer grained pebbly conglomerate (clasts commonly ~2mm), occasionally grading down to gritty coarse grained sandstone. Discrete spotty ankerite alteration of matrix.

374.8m to 375.4m Medium grey sandstone.

375.4m to 378.25m Medium grey (occasional weak ankerite alteration of matrix) oligomictic (~95% quartz pebbles & ~5% dark shaley clasts) clast supported pebbly (clasts generally 2mm-5mm and sub-rounded) conglomerate.

378.25 - 426.0 Sandstones with more minor siltstones and pebbly conglomerate OSH 1SC

Predominantly quartz sandstone but with a significant component of siltstone and (unusually) polymictic pebble conglomerate. Essentially a sequence of upwardly fining graded beds with relatively thin conglomerate bases overlain by a relatively thicker section of massive quartz sandstone in turn overlain by finer sandstone or siltstone.

Generally medium dark grey but also with significant patches of ankerite alteration particularly as strataform alteration of finer grained sandstone/siltstone tops to what are commonly graded beds also occurs in irregular patches in massive medium dark grey sandstone. This raises the question as to whether these were originally calcareous. A distinct ankerite altered bed between 397.3m and 397.5m has a wispy bedform similar to that seen in limestone beds.

407.2m to 410.2m ~10 quartz + ankerite ± sulphide tension veins <25mm thick at 35° to 40° to core axis. A particularly pyritic example is at 409.5m where the pyrite occupies the central part of the vein i.e. is later stage than the quartz margins.

378.25m to 378.55m Sandstone; *378.55m to 378.95m* coarse grained sandstone; *378.95m to 379.05m* oligomictic (90% quartz 10% shale and siltstone) sub-angular to sub-rounded clast supported pebbly (2mm-5mm) conglomerate base. Base at 55° to core axis.

379.05m to 379.6m Sandstone; *379.6m to 379.8m* ankerite altered sandstone.

379.8m to 380.05m Coarse grained sandstone coarsening down into oligomictic (90% quartz 10% shale and siltstone) sub-rounded clast supported pebbly (2mm-5mm) conglomerate base.

380.05m to 381.05m Sandstone and coarse grained sandstone with blotchy ankerite alteration; *381.05m to 381.1m* oligomictic (98% quartz 2% shale and siltstone) sub-rounded clast supported pebbly (2mm-5mm) conglomerate base.

381.1m to 382.25m Coarse grained sandstone; *382.25m to 382.3m* oligomictic (90% quartz 10% shale and siltstone) sub-rounded clast supported pebbly (2mm-10mm) conglomerate base.

382.3m to 383.55m Sandstone and coarse grained sandstone.

383.55m to 384.4m Sandstone with blotchy ankerite alteration between 383.95m and 384.35m; *384.4m to 384.45m* oligomictic (95% quartz 5% shale and siltstone) sub-angular clast supported pebbly (2mm-5mm) conglomerate base.

384.45m to 386.7m Sandstone and coarse grained sandstone; *386.7m to 386.8m* oligomictic (95% quartz 5% shale and siltstone) sub-angular to sub-rounded clast supported pebbly (2mm-5mm) conglomerate base.

386.8m to 388.7m Sandstone; *388.7m to 388.85m* coarse grained sandstone and grit.

388.85m to 389.75m Sandstone.

389.75m to 398.7m Sandstones, finer grained sandstone and siltstone, a few coarser grained sandstone intervals, predominantly ankerite altered with alteration 391.5m to 391.7m and 395.9m to 398.7m. Bedding is 45° to core axis at 390.1m, 50° at 392.5m, 43° at 395.0m and 50° at 398.4m.

398.7m to 399.25m Sequence of oligomictic (90% quartz 10% shale) sub-rounded to sub-angular clast supported pebbly (beds 2mm-5mm and 5mm-15mm) conglomerate and some coarse grained sandstone. Not graded.

399.25m to 405.1m Sandstone and finer grained sandstone with a few coarser grained sandstone intervals, predominantly ankerite altered with alteration 400.0m to 402.0m and 403.1m to 403.8m; *405.1m to 405.2m* oligomictic (90% quartz 10% shale and siltstone) sub-rounded to sub-angular clast supported pebbly (2mm-5mm but up to 10mm) conglomerate base. Bedding is 45° to core axis at 403.3m, base is at 42°.

405.2m to 407.0m Predominantly ankerite altered finer grained sandstone and sandstone; *407.0m to 407.5m* sandstone; *407.5m to 407.7m* gritty sandstone base.

407.7m to 409.9m Weakly ankerite altered sandstone and finer grained sandstone with stronger alteration 409.0m to 409.5m; *409.0m to 409.95m* oligomictic (95% quartz 5%

shale and siltstone) sub-rounded clast supported pebbly (2mm-5mm) conglomerate base. Base is at 45° to core axis and bedding is 50° to core axis at 409.1m.

409.95m to 410.55m Coarser grained sandstone coarsening downwards into oligomictic (95% quartz 5% shale and siltstone) sub-angular clast supported pebbly (2mm-5mm) conglomerate base. Base is at 50° to core axis.

410.55m to 412.15m Sandstone and coarser grained sandstone. Bedding is 45° to core axis at 412.2m.

412.15m to 412.5m Ankerite altered siltstone and finer grained sandstone; *412.5m to 413.05m* sandstone and coarse grained sandstone; *413.05m to 413.1m* ~30mm true thickness oligomictic (80% quartz 20% siltstone) sub-angular matrix supported (2mm-15mm) conglomerate base.

413.1m to 415.1m Sandstone, ankerite altered from 414.3m to 414.6m; *415.1m to 415.35m* oligomictic (95% quartz 5% shale and siltstone) sub-angular to sub-rounded clast supported pebbly (2mm-5mm) conglomerate base. Base is at 52° to core axis.

415.35m to 417.2m Sandstone, ankerite altered 415.35m to 415.75m and 416.7m to 417.1m; *417.2m to 417.7m* coarse grained sandstone coarsening up down hole; *417.7m to 417.8m* oligomictic (95% quartz 5% shale and siltstone) sub-angular clast supported pebbly (2mm-10mm) conglomerate base.

417.8m to 418.3m Sandstone, ankerite altered 417.8m to 418.3m; *418.3m to 418.9m* sandstone; *418.9m to 419.05m* oligomictic (95% quartz 5% shale and siltstone) sub-angular to sub-rounded clast supported pebbly (2mm-5mm) conglomerate base. Bedding is 45° to core axis at 418.0m.

419.05m to 420.1m Sandstone; *420.1m to 420.3m* oligomictic (95% quartz 5% shale and siltstone) sub-angular to sub-rounded clast supported pebbly (2mm-5mm) conglomerate base.

420.2m to 421.8m Ankerite altered sandstone; *421.8m to 423.8m* coarse grained sandstone gradually coarsening down hole to become 1mm-2mm pebble conglomerate; *423.8m to 423.9m* oligomictic (95% quartz 5% shale and siltstone) sub-angular to sub-rounded clast supported pebbly (2mm-5mm) conglomerate base. Bedding is 45° at 419.3m.

423.9m to 425.0m Microconglomerate with clasts 1mm-2mm.

425.0m to 426.0m Ankerite altered sandstone. Bedding is 40° to core axis at 425.8m. Contact with underlying conglomerate is sharp and unusually discrete at 48° to core axis.

426.0 - 449.0 Conglomerate with more minor sandstone OSH 2CG

Generally medium grey oligomictic (95% quartz 5% shale and siltstone), sub-rounded (to sub-angular in parts), clast supported, pebbly (2mm-5mm) conglomerate with interbedded commonly weak to moderately ankerite altered sandstone and siltstone.

The colour is due in part to generally weak but pervasive ankerite alteration of the matrix throughout all conglomerate. There are no distinct discrete lighter coloured more intensely altered beds/zones as seen in this unit in the mine environment. Yellow staining in now partly weathered core is after common disseminated pyrite grains in the matrix between clasts.

There are only very occasional quartz ± ankerite tension veins, <10mm thick and commonly at 30°-40° to core axis.

Sharp, unusually discrete upper contact at 48° to core axis (in the mine environment this contact between sandstone dominant up sequence and massive conglomerate down sequence occurs in the centre of a well graded bed with sandstone and coarser grained sandstone between the ankerite altered finer grained sandstone top and conglomerate base. Here that grading is much more abrupt with the finer ankerite altered sandstone immediately overlying conglomerate.

Lower contact is placed where dominantly conglomerate changes quite abruptly to dominantly sandstone.

426.0m to 432.4m Medium grey conglomerate as described above with only very minor zones of coarse grained sandstone, i.e. 427.5m to 427.7m, 428.3m to 428.8m. Contains ~1% - 4% disseminated pyrite grains in the matrix to conglomerate. Variable blotchy ankerite alteration.

432.4m to 434.4m Medium grey to yellowish grey (ankerite + sericite altered from 433.7m to the laminated vein down hole) coarse grained sandstone.

434.4m to 434.55m Yellowish grey ankerite + sericite altered siltstone with laminated S₀ conformable quartz vein within the lower edge of this bed. Bedding is 50° to core axis.

434.55m to 434.6m Laminated quartz and ankerite + sericite altered siltstone. Vein is 10mm and is separated from siltstone up hole by ~10mm pug. True width and is S₀ conformable at 50° to core axis.

434.6m to 436.9m Medium grey conglomerate as described above. Contains 0.5% - 2% disseminated pyrite in matrix to conglomerate and minor blotchy ankerite alteration.

436.9m to 437.6m Medium grey sandstone and coarse grained sandstone.

437.6m to 437.9m Medium grey conglomerate as described above. Contains 1% disseminated pyrite.

437.9m to 438.65m Brownish grey siltstone with lenses of pebbly conglomerate. Bedding is at ~45° to core axis.

438.65m to 440.3m Medium grey conglomerate as described above. Contains 0.5%-2% disseminated pyrite and blotchy ankerite alteration.

440.3m to 440.8m Medium dark grey sandstone. Bedding is at ~43° to core axis.

440.8m to 442.0m Medium grey conglomerate as described above.

442.0m to 442.05m Brownish grey siltstone. Bedding is at ~47° to core axis.

442.05m to 442.3m Medium grey coarse grained to gritty sandstone. Some blotchy ankerite alteration.

442.3m to 442.5m Medium grey conglomerate as described above. Some blotchy ankerite alteration. Bedding is 50° to core axis.

442.5m to 443.0m Olive greenish grey sandstone

443.0m to 447.8m Medium grey conglomerate as described above. Contains 0.5%-2% disseminated pyrite, decreasing down hole, and blotchy ankerite alteration.

447.8m to 447.95m Dark greenish grey sandstone

447.95m to 449.0m Medium grey conglomerate as described above and medium dark grey coarse grained sandstone. Minor disseminated pyrite and minor blotchy ankerite alteration.

449.0 - 481.05 Sandstones with more minor siltstones and pebbly conglomerate OSH 2SC

Predominantly quartz sandstone but with a significant component of siltstone and pebble conglomerate. Essentially a sequence of upwardly fining graded beds with relatively thin conglomerate bases overlain by a relatively thicker section of massive quartz sandstone in turn overlain by finer sandstone or siltstone.

Finer sandstone/siltstone tops are commonly weakly ankerite altered and olive greenish grey to brownish grey in colour. Sandstones, coarse grained sandstones and conglomerate are predominantly medium grey to medium dark grey in colour except where occasionally ankerite altered.

The 2SC unit continues down to the reef structure at 567.2m and thence to the contact with conglomerate at 585.3m. It is interrupted by a number of small but significant S₀

conformable laminated quartz veins with indeterminate throw (probably only metres at maximum). The general description given immediately following is relevant for all subsequent 2SC intersections down to 567.2m, the section below this differs somewhat and is described in detail below.

460.2m to 462.5m ~12 quartz ± ankerite ± pyrite tension veins to 30mm thick and generally at moderate angles to core axis.

463.95m 5mm true thickness S_0 conformable quartz vein in siltstone.

464.9m to 465.0m Healed fault? With brecciated shale and quartz veining healed with fine grained ankerite.

471.65m 10mm true thickness S_0 conformable quartz vein in ankerite altered sandstone.

475.8m to 481.05m ~15 quartz tension veins and zones of outbrecciation up to 40mm thick at ~45° to core axis. Whilst there are a few tension veins below the laminated quartz vein/fault at 481.05m, at least one larger example is immediately adjacent to this fault and so it is considered that the tension vein array between 475.8m and 481.05m is due to movement on this shear.

449.0m to 450.5m Olive greenish grey sandstone and coarse grained sandstone; *450.5m to 450.8m* oligomictic (~95% quartz & ~5% shale and siltstone), sub-rounded, clast supported, pebbly (2mm-5mm) conglomerate.

450.8m to 451.3m Olive greenish grey sandstone with moderate ankerite alteration; *451.3m to 452.6m* oligomictic (~98% quartz & ~2% shale and siltstone), sub-rounded, clast supported, pebbly (5mm-10mm) conglomerate.

452.6m to 453.3m Olive greenish grey sandstone with bedding at 47° to core axis; *453.3m to 454.4m* medium grey coarse grained to gritty sandstone.

454.4m to 455.2m Olive greenish grey sandstone and ankerite altered down to 454.7m; *454.7m to 455.2m* medium dark grey sandstone; *455.2m to 455.7m* medium grey coarse grained sandstone; *455.7m to 458.4m* conglomerate and conglomeratic sandstone.

458.4m to 459.0m Dark greenish grey ankerite altered sandstone with bedding at 50° to core axis; *459.0m to 460.7m* medium dark grey sandstone and coarse grained sandstone; *460.7m to 460.8m* monomictic, poorly sorted, clasts sub-rounded to sub-angular, 1mm-15mm, matrix supported, pebbly conglomerate.

460.8m to 463.25m Medium grey coarse grained sandstone and grit.

463.25m to 465.0m Greenish grey ankerite altered sandstone and siltstone with interbedded medium dark grey sandstone and coarse grained sandstone. Bedding is 50° to

core axis at 464.6m. At 463.95m is a 5mm true thickness S_0 conformable quartz vein in siltstone.

465.0m to 467.95m Medium dark grey sandstone and occasional coarse grained sandstone; *467.95m to 468.0m* monomictic, poorly sorted, clasts sub-rounded to sub-angular, 2mm-5mm, matrix supported, pebbly conglomerate. Base is at 42° to core axis.

468.0m to 468.9m Greenish grey ankerite altered sandstone; *468.9m to 469.6m* medium dark grey sandstone; *469.6m to 469.7m* monomictic, poorly sorted, clasts sub-rounded to sub-angular, 2mm-5mm, matrix supported, pebbly conglomerate.

469.7m to 471.6m Medium dark grey sandstone and occasional coarse grained sandstone.

471.6m to 472.05m Greenish grey ankerite altered sandstone with bedding at 50° to core axis at 472.0m; *472.05m to 472.9m* medium dark grey sandstone and coarse grained sandstone; *472.9m to 472.95m* monomictic, poorly sorted but clast supported, pebbly conglomerate with sub-angular clasts 2mm-10mm. At 471.65m is a 10mm true thickness S_0 conformable quartz vein in ankerite altered sandstone.

472.95m to 473.45m Medium dark grey sandstone and coarse grained sandstone; *473.45m to 473.5m* oligomictic (99% quartz and 1% shale), clast supported, sub-rounded to sub-angular pebbly conglomerate with clasts 1mm-5mm.

473.5m to 474.5m Medium dark grey sandstone and coarse grained sandstone; *474.5m to 474.6m* oligomictic (95% quartz and 5% shale), clast supported, sub-angular to sub-rounded pebbly conglomerate with clasts 1mm-5mm. Base at 50° to core axis.

474.6m to 475.55m Greenish grey ankerite altered sandstone; *475.55m to 476.6m* medium dark grey sandstone; *476.6m to 476.85m* coarse grained sandstone and grit.

476.85m to 478.0m Greenish grey ankerite altered sandstone with bedding at 50° at 477.6m; *478.0m to 478.2m* medium dark grey coarse grained sandstone and grit; *478.2m to 478.3m* oligomictic (95% quartz and 5% siltstone and shale), 1mm-10mm sub-angular, occasionally sub-rounded, clast supported, pebbly conglomerate. Base is at 50° to core axis.

478.3m to 478.95m Medium dark grey sandstone; *478.95m to 479.0m* monomictic, 1mm-10mm sub-angular to sub-rounded, matrix supported conglomerate.

479.0m to 479.6m Greenish grey ankerite altered sandstone; *479.6m to 480.5m* medium dark grey sandstone; *480.5m to 480.8m* coarse grained sandstone and oligomictic (95% quartz and 5% shale and siltstone), 2mm-5mm sub-rounded to sub-angular, clast supported pebbly conglomerate.

480.8m to 481.05m Dark greenish grey sandstone.

481.05 - 481.15 Laminated quartz vein/fault DVN UNA

80mm true thickness laminated quartz vein with fabric defined by wallrock septa and thicker lenses of wallrock at ~50° to core axis. No sulphide. Upper contact is a milled fault breccia with sharp contact with sandstone, lower contact is clean sericitic surface at ~50° to core axis. 30mm thick bland quartz tension vein extends sub-orthogonally up hole from laminated vein. Looks to have been some movement on this structure.

Assays										
Sample	From	To	Au	Ag	As	Cu	Pb	Zn	S	Fe
302885	481.05	481.15	0.06	<1	70	6	8	42	0.13	6.35

481.15 - 506.35 Sandstones with more minor siltstones and pebbly conglomerate OSH 2SC

General description as given for 449.0m to 481.05m.

487.3m to 492.0m ~25 quartz tension veins, generally <20mm true thickness but up to 40mm. There are two coeval sets with one set at moderate angles to core axis, the other at low angles to core axis (orthogonal to the first set).

500.4m to 508.3m ~15 quartz tension veins <10mm true thickness at moderate angles to core axis. There is at least a spatial relationship between these and the laminated vein at 506.35m

481.15m to 483.7m Interbedded coarse grained sandstone and a distinctive polymictic conglomerate with ~50% sub-angular to angular clasts of medium light grey siltstone and lesser shale to 15mm and ~50% more sub-rounded quartz.

483.7m to 487.6m Medium dark grey sandstone and coarse grained sandstone; *487.6m to 488.0* polymictic conglomerate with ~50% angular medium light grey siltstone and darker shale clasts 1mm-10mm, poorly sorted, clast supported.

488.0m to 494.3m Medium dark grey sandstones and gritty sandstones.

494.3m to 494.7m Greenish grey sandstone, bedding at 47° to core axis; *494.7m to 495.5m* medium dark grey sandstone with some 2mm-8mm blotches of ankerite alteration; *495.5m to 496.5m* oligomictic (95% quartz and 5% dark shale), sub-rounded, 2mm-5mm, clast supported pebbly conglomerate. Base at 43° to core axis. Minor disseminated pyrite in matrix.

496.5m to 498.8m Medium dark grey sandstone and occasional coarse grained sandstone; *498.8m to 499.0m* coarse grained sandstone (1mm clasts, rounded, oligomictic).

499.0m to 502.55m Medium dark grey sandstone. Carbonate spotting starts at 502.0m. *502.55m to 502.6m* oligomictic (95% quartz and 5% shale), sub-rounded to sub-angular, 2mm-10mm clast supported, pebbly conglomerate.

502.6m to 504.3m Medium dark grey sandstone with interval greenish grey sandstone with bedding at 50° to core axis from 502.8m to 503.25m; *504.3m to 504.6m* oligomictic (~95% quartz and ~5% shale) 1mm-8mm, generally sub-angular, clast supported pebbly conglomerate.

504.6m to 506.2m Medium dark grey sandstone to gritty sandstone; *506.2m to 506.25m* monomictic quartz pebble conglomerate with 2mm-8mm clasts, sub-angular to sub-rounded, matrix supported. Not sharp base.

506.25m to 506.35m Coarse grained sandstone against laminated quartz vein below.

506.35 - 506.4 Laminated quartz vein DVN UNA

40mm true thickness, S₀ conformable, laminated quartz vein with fabric defined by thin wallrock septa at 55° to core axis. Somewhat irregular upper contact with clean but smooth sericitic lower contacts at 55° to core axis. Apparently located in the middle of a gritty section rather than on a bedding surface and there is no suggestion of shearing on this vein/structure.

Assays										
Sample	From	To	Au	Ag	As	Cu	Pb	Zn	S	Fe
302886	506.35	506.4	0.02	<1	30	32	<5	76	0.10	0.635

506.4 - 531.7 Sandstones with more minor siltstones and pebbly conglomerate OSH 2SC

General description as given for 449.0m to 481.05m.

500.4m to 508.3m ~15 quartz tension veins <10mm true thickness at moderate angles to core axis. There is at least a spatial relationship between these and the laminated vein at 506.35m

523.0m to 537.1m ~40 quartz ± ankerite tension veins, 1mm-10mm true thickness, generally at moderate to high angles to core axis.

506.35m to 509.65m Medium dark grey sandstones, gritty sandstones and occasional coarse grained sandstones; *509.65m to 509.75* oligomictic (~98% quartz and ~2% shale) microconglomerate with clasts 1mm - 3mm, sub-rounded and sub-angular, clast supported. Not sharp base.

509.65m to 516.4m Medium dark grey sandstone; *516.4m to 516.5m* coarse grained sandstone.

516.5m to 517.6m Medium dark grey sandstone; 517.6m to 518.9m oligomictic (~95% quartz and ~5% shale and siltstone), sub-angular to sub-rounded. Mostly clast supported pebbly conglomerate base

518.9m to 521.4m Medium dark grey sandstone; 521.4m to 521.75m oligomictic (~98% quartz and ~2% shale and siltstone), sub-angular to sub-rounded, mostly clast supported pebbly (1mm - 4mm) conglomerate.

521.75m to 524.5m Medium dark grey sandstones; 524.5m to 525.0m monomictic quartz pebble (1mm - 4mm) conglomerate, predominantly sub-angular and variably clast and matrix supported.

525.0m to 526.4m Medium dark grey sandstone; 526.4m to 527.5m coarse grained sandstone grading into monomictic (with one 15mm shale raft), sub-rounded to sub-angular, variably clast and matrix supported pebbly (1mm-4mm) conglomerate.

527.5m to 530.3m Medium dark grey sandstone, gritty sandstone and coarse grained sandstone including at base.

530.3m to 531.7m Brownish grey sandstones with strong ankerite spotting (without ankerite colour would be medium dark grey) and thin (<2mm thick) shale interbeds with laminated quartz vein lying on one such shale bed within this sandstone section.

Bedding is 40° to core axis at 531.5m.

531.7 - 531.75 Laminated quartz vein DVN UNA

70mm true thickness, S₀ conformable, laminated quartz vein with overall fabric of ~40° to core axis defined by wallrock septa (stylolitic in part) with minor pyrite. Upper contact is sericitic shear surface at 32° to core axis whilst lower contact is sharp but undulose. Internal clean sericitic surface at 45°.

Assays										
Sample	From	To	Au	Ag	As	Cu	Pb	Zn	S	Fe
302887	531.7	531.75	<0.01	<1	22	8	<5	7	0.245	0.865

531.75 - 533.05 Sandstones with more minor siltstones and pebbly conglomerate OSH 2SC

General description as given for 449.0m to 481.05m.

531.75m to 533.05m Medium dark grey sandstone with laminated vein down hole on a shaley bedding surface.

533.05 - 533.1 Laminated quartz vein DVN UNA

30mm true thickness, S_0 conformable, laminated quartz vein with fabric defined by thin wallrock septa at $\sim 40^\circ$ to core axis with upper and lower contacts both clean sericitic surfaces at 40° to core axis. Vein lies on very thin ($<0.5\text{mm}$) shale beds within the sandstone.

Assays										
Sample	From	To	Au	Ag	As	Cu	Pb	Zn	S	Fe
302896	533.05	533.10	0.04	<1	460	10	12	9	0.855	2.79

533.1 - 537.5 Sandstones with more minor siltstones and pebbly conglomerate OSH 2SC

General description as given for 449.0m to 481.05m.

533.1m to 535.0m Medium dark grey sandstone and occasional gritty sandstone; *535.0m to 535.05m* coarse grained sandstone base.

535.05m to 535.75m Medium dark grey sandstone; *535.75m to 535.8m* coarse grained sandstone base.

535.8m to 537.5m Medium dark grey sandstone down to laminated quartz vein down hole. No obvious shaley surfaces but septa in vein are of shale indicating its presence on this contact.

537.5 - 537.6 Laminated quartz vein DVN UNA

30mm true thickness, S_0 conformable, laminated quartz vein with fabric defined by numerous wallrock septa at $\sim 40^\circ$ to core axis. Contacts are at $\sim 40^\circ$ to core axis. Thin dark shale septa indicate that this vein has exploited a thin ($<1\text{mm}$?) shale interbed in this sandstone. Septa have a wavy form, almost stylolitic in places. There is minor pyrite in the quartz otherwise this is a low sulphide laminated vein.

Assays										
Sample	From	To	Au	Ag	As	Cu	Pb	Zn	S	Fe
302888	537.5	537.6	0.01	<1	115	11	22	23	0.40	1.06

537.6 - 567.2 Sandstones with more minor siltstones and pebbly conglomerate OSH 2SC

General description as given for 449.0m to 481.05m.

537.6m to 543.0m are ~ 40 tension veins in two discrete sets (of similar density), quartz \pm ankerite \pm pyrite and ankerite \pm quartz \pm pyrite. Veins are generally 5mm-10mm true thickness and at moderate to high angles to core axis. These two sets are similar in

mineralogy to the two sets commonly seen adjacent to the Tasmania Reef with earlier dominantly quartz tension veins now with ankerite ± pyrite centres in part and later ankerite ± quartz + pyrite veins too.

547.0m to 567.4m (at puggy section of fault) ~95 quartz ± minor ankerite tension veins at generally moderate to high angles to core axis and generally <15mm true thickness though below 565.5m are 3 larger veins (to 70mm true thickness) at 35° to core axis.

537.6m to 538.5m Medium dark grey sandstone; *538.5m to 538.7m* gritty sandstone; *538.7m to 539.0m* monomictic, clast supported, pebbly conglomerate with sub-angular clasts (1mm - 4mm).

539.0m to 540.1m Medium dark grey sandstone; *540.1m to 540.9m* monomictic, clast supported, pebbly conglomerate, poorly sorted with clasts 1mm-10mm.

540.9m to 542.5m Medium dark grey sandstone; *542.5m to 543.2m* gritty sandstone; *543.2m to 547.1m* (in broken core which may mask a further subdivision) coarse grained sandstone, gritty sandstone to pebbly conglomerate with sub-angular clasts 1mm - 4mm.

547.1m to 547.4m Medium dark grey sandstone; *547.4m to 548.1m* monomictic quartz pebble conglomerate, clasts sub-angular 2mm - 8mm, some matrix supported.

548.1m to 550.3m Poorly graded section of medium dark grey sandstone, gritty sandstone and coarse grained sandstone with more conglomeratic section (monomictic, clasts 1mm - 10mm, sub-angular and matrix supported) at base.

550.3m to 553.4m Medium dark grey sandstone; *553.4m to 554.0m* gritty sandstone to conglomerate, monomictic, clasts 1mm - 4mm, sub-angular, some matrix supported.

554.0m to 555.1m Medium dark grey sandstone; *555.1m to 555.65m* monomictic, quartz pebble conglomerate, clasts 1mm - 4mm, sub-angular, some matrix supported.

555.65m to 557.45m Medium dark grey sandstone; *557.45m to 562.1m* poorly sorted/graded sandstone, gritty sandstone and coarse grained sandstone.

562.1m to 565.4m Medium dark grey sandstone with occasional gritty zones; *565.4m to 567.2m* poorly sorted/graded coarse grained sandstone, gritty sandstone and occasional monomictic quartz pebble conglomerate with clasts sub-angular, 1mm-8mm and matrix supported.

567.2 - 568.65 Fault with associated silicification - incipient reef? DFZ FLT

Incipient reef structure with a puggy sheared/brecciated quartz + ankerite vein from 568.4m to 568.65m and quartz ± ankerite veined/moderately pervasively altered sandstone bound by pyritic partings at 567.2m and 568.0m.

567.2m Upper contact is a smooth pyritic surface at 25° to core axis with weak but unequivocal pyrite slickenlines at 40° clockwise from the long axis of the ellipsoid defined by this surface. Separates similar intensity altered sandstone on either side but intensity/veining increases down hole below this surface justifying its interpretation as a bounding structure.

567.2m to 568.0m Quartz ± minor ankerite veined coarse grained sandstone to monomictic quartz pebble conglomerate (poorly sorted, sub-angular clasts 1mm - 4mm, matrix supported) with pervasive moderate silicification. Veins are somewhat irregular, though with a broadly consistent orientation at ~30°-35° to core axis, as they are tensional in origin with some autobreccia zones but with diffuse margins in part due to associated silicification. There are three larger veins 20mm - 40mm thick at 567.45m, 567.55m and 567.75m with veining making up ~30% of the rock mass. Only minor pyrite in veins and alteration.

568.0m Polished pyritic surface at 40° to core axis with pyritic slickenlines essentially parallel to the short axis of the ellipsoid defined by the surface. Separates moderately to strongly altered/veined sandstone up hole from more weak/moderately altered sandstone down hole.

568.0m to 568.4m Weakly altered sandstone. Medium dark grey but with weak/moderate pervasively quartz altered sandstone and fine <1mm veinlets.

568.4m to 568.65m Puggy sheared/brecciated quartz + ankerite vein as fault. Upper contact is puggy material at ~40° to core axis. Lower contact is described below. Shear consists of ~50% puggy/fault gouge material with ~50% brecciated quartz + ankerite ± pyrite vein, in places as coherent vein across core in other places cut by puggy shears at moderate angles to core axis. Quartz + ankerite ± pyrite vein material has early quartz, euhedral in part (to 2mm) cut/infilled by later ankerite with ~1% fine grained pyrite associated with this pyrite.

568.65m Lower contact is defined by ~20mm thick sandstone on lower edge of shear making polished pyritic surface at ~30° to core axis with pyritic slickenlines at ~80° clockwise from the long axis of the ellipsoid defined by the surface (i.e. almost parallel to the short axis as for 568.0m surface).

Assays										
Sample	From	To	Au	Ag	As	Cu	Pb	Zn	S	Fe
302889	567.2	567.6	0.19	<1	240	23	175	7450	1.40	1.71
302890	567.6	568.0	0.1	<1	100	10	62	76	0.895	1.29
302891	568.0	568.4	0.1	<1	72	6	44	105	1.17	1.70
302892	568.4	568.65	0.14	<1	98	28	180	3700	1.51	6.29

568.65 - 585.3 Sandstones with more minor siltstones and pebbly conglomerate OSH 2SC

General description as given for 449.0m to 481.05m except that these sediments are not recognizably well graded.

585.3 - 587.15 Conglomerate OSH CTC?

Murky medium grey quartz pebble conglomerate with clasts with indistinct margins, generally in the range 5mm-10mm. Original clast boundaries uncertain.

587.15 - 587.95 Conglomerate with quartz ± ankerite + pyrite tension veins OSH CTC?

Murky medium grey quartz pebble conglomerate with irregular shaped (resorbed margins) clasts with indistinct margins, generally in the range 5mm-10mm. Continuation of unit immediately up hole but now with quartz ± ankerite + pyrite tension veins. ~5/m such veins below 585.0m, generally at 30°-40° to core axis. The vein frequency does not increase down hole but the veins thickness does from ~2mm to ~15mm. The orientation of these veins is orthogonal to the orientation of the pyritic surface at 587.95m. The conglomerate is moderately silicified making original clast boundaries even more uncertain.

This conglomerate has the typical appearance of the Cabbage Tree Conglomerate (CTC) and may well be from that unit, however, the basal part of the 2SC in the mine has a number of thick (few metres or so) beds of conglomerate separated by 2SC type sandstone immediately overlying the massive conglomerate of the CTC so that the contact can only be confidently placed once ~8m's or so of thickness of conglomerate is intersected. It is quite possible that this conglomerate is from the lower part of the 2SC.

587.15m to 587.25m 2% disseminated pyrite

587.25m to 587.45m 5% pyrite associated with quartz veining

587.45m to 587.6m 10% pyrite associated with quartz + ankerite + pyrite veining.

587.6m to 587.95m 5% pyrite

Assays										
Sample	From	To	Au	Ag	As	Cu	Pb	Zn	S	Fe
302875	586.15	587.15	0.1	<1	66	16	6	110	0.895	1.57
302876	587.15	587.45	3.87	<1	750	56	16	180	3.37	4.83
302877	587.45	587.95	4.71	<1	1000	100	32	1300	6.34	8.22

587.95 - 592.75 Fault zone cross-cutting conglomerate DFZ UNA

Fault zone characterized by a number of smooth pyritic surfaces and discrete, now puggy fault gouge, shears cross-cutting brecciated, pyrite altered conglomerate of the same type (continuation of same unit?) as described above.

The upper contact of this structure could be placed a little higher up hole with some smaller shears up to 587.4m, however, veining in the section 587.4m to 587.95m is tensional and so the upper contact has been placed at the uppermost major shear surface.

The lower contact is somewhat arbitrary and could arguably be placed at 591.0m but there is still brecciated conglomerate with puggy shears at 592.7m and 592.75m.

The nature of the pyritic surfaces, pug and alteration are consistent with the structures seen at the southwestern end of the Tasmania Reef where it passes through the lower part of the CTC unit.

587.95m to 588.0m 30mm true thickness strongly brecciated quartz vein with orientation sub-orthogonal to the orientation of the tension veins immediately up hole. The quartz vein is strongly brecciated with angular fragments infilled with a dark mineral assemblage which includes fine grained pyrite and is probably fine grained ankerite + pyrite. The vein has an internal planar, partly pyritic, but dirty surface at 45° to core axis. The pyritic surface has slickenlines at 355° clockwise with respect to the long axis of the ellipsoid defined by the surface. The upper contact of this vein is ~65° to core axis. The lower contact is ~50° to core axis. Both contacts are sharp and unsheared. The conglomerate immediately down hole is altered to a similar intensity to that seen in the conglomerate immediately up hole from this vein.

588.0m to 588.15m Conglomerate

588.15m Curvi-planar polished pyritic surface at 45° to core axis. The true orientation of this surface differs from surfaces both up hole and down hole.

588.35m Rough but broadly planar pyritic surface at 65° to core axis.

588.42m Planar pyritic surface (not quite polished) at 40° to core axis - sub-parallel to the quartz vein at 587.95m.

588.5m Roughly curvi-planar, moderately pyritic, unpolished surface at ~45° to core axis.

588.7m Polished pyritic surface at 45° to core axis with slickenlines at 60° clockwise from the long axis of the ellipsoid defined by the surface.

588.8m Very planar, smooth, unpolished pyritic surface at 42° to core axis.

588.9m Very planar, unpolished, moderately pyritic surface at 60° to core axis.

589.3m Very smooth polished pyritic surface at 50° to core axis.

Below 589.3m the conglomerate becomes increasingly deformed down hole towards the fault gouge zones.

589.9m to 590.0m and 590.1m to 590.2m Fault gouge material. Very dark with fragments of quartz + minor later ankerite vein material. Coherent conglomerate between two zones.

590.2m to 590.85m strongly autobrecciated with ankerite around quartz.

590.3m Rough planar surface at 65° to core axis.

590.7m Fault gouge at ~60° to core axis.

590.85m to 591.02m Fault gouge.

592.0m to 592.1m in tray is sandy material believed to have fallen out from further up hole. Not included in sampling.

592.55 to 592.7m 0.5% pyrite

592.7m to 592.75m 10mm-25mm true thickness pug adjacent to planar smooth surface at 55°-60° to core axis with lineations 120° with respect to long axis of ellipsoid.

Assays										
Sample	From	To	Au	Ag	As	Cu	Pb	Zn	S	Fe
302878	587.95	588.9	0.15	<1	175	17	38	700	2.71	3.71
302879	588.9	589.9	0.12	<1	135	14	92	550	2.98	3.97
302880	589.9	591.02	<0.01	<1	280	21	90	1250	2.14	3.25
302881	591.02	592.0	<0.01	<1	140	34	82	135	1.22	2.35
302882	592.0	592.75	0.93	<1	250	45	28	1700	2.44	3.55
302883	592.75	593.65	0.19	<1	88	13	14	140	0.71	1.57
302884	593.65	594.3	0.04	<1	44	11	16	200	0.865	1.78

592.75 - 596.35 Conglomerate OSH CTC

Quartz pebble conglomerate bed 1.9m down hole thick overlying similar thickness sandstone bed with a thin conglomerate bed at the base. Interpreted to be the Cabbage Tree Conglomerate correlate based upon the position of the unit with respect to the Blyths Creek Formation rocks down hole, and due to the murky, resorbed clast margin textures which are typical CTC.

Conglomerates are murky and medium dark grey in colour with irregular clast shapes due to originally largely subangular, lesser subrounded, but now with resorption of clast boundaries. Conglomerates are poorly sorted and monomictic and essentially cement supported though originally clasts supported though poor sorting means grain sizes down to <1mm in matrix.

Sandstone is medium dark grey and massive with no clear bedding surfaces.

No significant increase in sulphides as the lower contact is approached except perhaps below ~596.15m where occasional fine meandering pyrite veinlets sub-parallel to core axis verging up hole.

592.75m to 594.65m Monomictic quartz pebble conglomerate as described above with clasts generally in the range 5mm-10mm. Continuation of unit immediately up hole. There is minor pyrite throughout except where noted where it is up to 5%. There are occasional fine ankerite veinlets throughout except between 593.6m and 593.8m where there is an ankerite>quartz autobreccia.

593.7m Smooth planar moderately pyritic surface at 30° to core axis.

594.35m to 594.5m ~5% pyrite associated with 10mm quartz + ankerite vein at 20°-25° to core axis at 594.4m.

594.5m Polished pyritic surface at 75° to core axis with lineations at 160° with respect to the long axis of the ellipsoid..

594.65m to 596.25m Medium dark grey massive sandstone with no clear bedding surfaces. Cross-cut by very fine predominantly ankerite veinlets at high angles to core axis, also occasional early quartz + later ankerite veining between 595.6m and 595.8m at 35° to core axis, 15mm-50mm thick, trace pyrite. Lower contact is sharp with no suggestion of grading in the overlying sediments. The surface is planar and at 15° to core axis. The strike of this lower contact is subparallel to the pyritic surfaces at 596.15m and 596.35m

596.15m Polished fine grained pyrite coated wavy surface at 25°, with lineations at 130° with respect to long axis of ellipsoid, folding to 50° to core axis with fold hinge line at 110° with respect to the long axis.

596.25m to 596.35m Monomictic quartz pebble conglomerate as described above except now clasts are generally up to 2mm but occasionally to 5mm. Contains pyrite veinlets.

596.35m Basal contact of unit with underlying siltstone and shales is a polished, slickensided surface at 57° to core axis with very fine grained pyrite + quartz + chlorite fibres.

596.35m to 596.8m Pug against grit up hole with polished pyrite surface marking contact. Greenish grey ankerite + sericite altered siltstone with fine ankerite veinlets throughout. These veinlets are commonly aligned in the cleavage at 20°-40° to core axis.

596.6m to 596.8m Medium dark grey shale with foliation at 20° to core axis cut by discrete shears (similar morphology to those shears seen in shales nearer the Cabbage Tree Thrust) at 40°. These shears have a similar strike to foliation/S₀ and also mirror the orientation of the pyritic surface at the base of the CTC.

Nb: 596.35m to 652.5m Blyths Creek Formation Rocks of the Blyths Creek Formation are intersected from 596.35m to the end of hole. These rocks show folding and are cut by a number of smaller shears. Below ~642.3m these rocks are increasingly deformed as the hole approaches the Cabbage Tree Thrust. The Blyths Creek Formation intersected in the hole below 596.35m have been divided into three associations/domains detailed below.

There are essentially two sedimentary facies associations representing the Blyths Creek Formation in this hole. The upper part of the sequence, from the base of the Cabbage Tree Conglomerate at 596.35m, down to 623.6m, consists of shales and sandstones but with significant amounts of conglomerate and conglomeratic sandstone, indicating deposition in higher energy environments from mass flows/turbidity currents.

The lower part of the sequence, i.e. below 623.6m, consists of shales and lesser variably calcareous/marly sandstone deposited in a relatively lower energy environment.

Below 642.3m the rocks become increasingly deformed with shearing and strong foliation development. The hole finished in 0.2m of puggy sheared shale between 652.3m and 652.5m. Down to 652.3m these rocks are not considered to lie within the thrust fault zone as stratigraphic relationships between rocks types are more plausibly in-situ than allochthonous. Whilst the lower bound to the lowermost shear cannot be seen the possibility remains that this section represents the beginning of the thrust fault zone expected a little deeper, however, it is considered less likely and that this sheared shale is in-situ also.

596.35 - 623.6 Upper facies association of shale, sandstone and minor conglomerate CBF CBF

Intersection consists of a folded sequence of variably interbedded sandstone and shale with minor conglomerate. Sandstones and sandy matrices to conglomerates are ankerite altered. Rocks show evidence of both soft-sediment deformation as well as later deformation. There are a number of small puggy sheared shale zones, any of which may represent offsetting faults making any conclusions drawn regarding the stratigraphic sequence tenuous.

There is some fining upwards grading in the upper part of the intersection with an ideal cycle represented by a pebble/cobble conglomerate base overlain by sandstone in turn overlain by interbedded sandstone and shale. Cycles are: 596.35m to 603.8m, 603.85m to 607.65m, 607.65m to 610.05m, 610.05m to 611.3m, 611.3m to 615.05m, 615.1m to 619.6m, 619.6m to 622.6m(?) and 622.85m to 623.6m. In places, 615.05m to 615.1m & 622.6m to 622.85m, these shales appear as more discrete beds with sharp lower contacts suggestive of background sedimentation.

596.35 - 601.25 Interbedded shale & sandstone CBF SHA

Medium dark grey shale and greenish grey ankerite altered sandstone. Predominantly shale down to 599.9m, sandstone and shale between 599.9m and 600.5m, sandstone below this. S_0 is sub-parallel to core axis to 599.9m, below this to 600.4m primary bedding surfaces are still sub-parallel to S_0 but the shale has been soft-sediment squeezed into flame structures. From 600.4m to 601.25m bedding is 27° to core axis. Sharp contact between sandstone and shale and also sharp contact with underlying conglomerate.

601.25 - 603.8 Conglomerate CBF CON

Medium light grey quartz pebble conglomerate. Monomictic in the sense that all clasts are quartz or quartzite (some arguably quartz sandstone) with no shale clasts visible. Poorly sorted with clasts in the range 5mm to 100mm. Clasts are sub-rounded to sub-angular and densely packed (clast supported) with clast boundaries showing resorption and the formation of stylolitic textures in parts.

Sharp upper contact at ~20°-30° to core axis with large clasts adjacent to overlying sandstone. Lower contact is also sharp at a high angle to core axis.

602.0m and 602.1m 20mm thick quartz + ankerite vein sub-parallel to core axis but discontinuous.

603.8 - 603.85 Sandstone and interbedded shale CBF SST

Small interval of greenish grey ankerite altered sandstone between overlying conglomerate and underlying sheared shale. Sandstone is sheared on fine shale beds at ~30° to core axis.

603.85 - 604.6 Medium dark grey shale CBF SHA

Sheared puggy medium dark grey shale from 603.85m to 603.95m, ptymatically folded shale below this with folded and boudinaged quartz vein below 604.45m to lower contact. Fold hinge line is at 40° to core axis.

604.6 - 606.4 Greenish grey coarse grained sandstone with minor medium dark grey shale interbeds CBF SST

Greenish grey ankerite altered coarse grained sandstone containing very rare discrete quartz pebbles (~10mm diameter) with relatively thin shale interbeds from 606.85m to 606.9m, 607.0m to 607.05m, 607.1m to 607.15m and 607.35m to 607.4m. These shale beds are oriented at ~60° but are sheared suggesting that this is not a primary bedding orientation. The lowermost shale bed (against the conglomerate down hole) is puggy. Occasional ankerite fracture fill veinlets <2mm thick are associate with ankerite alteration.

606.4 - 606.65 Conglomerate CBF CON

Densely packed conglomerate with clast boundaries lost to resorption and extensive stylolitisation. Hard to differentiate from quartz reef but small definite clasts in part are diagnostic. Essentially monomictic as for the conglomerate between 601.25m and 603.8m. Sheared upper contact with sheared shale in broken core but ~60° to core axis, lower contact with shale is sharp and unsheared at ~70° to core axis. Contains occasional ankerite veinlets and some quartz "sweatout" veining.

606.65 - 608.9 Medium dark grey to dark greenish grey shale and minor sandstone CBF SHA

Predominantly shale with sandstone beds becoming an increasingly significant component below 608.4m defining a fining upwards sequence. Shale is a uniform medium dark grey to dark greenish grey colour and is foliated in part with a number of discrete puggy shear zones with associated folded/brecciated quartz >ankerite tensional veins. Sandstone is a greenish grey to yellowish grey in colour due to spotty ankerite alteration and occurs as initially thin (<1mm) soft-sediment deformed (boudinaged) beds at 608.4m with bedding becoming increasingly thicker and more frequent (thus said there are only ~10 beds in all) to ~50mm thick at 608.75m. Shaley sections contain brecciated and/or folded (fold axes at 45° to core axis consistent with folding in nearby sediments) quartz ± later ankerite veins at 607.0m, 607.2m, 607.3m and 608.4m, ~10mm thick with ankerite in later fractures.

608.9 - 609.8 Coarse grained sandstone to grit with minor loose pebbles CBF SST

Greenish grey to light greenish grey coarse grained quartz sandstone/grit with fine conglomerate (5mm to 10mm clasts) in uppermost 0.2m. Light colour due to weak but extensive ankerite alteration and fine irregular veinlets. Poorly sorted/stratified bed indicative of high energy flow. Occasional ankerite ± quartz in irregular veins generally <4mm thick but with diffuse edges and are associated with alteration.

609.8 - 610.05 Conglomerate CBF CON

Oligomictic quartz pebble conglomerate with rare dark siltstone/shale clasts. Clast supported, poorly sorted, clasts 5mm to 30mm, generally subrounded with partially resorbed boundaries and some incipient stylolitisation. Ankerite veinlets/alteration continues into this unit. Generally abrupt though irregular upper contact suggests this conglomerate to lie at the base of the overlying sandstone/grit unit. Lower contact is sharp at 50° to core axis. Occasional ankerite ± quartz in irregular veins generally <4mm thick but with diffuse edges and are associated with alteration.

610.05 - 611.1 Coarse grained sandstone to grit with minor loose pebbles CBF SST

Greenish grey to light greenish grey coarse grained quartz sandstone/grit. Light colour due to weak but extensive ankerite alteration and fine irregular veinlets as for 608.9m to 609.8m.

611.1 - 611.3 Conglomerate CBF CON

Oligomictic quartz pebble conglomerate. Clast supported, poorly sorted, clasts 10mm to 50mm, generally subrounded with partially resorbed boundaries and silicification extending as veining through clasts. Ankerite veinlets/alteration continues into this unit as above. Generally abrupt though essentially gradational upper contact suggests this conglomerate to lie at the base of the overlying sandstone/grit unit. Lower contact is sharp but sheared at 60° to core axis.

611.3 - 612.5 Shale and minor sandstone CBF SHA

Medium dark grey to dark greenish grey shale with minor yellowish grey ankerite altered sandstone. Essentially continuation of unit 607.65m to 608.9m. Folded and foliated. Bedding is 50° to core axis at 611.5m and 15° at 612.2m.

612.5 - 614.7 Sandstone with some discrete scattered pebbles CBF SST

Greenish grey to yellowish grey massive sandstone with occasional discrete scattered quartz pebbles. Top of graded bed with base at 615.05m. Poorly sorted. Colour as due to pervasive weak ankerite alteration. Bedding is 15° to core axis at 612.8m. Occasional fracture fill ankerite veinlets associated with alteration.

614.7 - 615.05 Coarse grained sandstone CBF SST

Base of graded bed with top at 614.7m. Predominantly quartz clasts, very rare dark clasts. Greenish grey in colour due to weak pervasive ankerite alteration. Sharp base at 25° to core axis. Occasional fracture fill ankerite veinlets associated with alteration.

615.05 - 615.1 Shale CBF SHA

25mm thick medium dark grey shale bed at 25° to core axis. Sharp and unsheared upper and lower contacts.

615.1 - 618.1 Sandstone with occasional discrete scattered pebbles CBF SST

Greenish grey sandstone and fine grained sandstone with occasional discrete (<2%) rounded quartz pebbles 5mm to 20mm in diameter. Some soft sediment deformation. Some 10mm thick beds 615.65m to 615.7m else more massive beds with indistinct irregular surfaces. Indicative of high energy influx and appears to be continuation of more conglomeratic sandstone below. Weakly ankerite altered throughout but with discrete beds more strongly ankerite altered yellowish grey sandstone in thin beds from 615.65m to 615.7m, 617.1m to 617.2m and 617.3m to 617.5m. Bedding is 25° to core axis at 616.3m.

618.1 - 619.6 Conglomeratic sandstone CBF SST

Essentially continuation of more sandstone dominant section up hole but now more conglomeratic. Pebbles are rounded and quartzose i.e. vein quartz and quartzite. Sandstone is greenish grey to yellowish grey and weak/moderately ankerite altered. Between 618.1m and 618.6m poorly sorted clasts (10mm - 90mm) make up 20% - 50% being more densely pebbly in the upper 0.3m. From 618.6m to 618.95m is a greenish grey sandstone interval. From 618.95m to 619.45m has ~10% pebbles to 50mm. The lowermost 0.15m below 619.45m is more densely packed with ~50% smaller pebbles (4mm - 10mm). Occasional, common below 618.9m, ankerite veinlets associated with alteration.

619.6 - 620.4 Shale and sandstone CBF SHA

Olive greenish grey to dark greenish grey shale and yellowish grey sandstone. Similar sandstone and shale to overlying unit. Some soft-sediment deformation textures. Beds 5mm to 20mm sandstone weak/moderate ankerite altered with irregular bedding surfaces. Common fine ankerite veinlets in sandstone associated with alteration.

620.4 - 621.95 Quartz vein(s) in sandstone and shale DVN UNA

Bedding parallel, upward tapering, laminated quartz vein(s) hosted within the shale part of a section of interbedded sandstone and shale (essentially as for 619.6m to 620.4m) with bedding itself ranging from sub-parallel to low angles to core axis. Looks to be one continuous vein with a thinner (0-10mm) laminated part above 620.95m offset on a shear (there are shaley shear surfaces at 620.95m, 621.25m and 621.35m) from the thicker (20-25mm thick but up to 50mm at 621.9m) section below 621.35m. Alternatively may be two discrete veins.

Laminae are thin shale septa with little sulphide associated. There is a small clot of sulphide in quartz ~10mm adjacent to the lower contact. However, the laminated fabric and the veins setting are suggestive of a potentially significant vein/vein style.

620.4m to 620.5m 5-10mm thick laminated quartz vein in deformed/sheared shale (associated with folding with fold closure at 620.4m), with some microfaulting of the vein on a shaley shear surface. Hosted by shale bed with bedding at ~20° to core axis.

620.5m to 620.7m Sheared shale and minor sandstone with bedding running sub-parallel to core axis. Contains the bedding surface which contains the vein immediately below and probably that above but without any vein development.

620.7m to 620.95m Sheared shale and minor sandstone with 0-10mm thick laminated quartz vein running parallel to bedding for the most part. The vein is microfaulted (1-5mm scale) on surfaces orthogonal to bedding. Bedding is at 5° to core axis throughout and the vein has this orientation down to 620.9m where it is boudinaged by dragging on the shear surface, at 35-40° and sub-orthogonal to bedding, at 620.95m.

620.95m to 621.35m Sandstone. Yellowish grey ankerite altered sandstone bound by shaley shears on upper and lower contacts. No veining.

621.35m to 621.95m Main laminated vein section. 20-25mm and up to 50mm thick laminated quartz vein running largely parallel to bedding and thus sub-parallel/at low angle core axis, with two separate sub-orthogonal veins cross-cutting bedding to meet the laminated vein

Upper contact is shaley shear at 15° to core axis.

From 621.35m to 621.45m the vein is 20mm thick and parallel to bedding in the host shales with bedding at 15° to core axis.

From 621.45m to 621.8m the vein runs parallel to bedding and core axis along one edge of the core where it is at least 25mm thick such that vein occupies one side of the core, shale the other side.

Three quartz veins (at 621.5m, 621.6m and 621.85m) cut across the shale half of the core, and thus cross-cut bedding, and meet the laminated vein sub-orthogonally but do not continue across the laminated veins wall laminae. These veins are euhedral in part with cross-section of hexagonal stub crystals to 5mm wide quartz.

From 621.85m to 621.95m the vein doubles in width into the shale half of the core, though still retaining a laminated fabric throughout. The laminated vein from above 621.85m continues parallel to core axis before swinging to 30° to core axis and retains a thickness of ~25mm. The doubling of thickness is due to a further laminated (but folded laminae) thickness of quartz vein extending into the shale half of the core before turning parallel to the thickness of laminated quartz at 30° to core axis - parallel to the thin (<10mm) shale bed at 30° to core axis which defines the base of the intersection.

Thin bedding surfaces appear to wrap around this bulge and maintain continuity. It appears that the extra thickness of laminated quartz was being compressed along this basal shale surface during quartz vein development with folding of laminae before the development of more laminated quartz without this folding.

Assays										
Sample	From	To	Au	Ag	As	Cu	Pb	Zn	S	Fe
302893	620.4	620.95	<0.01	<1	16	41	14	41	0.18	3.30
302894	620.95	621.35	<0.01	<1	6	30	<5	36	0.085	4.25
302895	621.35	621.95	0.2	<1	10	48	500	37	0.185	1.74

621.95 - 622.6 Sandstone CBF SST

Greenish grey to yellowish grey ankerite altered sandstone with some irregular bodies of shale which look to have been remobilized into shears. Somewhat indistinct bedding at 25°-30° to core axis defined by wispy surfaces. Upper contact with vein is marked by ~10mm thick shale bed at 25°-30° to core axis. Lower contact with shale is irregular due to remobilization of this contact during later deformation. Common irregular fine ankerite veinlets associated with alteration.

622.6 - 622.85 Shale CBF SHA

Murky brownish grey shale with brecciated fragments of vein quartz along the lower contact with underlying sandstone. Contacts have been remobilized during deformation, however, the broad orientation of 25° to core axis is considered an accurate reflection of bedding.

Quartz fragments are a little unusual with most recognizably boudinaged/brecciated vein quartz though some rounded fragments (to 5mm) look a little like primary pebbles. The vein quartz fragments show euhedral outlines with crystals of ~4mm with, ~8mm length most common. Lower contact is very irregular. It is quite possible/likely that some of these irregularities are primary sedimentary features.

622.85 - 623.6 Pebbly conglomeratic sandstone CBF SST

Poorly sorted yellowish grey massive conglomeratic sandstone with poorly sorted quartzose pebbles to 5mm and larger rounded clasts to 40mm in ankerite altered sandy matrix. Largely matrix supported. Irregular quartz + ankerite vein running from 622.9m to 623.1m has in part overprinted quartz pebbles. Lower contact is planar sericitic surface at 42° to core axis. Contains fine irregular ankerite veinlets associated with alteration.

623.6 - 623.7 Puggy fault DFZ FLT

Puggy and sheared shale with boudinaged fragments of quartz + ankerite vein material making up ~10% of mass. Shearing and bounding contacts are at ~40° to core axis. Bedding in shale down hole has been dragged by movement on this fault. Looks to have had two generations of movement/opening with early veining subsequently deformed.

623.7 - 642.3 Lower facies association of shale, siltstone, sandstone and calcareous sandstone CBF CBF

Blyths Creek Formation below 642.3m consists of interbedded shale, nodular marly siltstone and calcareous sandstone without any conglomerate facies rocks. Folded with bedding ranging from 0°-55° to core axis. Small scale folds are represented in core with fold hinge lines at moderate angles to core axis consistent with the orientation of folding seen in the mine i.e. north-northwest striking.

623.7 - 629.2 Shale and minor siltstone CBF SHA

Shale almost exclusively above 627.0m. Thinly bedded (1-10mm thick) shale with minor siltstone. Some small scale folds at 628.5m and 628.8m (with fold hinge line at 50°-60° to core axis) with bedding swinging up to 30° to core axis but generally sub-parallel to low angle to core axis. Predominantly siltstone below 627.0m with more convoluted bedding indicating more turbid transport. Bedding again generally sub-parallel to low angles to core axis. Bedding is 20° to core axis at 624.3m, 5° to core axis at 625.0m, 0° at 625.3m, 17° at 626.7m, 35° at 627.5m, 55° at 628.1m, 5° at 628.4m, 0° at 628.6m and 25° at 629.2m.

Contains common fine <2mm irregular but tensional ankerite veinlets especially in sandstone.

629.2 - 632.35 Nodular marly siltstone and shale CBF SHA

Mottled "nodular" marly siltstone with amoeboid shaped (generally sub-rounded but also sub-angular shaped) nodules of yellowish grey calcareous siltstone in range 2-20mm

surrounded in thin medium grey siltstone matrix. No obvious bedding surfaces but with weak fabric sub-parallel/low angles to core axis. Lower contact is sharp at 24° to core axis. Contains occasional ankerite veinlets <2mm thick at generally moderate/high angles to core axis. 3 smoky quartz veins, 5mm-10mm thick, at 20°-30° to core axis at 631.15m, 632.05m and 632.25m.

632.35 - 636.2 Shale CBF SHA

Medium dark grey shale. Some soft-sediment deformation but generally thinly bedded. Common irregular ankerite veinlets, <2mm thick, ~20°-40° to core axis, sub-orthogonal to bedding. Minor folding. Upper contact is at 24° to core axis. Shale immediately down hole is foliated sub-parallel to core axis from 632.38m to 632.9m before swinging to 20° to core axis at 633.1m, 23° at 633.3m and 18° at 634.0m.

636.2 - 642.3 Calcareous sandstone with minor shale CBF SST

Medium light grey calcareous sandstone with thin wispy shale beds. Very similar to the nodular marly siltstone between 629.2m and 632.35m except that calcareous domains are now in layers with wispy thin (<2mm) shale interbeds. Common ankerite veinlets and more discrete veins ankerite <2mm thick. Bedding is 23° to core axis at 636.8m, 3° @ 637.4m, 20° @ 638.0m, 28° @ 639.2m, 0° @ 640.2m, 13° @ 640.6m and 20° @ 641.4m. S_0 is sheared and contorted below 642.0m but bedding remains at a low angle to core axis.

642.3 - 652.5 Deformed shale and sandstone with discrete shear zones CBF CBF

Similar shales and calcareous sandstones to those in previous section from 623.7m to 642.3m but now significantly sheared and foliated with one discrete relatively small puggy shear and the hole finishing in a second such shear. To 652.3m the intersection is not considered to be part of the thrust fault proper with lenses of sandstone between sheared shale considered to be in essentially their in-situ position with respect to the adjacent shale. The shear in which the hole finished may be either a second such small shear or the beginning of the Cabbage Tree Thrust fault proper. The former interpretation is favoured.

642.3 - 649.5 Deformed shale and sandstone CBF SHA

Sheared sequence of now distended/boudinaged/mullioned ankerite altered sandstone beds 5mm - 25mm thick and thin (<1mm) sheared/plastically deformed shale beds with numerous discrete shear surfaces ramping through the dominant orientation of the shear fabric. There are a considerable number of small (<1mm thick) pale pink carbonate (differs from pale yellow ankerite veinlets seen in larger sandstone lenses) veinlets as tensional structures in sandstone beds. There are a few occurrences of semi-massive pyrite lenses (in the order of 10mm - 20mm long, 3mm - 8mm wide) which appear to be localized preferential replacement of sandstone.

The dominant fabric is at ~5°-15° to core axis with discrete shear surfaces at ~25° to core axis every ~0.1m or so.

The orientation of the shear fabric is a little different than that expected given the orientation of the thrust, however, this sheared unit essentially grades into the fault down hole.

Whilst above 645.5m the discrete shears appear to ramp off/through the overall fabric, below 645.5m these discrete shears appear to cut across this fabric. If this is the case then the overall fabric has probably changed its orientation.

From 642.3m to 643.9m S_0 is sub-parallel to core axis. From 644.0m to 645.4m S_0 is generally 20°-30° to core axis and from 645.4m to 649.5m is 0°-10° to core axis. Discrete shears cross-cut at ~30° to core axis.

649.5 - 650.4 Sandstone lens amongst shale mélange CBF SST

Yellowish grey pervasively ankerite altered sandstone above 650.0m, sheared shale/sandstone as for previous section between 650.1m and 650.15m, below 650.15m an attenuated(?) and openly folded lens of the same ankerite altered sandstone runs down one side of the core with deformed shale/sandstone (as for previous section) on the other side of the core. The upper contact to the coherent sandstone at 649.5m is a shear surface at ~20° to core axis, one of the discrete shears which cut across the overall fabric of the shale up hole. The sandstone lens and foliated shale/sandstone mélange below 650.15m is openly folded in an open fold. At 650.15m the contact between the sandstone lens and shale mélange and associated foliation is at 20° to core axis, from 650.2m to 650.35m it is sub-parallel to core axis, at 650.4m it is at 40° to core axis (sub-parallel to the surface at 650.15m) and this orientation parallels the orientation of the weak but recognizable fabric in the fault breccia immediately adjacent down hole. Sandstone lens is pervasively ankerite altered with numerous fine, <1mm thick, irregular fracture fill veinlets with up to 20% by volume such veining.

650.4 - 651.8 Milled fault breccia DFZ FLT

Strongly sheared shale with ~5% brecciated sandstone (ankerite altered ± ankerite veinlets) in sub-angular clasts generally <10mm, below 651.5m are some larger sandstone clasts. Shale has been turned into lode slate. Much of the section is massive but in places a moderate at ~40°-50° fabric to core axis can be recognized. Also contains fragments of predominantly ankerite veined sandstone with less pale pink carbonate vein material i.e. at 651.1m.

651.8 - 652.3 Sandstone and conglomerate fault block CBF SST

Block of greenish grey (pervasively ankerite altered) conglomeratic sandstone included in this fault. This rock looks to be exotic as it consists of quartz pebbles 2-15mm in coarse grained quartz sandstone, now in part silicified and thus indistinct. Looks similar to conglomeratic sandstones intersected further up hole in the Blyths Creek Formation.

652.3 - 652.5 Milled fault breccia DFZ FLT

As for 650.4m to 651.8m.

652.5 End of hole

B52B

149.6 - 155.9 Sericite (\pm clay?) + ankerite altered sandstone, variably carbonate bearing, with wispy thin shale interbeds OEG 1SL

Generally thinly interbedded sericite (\pm clay) + ankerite altered carbonate bearing sandstones with wispy thin sericite (\pm clay) altered shale interbeds. Continuation of unit from 148.7m in B52. Yellowish grey to 154.1m and greenish grey 154.1m to 155.3m due to pervasive sericite + ankerite alteration with a pale pink colour (biotite alteration?) between 155.3m and 155.5m. Sandstone is pyrite altered between 155.5m and 155.7m with pyrite in fractures. S_0 is 50° to core axis at 150.5m, 50° @ 151.2m, 50° @ 153.2m & 70° @ 155.2m.

155.9 - 157.65 Pyrite + ankerite + quartz reef DVN UNA

Pyrite + ankerite + quartz reef. Intersection is in rubbly broken core with some significant core loss particularly between 156.6m and 157.6m.

Upper contact is in broken core and corresponds to a section with 50% loss (between core blocks at 155.7m and 156.0m with 0.1m wallrock sandstone and 0.05m vein material). The core loss is proportionately distributed between reef and wallrock and so the upper contact is placed at 155.9m. Similarly the lower contact is in broken core with 50% core loss (between blocks at 157.6m and 157.8m) and proportionately placed at 157.65m. The section between 155.9m and 157.65m is represented by fragments of vein mineralization consisting of euhedrally intergrown (~1mm-3mm grains) quartz and ankerite (pale yellow Fe poor) with pyrite in fractures and veinlets cross-cutting and thus postdating both ankerite and quartz. Very sulphidic (pyrite only) with some fragments >50% pyrite. No internal fabric or shear surfaces though softer puggy material may constitute lost sections. Similar texturally to Tasmania Reef where that structure cross-cuts rocks from a similar stratigraphic position. No sulphides other than pyrite with levels of As, Cu, Pb and Zn at almost background levels.

157.65 - 159.4 Sericite (\pm clay?) + ankerite altered sandstone, variably carbonate bearing, with wispy thin shale interbeds OEG 1SL

Thinly interbedded sericite (\pm clay) + ankerite altered carbonate bearing sandstones with wispy thin sericite (\pm clay) altered shale interbeds. Yellowish grey to greenish grey in colour due to pervasive sericite + ankerite alteration which is probably directly related to the adjacent reef. Pyrite altered with 2%-4% pyrite overall in thin (<1mm thick) veinlets in discrete fractures and in irregular trails and blebs, occasionally exploiting bedding but generally sub-orthogonal. Bedding is 50° to core axis at 159.2m & 159.4m.

159.4 End of Hole