Low Impact Diamond Drilling Specialists Pty Ltd
ACN 079 634 692

EL 23/92 ALBERTON

ANNUAL and FINAL

REPORT

2002-2003

Prepared by K Denwer
Denwer Geological Services

For L. Stebbings and M. Dunham
LIDDS

October 2003

Copies to:

- LIDDS
- Minerals Resources Tasmania
- Hercules Resources

ABSTRACT:

Exploration Licence EL 23/92 comprising 31 square kilometres was granted on the 9th October 1992.

The exploration licence is being explored under a joint venture agreement between Hercules Resources and Low Impact Diamond Drilling Specialists (LIDDS).

At the end of the ten-year life on the licence a 12-month extension was granted on 12 $km^{2.}$ This report documents the work completed in the past twelve months.

During the period a 6 hole, 190 metre drilling programme was completed at the Heathorn Mine. Results from this programme were disappointing and it was recommended that no further work be completed on the tenement.

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

Table of Contents:

		Page.
Abstract:		2.
1.	Introduction.	4.
2.	Exploration Philosophy and Objectives.	4.
3.	Tenement	4.
4.	Location and Access.	5.
5.	Regional Geology:	6.
6.	Mining History	7.
7.	Previous Work:	8.
8.	Exploration Completed During the Reporting Period.	11.
	8.i. Heathorn Mine	11.
	8.ii. Heathorn #1	11.
	8.iii. Heathorn #2	13.
9.	Discussion and Conclusions	15.
10.	Expenditure	16.
11.	References	17.

List of Figures:

Figure 1: Location map
Figure 2: 1:50 scale map, Heathorn # 1 workings
Figure 3: 1:10 scale map, Heathorn # 1 workings
Figure 4: 1:50 and 1:10 scale map, Heathorn # 2 workings

List of Appendices:

Appendix 1: Analytical results, rock chips and drill core
Appendix 2. Drill logs including recovery data.

1 Introduction:

Exploration Licence EL 23/92 comprising 12 square kilometres encompasses the historical workings of the Alberton Goldfield.

The exploration licence is being explored under a joint venture agreement between Hercules Resources and Low Impact Diamond Drilling Specialists (LIDDS).

The following report summarises exploration activities and results completed within the licence during the period 2002/2003.

2 Exploration Philosophy and Objectives:

The philosophy and objectives of the exploration undertaken by LIDDS is directed to the definition of a substantial hard rock gold resource that would be amenable to narrow vein, underground mining.

3 Tenement:

Exploration licence EL 23/92 covers 12 km^2 and occurs as two blocks. The largest block is described as commencing at the southwest corner at grid coordinates 567 000 metres E, 5 424 000 metres N thence grid north to 5 427000 metres N, then grid west to 566 000 metres E, then North to 5 430 000 metres N then grid east to 568 000 metres E then grid south to 5 424 000 metres N then grid west to the point of commencement.

EL 23/92 was originally granted to Newcrest Mining Limited in 1992. The exploration licence was part of a large tenement holding. Newcrest's target was large-scale stockwork style gold mineralisation.

During 1993 Mancala purchased The EL from Newcrest with a time limited royalty clause. This clause has now expired and Newcrest has no interest or claim on the EL.

Mancala Pty Ltd changed its name during 1997 to Hercules Resources Pty Ltd

During 1998 a joint venture agreement was signed between Hercules Resources and Low Impact Diamond Drilling Specialists (LIDDS). Under the terms of the agreement, LIDDS were required to complete a minimum of 800 metres of diamond drilling within EL 23/92

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

to earn a fifty (50%) per cent share in the exploration licence. This condition has now been satisfied.

An extension on EL 23/92 was requested at the end of the ten-year term of the exploration licence to retain 12 km^2. This request was granted by MRT.

4 Location and Access:

Exploration Licence EL 23/92 is located near the rural township of Alberton, situated in the north-eastern region of Tasmania (See Figure 1. EL 23/92 Location Plan).

The licence is situated within both rural and State Forest areas and is serviced by an excellent network of sealed and all weather graded roads and fire trails.

Topographic relief varies from gently undulating pasture areas to steep hills and ridges with deeply incised valleys developed in the central area of the licence. Vegetation in non-farmed areas is dominated by open eucalypt forest with dense undergrowth that is generally restricted to areas to adjacent drainages.

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

5 Regional Geology:

The regional geology of EL 23/92 has been previously described by MRT geologists and summarised on the 1:50,000 Alberton geological map. Recent publications specific to the economic geology of the area are provided by Taheri (1992 and 1993) and Keele et.al (1994) as part of the Netgold project. The following is gleaned from this work.

The exploration Licence is located within the 70 kilometres long, 2 kilometre wide northwesterly trending Mangana to Lyndhurst gold lineament. Gold mineralisation contained within the lineament is hosted by the Silurian to Devonian Mathinna Beds. The Mathinna Beds comprise an alternating sequence of bedded quartzites, sandstones, siltstones and slates. The quartzites have a lithic component and display graded structures locally. The Mathinna Beds are unconformably overlain by probable Carboniferous and Permo-Triassic sedimentary sequences of the Parmeener Supergroup.

Granites and granodiorite of Devonian age have intruded the Mathinna Beds. Sporadic tin and tungsten mineralisation is associated with granitic intrusion.

Regionally the Mathinna Beds are folded about northwest trending axes to from small scale and kilometre scale wavelength tight to moderate folds. Axial plane cleavage development takes the form of a slaty cleavage in the pelitic units. A subsequent deformation has produced regional mega kinking about steep, northeast trending kink planes, and numerous steep, northeast trending kink planes, and numerous steep dipping bands with both sinistral and dextral geometry.

The age of the gold mineralisation is uncertain, however it is probable that gold mineralisation was concurrent with folding and cleavage development prior to emplacement of the Devonian granites.

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

6 Mining History:

The Alberton district contains numerous gold occurrences that have been exploited to varying degrees since the late 1800's.

Auriferous quartz veins were discovered in the Alberton goldfield prior to 1883 (Thureau, 1883). Over one hundred gold bearing lodes were subsequently discovered and mined between 1883 and 1939.

The majority of lodes failed to make good returns and with the exception of the Ringarooma United and Mercury Lodes the operators failed to locate significant reserves. Consequently the deposits within the district developed a reputation as being shallow and discontinuous.

The majority of the deposits occur along a major NW trend in the NW corner of the Exploration Licence. According to Alistair Reed (MRT, pers. Com) there are two orientations in this trend, a NW fault which accounts for the main NW alignment of the deposits and a second NNE trend. This NNE trend is either due to alignment along a second structure or the deposits are located adjacent to the NW trending structure in an en-echelon array. Approximately 50% of the mines occur on NW striking quartz veins and the remainder occur on NNE trends. The largest mine in the area, the Ringarooma United mine sits at or close to the junction on the two structural trends.

Stratigraphic position is also important with the deposits within the main Alberton trend occurring at the interface between sandstone and shale successions, i.e. a rheological control.

Brief accounts of the major mines within the tenement are given in the 2001-2002 report (Denwer 2002) and this will not be repeated herein.

7. Previous Work:

EL 23/92 was originally granted to Newcrest Mining Limited in 1992. The exploration licence was part of a large tenement holding. Newcrest's target was large-scale stockwork style gold mineralisation.

During **1992-1993** (Pearson 1993) these tenements were collectively explored. The exploration programme included geological mapping at 1:25,000 scale, image processing and interpretation of the aeromagnetic data available for part of the project area, drainage sampling and detailed geochemical surveys including soil and outcrop sampling. Many of the old mine workings were visited. Lindsay Newnham (Newnham 1993) was commissioned to review the previous exploration on the licence.

Mancala bought the EL from Newcrest with a time limited royalty clause. All interest of any sort in the EL by Newcrest is now lapsed. Mancala took over the exploration licence during 1993. Only minor work was completed on the EL during **1993-94** and this is reported in Iliff, 1994a. A proposal was also written by Iliff (1994b) for exploration work to be completed on the exploration licence including an analysis of the Heathorn Mine.

Although only minor work was completed on the EL Mancala completed a considerable amount of work on mining leases 44M/88, 45M/88 and 46M/88 via an agreement with Tas Tiger Pty Ltd. These leases have lapsed and are now part of the exploration licence (Iliff, 1994c).

Work included diamond drilling at the Ringarooma United Mine (255), Long Struggle Mine (530.8m) and the Mount Victoria Mine (228.8m). Results from this programme were mixed with no major intersections at the Ringarooma Mine, several thin (0.15-0.2m) zones of +10 g/t Au at the Long Struggle Mine and one 0.1m wide intersection greater than 10 g/t Au at the Mt Victoria Mine.

During **1994-5** (Akerman, 1995) the Una and Hinemoa mines were assessed and an exploration programme was proposed.

During **1995-6** (Akerman, 1996) an eight hole (UNA 001- Una 008), 208 metre diamond drilling was completed at the Una workings in the South of the exploration licence. The Una and Hinemoa workings were mapped and sampled in detail prior to the drilling. All of the holes were drilled below the existing workings at the UNA #1 mine. The holes

were shallow (maximum depth 40.7 metres) and all holes intersected the lode in the expected position. Three holes intersected the lode with abundant visible gold. The results from these three intersections were surprisingly low. UNA 002 intersected 1m @ 13.2 g/t Au, UNA 006 intersected 0.5m @ 19.7 g/t Au and UNA 003 intersected 0.4m @ 4.55 g/t Au. An error with the assay procedure was queried but re-assay of the other half of the core resulted in even lower assay results.

This exploration programme outlined a small resource of 1,000 tonnes at 12-15 g/t Au on the narrow lode that varied between 0.5 and 1.8-metre width. The assessed grade was calculated from both surface results and drill results.

During **1996-7** (Akerman, 1998a) Mancala attempted to attract a joint venture partner to the tenement. The 1997 annual report gives a good overview of the previous exploration.

During **1997-8** (Akerman, 1998b) a joint venture was negotiated with Low Impact Diamond Drilling Specialists. No work was completed on the tenement. Mancala Pty Ltd changed names to Hercules Resources Pty Ltd in July 1998.

During **1998-9** (Griffith's, 1999) LIDDS exploration concentrated on the Una workings. Three closely spaced angled holes were drilled totalling 391.7 metres under the workings of the Una #1 lode. These holes failed to intersect significant mineralisation.

During **1999-2000** (Stebbings and Dunham 2000) LIDDS completed a drilling programme at the Una Prospect and commenced work at the Ringarooma United Prospect. Diamond drilling was designed to test the thickness and grade of the gold mineralisation developed at the intersection of the east dipping Rosalind-Gumsucker Reef and the west dipping Premier Reef.

During **2000-2001** (Denwer 2001) work concentrated on the Ringarooma United Prospect located in the north of the exploration licence. Two diamond drill holes (RUL01 and RUL03) were completed during the period for a total of 433.6m. A 0.8-metre interval in drillhole RUL01 contained several grains of visible gold but initial assays returned only 3.65 g/t Au. This result was very disappointing and significantly reduced the enthusiasm for this project. A recent reappraisal suggests that the gold was very "nuggetty" and the result was not representative of the clear visible gold in the core tray. On resubmission of the auriferous section of this interval an assay of 0.3 m @ 85.9 g/t Au was returned. A 0.4 m interval in hole RUL03 returned an assay of 14.8 g/t Au.

During **2001-2002** (Denwer 2002) only minor work was completed and this was concentrated on the sulphide lode at the Una Prospect in the south of the exploration licence. One diamond drill hole (UNA12) was completed during the period for a total of 47.3m. The Heathorn Mine was investigated and significant gold was detected in surface samples (to 12.4 g/t Au). It was proposed to drill this prospect.

Four old drillhole completed at the on the banks of the Dorset River by the Department of mines in 1966 were re-evaluated. Samples of quartz veins were collected and analysed but no significant results were obtained.

8. Exploration Completed During the Reporting Period.

During the current reporting period the following was completed:

1. The Heathorn mine adits were mapped and sampled in detail.
2. The Heathorn mine was drilled with 6 holes completed for a total of 190 metres.

8.1 Heathorn Mine Mapping, Sampling and Drilling.

At the Heathorn mine there are two adits separated by approximately 300 metres. The adits are into the side of the hill amongst copses of trees in the middle of a farmer's paddock. The main adit (termed Heathorn #1) is located at 5428685mN, 569396mE. The smaller adit (termed Heathorn #2) is located at 5428430mN, 569516mE)

8.1.1 Heathorn #1

The Heathorn #1 adit was mapped at 1:50 scale and then at 1:10 scale in the main area of mineralisation (Figure 2 and 3).

Numerous fault orientation are recognised in the old workings. The dominant set are a NW to NE trending set that dip at 65-90 degrees to the NE-SW. A second shallow dipping (20°) N – NE striking E-SE dipping set is recognised.

The main mineralisation in the mine is structurally bounded. A steep NW striking 2 cm wide pug fault has a parallel vein set on it NE side. This steep fault is exposed over about 30m on the SW wall of thew workings. This vein is mapped over a strike length of 15 metres and is terminated to the NW by a NE striking flat lying fault that truncates the vein but not the structure. The main winze and rise appear to be located at the intersection between three fault set: the NW structure, a NNW fault and a N striking east dipping quartz vein. This N striking vein is a blue arsenopyrite rich vein.

The rise has been mined to a level of approximately 6m above the floor of the workings. Just to the SE of the cavity created by the rise is a small tunnel (inaccessible) that leads into the base of the winze recognised on surface.

Six samples were collected from within this mine. Sample descriptions and assay results are given in appendix x and sample locations can be seen on the map 1. The best sample

of 5.9 g/t Au came from the north striking blue-grey arsenopyrite rich vein. All other samples were <1.0 g/t Au.

Three drill holes were completed at these workings. The first hole (**LH1**) was targeted to intersect the vein(s) just below the bottom of the winze. The hole was incorrectly set-up due to a geological error (by the author) and the hole intersected the old workings at 17.5m. It was attempted to collar through the old workings but the hole kept bogging. This hole was abandoned at 20m.

Hole number:	**LH1**
Collar:	542667mN 569485 mE
Azimuth:	245 True, 233 mag
Dip	-42
Target	Vein material at the intersection vertical NW structure and slightly shallower NNW structure, at the Heathorn #1 workings. Targeted approximately 5m below the bottom of the winze.

The second hole (**LH2**) was targeted to intersect the vein(s) just below the bottom of the winze. The hole was correctly set-up due to good geology and the hole intersected the fault and vein system at 22.5 – 25.0m.

Hole number	**LH2**
Collar:	542667mN 569485 mE
Azimuth:	245 True, 233 mag
Dip	-53
Target	Vein material at the intersection vertical NW structure and slightly shallower NNW structure at the Heathorn #1 workings. Targeted approximately 5m below and 10m to the SE of the bottom of the winze.
Intersection	22.5 – 25.0m Fault zone with a series of 2-3 mm blue-quartz veinlets..
Analysis	All Au assays <= 0.03 g/t Au

The third hole (LH3) was targeted to intersect the vein (s) at the intersection of vertical NW structure and slightly shallower NNW structure approximately 5m below and 10m to the SE of the bottom of the winze. This hole intersected this system from 28.2- 29.7m.

Hole number	**LH3**
Collar:	542667mN 569485 mE
Azimuth:	217True, 205 mag
Dip	-52
Target	Vein material at the intersection vertical NW structure and slightly shallower NNW structure. Targeted approximately 5m below and 10m to the SE of the bottom of the winze.
Intersection	28.2 –29.7m: Broken fragments of silicified rock and milky quartz to 15 mm. Associated with major core loss
Analysis	All Au assays <= 0.09 g/t Au

8.1.2 Heathorn #2

The Heathorn #1 adit was mapped at 1:50 scale and then at 1:10 scale in the main area of mineralisation. The geology here is much simpler and is dominated by an approximately N-S striking east dipping blue arsenopyrite rich quartz vein (Figure 4). Four samples were collected from underground on this vein (appendix 1 and Figure 4) and assay between 1.5 and 3.3 g/t Au.

Three drill holes were completed at these workings:

LH4 was targeted directly underneath the old workings. This hole intersected a zone of quartz veined and brecciation from 23.6 – 25.0m but at very low grades.

:

Hole number	**LH4**
Collar:	5428427.5mN 569510 mE
Azimuth:	062 True, 050 mag
Dip	-30
Target	Downdip extension of 152 striking blue-grey arsenopyritic vein directly under the main workings.
Intersection	23.6 – 25.0m: quartz veined and brecciated alteration zone.
Analysis	All Au assays <= 0.09 g/t

Drill holeLH5 was targeted at downdip and southern extensions of the vein. This hole intersected the target vein at 20.0 – 20.8m and the vein had considerable arsenopyrite.

Hole number	**LH5**
Collar:	5428427.5mN 569510 mE
Azimuth:	090 True, 078 mag
Dip	-30
Target	Downdip extension of 152 striking blue-grey arsenopyritic vein approximately 10m south of first hole.
Intersection	20.0 - 20.8m: brecciated blue-grey quartz vein and massive mottled white-grey quartz vein with 5% coarse arsenopyrite
Analysis	0.8m at 0.4 g/t Au

Drill hole LH6 was targeted at the northern extensions of the vein. The zone was intersected from 28.1 – 29.3m.

Hole number	**LH 6**
Collar:	5428427.5mN 569510 mE
Azimuth:	050 True, 038 mag
Dip	-30
Target	Downdip extension of 152 striking blue-grey arsenopyritic vein approximately 10m north of first hole.
Intersection	28.1 – 29.3 m: Quartz veined breccia zone.
Analysis	Best assay 0.24 g/t Au over 0.8 metres.

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

8. Discussions and Conclusions:

A six hole 190 metre drilling programme was completed at the Heathorn Prospect.

All the drill holes were technical successes in that they intersected the planned quartz veins at the predicted depth. However they were economic failures with only low levels of gold analysed.

As a result of the poor results achieved from this drilling and restricted funds no further work was completed and the tenement was relinquished.

9. Expenditure:

The following is the estimated expenditure for the reporting period.

Geology:	$ 7200
Drilling Costs (47.3m):	$ 25900
Travel and Accommodation:	$ 6000
Analytical costs	$ 1200
Overheads	$ 4030
Total Expenditure for the Period September 2001 – July 2002:	$ 44330

The total expenditure on exploration licence EL 23/98 is $604065

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

References:

Akerman, T.E., 1995. Annual report for EL 23/92 Alberton. *Unpublished report for Mancala Proprietary Limited.* **TCR 95-3771.**

Akerman, T.E., 1996. Annual report for EL 23/92 Alberton. *Unpublished report for Mancala Proprietary Limited.* **TCR 96-3941.**

Akerman, T.E., 1997. Partial surrender report for EL 23/92 Alberton. *Unpublished report for Mancala Proprietary Limited.* **TCR 97-3996.**

Akerman, T.E., 1998a. Annual report for EL 23/92 Alberton September 1996 to September 1997. *Unpublished report for Mancala Proprietary Limited* **TCR 98-4110.**

Akerman, T.E., 1998b. Annual report for EL 23/92 Alberton. September 1997 to September 1998. *Unpublished report for Mancala Proprietary Limited T***CR 98-4221.**

Denwer, K.P., 2001. Annual Report for EL 23/92- Alberton for the period 2000-2001. *Unpublished report for Low Impact Diamond Drilling Specialists (LIDDS) TCR* **02-4634.**

Denwer, K.P., 2002. Annual Report for EL 23/92- Alberton for the period 2001-2002. *Unpublished report for Low Impact Diamond Drilling Specialists (LIDDS).*

Denwer, K.P., 2002. Partial relinquishment report for EL 23/92- Alberton. *Unpublished report for Low Impact Diamond Drilling Specialists (LIDDS).*

Griffith, A., 1999. Annual report for EL 23/92 Alberton, 1998-1999. *Unpublished report for Low Impact Diamond Drilling Specialists.* **TCR 99-4370.**

Iliff, G.D., 1994a. Annual report for EL 23/92 Alberton. 10-09-1993 to 16-09-1994. *Unpublished report for Mancala Proprietary Limited.* **TCR 94-3634.**

Iliff, G.D., 1994b. Proposed exploration in EL 23/92, ML's 44M/88, 45M/88 and 46M/88 and ATP 1/93. *Unpublished report for Mancala Proprietary Limited.* **TCR 94-3635.**

Iliff, G.D., 1994c. Alberton Mining Leases 44M/88, 45M/88 and 46M/88. Report on diamond drilling in 1994. *Unpublished report for Mancala Proprietary Limited.*

Keele, R.A., Taheri, J., and Bottrill, R.R., 1994. Structural and veining in the Devonian aged Mathinna-Alberton Gold Lineament, northeastern Tasmania. *Report 1994/06, Mineral Resources Tasmania.*

Pearson, D.F., 1993. Annual report for EL 22/92 Tower Hill, 23/92 Alberton and 34/92 Saddleback, Tasmania. Annual Report 9-10-1992 to 9-09-1993. *Unpublished report for Newcrest Mining Limited.* **TCR 93-3498.**

Stebbings, L., and Dunham, M., 2000. Annual Report for EL 23/92- Alberton for the period 1999-2000. *Unpublished report for Low Impact Diamond Drilling Specialists (LIDDS) TCR* **00-4502.**

Taheri, J., 1992. Northeast Goldfields: A summary of the Tower Hill, Mathinna and Dans Rivulet Goldfields. *Report 1992/10, Mineral Resources Tasmania.*

Taheri, J., 1993. Northeast Goldfields: A summary of the Alberton Goldfield. *Report 1993/34, Mineral Resources Tasmania.*

Appendix 1

Assay Results

Hand Specimens and

Drill Holes.

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

Sample Number	Location	Description	Au	Au®
100758	Heathorn Mine #2. South west side of winze	Top 70cm of west dipping vein. Brecciated white quartz with local aggregates of fine pyrite	2.30	
100759	Heathorn Mine #2. South east side of winze	Bottom 60cm of west dipping vein. Brecciated, stockworked silicified sandstone with abundant thin 2-3 cm wide blue-arsenopyrite rich quartz.	1.53	
100760	Heathorn Mine #2. North side of winze	North end of the vein sampled in 758/759. 40 cm sample of brecciated, stockworked silicified sandstone and blue-arsenopyrite rich quartz. Some scorodite.	3.3	3.25
100761	Heathorn Mine #2. End of the northern drive.	30cm wide. Dark blue arsenopyrite rich quartz with locally thick (+10mm) patches of limonite presumably after pyrite.	2.7	
100762	5428170mN 569751mE.	Sample from a possible old working of bucky white quartz float with 2% pyrite/arsenopyrite.	0.2	
100763	Heathorn Mine #1. Sample from within the rise approximately 4m above floor level. North side of winze	Sample collected between the NW striking steeply NE dipping fault and the WNW striking 78° NNE dipping fault. At this location faults are approximately 70cm apart. Sample of silicified And stockworked sandstone.	0.18	
100764	Heathorn Mine #1. Sample from adjacent to the winze on NW side.	Sample collected from the same structural position to 100763. 40cm wide NS striking steeply east (80°) dipping blue-grey arsenopyrite rich quartz with patches of gossan.	5.90	
100765	Heathorn Mine #1. On back at junction between the winze and SE drive.	30 cm wide arsenopyrite (less than 764) quartz in hanging wall of NW trending NE dipping fault.	0.66	
100766	Heathorn Mine #1. Sample from adjacent to the winze on NW side.	Sample collected from the same structural position to 100764 and adjacent to it. 15m wide zone of silicified And stockworked sandstone with abundant blue-grey arsenopyrite rich quartz with patches of gossan. Handpicked just the quartz.	0.2	
100767	Heathorn Mine #1. Sample from adjacent to the winze on NW side.	Sample collected from the same structural position to 100764 and adjacent to it. 15m wide zone of silicified And stockworked sandstone with abundant blue-grey arsenopyrite rich quartz with patches of gossan. This is the composite of 766 ie remaining material	0.2	0.24

- Samples were analysed by Analabs Burnie, reference BUO18846,
- Au was analysed using Fire Assay, technique F650,
- Au repeat analysis was done using Fire Assay, technique F650,

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

Sample Number	Hole Number	From	To	Interval	Au	Description
100768	LH2	16	16.3	0.3	<0.01	Quartz arsenopyrite veinlet
100769	LH2	22	23	1	0.02	Blue quartz stockworked (5%) sst
100770	LH2	23	23.5	0.5	0.02	Blue quartz stockworked (7%) sst
100771	LH2	23.5	23.9	0.4	0.03	Milky quartz veined sst
100772	LH2	23.9	24.5	0.6	0.02	Breccia zone and pug fault
100773	LH2	24.5	25	0.5	0.03	Limonite veined sandstone

Sample Number	Hole Number	From	To	Interval	Au	Description
100774	LH3	24.8	25.8	1	0.01	Milky quartz veined (3-5%) sandstone
100775	LH3	25.8	26.6	0.8	<0.01	Milky quartz veined (5-8%) sandstone
100776	LH3	26.6	28.3	1.7	0.02	Milky quartz veined (10-15%) sandstone
100777	LH3	28.3	29.6	1.3	0.01	Major core loss, only milky quartz recovered
100778	LH3	28.3	30.4	2.1	0.01	silicified and blue quartz veined (3%) cross cut by 2% milky quartz veined sst
100788	LH3	29.6	36.9	38.2	0.09	milky gossanous quartz veined (5%) sandstone

Sample Number	Hole Number	From	To	Interval	Au	Description
100779	LH4	23.5	24.3	0.8	0.09	blue quartz veined (10%) sandstone with 3-10mm wide limonite zones (2%)
100780	LH4	24.3	24.8	0.5	0.03	blue quartz veined (15%) sandstone with 3-10mm wide limonite zones (5%)
100781	LH4	24.8	25	0.2	0.06	Brecciated quartz limonite zone/vein

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

Sample Number	Hole Number	From	To	Interval	Au	Description
100782	LH5	19.3	20	0.7	0.05	limonite veinlets to 10mm (10%) and minor bucky quartz veinlets to 10mm (2%).
100783	LH5	20	20.55	0.55	0.41	brecciated blue-grey quartz vein, vein breccia is cemented with limonite
100784	LH5	20.55	20.8	0.25	0.25	massive mottled white-grey arsenopyrite rich (5%) quartz vein.
100785	LH5	20.8	21.6	0.8	0.01	Milky quartz veinlets to 7mm (10%) in limonite stained sandstone.

Sample Number	Hole Number	From	To	Interval	Au	Description
100786	LH6	28.1	28.5	0.4	0.08	Brecciated quartz veined (30%) limonite stained sst
100787	LH6	28.5	29.3	0.8	0.24	Brecciated milky grey quartz vein.

- Au was analysed using Fire Assay, technique F650,
- Au repeat analysis was done using Fire Assay, technique F650,

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

Appendix 2

Drill Logs including Recovery Data

Heathorn Prospect.

:

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

Drill Hole LH 1

Interval		Description
From	To	
0.00	9.40	Well sorted quartz sandstone, limonitic fractures, minor milky quartz veins
9.40	10.10	Fine grey siltstone with limonitic fractures, some core loss,
10.10	17.50	grey quartz sandstone with minor light grey siltstone. Towards base of the unit 2-3 mm quartz veinlets with minor pyrite and arsenopyrite
17.50	20.00	Hole drilled into open stope, abandoned.

Drill Hole LH 2

Interval		Description
From	To	
0.00	3.00	Loose rubble
3.00	11.00	Grey - cream quartz sandstone, minor limonitic fractures
11.00	12.20	Interbedded quartz sandstone and 5 - 15 cm wide beds of grey siltstone. These contacts are faulted and the fine sediment is crushed
12.20	14.75	Blue-grey quartz sandstone with black flecks to 3%
14.75	14.78	3cm wide pug zone at 030 to VCA, approximately 10cm of silicification uphole from fault
14.78	16.60	Cream to grey quartz sandstone, from 16.0 - 16.3 m, a vuggy, bucky white quartz vein intersected, much narrower veins of similar composition intersected. VCA 030, So to VCA 85
16.60	18.00	Grey siltstone
18.00	22.50	Grey siltstone with minor shale interbeds, So to VCA 60
22.50	25.00	Fault zone: from 22.5 to 24.0m series of 2-3 mm blue-quartz veinlets predominantly at 060 to VCA and So //. From 24.0 25.0m substantial core loss, 5cm wide pug zone at 24.5 m with 20cm breccia zone above and oxidised limonitic quartz vein below the pug.
25.00	29.50	Blue-grey quartz sandstone only minor veining a 20mm vuggy quartz vein at 28m. So to VCA = 60.
29.50	30.30	Black-grey shale- broken ground. 10mm wide limonitic veinlet at 30.2 m.
30.30	38.80	Cream to grey quartz sandstone, minor pyritic quartz veinlets (to 3mm) at 30.3 - 31.2m and 36.7 - 38.0m.

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

Drill Hole LH 3

Interval		Description
From	To	
0.00	2.40	Soil and gravel
2.40	19.30	Blue-grey quartz sandstone minor 2- 3mm limonitic quartz veinlets, faults at 9.7m, 11.7 - 11.8m and 15.6 - 15.8m,
19.30	20.00	Very broken ground, pieces of milky quartz to 10mm. The quartz has a greyish tinge and contains some fine sulfides.
20.00	23.20	Blue grey sandstone with black flecks
23.20	23.30	Pug fault
23.30	24.00	Cream to grey sandstone
24.00	24.85	Interbedded finely laminated siltstone and sandstone. So to VCA 85
24.85	28.20	Light grey quartz sandstone
28.20	29.70	Major core loss. Broken fragments of silicified rock and milky quartz to 15 mm. (I assume the hole has cut through the major fault into the underlying silicified zone)
29.70	30.60	Silicified quartz sandstone with 1 - 2 mm milky quartz veinlets
30.60	33.00	Broken ground, interbedded quartz sandstone and light grey shale.
33.00	38.20	Blue grey sandstone the entire unit is cut by 2-5mm milky gossanous quartz veinlets (5% of unit)

Drill Hole LH 4

Interval		Description
From	To	
0.00	4.00	blue-grey quartz sandstone. Orange pink quartz vein with abundant arsenopyrite at 3.7 - 3.75m.
4.00	4.50	Pug fault.
4.50	10.80	Brown quartz felspar deeply oxidised sandstone. So to VCA 060.
10.80	11.60	Light brown to grey micaceous siltstone. So to VCA 0. (drilling down bedding).
11.60	15.60	Grey-brown hard quartz sandstone with 5% black flecks of ?
15.60	21.30	Light to dark grey soft shale. So at 005 to VCA. A 3cm wide So?? Pug fault from 16.8 to 17m.
21.30	22.00	Quartz sandstone unit, only 10cm thick as contact at 005 to VCA.
22.00	23.60	Light grey to tan sandstone unit.
23.60	25.00	quartz veined and brecciated alteration zone. 23.55m, 10mm bucky quartz vein, 23.65m, 10mm bucky quartz vein. 23.5 to 24.8m: Zone of blue quartz veining predominantly at 045 to VCA. 24.8 - 25.0m: Brecciated quartz limonite zone, quartz is bucky and brecciated with infill of limonite (after pyrite?).

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

25.00	32.10	blue-grey quartz sandstone. Limonitic fractures persist to 29.0m, 10mm wide bucky quartz vein at 30.1m.

Drill Hole LH 5

Interval		Description
From	To	
0.00	5.80	Hard quartz sandstone, pieces of milky quartz (floaters?) Very poor recovery
5.80	9.00	Tan to purple-pink soft deeply weathered micaceous (5%) quartz feldspar? Sandstone.
9.00	9.80	Brown sandstone
9.80	11.00	Light Brown quartz sandstone cut by 5x 1-3mm milky quartz veinlets.
11.00	16.00	hard competent quartz sandstone with black flecks
16.00	18.40	Cream to light brown micaceous shale, So at very low angle to VCA (005)
18.40	19.30	Light Brown quartz sandstone.
19.30	21.60	Zone of limonite stained and quartz veined sandstone: Including
19.30	20.00	19.3 - 20.0m-limonite veinlets to 10mm (10%) and minor bucky quartz veinlets to 10mm (2%). Veinlets at 070 to VCA.
20.00	20.55	20.0 - 20.55m brecciated blue-grey quartz vein, vein is brecciated and cemented with limonite.
20.55	20.80	20.55-20.8, massive mottled white-grey quartz vein with 5% coarse arsenopyrite, vein at 070 to VCA.
20.80	21.60	Limonite stained sandstone with a stockwork (10%) of irregular milky quartz veinlets to 7mm. Veinlets are brecciated and broken.
21.60	28.90	Light grey-blue quartz sandstone, limonite fractures persist throughout the unit and are most common from 21.6 to 24.0m. Minor clasts? And thin beds of black shale in basal 2m of hole.

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

Drill Hole LH 6

Interval		Description
From	To	
0.00	4.60	Rubble, including approx 20% of arsenopyrite rich milky quartz.
4.60	10.90	light brown to orange micaceous sandstone
10.90	12.00	Pale brown to grey shale, So to VCA 012
12.00	22.10	Blue grey hard competent quartz sandstone with black flecks. Minor (1%) 2-3 mm buck white quartz veinlets. At 20.4m a 15mm wide quartz gossan veinlet.
22.10	23.50	Drills down a lithological contact, 1/2 core is quartz sandstone remaining is fine grey shale
23.50	26.00	Hard quartz sandstone with approximately 5% 2-5mm quartz limonite veinlets, limonitic fractures.
26.00	27.20	Grey shale, limonite stained fractures.
27.20	28.10	Pale grey quartz feldspar sandstone.
28.10	29.30	Quartz veined breccia zone. 28.1-28.5m, 30% brecciated quartz vein, matrix of intensely limonite stained sandstone. 28.5 - 29.3m brecciated milky quartz with 1% arsenopyrite.
29.30	32.00	Quartz sandstone with black flecks

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

Recovery Data

	Depth				
Hole Number	from	to	metres drilled	metres recovered	Recovery (%)
LH1	0	2.7	2.7	0.24	9
LH1	2.7	4.7	2	0.25	13
LH1	4.7	6	1.3	1.3	100
LH1	6	8.7	2.7	2.7	100
LH1	8.7	10.5	1.8	1.5	83
LH1	10.5	11.7	1.2	1.2	100
LH1	11.7	14.1	2.4	2.1	88
LH1	14.1	15.2	1.1	1.1	100
LH1	15.2	17	1.8	1.8	100
LH1	17	19.5	2.5	0.5	20
LH1	19.5	20	0.5	0.4	80

	Depth				
Hole Number	from	to	metres drilled	metres recovered	Recovery (%)
LH2	0.0	2.8	2.8	0.3	11
LH2	2.8	4.7	1.9	1.5	79
LH2	4.7	5.8	1.1	1.3	118
LH2	5.8	7.8	2.0	1.7	85
LH2	7.8	8.8	1.0	0.9	90
LH2	8.8	11.2	2.4	2.2	92
LH2	11.2	14.8	3.6	3.4	94
LH2	14.8	17.1	2.3	2.3	100
LH2	17.1	17.8	0.7	0.7	100
LH2	17.8	20.5	2.7	2.7	100
LH2	20.5	23.5	3.0	2.6	87
LH2	23.5	26.0	2.5	1.9	76
LH2	26.0	27.5	1.5	1.5	100
LH2	27.5	29.0	1.5	1.2	80
LH2	29.0	29.8	0.8	0.6	75
LH2	29.8	32.7	2.9	2.1	72
LH2	32.7	35.2	2.5	1.7	68
LH2	35.2	37.8	2.6	2	77
LH2	37.8	38.8	1.0	0.8	80

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

	Depth				
Hole Number	from	to	metres drilled	metres recovered	Recovery (%)
LH3	0.0	2.5	2.5	0.2	8
LH3	2.5	4.1	1.6	1.6	100
LH3	4.1	5.6	1.5	1.2	80
LH3	5.6	8.8	3.2	3.2	100
LH3	8.8	10.4	1.6	1.5	94
LH3	10.4	11.8	1.4	1.3	93
LH3	11.8	14.4	2.6	2.6	100
LH3	14.4	15.8	1.4	1.3	93
LH3	15.8	17.3	1.5	1.5	100
LH3	17.3	18.9	1.6	1.5	94
LH3	18.9	20.3	1.4	1.3	93
LH3	20.3	22	1.7	1.7	100
LH3	22.0	22.8	0.8	0.8	100
LH3	22.8	24.8	2.0	1.7	85
LH3	24.8	26.6	1.8	1.8	100
LH3	26.6	28.3	1.7	0.6	35
LH3	28.3	29.6	1.3	0.5	38
LH3	29.6	30.4	0.8	0.7	88
LH3	30.4	30.6	0.2	0	0
LH3	30.6	32.7	2.1	1	48
LH3	32.7	33.8	1.1	0.9	82
LH3	33.8	35.6	1.8	1.6	89
LH3	35.6	36.9	1.3	1.6	123
LH3	36.9	38.2	1.3	1.3	100

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

	Depth				
Hole Number	from	to	metres drilled	metres recovered	Recovery (%)
LH4	0.0	2.7	2.7	0.6	22
LH4	2.7	4.5	1.8	0.8	44
LH4	4.5	5.7	1.2	0.7	58
LH4	5.7	8.7	3.0	2.7	90
LH4	8.7	11	2.3	2.3	100
LH4	11.0	14.1	3.1	3.1	100
LH4	14.1	16.8	2.7	2.7	100
LH4	16.8	17.7	0.9	0.9	100
LH4	17.7	19.4	1.7	1.9	112
LH4	19.4	20.7	1.3	1.3	100
LH4	20.7	22.7	2.0	2	100
LH4	22.7	23.7	1.0	1	100
LH4	23.7	25.7	2.0	2	100
LH4	25.7	26.7	1.0	1	100
LH4	26.7	29.7	3.0	3	100
LH4	29.7	32.1	2.4	2.4	100

	Depth				
Hole Number	from	to	metres drilled	metres recovered	Recovery (%)
LH5	0.0	2.7	2.7	0.4	15
LH5	2.7	5.7	3.0	0.3	10
LH5	5.7	7	1.3	0.8	62
LH5	7.0	8.7	1.7	1.7	100
LH5	8.7	11	2.3	2.3	100
LH5	11.0	12.5	1.5	1.5	100
LH5	12.5	14.5	2.0	2.1	105
LH5	14.5	15.6	1.1	1.1	100
LH5	15.6	17	1.4	1.4	100
LH5	17.0	17.9	0.9	0.9	100
LH5	17.9	20	2.1	2.1	100
LH5	20.0	20.7	0.7	0.6	86
LH5	20.7	22	1.3	1.4	108
LH5	22.0	23.7	1.7	1.7	100
LH5	23.7	26.9	3.2	3.2	100
LH5	26.9	28.9	2.0	2	100

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.

	Depth				
Hole Number	from	to	metres drilled	metres recovered	Recovery (%)
LH6	0.0	2.7	2.7	0.4	15
LH6	2.7	5.3	2.6	0.5	19
LH6	5.3	7.0	1.7	0.8	47
LH6	7.0	8.7	1.7	1.6	94
LH6	8.7	10.7	2.0	2	100
LH6	10.7	11.5	0.8	0.8	100
LH6	11.5	12.6	1.1	1.1	100
LH6	12.6	14.7	2.1	2.1	100
LH6	14.7	16.3	1.6	1.6	100
LH6	16.3	17.2	0.9	0.8	89
LH6	17.2	20.2	3.0	3.1	103
LH6	20.2	20.8	0.6	0.9	150
LH6	20.8	22.1	1.3	1.3	100
LH6	22.1	23.7	1.6	1.5	94
LH6	23.7	25.1	1.4	1.5	107
LH6	25.1	26.2	1.1	1.1	100
LH6	26.2	27.8	1.6	1.6	100
LH6	27.8	29.0	1.2	1.2	100
LH6	29.0	30.7	1.7	1.7	100
LH6	30.7	32.0	1.3	1.5	115

LIDDS, (Lance Stebbing and Mick Dunham) PO Box 44, Rosebery, Tasmania, 7470
Ph: 03-64731713. Fax: 03-64731713.