

**EL33/2008 – UNA PLAINS**

**TASMANIA**

**ANNUAL TECHNICAL REPORT**

**5<sup>TH</sup> NOVEMBER 2008 – 4<sup>TH</sup> NOVEMBER 2009**

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## VERIFICATION LISTING

Exploration Work	File_name	Type	Format Description
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### Office Studies

Report	EL332008_200911_01_report	pdf	Report Body
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### Drilling

Drilling_All	EL332008_200911_02_dhlocation	txt	Drill hole collar locations
Drilling_All	EL332008_200911_03_dhassay	txt	Drill hole assay data
Drilling_All	EL332008_200911_04_dhsurvey	txt	Down hole survey
Drilling_All	EL332008_200911_05_lithology	txt	Drill hole lithology
Drilling_All	EL332008_200911_06_lithcode	txt	Lithology Codes
Report	EL332008_200911_02_appendix1	pdf	Drill hole collar locations
Report	EL332008_200911_03_appendix2	pdf	Drill hole assay data
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Report	EL332008_200911_05_appendix4	pdf	Drill hole lithology
Report	EL332008_200911_06_appendix5	pdf	Lithology Codes

## TENEMENT DETAILS

LICENSEE: **Geological, Educational & Mining Services Pty Ltd**  
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## ABSTRACT

Exploration Licence 33/2008 comprises 48 square kilometres located midway between Ringarooma and Mathinna in the states north-east. The licence was granted on 5<sup>th</sup> November 2008 to Geological, Educational and Mining Services Pty Ltd (GEMS).

During the period 2008 – 2009 work was undertaken to review all available data and literature pertaining to the Una and Dan's Rivulet mining area. Data migration to a digital format was commenced but assay results for drilling undertaken previously on the Una Mine had not been successfully transferred.

Site visits were undertaken and ground proofing performed on historic documents. A Work Plan was lodged and approved on 21<sup>st</sup> April 2009 to undertake drilling on both the Una and Hinemoa lines of mineralisation.

Additional site investigations undertaken in January 2009 subsequently determined that pre-existing track access to the Hinemoa line of mineralisation had been severely impacted and degraded by the actions of Forestry Tasmania to such an extent that exploration drilling of the Hinemoa line was deferred.

## KEY WORDS

Location Name:	Una, Dans Rivelet.
Earth Science Related Terms:	Sinstral fault, dextral fault, pre-mineralisation shear, post mineralisation shear, brittle offset.
Environment of Mineralisation:	shear hosted mineralisation, brittle host, quartz vein stockwork.
Commodities:	gold, silver
Exploration Methods:	Historical research, 3D geological modelling, drill testing based on model, rock chip sampling/field mapping, underground mapping.
Mine / prospect name:	Una Reef, Hinemoa Reef.
Stratigraphic Name:	Mathinna Supergroup.
Geological province name:	Lachlan Fold Belt.
Geological age:	Devonian

## **1.0 Introduction.**

Exploration Licence 33/2008 comprises 48 square kilometres located midway between Ringarooma and Mathinna in the states north-east. The licence was granted on 5<sup>th</sup> November 2008 to geological, Educational and Mining Services Pty Ltd (GEMS).

During the period 2008 – 2009 work was undertaken to review all available data and literature pertaining to the Una and Dan's Rivulet mining area. Site visits were undertaken and ground proofing performed on historic documents. A Work Plan was lodged and approved on 21<sup>st</sup> April 2009 to undertake drilling on both the Una and Hinemoa lines of mineralisation.

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## **2.0 Exploration Objectives.**

The philosophy and objectives of the Exploration undertaken by GEMS is directed to the definition of a significant hard rock gold resource that would be amenable to economic extraction.

Primary exploration has focussed on testing discrete anomalies as defined by independent re-interpretation of historic data.

- Confirm the veracity and extent of previous mapping and anomalous gold mineralisation.
- Inspect and sample any available underground openings
- Drill test below historic underground workings at depth to determine structural controls and geometry of primary source.

### **Una**

The presence of historic mining along several structures was investigated. Surface pitting of high grade gold veining indicates that the licence has proven potential.

The initial exploration target is to test mineralisation to the south of the Una No.1 Adit along the postulated hangingwall shear that controls overall mineralisation.

Five adits and a series of surface trenches have been excavated at the Una Mine, which are located approximately 900 metres north of the Hinemoa workings.

The workings were assessed in 1980 by Mitchell (1980) and by Akerman (1995), with drilling ultimately being undertaken on the northern most workings. All drilling to date has been focused on and under the northern most Adit (No.1). It is proposed that the mineralisation extending to the south be tested

### **Hinemoa:**

The Hinemoa workings have been explored previously by three adits and as series of surface trenches over a 250-metre strike length. The quartz lode is hosted within a significant north-south striking west dipping (75°) fault zone. The structure had previously been tested by two adits only one of which (the most northerly) is still accessible. The southern access (Rayner,s Tunnel) has been buried by scree material resultant for the clear-felling of the coupe immediately above the Adit.

## **Ablerton Goldfield.**

The Exploration Licence extends to the north of the Hinemoa and Una Prospects and surrounds the majority of the Alberton Goldfield. The northern portion of the Licence is prospective for both hard-rock and potentially alluvial gold deposits.

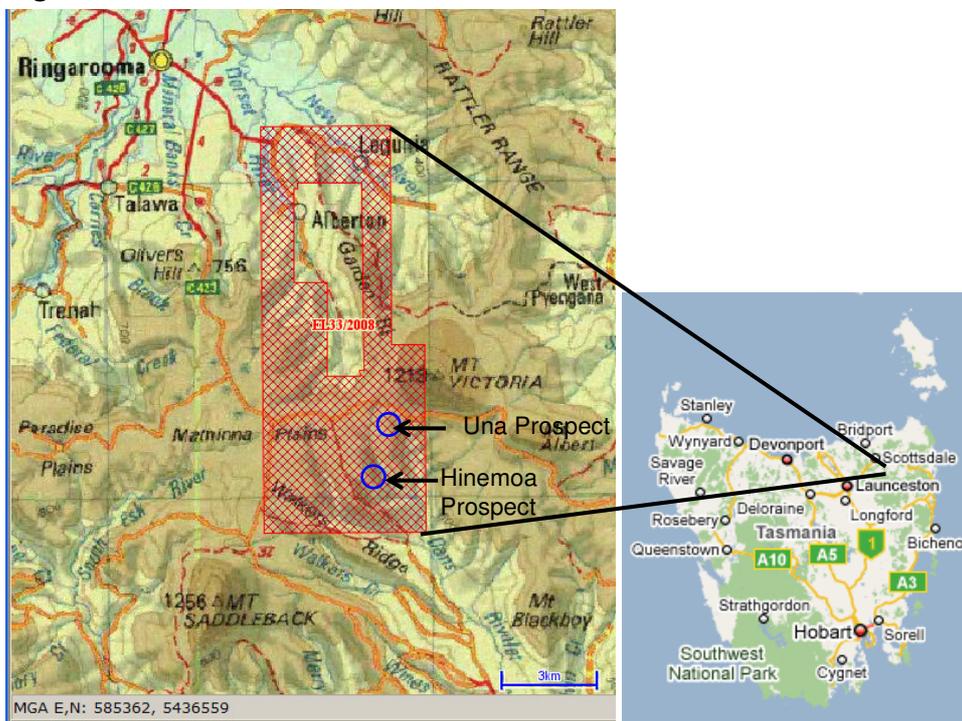
The focus in the first year has not been directed to the northern potential of the Licence.

### 3.0 Location and Access.

Una Plains Licence EL332008 is located in North East Tasmania, the licence covers 48km<sup>2</sup> commencing approximately 2 kilometres south-east of Ringarooma and extending south for 13 kilometres. Access to the northern portion of the lease is via numerous Crown roads and Forestry Tasmania tracks. .

A Government 'C' class road (C423) bisects the Lease along the Una Plains immediately south of Mont Victoria allowing access to the central portion of the Licence. Access to the southern portion is either via Forestry Tasmania tracks off the C423 or by using additional Forestry Tasmania tracks coming up from Dan's Rivulet.

**Figure 1: Location of EL33/2008 – Una Plains.**



#### **4.0 Regional Geology.**

The regional geology of EL 33/2008 has been extremely well 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.

## 5.0 Previous Work.

Small scale mining of narrow but high grade quartz structures have been reported as early as 1890's. The quartz lodes occurs within a 75m wide shear zone, which is over 550m long extending from Hinemoa in the south of the Licence to the Una Workings in the north. Twelvetrees (1904) reports gold grades to 83.5 g/t in surface trenches.

Mapping of the major producers was undertaken in detail on behalf of Sturt Meadows Prospecting Syndicate NL on EL31/76 (Mitchell 1980) during the period 1979-80. Detailed feature mapping and sampling was undertaken over a large area including the workings located on what is now EL33/2008.

During the period 1994-5 EL1/92 covering the area of Dan's Rivulet and extending to within 50 metres of the Hinemoa workings was subject to exploration by Cuttack Mining and Exploration Pty Ltd under a Joint Venture with Goldstream Mining NL. (Anon 1996). Due to surveying errors Cuttack erroneously sampled the Hinemoa No.1 Adit and proceeded to extract a bulk sample of unknown tonnage estimated to be approximately 31 g/t.

EL23/92 covering the Una section of workings (and extending northward to the Alberton Goldfield) 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.

During 1994-5 EL23/92 was held by Mancala Pty Ltd (Akerman, 1995) the Una and Hinemoa mines were assessed and exploration programmes proposed.

During 1995-6 (Akerman, 1996) the Una and Hinemoa workings were mapped and sampled in detail. An eight hole (UNA001 - UNA008), 208 metre diamond drilling was completed at the Una No.1 Adit workings only.

All of the holes were drilled below the existing workings at the Una No. 1 Adit. 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 (non-JORC compliant) 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 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 to earn a fifty (50%) per cent share in the exploration licence.

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 No.1 lode below the holes previously drilled by Mancala Pty Ltd. The strategy was to significantly build on the resource outlined in 1995-96 by Akerman. Unfortunately these holes failed to intersect significant mineralisation.

During 2001 (Denwar, K., 2001) a small outcropping fault related sulphide lode was tested by diamond drilling at the Una Prospect. The workings present as a small pit, exposed a narrow <5cm wide zone of pyritic sericite altered sediment containing a massive sulphide matrix. The zone reportedly swells rapidly to be of the order of 1m wide at about 1metres depth. A sample of sphalerite rich material was obtained.

A 47.3m deep diamond drill hole was completed by LIDDS using a Longyear Hydracore 28. The hole was collared at 5422550 mN, 567950 mE, and the collar was set-up at an azimuth of 055 degrees and a declination on 49 degrees. The hole failed to intersect any significant mineralisation. The hole was not logged in any detail.

## **6.0 Exploration Completed During the Reporting Period**

During this period the Licence was subject to significant review of all available data to GEMS. Data collation involved all available information on open file as well as library and internet sources.

Migration of the data into electronic format has commenced with the survey coordinates of the previous UNA series holes being converted to AGD94 format. Migration of assay results are expected to be completed during the next year.

Several site inspections were also undertaken during the reporting period representatives of GEMS Pty Ltd.

After an initial review of available data a Work Plan was submitted to allow shallow diamond drilling to be undertaken on the Una South and Hinemoa Prospects. Track rehabilitation and drilling was undertaken ultimately only on the Una South Prospect due difficulties in rehabilitating the Hinemoa access track.

At the Una South Prospects two (2) NTW sizes diamond drill holes were drilled between 24<sup>th</sup> and 27<sup>th</sup> June 2009 from separate drill pads located approximately 40 metres apart and designed to test for mineralisation below small scale historic pitting and underground driving. A total of 83.4 metres was drilled during the reporting period.

A separate site visit to geologically log and determine sampling sections of the drilled core and inspect access options at the Hinemoa prospect was undertaken on 28<sup>th</sup> and 30<sup>th</sup> July. A traverse across the surface outcrop position of the Hinemoa reef undertaken during the visit resulted in the location of a sulphidic float material. Subsequent analysis of the sample returned grades of 1.53 g/t Au, <1 g/t Ag and 15,300ppm As. This is considered encouraging as it was been determined that the sample coincided with earlier chip samples (Mitchell 1998) of similar tenor.

**Table 1. Significant Assay Results – Diamond Drilling 2008 – 2009 (amended)**

<b>HOLE ID</b>	<b>FROM (m)</b>	<b>TO (m)</b>	<b>INTERVAL (m)</b>	<b>AU (g/t)</b>	<b>AG (g/t)</b>	<b>AS (ppm)</b>	<b>COMMENTS</b>
<b>UDH001</b>	40.6	41.6	1.0	0.26	<1.0	1,190	Lode / Shear

## 7.0 Discussion and Conclusions.

The results from the two Diamond Drill Holes (UDH001 and UDH002) were geologically encouraging, in that it confirmed the presence of structural controls that may host economic mineralisation. UDH001 intersected a broad zone of shearing, alteration and anomalous gold. The best interval in UDH001 was from 40.60 metre to 41.00 metres a distance of 0.40 metres grading 0.34 g/t Au (Table 1). The drilling of UDH002, while intersecting altered and veined material failed to generate any significant results.

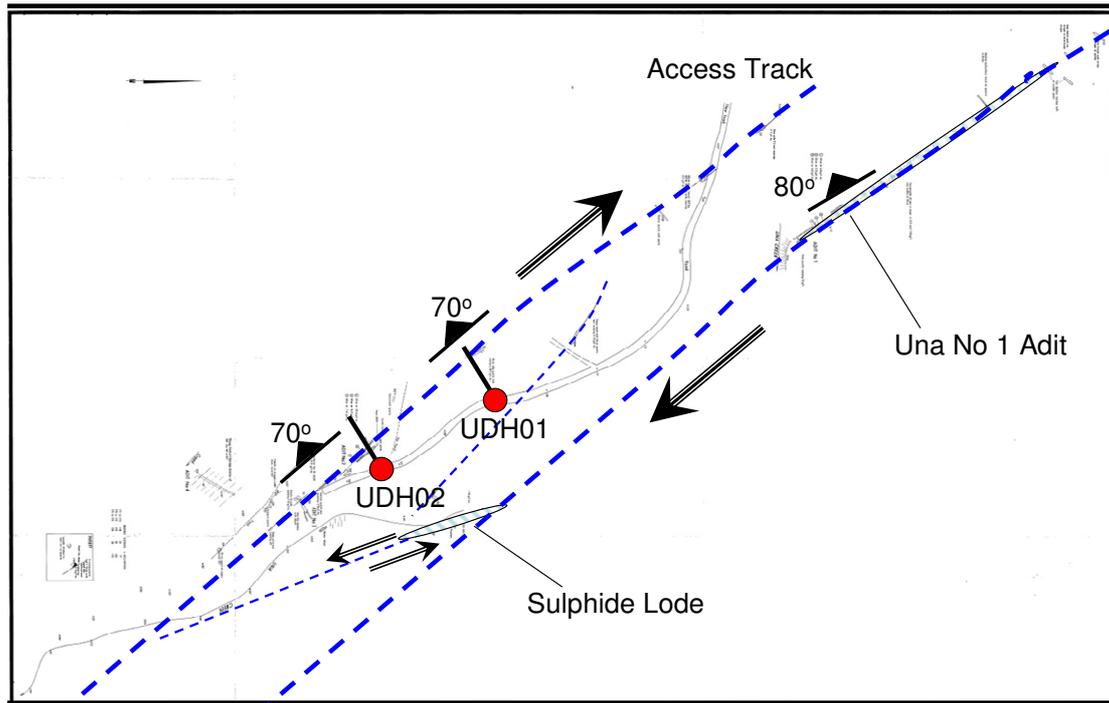
**Table 1. Significant Assay Results – Diamond Drilling 2008 - 2009**

<b>HOLE ID</b>	<b>FROM (m)</b>	<b>TO (m)</b>	<b>INTERVAL (m)</b>	<b>AU (g/t)</b>	<b>AG (g/t)</b>	<b>AS (ppm)</b>	<b>COMMENTS</b>
<b>UDH001</b>	40.6	44.8	4.8	0.20	1.0	2,267	Lode / Shear

The results of both holes indicate the presence of a structural control that is interpreted as being the westerly margin of the controlling structural corridor at the Una Prospect (Figure 2.). The bulk of historic production has come from the Una Mine located on the footwall of the structural corridor.

The presence of a small sulphide vein investigated by Geopeko Limited in 1973 was mapped and found to be on a strike significantly different to that of the major mineralised structures. It is probable that this structure may represent a small localised dilatational infilling occurring at the intersection of the primary (hosting the Una Mine) and secondary order riedel shear arrangement.

**Figure 2. Structural Analysis of Una Prospect (after Mitchell 1980).**



In the approved Work Plan covering the Hinemoa Prospect planned to clean up the pre-existing access track to allow the structure to be tested by several drill holes.

Unfortunately this plan has had to be temporarily postponed due to extensive damage resulting from the clear-felling of a hardwood coupe that covers the Hinemoa Prospect by Forestry Tasmania. During the logging process the crowns of trees, escaped logs and entire trees have fallen down-slope, chocking and covering the access track entirely. Track rehabilitation will; as a result of the activities of Forestry Tasmania, be much more expensive than previously budgeted in the MRT Work Plan.

Discussions with Forestry Tasmania have determined that the original track to the Hinemoa Prospect, whilst once being an asset for access and as a fire fighting control track has now been deemed to no longer be of any value.

## **8.0 Expenditure.**

### **Geoscientific Costs**

- Geology \$ 16,200
- Geochemistry \$ 550
- Geophysics
- Remote Sensing

### **Drilling & Gridding Costs**

- Gridding
- Drilling \$ 25,529

### **Land Access Costs**

### **Rehabilitation Costs**

### **Feasibility Study Costs**

**Other Items \$ 5,492**

**Administration Costs \$ 840**

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**Total Costs \$ 48,786**

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