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**CATAMARAN EL 32/2005**

**SITE VISIT**

**27<sup>TH</sup> AUGUST, 2008**

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## Background & Location

Marianne Harvey of M.E.G.M.S., the author of this report, was commissioned to visit EL 32/2005 "Catamaran" by Simon Tear of Hellman & Schofield, in order to provide geological comment for the *Independent Geologist Report* for Shree Minerals' exploration properties in Tasmania. Wes Harder of Shree Minerals accompanied the author during her visit to Catamaran on August 27, 2008.

The Catamaran licence comprises two areas for a total of 89km<sup>2</sup> and is located at the southern end of Tasmania, approximately 110km south of Hobart (the southern, larger area of the lease is shown in Figure 1). The small, northern area of the licence was not visited due to a lack of detailed maps and access to forestry tracks on the day.

The purpose of the visit was to check for infrastructure that may inhibit exploration activities within the EL, ascertain that coal occurrences had previously been found in the area, and to inspect Shree Minerals' proposed drilling sites.

Prior to the visit the author reviewed documentation previously completed for the area by Simon Tear, as well as information available on-line at the MRT's website, particularly including the report *Geological Survey Bulletin 64, The Coal Resources of Tasmania*, by CA Bacon, 1991.

## Access & Infrastructure

The majority of the Catamaran licence area is Forestry Tasmania land and therefore is accessed by good quality unsealed roads, with a key to the South Cape Road gate no. 77 being obtained from the forestry office in Geeveston. Vehicular access along the southern section of the Leprena Track was not possible on the day of the visit, as the NPWS maintain that particular road with a locked gate at Donnelly's Creek which is only open during October to May, presumably as east of the track (and EL boundary) is a conservation area. Accessing historic drill site CA110, where Shree Minerals is planning to site a hole could be problematic because of this NPWS managed gate and the condition of the road through and beyond Donnelly's Creek.

Most of the historic drillholes in the licence area have been sited close to tracks/roads, primarily because of impenetrable scrub and swampy ground on the coastal plains. Some of the forestry spur roads themselves are corduroyed to enable access through marshes. It is envisaged by the author, however, that pushing new tracks and preparing pads for drilling should not pose a problem for Shree Minerals, given the availability of earthmoving equipment in the area. Some arrangement with Forestry Tasmania should be possible to enable this sort of work. Access to water for drilling should also be possible, as many roadside waterholes were noted as having been constructed recently.

There was no infrastructure of any kind that the author could observe as potentially impacting on exploration activities in Shree's target area south of Ida Bay township. The communities of Moss Glen, Catamaran and Cockle Creek are all situated outside the licence boundary.



Figure 1.

Searches of the Department of Infrastructure, Transport, Regional Development and Local Government, as well as the Huon Valley Council websites yielded no information on planned infrastructure/development of the Catamaran area.

## Coal occurrences

Evidence of the historic coal mines within EL 32/2005 is limited, due again to the impenetrable scrub. The only workings found during the author's site visit were that of the Catamaran Mine's "New Main Shaft," only around 50m off to the southwest side of South Cape Road, and south of historic drillhole CA115 (which is a follow-up target for Shree Minerals). CA Bacon's *Coal Resources of Tasmania* cites the shaft as being around 40m deep, and mining in that area was troubled by flooding. The shaft is now fenced off, and there are a few pieces of rusted equipment still in the area. See plates 1-4.



Plate 1



Plate 2



Plate 3



Plate 4

Outcropping coal dipping steeply ( $\approx 20^\circ$ ) west was observed in the South Cape Road cutting a short distance west of the forestry gate no. 77 (approximate co-ordinates 489,890m East & 5,180,470m North). Although the outcrop was quite weathered, the coal appeared to be dull (<10% brightness) and banded with claystone. Roof, floor and interburden materials all appeared to be soft, and silty to

muddy in nature. Two main seams, each 1.5-2m thick were noted (Plate 5), separated by around 2m interburden, with a third unit of coal/stone bands another 2m deeper (Plates 5 & 6). The total exposed sequence would have a maximum true thickness of around 8-9m (Plate 5).



Plate 5.



Plate 6.

The closest historic drillhole to the outcrop is CA111, which purported to contain seams “A” and “D”. The outcrop perhaps could represent the “D” section, which may also correlate with the “D” section shown in the graphic and geophysical log of CA110, provided in the reports from Simon Tear.

## Proposed Exploration

Shree Minerals propose to re-drill 5 historic borehole sites (CA114, CA113, CA110, CA119 & CA115 – listed north to south), all of which were all visited by the author. These sites have been chosen as the old holes appear to have cumulative (vertical) strip ratios close to, or less than 10:1, and consequently represent potentially open-pittable coal. Shree also plan to drill another 5 previously un-tested locations, however only sites B and C were visited by the author as the other 3 sites were not accessible at the time. These 5 new sites are located throughout the southern area of the lease, between northings: 5,183,500 – 5,176,000.

All holes to be drilled by Shree are planned to be fully cored (HQ size), and it is the author’s recommendation to geophysically test all holes using density, neutron and induction tools. Coal quality analysis of cores should test (as a minimum) raw coal properties on a ply by ply basis, with plies subsequently composited into potential working sections for float-sink testing at 2 to 3 densities, with full analysis of CF1.80 material, representing a theoretical product. A suggested analysis procedure is presented in Table 1.

| <i>Testing Procedure for HQ Borecores</i> |  |  |
|---|--|--|
| <b>Interval / Section</b>                 | <b>Selection Criteria</b>  | <b>Testing Procedure</b>   |
| Coal Ply                                  | Coal plies selected on basis of minimum mineable coal section        | Weigh, Crush, RSD, RD, Proximate Analysis, Total Sulfur, SE                |
| Stone Ply                                 | Stone plies selected on basis of minimum separable parting           | Weigh, Crush, RSD, RD, Moisture, Ash                                       |
| Composite                                 | Recombination of coal and stone plies into open cut working sections | Float / Sink at Gravities of 1.70, 1.80 and 1.90, record fractional masses |
|   |  | Analyse individual gravity fractions for Moisture, Ash                     |
|   |  | i.e. F1.70, S1.70 – F1.80, S1.80 – F1.90, S1.90                            |
|   |  | <i>On reconstituted CF1.80 Sample :</i>                                    |
|   |  | Proximate, Ultimate, Total Sulfur, SE, CSN, Ash Fusion, Ash Analysis, HGI  |

Table 1.

Whilst the author believes the exploration planned by Shree is warranted for the prospect, there is potential to drill using open hole percussion methods rather than coring all holes. Open hole drilling, in conjunction with downhole geophysical logging, provides a cheaper method to gain better coverage of the area, which will enable more confident correlation of seams. The author’s understanding of the

area is that there is a significant amount of faulting, which certainly has inhibited correlation between drillholes in the past. Rather than drilling the 5 previously un-tested locations as cored holes and potentially intersecting limited quantities of coal, or significantly intruded seams, these locations could be open-holed, along with a number of other sites to complete a more comprehensive first-pass program. Follow-up coring and quality testing could then be done at a later stage, with more specific targeting of working sections and prospective open cut areas.

## Conclusion & Recommendations

As a result of visiting EL 32/2005 "Catamaran" on August 27<sup>th</sup>, 2008, the author believes that it is an advanced prospect which warrants further drilling to define potential open cut coal resources. No infrastructural impediments to exploration of the area were noted by the author. Proximity to the conservation area east of the Leprena Track, however, will require diligence in applying measures to limit environmental impact from any drilling-related activities along the Track.

All holes drilled at the prospect must be geophysically logged to enable correlation of seams for proof of continuity within a structurally complex domain.

A quality testing procedure for borecores should be defined as targeting a potential steaming coal product. Consistent application of this test-work procedure should be implemented in future drilling campaigns. The example testing regime detailed in this report (Table 1) would correspond adequately with work carried out in the 1980s by Marathon Petroleum.

An initial program of around 10 holes, using open hole drilling methods and down-hole geophysical probing, should be planned to cover a larger area of the prospect for the purpose of gaining a better understanding of the continuity of the coal seams.



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