

**Gujarat NRE Resources NL**

# **EL 32/2005 Catamaran**

## **Year 1 Annual Report**

For the period 14 February 2006 to 14 February 2007

**W M Harder**

**18 January 2007**

Gujarat NRE Resources NL  
ABN 12 109 660 497

Broker Street  
Russell Vale NSW 2517

Ph + 61 2 4223 6818  
Fx + 61 2 4283 7449  
Mb 0404 050 468

PO Box 281  
FAIRY MEADOW  
NSW 2519  
AUSTRALIA

# ABSTRACT

Gujarat when first listed as Zinico Resources NL had a number of prospective ELs in Tasmania, all for metal commodities. It seemed prudent therefore to look at the possibility of coal resources in Tasmania. A preliminary investigation was done and noted that coal mining had been carried out in the southern part of Tasmania. The area was not subject to any permit coverage for coal exploration. The company decided to apply for an exploration licence for coal in the area and was successful with the granting of EL 32/2005 an 84sq km area to a wholly owned subsidiary named Southvest Pty Ltd.

Gujarat's aim is to investigate the known resources and to explore for the purpose of upgrading the coal resource(s) to a mineable status and add to the portfolio of coal producing mines of the parent company.

The upper unit or Triassic Coal Measures lies conformably on top of the Triassic Basal Sandstone and is greater than 140m thick. The coal seams are banded, dull, generally bituminous and typically have a high inherent ash. Sandstones from the Triassic Coal Measures are generally light to dark grey; occasionally brown or greenish grey; occasionally brown or greenish grey; very fine grained; occasionally medium grained ; and generally quartz lithic and feldspar lithic varieties are common.

The general area of the EL from north of Ida Bay to south of Catamaran has undergone substantial drilling starting in about 1902 when coal was first found near Catamaran. In rapid succession coal was mined at various localities such as Coal Hill, Ida Bay, Lune River, Leprena, Moss Glen and Catamaran.

In 1981/3 the Marathon company under took a systematic search for coal. Marathon drilled 20 holes for 3 157m. A summary of their findings was:  
At Catamaran potential for 11.5Mt of an underground resource  
At Ida Bay Potential for 5.5Mt of an open cut resource

Gujarat commissioned a literature study of all previous work. This report recommended drilling an initial 5 holes. A revised drilling plan recommended the drilling of an additional 5 holes. Sites on the ground were selected and approved. Contractors and relevant permitting authorities were contacted. Difficulties with some aspects of this led to a suspension of activities.

In the second year of the licence the company proposes to investigate the geology and potential of the licence further with a view of a resource(s) suitable for the raw coal material to be converted insitu to an alternative energy source that is easier to transport such as gas, liquid or electricity. The proposed drilling (above) will form part of this programme.

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### Consultants Report:

**TEAR. S**            **Catamaran Licence EL 32/2005**  
**Literature Study Report**  
**SGM Consultants Brisbane**

**March 2006**

## 1.1 Exploration Rationale

Southvest Pty Ltd is a wholly owned subsidiary of Gujarat NRE Resources NL. The company listed on the Australian Stock Exchange as Zinico Resources NL on 25<sup>th</sup> August 2005. The name was changed to Zelos Resources NL at the first AGM on the 22<sup>nd</sup> November 2005 and again at the 2<sup>nd</sup> AGM on 23<sup>rd</sup> November 2006 to Gujarat NRE Resources NL reflecting the increase of ownership in the company by the cornerstone and major investor.

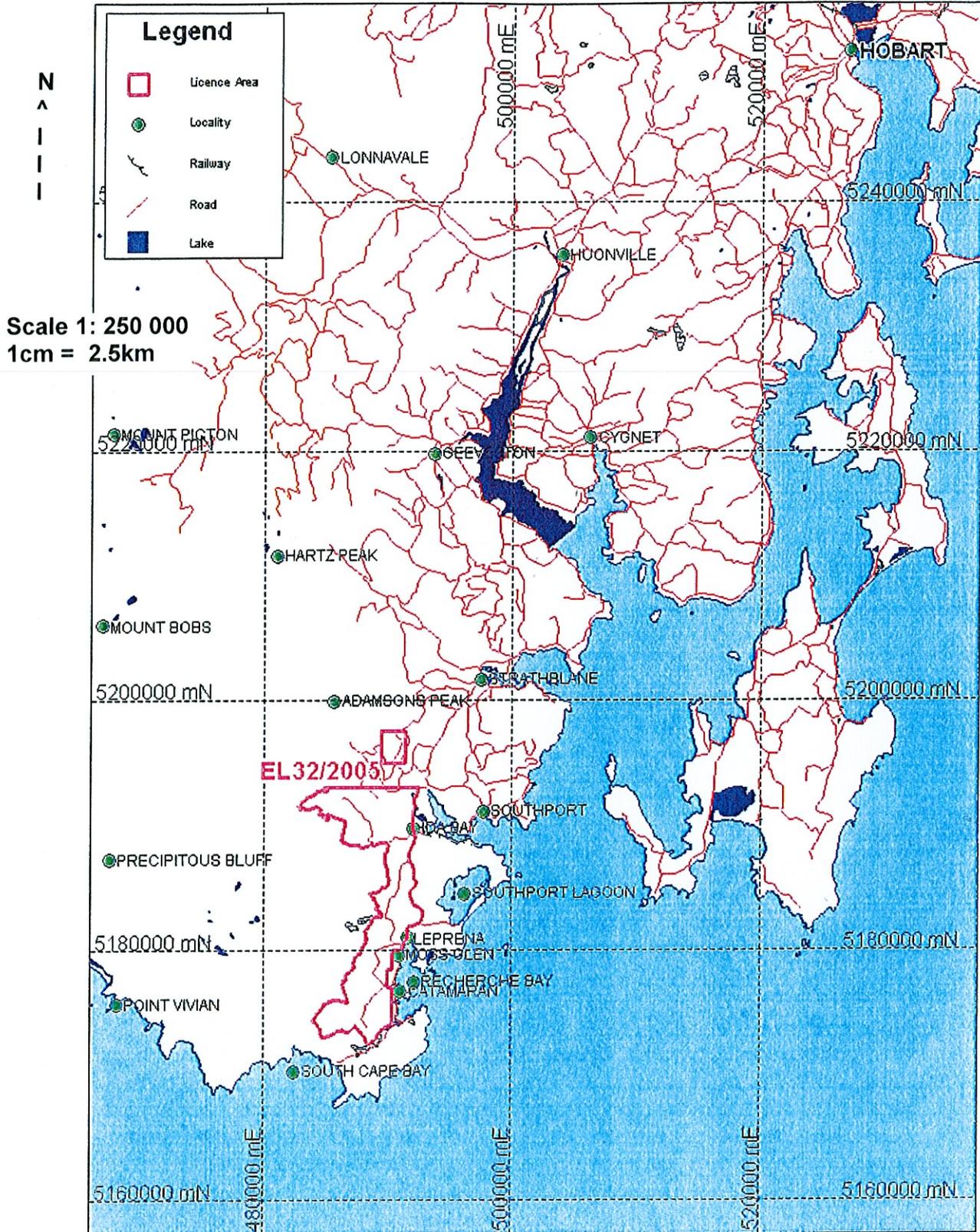
The cornerstone investor of Zinico Resources NL at the time of listing in 2005 was Gujarat NRE Coke Ltd: the major independent supplier of coke to the Indian steel making industry.

Zinico when listed had a number of prospective Exploration Licence areas all in Tasmania, all for metal commodities none for energy minerals. It seemed prudent therefore to look at the possibility of coal resources in Tasmania. A preliminary investigation was done and noted that coal mining had been carried out in the southern part of Tasmania in the past in the Catamaran area. Further investigation was done and found that the area was not subject to any permit coverage for coal exploration. The company decided to apply for an exploration licence for coal in the area and was successful with the granting of EL 32/2005 an 84sq km area to a wholly owned subsidiary named Southvest Pty Ltd.

It was noted that mining in the past was on a small scale mainly for local markets (ie to Hobart for domestic purposes). It was also noted that previous exploration in the 1970's was aimed at a steaming coal energy supply and in the 1980's the Marathon Corporation exploration in the area had indicated resources totalling some 17 million tonnes of coal.

Zinico thought this to be a good start; to investigate the known resources and to explore further for the purpose of upgrading the coal resource(s) to a mineable status and add to the coal portfolio of coal producing mines of the cornerstone shareholder of Zinico.

Figure 1 - Catamaran: Licence Location Map



## 1.2 Tenement Information

6

EL 32/Catamaran is in the very south of Tasmania (just over 100km south of Hobart see map: page 5)

It has irregular shaped borders following topographic features and exclusion zones such as the World Heritage Area and the historic Recherches Bay, the inhabited coastal strip is also excluded. (See figure 2: Land Tenure map p7)

The licence was granted on 15<sup>th</sup> February 2006 for a period of 5 years ending in 14 February 2011. The area covers some 84 sq km.

The climate is temperate with high annual rainfall of around 1400mm. The temperature ranges from zero in winter to a high of 30c in the summer. Most of the year the climate is temperate.

The area is accessible all year round with a good sealed road to Ida Bay just within the northern boundary of the EL. Further south from there are good gravel public and private (Forestry) roads allowing vehicle access to most parts of the EL. (See Topographic maps p 8 /9)

Land usage is mainly timber logging of forest (eucalypt:blue gum) plantations which are extensive through out the area.

The area has variable topographic relief, from coastal plain to grassed swamps, bordered by hills and some steeper small mountain ranges. See topographic map: p 8 & 9.

This report covers a slightly more than twelve month period from just prior to grant to the renewal date 15 February 2007.

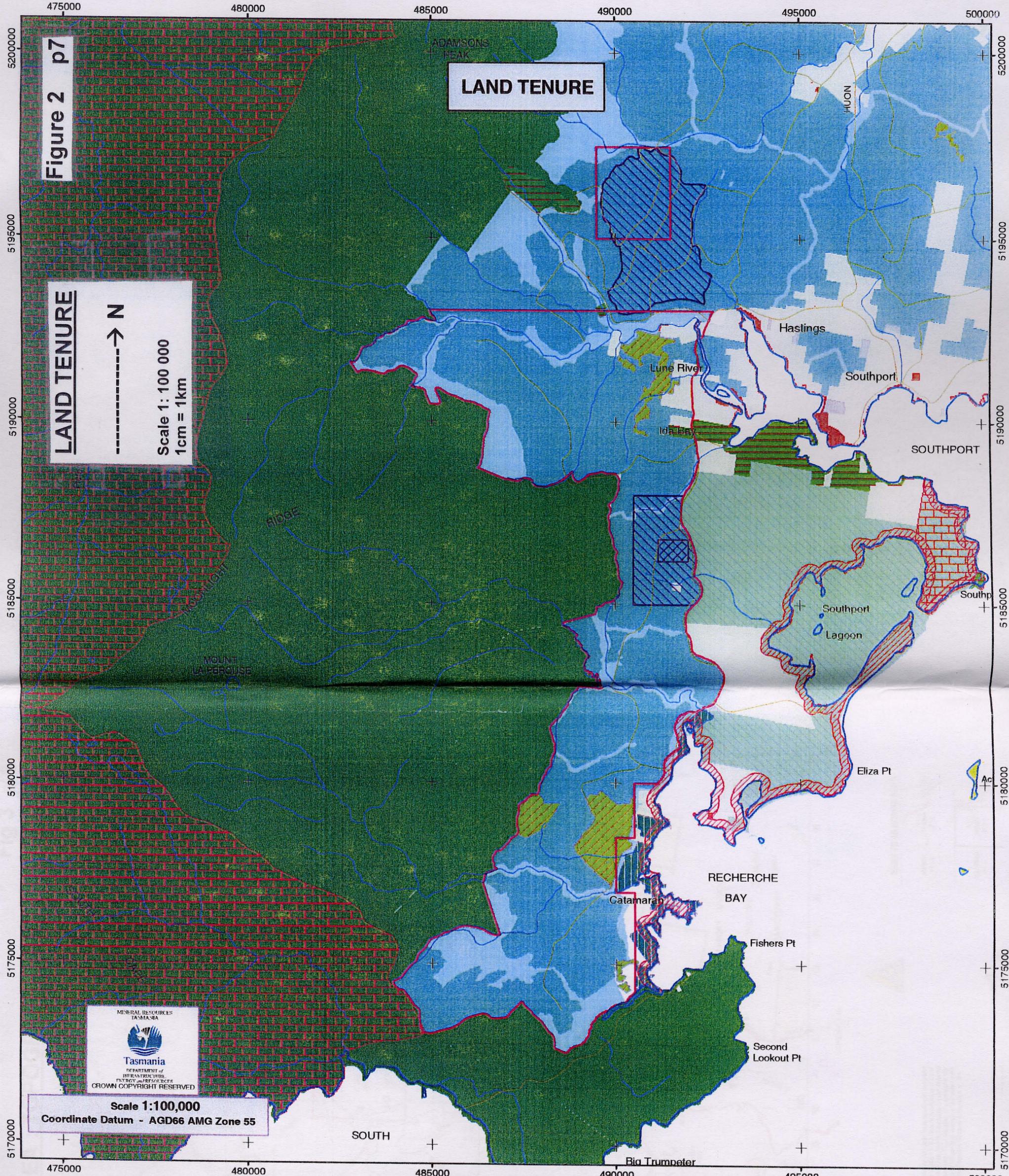


Figure 2 p7

**LAND TENURE**

-----> N

Scale 1: 100 000  
1cm = 1km



Scale 1:100,000  
Coordinate Datum - AGD66 AMG Zone 55

**Land Tenure / Special Management Areas (Guide Only)**

- |  |                                     |                        |                            |
|--|-------------------------------------|------------------------|----------------------------|
| Exploration Licence                        | MDC Informal Reserve                | Public (Crown) Reserve | Private Sanctuary          |
| Mining Lease                               | State Forest / Hydro                | Conservation Area      | Proposed Reserve           |
| Administratively Excluded Areas            | State Forest                        | Regional Reserve       | Wellington Park            |
| Gas Pipeline Corridor                      | Forest Reserve                      | Nature Recreation Area | Hydro/Transend/Aurora Land |
| RAMSAR Site                                | Aboriginal Administered Land        | National Park          | Commonwealth Land          |
| Phytoph Cin Management Zone                | Private Land                        | State Reserve          |                            |
| Suspected Phytoph Cin region               | Tas Community Forest Agrmt          | Game Reserve           |                            |
| Forest Communities Managed by Prescription | Private Land Reserve (RFA) / PAPL   | Historic Site          |                            |
| Fossicking Area                            | Proposed Private Land Reserve (RFA) | Private Nature Reserve |                            |
| Fossil Site                                | Crown Land                          | Nature Reserve         |                            |

World Heritage Area

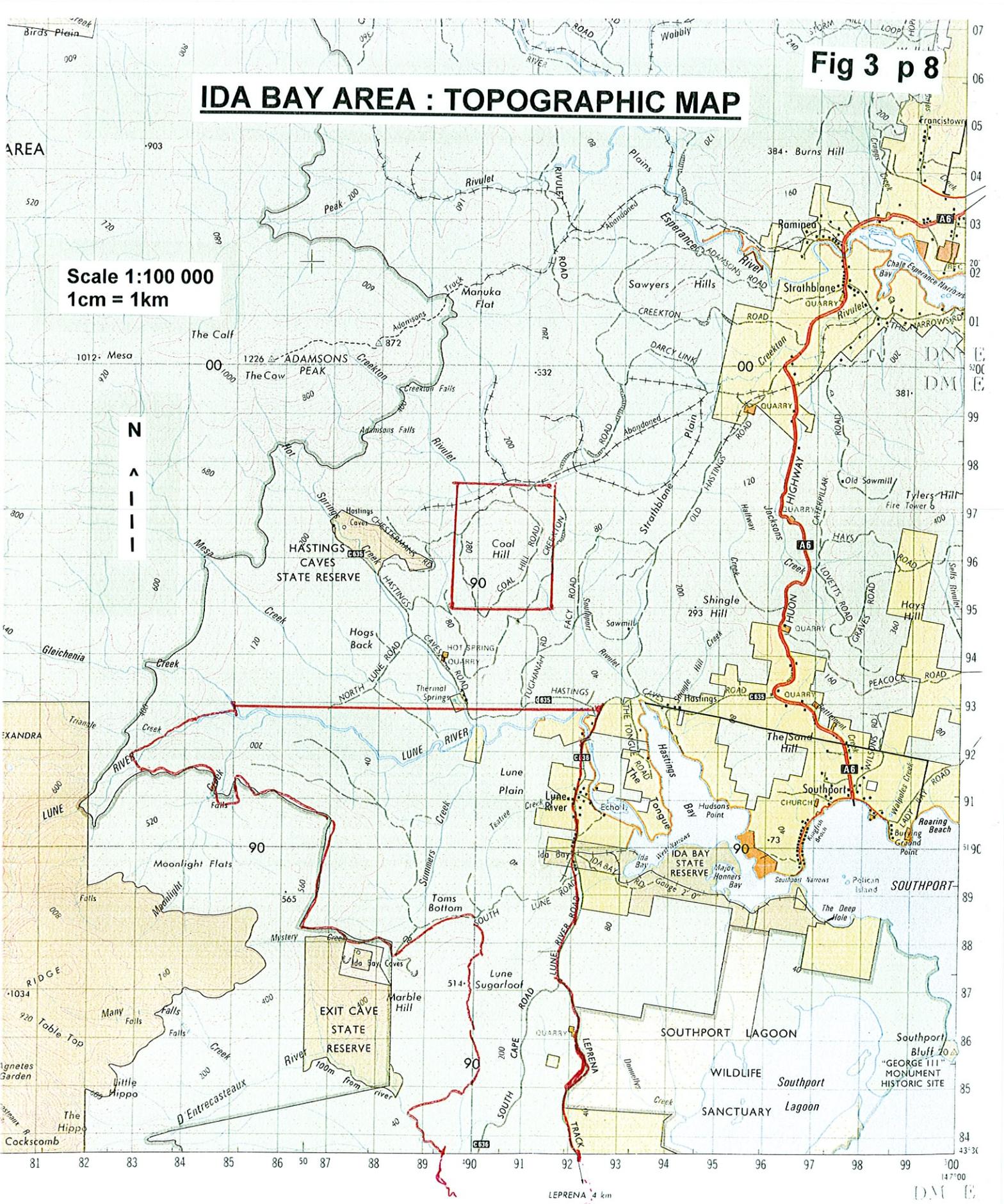
**Relevant tenement land tenure / land management area indicated \***

Note: Land Tenure is derived from the LIST and other sources and may be incomplete. Not all Land Tenure depicted in legend may appear on the map.

# IDA BAY AREA : TOPOGRAPHIC MAP

Scale 1:100 000  
1cm = 1km

N  
A  
I  
I  
I



000000  
6 9 10 12 Kilometres  
1kilometre

LS OF THE AUSTRALIAN MAP GRID, ZONE 55  
SOUTH WEST CORNER OF THE MAP  
AUSTRALIAN HEIGHT DATUM (TASMANIA)  
LANDS: MEAN SEA LEVEL  
GEODETIC DATUM 1966  
PROJECTION  
40 METRES

LAND TENURE INDEX INFORMATION has been compiled by the Lands Department with assistance from the Forestry Commission. Land tenure is current to March '83. Due to limitations of scale some small areas of land tenure within built-up areas or of less than two hectares are not depicted. Colours are designed to indicate the prime managing authority. The indication of a particular land status does not imply right of entry or use. Boundaries of Crown land extend to low water mark. For full particulars, users are requested to consult the Registrar-General's Division or the Lands Department.

Private Freehold Land



### INDEX TO ADJOINING MAPS



TN GN MN

# CATAMARAN AREA: TOPOGRAPHIC MAP

REFER TO THIS MAP AS: SHEET 8210 EDITION 1 1994

# CAPE



DM EM  
147°00'  
43°



DM EM  
147 00

### 2.1 Regional Geology

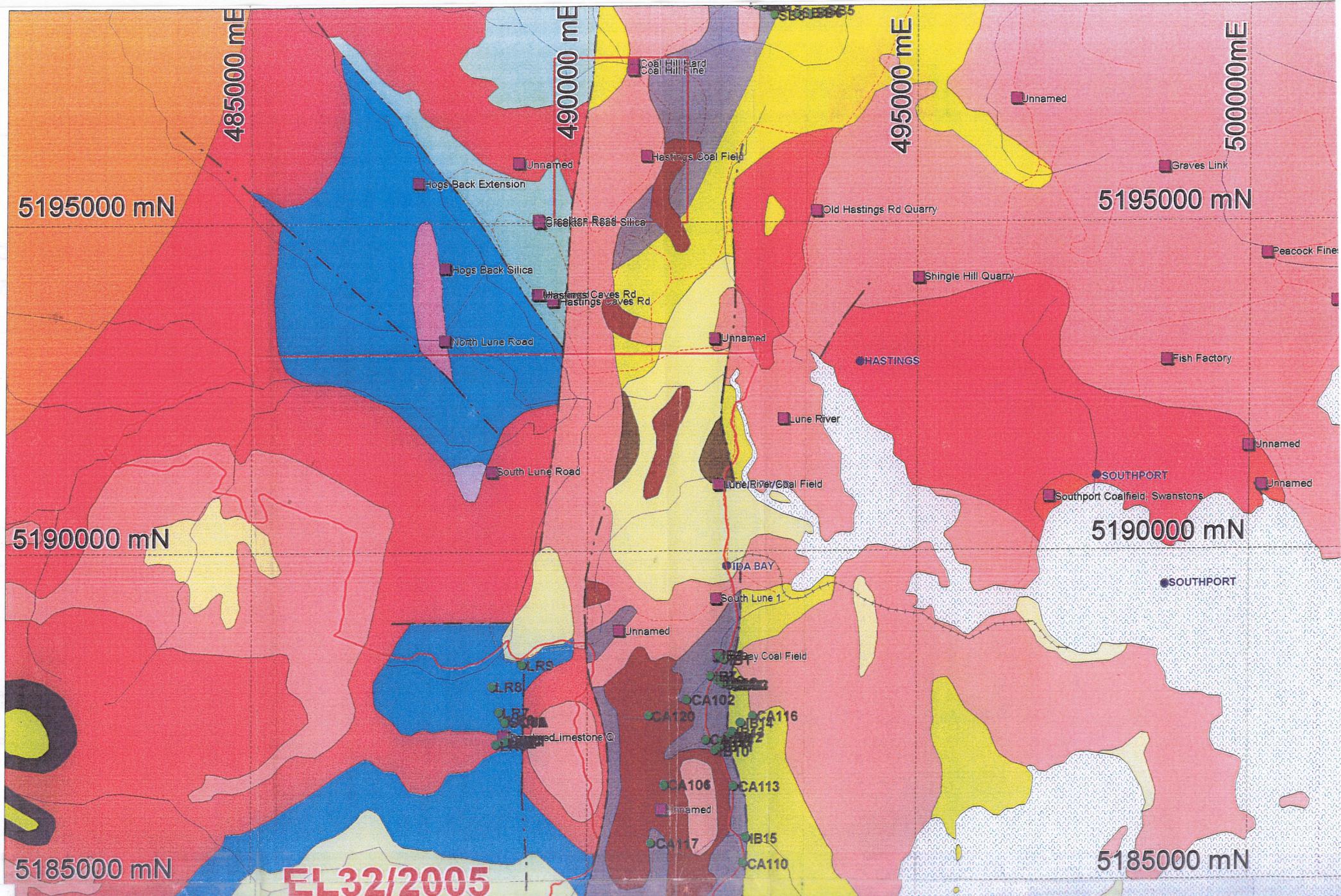
The EL covering the Catamaran area is part of and located within the southern part of the Tasmanian Basin of Permian-Triassic sediments. These are locally intruded by Jurassic dolerite sills and dykes and some extruded basaltic flows. (See Figure 5 p11)

The basement of Tasmanian Basin is Ordovician aged Gordon Group; mainly limestones with some sandstones and conglomerates. Folding and deformation occurred during the Devonian aged Taberabberan Orogeny. The Gordon Group is unconformably overlain by the Parmeneer Supergroup.

The Lower Parmeneer Supergroup is of Permo-Carboniferous age and comprises a series of undifferentiated glacial, glaciomarine and non marine sedimentary rocks, with an estimated average thickness of 500m. Overlying this sequence is a 30m thick, freshwater Permian sandstone unit with coal measures. This is followed by more glaciomarine sequences with pebbly mudstone, pebbly sandstone and limestone (200-300m thick). An undifferentiated Parmeneer Supergroup set of sedimentary sequences can locally exist at the Permian-Triassic boundary including the Cygnet Coal Measures. Where it exists this unit is overlain by non-marine Triassic lithic sandstone, siltstone, mudstone with coal bands (the Upper Parmeneer Supergroup). At the base of the unit is a distinct basal quartz sandstone estimated to be 200-300m thick. The coal measures above the basal sandstone are the main target sequence of coal within the Exploration Licence. These fine grained clastics are conformably followed by undifferentiated fluvio-lacustrine sequence of sandstone, siltstone and mudstone.

In the Jurassic period, large bodies of tholeiitic dolerite were intruded into the Permian-Triassic sediments. These intrusives take the form of large transgressive sheets with minor dykes. Locally there are co-magmatic tholeiitic basalt extrusives with the dolerites generally restricted to the Catamaran area.

Subsequent Cainozoic rocks for south-eastern Tasmania comprise relict Tertiary basalt flows and associated scree deposits. Quaternary sediments consist of a variety of sand, gravel and mud of alluvial, lacustrine and littoral origin. In addition there are also remnants of Pleistocene glacial deposits. Scree development has often occurred proximal to the Jurassic dolerites which generally occur as topographic highs.



**EL32/2005**

**Geology for EL32/2005 Catamaran Area**

Figure 5 p11

Scale 1: 50 000  
1cm = 500m



**Legend**

- Locality
- Mineral Occurrence
- Drillhole
- Railway
- Stream
- Road
- Fault

**Lithostratigraphy**

- water
- Q Undifferentiated Quaternary sediments.
- Qh Sand gravel and mud of alluvial, lacustrine and littoral origin.
- Qpg Pleistocene glacial and glaciogenic deposits.
- Jb Basalt (tholeiitic), comagmatic with Jurassic dolerite (Lune River area).
- Jd Dolerite (tholeiitic) with locally developed granophyre.
- R Undifferentiated Triassic fluvio-lacustrine sequences of sandstone, siltstone and mudstone.
- Rvc Lithic sandstone, siltstone and mudstone with some coal and basal quartz sandstone.
- Ra Dominantly quartz sandstone.
- PR Undifferentiated Permian Supergroup rocks.
- Pu Upper glaciomarine sequences of pebbly mudstone, pebbly sandstone and limestone.
- Pc Freshwater sandstone with coal measures.
- P Undifferentiated Late Carboniferous-Permian glacial, glaciomarine and non-marine sedimentary rocks.
- SD Undifferentiated shallow marine quartz sandstone, siltstone and shale (Eldon and Tiger Range Groups and correlatives).
- OI Shallow marine limestone sequence with minor siltstone and sandstone (Gordon Group).
- CO Undifferentiated or poorly constrained conglomerate- sandstone sequences of Late Cambrian to Ordovician age.
- LW Undifferentiated Weld River Group rocks and correlatives.

**07\_5436**

The geology of the licence is dominated and transacted by a major north-south fault system with a centrally located graben, the Lune River Graben.

The western boundary of the graben comprises two parallel faults, the Lune River Fault System, which coincides with the western boundary of the licence. West of these faults lies basement limestones of the Gordon Group overlain by Permo-Carboniferous glacial sediments and Permian coal measures. The graben is over 20km long north-south and some 4km wide, and consists of fault-bounded Triassic sediments that host the target coal measures. The eastern side of the graben consists, in the north of the licence, of Triassic sediments intermixed with Jurassic dolerites, whilst in the south the graben splays outwards and passes into the sea.

Within the EL, Triassic rocks can be broadly subdivided into two units based on lithological and chronological criteria: (after Perkins and Dunn 1984).

The lower unit or Triassic Basal Sandstone is predominantly arenitic (up to 90% quartz) and is greater than 238m thick within the EL. The sandstones are predominantly well sorted; fine to medium grained arenites and are typically bedded and massive fining upward sequences with some cross bedding. Composition is generally either quartz lithic or quartz feldspathic, although some beds are made up of volcanic lithic quartz fragments. Colour is light grey to grey, although some beds have either a greenish or reddish colouration owing to the presence of either epidote or hematite. Other lithotypes present are mudstone, siltstone and clay pellet conglomerate. Minor amounts of carbonaceous material and coal were also observed. The matrix in the sediment appears to be argillaceous with traces of calcite and zeolite cement.

The upper unit or Triassic Coal Measures lies conformably on top of the Triassic Basal Sandstone and is greater than 140m thick. The sequence comprises of sandstone, siltstone, mudstone, carbonaceous mudstone and coal seams. The coal seams are banded, dull and typically have a high inherent ash. Based on lithic description of chip and core samples and interpretation of geophysical logs, rocks of the Triassic Coal Measures can be divided up into a number of upward fining clastic sequences. They are similar to the Basal Triassic Sandstones but contain a higher proportion of fine grained sediments (up to 50%) and also a thicker development of coal seams. Sandstone from the Triassic Coal Measures found within the EL are generally light to dark grey; occasionally brown or greenish grey; occasionally brown or greenish grey ; very fine grained ; occasionally medium grained ; and generally quartz lithic and feldspar lithic varieties are common.

The depositional environment of the sandstone and coal during the Triassic is believed to have been fluviatile. Uplift to the west of the present day basin boundaries appear to have been providing the source. During the early Triassic (during deposition of the Basal Sandstones) streams of low sinuosity (possibly braided) flowed from this uplifted area towards the south-east.

Hale(1962) suggests the depositional area sank rapidly but the shores remained low allowing good sorting of the immature sediments resulting in the deposition of the Basal

Sandstone. Later, in the Triassic, evidence suggests that the climate became more humid and the sinuosity of the streams increased resulting from a decrease in relief of the source area. This quieter sedimentary environment and climate led to the deposition of a greater proportion of finer grained sediments and formation of coal in back swamp areas.

Jurassic-aged dolerite intrudes the Triassic sediments within the EL. The dolerite belongs to the tholeiitic quartz dolerite association (McDougall, 1958) The dolerite appears to have been emplaced in the form of sills which is consistent with other observations around the basin and contact with a coal seam and analysis of that seam shows that no upgrading of the coal has occurred. This may not always be the case as the presence of anthracite coal has been reported from the Catamaran Coal field. The dolerite appears to have caused localised faulting and although it appears to be in the form of sills it cannot be used to aid the correlation of the coal seam.

Dolerite scree covers a large proportion of the Triassic sediments. The scree blocks range in size, up to several tens of metres, causing considerable problems with field mapping and drilling. Leaman, (1982) suggests there that there are two generations of scree with older deposits usually reddish in colour whilst the more recent material has minor amounts of matrix.

Minor basalt occurs as minor flows generally less than a few kilometres long. The basalt in hand specimen is generally very difficult to distinguish from fine grained dolerite except if vesicles or amygdalae are present. Basalt has only been recognised in the north of the area. MRT mapping indicates that these basalts are related to the Jurassic dolerites and are not Tertiary basalts.

Minor amounts of Quaternary clays and sands occur in the low swampy areas and along the major water courses. These deposits are relatively unconsolidated and difficult to recognise.

### **2.3 Previous Exploration and Mining**

Coal was discovered at South Cape by the French Explorers in 1792, the first mineralisation of any kind noted in Australia. The French also found coal on the peninsula opposite Catamaran in Recherche Bay during the time of their stay there.

At Catamaran itself, coal production was reported in 1904 of some 119 000 tons. Mining continued intermittently until 1939 when all production ceased.

Exploration drilling for coal occurred at Catamaran in 1902 when 6 holes were drilled for 789m. In 1936; 2 holes were drilled for 155m.  
In 1955 at Ida Bay 2 holes were drilled for 139m.

In more recent time (1975) Australian Paper Mills (APM) drilled holes 7 at Catamaran for 150m and at Ida Bay (1976) 15 holes for 378m. (See figure 6 p15)  
This 1975/6 exploration drilling by APM was focused on locating a coal resource that would be a good substitute for fuel oil for their Port Huon Pulp Mill.

At Catamaran the drilling intersected significant coal seams at very shallow depths. The near surface coal was extensively weathered. Other drill holes encountered doleritic sills in contact with the coal and were reported as the coal being damaged.  
APM's conclusion was that there was no economic coal deposit in the area.

At Ida Bay the APM drilling reported bedding dips at 15 degrees and stated that there was considerable folding and faulting of the coal measures...associated with dolerite intrusions...unlikely that there is sufficient seam continuity...for underground extraction of coal. APM concluded that there was no open cut resources available and withdrew.

In 1981/3 the Marathon company undertook a systematic search for coal. Marathon drilled 20 holes for 3 157m (see figure 6 p15)

Their targets were:

- 1 an underground mineable target of 112Mt in situ recovering 50% mining and 60% washed coal from a workable 2m seam in an area of 35 sq km.
- 2 an opencut mineable target of 64Mt in situ 50% mining recovery 60% washed assuming a single working seam of 2m and an area of 20sq km.

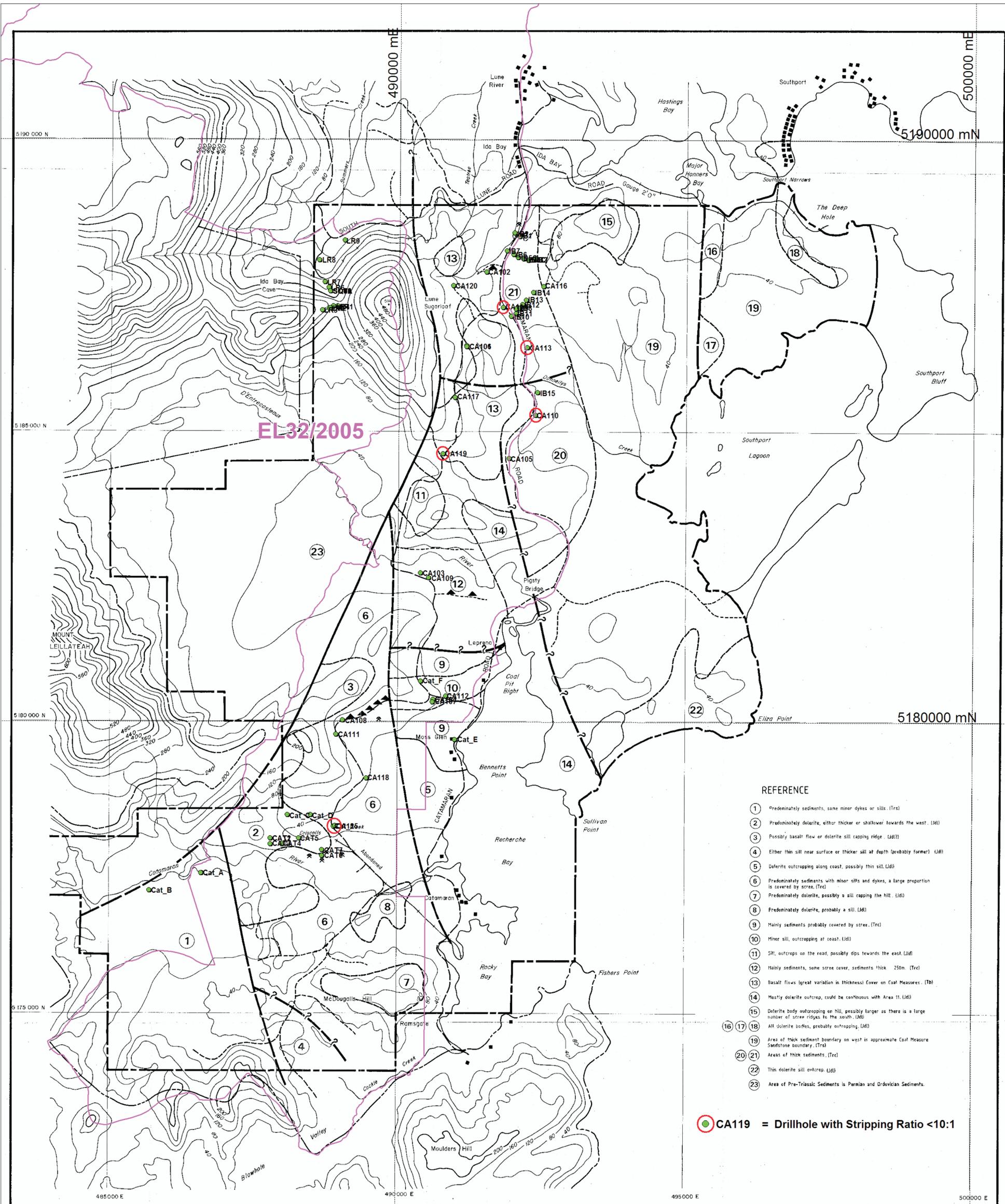
Their exploration programme involved:

- A detailed desktop study including air photo interpretation
- Geophysical surveys including airborne magnetics & ground based gravity
- A synthesis of an integrated geophysical model
- Stratigraphic drill testing within each of the major delineated fault blocks
- Drilling 20 holes for 3157m
- Coal quality tests and other analytical work

A summary of their findings was:

- At Catamaran potential for 11.5Mt of an underground resource
- At Ida Bay Potential for 5.5Mt of an open cut resource

Further details of all this past exploration work and results is contained in the consultant's report commissioned by Zelos and attached to this report as Appendix 1 and in the reports listed as references.



- REFERENCE**
- ① Predominately sediments, some minor dykes or sills. (Ttr)
  - ② Predominately dolerite, either thicker or shallower towards the west. (Jdt)
  - ③ Possibly basalt flow or dolerite sill capping ridge. (Jdt)
  - ④ Either thin silt near surface or thicker silt at depth (probably former). (Jdt)
  - ⑤ Dolerite outcropping along coast, possibly thin silt. (Jdt)
  - ⑥ Predominately sediments with minor sills and dykes, a large proportion is covered by scree. (Ttr)
  - ⑦ Predominately dolerite, possibly a sill capping the hill. (Jdt)
  - ⑧ Predominately dolerite, probably a sill. (Jdt)
  - ⑨ Mainly sediments probably covered by scree. (Ttr)
  - ⑩ Minor sill, outcropping at coast. (Jdt)
  - ⑪ Silt, outcrops on the road, possibly dips towards the east. (Jdt)
  - ⑫ Mainly sediments, some scree cover, sediments thick 250m. (Ttr)
  - ⑬ Basalt flows (great variation in thickness) cover on Coal Measures. (Ttr)
  - ⑭ Mostly dolerite outcrop, could be continuous with Area 11. (Jdt)
  - ⑮ Dolerite body outcropping on hill, possibly larger as there is a large number of scree ridges to the south. (Jdt)
  - ⑯ All dolerite bodies, probably outcropping. (Jdt)
  - ⑰ Area of thick sediment boundary on west in approximate Coal Measure Sandstone boundary. (Ttr)
  - ⑱ Areas of thick sediments. (Ttr)
  - ⑳ Thin dolerite sill outcrop. (Jdt)
  - ㉓ Area of Pre-Triassic Sediments is Permian and Ordovician Sediments.

● CA119 = Drillhole with Stripping Ratio <10:1

**LEGEND**

- |                            |                           |
|----------------------------|---------------------------|
| — Geological Boundary      | — E.L. Boundary           |
| — Fault                    | — S.W.A.C. Boundary       |
| ⑬ Area number              | — Main Road Sealed        |
| ▲ Coal Outcrop             | — Main Road Unsealed      |
| ▲ Abandoned Coal Mine      | — Secondary Road Unsealed |
| Tb Tertiary Basalt         | — Track (Dry weather)     |
| Jdt Jurassic Dolerite      | — Railway                 |
| Ttr Triassic Coal Measures |                           |
| Ttr Triassic Sandstone     |                           |



**Figure 6**

**Marathon Petroleum Australia, Ltd.**  
 Brisbane Australia  
 Hobart SK 55-8 Tasmania  
**EL. 679 CATAMARAN — TASMANIA PROJECT**  
 Plan Showing  
**INTERPRETATIVE GEOLOGY**

Drawn by B.A.W. Date JAN 93 Plan No. File C.M. - 062 Order  
 Mapped by N.T.P. Date MAY 83 Amended by Date  
 84-2119 3/3 3230

PLATE 6

Specific to the Marathon results the following comments by the Zelos Consultants were:

At Ida Bay: the potential for 5.5Mt by open pit mining. (see figure 6 p15)

An attempt at correlating the main seam of interest (interval A) showed there was no evidence of structural continuity between the 2 holes CA106 & CA110

Seam A thickness of the 2 holes was 1.04m (CA106) and 2.57m (CA110) thus the average thickness of 2.7m is overstated.

Relative density analysis averaged 1.53, the stated 1.6 is overstated

The cumulative strip ratio for the A interval in CA106 is 39:1 Any resource area to a 60m depth and a 10:1 cut off would have to be well up dip from the 135m deep A interval intersection in this borehole

CA117 which is 1450m to the west of CA110 (down dip?) has no coal to a depth of 195m thus this borehole cannot confirm seam continuity.

At IB15 a borehole 400m north of CA110 (along strike) there is no coal to a depth of 30m this borehole is possibly to the east of interval A outcrop and the intersected rocks were reported by APM as belonging to the basal Triassic sandstone.

Borehole CA105 has an intersection of the D seam at 61.19m. This hole is 850m south-west of CA 110. Seams higher in the stratigraphic sequence would be expected. The lack of these stratigraphic higher seams suggests faulting and discontinuity of seam A.

At Catamaran: the potential for 11.5Mt by underground mining. (see figure 6 p15)

The seam A interval has been identified in borehole CA111 from 65.19m to 80.62m. There are 5 coal bands within this interval having a cumulative thickness of 2.57m. The thickest band is 1.1m thick. There is a further 12.86m of parting within the intersection.

An underground mining operation working a 1.1m thick seam would need to be a low output mine with customised mining equipment.

The second coal intersection for the underground resource is from borehole CA115. The uncorrelated coal intersection is 4.03m thick at a depth of 70.77m. It is suggested that this is the A interval. There are 2 thinner beds below this interval.

Even though the coal intersections are at similar depths it is not possible to positively correlate these seams as both being the A interval. There is little evidence to support continuity.

Borehole CA118 lies 900m south-east of CA111. This would be expected to be up dip of the seams intersected in boreholes CA115 and CA111 however, the first intersection of coal is at 116m. This suggests there are major structural dislocations between the boreholes.

These comments by the Zelos consultants suggest that whilst there are sufficient indications of coal at both locations, it is likely that structural problems and insufficiently closely spaced data make any resource estimations difficult and are only of a general nature. For a clearer definition and more accurate estimation of available coal resource, much further detailed exploration work is required.

### **3 Current Exploration**

**17**

#### **3.1 Literature Review**

The company has purchased a range of literature available on coal from MRT. These include The Coal Resources of Tasmania by Four Members of the Geological Survey:1922, The Coal Resources of Tasmania Bulletin 64 :1991, Some Tasmanian Coal Statistics: 1997, these last two By CA Bacon of MRT.

In addition to the above 3 hard copies purchased, Eight titles were downloaded from the MRT open file records and read.

The company's consultant's report was also read and it contains an exhaustive list of references on the occurrence of coal in Tasmania.

All these reports visited above are listed below in references.

#### **3.2 Regional Exploration Activities**

Regional Exploration activities conducted by the company in the year of reporting were of a reconnaissance nature. The EL and surrounds were visited on several occasions for orientation of infrastructure and resources that are available such as the public roads and the private forestry roads and other facilities such as accommodation, fuel, supplies etc.

#### **3.3 Prospect Based Exploration Activities**

Several field trips were made within the EL boundaries for the purpose of flagging the locations of potential sites for drilling purposes and having these checked for environmental reasons in company with staff from MRT.

Visits were made to several localities of old mine sites and workings and where exposed, rock out crop types were observed and noted and sampled.

### 4.1 Previous Drilling

The general area of the EL from north of Ida Bay to south of Catamaran has undergone substantial drilling starting in about 1902 when coal was first found near Catamaran. In rapid succession coal was mined at various localities such as Coal Hill, Ida Bay, Lune River, Leprena, Moss Glen and Catamaran.

In more recent time the 1975/6 drilling at Ida Bay and Catamaran sought coal suitable as fuel for the paper mill at Port Huon.

Swampy/boggy conditions made drilling difficult. The drilling and trenching found wet and weathered and “inferior” coals in quantities unsuitable for a mining operation. See notes above in previous exploration.

The drilling in 1982/3 targeted a much bigger resource and was more regional. Whilst many holes were deep and several seams were intersected up to 2.7m thick. Seam continuity was difficult to resolve as the holes drilled were over 1km apart and the correlation of the logs of the seams, their thickness and depth was not easy. Commentary on this is also discussed in notes above in previous exploration.

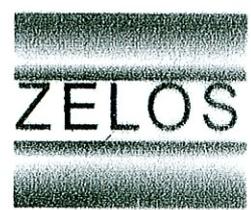
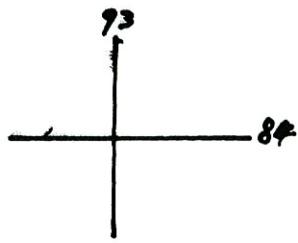
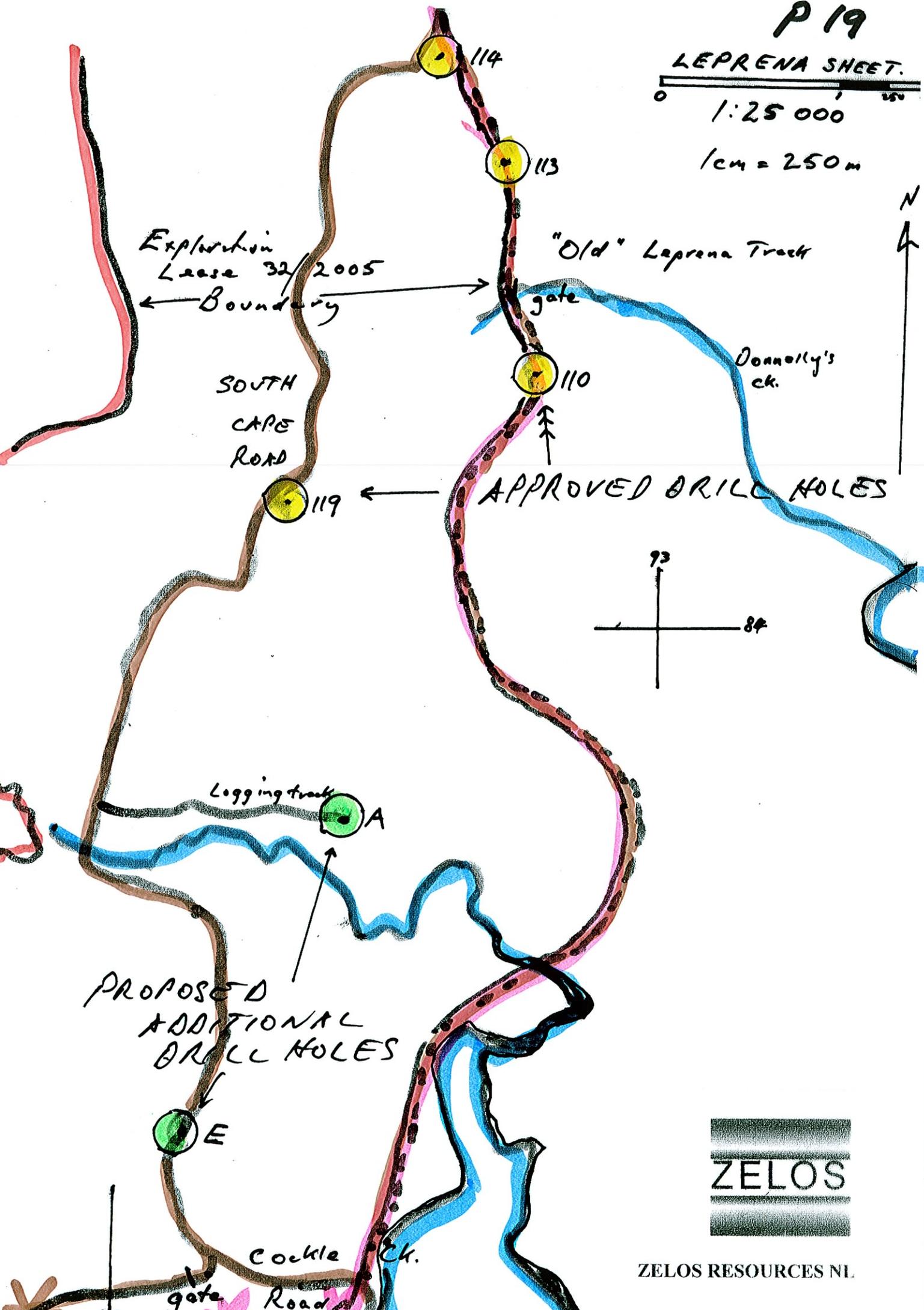
### 4.2 Proposed 2006 Work Programme

Despite these difficulties and that the area has significant influence of dolerite intrusions of dykes and sills as well as structural problems with faulting, the company’s consultants have recommended an initial 5 drill holes in locations close to previously drilled holes. The locations are on figure 6 map p15. The aim is to establish continuity, and therefore enhance the resources, and/or delineate structural discontinuities. Core holes were recommended for coal quality analysis.

Gujarat therefore contacted a suitable diamond drilling contractor for the required core. The first drilling contractor contacted turned out to have a rig available for the work that was suitable in all aspects except depth capacity limited to around 250m with NQ sized core from -100m.

Meanwhile, the initial five sites were inspected by the MRT Environmental Officer and the Chief Coal Geologist in company with Gujarat Geologists. After discussion, minor adjustments were made to the selected sites and approval was given to go ahead with the drilling. Further discussion was also held with the company’s consultants and a change of drilling technique from core to open hole with core recovery of the coal seams together with down hole geophysical logging, was recommended together with a further 5 target locations to substantially improve resource volumes and knowledge. (Figure7& 8 maps p19/20)

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1:25 000  
1cm = 250m



RECHERCHE

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P20

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Approved Drill Hole

115

B

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Proposed Drill Holes

C

Log Bridge  
? suspect  
quality

Catamonon River

South  
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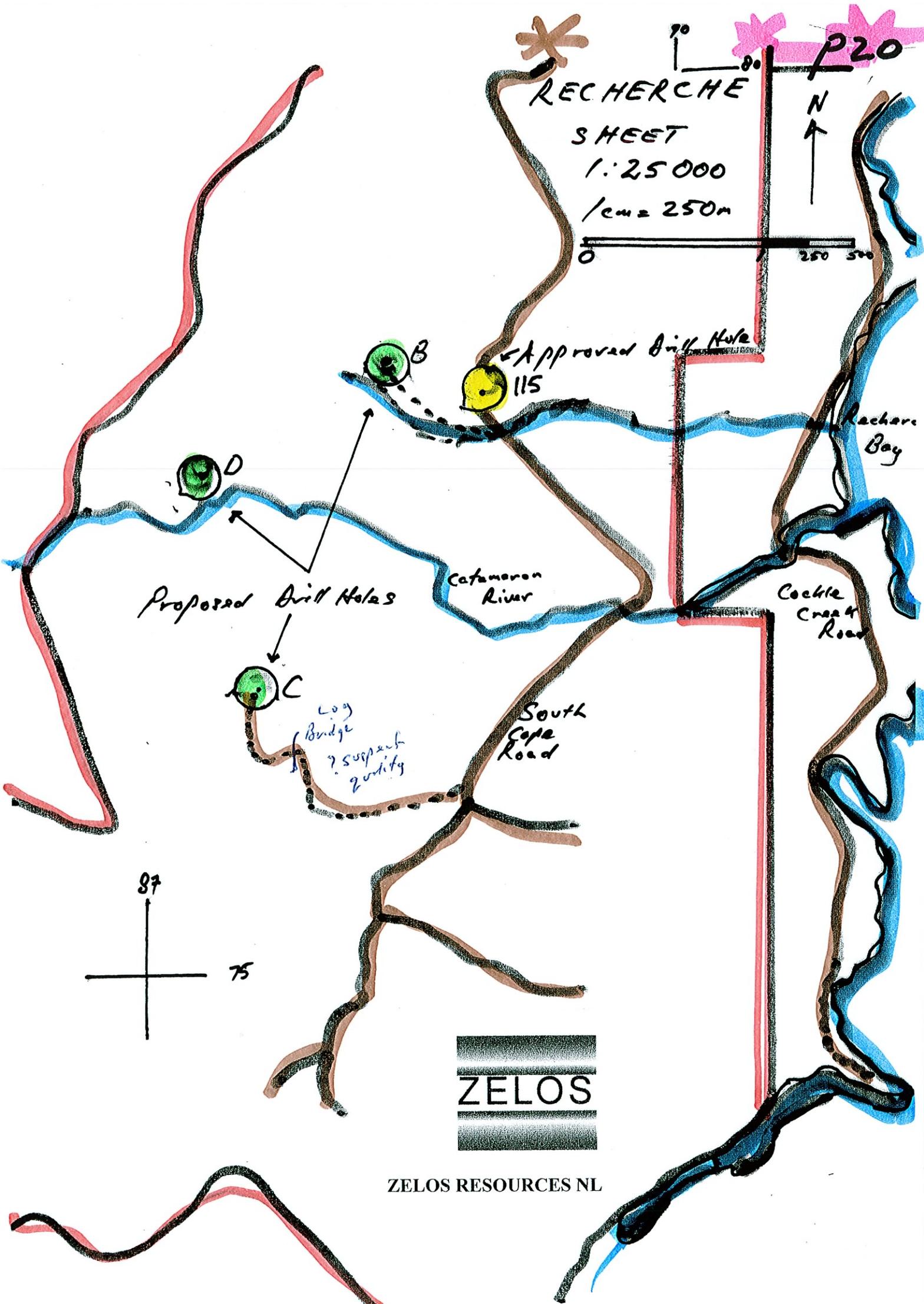
Rachere  
Bay

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ZELOS

ZELOS RESOURCES NL



The company's consultant geophysicist was also asked to provide an interpretation of the available MRT airborne magnetic data. The reply was that this task is vast as the spacing is at 500m lines ie very broad which limits the usefulness of the magnetics. It would require a lot of detailed work in each locality and a re fly at 100m spacing, therefore this geophysical project was put on hold.

The next steps were to contact drilling contractors with bigger capacity rigs and 3 further contractors were asked to quote, each in turn had some problem ie inadequate capacity, not available for over six months, and finally a suitable contractor was found and pencilled in to start in June 2006. A quote was also obtained from a Brisbane based specialist down hole geophysical logging contractor, as well as a reply from the University of Tasmania Geology/Codes Geophysics Department that they could not do the work as they had no spare staff, time and their probe was being repaired.

A further field visit was made by the MRT Environmental Officer and the Senior Tasmanian Resident Geologist for Gujarat to the proposed 5 new sites. As with the initial 5, after discussion of the locations selected minor adjustments were made for environmental and practical reasons and approval for the additional drilling was approved.

It was recommended by MRT to contact and site visit and receive approvals for the proposed drilling of the local government council, the main roads department, the Forestry Department and the National Parks and Wildlife. Several attempts at coordination of a site visit and discussion with these separate bodies failed, time marched on and so the drilling programme was placed on hold whilst other company projects received priority.

## 5 Conclusions

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The Company remains interested in the licence area and whilst the proposed drilling programme has taken a back seat, investigations were made regarding existing infrastructure, the potential of reusing existing infrastructure, the likelihood of approval for new major infrastructure if a major commercial deposit is discovered, the exploration and potential development of mining and also forestry in political sensitive areas in and near the Exploration Licence area. Consideration was also given to historical and environmental sensitive issues.

In the second year of the licence the company will investigate the geology and potential of the licence further with a view of a resource(s) suitable for the raw coal material to be converted insitu to an alternative energy source that is easier to transport such as gas, liquid or electricity.

This investigation involves further consultants who specialise in these fields. This would mean desktop studies and field assessment of the coal resources.

The drilling programme already designed and approved would be part of this project study.

It is recommended that Exploration Licence 32/2005 Catamaran be retained.

## 6 Environment

There has been minimal environmental disturbance with in the EL to date. There is no rehabilitation work necessary.

## 7 Expenditure

Total Expenditure for the period (pre GST) is \$ 27 940.25

The major items making up this amount are:

Geology	\$ 24 280
Administration	\$ 3 660

## 8 References

23

Purchased or otherwise obtained by Gujarat:

Consultants Report:

TEAR S            Catamaran Licence EL 32/2005 Literature Study Report  
                    Prepared for Zelos Resources NL                      February 2006  
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The report above has an exhaustive listing of references and reports            p21-26  
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BACON CA    Some Tasmanian Coal Statistics : Record 1997/10  
                    Tasmanian Geological Survey                      July 1997

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The references below were downloaded from the MRT Website and read.

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TWELVETREES WH            The Catamaran and Strathblane Coal Fields and  
                    Coal and Limestone at Ida Bay                      Geol Survey Bull 20    1915

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SAINT-SMITH EC    Examination of Coal Areas at Leprena  
                    Leprena Coal Mining Co.Ltd                      March 1023

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Marathon Petroleum May 1984



