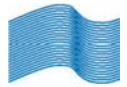


15. Independent geologist's report



CoxsRocks Pty Ltd: ABN 69 111 457 231
Consultants to the Exploration and Mining Industry



22 Boreham St
Cottesloe, 6011 WA
scoxhell@bigpond.com

8th November 2007

The Directors
Blue Ensign Technologies Limited
Suite 202, Angela House
30-36 Bay Street
DOUBLE BAY NSW 2028

Dear Sirs,

INDEPENDENT GEOLOGIST REPORT ON THE JULIA CREEK OIL SHALE PROJECT

CoxsRocks Pty Limited ("CoxsRocks") has been requested by Blue Ensign Technologies ("Blue Ensign") to prepare an independent consulting geologist's report on an oil shale property, EPM 12863, held by its wholly-owned subsidiary, Queensland Shale Oil Limited ("QSO"). The report is to be included in a prospectus to be issued by Blue Ensign for the issue of 25 million new shares at \$0.40 per share to raise \$10 million.

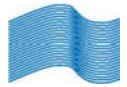
The report provides a geological review and calculation of Oil Shale Resource Estimates of the oil shale project based on data made available by the holder of the tenement (QSO) and other independent sources of data and information.

CoxsRocks is familiar with the typical physical and geological environment of the Julia Creek Oil Shale deposit. It also has knowledge of the companies which have undertaken the previous work programs on the tenement. CoxsRocks is therefore satisfied that there is sufficient current information available to allow an informed appraisal to be made without a recent physical inspection of the site. The decision whether or not to conduct such an inspection was made by CoxsRocks and not by Blue Ensign.

This report has been prepared by Mr Simon Coxhell BSc, MastersQual, MAusIMM. He has in excess of 20 years experience in mineral exploration and evaluation with 5 years experience specifically in regards to the Julia Creek district of Queensland.

The information used to prepare the report is drawn from:

- (a) discussions with consultants, directors and management of Blue Ensign and QSO;
- (b) the resource estimate prepared by Nolan and Associates Pty Limited dated 12 October 2006; and



- (c) reports prepared by previous tenement holders and their consultants.
- (d) scientific and technical research reports and papers publicly available.

CoxsRocks does not doubt the authenticity or substance of previous investigating reports. It has not however, carried out a complete audit of the information but has relied on previous estimates where applicable and has used this for estimation purposes with qualifications applied, where necessary. No comment is made on environmental or metallurgical issues related to the project as they are beyond the scope of this report.

This report has been prepared in accordance with the relevant requirements of the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code") and subject to the qualifications presented above, the VALMIN Code.

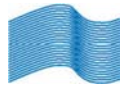
The author of the report, Simon Coxhell, who has compiled the information used in the report, is a Member of the Australasian Institute of Mining and Metallurgy, and has the relevant experience to qualify as a Competent Person as require under the JORC Code.

Yours Sincerely

A handwritten signature in black ink, appearing to be 'SC', followed by a long horizontal line extending to the right.

Simon Coxhell

Principal Consultant
CoxsRocks Pty Ltd



EXECUTIVE SUMMARY

This report discusses the exploration history, previous work and geological setting of the Julia Creek Oil Shale deposit located within EPM 12863, north western Queensland, Australia. In addition the JORC compliant independent resource estimate of Nolan and Associates Ltd (Oct 2006) prepared for Queensland Shale Oil Limited (“QSO”) has been reviewed and verified as being correct and accurately reflecting the insitu resources located within EPM 12863.

Over the last three decades an enormous amount of work has been completed on the Julia Creek project (QSO, CSR, Fimiston et al) with previous drilling and analysis defining huge oil shale resources in the vicinity of the town of Julia Creek. The majority of the near surface higher grade and previously defined resources are located within EPM 12863.

The prospective horizon is a flat lying kerogen rich stratigraphic unit with relatively consistent thickness and grade characteristics. The oil content of the unit, as determined by the Modified Fischer Assay technique, has been systematically determined by reasonably close spaced drilling and analysis in the near surface position within EPM 12863 by previous explorers, notably CSR Limited who spent in excess of \$15 million exploring and conducting test work in the area between 1973-1988.

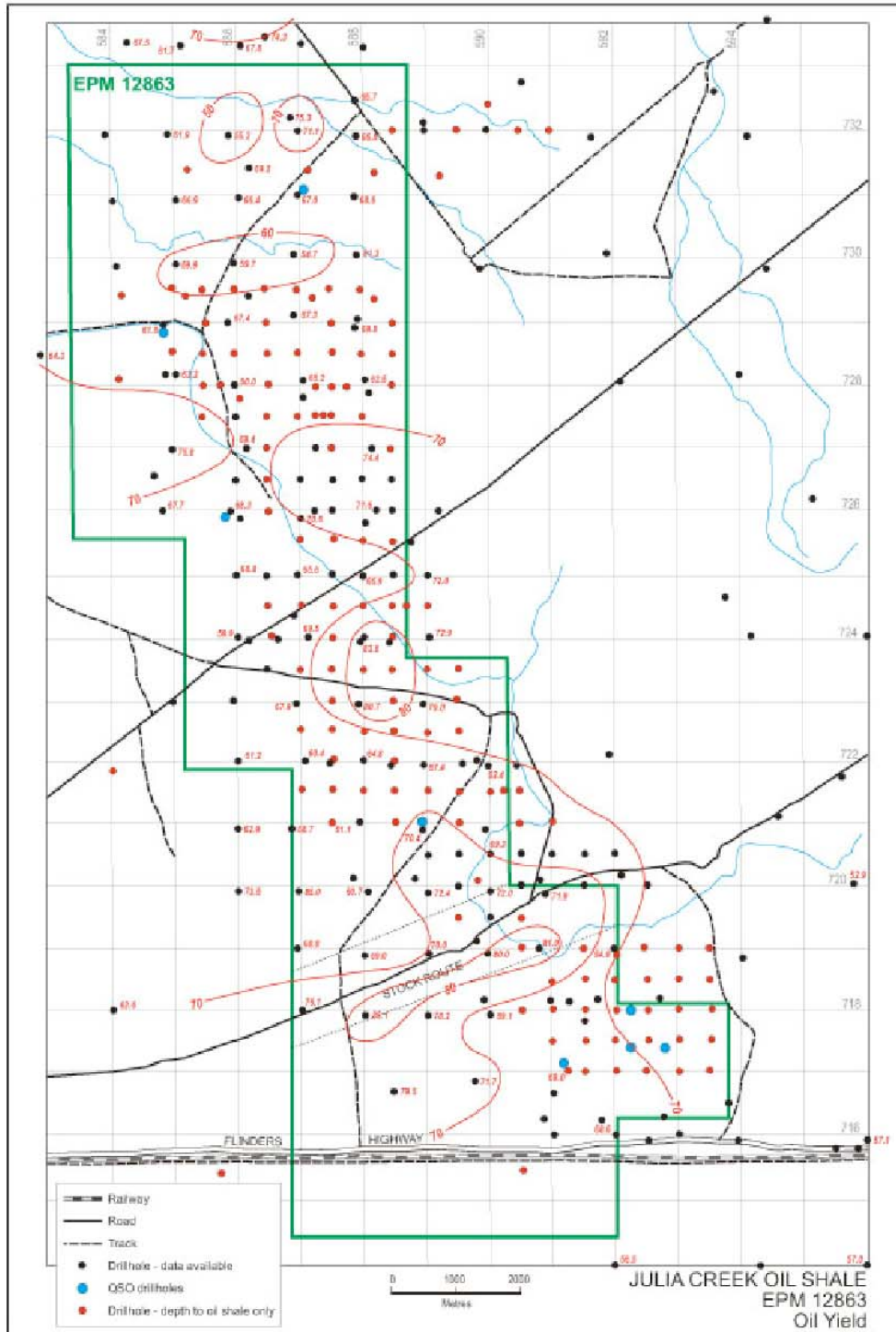
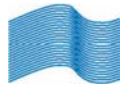
A large portion of the previous drilling has been digitally captured where analysis of the prospective formation by Modified Fisher Assay had outlined a large flat lying oil shale resource located 10 kilometres to the east of Julia Creek, North Queensland.

The resource estimate prepared by Nolan and Associates Pty Ltd at a 40 litres/tonne cut off and based on Modified Fischer Assay of the prospective oil shale formation (the Toolebu Formation) is documented as litres per tonne zero moisture (LTOM) and is tabulated below.

Category	Area km2	Thickness m	ISBD *	Oil Shale Resources million tonnes	Oil Yield (LTOM)	Shale Oil Resources million barrels (Fischer Assay)
Measured						
Indicated	87	12	1.85	1930	70	850
Inferred	6	11	1.85	120	60	45
Total incl. stock route	93		1.85	2050		895

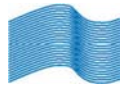
ISBD: Insitu Bulk Density
 One barrel of oil is equal to 158.98 litres
 LTOM: Litres per tonne at zero moisture
 NOTE: Barrels of Oil at this stage are not recoverable

These figures are similar to resource estimates determined by CSR in 1982 during their feasibility studies into developing the vast oil shale resource at Julia Creek. The application of new technology offers scope to improve the oil returns from the project and systematic drilling, analysis and test work is now required to advance the project.



Plan prepared by Nolon & Associates for inclusion in this Report

Figure 1 EPM 12863 Oil Yield



1.0 INTRODUCTION AND SUMMARY

EPM 12863 is owned 100% by QSO and was originally granted to QSO, under its previous name of Fiva Resource Corporation Pty Limited (Fiva) in February 2000. The tenement originally covered an initial area of nearly 494 square kilometres (km²), which included the main part of the Julia Creek oil shale deposit identified by CSR Limited (CSR) as prospective for open-cut mining on the western flank of the St Elmo Anticline. By 2004, the boundaries of EPM 12863 had been reduced by successive statutory relinquishments to an area of 93 km² encompassing a large portion of the near surface higher grade oil shale resources amenable to open-cut mining.

This report reviews and summarises past work completed over the last two decades and reviews past drilling and Modified Fischer Assay results used to calculate a JORC compliant Identified Indicated Resource of the extensive oil shale resources which lie within the boundaries of EPM12863.

The grade for the oil shale is based on a large number of modified Fischer Assays completed on oil shale core and reverse circulation (RC) drill hole samples. Further work to determine the relationship between tetralin assays and Modified Fischer Assays and to allow a more detailed examination of the Rendall Process and its application to the Julia Creek project is required and offers the opportunity to change the projects fundamentals.

2.0 PROJECT LOCATION AND ACCESS

The Julia Creek Oil Shale Project defined by EPM 12863 is located approximately 15 kilometres north east and east of Julia Creek in North West Queensland. Julia Creek is a regional service town of 520 people situated 655km by road to the west of Townsville and 255km east of the mining town of Mt Isa.

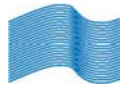
Access to the southern boundary of the EPM 12863 project area is provided by the east-west Flinders Highway, the main arterial road between Townsville and Mt Isa. Shire roads and pastoral station tracks head north from the highway and provide access to the tenement area.

The permit (**Figure 1**) comprises 29 sub-blocks, each with an area of approximately 3.2 km². The total area of EPM 12863 is approximately 93 km². However, currently a Stock Route, with an area of approximately 6 km², is excluded from the Exploration Permit, decreasing its effective area to about 87 km².

3.0 TOPOGRAPHY AND CLIMATE

The Project area consists of flat black soil plains typical of the Eromanga Basin in North West Queensland. Very gentle topographic rises are present and often related to outcropping zones of the Toolebuc Formation.

Vertical relief in the area is generally less than one metre per kilometre in most areas, except where creeks cross the plains. The major regional surface drainage systems flow to the north west with minor local streams in the project area flowing east west. These rivers and streams flow infrequently, usually during the summer months.



The land in the region is used primarily for grazing cattle which is reliant for stock water on artesian groundwater bores established during the last hundred years. Vegetation in the Julia Creek region is typically Mitchell grass dominated native pasture with trees and shrubs sparse or absent. Prickly acacia is common in areas of disturbance around existing road quarries and open bore drains.

The climate is described as semi-arid. It is subject to monsoonal influences from the northwest and easterly influences. The annual rainfall gradient declines strongly to the south of the Gulf of Carpentaria. Around Julia Creek the mean annual rainfall is about 469mm. Evaporation exceeds rainfall by a factor of five.

The majority of rainfall (about 80%) falls in the summer months between December and March. Typically the wettest month is January (116.5mm) which accounts for nearly 30% of the rainfall. Mean daily maximum temperatures range from 38.7°C in December to 25.9°C in July. Daily minima vary from 8.3°C in July to 22.8°C in January and February.

4.0 INFRASTRUCTURE

The main project area is located 15km east of Julia Creek. The town is the administrative centre for the Shire of McKinlay which, in the 2003 Census, recorded a population of 1,512 people within an area of 40,728km². Of this total population approximately half live at Julia Creek.

The town facilities include a state primary school, a 20 bed hospital, three hotels and a caravan park. Water for the town is sourced from three artesian bores located within two kilometres of the town.

The local industry is predominately beef cattle, mining and farming. Julia Creek is one of the central transport hubs of north western Queensland, located on the main east west highway and railway with secondary roads radiating outwards to service the region.

Mining is carried out at several locations west of Julia Creek in the Mt Isa Province. The Cannington silver, lead and zinc Mine and Ernest Henry copper gold Mine are situated within 150 kilometres of Julia Creek.

A sealed all weather airport is located three kilometres west of the town and there are scheduled flights from Mt Isa and Townsville three times per week.

5.0 GEOLOGY

5.1 Regional Geology

The Julia Creek oil shale is located within marine sediments of the Early Cretaceous Toolebuc Formation, a stratigraphic unit that occurs throughout the Eromanga Basin in central-northern Queensland.

The Eromanga Basin is a sub-basin of the Great Artesian Basin and consists of a number of thick sequences of non-marine and marine sedimentary units. The Toolebuc is part of the Rolling Downs Group of the Eromanga Basin that covers a wide but relatively shallow structural depression in eastern Australia, covering 1.5 million km². See **Figure 2**.

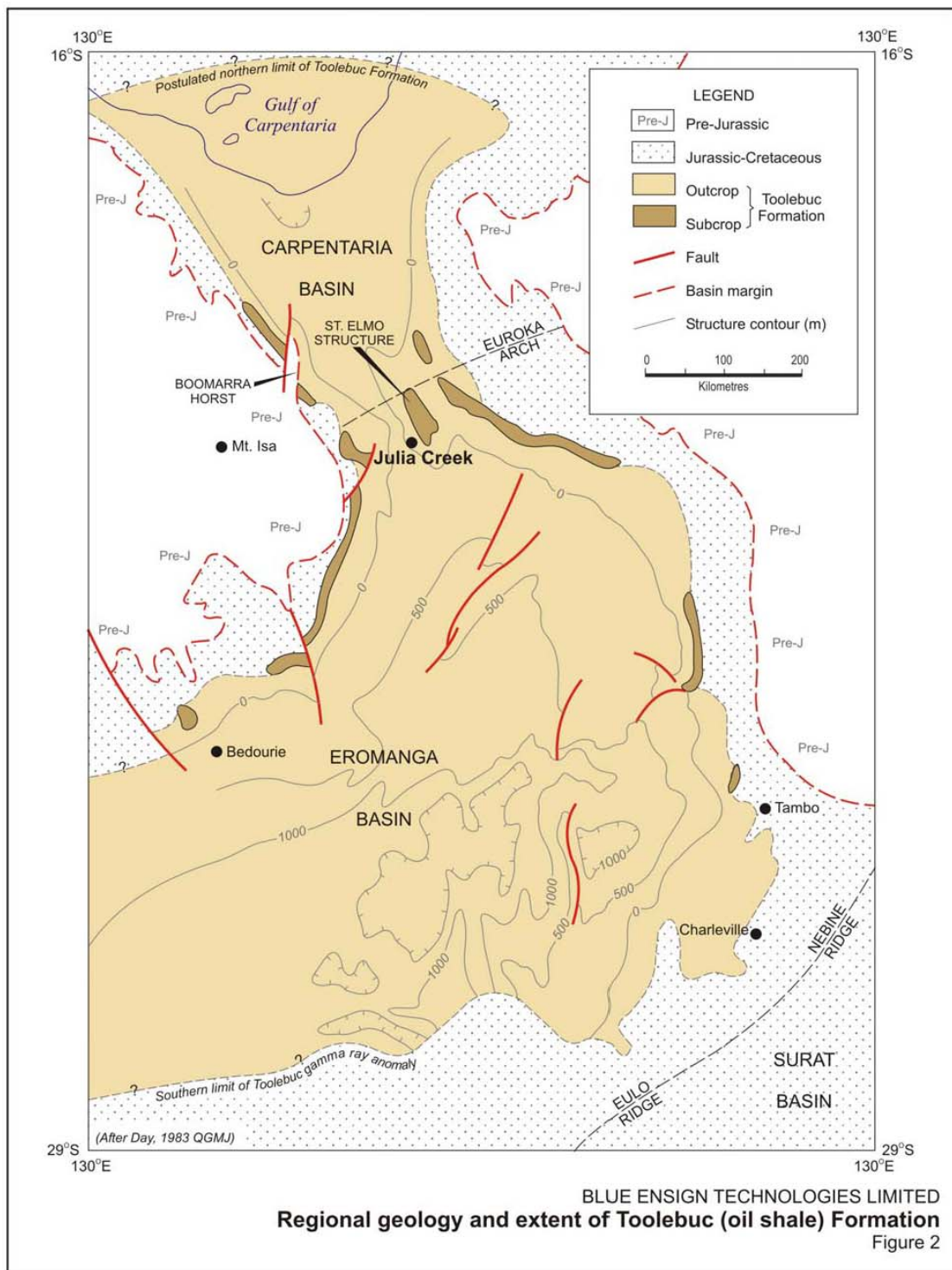
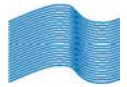
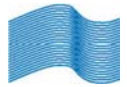


Figure 2: Regional Geology and extent of Toolebuc (Oilshale) Formation (sourced from QSO)

The basin was developed as a major downwarp on a basement of Proterozoic to Palaeozoic metamorphic and igneous rocks during the Jurassic to Cretaceous.



Exon and Senior (1976) have proposed an evolutionary history of the basin. Sedimentation in the Eromanga Basin commenced in the early Jurassic period, with the deposition of fluvial sandstones of the Hutton Formation as a consequence of downwarping of the basement. These non-marine Jurassic sandstones are the main aquifers of the Great Artesian basin.

Further fluvial, lacustrine, and possibly deltaic sedimentation, continued at the close of the Jurassic. A worldwide marine transgression during the Cretaceous period (Schlanger and Jenkyns, 1986) was marked in the Eromanga Basin by the deposition of shallow marine and paralic sediments, including the Toolebuc Formation. Following final withdrawal of the sea, lithic sediments were deposited above the Toolebuc Formation. The stratigraphy of the Eromanga Basin is described in detail by Exon and Senior (1976).

The Toolebuc Formation is a flat lying early Cretaceous (Albian ~ 100 My) sediment that consists predominantly of black carbonaceous and bituminous shale and minor siltstone, with limestone lenses and coquinites (mixed limestone and clays). It is composed of two distinct units representing two different facies: an upper coarse limestone-rich-clay-oil shale unit (coquina) and a lower fine grained carbonate-clay-oil shale unit. See **Figures 3 & 4**.

The Toolebuc Formation outcrops only at the margins of the Eromanga and Carpentaria basins, except at Julia Creek where it is draped over an interpreted original basement high and has been structurally brought to the surface. Where the unit outcrops it forms low, rubbly, subtle topographic highs which have been the source of road building materials in many areas.

A buried basement ridge, the St Elmo Structure, trends in a north-north-west direction from the Julia Creek Project area. Outcropping Toolebuc Formation is found over a wide area elongated in a north-north-west orientation in this area.

The limestone within the Toolebuc Formation has an abundant fossil assemblage which has been extensively studied. Two main faunal assemblages have been recognised, corresponding to the upper coquina facies (shelly limestone and clay) and a lower fine grained carbonate shale facies. The organic matter in the fresh shale is predominantly lamellar and referred to by Hutton et al (1980) as 'lamosite' (lamellar oil shale). The organic compounds are described as Alginite B in order to distinguish them from the more generally recognised Alginite A, in which clear evidence of algal morphology can be observed. Alginite B comprises elongate anastomosing films derived from benthonic algae that are referable to the Cyanophyceae genera of blue-green algae (Ozimic, 1986).

High magnification scanning electron microscopy reveals the oil shale contains abundant micro fossils, dominated by small planktonic foraminifera and coccoliths (algal plates) believed to be derived from Cyanophyta / blue- green algae. Average grain size of the lower oil shale calcareous nanofossils and clays are less than 5 to 7 microns.

The blue-green algae are interpreted to have formed extensive algal mats on the sea floor. The preservation of dead algal matter can be related to an oxidising-reducing boundary probably situated immediately below the base of the living algal mat layer and keeping pace with its upward growth. The clays and kerogen are derived from planktonic algae and blue-green benthonic algae (Glikson and Taylor, 1986) with the calcite representing the inorganic component of the organisms.

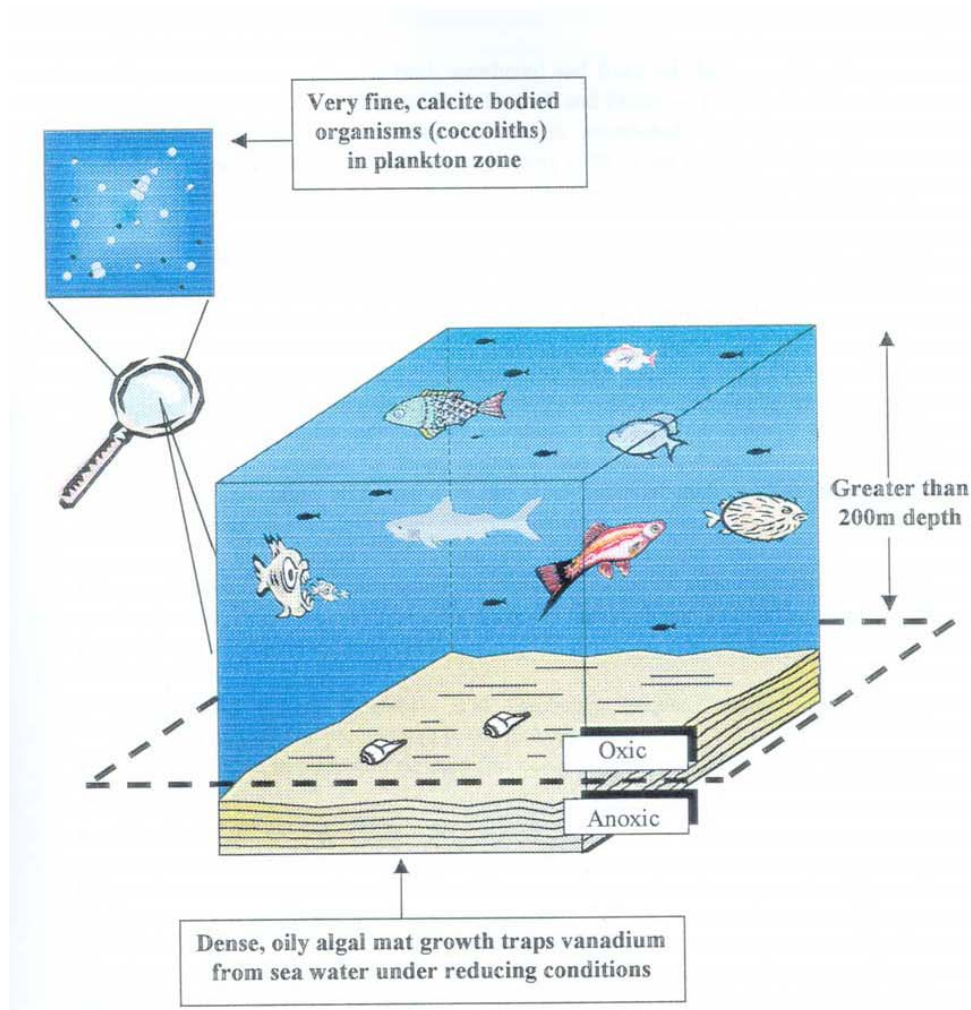
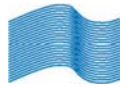


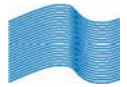
Figure 3: Formation of the Julia Creek Oil Shale

The episode of clear water calcareous sedimentation represented by the Toolebuc Formation ended when muddy conditions returned, preventing further growth of the benthonic fauna and leading to widespread deposition of the argillaceous sediments of the Allaru Mudstone (Ramsden, 1983).

Subsequent history of the basin has involved weathering, erosion and some tilting. Narrow north-west trending sub-vertical faults have been observed in the road quarries east of Julia Creek and are parallel to the broad trend of the Toolebuc outcrop and St Elmo structure. Deep weathering during the Tertiary resulted in oxidation to greater than 30 m locally and averaging 15 m in the vicinity of Julia Creek.

5.2 Local Geology

In the vicinity of St Elmo Station, within the fresh Toolebuc Formation, the oil grade of the coquina based on Modified Fischer Assay varies between 7-45 litres/tonne, averaging approximately 24 litres/tonne. In all cases the oil grade of the coquina increased down the



section reflecting the decrease in the relative amount of calcium carbonate and an increase in the kerogen content. The formation is strongly oxidised down to 15-20 metres. Negligible oil exists in the oxidised portions of the oil shale. In the vicinity of St Elmo Station outcrops of both the upper coquina and lower oil shale of the Toolebuc Formation are strongly oxidised to approximately 15 m deep.

The upper coquina averages 5 to 6 m thick, and is composed of alternate layers of coarse shelly limestone and oxidised fine grained material identical to the lower shale unit. The limestone layers within the coquina comprise single and multiple laminae of crystalline calcite derived dominantly from shells of the fossil bivalves *Inoceramus* and *Aucellina*. Alternate layered individual limestone and clay horizons within the coquina are from 1 to 10cm thick. Bands of goethite (1-2 cm thick), derived from oxidised pyrite rich sediments within the Toolebuc, comprise approximately 5% of the rock mass. Average grain size of the coquina ranges from 200 mm plates of calcite, to fine clays and coccoliths between 0.5-10 microns. The clay rich layers within the coquina increase in abundance and thickness towards the base, reflecting alternating and changing environmental conditions. The oil content within the fresh coquina also increases down section reflecting the increase in kerogen content within the shale.

The lower unit is the main oil shale horizon which, in the fresh rock, contains the majority of the oil. This fine grained oil shale averages 7 m thick and is principally composed of calcite, clays and kerogen. Pyritic sediments (1-2 cm thick) comprise approximately 5% of the rock mass. Oil grade within the fresh rock based on Modified Fischer Assay varies from 55 to 100 litres per tonne and averages between 65 and 75 litres per tonne. The oil is contained within the kerogen, which comprises approximately 18wt% of the fresh oil shale. The composition of the kerogen is about 75% carbon, 8% hydrogen, 5% sulphur, 2% nitrogen and 10% oxygen (Tolmie, 1987).

Vanadium grade within the oxidised coquina averages approximately 0.24% V_2O_5 and 0.20% V_2O_5 in the fresh rock.

Oil grade within the underlying fine grained oil shale horizon in the fresh rock (in the vicinity of St Elmo Station) ranged from 51-88 litres/tonne, averaging approximately 72 litres/tonne.

Vanadium grade within the oxidised finer grained oil shale averages approximately 0.40% V_2O_5 and 0.30% V_2O_5 in the fresh rock.

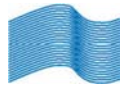
Moisture content of the Julia Creek Oil Shale is estimated to be approximately 8%.

6.0 EXPLORATION HISTORY AND PREVIOUS WORK

Exploration in the area over the last thirty years has been widespread with a significant proportion of the work focused on the search for oil and on process test work of the kerogen-rich oil shale.

Period 1968-1973

Mineral tenements were originally pegged by Aquitaine in 1968 in the general area of Julia Creek. The initial exploration target was sedimentary uranium in the Cretaceous Toolebuc Formation. Low grade mineralisation in uneconomic quantities was found within a thin unit of the Toolebuc Formation.



The exploration focus shifted to oil and vanadium within the Toolebuc Formation and a new joint venture was formed with The Oil Shale Corporation (TOSCO). Through 1969 the TOSCO - Aquitaine JV drilled 55 holes on roughly a 6km grid east and west from Julia Creek. This work outlined a remarkably consistent mineralised horizon and preliminary mining and processing studies for a proposed oil shale project were undertaken.

Period 1973-1982

In this period CSR (in conjunction with CSIRO) completed significant work investigating the feasibility of oil extraction from the fresh rock. Extensive drilling was completed throughout the area with a large oil shale deposit of fairly uniform grade located along the west flank of the St Elmo Structure, adjacent to the St Elmo Homestead.

A number of different sized projects were reviewed, with a range of processing and refining options considered. In 1979 a significant rise in the oil price prompted renewed enthusiasm for the development of a large scale oil shale project at Julia Creek.

In excess of 250 exploration holes were drilled on the western flank of the St Elmo Structure in the vicinity of St Elmo Homestead and reserve estimation completed based on the detailed drilling.

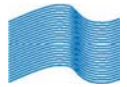
In 1982 the detailed drilling defined an oil shale reserve proposed to be mined by shallow open cut means. The unoxidised oil shale reserve of 1,798 Mt was estimated to contain 63.5 litres of oil (based on Modified Fischer Assay) and 0.35% V_2O_5 per tonne of ore. (Whitcher, 1992).

Additional test work and pilot plant studies to investigate oil shale extraction technologies were instigated following advances in retorting technologies. A significant amount of research was completed by CSIRO in association with CSR.

By 1982 progressive expenditure on the Julia Creek project had reached \$15M and it was concluded that the required selling price for oil was A\$45/barrel for the project to be economically viable.

Period 1983-1988

Between 1983 and 1988, CSR's activities continued to advance technological research into aspects of oil shale processing before they withdrew from the oil shale project in 1988. During the early to late 1980's, CSR carried out research, in association with the CSIRO Division of Engineering, to develop a new retorting concept in conjunction with hydro-treating to upgrade the oil produced. In 1983, CSR had reported that "the kerogen (extractable from the oil shale) accounts for about 18% by weight of the oil shale, with its composition approximately 75% carbon, 8% hydrogen, 5% sulphur, 2% nitrogen and 10% oxygen. On retorting the kerogen breaks down and leaves about half of its original organic carbon on the spent shale". The residue carbon was proposed to be used as a source of fuel for the retorting process.



Period 1988-1998

Placer acquired the ground in 1988 and completed a review of the data. They withdrew in 1991. CRA acquired the tenements in 1991 and focused attention on the extraction of oil from the oil shale. They drilled a number of drill holes and completed some metallurgical work at their own laboratory. An extensive review of previous work was completed and data compilation was carried out. CRA withdrew from the project in 1994 after concluding that the production of oil from the Julia Creek deposit was uneconomic at the oil price of the day.

Period 1998-2005

New mineral tenements were applied for by prospectors Wayne Jones and Topsfield Pty Ltd in July 1996 and in 1998 they entered into an agreement for Fimiston Mining (Visiomed) to acquire the tenements covering the Julia Creek oil shale deposits. In the following six years to 2004, Fimiston focussed largely on exploration and potential development of the near-surface vanadium rich oxidised oil shale resources (to a depth of 15 m).

Some work was also completed in 2001 to investigate the near surface higher grade oil shale in the immediate vicinity of QSO tenement EPM12863. A RAB drilling program was completed in the vicinity of Julia Creek during 2001 and was designed to,

- (a) investigate the oil grades of the shale in relation to geology
- (b) confirm higher oil grades as defined by previous workers
- (c) obtain fresh samples on which to conduct oil analysis and test work

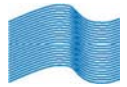
A total of six RAB drill holes were drilled and ranged in depth from 27 to 39 metres. They were specifically designed to obtain representative samples of the near surface oil shale. Drilling conditions were excellent with clean dry samples obtained.

Fresh oil shale samples were obtained from five of the six holes with samples submitted to AcTest Laboratory in Gladstone for Modified Fischer Assay.

TABLE 3: Summary Significant Oil Results, Visiomed Drilling, 2001

Hole	From m	To m	Assay LTOM	Moisture %	Northing	Easting
JCAC 1	33	39	6m @ 65.4	10.8	7724740	587370
JCAC 2	18	29	11m @ 74.2	10.5	7721000	589200
JCAC 4	16	22	6m @ 65.4	11.1	7718995	594992
JCAC 5	28	34	6m @ 79.9	10.1	7717064	592500
JCAC 6	28	32	4m @ 76.5	8.4	7718990	595350

Importantly, drill holes JCAC 1, JCAC 2 and JCAC 5 were drilled in an area known as the "Southern Proposed Pit" where previous work by CSR established an in situ resource grade of 74 litres per tonne. The Visiomed/Fimiston drilling returned an average assay of 73.18 litres per tonne in this area, confirming the higher grade nature of the Southern Proposed Pit.



The Southern Proposed Pit is one of three proposed pits designed by CSR that they estimated would contain an in situ resource of 1,789 million tonnes at an average grade of 63.5 l/t containing 715 million barrels of oil.

Due to the detailed sampling and logging of the drill holes by Fimiston the drilling also provided a useful guide to the oil grades expected in the different two main lithologies of the Toolebuc Formation, the upper coquina and lower fine grained oil shale.

In the vicinity of St Elmo Station within the fresh Toolebuc Formation, the oil grade of the coquina varies between 7-45 litres/tonne, averaging approximately 24 litres/tonne. In all cases the oil grade of the coquina increased down the section and reflects the decrease in the relative amount of calcium carbonate and an increase in the kerogen content.

The underlying fine grained oil shale horizon in the fresh rock and in the vicinity of St Elmo Station ranged from 51-88 litres/tonne averaging approximately 72 litres/tonne.

Following receipt of the Modified Fischer Assays, two composite samples were prepared and tests to determine the quality of the oil and the behaviour of a number of elements during the retorting process were completed.

Additional test work to calculate a full material balance and to determine yields of products a refinery would obtain from the oil was also completed.

This work has indicated that a good quality petroleum oil product would be produced from retorting the Julia Creek oil shale. An expected yield of 30% petrol (naptha), 40% diesel and kerosene and 30% light fuel oil was estimated.

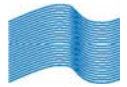
The work completed also determined that approximately 43% of the organic carbon and 75% of the hydrogen in the shale is converted to oil. The remaining carbon can be burnt off to provide energy for the extraction process.

Period 2005-2006

Blue Ensign Technologies Limited (BLE) acquired the project from Fimiston in 2005 and completed an extensive review of all previous work and compiled and reviewed all available documents on tenements covering the Julia Creek Oil Shale Deposit. A comprehensive examination of the geological setting and the correlation of the stratigraphy in the area was also completed. Documentation of the variations of character, thickness and quality of the Toolebuc Formation were compiled using historic drill hole data and used to assist with the categorisation of Resources and Reserves according to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves -The JORC Code – 2004 Edition. (Nolan, 2006)

This assessment had to necessarily rely on an acceptance of the accuracy and integrity of those who drilled, described, sampled and analysed the oil shale units in the many boreholes drilled in the area. The drill digital data compiled a total of 78 holes located within the current boundaries of EPM12863.

Following the extensive review of the project and the calculation of an initial resource estimate eight air core holes were drilled to test for and confirm the local stratigraphy within EPM 12863 and obtain samples for further work. In addition holes Q06_03→Q06_08 were geophysically



logged with caliper, gamma, short and long-spaced density, plus resistivity and sonic measurements captured, depicting any local variation in overburden thickness and oil shale thickness. This data was then used to update and assist with the Resources and Reserve Estimates based on The JORC Code – 2004 Edition. (Nolan 2006)

7.0 RESOURCE ESTIMATES

The Julia Creek oil shale deposit covers a vast area of the Eromanga Basin and, at a low cut off grade (+20 litres/tonne), would comprise a huge resource. The prospective oil shale horizon has been estimated to cover in excess of 500,000 square km (Exon and Senior, 1976) with an average thickness of 5-15 m. On this basis, and assuming an average thickness of 7 m and an average grade of 60 litres/tonne, the formation contains 2,400 billion barrels of oil. A large proportion of this is covered by 100 to 1,000 m of younger sediments.

It is in the vicinity of EPM12863 that the prospective horizon outcrops, and substantial resources are present near the surface (<40 m vertical depth) and mineable from an open pit mining operation with an acceptable strip ratio. See **Figure 4**.

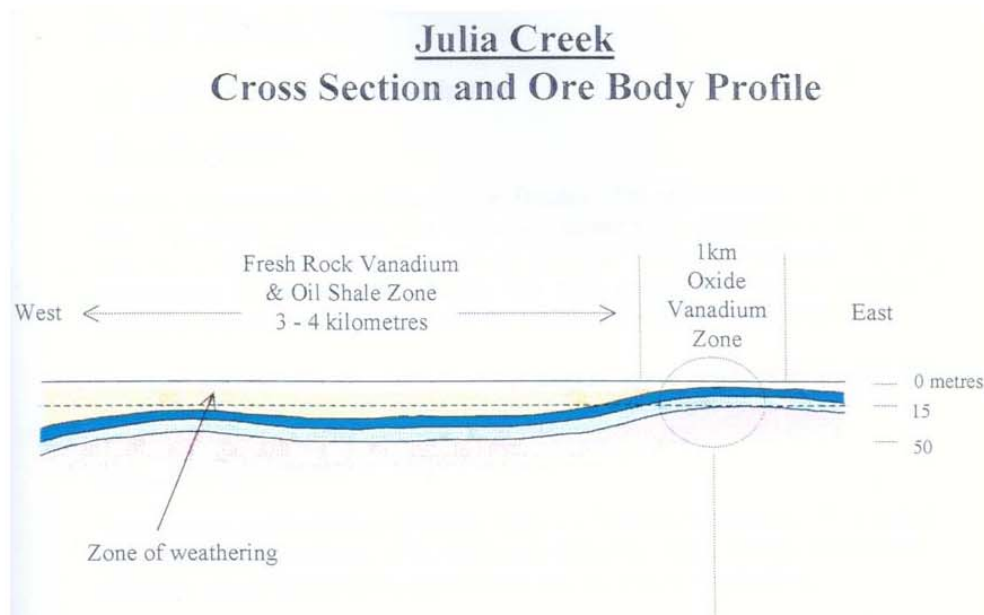
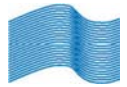


Figure 4: Cross Section Geology in the vicinity EPM 12863

The top 15 m has been weathered and the kerogen-oil content of the oil shale is depleted but, below the base of oxidation, the near surface oil shale deposit grades up to 90 litres per tonne and averages about 65-75 litres per tonne.



7.1 CSR Resource Estimates

Between 1973-1982 extensive drilling was completed by CSR throughout the Julia Creek area with a large oil shale deposit of fairly uniform grade located along the west flank of the St Elmo Structure, adjacent to the St Elmo Homestead.

CSR undertook detailed studies into the viability of the project from the late seventies until 1988. Based on 1-2 km spaced drill holes they calculated an in situ global resource of 4,252 million tonnes grading 62.8 litres per tonne (40 litre/tonne cut off) for 1.7 billion barrels of oil.

In excess of 250 exploration holes were drilled on the western flank of the St Elmo Structure in the vicinity of St Elmo Homestead and reserve estimation completed based on the detailed drilling. In 1982 the detailed drilling defined an oil shale reserve proposed to be mined by shallow open cut means. The unoxidised oil shale reserve of 1,798 Mt was estimated to contain 63.5 litres of oil (based on Modified Fischer Assay) and 0.35% V₂O₅ per tonne of ore (Whitcher, 1992).

A mining study based on the in situ resource and following additional drilling estimated total tonnage in three open pits at 1798 Mt at an average grade of 74 litres/tonne in the proposed southern pit, 67 litres/tonne in the central pit, 63 litres/tonne in the northern pit. An average strip ratio of 1:3.5 was estimated.

EPM 12863 is the southern portion of the area that CSR explored in detail and includes most of the area of two of their proposed open-cuts for extraction of oil shale. See **Figure 5**.

7.2 QSO Oil Shale Resource Estimate.

An independent and updated JORC compliant resource estimate of the oil shale resource contained within EPM12863 was completed by Nolan and Associates Pty Ltd¹ in 2005. This was updated in 2006 following the drilling of eight air core holes.

The resource estimate was based on a digital compilation of the CSR drill holes where prospective sections of the oil shale of the Toolebuc Formation had been assayed by modified Fischer Assay. This database comprised a total of 78 holes drilled within the current boundaries of EPM12863.

A nominal 40 litres/tonne cut off was used by Nolan to calculate the resource which is considered a realistic figure based on the geological boundaries of the Toolebuc Formation and will in general correspond to the finer grained oil shale horizon.

The digital database compilation has captured hole number, Northing and Easting (AGD 66, Zone 54), Depth to the top of the mineralised interval, depth to the bottom of the mineralised interval, intersection thickness and oil grade (based on Modified Fischer Assay).

¹ R C Nolan, the Principal of Nolan & Associates Pty. Ltd., has more than 40 years' experience as a Coal Geologist. His major oil shale projects include a geological assessment of the Toolebuc Formation, with respect to oil shale, throughout the Eromanga Basin and the assessment of Resources/Reserves of the Stuart and Julia Creek Oil Shale Deposits. He is a Fellow of The Australasian Institute of Mining and Metallurgy and is a Member of the Mineral Industry Consultants Association. He is a "Competent Person" under the provisions of the JORC Code.

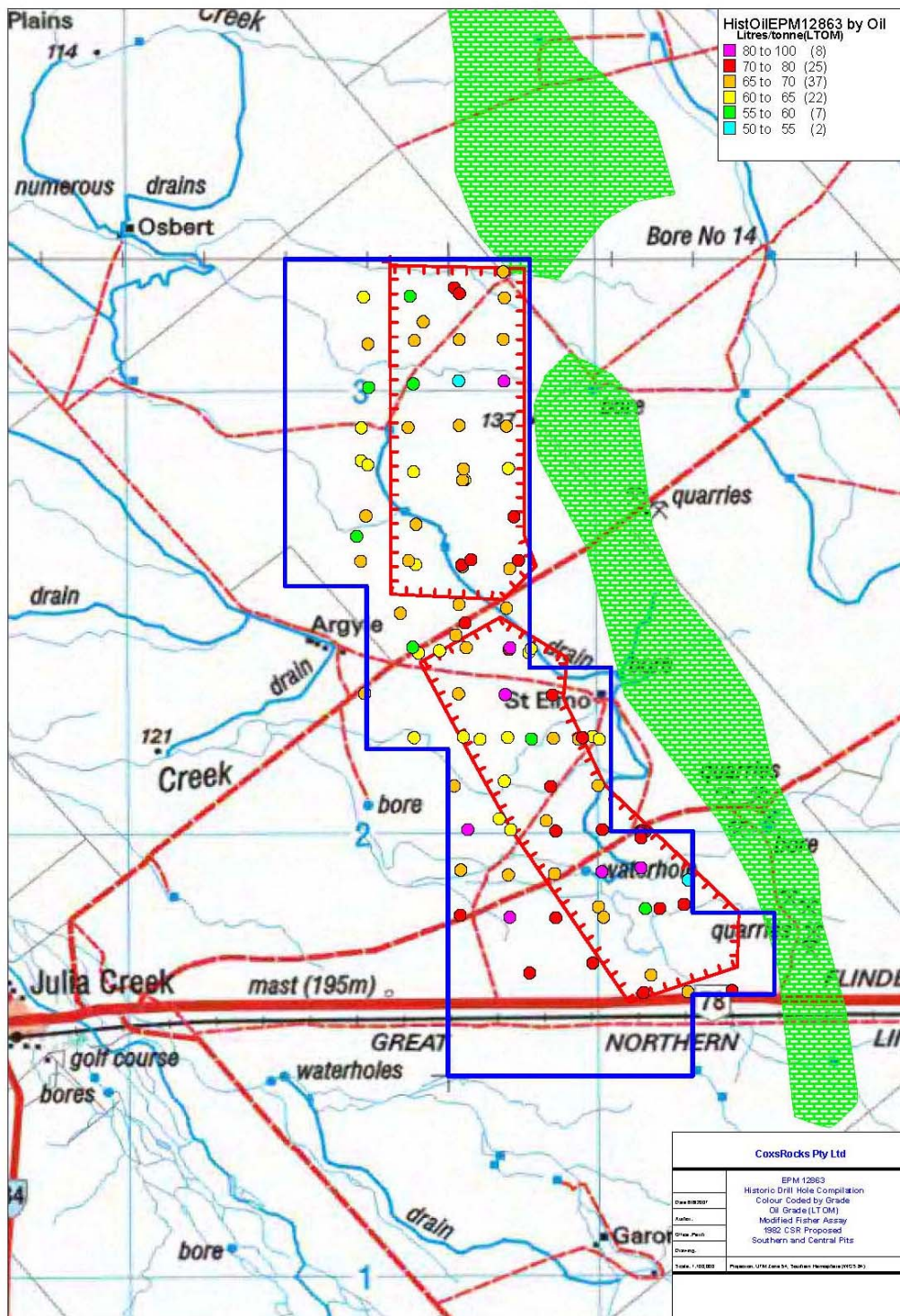
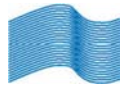


Figure 5: EPM 12863: Colour Coded Historic Drill Holes and 1982 CSR Proposed Pits
 Figure independently compiled by CoxRocks Pty Ltd.



This data has then been used to determine area, tonnage and grade calculations. The assumed ISBD (insitu bulk density) of 1.85 tonnes/bcm has been estimated by past workers and is a dry tonnage figure. Previous variography completed on the oxide portion of the Toolebuc (updip of the oil shale zone) has demonstrated remarkably long ranges for the individual drill data points. (Fimiston Mining 1999)

The resource areas calculated have been categorized based on the JORC code, with allowances and separate calculations for the “stock crossing easement” to allow accurate estimates of the currently “available” areas of EPM 12863. See Figure 1.

Category	Area km ²	Thickness m	ISBD *	Oil Shale Resources million tonnes	Oil Yield (LTOM)	Shale Oil Resources million barrels (Fischer Assay)
Measured						
Indicated	87	12	1.85	1930	70	850
Inferred	6	11	1.85	120	60	45
Total incl.stock route	93		1.85	2050		895

ISBD: Insitu Bulk Density
 One barrel of oil is equal to 158.98 litres
 LTOM: Litres per tonne at zero moisture
 NOTE: Barrels of Oil at this stage are not recoverable

It should be noted that 130 million tonnes of the Indicated Resource and 60 million barrels of oil resource in the above table lie within the stock route, which is currently not included within the tenement.

This resource estimate has been independently verified and checked during the preparation of this Independent Geological Report and is considered a JORC compliant and reliable estimate of the insitu tonnes and grade (based on Modified Fischer Assay) which lie within EPM 12863.

Closer spaced drilling is necessary to move the resource estimates from Inferred and Indicated to Measured and to also commence the detailed work required to assess the project using proposed new technology (Rendall Process) being developed by BLE.

8. CONCLUSION

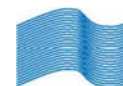
Over the last three decades an enormous amount of work has been completed on the Julia Creek Oil Shale Project. Past drilling has identified and defined huge oil shale resources with the majority of the near surface higher grade resources located within EPM 12863.

The prospective horizon is a flat lying mineralised stratigraphic unit with relatively consistent thickness and grade characteristics. The oil content of the unit, as determined by the Modified Fisher Assay technique, has been systematically completed by reasonably close spaced drilling and analysis in the near surface position within EPM 12863.



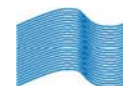
Preliminary test work and research by Blue Ensign in the last two years has indicated the potential to significantly change the parameters of the project with tetralin assays providing an indication of additional recoverable oil products via the future successful development and commercialisation of the Rendall process.

Further work to determine the relationship between tetralin assays and modified Fischer Assays and to allow a more detailed examination of the Rendall Process and its application to the Julia Creek project is required and offers the opportunity to change the project's fundamentals.



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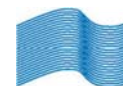
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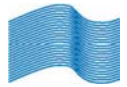
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