

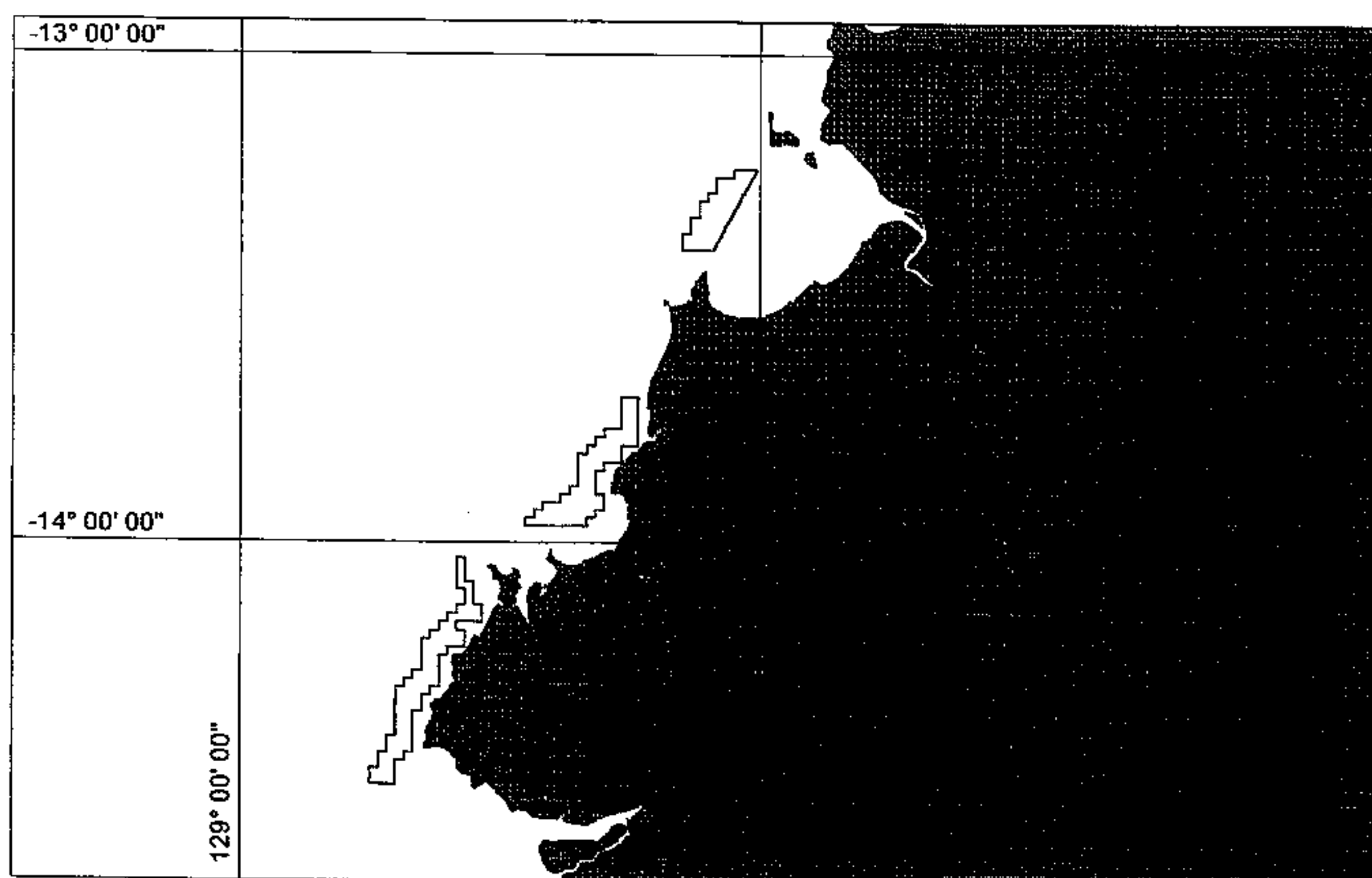
CAMBRIDGE CONSOLIDATED NL

Combined Mineral Exploration Report

Mineral Exploration Licences 8291 and 8292

10 December 1996 to 9 December 1997

Confidential Report Lodged under Section 34 and 34 (3) of the
Northern Territory Mining Act



Tenements

EL8291
EL8292

1:100 000 Map Ref

Pearce 19/1
Dombey 13/5
Ford 13/2

Tenement Holder

Cambridge Consolidated NL
ACN 059 458 374
Level 4, Southshore Piazza
81-83 The Esplanade
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Report Date: 9 February 1998

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1. SUMMARY

The exploration drilling programme with the Gulf Explorer began in November 1996 and terminated in April 1997. In the preceding five months a total of twenty eight holes were drilled at eight locations in the Company's Ord, Berkeley and Victoria Prospects. Eight additional holes were drilled in three locations within Australian Kimberley Diamonds NL and Zephyr Minerals NL Ord Prospect.

In January 1997 a total of sixteen holes were drilled in four locations in the Victoria Prospect. Four holes were drilled in EL 8291. Drilling operations were suspended while on site in EL8291 on 26 January 1997 when an unforecast small, but powerful, tropical storm hit the barge, damaging the anchoring system. The barge was placed under tow and transported back to the cyclone mooring. A hiatus in drilling operations was called while the programme and drilling progress were reviewed. No drilling was conducted in EL8292.

1.1 Expenditure Statement for EL8291

In the twelve months from 10 December 1996 to 9 December 1997 the following expenditure was incurred in EL8291:

1. The 1996/97 drilling programme with the Gulf Explorer	
a) Acquisition of Equipment	\$ 9,564.89
b) Vessel Expenses (incl crewing, fuel, support vessel and consumable)	\$359,538.19
c) Drilling contractors	\$ 75,525.76
d) Consultants (engineering, geology, environmental)	\$ 13,823.26
e) Travel and Accommodation	\$ 4,833.73
f) Freight and Transport	\$ 3,894.59
2. Technical Staff Salaries	\$ 6,672.21
3. Computer Expenses, Map Production and Report Compilation	\$ 564.76
Sub-Total	\$474,417.39
4. Office overheads (20%)	\$ 94,883.48
Total Expenditure (10-12-96 to 9-12-97)	\$569,300.87

1.2 Expenditure Statement for EL8292

In the twelve months from 10 December 1996 to 9 December 1997 the following expenditure was incurred in EL8292:

1. The 1996/97 drilling programme with the Gulf Explorer	
a) Acquisition of Equipment	\$ 9,570.42
b) Vessel Expenses (incl crewing, fuel, support vessel and consumable)	\$107,056.84
c) Drilling contractors	\$ 23,078.96
d) Consultants (engineering, geology, environmental)	\$ 7,646.10
e) Travel and Accommodation	\$ 4,908.60
f) Freight and Transport	\$ 3,908.93
2. Technical Staff Salaries	\$ 10,275.66
3. Computer Expenses, Map Production and Report Compilation	\$ 173.39
Sub-Total	\$166,618.90
4. Office overheads (20%)	\$ 33,323.78
Total Expenditure (10-12-96 to 9-12-97)	\$199,942.68

2. INTRODUCTION

The Northern Territory Exploration Licences 8291 and 8292 cover part of the offshore palaeo-drainage system of the Daly, Moyle and Victoria Rivers, extending along the coast from Anson Bay in the north to Pearce Point in the south. The licence areas are landward of the three nautical mile limit within the coastal waters administered by the Northern Territory (Figure 2-1). Both licences form part of the Daly Prospect together with NT-3-MEL and NT-4-MEL .

Combined reporting on EL8291 and EL8292 was approved by the Northern Territory Department of Mines and Energy in a letter dated 10 June 1994.

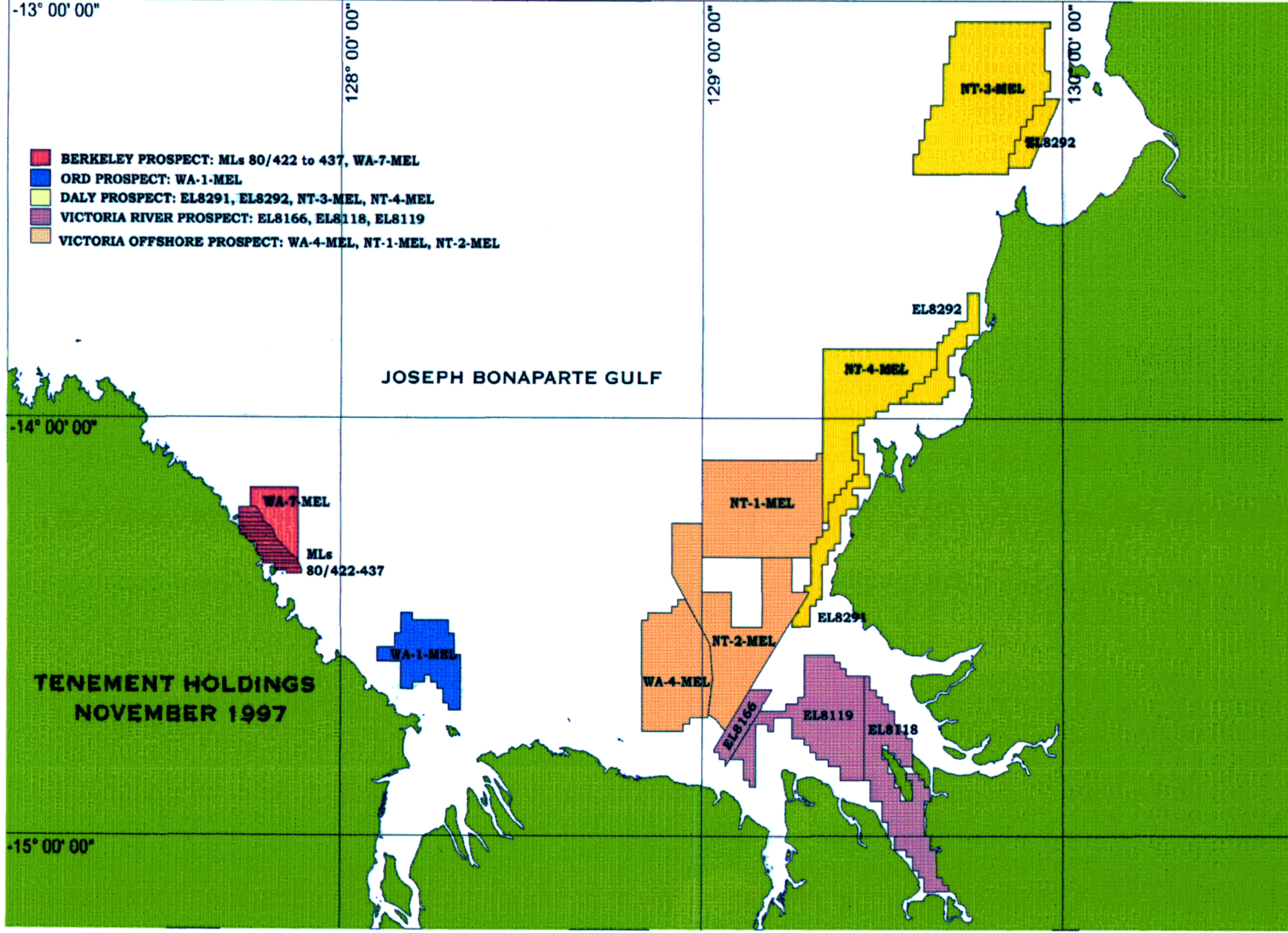


Figure 2-1 Cambridge Consolidated NL - Tenement Holdings (November 1997).

3. TENEMENT SITUATION

Exploration Licences 8291 and 8292 were granted on the 10th of December 1993. They were originally granted together with EL8293, which was surrendered in its entirety in December 1995.

EL8291 was initially 148 blocks, and EL8292 255 blocks, but through compulsory reductions are currently 72 and 104 blocks respectively. In November 1997 both tenements were due for fifty percent reductions; EL8291 has been reduced to 36 blocks and EL8292 to 52 blocks. These reductions have been forwarded to the Department for approval.

In December 1997 Cambridge Gulf Exploration NL (CGE) changed its name to Cambridge Consolidated NL (CC).

EL8291 and EL8292 are 100% owned by:

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P.O. Box 740
South Perth WA 6151

4. THE 1997 GULF EXPLORER EXPLORATION PROGRAMME

4.1 Introduction - Drilling Operations

The 1996/97 drilling programme commenced in November 1996. Drilling operations started in the Ord Prospect in mid November 1996, and after attempts in the Berkeley and Victoria Prospects and again in the Ord, the programme was finally terminated on April 1 1997, with the grounding of the casing and bottom hole assembly (BHA) in Australian Kimberley Diamond NL (AKD)/Zephyr Minerals NL's (Zephyr) Ord tenements. The barge was subsequently towed to the cyclone mooring in the Ord River where crew and equipment was demobilised. Following the demobilisation, the barge was towed to Batam Island in Indonesia by the tender vessel, the *Smit Lloyd 71*; the *SL71* continuing to Singapore to complete contractual arrangements.

Over the preceding five months a total of 28 holes were drilled at eight sites in CC's tenements and eight holes at two sites in AKD/Zephyr's tenements with varying success. In January 1997 sixteen holes were drilled at four locations (NT-2-MEL, NT-1-MEL, EL8166 and EL8291) within the Victoria Prospect (see Table 4-1 for summary).

Tenement	Date	Drill Hole #	Penetration (m)	Drilling System
NT-2-MEL	6/1/97-7/1/97	VG01a	30.0	16" cased hole
	7/1/97-8/7/97	VG01b	31.0	16" cased hole
	8/1/97-9/1/97	VG01c	32.0	16" cased hole
	9/01/1997-10/1/97	VG01d	42.0	16" cased hole
	10/1/97-11/1/97	VG01e	34.0	16" cased hole
NT-1-MEL	12/1/97-13/1/97	VG02a	18.5	16" cased hole
	13/1/97-14/1/97	VG02b	21.0	16" cased hole
	14/1/97-15/1/97	VG02b2	18.5	16" cased hole
	15/01/97	VG02c	14.0	16" cased hole
EL8166	16/1/97-17/1/97	VG03a	6.0	16" cased hole
	17/01/97	VG03b	11.0	16" cased hole
	17/01/97	VG03c	4.0	16" cased hole
EL8291	18/1/97-19/1/97	VG04a	8.0	16" cased hole
	19/1/97-20/1/97	VG04a2	0.5	16" cased hole
	20/1/97-21/1/97	VG04b	0.5	16" cased hole
	22/1/97-24/1/97	VG04c	11.0	40" cased hole

Table 4-1 Victoria Prospect - Drill Hole Summary.

Four drill holes were attempted in EL8291 (see Section 5 for details). Drilling operations were suspended while on site in EL8291 on 26 January 1997 when an unforecast small, but powerful, tropical storm hit the barge, damaging the anchoring system. The barge was placed under tow and transported back to the cyclone mooring. A hiatus in drilling operations was called while the programme and drilling progress were reviewed. No drilling was carried out in EL8292.

Descriptions of the Gulf Explorer, its operation and the onboard processing plant are contained in last years *Mineral Exploration Report for EL8291 and EL8292*.

4.2 Victoria Prospect - Reconnaissance and Large Diameter Drilling - January 1997

In early January 1997, the *Gulf Explorer* was towed to the Victoria prospects to conduct reconnaissance drilling with a 16" drilling system while a 40" diameter drilling system was designed and fabricated.

4.2.1 The Drilling Systems Used

The 16" Drilling System

The drilling system consisted of a 16" drag bit welded to the bottom of 16" casing. The returns were airlifted via the 6" dual wall drill pipe to the process plant. The usefulness of the 16" system was limited, as recovered samples were not large enough to prove the existence of diamonds within reasonable limits of accuracy. In addition, logging of sample returns was inadequate because of the design of the plant, which was intended for the processing of sediment not geological logging. This system was, however, able to confirm the presence or absence of alluvial gravels in the profiles which it drilled, and was, therefore, able to partly test the seismic interpretation.

The 40" Drilling System

The 40" diameter drilling system had a total weight of some 20 tonnes and consisted of:

- A drag bit with three rows of five cutters in a 120° configuration welded to a sub which connected to the 13" drill (returns) pipe (Figure 4-1). Two guides were welded to the bit to allow it to go up and down on a track inside the casing and also to rotate the casing as the drill bit rotated.
- The casing was made up of two sections:
 - 1) a 15 metre, 40" steel casing with a track of steel square section welded on opposite internal sides of the casing on which the bit could slide. The bottom of the casing had three rows of four cutters as well as individual cutters around the bottom perimeter (Figure 4-1). Stoppers were welded to the base of the casing, so the bit could protrude from the casing, but could not extend beyond the casing.
 - 2) two 9 metre lengths of 30" casing was welded to the top of the 40" casing to give the casing an overall length of 33 metres. This section of casing was secured once the bit and BHA were inserted into the bottom section. This would ensure that once the hole had been drilled, the casing could be recovered when the BHA was raised.
- A 13" drill pipe with a separate internal air supply pipe was used to airlift returns to the process plant. This would be able to cope with the larger sample volume recovered.

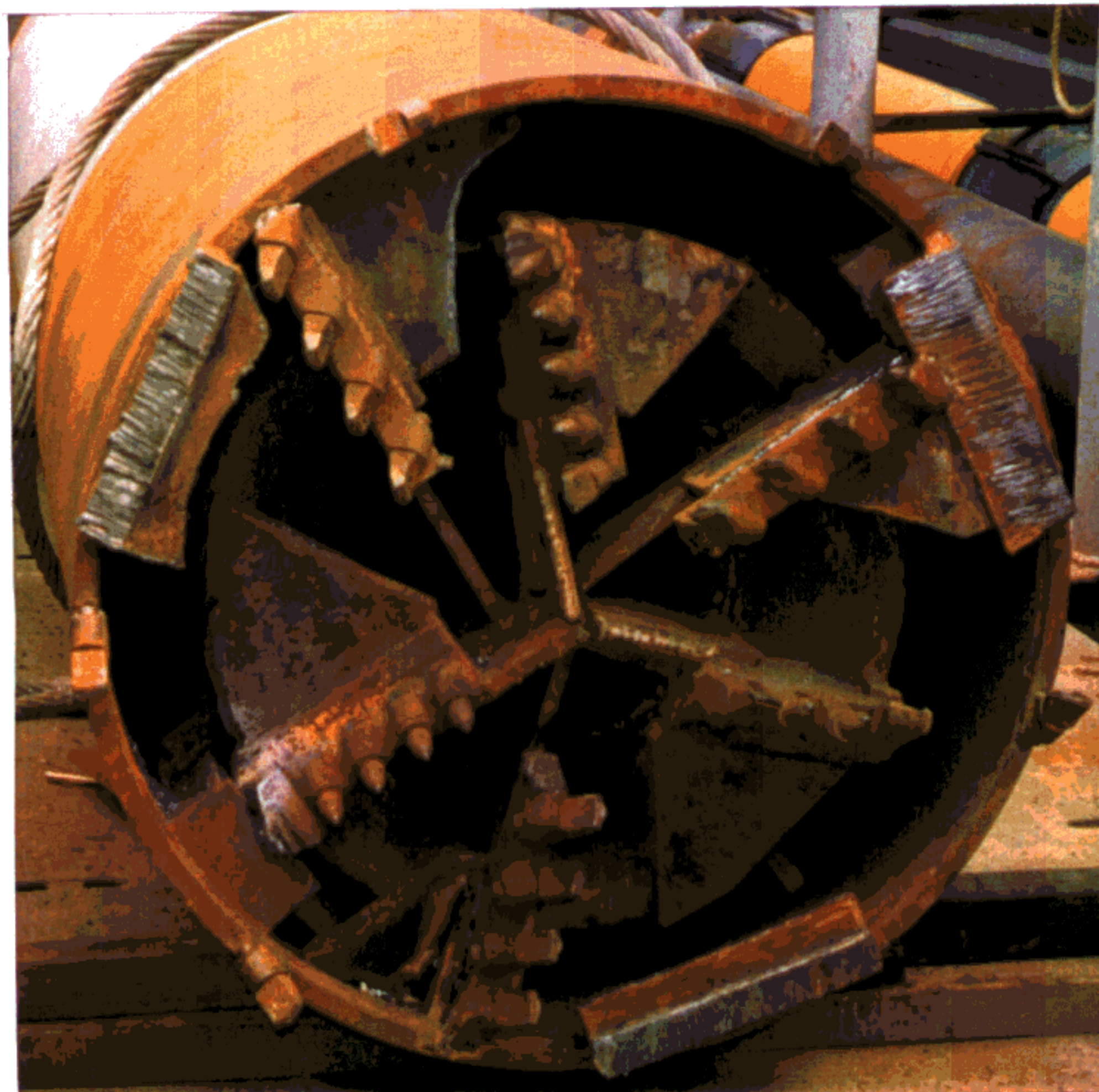


Figure 4-1 The 40" drill system - Drag Bit on a Track Inside the Casing

4.3 Logging and Sampling

The drill holes were logged and sampled during the drilling by project geologists contracted to CC. Holes were logged at the primary screen and at this point samples were collected for reference. The volume of plant feed for a particular interval drilled was logged at the storage bins and a sample of the plant feed was collected.

Logging and sampling the drill holes at the primary screen was difficult as only material larger than 15 mm was retained on the top screen; all other returns (including plant feed) falling to a screen below. Fine to coarse sands were lost almost immediately through both screens, so the composition and thickness of sand units was difficult to log. A sampling site was set up to collect fines from the discharge pipe, but this did not work efficiently. As a result accurate geological logging was difficult to achieve and this made the validation of the seismic interpretation problematic. Oversampling and contamination of the returns due to the walls of the hole collapsing also introduced logging inaccuracies.

4.4 Environmental Factors

The extreme environmental conditions and remoteness of the location imposed constraints on both the drilling programme and the ability to rectify problems encountered.

The greatest constraint imposed on the drilling programme was the large tidal range and strong, tidally induced currents. Drilling from the barge could only be commenced during slack tide when the currents were significantly reduced.

While the cyclone warning system in place prevented any major damage or injury, response to cyclones resulted in a significant loss of time. Unforecast changes in weather also took their toll. From experience, it has become obvious that organising exploration programmes around the three calm months of the year (September to November) will be necessary in order to reduce down time. The Victoria prospects are somewhat protected during the dry season, however, they are very exposed to the monsoon north-westerlies during the wet.

5. RESULTS FROM THE DRILLING

Three holes were attempted with the 16" reconnaissance drilling system with only one hole achieving eight metres penetration.. A summary of the holes drilled in EL8291 is given in Table 5-1. The top metre comprised a lithified horizon of calcarenite and gritstone overlying a light brown slightly silty, sandy clay unit with interbedded lithified horizons of shelly calcarenite. A detailed drill hole log for VG04a is provided in Appendix 2.

One drill hole was attempted at VG04c with the newly fabricated 40" diameter drilling system. When the BHA and casing was lowered to the seabed, the casing (weighing 17 tonne) partially penetrated the substrate under its own weight ahead of the drag bit. This created a plug of sediment in the casing that could not be drilled out as the bit was on a track inside the casing. As the drilling started and the bit rotated so was the casing which, because of its weight and the fact that it had cutters on its perimeter, drilled itself further into the substrate. The casing penetrated the substrate to a depth of about 11 metres, however, no material was recovered. When the casing and BHA were removed from the seabed, the sediment was lost.

Drill Hole #	Easting	Northing	Uncorrected Water Depth (m)	Penetration (m)	Drilling Method
VG04a	528202	8398142	49.0	8.0	16" cased hole
VG04a2	528202	8398142	49.0	0.5	16" cased hole
VG04b	528161	8398113	48.0	0.5	16" cased hole
VG04c	528161	8398113	48.0	11.0	40" cased hole

Table 5-1 EL8291 - Drill Hole Summary

5.1 EL8291 - Site VG04: Drill Results Vs Seismic Interpretation

A comparison between the interpreted seismic profile and the drilling results is provided in Appendix 3. Site VG04 in EL8291 was selected to test an interpreted channel fill sequence infilling a palaeochannel cut into the underlying bedrock. The target is approximately 20 metres thick and is overlain by about 9 metres of overburden. It shows poorly defined or low-angle bedding and was interpreted as containing coarse sands or gravel. As the drilling only penetrated the substrate by 8 metres, the interpreted target remain untested.

5.2 Process Plant Performance

Throughout the drilling programme the process plant performed well. A problem with the pre-treatment of sticky clays which resulted in clay balls in the plant feed, was overcome by installing additional water sprayers over the primary screen and modifying the scrubber. The dense media separation (DMS) plant and Sortex machine were tested regularly and found to be operating efficiently.

The specific gravity of the ferrosilicon/seawater mix used in the DMS plant was regularly checked and tromp partition tests using beads of different specific gravities was conducted. These tests consistently gave fifty percent separation at a specific density of around 3.0 with the complete recovery of all density beads. The efficiency of the Sortex machine was tested with fluorescent tracers during every run of concentrate with one hundred percent recovery.

5.3 DMS Results

The volume of plant feed was measured by the geologist on board at the storage bins. Table 5-2 shows the results from the processing of plant feed from the 16" reconnaissance holes drilled in EL8291. It lists the volume of plant feed processed through the DMS plant, the retained weights following DMS processing and the results of the hand sorting of the Sortex concentrate. The volume of run of mine (ie. the total sampled volume) could not be determined accurately because of oversampling due to hole collapse. As a result the percentage of plant feed in the run of mine is unknown.

Due to the smaller diameter of the holes, the amount of plant feed and therefore the amount of DMS concentrate was greatly reduced, thereby reducing the statistical chances of recovering diamonds from prospective lithologies. The originally proposed 59" cased drill holes would have produced around 1.76 m³/m drilled. A 16" cased hole on the other hand produces about 0.13 m³/m, ie. only 7% of the volume produced by a 59" hole. No diamonds were recovered as the drilling did not penetrate to the interpreted target lithology.

Hole No.	Depth (m)		Bin Volume (m3)	DMS Concentrate (g) (Total)	Diamonds
	From	To			
VG04/97a	0	8	1.2	2800	neg
VG04/97b	0.0	0.5	0.85	1000	neg

Table 5-2 Plant feed volumes and DMS concentrate weights from drill holes in EL8291.

6. PROPOSED ACTIVITIES AND ESTIMATE OF EXPENDITURE FOR THE TWELVE MONTHS TO 9 DECEMBER 1998

6.1 Proposed Activities on EL8291

During the next twelve months the exploration activities will be:

1. Review of all data collected to date;
2. Design a small diameter geological drilling programme and source equipment and a suitable vessel to test the seismic interpretation and update the geological model;
3. Conduct a small diameter drilling programme and recover representative samples for logging and analysis;
4. Interpretation of results.

6.2 Proposed Expenditure on EL8291

The proposed expenditure on EL8291 for the next twelve months is:

1. Review all data	\$3,000
2. Design a geological drilling programme and procure equipment	\$1,000
3. Carry out small diameter drilling programme	\$50,000
4. Analysis and testing of samples	\$4,000
5. Interpretation of results	\$5,000
6. Tenement administration and report compilation	\$6,000
7. Technical personnel salaries	\$10,000
Sub-total	<u>\$79,000</u>
6. Office Overheads (20%)	\$15,800
Total	<u>\$94,800</u>

6.3 Proposed Activities on EL8292

During the next twelve months the exploration activities will be:

1. Review of all data collected to date;
2. Design a small diameter geological drilling programme and source equipment and a suitable vessel to test the seismic interpretation and update the geological model;
3. Conduct a small diameter drilling programme and recover representative samples for logging and analysis;
4. Interpretation of results.

6.4 Proposed Expenditure on EL8292

The proposed expenditure on EL8292 for the next twelve months is:

1. Review all data	\$3,000
2. Design a geological drilling programme, procure equipment	\$1,000
3. Carry out small diameter drilling programme	\$37,500
4. Analysis and testing of samples	\$3,000
5. Interpretation of results	\$5,000
6. Tenement administration and report compilation	\$6,000
7. Technical personnel salaries	\$10,000
Sub-total	<u>\$65,500</u>
6. Office Overheads (20%)	\$13,100
Total	<u>\$78,600</u>

Appendix 1

Detailed Drill Hole Log

Appendix 2

Comparison Between the Interpreted Seismic Profile and the Drilling Results

SEISMIC DATA

DRILLHOLE NO VG04

LINE : VTL4 FIX NO. 20285

WATER DEPTH 42.3 m

COORDINATES N. 8398141.8

E. 528201.7

INTERPRETED LITHOLOGY

DRILLHOLE

SEISMIC VG04/97a, a2, & b

