



17 February 2014

Committee Secretary
Joint Select Committee on
Northern Australia
PO Box 6021
Parliament House
CANBERRA ACT 2600
AUSTRALIA

By email : jscna@aph.gov.au

Dear Sirs


**Parliament of Australia, House of Representatives
Joint Select Committee on Northern Australia**

We are pleased to make a submission to your committee.

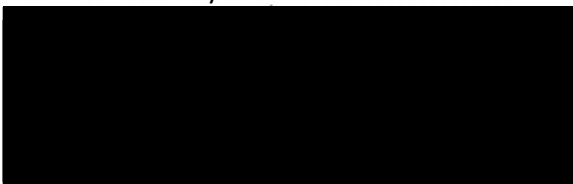
This submission outlines a unique opportunity to develop a low cost Marine Support Facility at Beagle Bay Western Australia to service the offshore Oil and Gas resources of the Browse Basin. The project has support from Traditional Owners of the area.

Should an opportunity be made available, the following people may be helpful to appear as witnesses at the committee to elaborate on details of the opportunity.

- Harold Clough, Chairman Beagle Bay Marine
- David Field, Director ICON Engineering Pty Ltd
- Stephen Arrow Beagle Bay Marine
- Ramlie Noor Djabera-Djabera Named Applicant
- Eileen Torres Djabera-Djabera Named Applicant

We can be contacted at the company Office .

Yours faithfully



Chairman



BEAGLE BAY MARINE

ICON
ENGINEERING

**Legendary
Innovations.
Practical
Solutions.**

An opportunity for a low cost Marine Support Facility at Beagle Bay Western Australia to service 100 years of development in the Browse Basin

www.iconeng.com.au



BEAGLE BAY MARINE

Beagle Bay Marine Pty Ltd
Suite 6, 117 Broadway
Nedlands WA 6009

Private Submission to Parliament of Australia House of
Representatives Joint Select Committee on Northern Australia

**An opportunity for a low cost Marine Support Facility at
Beagle Bay Western Australia to service 100 years of
development in the Browse Basin.**

February 2014

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Executive Summary

The committee has been asked to consider policies for examining the potential for developments of the region's mineral, energy, agriculture, tourism, defence and other industries.

One industry that has major benefits for Australia and Northern Australia in particular is the oil and gas industry.

The recent trend in the development of this resource has been towards offshore processing; this will limit Australia's potential benefits in the construction stage.

However enormous opportunities remain in the operation, servicing and maintenance of these facilities and in support of drilling operations. We must maximise these opportunities. Beagle Bay Marine is in the position to help meet these opportunities.

A key ingredient of the North-West gas field development will be on-shore marine service facilities to provide close access for

- General Marine support
- Off-loading and up loading equipment for heavy maintenance from the floating processing plants
- Providing drilling equipment for maintenance and upgrading of wells
- Supply of operating materials, fuel, food etc
- Interchange of operational staff
- A safe haven during cyclonic conditions
- Support survey, inspection, maintenance of offshore facilities
- Emergency response to offshore incidents

An on-shore land-based marine facility at Beagle Bay north of Broome can meet all these needs.

- It is closer to the oil and gas facilities being developed in the area than any other alternatives
- It is best placed to cope with weather and tidal conditions in the area
- It would be much less expensive than alternatives
- The design allows for handling very heavy loads
- There is ample space for huge laydown areas
- The local aboriginal community is fully supportive of the project and already has an agreement to that effect with Beagle Bay Marine.
- It can be developed very quickly as all the local community issues have been resolved and environmental needs fully researched

This submission is made by Beagle Bay Marine Pty Ltd and includes input from our Engineering partner ICON Engineering Pty Ltd (www.iconeng.com.au) McRay Clough, Arrow Pearl Co and members of the Djabera Djabera people who are the registered Native Title applicants and Traditional owners of land on the southern sector of Beagle Bay on the Dampier Peninsular.

Several years of engineering effort and work has been put into the idea of developing a Marine Support Facility at Beagle Bay and there is a large volume of information which may be of interest to the committee not included in this brief submission.

Representatives of Beagle Bay Marine, ICON Engineering and Djabera-Djabera Traditional Owners would be pleased to appear before the committee if members desire.

The creation of a low cost marine support facility for the Browse Basin

There is an opportunity to enhance an existing facility and build a Marine Base at the closest landfall to the Browse Basin.

The Marine Facility will be an order of magnitude cheaper than alternatives.

FLNG has initiated a paradigm shift. It is important that we now focus on new infrastructure solutions and policies to capitalise on this shift.

The introduction of Floating LNG facilities will have the benefit of putting Australia at the global forefront and leading edge of technology in oil and gas development. It provides a unique opportunity for Western Australia's world-class engineering, design, manufacturing and support services resources to benefit and provide global leadership.

However, if not proactively supported by Government, the introduction of Floating LNG also introduces the risk that engineering, design, manufacturing and support service opportunities are lost to WA and Australia in general.

In the case of the Browse Basin developments, a key requirement and economic consideration is the land based marine support facilities for the FLNG operations.

The facility we propose at Beagle Bay Marine is closest to the Browse FLNG sites and drilling activities, and by using innovative engineering will be a cost effective solution, thus maximising the potential benefits for Australia.

The proposal will be an order of magnitude cheaper than the alternatives currently under consideration.

Beagle Bay is the closest suitable Marine Support Facility location, situated only 100nm from the Browse Basin. Importantly, it also provides the closest suitable landfall for marine evacuations of personnel from a FLNG facility and is an existing brownfield marine base.

The project would harness the hydraulic capacity of Kimberley tides at this particular location to advantage rather than them being a problem. It does not require any expensive dredging or breakwaters. Further, it provides opportunities for industry and the local aboriginal community. It would have the ability to perform very heavy grounded load outs of packages that may need transfer to / from the FLNG facilities or during drilling and other offshore project work. There is ample space for huge laydown areas.

In contrast, while Broome does provide reasonable facilities, the jetty is heavily influenced by the tides and current. Even if upgraded, no heavy load-outs will be possible at Broome. A supplementary or alternative facility provided through a Marine Support Facility at Beagle Bay would certainly reduce overall costs to both of the FLNG operators and other companies operating in the Browse Basin, and could potentially reduce the impacts of industrial action or cyclone damage to other facilities by providing supply chain options.

Beagle Bay is much closer to developing oil and gas fields than facilities in Singapore and Darwin.

FLNG has initiated a paradigm shift in the way LNG will be processed in the gas fields off WA. It is important that we now focus on new solutions and policies to capitalise on this shift to FLNG.

Engineering and design

WA input will be further reduced or non-existent if support for the FLNG is centred on Singapore or Asia.

Western Australia has developed considerable expertise and capacity to service the oil and gas industry. Confirmation of the first FLNG facility at Prelude in Browse, has already resulted in a major reduction in the use of these engineering facilities. Input will be further reduced or non-existent if the support for the FLNG plant is to be centred in Singapore or elsewhere in South East Asia. World-class engineering and design resources in WA are at risk of being lost.

A heavy load out facility 100nm from the Browse Fields will provide Australian Service Companies with a huge competitive advantage.

A low cost marine facility at Beagle Bay, which is only 100nm from the FLNG plant, with heavy load out capability, will be very competitive to all other alternatives, making the base without doubt the most economical in Northern Australia for certain niche services in the Browse Basin. Without a low cost marine base, with ready road access to heavy engineering facilities in Perth, the opportunity will be lost. High cost alternatives for bases with multi hundred million price tags, dredging and massive breakwaters may well be developed, however without competition, they will lock in permanent high operating costs for operators in the Browse Basin, Northern Australia will be worse off as a result.

Policymakers must move quickly to embrace innovative solutions maximising regional advantage, in full partnership with indigenous stakeholders, otherwise the North we will lose much of the economic value attributable to Inspection, service and maintenance activities in the Browse Basin.

A base at Beagle Bay, would also provide backup support for facilities at Broome, Karratha, Port Hedland or Darwin where they may not be able to meet demand because of capacity and industrial issues, or may simply be unsuitable due to vessel steaming time to the field. Competition that Beagle bay would provide needs to be encouraged and supported by Government.

Fabrication and manufacturing must be supported by good economical access

Significant world class capability and expertise in supporting the offshore oil and gas industry has been developed in Australia. Failure to adapt to the shifting demands of FLNG places this capability at risk.

The availability of economical marine support facilities 100nm from the Browse basin, and good road access, will link the logistics chain and provide continuing opportunities for Australian fabrication and manufacturing, work that would otherwise go to Singapore or elsewhere in SE Asia.

Information on proposed Beagle Bay Marine support facility

Innovative engineering solution

- ✓ Low cost
- ✓ Low environmental impact
- ✓ No dredging
- ✓ No breakwaters

Strategically located adjacent to Australia's major oil and Gas precinct the Browse Basin, Beagle Bay Marine aims to become a marine support facility and service base for FLNG, drilling and construction operations in the Browse Basin, complementing existing facilities in Broome, Darwin, Port Headland and Dampier, and providing logistics options to operators and contractors working in the area. It will become a strategic part of the supply chain for companies operating in the area.

The environment in the Browse is unique. It is a cyclone prone area with huge tides, and of course, very little onshore infrastructure. At present, there is only a dirt road North of Broome, key airstrips used for evacuating offshore personnel have no all-weather access roads. The remoteness of the offshore

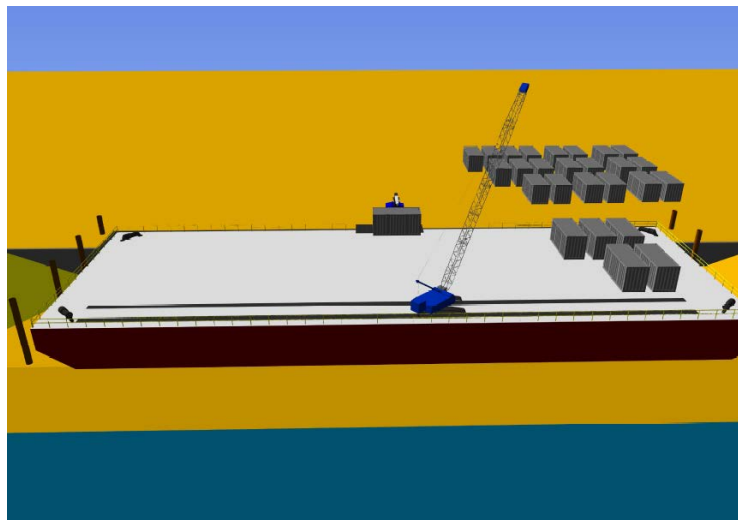
locations, and poor near shore supporting infrastructure, make it one of the most expensive areas in the world to operate. The tides are a challenge, and the recent plans to develop LNG facilities at James Price Point highlight the difficulties and very high costs of building facilities for loading ships or vessels of any kind. Solutions to date have focussed on huge breakwaters and dredged channels to form large manmade ports or huge piled jetties such as the Broome Jetty. The environmental impact and costs of building and maintaining these facilities is enormous. The ongoing dredging costs in keeping man made channels open in a cyclonic area ensure long term high cost of operations and continuing environmental impact.

Beagle Bay Marine Pty Ltd and WA Company ICON Engineering Pty Ltd have teamed together to devise an innovative engineering solution which uses the tide to advantage. Instead of working against the forces of nature, our solution uses the tide and floating wharf segments to service and load vessels without any dredging or massive breakwaters.

Sections of the wharf float. At each change of tide it is possible for the floating section of wharf to be moved to the middle of Beagle Bay to allow docking and loading of vessels in deep water. At low tide, wharf sections can be grounded onto the natural flat sand seabed alongside a simple land backed wharf adjacent to existing pearling facilities. This allows safe loading and unloading of materials and bulks at a common deck/wharf height and is not affected by sea conditions or tidal state. Heavy load outs are possible, similar to those performed all over the world via the grounded load out method.

This facility provides a very unique way of connecting service companies onshore WA to the Oilfields of the Browse Basin.

The Beagle Bay Marine Facility connects Australian service companies to the Browse fields in a highly competitive way.



The potential WA based services operating via this base could include:-

- Transport and logistics support for the FLNG supply chain.
- Drilling supply base: fuel, water, mud, drill string, casing
- Major construction and drilling support
- Heavy load-outs and floating package Offloading Base
- Oil spill response centre
- Critical spare parts storage
- Rapid de-manning of offshore facilities during cyclone contingency
- Crew transfer (fixed wing / helicopter) and accommodation
- Safe harbour for the mooring and lay-down of heavy equipment and vessels
- Berthing of support vessels
- Emergency Response / Medical Post

- Training Facilities
- Cyclone Refuge, Evacuation
- Cyclone Mooring
- Customs Clearances

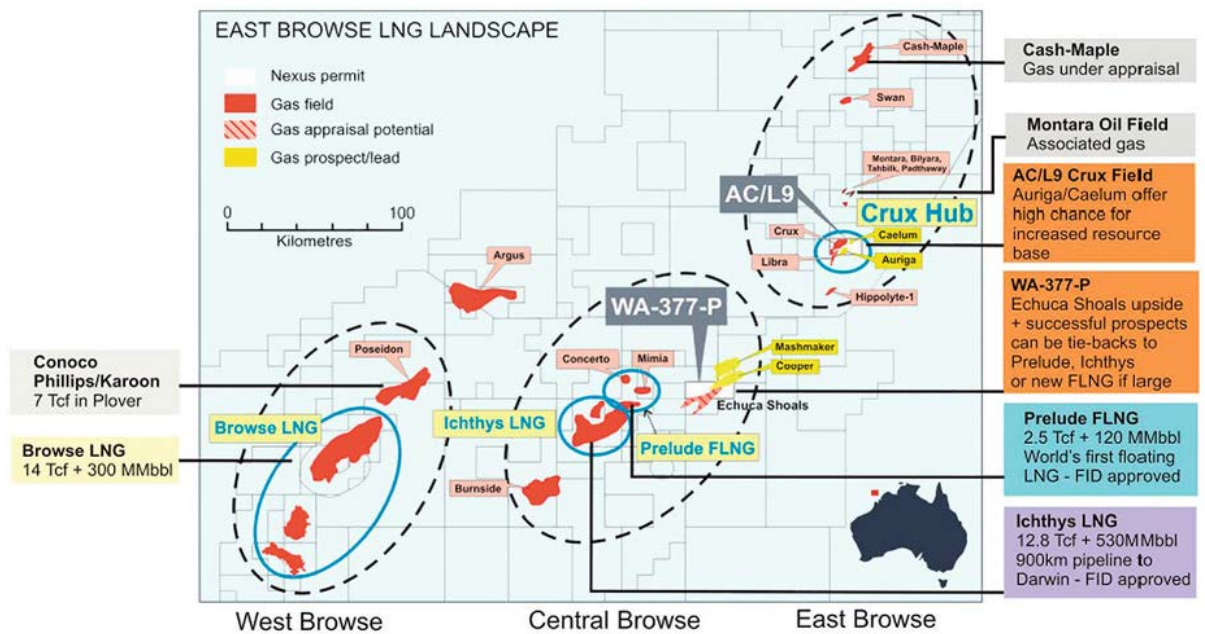
Oil Companies and Major Oilfield Services Companies would be tenants of the Base and as such it would operate like many other Offshore Marine Support Facilities worldwide.

It's long term viability would be underpinned by its low capital costs compared to alternative high cost marine bases proposed for the region.

Beagle Bay provides a back-up facility in the event of cyclone damage to the Broome facilities.

Location

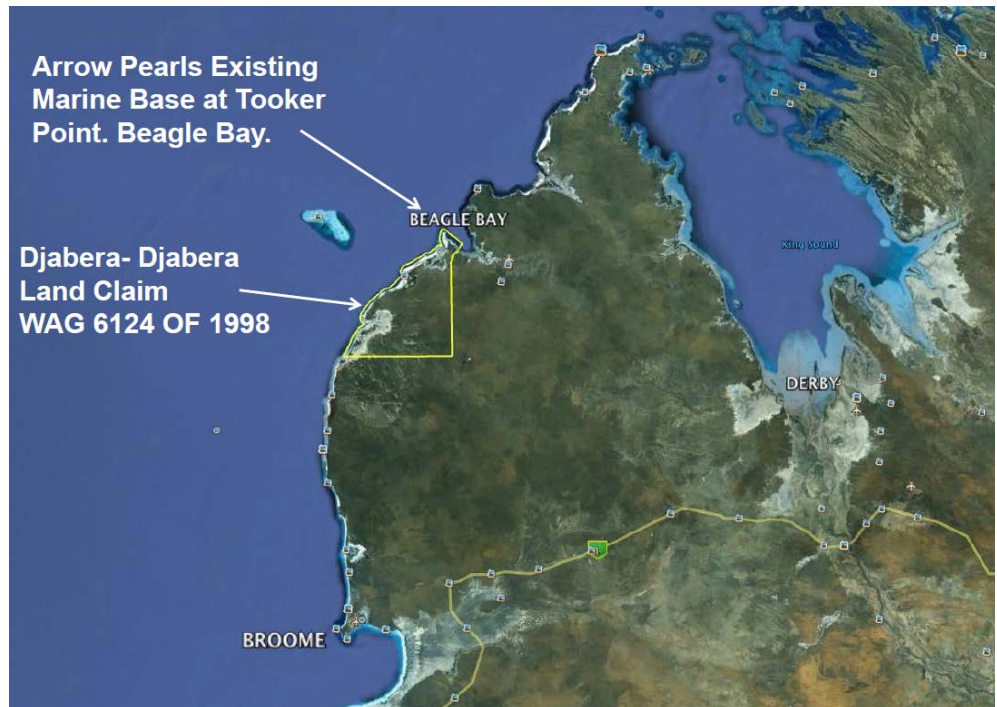
Beagle Bay is near the offshore fields of the Browse Basin, it provides a unique opportunity to upgrade some existing Pearlring infrastructure and to develop the economic potential of the area with committed support from the Djabera-Djabera, registered native title applicants. It is the closest landfall to some major Browse Projects.



The closest landfall to the major Browse Projects.

*1000km from Darwin.
1000km from Dampier*

(refer attachment 2 for map)



Beagle Bay forms a V-shaped indentation that extends approximately 12 km inland from the undulating coastline. The bay is 8 km wide at the mouth and is open to the northwest. The proposed location is brownfield, meaning it's already been used as a busy marine facility.

Arrow Pearls has operated in the area for more than 30 years with total support and participation by the local aboriginal community. There are already extensive buildings on the site, a 40 man camp, power generation, air strips, together with equipment that service the pearling industry and a small marine support facility. These facilities can all be cost effectively upgraded.

The historical development has proceeded in cooperation with local aboriginal groups and with recognition of environmental and cultural sensitivities of the Aboriginal community.

*Beagle Bay is an
existing Marine
Facility*



The above image is a view of the existing base. Note the base facilities face east, it is naturally protected from swell. This is a photo taken looking towards the South.

Real opportunities for traditional land owners and local stakeholders.

Arrow Pearl, has operated a cultured pearl farm at the proposed location in Beagle Bay for 30+ years. Good working relationships with Traditional Owners over the years and numerous community projects has resulted in employment opportunities and community benefits. As the economic drivers in the region change, there has been a shift in focus from pearling to a mix of pearling and working on FLNG and other offshore activities. This will be the big new employer of the area.

Beagle Bay Marine has established a working relationship with local traditional owners and has support from the Traditional Owners of the Area.

A letter of support from the Djabera-Djabera people, specifically the named applicants of the Native Title Claim WAD6124/98 which surrounds the existing lease, is in place. Refer to attachment 1 evidencing this support.

An agreement on royalty distribution has also been made designed to distribute a share in revenue to the Traditional Owners together with the nearby Aboriginal Stakeholders. Some of benefits for developing such a project to the local community are:

- This project will be a catalyst to create real employment opportunities to the local community and the traditional land owners. Many locally based jobs will be created, with the base operator Beagle Bay Marine, the Oilfield Service company tenants of the base, the Clients of the base and the numerous local companies that will be created and flourish and because they can use the facility as the conduit to provide their services direct to the offshore users. With no onshore facility, Oil Companies and Major Contractors will source services from areas adjacent to the marine base utilised, likely to be the Indonesia, Singapore and Malaysia. Local companies, Aboriginal communities and stakeholders will therefore miss out on significant opportunities. Local indigenous communities can be trained to offer support with real and long term job opportunities immediately adjacent to the significant communities on the Dampier Peninsular and Western Kimberly Region.
- The creation of locally based jobs allows the rare opportunity to commute daily between work and home. This is seen by senior Aboriginal community leaders as a key reason to support the Beagle Bay facility.
- Amongst the benefits of establishing those services to the offshore operations, are that Aboriginal stakeholders within the area will benefit from business investment opportunities, training and employment together with the local workforce from adjacent towns.
- The Traditional Owners are active partners in this development, they are the landlord and benefit from training, employment, the creation of businesses operating from the base. Royalties also benefit communities associated with the Beagle Bay area.

Traditional Owners have given letters of support for the project and an agreement on royalties has been made, designed to direct royalties to both Traditional Owners and nearby Aboriginal Stakeholders.

The Djabera-Djabera Traditional Owners

The Djabera Djabera Traditional Owner Group have been involved in the Beagle Bay Marine Support Facility proposal from the outset.

The Beagle Bay Marine Support Facility is Saltwater business in Aboriginal Saltwater country.

Djabera-Djabera participation in this project dignifies and respects culture, carefully melding Aboriginal hopes and aspirations for land and sea with commercial reality. Traditional Owners have a seat at the table and are fully respected partners. This is an act of self-determination by a unique Aboriginal group who are prepared to take the brave step of engaging Oil & Gas in a way that fits cultural imperatives with modern best practice.

The Beagle Bay Marine Support Facility is Saltwater business in Aboriginal Saltwater country.

The Traditional Owners have been involved from the outset.

Relevance to the development of Northern Australia.

Important offshore oil and gas resources in the Browse Basin Western Australia are extremely remote. The remoteness is exacerbated by a lack of road infrastructure, and the sailing time to suitable marine support infrastructure. The Browse Basin is particularly remote. This remoteness is an impediment to growth. It makes exploration and development of oil and gas resources in the Browse Basin among the most expensive on the planet.

The remedy to the remoteness of the Browse Basin is relatively straightforward. The engineering challenges are relatively simple, and costs can be low, if the right engineering solutions are selected.

By sealing approximately 130km of road and building a simple marine support facility at the closest landfall to the Browse Basin in Beagle Bay, the remoteness of the Browse is dealt with in a low cost way. This is critical infrastructure which needs to be given a high priority.

Any development of the North, must consider the Traditional Owners of the area and existing communities. In the case of Beagle Bay, Traditional Owners are supportive of our proposed development. Some of the communities directly adjacent to Beagle Bay are long overdue for a social dividend not consisting of a Government handout or a Government created job. A dividend in the form of real and long term work opportunities in a local Oilfield Services Industry is vital for these communities.

Government policy needs to support small projects such as this when they arise, particularly when they are viable and relatively easy to implement due to low environmental impact, relatively low cost and Traditional Owner support. The current government in Western Australia does not always recognise the benefit of smaller niche projects. Key state departments established to support large resource projects pay very little attention to smaller but important supporting projects such as this one at Beagle Bay. Small projects can have an enormous impact on local job creation and standard of living. They create a richer local economy. However the playing field is not level, large projects get the attention at the expense of small projects. It's an unnecessary constraint to growth and prevents firms like Beagle Bay Marine from making the most of the regions potential.

The government should maximise local opportunities created by their comparative geographical advantage for the long term, rather than undermine it. The Inpex Ichthys Project with its 1000km subsea and 1000km sailing

distance to the onshore LNG base is not the result of responsible and coordinated governments planning for the long term.

It's time these problems were fixed and this proposal is one small niche project that could be used as a template example of a sustainable, long term, innovative success story of developing the North of Australia.

The people and companies behind the project

Beagle Bay Marine Ltd

Beagle Bay Marine has been incorporated to develop and operate a Marine Facility at Beagle Bay. It's founding directors and shareholders are West Australians with a lifetime of experience in the Oil and Gas, Marine and Pearling industry in Western Australia.

The Company logo is an adapted pearl shell design by Mayala traditional elder Aubrey Tigan. It symbolises the strong relationship with the cultural identity of the project and the aboriginal heritage of the region.

Harold Clough

Harold Clough is Chairman of Beagle Bay Marine. Harold graduated from the University of Western Australia in 1947 with a degree in Mechanical Engineering and four years later gained a Master of Science Industrial Engineering degree from the University of California. After two years with Bechtel in the US he joined his father's engineering and construction company, now known as the Clough Engineering Group. Harold went on to own the company, eventually selling the controlling share in 2007. Notable early achievements include the first high rise building in Perth and the Narrows Bridge. Under Harold's leadership the company went on to become a major player in mining and the oil and gas industry, establishing an international presence in both.

Stephen Arrow

Steve has operated Arrow Pearl Co in Beagle Bay for more than 30 years. Steve is majority shareholder of Beagle Bay Marine Pty Ltd, a company formed to develop a marine base in Beagle Bay. BBM has the help and support of experts in the field of marine base development, including Harold Clough, former chairman of Clough Engineering, and his son Bill Clough, Michael Flecker (currently based in Singapore), and Dave Field / ICON Engineering, a Perth based Engineering and Oilfield Services Company with extensive experience in offshore construction and drilling support offshore Western Australia. Steve has strong and long established relationships with all the Indigenous groups in the area.

David Field

David is a founding partner of ICON Engineering (www.iconeng.com.au). David has a strong background in engineering and Project Management with over 25 years' experience in oil field development, detailed design and installation of offshore structures, and support of offshore construction and drilling operations. Prior to founding ICON, David worked for Brown and Root Vickers in London, Saipem, Clough and WAPET. ICON Engineering Pty Ltd employs approximately 70 technical staff with an office in West Perth serving

West Australians with a lifetime of experience in oil and gas and pearling industry in Western Australia

Unique local knowledge of marine operations in the Kimberley.

Clients in Australia and SE Asia. ICON has been providing all the Engineering Support to BBM for the development.

Bill Clough

Bill Graduated from the University of Western Australia in 1982 with a Bachelor of Science degree (Geology) and a Bachelor of Commerce degree. Bill founded Colomi Iron Mineracao in Brazil, securing a dominant position with a potential world class resource in excess of 5,000 million tonnes. With his extensive corporate experience in the international resources sector, especially with regard to start-ups and financing, Bill's role as Director of Beagle Bay Marine is crucial.

Michael Flecker

Mike gained his Civil Engineering degree from the University of Western Australia in 1983. He worked on port and marine pipeline projects throughout Southeast Asia and the Middle-East before establishing his own salvage company, Maritime Explorations, in Singapore in 1992. Recently his focus switched back to marine pipeline projects in Australia and North Africa. With 28 years of experience in marine projects, Michael's role has varied from diving supervisor to marine superintendent, from surveyor to salvage master, and from project engineer to project manager. As managing director of his own company he has negotiated licenses and joint-ventures with various governments and government-linked companies.

ICON Engineering Pty Ltd

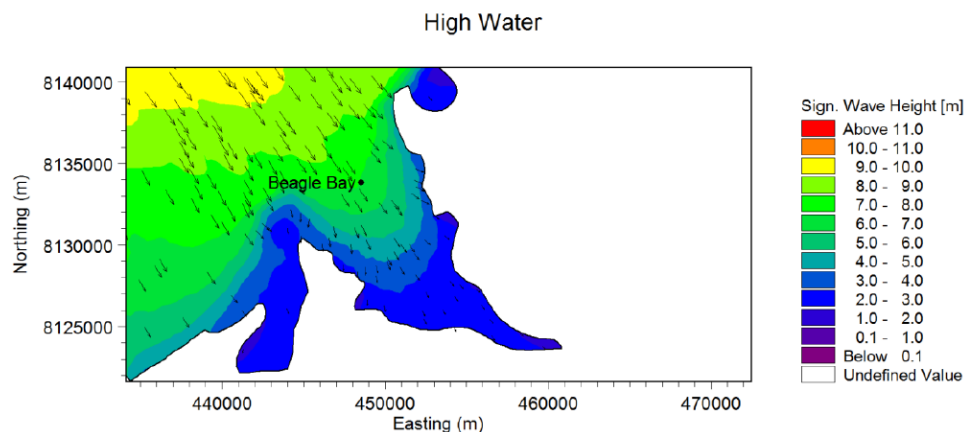
ICON is the engineering partner for the project. ICON is a WA based engineering consultancy and oilfield services contractor offering specialist skills and equipment for the development and execution of oil and gas projects for oil companies and major oilfield contractors.

ICON has a head office in Perth, ICON employs 80+ people and has successfully executed hundreds of projects spanning the world's major oil provinces including projects in Australia, Malaysia, Indonesia, Thailand, New Zealand, PNG, USA, Canada, Singapore and the UK.

ICON has invested two years into engineering analysis and design of the project to date. Cyclonic wave parameters form part of this analysis.

Several years of effort has been spent already on the engineering aspects of the project feasibility.

Wave Parameters for Beagle Bay



Attachment 1 - Letter of Support from Djabera-Djabera Traditional Owners

The Applicants
Djabera Djabera Native Title Claim
WAD6124/90(WC96/99)

November 2012

Harold Clough
Chairman
Beagle Bay Marine Pty Ltd
Suite 6, 117 Broadway,
Nedlands WA 6009

Subject: **Development of a Land and Marine Base at Tooker Point
Within Djabera Djabera Native Title Claim WAD6124/90(WC96/99)**

Dear Harold,

We the undersigned are named applicants and members of the native title claim group in respect of the Djabera Djabera Native Title Claim WAD6124/98 (WC96/99).

Over the last two years Arrow Pearl Company Pty Ltd and Beagle Bay Marine Pty Ltd have been in discussions with members of our group about the development of a land and marine base on land covered by our native title land claim around Beagle Bay. We have considered the concept and plans carefully and this letter confirms our support for the development of a new commercial operation on this land to be operated by Beagle Bay Marine Pty Ltd.

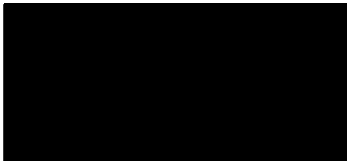
Our support is based on the following understanding:

- The base will be built to support companies involved with Offshore Oil and Gas operations in the Browse Basin. It provides a great opportunity for Aboriginal People living near Beagle Bay to participate in the exciting opportunities which exist due to the offshore developments occurring right now on our doorstep.
- The pearling operations of Arrow Pearl Co. in Beagle bay will continue as we believe both activities can operate in harmony from the one location surrounding Tooker Point in Beagle Bay. Pearling is a strong cultural and historical link for our people.
- The land proposed for the development surrounds Arrow Pearl Co's existing Crown Lease and is entirely within our native title claim. Together the new land and the existing lease will provide sufficient area to develop a low-environmental impact supply base.
- We intend to form a robust Aboriginal Entity and via this Entity apply to the Aboriginal Lands Trust for a return of all or part of the land covered by our Native Title Claim. We then propose to lease this land to Beagle Bay Marine Pty Ltd.

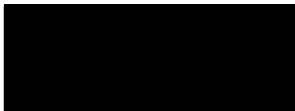
- The existing facilities at Tooker point are substantial, this is not a Greenfield site. They have been built and operated over the last 30 years in a way which respects the surrounding cultural sites using architecture similar to that of old Broome.
- The proposed development has been carefully planned to allow access by Aboriginals to fishing sites and also respects our cultural sites. The base uses grounded barges for transfer of materials which has a very low environmental impact.

We look forward to working with Beagle Bay Marine to make this project turn into a reality for us and the other Aboriginal People living near Beagle Bay.

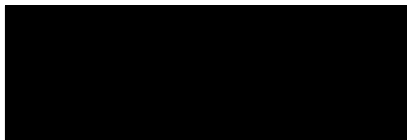
Yours sincerely,



Ramalie Noor



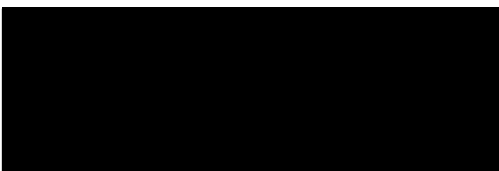
Eileen Torres



Linos Saaban



Paul Cox



Attachment 2 - Proximity of Beagle Bay to Browse Offshore Lease Blocks

TABLE OF DISTANCES					
OPERATOR	BLOCK	APPROX DISTANCE (km)			
		BROOME	BEAGLE BAY	DAMPIER	DARWIN
NEXUS	WA-424-P	412	296	1041	784
CARNAVON PETROLEUM LTD	WA-435-P	125	172	593	1300
2010 OFFSHORE AUSTRALIAN PERTOLEUM ACREAGE RELEASE AREA	W10-4	378	392	514	1390
WOODSIDE ENERGY LTD	WA-416-P	135	190	580	1250
WOODSIDE ENERGY LTD	W07-11	260	165	800	1040
BHP	WA-302-P	471	374	930	1031
WOODSIDE ENERGY LTD	WA-275-P	400	310	850	1075
KERR MCGEE	WA-274-P	490	375	1015	915
MURPHY	AC/P36	553	438	1105	838
SHELL	AC/P41	600	485	1200	700
SILVER WAVE ENERGY P/L	AC08-2	735	615	1290	740
APACHE	AC/P42	789	672	1358	688
HUNT OIL COMPANY	WA-413-P	336	218	945	900
FINDER EXPLORATION	AC/P44	616	501	1152	838
ENI AUSTRALIA	AC/P38	872	755	1464	590
BENGAL ENERGY LTD	AC/P47	717	601	1257	791
SILVER WAVE ENERGY	AC/P49	731	615	1290	738
CONOCO PHILIPS	WA-314-P	523	416	1019	953
INPEX	WA-285-P	425	306	1011	850
SANTOS	WA-411-P	418	308	955	940
SANTOS	WA-281-P	411	297	972	905



MARINE MAP
SCALE N.T.S.



ABN 32 009 171528

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Rev	Description	Date	By	Check	Icon	Client
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			By	Check	By	Check
			Drafting	Engineering	Approved	

ARROW BEAGLE BAY SUPPLY BASE MARINE MAP		Scale N.T.S.	Sheet Size: A1	Drg No 3279-01-ZS-0001	Rev A
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