

From: s22
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Cc: s22
Subject: PEP-11 SEV NOPTA ADVICE
Date: Wednesday, 29 April 2020 2:08:00 PM
Attachments: [20200220 AEA-TEN-ASSET ENERGY WELL MANAGMENT REV \[ATTACHMENT 3\].pdf](#)
[20200220 EXTENDED PROPOSAL TO ASSET ENERGY FOR COSL PROSPECTOR \[ATTACHMENT 4\].pdf](#)
[20200428 PEP-11 BACKGROUND OF TITLEHOLDERS \[ATTACHMENT 6\].pdf](#)
[20200429 PEP-11 - SEV JA ADV.pdf](#)
[PEP-11 - SEV APRVL LTR \[ATTACHMENT 1\].docx](#)
[PEP-11 - SEV INST \[ATTACHMENT 2\].docx](#)
[PEP-11 FINANACIAL ASSESSMENT \[ATTACHMENT 5\].pdf](#)

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Good afternoon,

Please find attached NOPTA's advice and attachments in relation to Petroleum Exploration Permit NSW/PEP-11.

Please feel free to contact me if you have any questions.

Thank you.

Kind regards,

s22

National Offshore Petroleum Titles Administrator

Department of Industry, Science, Energy and Resources

Level 25 | 140 William Street | Melbourne | 3000

GPO Box 4634 | Melbourne | Victoria | 3001

s22

[@nopta.gov.au](mailto:titles@nopta.gov.au)

<http://www.nopta.gov.au/>

ABN: 74 599 608 295

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**Delegates of the Commonwealth-New South Wales Offshore Petroleum Joint Authority for Decision
29 April 2020**

**APPLICATION FOR A VARIATION AND SUSPENSION OF WORK PROGRAM COMMITMENTS AND
EXTENSION OF PERMIT TERM – PETROLEUM EXPLORATION PERMIT NSW/PEP-11**

Purpose: To inform the decision of the Commonwealth-New South Wales Offshore Petroleum Joint Authority (**the Joint Authority**) in relation to an application made under section 264 and 265 of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (**the Act**) and the *Offshore Petroleum Exploration Guideline: Work-bid* (**the Guideline**).

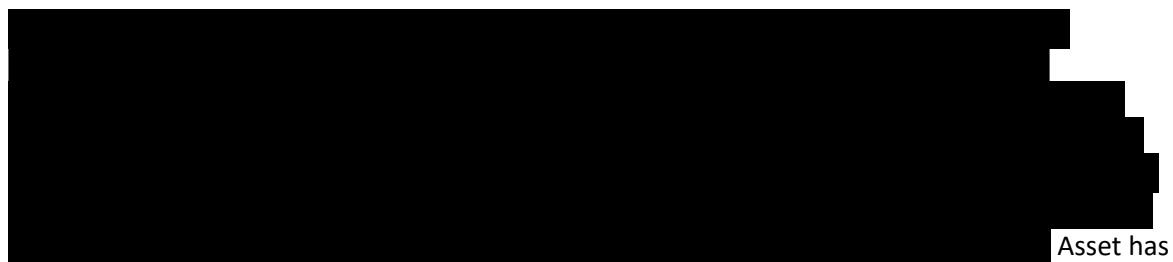
TITLE	Petroleum Exploration Permit NSW/PEP-11 (PEP-11) Title location map: Figure 1 . Current work program: Table 1 .
TITLEHOLDERS	Asset Energy Pty Ltd (Asset) Bounty Oil & Gas NL (Bounty)
TIMING OF APPLICATION	Validly submitted 23 January 2020 – prior to the end of Permit Year 4 (12 February 2020).
APPLICATION DETAIL	<ul style="list-style-type: none"> • NEATS Ref Z4NMT2 • 24 month suspension of Permit Year 4 work program • 24 month extension of the permit term. • secondary term variation of Permit Year 5 <p>The suspension and extension have been applied for on <i>force majeure</i> grounds. NOPTA has assessed it on its merits.</p> <p>Proposed work program: Table 2.</p>
SECTIONS OF THE ACT	Sections 264 and 265 of the Act .
RELEVANT GUIDELINE	Paragraphs 2.6 - 2.8, 2.13 - 2.15, 2.28 and 2.29 of the Guideline .
NOPTA ADVICE	<ol style="list-style-type: none"> 1. Approve 24 months suspension to Permit Year 4 and a corresponding 24 months extension of the permit term in accordance with the Act and on merit. 2. Approve a secondary variation to Permit Year 5 in accordance with the Act and Guideline. 3. Convey the following to the applicant, via NOPTA: <ol style="list-style-type: none"> i) Condition 1 of the title remains in force, as such monthly reporting is still required; and that ii) The Joint Authority expects that the titleholders will meet with NOPTA within 12 months of this letter to discuss progress on approvals and contracting. <p>A draft letter to the titleholder (Attachment 1) and a draft instrument (Attachment 2) reflecting the recommendations are provided with this assessment for your review.</p>
DECISION DUE	State Delegate: 12 May 2020 Commonwealth Delegate: 14 May 2020
APPLICATION OVERVIEW	Asset has made an application for a 24 month suspension of Permit Year 4 with a corresponding extension to the permit term and a secondary term variation to Permit Year 5 to replace the

acquisition of 500 km² of 3D seismic data with post well studies. Asset states that during 2019 it went through a change in its board with a corresponding change to its exploration strategy – to prioritise exploration drilling over the acquisition of new 3D seismic data prior to drilling. Asset states that it has previously drilled in the permit using 2D data, resulting in the New Seaclem-1 exploration well (2010).

Asset is claiming *force majeure* circumstances around the activities of MEC Resources Ltd (MEC), the parent company of Asset, and that the legal matters relating to this has caused significant delays to progress on the work program commitments in PEP-11. It considers that a 3D seismic data acquisition in the area near Newcastle is not acceptable to the local community. It also states that there is a significant need for gas on the east coast of Australia, and that it considers that drilling an exploration well has substantial community benefit.

The changes in the board and control of the company over recent years has impacted on the direction and progress of the work program. In early 2019, before entering Permit Year 4, the previous board of Asset applied to vary the work program commitments in Permit Years 4 and 5 in order to conduct the 3D seismic survey (planned for Permit Year 5) prior to drilling an exploration well. NOPTA’s advice on that application was sent to the Joint Authority on 25 March 2019.

On 23 October 2019, Asset’s new board withdrew the application before the Joint Authority had made its decision, as drilling was now preferred to seismic acquisition. In its application Asset states that the internal conflicts have now resolved to a point where the work program can progress, and the new strategy is to drill an exploration in PEP-11.



Asset has also provided a schedule for the suspended Permit Year 4 activities (**Figure 2**).

PRIOR USAGE RIGHT	No
OTHER CONSIDERATIONS	<p>Acquisition report and data – Baleen 2D HR Seismic Survey 2018</p> <p>The titleholder failed to submit the complete survey acquisition report and data by the negotiated due date under regulation 7.16. As of the date of this advice the Titleholder has complied with all data submission requirements, noting –</p> <ul style="list-style-type: none"> • the initial submission was completed four months after the extended due date • once followed up, the Titleholder was extremely responsive and worked quickly to remove any grounds for cancellation • NOPTA will be writing to the Titleholder to emphasise the importance of meeting regulatory timeframes and expectations in relation to their next regulatory submission.

	<p>The completion of this submission removed any grounds for cancellation under section 274 of the Act.</p> <p>Monthly reporting Asset has been submitting the monthly progress reports as expected by the Joint Authority. These reports have been briefly outlining the discussions Asset has been having with various providers regarding accessing a rig for drilling in PEP-11.</p> <p>Financial Capacity A review of the financial capacity of the titleholders to undertake the work program activities and based on publicly available information has been completed at the request of the Joint Authority (Attachment 5).</p> <p>Detailed information with respect to the titleholders is also provided. (Attachment 6).</p>
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ASSESSMENT OF APPLICATION

Permit Year 4 Suspension and Extension of the permit term

NOPTA does not consider Asset’s internal board issues and dispute with parent entity MEC as *force majeure* circumstances as outlined by paragraph 2.13 of the Guideline. Nevertheless, these issues have impacted on the direction of the exploration strategy and the timing to plan and drill an exploration well.

The decision to withdraw the previous application in late 2019 resulted in PEP-11 entering Permit Year 4 and the titleholders committing to drill less than four months from the end of that permit year. This decision left insufficient time in Permit Year 4 to deliver an exploration well, and there is merit in provision of additional time to enable drilling.

NOPTA has assessed this application on its merits taking into account the usual timeframes that are required to successfully carry out the planning and drilling of an exploration well. The schedule provided by Asset (**Figure 2**) appears to present a reasonable estimation of the key activities required to deliver an exploration well in normal circumstances. NOPTA acknowledges that Asset has allowed for a generous amount of time relating to the Joint Authority decision making process for this application and advises that any extension of this aspect of the timeframe will adversely impact the remainder of the schedule. The current inability of operators to undertake offshore petroleum operations due to the COVID-19 pandemic has also been considered.

NOPTA considers that Asset has provided reasonable supporting evidence that it has been progressing plans to drill in PEP-11, [REDACTED] and the descriptions of activity in its monthly reports to NOPTA.

Since the application was submitted, there has been a significant increase in uncertainty relating to future rig availability and contract opportunities due to the restrictions associated with the COVID-19 pandemic. [REDACTED]

[REDACTED]

NOPTA considers that it is reasonable for the titleholder to not financially commit to contracts at the current time with respect to drilling and preparation of an environment plan prior to receiving a decision on this application. The duration of the requested period of suspension and extension is lengthy and NOPTA advises that it would be reasonable to expect Asset to meet with NOPTA to discuss the progress towards obtaining relevant approvals and contracting within 12 months from the approval of this application.

Permit Year 5 Secondary Work Program Variation

NOPTA considers that the proposed variation to replace the acquisition of 3D seismic data with post well studies in Permit Year 5 is logical and warranted given that there is a guaranteed well commitment in Permit Year 4. From the proposed schedule it appears that only two months are likely to be available to evaluate the well results before entering Permit Year 5. NOPTA expects that a full year of evaluation will generally be required to incorporate drilling results into the interpretation of the prospectivity of the permit.

NOPTA advises that Asset’s variation request is reasonable and is in accordance with the Act and the Guideline that relates to secondary work program variations.

NOPTA CONTACT:	s22 Assistant Manager Titles	Tel:s22	Email: titles@nonta.gov.au
ENDORSED BY	Graeme Waters Titles Administrator	Signature s22	

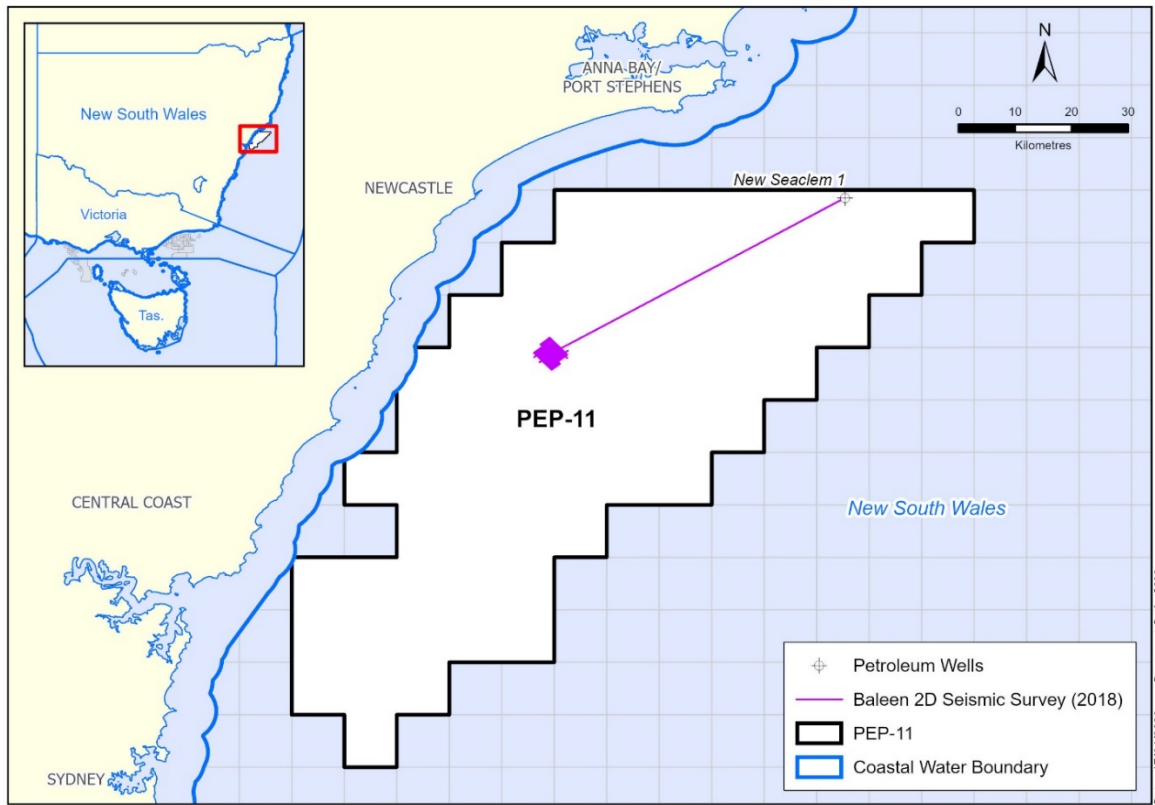


Figure 1: PEP-11 location map (source: NOPTA)

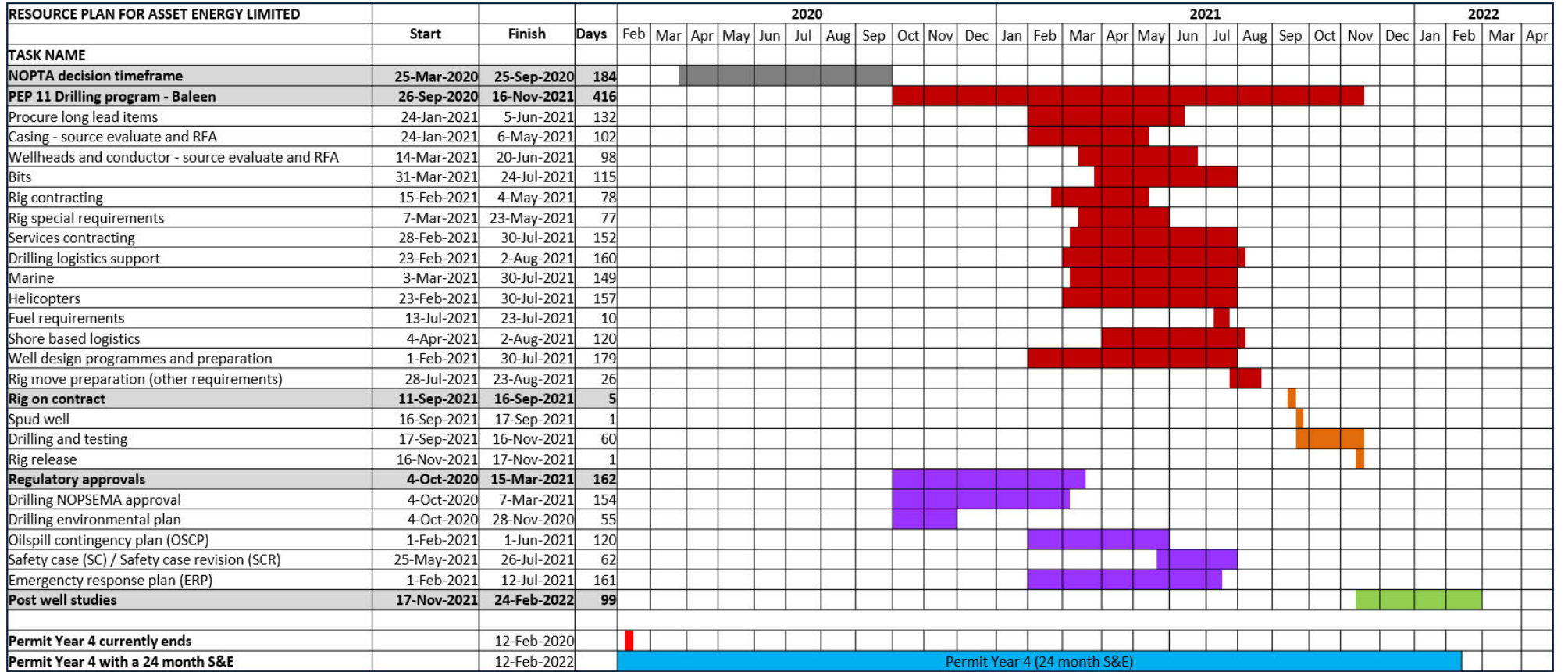


Figure 2: Proposed schedule for the requested 24 month suspension of Permit Year 4 (source: Application, modified by NOPTA)

Table 1: Current work program and work completed

Year	Permit Year Starts	Permit Year Ends	Activity Description	Actual Work Completed
1	13/08/2012	12/08/2013	2,000 km seismic reprocessing Geotechnical studies	<ul style="list-style-type: none"> Reprocessed 61.5 km 2D Vintage Data (Dayboro Geo) Prior to renewal of the permit reprocessed 1,308 line km 2D Vintage Data (CSIRO, 2009), 75 line km 2D Vintage Data (Co-sail, 2009), and 1,463 km Baleen 2D Survey (Fugro, 2010). This work was claimed against the Year 1 commitment Review of data for Fish Prospect
2	13/08/2013	12/02/2019	200 km 2D seismic survey Geotechnical studies <u>9/2/2015</u> - 12 month suspension approved on <i>force majeure</i> grounds <u>18/1/2016</u> - Variation of Additional Condition 2 and 12 month suspension and extension of Permit Years 2&3 approved <u>8/01/2018</u> – 30 months suspension and extension of Permit Years 2&3	<ul style="list-style-type: none"> Baleen 2D HR Seismic Survey completed in 2018. A total of 205.4 line km acquired Petroleum play elements and risk factor study Prospects and leads analysis
3	13/08/2015	12/02/2019	Geotechnical studies	<ul style="list-style-type: none"> Permit Year 3 ran in conjunction with Permit Year 2. Work as described above
4	13/02/2019	12/02/2020	One exploration well	<ul style="list-style-type: none"> Commenced preparation for drilling <p>ATAR due 12 September 2020</p>
5	13/02/2020	12/02/2021	500 km ² 3D seismic survey	

Table 2: Proposed revised work program

Year	Permit Year Starts	Permit Year Ends	Activity Description	Indicative Expenditure (\$ AUD)
1	13/08/2012	12/08/2013	2,000 km seismic reprocessing Geotechnical studies	250,000
2	13/08/2013	12/02/2019	200 km 2D seismic survey Geotechnical studies	2,000,000
3	13/08/2015	12/02/2019	Geotechnical studies	350,000
4	13/02/2019	12/02/2022	One exploration well	15,000,000
5	13/02/2022	12/02/2023	Post well studies	250,000

Proposal

Provision of Well Management Services

Offshore Drilling Operations

Asset Energy Limited



Provision of Well Management Services
Offshore Drilling Operations

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1. INTRODUCTION

1.1 Summary

Asset Energy Limited is an unlisted Australian oil and gas exploration company, with a strong portfolio of exploration and near-term production assets throughout Australia. Asset Energy's key projects comprise two potentially very significant upstream gas projects – a conventional gas and a shale gas project, as well as two proven/discovered smaller gas wells in Western Australia which are currently undergoing appraisal for proposed development.

Asset Energy's project area PEP-11 is a 200km long Petroleum Exploration Permit situated along the heavily populated and industrialised central coast of New South Wales, Australia. The area contains the offshore extension of the Sydney Basin. The Sydney Basin contains an active petroleum system characterized by Triassic and Permian source rocks, potential reservoirs and seals.

Asset Energy have invited Add Energy to submit a technical proposal for drilling management services in support of their program in 2020-2021.

Following an initial phase of review and preliminary engineering this revised proposal has been prepared to identify discrete work packages based on the preliminary project schedule, define resources to be applied, and propose cost estimates for review.

2. ABOUT ADD ENERGY

2.1 Add Energy Group Background

Add Energy is headquartered in Stavanger, Norway and is a global provider of engineering and software services to the energy industry. Its expertise covers the following main areas:

- Well engineering and drilling project management, including procurement of all materials and services for drilling, well testing, and completion operations;
- Relief well planning, flow analyses and well kill operations/incident support;
- Reservoir engineering, production technology and flow assurance;
- Completion engineering;
- Well Interventions & Workovers;
- Well integrity assessments;
- Technical Risk & Safety;
- Asset integrity and maintenance management and
- Incident investigation.

Our business is organized in three strategic business segments aligned with the E&P value chain:

- Drilling & Well Operations;
- Asset & Operations Management and
- Safety and Risk Management.

Add Energy has a combined workforce of approx. 250 staff and consultants.

2.1.1 About Add Energy Drilling & Well Engineering

Drilling and Well Operations offers specialized consultancy services and support from well design to operations; we aim to minimize risk, expenditure and exposure of Oil and Gas drilling operations globally.



OFFICES:
Oslo, Stavanger, Houston, Perth
CLIENTS:
Oil and Gas: BP, Chevron, ConocoPhillips, ExxonMobil, INPEX, Lundin, Marathon, Noble Energy, Origin, Shell, Statoil, Total, Woodside
KEY ACHIEVEMENTS:
★ Exceedingly high success rate in delivering major Drilling and Completion projects ahead of time and under budget
★ Over 20 Master Service Agreements with oil & gas majors to date
★ Senior advisors on the Macondo, Montara and Elgin Franklin well kills

The regional branch of Drilling and Well Engineering is in Perth, Western Australia, D&WO, together with the Safety and Risk Management (SRM) business area provides petroleum engineering (drilling, completions, reservoir, production technology, blowout contingency planning and support) and HSEQ advisory and operations services to oil and gas companies globally.

The range of services we provide can broadly be described as follows:

- Well engineering, planning, services/equipment contracting, logistics, and operations management, including the specification, sourcing, and inspection of drilling rigs for onshore and offshore operations;
- Well Integrity Management Systems;
- Well Integrity Investigations, Assessments & Examinations;
- NORSOK D-010 Well integrity – 2 Day Course;
- Conceptual evaluation of field development and well management options;
- Commercial support, including due diligence and valuations for farm out/in;
- Development and implementation of well delivery processes and management systems for well operations;
- Liaising with regulatory authorities, and preparing and submitting drilling applications;
- Well engineering audits and peer reviews;
- Unplanned event investigation;
- Performance monitoring and benchmarking;

- Production Modelling from Reservoir to Separator;
- Production Technology;
- Reservoir Engineering;
- Conceptual and Detailed Well Completion Design;
- Well Site Services (Interventions and Completions);
- Development and implementation of HSE Management Systems;
- Safety Case development and implementation;
- Audit and gap analysis of client and contractor HSEMS;
- Rig inspections and audits;
- Emergency & crisis management;
- Strategic security and
- Logistics & risk management solutions.

Refer to Appendix D for a full outline of capabilities.

Please refer to www.addenergy.no for further information on the Add Energy Group.

2.1.2 Quality Management System & Policy

Add Energy has ISO 9001:2015 accreditation as per certificate number: QMS-42399 (refer to Appendix E).

Details of how Add Energy's Quality and other Management Systems are applied to works performed are provided in "We in Add Energy" (refer to Appendix F).

2.1.3 Capabilities and People

Add Energy D&WO comprises a team of more than 100 drilling, completions, reservoir engineering, safety and risk managers and well control professionals, many being permanent employees whilst others are long-term consultants. As an integrated well management consultancy firm, we have a depth of expertise that is difficult to match outside major operating companies. Essentially, we are able to provide a complete outsourced drilling and well construction project management solution to our clients.

Together with Asset Energy, Add Energy will go through each phase of the work scope to ensure effective delivery and we believe this will be the most cost-effective approach for Asset Energy.

The principal members of the Add Energy D&WO management team have on average more than 25 years' experience in drilling and completion engineering, HSEQ, operations, and management, gained with independent and major operators from all over the world.

2.1.4 Our Advantages

Add Energy D&WO has extensive experience with upstream project management, reservoir development, safety and risk management and technical services gained throughout Australia, Asia-Pacific and Africa.

We can supply Operator experienced personnel backed up by robust and proven management systems, procedures and functional support aiding Asset Energy in executing its drilling, evaluation, and well testing program safely, efficiently and cost effectively. In summary the strengths we bring to this project are:

2.1.4.1 Technically & geographically relevant experience

Reservoir engineering, designing wells and managing drilling/completion/well testing operations together with safety and risk management is Add Energy's principal business area and we have undertaken a number of similar projects over the last several years, including several onshore exploration projects in Australia.

Many of our projects are in remote locations (i.e. far from existing oil & gas infrastructure and resources), both onshore and offshore and we have developed a deep understanding of the critical aspects of executing such projects successfully.

2.1.4.2 Experienced personnel and project familiarity

For all engineering, planning and execution phases of the project we will utilize both office and rig based personnel with direct experience in onshore drilling operations.

Our proposed core team, comprising of a Project/Drilling Manager and Lead Drilling Engineer, both have direct experience with this project, having completed a Well Assessment on PEP-11 well on behalf of Asset Energy. They are aware of the location and the site selection and well design, this will give Asset Energy a considerable advantage in that Add Energy can commence project planning immediately, effectively having completed part of the data gathering phase already.

During the operations phase of the project Asset Energy will benefit by having an experienced Wellsite Manager, Drilling Supervisor/Drilling Engineer, Wellsite Geologist, Logistics and HSE Advisors on site supervising drilling operations 24/7. They will be supported by the Project/Drilling Manager and Lead Drilling Engineer and other members of the Asset Energy and Add Energy management team.

All members of the Add Energy team have been involved with similar projects across the world, and our proposed Project/Drilling Manager and Lead Drilling Engineer all have extensive offshore experience in Australia.

2.1.4.3 Vested Interest

Add Energy has established a solid industry reputation for integrity and excellence in service for all aspects of well construction design and project management, and all members of the management team, staff and consultants work hard to maintain that hard-earned reputation. Asset Energy will benefit not only from our efforts in delivering a successful project on your behalf, but also on ours.

2.1.4.4 Independence

Add Energy has no commercial drivers from other major product and service lines. This means that we will always recommend what is best for the project and not what service companies and suppliers may propose due to conflicted interests.

2.1.4.5 Flexibility

Our proposed Director is available on a part time or full-time basis and can be available for meetings with Asset Energy personnel at short notice. Additional ad-hoc support can be provided as the project needs escalate.

2.1.4.6 Hardware, Software & Communications

All team members are provided with laptop computers, with the latest software installed.

D&WO uses Halliburton's Landmark™ Stresscheck and Compass software for well planning, and our engineers are all highly experienced with this system. We include the cost of using this system in our lump sum or day rate fees. Additional modules if required will be payable by the client.

Each of our offices is equipped with Tandberg/Cisco HD video conferencing facilities, and we use Microsoft Sharepoint for document and file management, and for collaboration within the team.

Additional service requirements (not included as part of the lumpsum proposal) are listed below:

Service Description	Estimate Cost AUD\$
Conductor and riser analysis	s47G(1)
Borehole stability assessment	s47G(1)
Relief well design	s47G(1)
Flow assurance and tubing selection	s47G(1)

3. Execution Plan

3.1 Scope of work and methodology

For any project, Add Energy carries out well planning activities following the methodology outlined in our management systems. Our typical planning process for an onshore drilling program can be broken down in four phases:

- Detailed Well Engineering & Rig/Long Lead Equipment Tendering & Procurement;
- Services/equipment Tendering & Procurement, and Operations Planning;
- Well Operations and
- Close Out.

Note that there is overlap across the planning phases, and some activities are conducted simultaneously with others. Our normal methodology will be adapted to suit the well given that part of the engineering work has already been completed and the Basis of Well Design prepared.

3.2 Phase 1 – Preliminary Planning

The team will undertake the final detailed well engineering and operational planning activities. The first step in any project is to clearly define the objectives of the wells, and to ensure that we have the most appropriate services and people to execute. Understanding what the well will look like, in terms of wellbore architecture, will enable us to contract a suitable drilling rig and procure the long lead equipment (wellhead, casing, etc) that will be required. Offset wells will be reviewed, and the learnings from these wells incorporated in the final Basis of Well Design.

Budgetary AFE's will be prepared, and will be further refined once the rig, equipment and services to be used are known.

This phase will include the development of a detailed well design, the development of all documentation and cost estimates required for AWE internal, JVP (if applicable) and regulatory body approvals, tendering for long lead time materials and equipment and assistance with identification of suitable drilling rig(s).

Phase 1 will comprise but not be limited to the following;

- Preparation of a master project schedule;
- Preparation of contracting strategy;
- Identification of long lead time materials and preparation/issue/evaluation of tender documents for same;
- Identification of potential drilling rig(s), including review of options for establishing rig sharing with other Operators;
- Rig inspections and rig contract negotiations;
- Preparation of drilling and safety manuals (including Emergency Response Plan) with bridging document to Operator Technical Guidelines and Management Systems as required;

- Risk & Hazard Assessment and preparation of risk register;
- Installation of cost control, project control and document control methods;
- Preparation of detailed cost estimates and AFE;
- Assistance with preparation of government submissions;
- Assistance with preparation of any EIA or EMP and associated reports (optional third party review);
- Management of the required site surveys;
- Management of the well related interfaces to the other project disciplines and
- Well design, engineering and preparation of detailed well design, based on the BOD. As a minimum the detailed well design will include:
 1. Health, Safety and Environmental permit requirements.
 2. Drilling organisation plan, responsibilities and communications.
 3. Permit, title and well location details.
 4. Regional geological and geophysical summary (compiled from input by Asset Energy G&G staff).
 5. Anticipated geology and predicted section (compiled from input by Asset Energy G&G staff).
 6. Well objectives and well target(s).
 7. Intended final well status.
 8. Offset well review.
 9. A summary of perceived subsurface and operational hazards.
 10. A description of the logistical plan for mobilizing the rig and support services during the drilling operation.
 11. Drilling time curve.
 12. Operations sequence summary.
 13. Casing and cementing summary.
 14. Directional Control and Monitoring plan.
 15. Mud and hydraulics summary.
 16. Bits and drill-string summary.
 17. Wellhead and tree specifications/configuration (if applicable), installation and testing.
 18. Well control equipment description.
 19. Formation evaluation and data acquisition requirements – coring and logging programs (compiled from input by Asset Energy G&G staff).
 20. Specialist Procedures – lost circulation remediation, well control, etc.
 21. Minimum contingency stocks of materials.
 22. Drill-string and bottom hole assembly (BHA) inspection criteria and frequency.
 23. Blowout preventer (BOP) configurations throughout the program.
 24. Pressure testing specifications for well control equipment, casings and tubing.

3.2.1 Add Energy Drilling Management System

AE D&WO has developed a Drilling Management System ('DMS') that provides a framework for safe, efficient and consistent management of drilling and completion operations. This is achieved by defining the roles and responsibilities of the key positions involved in managing and executing our well engineering projects, and the operational procedures and policies relating to those activities.

Engineering Standards	
Document ID	Document Name
DMS_ES-01	Drilling Management Manual
DMS_ES-02	Well Design Manual
DMS_ES-03	Management of Change
DMS_ES-04	Standards for Well Integrity
DMS_ES-05	Drilling Department RACI
DMS_ES-06	Drilling Engineers RACI
DMS_ES-07	BOWD Data Input Form
DMS_ES-08	Design Rationale Document
DMS_ES09	Reporting Standards & Procedures
HSE Standards	
DMS_HSE-01	HSE Standards and Procedures
DMS_HSE-02	Auditing Standards and Procedures
DMS_HSE-03	Management of Safety & Environmental Critical Elements (SECE) for Operating Wells
DMS_HSE-04	Hazard Risk Assessment & Control Procedure
DMS_HSE-05	Risk Register (Drilling)
DMS_HSE-06	Campaign Action Register
Technical Standards	
DMS_TS-01	Well Control Standards & Procedures
DMS_TS-02	Workover Standards & Procedures
DMS_TS-03	Well Testing Standards & Procedures
DMS_TS-04	Rig Move Standards & Procedures
DMS_TS-05	Contracting & Procurement Standards & Procedures
DMS_TS-06	Operations Accounting Standards & Procedures
DMS_TS-07	H2S Standards & Procedures
Technical Reference Manuals	
DMS_TRM-01	H2S
DMS_TRM-02	Lost Circulation
DMS_TRM-03	Blowout Contingency
DMS_TRM-04	Well Control
DMS_TRM-05	Well Testing
DMS_TRM-06	Completions

Table 3-1: AE D&WO Drilling Management System (DMS)

The DMS assures:

- Clear assignment of responsibilities;
- Sound risk management and decision making;
- Efficient and cost-effective planning and operations;
- Legislative compliance throughout all operations;
- A systematic approach to well design and operations and
- Continuous improvement.

For HSEQ, a baseline model which would include the HSE Policies, HSEQ Management System, Operational Standards and some core procedures for project and contractor management will be developed. The location specific documents will be prepared later in the planning process.

An example of this process is shown in the figure below.

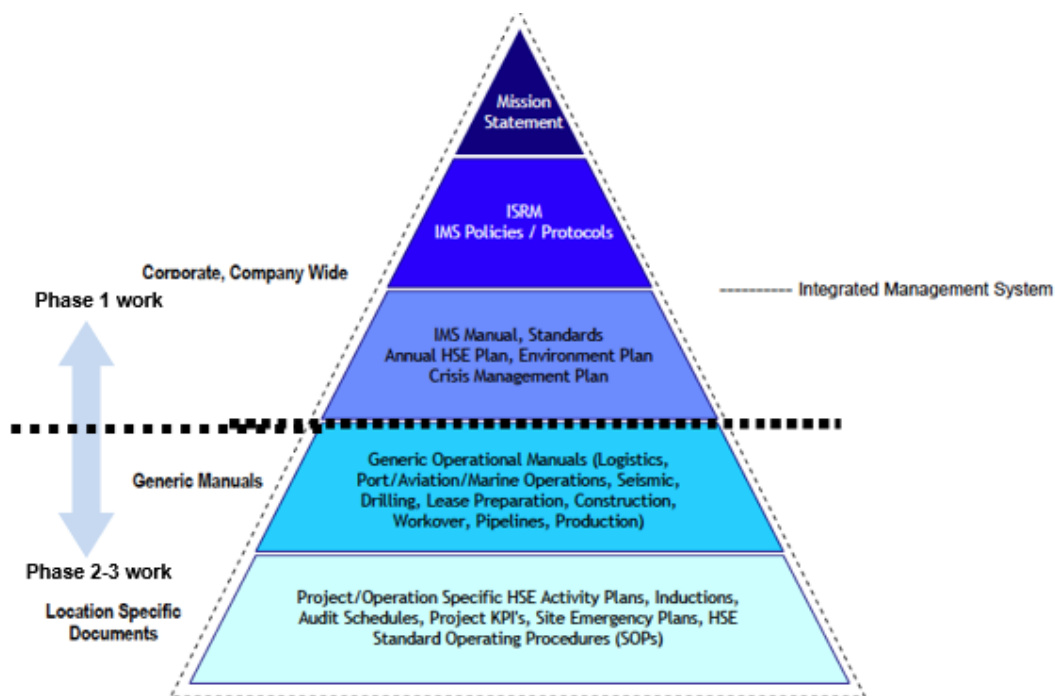


Figure 3-1: SR&E HSE Management System Documentation Hierarchy

3.3 Phase 2 – Services Tendering and Detailed Operations Planning

This phase will cover contracting of all required equipment, materials and services working in conjunction with Asset Energy's procurement resources. Procurement will mainly be via open tender. In some cases, as determined by current market conditions, the contracting may be carried out by direct negotiations. The option of sharing or assigning contracts from other Operators will also be explored. This has relevance in the event Asset Energy can participate in a rig sharing program.

Phase 2 will comprise but not be limited to the following:

- Procurement of equipment, materials and services, including:
 - Preparation of contracting strategy to be approved by Asset Energy;
 - Preparation and issue of Invitation to Tender (ITT) documentation;
 - Technical and Commercial evaluation of bids and
 - Recommendation for Contract Award.
- Development of detailed, well specific, drilling and evaluation procedures (Well Management Plan – WMP), including DWOP (Drilling Well on Paper) review and
- Assistance with obtaining control of well insurance if required.

3.4 Phase 3 – Well Operations (Project Execution)

This phase will encompass supervision of activities such as rig mobilization, drilling and evaluation of the well, running of completions and commissioning of the well in accordance with local regulations, demobilization of equipment and materials, and making-good the local environment where required.

3.5 Phase 4 – Close Out

This phase will include the preparation of final well documentation including as a minimum:

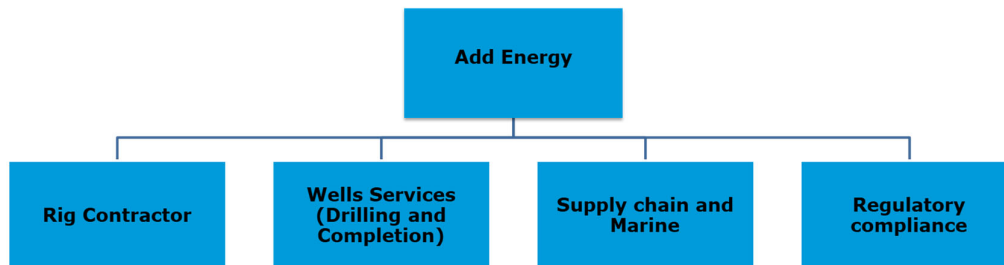
- Final well report, including lessons learnt summary;
- Final cost report;
- Final materials and equipment inventory and
- Final HSEQ reporting.

4. Organization

The core well planning team will comprise:

- Project/Drilling Manager;
- Lead Drilling Engineer;
- Senior Completions Engineer and
- HSE Advisor.

Both the Drilling Manager and Lead Engineer will work a majority of their time directly on the project, whereas the completions engineer and HSE advisor will be provided as required. An estimated resource planner has been included in following sections. Add Energy will also be responsible for the management and delivery of necessary contracts to support the scope.



Discussions with Asset Energy will be held for the potential addition of a Project Administrator and Operations Geologist during the planning phase.

The Drilling Manager will report directly to the Asset Energy Project or Campaign Manager and be responsible for managing the resources at his disposal to ensure delivery of the project. Add Energy will provide a senior Project Coordinator to support the Drilling Manager and to provide back-up in the event he becomes ill or otherwise restrained.

During Preliminary planning additional engineering resources will be available from our pool of staff engineers as required to support the Lead Drilling Engineer finalizing the initial well designs and enable identification of long lead items to commence procurement activities as soon as possible.

Once the preliminary planning is close to completion the Drilling Manager and Lead Engineer will work closely with Asset Energy's procurement team to commence preparation of tenders for all services and equipment and assist in rig contracting.

Additional specialists in Safety and Risk Engineering, Environmental Management, Drilling Fluids, and Well Control are also available should Asset Energy require this

expertise. Back up personnel will be provided immediately if team members become ill or otherwise unable to continue.

Once the engineering and procurement stages have been completed it is suggested a Logistics Supervisor should join the team to begin detailed operations planning, culminating in rig mobilization and commencement of operations.

Shortly before operations commence the Wellsite team will be assembled to participate in finalization of the operations procedures, Drill Well on Paper (DWOP) and pre-spud meetings. We recommend a wellsite operation engineer and materials supervisor be included in the wellsite team (potentially a combined role) and that the HSE advisor transition to a site-based role.

5. Resource Plan

5.1 Proposed Resources

We have proposed an indicative Resource Plan as detailed in Appendix A. Please note this is indicative only and the detailed project schedule will be developed during the initial stage of the project. Prior to the well management service scope,

Add Energy suggest having the Drilling Manager assisting Asset Energy in delivering the following documents – **January – March 2020**

- Gap analysis assessment on Management systems, wells information;
- Develop a scope of supply for regulatory and environment compliance;
- Develop a drilling campaign schedule;
- Provide technical support (as required) to Asset Energy (operator engagement, rig slot availability, etc.) and
- Develop a project basis of design.

For the purposes of the Resource Plan we have broken the project into discrete sections as follows:

Preliminary Planning and Services Tendering – March 2020

During this stage initial engineering and finalization of the well designs will be completed, as well as contracting of all major services and procurement of long lead and other equipment. Necessary management systems for all regulatory and other stakeholder approvals will be established and initial applications made.

Detailed Operations Planning – March 2020

Continue development of and finalize Drilling Programs, prepare drilling sites and access roads, prepare load out lists for all services and equipment, and prepare for rig mobilization, submit and finalize necessary approvals, and make all other preparations to commence drilling.

Operations – October

Commencing with rig mobilization the drilling and completion campaign is planned for five months.

Close out – December (exploration well case)

Following operations, we have allowed for a three months period for project close out, but this is dependent on service company submissions of reporting and final invoicing and Asset Energy's requirements.

We have suggested the following personnel to be required at each stage, although this would be entirely at the discretion of Asset Energy. As can be seen from the Resource Planner in Appendix A not all positions are full time and many on an as required basis only.

Preliminary Planning / Services Tendering	Drilling Manager Lead Drilling Engineer Lead Completions Engineer HSE Officer
Detailed Operations Planning	Drilling Manager Lead Drilling Engineer Lead Completions Engineer HSE Officer Logistics Supervisor
Operations – Melbourne Based Rig Based	Drilling Manager Lead Drilling Engineer Logistics Supervisor Wellsite Manager Night Supervisor Wellsite Geologist HSE Officer Operations / Materials Engineer
Closeout	Drilling Manager Lead Drilling Engineer Lead Completions Logistics Supervisor Administrator

Add Energy strongly suggests that consideration is given to expanding the Completions Engineer role to include supervision of witnessing of completions tools testing, loadout of all equipment and site-based supervision during installation. The addition of a Drilling Superintendent should also be considered in support of the Drilling Manager during operations.

6. Personnel

6.1 Core Management Team

Add Energy comprises a team of more than 100 drilling, completions, reservoir engineering, and well control professionals, many being permanent employees whilst others are long-term consultants, and these are based around the world.

Our Well Engineering group is headquartered in Perth and it is from here we will fill most of our core team members. As most of our team are staff or principal consultants, we are in a unique position to be able to guarantee their availability. The remainder will be sourced from our pool of consultants, many who have been associated with Add Energy for many years and have extensive Australian experience.

The CV's of the Key personnel listed below are attached in the Appendices. Additionally, we have attached a sample of potential personnel to fulfil the Wellsite Supervisory roles in Appendix C, however we are unable to provide any certainty of availability this far out from operations. Closer to commencement of drilling we will supply a selection of supervisors for review and approval by Asset Energy.

6.2 Wellsite Team

As previously mentioned, it is customary for the wellsite operations teams to move from project to project and Add Energy has an extensive pool of rig-based supervisory personnel that can be made available. They are mostly independent consultants and at this stage it is impossible to confirm their availability given operations are planned for Q3 this year.

We have however included an indicative sample of CV's for personnel who have worked for us in the past and could be available again for this project.

7. Pricing

7.1 Schedule of Rates

s47G(1)(a)

8. Cost Estimates

8.1 Cost Estimate for Appraisal wells

Based on the schedule outlined and the personnel defined in the Resource Plan, we have estimated the project costs as below. The specific tasks to be undertaken are detailed in the Resource Planner (Appendix D):

Soft Planning Start

Drilling Managements Services s47G(1)(monthly retainer

Summary
REG
PLAN
CP
LOG
OPS
CLOSE
TOTAL

8.2 Alternative Proposal

Based on the schedule outlined and the personnel defined in the Resource Plan, Add Energy wish to propose the following alternative pricing proposal. The pricing below is proposed on a lump sum basis.

Drilling Managements Services (soft start) - s47G(1)(a)

Preliminary Planning and Services Tendering - s47G(1)(a)

Detailed Operations Planning - s47G(1)(a)

Operations – Start of rig mobilization until rig and all services and equipment is off location at end of final well - Day rate basis as per schedule of rates.

Close out – From end of Operations until project release - s47G(1)(a)

Terms and Conditions:

- The rate applies for the periods defined and is for provision of only personnel outlined in the Resource Planner and at the times therein. For personnel required outside of their designated work period (i.e. DWOP for field personnel or similar) the quoted day rates will apply. The fees are for personnel only and do not include any expenses such as travel, subsistence, etc.
- Personnel would work on an as required basis with the Drilling Manager responsible for scheduling of all working hours at his discretion to meet the project schedule, which will be agreed in advance with Asset Energy.
- The rates are in AUD and do not include GST.

9. QHSE

9.1 HSE Statistics

Total Lost Time Incidents (Note any fatalities)	Total Lost Work Days	Total Recordable Incidents	Lost Time Incident Rate	Total Recordable Incident Rate	Total Environmental Incidents
2019	0	0	0	0	0
2018	0	0	0	0	0
2017	0	0	0	0	0
2016	0	0	0	0	0
2015	0	0	0	0	0
2014	0	1	0	0	0
2013	0	1	0	0	0
Total Lost Time Incidents:	Those work related injuries or illnesses that result in a fatality, permanent disability or time lost from work of one day/shift or more.				
Total Lost Work Days	Total amount of days lost as a result of work related injuries or illnesses.				
Total Recordable Incidents	Those work related injuries or illnesses that resulted in Lost time or required Medical Treatment or Restricted Duties.				
Lost Time Incident Rate (LTIR) Formula:	Formula calculated by the number of Lost Time Incidents, divided by total exposure hours worked and multiplied by 1,000,000			No. of LTI's x 1,000,000 Total Hours	
Total Recordable Incident Rate (TRIR) Formula:	Formula calculated by the number of Total Recordable Incidents, divided by total exposure hours worked and multiplied by 1,000,000			No. of TRI's x 1,000,000 Total Hours	

Further information relating to Add Energy Quality, Health, Safety and Environment policies can be found in "We in Add Energy" (Appendix F).

10. Contact Details

Please contact any of the following for questions or comments related to this proposal.

Add Energy
Level 5, 1008 Hay Street
Perth, WA 6000, Australia

s22

Appendices

- Appendix A: Resource Planner
- Appendix B: Project History
- Appendix C: CVs
- Appendix D: Add Energy Capabilities
- Appendix E: ISO 9001 Certification
- Appendix F: We in Add Energy

Appendix A: Resource Planner

Appendix B: Project History

Pages 27 to 117 exempt in full
S22
S47G(1)(a)
S47G



COSL Drilling Europe Proposal to Asset Energy
COSLProspector Semi-Submersible MODU
10th January 2020 – Extension to 31st March 2020



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COSL Drilling Europe Proposal to Asset Energy
 COSLProspector Semi-Submersible MODU
 10th January 2020 – Extension to 31st March 2020

1. Introduction

COSL Drilling Europe (CDE), are pleased to offer Asset Energy the December 2014 delivered 6th Generation Semi-Submersible MODU the COSLProspector for their upcoming Baleen well, due to start late 2020 / early 2021.

As discussed in meeting of 7th November, this proposal is extended until 31st January 2020, as outlined in the commercial offer in section 8 below.

Further to phone call between s22 and s22 on Thursday 9th January 2020 this is now extended to 31st March 2020.

The COSLProspector is a GG 5000 DP3 unit with an 8-line mooring system

It has a nominal operational water depth range from 100 to 1500 metres, however shallower water depths are possible subject to analysis of local conditions. A sister unit, the Hai Yang Shi You 982, operated successfully in 80 metres of water over the summer of 2018 in North Asian waters and it is believed the COSLProspector is capable of operating in depths as shallow as 60 metres. The rig is currently operating in moored mode with DP Assist when required in water depths of 124 metres.

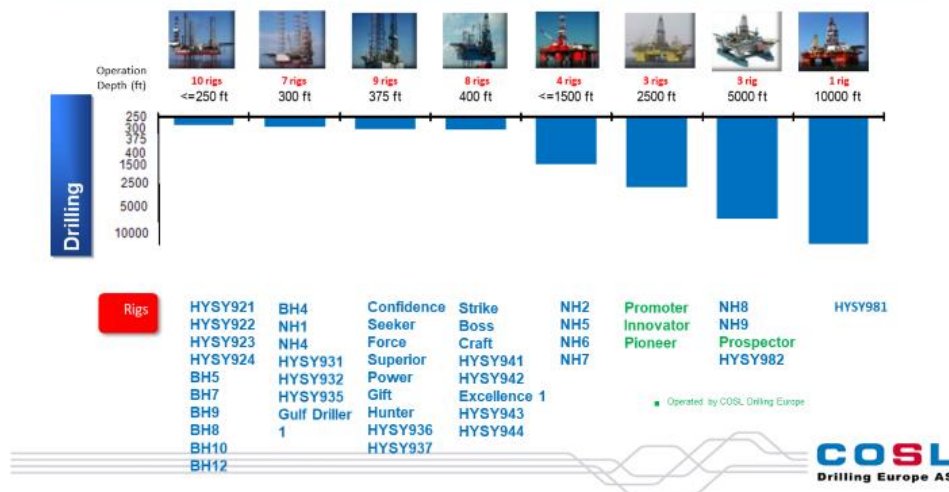
The rig is the fourth in a series of five built under the direction and supervision of CDE management between 2006 and 2018, it has a complete NOV drilling package which was manufactured in Nymo Norway and installed on the hull at Yantai Shipyard, Northern China.

2. COSL Drilling Europe

COSL Drilling Europe is part of the wider COSL group and arose from the purchase of AWILCO AS by COSL in 2008. COSL is the third largest global owner of drilling units according to IHS.

Total Rig Fleet in COSL World Wide

Moving from shallow to deep waters with 46 (45+1) offshore drilling rigs with different specifications and operating depths





COSL Drilling Europe Proposal to Asset Energy
COSLProspector Semi-Submersible MODU
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COSL Drilling Europe - History

- 2005 Company established as Offshore Rig Services and COSLPioneer ordered from Yantai Raffles (CIMC Raffles)
Contract with BP for production drilling on the Skarv field
- 2006 Awilco became major shareholder. Company renamed to OffRig
- 2007 Awilco took over remaining shares and merged Offrig into Awilco Offshore
Awilco already being owner of accomodation rigs –Rival and –Rigmar on contract for Conoco Phillips, and a newbuild programme of 8 Jack-up drilling rigs.
Entered into a long term contract with Norsk Hydro (Statoil) for production drilling on the Troll field.
- 2008 COSL took over Awilco Offshore and renamed the company to COSL Drilling Europe
- 2011 COSLPioneer delivered
- 2012 COSLInnovator delivered
- 2013 COSLPromoter delivered
- 2014 COSLProspector delivered



The COSLProspector is offered under the management systems of COSL Offshore Management AS

COSL Drilling Europe (CDE) - Organization



s22




Updated: 27.09.2019.
Version: 14

COSL Offshore Management AS operates units in Norway and UK and in the recent past Denmark and is has recently commenced operations in New Zealand.





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Drilling units – midwater <750m (DP & mooring)

COSLPioneer (2010)	COSLInnovator (2011)	COSLPromotor (2012)
 <p>3 x Exploration wells in 2011 – 2012 Water depth: 110 – 134,5m moored</p> <p>1 x Production well in 2012 Water depth: 109 m - Moored</p> <p>1 x Exploration well in 2012 Faroe Islands (West of Shetland) Water depth: 460 m – DP</p> <p>9 x Production wells in 2012 - 2014 Water depth: 291 – 378 m moored Visund oilfield (FMC trees)</p> <p>s22</p>	 <p>Re-Drilling of production wells on the Troll field. Water depth: 306 – 340 m - DP</p> <p>Horizontal multi lateral wells with intelligent completions</p> <p>Horizontal X-mas trees</p> <p>COSLInnovator has been engaged in 12 wells from 13.01.2012 to 30.12.2015.</p> <p>s22</p>	 <p>Re-Drilling of production wells on the Troll field. Water depth: 306 – 340 m - DP</p> <p>Horizontal multi lateral wells with intelligent completions</p> <p>Horizontal X-mas trees</p> <p>COSLPromotor has been engaged in 20 wells from 30.07.13 until present</p> <p>s22</p>



Drilling unit – midwater / deepwater <1524m

COSLProspector (2014)	
 <p>3 x Exploration wells in 2015, 2 wells in 2017 South China Sea</p> <p>Waterdepths: 1289 – 1368 – 1374 m</p> <p>Being prepared for mobilisation to New Zealand, to depart Bergen early Feb 2019</p>	<p>Design: GG 5000 design DNV-GL, 1A1 Column-Stabilized Drilling Unit (N) Clean, Ice (T), Winterized (Basic)</p> <p>DP 3 & mooring (POSMOOR ATA) Variable Deck Load 5000 mT 130 persons in single cabins Norsok S-002 for work environment</p> <p>Technical specifications based on «Statoil Standard Spec.» Light Ship Weight 26.000 mT Operational Displacement 40.700 mT Moonpool 24,2 x 7,2 meter (8,7 in Centre, retrac. rails) Deckbox 69,5 x 83,6 m (W x L) Pontoons 105,4 x 16,5 x 10,05 (L x W x H) ROV moonpools 2 ea. 5,5 x 5,5 m</p> <p>9 ea. Utility stations for 690/230 + 460 voltage. 60 Hz. +++++ 1 work ROV (COSL-Fugro) - Installed (2 ea. moonpools 5,5 x 5,5 m) Cementing unit (BJ Seahawk 1600 hp EI, remote oper)- Installed LWD/MWD/ Directional drilling (BHI). Cables in place Well logging. COSL-Geoservices- Cables in place Casing services. COSL and Franks. Using Rig Hydraulic Ringline Wireline logging. Schlumberger. Unit removed Well testing- Prepared Coiled tubing- Prepared Subsea completion- Prepared</p> 



The management system used by CDE is known as CMS and is accessible to all employees via the internet and company intranet. CDE rigs use the industry leading Star FSM maintenance system.

COSL Drilling Europe Proposal to Asset Energy
 COSLProspector Semi-Submersible MODU
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Lean and dynamic Management System

- Crew involvement in development - user friendly and practical procedures
- Identical rigs - shared operating procedures (level 3)
- Short way to management decisions – keeps it current

Company Management System

[CMS Home](#)
 [Free text search](#)
 [Search by position](#)
 [Recent updates](#)
 [Search job description](#)
 [Send feedback](#)

Units

- COSL Planner
- COSL Inspector
- COSL Promoter
- COSL Prospector
- COSL Risk
- COSL Rigstar
- Project
- Base
- Office

[Clear all filters](#)

Process Group

- Marketing & Contract
- CRITC
- Operations
- Finance & Accounting
- HR/ Administration
- Project

Document Type

- HSE Objective
- Manual
- Work Instruction
- Checklist
- Form
- Procedure

Status	Last Changed	Document Number	Title	Process Group	Function	Document Type	Link
●	7/18/2018 12:30 AM	L4-MAR-COSLProspector-242643	Ballast Water Manual	Operations	Marine	Manual	COSLProspector
●	7/11/2018 12:30 AM	L4-MAR-COSLProspector-242886	Communication manual	Operations	Marine	Manual	COSLProspector
●	6/28/2018 12:30 AM	L3-MAR-229328	Contained Rig Manual	Operations	Operations	Manual	
●	4/5/2018 12:30 AM	L3-MAR-67836	DP-CPM Manual	Operations	Marine	Manual	
● B	7/15/2018 12:30 AM	L2-DRL-48313	Drilling Operations Manual	Operations	Drilling	Manual	

QHSE: Work planning made simple

PLAN		
<p>UNDERSTAND THE TASK</p> <ul style="list-style-type: none"> Do I understand the work? Break down the task into sub-tasks Is an SWP needed? Identify hazards What are the consequences? Evaluate simultaneous activities Affects critical barriers? 	<p>IDENTIFY REQUIREMENTS</p> <ul style="list-style-type: none"> Do I have the resources? Required competences? Required resources? Required equipment/ tools/materials? Task placed with resources? Who needs to be informed? 	<p>MANAGE RISK</p> <ul style="list-style-type: none"> Evaluate risk, and confirm that roles and responsibilities are understood Establish STOP criteria/ evaluate using an alternative? Are all personnel qualified/ authorized to start the activity?
<p>EVALUATE</p> <p>Evaluate the results</p> <ul style="list-style-type: none"> Did the job go as planned? Can the job be performed in a safer manner? Can the job be performed more efficiently? Is experience transfer needed? Update procedures/ methods? Change equipment? Revised for efficiency? 		
<p>EXPERIENCE TRANSFER</p> <p>Ensure that revised changes are transferred for learning and improvement</p> <ul style="list-style-type: none"> External <input type="checkbox"/> Internal <input type="checkbox"/> 		



COSL Drilling Europe Proposal to Asset Energy
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QHSE: Managing critical barriers

Identifying barriers

- Based on bowtie / perf. standards
- Tech barriers linked to maint. syst.

Managing barriers in operation

4.3.4 Meeting with service companies (daily)

The meeting should include:

- Planned operation related to drilling and marine operations
- Weather Forecast
- Operational Issues
- Barriers related to critical operations
 - Simultaneous operations
 - Required Competence for operation
 - Critical maintenance
- Logistics



- Barriers checked against operations
- All 3rd parties involved in process
- Barriers reported on daily drilling report



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Strong and consistent drilling performance



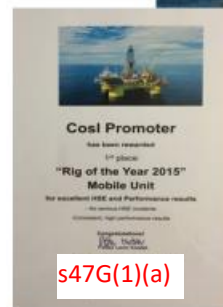
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COSLPromoter



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COSL Drilling Europe Proposal to Asset Energy
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3. Rig History

After delivery late in 2014 from Yantai shipyard the rig drilled 3 wells in the South China Sea over Q2 / Q3 2015 and was then used as a training facility back in the shipyard between Q1 2016 and Q2 2017, with a POB of around 100 over that period. The rig was managed by COSL Drilling China, with several CDE personnel holding senior roles on board from the time the rig was delivered from the shipyard.

A further 2 wells were drilled in the South China sea over Q3 2017 before the rig was mobilised to Norway, arriving there in March 2018 after a self-propelled voyage over 4 months averaging 6 knots.

After a high-level reallocation of COSL's MODUs, the decision was taken to mobilise the COSLProspector to New Zealand in 2019 to service the contracted work in New Zealand and to market it in Australasia and elsewhere for work after mid-2020.

The rig departed Bergen, Norway in mid-February 2019 and arrived in the Taranaki Basin offshore New Zealand in mid-June after a voyage in self-propelled mode with an average speed between 6 and 6.5 knots.

The 5-year SPS due in December 2019 was brought forward and was commenced in Bergen prior to departure and completed over the course of the voyage. The rig started its' first contract in New Zealand at the end of June.



COSLProspector off the Perth Coast May 2019 during stopover en route to New Zealand

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4. Features of COSLProspector

Design

The CDE rig design allows for ease of integration of 3rd party services, lowering installation costs, freeing up deck space and reducing sea freight and lifting operations.

Heavy Tool Store & cargo elevator. Picture from Drillfloor



There are 9 utility stations which provide a range of voltages as well as comms, PA and alarms.

Utility Stations for 3. Party



The design philosophy is to use electrical power generated by the rig instead of having diesel power packs on deck and removes the need to limit use of equipment reliant on diesel power during critical operations when hydrocarbons are present.

The rig cranes are electrically powered. This also reduces noise levels.

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COSLProspector vs traditional midwater semi – Tech. Safety

- **Highest standard of ignition source control, automatic detection-, shut-down and fire control systems (ref. newbuild acceptance)**
- **Extensive remote monitoring, operation and automatic shut-down/fire fighting systems**
- **Rigs are built in accordance with high work environment standards (Norsok S-002)**
- **Reduced manual handling and personnel exposed to hazards**

Fuel Efficiency

The rig is powered by 6 x Rolls Royce B3240 V12A engines each delivering 7840 HP. Each engine drives a Siemens AC Generator each of which outputs 6050 KVA at 60HZ.

Rig power is managed by a Kongsberg PMS system.

The combination of modern power plant and an advanced power management system results in very efficient fuel use for a rig of this size and capability.

The sister rigs in the North Sea, operating in DP only mode in water depths between 306 and 348 metres, return average fuel consumption ranging from 30 metric tonnes per day in summer to 40 metric tonnes per day in winter.

COSLProspector consumption ranged between 26 and 31 metric tonnes per day in DP only mode in the South China Sea over Q2 / Q3 2015 in DP only mode in 1400m of water.

Fuel consumption on a sister rig moored with DP assist in 115m of water in the UK sector of the North Sea over Q2 / Q3 2018 averaged 20 metric tonnes per day.

Another sister rig operated in 80m water in N Asia in the summer of 2018 returned a range between 17 and 25 metric tonnes per day.

ROV

2 ROV moonpools are built into the deckbox of the rig, with hatches above and below for access. Heavy Weather Cursor Systems are in place. The ROV workshop and ROV control room are adjacent to the moonpools, again in the structure of the deckbox. The design is such that incumbents can be changed out to suit clients' choice, subject to rig time being available. Oceaneering are the current incumbent.

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Cement Unit

A BHGE BJ 1600 electrically powered cement unit is installed on the rig. Power, cooling and fire and gas systems are fully integrated with the rig systems. It features a flexible setup with batch/mix tanks located on top of the unit.

Due to it's being fully automatic and designed to be remotely controlled, there is no requirement for the Cementer to be with the unit while it is being operated, this is usually done from an adjacent office.

In the Norwegian sector of North Sea there is agreement between the cementing companies whereby their personnel are able to achieve competency on each others' units thereby enabling operators to use their cementing company of choice without expensive and time consuming change out of cement units between contracts.



Mud and Mudlogging Labs

There is an office and a Mud laboratory adjacent to the mud pit area with accommodation for the Mud Engineer, Cementer and Mudlogger. The gas chromatograph can be housed in an adjacent space. The cement unit can be operated from this office.

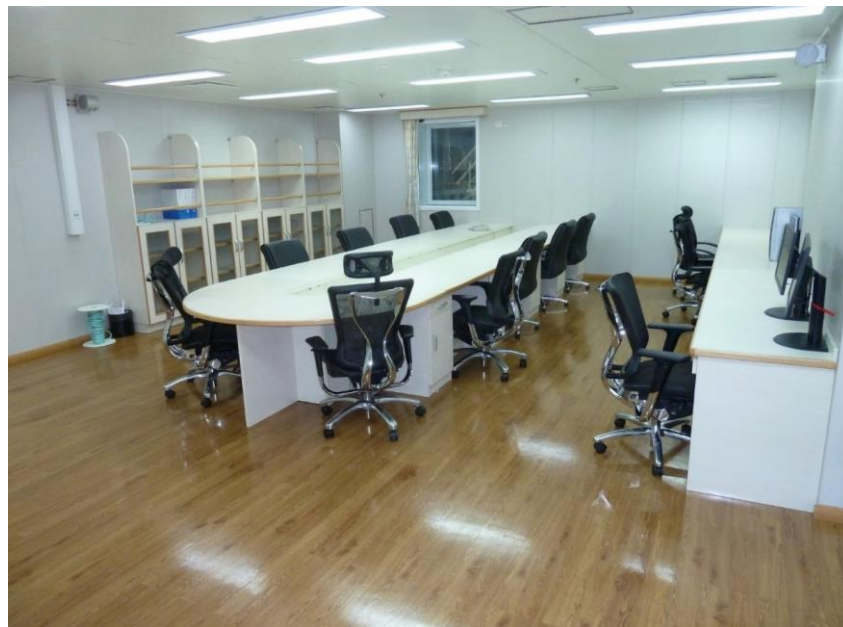
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Alternatively, there is space for a mudlogging unit forward / starboard of the cement unit adjacent to the entrance to the shaker room, close to a utility station for power, comms, fire & gas etc.

Operations Room

A large room is located in the accommodation area adjacent to the drilling and company offices, it can be used to house the Mudlogging Data Engineer, MWD and LWD Operators, Directional Drillers and other specialist Company 3rd party and Company personnel.

Cable trays are in place from the drilling package to the area for sensor cables, monitors etc, thereby providing a comfortable workspace which enhances collaboration across various members of the offshore team. It is designed to be open to all service companies.



Wireline

There is a dedicated platform at the aft end of the rig for the wireline unit, the wireline operating system can be fully integrated into the Cyberbase system if required.

Burner Booms and Well Testing lines

2 x 30m burner booms are permanently installed on the rig at the Port and Starboard Aft end.

Each boom has 6 lines:

- Pilot Ignition
- 6" HP Gas
- 4" LP Gas
- 4" Oil
- 4" Compressed Air

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3" Spare Line

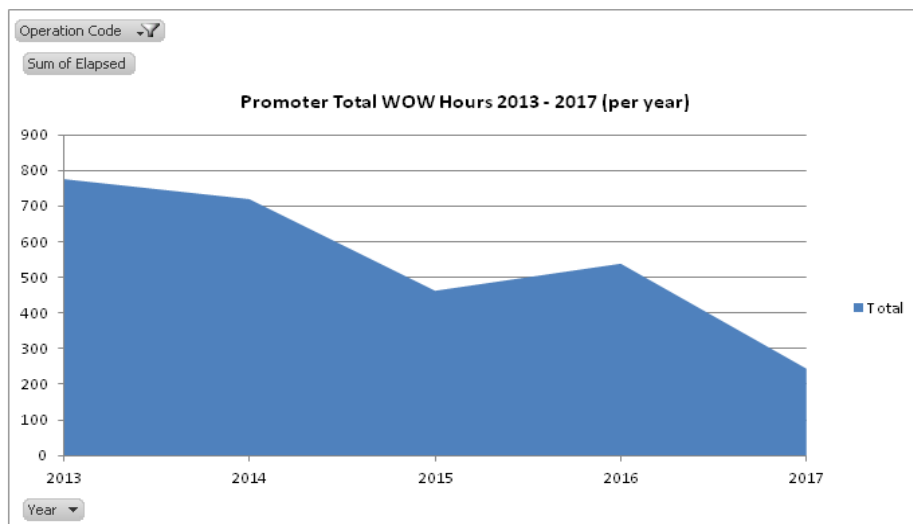
There is a 110m2 dedicated well test area at the Aft Starboard corner. Due to the shallow water depths of Asset Energy's locations, extra space will be available in the riser storage area.

A 3" 15k psi Well Test line is permanently in place between the Drill Floor and Well Test Area



Waiting on Weather Reduction

Reduction in weather related downtime has been a major focus since CDE started operations in the North Sea. Application of lessons learned and engineering enhancements have combined to enable a marked decrease in downtime over several years of operations in the harsh North Sea climate.





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Reducing WOW

Improved performance by change in operational practice

- Thrust response, rig positioning/ heading, based on experience
- Increased operational limitations (AHDW)

Operational Experience

Increased DP footprint – expanding disconnect criteria

- Revised analysis based on drift testing at Troll



Pitch/ Roll filtering – reducing roll/pitch motion

- Kongsberg software change



Revised procedure for working at heights/ work over sea

- Near standby can be performed by own MOB boats
- Not dependent of near stand-by Vessel

Slip Joint Cradle avoid slip joint lifting by rig crane

- Installed skidding arrangement at catwalk



Reducing WOW

Modification of Diverter running tool to be able to lift LMRP

- Allows disconnect & landing of LMRP without removing diverter

Knuckle Joint – flexibility for BOP run/pull weather window

- Allows partial BOP run/pull operation. Hangoff in spider.
- Delivery in September -15



Handling of BOP test tool

- Able to handle in all weather



It is believed this experience will be directly applicable to weather conditions in the Bass Strait

Active Heave Compensation

The CDE fleet all have active heave drawwork systems, which deliver significant benefits over the traditional passive compensation systems, mainly through greater tolerance of heave for operations involving BOP landing, X-mas tree handling and lock to bottom operations.

It is understood that after risk assessment there may be a requirement for a backup compensation system as was the case for the COSLInnovator sister rig in 2018 in the North Sea which utilised a temporary backup heave compensation system during well testing.

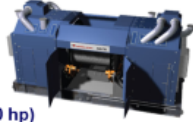
In the event of such a requirement this can be accommodated at Asset Energy’s request, to their account.



COSL Drilling Europe Proposal to Asset Energy
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COSL Rig vs traditional midwater semi – Active Heave Drawworks

COSL Rig



- Active Heave Drawworks (4600 hp)**
- > Run, land and retrieve BOP, X-mas tree, casing-/tubing hangers and plugs in adverse weather
 - > Compensate full load capacity (no stroke restrictions)
 - > Automatic driller function - higher drilling speeds
 - > Higher quality of the LWD measurements
 - > Advanced control system - Max pull, accurate stick up, constant speed, drill floor saver, various warnings etc.

Standard midwater semi

- Passive Heave Compensated drawworks (3000 hp)**
- > Limited weight and height capacity
 - > Take time to adjust
 - > In most cases no automatic drilling function. Lower drilling speed and less quality of LWD measurements
 - > Basic control system. If manually operated, take capacity from the driller
 - > More waiting on weather

BOP landing	2,5m+ heave	BOP landing	1,5m heave
X-mas tree	2,5m+ heave	X-mas tree	1,5m heave
Locked to bottom ops.	3,5m+ heave	Locked to bottom ops.	2,0m heave

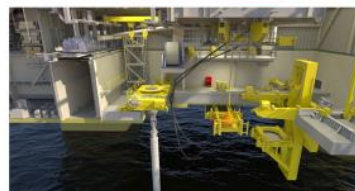


X-mas tree and BOP handling

The rig is equipped with 4 guidelines with 24mm wire for maximum water depth of 1,500 metres. There are 4 x NOV guideline tensioners on electrical winches which have active heave / constant tension. Each tensioner has a nominal maximum tension capacity of 6.5 metric tonnes.

'Trip Saving'

- COSLProspector Hang-Off Trolley's primary function is to suspend riser and BOP Stack
- COSLProspector custom designed for purpose:
 - Internal profile prepared for riser and pod umbilical (✓)
 - Sliding plates with slots for spider (✓)
 - Parking dogs (✓)
 - Hydraulic supply for spider (✓)
- Remote Operation of all functions (hands off) (✓)



The rig is designed to handle xmas trees of up to 100 metric tonnes weight. Two trees can be stored on skids on the rig on the starboard main deck.

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COSL Rig vs traditional midwater semi – X-mas tree handling

COSL Rig

- 80 mT platform cranes with alternatively 4 or 3 fall blocks
- Skidding system, vertical and horizontal guiding
- Dedicated stack up area separate from BOP storage area

Standard midwater semi

- 50 mT cranes. Not able to handle trees in other than perfect weather condition



Classification: Restricted

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It is common for the sister units in the North Sea to move between infield well locations with the BOP and riser suspended thereby saving considerable rig time and reducing exposure to adverse weather, the COSLProspector is also designed for this.

DP / DP Assist

The rig has three modes of station keeping:

- Moored only
- DP only
- DP Assist (POSMOOR-ATA)

The DP and mooring systems are integrated through the advanced Kongsberg Maritime K-POS DPM-32 system.

The rig offers 4 double NOV BLM / MW 350 winches rated to 432 metric tonnes pull and 570 metric tonnes static braking capacity. Each winch has 750 metres of 90mm K36WS wire which has a breaking strength of 675 metric tonnes.

The COSLProspector does not have chain lockers or anchors. Prelays are commonly used with rigs of this design in shallow water depths.

Much learning by CDE from continuous North Sea Operations since 2011 has enabled the rigs to operate on the Troll Field all year round on DP only in water depths between 306 and 348 metres.

Several factors combine to facilitate this, a key one being that the COSLProspector and its sister units have stated Emergency Disconnect Sequences (EDS) of less than 12 seconds versus the more conventional times of 40 seconds or more. Disconnect time of less than 10 seconds has been achieved during trials on these rigs.



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This gives time to react with smaller watch circles which could not be considered with conventional DP rigs.

Snapshot below from WSOG sheet for sister rig in 332m of water in the North Sea.

Dynamic Positioning - Advantages

UTM N 6744261 7 E 531139.2 DATUM: ED50-S62 Template heading: 177° (exact: 177.1°) Waterdepth: 332m RIG heading: 177°

Condition	Green	Advisory	Yellow*	Red
Position footprint Deviation from setpoint :BF3 Normal operation	< 5 meter	±5 meter	>12 meter **	≥22 meter or immediately when confirmed that situation cannot be controlled within limits.

DP3 System Technical Info

➤ Stable and reliable system -> 0 unintended disconnects in COSL Drilling Europe history

Another benefit, more specific to AssetEnergy’s scope, is the reduction in the number of support vessels required for this rig.

The COSLProspector is capable of moving under its own power, either infield or on a transcontinental voyage. No towing or accompanying vessels are required.

It is not uncommon for moored units to require two and sometimes three AHTS vessels for rig moves. For the COSLProspector it is possible to utilise just one AHTS through use of 2 sets of prelays.

The daily cost to charter, crew and fuel an AHTS in Australia is in the range of US\$25,000 to US\$35,000 resulting in the potential to realise significant savings over the course of the project by use of a self-propelled MODU.

POB

The rig has a max POB of 130 in single person cabins as per Norwegian Specification. Typical crew is around 50 COSL personnel plus 10 catering.

Senior members of the rig management hold the required marine certification as per Singapore MPA Flag requirements to operate the vessel. This avoids the requirement to have a full shadow marine crew.

It is anticipated that up to 4 additional ratings may be required on board for the sake of good industrial relations in Australian waters. That being the case approximately 60- 65 beds would be available to AssetEnergy.



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5. Vessel Safety Case

CDE has direct experience of the Australian Safety Case regime.

s47G(1)(a)

The material prepared for the COSLProspector for the NOPSEMA submission was utilised to prepare the UK safety case which was accepted by the UKHSE in 2018.

A version of this was submitted to the Worksafe New Zealand High Hazard Unit (HHU) in December 2018. The HHU accepted the safety case for the rig in June 2019.

s47G(1)(a)

6. Safety Case Revision

In the event of acceptance of this proposal and subject to Non-Disclosure Agreement or Contract being in place (whichever is first), CDE will provide draft copies of the vessel safety case for the COSLProspector to Asset Energy to enable work to start on the safety case revision well in advance of commencement of operations.

All costs relating to the preparation of the safety case revision will be to Asset Energy's account.

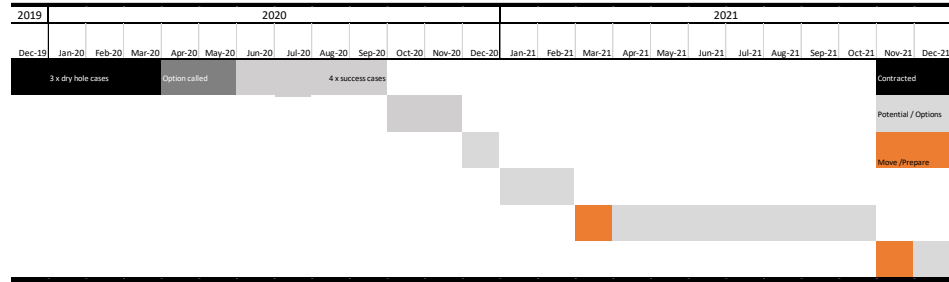
7. Rig Schedule

s47G(1)(a)



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s47G(1)(a)



8. Commercial Offer

Commencement Window

An initial commencement window is proposed between 1st September 2020 and 31st Jan 2021, this can be amended by mutual consent over the course of Q1 and Q2 2020.

Day Rate

Operational day rate s47G(1)(a) r Asset Energy’s New South Wales scope over 2020 / 2021.

This is for use of the rig in Moored or DP Assist Mode for water depths up to 250 metres.

- Moving Rate s47G(1) Operating Rate
- Standby Rate s47G(1) Operating Rate
- Re-Drill Rate s47G(1) Operating Rate
- Force Majeure Rate s47G(1) Operating Rate
- Repair Rate Repair rate s47 of operating rate shall apply for the first 24 hours of downtime over a 30-day period, thereafter zero rate. Any unused downtime shall be carried forward to the next 30 days subject to a maximum of 36 hours in any 30-day period

These rates are valid for work carried out by Asset Energy before 31st August 2021.

Mooring / Riser Analysis

As mentioned in introduction above, operations in water depths below 100 metres are outside the nominal operating specification of the COSLProspector and as such detailed mooring and riser analysis studies will be required to be carried out.

Cost of such studies shall be to Asset Energy’s account.

In the event that proposal is accepted, an Agreement is put in place and the work commences, 50% of the cost of the studies shall be given as a credit to Asset Energy on the first invoice from COSL.

Mobilisation

s47G(1)(a) from the Taranaki Basin area to cover all transport, fuel, crew and biofouling costs.



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Mobilisation will be deemed to have taken place when rig is within 1 NM of Company’s first well location.

In the event Asset Energy wish to change out incumbent service providers, rig will be on standby rate while this work is done.

Main third-party providers currently on the rig are:

MWD / LWD / Directional Drilling / Mudlogging	Halliburton
Cementing	Baker Hughes
Wireline	Schlumberger
ROV	Oceaneering
Tubing Running Services	Franks

Demobilisation

s47G(1)(a)

De-Mobilisation will be deemed to have taken place when rig has moved 1 NM away from Company’s last well location.

Conditions of Offer

s47G(1)(a)

Best Regards

s22

General Manager, Business Development

COSL Drilling Europe AS

Perth, WA 6000;

12 Bon Accord Square

Aberdeen, AB11 6DJ

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FINANCIAL CAPACITY

Assessment date	Title	NEATS reference	Guaranteed current indicative expenditure commitments (A\$)
30 March 2020	PEP-11	Z4NMT2	s45

s45

¹ Subject to a State of Western Australia Direction under the Petroleum and Geothermal Energy Resources Act 1967 for the decommissioning of the Waggon Creek 1 and Vienta 1 petroleum wells and site restoration by 31 March 2020.

FINANCIAL CAPACITY

s47C

Prepared by: s22

Consultation: n/a

Approved by: s22

Date: 30 March 2020

Title	Titleholders	Title interest
PEP-11	Asset Energy Pty Ltd	85%
	Bounty Oil & Gas NL	15%

Bounty Oil & Gas NL

Bounty Oil & Gas NL (ACN 090 625 353) is an ASX listed (ASX: BUY) Australian registered entity. The principal activity of the company and the group during the financial year was that of exploration for, development, production and marketing of oil and gas (petroleum). Investment in listed entities is treated as a secondary activity and business segment.

Asset Energy Pty Ltd

Asset Energy Pty Ltd (ACN 120 013 390) is a wholly owned subsidiary of Advent Energy Ltd (ACN 109 955 400), a public unlisted company.

s45

s45

Titleholder History

s45

Change of title ownership history

s45