



Nautical Petroleum Ltd – Environmental Performance Report 2019 – Offshore Operations on the United Kingdom Continental Shelf

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1. Introduction

Nautical Petroleum Ltd. (NPL) drilled exploration well 3/17a-3 targeting the Chimera prospect commencing September 2019. The well site is in the Northern North Sea, around 225nm North East of Aberdeen and 75nm East of Shetland. The prospect lies within a core area for NPL, 50km north from the Kraken field.

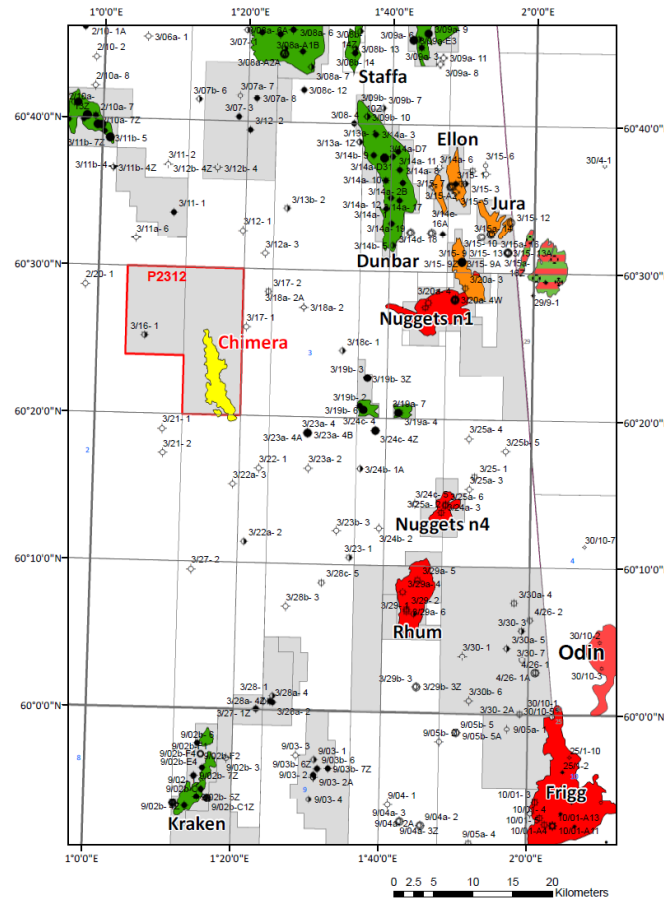


Figure 1-1 Licence Block P P2312, Chimera Prospect and Well Location

NPL appointed Stena Drilling Ltd. (Stena) as their drilling contractor for the provision of the Stena Don Semi-Submersible.

1.1 Entity

NPL is a wholly owned subsidiary of Cairn Energy PLC. As Licence Holder and Well Operator, NPL fully adopt the Cairn Energy PLC management systems. This includes Operating Standards (COS) and Corporate Responsibility Management System (CRMS).

All references to NPL can be read to encompass both entities for the purposes Chimera project documentation.

NPL hold a 45% working interest, Suncor Energy U.K. Ltd. 40% and DNO Ltd. 15% in relation to License Block P2312 and the Chimera exploration well 3/17a-3.

2. Description of the Environmental Management System

Cairn operates an integrated health, safety, environment and corporate responsibility management system. Collectively known as the Cairn Corporate Responsibility Management System (CRMS), this applies to all Group activities, including activities of subsidiaries such as NPL. NPL's activities are concentrated on oil and gas exploration, development, and production. The Cairn CRMS is referenced against the Cairn Business Principles within our Code of Ethics, which are applicable to all Group activities and all disciplines within the business. The Cairn CRMS has been verified against the OSPAR requirement 2003/5 since 2014 and was last reverified by ERM CVS in June 2020. All offshore operations undertaken by NPL were undertaken in full compliance with the Cairn CRMS.

3. Environmental Policy, Goals and Objectives

The Cairn Environmental Policy (CEP) is reviewed annually and is given below.



CORPORATE ENVIRONMENT POLICY (CEP)

Cairn is committed to protecting and sustaining the environment and we seek to minimise our potential impact on the environment. We aspire to high standards of practice through a process of continual improvement of our management systems and performance including the adoption of international codes and standards where practicable. To meet this commitment, we will implement management systems in our operations that accord with the requirements of our environmental standards and:

- Comply with applicable environmental laws and regulations
- Adopt a precautionary approach to avoid and, where this is not feasible, reduce negative impacts to the environment and biodiversity to as low as reasonably practicable (ALARP)
- Ensure climate change risks are integrated into our business decisions and report transparently on risks and opportunities over the short, medium and long-term
- Conduct impact and risk assessments in the planning stage and put in place site specific Environmental Management Plans and, where necessary, Biodiversity Action Plans before commencing operations
- Engage with local or affected communities to utilise their knowledge of the local environment to assist in protecting and conserving biodiversity and environmental resources
- Encourage the development and sharing of environmental knowledge and technologies and seek to apply the best available techniques to reduce the impact of our activities
- Promote efficiency in our use of energy and water with the aim of conserving natural resources, reducing atmospheric emissions and helping to mitigate impacts
- Reduce and minimise greenhouse gas emissions in project design and in operations without compromising the safety of people and communities
- Set objectives and targets for improving our environmental management and performance including monitoring and reporting openly on our performance
- Ensure that we have the resources and skills necessary to achieve our environmental commitments
- Provide environmental training to our employees and actively promote awareness of environmental and biodiversity issues
- Ensure that contractors are aware of and comply with our environmental policies and standards and where necessary, work with our contractors to raise their standards to meet our requirements
- Monitor our own and contractor performance, competence and capabilities, and conduct regular audits to ensure our controls are effective and that our environmental objectives and targets are being achieved
- Ensure that environmental accidents, incidents, near misses and non-compliances with procedures are reported and investigated and the lessons learned are shared
- Prevent pollution and ensure that an appropriate response capability is in place and regularly tested, so that environmental incidents can be responded to in a timely and effective manner should they occur
- Work with regulatory and industry bodies in the formulation or improvement of laws, policies, regulations and good practices aimed at protecting the environment and biodiversity
- Use our leverage and influence with business partners to promote high standards of environmental management
- Consult with and respond to the concerns of other stakeholders on our environmental and biodiversity performance
- Consult and involve our employees and their representatives regarding our environmental management system and performance

Responsibility for compliance with Cairn's Group Environment Policy and standards lies with the Chief Executive, Directors, Managers and their staff.



Simon Thomson
Chief Executive

Effective: October 2019 - October 2020

Cairn sets Group KPIs and functional objectives annually which apply to all subsidiary organisations, including NPL. The Corporate Responsibility Objectives cover leading Key Performance Indicators (KPIs) in the areas of Governance, People, Society, Environment and Lagging KPIs including zero spills to sea. From an environmental perspective, the following leading targets were set as the Corporate Responsibility Objectives for 2019:

Environment	
Resource Use	
1. Deliver compliance with ESOS phase II	<ol style="list-style-type: none"> 1. Assimilate ESOS submission and verify 2. Submit ESOS to regulator 3. Commence implementation of improvement programme
Energy and Emissions	
1. GHG emissions monitoring	<ol style="list-style-type: none"> 1. Verify GHG emission data 2. Review outcome of CDP submission 3. CDP submission for 2019
2. Track non-operated productions GHGs	<ol style="list-style-type: none"> 1. Compile tracker for Catcher and Kraken 2. Assess position against ETS allowances
3. Ensure tracking of gaseous emissions in place	<ol style="list-style-type: none"> 1. Full compliance with regulatory reporting for all projects 2. Data available at Head Office in line with CR Plans
Discharges, Waste and Sound	
1. Ensure tracking and compliance of all discharges and wastes	<ol style="list-style-type: none"> 1. Full compliance with regulatory reporting for all projects 2. Reporting to Head office in line with CR Plans
Biodiversity	
1. Maintain support for New Venture environmental risks	1. All NV IPs to have sections on environmental and biodiversity risk, maintaining no-go position on World Heritage sites and risks associated through E&A phase properly assessed and documented (licence entry, seismic, drilling, testing) to reflect ability to move at the pace outlined in the investment plan
2. Provide operational environmental support for operated wells	<ol style="list-style-type: none"> 1. UK Complete timely submission Environmental Statement or exemption documentation in support of Chimera in line with agreed schedule 2. Norway: Complete timely submission of Environmental Risk reports form Lynghaug and Godalen. 3. Mexico: Ensure Mexico ESIA completed according to the regulations for B9.

Table 1-1: Environment CR Objectives 2018

In addition, to these leading indicators, Cairn and NPL align and report lagging performance data to the International Association of Oil and Gas Producers (IOGP) which includes targets for Lost Time Injury Frequency, Total Recordable Injury Rate and Oil Spills. NPL had no IOGP reportable incidents in 2019.

Objectives for leading and lagging indicators are set over and above regional (including UKCS) commitments for reporting set by regulation and permit conditions.

4. Summary of Environmental Performance

This section details the environmental performance as reported during the drilling of the Chimera well by NPL using the Stena Don Semi-Submersible drilling unit on the UKCS in 2019.

The data used in this section is derived from direct reporting by NPL and its contractors and is taken from the European Emissions Monitoring System (EEMS).

4.1 Oil and Chemical Spills

There were no accidental oil or chemical spills during the Chimera well operations and no Petroleum Operations Notice No.1 notifications were submitted during the drilling of the well or its associated operations.

4.2 Permitted Discharges of Oil to Sea

No application was made for the discharge of reservoir drill cuttings, and a zero return was submitted through the EEMS system. All cuttings associated with reservoir hole sections were returned to shore for treatment and disposal.

4.3 Chemical Use and Discharge

Chemical use and discharge associated with the Chimera well on the Stena Don was undertaken in full compliance with the Offshore Chemical Regulations 2002. A total of 1,055.82 tonnes of chemicals were used in the drilling of the Chimera well, of which 189.81 tonnes were discharged to the marine environment. Of this discharge, approximately 98.6% or 187.24 tonnes were chemicals designated as posing little or no hazard to the marine environment (PLONAR).

Ten of the chemicals had a substitution warning. These were only selected where no viable alternative was available to ensure the safety and integrity of the well design. Of these only 0.54 tonnes (542.77 kg) of one (Halliburton Energy Services SEM 8 CEMENT (CEFAS Reg No 2119)) was discharged to the marine environment. This represents only 0.286% of the mass of chemicals discharged during the Chimera well.

4.4 Waste

During the drilling of the Chimera well by the Stena Don, 626.20 tonnes of wastes were produced and returned to shore for appropriate treatment and disposal at licensed facilities.

Of these wastes, 529.9 tonnes were oil based, the oil was recovered (48.28 tonnes) and recycled. Some 351.60 tonnes were non-hazardous solid waste which was sent to landfill and 130.02 tonnes was wastewater which was disposed in accordance the waste management site authorisations.

4.5 Atmospheric Emissions

A total 6,322.24 tonnes of CO₂ were emitted during drilling of the Chimera well by the combustion of 2,303.2 tonnes of marine diesel. This includes the Stena Don and the platform supply and standby vessels which supported the operation.

A further 204.60 tonnes of CO₂ were emitted by the combustion of 66 tonnes of aviation fuel for helicopter operations throughout the drilling programme.

5. Conclusion

This report summarises NPL environmental performance for the Chimera well drilled on the UKCS in 2019. Submission of this report ensures ongoing compliance with the Environmental Management System Requirements in relation to OSPAR Recommendation 2003/5 to Promote the Use and Implementation of Environmental Management Systems by the Offshore Industry.

NPL is a wholly owned subsidiary of Cairn Energy PLC (Cairn). Cairn has explored, discovered, developed and produced oil and gas in a variety of locations throughout the world with more than 20 years' experience as operator and partner in all stages of the oil and gas lifecycle. Cairn's integrated management system is verified as being aligned with the principles of ISO 14001 as per the OSPAR recommendation 2003/5.