



2015 UK Environmental Statement

OPERATIONAL EXCELLENCE



environmental excellence and sustainability

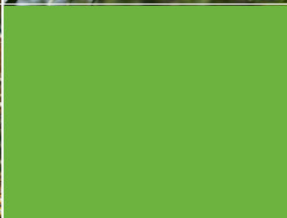
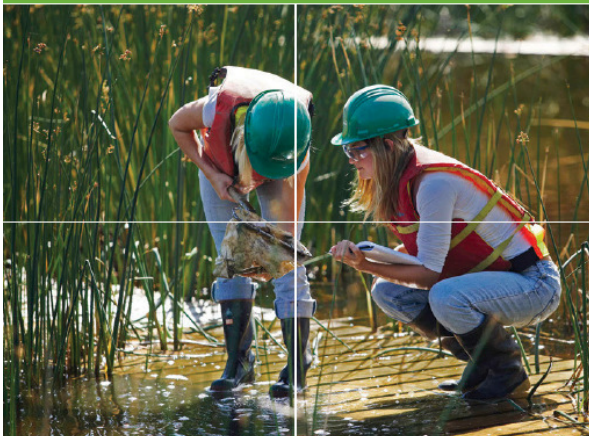


Table of Contents

	Page
1 INTRODUCTION	3
2 OUR ACTIVITIES AND ASSETS IN THE UK.....	3
2.1 SUMMARY OF UK ASSETS	3
2.1.1 <i>Operated Assets</i>	3
2.1.2 <i>Non-operated Assets</i>	3
2.1.3 <i>Exploration</i>	4
3 ENVIRONMENTAL PRINCIPALS AND POLICY	4
3.1 ENVIRONMENTAL POLICY.....	4
4 ENVIRONMENTAL MANAGEMENT.....	4
4.1 CORPORATE STANDARDS.....	4
4.2 ENVIRONMENTAL MANAGEMENT SYSTEM	5
4.3 AUDITS AND INSPECTIONS	5
4.4 STAKEHOLDER RELATIONS	5
5 ENVIRONMENTAL ASPECTS AND IMPACTS	6
5.1 WHAT IS AN ENVIRONMENTAL ASPECT?	6
5.2 OUR KEY ENVIRONMENTAL ASPECTS	6
5.2.1 <i>Atmospheric Emissions</i>	6
5.2.2 <i>Spills of Crude Oil</i>	6
5.2.3 <i>Legislative Compliance</i>	7
6 PERFORMANCE.....	7
6.1 LEADING INDICATORS.....	7
6.2 LAGGING INDICATORS	7
6.2.1 <i>Spills of Crude Oil or Chemicals – Loss of containment</i>	8
6.2.2 <i>Ensure Legislative Compliance</i>	8
7 APPENDIX 1: SUNCOR EHS POLICY STATEMENT.....	9
8 APPENDIX 2: ENVIRONMENTAL EMISSIONS 2015 DATA	10
8.1 SPILL AND ACCIDENTAL DISCHARGES	10
8.2 OPERATIONAL WASTE AND DISPOSAL MEANS.....	10
8.3 CHEMICAL USE AND DISCHARGE	11
8.4 ATMOSPHERIC EMISSIONS.....	12

1 INTRODUCTION

Suncor Energy UK Limited (SEUK) is required under the Oslo-Paris Convention (OSPAR) agreement to have in place an environmental management system that meets the requirements of *OSPAR Recommendation 2003/5 to Promote the Use and Implementation of Environmental Management Systems by the Offshore Industry*. Under OSPAR, oil and gas companies operating in the United Kingdom Continent Shelf (UKCS) must prepare and submit a statement on environmental performance for the preceding calendar year on an annual basis.

This report has been compiled to meet this requirement and details our commitment to environmental management. It describes our strategy, including our policy, goals and objectives and gives a summary of our environmental performance.

Any questions regarding this report should be directed to SEUK Environment, Health and Safety (EHS) department via our Aberdeen reception on 01224 565600 or by writing to us at SEUK, 28b Albyn Place, Aberdeen, AB10 1YL.

2 OUR ACTIVITIES AND ASSETS IN THE UK

Suncor is Canada's premier integrated, high-growth energy company, with the assets, people and financial strength to compete globally. Our operations include:

- Oil sands development and upgrading
- Conventional and offshore oil and gas production
- Petroleum refining
- Product marketing under the Petro-Canada brand

While working to responsibly develop petroleum resources, Suncor is also developing a growing renewable energy portfolio.

SEUK has operated and non-operated exploration and production assets in the UK sector of the North Sea. In the UK, our operated interests are related to exploration activities only.

SEUK is part of the Suncor E&P business which is responsible for upstream activities in a number of regions around the world.

2.1 Summary of UK Assets

2.1.1 Operated Assets

Following the Petro-Canada / Suncor merger – SEUK divested its entire UK operated assets portfolio consisting of Guillemot West and North West, Clapham, Pict and Saxon to Dana Petroleum.

The Suncor U.K. team is focused on maintaining and growing a sustainable business, including production, development and exploration.

2.1.2 Non-operated Assets

- Buzzard

The Buzzard development consists of four platforms located in block 20/6 of the Outer Moray Firth. SEUK has a 29.9% working interest and the asset is operated by Nexen. First oil was achieved January 2007. Crude oil is transported via the Forties pipeline system to shore and natural gas is transported to the St. Fergus Gas terminal in Scotland via the UK Frigg pipeline.

- Golden Eagle

The Golden Eagle discovery was drilled in late 2006 in Block 20/1. SEUK has a 26.7% working interest in this licence. The field comprises of a 2 platform complex: Wellhead and Processing Utilities/Accommodation (PUQ) plus 2 subsea manifolds, tied back to the central platforms with first oil achieved Q4 2014. Nexen is the operator of this block.

2.1.3 Exploration

SEUK continues to evaluate and drill its UKCS exploration portfolio. Principal activity in 2015 was focused in the UK CNS with the drilling of:

- One exploration well in Block 12/27b (Niobe).

3 ENVIRONMENTAL PRINCIPALS AND POLICY

One of SEUK priorities is to reduce the environmental impact of our operations. In support of this we will:

- Conduct our activities consistent with sound environmental management and conservation practices.
- Strive to minimise the environmental impact of our operations.
- Work diligently to prevent any risk to community health and safety from operations or our products.
- Seek opportunities to transfer expertise in environmental protection to host communities through our operating, hiring, training and contracting practices.

3.1 Environmental Policy

SEUK has an integrated environment, health, safety and security policy approved by our Chief Executive Officer. This policy is adopted and fully supported by the entire organisation and governs the business and operations of the company through a set of underlying goals, including the following;

- Avoiding, minimising or safely managing the impacts of our operations on the natural environment and on the communities in which we operate
- Supporting research on the health and environmental effects of our products, processes and wastes
- Avoiding waste and conserving energy and natural resources
- Setting and reviewing prudent environmental, health and safety targets
- Establishing appropriate programs aimed at compliance with applicable regulatory standards

A copy of the Suncor policy can be found in Appendix 1.

4 ENVIRONMENTAL MANAGEMENT

4.1 Corporate Standards

SEUK conducts operations within the constraints of an Operational Excellence Management System (OEMS). The framework to meet the requirements of an environmental management system is clearly developed within the OEMS. The OEMS was verified by Lloyds Register during the recent EMS/OSPAR verification audit carried out in August 2014.

The framework includes corporate standards that set out the systematic approach to the management of loss, integrating reliability and quality with the reduction of risk, to people, the environment, assets and production. The standards consist of the following eighteen elements:

Element 1: Leadership

- Element 2: Risk Management
- Element 3: Legal Requirements & Commitments
- Element 4: Goals, Targets and Planning
- Element 5: Management of Change
- Element 6: Structure, Responsibility & Authority
- Element 7: Learning & Competency
- Element 8: Asset Development and Project Execution
- Element 9: Maintenance and Operations Processes
- Element 10: Contractor Management
- Element 11: Information Management
- Element 12: Emergency Management
- Element 13: Communications & Stakeholder relations
- Element 14: Business Process Management
- Element 15: Incident Management
- Element 16: Audit & Assessments
- Element 17: Corrective Actions
- Element 18: Management Review

The OEMS framework demonstrates the integrated management functions that are required to develop the corporate culture desired by Suncor and the EHS function is fundamental in endorsing this work. The control of the environmental effects of our operations is achieved through adherence to the various environmental documents that are underpinned within various elements. This element identifies management accountabilities necessary to:

1. Identify, assess and monitor the impact of operations on the environment.
2. Reduces as low as reasonably practical (ALARP) the risk of adverse impact on the environment.
3. Apply prevention of pollution and continual improvement practices.

4.2 Environmental Management System

Protection of the environment is a core value within Suncor. It is recognised that effective environmental management can contribute significantly to long-term business success and that minimising the effects on the environment is an integral part of managements' duties and has equal standing with other business objectives.

To ensure environmental management is conducted in a planned, controlled and effective manner, we have developed an integrated management system covering Health, Safety and Environment. The system applies to the offshore operations in the UKCS and to our offices in the UK. In August 2014 the environmental component of this system was independently verified according to Annex 2 of the Oslo-Paris Convention 2003/5 to Promote the Use and Implementation of Environmental Management Systems by the Offshore Industry.

4.3 Audits and Inspections

Audits and inspections are carried out periodically as specified by an annually prepared audit schedule. The purposes are to ensure environmental practices and procedures are adhered to and to evaluate the effectiveness of the management system in achieving set objectives.

4.4 Stakeholder Relations

At Suncor we recognise the importance of engaging with our stakeholders. We work closely with DECC and our oil spill service providers to ensure that we keep up-to-date with regulatory requirements and that all Oil Pollution Emergency Plans (OPEPs) meet their expectations.

5 ENVIRONMENTAL ASPECTS AND IMPACTS

5.1 What is an environmental aspect?

An environmental aspect can be defined as, 'An element of an organisation's activities or products or services that can interact with the environment' [Ref. BS EN ISO14001:2004]

The potential environmental aspects of offshore drilling and production operations are due principally to emissions of gaseous, liquid and solid waste streams and disturbance to the seabed and water column due to the physical presence of pipelines, vessels and other facilities. Not all aspects have a significant impact on the environment. It is important to determine which aspects have the potential to cause environmental harm, as these need to be managed to improve environmental performance. The need to identify significant environmental aspects is central to any environmental management system and is a requirement of the ISO 14001 standard.

5.2 Our key environmental aspects

A full register of our environmental aspects was developed as part of our management system and this is reviewed periodically by senior management. The aspects register considers all potential activities that SEUK may carry out, although we may not be undertaking all these activities in any one year. The aspects are scored accordingly to their level of environmental impact, such as their geographical influence and potential severity. What activities will be relevant for the forthcoming year are considered when objectives and targets are set.

Although we consider all of the activities that we are involved in within the aspects register, it must be noted that the degree of influence which we can expect to exercise varies greatly.

In 2015 Suncor Energy completed the drilling of Niobe Exploration Well.

Our highest scoring aspects for 2015 were atmospheric emissions, discharges to sea – spills of crude oil and legislative compliance. These are explained in more detail on the following pages.

5.2.1 Atmospheric Emissions

The key sources of our atmospheric emissions come from power generation and flaring, which is necessary to dispose of pressurised excess gases. Atmospheric emissions include carbon dioxide, nitrogen and methane. These gases are said to be linked to the changing chemical structure of our protective ozone layer, which affects the global climate. This is a transboundary issue with a number of related high profile legislative controls and directives, including the Kyoto Protocol and Integrated Pollution Prevention and Control (IPPC). In the UK, it is the Department of Energy and Climate Change (DECC) who is the regulator for the offshore industry.

5.2.2 Spills of Crude Oil

Accidental spills of crude oil can occur during drilling operations from well control failures. The fate, behaviour and environmental effects of spilled oil can vary depending upon the type of oil and amount spilled. The main environmental impacts are the physical smothering of flora and fauna, including harm to seabirds in the affected area. The Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations 1998, stipulate that all operators shall have an oil pollution emergency response plan to minimise the risk and ensure the response to any accidental spill is managed efficiently. Any quantity of oil spilled to sea has to be reported under the Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (as amended 2011).

5.2.3 Legislative Compliance

There are a number of legislative requirements to which SEUK has to adhere. These include UK wide and EU wide regulations pertaining to every aspect of the offshore and onshore operations to manage and reduce their adverse effects on the environment. Non-compliance with these regulations results in legal action and subsequent negative impacts such as court action, fines and bad publicity. A key priority for the year was to meet environmental legislative requirements and ensure that there were no non-conformances.

6 PERFORMANCE

Every year, senior management review the environmental aspects register and applicable UK legislation to develop a set of objectives and targets to ensure continual improvement.

Performance is monitored and measured by 'leading' and 'lagging' indicators. 'Leading' indicators are a means of proactively monitoring performance and include audits and inspections. They provide information that helps SEUK respond to changing circumstances and take action that may prevent unwanted outcomes. 'Lagging' performance indicators measure the final outcomes that result from activities, but may not themselves provide enough information to guide our actions and ensure success.

The management system was reviewed periodically throughout the year and areas of improvement were identified and implemented.

6.1 Leading Indicators

In 2015 management site visits were carried out to ensure visible demonstration of management leadership and commitment. All the scheduled site visits that leaders had committed to took place. Several audits and inspections were planned for throughout 2015, to review all new operational activities and to conduct project reviews, known as Gate reviews. These were completed as per the Suncor Well Delivery Model (WDM).

At the end of 2014 a SEUK Operational Excellence Management System (OEMS) self-assessment was completed to identify any gaps/improvement opportunities. These were then transferred into the 2015 UK OEMS Implementation Plan for action to support UK operations. This plan consisted of a number of gap closure actions, with different priority levels, to be closed out throughout 2015.

The system for tracking actions is called ProAct, which stands for Proactive Reporting Organising Analysis Corrective Actions Tracking (ProAct). The plan was completed and actions were closed out within the agreed timescale.

Suncor uses life cycle thinking, including a formal Life Cycle Value Assessment (LCVA) tool, to help evaluate the impact of a project's design, construction and operation. LCVA covers everything from the manufacture of materials by third-party vendors to waste disposal and reclamation.

The analysis and information Suncor gathers with this tool helps us make smart, responsible business decisions. This results in more sustainable project designs and operations that take into account long-term triple bottom line benefits and impacts, not just short-term paybacks.

6.2 Lagging Indicators

The table below shows a summary of our performance against our 2015 lagging targets.

HS&E Indicator	Targets	Performance	Outcome
<i>Loss of containment</i>	Zero	Zero	This target was achieved.
<i>Legislative Compliance</i>	Zero improvement notices, prohibition notices or prosecutions	Zero	This target was achieved.

Table 1.1 Summary Performance Table

6.2.1 Spills of Crude Oil or Chemicals – Loss of containment

Our UKCS operations set a goal of zero crude oil spills to sea and this target was achieved.

In preparation for drilling operations in 2015 SEUK developed a well specific oil pollution emergency plan (OPEP) and several sessions of refresher training and exercises took place for the local emergency response team and stakeholders to ensure that a well prepared team is available should an incident occur during 2015.

Our UKCS operations set a goal of zero loss of containment events and this target was achieved.

6.2.2 Ensure Legislative Compliance

SEUK continued to work closely with DECC during 2015 to ensure that they are aware of our current and future development plans for the UKCS.

SEUK strives for legal compliance and in line with this did not have any enforcement action taken by the regulators during 2015.

Environment, Health & Safety Policy Statement

Suncor is committed to a culture of operational discipline which is foundational in achieving safety, environmental and health and wellness excellence.

Safety

We value safety above all else.
Do it safely or don't do it.

Environment

We are trusted stewards of our natural resources. We lead the way to deliver a healthy environment for today and tomorrow.

Health and Wellness

The well-being of our people and communities is vital to our success.

Key Beliefs

Suncor believes:

- All incidents can be prevented
- To work here you must be committed to working safely
- Environmentally responsible operations are essential to our success
- Leadership is accountable for EHS performance
- We deliver on our commitments
- Our operational excellence management system enables EHS excellence

Steve Williams

Steve Williams
President and Chief Executive Officer

July 2013

Visit the Core for the complete Environment, Health & Safety policy.

SUNCOR

8 APPENDIX 2: ENVIRONMENTAL EMISSIONS 2015 DATA

8.1 Spill and accidental discharges

Zero accidental discharge occurred in 2015.

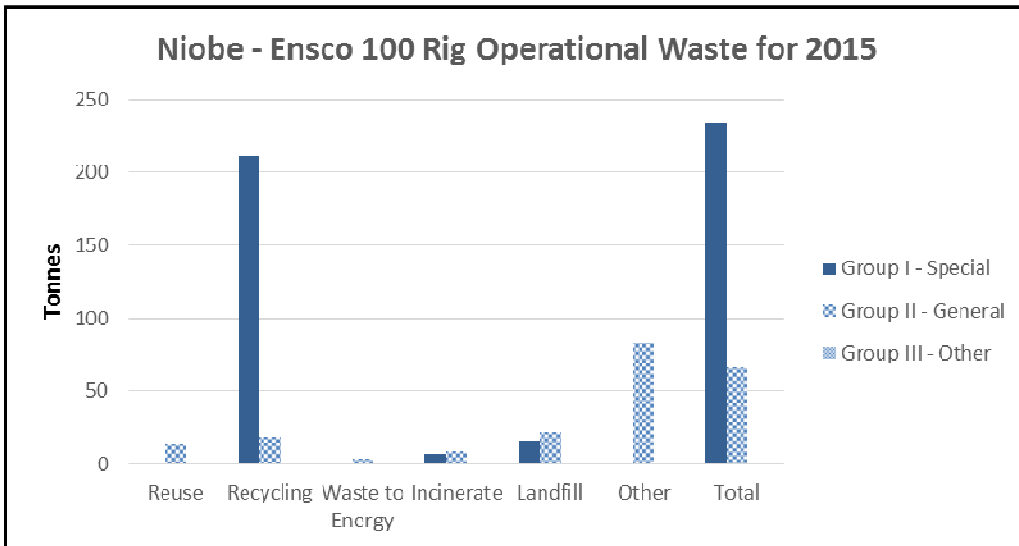
8.2 Operational Waste and disposal means

Waste generated on the Ensco 100 drilling rig during the Niobe well 2015 drilling operations totalled 384.7 tonnes. Operational wastes from the Ensco 100 drilling rig are reported in Figure A2.1. The operational waste generated at the Niobe well are categorised in three groups which are:

- Group I – Special (chemicals/ paints, drums/ containers, oils, miscellaneous special waste, sludges, liquids and tank washings);
- Group II – General (chemicals/ paints, drums/ containers, scrap metal, segregated recyclables, general waste sludges, liquids and tank washings); and
- Group III – Other (asbestos, radioactive materials, clinical and explosives).

Approximately 10% of the waste was disposed of to landfill, approximately 22% of the waste was disposed of by other means, approximately 60% was sent for recycling, with the remaining 8% of the waste incinerated, reused or disposed of as waste energy.

The water based mud (WBM) drill cuttings generated at the Niobe well and discharged from the Ensco 100 drilling rig are reported in Table A2.1.



*Based on data from the UK Environmental and Emissions Monitoring Systems (EEMS)

Figure A2.1: Niobe well drilling waste 2015

Table A2.1: WBM drill cuttings generated at Niobe well and discharged from the Ensco 100 drilling rig in 2015

Drill cuttings	Total mass (tonnes)
WBM cuttings generated	584.51
WBM cuttings discharged	418.35

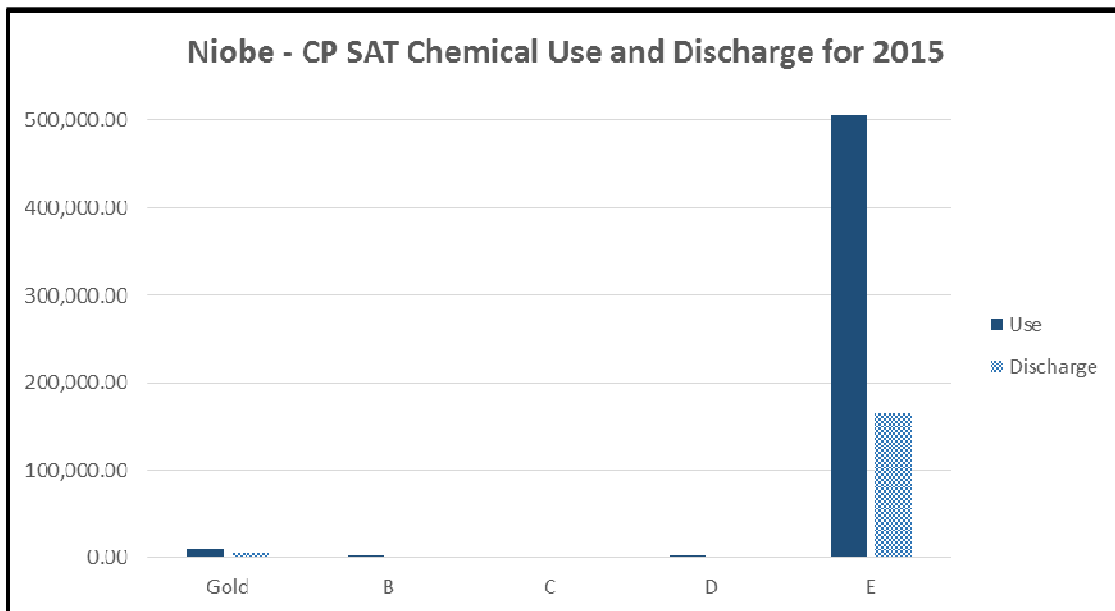
8.3 Chemical Use and Discharge

Figures A2.2 and A2.3 relate to the Chemical Permit (CP) Subsidiary Application Template (SAT) for drilling activities at the Niobe well using the Ensco 100 drilling rig. A CP SAT is an offshore term permit which covers the use and discharge of chemicals and sub-chemicals during the drilling processes, in line with the Offshore Chemical Regulations 2002 (as amended). Sub-chemicals are those flagged with a 'substitution warning' (SUB) as they are listed on the OSPAR list of chemicals for priority action or due to characteristics such as high toxicity or poor biodegradation potential. The UK National Plan has set interim targets for these chemicals to be replaced with more environmentally friendly products, with priority given to those with the highest toxicity.

The Offshore Chemical Regulations 2002 (as amended) also introduced the OSPAR Harmonised Mandatory Control Scheme for the use of chemicals offshore. Within this scheme, all chemicals are ranked according to a hazard quotient (HQ) calculated using the Chemical Hazard and Risk Management (CHARM) model. The HQ ranking is divided into six colour bands from least to most hazardous (gold, silver, white, blue, orange and purple, respectively).

There are some chemicals to which the CHARM model cannot be applied, e.g. inorganic substances. In such cases, chemicals are assigned a grouping under the Offshore Chemical Notification Scheme (OCNS) based on their toxicity characteristics from most toxic to least (A to E, respectively). Chemicals which are environmentally benign in seawater are termed as 'Poses Little or No Risk' (PLONOR). All PLONOR products are given an 'E' rating (least hazardous).

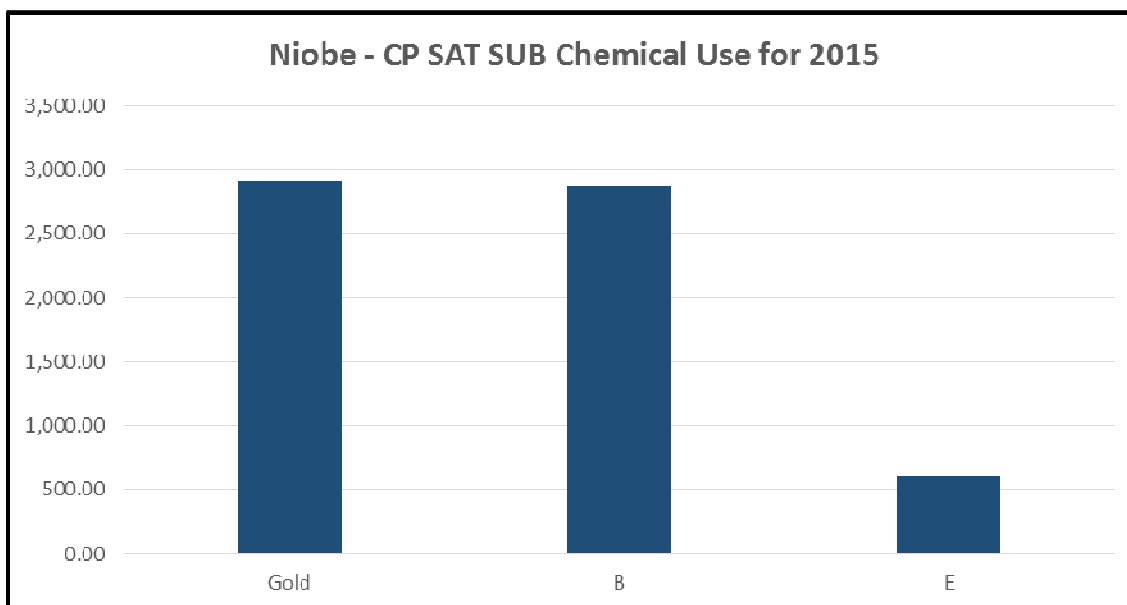
Figure A2.2 shows the total chemicals used and discharged while Figure A2.3 shows the total sub-chemicals used. The majority of the chemicals used during the drilling operations were OCNS category E, which are readily biodegradable, do not accumulate and have a low toxicity. There were no SUB chemicals discharged during drilling operations in 2015.



H/ OCNS: Hazard Quotient/ Offshore Chemical Notification Scheme

Above based on data from the UK Environmental and Emissions Monitoring Systems (EEMS)

Figure A2.2: CP SAT Chemical Use and Discharge – Niobe well 2015



HQ / OCNS: Hazard Quotient/ Offshore Chemical Notification Scheme

Above based on data from the UK Environmental and Emissions Monitoring Systems (EEMS)

Figure A2.3: CP SAT SUB Chemical Use and Discharge – Niobe well 2015

8.4 Atmospheric Emissions

The consumption of diesel fuel on the Ensco 100 drilling rig to provide power generation resulted in the generation of atmospheric emissions. During the 2015 Niobe well drilling operations, 261 tonnes of diesel were used to fuel the engines on the Ensco 100 drilling rig.

Atmospheric emissions generated from the consumption of 261 tonnes of diesel are presented in Tables A2.2. In addition, Table A2.2 presents the quantities of emissions generated as a percentage of the total emissions during 2014 from all installations on the United Kingdom Continental Shelf (UKCS).

Results reveal that SO₂, with a percentage of 0.046, was the main contribution to total 2014 atmospheric emissions to air from UKCS offshore operations.

Table A2.3: Atmospheric emission compound and comparison with total UKCS emission levels

Atmospheric emissions	CO ₂	NO _x	CH ₄	VOC	N ₂ O	SO ₂	CO
Emissions factor (tonne/ tonne)	3.2	0.0135	0.00018	0.002	0.00022	0.004	0.0157
Amount (tonnes)	835.2	3.52	0.05	0.52	0.06	1.04	4.10
2014atmospheric emissions to air from UKCS offshore facilities (tonnes)	12,585,726	45,951	43,073	38,095	784	2,237	20,694
Emissions as a % of total 2014 atmospheric emissions to air from UKCS offshore facilities**	0.007	0.008	0.000	0.001	0.008	0.046	0.020

*Based on data from the UK Environmental and Emissions Monitoring Systems (EEMS)

**Oil & Gas UK (2015) EEMS Annual Report 2014