ROCKROSE ENERGY BRAE AREA

East Brae Topsides and Braemar Decommissioning Programmes

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Document Control

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Revision Control

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Contents

	-			
1	Exec	cutive Summary	\checkmark	\checkmark
	1.1	Decommissioning Programmes	\checkmark	\checkmark
	1.2	Requirement for Decommissioning Programmes	\checkmark	\checkmark
	1.3	Introduction	\checkmark	\checkmark
	1.4	Overview of Installations Being Decommissioned	\checkmark	
	1.5	Summary of Proposed Decommissioning Programmes	\checkmark	\checkmark
	1.6	Field Locations Including Field Layouts and Adjacent Facilities	\checkmark	\checkmark
	1.7	Industrial Implications	\checkmark	\checkmark
2	Dese	cription of Items to be Decommissioned	\checkmark	\checkmark
	2.1	Installation: Surface Facilities (Topsides)	\checkmark	
	2.2	Installations: Subsea including Stabilisation Features	\checkmark	
	2.3	Pipelines Including Stabilisation Features		\checkmark
	2.4	Wells	\checkmark	
	2.5	Drill Cuttings	\checkmark	
	2.6	Inventory Estimates	\checkmark	\checkmark
3	Rem	oval and Disposal Methods	\checkmark	\checkmark
	3.1	Topsides	\checkmark	
	3.2	Jacket/Sub-Structure	\checkmark	
	3.3	Subsea Installations and Stabilisation Features	\checkmark	
	3.4	Pipelines		\checkmark
	3.5	Pipeline Stabilisation Features		\checkmark
	3.6	Wells	\checkmark	
	3.7	Drill Cuttings	\checkmark	
	3.8	Waste Streams	\checkmark	\checkmark
4	Envi	ronmental Appraisal Overview	\checkmark	\checkmark
	4.1	Environmental Sensitivities (Summary)	\checkmark	\checkmark
	4.2	Potential Environmental Impacts and their Management	\checkmark	\checkmark
5	Inter	rested Party Consultations	\checkmark	\checkmark
6	Prog	ramme Management	\checkmark	\checkmark
	6.1	Project Management and Verification	\checkmark	\checkmark
	6.2	Post-Decommissioning Debris Clearance and Verification	\checkmark	\checkmark
	6.3	Schedule	\checkmark	\checkmark
	6.4	Costs	\checkmark	\checkmark
	6.5	Close Out	\checkmark	\checkmark
	6.6	Post-Decommissioning Monitoring and Evaluation	\checkmark	\checkmark
7	Sup	porting Documents	\checkmark	\checkmark
8	Part	ner Letters of Support	\checkmark	\checkmark
Ap	pendix	1 Public Notice	\checkmark	\checkmark

Installation Pipeline



Figures

Figure 1.1: Brae Area Field Locations within UKCS	. 14
Figure 1.2 East Brae Topsides and Braemar Facilities to be Decommissioned	. 15
Figure 1.3 Adjacent Facilities	. 20
Figure 3.1 East Brae Topsides	. 30
Figure 6.1: East Brae Topsides and Braemar Decommissioning Schedule	. 45

Tables

Table 1.1: Installations Being Decommissioned	9
Table 1.2: Block 16/3a East Brae Section 29 Notice Holders	9
Table 1.3: Block 16/3c Braemar Section 29 Notice Holders	10
Table 1.4: Pipelines Being Decommissioned	10
Table 1.5: Braemar Pipelines Section 29 Notice Holders	10
Table 1.6: Summary of Decommissioning Programmes	12
Table 1.7: Adjacent Facilities	
Table 2.1: Surface Facilities Information	
Table 2.2: Subsea Installations and Stabilisation Features	22
Table 2.3: Pipeline/Flowline/Umbilical Information	
Table 2.4: Subsea Pipeline Stabilisation Features	
Table 2.5: Wells Information	
Table 2.6: Material Estimate East Brae Topsides and Braemar	
Table 3.1: Topsides Cleaning Method	30
Table 3.2: Topsides Removal Methods	31
Table 3.3: Subsea Installations and Stabilisation Features	32
Table 3.4: Pipeline Decommissioning Options	33
Table 3.5: Outcomes of Comparative Assessment	35
Table 3.6: Pipeline Stabilisation Features	36
Table 3.7: Well Plug and Abandonment	36
Table 3.8: Waste Stream Management Methods	37
Table 3.9: Inventory Disposition	37
Table 3.10: Re-use, Recycling, and Disposal of Material Returned to Shore (By Weight)	38
Table 4.1: Environmental Sensitivities Summary	39
Table 4.2: Environmental Impacts and Management	40
Table 5.1: Summary of Stakeholder Comments	43
Table 6.1: Provisional Decommissioning Programmes Costs	46

Appendices

Terms and Abbreviations

BEIS	Department of Business, Energy and Industrial Strategy
CA	Comparative Assessment
DP	Dynamic Positioning
EIA	Environmental Impact Assessment
ES	Environmental Statement
FBE	Fusion Bonded Epoxy (coating)
FPAL	First Point Assessment Limited
HLV	Heavy Lift Vessel
JNCC	Joint Nature Conservation Committee
KP	Kilometre Point
LLC	Limited Liability Corporation
MARPOL	International Convention for the Prevention of Pollution from Ships
MCAA	Marine and Coastal Access Act
MDAC	Methane Derived Authigenic Carbonate
N/A	Not Applicable
NORM	Naturally Occurring Radioactive Material
OGA	Oil and Gas Authority
OPEP	Oil Pollution Emergency Plan
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OSPAR	Oslo Paris Convention
PETS	Portal Environmental Tracking System
PMS	Power Management System
PWA	Pipelines Works Authorisation
SAC	Special Area of Conservation
SAGE	Scottish Area Gas Evacuation (pipeline)
SEPA	Scottish Environmental Protection Agency
SFF	Scottish Fishermen's Federation
SLV	Single Lift Vessel
SSIV	Sub Sea Isolation Valve
SUTU	Sub Sea Umbilical Termination Unit
te	tonnes
UKCS	UK Continental Shelf
WGS84	World Geodetic System 1984
WHPS	Wellhead Protection Structure
WWF	World Wide Fund for Nature



1 Executive Summary

To support the removal of the East Brae topsides and Braemar subsea facilities, RockRose UKCS8 LLC, in consultation with OPRED, has reorganised the original decommissioning programmes for East Brae and Braemar subsea facilities into two documents.

The original document, The East Brae and Braemar Combined Decommissioning Programmes, 9000-MIP-99-PM-RP-00002-000 [1] has been split into:

- 1. This document, the East Brae Topsides and Braemar Decommissioning Programmes, 9030-RRE-99-PM-RT-00001-000, and
- 2. The East Brae Jacket/Sub-structure Decommissioning Programmes, 9030-RRE-99-PM-RT-00002-000, which covers the East Brae platform jacket/sub-structure.

The decommissioning proposals for the Brae Area facilities contained in these documents are the same as those set out in the previous versions of the decommissioning programmes. These decommissioning programmes do not cover decommissioning of the third party facilities connected to the Brae Area installations. However, RockRose UKCS8 LLC will collaborate with the operators of third party facilities to maximise any potential efficiencies in the decommissioning work in the Brae Area.

1.1 Decommissioning Programmes

This document contains three decommissioning programmes for two installations, East Brae and Braemar, and five pipelines.

1.2 Requirement for Decommissioning Programmes

1.2.1 Installations

In accordance with the Petroleum Act 1998, RockRose UKCS8 LLC and the other Section 29 holders of the East Brae and Braemar installations (see <u>Table 1.2</u> and <u>Table 1.3</u>) are applying to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) to obtain approval for decommissioning the East Brae and Braemar installations as described in <u>Section 2.1</u> and <u>Section 2.2</u> of these programmes. (See also <u>Section 8</u> – Section 29 Holders' Letters of Support).

1.2.2 Pipelines

In accordance with the Petroleum Act 1998, RockRose UKCS8 LLC and the other Section 29 holders of the Braemar flowlines and umbilicals (see <u>Table 1.5</u>) are applying to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) to obtain approval for decommissioning of the pipelines as described in <u>Section 2.3</u> of this programme. (See also <u>Section 8</u> – Section 29 Holders' Letters of Support).

In conjunction with public, stakeholder and regulatory consultation, the decommissioning programmes are submitted in compliance with national and international regulations and OPRED guidelines. The schedule outlined in the document shows the decommissioning project plan due to begin in 2021. The East Brae topsides and Braemar subsea facilities are scheduled to be removed

in 2025 and disposed of in 2025 and 2026. The Braemar subsea post removal survey will take place in 2027.

1.3 Introduction

The East Brae field lies within UKCS Blocks 16/3a and 16/3b with the East Brae platform located in Block 16/3a. The Braemar field and subsea installation that are tied-back to the East Brae platform lie within UK Block 16/3c. Both the East Brae platform and the Braemar subsea installation are approximately 280 km northeast of Aberdeen in a water depth of approximately 120m (see <u>Sections</u> 2.1 and 2.2). East Brae commenced production in December 1993 and Braemar commenced production in September 2003.

The East Brae platform facilities consist of modular topsides and a steel jacket/sub-structure. The topsides weight is 20,000 te. The East Brae jacket/sub-structure is subject to a separate decommissioning programme [1].

RockRose UKCS8 LLC has already extended the life of the East Brae and Braemar fields beyond initial projections. Production will shortly become sub-economical. RockRose UKCS8 LLC evaluated other hydrocarbon opportunities, but considered these unviable. Therefore, the decision to cease production was made. RockRose UKCS8 LLC submitted a Cessation of Production (CoP) application for East Brae and Braemar in 2015 and the OGA approved this in 2017.

Following public, stakeholder and regulatory consultation, these decommissioning programmes are submitted without derogation and in full compliance with OPRED guidelines. The decommissioning programmes explain the principles of the removal activities and are supported by an environmental statement [2].



1.4 Overview of Installations Being Decommissioned

Table 1.1: Installations Being Decommissioned					
Field(c)	East Brae	Production Type		Gas/Condensate	
Field(S)	Braemar	(Oil/Gas/Condensate)		Ga	s/Condensate
Watar Dantha	East Brae 116m			Ea	st Brae 16/3a & 16/3b
water Depths	Braemar 120m	UN	UKCS BIOCK -		aemar 16/3c
Distance to	East Brae 4km	Distance from Nearest UK		East Brae 193km	
Median	Braemar 8km	Coastline		Bra	aemar 185km
Surface Installa	tions				
Number	Topside Weight Type (tonnes)		oside Weight nnes)	Sub-Structure Weight (tonnes)	
1	Fixed Large Steel Jacket	20,000		N/A (Decommissioning of East Brae jacket/sub- structure is described in [1]).	
Subsea Installa	tions		Number of wells		
Number	Туре	_	Platform	_	Subsea
2	Wellheads (Braemar)	_	East Brae 21	_	Braemar 2
1	WHPS (Braemar)				
Drill Cuttings Piles					
Number of Piles	s N/A		Total Estimated Volume (m ³)	9	N/A

1.4.1 Installations

Table 1.2: Block 16/3a East Brae Section 29 Notice Holders				
Section 29 Notice Holders	Registration Number	Equity Interest		
RockRose UKCS8 LLC	FC009587	36.8244%		
TAQA Bratani Limited	5975475	46.3046%		
Spirit Energy Resources Limited	2855151	7.3195%		
JX Nippon Exploration and Production (U.K.) Limited	3288689	5.7783%		
TAQA Bratani LNS Limited	6230540	3.7732%		
BP Exploration Operating Company Limited	305943	0.0%		

Table 1.2: Block 16/3a East Brae Section 29 Notice Holders				
Section 29 Notice Holders	Registration Number	Equity Interest		
ENI UKCS Limited	1019748	0.0%		
Neptune E&P UKCS Limited	3386464	0.0%		
RockRose UKCS12 Limited	981126	0.0%		
Repsol Sinopec Resources UK Limited	825828	0.0%		
Repsol Sinopec LNS Limited	2483161	0.0%		

Table 1.3: Block 16/3c Braemar Section 29 Notice Holders				
Section 29 Notice Holders	Registration Number	Equity Interest		
RockRose UKCS8 LLC	FC009587	26.0%		
TAQA Bratani Limited	5975475	62.0%		
Spirit Energy Resources Limited	2855151	5.0%		
JX Nippon Exploration and Production (U.K.) Limited	3288689	4.0%		
TAQA Bratani LNS Limited	6230540	3.0%		
BP Exploration Operating Company Limited	305943	0.0%		
RockRose UKCS12 Limited	981126	0.0%		
Arco British Limited	FC005677	0.0%		

1.4.2 Pipelines

Table 1.4: Pipelines Being Decommissioned		
Number of Pipelines.	5	See <u>Table 2.3</u>

Table 1.5: Braemar Pipelines Section 29 Notice Holders

Pipelines PL1969, PL1969(J)BW, PLU1970, PLU1970(J)BW, PLU1977

Section 29 Notice Holders	Registration Number	Equity Interest
RockRose UKCS8 LLC	FC009587	26.0%
TAQA Bratani Limited	5975475	62.0%
Spirit Energy Resources Limited	2855151	5.0%
JX Nippon Exploration and Production (U.K.) Limited	3288689	4.0%
TAQA Bratani LNS Limited	6230540	3.0%



 Table 1.5: Braemar Pipelines Section 29 Notice Holders

Pipelines PL1969, PL1969(J)BW, PLU1970, PLU1970(J)BW, PLU1977

Section 29 Notice Holders	Registration Number	Equity Interest		
BP Exploration Operating Company Limited	305943	0.0%		
Arco British Limited	FC005677	0.0%		

1.5 Summary of Proposed Decommissioning Programmes

The selected decommissioning options for the East Brae topsides and Braemar subsea installation are shown in <u>Table 1.6</u> below.

Table 1.6: Summary of Decommissioning Programmes Proposed Selected Option Reason for Selection **Decommissioning Solution** Topsides Cleaned equipment refurbished Complete removal of the East Topside removal is mandatory. Brae topsides for reuse, recycling RockRose UKCS8 LLC will seek to for reuse where possible. or appropriate disposal. optimise the benefits that accrue Equipment that cannot be reused from removal of the topsides by will be recycled or processed via maximising reuse and recycling. appropriate disposal routes. Jacket/Sub-structure N/A N/A N/A Subsea Installation Complete removal of the Braemar To remove all seabed structures Remove the Braemar wellheads, WHPS and wellheads. and leave a clear seabed. xmas tree, WHPS and SUTU to shore for reuse, recycling or appropriate disposal. Pipelines, Flowlines and Umbilicals Those portions of flowlines and Risk assessment has concluded Trenched and buried parts of the umbilicals that are trenched or that trenched and buried flowlines flowlines and umbilicals will be buried will be left in place. and umbilicals should be left in left in place. The other parts of place. This is because the risk these lines will be recovered using Any surface-laid portions of incurred by decommissioning appropriate techniques. flowlines and umbilicals will be personnel in removing this removed to shore for recycling or The portions of the flowlines, equipment has been assessed as disposal. umbilicals and the Braemar SSIV greater than the long-term structure that are brought to Mattresses that protect surfacesnagging risk to fishermen. shore will be sent for recycling or laid flowlines will be reused to Reuse and recycling of the disposal as appropriate. profile and stabilise features or mattresses within the Brae Area recycled to remediate the seabed Mattresses will be moved or minimises the overall use of at Braemar following the removal recovered by ROVs or divers and resources for decommissioning by of subsea structures. recovery vessels, using minimising the requirement to appropriate tools and techniques. Any surplus mattresses will be introduce new rock cover to the removed to shore for reuse. area including the associated recycling or appropriate disposal. energy required to quarry and transport the rock. Resources The Braemar SSIV structure at required to recycle or dispose of East Brae will be removed to mattresses onshore are also shore for recycling or disposal. reduced.



Table 1.6: Summary of Decommissioning Programmes

Selected Option	Reason for Selection	Proposed Decommissioning Solution
Wells		
The East Brae platform wells and Braemar subsea wells will be abandoned in accordance with Braemar subsea wells of the second se	Plugging and abandoning the wells leaves the wells in a safe and secure condition. This will	Well equipment that is removed will be returned to shore for reuse, recycling, or disposal.
RockRose UKCS8 LLC Drilling and Completion Standards and in alignment with Oil & Gas UK (O&G UK) Guidelines [7].	protect people and the environment and meet OGA and HSE requirements.	RockRose UKCS8 LLC will submit the relevant Portal Environmental Tracking System (PETS) applications to support decommissioning works.

Drill Cuttings

The East Brae cuttings pile is outside the scope of this decommissioning programme. (For details of decommissioning proposals for the cuttings pile, refer to [1]).

Interdependencies

The Braemar wellhead is 90m from the boundary of the Braemar Pockmarks SAC (Special Area of Conservation). Therefore, RockRose UKCS8 LLC performed a specific assessment of the decommissioning options for the Braemar facilities [3]. The removal methodology will take account of environmental sensitivities in this area and any additional mitigation measures that are necessary to protect the SAC.

1.6 Field Locations Including Field Layouts and Adjacent Facilities

The locations of the Brae Area facilities within the UKCS are shown in Figure 1.1.

Figure 1.1: Brae Area Field Locations within UKCS





Figure 1.2 East Brae Topsides and Braemar Facilities to be Decommissioned





Table 1.7: Adjacent Facilities									
Owner	Name	Туре	Distance/ Direction From East Brae	Information	Status				
RockRose UKCS 8 LLC	Brae Alpha	Platform	23km South West	Connects to East Brae via PMS cable	Operational				
RockRose UKCS 8 LLC	Brae Bravo	Platform	13km South West	Connects to East Brae via PMS cables	Suspended				
RockRose UKCS 8 LLC	East Brae Jacket	Steel Jacket Okm Supports Ea Topsides		Supports East Brae Topsides	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning				
RockRose UKCS 8 LLC	East Brae SSIV / Crossover Structure & Control Umbilical	Subsea Isolation Valve and Crossover, Protection Structure and Control Umbilical	<500m	Protects East Brae installation from hazards associated with PL894 and PL895	Operational				
RockRose UKCS 8 LLC	PL894	Pipeline	<500m	18" Condensate Pipeline from East Brae to Brae Bravo Subsea Wye / SSIV	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning				
RockRose UKCS 8 LLC	PL895	Pipeline <500m 18" Gas Pipeline from East Brae t Brae Alpha		18" Gas Pipeline from East Brae to Brae Alpha	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning				
RockRose UKCS 8 LLC	PL896	Pipeline	<500m	<500m 30" Gas Pipeline from East Brae SSIV / Crossover Structure to Sage Wye					
BP Exploration (Alpha) Limited	Miller	Platform	19km South-south- west	Ex production platform	Decommissioned				



	able 1.7: Adjac	ent Facilities				
(Dwner	Name	Туре	Distance/ Direction From East Brae	Information	Status
E C C	3P Exploration Operating Company Limited	PL1971 Miller to Brae Bravo	16"Gas Pipeline	-	Redundant pipeline	Suspended
E E (3P Exploration Alpha) Limited	PL722 Miller to Brae Alpha	18" Oil Pipeline	-	Redundant pipeline	Suspended
F Q	Repsol Sinopec North Sea Limited	Enoch Wellhead	Subsea well	25km South	Subsea tie-back to Brae Alpha	Operational
F	Repsol Sinopec North Sea Limited	psol PL2336 8" Flowline i topec North Enoch to 12" carrier a Limited Brae Alpha pipe Flowline		-	Pipeline	Operational
F	Repsol Sinopec North Sea Limited	sol PL2337 Brae 3" Flowline in opec North Alpha to 12" carrier Limited Enoch Gas pipe Lift Line		-	Pipeline	Operational
F	Repsol Sinopec North Sea Limited	PLU2338 Brae Alpha to Enoch Control Umbilical	Electro/ Hydraulic Control Umbilical	-	Pipeline	Operational
((CNR nternational U.K.) Limited	Tiffany	Platform	47km South-south- west	Production Platform	Operational
((CNR nternational U.K.) Limited	PL872 Tiffany to PL360 Gas Export Line	10" Gas Pipeline	-	Pipeline	Operational
((CNR nternational U.K.) Limited	PL873 Tiffany to PL064 Oil Export Line	12" Oil Pipeline	-	Pipeline	Operational
5 1 1	Spirit Energy North Sea Oil Limited	Birch, Larch, Sycamore	Subsea manifolds and wellheads	35km South-west	Subsea Production Installation	Operational
2 1 1	Spirit Energy North Sea Oil Limited	PL1161 Birch to Brae Alpha	10" Production Pipeline	-	Pipeline	Operational
	Spirit Energy North Sea Oil Limited	PL1162 Brae Alpha to Birch	12" Water Injection Line	-	Pipeline	Operational

.

Table 1.7: Adjacent Facilities										
Owner	Name	Туре	Distance/ Direction From East Brae	Information	Status					
Spirit Energy North Sea Oil Limited	PL1531 Brae Alpha to Larch	4" Gas Lift Line	-	Pipeline	Operational					
Spirit Energy North Sea Oil Limited	PL1163 Brae Alpha to Birch	4" Gas Lift Line	-	Pipeline	Operational					
SAGE North Sea Limited	PL762 SAGE Pipeline	30" Gas Export Line	-	Connects to East Brae via the SAGE Subsea Wye structure	Operational					
Shell UK Limited	Kingfisher	Subsea manifold and wells	12km South- south-west	Ex Subsea Production Installation	Out of Use					
TAQA Bratani Limited	Devenick	venick Subsea template		Subsea Production Installation	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning					
TAQA Bratani Limited	Devenick SSIV Structure	Subsea Isolation valve	<500m	Protects East Brae installation from hazards associated with PL2746	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning					
TAQA Bratani Limited	Devenick Umbilical SSIV controlling umbilical Devenick SSIV		Okm	Runs from East Brae platform to Devenick SSIV structure	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning					
TAQA Bratani Limited	PL2746 Devenick production flowline	16"/10" PiP production pipeline.	Okm	Production pipeline from Devenick to East Brae	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning					



Table 1.7: Adjacent Facilities											
Owner	Name	Туре	Distance/ Direction From East Brae	Information	Status						
TAQA Bratani Limited	PL2747 Devenick Methanol line	3" Pipeline	Okm	Methanol pipeline from East Brae to Devenick	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning						
TAQA Bratani Limited	PLU2752 Devenick control / chemical umbilical	Chemical / Control umbilical	Okm	Control umbilical from East Brae to Devenick	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning						

Impacts of Decommissioning Proposals

RockRose UKCS8 LLC has been, and will continue to be, in contact with operators of adjacent facilities. The adjacent facilities have no known impacts on the Brae Area decommissioning programmes.

All third party facilities that tie-in, or are supported by the Brae Area facilities, are engaged under normal commercial agreements and are part of the CoP applications process to OGA.



Figure 1.3 Adjacent Facilities

1.7 Industrial Implications

RockRose UKCS8 LLC is developing the East Brae Topsides and Braemar decommissioning contract and procurement strategy on behalf of the Section 29 Notice Holders. RockRose UKCS8 LLC has, and will continue to:

- 1. Publish Brae Decommissioning project information on the RockRose Energy decommissioning website: www.rockroseenergy.com/operations/decommissioning
- 2. Publish project information and contact details on the OPRED website.
- Engage with the OGA and the decommissioning supply chain on issues relating to the East Brae Topsides and Braemar combined decommissioning programmes and schedule. RockRose UKCS8 LLC has prepared a Supply Chain Action Plan (SCAP), which has been submitted to, and assessed by, the OGA.
- 4. Use the FPAL database as the primary source for establishing tender lists for contracts and purchases with a value of $\pm 250,000$ or more.



2 Description of Items to be Decommissioned

2.1 Installation: Surface Facilities (Topsides)

Key information regarding the East Brae platform topsides is presented in Table 2.1.

Table 2.1: Surface Facilities Information										
Name Type Location					Topsides/ Facilities		Jacket/Sub-Structure			
		Dry Weigh (tonnes)	tNumber of Modules	Weight (tonnes)	Number of Legs	Number of Piles	Weight of Piles (tonnes)			
East Brae Platform Sub Stru	Fixed Steel	WGS84 Decimal	58.880650°N 1.518067°E							
	Jacket/ Sub- structure	WGS84 Decimal Minute	58° 52.839'N 1° 31.084'E	- 20,000	12	Not Applic	able			

2.2 Installations: Subsea including Stabilisation Features

Table 2.2: Subsea Install	ations and St	abilisation Featur	es			
Braemar						
Subsea Installations Including Stabilisation	Number	Size LxWxH(m)			Oommonto (Ctotus	
Features	Number	weight (tonnes) Location		Comments/Status	
			WGS84 Decimal	58.982322°N 1.482625°E	Operational well (16/03b-8z) complete with Xmas tree, SUTU and WHPS.	
					Suspended well (16/03c-15) consisting	
Braemar Wellheads	2	4.5x4.5x4 20	WGS84 Decimal Minute	58°58.939'N 1°28.958'E	This well is plugged. The further work required to complete abandonment consists of severing the well and removing the wellhead.	
					The 2 wells are approximately 20m apart.	
Manifold(s)	0					
Template(s)	0					
Protection Frames	1	12.5 x 12.5 x 8 42			The operational Braemar wellhead has a protection frame (WHPS).	
Concrete mattresses	0					
Grout bags	0					
Formwork	0					
Frond mats	0					
Rock placement	0					
Other	0					



2.3 Pipelines Including Stabilisation Features

The East Brae Topsides and Braemar Decommissioning Programmes cover the following pipelines:

• The Braemar flowlines (PL1969, and PL1969 (J) BW) and umbilicals (PLU1970, PLU1970 (J) BW and PLU1977) and the Braemar SSIV structure that connect the Braemar facilities to the East Brae platform.

These facilities are described in more detail in <u>Table 2.3</u>, and illustrated in <u>Figure 1.2</u>. Stabilisation features are listed in <u>Table 2.4</u>



Table 2.3: Pipeline/Flowline/Umbilical Information

Description	Pipeline No. (as per PWA)	Nominal Diameter (inches)	Length (km)	Description of Component Parts	Product Conveyed	From-To	Burial Status	Status	Current Content
Braemar Production Flowline (Including SSIV XXV0160 structure at East Brae)	PL1969	6 in 10 Pipe-in-Pipe	12.3	Sprayed Polyurethane, FBE and polypropylene coated steel	Gas	Braemar Wellhead to East Brae Platform	Part trenched with continuous rock cover/ Part surface- laid, mattress protected	Operational	Hydrocarbon fluids
							The SSIV structure is surface laid		
Braemar Production Flowline Jumper	PL1969(J) BW	6	0.055	Sprayed Polyurethane, FBE and polypropylene coated steel	Gas	Braemar Wellhead to 6" tie-in pipeline (main PL1969 bundle)	Surface-laid mattress protected	Operational	Reservoir fluids
Braemar Chemical / Control Umbilical	PLU1970	4	12.4	Hydraulic lines, chemical lines, electrical power and signal lines and structural layers of polymer and steel wire.	Chemicals and Hydraulic Fluid	East Brae Platform to Braemar Wellhead	Part trenched & rock covered/Part surface-laid, mattress protected	Operational	Production chemicals and hydraulic fluid
Braemar Chemical / Control Umbilical Jumper	PLU1970(J) BW	4	0.03	Hydraulic lines, chemical lines, electrical power and signal lines and structural layers of polymer and steel wire.	Chemicals and Hydraulic Fluid	Umbilical Termination Assembly to Braemar Wellhead	Surface-laid mattress protected	Operational	Production chemicals and hydraulic fluid



Table 2.3: Pipeline/Flowline/Umbilical Information

Description	Pipeline No. (as per PWA)	Nominal Diameter (inches)	Length (km)	Description of Component Parts	Product Conveyed	From-To	Burial Status	Status	Current Content
Braemar SSIV Control Umbilical	PLU1977	2.4	0.32	Hydraulic lines, electrical signal lines, layers of polymer, bitumen and steel wire	Hydraulic fluid	East Brae platform to Braemar SSIV	Surface laid mattress protected.	Operational	Hydraulic fluid

Table 2.4: Subsea Pipel	ine Stabilisation Fe	atures		
Stabilisation Feature	Approximate Number	Weight (tonne)	Location(s)	Exposed/Buried/Condition
Concrete Mattresses	76	532	On East Brae end of East Brae to Braemar flowline PL1969, 49 mattresses between KP 0.155 and KP 0.416.	10 mattresses exposed in good condition (KP-0.155 to KP-0.145, KP-0.132 to KP-0.115, KP-0.101 to KP-0.098, KP0.364)
				15 mattresses partially buried in good condition (KP-0.061 to KP0.364, KP0.380 to KP0.416)
				24 mattresses predominantly buried in good condition (KP-0.155 to KP-0.150, KP-0.145 to KP-0.101, KP-0.098 to KP-0.061, KP0.364 to KP0.380)
			On East Brae end of control umbilical PLU1970; 27 mattresses between KP0.215 and KP 0.364	1 mattress exposed in good condition (KP0.250)
				26 mattresses predominantly buried in good condition (KP0.215 to KP0.364)
Concrete Mattresses	31 252	252	Over wellhead end of Braemar flowline PL1969, 12	1 mattress exposed in good condition (KP11.979)
			Mattresses between KP 11.915 and KP 12.308	11 mattresses predominantly buried in good condition (KP11.915 to KP12.308)
			On wellhead end Of control umbilical PLU1970, 19 Mattresses between KP 12.280 and KP 12.394	3 mattresses partially buried in good condition (KP 12.312 to KP12.327)
				16 mattresses predominantly buried in good condition (KP 12.280 to KP 12.312, KP 12.323 to KP 12.394)
Rock Cover	11.85 km of cover	N/A	Over flowline PL1969, and control umbilical PLU1970 from KP0.053 to KP11.904	Rock cover present
Grout Bags	None			
Frond Mats	None			
Formwork	None			

26 of 62

2.4 Wells

Table 2.5: Wells Information			
Well	Designation	Status	Category of Well
Platform Wells			
16/03a-E01 (East)	Gas Condensate Producer	Active	PL 3-3-3
16/03a-E03 (East)	Gas Condensate Producer	Active	PL 3-3-3
16/03a-E04 (East)	Gas Condensate Producer	Shut In	PL 4-3-3
16/03a-E08 (East)	Gas Condensate Producer	Shut In	PL 3-3-3
16/03a-E09 (East)	Gas Condensate Producer	Shut In	PL 3-3-3
16/03a-E12 (East)	Gas Condensate Producer	Active	PL 3-3-3
16/03a-E13 (East)	Gas Condensate Producer	Shut In	PL 3-3-3
16/03a-E14 (East)	Gas Condensate Producer	Active	PL 3-3-3
16/03a-E16z (East)	Gas Condensate Producer	Shut In	PL 4-3-3
16/03a-E18 (East)	Gas Condensate Producer	Suspended	PL 4-3-3
16/03a-E19 (East)	Gas Condensate Producer	Shut In	PL 4-3-3
16/03a-E20 (East)	Gas Condensate Producer	Suspended	PL 3-3-3
16/03a-E21 (East)	Gas Condensate Producer	Active	PL 4-3-3
16/03a-E22z (Exploration)	Exploration	Suspended	PL 3-3-3
16/03a-E23z (East)	Gas Condensate Producer	Shut In	PL 4-3-3
16/03a-E24 (East)	Gas Condensate Producer	Shut In	PL 3-3-3
16/03a-E25 (East)	Gas Condensate Producer	Active	PL 3-3-3
16/03a-E27 (East)	Gas Condensate Producer	Shut In	PL 3-3-3
16/03a-E28y (East)	Gas Condensate Producer	Active	PL 3-3-3
16/03a-E30 (East)	Gas Condensate Producer	Active	PL 3-3-3
16/03a-E31 (East)	Gas Condensate Producer	Suspended	PL 3-3-3
Subsea Wells			
16/03b-08y (Braemar)	Gas Condensate Producer	Active	SS 3-3-3
16/03c-15 (Braemar)	Non-productive	Suspended	SS 3-3-3

2.5 Drill Cuttings

There are no drill cuttings piles associated with the East Brae Topsides and Braemar decommissioning programmes.

2.6 Inventory Estimates

The initial estimate of the breakdown of materials in the East Brae Topsides and Braemar installation is presented in <u>Table 2.6</u>. A comprehensive determination of the inventories of materials will be conducted during the detailed engineering phase. The ultimate disposition of materials will follow the "reduce, reuse, recycle" hierarchy and appropriate material disposal procedures.

Table 2.6: Material Estimate East Brae Topsides and Braemar					
Weight (te)					
Material	Installations	Pipelines	Total	% of Total	Volume (m ³)
Carbon Steel	13,813	1,510	15,323	67%	1,951
Stainless Steel	1,700	83	1783	8%	223
Non-Ferrous	1,000	122	1,122	5%	187
Plastic	351	160	511	2%	464
NORM / Hazardous	62	4	66	0%	15
Other	3,400	0	3,400	15%	1,133
Marine Growth	0	0	0	0%	0
Concrete	0	784	784	3%	128
Total	20,326	2,663	22,989	100%	4,101



3 Removal and Disposal Methods

The reuse of an installation or its constituent parts is the preferred decommissioning option. RockRose UKCS8 LLC carried out a qualitative internal review of options for reusing the Brae Area platforms as producing assets and concluded that due to the age of the process technology, and the high cost of maintaining the fabric and structural integrity of the platforms, there are no technically viable reuse options. Similarly, RockRose UKCS8 LLC has not identified reuse opportunities for the Brae Area subsea installations as they are configured for the specific fields that they serve, and are reaching the end of their useful lives.

Alternate uses for the Brae facilities for power generation using wind, wave and tidal energy were also considered but none of these alternative use options are considered economically viable.

The reuse of the Brae Area facilities and infrastructure, including pipelines, has been considered for carbon capture and storage and in agreement with OGA was found not to be suitable.

RockRose UKCS8 LLC will seek to reuse individual items of equipment where practicable. The majority of the balance of the materials and components that make up the Brae Area facilities will be recycled. For example, a significant proportion of the material making up the facilities is steel, which will be recovered and recycled. The small proportion of materials remaining after reuse and recycling will be disposed of appropriately in accordance with RockRose UKCS8 LLC policies and the relevant regulatory requirements.

It is unlikely that significant volumes of recovered material will be landed onshore before 2025. It is not possible to forecast the reuse and recycling market with any accuracy or confidence this far forward. Therefore, RockRose UKCS8 LLC will continue to track reuse market trends in order to exploit reuse opportunities as they arise at the appropriate time.

3.1 Topsides

The East Brae topsides are shown in <u>Figure 3.1</u>. They comprise drilling, production and utilities facilities, which are arranged in two tiers of modules. The lower tier of modules consists the integrated module support frame containing the wellbay, separation and production areas. The upper tier of modules consists of drilling, gas compression and accommodation. The helideck, is mounted on top of the accommodation. The topsides' overall plan dimensions are approximately 70m by 45m.

There are a number of technically feasible options for removal of the East Brae topsides, including piece small, piece medium and single lift. RockRose UKCS8 LLC will decide on the technique in consultation with the removal contractors taking account of safety, environmental, technical, socio-economic and cost factors.

The East Brae topsides will be returned to shore for reuse, recycling or disposal.

The methods that will be used to clean the East Brae topsides are listed in <u>Table 3.1</u>, and the methods considered for topsides removal are listed in <u>Table 3.2</u>.

Figure 3.1 East Brae Topsides

East Brae Platform

Modules Key

- 01 Drilling Services
- 02 Gas Compression
- 03 Accommodation
- 11 -Skid Base
- 13 Helideck 21 Substructure
- 23 Exhaust Stacks
- 31 Derrick
- 45 Devenick Module
- 55 Braemar Module
- 56 Integrated Module Support Frame Deck Wellbay, Production, Separation 57 - Flare Boom



Table 3.1: Topsides Cleaning Method				
Waste Type	Composition of Waste	Disposal Route		
On-board hydrocarbons	Process fluids, diesel, and lubricants	Equipment will be drained, flushed and cleaned, and the residual effluent will be transported onshore for appropriate reuse, recycling or disposal.		
Production and drilling chemicals	Proprietary preparations and bulk chemicals	Equipment will be drained, flushed and cleaned, and the residual effluent will be transported onshore for appropriate reuse, recycling or disposal.		



Table 3.1: Topsides Cleaning Method

Waste Type	Composition of Waste	Disposal Route
Structural and equipment paint coat	Paints may include hazardous components, e.g. isocyanates	Paint may give off toxic fumes or dust during flame-cutting, abrasive blasting or mechanical cutting. This hazard will be managed by sampling and safe systems of work as appropriate. Paint and coatings will be transported onshore for appropriate licensed disposal.
Other hazardous materials	NORM, mercury, radioactive instruments, heavy metals, batteries, etc.	Equipment will be made safe and transported onshore for appropriate licensed reuse, recycling or disposal.
Seals, gaskets and insulation	Asbestos and ceramic fibres	Equipment will be made safe and transported onshore for appropriate licensed recycling or disposal.

Table 3.2: Topsides Rem	oval Methods	
1) HLV Cut and Lift	✓	
2) Monohull crane vessel ¹		
3) SLV	✓	
4) Piece Small	\checkmark	

5) Other A Hybrid option (combination of *Piece Small* and *Cut and Lift*) is feasible, and for the purpose of these decommissioning programmes is considered to be captured within the *Cut and Lift* and *Piece Small* methods.

Method	Description
Single lift removal by SLV	Removal of the topsides in one unit by an SLV. In this case, the topsides will be taken to a suitable onshore decommissioning facility to be broken up for reuse, recycling or disposal.
Modular removal by HLV	Removal of the topsides in several large modules, e.g., the drilling derrick and drilling sub-structure, etc. These modules will then be taken to an onshore decommissioning facility to be broken up for reuse, recycling or disposal.
Piece Small	Breaking up the topsides offshore using manual labour or excavators fitted with hydraulic shears, etc. Waste will be transported to shore by ship or barge and sorted at an onshore decommissioning facility. Equipment items that are suitable for reuse will be removed as units and shipped to shore.

¹ The HLV Cut and Lift evaluation has assumed a semi-sub type lift vessel as data exists for the installation of the platforms with such a vessel. However, the selection of actual vessel for decommissioning will ultimately be driven by lift capacity, crane reach and market conditions and does not preclude other vessel types such as a Monohull vessel. RockRose UKCS8 LLC consider the Monohull crane vessel option to be part of the HLV Cut and Lift method.

Table 3.2: Topsides Remov	val Methods	
1) HLV Cut and Lift	\checkmark	
2) Monohull crane vessel ¹		
3) SLV	\checkmark	
4) Piece Small	\checkmark	

5) Other A Hybrid option (combination of *Piece Small* and *Cut and Lift*) is feasible, and for the purpose of these decommissioning programmes is considered to be captured within the *Cut and Lift* and *Piece Small* methods.

Method	Description
Proposed removal method and disposal route	RockRose UKCS8 LLC will select removal methods following a commercial tendering process taking account of safety, environmental, socio-economic, technical feasibility, and cost factors. The evaluation of environmental and socio-economic factors will address materials management issues including trans-frontier shipment. All waste materials will be handled in accordance with United Kingdom and relevant international legislation. RockRose UKCS8 LLC and the selected decommissioning contractor(s) will address any trans-frontier shipment of waste to ensure that the associated issues are appropriately managed.

3.2 Jacket/Sub-Structure

There is no jacket/sub-structure associated with these decommissioning programmes.

Details of the East Brae jacket/sub-structure can be found in The East Brae Jacket/Sub-Structure Decommissioning Programme [1].

3.3 Subsea Installations and Stabilisation Features

The subsea installations and stabilisation features that are in the scope of the East Brae Topsides and Braemar decommissioning programmes are listed in <u>Table 2.2</u>. The decommissioning options and disposal routes for the facilities are listed in <u>Table 3.3</u>.

Table 3.3: Subsea Installations and Stabilisation Features				
Subsea installations and stabilisation features	Number	Option	Disposal Route (if applicable)	
Wellheads	2	Remove	Return to shore for reuse, recycling or disposal.	
Manifolds	0	N/A	No subsea manifolds.	
Wellhead protection frames	1	Remove	Return to shore for reuse, recycling or disposal.	



Table 3.3: Subsea Installations and Stabilisation Features

Subsea installations and stabilisation	6		
features	Number	Option	Disposal Route (if applicable)
Mattresses	0	N/A	N/A
Grout bags	0	N/A	No grout bags present.
Formwork	0	N/A	No formwork present.
Frond mats	0	N/A	No frond mats installed.
Rock placement	0	N/A	No rock placement present associated with subsea installations.
Other	0	N/A	

3.4 Pipelines

The Braemar flowlines and umbilicals included within the scope of these decommissioning programmes are listed in <u>Table 2.3</u>. The decommissioning options considered for these flowlines and umbilicals are listed in <u>Table 3.4</u>. The CA for pipelines considered complete removal as the base case. However, the CA concluded that options 1 and 2, removal by Reverse Reeling and removal by Reverse S-lay, were not feasible. The CA identified 'Piece Small' (also known as 'Cut and Lift') as the complete removal option. This option consists of cutting the line into small sections in place and removal of the resulting pieces by a construction vessel working with divers, ROVs or both. In <u>Table 3.4</u> this option is recorded under '10) Other'.

Table 3.4: Pipeline Decommissioning Options					
Key to Decommissioning Options	Considered:				
1) Remove Reverse Reeling	2) Remove – Reverse S-	lay 3) Trend	3) Trench and Bury		
4) Rock Placement	5) Partial Removal	6) Leave	ة) Leave in Place		
7) Remedial Trenching	8) Remedial Removal	9) Reme	9) Remedial Rock Placement		
10) Other					
Pipeline or Pipeline Group	Condition of Line orGroup	Whole or Part of Pipeline Group	Decommissioning Options Considered		
PL1969 Braemar Production	Part surface-laid/mattress	Whole	3, 4, 5, 6,		
	and buried		removal		

Table 3.4: Pipeline Decommissioning Options			
Key to Decommissioning Options	Considered:		
1) Remove Reverse Reeling	2) Remove – Reverse S-	lay 3) Trench	and Bury
4) Rock Placement	5) Partial Removal	6) Leave	in Place
7) Remedial Trenching	8) Remedial Removal	9) Reme	dial Rock Placement
10) Other			
Pipeline or Pipeline Group	Condition of Line orGroup	Whole or Part of Pipeline Group	Decommissioning Options Considered
PL1969(J) BW Braemar Production Flowline Jumper	Surface-laid/mattress protected	Whole	3, 4, 5, 6, 10 Piece Small removal
PLU1970 Braemar Chemical / Control Umbilical	Part surface-laid/mattress protected, part trenched and buried	Whole	3, 4, 5, 6, 10 Piece Small removal
PLU1970(J) BW Braemar Chemical / Control Umbilical Jumper	Surface-laid/mattress protected	Whole	3, 4, 5, 6, 10 Piece Small removal
PLU1977 Braemar SSIV Control Umbilical	Surface-laid/mattress protected	Whole	3, 4, 5, 6, 10 Piece Small removal

3.4.1 Comparative Assessment Method

RockRose UKCS8 LLC adopted a CA method that grouped lines into segments, i.e. parts of lines with similar attributes [5]. For example, surface-laid lines were grouped together, as were trenched lines. This results in a tool kit, or set of templates, that define how RockRose UKCS8 LLC will manage the subsea assets in the Brae Area. The methodology aligns with BEIS [8] and Oil and Gas UK guidance for comparative assessment. Where subsea facilities are not covered by the tool kit, RockRose UKCS8 LLC conducted specific comparative assessments. For example, the Braemar facilities were the subject of a specific CA [3], due to their proximity to the Braemar Pockmarks SAC.

3.4.2 Outcome of Comparative Assessment

The outcome of the comparative assessment process is summarised in Table 3.5.



Table 3.5: 0	utcomes of	Comparative	Assessment
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Pipeline or Pipeline Group	Recommended Option	Justification
PL1969 Braemar Production Flowline PL1969(J) BW Braemar Production Flowline Jumper	Partial Removal: The portions of the Braemar production flowline and jumper that are surface-laid at the Braemar wellhead and between the trench transition and Braemar SSIV at the East Brae platform will be removed. The trenched and rock covered portion of the flowline	Removing the surface-laid portions of the line reduces the snagging risk for fishermen.
	will be left in place.	
PL 1969 Braemar Production Flowline SSIV Structure	Remove to shore, for reuse, recycling or disposal.	Removing this structure leaves the seabed unobstructed and reduces the snagging risk to fishermen.
PLU1970 Braemar Chemical / Control Umbilical PLU1970(J) BW Braemar Chemical / Control Umbilical Jumper	Partial Removal: The portions of the Braemar chemical umbilical and jumper that are surface-laid at the Braemar wellhead and between the trench transition and Braemar SSIV at the East Brae platform will be removed.	Removing the surface-laid portion of the umbilical reduces the snagging risk for fishermen.
	The trenched and rock covered portion of the umbilical will be left in place.	
PLU1977 Braemar SSIV Control Umbilical	Any uncovered surface laid portion of the umbilical between the SSIV and the East Brae platform will be removed.	Removing the surface-laid portions of the line reduces the snagging risk for fishermen.

3.5 Pipeline Stabilisation Features

The pipeline stabilisation features and the proposed decommissioning options and disposal routes are listed in <u>Table 3.6</u>.

Table 3.6: Pipeline Stabilisation Features			
Stabilisation Features	Number	Option	Disposal Route
Concrete Mattresses	107	Mattresses may be reused offshore to stabilise the cut ends of lines at East Brae or recycled for seabed remediation at Braemar. Mattresses that cannot be reused or recycled in this way will be returned to shore for recycling or disposal.	Reused or recycled offshore, or returned to shore for recycling or disposal to landfill.
Grout Bags	0		
Formwork	0		
Frond Mats	0		
Rock Cover	11.85km	Leave in Place.	

3.6 Wells

Table 3.7: Well Plug and Abandonment

The wells listed in <u>Table 2.6</u> in <u>Section 2.4</u> will be plugged and abandoned in accordance with RockRose UKCS8 LLC Drilling and Completion Standards and in alignment with Oil & Gas UK (0&G UK) Guidelines [7].

Relevant permit applications, for example Well Intervention Applications on the BEIS Portal, will be submitted in support of well plug and abandonment work.

3.7 Drill Cuttings

There are no drill cuttings piles associated with the East Brae Topsides and Braemar decommissioning programmes.

3.8 Waste Streams

The methods for managing the waste streams from East Brae topsides and the Braemar subsea installation are listed in <u>Table 3.8</u>. The ultimate disposition of the waste materials is described in <u>Table 3.9</u>, and the proportions of materials that RockRose UKCS8 LLC envisages reusing, recycling or disposing of are given <u>Table 3.10</u>. Onshore cleaning and disposal of equipment will be carried out at appropriately licensed sites, in accordance with relevant legislation. Any activity conducted whilst the platform is in operation will be completed under the current permitting regime. Likely discharges are discussed in Technical Appendix 4.1 of the Environmental Statement [2].



All waste materials will be handled in accordance with United Kingdom and relevant international legislation. RockRose UKCS8 LLC and the selected decommissioning contractor(s) will address any trans-frontier shipment of waste to ensure that the associated issues are appropriately managed.

Table 3.8: Waste Stream Management Methods			
Waste Stream	Removal and Disposal Method		
Bulk Liquids	As far as possible, bulk hydrocarbon liquids will be exported from the platform via the export pipeline. The process equipment will be cleaned and flushed to an appropriate standard prior to decommissioning. Discharges offshore will be managed and risk assessed under the existing permitting regime. Any effluent will be shipped to shore for treatment and disposal in accordance with maritime transportation guidelines.		
	Equipment will be further checked onshore and any residual contamination will be removed from the equipment prior to its reuse, recycling or ultimate disposal.		
Marine Growth	The disposal of marine growth will depend on the decommissioning option selected, and the techniques used. Therefore, marine growth may be disposed of either offshore or onshore. Notwithstanding, marine growth will be disposed of in accordance with relevant regulations and guidelines.		
NORM	NORM may be disposed of either offshore or onshore. In either case, disposal will be in accordance with the relevant guidelines and authorisations.		
Asbestos	Any asbestos that is present on East Brae, or in subsea equipment, will be contained and taken onshore for disposal in accordance with regulations.		
Other Hazardous Wastes	These wastes will be taken onshore to an appropriately licensed site for recycling, or disposal if no other options are available.		
Onshore Dismantling Sites	An appropriately licenced site will be selected in conjunction with the removals contractor. RockRose UKCS8 LLC will ensure that the removal contractor has a proven disposal track record and waste stream management throughout the deconstruction process and demonstrate their ability to deliver innovative recycling options. RockRose UKCS8 LLC will carry out audits on disposal yards to provide assurance that they are compliant with legislation.		

Table 3.9: Inventory Disposition			
	Total Inventory (tonnes)	Planned Tonnage to Shore (tonnes)	Planned Tonnage Left in Situ (tonnes)
Installations	20,326	20,326	0
Pipelines	2,663	740	Approximately 1,923

Table 3.10: Re-use, Recycling, and Disposal of Material Returned to Shore (By Weight)			
	Reuse	Recycle	Disposal
Installations	10%	85-90%	<5%
Pipelines	0	75%	<25%

RockRose UKCS8 LLC's intent is to maximise the reuse and recycling of materials that are returned to shore, and thereby minimise the quantity of material that is disposed of to landfill. Significant volumes of material are unlikely to be returned to shore before 2025. It is not possible to predict the state of the re-use and recycling market at that time, therefore the re-use and recycling rates listed in <u>Table 3.10</u> are provisional.



4 Environmental Appraisal Overview

4.1 Environmental Sensitivities (Summary)

The environmental sensitivities in the East Brae and Braemar areas, and the impacts of decommissioning operations, are listed in <u>Table 4.1</u> and <u>Table 4.2</u> respectively.

Table 4.1: Environmental Sensitivities Summary			
Environmental Receptor	Main Features		
Conservation Interests	The Braemar production wellhead is approximately 90m from the Braemar Pockmarks Special Area of Conservation (SAC). The Braemar Pockmarks are unusual seabed features that were formed by seepage of natural gas from below the seabed. The area has been designated as a SAC to protect the unusual habitat, and the flora and fauna which it contains. The pockmarks contain blocks of Methane Derived Authigenic Carbonate (MDAC) formed from oxidation of the gas. The MDAC is ecologically significant as it provides habitat for marine animals more usually associated with rocky reefs and for organisms which feed off the venting natural gas and associated hydrogen sulphide. The Braemar pockmarks constitute a significant proportion of this type of habitat in the Northern North Sea.		
	A Marine Life Study of the Brae Area infrastructure has not identified the presence of the cold water coral (<i>Lophelia</i> spp).		
Seabed	The seabed community in the Brae Area is classed as representative of the Central North Sea and is dominated by the bristle worm (<i>Paramphinone</i> <i>jeffreysii</i>), with other species such as Spiophanes bombyx, Galthowenia oculata, Tharyx killariensis and Pholoe assimilies also present.		
Fish	Several fish species are present in the Brae Area and use the area for spawning and/or nursery grounds; these include Norway pout, Nephrops, mackerel, haddock and blue whiting. The basking shark, tope, porbeagle, common skate and angel shark may also be present in low numbers.		
Fisheries	Commercial fishing in the Brae Area is dominated by demersal and shellfish fisheries, with fishing effort peaking during spring and autumn. Gear types used are trawlers and seine nets. Peterhead is the main landing port for the area.		
Marine Mammals	The seven most commonly sighted species of cetacean in the Brae Area are the harbour porpoise, Atlantic white-sided dolphin, white-beaked dolphin, Risso's dolphin, killer whale, minke whale and long-finned pilot whale. Grey and harbour seals have also been recorded.		
Birds	Seabirds are present in the central North Sea throughout the year, though densities in the Brae Area tend to be lower due to the distance from coastal colonies. Seabird densities in the Brae Area are at their lowest in late spring/early summer during the breeding season. After this, diversity and density of seabirds offshore increases. Seabirds are particularly vulnerable to surface pollutants during moulting (July) when the birds are flightless.		
Onshore Communities	Onshore communities are potentially sensitive to disturbance from cleaning, dismantling and disposal activities. RockRose UKCS8 LLC will select onshore decommissioning facilities that comply with all regulatory requirements to ensure that potential impacts are appropriately controlled.		

Table 4.1: Environmental Sensitivities Summary		
Environmental Receptor	Main Features	
Other Users of the Sea	There are no ferry routes and no known military uses in the vicinity of the Brae Area. Recreation activity in the offshore North Sea is limited to the occasional yachts in passage. Telecommunications cables are charted to the north of the Brae platforms. No designated wreck sites or marine archaeological features are located within the area.	
Atmosphere	The primary source of atmospheric emissions will be from vessel activity during decommissioning activities.	

4.2 Potential Environmental Impacts and their Management

The Environmental Impact Assessment (EIA) process has considered the potential for significant environmental effects as a result of interactions between the proposed decommissioning activities and sensitive environmental receptors. The EIA has been developed by means of a multi stage scoping process with the aim of delivering a focused and proportionate EIA and ES. The process was developed in consultation with key stakeholders including, OPRED, JNCC, Marine Scotland and SEPA.

Following the scoping stage, the key issues identified for further detailed assessment were:

- Seabed disturbance effects
- Underwater noise effects
- Cumulative and transboundary effects

The ES [2] and Table 4.2 provide a summary of the environmental effects.

The environmental assessment has not identified any significant residual environmental effects as a result of activities described within these decommissioning programmes. However, RockRose UKCS8 LLC has set out a schedule of environmental management commitments within the ES to further reduce the potential for environmental effects.

Table 4.2: Environmental Impacts and Management		
Activity	Main Impacts	Management
Topsides Removal	Energy and Emissions	The removal of East Brae topsides will result in atmospheric emissions, however, these will be less than the normal operational emissions from the platform. All vessels involved in the decommissioning activities will comply with MARPOL 73/78 Annex VI on air pollution and machinery on the vessels will be maintained in an efficient state.



Table 4.2: Environmental Impacts and Management			
Activity	Main Impacts	Management	
	Underwater Noise	A noise assessment has been undertaken to identify the potential impacts of noise on marine mammals. The results are documented in the Environmental Statement [2]. The removal operations will involve lift vessel operations and additional platform support vessel operations. The results of the environmental assessment show that there are no significant impacts as a result of these operations. Procedures for vessel operations and cutting will incorporate mitigation measures identified by the noise study.	
	Accidental Events	The potential for spills, dropped objects or other contaminants to impact the ecosystem has been assessed. This is documented in the Environmental Statement [2]. The East Brae OPEP (Oil Pollution Emergency Plan) will be revised to incorporate decommissioning activities. Topsides will be drained down and cleaned prior to any removal activities.	
Subsea Installation Removal	Energy and Emissions	All vessels will comply with MARPOL 73/78 Annex VI on air pollution and machinery will be maintained in an efficient state.	
	Underwater Noise	Noise modelling has been conducted to identify the impacts of noise on marine mammals and potential mitigation measures. The results are documented within the Environmental Statement [2]. Procedures for vessel operations and underwater cutting will incorporate mitigation measures identified by the noise study. There are no plans to use explosives at this time. However, should the use of explosives be necessary, RockRose UKCS8 LLC will complete appropriate evaluations and consultations.	
	Seabed Disturbance	Seabed disturbance and subsequent resettlement is considered within the Environmental Statement [2]. The Braemar wellhead is outside the Braemar SAC and studies have concluded that all sensitive features lie outside the area of potential direct effect from the removal operations. Additional control measures have been identified which are detailed in the Environmental Statement [2]. These include use of DP vessels, identification of lifting paths and tidal and current assessments to avoid the SAC. Activities will be risk assessed and permitted under MCAA (Marine and Coastal Access Act).	
	Accidental Events	The potential for spills, dropped objects or other contaminants to impact the ecosystem has been assessed. This assessment is documented in the Environmental Statement [2]. The East Brae OPEP will be revised to incorporate decommissioning activities. The OPEP includes the Braemar subsea facilities.	
Decommissioning Pipelines	Energy and Emissions	All vessels will comply with MARPOL 73/78 Annex VI on air pollution and machinery will be maintained in an efficient state.	
	Underwater Noise	A noise assessment has been undertaken to identify the potential impacts of noise on marine mammals. The results are documented in the Environmental Statement [2]. The results concluded that the effects would be of local scale and be considered not significant. Procedures for vessel operations and underwater cutting will incorporate mitigation measures identified by the noise study.	

Table 4.2: Environmental Impacts and Management		
Activity	Main Impacts	Management
	Seabed Disturbance	Seabed disturbance and subsequent resettlement is considered within the Environmental Statement [2]. Effects are likely to be of short duration and not considered significant. The flowlines orient south away from the Braemar SAC. Activities will be risk assessed and permitted under MCAA.
	Discharge to Sea	Pipelines will be cleaned and flushed prior to decommissioning. Any residual discharges during decommissioning activities will be managed and risk assessed under the existing permitting regime.
	Accidental Events	The potential for spills, dropped objects or other contaminants to impact the ecosystem has been assessed. This assessment is documented in the Environmental Statement [7]. The East Brae OPEP will be revised to incorporate decommissioning activities. The OPEP includes the Braemar subsea facilities.
Decommissioning Stabilisation Features	Seabed Disturbance	Seabed disturbance and subsequent resettlement is considered within the Environmental Statement [2]. Due to the proximity of the Braemar SAC, a more detailed study was undertaken which identified no significant impacts. Additional control measures have been identified which are detailed in the Environmental Statement [2]. These include use of DP vessels, identification of lifting paths and tidal and current assessments to avoid the SAC. Activities will be risk assessed and permitted under MCAA.
Decommissioning Drill Cuttings	N/A	There are no drill cuttings piles associated with these decommissioning programmes.



5 Interested Party Consultations

Marathon Oil UK LLC (now RockRose UKCS8 LLC) consulted a wide range of interested parties during the planning stages of the overall Brae Area decommissioning project. These parties included:

- OPRED Environmental Management Team
- OPRED Offshore Decommissioning Unit
- Greenpeace
- Health and Safety Executive
- Joint Nature Conservation Committee
- Marine Conservation Society
- Marine Scotland
- National Federation of Fishermen's Organisations
- Oil and Gas Authority
- Scottish Environment Protection Authority
- Scottish Fishermen's Federation
- World Wide Fund for Nature (WWF)

Marathon Oil (now RockRose UKCS8 LLC) also made information regarding decommissioning of the Brae Area available to other interested parties and the general public on their website which is now available via the RockRose UKCS8 LLC Brae Decommissioning website, http://rockroseenergy.com/operations/decommissioning/

RockRose UKCS8 LLC does not propose to undertake any additional consultation in respect of decommissioning the East Brae topsides and Braemar subsea installation described in these decommissioning programmes.

Table 5.1 summarises the comments received from stakeholders.

Table 5.1: Summary of Stakeholder Comments					
Stakeholder	Comment	Response			
Informal Stakeholder Consultations					
Greenpeace	_				
HSE	_				
JNCC	_				
Marine Conservation Society	No substantive comments received.				
Marine Scotland	•				
OGA	_				
WWF	-				

Table 5.1: Summary of Stakeholder Comments				
Stakeholder	Comment	Response		
Statutory Consultations				
The National Federation of Fishermen's Organisations	No comments received	-		
Scottish Fishermen's Federation	The SFF sent its comments to Marathon Oil in a letter dated July 17^{th} 2017.	With the exception of the trenched and rock covered		
	The letter acknowledged Marathon Oil's engagement with the SFF regarding decommissioning of the Brae Area facilities.	portions of the Braemar flowline and umbilical, all the facilities covered by these decommissioning programmes		
The SFF reiterated its overarching pri of return to clean seabed.		will be removed and returned to shore.		
Northern Irish Fish Producers' Organisation	No comments received	-		
Global Marine Systems Limited	No comments received	-		
Public	No comments received	-		



6 Programme Management

6.1 Project Management and Verification

RockRose UKCS8 LLC, on behalf of the Section 29 Notice Holders, has appointed a project management team to manage the planning and execution of the Brae Area decommissioning programmes. RockRose UKCS8 LLC health, environmental and safety management principles will govern operational controls, hazard identification and risk management. The work will be coordinated with due regard to interfaces with other operators' oil and gas assets and with other users of the sea. RockRose UKCS8 LLC will control and manage the progress of all permits, licences, authorisations, notices, consents and consultations required. Any significant changes to the decommissioning programmes will be discussed and agreed with OPRED.

6.2 Post-Decommissioning Debris Clearance and Verification

Following completion of the East Brae and Braemar decommissioning activities detailed in this document and the wider Brae Area activities described in the associated decommissioning programmes [1] [6], post-decommissioning site surveys will be carried out within a 500m radius of all installation sites and a 100m corridor along each pipeline route. Any oilfield-related seabed debris that is found will be recovered and returned to shore for recycling or appropriate disposal.

Independent verification of the state of the seabed will be obtained by trawling the pipeline corridors and within the safety zones. Following verification, RockRose UKCS8 LLC will issue a statement of clearance to all relevant governmental departments and non-governmental organisations.

6.3 Schedule

The main milestones in the East Brae Topsides and Braemar decommissioning programmes are illustrated in <u>Figure 6-1</u>.

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Q1 Q2 Q3 Q4									
Rig Re-activation										
East Brae Topsides and Braemar DPs Approval		•	_							
East Brae Well P&A and Conductors										
East Brae Platform Wells CoP										
East Brae De-Energise Window										
East Brae Topsides Removal Window										
Braemar Well CoP Window										
Braemar Well P&A Window										
Subsea Removal Window										
East Brae Topsides / Braemar Disposal Window										
Braemar Subsea Post Removal Survey Window										
East Brae/Braemar Close Out Report										

Figure 6.1: East Brae Topsides and Braemar Decommissioning Schedule

Decommissioning of the pipeline sections outboard of the Braemar SSIV will be executed during this DP schedule. Decommissioning of the SSIV and inboard sections will be undertaken as part of the wider Brae Area decommissioning campaign to maximise the advantages of economies of scale and synergies between the various activities.

6.4 Costs

RockRose UKCS 8 LLC has used the Oil and Gas UK work breakdown structure presented in <u>Table</u> <u>6.1</u> to develop cost estimates for the East Brae Topsides and Braemar decommissioning programmes. The provisional estimated costs have been provided to OPRED in confidence.

Table 6.1: Provisional Decommissioning Programmes Costs				
Item	Estimated Cost (£m)			
Operator Project Management				
Facility Running/Owner Costs	_			
Well Plugging and Abandonment				
Facilities/Pipelines Making Safe	-			
Topsides Preparation	-			
Topsides Removal	Provided to OPRED in confidence			
Sub-Structure Removal	_			
Topsides and Sub-Structure Onshore Recycling	•			
Subsea Infrastructure (Pipelines, Umbilicals)	-			
Site Remediation	-			
Monitoring	-			

6.5 Close Out

In accordance with the OPRED Guidelines, a close out report will be submitted to OPRED within one year of the completion of all the Brae Area offshore decommissioning scopes, including debris removal and independent verification of seabed clearance and the first post-decommissioning environmental survey. RockRose UKCS8 LLC will issue a close out report covering the East Brae Topsides and Braemar facilities that are in the scope of these Decommissioning Programmes within one year of completion of the disposal of the facilities.

Any variances from the approved decommissioning programmes will be explained in the close out report.



6.6 Post-Decommissioning Monitoring and Evaluation

Following completion of the East Brae and Braemar decommissioning activities detailed in this document and the wider Brae Area activities described in the associated decommissioning programmes [1][6], RockRose UKCS8 LLC will carry out a post decommissioning environmental seabed survey. The survey will focus on chemical and physical disturbances of the decommissioning and be compared with the pre decommissioning survey.

A copy of the survey results will be forwarded to OPRED. After the survey results have been sent to OPRED and reviewed, a post monitoring survey regime will be agreed by both parties taking account of ongoing liability, and the status and findings of previous surveys. The regime will apply a risk based approach to the frequency and scope of further surveys. At least two post decommissioning environmental surveys and structural pipeline surveys are expected.

7 Supporting Documents

- [1] East Brae and Braemar Combined Decommissioning Programmes, 9000-MIP-99-PM-RP-00002-000, Marathon Oil Decommissioning Services.
- [2] East Brae and Braemar Combined Decommissioning Programmes Environmental Statement, 9030-MIP-99-EV-RT-00002-000, Marathon Oil Decommissioning Services.
- [3] Brae Area Braemar Facilities (Pockmarks) Comparative Assessment, 9000-MIP-99-PM-FD-00005-000, Marathon Oil Decommissioning Services.
- [4] East Brae Subsea Facilities Decommissioning Comparative Assessment, 9030-MIP-99-PM-FD-00001-000, Marathon Oil Decommissioning Services.
- [5] Brae Area Subsea Assets Decommissioning Comparative Assessment Methodology, 9000-MIP-99-PM-FD-00003-000, Marathon Oil Decommissioning Services.
- [6] Brae Alpha, Brae Bravo, Central Brae, West Brae and Sedgwick Combined Decommissioning Programmes, 9000-MIP-99-OM-RP-00003-000, Marathon Oil Decommissioning Services.
- [7] Well Decommissioning Guidelines, Issue 6, Oil and Gas UK, June 2018.
- [8] Guidance Notes Decommissioning of Offshore Oil and Gas Installations and Pipelines. BEIS November 2018.

The latest document versions can be found on the RockRose Energy website:

http://rockroseenergy.com/operations/decommissioning/



8 Section 29 Holders' Letters of Support



Offshore Petroleum Regulator for Environment and Decommissioning Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ RockRose Energy Group Charter Building Rubislaw Hill Anderson Drive Aberdeen AB15 6FZ

+44 1224 803 000 info@rockroseenergy.com

rockroseenergy.com

14th July 2020

Dear Sir or Madam

EAST BRAE TOPSIDES & BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4th June 2020.

We, RockRose Energy UKCS8 LLC confirm that we authorise RockRose Energy UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides and Braemar facilities as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the RockRose Energy UKCS8 LLC Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose Energy UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under Section 29 of the Petroleum Act 1998.

Yours faithfully

Peter Mann Managing Director

For and on behalf of RockRose Energy UKCS8 LLC

Members of RockRose Energy PLC – Registered Number 09665181; company registered in England and Wales. Companies registered in England and Wales. RockRose UKCS 91Ld – Registered Number 1293052; RockRose UKCS 101Ld – Registered Number 638574. Companies registered in Delaware. United States of America, RockRose UKCS 81LC – Registered Number 0822875.



Offshore Petroleum Regulator for Environment and Decommissioning Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

11th August 2020

Dear Sir or Madam

EAST BRAE TOPSIDES & BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4th June 2020.

We, TAQA Bratani LNS Limited, confirm that we authorise RockRose Energy UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides and Braemar facilities as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the RockRose Energy UKCS8 LLC East Brae Topsides and Braemar Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose Energy UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under Section 29 of the Petroleum Act 1998.

Yours faithfully,

Donald 1 aufor

Donald Taylor Managing Director For and on behalf of TAQA Bratani LNS Limited





Offshore Petroleum Regulator for Environment and Decommissioning Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

11th August 2020

Dear Sir or Madam

EAST BRAE TOPSIDES & BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4th June 2020.

We, TAQA Bratani Limited, confirm that we authorise RockRose Energy UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides and Braemar facilities as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the RockRose Energy UKCS8 LLC East Brae Topsides and Braemar Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose Energy UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under Section 29 of the Petroleum Act 1998.

Yours faithfully,

Sonald 1 anjon

Donald Taylor Managing Director For and on behalf of TAQA Bratani Limited



Spirit Energy Resources Limited 5th Floor IQ Building 15 Justice Mill Lane Aberdeen AB11 6EQ

Telephone: 01224 415000 www.spirit-energy.com

Offshore Petroleum Regulator for Environment and Decommissioning Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

19th August 2020

Dear Sir or Madam,

EAST BRAE TOPSIDES & BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letters dated 4th June 2020.

We, Spirit Energy Resources Limited confirm that we authorise RockRose Energy UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Field Installation, Braemar Field Installation and the Braemar Field Pipelines as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the RockRose Energy UKCS8 LLC East Brae Topsides and Braemar Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose Energy UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under Section 29 of the Petroleum Act 1998.

Yours faithfully,

Gerry Hakrison Director For and on behalf of Spirit Energy Resources Limited

Spirit Energy Resources Limited Registered in England and Wales No.02855151 Trading Address: 5th Floor, iQ Building, 15 Justice Mill Lane, Aberdeen AB11 6EQ Registered Office: 1st Floor, 20 Kingston Road, Staines-upon-Thames, TW18 4LG





JX Nippon Exploration and Production (U.K.) Limited Saddlers'House, 6th Floor, 44 Gutter Lane, Cheapside, London EC2V6BR

Offshore Petroleum Regulator for Environment and Decommissioning Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

17th July 2020

Dear Sir or Madam

EAST BRAE TOPSIDES & BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4th June 2020.

We, JX Nippon Exploration and Production (U.K.) Limited confirm that we authorise RockRose Energy UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides and Braemar facilities as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the RockRose Energy UKCS8 LLC Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose Energy UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under Section 29 of the Petroleum Act 1998.

Yours faithfully

Yukio Tasaka Director and General Manager For and on behalf of JX Nippon Exploration and Production (U.K.) Limited

> Tel: 020 8049 5100 Fax: 020 8049 5101 Email: noex@jx.noex.co.uk Registered in England & Wales as Above. Reg. No. 3288689, VAT Reg. 539 3881 06

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Offshore Petroleum Regulator for Environment and Decommissioning

Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

14th July 2020

Dear Sir or Madam

EAST BRAE TOPSIDES & BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4th June 2020.

We, BP Exploration Operating Company Limited confirm that we authorise RockRose Energy UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides and Braemar facilities as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the RockRose Energy UKCS8 LLC Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose Energy UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under Section 29 of the Petroleum Act 1998.

Yours faithfully

DocuSigned by: andy McDonald 6C90DC77091E4D3

Andy McDonald Area Commercial operations Manager – OBO & Decom

For and on behalf of BP Exploration Operating Company Limited





Offshore Petroleum Regulator for Environment and Decommissioning Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

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rockroseenergy.com

14th July 2020

Dear Sir or Madam

EAST BRAE TOPSIDES & BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4th June 2020.

We, RockRose Energy UKCS12 LLC confirm that we authorise RockRose Energy UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides and Braemar facilities as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the RockRose Energy UKCS8 LLC Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose Energy UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under Section 29 of the Petroleum Act 1998.

Yours faithfully

Peter Mann Managing Director

For and on behalf of RockRose Energy UKCS12 LLC

Members of RockRose Energy PLC - Registered Number 09665181: company registered in England and Wales. Companies registered in England and Wales, RockRose UKCS 9.1d - Registered Number 193052. RockRose UKCS 10.1d - Registered Number 04105025. RockRose UKCS 11.1d - Registered Number 638574. Companies registered in Delaware, United States of America; RockRose UKCS 8.1LC - Registered Number 0822875.



REPSOL SINOPEC RESOURCES UK LIMITED

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W www.repsolsinopecuk.com July 2020

Our Ref: 20GEN001/LC

Offshore Petroleum Regulator for Environment and Decommissioning Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

Dear Sir or Madam

EAST BRAE TOPSIDES AND BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4th June 2020

We, Repsol Sinopec Resources UK Limited confirm that we authorise RockRose UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the East Brae Topsides and Braemar Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully

For and on behalf of Repsol Sinopec Resources UK Limited

li Ma

Director

Registered in England and Wales No. 825828 – Registered Office, Suite 1, 318 Floor, 11-12 St. James's Square, London, SW1Y 4LB





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July 2020

Our Ref:20GEN001/LC

Offshore Petroleum Regulator for Environment and Decommissioning Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

Dear Sir or Madam

EAST BRAE TOPSIDES AND BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4th June 2020

We, Repsol Sinopec LNS Limited confirm that we authorise RockRose UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the East Brae Topsides and Braemar Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully

For and on behalf of Repsol Sinopec LNS Limited

hillen .

Director

Registered in England and Wales No. 2483161 – Registered Office, Suite 1, 3'" Floor, 11-12 St. James's Square, London, SW1Y 4LI

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Offshore Petroleum Regulator for Environment and Decommissioning

Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

14th July 2020

Dear Sir or Madam

EAST BRAE TOPSIDES & BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4th June 2020.

We, Arco British Limited confirm that we authorise RockRose Energy UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides and Braemar facilities as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the RockRose Energy UKCS8 LLC Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose Energy UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under Section 29 of the Petroleum Act 1998.

Yours faithfully

DocuSigned by: andy McDonald 6C90DC77091E4D3

Andy McDonald Area Commercial operations Manager – OBO & Decom

For and on behalf of Arco British Limited





eni ukcs

Registered Office Eni UKCS Limited Eni House, 10 Ebury Bridge Road London SW1W 8PZ United Kingdom Registered in England & Wales (Company number 1019748) Tel: +44 (0) 20 7344 6000 Fax: +44 (0) 20 7344 6044

Offshore Petroleum Regulator for Environment and Decommissioning Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

September 2020

Dear Sir or Madam

EAST BRAE TOPSIDES & BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4^{th} June 2020.

We, Eni UKCS Limited confirm that we authorise RockRose Energy UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides and Braemar facilities as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the RockRose Energy UKCS8 LLC Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose Energy UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under Section 29 of the Petroleum Act 1998.

Yours faithfully

Ciro Pagnano Managing Director For and on behalf of Eni UKCS Limited

Offshore Petroleum Regulator for Environment and Decommissioning

Department for Business, Energy & Industrial Strategy 3rd Floor, Wing C AB1 Building Crimon Place Aberdeen AB10 1BJ

23rd September 2020

Dear Sir or Madam

EAST BRAE TOPSIDES & BRAEMAR DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 4th June 2020.

We, Neptune E&P UKCS Limited confirm that we authorise RockRose Energy UKCS8 LLC to submit on our behalf abandonment programmes relating to the East Brae Topsides and Braemar facilities as directed by the Secretary of State on 4th June 2020.

We confirm that we support the proposals detailed in the RockRose Energy UKCS8 LLC Decommissioning Programmes dated 8th July 2020, which is to be submitted by RockRose Energy UKCS8 LLC in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under Section 29 of the Petroleum Act 1998.

Yours faithfully

into

Pierre Girard Director of Commercial, JV & BD - UK

For and on behalf of Neptune E&P UKCS Limited



Appendix 1 Public Notice

PUBLIC NOTICE The Petroleum Act 1998 BRAE AREA DECOMMISSIONING PROJECT

Marathon Oil U.K. LLC (MOUK) has submitted, for the consideration of the Secretary of State for Business, Energy and Industrial Strategy, draft Decommissioning Programmes for the Brae Area infrastructure in accordance with the provisions of the Petroleum Act 1998. It is a requirement of the Act that interested parties be consulted on such decommissioning proposals. The items/facilities covered by the Decommissioning Programmes are:

The Brae Area facilities located approximately 274 km north-east of Aberdeen within four principal UK. Blocks: 16/7a, 16/3a, 16/3b and 16/3c. The facilities comprise the Brae Alpha, Brae Bravo and East Brae production platforms, three equity subsea installations and connecting pipelines, flowlines, control umbilicals and utility/power cables, and export pipelines.

MOUK hereby gives notice that the Brae Area Decommissioning Programmes can be viewed at the internet address: www.marathonoil.com/braedecom.

Alternatively hard copies of the Programmes can be inspected at the following location during office hours:

Marathon Oil U.K. LLC Marathon House Rubislaw Hill, Anderson Drive Aberdeen, AB15 6FZ, Scotland

Contact: David Wilson StakeholderBraeDecom@Marathonoil.com

Representations regarding the Brae Area Decommissioning Programme should be submitted in writing to the address and contact shown above, where they should be received by the 24th July 2017 and should state the grounds upon which any representations are being made.



9030-RRE-99-PM-RT-00001-000 Revision I03

http://rockroseenergy.com/operations/decommissioning/