

PELICAN SUBSEA FACILITIES DECOMMISSIONING PROGRAMMES



October 2025 – Consultation Draft

77IFS-188149-H99-0001-000



DOCUMENT CONTROL

Approvals

	Name	Date
Prepared by	Sonia Daniel, Gosia Baranowska Xodus Group	October 2025
Reviewed by	Louisa Dunn Decommissioning Stakeholder & Compliance Lead	October 2025
Approved by	David Wilson Decommissioning Director	October 2025

Revision Control

Revision No	Reference	Changes/Comments	Issue Date
03	Consultation Draft	OPRED comments incorporated	October 2025
02	Pre-Consultation Draft	OPRED comments incorporated	September 2025
01	First Draft		May 2025

Distribution List

Name	Company
Robert Willison	Offshore Petroleum Regulator for Environment and Decommissioning (OPRED)

TABLE OF CONTENTS

DOCUMENT CONTROL	2
Approvals	2
Revision Control.....	2
Distribution List.....	2
TABLE OF CONTENTS	3
FIGURES	4
TABLES	4
HOLDS.....	5
ABBREVIATIONS	6
1 Executive Summary	7
1.1 Combined Decommissioning Programmes	7
1.2 Requirement for Decommissioning Programmes	7
1.3 Introduction	8
1.4 Overview of Facilities Being Decommissioned	9
1.5 Summary of Proposed Decommissioning Programmes	11
1.6 Field Locations Including Field Layout and Adjacent Facilities	16
1.7 Industrial Implications	19
2 Description of Items to be Decommissioned	20
2.1 Subsea Installations.....	20
2.2 Pipelines including Stabilisation Features	22
2.3 Wells.....	34
2.4 Drill Cuttings Piles.....	35
2.5 Inventory Estimates	38
3 Removal and Disposal Methods.....	40
3.1 Subsea Installations and Stabilisation Features	40
3.2 Pipelines	41
3.3 Pipeline Stabilisation Features	43
3.4 Wells.....	44
3.5 Drill Cuttings	44
3.6 Waste Streams	45
4 Environmental Appraisal Overview	47
4.1 Environmental Sensitivities	47
4.2 Potential Environmental Impacts and Management	50
5 Interested Party Consultations	54

6	Programme Management	56
6.1	Project Management and Verification.....	56
6.2	Post-decommissioning Debris Clearance and Verification	56
6.3	Schedule.....	56
6.4	Costs	57
6.5	Close Out.....	57
6.6	Post-Decommissioning Monitoring and Evaluations.....	58
6.7	Management of Residual Liability	58
7	Supporting Documents	59
8	Section 29 Holders' Letters of Support [HOLD 2]	60

FIGURES

Figure 1-1: Pelican Field Location	16
Figure 1-2: Pelican Adjacent Facilities	17
Figure 1-3: Pelican Facilities Layout.....	18
Figure 2-1: Pelican Cuttings Pile Limits and Volume	36
Figure 2-2: Cormorant Alpha Cuttings Pile Limits and Volume	37
Figure 2-3: Subsea Installations Inventory	38
Figure 2-4: Pipelines and Stabilisation Materials Inventory	39
Figure 6-1: Decommissioning Schedule	57

TABLES

Table 1-1: Installations Being Decommissioned	9
Table 1-2: Installations Section 29 Notice Holders	10
Table 1-3: Pipelines Being Decommissioned	10
Table 1-4: Pipelines Section 29 Notice Holders.....	10
Table 1-5: Summary of Decommissioning Programme	11
Table 1-6: Adjacent Facilities	19
Table 2-1: Subsea Installations	20
Table 2-2: Pipeline / Flowline/ Umbilical Information	22
Table 2-3: Pipeline / Flowline / Umbilical Stabilisation Features	30
Table 2-4: Well information	34
Table 2-5: Drill Cuttings Pile Information	35
Table 2-6: Subsea Installations Inventory Including Stabilisation Materials	38

Table 2-7: Pipelines and Stabilisation Materials Inventory.....	39
Table 3-1: Subsea Installations	40
Table 3-2: Pipeline Decommissioning Options	41
Table 3-3: Pipeline or Pipeline Group Decommissioning Options Considered.....	41
Table 3-4: Outcome of Comparative Assessment	43
Table 3-5: Pipeline Stabilisation Features Disposal Route	43
Table 3-6: Wells Decommissioning Options	44
Table 3-7: Drill Cuttings Decommissioning Options.....	44
Table 3-8: Materials and Waste Streams	45
Table 3-9: Inventory Disposition	46
Table 4-1: Environmental Sensitivities	47
Table 4-2: Environmental Impacts and Management	51
Table 5-1: Summary of (UK) Stakeholder Comments [HOLD 1].....	55
Table 6.1: Provisional Decommissioning Costs.....	57

HOLDS

Holds	Description
HOLD 1	TAQA to provide consultation comments to OPRED
HOLD 2	TAQA to provide section 29 holders letters of support to OPRED

ABBREVIATIONS

Abbreviation	Explanation
AWMP	Active Waste Management Plan
BUTA	Bullhead Umbilical Termination Assembly
CA	Comparative Assessment
CGBS	Concrete Gravity Base Structure
CO ₂	Carbon dioxide
CoP	Cessation of Production
DP	Decommissioning Programme
EA	Environmental Appraisal
EUNIS	European Nature Information System
GMS	Global Marine Systems Limited
HSE	Health and Safety Executive
JNCC	Joint Nature Conservation Committee
LAT	Lowest Astronomical Tide
ML	Marine License
MODU	Mobile Offshore Drilling Unit
NFFO	National Federation of Fishermen's Organisations
NIFPO	Northern Ireland Fish Producers' Organisation
NNS	Northern North Sea
NORM	Naturally Occurring Radioactive Material
NSTA	North Sea Transition Authority
OEUK	Offshore Energies UK
OPEX	Operational Expenditure
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OSPAR	Oslo Paris Convention for the Protection of the Marine Environment of the North-East Atlantic
P&A	Plug and Abandon
PL	Pipeline (as in pipeline number)
PLU	Umbilical (as in umbilical number)
PMF	Priority Marine Feature
SAC	Special Area of Conservation
SDU	Subsea Distribution Unit
SSVS	Subsea Valve Skid
TAQA	TAQA Bratani Limited
THC	Total Hydrocarbon Content
UK	United Kingdom
UKCS	United Kingdom Continental Shelf
UKOOA	United Kingdom Offshore Operators Association
UTA	Umbilical Termination Assembly
WBS	Work Breakdown Structure

1 Executive Summary

1.1 Combined Decommissioning Programmes

This document contains three Decommissioning Programmes (DPs) for the Pelican subsea installations and pipelines and the associated facilities at the Cormorant Alpha platform.

There is a separate Decommissioning Programme for each set of associated notices served under Section 29 of the Petroleum Act 1998. The Decommissioning Programmes are for:

1. The four Pelican Field pipelines and four umbilicals linking the Pelican manifold and the Cormorant Alpha platform ([Table 2-2](#)).
2. The three umbilicals linking the Pelican manifold and the Pelican wells and the umbilical linking the Cormorant Alpha platform to the Subsea Distribution Unit 2 (SDU) ([Table 2-2](#)).
3. The twelve Pelican Field subsea installations ([Table 1-1](#)).

1.2 Requirement for Decommissioning Programmes

1.2.1 Installations

In accordance with the Petroleum Act 1998, as amended, TAQA, as operator of the Pelican subsea installations, and on behalf of the Section 29 Notice Holders (see [Table 1-2](#)) is applying to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) to obtain approval for decommissioning the Pelican subsea installations as detailed in [Section 2.1](#) of this document. (See also [Section 8](#) – Section 29 Holders' Letters of Support).

1.2.2 Pipelines

In accordance with the Petroleum Act 1998, as amended, TAQA, as operator of the Pelican subsea pipelines, and on behalf of the Section 29 Notice Holders (see [Table 1-4](#)) is applying to OPRED to obtain approval for decommissioning the Pelican pipelines as detailed in [Section 2.2](#) of this document. (See also [Section 8](#) – 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 guidance [\[1\]](#).

The estimated schedule outlined for the decommissioning project spans a twelve-year period that commenced in 2023.

1.3 Introduction

The Pelican Field is in the Northern North Sea (NNS) in Block 211/26 of the United Kingdom Continental Shelf (UKCS), in a water depth of approximately 154 m. The Pelican Field was produced via the Cormorant Alpha platform, which is located in UKCS Block 211/26, 8.3 km north northeast of Pelican. The Pelican Field is located approximately 105 km northeast of Shetland and 39 km west of the UK/Norway median line. Hydrocarbons were exported from the Pelican Field via the Cormorant Alpha platform onwards through the Brent pipeline system to the Sullom Voe Terminal in Shetland.

The Pelican facilities comprise:

- Twelve production wells and four water injection wells. Seven of the Pelican production wells have been Phase 2 abandoned ([Table 2-4](#)). Water injection well W23 has an over-trawlable Xmas tree;
- The Pelican manifold, an extension manifold, two SDUs, a subsea valve skid (SSVS) and two acid skids;
- Pipelines and umbilicals between the Cormorant Alpha Platform and the Pelican Manifold and adjacent structures;
 - Two production pipelines (PL1084 and PL1085);
 - Gas lift pipeline (PL1086);
 - Water injection pipeline (PL1087);
 - Control and chemical injection umbilicals (PL1088, PL1089, PL1090, PLU1944 and PLU3136);

These lines are trenched and backfilled over most of their length with spot rock placement where required. These pipelines and umbilicals run via Block 211/26. Umbilicals PL1088/89/90 run from Cormorant Alpha to a point on the seabed adjacent to the Pelican manifold Umbilical Termination Assembly (UTA), PLU1944 from Cormorant Alpha to the Pelican manifold UTA and PLU3136 from Cormorant Alpha to the Pelican SDU via the Bullhead Umbilical Termination Assembly (BUTA);

- Production jumpers, gas lift jumpers, water injection jumpers, control umbilical jumpers and hoses between the Pelican manifold and structures and the Pelican wells as listed in [Table 2-2](#);
- The Cormorant Alpha platform Riser Caisson containing the Pelican risers: PL1084 and PL1085 8" oil risers, PL1086 6" gas lift riser, and PL1087 8" water injection riser. The Riser Caisson is in three sections. The Cell Wall Caisson runs from the seabed to the top of the storage cells. The Cell Top Caisson runs across the top of the storage cells to the bottom of the Guide Caisson, which runs vertically in Slot 32 of the conductor guides to the platform topsides;
- Umbilical risers PL1088, PL1089, PL1090 and PLU3136 installed in a J tube in Cormorant Alpha platform Concrete Gravity Base Structure (CGBS) leg C3; and
- Umbilical riser PLU1944 installed in a J tube in Cormorant Alpha platform CGBS leg C4.

The Pelican Field was discovered in 1970 and started production in 1996. The Pelican Field cannot produce after Cessation of Production (CoP) at the Cormorant Alpha platform, since it relies on the Cormorant Alpha platform as its export route. The Cormorant Alpha platform and therefore the Pelican Field ceased production in Q3 2024.

The Cormorant Alpha platform includes the CGBS. If derogation to leave the CGBS in place is granted, the Pelican pipelines and umbilicals will be removed to a point in close proximity (within approximately 75 m) of the base of the CGBS. This represents a reasonable balance between the level of risk associated with removing the facilities, the degree of disturbance of the seabed, the use of resources

during decommissioning, and the loss of amenity for other sea users following decommissioning. Notwithstanding, final decommissioning solutions for the Pelican pipelines and umbilicals at the Cormorant Alpha platform will be discussed and agreed with OPRED to align with decommissioning arrangements for the platform and associated infrastructure. Pelican decommissioning activities may be integrated with the overall Cormorant Alpha area and wider NNS decommissioning projects to maximise synergies, optimise the use of resources, and minimise disturbance to the environment.

Following public, stakeholder and regulatory consultation, these Decommissioning Programmes are submitted without derogation and in full compliance with OPRED [1] and Offshore Energies UK (OEUK) Guidelines [2]. The Decommissioning Programmes explain the principles of the decommissioning activities and are supported by a Comparative Assessment (CA) [3] of decommissioning options and an Environmental Appraisal (EA) [4].

1.4 Overview of Facilities Being Decommissioned

1.4.1 Installations

Table 1-1: Installations Being Decommissioned			
Field(s)	Pelican	Production Type	Oil
Water Depth	154 m	UKCS Block	211/26
Distance to Median	39 km	Distance to UK Coastline	105 km
Subsea Installations			
Number		Type	
1		Manifold (including roof panels)	
1		Extension Manifold	
1		Pelican W23 Integrated Structure ¹	
1		SSVS	
2		SDU ²	
1		P10B Acid Skid ²	
1		P19 Acid Skid ²	
4		Concrete Deflectors	
Subsea Wells			
Number		Type	
12		Oil production	
4		Water injection ¹	
Drill Cuttings Pile (s)			
Number of Piles	2	Total Estimated Volume (m³)	20,161

Note:

1. Well W23 incorporates an over trawlable Xmas tree.
2. The removal of these structures is covered under Marine License (ML) ML/1183.

Table 1-2: Installations Section 29 Notice Holders

Company	Registration Number	Equity Interest (%)
S29 Notice: 01.08.07.06/139C for Pelican Installations		
TAQA Bratani Limited	05975475	100
ESSO Exploration and Production UK Limited	00207426	0
Shell U.K. Limited	00140141	0

1.4.2 Pipelines

Table 1-3: Pipelines Being Decommissioned

Number of pipelines (Details given in Table 2-2)	64
---	----

Table 1-4: Pipelines Section 29 Notice Holders

S29 Notice: 12.04.06.05/149C for PL1084, PL1085, PL1086, PL1087, PL1088, PL1089, PL1090 and PLU1944		
Company	Reg Number	Equity Interest (%)
TAQA Bratani Limited	05975475	100
ESSO Exploration and Production UK Limited	00207426	0
Shell U.K. Limited	00140141	0
S29 Notice: 12.04.06.05/431C		
PL1085JP20, PL1085JP21, PL1085JP22, PL1086JP10, PL1086JP18, PL1086JP20, PL1086JP21, PL1086JP22, PL1087JW23, PLU1944JPU-P10, PLU1944JPU-P11, PLU1944JPU-P12, PLU1944JPU-P13, PLU1944JPU-P14, PLU1944JPU-P15, PLU1944JPU-P16, PLU1944JPU-P18, PLU1944JPU-P19, PLU1944JPU-P20, PLU1944JPU-P19A, PLU1944JPU-SDU, PLU1944JPU-W11, PLU1944JPU-W12, PLU1944JPU-W17, PLU1944JPUW23, PLU1944JPU-P21, PLU1944JP22, PLU2756, PLU2980JW11, PLU2980JW12, PLU3136, PL4026, PL4027, PL4392, PL4396, PLU4447, PLU4448, PLU4449, PL6317, PL6318, PL6319, PL6320, PL6321, PL6322, PL6324, PL6327, PL6328, PL6329, PL6330, PL6331, PL6332, PL6333, PL6334, PL6335, PL6336, PL6337		
Company	Reg Number	Equity Interest (%)
TAQA Bratani Limited	05975475	100

1.5 Summary of Proposed Decommissioning Programmes

The selected decommissioning options for the Pelican infrastructure are shown in [Table 1-5](#) below.

Table 1-5: Summary of Decommissioning Programme	
Proposed Decommissioning Solution	Reason For Selection
1. Subsea Installations	
<i>Full Removal:</i> All materials, structures and equipment will be removed at end of field life. All recovered materials will be transported to shore for re-use, recycling, or disposal.	To leave a safe, clear seabed and in compliance with regulatory requirements.
2. Pipelines, Flowlines and Umbilicals	
All pipelines and umbilicals were flushed to an appropriate standard. TAQA has assessed the likelihood of wax being present in the Pelican production pipelines. The presence of wax in the majority of these lines is considered unlikely taking into account the fluid composition, operational history, process conditions and pipeline design. Environmental assessment considering the chemical composition and properties of the wax concluded that there is no significant risk to the marine environment in the unlikely event that wax is present. In addition, lines which met the criteria for possibly having wax present were tested and showed no evidence of wax. Further information on this assessment can be found in section 3.1.3 of the Pelican EA [4].	
Flexible Flowlines and Umbilicals, Surface Laid Surface laid portions of pipelines and umbilicals that are not in close proximity to the Cormorant Alpha platform CGBS will be removed together with protection features. The recovered items will be transported to shore for re-use, recycling, or disposal. Limited sections of surface laid pipelines and umbilicals in close proximity to the Cormorant Alpha CGBS may be left in place, subject to derogation to leave the CGBS in place, and agreement with OPRED. Note: “Close proximity” is considered within approximately 75 m of the CGBS. Logical break points between portions left <i>in situ</i> and portions removed will be selected, e.g., pipeline crossings, etc. This option represents a reasonable balance between the level of risk associated with removing the facilities, the degree of disturbance of the seabed, the use of resources during decommissioning, and the loss of amenity for other sea users following decommissioning. If derogation to leave the CGBS in place is not granted, all surface laid pipelines and umbilicals will be recovered and taken to shore for appropriate re-use, recycling, or disposal unless they are rock covered. The precise limit of “close proximity” will be agreed with OPRED on a case by case basis for each pipeline and umbilical.	This is the lowest risk, least seabed disturbance option.

Table 1-5: Summary of Decommissioning Programme

Proposed Decommissioning Solution	Reason For Selection
Flexible Flowlines and Umbilicals, Trenched and Buried <i>Leave in situ (minimal intervention):</i> Remove line ends and remediate snag risk. Rock placement to remediate snag risk from cut ends. Recovered ends returned to shore for reuse, recycling or appropriate treatment and disposal.	Comparatively assessed as preferred option. The flowlines and umbilicals are considered to be sufficiently trenched and buried with no areas of spans, exposure, or shallow burial, posing risk to marine users. If following pre-decommissioning surveys, fishing critical spans are identified, the full length of the span would be remediated. Minimal seabed disturbance, lower energy use, reduced risk to personnel engaged in the activity.
Rigid Pipelines, Trenched and Buried <i>Remove Areas of Spans / Exposure / Shallow Burial:</i> Remove line ends and remediate snag risk. Recovery of surface laid sections outside existing trench (including transitions), removal to shore for reuse, recycling or appropriate treatment and disposal. Rock placement to remediate snag risk from cut ends, removal of areas of spans, exposure, and shallow burial depth (<0.6 m) using cut and lift techniques.	Comparatively assessed as preferred option. There are limited areas of spans / exposure or shallow burial hence removal of these areas is justified. If following pre-decommissioning surveys fishing critical spans are identified, the full length of the span would be remediated. Minimal seabed disturbance, lower energy use, reduced risk to personnel engaged in the activity. Degradation will occur over a long period within seabed sediment, with no anticipated hazard to other users of the sea.

Table 1-5: Summary of Decommissioning Programme

Proposed Decommissioning Solution	Reason For Selection
Flexible Risers and Riser Umbilicals, Rigid Risers, Spools and Jumpers, Protection and Stabilisation <i>Full Removal:</i> The Pelican Riser Caisson, spools and jumpers and the associated protection features will be returned to shore for reuse, recycling, or appropriate disposal. The Pelican umbilical risers contained in J tubes in legs C3, and C4 of the Cormorant Alpha CGBS will be addressed in the future Cormorant Alpha CGBS decommissioning programme. Sections of surface laid spools in close proximity to the Cormorant Alpha CGBS may be left in place, subject to derogation to leave the CGBS in place, and agreement with OPRED. Note: “Close proximity” is considered within approximately 75 m of the CGBS. Logical break points between portions left <i>in situ</i> and portions removed will be selected, e.g., pipeline crossings, etc. This option represents a reasonable balance between the level of risk associated with removing the facilities, the degree of disturbance of the seabed, the use of resources during decommissioning, and the loss of amenity for other sea users following decommissioning. If derogation to leave the CGBS in place is not granted, all surface laid pipelines and umbilicals will be recovered and taken to shore for appropriate re-use, recycling, or disposal unless they are rock covered.	To leave a safe, clear seabed and in compliance with regulatory requirements.
Rock Cover <i>Leave in situ:</i> Rock cover will remain <i>in situ</i>. Additional rock cover may be placed during decommissioning to mitigate snagging risk at the cut ends of pipelines, and pipeline sections where critical spans and exposures are present.	To remediate snag risk from cut ends, and critical spans, exposures, and areas of shallow burial. An estimate of 30,876 Te of rock cover will remain in situ. An estimate of 750Te of rock cover is proposed for pipelines cut ends and spans. Rock placement to remediate fishing critical spans and exposures is estimated to be 1,100 Te.
Pipeline Crossings <i>Full Removal:</i> The Pelican umbilicals cross over PL17, PL118, PL1084, PL1085, PL1086 and PL1087 at eight locations. These crossings will be removed.	To leave a safe, clear seabed and in compliance with regulatory requirements.

Table 1-5: Summary of Decommissioning Programme

Proposed Decommissioning Solution	Reason For Selection
3. Wells	
Pelican wells will be Plugged and Abandoned (P&A'd) using a Mobile Offshore Drilling Unit (MODU) or Well Servicing Vessel (WSV) in alignment with the TAQA 'Well Barrier Standard TUK-11-B-009', and with reference to OEUK Well Decommissioning Guidelines [2] and other governing standards at the time of abandonment. If compliance with standards cannot be achieved, TAQA will adopt a risk-based approach in consultation with the relevant authorities. Xmas trees, flowbases, wellheads and the top section of the well conductors to a depth of at least 3m below seabed will be removed to shore for appropriate reuse, recycling, or disposal. Following removal of the wells, the seabed will be surveyed for debris and depressions, etc., and any necessary remediation will be performed.	Meets TAQA standards and North Sea Transition Authority (NSTA) and Health and Safety Executive (HSE) regulatory requirements.
4. Drill Cuttings	
There are two discreet cuttings deposits associated with the Pelican infrastructure. One located at the Pelican manifold and the other on top of the Cormorant Alpha CGBS storage cells, and, to a limited extent, the seabed at the south side of the platform. The decommissioning strategy for both cuttings deposits is to "Leave in place to degrade naturally." The cuttings associated with the Pelican manifold will be disturbed, however, efforts will be made to minimise the degree of disturbance during removal. Cuttings that are disturbed in the area around the Pelican manifold are likely to resettle within the area already contaminated by cuttings. Decommissioning activities will likely disturb the Cormorant Alpha cuttings piles and, as with the Pelican cuttings pile, any disturbed cuttings would resettle over the already contaminated sediments. Further information on drill cuttings disturbance can be found in the Pelican Field Subsea EA [4].	Compliance with Oslo Paris Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) Recommendation 2006/5 requirements.

Table 1-5: Summary of Decommissioning Programme

Proposed Decommissioning Solution	Reason For Selection
-----------------------------------	----------------------

5. Interdependencies

Pelican pipeline and umbilical risers terminate at the Cormorant Alpha platform. Decommissioning of these risers, and the pipelines and umbilicals on the seabed in close proximity to the platform, will be managed in conjunction with overall TAQA NNS decommissioning. This will minimise risk, impacts on the environment and use of resources.

If derogation to leave the Cormorant Alpha CGBS in place is granted, and the sections of surface laid pipelines in close proximity to the CGBS are left in place, disturbance of the Cormorant Alpha platform cuttings pile caused by Pelican decommissioning operations will be minimal. In this instance, the Cormorant Alpha cuttings pile disturbance will be solely due to the removal of the caisson containing PL1084, PL1085, and PL1087 risers. Cuttings that are disturbed on top of the Cormorant Alpha CGBS, or in the surrounding area, are likely to resettle within the area already contaminated by cuttings. If derogation is not granted, the disturbance would be as described in line item '4. Drill Cuttings' above.

The Cormorant Alpha platform CGBS and cuttings pile will be subject to a future separate DP. This future DP will address the impacts of Cormorant Alpha CGBS decommissioning activities on the Cormorant Alpha cuttings pile.

TAQA has communicated with NSTA concerning alternatives to decommissioning, such as re-use and repurposing, in accordance with Section 29 (2A) of the Petroleum Act 1998 (as amended). There are no viable alternatives to decommissioning.

1.6 Field Locations Including Field Layout and Adjacent Facilities

The locations of the Pelican Field and the adjacent facilities are shown in Figure 1-1 and Figure 1-2. Figure 1-3 shows the Pelican facilities layout in more detail. The Pelican Field is located in UKCS Block 211/26 in a water depth of 154 m. The Pelican manifold is approximately 105 km northeast of Shetland, and 39 km west of UK/Norway median line.

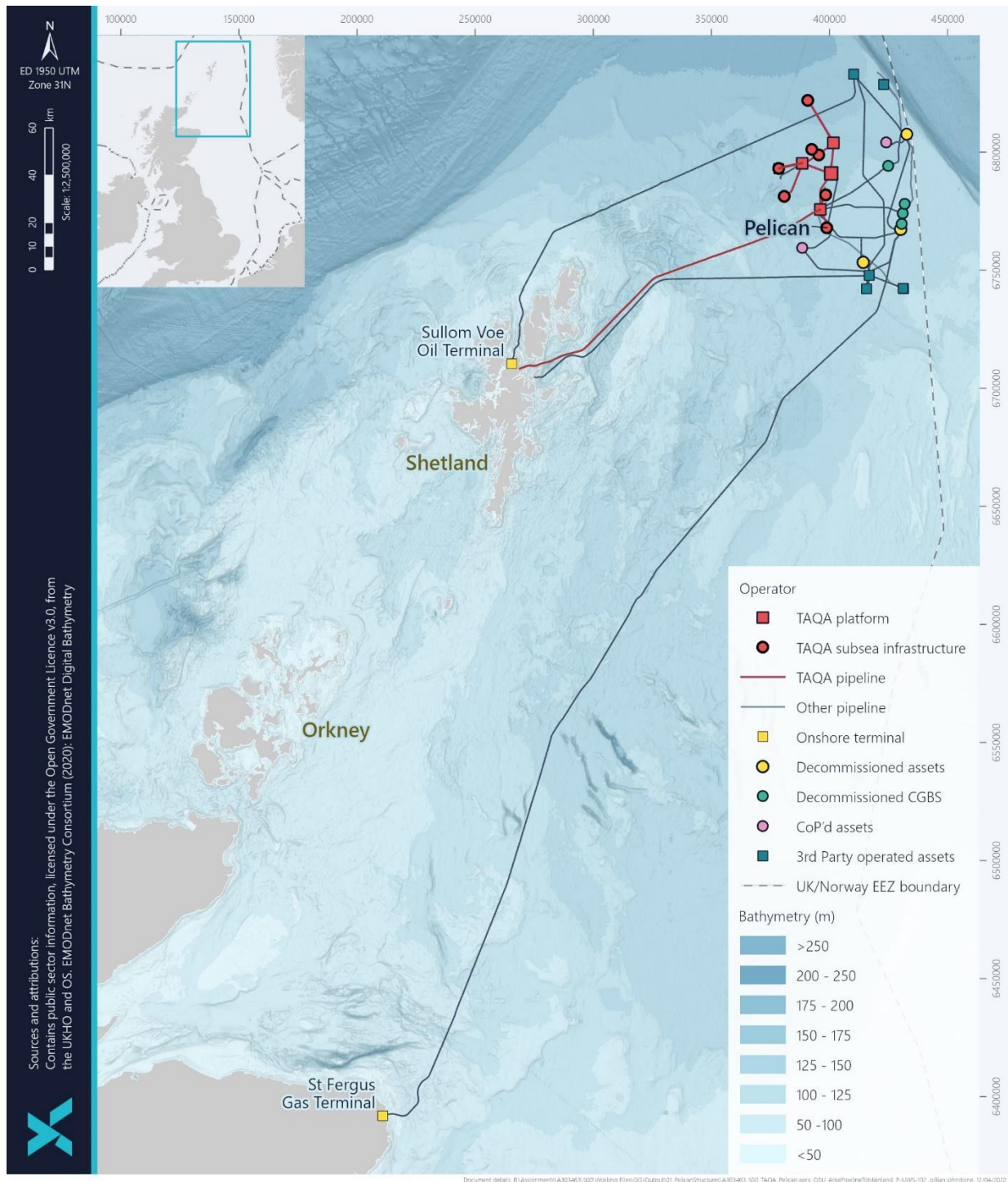


Figure 1-1: Pelican Field Location

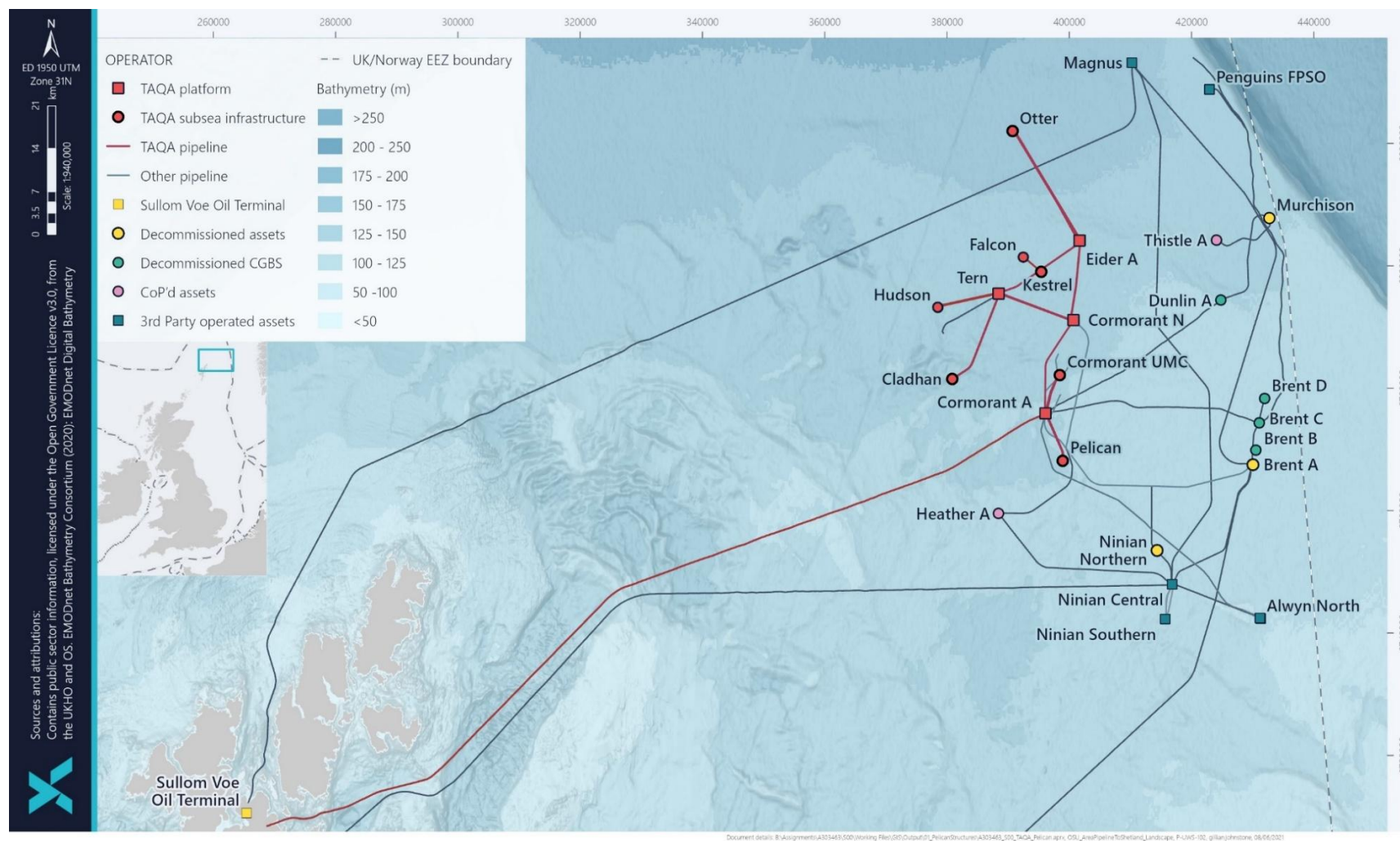


Figure 1-2: Pelican Adjacent Facilities

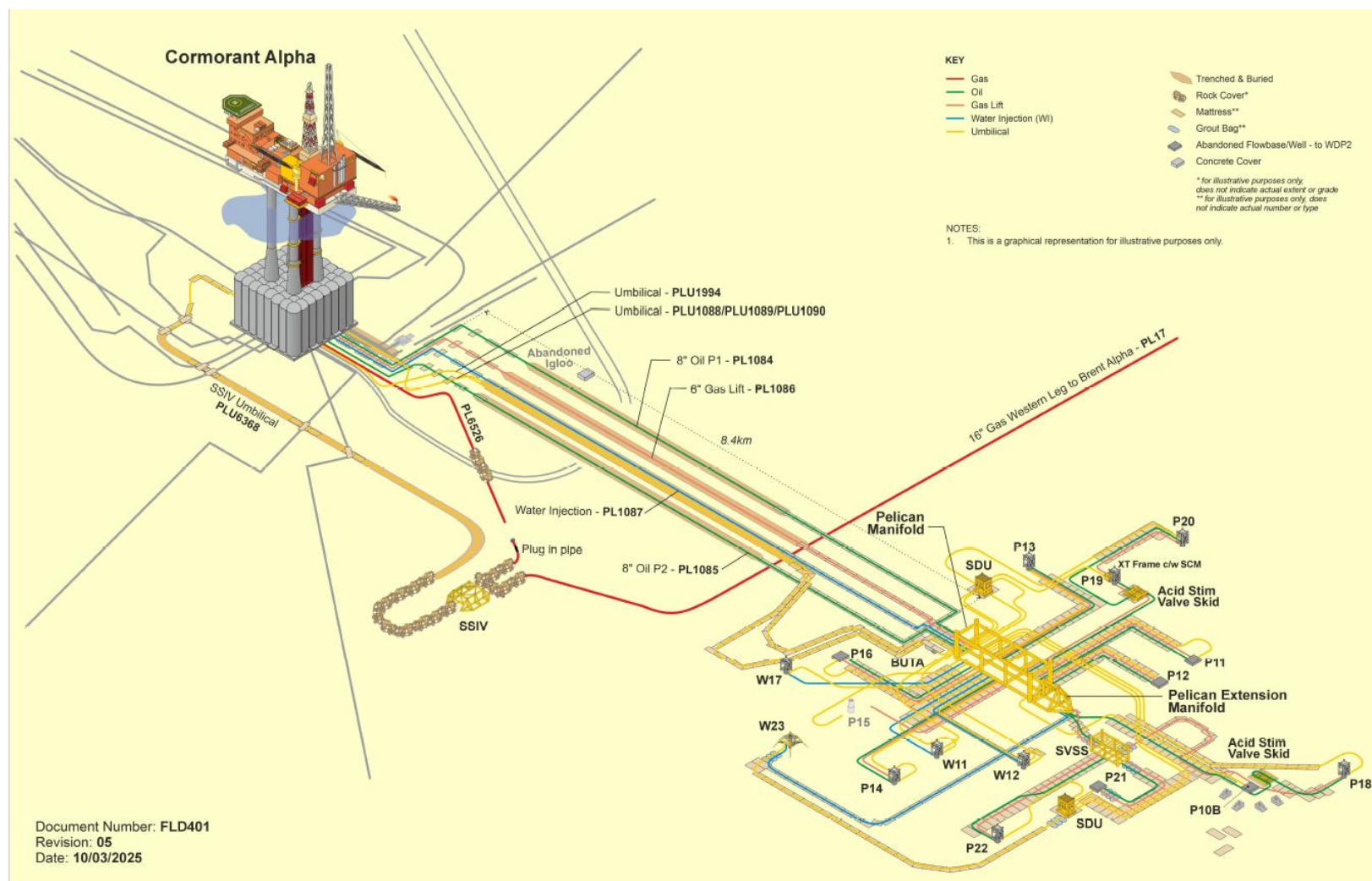


Figure 1-3: Pelican Facilities Layout

Table 1-6: Adjacent Facilities

Operator	Name	Type	Distance/ Direction from Pelican	Information	Status
TAQA	Cormorant Alpha	Platform	8.2 km North northwest	Oil and Gas Development	Non-Operational
TAQA	PL118	Pipeline crossing	7.5 km North northwest	Pelican pipelines crossing over	Operational
Shell	Cormorant Alpha to Brent A (Western Leg) PL17	Pipeline crossing	3.8 km North northwest	Pelican pipelines crossing over	Non-Operational
TAQA	PL04	Pipeline	8.2 km	Adjacent pipeline	Non-Operational
Total Energies UK	North Alwyn Oil Export PL1526	Pipeline	2.1 km West	Adjacent Pipeline	Non-Operational

Impacts of Decommissioning Proposals

TAQA has been, and will continue to be, in contact with operators and owners of adjacent facilities. There are no known interactions between the adjacent facilities and the proposed Pelican Decommissioning Programmes, other than the Cormorant Alpha platform and the Pelican pipelines crossing over PL17 and PL118. Decommissioning of Pelican and the Cormorant Alpha platform are inextricably linked as the Cormorant Alpha platform provides the only export route for Pelican production.

A number of the Pelican pipelines cross over PL118, or cross pipelines in close proximity to the Cormorant Alpha platform. The removal of these crossings will be managed in the NNS decommissioning as part of the execution of Cormorant Alpha platform decommissioning.

1.7 Industrial Implications

TAQA is developing the decommissioning contract and procurement strategy, on behalf of the Section 29 Notice Holders. TAQA envisages that this strategy may include using incumbent contractors for items and services covered by TAQA's existing Master Services Agreements.

Notwithstanding, TAQA has, and will continue to

- Publish Pelican decommissioning project information, including the project schedule, on the TAQA decommissioning [website](#).
- Publish project information and contact details on the NSTA Pathfinder website: [Energy Pathfinder](#).
- Engage with the NSTA and the decommissioning supply chain on any relevant issues relating to the Pelican decommissioning programme and schedule.
- Where appropriate use the First Point Assessment Limited (FPAL) / SEQual database for establishing tender lists.

2 Description of Items to be Decommissioned

2.1 Subsea Installations

Key information regarding the Pelican subsea facilities is presented in [Table 2-1](#) and [Table 2-2](#).

Table 2-1: Subsea Installations						
Item	No.	Size (m) [LxWxH]	Weight (Te)	Location		Comments / Status
Pelican Manifold	1	19.2 x 7.6 x 4.2	127.5	WGS84 Decimal	61.0354° N 01.1292° E	Manifold structure is secured to the seabed by four steel piles. Piles to be cut to 3 m below seabed. Weight includes weight of roof panels and piles
				WGS84 Decimal Minute	61°02.12' N 01°07.75' E	
Extension Manifold	1	5.8 x 5.8 x 4.2	22	WGS84 Decimal	61.0353° N 01.1291° E	Suction anchor foundation system
				WGS84 Decimal Minute	61°02.12' N 01°07.75' E	
Pelican W23 Integrated Structure	1	4.4 x 4.1 x 3.1	52.9	WGS84 Decimal	61.0339° N 01.1295° E	Weight includes over-trawlable Xmas Tree, flow base and wellhead
				WGS84 Decimal Minute	61°02.03' N 01°07.77' E	
SSVS	1	6 x 4.5 x 3	32	WGS84 Decimal	61.0348° N 01.1291° E	Gravity based
				WGS84 Decimal Minute	61°02.09' N 01°07.75' E	
SDU 1 ¹	1	1.8 x 1.5 x 1.3	1.2	WGS84 Decimal	61.0354° N 01.1293° E	Gravity based
				WGS84 Decimal Minute	61°02.13' N 01°07.75' E	
SDU 2 ¹	1	1.8 x 1.5 x 1.3	1.2	WGS84 Decimal	61.0327° N 01.1268° E	Gravity based
				WGS84 Decimal Minute	61°01.97' N 01°07.61' E	
P10B Acid Skid ¹	1	2 x 1.2 x 1.7	4	WGS84 Decimal	61.0345° N 01.1292° E	Gravity based
				WGS84 Decimal Minute	61°02'07' N 01°07.75' E	

Table 2-1: Subsea Installations

Item	No.	Size (m) [LxWxH]	Weight (Te)	Location		Comments / Status
P19 Acid Skid ¹	1	4.3 x 2.2 x 2.2	5.5	WGS84 Decimal	61.0353° N 01.1296° E	Gravity based
				WGS84 Decimal Minute	61°02.12' N 01°07.78' E	
Concrete Deflector 1	1	2 x 2 x 2	10	WGS84 Decimal	61.0324° N 01.1272° E	Concrete deflector on the seabed surrounding Well PU- P10B
				WGS84 Decimal Minute	61°01.95' N 01°07.64' E	
Concrete Deflector 2	1	2 x 2 x 2	10	WGS84 Decimal	61.0324° N 01.1271° E	Concrete deflector on the seabed surrounding Well PU- P10B
				WGS84 Decimal Minute	61°01.95' N 01°07.63' E	
Concrete Deflector 3	1	2 x 2 x 2	10	WGS84 Decimal	61.0325° N 01.1271° E	Concrete deflector on the seabed surrounding Well PU- P10B
				WGS84 Decimal Minute	61°01.95' N 01°07.63' E	
Concrete Deflector 4	1	2 x 2 x 2	10	WGS84 Decimal	61.0325° N 01.1271° E	Concrete deflector on the seabed surrounding Well PU- P10B
				WGS84 Decimal Minute	61°01.95' N 01°07.63' E	

Note:

1. The removal of these structures is covered under ML/1183.

2.2 Pipelines including Stabilisation Features

Table 2-2: Pipeline / Flowline / Umbilical Information

Description	Pipeline Number	Diameter	Length (km)	Description of Component Parts	Product Conveyed	From – To	Burial Status	Pipeline Status	Current Contents
Production Flowline	PL1084	8"	8.601	Steel	Hydrocarbons	Pelican Manifold – pig trap on Cormorant Alpha Platform Topsides	Trenched and buried	Out of use	Treated sea water
Production Riser ²	PL1084	8"	0.204	Steel	Hydrocarbons	EI + 18.500 - EL-93.960	N/A	Out of use	Treated sea water
Production Flowline	PL1085	8"	8.489	Steel	Hydrocarbons	Pelican Manifold – Cormorant Alpha Platform	Trenched and buried	Out of use	Treated sea water
Production Riser ²	PL1085	8"	0.204	Steel	Hydrocarbons	EI + 18.500 - EL-93.960	N/A	Out of use	Treated sea water
Production Jumper	PL1085JP20	6"	0.039	Steel	Hydrocarbons	Well PU-P20 – Well PU-P19 ¹	Surface laid	Out of use	Treated sea water
Production Jumper	PL1085JP21	6" & 8"	0.077	Steel	Hydrocarbons	Well P21 – SSVS SSVS – Pelican Ext Manifold ¹	Surface laid	Out of use	Treated sea water
Production Jumper	PL1085JP22	8"	0.081	Flexible	Hydrocarbons	Well PU-P22 – SSVS ¹	Surface laid	Out of use	Treated sea water
Gas Lift Flowline	PL1086	6"	8.538	Steel	Hydrocarbons	Cormorant Alpha Platform– Pelican Manifold	Trenched and buried	Out of use	Treated sea water
Gas Lift Riser ²	PL1086	6"	0.202	Steel	Hydrocarbons	EI + 18.500 - EL-93.960	N/A	Out of use	Treated sea water

Table 2-2: Pipeline / Flowline / Umbilical Information

Description	Pipeline Number	Diameter	Length (km)	Description of Component Parts	Product Conveyed	From – To	Burial Status	Pipeline Status	Current Contents
Gas Lift Jumper	PL1086JP10	6"	0.083	Flexible	Hydrocarbons	SSVS – 6"x4" Tee Piece - Well P10 ¹	Surface laid	Out of use	Treated sea water
Gas Lift Jumper	PL1086JP18	4"	0.040	Flexible	Hydrocarbon	Well PU-P10 – PU-P18 ¹	Surface laid	Out of use	Treated sea water
Gas Lift Jumper	PL1086JP20	2"	0.038	Flexible	Hydrocarbon	Pelican PU-P19 -PU-P20 ¹	Surface laid	Out of use	Treated sea water
Gas Lift Jumper	PL1086JP21	6"	0.082	Steel	Hydrocarbons	Well PU-P21 – Manifold Ext. Isolation Module ¹	Surface laid	Out of use	Treated sea water
Gas Lift Jumper	PL1086JP22	3"	0.071	Flexible	Hydrocarbons	SSVS – Pelican Well PU-P22 ¹	Surface laid	Out of use	Treated sea water
Water Injection Flowline	PL1087	6"	8.495	Steel	Water	Cormorant Alpha Platform – Pelican Manifold	Trenched and buried	Out of use	Treated sea water
Water Injection Riser ²	PL1087	6"	0.202	Steel	Water	EI + 18.500 - EL-93.960	N/A	Out of use	Treated sea water
Riser Caisson ²	N/A	N/A	0.212	Steel	N/A	N/A	N/A	N/A	N/A
Water Injection Jumper	PL1087JW23	6"	0.114	Flexible	Water	Manifold Ext. Isolation Module – Well W23	Surface laid	Out of use	Treated sea water
Chemical Injection Umbilical	PL1088	3/8"	8.597	Umbilical	Chemicals	Cormorant Alpha Platform – Pelican Manifold ¹	Trenched and buried	Out of use	Treated sea water

Table 2-2: Pipeline / Flowline / Umbilical Information

Description	Pipeline Number	Diameter	Length (km)	Description of Component Parts	Product Conveyed	From – To	Burial Status	Pipeline Status	Current Contents
Chemical Injection Umbilical	PL1089	3/8"	8.597	Umbilical	Chemicals	Cormorant Alpha Platform – Pelican Manifold ¹	Trenched and buried	Out of use	Treated sea water
Chemical Injection Umbilical	PL1090	3/4"	8.597	Umbilical	Chemicals	Cormorant Alpha Platform – Pelican Manifold ¹	Trenched and buried	Out of use	Treated sea water
Chemical Injection Umbilical	PLU1944	4"	8.625	Umbilical	Chemicals	Cormorant Alpha Platform – Pelican BUTA	Trenched and buried	Out of use	Treated sea water
Control/ Chemical Injection Umbilical Jumper	PLU1944JP U-SDU	3/8"	0.020	Umbilical	Control/ Chemicals	Disconnected adjacent to Pelican Manifold – Pelican SDU1	Surface laid	Out of use	Treated sea water
Chemical Injection Umbilical Jumper	PLU1944JP U-P10	3/8"	0.112	Umbilical	Chemicals	Pelican Manifold - Production Well PU-P10 ¹	Surface laid	Out of use	Treated sea water
Chemical Injection Umbilical Jumper	PLU1944JP U-P11	3/8"	0.057	Umbilical	Chemicals	Pelican Manifold – Production Well PU-P11 ¹	Surface laid	Out of use	Treated sea water
Control/ Chemical Injection Umbilical Jumper	PLU1944 JPU-W11	2.9"	0.057	Umbilical	Chemicals	Pelican Manifold UTA – Well PU- W11 ¹	Surface laid	Out of use	Treated sea water

Table 2-2: Pipeline / Flowline / Umbilical Information

Description	Pipeline Number	Diameter	Length (km)	Description of Component Parts	Product Conveyed	From – To	Burial Status	Pipeline Status	Current Contents
Chemical Injection Umbilical Jumper	PLU1944JP U-P12	3/8"	0.057	Umbilical	Chemicals	Pelican Manifold UTA – Production Well PU-P12 ¹	Surface laid	Out of use	Treated sea water
Chemical Injection Umbilical Jumper	PLU1944 JPU-W12	2.9"	0.057	Umbilical	Chemicals	Pelican Manifold UTA – Production Wellhead PU-W12 ¹	Surface laid	Out of use	Treated sea water
Chemical Injection Umbilical Jumper	PLU1944JP U-P13	3/8"	0.057	Umbilical	Chemicals	Pelican Manifold UTA – Production Well PU-P13 ¹	Surface laid	Out of use	Treated sea water
Hydraulic Control Umbilical Jumper	PLU1944JP U-P14	3/8"	0.057	Umbilical	Chemicals	Pelican Manifold – Production Well PU-P14 ¹	Surface laid	Out of use	Treated sea water
Chemical Injection Umbilical Jumper	PLU1944JP U-P15	3/8"	0.057	Umbilical	Chemicals	Pelican Manifold – Production Well PU-P15 ¹	Surface laid	Out of use	Sea water
Chemical Injection Umbilical Jumper	PLU1944JP U-P16	3/8"	0.057	Umbilical	Chemicals	Pelican Manifold – Production Well PU-P16 ¹	Surface laid	Out of use	Sea water
Control Injection Umbilical Jumper	PLU1944 JPU-W17	3/8"	0.057	Umbilical	Chemicals	Pelican Manifold – Well PU-W17 ¹	Surface laid	Out of use	Sea water

Table 2-2: Pipeline / Flowline / Umbilical Information

Description	Pipeline Number	Diameter	Length (km)	Description of Component Parts	Product Conveyed	From – To	Burial Status	Pipeline Status	Current Contents
Chemical Injection Umbilical Jumper	PLU1944JP U-P18	3/8"	0.155	Umbilical	Chemicals	Pelican Manifold UTA – Production Well PU-P18 ¹	Surface laid	Out of use	Sea water
Control / Chemical Umbilical Jumper	PLU1944JP U-P19	0.5"	0.05	Umbilical	Replacement Control/ Chemicals	Pelican SDU1 – Disc. Flange adjacent to Pelican Well 19	Surface laid	Out of use	Sea water
Control / Chemical Umbilical Jumper	PLU1944JP U-P19A	1.3", 0.97", 1.15"	0.06	Umbilical	Chemicals	Pelican Manifold UTA – Pelican Well P19 ¹	Surface laid	Out of use	Sea water
Control / Chemical Injection Umbilical Jumper	PLU1944JP U-P20	1.3", 1.6", 0.97"	0.08	Umbilical	Control/ Chemicals	Pelican SDU1 – Disconnected flange adjacent to Well P20	Surface laid	Out of use	Sea water
Hydraulic/ Chemical/ Electrical Control Jumper	PLU1944 JPU-P21	2.9"	0.020	Umbilical	Hydraulic/ Chemical/ Electrical Control Jumper	SDU2 – Disconnected flange adjacent to Well P21	Surface laid	Out of use	Sea water
Hydraulic/ Chemical/ Electrical Control Jumper	PLU1944 JP22	2.9"	0.04	Umbilical	Chemicals, Power	SDU2 – Well PU-P22 ¹	Surface laid	Out of use	Sea water

Table 2-2: Pipeline / Flowline / Umbilical Information

Description	Pipeline Number	Diameter	Length (km)	Description of Component Parts	Product Conveyed	From – To	Burial Status	Pipeline Status	Current Contents
Control Umbilical Jumper	PLU1944 JPU-W23	2.9"	0.120	Umbilical	Control Umbilical	SDU 2 – W23 Water Injection Tree ¹	Surface laid	Out of use	Sea water
Electric/ Signal Jumper	PLU2756	1.97"	0.115	Flexible	Power/signal	Pelican Manifold UTA – Production Wellhead PU-P10 ¹	Surface laid	Out of use	Power, Signal
Replacement Control/ Chemical Umbilical Jumper	PLU2980JW 11	2.9"	0.1	Umbilical	Chemicals	Pelican SDU1 – Water Injection Well W11 ¹	Surface laid	Out of use	Sea water
Replacement Control/ Chemical Umbilical Jumper	PLU2980JW 12	2.9"	0.1	Umbilical	Chemicals	Pelican SDU1 – Pelican Well W12 ¹	Surface laid	Out of use	Sea water
Control Umbilical	PLU3136	5"	8.539	Umbilical	Power	Cormorant Alpha Platform Topside Umbilical Termination Unit (TUTU) – SDU 2	Trenched and buried	Out of use	Power
Chemical Hose	PL4026	1.3"	0.060	Umbilical	Chemicals	BUTA –Disconnected flange adjacent to Pelican Manifold	Surface laid	Out of use	Treated sea water
Chemical Hose	PL4027	1.3"	0.060	Flexible	Chemicals	BUTA - Disconnected flange adjacent to Pelican Manifold	Surface laid	Out of use	Treated sea water
Chemical Hose	PL4392	1"	0.015	Chemical Hose	Methanol	Pelican Umbilical BUTA – Pelican Manifold UTA	Surface laid	Out of use	Treated sea water

Table 2-2: Pipeline / Flowline / Umbilical Information

Description	Pipeline Number	Diameter	Length (km)	Description of Component Parts	Product Conveyed	From – To	Burial Status	Pipeline Status	Current Contents
Gas Lift Jumper	PL4396	2.374"	0.041	Flexible	Hydrocarbons	Pelican Manifold –Well P16 ¹	Surface laid	Out of use	Treated sea water
Hydraulic Control Umbilical	PLU4447	3.9"	0.115	Umbilical	Hydraulic Fluid	Pelican Manifold –Well PU-P14 ¹	Surface laid	Out of use	Treated sea water
Electrical Umbilical	PLU4448	2"	0.155	Umbilical	N/A	Pelican Manifold –Well PU-P14 ¹	Surface laid	Out of use	N/A
Electrical umbilical	PLU4449	0.8"	0.115	Umbilical	N/A	PU-P14 – Well PU-P19 ¹	Surface laid	Out of use	N/A
Gas Lift Jumper	PL6317	2"	0.040	Steel	Hydrocarbons	Pelican Manifold – Well P11 ¹	Surface laid	Out of use	Treated sea water
Gas Lift Jumper	PL6318	2"	0.041	Steel	Hydrocarbons	Pelican Manifold – Pelican Well P16 ¹	Surface laid	Out of use	Treated sea water
Gas Lift Jumper	PL6319	2"	0.031	Steel	Hydrocarbons	Pelican Manifold – Pelican Well P15 ¹	Surface laid	Out of use	Treated sea water
Production Jumper	PL6320	6"	0.029	Steel	Hydrocarbons	Well PU-P11 – Pelican Manifold ¹	Surface laid	Out of use	Treated sea water
Gas Jumper	PL6321	6"	0.038	Steel	Hydrocarbons	Well PU-P13 – Pelican Manifold ¹	Surface laid	Out of use	Treated sea water
Production Jumper	PL6322	6"	0.038	Steel	Hydrocarbons	Well PU-P12 – Pelican Manifold ¹	Surface laid	Out of use	Treated sea water
Production Jumper	PL6324	8"	0.110	Flexible	Hydrocarbons	Well PU-P18 – Pelican Ext. Manifold ¹	Surface laid	Out of use	Treated sea water

Table 2-2: Pipeline / Flowline / Umbilical Information

Description	Pipeline Number	Diameter	Length (km)	Description of Component Parts	Product Conveyed	From – To	Burial Status	Pipeline Status	Current Contents
Water Injection Jumper	PL6327	6"	0.030	Steel	Water	Pelican Manifold – Well PU-W12 ¹	Surface laid	Out of use	Treated sea water
Production Jumper	PL6328	6"	0.027	Flexible	Hydrocarbons	Well PU-P19 – Pelican Manifold ¹	Surface laid	Out of use	Treated sea water
Gas Jumper	PL6329	2.5"	0.027	Flexible	Hydrocarbon	Pelican Manifold – Well P19 ¹	Surface laid	Out of use	Treated sea water
Gas Jumper	PL6330	2"	0.031	Steel	Hydrocarbons	Pelican Manifold – Well P12 ¹	Surface laid	Out of use	Treated sea water
Gas Jumper	PL6331	2"	0.041	Steel	Hydrocarbons	Pelican Manifold – Well P13 ¹	Surface laid	Out of use	Treated sea water
Production Jumper	PL6332	6"	0.033	Steel	Hydrocarbons	Well P16 – Pelican Manifold ¹	Surface laid	Out of use	Treated sea water
Gas Lift Jumper	PL6333	2"	0.040	Steel	Hydrocarbons	Pelican Manifold – Well P14 ¹	Surface laid	Out of use	Treated sea water
Water Injection Jumper	PL6334	6"	0.038	Steel	Water	Pelican Manifold – Well W11 ¹	Surface laid	Out of use	Treated sea water
Water Injection Jumper	PL6335	6"	0.050	Steel	Water	Pelican Manifold – Well W17 ¹	Surface laid	Out of use	Treated sea water
Production Jumper	PL6336	6"	0.050	Steel	Hydrocarbons	Well PU-P14 – Pelican Manifold ¹	Surface laid	Out of use	Treated sea water
Production Jumper	PL6337	6"	0.023	Steel	Hydrocarbons	Manifold-Manifold ¹	Surface laid	Out of use	Treated sea water

Note:

1. Pipelines have been disconnected at both ends and left on the seabed, adjacent to each tie-in point.
2. The Pelican Riser Caisson contains PL1084, PL1085, PL1086, and PL1087 risers.

Table 2-3: Pipeline / Flowline / Umbilical Stabilisation Features

Stabilisation Feature	Total Number	Weight (Te)	Locations	Exposed/Buried/Condition
Concrete Mattresses	49	480	PL1084	Partially covered in sediment
Concrete Mattresses	30	294	PL1085	Partially covered in sediment
Concrete Mattresses	28	274	PL1086	Partially covered in sediment
Concrete Mattresses	35	343	PL1087	Partially covered in sediment
Concrete Mattresses	31	146	PL1088,89,90	Partially covered in sediment
Concrete Mattresses	42	198	PLU1944	Partially covered in sediment
Concrete Mattresses	12	118	PL1084, PL1085, PL1086, PL1087 Shared	Partially covered in sediment
Concrete Mattresses	5	24	On PL1085J-P21a, PL1086J-P21b, PLU1944JPU-2 from Well P21 to SSVS	Partially covered in sediment
Concrete Mattresses	10	47	On PL1085J-P21b, PL1086J-P21a from SSVS to Ext Manifold	Partially covered in sediment
Concrete Mattresses	8	38	On PL1086-JP10 from SSVS & Well PU-P10	Partially covered in sediment
Concrete Mattresses	20	94	On PL1085J-P22, PL1086J-P22 between SSVS & PU-P22	Partially covered in sediment
Concrete Mattresses	4	19	On PL1085J-P21 from SSVS & Ext Manifold	Partially covered in sediment
Concrete Mattresses	25	118	On PL1087J-W23 from Ext Manifold to W23 Tree	Partially covered in sediment
Concrete Mattresses	10	47	On PLU1944JPU-W23 from SDU 2 to PU-W23	Partially covered in sediment
Concrete Mattresses	5	24	On PL1085J-P20, PL1086J-P20 P20 to P9 Acid skid	Partially covered in sediment
Concrete Mattresses	6	28	From Well PU-P10 to Ext. Manifold	Partially covered in sediment

Table 2-3: Pipeline / Flowline / Umbilical Stabilisation Features

Stabilisation Feature	Total Number	Weight (Te)	Locations	Exposed/Buried/Condition
Concrete Mattresses	7	33	From Well PU-P11 to Ext. Manifold	Partially covered in sediment
Concrete Mattresses	8	38	From Well PU-P12 to Ext. Manifold	Partially covered in sediment
Concrete Mattresses	9	43	From Well PU-P13 to Ext. Manifold	Partially covered in sediment
Concrete Mattresses	5	24	From Well PU-P14 to Ext. Manifold	Partially covered in sediment
Concrete Mattresses	9	43	From Well PU-P16 to Ext. Manifold	Partially covered in sediment
Concrete Mattresses	5	24	From Well PU-P18 to Ext. Manifold	Partially covered in sediment
Concrete Mattresses	4	19	From Well PU-W17 to Ext. Manifold	Partially covered in sediment
Concrete Mattresses	4	19	Ext. Manifold	Partially covered in sediment
Concrete Mattresses	16	76	Wet Stored	Partially covered in sediment
Concrete Mattresses	2	9.4	At P16 Well site	Partially covered in sediment
Rock Cover	N/A	12,662	PL1084 - Spot rock dump at 8 locations along pipeline between Pelican manifold and Cormorant Alpha Platform	Likely exposed within trench. Status would be confirmed by a pre-decommissioning survey.
Rock Cover	N/A	12,737	PL1085 - Spot rock dump at 9 locations along pipeline between Pelican manifold and Cormorant Alpha Platform	
Rock Cover	N/A	2,439	PL1086 - Spot rock dump at one pipeline section between Pelican manifold and Cormorant Alpha Platform	
Rock Cover	N/A	3,038	PL1087 - Spot rock dump at 2 locations along pipeline between Pelican manifold and Cormorant Alpha Platform	

Table 2-3: Pipeline / Flowline / Umbilical Stabilisation Features

Stabilisation Feature	Total Number	Weight (Te)	Locations	Exposed/Buried/Condition
Grout Bags	40	1.0	On PL4026, PL4027 from Ext Manifold to BUTA	Partially covered in sediment
Grout Bags	300	7.5	On PL1085J-P22, PL1086J-PU-22 at SSVS	Partially covered in sediment
Grout Bags	800	20	On PL1085J-P22, PL1086J-PU-22 at Well PU-P22	Partially covered in sediment
Grout Bags	200	5.0	On PL1087J from Ext Manifold to PU-W23	Partially covered in sediment
Grout Bags	600	15	On PL1087J-W23 from PU-W23 to Ext Manifold	Partially covered in sediment
Grout Bags	40	1.0	On PL4396 at P16 Well Site	Partially covered in sediment
Grout Bags	6	0.2	On PLU1944JPU-SDU from Pelican Manifold to SDU	Partially covered in sediment
Grout Bags	24	0.6	From Well P20 to P19 Acid Skid	Partially covered in sediment
Grout Bags	6	0.2	On PLU1944JPU-P20 from Well P20 to SDU	Partially covered in sediment
Grout Bags	2	0.1	On PLU1944J-P19 from Well P19 to SDU	Partially covered in sediment
Grout Bags	100	2.5	On PLU2980J-PU-W11 from Well W11 to SDU 1	Partially covered in sediment
Grout Bags	100	2.5	On PLU2980J-PU-W12 from Well W12 to SDU 1	Partially covered in sediment
Grout Bags	93	2.3	PL1085	Partially covered in sediment
Grout Bags	363	9.1	PL1086	Partially covered in sediment
Grout Bags	80	2.0	PL1087	Partially covered in sediment
Grout Bags	300	7.5	PL1088-89-90	Partially covered in sediment
Grout Bags	350	8.8	PL1084	Partially covered in sediment
Grout Bags	677	17	PLU1944	Partially covered in sediment

Table 2-3: Pipeline / Flowline / Umbilical Stabilisation Features

Stabilisation Feature	Total Number	Weight (Te)	Locations	Exposed/Buried/Condition
Grout Bags	200	5.0	On PL1086JP21 from Ext Manifold To SSVS	Partially covered in sediment
Sandbags	400	10	On PL1087JPU-W23 from Ext Manifold to W23	Partially covered in sediment
Grout Bags	300	7.5	On PL1085J-P22 from SSVS to Ext. Manifold	Partially covered in sediment
Grout Bags	100	2.5	At SSVS Tie-in Location	Partially covered in sediment
Grout Bags	600	15	On PLU1944J-PUW23 from SDU 2 to W23 Tree	Partially covered in sediment

The total quantities of pipeline stabilisation features are:

Concrete Mattresses: Total number = 389; Total weight = 2,620 Te

Grout Bags: Total number = 5,281; Total weight is approx. 132 Te

Sandbags: Total number = 400; Total weight 10 Te

Rock cover: Total weight = 30,876 Te

2.2.1 Pipeline and Umbilical Risers

The pipelines and umbilicals in the scope of the DPs in this document that terminate at the Cormorant Alpha platform are:

- PL1084 8" Pelican Oil Production Pipeline
- PL1085 8" Pelican Oil Production Pipeline
- PL1086 6" Pelican Gas Lift Pipeline
- PL1087 8" Pelican Water Injection Pipeline
- PL1088/89/90 Pelican Chemical Injection Umbilical
- PLU1944 Pelican Chemical Injection Umbilical
- PLU3136 Pelican Control Umbilical

The Pelican pipelines PL1084, PL1085, PL1086 and PL1087 run in a common riser caisson at Cormorant Alpha. This consists of three components. These are;

- the Guide Caisson in Slot 32 in the conductor guide frames between Cormorant Alpha CGBS legs C3 and C4.
- the Cell Top Caisson which connects to the base of the Guide Caisson and runs horizontally across the top of the cells; and
- The Cell Wall Caisson which runs vertically down the outside of the cells to the seabed.

The Riser Caisson and the risers it contains will be removed in conjunction with the removal of the Cormorant Alpha platform well conductors and conductor guide frames.

The Pelican umbilicals, PL1088, PL1089, PL1090, PL1944 and PL3136 run in J-tubes in Cormorant Alpha CGBS legs C3 and C4. Decommissioning of these risers will be addressed by the future DP for the Cormorant Alpha CGBS.

2.3 Wells

Table 2-4 lists the well information pertinent to the sixteen wells covered by this decommissioning programme evaluated in accordance with the OEUK Well Decommissioning Guidelines [2].

Subsea Wells	Designation	Status	OEUK Well Category
211/26a-P15 (PU-P10B)	Oil Producer	Abandoned (Phase 2)	SS 0-0-1
211/26a-P02 (PU-P11)	Oil Producer	Abandoned (Phase 2)	SS 0-0-1
211/26a-P06Z (PU-W11)	Water Injector	Shut in	SS 3-0-1
211/26a-P12 (PU-P12)	Oil Producer	Abandoned (Phase 2)	SS 0-0-1
211/26a-19 (PU-W12)	Water Injector	Shut in	SS 3-0-1
211/26a-P03 (PU-P13)	Oil Producer	Shut in	SS 3-4-1
211/26a-P22Y (PU-P14)	Oil Producer	Shut in	SS 3-4-1
211/26a-P09Z (PU-P15)	Oil Producer	Abandoned (Phase 2)	SS 0-0-1
211/26a-P10 (PU-P16)	Oil Producer	Abandoned (Phase 2)	SS 0-0-1

Table 2-4: Well Information

Subsea Wells	Designation	Status	OEUK Well Category
211/26a-P07 (PU-W17)	Water Injector	Shut in	SS 3-0-1
211/26a-P17 (PU-P18)	Oil Producer	Shut in	SS 3-0-1
211/26a-P14 (PU-P19)	Oil Producer	Abandoned (Phase 2)	SS 0-0-1
211/26a-P16 (PU-P20)	Oil Producer	Shut in	SS 3-4-1
211/26a-P18 (PU-P21)	Oil Producer	Abandoned (Phase 2)	SS 0-0-1
211/26a-P20Z (PU-P22)	Oil Producer	Shut in	SS 3-4-1
211/26a-P21Z (PU-W23)	Water Injector	Shut in	SS 3-0-1

2.4 Drill Cuttings Piles

Table 2-5 presents the Pelican and Cormorant Alpha cuttings piles locations and area. Figure 2-1 shows the cuttings pile extent and volume and the bathymetry of the Pelican cuttings pile and the surrounding seabed and Figure 2-2 shows the cuttings pile at the Cormorant A platform respectively. See Section 3.5 for further information.

Table 2-5 Drill Cuttings Pile Information

Location of Pile Centre (Latitude/Longitude)	Seabed Area (m ²)	Estimated Volume of Cuttings (m ³)
Pelican Manifold 61°02'07.34" N 01°07'44.95" E	25,450	10,883
Cormorant Alpha platform 61°06'09.41" N 01°04'22.27" E	12,210	9,278

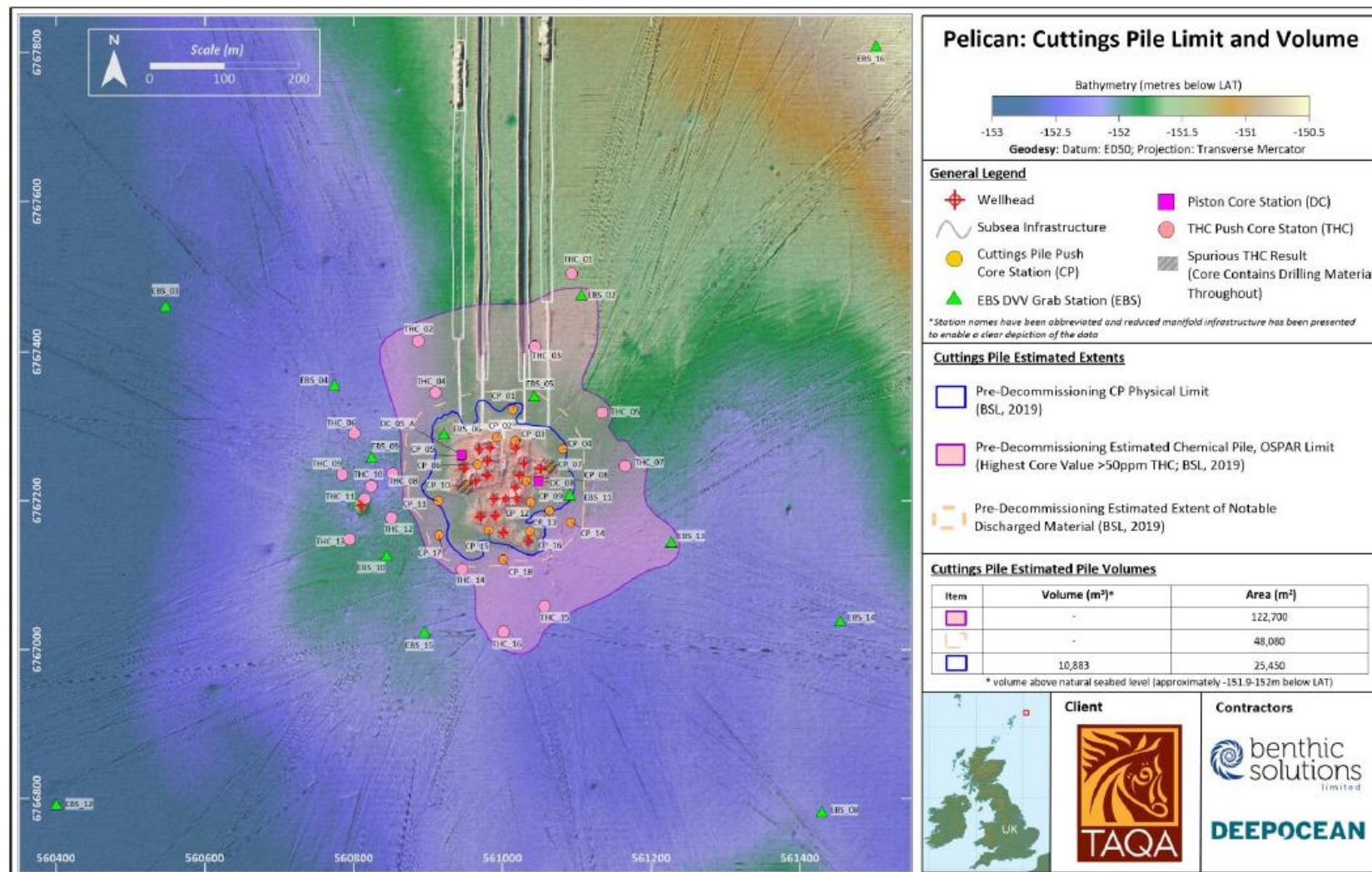


Figure 2-1: Pelican Cuttings Pile Limits and Volume

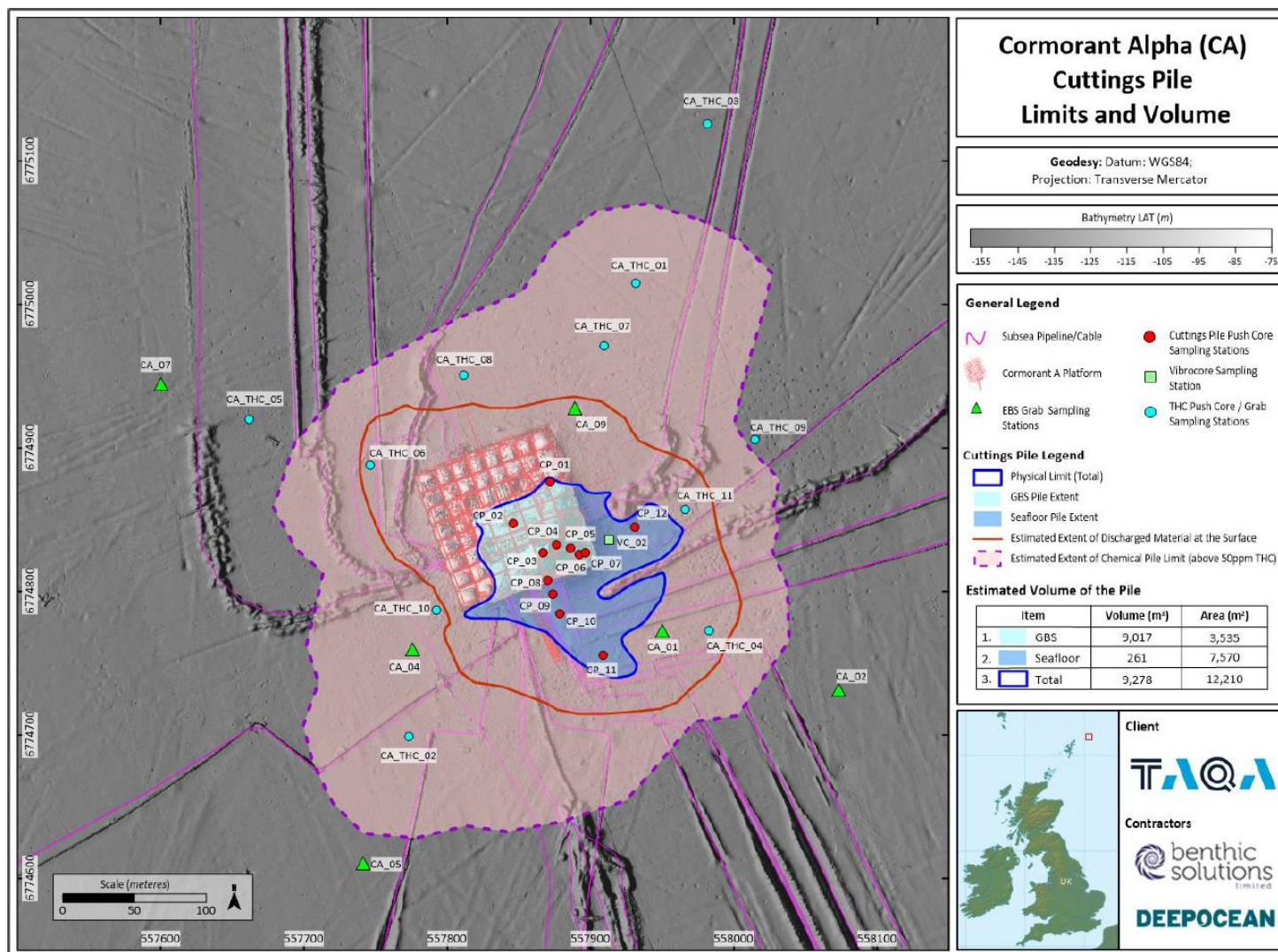


Figure 2-2: Cormorant Alpha Cuttings Pile Limits and Volume

2.5 Inventory Estimates

An estimate of the material inventories for Pelican and the adjacent pipelines within these decommissioning programmes is presented in [Table 2-6](#), [Table 2-7](#), [Figure 2-3](#) and [Figure 2-4](#). The inventories are described in section 3.3.9 of the Pelican EA [\[4\]](#).

Material	Weight (Te)	% of Total
Ferrous metals (all grades)	244	85
Non-ferrous metals (aluminium alloys)	3	1
Concrete	40	14
Total	287	100

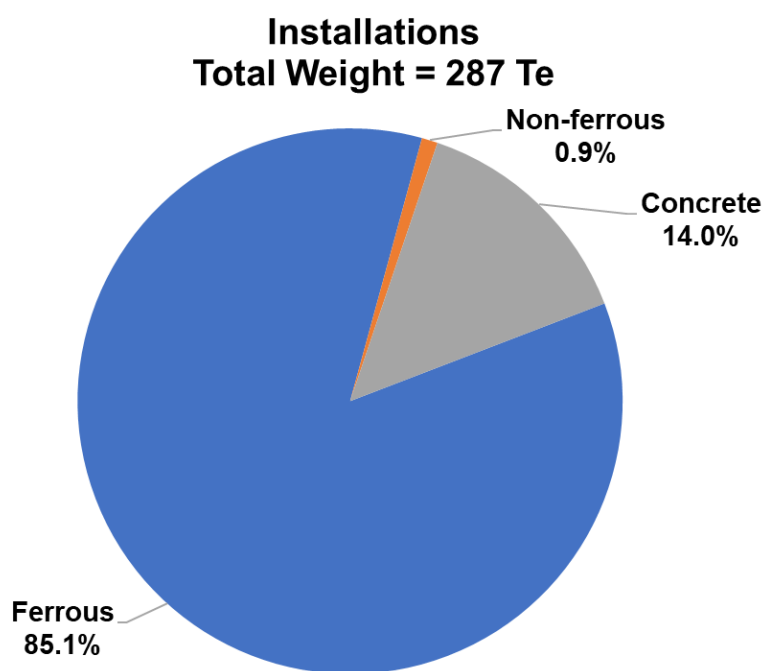


Figure 2-3: Subsea Installations Inventory

Table 2.7: Pipelines and Stabilisation Materials Inventory

Material	Weight (Te)	% of Total
Ferrous metals (all grades)	3,099	47
Non-ferrous metals (copper, aluminium alloys)	70	1
Plastics	623	10
Concrete (mattresses, grout bags, grouted support)	2,750	42
Hazardous Residues/ Naturally Occurring Radioactive Material (NORM)	22	<1
Other (Sandbags)	10	<1
Total	6,574	100

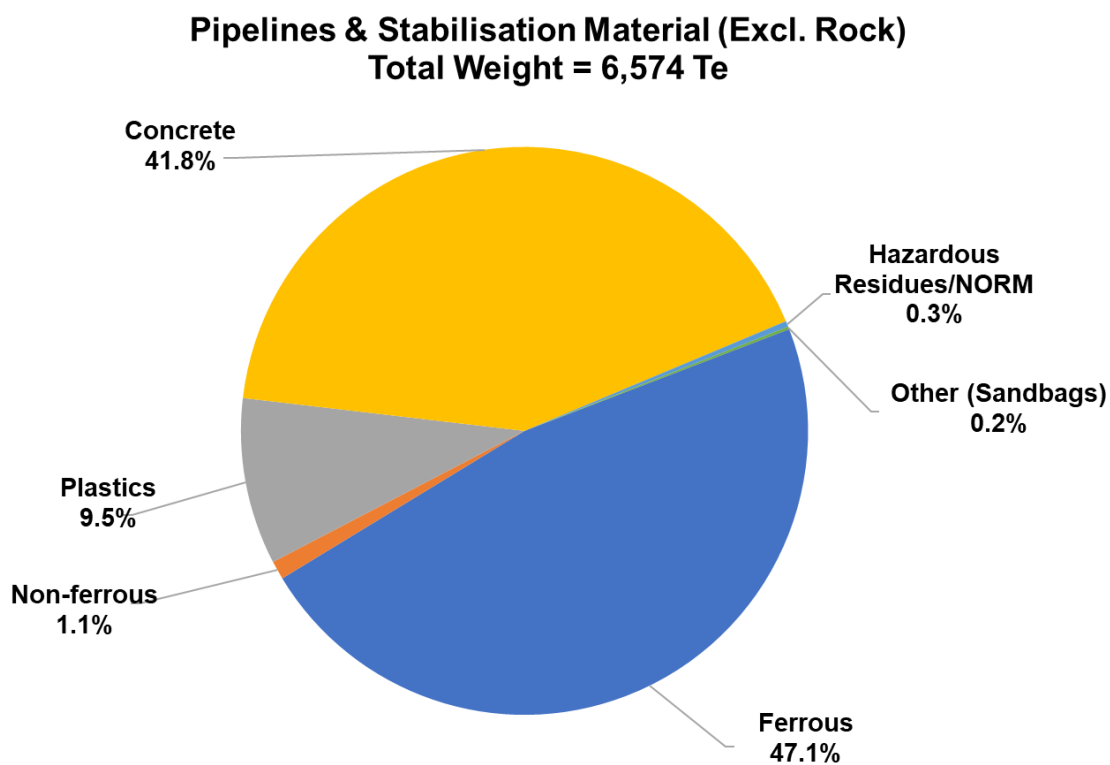


Figure 2-4: Pipelines and Stabilisation Materials Inventory

3 Removal and Disposal Methods

TAQA will implement an Active Waste Management Plan to identify and quantify available disposal options for waste materials resulting from Pelican decommissioning. The plan will detail the disposal route for recovered structures and equipment, and their materials and contents.

Recovered infrastructure will be returned to shore for dismantling and sorting before being transferred to suitably licenced waste facilities. It is the intent that, where possible, materials and equipment will be re-used or recycled. Materials management options will take account of the waste hierarchy, with reduction in volume of waste being the preferred option. OPRED will be advised once waste contractors have been selected.

3.1 Subsea Installations and Stabilisation Features

The options considered for the disposal of the subsea installations and the selected disposal route are listed in [Table 3-1](#).

Table 3-1: Subsea Installations			
Installation / Feature	No.	Option	Disposal Route
Manifold and associated foundation piles	1	Full recovery The foundation piles will be recovered to 3 m below the seabed	Return to shore for reuse or recycling or other waste treatment as appropriate.
Extension Manifold	1	Full recovery	Return to shore for reuse or recycling or other waste treatment as appropriate.
Pelican W23 Integrated Structure	1	Full recovery	Return to shore for reuse or recycling or other waste treatment as appropriate.
SSVS	1	Full recovery	Return to shore for reuse or recycling or other waste treatment as appropriate.
SDU	2	Full recovery	Return to shore for reuse or recycling or other waste treatment as appropriate.
P10B Acid Skid	1	Full recovery	Return to shore for reuse or recycling or other waste treatment as appropriate.
P19 Acid Skid	1	Full recovery	Return to shore for reuse or recycling or other waste treatment as appropriate.
Concrete Deflectors	4	Full recovery	Return to shore for reuse or recycling or other waste treatment as appropriate.

3.2 Pipelines

Table 3-2: Pipeline Decommissioning Options

Key to Options		
1 – Re-use	2A – Cut and Lift with De-burial	2B – Reverse Installation (S-lay or Reel) without De-burial
2C – Reverse Installation (S-lay or Reel) with De-burial	2D – Reverse Installation (Buoyancy)	2E – Cut, Float & Transport
3A – Rock Placement over entire line	3B – Retrench and Bury entire line	4A – Rock Placement over areas of Spans / Exposure / Shallow Burial
4B – Trench & Bury areas of Spans / Exposure / Shallow Burial	4C – Remove areas of Spans / Exposure / Shallow Burial	4D – Accelerated Decomposition
5 – Remove Ends & Remediate Snag Risk	6 – Leave As-is	

Table 3-3: Pipeline or Pipeline Group Decommissioning Options Considered

Pipeline or Group	Condition of Line / Group	Whole or Part of Pipeline / Group	Decommissioning Options Considered
Group 3: PL1088/89/90, PLU1944, PLU3136.	Flexible flowlines and umbilicals, trenched and buried.	Whole group	2A, 4A, 4B, 4C, 5
Group 9 PL1084, PL1085, PL1086, PL1087.	Rigid pipelines, trenched and buried.	Whole group	2C, 4A, 4B, 4C, 5
Group 10: PL1088/89/90, PLU1944, PLU3136.	Flexible risers and riser umbilicals.	Whole group	Full removal
Group 11: PL1084, PL1085, PL1086, PL1087, Riser Caisson.	Rigid risers.	Whole group	Full removal

Table 3-3: Pipeline or Pipeline Group Decommissioning Options Considered

Pipeline or Group	Condition of Line / Group	Whole or Part of Pipeline / Group	Decommissioning Options Considered
Group 12: All spools and jumpers PL1085JP20, PL1085JP21, PL1085JP22, PL1086JP10, PL1086JP18, PL1086JP20, PL1086JP21, PL1086JP22, PL1087J-W23, PLU1944JPU-SDU, PLU1944JPU-P10, PLU1944JPU-P11, PLU1944JPU-P12, PLU1944JPU-P13, PLU1944JPU-P14, PLU1944JPU-P15, PLU1944JPU-P16, PLU1944JPU-P18, PLU1944JPU-P19, PLU1944JPU-P19A, PLU1944JPUP-20, PLU1944JPU-W11, PLU1944JPU-W12, PLU1944JPU-W17, PLU1944JPU-P21, PLU1944JPU-P22, PLU1944JPU-W23, PLU2756, PLU2980JW11, PLU2980JW12, PL4026, PL4027, PL4392, PL4396, PL6317, PL6318, PL6319, PL6320, PL6321, PL6322, PL6324, PL6327, PL6328, PL6329, PL6330, PL6331, PL6332, PL6333, , PL6334, PL6335, PL6336, PL6337.	Spools and jumpers, surface laid.	Whole group	Full removal

Note:

1. PLU3136 was added to the DP after the completion of the CA.
2. TAQA are committed to undertaking a pre-decommissioning survey along the Pelican pipelines to inform the requirement for remediation activities.

3.2.1 Comparative Assessment Method

TAQA conducted a Comparative Assessment (CA) of the decommissioning options for the Pelican facilities [3]. TAQA's strategy for the CA process is aligned with the OEUK Guidelines for Comparative Assessment in Decommissioning Programmes and OPRED Guidance Notes for the Decommissioning of Offshore Oil & Gas Installations and Pipelines [1].

All the infrastructure has been scoped into logical groupings. All feasible decommissioning options for each of the infrastructure groups have been identified, assessed, ranked, and screened, using five assessment criteria: Safety, Environment, Technical, Societal and Economic (to compare the relative merits of each credible decommissioning option for each group of infrastructure).

Table 3-4: Outcome of Comparative Assessment

Pipeline or Group	Recommended Option	Justification
Group 3	5 - Remove Line Ends and Remediate Snag Risk	The CA outcome is a significant preference for Option 5. Option 5 is preferred over other options against the Safety, Environment and Technical criteria. It is less preferred against the Societal criterion, however this does not offset the preference against the other criteria. If the Economic criterion is included, the preference for Option 5 remains and hence Option 5 is the recommended decommissioning option for Group 3.
Group 9	4C – Remove areas of Spans / Exposure / Shallow Burial	The CA outcome shows that the preference for Option 4C (remove problem areas) is small. Option 4C is preferred over the other options against the Technical criterion. Option 4C is marginally less preferred to other options against the Safety, Environmental and Societal criteria however, there remains a preference for Option 4C overall. Once the Economics criteria is included, the preference for Option 4C remains and hence Option 4C is the recommended decommissioning option for Group 9.

Note:

- Following completion of the comparative assessment, further work was undertaken that identified additional remediation may be required on these lines. As such, TAQA propose the following approach to assess the worst-case environmental impact for these pipelines: rock placement to remediate spans, exposures, and shallow burial < 20 m long and removal of spans, exposures, and shallow burial > 20 m long by cut and lift.

3.3 Pipeline Stabilisation Features

Table 3-5: Pipeline Stabilisation Features Disposal Route

Stabilisation Features	Number	Option	Disposal Route
Concrete Mattresses	389	Full recovery. (If practical difficulties are encountered, TAQA will consult with OPRED to agree an alternative approach).	Returned to shore for recycling or disposal to landfill.
Grout Bags	5,281	Full recovery. (If practical difficulties are encountered, TAQA will consult with OPRED to agree an alternative approach).	Returned to shore for recycling or disposal to landfill.
Sandbags	400	Full recovery (If practical difficulties are encountered, TAQA will consult with OPRED to agree an alternative approach).	Returned to shore for recycling or disposal to landfill.
Rock Cover	30,876 Te	Ensure over-trawlability and decommission <i>in situ</i> .	Decommission <i>in situ</i> .

3.4 Wells

Table 3-6: Wells Decommissioning Options

The Pelican wells PU-P10B, PU-P11, PU-P12, PU-P15, PU-P16, PU-P19 and PU-P21 will be plugged and abandoned to Phase 3 in alignment with and reference to OEUK Well Decommissioning Guidelines [2].

Operations will be supported by appropriate regulatory applications and submissions.

3.5 Drill Cuttings

The survey data indicate a number of discrete cuttings piles at the seventeen satellite wells around the Pelican manifold [4]. Due to the complexity of the site, the small piles have been analysed and interpreted as one larger cuttings pile, which is categorised as a “medium cuttings pile” (5,000-20,000 m³) [5]. The pile covers an area of 25,450 m² with an approximate volume of 10,900 m³. However, this volume may be slightly overestimated due to the difficulty in accurately quantifying and accounting for the volume of subsea infrastructure, including the manifold and debris within the pile area, as well as minor natural variation in the seabed elevation across the Pelican site.

Additionally, at the Cormorant Alpha platform there is a cuttings pile on the CGBS cell top at the southeast corner of the CGBS. The maximum depth of this pile is approximately 10 m above the cell top. The pile spills over to the seabed in the area where the Pelican Riser Caisson reaches the seabed at the base of the CGBS [4]. In this area, on the seabed, the pile is relatively shallow. The Cormorant Alpha cuttings pile is estimated to cover an area of 12,210 m² with a pile volume of approximately 9,278 m³ which is also categorised as a “medium cuttings pile” [5].

Further information regarding the cuttings piles is provided in the Pelican Field Subsea EA [4].

Table 3-7: Drill Cuttings Decommissioning Options

How many drill cuttings piles are present?			2
Tick options examined:			
Remove and re-inject	Leave in place ✓	Cover	
Relocate on seabed	Remove and treat onshore	Remove and treat offshore	
Other			
Review of Pile characteristics			Pelican / Cormorant Alpha
How has the cuttings pile been screened? (Actual samples taken)			Y
Dates of sampling (if applicable)			2019 / 2018
Sampling to be included in pre-decommissioning survey?			N
Does it fall below both OSPAR thresholds?			Y
Will the drill cuttings pile have to be displaced in order to remove the installations? ¹			N
What quantity (m ³) would have to be displaced/removed?			n/a

Table 3-7: Drill Cuttings Decommissioning Options

Will the drill cuttings pile have to be displaced in order to remove any pipelines?	N
What quantity (m ³) would have to be displaced/removed?	n/a
Have you carried out a Comparative Assessment of options for the Cuttings Pile?	N

Note:

1. The drill cuttings piles will not be actively displaced but may be disturbed during the decommissioning activities.

3.5.1 Cuttings Pile Assessment Summary

Overall, the environmental data obtained from the Pelican manifold and the Cormorant Alpha CGBS cuttings piles indicated that the sediments are modified compared to the wider field but could be described as typical for cuttings piles at oil and gas installations. The characteristics of both piles fall below the OSPAR 2006/5 [6] thresholds. As a result, based on the criteria for environmental significance produced by the United Kingdom Offshore Operators Association (UKOOA; 2001) [7] and OSPAR (2006) [6] the potential environmental impact from the cuttings piles of the proposed decommissioning operations would be considered 'insignificant' with 'natural degradation' suggested as the best environmental strategy. Therefore, comparative assessment is not required.

3.6 Waste Streams

Table 3-8: Materials and Waste Streams

Material	Removal and Disposal Method
Bulk Liquids	Pipelines and umbilicals have been flushed to facilitate decommissioning scopes using the Cormorant Alpha topsides facilities. Any discharges offshore were managed, and risk assessed under the existing permitting regime. Any effluent shipped to shore was treated and disposed of according to relevant regulations and guidance.
Marine Growth	Marine growth is anticipated on the Pelican manifolds and risers at the Cormorant Alpha platform. Marine growth is not anticipated on any of the other Pelican equipment. If marine growth is present, it will be disposed of in accordance with relevant regulations and guidance, either offshore under marine licence, or onshore.
NORM	NORM is assumed to be present. Monitoring and sampling will be carried out to verify the presence of NORM. If it is identified, it will be contained and treated in accordance with relevant regulations and circumstances.
Asbestos	No asbestos materials are anticipated. However, if asbestos containing materials are found they will be recovered to shore and disposed of appropriately.
Wax	Wax is not anticipated. In the unlikely event that wax is present, it will be disposed of in accordance with relevant regulations and guidance, either offshore under marine licence or permit, or onshore.

Table 3-8: Materials and Waste Streams

Material	Removal and Disposal Method
Other Hazardous Materials	Any other hazardous materials will be disposed of in accordance with relevant regulations and guidance.
Onshore Dismantling Sites	The removal contractor will use appropriately licenced dismantling, treatment, recycling, and disposal sites. TAQA will ensure that the removal contractor and selected sites have proven abilities to manage waste streams throughout the deconstruction process. An Active Waste Management Plan (AWMP) will follow the “reduce, reuse, recycle” paradigm. OPRED will be informed once a suitable site(s) has been selected. TAQA will conduct assurance activities of the site(s) to confirm that they are compliant with applicable legislation.

Table 3-9: Inventory Disposition

	Total Inventory Tonnage (Te)	Planned Tonnage to Shore (Te)	Planned Tonnage Left <i>in situ</i> (Te)
Subsea Installations	287	279	8
Pipelines / Umbilicals	6,574	4,046	2,528
Rock dump	30,876	0	30,876

Total inventory weights noted are approximate and include the weights of pipelines, umbilicals, structures, and all stabilisation features, excluding rock cover materials. It is TAQA’s intention to maximise re-use or recycling of recovered inventory.

4 Environmental Appraisal Overview

4.1 Environmental Sensitivities

The environmental sensitivities in the Pelican Area are summarised in [Table 4-1](#). The impacts of decommissioning operations on these sensitivities are listed in [Table 4-2](#). Data from the Cormorant Alpha survey area is included to provide coverage at the Cormorant Alpha end of the pipelines and to account for any environmental sensitivities near the Cormorant Alpha cuttings pile. Further details can be found in the supporting Pelican Field Subsea EA [\[4\]](#).

Table 4-1: Environmental Sensitivities

Environmental Receptor	Main Features
	There are no Nature Conservation Marine Protected Areas (NCMPAs), Special Areas of Conservation (SACs) or Special Protection Areas (SPAs) within 40 km of the Pelican Area. The closest protected site is the Pobie Bank Reef SAC, approximately 63 km southwest of the Pelican manifold. The seabed in the Pelican Area is located within a wider area of 'subtidal sand and gravels', a seabed type designated as a Priority Marine Features (PMF) in Scottish waters, which supports fish populations. The following fish species are listed as PMFs and are present around the Pelican Area: blue whiting, cod, herring, ling, mackerel, Norway pout, saithe, spurdog and whiting. Cod are also listed on the OSPAR list of threatened and/or declining species.
Conservation Interests	Numerous pockmarks which may be classified as 'Submarine structures made by leaking gases' (Annex I Habitat) were identified across the Pelican Area. However, absence of Methane-Derived Authigenic Carbonate (MDAC) in these pockmarks indicates that Annex I Habitat 'Submarine structures caused by leaking gases' is not present. Ocean quahog is listed on the OSPAR list of threatened and/or declining species and ocean quahog habitats and are designated as a PMF. Thirteen individuals were identified during the Cormorant Alpha and Pelican surveys but not in aggregations. The habitat 'Seapen and burrowing megafauna communities' is on the OSPAR list of threatened and/or declining habitats and species and is a PMF. Surveys identified one station in the Pelican Area that could be considered as 'Seapen and Burrowing Megafauna Communities' habitat.

Table 4-1: Environmental Sensitivities

Environmental Receptor	Main Features
Seabed	The overall water depth ranges from approximately 142 to 156 m Lowest Astronomical Tide (mLAT) across the Pelican Area. The bathymetry across the Pelican Area shows an undulating seabed. The physical seabed characteristics recorded from the surveys indicate medium reflectivity across most of the Pelican survey area relating to the ambient muddy sand sediment. Areas of higher reflectivity are associated with anchor scars radiating out from the Pelican manifold. The sediment closer to the manifold consists of finer material intermixed with small amounts of coarse sediment. Areas of high reflectivity in the Cormorant Alpha survey area were associated to rock cover. Occasional depressions resembling pockmarks have been recorded throughout the Pelican and Cormorant Alpha survey area. Under the European Nature Information System (EUNIS) habitat classification, the most widespread seabed types in the Pelican Area are predicted to be MD52: "Atlantic offshore circalittoral sand" which represents offshore (deep) circalittoral habitats with fine sands or non-cohesive muddy sands. This habitat type falls within the broad habitat PMF "offshore sands and gravels". In addition, localised areas of EUNIS habitat complex MD32: "Atlantic offshore circalittoral coarse sediment" are predicted to occur. Hydrocarbon concentrations in the Pelican Area were above the UKOOA 95th percentile for the NNS (20.3 mg kg⁻¹) at 90% of the survey stations. Higher levels were found at stations close to the Pelican manifold and close to the Cormorant Alpha platform where most of the stations within 190 m exceeded the OSPAR (2006) 50 mg kg⁻¹ threshold. At three stations adjacent to the Cormorant Alpha platform, concentration of several metals exceeded UKOOA (2001a) 95th percentile including chromium, copper, lead, and zinc. Near the Pelican manifold and P11a wellhead, concentrations of barium, chromium, copper, nickel, lead, and zinc were elevated. Cuttings piles have been identified at the Pelican manifold and on top of the Cormorant Alpha CGBS. The physical extent of Pelican manifold cuttings pile was estimated to cover an area of 25,450 m² and an approximate volume of 10,883 m³. The physical extent of the Cormorant Alpha cuttings pile 12,210 m² with a pile volume of approximately 9,278 m³. Both cuttings piles are categorised as "medium cuttings piles" (5,000-20,000 m³). Total Hydrocarbon Content (THC) levels in seabed sediments decreased with distance from the Pelican manifold suggesting a point source of hydrocarbons related to drilling discharges, with some of the cuttings pile samples exceeding the OSPAR 'ecological effect' threshold. Sampling stations on top of the Cormorant Alpha CGBS, closest to the pile centre (<25 m), recorded high levels of THC, and all core sections recorded over 1,000 times the OSPAR (2014) 50 mg kg⁻¹ threshold.
Fish	In the Pelican Area, spawning for cod, saithe and Norway pout occurs between January and April, whiting between February and June and haddock between February and May. Cod is the only species with a high intensity spawning ground in the Pelican Area while other species have a lower spawning intensity. The Pelican Area is a potential nursery ground for blue whiting, European hake, haddock, herring, ling, mackerel, Norway pout, spurdog and whiting. Blue whiting is the only species with a high intensity nursery ground in the Pelican Area while other species have a lower nursery intensity.

Table 4-1: Environmental Sensitivities

Environmental Receptor	Main Features
Fisheries	The Pelican Area is located in International Council for the Exploration of the Sea (ICES) rectangle 51F1. This region is primarily targeted for demersal species with a negligible contribution from pelagic and shell fisheries. Fishing effort is dominated by trawl fishing gears. Annual fishery landings by weight and value are considered moderate to low for demersal and pelagic fisheries in comparison to other areas of the North Sea.
Marine Mammals	Harbour porpoise, Atlantic white-sided dolphin, minke whale and white beaked dolphin are the most abundant species recorded in the Pelican Area. The harbour porpoise is the most frequently recorded cetacean in the Pelican Area, which is reflective of these being the most abundant and widely distributed cetaceans in the North Sea. Both grey and harbour seal densities are known to be low in the Pelican Area, densities are predicted to be between 0 and 1 seal per 25 km² for both species.
Birds	In the NNS the most numerous species present are likely to be northern fulmar, black-legged kittiwake, and common guillemot. The Pelican Area is located in, or in the vicinity of, a wider area of aggregation for northern fulmar, sooty shearwater, European storm petrel, northern gannet, long-tail skua, great skua, blacked-legged kittiwake, great black-backed gull, lesser black-backed gull, herring gull, glaucous gull, common guillemot, razorbill, little auk, and Atlantic puffin. Seabird sensitivity to oil pollution in Block 211/26 containing the Pelican infrastructure, is low throughout the year.
Onshore Communities	Waste generated during decommissioning will be brought to shore and will be managed under the project AWMP using approved waste contractors and in liaison with the relevant Regulators, in line with TAQA's Waste Management Strategy and the Waste Hierarchy. Preventing waste is ultimately the best option, achieved through reducing consumption and using resources more efficiently. However, this is followed by re-use and recycling of goods. If all re-use opportunities have been taken by TAQA, the next preferable option is for recycling of materials. Should NORM be encountered associated with the materials brought to shore, TAQA will ensure the disposal site is suitably licenced to accept the waste arising from the decommissioning of the subsea infrastructure. All waste will be managed in compliance with relevant waste legislation by a licenced and/or permitted waste management contractor. The selected contractor will be assessed for competence through due diligence and duty of care assurance activities.

Table 4-1: Environmental Sensitivities

Environmental Receptor	Main Features
Other Users of the Sea	The proposed decommissioning operations will be located in a well-developed area for oil and gas extraction. The closest surface infrastructures include the Cormorant Alpha and Heather Alpha platforms located 8 km north northwest and 13 km west southwest of the Pelican Area, respectively. Shipping density in the Pelican Area is low, with a localised increase in vessel activity around surface installations including the Cormorant Alpha and Heather A platforms, due to the presence of operational and maintenance vessels. There are no known interactions between the adjacent facilities and the proposed Pelican decommissioning programmes, other than the Cormorant Alpha platform and the Pelican pipelines crossing over PL17 and PL118. There are no protected wrecks nearby, the closest wrecks are an unidentified non dangerous wrecks, located approximately 7 km southeast of the Pelican manifold. There are no planned or operational renewable energy sites, cables or pipelines or designated military practice and exercise areas within 40 km of the Pelican Area.
Atmosphere	The cumulative emissions generated by the activities associated with the decommissioning of the Pelican facilities are small relative to lifetime emissions. Estimated CO₂ emissions from the selected decommissioning options are 34,844 Te, equating to approximately 0.17% of total UKCS emissions (2023). Most of these emissions are related to vessel use (26,582 Te CO₂) and onshore recycling of materials (4,160 Te CO₂).

4.2 Potential Environmental Impacts and Management

The EA [4] process has considered the potential for significant environmental effects resulting from decommissioning activities described in this DP. The EA has not identified any significant physical, biological, or socio-economic impacts during or after the decommissioning activities and any impacts will be short term and negligible.

Notwithstanding, [Table 4-2](#) details the potential environmental impacts and the management and mitigation measures that will be put in place to further reduce potential environmental impacts.

Table 4-2: Environmental Impacts and Management

Activity	Main Impacts	Management
Vessel activities and removal to shore	Contribution to local air quality, UK cumulative emissions and global warming. Estimated carbon dioxide equivalent (CO₂e) emissions from the selected decommissioning options are 34,844 Te CO₂e equating to approximately 0.17% of total UKCS emissions (2023). Vessel activity associated with the decommissioning activities represents the largest CO₂e contribution (26,582 Te). A significant proportion also originates from onshore recycling of materials (4,160 Te).	The following mitigation measures are proposed to further minimise impacts from vessel activities: • Minimisation of emissions from vessels and waste management as part of the contractor selection process. • Shipboard Energy Efficiency Management Plan (SEEMP) containing information regarding minimising fuel consumption e.g., economical speeds when operationally appropriate and engine maintenance. • Green dynamic positioning or economical speeds when appropriate. • Limiting the number of mobilisations or demobilisations. • Exploiting opportunities to incorporate post-decommissioning surveys as part of the wider NNS campaign. • Streamlining activities through planning to reduce the time that vessels will be required for decommissioning operations.

Table 4-2: Environmental Impacts and Management

Activity	Main Impacts	Management
Subsea installation removal (including stabilisation materials) and removal of pipeline midline sections and ends	Seabed disturbance impacts from excavation and removal of subsea installations, stabilisation materials and pipeline sections (midline and ends). Disturbance of cuttings piles. Temporary impacts of removal activities: Total direct impact: 0.041 km² Total indirect impact*: 0.082 km² *Note that the footprint indirect impact from sediment mobilisation represents double the direct impact area.	The following mitigation measures are proposed to further minimise impacts from decommissioning subsea installations, pipelines, and stabilisation materials: • It is envisaged that all vessels undertaking the decommissioning and removal works will be dynamically positioned vessels. As a result, there will be no impact to the seabed due to anchoring. • All activities which may lead to seabed disturbance will be planned, managed, and implemented in such a way that disturbance is minimised. • Activities will be appropriately assessed and permitted under a Marine Licence. • A debris survey will be undertaken at the completion of the decommissioning activities. Any debris identified as a result of oil and gas activities will be recovered from the seabed where possible. • Clear seabed verification will ensure there is no residual risk to other sea users. Non-intrusive verification techniques will be considered in the first instance and in agreement with OPRED and fishing bodies. • Minimal disturbance of cuttings pile through the choice of decommissioning technology to avoid unnecessary spread of contamination.

Table 4-2: Environmental Impacts and Management

Activity	Main Impacts	Management
Decommissioning of buried Pipelines and Umbilicals <i>in situ</i> (including remediation at pipeline ends)	Seabed disturbance impacts from excavation and removal of subsea installations and associated stabilisation materials. Potential remediation of future formation of mid-line spans/exposures. Degradation of the materials decommissioned <i>in situ</i> over time. Snagging risk to commercial fisheries associated with pipelines decommissioned <i>in situ</i>. There will be a 0.0006 km² area of direct permanent disturbance because of new rock placement (on pipeline ends). This increases to 0.0014 km² when the potential remediation of future formation of mid-line spans/exposures is considered. Total indirect impact is 0.0028 km².	The following mitigation measures are proposed to minimise impacts: • Pre-decommissioning status surveys will be carried out to enable planning for the decommissioning activities and to inform the requirement for remediation activities. • All activities which may lead to seabed disturbance will be planned, managed, and implemented in such a way that disturbance is minimised. • All vessels undertaking the decommissioning and removal works will be dynamically positioned vessels. As a result, there will be no impact to the seabed due to anchoring. • Activities will be risk assessed and permitted under a Marine Licence. • Any exposures or cut pipeline ends will undergo rock placement to ensure they are over-trawlable to active fishing gears. • Any remedial rock armour will be placed to reduce unnecessary spreading of the rock footprint and ensure the minimum safe quantity of rock is used. • Clear seabed verification will ensure there is no residual risk to other sea users. Non-intrusive verification techniques will be considered in the first instance and in agreement with OPRED and fishing bodies. • TAQA will monitor and remediate where debris, seabed depressions or clay berms present a snag risk. Any debris identified as a result of oil and gas activities will be recovered from the seabed where possible. • Post-decommissioning monitoring will be undertaken at a frequency agreed with OPRED. • TAQA will make information available to the Hydrographic office and the U.K Fisheries Offshore Oil & Gas Legacy Trust Fund Limited (FLTFC) to update Admiralty charts and the FishSAFE system. • Ongoing consultation with fisheries representatives.

5 Interested Party Consultations

TAQA consulted a wide range of interested parties during the planning and preparation stages of the Northern North Sea fields subsea comparative assessment process. Workshops and individual consultations with stakeholders were held to describe the CA process, to invite feedback and to understand stakeholders' particular interests and concerns regarding the impacts of decommissioning. Following this a CA report [3] was published documenting the findings from the CA process.

The consultees included:

- Scottish Fishermen's Federation (SFF)
- Department for Business, Energy, and Industrial Strategy (BEIS)
- Health and Safety Executive (HSE)
- Joint Nature Conservation Committee (JNCC)
- Oil and Gas Authority (OGA)
- Fairfield
- BP
- CNRI
- North Sea Transition Authority (NSTA)
- Scottish Environment Protection Authority (SEPA)
- TAQA Bratani LNS Limited
- Shell
- OPRED Offshore Decommissioning Unit (ODU) as an Observer

Furthermore, CA workshop invites were issued to Dana Petroleum, ExxonMobil, Neo Energy, ConocoPhillips, Norske Shell, Chrysaor, MOL Energy UK, ONE-Dyas, NFFO, NIFPO, Global Marine Systems and the Marine Directorate, but these organisations did not attend.

Given that Pelican is an NNS subsea field, the recommendations from the CA have been applied to Pelican [3].

This Decommissioning Programme is still to be considered by the stakeholders. Following completion of the formal Decommissioning Programme consultation process, TAQA will complete Table 5-1 with comments received from stakeholders, and the company's responses to those comments.

Table 5-1: Summary of (UK) Stakeholder Comments [HOLD 1]

Stakeholder	Comment	Response
1. Informal Stakeholder Consultations		
2. Public		
3. Statutory Consultations		
The National Federation of Fishermen's Organisations (NFFO)		
Scottish Fishermen's Federation (SFF)		
Northern Ireland Fish Producers' Organisation (NIFPO)		
Global Marine Systems Limited (GMS)		
North Sea Transition Authority (NSTA)		

6 Programme Management

6.1 Project Management and Verification

TAQA, on behalf of the Section 29 Notice Holders, has appointed a project management team to manage the planning and execution of this decommissioning programme. The team will ensure that decommissioning is conducted in accordance with TAQA health, environmental and safety management principles, and relevant legislation. TAQA's 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.

TAQA 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

A post-decommissioning site survey will be carried out within a 500m radius of the Pelican subsea installations sites and along corridors defined as 50 m either side of each pipeline route. Any oilfield-related seabed debris that is found will be recovered and returned to shore for recycling or appropriate disposal.

Independent clear seabed verification will be carried out after decommissioning to ensure there is no residual risk to other sea users. Non-intrusive verification techniques will be considered in the first instance in agreement with OPRED and fishing bodies. If clear seabed cannot be verified using non-intrusive techniques, trawl sweeps or other intrusive means may be used, following consultation with OPRED, and fishing representative bodies.

Following verification, TAQA will issue a statement of clearance to all relevant governmental departments and non-governmental organisations.

The post-decommissioning survey results will be notified to the UK Fisheries Offshore Oil and Gas Legacy Trust Fund Ltd to allow appropriate modification to the FishSAFE system, and to the United Kingdom Hydrographic Office to allow appropriate modification of Admiralty charts and notices to mariners.

6.3 Schedule

The main milestones in the Pelican decommissioning process were, or are anticipated to be:

- | | |
|---|------------------|
| • Cessation of production: | Q3 2024 |
| • Well plug and abandon window: | 2025 – 2030 |
| • Subsea installation & pipeline removal: | 2030 – 2032 |
| • Post removal survey: | 2032 – 2033 |
| • Riser removal: | TBC ¹ |

Note:

1. The risers associated with Pelican Field production (and riser section of umbilicals) are attached to the Cormorant Alpha substructure and will be recovered with the Cormorant Alpha conductor guides at a date to be confirmed.

The envisaged Pelican decommissioning programme is illustrated in [Figure 6-1](#).

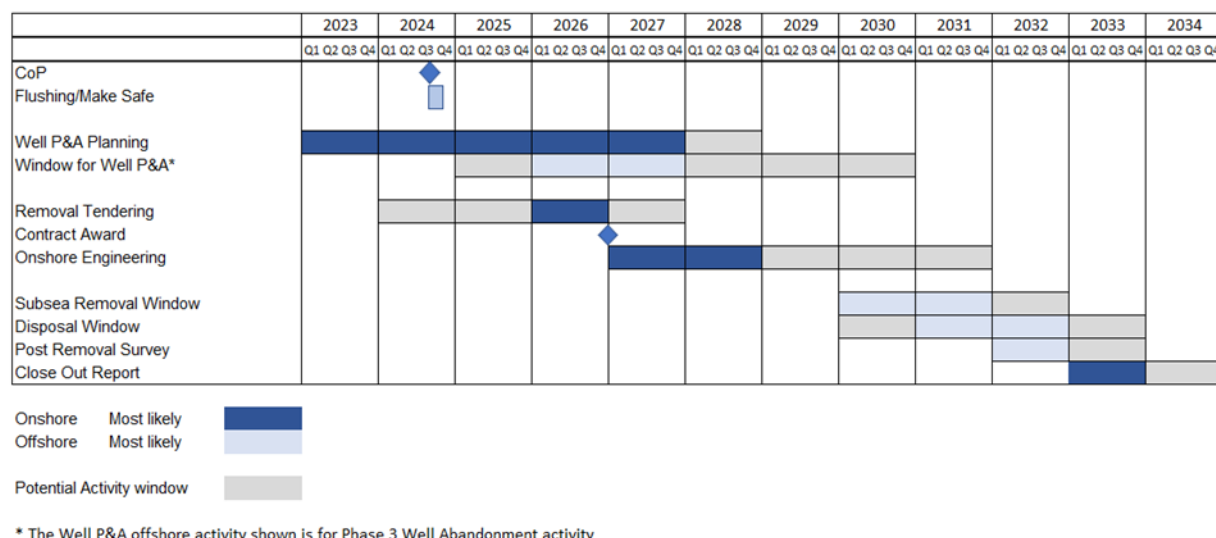


Figure 6-1: Decommissioning Schedule

6.4 Costs

An overall cost estimate following Oil and Gas UK (OGUK) Guidelines on Decommissioning Cost Estimation (Issue 3, September 2013) [8] will be provided to OPRED in confidence.

Table 6-1: Provisional Decommissioning Costs

Item	Estimated Cost (£MM)
WBS 1 – Operator Project Management	
WBS 2 – Post CoP OPEX	
WBS 3 – Well Abandonment	
WBS 4 – Facilities & Pipelines Permanent Isolation & Cleaning	Provided to OPRED in confidence
WBS 5 – Topsides Preparation	
WBS 6 – Topsides Removal	
WBS 7 – Substructure Removal	
WBS 8 – Onshore Recycling	
WBS 9 – Subsea Infrastructure	
WBS 10 – Site Remediation	
WBS 11 – Monitoring	

6.5 Close Out

A close out report will be submitted to OPRED and posted on the TAQA decommissioning website detailing any variations from the Decommissioning Programme within twelve months of the completion of the offshore decommissioning scopes and disposal, including debris removal, verification of seabed clearance (where applicable) and the first post-decommissioning environmental survey.

6.6 Post-Decommissioning Monitoring and Evaluations

TAQA will carry out a post-decommissioning environmental seabed survey, centred around the sites of the Pelican facilities.

All Pelican sites and pipeline routes will be the subject of surveys when decommissioning activity has concluded. The facilities that are proposed to be left in place, e.g., buried pipelines will be subject to a monitoring programme to be agreed between TAQA and OPRED.

A copy of the survey results will be forwarded to OPRED. After the survey results have been sent to OPRED and reviewed, a post decommissioning survey regime will be agreed between TAQA and OPRED taking account of the findings of previous surveys, and a risk-based approach to the frequency and scope of subsequent surveys.

6.7 Management of Residual Liability

Any equipment that is left in place will remain the responsibility of the Pelican S29 notice holders.

TAQA recognises that the parties to the decommissioning programmes covered by this document will continue to retain residual liability for any infrastructure left in place after decommissioning.

TAQA will engage with OPRED on all future legacy and liability matters and requirements relating to the infrastructure left in place.

7 Supporting Documents

- [1] Guidance Notes Decommissioning of Offshore Oil and Gas Installations and Pipelines, BEIS, November 2018.
- [2] Well Decommissioning Guidelines, OEUK, 2022.
- [3] Comparative Assessment Northern North Sea Subsea Assets 77IFS-154925-L99-0006-02, Revision A04, Xodus Group, July 2024.
- [4] Pelican Field Subsea Environmental Appraisal, 77IFS-175422-H99-0002-000, Revision R04, Xodus Group, May 2025.
- [5] Guidance document for characterization of offshore drill cuttings piles, NorOG (NORSK olje & gass), 2016.
- [6] Implementation report on Recommendation 2006/5 on a management regime for offshore cutting piles, OSPAR, 2006.
- [7] An Analysis of U.K. Offshore Oil and Gas Environmental Surveys 1975-95, UKOOA, 2001.
- [8] OGUK 2013. Oil and Gas UK Guidelines on Decommissioning Cost Estimation (Issue 3, September 2013).

8 Section 29 Holders' Letters of Support [HOLD 2]

Letters of Support will be obtained from the Section 29 Holders on final approval of the Decommissioning Programme, in advance of CoP and full Field decommissioning, and will be provided within this section of the Programme.

CONTACT

TAQA Bratani Limited
Brimmond House,
Prime Four Business Park,
Kingswells,
Aberdeen,
AB15 8PU
United Kingdom

Tel: +44 (0)1224 275275

www.taqa.com

