PETROLEUM AFFAIRS DIVISION

DEPARTMENT OF COMMUNICATIONS, CLIMATE ACTION & ENVIRONMENT

RULES AND PROCEDURES MANUAL FOR OFFSHORE PETROLEUM EXPLORATION AND APPRAISAL OPERATIONS

APPLICATION TO CONDUCT AN OFFSHORE SURVEY

Section 1 – Basic Survey Information

a.	**Name of Operator**	Vermilion Exploration and Production Ireland Limited (VEPIL)
b.	**Authorisation (Lease/Licence, PPL Number, Other)**	Corrib Petroleum Lease
c.	**Type of Survey and details of work to be undertaken**	This application is for the replacement of Well P6 flexible flowline. It is the intent that this application shall cover the as-found survey/positioning requirements for the following task: **1.** P6 flexible flowline replacement – *Siem Spearfish* **Work to be undertaken** - Mobilise Vessel from UK Port - Sail directly to the Corrib field - Conduct DP trials and a USBL verification - Complete As-Found Survey - Complete Flexible Replacement Operations - Complete As-Left Survey - Vessel sails for UK Port for demobilisation - End of offshore Operations (*For further detail please refer to method statement*)
d.	**Planned date of start of survey and estimated duration**	The works will be completed in either 2021 or 2022 between May and October. Planned duration of operation is circa 6 days, depending on weather conditions.
e.	**Location of Survey (latitude and longitude) together with a map on an appropriate scale showing detailed line layout, sampling locations etc as appropriate**	Corrib P6 (54° 20'18.2"N 11° 03'26.7"W) Subsea Manifold (54° 20'34"N 11° 03' 51"W) Location map included below.
f.	**Positioning systems to be used for the survey**	Vessel Kongsberg 501 HiPAP USBL system Vessel Doppler Velocity Log Vessel single beam echo sounder Valeport MVS Sound Velocity Sensor ROV USBL transponder/responder ROV RDI Workhorse Doppler Velocity Log ROV high accuracy bathymetric sensor ROV forward looking multibeam sensor (MBES) Kongsberg MS100 obstacle avoidance sonar

g.	**Name and address of contractor performing the survey**	I-Tech[7] Subsea 7, East Campus, Prospect Road, Arnhall Business Park, Westhill, Aberdeenshire, AB32 6FE, UK

h.	**Data and records expected to be obtained from survey**	N/A
i.	**i. Type of energy source(s) to be used;**	Acoustic signals possible from numerous devices namely: *Vessel Doppler Velocity Log* (2 MHz) *Vessel Kongsberg 501 HiPAP USBL system* (21-31 Hz) *Vessel single beam echo sounder* (38 kHz – 200 kHz (Typically operates at 50kHz)) *Valeport MVS Sound Velocity Sensor (*2.5 MHz) *ROV USBL transponder/responder* (21-31 Hz) *ROV RDI Workhorse Doppler Velocity Log* (1200 kHz) *ROV high accuracy bathymetric sensor* (Tritech SK704 altimeter - 500 kHz) *ROV forward looking multibeam sensor (MBES)* (Reson Seabat 7125 dual head Multibeam echosounder - 400 kHz) Kongsberg MS100 obstacle avoidance sonar (675 Hz) **NB:** While every effort has been made to ensure accuracy, due to procured equipment specification the actual devices used may differ from those included here. Similar devices for similar tasks will, in all likelihood, use similar frequencies even if the specific type/model is different.
	ii. Length and configuration of seismic cables, depth at cables are maintained, speed when towing and what radar reflector supporting tail buoys are to be used;	N/A - No seismic cables being deployed

	iii. A risk assessment of the proposed activity in relation to the sensitivities of marine mammals in the area to the proposed operations and outlining specific impact mitigation and monitoring practices that will be applied during the survey in relation to marine mammals.	Submitted separately
k.	**Identification of vessel(s)**	Siem Spearfish (iTech[7]) (i-Tech[7] is a Subsea 7 Company)
l.	**Contact details of those who will supervise survey operations:** **(1) In the operator's office** **(2) In the contractor's office** **(3) On the survey vessel**	**1.** Alick MacAngus amacangus@vermilionenergy.com +44 (0) 77 476 34 494 Kieran McMorland kmcmorland@vermilionenergy.com +353 (0) 87 631 67 62 **2.** Patrick Reynolds patrick.reynolds@subsea7.com +44 (0) 1224 526 197 Subsea 7, East Campus, Prospect Road, Arnhall Business Park, Westhill, Aberdeenshire, AB32 6FE, UK **3.** Vermilion Survey Representative present on the vessel.

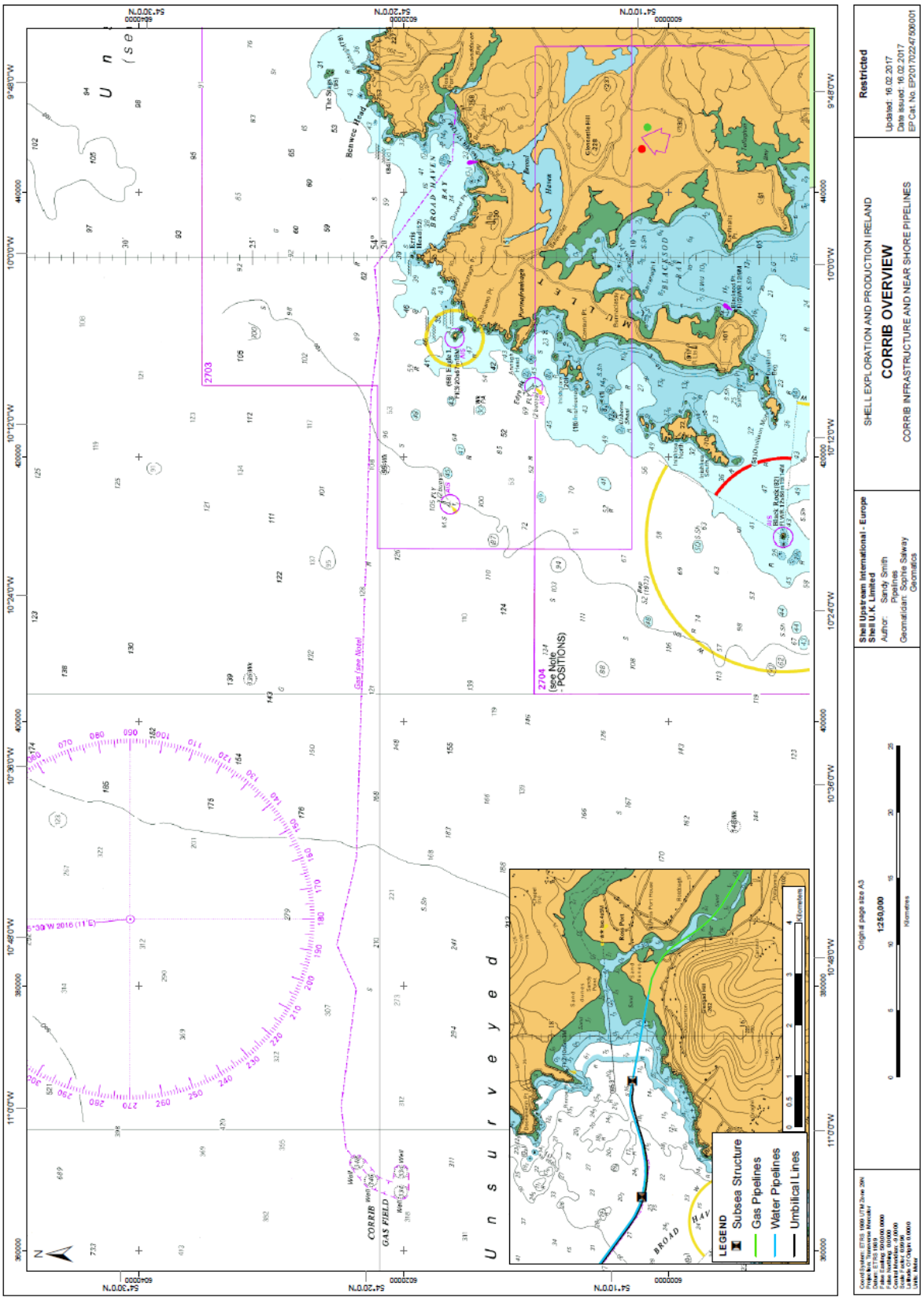
Section 2 – Detailed Information on survey to be undertaken

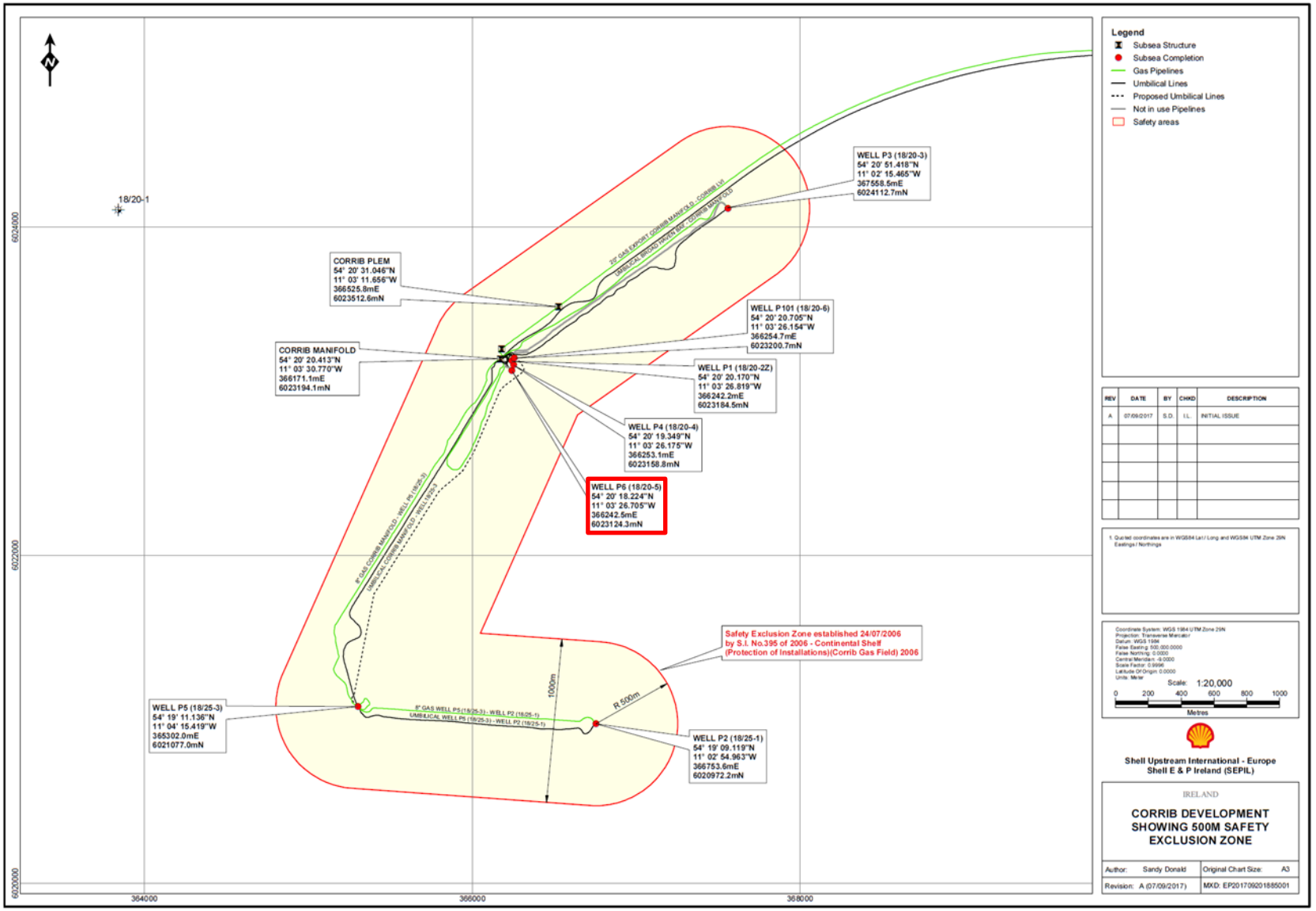
- As-found video survey and seabed preparation.
- Depressurise the existing flowline and displace hydrocarbon gas into Corrib manifold and subsea process system (approx. 27m3 hydrocarbon gas will be displaced using a combination of a Methanol gel slug followed by Inhibited MEG/Water and a final Methanol gel slug)
- Install isolations at Corrib subsea manifold and P6 tree
- Disconnection of existing flexible flowline from Corrib subsea manifold and tree and installation of long-term protection endcaps
- Reposition existing flowline ends.
- Prepare laydown area and lay route for new flexible flowline (Max. 158m in length and max 8” diameter)
- Deploy new flexible flowline from installation vessel prefilled with Methanol Gel from mobilisation
- Connect new flexible flowline to Corrib subsea manifold and P6 wellhead
- Carry out pressure testing and pre-commissioning activities of new flowline
- Install protective mattresses along the length of the new flowline (120m)
- Install protective concrete mattresses onto disconnected flexible
- Tidy up worksite and carry out visual ROV As-left survey
- Vessel operates to the Vessel Code of Conduct.

Survey Vessel – Details

Name	Siem Spearfish	
Radio call sign	C6DA7	
Flag, Port of Registry	Bahamas [BS]	
Classification	IACS: DNV *A1, E0, DYNPOSAUTR, DK (+), HELDK-SH, ICE-1B (hull only), ICE-C, SF, BIS, CLEAN DESIGN, RECYCLABLE, NAUT-AW, Comf- V(3)-C(3), SPS Resolution MSC.266(84), Code of safety for special purpose ships.	
Built	Norway 2008	
Maritime Mobile Service Identity (MMSI) No.	311000623	
IMO Ship Identification No.	9676280	
Length (LOA)	120.9m	
Beam	23m	
Draught	5.7m	
Tonnage	5,000t	
Owner	**OWNER:** Siem offshore	**OPERATOR:** i-Tech[7]
Address	**OWNER:** Siem offshore Nodeviga 14, 4610 Kristiansand P.O.Box 425, 4664 Kristiansand NORWAY	**OPERATOR:** Subsea 7, East Campus, Prospect Road, Arnhall Business Park, Westhill, Aberdeenshire, AB32 6FE, UK

Survey Location Map:




18/20-1
WELL P3 (18/20-3)
54° 20' 51.418"N
11° 02' 15.465"W
367558.5mE
6024112.7mN
CORRIB PLEM
54° 20' 31.046"N
11° 03' 11.656"W
366525.8mE
6023512.6mN
WELL P101 (18/20-6)
54° 20' 20.705"N
11° 03' 26.154"W
366254.7mE
6023200.7mN
CORRIB MANIFOLD
54° 20' 20.413"N
11° 03' 30.770"W
366171.1mE
6023194.1mN
WELL P1 (18/20-2Z)
54° 20' 20.170"N
11° 03' 26.819"W
366242.2mE
6023184.5mN
WELL P4 (18/20-4)
54° 20' 19.349"N
11° 03' 26.175"W
366253.1mE
6023158.8mN
WELL P6 (18/20-5)
54° 20' 18.224"N
11° 03' 26.705"W
366242.5mE
6023124.3mN
Safety Exclusion Zone established 24/07/2006
by S.I. No.395 of 2006 - Continental Shelf
(Protection of Installations)(Corrib Gas Field) 2006
WELL P5 (18/25-3)
54° 19' 11.136"N
11° 04' 15.419"W
365302.0mE
6021077.0mN
WELL P2 (18/25-1)
54° 19' 09.119"N
11° 02' 54.963"W
366753.6mE
6020972.2mN
1000m
R 500m
6024000
6022000
6020000
364000
366000
368000
Legend
Subsea Structure
Subsea Completion
Gas Pipelines
Umbilical Lines
Proposed Umbilical Lines
Not in use Pipelines
Safety areas
REV
DATE
BY
CHKD
DESCRIPTION
A
07/09/2017
S.D.
I.L.
INITIAL ISSUE
1. Quoted coordinates are in WGS84 Lat / Long and WGS84 UTM Zone 29N Eastings / Northings
Coordinate System: WGS 1984 UTM Zone 29N
Projection: Transverse Mercator
Datum: WGS 1984
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: -9.0000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000
Units: Meter
Scale: 1:20,000
0
200
400
600
800
1000
Metres
Shell Upstream International - Europe
Shell E & P Ireland (SEPIL)
IRELAND
CORRIB DEVELOPMENT
SHOWING 500M SAFETY
EXCLUSION ZONE
Author: Sandy Donald
Original Chart Size: A3
Revision: A (07/09/2017)
MXD: EP201709201885001