



TOTAL E&P UK

REPORT
BUS-130129-82212

25 MARCH 2012

ELGIN G4 GAS LEAK
INCIDENT

INTERIM REPORT

ISSUE DATE: 25 OCTOBER 2012

This interim report is based on the best information available at the time of issue. Further forensic tests have been carried out on the casing. Future investigations, tests and simulations may well shed new light on mechanisms of failure and the vulnerability, or otherwise, of equipment and systems.

Rev	Date	Reason for Revision
A01	25 October 2012	Issued for Approval

Authorisation Record		Safety, Health, Environment & Integrity Manager	Legal Manager	Deputy Managing Director	Managing Director
A01	30 January 2013				
Rev	Date	Reviewed by	Reviewed by	Reviewed by	Approved by

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ABBREVIATIONS AND DEFINITIONS**LIST OF ABBREVIATIONS**

ABO	Accommodation Blackout
ADDS	Aerial Dispersant Delivery System
AIMB	Asset Integrity Management Board
ALARP	As Low As Reasonably Practicable
AMS	Annulus Management System
BHP	Bottom Hole Pressure
BOP	Blow Out Preventer
BPV	Back Pressure Valve
CaBr₂	Calcium Bromide
CAMS	Competency Assurance Management System
CBL	Cement Bond Log
CCL	Casing Collar Log
CCTV	Closed Circuit Television
CHE	Central Hazardous Event
CITHP	Closed In Tubing Head Pressure
CMC	Crisis Management Cell
CMS	Company Management System
CMT	Crisis Management Team
CPD	Continuous Professional Development
CV	Curriculum Vitae
DAP	Development Action Plan
DCR	Design & Construction Regulations 1996
DECC	Department of Energy and Climate Change
DGEP	Directorate General for Exploration & Production
DHSV	Downhole Safety Valve
DP	Dynamic Positioning
ECC	Emergency Control Centre
EEUK	Elf Exploration UK Limited
EFWFG	Elgin, Franklin, West Franklin, Glenelg
EPC	Emergency Pollution Control
EQR	Equipment Room
EQS	Environmental Quality Standards
ERR	Emergency Response Room
ERRV	Emergency Response and Rescue Vessel

ESD	Emergency Shutdown
ESDV	Emergency Shutdown Valve
F&G	Fire & Gas
FAAM	Facility for Airborne Atmospheric Measurements
FIT	Formation Integrity Test
FP	Field Production Department
GA	General Alarm
GPA	General Platform Alarm
GPSD	General Platform Shutdown
GSOC	General Services Offshore Contract
HAE	Hazardous Area Equipment
HAZID	Hazard Identification study
HAZOP	Hazard and Operability study
HC	Hydrocarbon
HIPO	High Probability Incident
HIPPS	High Integrity Pressure Protection System
HOV	Hydraulic Operated Valve
HP/HT	High Pressure/High Temperature
HP/LP	High Pressure/Low Pressure
HR	Human Resources
HSE	Health and Safety Executive
HSSD	High Sensitivity Smoke Detectors
HVAC	Heating, Ventilation & Air-Conditioning
IAMSAR	International Aeronautical and Maritime Search and Rescue
ICSS	Integrated Control & Safety System
IGIP	Initial Gas In Place
IMT	Incident Management Team
ISSOW	Integrated Safe System of Work
JDOA	Joint Development Operating Agreement
JNCC	Joint Nature Conservancy Council
JV	Joint Venturers
KOD	Knock Out Drum
KPI	Key Performance Indicator
LAT	Lowest Astronomical Tide
LEL	Lower Explosive Limit
LMV	Lower Master Valve

LTI	Lost Time Incident
LTP	Long Term Plan
MAESTRO	Management and Expectation System Towards Robust Operations
MAP	Maximum Allowable Pressure (applicable to A, B and C annuli)
MEWHP	Maximum Expected Wellhead Pressure
MICO	Maritime Incident Communications Officer
MCA	Maritime and Coastguard Agency
MCR	Main Control Room
MD	Measured Depth
MEG	Mono-Ethylene Glycol
MGS	Mud Gas Separator
MLS	Mud Line Suspension
MNT	Maintenance
MOC	Management of Change
MODU	Mobile Drilling Unit
MOP	Maximum Operating Pressure (applicable to A, B and C annuli)
MPD	Managed Pressure Drilling
MS	Management System
NABM	Non Aqueous Base Mud
NAVAID	Navigational AID
NCAS	National Centre for Atmospheric Science
NERC	Natural Environment Research Council
NM	Nautical Miles
NMHC	Non-Methane Hydrocarbons
NOK	Next of Kin
OBM	Oil Based Mud
OCR	Offshore Chemical Regulations
OCU	Operations Control Unit
OD	Outside Diameter
OIM	Offshore Installation Manager
OOH	Out of Hole
OP	Operations
OPEP	Oil Pollution Emergency Plan
OPPC	Offshore Pollution, Prevention and Control
OPPS	Overpressure Protection System
OSIS	Oil Spill Information System

OSPRAG	Oil Spill Prevention and Response Advisory Group
OSRG	Oil Spill Response Group
OSRL	Oil Spill Response Limited
PA	Public Address system
PAH	Polycyclic Aromatic Hydrocarbons
PAHH	Pressure Alarm High High
PAPA	Prepare to Abandon Platform Alarm
PBR	Polish Bore Receptacle
PBU	Pressure Build Up
PCS	Process Control System
PFEER	Prevention of Fire and Explosion, Emergency Response
PFP	Passive Fire Protection
PM	Planned Maintenance
POB	Personnel on Board
PON	Petroleum Operations Notice
POOH	Pulling Out of Hole
POS	Personnel on Site
PRO	Production & Engineering
PSD	Process Shutdown System
PSE	Pressure Safety Element
PSDM	Pre-Stack Depth Migration
PT	Pressure Transducer
PUQ	Production, Utilities Quarters
PV	Pressure Valve
RAM	Risk Assessment Management
RIH	Running in Hole
RSES	Responsible for Safety and Environment on Site
SAR	Search and Rescue
SBM	Synthetic Base Mud
SCE	Safety Critical Element
SCR	Safety Case Regulations
SCSSV	Surface Controlled Sub-Surface Valve
SDV	Shutdown Valve
SEPA	Scottish Environment Protection Agency
SG	Specific Gravity
SHE&I (SHEI)	Safety, Health, Environment and Integrity Department in TEP UK

SOR	Statement of Requirements
SOSREP	Secretary of State Representative
SSIV	SubSea Isolation Valve
SUB	Subsea and Pipelines
TBO	Total Blackout
TD	Total Depth
TEMPSC	Totally Enclosed Motor Propelled Survival Craft
TEP UK	Total Exploration & Production UK Limited
THP	Tubing Head Pressure
TOS	Top of Steel
TR	Temporary Refuge
TRA	Tracer Log
TS	Technical Services
TSA	Total SA
TVD	True Vertical Depth
UBO	Utilities Blackout
UHF	Ultra High Frequency
UMV	Upper Master Valve
UPS	Uninterrupted Power Supply
VDU	Visual Display Unit
VHF	Very High Frequency
WCM	Well Construction and Maintenance Department
WHP	Wellhead Platform
WHFP	Wellhead Flowing Pressure
WHFT	Wellhead Flowing Temperature
WHSIP	Wellhead Shut-in Pressure
WO	Work Over
WOEG	Well Operations Emergency Group
WWC	Wild Well Control

DEFINITIONS**A Annulus**

Annular space between the production tubing and the production casing (which is 10 3/4" in diameter in the upper part of the well and 9 7/8" in diameter in the deeper part)

B Annulus

Annular space between the production casing and the 13 3/8" casing

C Annulus

Annular space between the 13 3/8" casing and the 20" casing

D Annulus

20" casing to 30" conductor pipe annulus

Capita

Contractor providing occupational health services to TEP UK

E&P

Exploration and Production

HP/HT

High Pressure/High Temperature designated to wells with reservoir temperature above 150°C and reservoir pressure above 690 bar

OPITO

The Oil and Gas Industry's focal point for skills learning and workforce development

OSCAR

Oil Spill Modelling Tool used by Total Headquarters

OSIS

Oil Spill Modelling Tool used by TEP UK

P & A

Plug and Abandon

SAP-HR

Module within SAP system that holds TEP UK personnel details

Measured Depth

Unless otherwise stated, all depths in this report are measured depths below rotary table of the Galaxy 1 rig which drilled and completed the Elgin G4 well.

The Rowan Viking rig which is conducting the suspension operations has a different rotary table elevation. Some data in the report and the suspension drawing of the G4 well issued in October 2012 contain measured depths with reference to the Rowan Viking rotary table and these are indicated.

Elevations with reference to LAT (Lowest Astronomical Tide of Sea Level) are as follows

RT Galaxy 1	52.85 m/LAT
RT Rowan Viking	57.19 m/LAT

Consequently there is a 4.34m difference between the RT elevations of the Rowan Viking and of the Galaxy 1. In other words the depth of a given component appears 4.34m deeper when referenced to the Rowan Viking rotary table.

**Timeline and G4 completion drawing are available
at the end of the report to read alongside the text
(see Appendix 6 and 7)**

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